RFP NO. 20-202/DL

ANALYTICAL LABORATORY SERVICES

• APRIL 22, 2020 • 2:00 P.M.

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

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PROPOSAL FORM 1 – TRANSMITTAL LETTER

April 22, 2020

Diane LeRay CPPO, CPPB
Procurement Manager, Purchasing Services
Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, FL 33412

Dear Ms. LeRay:

Florida-Spectrum Environmental Services, Inc. (PROPOSER) hereby submits its Proposal in response to the **Request for Proposal (RFP) No.: 20-202/DL for Analytical Laboratory Services** issued by the Solid Waste Authority of Palm Beach County (AUTHORITY) in March 2020.

As a duly authorized representative of **Florida-Spectrum Environmental Services, Inc.** (PROPOSER), I hereby certify, represent, and warrant, on behalf of the **Florida-Spectrum** team, as follows in connection with the Proposal:

1. **Florida-Spectrum Environmental Services, Inc.** (PROPOSER) acknowledges receipt of the RFP and the following Addenda:

No.	Date
1	**3/25/2020** ~ Received
2	**4/06/2020** ~ Received
3	**4/15/2020** ~ Received

2. The submittal of the Proposal has been duly authorized by, and in all respects is binding upon, **Florida-Spectrum Environmental Services, Inc.** (PROPOSER).

3. All information and statements contained in the Proposal are current, correct, and complete, and are made with full knowledge that the AUTHORITY will rely on such information and statements in qualifying **Florida-Spectrum Environmental Services, Inc.** (PROPOSER).

4. **Florida-Spectrum Environmental Services, Inc.** (PROPOSER) certifies under penalties of perjury that the RFP has been prepared and is submitted in good faith without collusion, fraud or any other action with any other person taken in restraint of free and open competition for the services contemplated by the RFP. As used in this Proposal Form, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

5. **Florida-Spectrum Environmental Services, Inc.** (PROPOSER) is not currently suspended or debarred from doing business with any governmental entity.

6. **Florida-Spectrum Environmental Services, Inc.** (PROPOSER) has reviewed all of the engagements and pending engagements of **Florida-Spectrum Environmental Services, Inc.** (PROPOSER), and no potential exists for any conflict of interest or unfair advantage.

7. No person or selling agency has been employed or retained to solicit the award of the Agreement under an arrangement for a commission, percentage, brokerage or contingency fee or on any other success fee basis, except bona fide employees of **Florida-Spectrum Environmental Services, Inc.** (PROPOSER).

8. The principal contact person who will serve as the interface between the AUTHORITY and **Florida-Spectrum Environmental Services, Inc.** (PROPOSER) for all communications is:

Name: KATHARINE A. KUTIL
Title: DIRECTOR OF SALES & MARKETING
Mailing Address: 1460 W. MCNAB ROAD FT. LAUDERDALE, FL 33309
Phone: 954-978-6400
Fax: 954-978-2233
E-mail: KKUTIL@FLENVIRO.COM

Florida-Spectrum Environmental Services, Inc. (PROPOSER) has carefully examined all documents constituting the RFP and the addenda thereto and, being familiar with the work and the conditions affecting the work contemplated by the RFP and such addenda, offers to furnish all labor, materials, supplies, equipment, facilities and services which are necessary, proper or incidental to carry out such work as required by and in strict accordance with this RFP and the Proposal.

FLORIDA-SPECTRUM SENVIRONMETNAL SERIVES, INC.
Name of Proposer

Lyle A. Johnson
Print Name of Designated Signatory

Signature

President
Title

State of FLORIDA

County of BROWARD

On this 17th day of April, 2020, before me appeared Lyle Johnson personally known to me to be the person described in and who executed this document and acknowledged that (she/he) signed the same freely and voluntarily for the uses and purposes therein described.

In witness thereof, I have hereunto set my hand and affixed my official seal the day and year last written above.

Signature Katherine Coral

Notary Public in and for the State of Florida

(Affix Seal here)

(Name printed) Katherine Coral

Residing at Broward County

My commission expires 01/10/23

KATHERINE CORAL
MY COMMISSION # GG 289879
EXPIRES: January 10, 2023
Bonded Thru Notary Public Underwriters

PROPOSAL FORM 3 – NON-COLLUSION AFFIDAVIT

State of FLORIDA

County of BROWARD

Being duly sworn deposes and says:

That she/he is an officer of the parties making the foregoing Proposal, that such Proposal is genuine and not collusive or sham; that said PROPOSER has not colluded, conspired, connived or agreed, directly or indirectly with any PROPOSER or person, to put in a sham bid or to refrain from bidding and has not in any manner, directly, or indirectly, sought by agreement or collusion or communication or conference with any person, to fix the price or affiant or any other PROPOSER, or to fix any overhead, profit or cost element of said price, or that of any other PROPOSER, or to secure any advantage against the AUTHORITY, or any person interested in the proposed contract and that all statements in said Proposal are true.

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.

Name of Proposer

LYLE A. JOHNSON

Print Name of Designated Signatory

Signature

PRESIDENT

Title

On this 17th day of April, 20 20, before me appeared Lyle Johnson personally known to me to be the person described in and who executed this document and acknowledged that (she/he) signed the same freely and voluntarily for the uses and purposes therein described.

In witness thereof, I have hereunto set my hand and affixed my official seal the day and year last written above.

Signature

Notary Public in and for the State of Florida

(Affix Seal here)

Katherine Coral

(Name printed)

Residing at Broward County

My commission expires 01/10/23

KATHERINE CORAL
MY COMMISSION # GG 289879
EXPIRES: January 10, 2023
Bonded Thru Notary Public Underwriters

PROPOSAL FORM 4 – DRUG-FREE WORKPLACE

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC. does:

(Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United State or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

LYLE A. JOHNSON

Print Name of Designated Signatory

Signature

04/17/20

Date

PROPOSAL FORM 5

Equal Business Opportunity (EBO) Office
Small/Minority/Women Business Enterprise Subcontractor/Supplier Participation Schedule

DATE	4/22/2020

SOLICITATION INFORMATION					
Contract #:	RFP NO. 20-202/DL				
Project Name:	ANALYTICAL LABORATORY SERVICES	**Project Start Date:**			
Project Location:	7501 NORTH JOG ROAD WEST PALM BEACH, FL 33412				
Bidder/ Proposer:	FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.				
Address:	1460 W. MCNAB ROAD FT. LAUDERDALE, FL 33309				
Contact Person:	Katharine A. Kutil	**Email Address:**	kkutil@flenviro.com	**Phone #:**	954-978-6400

ORGANIZATION STATUS

Business Association	Business Name	Type of Work to be Performed	NIGP Code	Certification Type	% of Work	$ Amount
Prime Bidder/Proposer	Florida-Spectrum Environmental Services, Inc.	Analytical Laboratory Services		SBE (SFWMD) NELAP	% 98.08	$ 248,665.00
S/M/WBE Subcontractor					%	$
S/M/WBE Subcontractor					%	$
S/M/WBE Subcontractor					%	$
S/M/WBE Subcontractor					%	$
S/M/WBE Subcontractor					%	$
				SUB-TOTAL PARTICIPATION %:	98.08%	
				SUB-TOTAL CONTRACT AMOUNT:	$ 248,665.00	

BIDDER/PROPOSER SIGNATURE

The listing of S/M/WBE(s) shall constitute a representation by the Bidder/Proposer to the Authority that the Bidder/Proposer believes such S/M/WBE(s) to be technically and financially qualified and available to perform the work described. Bidders/Proposers are advised that the information contained herein may be verified.

By executing this form, I hereby certify to all that I have full legal authority to execute this document on behalf of the companies mentioned above, and that my signature is specifically being relied on as such for all purposes related to this solicitation, including any resulting contract award. I understand that if this certification is determined to be incorrect for any reason, that my response to this solicitation may be deemed non-responsive or I may be subject to any applicable penalties/sanctions set forth in Section (6) of the Authority's Purchasing Manual or applicable law.

Bidder/Proposer Signature	Name & Title (Print)	Date
	Lyle A. Johnson / President	04/17/20

Use to list additional subcontractors

ORGANIZATION STATUS						
Business Association	**Business Name**	**Type of Work to be Performed**	**NIGP Code**	**Certification Type**	**% of Work**	**$ Amount**
Non S/M/WBE Subcontractor	Florida Radiochemistry Services, Inc.	Radium 226 & 228		NELAP	0.02 %	$ 450.00
Non S/M/WBE Subcontractor	Flowers Chemical Laboratories, Inc.	Nitrate (353.2), Nitrite (353.2), Calcium Hardness (SM 2340B), Corrosivity (Langlier Index) (SM 2330B), Total Hardness(SM2340B), T. Coliform (SM9223B, Fluoride (SM4500)		NELAP	1.19 %	$ 13,990.00
Non S/M/WBE Subcontractor	ALS Houston	Dioxin (1613)		NELAP	0.01 %	$ 400.00
Non S/M/WBE Subcontractor	ALS JAX	TOC Soil (SM 9060)		NELAP	0.06 %	$ 500.00
Non S/M/WBE Subcontractor	PACE Pompano	Fecal Coliform (SM 9221E)		NELAP	0.06 %	$ 600.00
Non S/M/WBE Subcontractor	Eurofins TestAmerica - SAV	Total Organic Halogens (EPA 9020B), Sulfate (9056)		NELAP	0.19 %	$ 1,950.00
Non S/M/WBE Subcontractor	Eurofins TestAmerica Denver	App II - Diphenylamine and 1,4-Phenylenediamine via EPA 8270		NELAP	0.06 %	$ 1,400.00
Non S/M/WBE Subcontractor	The Water Spigot	Metals (200.9)		NELAP	0.31 %	$ 1,250.00
Non S/M/WBE Subcontractor					%	$
Non S/M/WBE Subcontractor					%	$
Non S/M/WBE Subcontractor					%	$
Non S/M/WBE Subcontractor					%	$
Non S/M/WBE Subcontractor					%	$
Non S/M/WBE Subcontractor					%	$
				TOTAL PARTICIPATION %:	**100%**	
				TOTAL CONTRACT AMOUNT:	$ 269, 205.00	

PROPOSAL FORM 6

Equal Business Opportunity (EBO) Office
Statement Of Intent To Perform As An S/M/WBE Subcontractor/Supplier

SOLICITATION #: RFP NO. 20-202/DL

NOT APPLICABLE

CONTRACT #:

A signed *Statement of Intent to Perform as a Small/Minority/Women Business Enterprise (S/M/WBE) Subcontractor/Supplier* form must be completed by the Bidder and owner or authorized principal of each S/M/WBE firm listed in the *S/M/WBE Subcontractor/Supplier Participation Schedule*.

STATEMENT OF INTENT

The undersigned is certified as an S/M/WBE vendor in accordance with the Solid Waste Authority of Palm Beach County's Equal Business Opportunity Program Policy: X Yes ____ No

Florida-Spectrum Environmental Services, Inc. (Name of S/M/WBE Subcontractor/Supplier) agrees to perform work on the above contract as a (check one):

Individual Partnership Corporation Other

The S/M/WBE subcontractor will enter into a formal agreement with Florida-Spectrum Environmental Services, Inc. (Name of Bidder/Proposer) conditioned upon the Bidder/Proposer executing a contract with the Authority.

DESCRIPTION OF WORK TO BE PERFORMED & VALUE

Please provide the details and value of the work to be performed:

Item No.	Type of Work	Agreed Upon Price	% of Work
1	LABORATORY ANALYTICAL SERVICES	$ 248, 665.00	98.08 %
2		$	%
3		$	%
4		$	%
	TOTAL VALUE OF WORK	$ 248, 665.00	98.08 %

S/M/WBE SUBCONTRACTOR/SUPPLIER SIGNATURE

By executing this form, I hereby certify to all that I have full legal authority to execute this document on behalf of the companies mentioned above, and that my signature is specifically being relied on as such for all purposes related to this solicitation, including any resulting contract award. I understand that if this certification is determined to be incorrect for any reason, that my response to this solicitation may be deemed non-responsive or I may be subject to any applicable penalties/sanctions set forth in Section (6) of the Authority's Purchasing Manual or applicable law.

S/M/WBE Subcontractor (Signature) — Title

Name of S/M/WBE Subcontractor (Print): Florida-Spectrum Environmental Services, Inc. — Date

Prime Contractor (Signature) — Title: President

Prime Contractor (Print): Lyle A Johnson — Date: 04/17/20

Solid Waste Authority of Palm Beach County
Small Business Enterprise Commitment Form
(SCOPE B only)

Solicitation Name:	Analytical Laboratory Services
Respondent Name:	FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.

Please acknowledge the statements below by initialing each box:

LAJ In responding to this solicitation, I hereby affirm my firm's status as a Small Business Enterprise (SBE) as defined by the Solid Waste Authority of Palm Beach County (The AUTHORITY) Economic Inclusion Policy and Procedures, and in the Equal Business Opportunity Program section of this RFP.

LAJ I understand that as a SBE Prime Contractor, I am expected to provide Eighty Percent (80%) of Analytical Laboratory Service per the terms of my award for the AUTHORITY.

LAJ I understand that to count towards the Authority's SBE requirement, I must be certified as an eligible SBE, have a significant business presence in the Palm Beach County Area, and perform a commercially useful function in accordance with the Economic Inclusion Policy and Procedures.

LAJ I understand that the failure to include a completed, signed copy of this Commitment Form to acknowledge the SBE requirements for this solicitation will render this response NON-RESPONSIVE.

LAJ I understand that the failure of the SBE firm to perform Eighty Percent (80%) of the Scope of Work as specified shall be a material breach and subject to penalties and/or sanctions available under the terms of this Agreement for violations of the Economic Inclusion Policy, or under any other law

Proposers Authorized Agent

Name: LYLE A. JOHNSON

Sign and Date: [signature] 4/17/20

PROPOSAL FORM 8 - CERTIFICATION OF BUSINESS LOCATION

In order to qualify to receive points for location, the firm must have all of the following a minimum of one (1) year prior to the solicitation: a) its headquarters or branch office located within Palm Beach County; b) been incorporated or a legally begun business and fully licensed; and c) a valid Business Tax Receipt issued by the Palm Beach County Tax Collector that will be used to verify that the Proposer had a permanent place of business one (1) year prior to the issuance of the solicitation. Please note that in order to receive a Local Preference, the name and address on the Business Tax Receipt must be the same name and address that is included in the submittal to the Authority, and that the attached Business Tax Receipt must accompany the Proposal submittal at the time Proposals are due. Copies of licensure, leases of office space (or proof of ownership of office site) may be required by Authority staff as proof of compliance. The firm's office must be of a permanent nature not temporary or transient and may include home offices. For a home office to qualify, it must meet all necessary legal requirements for such office, and in the event a mobile home is used as a home office, it must be without wheels and permanently affixed to land. The firm's office shall be fully staffed with personnel including at least one (1) of those assigned to the Authority's projects, office furniture, office equipment, and, if applicable, professional equipment/computers as required by the type of work to be performed. Additional information or documentation, including site visit by Authority staff, may be required to confirm a local presence sufficient to qualify and receive Local Preference. The firm will be required to maintain said office, or other Authority approved offices, for the entire term of the contract. Failure to submit this information will cause the firm not to be qualified under this Section to receive a Local Preference.

I. PROPOSER is a:

N/A Local Business: A local business has a permanent place of business in Palm Beach County.

(Please indicate):

N/A Headquarters located in Palm Beach County

N/A Permanent office or other site located in Palm Beach County from which the vendor will produce a substantial portion of the goods and/or services.

II. The attached copy of PROPOSER's County Business Tax Receipt verifies PROPOSER'S permanent place of business.

THIS CERTIFICATION is submitted by LYLE A. JOHNSON, as

(Name of Individual)

PRESIDENT, of FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.

(Title/Position) (Firm Name of PROPOSER)

Who hereby certifies that the information stated above is true and correct and that the Palm Beach County Business Tax Receipt is a true and correct copy of the original receipt. Further, it is hereby acknowledged that any misrepresentation by the PROPOSER on this Certification will be considered an unethical business practice and be grounds for sanctions against future Authority business with the PROPOSER.

(Signature) 4/17/20 (Date)

PROPOSAL FORM - 9

PROPOSER'S QUALIFICATION STATEMENT

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter:

SUBMITTED TO: **SOLID WASTE AUTHORITY OF PALM BEACH COUNTY**
PURCHASING SERVICES DEPARTMENT
7501 N. Jog Road
West Palm Beach, FL. 33412

Submitted by: Check One

Name: FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC. Corporation: ☑

Address: 1460 W. MCNAB ROAD Partnership: ☐

City, State, Zip: FT. LAUDERDALE, FL 33309 Individual: ☐

Federal Identification Number (FID) 20-3973182 Other* ☐

(*if other is being checked, please provide supporting documentation to validate the legality of the Firm)

1. State the true, exact, correct and complete name of the partnership, trade or fictitious name under which you do business and the address of the place of business.

   The correct name of the PROPOSER is:
   FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.

   The address of the principal place of business is:
   1460 W. MCNAB ROAD
   FT. LAUDERDALE, FL 33309

2. If PROPOSER is corporation, answer the following:

   a. Date of Incorporation: 12/16/2005
   b. State of Incorporation: FLORIDA
   c. President's name: LYLE A. JOHNSON
   d. Vice President's name: TERRY JOHNSON
   e. Secretary's name: RUTH MCKINLEY
   f. Treasurer's name: KATHERINE CORAL (CFO)
   g. Name and Address of Resident Agent: LYLE A. JOHNSON
      1460 W. MCNAB ROAD FT. LAUDERDALE, FL 33309

3. If PROPOSER is an individual or a partnership, answer the following: N/A

   a. Date of organization: _____
   b. Name, address and ownership units of all partners:
      _____
      _____
      _____
   c. State whether general or limited partnership: _____

4. If PROPOSER is other than an individual, corporation or partnership, describe the organization and give the name and address of principals: N/A

5. If PROPOSER is operating under a fictitious name, submit evidence of compliance with the Florida Fictitious Name Statute. N/A

6. How many years has your organization been in business under its present business name? FORTY-SIX (46) YEARS

Under what other former names has your organization operated?
Spectrum Laboratories, Inc., the parent company of Florida-Spectrum Environmental Services, Inc. (FSES), was incorporated in the State of Florida on April 6, 1973.

7. Indicate registration, license numbers or certificate numbers for the businesses or professions, which are the subject of this RFP solicitation. Please attach certificate of competency and/or state registration.

FL DOH Lab ID E86006 (NELAP)
SFWMD SBE Cert. REGISTERED VENDOR NO.: 110656

8. List and describe all bankruptcy petitions (voluntary or involuntary) which have been filed by or against the PROPOSER, its parent or subsidiaries or predecessor organizations during the past five (5) years. Include in the description, the disposition of each such petition.

NONE

9. A list of all enforcement actions against the facility for the last three (3) years including any consent orders entered, notices of violations received, and any judgments against the facility. Also, list the amount of any fines, penalties, or judgments, or other infractions in which the destination facility or facilities have received in the most current three (3) years of operation.

NONE

11. List and describe any disciplinary action, administrative proceeding, malpractice claim or other like proceeding against your Firm or any of its lawyers, whether current or pending, as well as any such action, proceeding or claim occurring during the last five (5) years.

NONE

12. Has the PROPOSER, its principals, officers or predecessors' organization(s) been CONVICTED of a Public Entity Crime, debarred or suspended from bidding by any governmental entity during the last five (5) years? If so, provide details.

NONE

13. Has the PROPOSER in the past four (4) years, been rendered a final adjudicated determination in a legal or administrative proceeding in the State of Florida that the PROPOSER discriminated against its subcontractors, vendors, suppliers or commercial customers? If yes, PROPOSER shall provide a list of all instances to include but not limited to; description of the status or resolution of the complaint, including any remedial action taken. (Attach additional sheets as necessary)

NONE

The PROPOSER acknowledges and understands that the information contained in response to this Qualifications' Statement shall be relied upon by the Solid Waste Authority of Palm Beach County (AUTHORITY), in awarding the contract and such information is warranted by PROPOSER to be true. The discovery of any omission or misstatement that materially affects the PROPOSER's qualifications to perform under the contract shall cause the AUTHORITY to reject the proposal, and if after the award, to cancel and terminate the award and/or contract.

(Signed): _____

(Printed Name): LYLE A. JOHNSON

(Title): PRESIDENT

CERTIFICATION PURSUANT TO FLORIDA STATUTE §215.4725

ANALYTICAL LABORATORY SERVICES

RFP NO.: 20-202/DL

I, LYLE A. JOHNSON (Print Name), on behalf of FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC. (Name of Business)

certifies that FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC. (Name of Business) does not:

1. Participate in a boycott of Israel; and
2. Is not on the Scrutinized Companies that Boycott Israel list; and
3. Is not on the Scrutinized Companies with Activities in Sudan List; and
4. Is not on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; and
5. Has not engaged in business operations in Cuba or Syria.

As the person authorized to sign the statement, I certify that this Firm complies fully with the above requirements.

BIDDER'S SIGNATURE

4/17/20
DATE

3.2.4

MINIMUM REQUIREMENTS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

Florida-Spectrum Environmental Services, Inc.

NELAP CERTIFICATION & SCOPE OF ACCREDITATION

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E86006

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
1460 WEST MCNAB ROAD
FT. LAUDERDALE, FL 33309

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - MICROBIOLOGY, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - RADIOCHEMISTRY, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - RADIOCHEMISTRY, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E86006-40-07/01/2019
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E86006-40, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E86006** EPA Lab Code: **FL00095** **(954) 978-6400**

E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
1,1,1-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
1,1,2,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
1,1,2-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
1,1-Dichloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
1,1-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
1,1-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
1,2,3-Trichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
1,2,3-Trichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
1,2,4-Trichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
1,2,4-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	Synthetic Organic Contaminants	NELAP	10/14/2002
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	Synthetic Organic Contaminants	NELAP	10/14/2002
1,2-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
1,2-Dichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
1,2-Dichloropropane	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
1,3,5-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
1,3-Dichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
1,3-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
1,4-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
2,2-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
2,4,5-T	EPA 515.3	Group I Unregulated Contaminants	NELAP	5/19/2014
2,4-D	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2002
2,4-DB	EPA 515.3	Group I Unregulated Contaminants	NELAP	5/19/2014
2-Butanone (Methyl ethyl ketone, MEK)	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
2-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
2-Hexanone	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
3-Hydroxycarbofuran	EPA 531.1	Group I Unregulated Contaminants	NELAP	12/29/2008
4-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
4-Isopropyltoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
4-Methyl-2-pentanone (MIBK)	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Acetone	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Acifluorfen	EPA 515.3	Group I Unregulated Contaminants	NELAP	5/19/2014
Alachlor	EPA 525.2	Synthetic Organic Contaminants	NELAP	10/14/2002
Aldicarb (Temik)	EPA 531.1	Group I Unregulated Contaminants	NELAP	12/29/2008
Aldicarb sulfone	EPA 531.1	Group I Unregulated Contaminants	NELAP	12/29/2008

Laboratory Scope of Accreditation

Attachment to Certificate #: E86006-40, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E86006** EPA Lab Code: **FL00095** **(954) 978-6400**

E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aldicarb sulfoxide	EPA 531.1	Group I Unregulated Contaminants	NELAP	12/29/2008
Aldrin	EPA 508	Group I Unregulated Contaminants	NELAP	10/14/2002
Alkalinity as CaCO3	SM 2320 B	Primary Inorganic Contaminants	NELAP	9/20/2011
Aluminum	EPA 200.7	Secondary Inorganic Contaminants	NELAP	10/11/2004
Antimony	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Arsenic	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Atrazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	10/14/2002
Barium	EPA 200.7	Primary Inorganic Contaminants	NELAP	10/14/2002
Barium	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Benzene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Benzo(a)pyrene	EPA 525.2	Synthetic Organic Contaminants	NELAP	10/14/2002
Beryllium	EPA 200.7	Primary Inorganic Contaminants	NELAP	5/19/2014
Beryllium	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Boron	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/5/2007
Bromide	EPA 300.0	Primary Inorganic Contaminants	NELAP	5/19/2014
Bromoacetic acid	EPA 552.2	Group I Unregulated Contaminants,Synthetic Organic Contaminants	NELAP	10/14/2002
Bromobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
Bromochloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Bromodichloromethane	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	10/14/2002
Bromoform	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	10/14/2002
Cadmium	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/20/2011
Cadmium	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Calcium	EPA 200.7	Primary Inorganic Contaminants	NELAP	10/14/2002
Carbaryl (Sevin)	EPA 531.1	Group I Unregulated Contaminants	NELAP	12/29/2008
Carbofuran (Furadan)	EPA 531.1	Synthetic Organic Contaminants	NELAP	12/29/2008
Carbon disulfide	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Carbon tetrachloride	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Chlordane (tech.)	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Chloride	EPA 300.0	Secondary Inorganic Contaminants	NELAP	10/14/2002
Chloride	SM 4500 Cl- B	Secondary Inorganic Contaminants	NELAP	1/15/2010
Chloride	SM 4500-Cl^- E	Secondary Inorganic Contaminants	NELAP	5/19/2014
Chloroacetic acid	EPA 552.2	Group I Unregulated Contaminants,Synthetic Organic Contaminants	NELAP	10/14/2002

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Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Chloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
Chloroform	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	10/14/2002
Chromium	EPA 200.7	Primary Inorganic Contaminants	NELAP	8/3/2007
Chromium	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Chromium VI	SM 3500-Cr B (20th/21st/22nd Ed.)/UV-VIS	Secondary Inorganic Contaminants	NELAP	5/19/2014
cis-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
cis-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/11/2004
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	10/14/2002
Conductivity	EPA 120.1	Primary Inorganic Contaminants	NELAP	5/19/2014
Copper	EPA 200.7	Primary Inorganic Contaminants	NELAP	8/3/2007
Copper	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Cyanide	SM 4500CN-E	Primary Inorganic Contaminants	NELAP	12/3/2002
Dalapon	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2002
Di(2-ethylhexyl) phthalate (DEHP)	EPA 525.2	Synthetic Organic Contaminants	NELAP	10/14/2002
Di(2-ethylhexyl)adipate	EPA 525.2	Synthetic Organic Contaminants	NELAP	10/14/2002
Dibromoacetic acid	EPA 552.2	Group I Unregulated Contaminants,Synthetic Organic Contaminants	NELAP	10/14/2002
Dibromochloromethane	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	10/14/2002
Dibromomethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
Dicamba	EPA 515.3	Group I Unregulated Contaminants	NELAP	10/14/2002
Dichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants,Synthetic Organic Contaminants	NELAP	10/14/2002
Dichlorodifluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
Dichloromethane (DCM, Methylene chloride)	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Dieldrin	EPA 508	Group I Unregulated Contaminants	NELAP	10/14/2002
Diethyl ether	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2002
Diquat	EPA 549.2	Synthetic Organic Contaminants	NELAP	11/7/2008
Endothall	EPA 548.1	Synthetic Organic Contaminants	NELAP	1/15/2010
Endrin	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Escherichia coli	SM 9223 B	Microbiology	NELAP	10/14/2002

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Ethyl methacrylate	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Ethylbenzene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Fluoride	EPA 300.0	Secondary Inorganic Contaminants,Primary Inorganic Contaminants	NELAP	10/14/2002
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Glyphosate	EPA 547	Synthetic Organic Contaminants	NELAP	12/29/2008
Gross-alpha	EPA 900.0	Radiochemistry	NELAP	5/19/2014
Gross-beta	EPA 900.0	Radiochemistry	NELAP	5/19/2014
Hardness (calc.)	EPA 200.7	Primary Inorganic Contaminants	NELAP	10/16/2018
Heptachlor	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Heptachlor epoxide	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Heterotrophic plate count	SM 9215 B	Microbiology	NELAP	10/14/2002
Hexachlorobenzene	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Hexachlorobutadiene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Hexachlorocyclopentadiene	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Iron	EPA 200.7	Secondary Inorganic Contaminants	NELAP	12/3/2002
Isopropylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Lead	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Magnesium	EPA 200.7	Primary Inorganic Contaminants	NELAP	10/14/2002
Manganese	EPA 200.7	Secondary Inorganic Contaminants	NELAP	8/3/2007
Manganese	EPA 200.8	Secondary Inorganic Contaminants	NELAP	10/14/2002
Mercury	EPA 200.8	Primary Inorganic Contaminants	NELAP	11/4/2016
Mercury	EPA 245.1	Primary Inorganic Contaminants	NELAP	10/14/2002
Methacrylonitrile	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Methiocarb (Mesurol)	EPA 531.1	Group I Unregulated Contaminants	NELAP	12/29/2008
Methomyl (Lannate)	EPA 531.1	Group I Unregulated Contaminants	NELAP	12/29/2008
Methoxychlor	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Methyl acrylate	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Methyl bromide (Bromomethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
Methyl chloride (Chloromethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
Methyl methacrylate	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Methyl tert-butyl ether (MTBE)	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
Molybdenum	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/5/2007
Molybdenum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	5/19/2014
Naphthalene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
n-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014

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Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Nickel	EPA 200.7	Primary Inorganic Contaminants	NELAP	8/3/2007
Nickel	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Nitrate	EPA 300.0	Primary Inorganic Contaminants	NELAP	10/14/2002
Nitrate	SM 4500-NO3 F	Primary Inorganic Contaminants	NELAP	5/19/2014
Nitrate-nitrite	SM 4500-NO3 F	Primary Inorganic Contaminants	NELAP	5/19/2014
Nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	10/14/2002
Nitrite	SM 4500-NO2-B	Primary Inorganic Contaminants	NELAP	1/15/2010
Nitrite	SM 4500-NO3 F	Primary Inorganic Contaminants	NELAP	5/19/2014
n-Propylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	10/14/2002
Orthophosphate as P	EPA 300.0	Primary Inorganic Contaminants	NELAP	1/15/2010
Orthophosphate as P	SM 4500-P F	Primary Inorganic Contaminants	NELAP	5/19/2014
Oxamyl	EPA 531.1	Synthetic Organic Contaminants	NELAP	12/29/2008
Paraquat	EPA 549.2	Synthetic Organic Contaminants	NELAP	1/15/2010
PCBs	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
Pentachlorophenol	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2002
pH	SM 4500-H+-B	Primary Inorganic Contaminants	NELAP	5/19/2014
Picloram	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2002
Potassium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/5/2007
Propachlor (Ramrod)	EPA 508	Group I Unregulated Contaminants	NELAP	10/14/2002
Propoxur (Baygon)	EPA 531.1	Group I Unregulated Contaminants	NELAP	12/29/2008
sec-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Selenium	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Silicon	EPA 200.7	Primary Inorganic Contaminants	NELAP	10/14/2002
Silver	EPA 200.7	Secondary Inorganic Contaminants	NELAP	12/29/2008
Silver	EPA 200.8	Secondary Inorganic Contaminants	NELAP	10/14/2002
Silvex (2,4,5-TP)	EPA 515.3	Synthetic Organic Contaminants	NELAP	10/14/2002
Simazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	10/14/2002
Sodium	EPA 200.7	Primary Inorganic Contaminants	NELAP	10/14/2002
Styrene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Sulfate	EPA 300.0	Secondary Inorganic Contaminants	NELAP	10/14/2002
Sulfate	EPA 375.4	Secondary Inorganic Contaminants	NELAP	1/15/2010
Surfactants - MBAS	SM 5540 C	Secondary Inorganic Contaminants	NELAP	10/14/2002
tert-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014
Tetrachloroethylene (Perchloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Tetrahydrofuran (THF)	EPA 524.2	Group II Unregulated Contaminants	NELAP	5/19/2014

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Matrix: **Drinking Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Thallium	EPA 200.8	Primary Inorganic Contaminants	NELAP	10/14/2002
Toluene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Total coliforms	SM 9223 B	Microbiology	NELAP	10/14/2002
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	5/19/2014
Total haloacetic acids (HAA5)	EPA 552.2	Synthetic Organic Contaminants	NELAP	10/14/2002
Total nitrate-nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	10/14/2002
Total organic carbon	SM 5310 C	Primary Inorganic Contaminants	NELAP	10/11/2004
Total trihalomethanes	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Toxaphene (Chlorinated camphene)	EPA 508	Synthetic Organic Contaminants	NELAP	10/14/2002
trans-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
trans-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/11/2004
Trichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants,Synthetic Organic Contaminants	NELAP	10/14/2002
Trichloroethene (Trichloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Trichlorofluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	10/14/2002
Trifluralin (Treflan)	EPA 508	Group I Unregulated Contaminants	NELAP	5/19/2014
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	10/14/2002
Uranium	EPA 200.8	Radiochemistry	NELAP	2/5/2007
Vanadium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/5/2007
Vanadium	EPA 200.8	Secondary Inorganic Contaminants	NELAP	5/19/2014
Vinyl chloride	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Xylene (total)	EPA 524.2	Other Regulated Contaminants	NELAP	10/14/2002
Zinc	EPA 200.7	Secondary Inorganic Contaminants	NELAP	10/14/2002
Zinc	EPA 200.8	Secondary Inorganic Contaminants	NELAP	10/14/2002

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,1-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2,2-Tetrachloroethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichloropropane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,4,5-Tetrachlorobenzene	EPA 8270	Extractable Organics	NELAP	1/15/2010
1,2,4-Trichlorobenzene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,2,4-Trichlorobenzene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/5/2007
1,2,4-Trimethylbenzene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	1/15/2010
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	1/15/2010
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,2-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	10/14/2002
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/5/2007
1,2-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichloropropane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dinitrobenzene	EPA 8270	Extractable Organics	NELAP	5/19/2014

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E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	2/5/2007
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8270	Extractable Organics	NELAP	5/19/2014
1,3-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,3-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	10/14/2002
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	10/11/2004
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/5/2007
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	Extractable Organics	NELAP	5/19/2014
1,4-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
1,4-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	10/14/2002
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/5/2007
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8260	Volatile Organics	NELAP	1/15/2010
1,4-Naphthoquinone	EPA 8270	Extractable Organics	NELAP	1/15/2010
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	12/29/2008
1-Naphthylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,3-Dichloroaniline	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
2,4,5-Trichlorophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,4,6-Trichlorophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,4,6-Trinitrotoluene (2,4,6-TNT)	EPA 8270	Extractable Organics	NELAP	5/19/2014
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
2,4-Dichlorophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,4-Dimethylphenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,4-Dinitrophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,4-Dinitrotoluene (2,4-DNT)	EPA 625.1	Extractable Organics	NELAP	11/13/2017

Laboratory Scope of Accreditation

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State Laboratory ID: **E86006** EPA Lab Code: **FL00095** **(954) 978-6400**

E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,6-Dichlorophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2,6-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2,6-Dinitrotoluene (2,6-DNT)	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	2/5/2007
2-Acetylaminofluorene	EPA 8270	Extractable Organics	NELAP	1/15/2010
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Chloroethyl vinyl ether	EPA 624.1	Volatile Organics	NELAP	11/13/2017
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	12/29/2008
2-Chloronaphthalene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	2/5/2007
2-Chlorophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Hexanone	EPA 624.1	Volatile Organics	NELAP	11/13/2017
2-Hexanone	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Methyl-4,6-dinitrophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2-Methylnaphthalene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	2/5/2007
2-Methylphenol (o-Cresol)	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	2/5/2007
2-Naphthylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
2-Nitroaniline	EPA 625.1	Extractable Organics	NELAP	10/16/2018
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/5/2007
2-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
2-Picoline (2-Methylpyridine)	EPA 8270	Extractable Organics	NELAP	1/15/2010
3,3'-Dichlorobenzidine	EPA 625.1	Extractable Organics	NELAP	11/13/2017
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
3,3'-Dimethoxybenzidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
3,3'-Dimethylbenzidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
3,5-Dichlorobenzoic acid	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
3/4-Methylphenols (m/p-Cresols)	EPA 625.1	Extractable Organics	NELAP	11/13/2017
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	2/5/2007
3-Methylcholanthrene	EPA 8270	Extractable Organics	NELAP	1/15/2010

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/5/2007
4,4'-DDD	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
4,4'-DDE	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4,4'-DDT	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4-Aminobiphenyl	EPA 8270	Extractable Organics	NELAP	1/15/2010
4-Bromophenyl phenyl ether	EPA 625.1	Extractable Organics	NELAP	11/13/2017
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	2/5/2007
4-Chloro-3-methylphenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	2/5/2007
4-Chlorophenyl phenylether	EPA 625.1	Extractable Organics	NELAP	11/13/2017
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	2/5/2007
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Dimethyl aminoazobenzene	EPA 8270	Extractable Organics	NELAP	1/15/2010
4-Methyl-2-pentanone (MIBK)	EPA 624.1	Volatile Organics	NELAP	11/13/2017
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/5/2007
4-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
5-Nitro-o-toluidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
7,12-Dimethylbenz(a) anthracene	EPA 8270	Extractable Organics	NELAP	1/15/2010
a,a-Dimethylphenethylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
Acenaphthene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Acenaphthene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Acenaphthylene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Acetone	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Acetone	EPA 8260	Volatile Organics	NELAP	10/11/2004
Acetonitrile	EPA 8260	Volatile Organics	NELAP	1/15/2010
Acetophenone	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Acetophenone	EPA 8270	Extractable Organics	NELAP	1/15/2010
Acifluorfen	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Acrolein (Propenal)	EPA 624.1	Volatile Organics	NELAP	11/13/2017

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acrylonitrile	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Aldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Alkalinity as CaCO3	EPA 310.2	General Chemistry	NELAP	5/19/2014
Alkalinity as CaCO3	SM 2320 B	General Chemistry	NELAP	5/15/2007
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
alpha-Terpineol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Aluminum	EPA 200.7	Metals	NELAP	10/14/2002
Aluminum	EPA 6010	Metals	NELAP	1/15/2010
Amenable cyanide	SM 4500-CN- G	General Chemistry	NELAP	10/16/2018
Ammonia as N	EPA 350.1	General Chemistry	NELAP	10/14/2002
Aniline	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Aniline	EPA 8270	Extractable Organics	NELAP	1/15/2010
Anthracene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Anthracene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Antimony	EPA 200.7	Metals	NELAP	10/14/2002
Antimony	EPA 200.8	Metals	NELAP	10/14/2002
Antimony	EPA 6010	Metals	NELAP	7/1/2003
Aroclor-1016 (PCB-1016)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1221 (PCB-1221)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1232 (PCB-1232)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1242 (PCB-1242)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1248 (PCB-1248)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
Aroclor-1254 (PCB-1254)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1260 (PCB-1260)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003

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E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Arsenic	EPA 200.7	Metals	NELAP	10/14/2002
Arsenic	EPA 200.8	Metals	NELAP	10/14/2002
Arsenic	EPA 6010	Metals	NELAP	7/1/2003
Aspon	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Atrazine	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Azinphos-ethyl (Ethyl guthion)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Azinphos-methyl (Guthion)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Barium	EPA 200.7	Metals	NELAP	3/7/2003
Barium	EPA 200.8	Metals	NELAP	10/11/2004
Barium	EPA 6010	Metals	NELAP	3/7/2003
Bentazon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Benzene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Benzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Benzidine	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Benzidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
Benzo(a)anthracene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Benzo(a)pyrene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Benzo(b)fluoranthene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Benzo(g,h,i)perylene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Benzo(k)fluoranthene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Benzyl alcohol	EPA 625.1	Extractable Organics	NELAP	10/16/2018
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	1/15/2010
Beryllium	EPA 200.7	Metals	NELAP	10/14/2002
Beryllium	EPA 200.8	Metals	NELAP	10/14/2002
Beryllium	EPA 6010	Metals	NELAP	7/1/2003
beta-BHC (beta-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	5/15/2007
Biphenyl	EPA 8270	Extractable Organics	NELAP	5/19/2014
bis(2-Chloroethoxy)methane	EPA 625.1	Extractable Organics	NELAP	11/13/2017
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	2/5/2007

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
bis(2-Chloroethyl) ether	EPA 625.1	Extractable Organics	NELAP	11/13/2017
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	2/5/2007
bis(2-Chloroisopropyl) ether (2,2'-Oxybis(1-chloropropane))	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Bismuth	FSE-ICP/ICP-AES	Metals	NELAP	1/15/2010
Bolstar (Sulprofos)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Boron	EPA 200.7	Metals	NELAP	10/14/2002
Boron	EPA 6010	Metals	NELAP	1/15/2010
Bromacil	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	9/20/2011
Bromide	EPA 300.0	General Chemistry	NELAP	10/14/2002
Bromobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromodichloromethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromoform	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Bromoform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Butyl benzyl phthalate	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	2/5/2007
Cadmium	EPA 200.7	Metals	NELAP	10/14/2002
Cadmium	EPA 200.8	Metals	NELAP	10/14/2002
Cadmium	EPA 6010	Metals	NELAP	10/14/2002
Calcium	EPA 200.7	Metals	NELAP	10/14/2002
Calcium	EPA 6010	Metals	NELAP	1/15/2010
Carbazole	EPA 625.1	Extractable Organics	NELAP	10/16/2018
Carbazole	EPA 8270	Extractable Organics	NELAP	2/5/2007
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	2/5/2007
Carbon tetrachloride	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	12/3/2002
Carbophenothion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Chemical oxygen demand	EPA 410.4	General Chemistry	NELAP	10/14/2002
Chemical oxygen demand	SM 5220 D	General Chemistry	NELAP	9/20/2011
Chloramben	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Chlordane (tech.)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
Chlorfenvinphos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Chloride	EPA 300.0	General Chemistry	NELAP	10/14/2002

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Chloride	SM 4500 Cl- B	General Chemistry	NELAP	10/11/2004
Chloride	SM 4500-Cl^- E	General Chemistry	NELAP	5/19/2014
Chlorobenzene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chlorobenzilate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Chlorobenzilate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Chloroethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Chloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chloroform	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Chloroform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chloroneb	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Chloroprene	EPA 8260	Volatile Organics	NELAP	1/15/2010
Chloropropylate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Chlorothalonil	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Chlorpyrifos	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Chlorpyrifos methyl	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Chromium	EPA 200.7	Metals	NELAP	10/14/2002
Chromium	EPA 200.8	Metals	NELAP	10/14/2002
Chromium	EPA 6010	Metals	NELAP	7/1/2003
Chromium VI	SM 3500-Cr B (20th/21st/22nd Ed.)/UV-VIS	General Chemistry	NELAP	5/19/2014
Chrysene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Chrysene	EPA 8270	Extractable Organics	NELAP	2/5/2007
cis-1,2-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	10/16/2018
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
cis-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Cobalt	EPA 200.7	Metals	NELAP	10/14/2002
Cobalt	EPA 200.8	Metals	NELAP	10/14/2002
Cobalt	EPA 6010	Metals	NELAP	7/1/2003
Color	SM 2120 B	General Chemistry	NELAP	5/19/2014
Conductivity	EPA 120.1	General Chemistry	NELAP	10/14/2002
Copper	EPA 200.7	Metals	NELAP	10/14/2002
Copper	EPA 200.8	Metals	NELAP	10/14/2002
Copper	EPA 6010	Metals	NELAP	10/14/2002
Coumaphos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008

Laboratory Scope of Accreditation

Attachment to Certificate #: E86006-40, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E86006** EPA Lab Code: **FL00095** **(954) 978-6400**

E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Crotoxyphos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Dacthal (DCPA)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Dacthal (DCPA)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
delta-BHC	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Demeton-o	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Demeton-s	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Di(2-ethylhexyl) phthalate (DEHP)	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	2/5/2007
Diallate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Diazinon	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Dibenz(a,h)anthracene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Dibenzofuran	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	2/5/2007
Dibromochloromethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dibromomethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Dibromomethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Dichlone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Dichlorodifluoromethane	EPA 624.1	Volatile Organics	NELAP	10/16/2018
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dichlorofenthion	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Dichlorovos (DDVP, Dichlorvos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Dicofol	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Dicrotophos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Dieldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Diethyl phthalate	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	2/5/2007
Dimethoate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Dimethyl phthalate	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	2/5/2007

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Di-n-butyl phthalate	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	2/5/2007
Di-n-octyl phthalate	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	2/5/2007
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Dioxathion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Disulfoton	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Diuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	9/20/2011
Endosulfan I	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Endosulfan II	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan sulfate	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Endrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Endrin aldehyde	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin ketone	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Enterococci	EPA 1600	Microbiology	NELAP	2/5/2007
EPN	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
EPTC (Eptam, s-ethyl-dipropyl thio carbamate)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Escherichia coli	EPA 1603	Microbiology	NELAP	10/16/2018
Ethion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Ethoprop	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Ethyl acetate	EPA 1666	Volatile Organics	NELAP	11/4/2016
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	1/15/2010
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Ethyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	1/15/2010
Ethylbenzene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Etridiazole	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Famphur	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Fecal coliforms	SM 9222 D	Microbiology	NELAP	10/14/2002
Fecal streptococci	SM 9230 C	Microbiology	NELAP	10/14/2002

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Fenitrothion	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Fensulfothion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Fenthion	EPA 8270	Extractable Organics	NELAP	2/5/2007
Fluoranthene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Fluoranthene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Fluorene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Fluorene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Fluoride	EPA 300.0	General Chemistry	NELAP	10/14/2002
Fonophos	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Hardness (calc.)	EPA 200.7	Metals	NELAP	10/14/2002
Heptachlor	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Heptachlor epoxide	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Hexachlorobenzene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Hexachlorobutadiene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Hexachlorobutadiene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Hexachlorocyclopentadiene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Hexachloroethane	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	2/5/2007
Hexachloropropene	EPA 8270	Extractable Organics	NELAP	1/15/2010
Hexamethylphosphoramide (HMPA)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Ignitability	EPA 1010	General Chemistry	NELAP	7/1/2003
Indeno(1,2,3-cd)pyrene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Iron	EPA 200.7	Metals	NELAP	10/14/2002
Iron	EPA 6010	Metals	NELAP	1/15/2010
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	1/15/2010

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Isodrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Isodrin	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Isophorone	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Isophorone	EPA 8270	Extractable Organics	NELAP	2/5/2007
Isopropyl acetate	EPA 1666	Volatile Organics	NELAP	11/4/2016
Isopropyl acetate	FSE-VOC/GC-MS	Volatile Organics	NELAP	1/15/2010
Isopropyl alcohol (2-Propanol)	EPA 8260	Volatile Organics	NELAP	1/15/2010
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Isosafrole	EPA 8270	Extractable Organics	NELAP	1/15/2010
Kepone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	10/14/2002
Lead	EPA 200.7	Metals	NELAP	10/14/2002
Lead	EPA 200.8	Metals	NELAP	10/14/2002
Lead	EPA 6010	Metals	NELAP	10/14/2002
Leptophos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Lithium	EPA 200.7	Metals	NELAP	1/15/2010
m/p-Xylenes	EPA 8260	Volatile Organics	NELAP	5/19/2014
m+p-Xylenes	EPA 624.1	Volatile Organics	NELAP	10/16/2018
Magnesium	EPA 200.7	Metals	NELAP	10/14/2002
Magnesium	EPA 6010	Metals	NELAP	1/15/2010
Malathion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Manganese	EPA 200.7	Metals	NELAP	10/14/2002
Manganese	EPA 200.8	Metals	NELAP	10/14/2002
Manganese	EPA 6010	Metals	NELAP	7/1/2003
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Mercury	EPA 200.8	Metals	NELAP	11/4/2016
Mercury	EPA 245.1	Metals	NELAP	10/14/2002
Mercury	EPA 7470	Metals	NELAP	10/16/2018
Merphos	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methapyrilene	EPA 8270	Extractable Organics	NELAP	1/15/2010
Methoxychlor	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/11/2004
Methyl acetate	FSE-VOC/GC-MS	Volatile Organics	NELAP	1/15/2010
Methyl bromide (Bromomethane)	EPA 624.1	Volatile Organics	NELAP	11/13/2017

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl chloride (Chloromethane)	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	1/15/2010
Methyl parathion (Parathion, methyl)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Methyl tert-butyl ether (MTBE)	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methylene chloride	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Methylene chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Mevinphos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Mirex	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	9/20/2011
Molinate	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Molybdenum	EPA 200.7	Metals	NELAP	10/14/2002
Molybdenum	EPA 200.8	Metals	NELAP	10/14/2002
Molybdenum	EPA 6010	Metals	NELAP	10/14/2002
Monocrotophos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Naled	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
n-Amyl acetate	EPA 1666	Volatile Organics	NELAP	11/4/2016
n-Amyl acetate	FSE-VOC/GC-MS	Volatile Organics	NELAP	1/15/2010
Naphthalene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Naphthalene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Naphthalene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Naphthalene (without SIM)	EPA 624.1	Volatile Organics	NELAP	11/13/2017
n-Butyl acetate	EPA 1666	Volatile Organics	NELAP	11/4/2016
n-Butyl alcohol	EPA 8260	Volatile Organics	NELAP	1/15/2010
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
n-Decane	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Nickel	EPA 200.7	Metals	NELAP	10/14/2002
Nickel	EPA 200.8	Metals	NELAP	10/14/2002
Nickel	EPA 6010	Metals	NELAP	10/14/2002
Nitrate	SM 4500-NO3 F	General Chemistry	NELAP	1/15/2010
Nitrate as N	EPA 300.0	General Chemistry	NELAP	10/14/2002
Nitrate-nitrite	EPA 300.0	General Chemistry	NELAP	10/14/2002
Nitrate-nitrite	SM 4500-NO3 F	General Chemistry	NELAP	3/1/2010
Nitrite	SM 4500-NO3 F	General Chemistry	NELAP	1/15/2010

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Nitrite as N	EPA 300.0	General Chemistry	NELAP	10/14/2002
Nitrite as N	SM 4500-NO2-B	General Chemistry	NELAP	1/15/2010
Nitrobenzene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Nitrofen	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Nitroquinoline-1-oxide	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosodiethylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosodimethylamine	EPA 625.1	Extractable Organics	NELAP	11/13/2017
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	2/5/2007
n-Nitroso-di-n-butylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosodi-n-propylamine	EPA 625.1	Extractable Organics	NELAP	11/13/2017
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	2/5/2007
n-Nitrosodiphenylamine	EPA 625.1	Extractable Organics	NELAP	11/13/2017
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	2/5/2007
n-Nitrosomethylethylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosomorpholine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Octadecane	EPA 625.1	Extractable Organics	NELAP	11/13/2017
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
o,o,o-Triethyl phosphorothioate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Oil & Grease	EPA 1664A	General Chemistry	NELAP	10/11/2004
Organic nitrogen	TKN minus AMMONIA	General Chemistry	NELAP	2/5/2007
Orthophosphate as P	EPA 300.0	General Chemistry	NELAP	2/5/2007
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	12/29/2008
Orthophosphate as P	SM 4500-P F	General Chemistry	NELAP	1/15/2010
o-Toluidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
o-Xylene	EPA 624.1	Volatile Organics	NELAP	10/16/2018
o-Xylene	EPA 8260	Volatile Organics	NELAP	5/19/2014
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Pebulate	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	1/15/2010
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	1/15/2010
Pentachloronitrobenzene (Quintozene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Pentachloronitrobenzene (Quintozene)	EPA 8270	Extractable Organics	NELAP	1/15/2010
Pentachlorophenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Pentachlorophenol	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	11/4/2016
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
Permethrins (total)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
pH	SM 4500-H+-B	General Chemistry	NELAP	5/15/2007
Phenacetin	EPA 8270	Extractable Organics	NELAP	1/15/2010
Phenanthrene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Phenanthrene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Phenol	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Phenol	EPA 8270	Extractable Organics	NELAP	2/5/2007
Phorate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Phosmet (Imidan)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Phosphamidon	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Phosphorus, total	EPA 365.1	General Chemistry	NELAP	12/29/2008
Phosphorus, total	EPA 365.4	General Chemistry	NELAP	10/14/2002
Phosphorus, total	SM 4500-P F	General Chemistry	NELAP	1/15/2010
Picloram	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Potassium	EPA 200.7	Metals	NELAP	10/14/2002
Potassium	EPA 6010	Metals	NELAP	10/14/2002
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	1/15/2010
Propachlor (Ramrod)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Pseudomonas aeruginosa	SM 9213 E/MF-QN	Microbiology	NELAP	5/19/2014
Pyrene	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Pyrene	EPA 8270	Extractable Organics	NELAP	2/5/2007
Pyridine	EPA 625.1	Extractable Organics	NELAP	11/13/2017
Pyridine	EPA 8270	Extractable Organics	NELAP	1/15/2010
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	5/15/2007
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	5/15/2007
Residue-total	SM 2540 B	General Chemistry	NELAP	5/15/2007
Residue-volatile	SM 2540 E	General Chemistry	NELAP	12/22/2010
Residue-volatile	SM 2540 G	General Chemistry	NELAP	9/20/2011
Ronnel	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Safrole	EPA 8270	Extractable Organics	NELAP	1/15/2010
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Selenium	EPA 200.7	Metals	NELAP	10/14/2002

Laboratory Scope of Accreditation

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State Laboratory ID: **E86006** EPA Lab Code: **FL00095** **(954) 978-6400**

E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Selenium	EPA 200.8	Metals	NELAP	10/14/2002
Selenium	EPA 6010	Metals	NELAP	10/14/2002
Silica as SiO2	SM 4500-SiO2 C (20th/21st Ed.)/UV-VIS	General Chemistry	NELAP	5/15/2007
Silicon	EPA 200.7	Metals	NELAP	10/14/2002
Silicon	EPA 6010	Metals	NELAP	1/15/2010
Silver	EPA 200.7	Metals	NELAP	10/14/2002
Silver	EPA 200.8	Metals	NELAP	10/14/2002
Silver	EPA 6010	Metals	NELAP	7/1/2003
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Simazine	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Sodium	EPA 200.7	Metals	NELAP	10/14/2002
Sodium	EPA 6010	Metals	NELAP	7/1/2003
Strontium	EPA 200.7	Metals	NELAP	1/15/2010
Strontium	EPA 200.8	Metals	NELAP	11/4/2016
Strontium	EPA 6010	Metals	NELAP	7/1/2003
Strychnine	EPA 8270	Extractable Organics	NELAP	1/15/2010
Styrene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Styrene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Sulfate	EPA 300.0	General Chemistry	NELAP	10/14/2002
Sulfate	EPA 375.4	General Chemistry	NELAP	1/15/2010
Sulfide	SM 4500-S D/UV-VIS	General Chemistry	NELAP	5/19/2014
Sulfotepp	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Surfactants - MBAS	SM 5540 C	General Chemistry	NELAP	5/15/2007
Terbufos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Terbufos	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	1/15/2010
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Tetrachloroethylene (Perchloroethylene)	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Tetrachlorvinphos (Stirophos, Gardona)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Tetraethyl pyrophosphate (TEPP)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Thallium	EPA 200.7	Metals	NELAP	2/5/2007
Thallium	EPA 200.8	Metals	NELAP	10/14/2002
Thallium	EPA 6010	Metals	NELAP	1/15/2010
Thionazin (Zinophos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Thorium	EPA 200.8	Metals	NELAP	1/15/2010

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Tin	EPA 200.7	Metals	NELAP	3/7/2003
Tin	EPA 6010	Metals	NELAP	1/15/2010
Titanium	EPA 200.7	Metals	NELAP	10/14/2002
Titanium	EPA 6010	Metals	NELAP	1/15/2010
Tokuthion (Prothiophos)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Toluene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Toluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Total alpha	EPA 900.0	Radiochemistry	NELAP	5/19/2014
Total beta	EPA 900.0	Radiochemistry	NELAP	5/19/2014
Total coliforms	SM 9222 B	Microbiology	NELAP	10/14/2002
Total cyanide	EPA 335.4	General Chemistry	NELAP	9/4/2008
Total cyanide	SM 4500CN-E	General Chemistry	NELAP	5/19/2014
Total nitrogen	TKN + Total nitrate-nitrite	General Chemistry	NELAP	5/19/2014
Total organic carbon	SM 5310 C	General Chemistry	NELAP	10/14/2002
Total Petroleum Hydrocarbons (TPH)	EPA 1664A	General Chemistry	NELAP	10/14/2002
Total Petroleum Hydrocarbons (TPH)	FL-PRO	Extractable Organics	NELAP	7/1/2003
Total phenolics	EPA 420.4	General Chemistry	NELAP	5/15/2007
Toxaphene (Chlorinated camphene)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	11/13/2017
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
trans-1,2-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	11/13/2017
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichloroethene (Trichloroethylene)	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichlorofluoromethane	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichloronate	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Tri-o-cresylphosphate (TOCP)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Turbidity	EPA 180.1	General Chemistry	NELAP	10/14/2002
Un-ionized Ammonia	DEP SOP 10/03/83	General Chemistry	NELAP	10/14/2002
Uranium	EPA 200.8	Metals	NELAP	10/14/2002
Vanadium	EPA 200.7	Metals	NELAP	10/14/2002
Vanadium	EPA 200.8	Metals	NELAP	10/14/2002
Vanadium	EPA 6010	Metals	NELAP	7/1/2003

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Matrix: **Non-Potable Water**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	12/29/2008
Vinyl chloride	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Xylene (total)	EPA 624.1	Volatile Organics	NELAP	11/13/2017
Xylene (total)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Zinc	EPA 200.7	Metals	NELAP	10/14/2002
Zinc	EPA 200.8	Metals	NELAP	10/14/2002
Zinc	EPA 6010	Metals	NELAP	10/14/2002

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E86006
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Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2,4,5-Tetrachlorobenzene	EPA 8270	Extractable Organics	NELAP	1/15/2010
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	10/11/2004
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	5/19/2014
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	5/19/2014
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	3/7/2003
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	10/11/2004
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	1/15/2010
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/5/2007
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	10/11/2004
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	10/14/2002
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	3/7/2003
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	10/11/2004
1,4-Naphthoquinone	EPA 8270	Extractable Organics	NELAP	1/15/2010
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	12/29/2008
1-Naphthylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	10/14/2002
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	10/11/2004
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	1/15/2010
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004

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Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	10/11/2004
2,6-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	1/15/2010
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	10/11/2004
2-Acetylaminofluorene	EPA 8270	Extractable Organics	NELAP	1/15/2010
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	10/14/2002
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	11/4/2016
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	10/11/2004
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	10/14/2002
2-Hexanone	EPA 8260	Volatile Organics	NELAP	10/14/2002
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	1/15/2010
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	10/11/2004
2-Naphthylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	10/11/2004
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
2-Picoline (2-Methylpyridine)	EPA 8270	Extractable Organics	NELAP	1/15/2010
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
3,3'-Dimethoxybenzidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
3,3'-Dimethylbenzidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
3,5-Dichlorobenzoic acid	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	2/5/2007
3-Methylcholanthrene	EPA 8270	Extractable Organics	NELAP	1/15/2010
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	10/11/2004
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
4-Aminobiphenyl	EPA 8270	Extractable Organics	NELAP	1/15/2010
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	10/11/2004
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	10/11/2004

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Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	10/11/2004
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	10/11/2004
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	10/14/2002
4-Dimethyl aminoazobenzene	EPA 8270	Extractable Organics	NELAP	1/15/2010
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	3/7/2003
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	10/11/2004
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
5-Nitro-o-toluidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
7,12-Dimethylbenz(a) anthracene	EPA 8270	Extractable Organics	NELAP	1/15/2010
Acenaphthene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Acetone	EPA 8260	Volatile Organics	NELAP	2/5/2007
Acetonitrile	EPA 8260	Volatile Organics	NELAP	1/15/2010
Acetophenone	EPA 8270	Extractable Organics	NELAP	1/15/2010
Acifluorfen	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	10/14/2002
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	10/14/2002
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/14/2002
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	10/14/2002
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
Aluminum	EPA 6010	Metals	NELAP	10/11/2004
Ammonia as N	EPA 350.1	Extractable Organics	NELAP	12/29/2008
Aniline	EPA 8270	Extractable Organics	NELAP	1/15/2010
Anthracene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Antimony	EPA 6010	Metals	NELAP	10/14/2002
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/14/2002
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/14/2002
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/14/2002
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/14/2002
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/14/2002
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	10/14/2002
Arsenic	EPA 6010	Metals	NELAP	10/14/2002
Aspon	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Atrazine	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Azinphos-ethyl (Ethyl guthion)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009

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Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Azinphos-methyl (Guthion)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Barium	EPA 6010	Metals	NELAP	10/14/2002
Bentazon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Benzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Benzidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	1/15/2010
Beryllium	EPA 6010	Metals	NELAP	10/14/2002
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
Biphenyl	EPA 8270	Extractable Organics	NELAP	5/19/2014
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	10/11/2004
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	10/11/2004
Bolstar (Sulprofos)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Boron	EPA 6010	Metals	NELAP	10/11/2004
Bromide	EPA 9056	General Chemistry	NELAP	12/29/2008
Bromobenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
Bromoform	EPA 8260	Volatile Organics	NELAP	10/14/2002
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	10/11/2004
Cadmium	EPA 6010	Metals	NELAP	10/14/2002
Calcium	EPA 6010	Metals	NELAP	10/11/2004
Carbazole	EPA 8270	Extractable Organics	NELAP	10/11/2004
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	2/5/2007
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	10/14/2002
Carbophenothion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Chloramben	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
Chlorfenvinphos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Chloride	EPA 9056	General Chemistry	NELAP	12/29/2008
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Chlorobenzilate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010

Laboratory Scope of Accreditation

Attachment to Certificate #: E86006-40, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: **E86006** EPA Lab Code: **FL00095** **(954) 978-6400**

E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chloroethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
Chloroform	EPA 8260	Volatile Organics	NELAP	10/14/2002
Chloroprene	EPA 8260	Volatile Organics	NELAP	1/15/2010
Chlorpyrifos	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Chlorpyrifos methyl	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Chromium	EPA 6010	Metals	NELAP	10/14/2002
Chrysene	EPA 8270	Extractable Organics	NELAP	10/11/2004
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	10/14/2002
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Cobalt	EPA 6010	Metals	NELAP	10/14/2002
Conductivity	EPA 9050	General Chemistry	NELAP	12/29/2008
Copper	EPA 6010	Metals	NELAP	10/14/2002
Coumaphos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Crotoxyphos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Dacthal (DCPA)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Demeton-o	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Demeton-s	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	10/11/2004
Diallate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Diallate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Diazinon	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	10/11/2004
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
Dibromomethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
Dichlorofenthion	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Dichlorovos (DDVP, Dichlorvos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Dicofol	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Dicrotophos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	10/11/2004

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E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Dimethoate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	10/11/2004
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	10/11/2004
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	10/11/2004
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Dioxathion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Disulfoton	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
EPN	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Ethion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Ethoprop	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	10/14/2002
Ethyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	1/15/2010
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Famphur	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Fecal coliforms	SM 9222 D	Microbiology	NELAP	5/19/2014
Fenitrothion	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Fensulfothion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Fenthion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Fluoranthene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Fluorene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Fluoride	EPA 9056	General Chemistry	NELAP	12/29/2008
Fonophos	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	10/14/2002
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/7/2003
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	10/11/2004

Laboratory Scope of Accreditation

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State Laboratory ID: **E86006** EPA Lab Code: **FL00095** **(954) 978-6400**

E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Hexachloropropene	EPA 8270	Extractable Organics	NELAP	1/15/2010
Hexamethylphosphoramide (HMPA)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Ignitability	EPA 1010	General Chemistry	NELAP	2/5/2007
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	10/14/2002
Iron	EPA 6010	Metals	NELAP	10/11/2004
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	1/15/2010
Isodrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Isodrin	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Isophorone	EPA 8270	Extractable Organics	NELAP	10/11/2004
Isopropyl acetate	FSE-VOC/GC-MS	Volatile Organics	NELAP	1/15/2010
Isopropyl alcohol (2-Propanol)	EPA 8260	Volatile Organics	NELAP	1/15/2010
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Isosafrole	EPA 8270	Extractable Organics	NELAP	1/15/2010
Kepone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Kjeldahl nitrogen - total	EPA 351.2	Extractable Organics	NELAP	12/29/2008
Lead	EPA 6010	Metals	NELAP	10/14/2002
Leptophos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Lithium	EPA 6010	Metals	NELAP	1/15/2010
m/p-Xylenes	EPA 8260	Volatile Organics	NELAP	10/16/2018
Magnesium	EPA 6010	Metals	NELAP	10/11/2004
Malathion	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Manganese	EPA 6010	Metals	NELAP	10/14/2002
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Mercury	EPA 7471	Metals	NELAP	10/14/2002
Merphos	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	10/14/2002
Methapyrilene	EPA 8270	Extractable Organics	NELAP	1/15/2010
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
Methyl acetate	FSE-VOC/GC-MS	Volatile Organics	NELAP	1/15/2010
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	2/5/2007
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	2/5/2007
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	10/14/2002
Methyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	1/15/2010
Methyl parathion (Parathion, methyl)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007

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E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	10/14/2002
Methylene chloride	EPA 8260	Volatile Organics	NELAP	3/7/2003
Mevinphos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Molybdenum	EPA 6010	Metals	NELAP	10/14/2002
Monocrotophos	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Naled	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
n-Amyl acetate	FSE-VOC/GC-MS	Volatile Organics	NELAP	1/15/2010
Naphthalene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Naphthalene	EPA 8270	Extractable Organics	NELAP	10/11/2004
n-Butyl alcohol	EPA 8260	Volatile Organics	NELAP	1/15/2010
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Nickel	EPA 6010	Metals	NELAP	10/14/2002
Nitrate	EPA 9056	General Chemistry	NELAP	12/29/2008
Nitrite	EPA 9056	General Chemistry	NELAP	1/15/2010
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Nitroquinoline-1-oxide	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosodiethylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	10/11/2004
n-Nitroso-di-n-butylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	10/11/2004
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	10/11/2004
n-Nitrosomethylethylamine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosomorpholine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
o,o,o-Triethyl phosphorothioate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Oil & Grease	EPA 9071	General Chemistry	NELAP	12/29/2008
Organic nitrogen	TKN minus AMMONIA	Extractable Organics	NELAP	12/29/2008
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	12/29/2008
o-Toluidine	EPA 8270	Extractable Organics	NELAP	1/15/2010
o-Xylene	EPA 8260	Volatile Organics	NELAP	10/16/2018
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
p-Dioxane	EPA 8260	Volatile Organics	NELAP	1/15/2010
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	1/15/2010
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	1/15/2010

Laboratory Scope of Accreditation

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State Laboratory ID: **E86006** EPA Lab Code: **FL00095** **(954) 978-6400**

E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Pentachloronitrobenzene (Quintozene)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/15/2010
Pentachlorophenol	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/19/2014
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
pH	EPA 9045	Extractable Organics	NELAP	12/29/2008
Phenacetin	EPA 8270	Extractable Organics	NELAP	1/15/2010
Phenanthrene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Phenol	EPA 8270	Extractable Organics	NELAP	10/11/2004
Phorate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Phosmet (Imidan)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Phosphamidon	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Phosphorus, total	EPA 365.4	Extractable Organics	NELAP	12/29/2008
Picloram	EPA 8151	Extractable Organics	NELAP	2/5/2007
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Potassium	EPA 6010	Metals	NELAP	10/11/2004
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	1/15/2010
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	10/14/2002
Pyrene	EPA 8270	Extractable Organics	NELAP	10/11/2004
Pyridine	EPA 8270	Extractable Organics	NELAP	1/15/2010
Residue-fixed	SM 2540 G	General Chemistry	NELAP	1/15/2010
Residue-total	SM 2540 G	General Chemistry	NELAP	12/29/2008
Residue-volatile	SM 2540 G	General Chemistry	NELAP	1/15/2010
Ronnel	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Safrole	EPA 8270	Extractable Organics	NELAP	1/15/2010
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Selenium	EPA 6010	Metals	NELAP	10/14/2002
Silicon	EPA 6010	Metals	NELAP	1/15/2010
Silver	EPA 6010	Metals	NELAP	10/14/2002
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/5/2007
Simazine	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Sodium	EPA 6010	Metals	NELAP	10/14/2002
Strontium	EPA 6010	Metals	NELAP	10/14/2002
Strychnine	EPA 8270	Extractable Organics	NELAP	1/15/2010
Styrene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Sulfate	EPA 9056	General Chemistry	NELAP	11/7/2008
Sulfotepp	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	12/29/2008

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E86006
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Ft. Lauderdale, FL 33309

Matrix: **Solid and Chemical Materials**

Analyte	Method/Tech	Category	Certification Type	Effective Date
Terbufos	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	1/15/2010
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	10/14/2002
Tetrachlorvinphos (Stirophos, Gardona)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Tetraethyl pyrophosphate (TEPP)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Thallium	EPA 6010	Metals	NELAP	10/11/2004
Thionazin (Zinophos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	12/29/2008
Tin	EPA 6010	Metals	NELAP	11/4/2016
Titanium	EPA 6010	Metals	NELAP	1/15/2010
Tokuthion (Prothiophos)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Toluene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Total cyanide	EPA 9012	Extractable Organics	NELAP	2/5/2007
Total halogen compounds	FSE-TOX/TITR	General Chemistry	NELAP	12/29/2008
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	12/29/2008
Total nitrogen	TKN + Total nitrate-nitrite	Extractable Organics	NELAP	12/29/2008
Total Petroleum Hydrocarbons (TPH)	FL-PRO	Extractable Organics	NELAP	10/14/2002
Total phenolics	EPA 9066	General Chemistry	NELAP	12/29/2008
Total recoverable petroleum hydrocarbons (TRPH)	FSE-OG-TRPH/GRAV	General Chemistry	NELAP	12/29/2008
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/3/2007
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	12/3/2002
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	10/14/2002
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	10/14/2002
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	10/14/2002
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	10/14/2002
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	10/14/2002
Trichloronate	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Tri-o-cresylphosphate (TOCP)	FSE-OPP/GC-MS	Extractable Organics	NELAP	1/20/2009
Uranium	EPA 6010	Metals	NELAP	11/4/2016
Vanadium	EPA 6010	Metals	NELAP	10/14/2002
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	1/15/2010
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	10/14/2002
Xylene (total)	EPA 8260	Volatile Organics	NELAP	10/14/2002
Zinc	EPA 6010	Metals	NELAP	10/14/2002

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E84088

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC -
PEMBROKE LABORATORY
528 GOOCH ROAD
FT. MEADE, FL 33841

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E84088-35-07/01/2019
Supersedes all previously issued certificates

Ron DeSantis
Governor

Laboratory Scope of Accreditation

Attachment to Certificate #: E84088-35, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E84088 EPA Lab Code: FL00182 (863) 285-8145

E84088
Florida-Spectrum Environmental Services, Inc - Pembroke Laboratory
528 Gooch Road
Ft. Meade, FL 33841

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Escherichia coli	SM 9222 G	Microbiology	NELAP	11/13/2017
Escherichia coli	SM 9223 B	Microbiology	NELAP	10/12/2018
Total coliforms	SM 9222 B	Microbiology	NELAP	12/18/2006
Total coliforms	SM 9223 B	Microbiology	NELAP	10/12/2018

Laboratory Scope of Accreditation

Attachment to Certificate #: E84088-35, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E84088 EPA Lab Code: FL00182 (863) 285-8145

E84088
Florida-Spectrum Environmental Services, Inc - Pembroke Laboratory
528 Gooch Road
Ft. Meade, FL 33841

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	6/12/2003
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	6/12/2003
Chlorophylls	SM 10200 H	General Chemistry	NELAP	11/27/2001
Fecal coliforms	SM 9222 D	Microbiology	NELAP	9/18/2003
Orthophosphate as P	SM 4500-P E	General Chemistry	NELAP	1/18/2011
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	6/12/2003
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	6/12/2003
Total coliforms	SM 9222 B	Microbiology	NELAP	7/31/2016

IDOCS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

INITIAL DEMONSTRATION OF CAPABILITIES (WATER)

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Jose Fernandez	NA	6/14/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 1666	☑ Water ☐ DW ☐ Solid ☐ Other: _____	0201516-004
Analyte or Class of Analytes		
Acetates		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Jose Fernandez *Analyst*	*Signature*	6/14/18 *Date*
Brenda Lops *Technical Director*	*Signature*	6/14/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	6/14/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability

__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	6/5/2018
ANALYZED BY:	JF
METHOD NUMBER:	EPA 1666
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	DELTA
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	Various

Document Control #: 0401116-002

Date: 8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	IQ1666052518	100 ppm
Surrogate	IEA060418	250 ppm
Internal Standard	IS1666121817	250 ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD	Acceptance Criteria (%)
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L				
Ethyl Acetate	50	46.40	47.40	44.20	43.70	45.43	3.88	90.85	1.76	60-157
Isopropyl Acetate	50	44.92	45.64	43.51	46.48	45.14	2.79	90.28	1.26	70-147
n-Butyl acetate	50	52.97	50.32	50.71	54.31	52.08	3.63	104.16	1.89	70-130
n-Amyl acetate	50	55.30	55.89	54.48	58.58	56.06	3.17	112.13	1.78	70-130

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\06052018\
Data File : 06051815.D
Acq On : 5 Jun 2018 7:36 pm
Operator : BBL
Sample : J IDOC 1
Misc : IS-SU042518
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 14 08:09:05 2018
Quant Method : C:\msdchem\1\methods\1666060518.M
Quant Title : DELTA
QLast Update : Wed Jun 06 10:33:08 2018
Response via : Initial Calibration

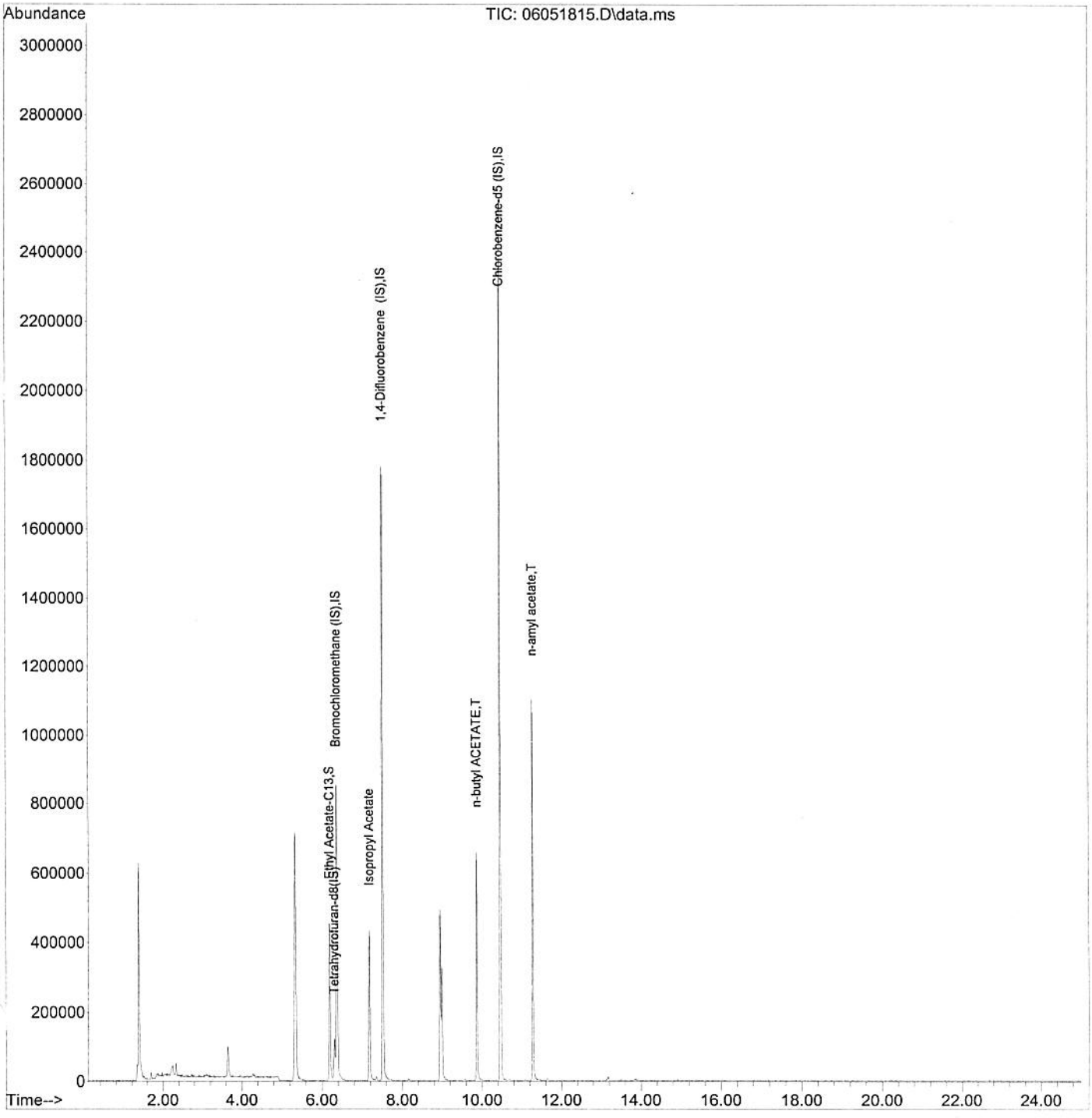
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS)	6.361	49	308457	50.00	ug/l	0.00
2) Tetrahydrofuran-d8(IS)	6.306	48	64433	50.00	ug/l	0.00
6) 1,4-Difluorobenzene (IS)	7.505	114	1297231	50.00	ug/l	0.00
8) Chlorobenzene-d5 (IS)	10.455	117	1316620	50.00	ug/l	0.00
System Monitoring Compounds						
4) Ethyl Acetate-C13	6.191	44	322662	47.21	ug/l	0.00
Target Compounds						Qvalue
3) Ethyl Acetate	6.185	43	270544	46.34	ug/l	100
5) Isopropyl Acetate	7.176	43	377440	44.92	ug/l	100
7) n-butyl ACETATE	9.865	43	382586	52.97	ug/l	100
9) n-amyl acetate	11.270	43	445503	55.30	ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\06052018\
Data File : 06051815.D
Acq On : 5 Jun 2018 7:36 pm
Operator : BBL
Sample : J IDOC 1
Misc : IS-SU042518
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 14 08:09:05 2018
Quant Method : C:\msdchem\1\methods\1666060518.M
Quant Title : DELTA
QLast Update : Wed Jun 06 10:33:08 2018
Response via : Initial Calibration

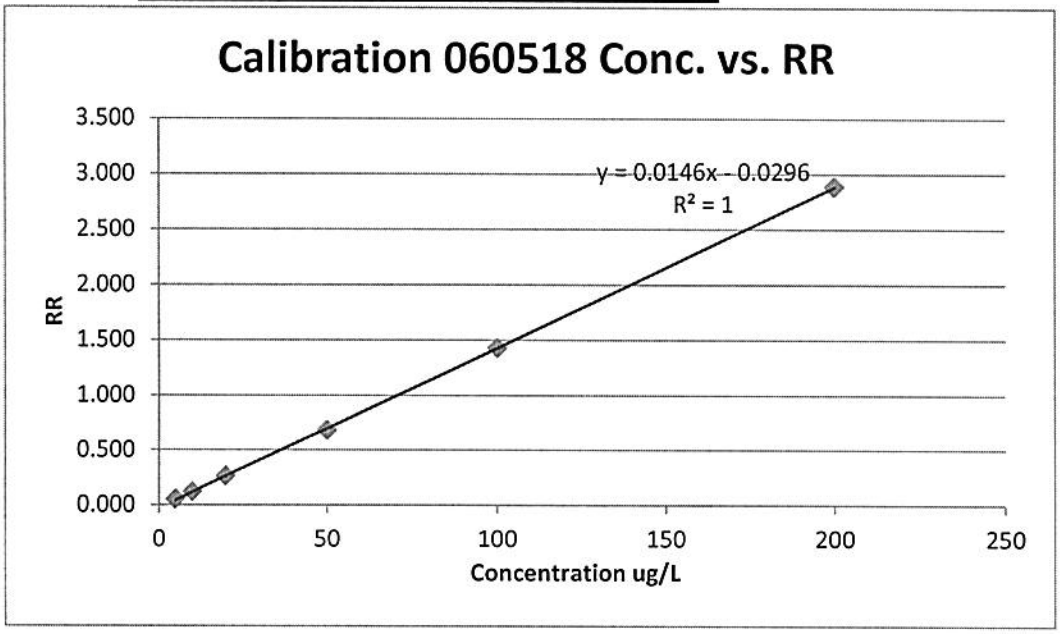


Document Control :0401516-007
Date:11/18/16

Method 1666 Isotope Dilution

Ethyl Acetate

	Concentration ug/L	RR (Ry-Rm)(Rx+1) / (Rm-Rx)(Ry+1)
Level 1	5	0.052
Level 2	10	0.119
Level 3	20	0.261
Level 4	50	0.685
Level 5	100	1.428
Level 6	200	2.887



SAMPLE RR	0.647	
SAMPLE CONCENTRATION	**46.4**	ug/L

Sample ID	**J IDOC 1**
Rx	13.13987
Ry	0.153053
Rm	0.803968

response ion 43	129664	**(Rm)**	Enter value for Rm
response ion 44	161280		

SAMPLE RR	0.647068

Scan 1003 (6.185 min): 06051815.D\data.ms
J IDOC 1

m/z	Abundance
37.00	190.0
37.90	161.0
39.10	510.0
40.00	1461.0
41.20	2414.0
42.10	16576.0
43.10	129664.0
44.10	161280.0
45.10	35912.0
46.00	3327.0
47.90	150.0
55.10	347.0
55.70	190.0
56.80	245.0
57.10	267.0
58.80	219.0
59.20	220.0
61.10	15975.0
62.10	21776.0
62.90	755.0
64.00	248.0
70.00	13870.0
71.10	21656.0
72.20	901.0
73.10	5304.0
74.10	7591.0
75.10	605.0
88.00	5784.0
89.10	6636.0
90.00	357.0
231.20	185.0

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\06052018\
Data File : 06051816.D
Acq On : 5 Jun 2018 8:13 pm
Operator : BBL
Sample : J IDOC 2
Misc : IS-SU042518
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 14 08:09:38 2018
Quant Method : C:\msdchem\1\methods\1666060518.M
Quant Title : DELTA
QLast Update : Wed Jun 06 10:33:08 2018
Response via : Initial Calibration

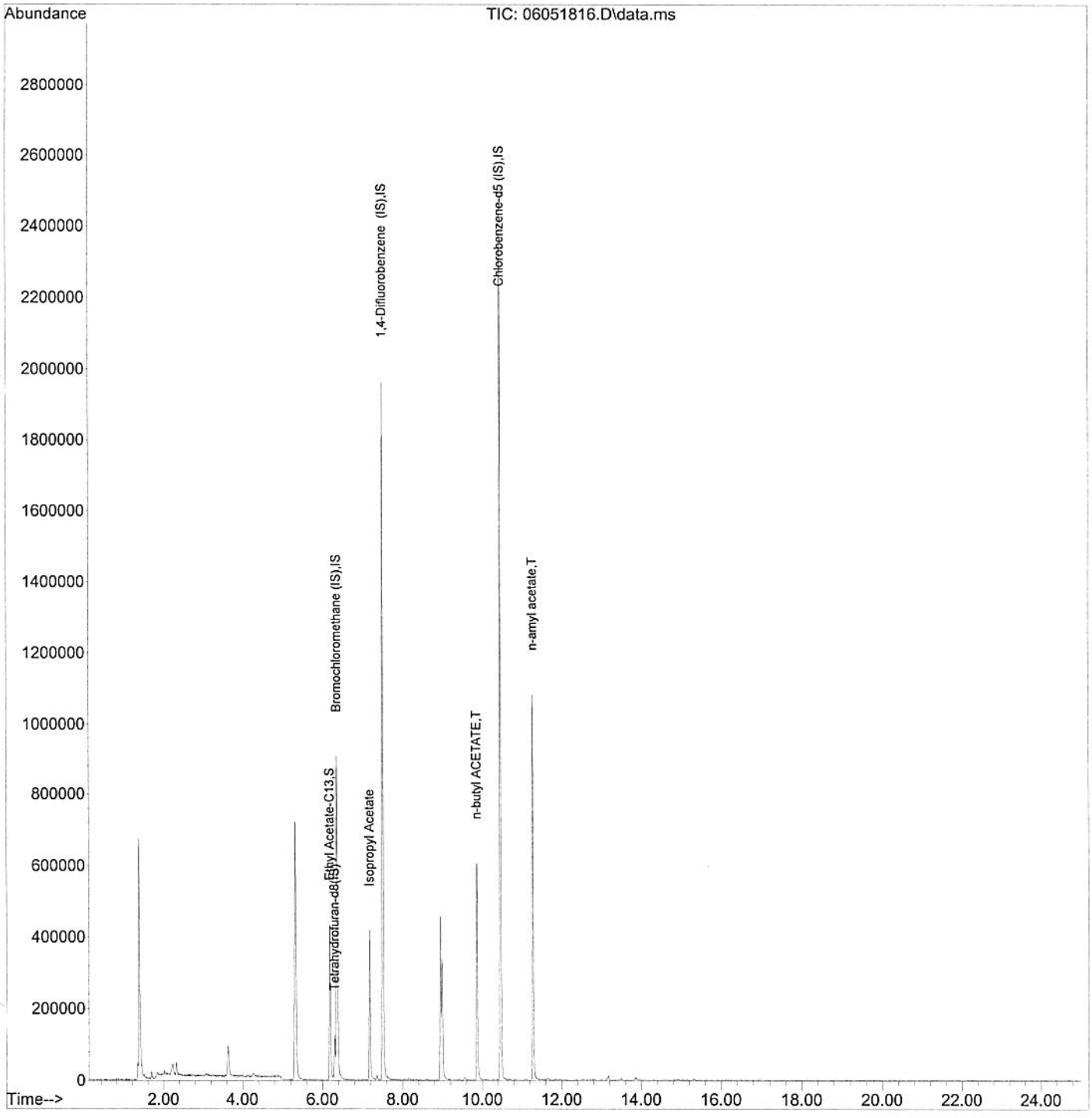
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS)	6.361	49	318582	50.00	ug/l	0.00
2) Tetrahydrofuran-d8(IS)	6.306	48	61496	50.00	ug/l	0.00
6) 1,4-Difluorobenzene (IS)	7.505	114	1328585	50.00	ug/l	0.00
8) Chlorobenzene-d5 (IS)	10.455	117	1325210	50.00	ug/l	0.00
System Monitoring Compounds						
4) Ethyl Acetate-C13	6.185	44	310358	47.58	ug/l	0.00
Target Compounds						Qvalue
3) Ethyl Acetate	6.185	43	257328	46.17	ug/l	100
5) Isopropyl Acetate	7.176	43	367099	45.64	ug/l	100
7) n-butyl ACETATE	9.859	43	369014	50.32	ug/l	100
9) n-amyl acetate	11.270	43	453610	55.89	ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\06052018\
Data File : 06051816.D
Acq On : 5 Jun 2018 8:13 pm
Operator : BBL
Sample : J IDOC 2
Misc : IS-SU042518
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 14 08:09:38 2018
Quant Method : C:\msdchem\1\methods\1666060518.M
Quant Title : DELTA
QLast Update : Wed Jun 06 10:33:08 2018
Response via : Initial Calibration

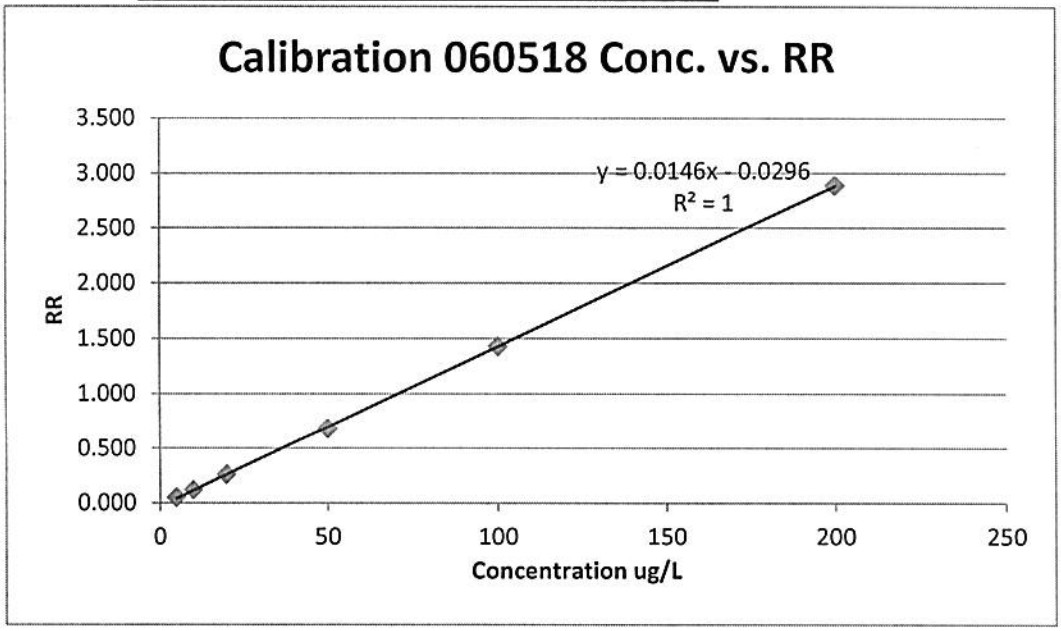


Document Control :0401516-007
Date:11/18/16

Method 1666 Isotope Dilution

Ethyl Acetate

	Concentration ug/L	RR (Ry-Rm)(Rx+1) / (Rm-Rx)(Ry+1)
Level 1	5	0.052
Level 2	10	0.119
Level 3	20	0.261
Level 4	50	0.685
Level 5	100	1.428
Level 6	200	2.887



SAMPLE RR	0.661	
SAMPLE CONCENTRATION	**47.4**	ug/L

Sample ID	**J IDOC 2**
Rx	13.13987
Ry	0.153053
Rm	0.817434

response ion 43	127232	**(Rm)**	Enter value for Rm
response ion 44	155648		

SAMPLE RR	0.661176

Scan 1003 (6.185 min): 06051816.D\data.ms
J IDOC 2

m/z	Abundance
38.00	202.0
39.00	392.0
40.00	1373.0
41.00	1918.0
42.10	15064.0
43.10	127232.0
44.10	155648.0
45.10	35128.0
46.00	2528.0
47.10	184.0
56.10	252.0
57.20	151.0
59.30	374.0
61.00	15800.0
62.10	20872.0
63.00	550.0
70.00	11799.0
71.10	15939.0
72.10	1287.0
73.10	5542.0
74.10	8006.0
75.10	251.0
76.30	223.0
87.20	451.0
88.00	5452.0
89.00	7021.0
90.10	150.0

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\06052018\
Data File : 06051817.D
Acq On : 5 Jun 2018 8:48 pm
Operator : BBL
Sample : J IDOC 3
Misc : IS-SU042518
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 14 08:09:45 2018
Quant Method : C:\msdchem\1\methods\1666060518.M
Quant Title : DELTA
QLast Update : Wed Jun 06 10:33:08 2018
Response via : Initial Calibration

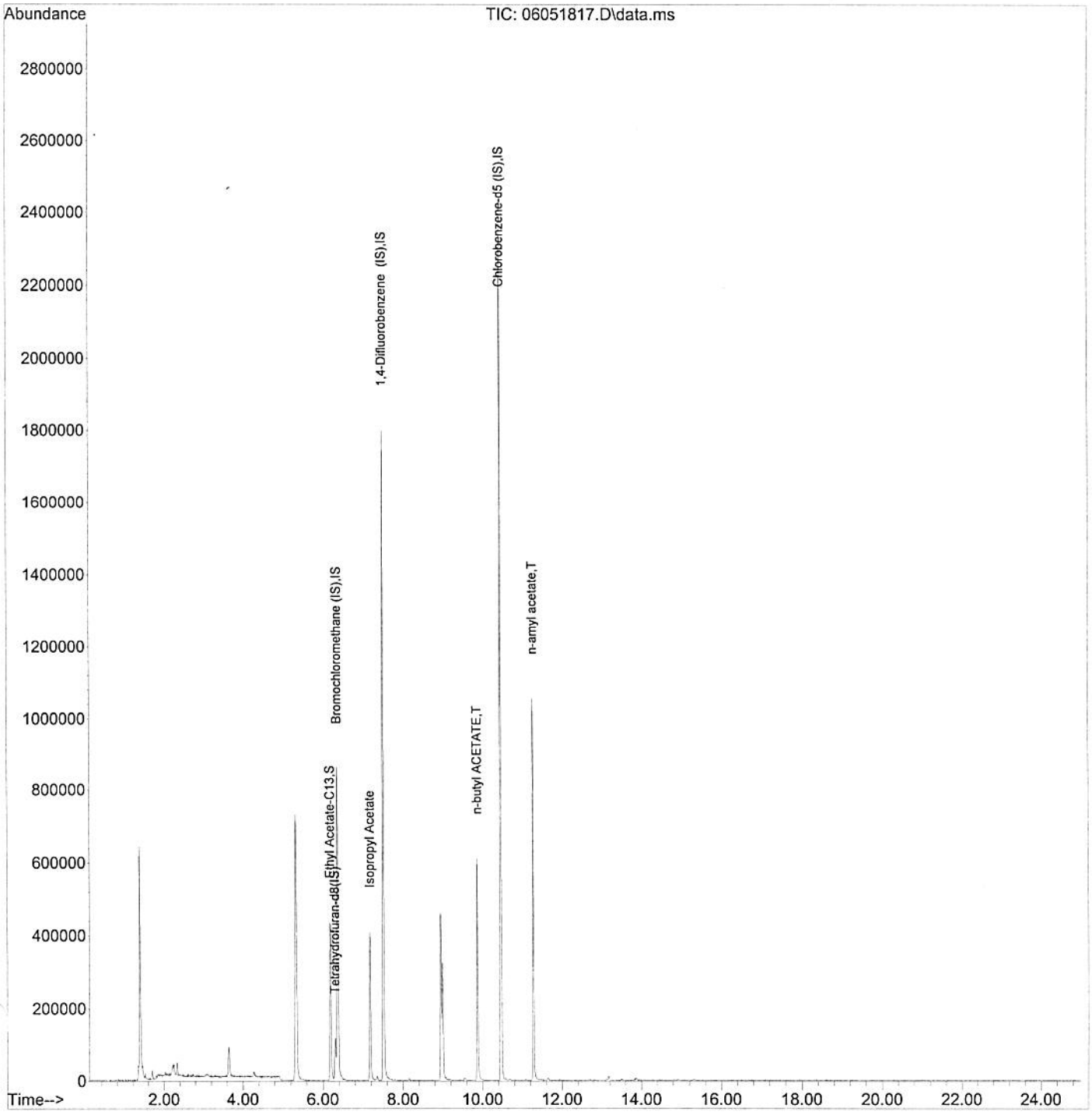
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS)	6.361	49	310337	50.00	ug/l	0.00
2) Tetrahydrofuran-d8(IS)	6.306	48	63006	50.00	ug/l	0.00
6) 1,4-Difluorobenzene (IS)	7.505	114	1296934	50.00	ug/l	0.00
8) Chlorobenzene-d5 (IS)	10.455	117	1310717	50.00	ug/l	0.00
System Monitoring Compounds						
4) Ethyl Acetate-C13	6.185	44	311863	46.66	ug/l	0.00
Target Compounds						Qvalue
3) Ethyl Acetate	6.185	43	257822	45.04	ug/l	100
5) Isopropyl Acetate	7.176	43	355421	43.51	ug/l	100
7) n-butyl ACETATE	9.865	43	363531	50.71	ug/l	100
9) n-amyl acetate	11.270	43	436259	54.48	ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\06052018\
Data File : 06051817.D
Acq On : 5 Jun 2018 8:48 pm
Operator : BBL
Sample : J IDOC 3
Misc : IS-SU042518
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 14 08:09:45 2018
Quant Method : C:\msdchem\1\methods\1666060518.M
Quant Title : DELTA
QLast Update : Wed Jun 06 10:33:08 2018
Response via : Initial Calibration

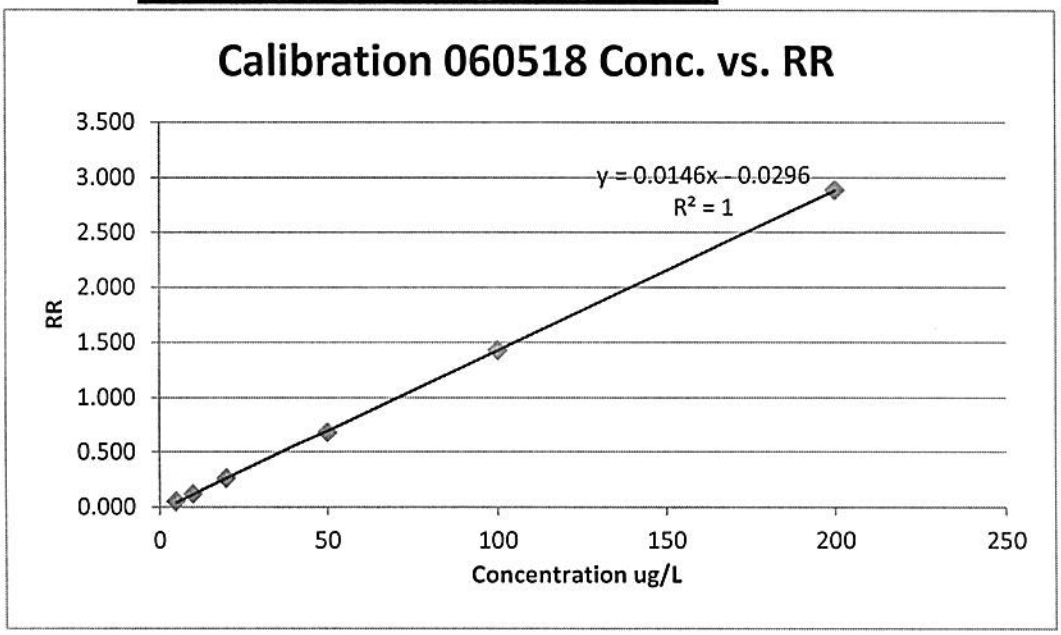


Document Control :0401516-007
Date:11/18/16

Method 1666 Isotope Dilution

Ethyl Acetate

	Concentration ug/L	RR (Ry-Rm)(Rx+1) / (Rm-Rx)(Ry+1)
Level 1	5	0.052
Level 2	10	0.119
Level 3	20	0.261
Level 4	50	0.685
Level 5	100	1.428
Level 6	200	2.887



SAMPLE RR	0.614	
SAMPLE CONCENTRATION	**44.2**	ug/L

Sample ID	**J IDOC 3**
Rx	13.13987
Ry	0.153053
Rm	0.772413

response ion 43	123240	**(Rm)**	Enter value for Rm
response ion 44	159552		

SAMPLE RR	0.614128

Scan 1003 (6.185 min): 06051817.D\data.ms
J IDOC 3

m/z	Abundance
39.00	461.0
40.00	1463.0
41.10	2679.0
42.10	17112.0
43.10	123240.0
44.10	159552.0
45.10	33928.0
46.00	3420.0
47.00	169.0
47.20	188.0
54.20	202.0
55.00	220.0
56.10	244.0
56.90	232.0
59.10	558.0
61.10	14517.0
62.00	18432.0
63.00	452.0
63.90	283.0
70.10	12139.0
71.10	17608.0
72.10	1099.0
73.10	6300.0
74.10	7497.0
74.90	259.0
79.00	172.0
84.50	218.0
87.10	331.0
88.20	4505.0
89.00	6663.0
90.00	418.0
202.90	165.0
226.20	199.0
238.40	164.0
268.50	159.0

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\06052018\
Data File : 06051818.D
Acq On : 5 Jun 2018 9:24 pm
Operator : BBL
Sample : J IDOC 4
Misc : IS-SU042518
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 14 08:09:51 2018
Quant Method : C:\msdchem\1\methods\1666060518.M
Quant Title : DELTA
QLast Update : Wed Jun 06 10:33:08 2018
Response via : Initial Calibration

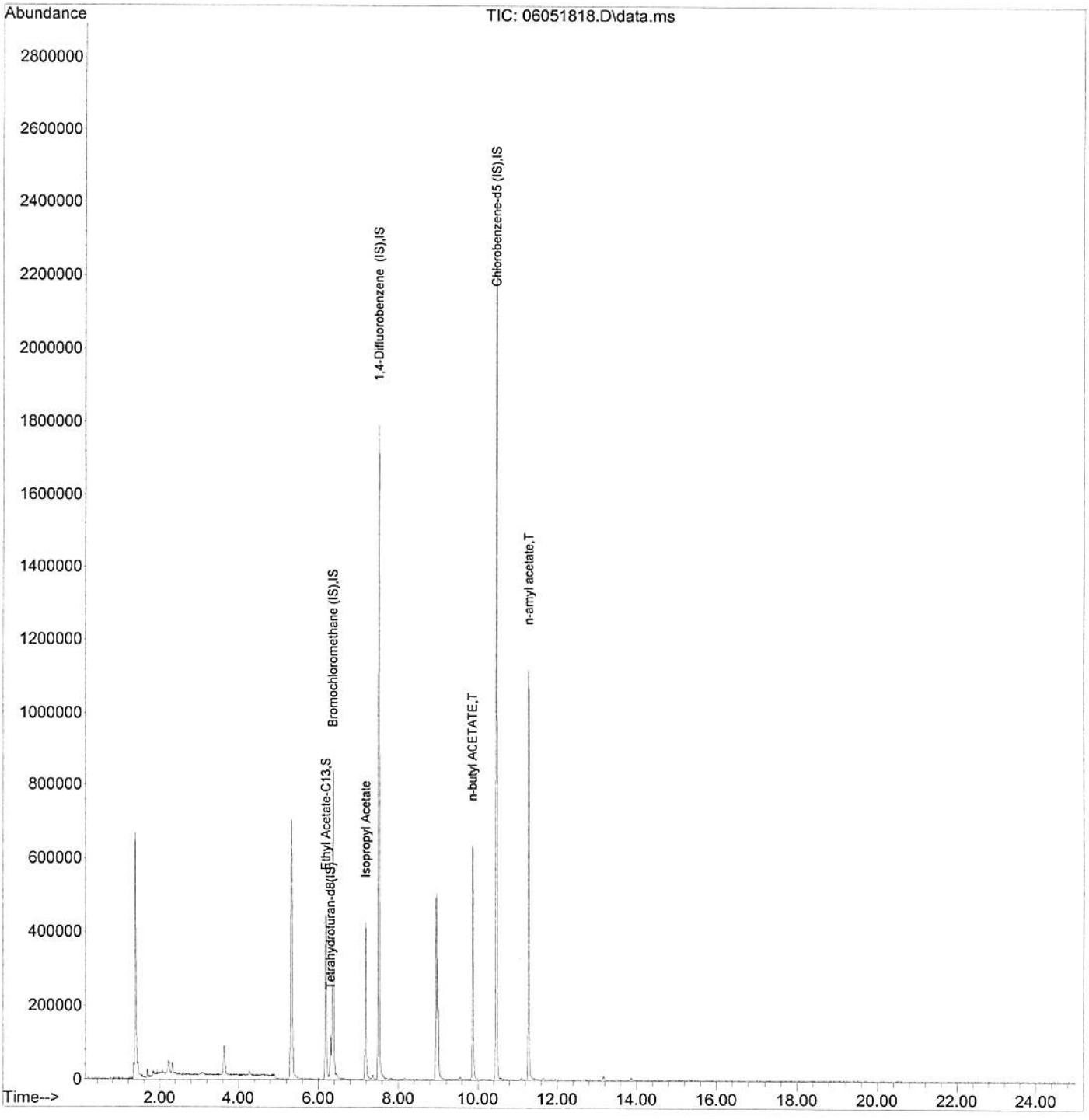
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane (IS)	6.361	49	308940	50.00	ug/l	0.00
2) Tetrahydrofuran-d8(IS)	6.306	48	60556	50.00	ug/l	0.00
6) 1,4-Difluorobenzene (IS)	7.505	114	1259174	50.00	ug/l	0.00
8) Chlorobenzene-d5 (IS)	10.455	117	1286455	50.00	ug/l	0.00
System Monitoring Compounds						
4) Ethyl Acetate-C13	6.185	44	319293	49.71	ug/l	0.00
Target Compounds						Qvalue
3) Ethyl Acetate	6.185	43	259293	47.36	ug/l	100
5) Isopropyl Acetate	7.176	43	369327	46.48	ug/l	100
7) n-butyl ACETATE	9.859	43	382351	54.31	ug/l	100
9) n-amyl acetate	11.270	43	463673	58.58	ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\06052018\
Data File : 06051818.D
Acq On : 5 Jun 2018 9:24 pm
Operator : BBL
Sample : J IDOC 4
Misc : IS-SU042518
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 14 08:09:51 2018
Quant Method : C:\msdchem\1\methods\1666060518.M
Quant Title : DELTA
QLast Update : Wed Jun 06 10:33:08 2018
Response via : Initial Calibration

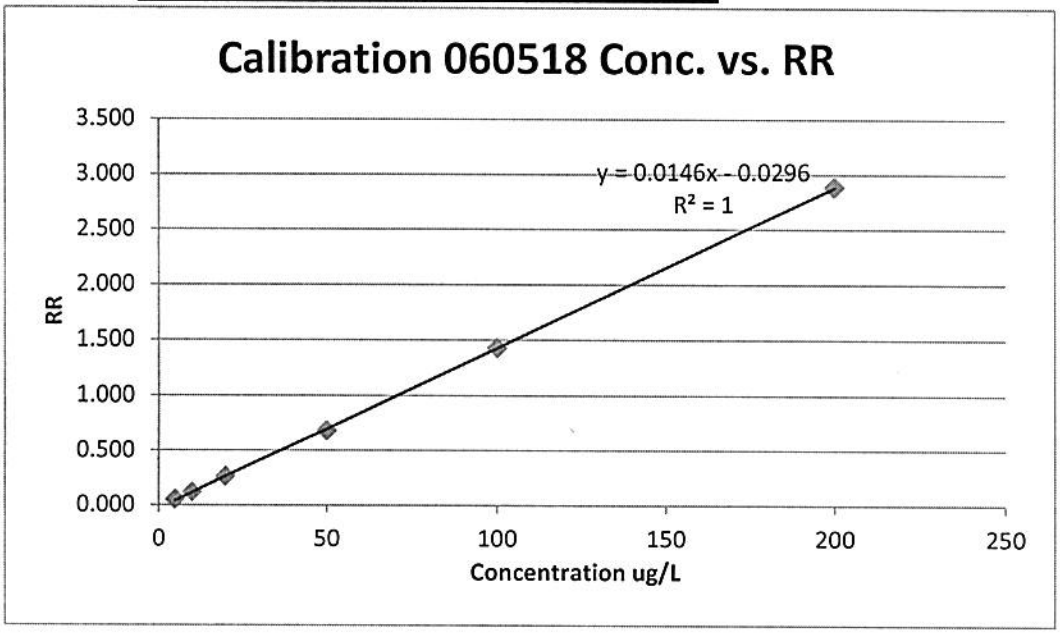


Document Control :0401516-007
Date:11/18/16

Method 1666 Isotope Dilution

Ethyl Acetate

	Concentration ug/L	RR (Ry-Rm)(Rx+1) / (Rm-Rx)(Ry+1)
Level 1	5	0.052
Level 2	10	0.119
Level 3	20	0.261
Level 4	50	0.685
Level 5	100	1.428
Level 6	200	2.887



SAMPLE RR	0.607	
SAMPLE CONCENTRATION	**43.7**	ug/L

Sample ID	**J IDOC 4**
Rx	13.13987
Ry	0.153053
Rm	0.765462

response ion 43	126736	**(Rm)**	Enter value for Rm
response ion 44	165568		

SAMPLE RR	0.606895

Scan 1003 (6.185 min): 06051818.D\data.ms
J IDOC 4

m/z	Abundance
38.00	158.0
39.00	485.0
39.90	938.0
41.10	2234.0
42.10	15090.0
43.10	126736.0
44.10	165568.0
45.10	38640.0
46.10	3100.0
50.10	175.0
55.10	485.0
56.10	402.0
57.00	213.0
57.80	321.0
58.90	457.0
60.10	873.0
61.10	13153.0
62.10	22416.0
63.30	451.0
70.10	9347.0
71.10	17600.0
72.30	1367.0
73.10	6152.0
74.00	8435.0
75.00	412.0
86.80	347.0
87.20	345.0
88.00	3912.0
89.10	7128.0
90.10	408.0
184.90	154.0
206.70	162.0
275.90	152.0

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
DB	DB	7/31/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 310.2	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020219-004
Analyte or Class of Analytes		
Alkalinity		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona *Analyst*	David Barahona *Signature*	7/31/19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	7-31-19 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	7/31/19 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	7/31/2019
ANALYZED BY:	David Barahona
METHOD NUMBER:	EPA 310.2
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	WET 47
EXTRACTED BY:	David Barahona
DATE EXTRACTED:	7/31/2019
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1154-S-GEN-04	250 ppm
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
mg/LUNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Alkalinity	250	259	260	259	261	260	0.37	104	0.96

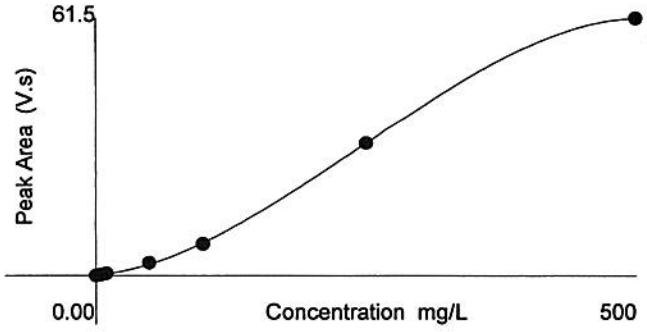
Original Run Filename: OM_7-31-2019_01-52-17PM.OMN Created: 7/31/2019 1:52:17 PM
Original Run Author's Signature: [wetchem]
Current Run Filename: OM_7-31-2019_01-52-17PM.OMN Last Modified: 7/31/2019 2:15:05 PM
Current Run Author's Signature: [wetchem]
Description: TPO4 METHOD EPA 365.1

Sample	Rep.	Cup No.	Channel 1 Alkalinity (mg/L)	MDF
ICV=LCS 250 MG/L	1	58	261	1047
	Calibration:		Table/Fig. : 1	
ICB	1	60	2.62	
CCV TV=100 MG/L	1	59	104	1047
LCSD TV=250 MG/L	1	58	261	1047
19G1002-01A	1	1	224	
19G1002-01A DUP	1	2	225	
19G1002-02A	1	3	79.8	
19G1002-01A MS TV=250MG/L	1	56	385	
19G1002-03A	1	4	187	
19G1002-04A	1	5	32.8	
ICB	1	60	2.14	
19G1002-05A	1	6	222	
DB IDOC 1	1	7	259	1047
DB IDOC 2	1	8	260	1047
DB IDOC 3	1	9	259	1047
DB IDOC 4	1	10	261	1047
CCV TV=250 MG/L	1	57	251	1007
CCB	1	60	2.40	
CCB	1	60	2.33	

Table : 1 (Alkalinity)

	Known Conc. (mg/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg/L)	Detection Date	Detection Time
1	500	1	61.5	-3.76	0.0	6.3e-3	500	7/19/2019	11:29:40 AM
2	250	1	31.6	-2.60	0.0	-0.1	250	7/19/2019	11:30:42 AM
3	100	1	7.50	-0.619	0.0	3.6	102	7/19/2019	11:31:43 AM
4	50.0	1	3.07	-0.237	0.0	-12.9	46.9	7/19/2019	11:33:12 AM
5	10.0	1	0.569	-0.0394	0.0	-25.4	9.81	7/19/2019	11:44:53 AM
6	5.00	1	0.289	-0.0199	0.0	3.5	5.36	7/19/2019	11:35:16 AM
7	3.50	1	0.185	-0.0134	0.0	28.7	3.69	7/19/2019	11:36:19 AM
8	0.00	1	0.0332	3.97e-3			1.23	7/19/2019	11:37:21 AM

Figure : 1 (Alkalinity)



Area = - 8.57e-7 * Conc^3 + 6.31e-4 * Conc^2 + 0.0215 * Conc +
Conc = 4.43e-3 * Area^3 - 0.405 * Area^2 + 16.2 * Area + 0.692
Correlation Coefficient (r) = 0.99997

Weighting : None

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Angel Reyes	N4	8/20/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 2320B	☑ Water ☑ DW ☐ Solid ☐ Other: _____	0201217-004
Analyte or Class of Analytes		
Alkalinity		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Angel Reyes *Analyst*	Reyes *Signature*	8/16/18 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	8/16/18 *Date*
Roxana Llambias *Quality Assurance Director*	Roxana Llambias *Signature*	8/20/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	8/16/2018
ANALYZED BY:	Angel Reyes
METHOD NUMBER:	SM 2320B
EXTRACTION METHOD (IF APPLY):	NA
pH meter ID:	WET-4
Burette ID:	B4
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	975-S-GEN-15 through 975-S-GEN-18	50 ppm
Surrogate	na	na
Internal Standard	na	na

Compound / UNITS:	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
	ppm	ppm	ppm	ppm	ppm	ppm			
Alkalinity	50.0	45.1	47.1	49.2	45.1	46.6	4.20	93.3	1.96

Alkalinity
SM 2320B

Date: 08/16/18
Time: 08/16/18 13:34
Analyst LC/AR
Batch # 18H0546
0.02N H2SO4 ID 975-R-Gen-14
Bromocresol Green 0.04%: 896-R-Gen-18
Phenolphthalein Sln N/A

pH meter ID wet 4
Burette ID B-4
Cylinder ID 50 mL V.I glass
Pipette ID 005

pH meter calibration		
Standard ID	TV	Instr. Reading
	7	
	4	
	10	
	QC Check	

Slope: Calibration on p.27 of pH Logbook

Acceptance Criteria: 90-110%

Log #	Sample ID	Volume ml	Initial pH	Final pH	H2SO4 Normality	Volume H2SO4, ml	Alkalinity, mg/L	Comments
FCB	DI H2O	50	5.53	4.14	0.0205	<0.1	0	
LCS	964-S-Gen-01	2.5/50	9.78	4.5	0.0205	2.2	45.1	90.2%
18H0485-01F	R.O WTP	50	8.87	4.57		3.8	77.9	
18H0486-01C	Finished	50	8.87	4.57		3.8	77.9	
-02C	Raw	50	7.42	4.67		6.6	135.3	
-03C	MCL Point	50	9.04	4.56		3.9	79.95	
18H0553-01F	R.O WTP	50	8.89	4.56		4.0	82.0	
DUP-01F	R.O WTP	50	8.92	4.58		4.0	82.0	
DOC 1	AR 975-S-Gen-15	2.5/50	9.78	4.5		2.2	45.1	90.2%
DOC 2	AR 975-S-Gen-16	2.5/50	9.87	4.39		2.3	47.1	94.3%
DOC 3	AR 975-S-Gen-17	2.5/50	9.86	4.40		2.4	49.2	98.4%
DOC 4	AR 975-S-Gen-18	2.5/50	9.79	4.58		2.2	45.1	90.2%
CCV	60-WC-0C	2.5/50	10.05	4.64		4.7	96.35	96.4%
CCB	DI H2O	50	5.44	4.47		<0.1	0	

Alkalinity, mg/L CACO3 = (A x N x 50000)/V

where: A = volume of H2SO4 used for titration, mL
N = normality of H2SO4 used for titration
V = Sample volume used for titration, mL

Document Control #: 0401216-006
Date: 8/25/16

STANDARDS AND REAGENTS PREPARATION
LOG[illegible]OK
(WET CHEMISTRY DEPARTMENT)

Laboratory ID	Chemical name	Chemical ID used	Chemical ID Amount (g or mL)	Balance ID used	Pipette ID used	Volume prep, ml	Date prepared	Date expired	Analyst
975-S-Gen-01	Cal. Std. 5 (NO_2-N)	973-S-Gen-14	0.50 ml	-	Vol "A"	50	8/15/18	4/30/19	DGL
975-S-Gen-02	Cal. Std. 6 (NO_2-N)	↓	1.00 ml	-	↓	↓	↓	↓	↓
975-S-Gen-03	~~IDOC-1-AR~~ Sulfide 0.5ppm LCS	957-S-Gen-07	0.919 mL ~~5ml~~	-	D1	25	8.15.18	8.15.18	AR
975-S-Gen-04	~~IDOC-2-AR~~ Sulfide 0.5ppm LCD	957-S-Gen-07	0.919 mL ~~5ml~~	-	D1	25	8.15.18	8.15.18	AR
975-S-Gen-05	~~IDOC-3-AR~~ Sulfide 0.5 ppm LCS	957-S-Gen-07	0.919 mL ~~5ml~~	-	D1	25	8.15.18	8.15.18	AR
975-S-Gen-06	~~IDOC-4-AR~~ Sulfide 0.5 ppm LCS	957-S-Gen-07	0.919 mL ~~5ml~~	-	D1	25	8.15.18	8.15.18	AR
975-S-Gn-07	Silica 5ppm CCV	62-WC-05	2.5mL	-	005	500	8.15.18	2.15.19	LC
975-S-Gn-08	Silica 0.1ppm std	975-S-Gn-07	0.5mL	-	D1	25	8.15.18	8.15.18	LC
975-S-Gn-09	Silica 0.5ppm std	975-S-Gn-07	2.5mL	-	005	25	8.15.18	8.15.18	LC
975-S-Gn-10	Silica 1ppm std	975-S-Gn-07	5mL	-	005	25	8.15.18	8.15.18	LC
975-S-Gn-11	Silica 2ppm std	~~961-S-Gn-14~~ ~~975-S-Gn-14~~	5mL	-	005	25	8.15.18	8.15.18	LC
975-S-Gn-12	Silica 2ppm std	62-WC-05	0.5mL	-	D1	25	8.15.18	8.15.18	LC
975-R-Gen-13	Na persulfate	55-WC-24	50 g	weh-20	-	~~250~~	8-16-18	9-16-18	SA
↓	↓	46-WC-01	7.5 mL	-	WC-1	↓	↓	↓	↓
975-R-Gen-14	0.0205N H_2SO_4	822-R-Gen-01	10 ml	-	glass pipet	500	8/16/18	8/16/19	AR/LC
975-R-Gen-15	Alkalinity IDOC1	964-S-Gen-01	2.5ml	-	005	50ml	8/16/18	8/16/18	AR
975-S-Gen-16	Alkalinity IDOC2	964-S-Gen-01	2.5	-	005	50	8/16/18	8/16/18	AR
975-S-Gen-17	Alkalinity IDOC3	964-S-Gen-01	2.5	-	005	50	8/16/18	8/16/18	AR
975-S-Gen-18	Alkalinity IDOC4	964-S-Gen-01	2.5	-	005	50	8/16/18	8/16/18	AR

- 8.15.18 LC

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	SA	6/5/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 4500 CN-G	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020218-001
Analyte or Class of Analytes		
Amenable Cyanide		

We, the undersigned, CERTIFY that:

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5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	6-5-18 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	6-5-18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	6/5/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

ATRIX:	Water
ATE OF ANALYSIS:	6/4/2018
ANALYZED BY:	Sophia Andre
METHOD NUMBER:	SM 4500-CN G
EXTRACTION METHOD (IF APPLY):	SM 4500-CN G
INSTRUMENT ID:	WET-47
DISTILLLATION UNIT ID	CN Block Digestre 1
EXTRACTED BY:	Sophia Andre
DATE EXTRACTED:	6/4/2018
ACCEPTANCE CRITERIA:	90-110%

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	930-S-GEN-16	0.2ppm
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Amenable Cyanide	0.200	0.182	0.183	0.204	0.205	0.19	6.57	96.75	0.01

CN DISTILLATION LOGBOOK
FLEN EPA 335.4/SM 4500 CN E/SW 846 9012

Analyst	SA
Date	6-4-18
Releasing Solution ID	788-2-Gen-16
0.25N NaOH ID	896-2-Gen-14
Sulfamic Acid ID	847-2-Gen-02
Cadmium Carbonate ID	–
Ascorbic Acid ID	–
NaOH conc. ID	–

pH paper Lot#	58-WC-08
Lead Acetate Lot #	49-WC-05
KI starch paper Lot #	49-WC-04
Distillation Tubes ID	58-WC-21
5 mL pippet ID	001
1 mL pippet ID	01
Distillation Unit ID (120°C)	CN Block Digester 1
Balance ID	wet-20

18F0133

sand ID : SV-367

Log #	Sample ID	Matrix	pH	Volume/mass used, ml/g	Presence of $S^{=}$	Presence of Cl^{-}	Comments
Std 1	860-S-Gen-03	L	7.12	6mL	–	–	
2	860-S-Gen-04				–	–	
3	860-S-Gen-05				–	–	
Blk	DI				–	–	
LCS	860-S-Gen-07				–	–	
LCSD	↓				–	–	
18E0876-01A	SP-CN-001				–	–	
↓ -02A	EFF-FAC				–	–	
18E0877-01A	W.W. Tank				–	–	
18E0906-01A	Building 0900				–	–	
↓ -02A	Building 13000				–	–	
18E0956-01E	Inlet				–	–	
-01E	Dup				–	–	
↓ -01E	MS				–	–	
18E0968-09A	site #1				–	–	
18E0969-09A	site #2				–	–	
18E0041-01A	Effluent				–	–	
18F0041-01A	MS				–	–	
18F0003-01A	860-S-Gen-06	↓	↓	↓	–	✓	(50 mL / 100 mL)
Blk	sand	S	–	0.5017g	–	–	
LCS	sand + 860-S-Gen-07	↓	–	0.5012g	–	–	
LCSD	↓	↓	–	↓	–	–	
18F0003-02A	sand 860-S-Gen-06	S	–	0.5021g	–	–	(50 mL / 100 mL)
DOC-1 (Amended)	930-S-Gen-16	L	7.12	6 mL	–	✓	
DOC-2	↓	↓	↓	↓	–	–	
DOC-3					–	–	
DOC-4	↓	↓	↓	↓	–	✓	

Author: kitprep

Date : 6/15/2018

Original Run Filename: OM_6-4-2018_03-07-14PM.OMN Created: 6/4/2018 3:07:14 PM
Original Run Author's Signature: [kitprep]
Current Run Filename: OM_6-4-2018_03-07-14PM.OMN Last Modified: 6/4/2018 3:58:19 PM
Current Run Author's Signature: [kitprep]
Description: EPA 335.4/ SM 4500 CN-E/ SW 846 _9012

Sample	Rep.	Cup No.	Channel 1 Cyanide	MDF	
Cal Std TV=0.5MG/L	1	49	0.500		
Cal Std TV=0.25 MG/L	1	57	0.250		
Cal Std TV=0.1 MG/L	1	59	0.100		
Cal Std TV=0.05 MG/L	1	50	0.0500		
Cal Std TV=0.01 MG/L	1	51	0.0100		
Cal Std TV=0.005 MG/L	1	52	5.00e-3		
Cal Std TV=0.0MG/L	1	60	0.00		
Cal Std TV=0.5MG/L	1	49	0.500		
CCB	1	60	-7.41e-4		
		Calibration:	Table/Fig. : 1		
ICV TV=0.10 MG/L	1	59	0.104	104%	
LCS TV=0.20 MG/L	1	58	0.190	95%	
LCSD TV=0.20 MG/L	1	58	0.193	97%	
~~18E0876-01A~~	~~1~~	~~1~~	~~0.509~~	XXX rerun	
18E0876-02A	1	2	0.127		
18E0877-01B	1	3	7.41e-3		
18E0906-01A	1	4	3.65e-3		
18E0906-02A	1	5	1.75e-4		
18E0956-01E	1	6	-3.14e-4		
18E0956-01E DUP	1	7	-8.16e-5		
18E0956-01A MS TV=0.2MG/L	1	56	0.205	103%	
18E0956-02E	1	8	1.52e-3		
18E0968-09A	1	9	0.357		
18E0969-09A	1	10	3.55e-4		
CCV 0.25MG/L	1	57	0.246	98%	
CCB	1	60	-1.09e-3		
18E0968-09A	1	9	8.32e-4		
18F0041-01A	1	11	8.90e-3		
18F0041-01A MS TV=0.2MG/L	1	55	0.192	96%	
18E0876-01A	1	1	0.505	2.00	
18F0003-01A	1	12	5.19e-3		
SOIL BLK	1	13	-0.0168	11.96	
SOIL LCS=2.4MG/KG	1	14	2.47	11.97	
SOIL LCSD=2.4MG/KG	1	14	2.44	11.97	
18F0003-02A	1	15	0.0528	11.95	
CCV 0.25MG/L	1	57	0.258		
CCB	1	60	-8.40e-4		
IDOC-1 AMEN	1	16	0.182		
IDOC-2 AMEN	1	17	0.183		
IDOC-3 AMEN	1	18	0.204		
~~IDOC-4 AMEN~~	~~1~~	~~19~~	~~0.207~~	uneven peak, rerun	
CCV 0.25MG/L	1	57	0.261		
IDOC-4 AMEN	1	19	0.205		
CCV 0.25MG/L	1	57	0.263	105%	
CCB	1	60	-1.05e-3		

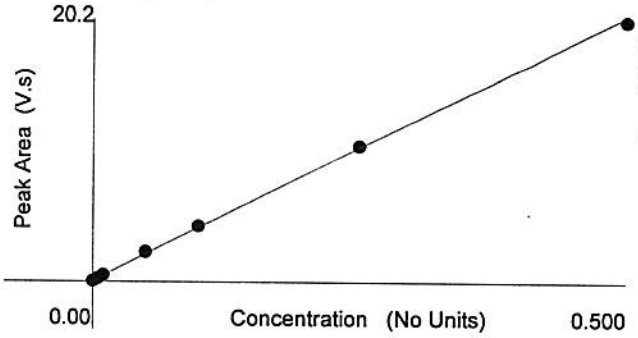
Author: kitprep

Date : 6/15/2018

Table : 1 (Cyanide)

	Known Conc. ()	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc ()	Detection Date	Detection Time
1	0.500	1	20.2	1.32	0.0	2.0	0.490	6/4/2018	3:15:08 PM
2	0.250	1	10.4	0.668	0.0	-1.0	0.252	6/4/2018	3:09:15 PM
3	0.100	1	4.29	0.278	0.0	-3.0	0.103	6/4/2018	3:10:12 PM
4	0.0500	1	2.28	0.147	0.0	-7.6	0.0539	6/4/2018	3:11:11 PM
5	0.0100	1	0.506	0.0300	0.0	-6.1	0.0107	6/4/2018	3:12:11 PM
6	5.00e-3	1	0.259	0.0160	0.0	4.6	4.70e-3	6/4/2018	3:13:10 PM
7	0.00	1	0.0440	3.02e-3			-5.39e-4	6/4/2018	3:14:09 PM

Figure : 1 (Cyanide)



Area = 41.0 * Conc + 0.0665
Conc = 0.0244 * Area - 1.61e-3
Correlation Coefficient (r) = 0.99996

Weighting : 1/x

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (if Applicable)	Effective Date
Estela Paz Martinez	Estela Paz Martinez	11/6/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 350.1	☑ Water ☑ DW ☑ Solid ☐ Other: _____	0201218-002
Analyte or Class of Analytes		
Ammonia		

We, the undersigned, CERTIFY that:

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4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Estela Paz Martinez *Analyst*	_____ *Signature*	11.06.18 *Date*
Sophia Andre *Technical Director*	_____ *Signature*	11-6-18 *Date*
Roxana Llambias *Quality Assurance Director*	_____ *Signature*	11/6/18 *Date*

True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	11/6/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 350.1
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	WET-26
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard (s)	1016-S-GEN-08	1.0 mg/L
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Ammonia	1.00	0.984	0.984	0.977	0.981	0.98	0.34	98.2	0.00

Author: Lachat1

Date : 11/7/2018

Original Run Filename: OM_11-6-2018_09-42-54AM.OMN Created: 11/6/2018 9:42:54 AM
Original Run Author's Signature: [Lachat1]
Current Run Filename: OM_11-6-2018_09-42-54AM.omn Last Modified: 11/7/2018 10:19:30 AM
Current Run Author's Signature: [Lachat1]
Description: AMMONIA METHOD 350.1

Sample	Rep.	Cup No.	Channel 4 ammonia (mg N/L)	MDF	
ICB	1	90	0.0103		
		Calibration:	Table/Fig. : 1		
LCS TV=1.0MG/L	1	88	0.956	96%	
ICV=0.5MG/L	1	89	0.502	100%	
LCSD TV=1.0MG/L	1	88	0.988	99%	
18J0895-01A	1	1	3.91	XXX	
18J0895-01A DUP	1	2	3.89	XXX	
18J0895-01A MS TV=1.0MG/L	1	86	4.35	XXX	rerun
18J0895-02A	1	3	2.34	XXX	
18J0895-03A	1	4	1.02		
18J0895-05A	1	5	6.53	XXX	rerun
18J0945-02A	1	6	0.157		
18K0002-01A	1	7	0.0625		
18K0002-02A	1	8	0.0910		
18K0002-03A	1	9	0.0625		
18K0002-04A	1	10	0.0185		
CCV=1.0 MG/L	1	87	1.01	101%	
CCB	1	90	0.0125		
18K0003-01A	1	11	0.0551		
18K0003-01A MS TV=1.0MG/L	1	85	0.949	89%	
18K0003-02A	1	12	0.0124		
18K0003-03A	1	13	0.0204		
18K0003-04A	1	14	0.0190		
18K0056-01E	1	15	4.09	XXX	
18K0075-01A	1	16	0.382		
18J0895-01A	1	1	11.6	5.00	XXX
18J0895-01A	1	1	7.26	5.00	
18J0895-01A DUP	1	2	7.46	5.00	
18J0895-01A MS TV=1.0MG/L	1	86	11.2	5.00	79%
IDOC-EP 1 water	1	17	0.984	98%	
IDOC-EP 2	1	18	0.984	98%	
IDOC-EP 3	1	19	0.977	98%	
IDOC-EP 4	1	20	0.981	98%	
CCV=0.5MG/L	1	89	0.512		
CCB	1	90	0.0174		
SOIL BLK	1	83	0.457	10.00	
LCS TV=10MG/KG	1	82	10.6	10.00	
LCSD TV=10MG/KG	1	82	10.5	10.00	
18K0098-01A	1	21	4.57	10.00	out of phenolate
18K0098-01A DUP	1	22	4.26	10.00	
18K0098-01A MS TV=1.0MG/L	1	84	14.5	10.00	
18J0895-02A	1	3	2.50	2.00	
18J0895-05A	1	5	11.3	10.00	
18K0056-01E	1	15	2.32	5.00	

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	11/6/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 350.1
EXTRACTION METHOD (IF APPLY):	EPA 350.1
EXTRACTED BY:	EP
BALANCE ID:	WET-20
INSTRUMENT ID:	WET-26
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard (s)	1016-S-GEN-08	1mg/L
Surrogate	NA	NA
Internal Standard	NA	NA
Sand ID	SV-367	NA

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg			
Ammonia	10.0	10.4	10.5	10.9	9.79	10.4	4.41	104	0.46

Author: Lachat1 Date : 11/28/2018

Original Run Filename: OM_11-6-2018_04-05-27PM.OMN Created: 11/6/2018 4:05:27 PM
Original Run Author's Signature: [Lachat1]
Current Run Filename: OM_11-6-2018_04-05-27PM.omn Last Modified: 11/28/2018 10:55:19 AM
Current Run Author's Signature: [Lachat1]
Description: AMMONIA RUN, METHOD 350.1

Sample	Rep.	Cup No.	Channel 4 ammonia (mg N/L)	MDF	
ICV=0.5MG/L	1	89	0.481		96.2 %
	Calibration:		Table/Fig. : 1		
CCB	1	90	-0.0339		
LCS TV=10MG/KG	1	82	9.55	10.00	95.5 %
SOIL BLK	1	83	0.525	10.00	
LCSD TV=10MG/KG	1	82	9.80	10.00	98 %
18K0098-01A	1	21	2.33	10.00	
18K0098-01A DUP	1	22	1.89	10.00	
18K0098-01A MS TV=1.0MG/L	1	84	13.7	10.00	
18J0895-02A	1	3	1.56	2.00	
18J0895-05A	1	5	9.32	10.00	
18K0056-01E	1	15	4.04	5.00	
IDOC-EP 1 soil 10 mg/kg	1	23	10.4	10.00	104 %
IDOC-EP 2 10 mg/kg	1	24	10.5	10.00	105 %
IDOC-EP 3 10 mg/kg	1	25	11.1	10.00	111 %
IDOC-EP 4 10 mg/kg	1	26	9.79	10.00	97.9 %
18J0895-02A	1	3	2.56	2.00	
CARRIER	1	81	0.0452		
IDOC-EP 1 soil 10 mg/kg	1	23	10.9	10.00	109 %
IDOC-EP 2 10 mg/kg	1	24	10.9	10.00	109 %
IDOC-EP 3 10 mg/kg	1	25	10.9	10.00	109 %
18J0895-02A	1	3	1.56	2.00	
CARRIER	1	81	0.0486		
IDOC-EP 1 soil 10 mg/kg	1	23	10.9	10.00	109 %
IDOC-EP 2 10 mg/kg	1	24	10.8	10.00	108 %
IDOC-EP 3 10 mg/kg	1	25	11.0	10.00	110 %
CCV=1.0 MG/L	1	87	1.02		102 %
CCB	1	90	-0.0494		
CCV=1.0 MG/L	1	87	1.02		102 %

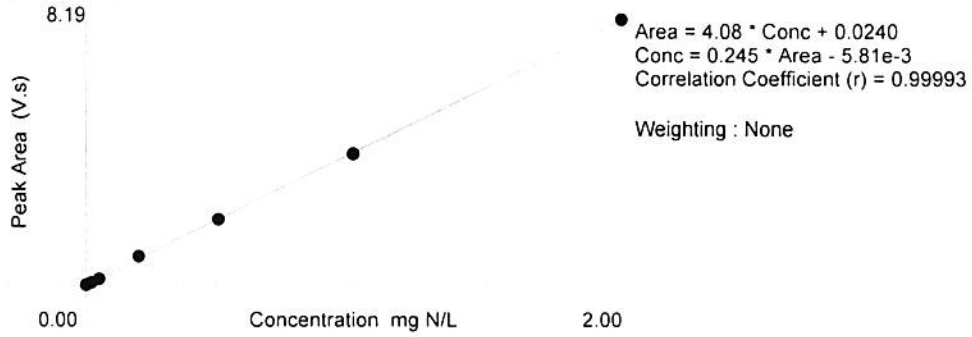
Table : 1 (ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	2.00	1	8.19	0.911	0.0	-0.2	2.00	7/5/2018	1:59:26 PM
2	1.00	1	4.06	0.461	0.0	1.1	0.989	7/5/2018	2:00:33 PM
3	0.500	1	2.05	0.234	0.0	0.6	0.497	7/5/2018	2:01:41 PM
4	0.200	1	0.910	0.104	0.0	-8.4	0.217	7/5/2018	2:07:29 PM
5	0.0500	1	0.209	0.0217	0.0	8.2	0.0455	7/5/2018	2:10:52 PM
6	0.0200	1	0.0939	0.0101	0.0	11.0	0.0172	7/5/2018	2:08:37 PM
7	0.00	1	0.0214	2.29e-3			-5.72e-4	7/5/2018	2:09:45 PM

Author: Lachat1

Date : 11/28/2018

Figure : 1 (ammonia)



Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Oswald R. Chukwa	N/A	11/20/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
300.0	■ Water ■ DW ☐ Solid ☐ Other: _____	020217-005
Analyte or Class of Analytes		
Br, Cl, F, NO_3, NO_2, NO_x, OPO_4, SO_4		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Oswald R. Chukwa *Analyst*	*Signature*	11-20-18 *Date*
Sophia Andre *Technical Director*	*Signature*	11-20-18 *Date*
Roxana Llamblas *Quality Assurance Director*	*Signature*	11/20/18 *Date*

1 Tr nsistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	11/17/2018
ANALYZED BY:	OC
METHOD NUMBER:	EPA 300.0
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	WET-1 (Jupiter)
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)		
Fluoride		2.5 ppm
Chloride		50 ppm
Nitrite		7.5 ppm
Bromide	1021-S-GEN-12	5 ppm
Nitrate		7.5 ppm
Phosphate		5 ppm
Nitrate-Nitrite		15 ppm
Sulfate		50 ppm

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Fluoride	2.50	2.68	2.70	2.70	2.70	2.69	0.38	108	0.01
Chloride	50.0	50.1	50.2	49.8	50.0	50.0	0.32	100	0.16
Nitrite	7.50	7.81	7.86	7.72	7.78	7.79	0.78	104	0.06
Bromide	5.00	4.82	4.90	4.78	4.79	4.82	1.13	96.5	0.05
Nitrate	7.50	7.72	7.75	7.72	7.73	7.73	0.20	103	0.02
Phosphate	5.00	5.43	5.48	5.42	5.45	5.44	0.47	109	0.03
Sulfate	50.0	52.4	52.5	52.6	52.5	52.5	0.19	105	0.10
Nitrate-Nitrite	15.0	15.5	15.6	15.4	15.5	15.5	0.53	103	0.08

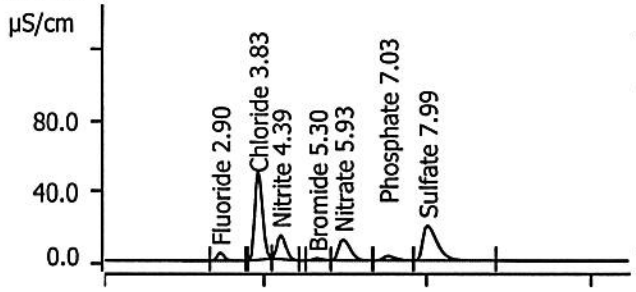
Summary Report

2018-11-20 9:07:35

Sample data

Ident . . . . . IDOC-OC 1
Sample type . . . . . Sample
Determination start 2018-11-17 15:14:00
User . . . . . Douglas G Knapp

Anions



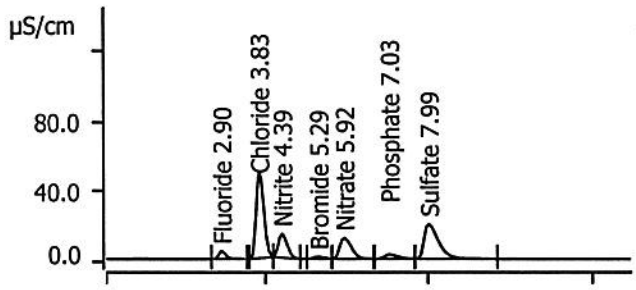
Component	On-Column Conc. mg/L	Final Concentration mg/L	
Fluoride	2.679	2.679	107%
Chloride	50.069	50.069	100%
Nitrite	7.811	7.811	104%
Bromide	4.820	4.820	96%
Nitrate	7.721	7.721	103%
Phosphate	5.427	5.427	109%
Sulfate	52.353	52.353	105%

Bench DF:1 Dosino DF: 1 Total DF: 1.00 Quant. Method: JUPITER 23-091818

Sample data

Ident . . . . . IDOC-OC 2
Sample type . . . . . Sample
Determination start 2018-11-17 15:30:03
User . . . . . Douglas G Knapp

Anions



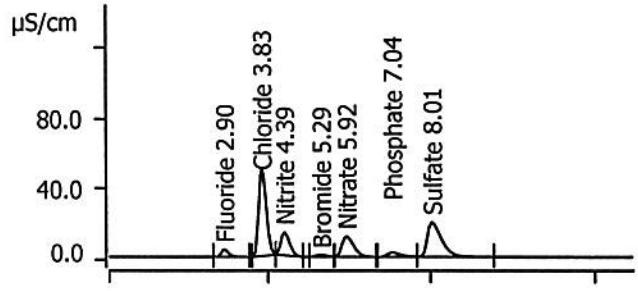
Component	On-Column Conc. mg/L	Final Concentration mg/L	
Fluoride	2.697	2.697	108%
Chloride	50.218	50.218	100%
Nitrite	7.860	7.860	105%
Bromide	4.903	4.903	98%
Nitrate	7.751	7.751	103%
Phosphate	5.480	5.480	110%
Sulfate	52.450	52.450	105%

Bench DF:1 Dosino DF: 1 Total DF: 1.00 Quant. Method: JUPITER 23-091818

Sample data

Ident . . . . . IDOC-OC 3
Sample type . . . . . Sample
Determination start 2018-11-17 15:46:06
User . . . . . Douglas G Knapp

Anions



Component	On-Column Conc. mg/L	Final Concentration mg/L	
Fluoride	2.702	2.702	108%
Chloride	49.841	49.841	100%
Nitrite	7.715	7.715	103%
Bromide	4.782	4.782	96%
Nitrate	7.717	7.717	103%
Phosphate	5.424	5.424	108%
Sulfate	52.594	52.594	105%

Bench DF:1 Dosino DF: 1 Total DF: 1.00 Quant. Method: JUPITER 23-091818

Metrohm

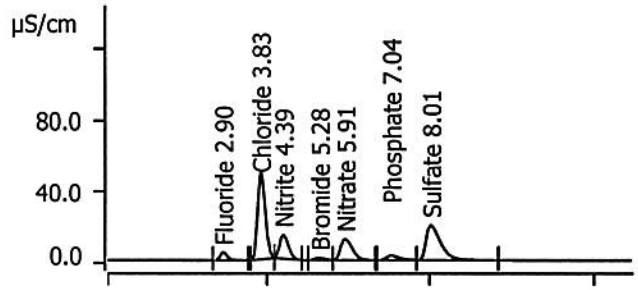
Summary Report

2018-11-20 9:07:35

Sample data

Ident . . . . . IDOC-OC 4
Sample type . . . . . Sample
Determination start 2018-11-17 16:02:08
User . . . . . Douglas G Knapp

Anions



Component	On-Column Conc. mg/L	Final Concentration mg/L	
Fluoride	2.697	2.697	108 %
Chloride	49.958	49.958	100 %
Nitrite	7.776	7.776	104 %
Bromide	4.793	4.793	96 %
Nitrate	7.725	7.725	103 %
Phosphate	5.445	5.445	109 %
Sulfate	52.452	52.452	105 %

Bench DF:1 Dosino DF: 1 Total DF: 1.00 Quant. Method: JUPITER 23-091818

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	10/24/2016
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM5210B	☑ Water ☐ DW ☐ Solid ☐ Other:_____	0201616-007
Analyte or Class of Analytes		
BOD		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	10/24/16 *Date*
Brian Mercer *Technical Director*	*Signature*	10/24/16 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	10/24/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
DATE OF ANALYSIS:	10/24/2016
ANALYZED BY:	Karina Ramirez
METHOD NUMBER:	SM 5210B
EXTRACTION METHOD (IF APPLY):	SM 5210B
INCUBATOR ID:	BOD-4A
DO METER ID	Micro-26
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	10/19/2016
ACCEPTANCE CRITERIA:	198 ± 30.5 mg/L

Standards Used:	Std. ID#	Conc.
GGA	Smicro 101716	198 mg/L
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
BOD	198	176.00	197.00	187.00	175.00	183.75	5.64	92.80	10.37

SM 5210B/EPA 405.1-CBOD/BOD

GGA Lot No.	Smicro 101716
Seed Lot No.	041604
DO Meter	Micro-26
Incubator (20±1°C)	BOD-4A
Nitrification Inhibitor #	A5061
Dilution Water	Rmicro 101916
Seed Preparation	Rmicro 101916

*** 2 ml of aerated seed added to each CBOD/BOD bottle**

Analyst	mm/KR	CBOD	
Run #	1610484	BOD	—
Date/ Time Extracted:	10/19/16	14:00	
Date Analyzed:	10/24/16		
pH/Chlorine strips Lot#:	811214A		
H2SO4 Lot #:			
NaOH Lot #:			
Pipette ID:	BD276		
Thermometer ID:	97A1167		

DO Meter Calibrated ☑

GGA criteria (167.5± 228.5)
Incubation (5 days ± 6 hours)
If pH adjusted (7.0-7.2)

	Order #	Sample ID	Bottle No.	Nitrification Inhibitor?	pH	Cl-	Sample Volume	Dilution Factor	Initial DO	Final DO	mg/L	Comments	Incub. Time IN	Incub. Time OUT
	---	Non-Seeded Blank	1		/	/	300	1	7.79	7.60	0.19		14:30	14:30
	---	Seeded Blank	2		/	/	2	150	7.70	6.70	1.00			
	known IDOC	GGA	3		/	/	5	60	7.59	3.66	176			
	↓	GGA Duplicate	4		/	/	5	60	7.63	3.34	197			
1	16J0442-02C	outfall 01 comp	103		7.0	0	1	300	7.78	5.44	402			
2	↓ 02C	↓	104		↓	0	5	60	7.63	4.13	150			
3	↓ 02C	↓	105		↓	0	10	30	7.57	1.16	162			
4	16J0449-01A		106		7.0	>10	10	30	7.66	3.31	100	Cl ⇒ 0		
5	↓ -01A		107		7.0	>10	100	3	7.62	0.74	18.0	Cl ⇒ 0		
6	16J0460-01A	gulfstream	108		7.0	0	50	6	8.23	5.17	12.7			
7	↓ 01A	↓	109		↓	0	100	3	8.65	5.92	5.14			
8	16J0460-02A	gulfstream	110		7.0	0	50	6	8.21	5.63	9.48			
9	↓ 02A	↓	111		↓	0	100	3	8.55	5.84	5.13			
10	known IDOC	GGA	112		/	/	5	60	7.67	3.56	187			
11	↓	↓	113		/	/	5	60	7.64	3.72	175			
12														
13														
14														
15														
16														
17														
18														
19														
20														

Reviewed by _____ Date: 10/28/16

Document Control #: 0401616-003
Date:9/12/16

Demonstration of Capability
Certification Statement

Date:
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): RICHARD VICCHIARELLI
Matrix: WATER
Method number SW 8321

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I RICHARD VICCHIARELLI current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

Maria E. Castellanos — Technical Director's Name and Title
Signature
Date 4/26/11

Donald S. Mslo, Jr. — Quality Assurance Officer's Name
Signature
Date 4/26/11

This certification form must be completed each time a demonstration of capability study is completed

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

IDC:

Matrix: Water Soil Air

Date of Analysis: 4/21/2011

Method Number: SW8321

Method Description: Bromacil and Diuron

Instrument Used: HPLC #3

☒	Raw Data Given to QA?
☐	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Bromacil and Diuron Std	10 PPB
WSLC 1-27-17	

Comments:

Analyst Name: Richard Vicchiarelli

Yes / No

Units:

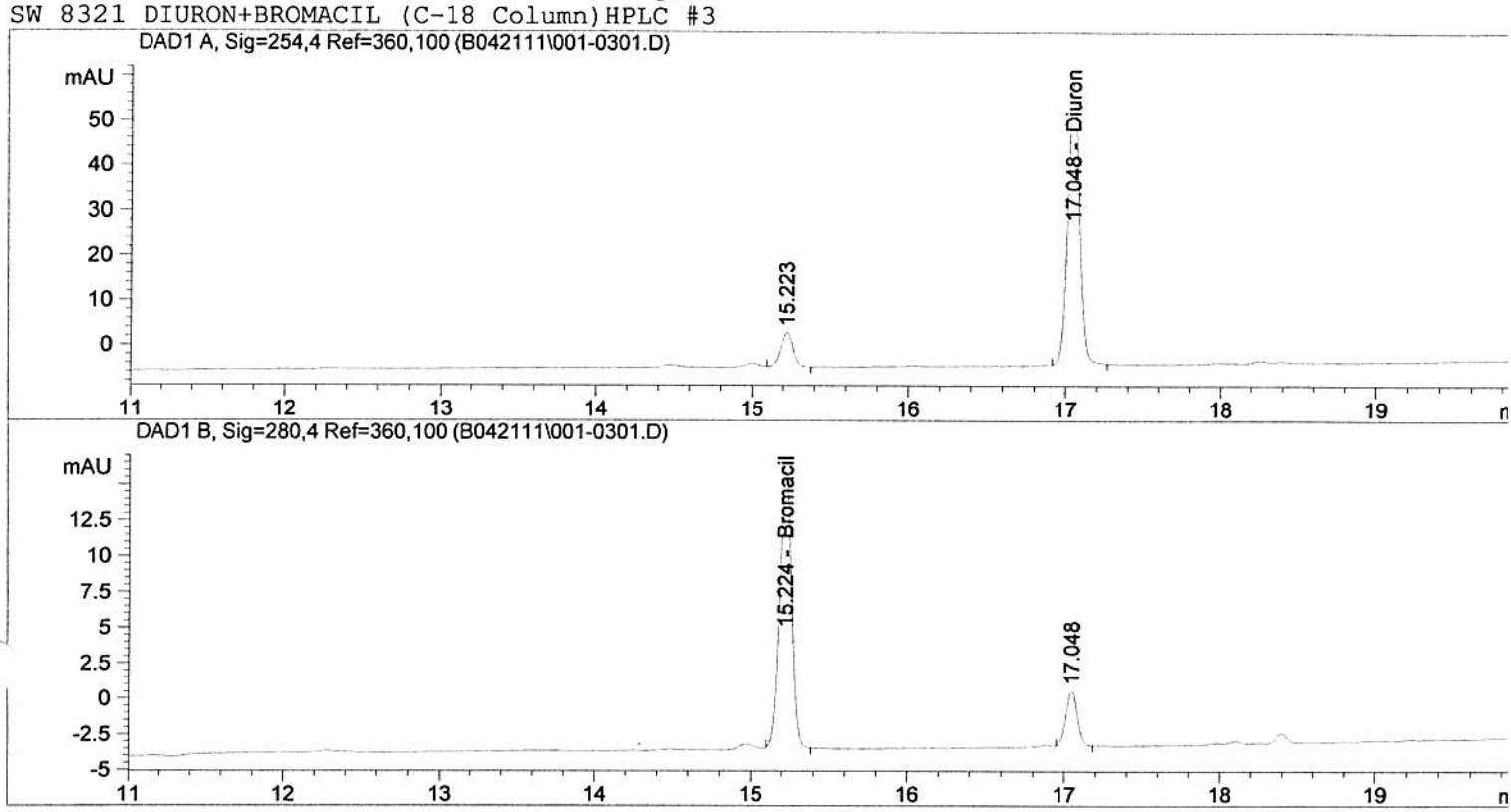
FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD	%RSD
Bromacil	9.268	9.789	9.775	9.765	9.776	10.000	97.8	2.64%	
Diuron	9.330	9.888	9.880	9.876	9.881	10.000	98.8	2.83%	

Analyst Signature: Richard Vicchiarelli **Date:** 4/21/11

```
Injection Date  : 4/21/2011 1:16:17 PM          Seq. Line :   3
Sample Name     : 10 ppbD&B IDOC1                Location : Vial 1
Acq. Operator   : RPV/CEB                            Inj :   1
Acq. Instrument : Instrument 1                Inj Volume : 100 µl
Acq. Method     : C:\HPCHEM\1\METHODS\SW8321A.M
Last changed    : 4/21/2011 12:05:45 PM by RPV/CEB
Analysis Method : C:\HPCHEM\1\METHODS\BD041411.M
Last changed    : 4/21/2011 1:34:53 PM by RPV/CEB
                  (modified after loading)
SW 8321 DIURON+BROMACIL (C-18 Column)HPLC #3
```



External Standard Report

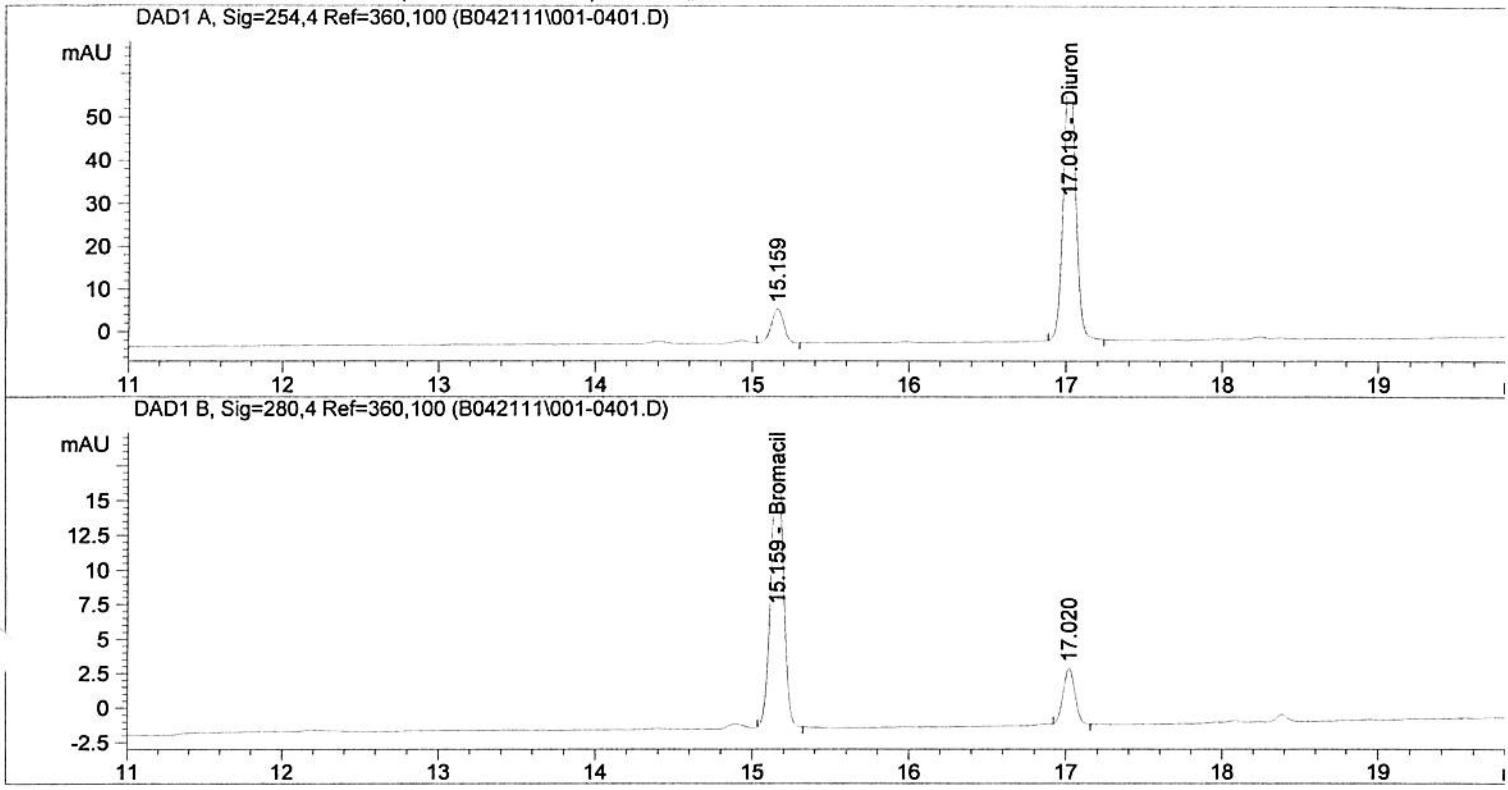
```
Sorted By             :      Signal
Calib. Data Modified  :      4/21/2011 1:34:53 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=254,4 Ref=360,100

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [ug/L]
-------|------|----------|----------|----------|--|------------------
 17.048 BB      330.92859 2.82006e-2    9.33237     Diuron

Totals :                                9.33237

 Results obtained with enhanced integrator!

Signal 2: DAD1 B, Sig=280,4 Ref=360,100

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [ug/L]
-------|------|----------|----------|----------|--|------------------
 15.224 BB      103.70657 8.93632e-2    9.26755     Bromacil

Totals :                                9.26755
```

Results obtained with enhanced integrator!

==========

*** End of Report ***

```
==========================================================================
Injection Date  : 4/21/2011 1:38:26 PM          Seq. Line :   4
Sample Name     : 10 ppbD&B IDOC2                Location : Vial 1
Acq. Operator   : RPV/CEB                            Inj :   1
Acq. Instrument : Instrument 1                  Inj Volume : 100 µl
Acq. Method     : C:\HPCHEM\1\METHODS\SW8321A.M
Last changed    : 4/21/2011 12:05:45 PM by RPV/CEB
Analysis Method : C:\HPCHEM\1\METHODS\BD041411.M
Last changed    : 4/21/2011 1:34:53 PM by RPV/CEB
                  (modified after loading)
SW 8321 DIURON+BROMACIL (C-18 Column)HPLC #3
```

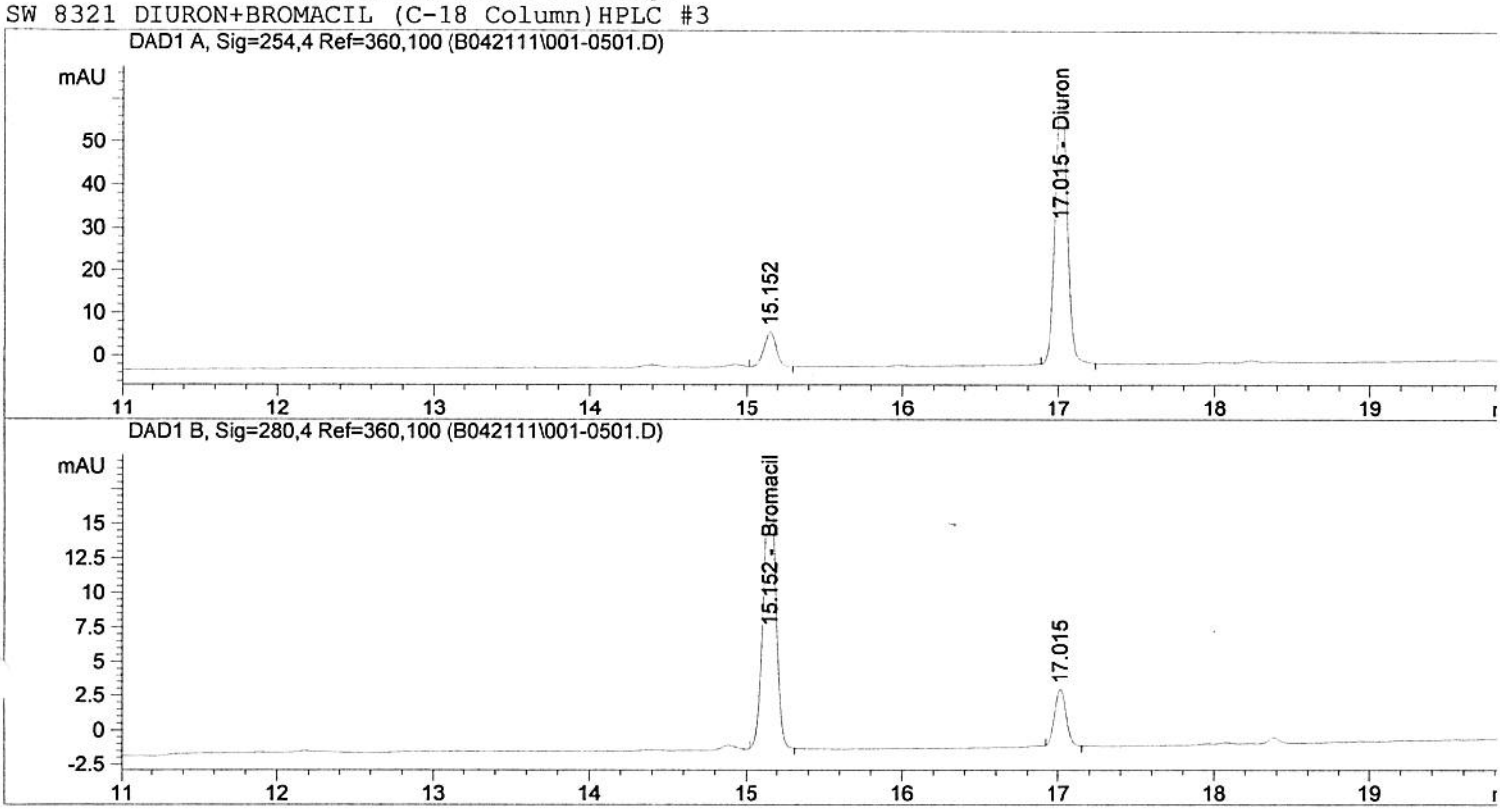



```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      4/21/2011 1:34:53 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=254,4 Ref=360,100

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [ug/L]
-------|------|----------|----------|----------|--|------------------
 17.019 BB      350.61874 2.82006e-2    9.88765    Diuron

Totals :                                9.88765

 Results obtained with enhanced integrator!

Signal 2: DAD1 B, Sig=280,4 Ref=360,100

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                [ug/L]
-------|------|----------|----------|----------|--|------------------
 15.159 BB      109.54212 8.93632e-2    9.78903    Bromacil

Totals :                                9.78903
```

Results obtained with enhanced integrator!

*** End of Report ***

```
Injection Date  : 4/21/2011 2:00:32 PM          Seq. Line :   5
Sample Name     : 10 ppbD&B IDOC3                Location : Vial 1
Acq. Operator   : RPV/CEB                            Inj :   1
Acq. Instrument : Instrument 1                Inj Volume : 100 µl
Acq. Method     : C:\HPCHEM\1\METHODS\SW8321A.M
Last changed    : 4/21/2011 12:05:45 PM by RPV/CEB
Analysis Method : C:\HPCHEM\1\METHODS\BD041411.M
Last changed    : 4/21/2011 1:34:53 PM by RPV/CEB
                  (modified after loading)
SW 8321 DIURON+BROMACIL (C-18 Column) HPLC #3
```



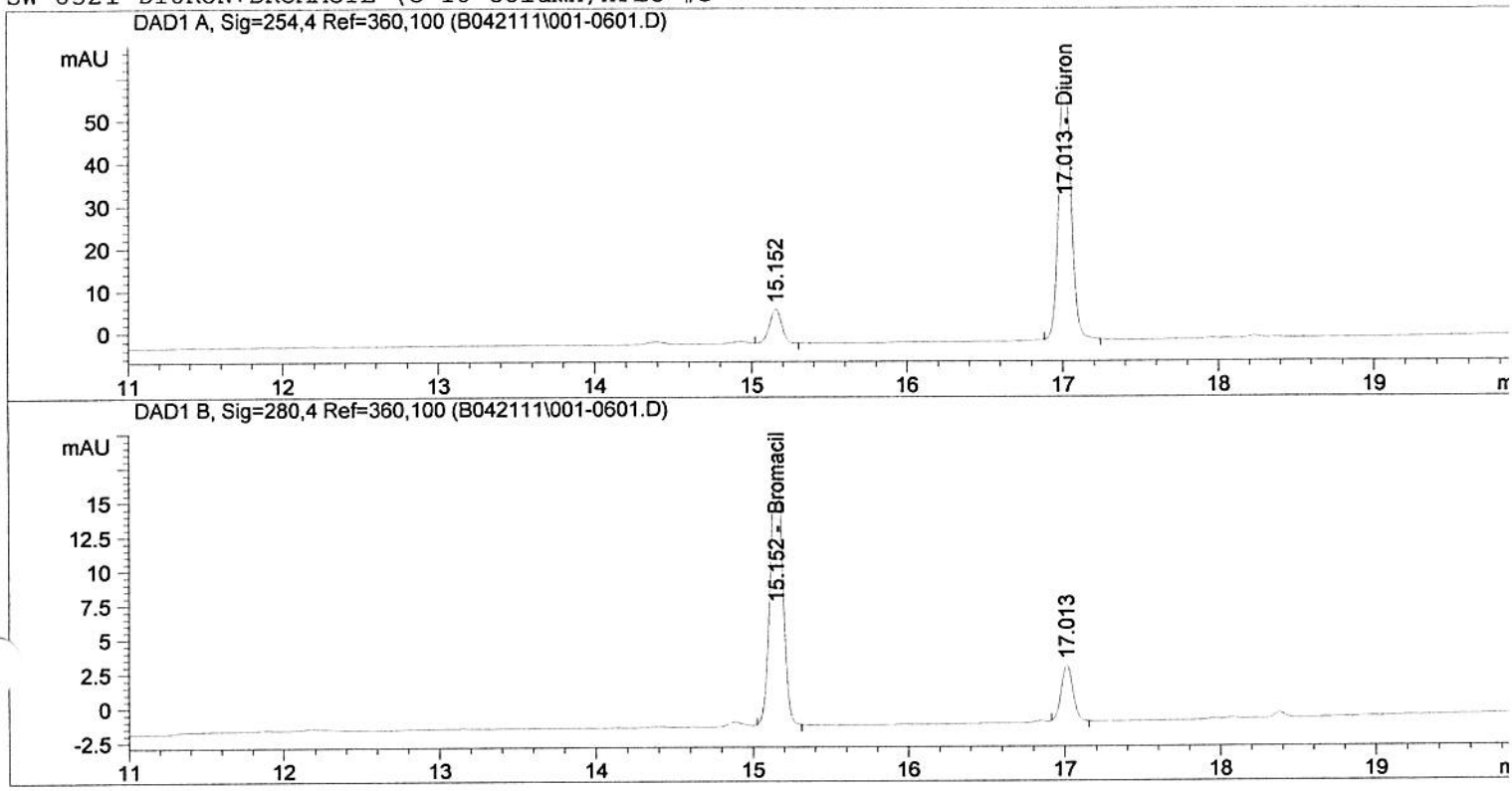
External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      4/21/2011 1:34:53 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=254,4 Ref=360,100

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                 [ug/L]
-------|------|----------|----------|----------|--|------------------
 17.015 BB      350.35672 2.82006e-2    9.88026    Diuron

Totals :                                9.88026

 Results obtained with enhanced integrator!

Signal 2: DAD1 B, Sig=280,4 Ref=360,100

etTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [mAU*s]                 [ug/L]
-------|------|----------|----------|----------|--|------------------
 15.152 BB      109.38846 8.93632e-2    9.77530    Bromacil

Totals :                                9.77530
```

Results obtained with enhanced integrator!

*** End of Report ***

```
==========================================================================
Injection Date  : 4/21/2011 2:22:40 PM          Seq. Line :   6
Sample Name     : 10 ppbD&B IDOC4               Location : Vial 1
Acq. Operator   : RPV/CEB                           Inj :   1
Acq. Instrument : Instrument 1                  Inj Volume : 100 µl
Acq. Method     : C:\HPCHEM\1\METHODS\SW8321A.M
Last changed    : 4/21/2011 12:05:45 PM by RPV/CEB
Analysis Method : C:\HPCHEM\1\METHODS\BD041411.M
Last changed    : 4/21/2011 1:34:53 PM by RPV/CEB
                  (modified after loading)
SW 8321 DIURON+BROMACIL (C-18 Column)HPLC #3
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      4/21/2011 1:34:53 PM
Multiplier            :      1.0000
Dilution              :      1.0000
Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1 A, Sig=254,4 Ref=360,100

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [mAU*s]                 [ug/L]
-------|------|----------|----------|----------|--|------------------
 17.013 BB       350.21109 2.82006e-2     9.87615     Diuron

Totals :                                  9.87615

 Results obtained with enhanced integrator!

Signal 2: DAD1 B, Sig=280,4 Ref=360,100

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [mAU*s]                 [ug/L]
-------|------|----------|----------|----------|--|------------------
 15.152 BB       109.26880 8.93632e-2     9.76461     Bromacil

Totals :                                  9.76461
```

Results obtained with enhanced integrator!

*** End of Report ***

Demonstration of Capability
Certification Statement

Date: 7/31/08
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): RICHARD VICCHIARELLI
Matrix: LIQUID
Method number EPA 531.1

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I RICHARD VICCHIARELLI current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

Maria E. Castellanos — Technical Director's Name and Title
Signature
Date 8/27/08

Quality Assurance Officer's Name
Signature
Date

This certification form must be completed each time a demonstration of capability study is completed

.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

IDC:

Matrix: Water Soil Air

Date of Analysis: 7/31/8

Method Number: EPA 531.1

Method Description: Carbamate Pesticides

Instrument Used: Agilent 1100 HPLC

☑	Raw Data Given to QA?
☐	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Carbamate Standard	20 ppb
wslc 1-1-14	

Comments:

Analyst Name: Richard Vicchiarelli

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD	%RSD
Aldicarb Sulfone	17.937	18.224	18.246	18.226	18.236	20.000	91.2	0.81%	
Aldicarb Sulfoxide	19.990	19.443	19.593	19.834	19.616	20.000	98.1	1.24%	
Oxamyl	17.831	18.458	18.407	17.914	18.297	20.000	91.5	1.79%	
Methomyl	18.536	18.660	18.968	18.576	18.793	20.000	94.0	1.05%	
3-Hydroxycarbofuran	19.731	20.293	19.987	19.791	20.015	20.000	100.1	1.27%	
Aldicarb	20.148	20.557	20.075	20.241	20.237	20.000	101.2	1.05%	
Propoxur (Baygon)	20.394	19.679	19.410	19.753	19.563	20.000	97.8	2.10%	
Carbofuran	17.142	17.510	17.871	18.626	17.970	20.000	89.8	3.56%	
Carbaryl	19.178	19.242	19.203	19.241	19.222	20.000	96.1	0.16%	
Methiocarb	20.658	20.358	20.140	20.775	20.353	20.000	101.8	1.41%	

Analyst Signature: R Vicchiarelli **Date:** 8/1/8

```
==========================================================================
Injection Date  : 7/31/2008 4:01:46 PM          Seq. Line :   6
Sample Name     : 20 ppb Std   (DOC)            Location : Vial 6
Acq. Operator   : Richard   hplc#2                   Inj :   1
                                               Inj Volume : 200 µl
Acq. Method     : C:\HPCHEM\1\METHODS\071608.M
Last changed    : 7/31/2008 10:26:31 AM by Richard   hplc#2
Analysis Method : C:\HPCHEM\1\METHODS\C073108.M
Last changed    : 7/31/2008 3:59:50 PM by Richard   hplc#2
                  (modified after loading)
EPA 531.1 CARBAMATES-PRIMARY COLUMN RESTEK ULTRA CARBAMATE 3u 50 x4.6 mm, CONFIRMATION
COLUMN TRANSGENIC
==========================================================================

==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Retention Time
Calib. Data Modified  :      7/31/2008 3:59:50 PM
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: FLD1 A, Ex=330, Em=465

RetTime Sig Type     Area      Amt/Area    Amount   Grp   Name
 [min]            LU    *s                [ug/L]
-------|--|------|----------|----------|----------|--|---------------
  5.498  1 PV       62.15775 2.88578e-1   17.93739    Aldicarb sulfone
  5.832  1 VV       73.47231 2.72043e-1   19.98764    Aldicarb sulfoxide
  6.059  1 VV       54.03164 3.30004e-1   17.83068    Oxamyl
  6.430  1 VB       82.75243 2.23992e-1   18.53591    Methomyl
  8.181  1 BB       46.16174 4.27430e-1   19.73090    3-Hydroxycarbofuran
 10.104  1 BP       54.38365 3.70476e-1   20.14783    Aldicarb
 11.084  1 MF       40.17650 5.07622e-1   20.39446    Propoxur(Baygon)
 11.270  1 FM       40.60107 4.22199e-1   17.14173    Carbofuran
 11.915  1 VP       70.08805 2.73625e-1   19.17783    Carbaryl
 13.589  1 BP       24.76271 8.34258e-1   20.65849    Methiocarb
 14.000  1            -          -          -         BDMC

Totals :                                  191.54286

 Results obtained with enhanced integrator!
1 Warnings or Errors :

Warning : Time reference compound(s) not found

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 7/31/2008 4:24:36 PM          Seq. Line :   7
Sample Name     : 20 ppb Std IDOC2               Location : Vial 7
Acq. Operator   : Richard   hplc#2                    Inj :   1
                                                Inj Volume : 200 µl
Acq. Method     : C:\HPCHEM\1\METHODS\071608.M
Last changed    : 7/31/2008 10:26:31 AM by Richard   hplc#2
Analysis Method : C:\HPCHEM\1\METHODS\C073108.M
Last changed    : 7/31/2008 3:59:50 PM by Richard   hplc#2
                  (modified after loading)
EPA 531.1 CARBAMATES-PRIMARY COLUMN RESTEK ULTRA CARBAMATE 3u 50 x4.6 mm, CONFIRMATION
COLUMN TRANSGENIC
==========================================================================

==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Retention Time
Calib. Data Modified  :      7/31/2008 3:59:50 PM
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: FLD1 A, Ex=330, Em=465

RetTime Sig Type     Area      Amt/Area    Amount   Grp   Name
 [min]            LU    *s                 [ug/L]
-------|--|------|----------|----------|----------|--|---------------
  5.524  1 PV       63.15327 2.88578e-1   18.22467    Aldicarb sulfone
  5.856  1 VV       71.46958 2.72043e-1   19.44281    Aldicarb sulfoxide
  6.085  1 VV       55.93364 3.30004e-1   18.45835    Oxamyl
  6.455  1 VB       83.30573 2.23992e-1   18.65985    Methomyl
  8.201  1 BP       47.47671 4.27430e-1   20.29295    3-Hydroxycarbofuran
 10.119  1 BP       55.48893 3.70476e-1   20.55731    Aldicarb
 11.084  1 MF       38.76612 5.07622e-1   19.67852    Propoxur(Baygon)
 11.261  1 FM       41.47405 4.22199e-1   17.51030    Carbofuran
 11.922  1 VB       70.32216 2.73625e-1   19.24189    Carbaryl
 13.598  1 BB       24.40251 8.34258e-1   20.35799    Methiocarb
 14.000  1            -          -          -         BDMC

Totals :                                  192.42464

 Results obtained with enhanced integrator!
1 Warnings or Errors :

Warning : Time reference compound(s) not found

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 7/31/2008 4:44:37 PM          Seq. Line :   8
Sample Name     : 20 ppb Std IDOC3               Location : Vial 8
Acq. Operator   : Richard   hplc#2                    Inj :   1
                                                Inj Volume : 200 µl
Acq. Method     : C:\HPCHEM\1\METHODS\071608.M
Last changed    : 7/31/2008 10:26:31 AM by Richard   hplc#2
Analysis Method : C:\HPCHEM\1\METHODS\C073108.M
Last changed    : 7/31/2008 3:59:50 PM by Richard   hplc#2
                  (modified after loading)
EPA 531.1 CARBAMATES-PRIMARY COLUMN RESTEK ULTRA CARBAMATE 3u 50 x4.6 mm, CONFIRMATION
COLUMN TRANSGENIC
==========================================================================

==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Retention Time
Calib. Data Modified  :      7/31/2008 3:59:50 PM
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: FLD1 A, Ex=330, Em=465
```

RetTime [min]	Sig	Type	Area LU *s	Amt/Area	Amount [ug/L]	Grp	Name
5.513	1	PV	63.22687	2.88578e-1	18.24591		Aldicarb sulfone
5.843	1	VV	72.02059	2.72043e-1	19.59271		Aldicarb sulfoxide
6.074	1	VV	55.77909	3.30004e-1	18.40735		Oxamyl
6.449	1	VB	84.67945	2.23992e-1	18.96755		Methomyl
8.197	1	BP	46.75981	4.27430e-1	19.98653		3-Hydroxycarbofuran
10.122	1	PP	54.18600	3.70476e-1	20.07460		Aldicarb
11.088	1	MF	38.23692	5.07622e-1	19.40989		Propoxur(Baygon)
11.246	1	FM	42.32763	4.22199e-1	17.87068		Carbofuran
11.927	1	VP	70.18122	2.73625e-1	19.20333		Carbaryl
13.607	1	PP	24.14113	8.34258e-1	20.13993		Methiocarb
14.000	1		-	-	-		BDMC
Totals :					191.89848		

```
 Results obtained with enhanced integrator!
1 Warnings or Errors :

Warning : Time reference compound(s) not found

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 7/31/2008 5:04:36 PM          Seq. Line :   9
Sample Name     : 20 ppb Std IDOC4               Location : Vial 9
Acq. Operator   : Richard   hplc#2                   Inj :   1
                                                Inj Volume : 200 µl
Acq. Method     : C:\HPCHEM\1\METHODS\071608.M
Last changed    : 7/31/2008 10:26:31 AM by Richard   hplc#2
Analysis Method : C:\HPCHEM\1\METHODS\C073108.M
Last changed    : 7/31/2008 3:59:50 PM by Richard   hplc#2
                  (modified after loading)
EPA 531.1 CARBAMATES-PRIMARY COLUMN RESTEK ULTRA CARBAMATE 3u 50 x4.6 mm, CONFIRMATION
COLUMN TRANSGENIC
==========================================================================

==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Retention Time
Calib. Data Modified  :      7/31/2008 3:59:50 PM
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: FLD1 A, Ex=330, Em=465

RetTime Sig Type     Area      Amt/Area    Amount   Grp   Name
 [min]             LU    *s                [ug/L]
-------|--|------|----------|----------|----------|--|---------------
  5.499  1 PV       63.15830 2.88578e-1   18.22612    Aldicarb sulfone
  5.833  1 VV       72.90837 2.72043e-1   19.83422    Aldicarb sulfoxide
  6.050  1 VV       54.28545 3.30004e-1   17.91444    Oxamyl
  6.434  1 VP       82.92937 2.23992e-1   18.57554    Methomyl
  8.189  1 BP       46.30167 4.27430e-1   19.79071    3-Hydroxycarbofuran
 10.110  1 BP       54.63558 3.70476e-1   20.24116    Aldicarb
 11.167  1 MF       38.91366 5.07622e-1   19.75341    Propoxur(Baygon)
 11.237  1 FM       44.11766 4.22199e-1   18.62643    Carbofuran
 11.914  1 VB       70.31901 2.73625e-1   19.24103    Carbaryl
 13.596  1 PP       24.90296 8.34258e-1   20.77549    Methiocarb
 14.000  1            -          -          -        BDMC

Totals :                                  192.97857

 Results obtained with enhanced integrator!
1 Warnings or Errors :

Warning : Time reference compound(s) not found

==========================================================================
                          *** End of Report ***
```

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	10/22/2016
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 5210 B	☒ Water ☐ DW ☐ Solid ☐ Other: _____	020116-008
Analyte or Class of Analytes		
CBOD		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	10/22/16 *Date*
Brian Mercer *Technical Director*	*Signature*	10/22/16 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	10/22/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
DATE OF ANALYSIS:	10/22/2016
ANALYZED BY:	Karina Ramirez
METHOD NUMBER:	SM 5210B
EXTRACTION METHOD (IF APPLY):	SM 5210B
INCUBATOR ID:	BOD-4A
DO METER ID	Micro-26
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	10/17/2016
ACCEPTANCE CRITERIA:	198 ± 30.5 mg/L

Standards Used:	Std. ID#	Conc.
GGA	Smicro 101716	198 mg/L
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
CBOD	198	212.00	219.00	185.00	170.00	196.50	11.68	99.24	22.96

GGA Lot No.	Smrno101716
Seed Lot No.	041604
DO Meter	Micro-26
Incubator (20±1°C)	BOD-4A
Nitrification Inhibitor #	A5061
Dilution Water	Rmno101716A
Seed Preparation	Rmno101716B

*** 2 ml of aerated seed added to each CBOD/BOD bottle**

Analyst	MR/KR
Run #	161026
Date/ Time Extracted:	10/17/16 16:05
Date Analyzed:	10/22/16
pH/Chlorine strips Lot#:	5111244A
H2SO4 Lot #:	
NaOH Lot #:	
Pipette ID:	BD27
Thermometer ID:	~~BD27~~

CBOD ✓ BOD

DO Meter Calibrated ☐

GGA criteria (167.5± 228.5)
Incubation (5 days ± 6 hours)
If pH adjusted (7.0-7.2)

✓ 10/17

	Order #	Sample ID	Bottle No.	Nitrification Inhibitor?	pH	Cl-	Sample Volume	Dilution Factor	Initial DO	Final DO	mg/L	Comments	Incub. Time IN	Incub. Time OUT
	---	Non-Seeded Blank	21	X	/	/	300	1	8.09	7.97	0.12		16:30	16:30
	---	Seeded Blank	22	X	/	/	2	150	7.98	7.11	0.87			
	---	GGA	23	X	/	/	5	60	7.98	3.58	212			
	---	GGA Duplicate	31A	X	/	/	5	60	7.97	3.45	219			
1	IDOL	Karin IDOL	33	X	~~7.10~~	~~60~~	5	60	7.96	4.01	185			
2			34	X	↓	X	5	60	7.95	4.24	170			
3	1VJ0407 -01	IJS OTH5	41	X	7.2	0	50	6	8.12	6.10	6.90			
4	-01	↓	47	X	↓	↓	100	3	8.29	6.39	3.09			
5	-02	OTH6	48	X	7.2	0	50	6	8.15	6.85	2.64			
6	-02	↓	44	X	↓	↓	100	3	8.02	6.74	0.06	<2		
7	-03	OTH7	74	X	7.0	0	50	6	8.24	5.11	13.86			
8	-03	↓	78	X	↓	↓	100	3	8.42	4.67	8.64			
9	-04	EFF1	79	X	7.2	0	1	300	8.08	6.04	351			
10	-04	↓	60	X	↓	↓	10	30	8.01	3.15	120			
11	-05	EFF2	61	X	7.2	0	1	300	7.44	5.87	618			
12	-05	↓	62	X	↓	↓	10	30	7.97	3.10	180			
13	-06	EFF3	63	X	7.0	0	1	300	7.91	0.81	8	(1809)		
14	-06	↓	64	X	↓	↓	10	30	7.19	1.03	159			
15	-07	EQB	65	X	6.8	0	10	3	8.18	6.51	3.00		✓	✓
16														
17														
18														
19														
20														

Reviewed by _____ Date: 10/28/16

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Oswald Chunkoo	NA	8/20/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM4500 Cl - E	☑ Water ☑ DW ☐ Solid ☐ Other: _____	0201219-010
Analyte or Class of Analytes		
Chloride		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Oswald *Analyst*	*Signature*	8/20/19 *Date*
Sophia *Technical Director*	Sophia Andre *Signature*	8/20/19 *Date*
Roxana Liambias *Quality Assurance Director*	*Signature*	8/20/19 *Date*

[1] Co...ent with supporting data.
...ate: Based on good laboratory practices consistent with sound scientific principles/practices.
...plete: Includes the results of all supporting performance testing.
...Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	8/20/2019
ANALYZED BY:	OC
METHOD NUMBER:	SM 4500-CL-E
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	WET-47
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	90 - 110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1166-SGEN-04	100 ppm
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Chloride	100	103	102	102	103	103	0.563	103	0.577

Author: wetchem

Date : 8/21/2019

Original Run Filename: OM_8-20-2019_01-24-27PM.OMN Created: 8/20/2019 1:24:27 PM
Original Run Author's Signature: [wetchem]
Current Run Filename: OM_8-20-2019_01-24-27PM.OMN Last Modified: 8/20/2019 2:15:53 PM
Current Run Author's Signature: [wetchem]
Description: Chloride METHOD SM 4500 CL, 10-117-07-1-C

B # 19H0474

Sample	Rep.	Cup No.	Channel 1 Chloride (mg Cl/L)	MDF	
Cal Std TV=200 MG/L	1	49	200		
Cal Std TV=100 MG/L	1	57	100		
Cal Std TV=50 MG/L	1	59	50.0		
Cal Std TV=10 MG/L	1	50	10.0		
Cal Std TV=200 MG/L	1	49	200		
Cal Std TV=5.0 MG/L	1	51	5.00		
Cal Std TV=1.0 MG/L	1	52	1.00		
Cal Std TV=0.5MG/L	1	53	0.500		
Cal Std TV=0.0 MG/L	1	60	0.00		
CCB	1	60	-0.680		
Calibration:			Table/Fig. : 1		
CCB	1	60	-0.818		
ICV/ LCS TV=100 MG/L	1	58	101		101%
CCV TV=50 MG/L	1	59	48.4		97%
LCSD TV=100 MG/L	1	58	101		101%
~~19G0365-06A~~ 19H0474-06A	1	1	39.3		
~~19G0586-01A~~ 19H0474-06A2D	1	2	~~78.6~~	~~2.00~~	39.3 1.0
~~19G0586-02A~~ 19H0474-05A	1	3	802 ~~160~~	5.00	
~~19G0586-03A~~ 19H0474-04A	1	4	190	2.00	
~~19G0586-04A~~ 19H0474-03A	1	5	261	2.00	
~~19G0586-05A~~ 19H0474-02A	1	6	~~148~~	~~5.00~~	29.6 1.0
~~19G0586-06A~~ 19H0474-01A	1	7	228 ~~114~~	2.00	
~~19H0474-06A DUP~~ 19H0474-01A	1	8	130		
19H0474-06A MS TV=100MG/L	1	56	138		
19H0474-06A MSD TV=100MG/L	1	55	147		
19H0474-07A	1	9	936	5.00	
19H0474-08A	1	10	13.9		
CCV TV=100 MG/L	1	57	102		102%
CCB	1	60	-0.807		
19H0474-09A	1	11	810	5.00	
19H0474-10A	1	12	17.8		
19H0474-11A	1	13	42.3		
19H0474-12A	1	14	33.9		
19H0474-13A	1	15	32.3		
19H0474-14A	1	16	15.9		
19H0474-08A DUP	1	21	13.7		
19H0474-08A MS TV=100MG/L	1	56	116		
19H0474-08A MSD TV=100MG/L	1	55	117		
19G0601-05A	1	1	129		
19H0474-05A	1	6	492		
19H0474-06A	1	7	39.7		
IDOC-OC 1	1	17	103		
IDOC-OC 2	1	18	102		
IDOC-OC 3	1	19	102		
IDOC-OC 4	1	20	103		
CCV TV=100 MG/L	1	57	103		103%
19G0474-05A	1	6	808	5.00	
19H0474-06A	1	7	39.4		
CCV TV=100 MG/L	1	57	102		102%
CCB	1	60	-0.664		
CCB	1	60	-0.683		

* 20
08-2-19
Order of the first ~~six~~ 8 samples were placed in tray in reverse order.

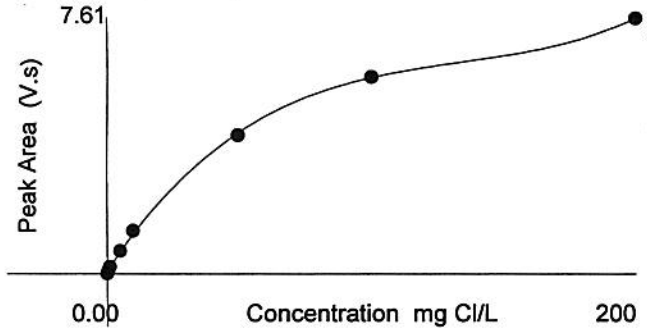
Author: wetchem

Date : 8/21/2019

Table : 1 (Chloride)

	Known Conc. (mg Cl/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg Cl/L)	Detection Date	Detection Time
1	200	1	7.61	1.18	0.0	0.0	200	8/20/2019	1:29:23 PM
2	100	1	5.85	1.03	0.0	-0.3	102	8/20/2019	1:26:26 PM
3	50.0	1	4.13	0.800	0.0	1.4	48.1	8/20/2019	1:27:24 PM
4	10.0	1	1.28	0.275	0.0	-9.6	10.8	8/20/2019	1:28:23 PM
5	5.00	1	0.679	0.150	0.0	-4.8	5.61	8/20/2019	1:30:23 PM
6	1.00	1	0.214	0.0466	0.0	-6.2	1.30	8/20/2019	1:31:22 PM
7	0.500	1	0.108	0.0222	0.0	25.2	0.242	8/20/2019	1:32:21 PM
8	0.00	1	6.15e-3	2.11e-3			-0.802	8/20/2019	1:33:20 PM

Figure : 1 (Chloride)



Area = 1.95e-6 * Conc^3 - 7.82e-4 * Conc^2 + 0.116 * Conc + 0.0829 Area^3 - 1.73 * Area^2 + 10.5 * Area - 0.887

Correlation Coefficient (r) = 0.99979

Weighting : None

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Oswald R. Chirkoo	N/A	09/07/2018
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 5220D / EPA 410.4	☑ Water ☐ DW ☐ Solid ☐ Other: _____	0201216-002
Analyte or Class of Analytes		
Chemical Oxygen Demand		

We, the undersigned, CERTIFY that:

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4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Oswald R. Chirkoo *Analyst*	 *Signature*	09-07-2018 *Date*
Sophia Andre *Technical Director*	 *Signature*	9-7-18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	9/7/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	8/31/2018
ANALYZED BY:	OC
METHOD NUMBER:	SM5220D/EPA410.4
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	WET-24
INSTRUMENT ID:	Wetchem-Spectph-1
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
Chemical Oxygen Demand	984-S-GEN-06	500 ppm

Compound / **UNITS:**	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Chemical Oxygen Demand	500	495	509	533	514	513	3.07	103	15.73

Chemical Oxygen Demand
SM 5220D / EPA 410.4

Standard Curve Conc: Concentration (mg/L)	Standard ID
1000	
500	
200	
100	
50	
10	
0	

Corr. Coeff: 0.9997

Criteria: 90-110%	
Instrument: Wet-24	
Instrument: Wetchem-Spectph-1	
Digestion Tubes:	61-WC-16
Pipette 100uL:	006
Pippete 1 mL:	–
Pipette 5 mL:	005

Date: 8-31-18
Analyst: SA/OC
Batch: 18L0004
Time start dig: 15:45
Time end dig: 17:45
Temperature: 150 °C

LCS/LCSD/MS Stock ID #: 61-WC-03
ICV/CCV Stock ID #: 917-S-Gen-14

FSES Log #	Sample ID	pH	DF	ABS (620 nm)	mg/L x DF	Comments
BLANK	D.I. WATER	<2	1	0.000	0.0	
ICV (500 PPM)	976-S-Gen-00			0.217	516.1	103%
LCS (500 PPM)	984-S-Gen-00			0.213	506.6	101%
LCSD (500 PPM)	"			0.213	506.6	101%
18H0928-01D	AWP Effluent			0.017	40.4	
IDOC-CC1	984-S-GEN-06			0.208	494.7	99 %
IDOC-CC2	984-S-GEN-06			0.214	509	102 %
IDOC-CC3	984-S-GEN-06			0.224	532.8	107 %
IDOC-CC4	984-S-GEN-06			0.216	513.7	103 %
DUP 18H0928-01D	AWP Effluent	<2	1	0.018	42.8	
MS1 18H0928-01D	AWP Effluent			0.226	537.5	99%
CCV (250 PPM)	976-S-Gen-01			0.108	256.9	103%
BLANK	D.I. WATER			0.001	2.4	
MS2						
CCV (250 PPM)						
BLANK	D.I. WATER					

CHEMICAL OXYGEN DEMAND EPA 410.4

CALIBRATION CURVE

ABS @ 620nm

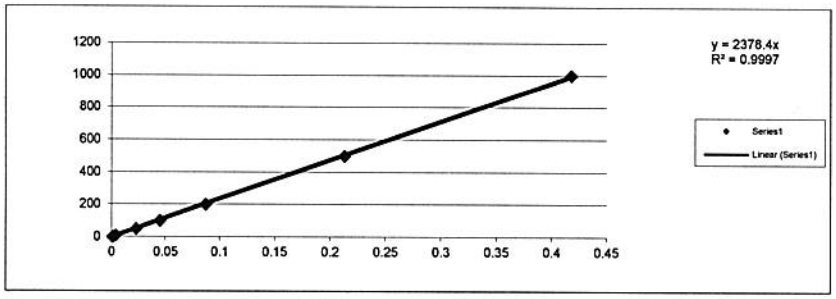
CALIBRATION DATE: 6/6/2018

ABS at 620 nm	CONC. PPM	STANDARD ID #
0.001	0	D.I. WATER
0.004	10	932-S-GEN-16
0.023	50	933-S-GEN-01
0.045	100	933-S-GEN-02
0.087	200	933-S-GEN-03
0.213	500	917-S-GEN-15
0.418	1000	933-S-GEN-04

ANALYST:	SA/OC
DATE:	8/31/2018
BATCH# :	18I0004

Acceptance Criteria: 90-110%
(ICV,CCV,LCS,MS,MSD)

Instrument: Wet Chem Spectph-1



ORDER #	True Value (mg/L)	DF	ABS	mg/L	% Recovery
BLANK	D.I. WATER	1	0.000	0.0	
ICV	500	1	0.217	516.1	103.2%
LCS	500	1	0.213	506.6	101.3%
LCSD	500	1	0.213	506.6	101.3%
18H0928-01C		1	0.017	40.4	
IDOC-OC1		1	0.208	494.7	
IDOC-OC2		1	0.214	509.0	
IDOC-OC3		1	0.224	532.8	
IDOC-OC4		1	0.216	513.7	
				0.0	
				0.0	
				0.0	
				0.0	
				0.0	
18H0928-01C DUP		1	0.018	42.8	
18H0928-01C MS	500	1	0.226	537.5	99.4%
CCV	250	1	0.108	256.9	102.7%
BLANK	D.I. WATER	1	0.001	2.4	
				0.0	
				0.0	
				0.0	
				0.0	
				0.0	
				0.0	
				0.0	
				0.0	
				0.0	
				0.0	
MS2	500			0.0	0.0%
CCV	250			0.0	0.0%
BLANK	D.I. WATER			0.0	

Date: 1/09/2015
Document Control Number: 0401115-001

Florida Spectrum
Environmental Services, Inc.

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Angel E. Reyes	N/A	9/13/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 2120 B	☑ Water ☑ DW ☐ Solid ☐ Other: _____	0201218-003
Analyte or Class of Analytes		
Color		

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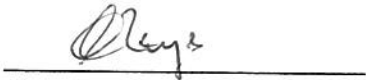
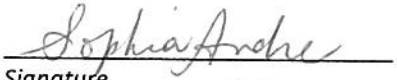
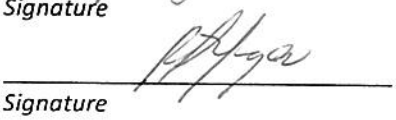
4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Angel E. Reyes *Analyst*	 *Signature*	9/13/18 *Date*
Sophia Andre *Technical Director*	 *Signature*	9/13/18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	9/13/18 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	9/13/2018
ANALYZED BY:	Angel Reyes
METHOD NUMBER:	SM 2120B
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	WET-Chem-Color-1
pH METER ID:	WET-4
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	974-S-GEN-05	20 CU
Surrogate	na	na
Internal Standard	na	na

Compound / UNITS:	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
	CU	CU	CU	CU	CU	CU			
Color	20.0	20.0	20.0	20.0	20.0	20.0	0.00	100	0.00
Color/pH		20/1.62	20/1.60	20/1.58	20/1.57				

Color Logbook

SM 2120B

Analyst: SA / AR
Date: 9-13-18
Time 17:00
Batch ID: 18T0432

Instrument ID	Wet Chem-Color-1
Instrument Cal Date	8-14-18
Next Calibration Date	11-14-18
pH meter ID:	WET-4

Acceptance Criteria: 90-110%

LCN	Sample ID	PH	Apparent Color	Dilution Factor	Reading Color Units (CU)	Final Result Color Units(CU)
ICB	DI	5.53	clear	1	0	0
LCS	974-S-6th-x	1.54	yellow	1	20	20
18T0332-01F	R.O WTP	9.18	clear	1	0	0
-02F	NW 154	9.12	clear	1	0	0
18T0338-01A	Johns Mat	9.09	clear	1	5	5
18T0346-01A	16,265	6.29	clear	1	0	0
-02A	16,266	6.01	clear	1	0	0
-03A	16,267	7.23	yellow	2	60	120
-04A	16,268	7.36	yellow	2	50	100
-05A	16,269	7.44	yellow	2	60	120
18T0356-01	ACWW	7.58	clear	1	ø5	ø5
DUP 18T0332-01F	RO WTP	9.20	clear	1	0	0
CCV	973-S-6th-x	1.63	yellow	1	20	20
CCB	DI	4.53	clear	1	0	0
18T0358-01	Smithtown	7.46	clear	1	5	5
18T0360-01	WBSA	8.07	clear	1	5	5
IDOC-1	AR/974	1.62	Yellow	1	20	20
IDOC-2	AR/974	1.60	Yellow	1	20	20
IDOC-3	AR/974	1.58	Yellow	1	20	20
IDOC-4	AR/974	1.57	Yellow	1	20	20
DUP 18T0360-01	WBSA	8.06	clear	1	5	5
CCV		1.60	yellow	1	20	20
CCB		5.02	clear	1	0	0

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Oswald R. Chirkoo	N/A	09-25-18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 120.1	☑ Water ☑ DW ☐ Solid ☐ Other: _____	020616-006
Analyte or Class of Analytes		
Conductivity		

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2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Oswald R. Chirkoo *Analyst*	*Signature*	09-25-18 *Date*
Sophia Andre *Technical Director*	*Signature*	9-25-18 *Date*
Roxana Llamblas *Quality Assurance Director*	*Signature*	9/25/18 *Date*

[1] ...onsistent with supporting data.
...ate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
DATE OF ANALYSIS:	9/15/2018
ANALYZED BY:	OC
METHOD NUMBER:	EPA 120.1
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	WET-54
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	90-110%

Standards Used:	**Std. ID#**	**Conc.**
LCS	56-WC-18	2000 uS/cm at 25°
Surrogate	NA	NA
Internal Standard	NA	NA

Compound / **UNITS:**	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	_ X	% RSD	% Recovery	SD
	uS/cm at 25°C	uS/cm at 25°C	uS/cm at 25°C	uS/cm at 25°C	uS/cm at 25°C	uS/cm at 25°C			
Conductivity	2000	2000	2010	2010	2010	2008	0.25	100	5.00

Conductivity

EPA 120.1/EPA 9050

NELAC Tracability Information

Analyst: SA/OC
Date: 09-15-18
Batch: 18I0506

LCS ID #: S6-WC-18
CCV ID #: 979-S-GEN15
Probe: WET S4
Slope:
Acc: 90-110%

Florida Environmental Log #	Sample ID	Temp°C	µS/cm	Comments
BLANK	DI WATER	25	0.83	
LCS	S6-WC-18	24.6	2,000	
18I0237-01	#1 LMZ	24.8	39,300	
18I0237-02	#2 UMZ	25	16,430	
18I0237-03	#3 LMZ	24.9	35,700	
18I0237-04	#3 UMZ	24.9	12,930	
18I0249-01	BF-6	24.5	5,220	
18I0251-01	Deep Inj	25	13,610	
18I0251-02	Upper Zone	24.9	13,570	
18I0251-03	Lower Zone	24.9	39,100	
18I0402-01	Well 32	24.6	674	
DUP 18I0251-02	Upper Zone	24.9	13,560	
CCV	979-S-GEN-15	24.7	1473	
BLANK	DI Water	25	0.81	
18I0402-02	Well 30	24.6	907	
18I0402-03	Well 29	24.7	1117	
18I0402-04	Well 18	24.6	611	
18I0402-05	Well 17	24.6	777	
18I0402-06	Well 16	24.6	699	
OC IDOC-1	S6-WC-18	24.5	2,000	100 %
OC IDOC-2	S6-WC-18	24.5	2,010	100 %
OC IDOC-3	S6-WC-18	24.5	2,010	100 %
OC IDOC-4	S6-WC-18	24.5	2,010	100 %
DUP 18I0402-05	Well 17	24.6	776	
CCV	979-S-GEN-15	24.7	1485	
BLANK	DI Water	25	0.75	

* O.C. 9/15/18

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

ROC 4/18/16

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	SA	~~5/1/14~~ 4/8/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 335.4	☑ Water ☐ DW ☐ Solid ☐ Other: _____	030125-001
Analyte or Class of Analytes		
Cyanide		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	5-1-14 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	5-1-14 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	4/8/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

IDC:

Matrix: (Water) Soil Air

Date of Analysis: 05/01/2014

Method Number: EPA 335.4

Method Description: CYANIDE

Instrument Used: Lachat 8500 WET-26

☒	Raw Data Given to QA?
☑	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Cyanide Standard	0.2 ppm
233-S-GEN-18	

Comments:

IDOC analyzed. Not turn to QA/QC officer until 4/8/16.

Analyst Name: Sophia Andre

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
0.200 ppm STD	0.217	0.218	0.217	0.217	0.217	0.200	108.6	0.23%

Acceptance criteria: 90-110%

Analyst Signature: Sophia Andre **Date:** 5-1-14

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Yanet Echevarria	9/20/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 552.2	☐ Water ☑ DW ☐ Solid ☐ Other: _____	0201416-016
Analyte or Class of Analytes		
Organic Desinfection by Product		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria *Analyst*	*Signature*	8/22/17 *Date*
Albert Castellanos *Technical Director*	*Signature*	8/22/17 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	9/20/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Drinking Water
DATE OF ANALYSIS:	8/17/2017
ANALYZED BY:	YE
METHOD NUMBER:	EPA 552.2
EXTRACTION METHOD (IF APPLY):	EPA 552.2
INSTRUMENT ID:	Claudia GC#5
EXTRACTED BY:	YE
DATE EXTRACTED:	8/17/2017
ACCEPTANCE CRITERIA:	80-120% and %RSD<20

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
Standard(s)	IQC-552.2-071917	40 ppm
Surrogate	SU-552.2-071917	100 ppm
Internal Standard	IS-552.2 2Br/CP VOC 015	25 ppm

Compound	**TRUE Value**	**DOC 1** F08182017_14	**DOC 2** F08182017_15	**DOC 3** F08182017_16	**DOC 4** F08182017_17	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
MCAA	20	21.51	22.75	25.68	20.15	22.52	10.47	112.62	2.36
MBAA	20	21.82	21.81	21.07	24.64	22.34	7.05	111.68	1.57
DCAA	20	20.24	19.99	20.21	19.04	19.87	2.83	99.34	0.56
TCAA	20	17.04	16.98	16.53	16.08	16.66	2.66	83.28	0.44
DBAA	20	17.06	17.09	17.33	17.85	17.33	2.10	86.67	0.36
Total HAAS	100	97.66	98.62	100.82	97.77	98.72	1.49	98.72	1.47

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08182017\
Data File : F08182017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Aug 2017 12:50 pm
Operator : YE
Sample : IDOC #1 20.00PPM
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Aug 21 16:09:23 2017
Quant Method : C:\MSDCHEM\1\METHODS\C552051617.M
Quant Title : EPA 552.2 BY CLAUDIA GC#5
QLast Update : Wed May 17 12:48:44 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	I 2B1CP	2.60	3.22	1214.9E6	140.2E6	250.000	250.000
	Target Compounds						
2)	MCAA	2.37	3.49	127.3E6	19752614	21.509m	19.682m
3)	MBAA	3.33	5.64	3372.5E6	528.0E6	21.822	20.437m
4)	DCAA	3.58	5.49	5505.6E6	481.3E6	20.236	19.239
5)	2-BPA surr	4.02	6.35	4156.2E6	455.1E6	13.339	12.419
6)	TCAA	5.75	8.40	11333.2E6	3683.2E6	17.035	25.592 #
7)	DBAA	10.49	15.90	16324.2E6	2321.6E6	17.062	19.329

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

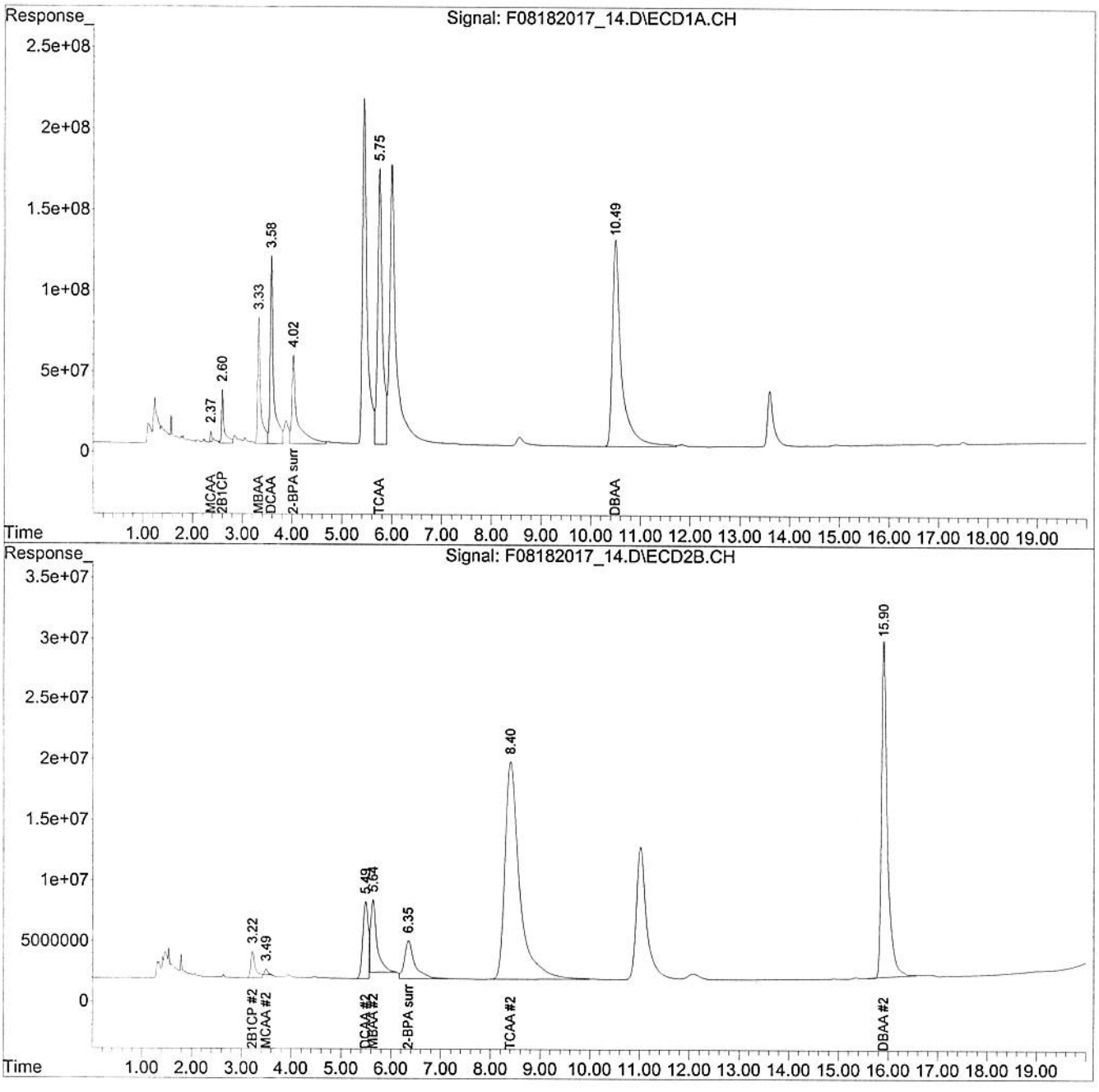
TOM HAAS.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08182017\
Data File : F08182017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Aug 2017 12:50 pm
Operator : YE
Sample : IDOC #1 20.00PPM
Misc :
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Aug 21 16:09:23 2017
Quant Method : C:\MSDCHEM\1\METHODS\C552051617.M
Quant Title : EPA 552.2 BY CLAUDIA GC#5
QLast Update : Wed May 17 12:48:44 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08182017\
Data File : F08182017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Aug 2017 1:17 pm
Operator : YE
Sample : IDOC #2 20.00PPM
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Aug 22 15:15:09 2017
Quant Method : C:\MSDCHEM\1\METHODS\C552051617.M
Quant Title : EPA 552.2 BY CLAUDIA GC#5
QLast Update : Wed May 17 12:48:44 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	I 2B1CP	2.61	3.23	1296.5E6	150.8E6	250.000	250.000
	Target Compounds						
2)	MCAA	2.38	3.50	145.1E6	20357027	22.752m	18.785m
3)	MBAA	3.34	5.65	3597.3E6	577.8E6	21.813	20.794m
4)	DCAA	3.59	5.50	5802.8E6	520.1E6	19.986	19.329
5)	2-BPA surr	4.03	6.36	4277.8E6	473.3E6	12.866	12.010
6)	TCAA	5.76	8.41	12051.6E6	3907.9E6	16.978	24.981 #
7)	DBAA	10.50	15.91	17453.8E6	2657.6E6	17.094m	20.463m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

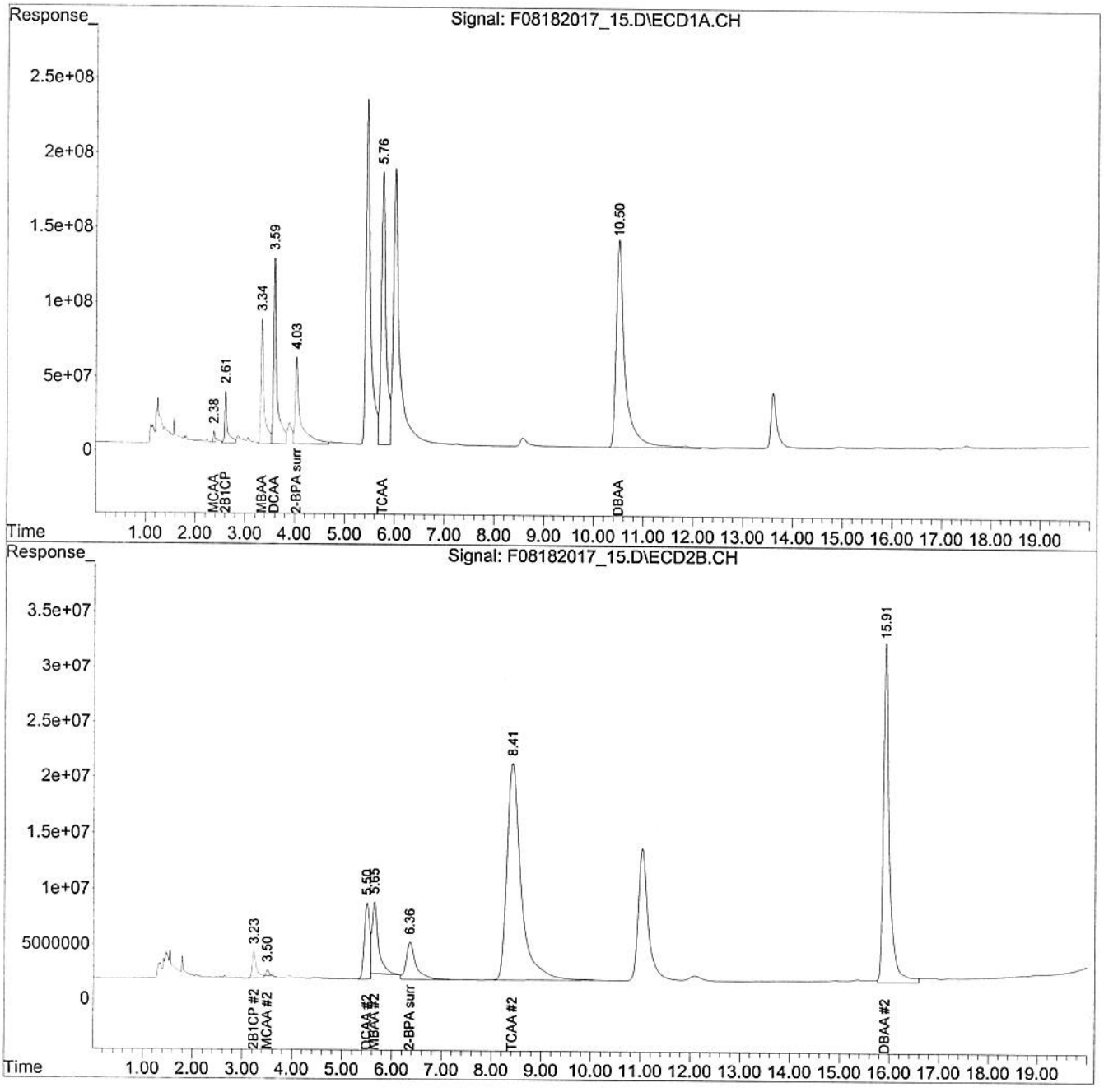
John HAAS.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08182017\
Data File : F08182017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Aug 2017 1:17 pm
Operator : YE
Sample : IDOC #2 20.00PPM
Misc :
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Aug 22 15:15:09 2017
Quant Method : C:\MSDCHEM\1\METHODS\C552051617.M
Quant Title : EPA 552.2 BY CLAUDIA GC#5
QLast Update : Wed May 17 12:48:44 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08182017\
Data File : F08182017_16.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Aug 2017 1:45 pm
Operator : YE
Sample : IDOC #3 20.00PPM
Misc :
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Aug 22 15:16:17 2017
Quant Method : C:\MSDCHEM\1\METHODS\C552051617.M
Quant Title : EPA 552.2 BY CLAUDIA GC#5
QLast Update : Wed May 17 12:48:44 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	I 2B1CP	2.61	3.23	1124.7E6	146.9E6	250.000m	250.000
	Target Compounds						
2)	MCAA	2.38	3.50	157.4E6	26468004	27.624m	25.680m /
3)	MBAA	3.34	5.64	3514.4E6	570.2E6	24.564m	21.072m /
4)	DCAA	3.59	5.49	5855.4E6	529.6E6	23.247	20.210 /
5)	2-BPA surr	4.03	6.35	4235.6E6	480.0E6	14.684	12.508
6)	TCAA	5.75	8.39	10164.2E6	4084.6E6	16.529 /	28.248 # /
7)	DBAA	10.50	15.90	15129.7E6	2156.4E6	17.081	17.333 /

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

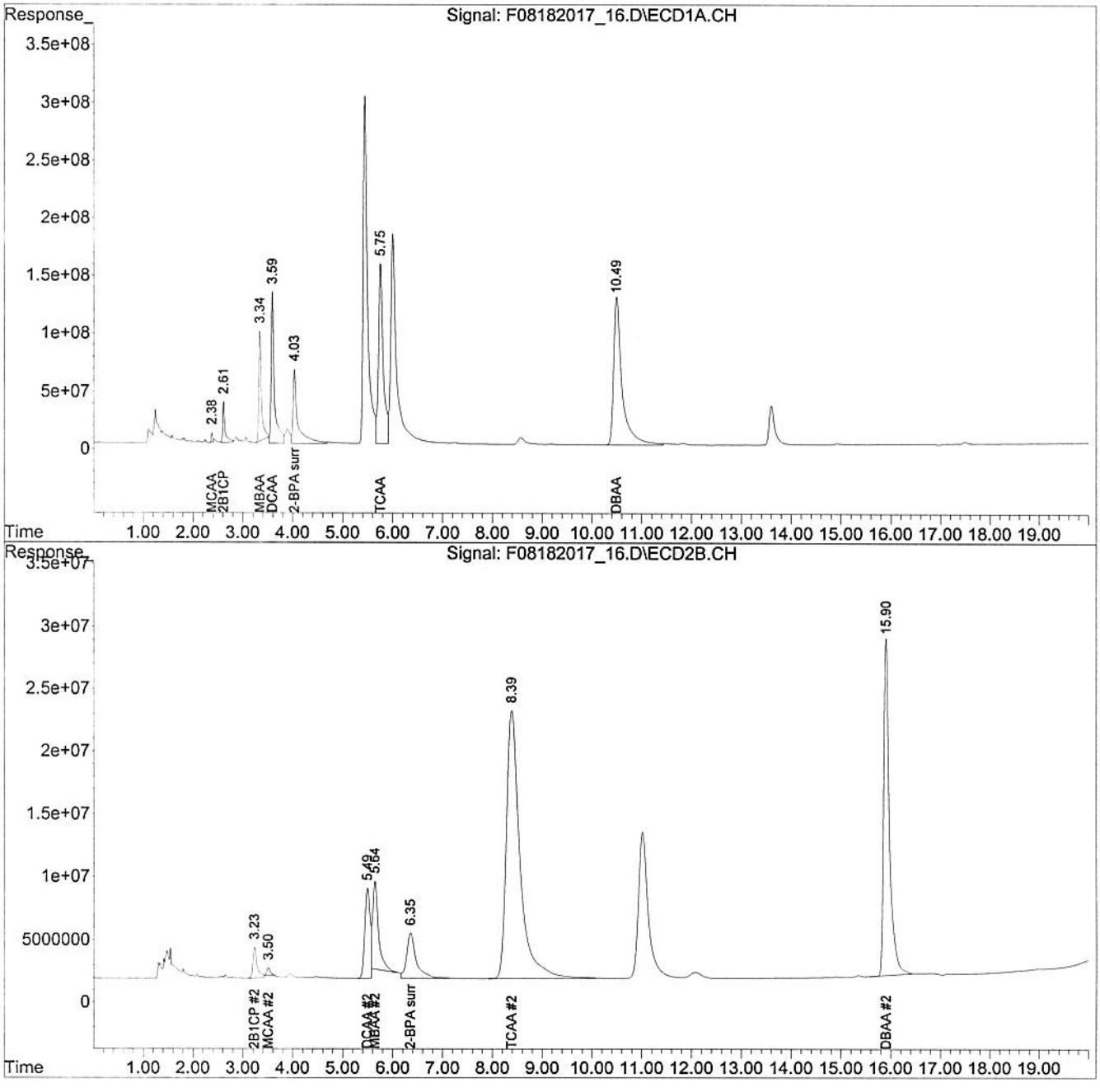
Total HAA's

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08182017\
Data File : F08182017_16.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Aug 2017 1:45 pm
Operator : YE
Sample : IDOC #3 20.00PPM
Misc :
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Aug 22 15:16:17 2017
Quant Method : C:\MSDCHEM\1\METHODS\C552051617.M
Quant Title : EPA 552.2 BY CLAUDIA GC#5
QLast Update : Wed May 17 12:48:44 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08182017\
Data File : F08182017_17.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Aug 2017 2:13 pm
Operator : YE
ample : IDOC #4 20.00PPM
Misc :
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Aug 22 15:17:02 2017
Quant Method : C:\MSDCHEM\1\METHODS\C552051617.M
Quant Title : EPA 552.2 BY CLAUDIA GC#5
QLast Update : Wed May 17 12:48:44 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	I 2B1CP	2.60	3.22	1130.8E6	140.7E6	250.000	250.000
	Target Compounds						
2)	MCAA	2.37	3.49	141.0E6	20251532	24.961m	20.151m
3)	MBAA	3.33	5.64	3706.2E6	638.7E6	25.765	24.639m
4)	DCAA	3.58	5.49	5644.8E6	478.0E6	22.291	19.042
5)	2-BPA surr	4.03	6.35	3964.0E6	496.5E6	13.669	13.505
6)	TCAA	5.75	8.39	9928.3E6	4038.6E6	16.084	29.782 #
7)	DBAA	10.50	15.91	14825.7E6	2134.1E6	16.648	17.850

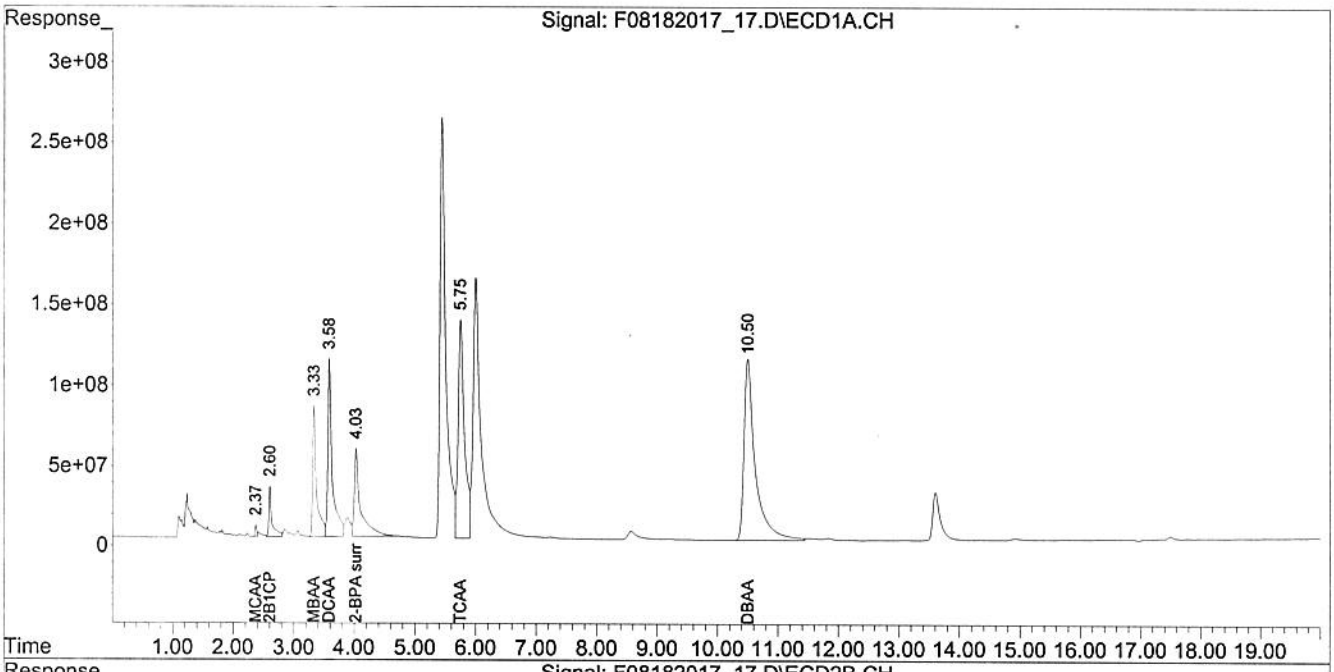
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

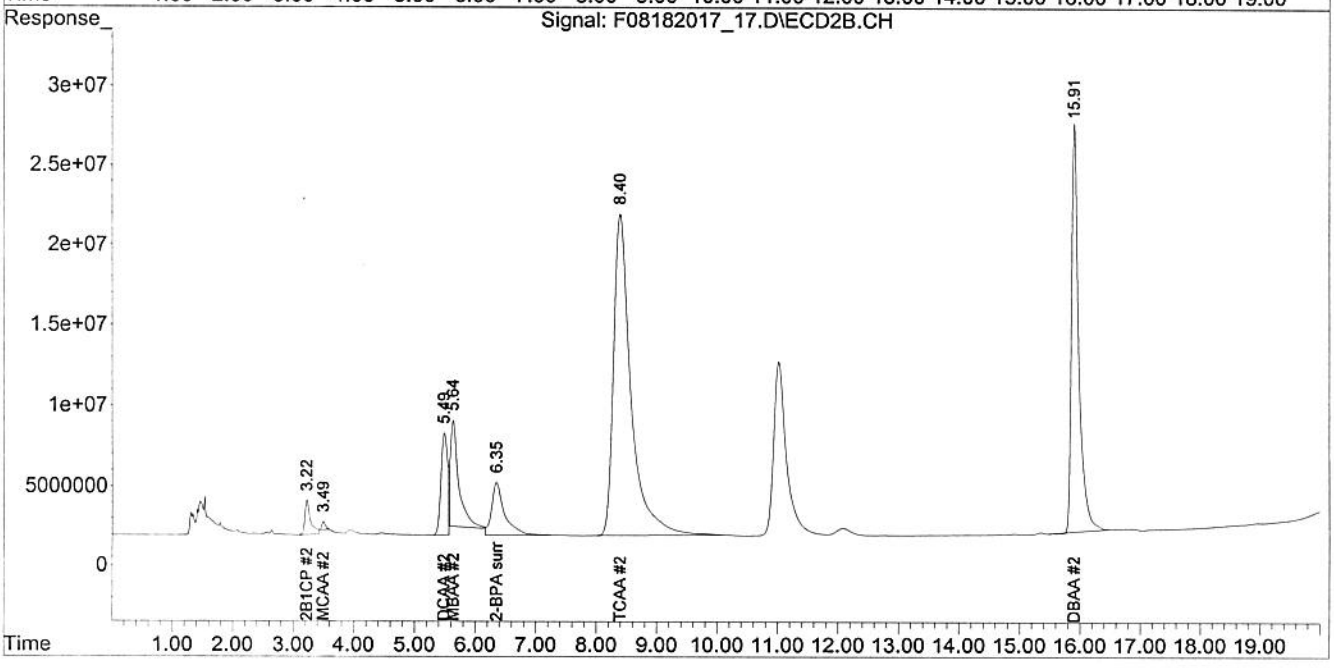
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08182017\
Data File : F08182017_17.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Aug 2017 2:13 pm
Operator : YE
Sample : IDOC #4 20.00PPM
Misc :
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Aug 22 15:17:02 2017
Quant Method : C:\MSDCHEM\1\METHODS\C552051617.M
Quant Title : EPA 552.2 BY CLAUDIA GC#5
QLast Update : Wed May 17 12:48:44 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700401

Description:	IQC-552.2-071917	Expires:	7/18/2018
Standard Type:	Calibration Standard	Prepared:	7/19/2017
Solvent:	MTBE/SV-337	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	09/20/2017 14:39 by ROL

Analyte	CAS Number	Concentration	Units
Trichloroacetic Acid	76039	40	ug/mL
Monochloroacetic Acid	79118	40	ug/mL
Monobromoacetic Acid	79083	40	ug/mL
Dichloroacetic Acid	79436	40	ug/mL
Dibromoacetic Acid	631641	40	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700400	552.2 HAA MIX	07/19/201	Albert Castellanos	09/19/201	08/09/2017 15:39 by AC	2

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700399

Description:	SU-552.2-071917	Expires:	7/18/2018
Standard Type:	Surrogate Spike	Prepared:	7/19/2017
Solvent:	MTBE/SV-337	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	08/09/2017 15:18 by AC

Analyte	CAS Number	Concentration	Units
2-Bromopropionic Acid	598-72-1	100	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700398	ISU-552.2-071917	07/19/201	Albert Castellanos	07/18/201	08/09/2017 15:17 by AC	5

Reviewed By Date

Liquid Extraction Log **Method # 552.2**

	Std. ID	Amt. Added	Initials
Surrogate	1700397	15 uL	yk
Curve Spike	1700408	20 uL	yk
Check Std. Spike	1700409	20 uL	yk

Florida Environmental

Batch#: N/A
Analyst: yk/KC
Date: 081717
Transferred by: yk

Initial Solvent: MTBE
Final Solvent: MTBE

Order #	Sample ID	Sample Date	Vol Ext. (mL)	PH I	PH F	Final Vol (mL)	Cl	Pres.	Comments
	MB 17H0622-BLK	081717	40	7	2	3	0		
	LCS1 17H0622-BSD	↓							
	MS1 17H0622-MS1	081017							
	DUP1 17H0622-Dup1	081517							
	LPC From Batch 17H0622	081717							
	CCV1 From Batch 17H0622	↓	↓	↓	↓	↓	↓	↓	
CAL1	5-552-081517-01	081717	40	7	2	3	N/A	N/A	
CAL2	5-552-081517-02								
CAL3	5-552.2-081517-03								
CAL4	5-552.2-081517-04								
CAL5	5-552.2-081517-05								
CAL6	5-552.2-081517-06								
CAL7	5-552.2-081517-07								
CAL8	5-552.2-081517-08								
ICV	~~SQC-552.2-081517-yk~~ yk 081717								IQC-552.2-071917
	LCS2								
	MS2								
	DUP2 yk 081717								
IDOC#1	~~SQC-552.2-081517-yk~~ (1700401)	081717	40	7	2	3	N/A	N/A	IQC-552.2-071917
IDOC#2	↓	↓	↓	↓	↓	↓	↓	↓	↓
IDOC#3									
IDOC#4									

Item	SVT#
Filter Paper:	
Sodium Sulfate:	44.5
Sulfuric Acid:	38-LOC-b
1 ml pipette:	
5 ml pipette:	
1.8ml Vials	452
1.8ml Vial Caps	455
10 mL Test Tubes:	408
Pasteur pipette	
MTBE	410 3803 Colonial
NH4CL	5V081017
10% H2SO4/MeOH	5V 380
NaHCO3	~~5112~~ 5113251
pH Strips	5112441A
Chlorine Strips	2
Block Heater	10 mL pipet 404
Miscellaneous	60 mL VIAL 422
	NH4Cl Soln - 5V061317
	NaHCO3 Soln 5V062817-LCB

*Internal used for the ICV and IDOC ~~5-SQC-552.2-071517~~ IQC-552.2-071917 yk 081717

*pH: I=Initial, F= Final

Document Control #: 0401616-009
Date: 9/15/16

* Batch continues on next

Author: ginny

Date : 4/7/2016

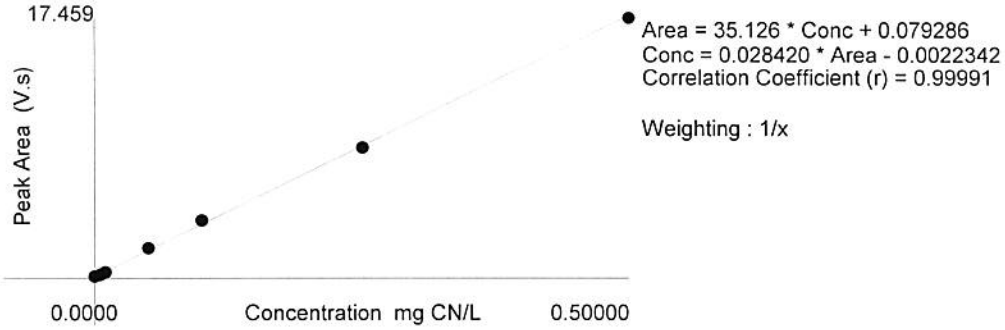
Original Run Filename: OM_5-1-2014_01-35-21PM.OMN Created: 5/1/2014 1:35:21 PM
Original Run Author's Signature: [ginny]
Current Run Filename: OM_5-1-2014_01-35-21PM.OMN Last Modified: 5/1/2014 2:00:36 PM
Current Run Author's Signature: [ginny]
Description: CN METHOD 335.4/9012/SM4500CNE

Sample	Rep.	Cup No.	Channel 3 Cyanide (mg CN/L)	MDF
CCV TV=0.10 MG/L	1	59	0.10725	107%
	Calibration:		Table/Fig. : 1	
CCB	1	60	4.2945e-4	
~~LCS TV=0.20 MG/L~~	~~1~~	~~58~~	~~0.22563~~	
~~LCSD TV=0.20 MG/L~~	~~1~~	~~58~~	~~0.22558~~	SA 5-1-14
14D0656-05H	1	1	6.3227e-4	
14D0712-01B	1	2	0.0021204	
14D0715-05D	1	3	0.0014510	
14D0715-05D MS TV=0.20 MG/L	1	56	0.21138	106%
14D0715-05D MS TV=0.20 MG/L	1	56	0.21207	106%
14D0715-05D DUP	1	4	3.6165e-4	
14D0728-01A	1	5	0.0020000	
14D0745-01A	1	6	0.0012745	
LCS TV=0.20 MG/L	1	58	0.22271	
LCSD TV=0.20 MG/L	1	58	0.21832	109%
LCS TV=0.20 MG/L	1	58	0.21846	109%
CCV TV=25 MG/L	1	57	0.26041	104%
CCB	1	60	-2.7385e-4	
IDOC TV=0.20 MG/L	1	51	0.21731	109%
IDOC TV=0.20 MG/L	1	51	0.21765	109%
IDOC TV=0.20 MG/L	1	51	0.21730	109%
IDOC TV=0.20 MG/L	1	51	0.21745	109%

Table : 1 (Cyanide)

	Known Conc. (mg CN/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg CN/L)	Detection Date	Detection Time
1	0.50000	1	17.459	1.1660	0.0	1.0	0.49394	2/13/2014	3:25:04 PM
2	0.25000	1	8.7335	0.58713	0.0	1.4	0.24598	2/13/2014	3:25:57 PM
3	0.10000	1	3.8407	0.26090	0.0	-6.9	0.10692	2/13/2014	3:26:50 PM
4	0.050000	1	1.9732	0.13115	0.0	-7.5	0.053845	2/13/2014	3:27:43 PM
5	0.010000	1	0.39243	0.026245	0.0	8.9	0.0089187	2/13/2014	3:28:35 PM
6	0.0050000	1	0.21761	0.014277	0.0	14.6	0.0039503	2/13/2014	3:29:27 PM
7	0.0000	1	0.11383	0.0069743			0.0010010	2/13/2014	3:30:19 PM

Figure : 1 (Cyanide)



Demonstration of Capability
Certification Statement

Date: 8/22/08
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): RICHARD VICCHIARELLI
Matrix: LIQUID
Method number EPA 549.2

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I RICHARD VICCHIARELLI current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

Maria E. Castellanos — Signature
Technical Director's Name and Title
Date 10/30/08

Donald S. McSorgnudale — Signature
Quality Assurance Officer's Name
Date 8/22/08

This certification form must be completed each time a demonstration of capability study is completed

.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

IDC:

Matrix: Water Soil Air

Date of Analysis: 8/22/8

Method Number: EPA 549.2

Method Description: DIQUAT+PARAQUAT

Instrument Used: HP 1090 HPLC

☒	Raw Data Given to QA?
☐	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Diquat+Paraquat Standa	40 ppb
wslc 1-2-10,11,12,13	
See Extraction Log	

Comments:

Analyst Name: Richard Vicchiarelli

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
Diquat	45.424	45.480	45.679	45.486	45.581	40.000	114.0	0.24%
Paraquat	45.091	44.789	45.078	44.764	44.927	40.000	112.3	0.40%

Analyst Signature: R. Vicchiarelli **Date:** 8/29/8

Semivolatile HPLC and Endothall Extraction Log

Batch#: —

Date Extracted: 8/21/8
Time Started: 9:30
Time Finished: 13:30

Total Number of Samples: 0 + QC= 9
Analysis Method: 549.2

Conditioning Reagents:
1. DI H_2O 3. DI H_2O 5. DI H_2O 7. DI H_2O
CH_3OH 2. FSES 1036 4. 01-LCR-02 6. FSDS1036 8. 01-LCR-03

Cartridge Disk: C-8 SPEEDISK (LOT 608N07)

ION-PAIR REAGENT 01-LCR-05

Surrogate ID: EXWS Vol, mL Conc. Ug/mL
Internal Std: EXWS Spike ID: ~~EXWS~~ WSLC 1-2-10 Vol, mL Conc. Ug/mL

Sx#	Log #	Extracted By	Sample ID	Date Sampled	Volume (mL)	Final Volume (mL)	Surr/Spike Witness	Conc. Tube #	Comments
1	Blank	RPV	DI H_2O	—	250	5			
2	LCS		WSLC 1-2-10	—	250	5			
3	LCSD								
4	MS								
5	MSD								
6	10 ppb STD		WSLC 1-2-7		250	5			STOCK STD. ADDED TO EXT.
7	40 ppb STD		WSLC 1-2-8						
8	100 ppb STD		WSLC 1-2-9						
9	IDOC 1		WSLC-1-2-10						
10	IDOC 2		WSLC-1-2-11						
11	IDOC 3		WSLC-1-2-12						
12	IDOC 4		WSLC 1-2-13						
13									
14									
15									
16									
17									
18									
19									
20									

Reviewed By:_____ Date:____

*** External Standard ***

8/25/8 RDV

Operator: RICHARD
Sample Info :
Misc Info:
Integration File Name : DATA:8228A07A.I
consisting of channels : 1. A 308,4 450,80 of 8228A07A.D
2. B 257,4 450,80
Bottle Number : 7 Repetition Number: 1

~~1 Jan 70~~ ~~3:43~~ pm

Calibration file: DATA:8258.Q Last Update: 1 Jan 70 11:58 am
Reference Peak Window: 5.00 % of Retention Time
Non-Reference Peak Window: 5.00 % of Retention Time
Sample Amount: 100.0 Uncalibrated Peak RF: 0.000 Multiplier: 1.000

Peak Num	Peak Type	Int Type	Ret Time	Signal Description	Compound Name	Area	Amount
1		1BB	4.771	A 308,4 450,80	DIQUAT	1537.45	45.424 %
2		1VB	5.672	B 257,4 450,80	PARAQUAT	1883.27	45.091 %

*** External Standard ***

8/25/0 RPV

Operator: RICHARD

1 Jan 70 3:55 pm

Sample Info :
Misc Info:
Integration File Name : DATA:8228A08A.I
consisting of channels : 1. A 308,4 450,80 of 8228A08A.D
2. B 257,4 450,80
Bottle Number : 8 Repetition Number: 1

Calibration file: DATA:8258.Q Last Update: 1 Jan 70 11:58 am
Reference Peak Window: 5.00 % of Retention Time
Non-Reference Peak Window: 5.00 % of Retention Time
Sample Amount: 100.0 Uncalibrated Peak RF: 0.000 Multiplier: 1.000

Peak Num	Peak Type	Int Type	Ret Time	Signal Description	Compound Name	Area	Amount
1		1BB	4.775	A 308,4 450,80	DIQUAT	1539.19	45.480 %
2		1VV	5.627	B 257,4 450,80	PARAQUAT	1871.67	44.789 %

*** External Standard ***

8/25/0 RV

Operator: RICHARD
1 Jan 70 4:07 pm
Sample Info :
Misc Info:
Integration File Name : DATA:8228A09A.I
consisting of channels : 1. A 308,4 450,80 of 8228A09A.D
2. B 257,4 450,80
Bottle Number : 9 Repetition Number: 1

Calibration file: DATA:8258.Q Last Update: 1 Jan 70 11:58 am
Reference Peak Window: 5.00 % of Retention Time
Non-Reference Peak Window: 5.00 % of Retention Time
Sample Amount: 100.0 Uncalibrated Peak RF: 0.000 Multiplier: 1.000

Peak Num	Peak Type	Int Type	Ret Time	Signal Description	Compound Name	Area	Amount
1		BB	4.777	A 308,4 450,80	DIQUAT	1515.10	45.679 %
2		VV	5.620	B 257,4 450,80	PARAQUAT	1882.76	45.078 %

*** External Standard ***

8/25/8 RPV

Operator: RICHARD
Sample Info :
Misc Info:
Integration File Name : DATA:8228A10A.I
consisting of channels : 1. A 308,4 450,80 of 8228A10A.D
2. B 257,4 450,80
Bottle Number : 10

1 Jan 70 4:52 pm

Calibration file: DATA:8258.Q Last Update: 1 Jan 70 11:58 am
Reference Peak Window: 5.00 % of Retention Time
Non-Reference Peak Window: 5.00 % of Retention Time
Sample Amount: 100.0 Uncalibrated Peak RF: 0.000 Multiplier: 1.000

Peak Num	Type	Int Type	Ret Time	Signal Description	Compound Name	Area	Amount
1		BB	4.802	A 308,4 450,80	DIQUAT	1539.41	45.486 %
2		VV	5.692	B 257,4 450,80	PARAQUAT	1870.72	44.764 %

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	5/23/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 1603	☒ Water ☐ DW ☐ Solid ☐ Other: _____	020161 8 - 008
Analyte or Class of Analytes		
E.coli membrane Filtration		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	5/18/18 *Date*
Brian Musser *Technical Director*	*Signature*	5/18/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	5/23/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	5/17/2018
ANALYZED BY:	Karina Ramirez
METHOD NUMBER:	EPA 1603
EXTRACTION METHOD (IF APPLY):	Membrane Filtration
INCUBATOR ID (35.0±0.5°C):	Micro-16
INCUBATOR ID (44.5±0.2°C):	Micro -25
LAMP ID	Micro-28
MEDIA ID:	mTEC051618
BUFFER ID	Phosph033018
THERMOMETER ID (35.0±0.5°C):	912113
THERMOMETER ID (44.5±0.2°C):	Micro-25
MEMBRANE FILTERS Lot:	70602202
BACTI BOTTLES Lot:	MN003V
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	5/16/2018
ACCEPTANCE CRITERIA:	189-3788 CFU/100 mL

Document Control:0401116-002
Date:8/29/16

Bacteria Used:	Bacteria Lot ID#	Concentration and Units
Escherichia coli	083017	750±CFU/100 mL

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL			
Escherichia coli	750	900.00	900.00	880.00	910.00	897.50	1.40	119.67	12.58

EPA 1603 E. coli Membrane Filtration

Extraction		Analysis	
Date:	05/16/18	Date:	05/17/18
Analyst:	[illegible] / KR	Analyst:	[illegible] / KR
Start Time #1:	14:25	Incubation Temp In #1:	35.0
Stop Time #1	14:35	Incubator Temp Out #1:	35.0
Analyst:	[illegible]		
Start Time #2:	16:35	Incubator Temp in #2:	44.5
Stop time #2:	NA	Incubator Temp Out#2:	44.5

E.coli Lot:	083017
E. faecalis Lot:	101116

Media	MTEC051618
Run #	N/A
Incubator(44.5±0.2°C) : Micro -25	
Thermometer ID:	MICRO-25
Incubator (35.0±0.5°C):	MICRO-16
Thremometer ID: Micro-16	912113
Lamp ID: Micro-28	
Buffer ID#	PHOSPH033018
Bacti Bottle #	MN003W
Memb. Filter Lot #	70602202
Chlorine Strips:	511244A
Pipette:	BD27L

Order #	Sample ID	Sample Size(mL)	Colonies Counted	cfu's per 100 mL	Incub. Time In (35.0±0.5°C)	Incub.Time Out (35.0±0.5°C)	Incub. Time In (44.5±0.2°C)	Incub. Time Out (44.5±0.2°C)	Cl-check	Notes/ Verification
BB	BB	100	0	u	14:35	16:35	16:35	16:35	0	
MTEC051618	E. coli	100	+	+						
↓	E. faecalis	100	−	−						
Brian IDDC	083017	1	9	900						
		5	47	940						
		5	42	840						
↓		10	93	930						
Karina IDDC		1	9	900						
		5	45	900						
		5	44	880						
↓	↓	10	91	910						
FB	FB	100	0	u	↓	↓	↓	↓	↓	

Quality Control Guidelines: Each filtration series consists of no more than 20 samples, with sterility blanks at the beginning and end of each series as well as after the 10th sample. **Verification:** Once a month verify at least 10 presumptive E. coli colonies and 10 atypical colonies from a positive sample. **Ideal range** :20-80 CFU/plate.

Reviewed by: [signature] Date: 05/17/18

Document Control #: 0401618-002
Date: 5/15/18

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Yanet Echevarria	8/31/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 504.1	☐ Water ☑ DW ☐ Solid ☐ Other: _____	0201416-001
Analyte or Class of Analytes		
EDB, DBCP		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria *Analyst*	*Signature*	7/19/17 *Date*
Albert Castellanos *Technical Director*	*Signature*	7/19/17 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	8/31/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Drinking water
DATE OF ANALYSIS:	7/18/2017
NALYZED BY:	YE
METHOD NUMBER:	EPA 504.1
EXTRACTION METHOD (IF APPLY):	EPA 504.1
BALANCE ID	SV-24
INSTRUMENT ID:	Claudia GC #5
EXTRACTED BY:	YE
DATE EXTRACTED:	7/18/2017
ACCEPTANCE CRITERIA:	70-130% and %RSD<20

Standards Used:	Std. ID#	Conc.
Standard(s)	1700325	0.25 ppm
Surrogate	1700323	50 ppm
Internal Standard	N/A	

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
EDB	0.25	0.226	0.238	0.198	0.186	0.212	11.37	84.80	0.02
DBCP	0.25	0.298	0.246	0.265	0.253	0.266	8.68	106.20	0.02

Liquid E action Log

Method # 50[illegible] / 8011

	Std. ID	Amt. Added	Initials
Surrogate	1700325	35 uL	AC
ICV Spike	1700325	35 uL	AC
Curve Spike	1700324	35 uL	AC
Check Std. Spk			

Florida Environmental

Batch#: 1760508
Analyst: AC
Date: 07/18/17

Init. Solvent: Hexane
Fin. Solvent: Hexane
Transferred by: AC

Order #	Sample ID	Sample Date	Volume Extracted (ml)	PH I	PH F	Final Vol (ml)	Cl	Weight (g) I	Weight (g) F	Comments
	MB	07/18/17	35	7	7	2	ϕ	63.38	28.45	
	LPC	↓	↓	↓	↓	↓	↓	64.15	29.20	
	LCS	↓	↓	↓	↓	↓	↓	63.53	28.87	
	MS 1760521-01	07/17/17	↓	↓	↓	↓	↓	61.01	26.17	
	MSD	↓	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	ICV	↓	↓	7	7	2	ϕ	60.44	25.45	
	Sample DUP	↓	↓	↓	↓	↓	↓	63.17	28.0	
1760521-01	Machu Sugar Farms	07/17/17	↓	↓	↓	↓	↓	59.54	25.72	
ICC #1	0.25 ppb of ICV Spike 1700325	07/18/17	* 34.58	7	7	2	ϕ	63.53	28.73	
ICC #2	↓	↓	34.79	↓	↓	↓	↓	63.43	28.44	
ICC #3	↓	↓	34.38	↓	↓	↓	↓	63.31	28.75	
ICC #4	↓	↓	34.74	↓	↓	↓	↓	63.56	28.84	

Item	SVT#
1.8ml Vials	452
1.8ml Vial Caps	455
Pipette:	442
Hexane	439
NaCl	0816AC-HAF
pH Strips	511242A
Chlorine Strips	5112
Centrifuge	
Balance	3V24
Balance Cal Date	07-18-17

* VF-corrected yh on 082317.

I = Initial, F= Final

Document Control #: 0401416-003
Date: 9/14/16

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700325

Description:	504.1/8011 ICV-QCS 0.250ug/mL	Expires:	7/12/2018
Standard Type:	Analyte Spike	Prepared:	7/13/2017
Solvent:	MEOH/VOC167-01	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	08/03/2017 17:43 by ROL

Analyte	CAS Number	Concentration	Units
1,2-Dibromoethane	106-93-4	0.25	ug/mL
1,2-Dibromo-3-chloropropane	96-12-8	0.25	ug/mL

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700323

Description:	SU-504.1/8011-071317-01	Expires:	7/12/2018
Standard Type:	Surrogate Spike	Prepared:	7/13/2017
Solvent:	MEOH/VOC167-01	Prepared By:	Albert Castellanos
Final Volume (mls):	40	Department:	SVOCGC
Vials:	1	Last Edit:	07/18/2017 15:18 by AC

Analyte	CAS Number	Concentration	Units
4-Bromofluorobenzene	460-00-4	50	ug/mL

Reviewed By _____ Date _____

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_12.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 8:26 pm
Operator : YE
Sample : 504.1/8011 IDOC #1
Misc : 0.250
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:46:16 2017
Quant Method : C:\MSDCHEM\1\METHODS\C50407182017.M
Quant Title : EPA 504.1 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:29:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.33	2.91	218.0E6	23864921	0.225m ✓	0.295m#
2)	BFB	3.59	4.19	17518081	25885647	0.459	10.280 #
3)	DBCP	6.20	7.72	708.4E6	44647115	0.296m ✓	0.301m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$EDB = 0.225\ ppb \times \frac{35\ ml}{34.8\ ml}$

$= 0.226\ ppb$

$DBCP = 0.296\ ppb \times \frac{35\ ml}{34.8\ ml}$

$= 0.298\ ppb$

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_12.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 8:26 pm
Operator : YE
Sample : 504.1/8011 IDOC #1
Misc : 0.250
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:46:16 2017
Quant Method : C:\MSDCHEM\1\METHODS\C50407182017.M
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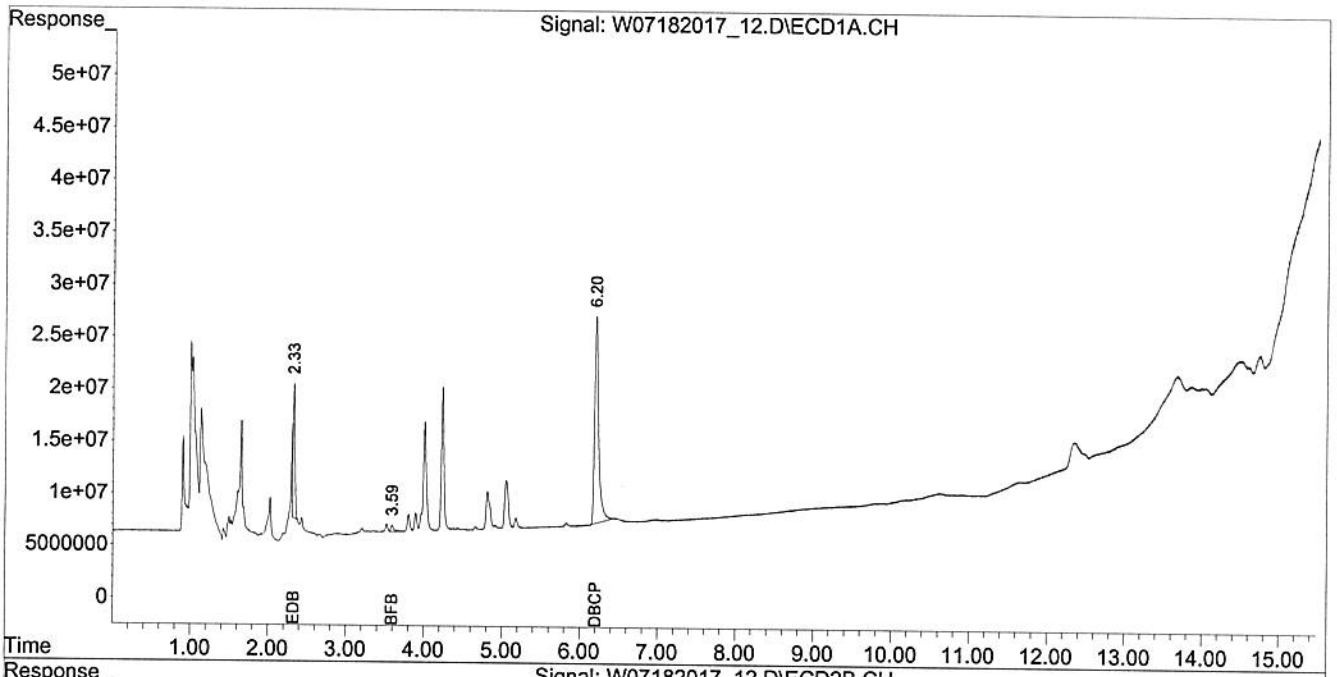
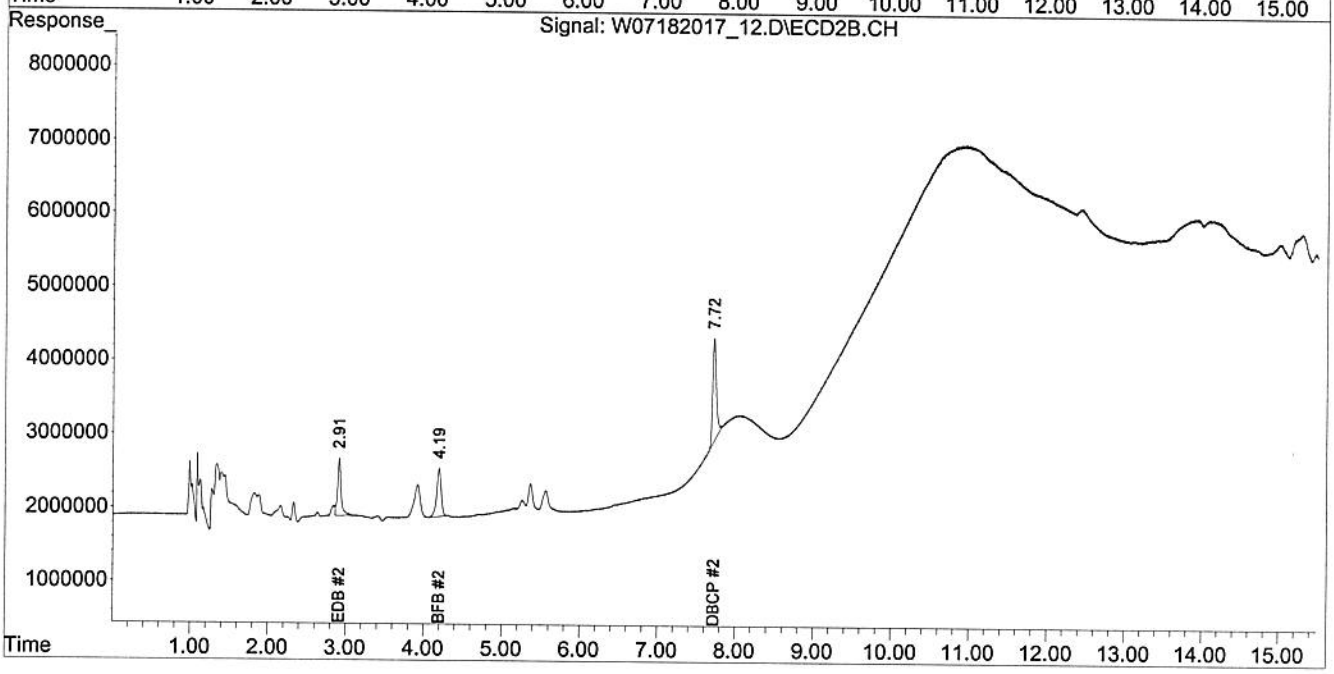
QLast Update : Wed Jul 19 11:29:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_13.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 8:48 pm
Operator : YE
Sample : 504.1/8011 IDOC #2
Misc : 0.250
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:47:58 2017
Quant Method : C:\MSDCHEM\1\METHODS\C50407182017.M
Quant Title : EPA 504.1 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:29:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.33	2.92	211.9E6	19119547	0.218m	0.236m ✓
2)	BFB	3.59	4.20	33140824	26211487	0.869	10.409 #
3)	DBCP	6.20	7.72	589.4E6	36143348	0.246m	0.244m ✓

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$$EDB = 0.236\ ppb \times \frac{35\ ml}{34.7\ ml} = \boxed{0.238\ ppb}$$

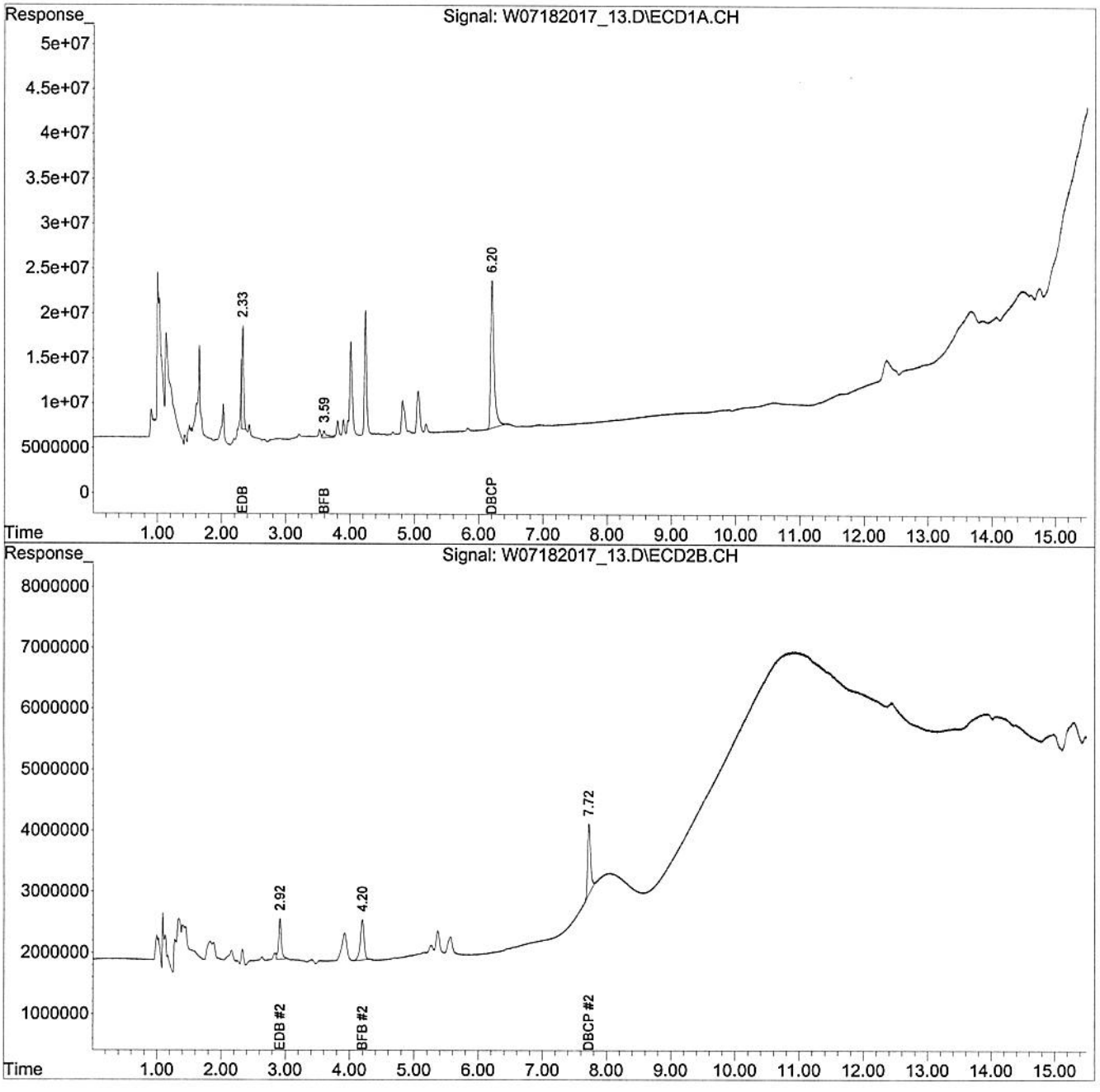
$$DBCP = 0.244\ ppb \times \frac{35\ ml}{34.7\ ml} = \boxed{0.246\ ppb}$$

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_13.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 8:48 pm
Operator : YE
Sample : 504.1/8011 IDOC #2
Misc : 0.250
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:47:58 2017
Quant Method : C:\MSDCHEM\1\METHODS\C50407182017.M
Quant Title : EPA 504.1 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:29:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:10 pm
Operator : YE
ample : 504.1/8011 IDOC #3
Misc : 0.250
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 12:00:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\C50407182017.M
Quant Title : EPA 504.1 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:29:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.33	2.92	334.9E6	15755443	0.345m	0.195m# ✓
2)	BFB	3.59	4.20	15072767	22873331	0.395	9.084 #
3)	DBCP	6.20	7.72	654.8E6	38518697	0.273m	0.260m ✓

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$EDB = 0.195\ ppb \times \frac{35\ mL}{34.38\ mL} = \boxed{0.198\ ppb}$

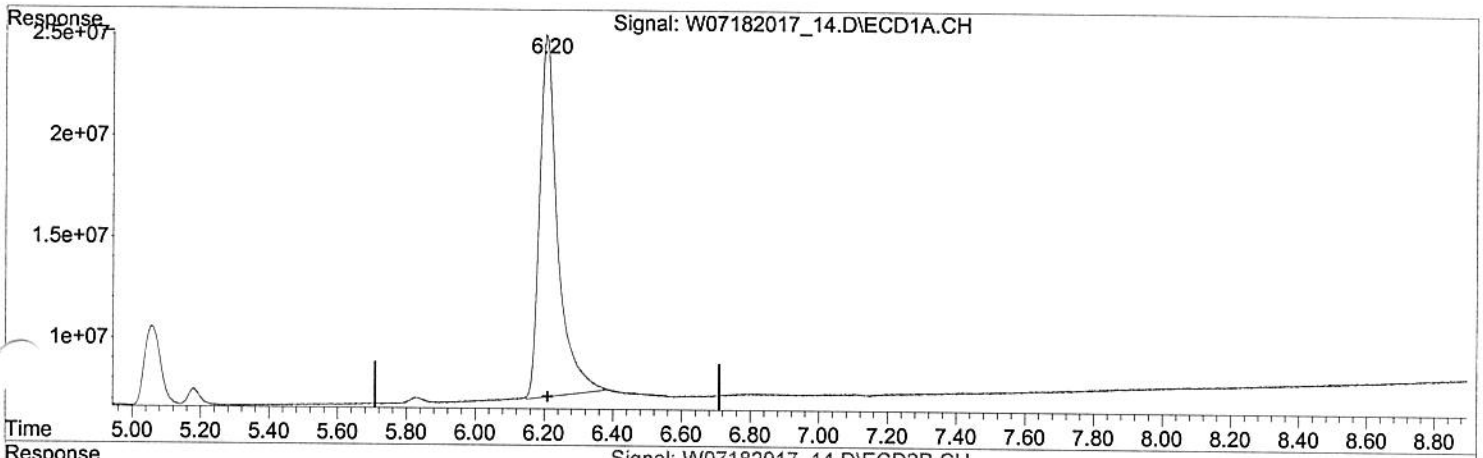
$DBCP = 0.260\ ppb \times \frac{35\ mL}{34.38\ mL} = \boxed{0.265\ ppb}$

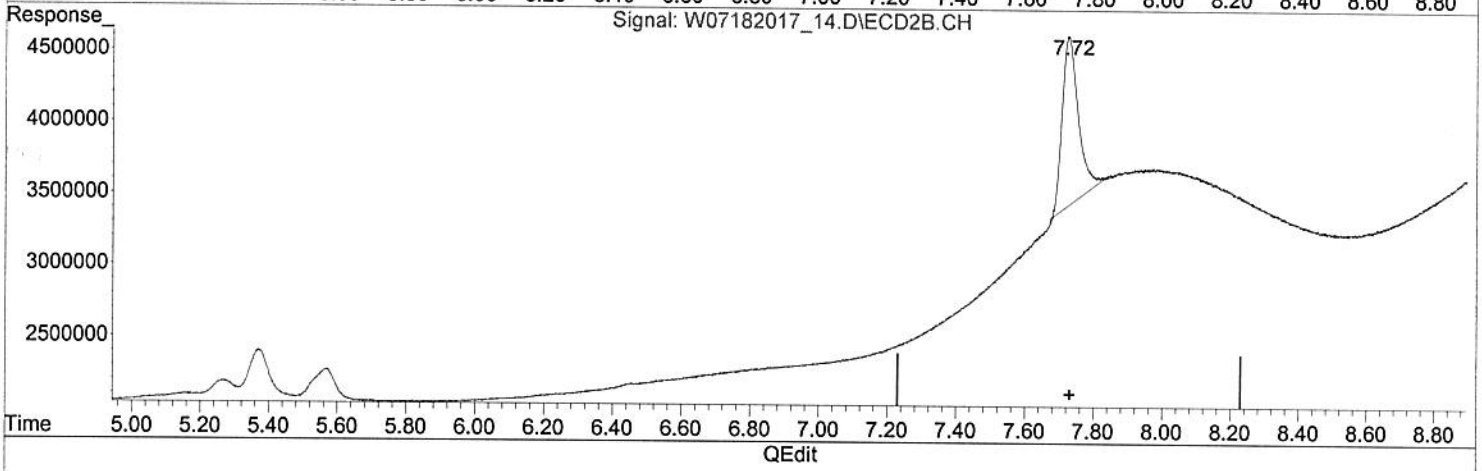
Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:10 pm
Operator : YE
Sample : 504.1/8011 IDOC #3
Misc : 0.250
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:59:42 2017
Quant Method : C:\MSDCHEM\1\METHODS\C50407182017.M
Quant Title : EPA 504.1 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:29:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





(3) DBCP
6.20min 0.273ug/L m
response 654798387

(3) DBCP #2
7.72min 0.260ug/L m
response 38518697

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:33 pm
Operator : YE
Sample : 504.1/8011 IDOC #4
Misc : 0.250
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 12:07:30 2017
Quant Method : C:\MSDCHEM\1\METHODS\C50407182017.M
Quant Title : EPA 504.1 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:29:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.33	2.92	315.3E6	14987107	0.325m	0.185m#
2)	BFB	3.60	4.20	18597111	30455021	0.487	12.094 #
3)	DBCP	6.20	7.73	607.6E6	37375583	0.254m	0.252m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$$EDB = 0.185\ ppb \times \frac{35\ ml}{34.79\ ml} = 0.186\ ppb$$

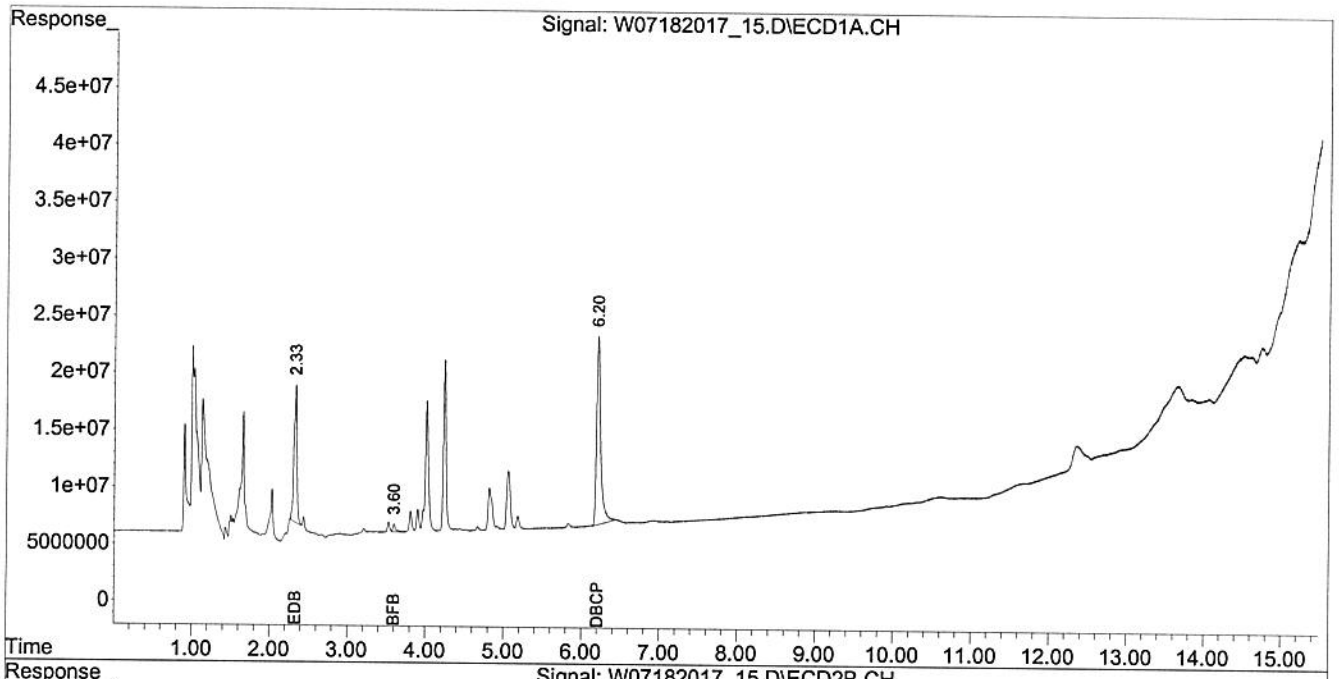
$$DBCP = 0.252\ ppb \times \frac{35\ ml}{34.79\ ml} = 0.253\ ppb$$

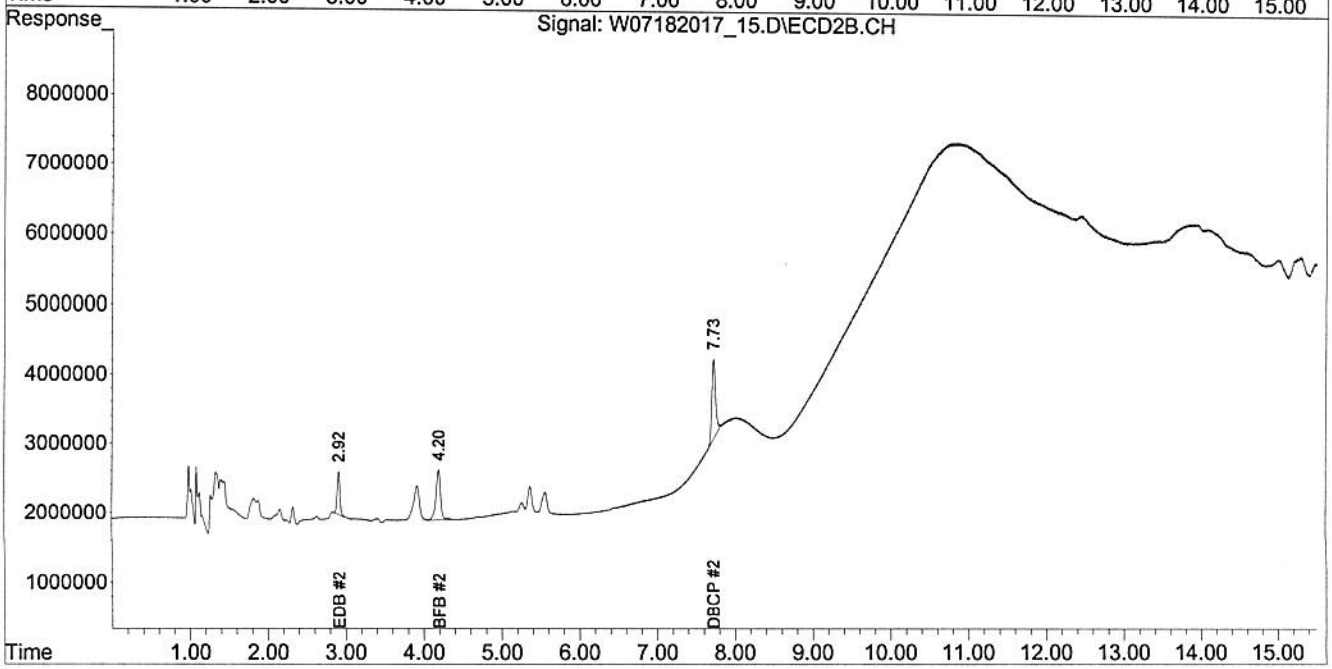
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:33 pm
Operator : YE
Sample : 504.1/8011 IDOC #4
Misc : 0.250
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 12:07:30 2017
Quant Method : C:\MSDCHEM\1\METHODS\C50407182017.M
Quant Title : EPA 504.1 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:29:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase :
Signal #1 Info :
Signal #2 Phase:
Signal #2 Info :





Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	*Extraction Analyst (If Applicable)*	*Effective Date*
Yanet Echevarria	Yanet Echevarria	8/31/17
Method Number	*Matrix*	*SOP Document Control Number or Revision Number:*
EPA 8011	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020416-002
Analyte or Class of Analytes		
EDB, DBCP		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria *Analyst*	*Signature*	7/19/17 *Date*
Albert Castellanos *Technical Director*	*Signature*	7/19/17 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	8/31/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Water
DATE OF ANALYSIS:	7/18/2017
ANALYZED BY:	YE
METHOD NUMBER:	EPA 8011
EXTRACTION METHOD (IF APPLY):	EPA 8011
BALANCE ID:	SV-24
INSTRUMENT ID:	Claudia GC #5
EXTRACTED BY:	YE
DATE EXTRACTED:	7/18/2017
ACCEPTANCE CRITERIA:	60-140%

Standards Used:	Std. ID#	Conc.
Standard(s)	1700325	0.25 ppm
Surrogate	1700323	50 ppm
Internal Standard	N/A	

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
EDB	0.25	0.310	0.245	0.207	0.189	0.24	22.51	95.10	0.05
DBCP	0.25	0.316	0.281	0.290	0.307	0.30	5.32	119.40	0.02

Liquid Extraction Log — Method # 504.1 / 8011

	Std. ID	Amt. Added	Initials
Surrogate	1700723	35 uL	AC/AC
ICV Spike	1700723	35 uL	AC/AC
Curve Spike	1700724	35 uL	AC/AC
Check Std. Spk			

Florida Environmental

Batch#: 1760509
Analyst: AC/AC
Date: 071817

Init. Solvent: Hexane
Fin. Solvent: Hexane
Transferred by: AC/AC

Order #	Sample ID	Sample Date	Volume Extracted (ml)	PH I	PH F	Final Vol (ml)	Cl	Weight (g) I	Weight (g) F	Comments
	MB	071817	35	7	7	2	ϕ	63.03	28.77	
	LPC	↓	↓	↓	↓	↓	↓	63.24	29.16	
	LCS	↓	↓	↓	↓	↓	↓	63.08	28.84	
	MS 1760496-02	071317	↓	↓	↓	↓	↓	64.39	30.32	
	MSD 1760496-02	↓	↓	↓	↓	↓	↓	64.62	30.60	
	ICV	071817	↓	↓	↓	↓	↓	63.37	28.44	
	Sample DUP 1760496-02	071317	↓	↓	↓	↓	↓	63.44	30.01	
1760496-01	MW1	071317	↓	↓	↓	↓	↓	63.80	30.37	
1760496-02	MW2	↓	↓	↓	↓	↓	↓	62.88	29.50	
1760496-03	MW3	↓	↓	↓	↓	↓	↓	63.31	30.41	
1760496-04	MW4	↓	↓	↓	↓	↓	↓	64.05	30.46	
1760496-05	MW5	↓	↓	↓	↓	↓	↓	63.51	30.31	
1760496-06	MW6	↓	↓	↓	↓	↓	↓	64.08	30.05	
1760496-07	MW7	↓	↓	↓	↓	↓	↓	63.80	30.15	
1760496-08	MW8	↓	↓	↓	↓	↓	↓	63.56	30.10	
1760496-09	MW91	↓	↓	↓	↓	↓	↓	63.71	30.51	
1760496-10	MW101	↓	↓	↓	↓	↓	↓	63.50	29.39	
1760496-11	MW11i	↓	↓	↓	↓	↓	↓	63.58	29.49	
1760496-12	MWRi	↓	↓	↓	↓	↓	↓	63.57	29.98	
IDOC#1	0.25 PPB OF ICV 1700335	071817	35 34.8	7	7	2	ϕ	63.53	28.93	
IDOC#2	↓	↓	34.77	↓	↓	↓	↓	63.43	28.80	
IDOC#3	↓	↓	34.32	↓	↓	↓	↓	63.33	28.51	
IDOC#4	↓	↓	34.79	↓	↓	↓	↓	63.53	28.84	
		AC/AC 0823								

Item	SVT#
1.8ml Vials	452
1.8ml Vial Caps	455
Pipette:	472
Hexane	439
NaCl	0816AG2AAF
pH Strips	511242A
Chlorine Strips	5112
Centrifuge	
Balance	SV24
Balance Cal Date	071817

* VF - corrected gn on 082317.

I = Initial, F= Final

Document Control #: 0401416-003
Date: 9/14/16

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700325

Description:	504.1/8011 ICV-QCS 0.250ug/mL	Expires:	7/12/2018
Standard Type:	Analyte Spike	Prepared:	7/13/2017
Solvent:	MEOH/VOC167-01	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	08/03/2017 17:43 by ROL

Analyte	CAS Number	Concentration	Units
1,2-Dibromoethane	106-93-4	0.25	ug/mL
1,2-Dibromo-3-chloropropane	96-12-8	0.25	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700323

Description:	SU-504.1/8011-071317-01	Expires:	7/12/2018
Standard Type:	Surrogate Spike	Prepared:	7/13/2017
Solvent:	MEOH/VOC167-01	Prepared By:	Albert Castellanos
Final Volume (mls):	40	Department:	SVOCGC
Vials:	1	Last Edit:	07/18/2017 15:18 by AC

Analyte	CAS Number	Concentration	Units
4-Bromofluorobenzene	460-00-4	50	ug/mL

Reviewed By Date

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
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Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 8:26 pm
Operator : YE
Sample : 504.1/8011 IDOC #1
Misc : 0.250
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:45:05 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.33	2.91	235.0E6	23917042	0.349m	0.308m ✓
2)	BFB	3.59	4.19	17518081	25885647	0.461	10.234 #
3)	DBCP	6.20	7.72	722.0E6	45779075	0.295m	0.314m ✓

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$$EDB = 0.308\ ppb \times \frac{35\ ml}{34.8\ ml} = \boxed{0.310\ ppb}$$

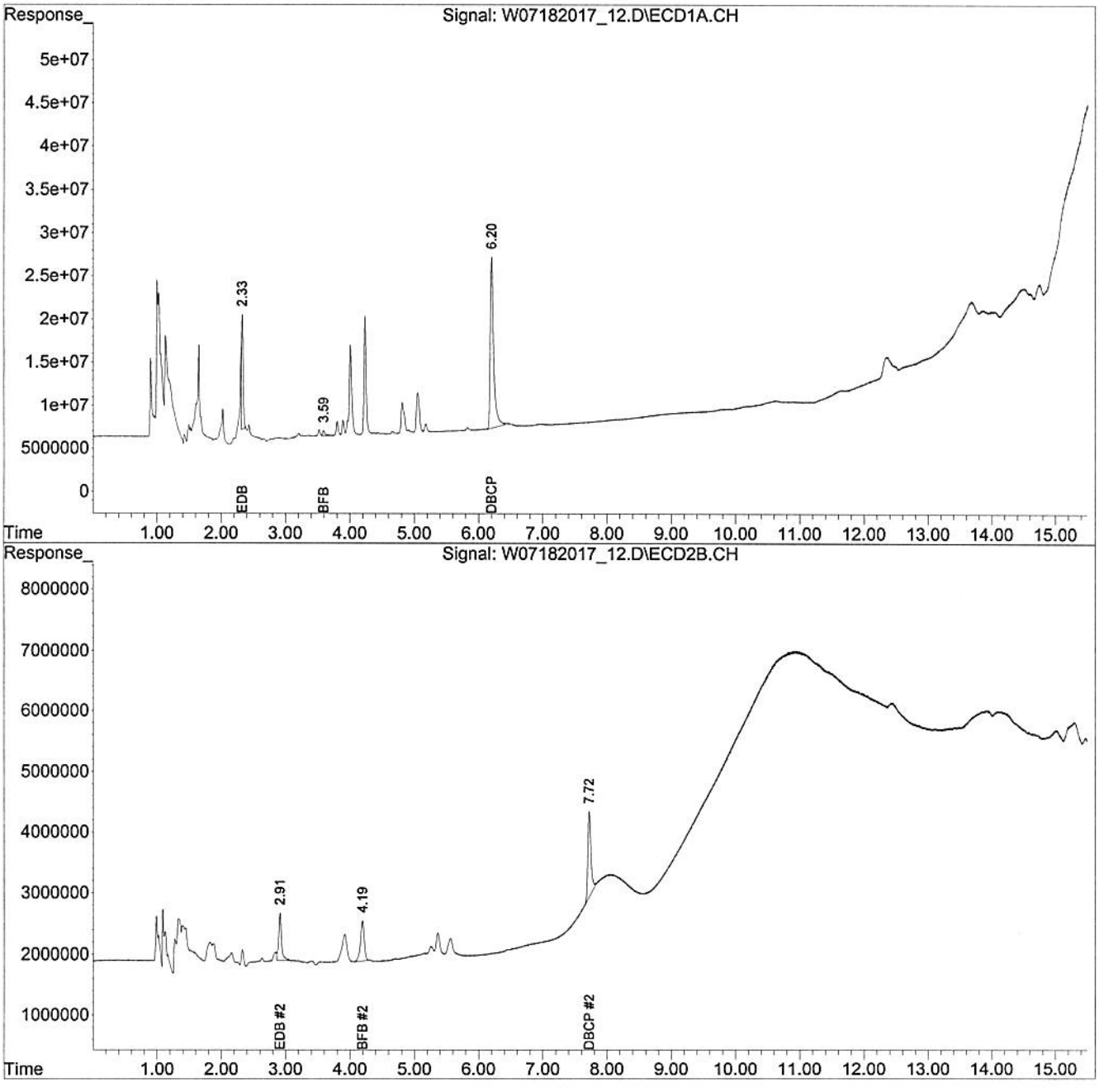
$$DBCP = 0.314\ ppb \times \frac{35\ ml}{34.8\ ml} = \boxed{0.316\ ppb}$$

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_12.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 8:26 pm
Operator : YE
Sample : 504.1/8011 IDOC #1
Misc : 0.250
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:45:05 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_13.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 8:48 pm
Operator : YE
Sample : 504.1/8011 IDOC #2
Misc : 0.250
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:48:53 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.33	2.92	187.3E6	18962383	0.284m	0.244m
2)	BFB	3.59	4.20	33140824	26211487	0.872	10.363 #
3)	DBCP	6.20	7.72	589.5E6	40872966	0.241m	0.279m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$$EDB = 0.244 \times \frac{35\ ml}{34.79\ ml} = 0.245\ ppb$$

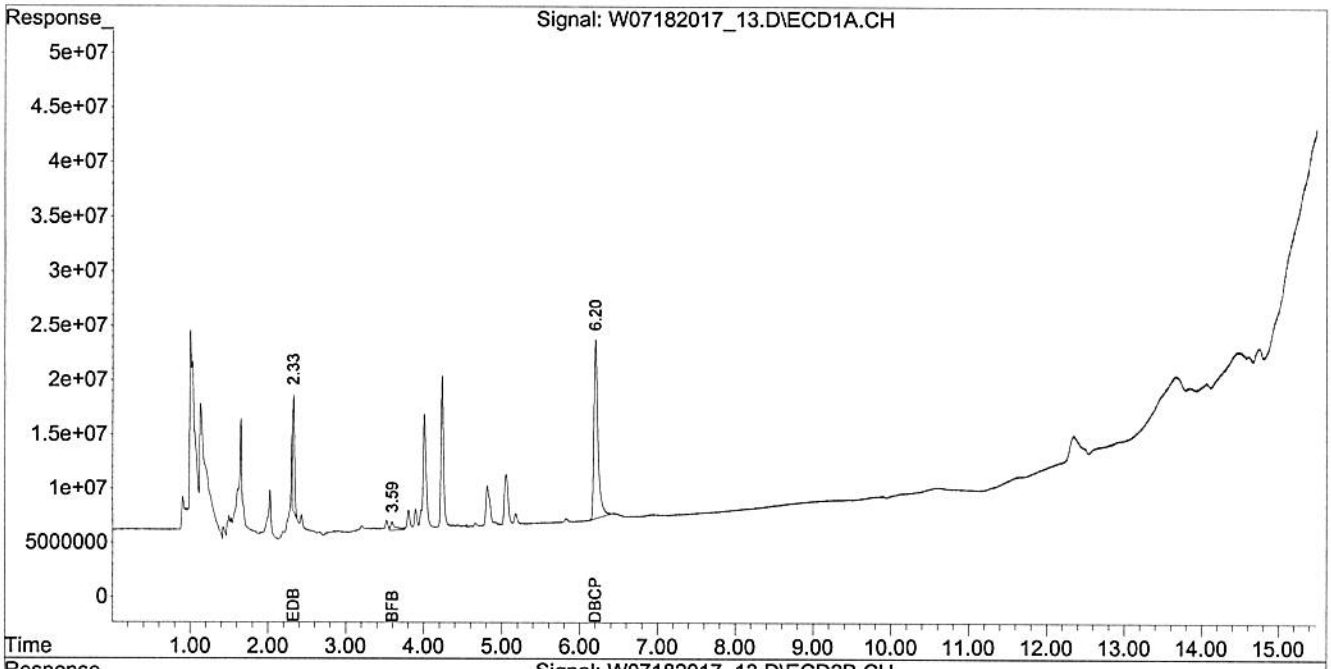
$$DBCP = 0.279\ ppb \times \frac{35\ ml}{34.79\ ml} = 0.281\ ppb$$

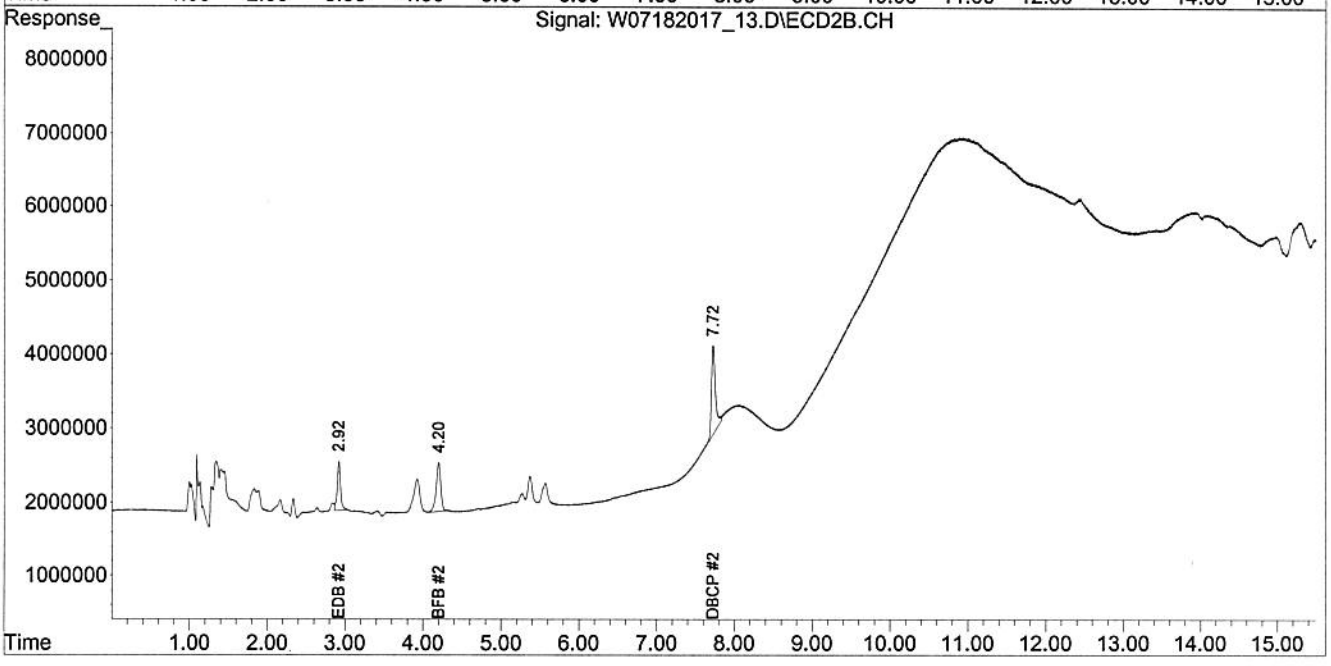
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_13.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 8:48 pm
Operator : YE
Sample : 504.1/8011 IDOC #2
Misc : 0.250
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:48:53 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:10 pm
Operator : YE
Sample : 504.1/8011 IDOC #3
Misc : 0.250
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:58:24 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.33	2.92	328.9E6	15778278	0.464m	0.203m# ✓
2)	BFB	3.59	4.20	15072767	22873331	0.397	9.043 #
3)	DBCP	6.20	7.72	660.0E6	41650650	0.269m	0.285m ✓

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$$EDB = 0.203\ ppb \times \frac{35\ ml}{34.38\ ml} = 0.207\ ppb$$

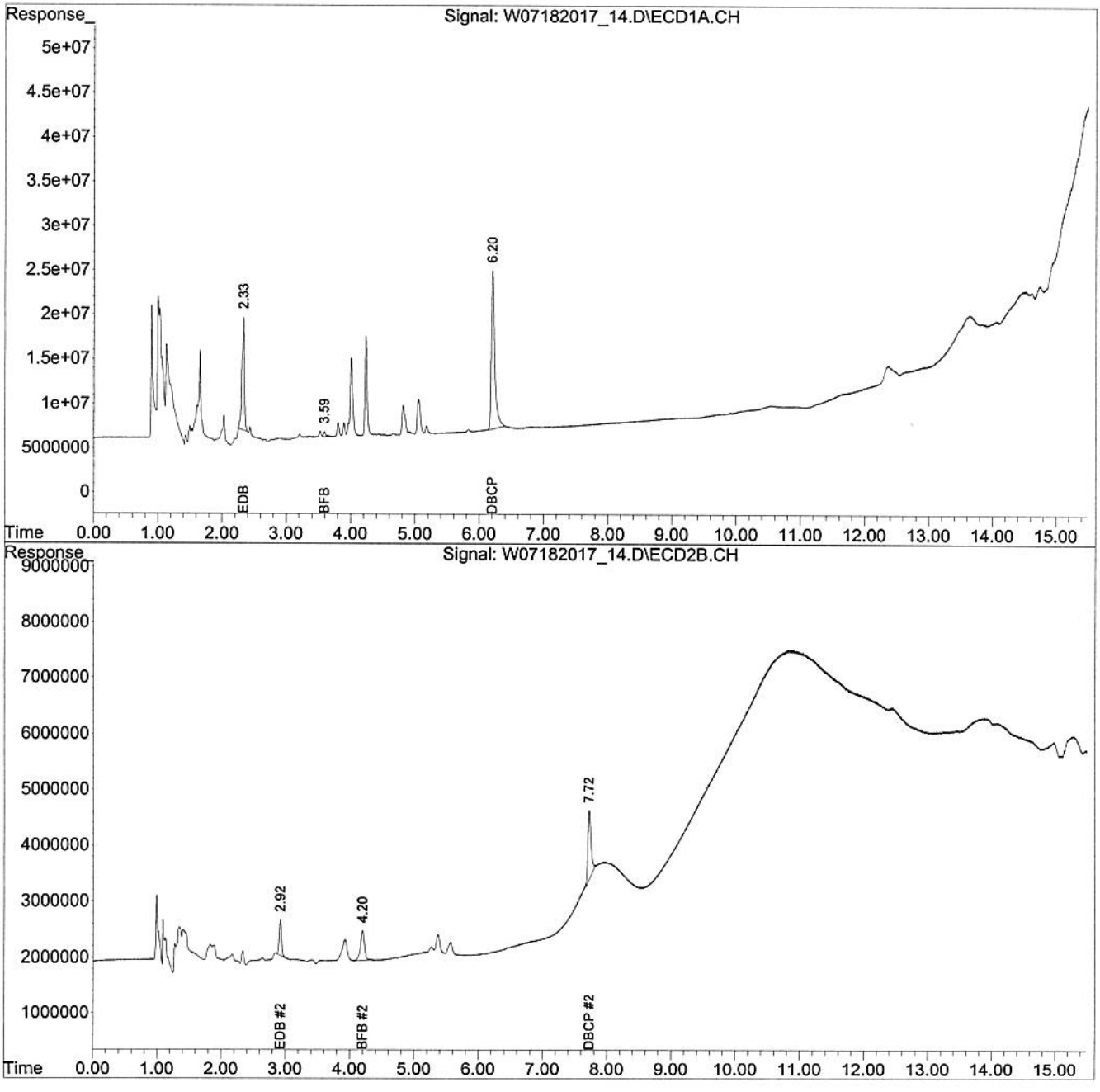
$$DBCP = 0.285\ ppb \times \frac{35\ ml}{34.38\ ml} = 0.290\ ppb.$$

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:10 pm
Operator : YE
Sample : 504.1/8011 IDOC #3
Misc : 0.250
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:58:24 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

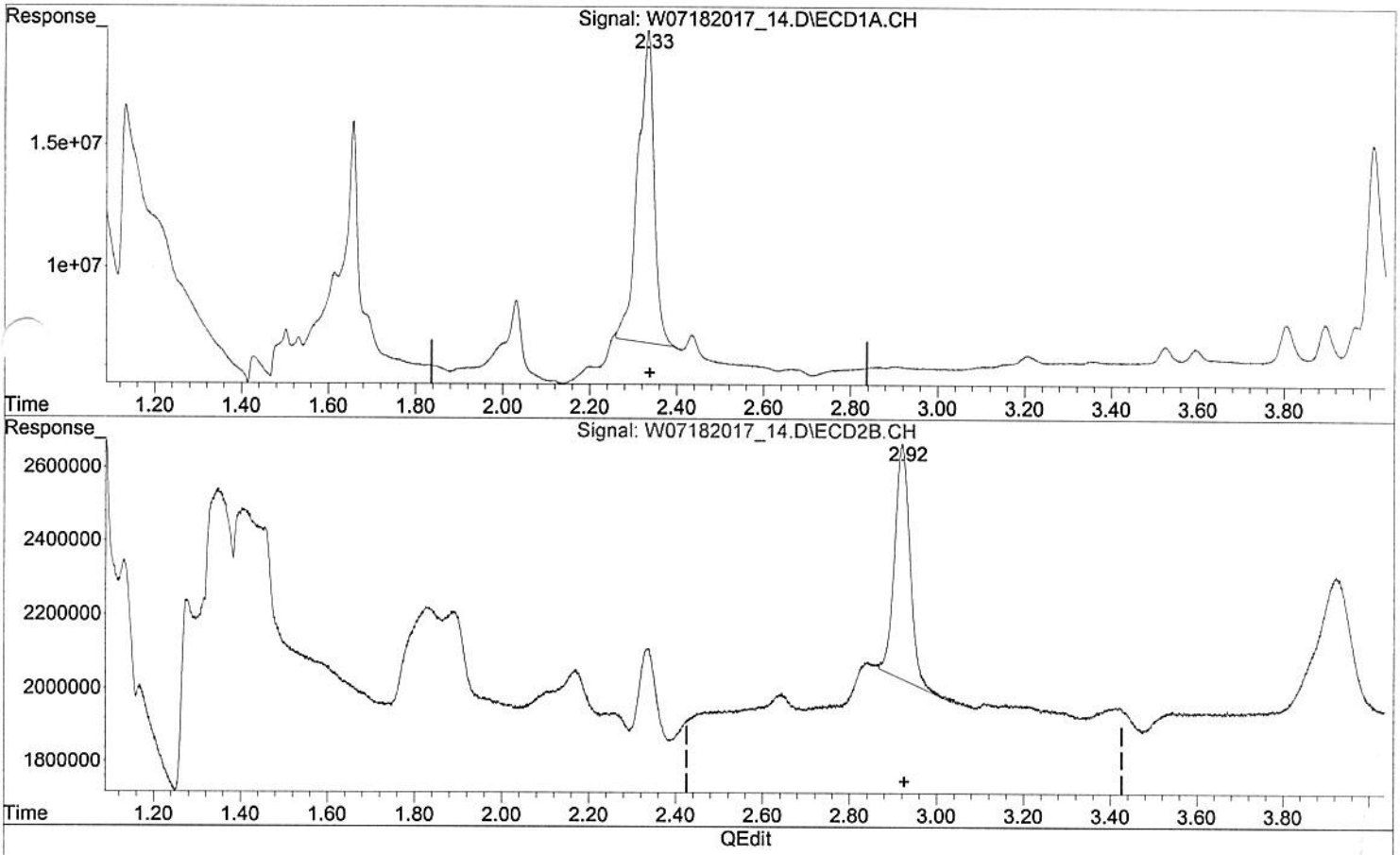


Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:10 pm
Operator : YE
Sample : 504.1/8011 IDOC #3
Misc : 0.250
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 11:55:48 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(1) EDB

2.33min 0.464ug/L m

response 328928498

(1) EDB #2

2.92min 0.203ug/L m

response 15778278

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:33 pm
Operator : YE
Sample : 504.1/8011 IDOC #4
Misc : 0.250
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 12:09:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.33	2.92	316.8E6	14640086	0.450m	0.188m#
2)	BFB	3.60	4.20	18597111	30455021	0.489	12.041 #
3)	DBCP	6.20	7.73	662.3E6	44565347	0.270m	0.305m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$EDB = 0.188 \times \frac{35\ ml}{34.79\ ml} = 0.189\ ppb$

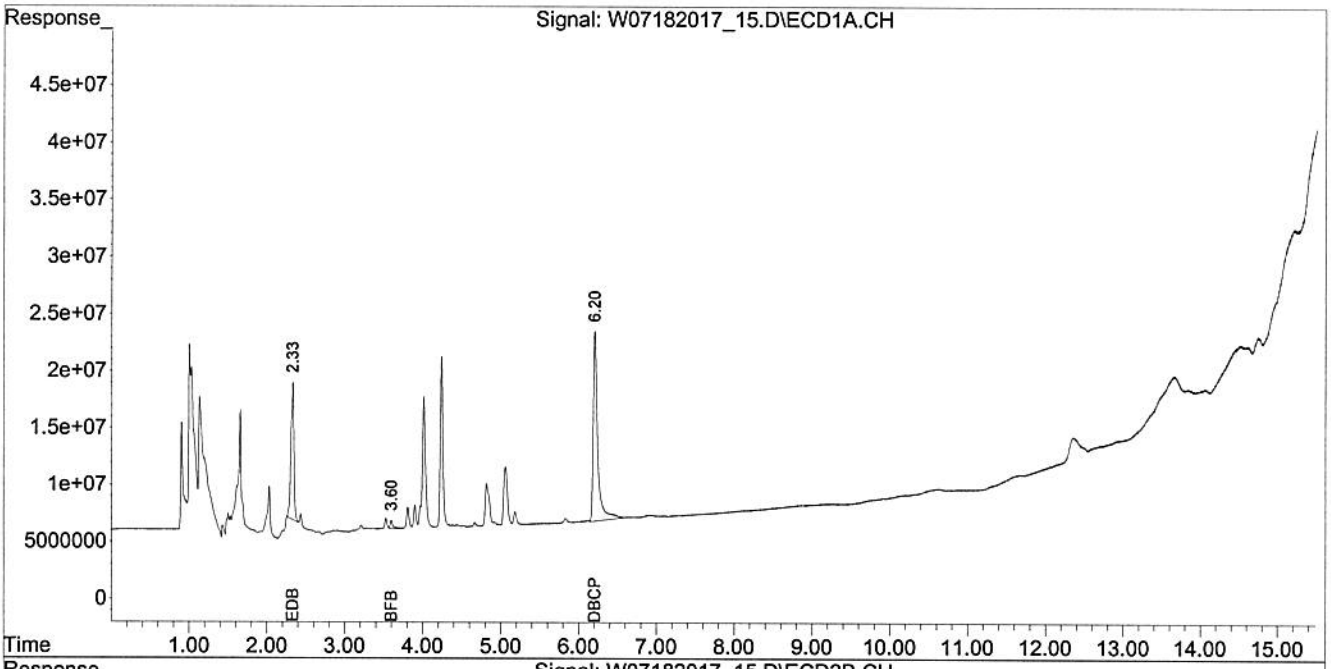
$DBCP = 0.305 \times \frac{35\ ml}{34.79\ ml} = 0.307\ ppb$

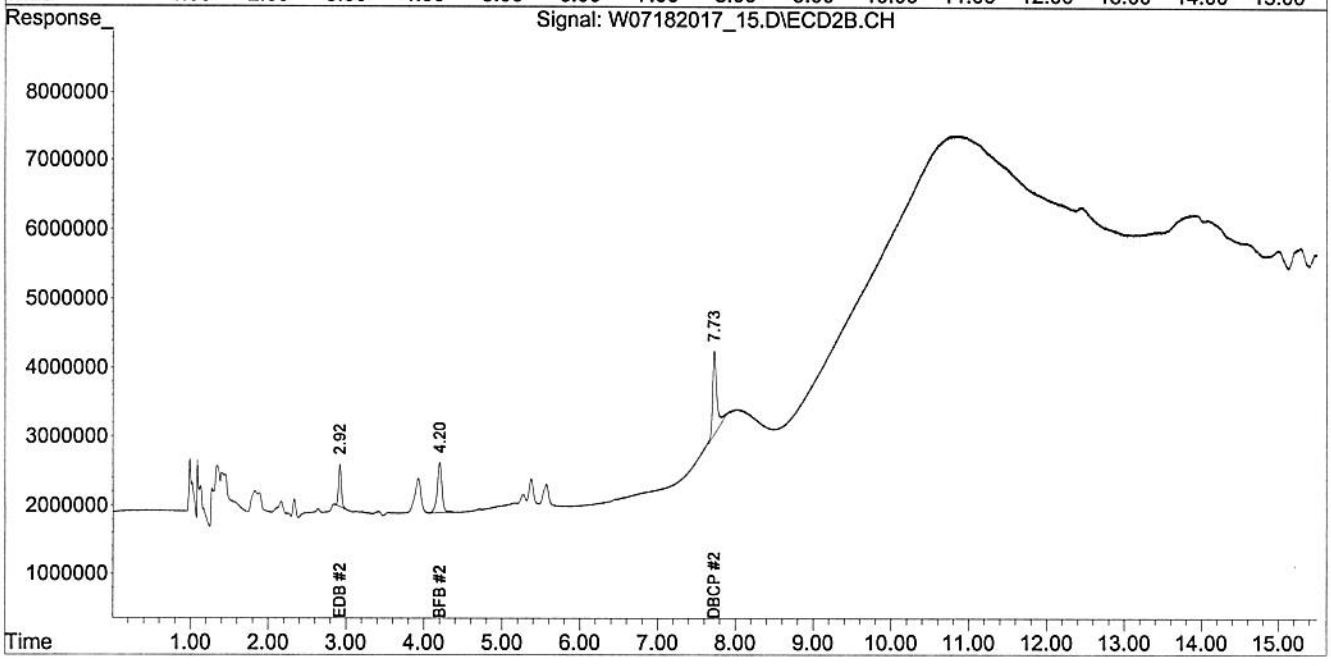
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\07182017\
Data File : W07182017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 18 Jul 2017 9:33 pm
Operator : YE
Sample : 504.1/8011 IDOC #4
Misc : 0.250
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 19 12:09:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\C801107182017.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Wed Jul 19 11:42:59 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Demonstration of Capability
Certification Statement

Date: 11/3/8
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): RICHARD VICCHIARELLI
Matrix: WATER
Method number EPA 548.1

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I RICHARD VICCHIARELLI current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

Maria E. Castellanos — Technical Director's Name and Title
Signature
Date 11/4/08

Quality Assurance Officer's Name
Signature
Date

This certification form must be completed each time a demonstration of capability study is completed

.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

IDC:

Matrix: (Water) Soil Air

Date of Analysis: 11/03/8

Method Number: EPA 548.1

Method Description: Endothall

Instrument Used: GC/MS-3

[X]	Raw Data Given to QA?
[ ]	All Crossouts Initialed, Dated and Explained?
[ ]	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Endothall Standard	50 ppb
wslc 1-5-1,1-5-2,1-5-3,1-5-4	
See Extraction Log	

Comments:

Analyst Name: Richard Vicchiarelli

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
Endothall	38.400	40.210	41.620	41.380	41.208	50.000	82.4	3.64%

Richard Vicchiarelli 11/3/8

Semivolatile HPLC and Endothall Extraction Log

Batch#_____

Date Extracted: 10/31/18
Time Started: 9:45
Time Finished:_____

Total Number of Samples:_____+ QC= 5
Analysis Method: 548.1
IDC STUDY

Conditioning Reagents:
1. CH_3OH 3. 10% 01-LCR-06 5. 31-R-6EN-12 7._____
2. $DI\ H_2O$ 4. $DI\ H_2O$ 6. $DI\ H_2O$ 8._____

Cartridge Disk: SPEEDISK QUATERNARY AMINE LOT G04N33

10% H_2SO_4/CH_3OH 01-LCR-06
CH_2Cl_2 SV 1082

FSES 1036

Surrogate ID: EXWS_____ Vol, mL_____ Conc. Ug/mL_____

Internal Std: ~~EXWS~~ WSLC 1-2-19_____ Spike ID: EXWS_____ Vol, mL_____ Conc. Ug/mL_____

Sx#	Log #	Extracted By	Sample ID	Date Sampled	Volume (mL)	Final Volume (mL)	Surr/Spike Witness	Conc. Tube #	Comments
1	Blank	RPV	$DI\ H_2O$	—	100	1			100 mg EDTA added
2	LCS	↓		↓	↓	↓			to each sample
3	LCSD								07-WC-02
4	MS								
5	MSD								
6	IDC 1		WSLC 1-5-1						
7	IDC 2		WSLC 1-5-2						
8	IDC 3		WSLC 1-5-3						
9	IDC 4	↓	WSLC 1-5-4	↓	↓	↓			
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Reviewed By:_____Date:____

Sequence Name: C:\HPCHEM\1\SEQUENCE\110308.S
Comment: MON 11/03/08 TINA GC/MS-3
Operator: R. VICCHIARELLI
Data Path: C:\HPCHEM\1\DATA\110308\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	11030801	ACM548	method blank
2	Sample	1	11030802	ACM548	method blank
3	Sample	2	11030803	ACM548	epa548.1 CRITERIA
4	Sample	2	11030804	ACM548	epa548.1 CRITERIA
5	Sample	3	11030805	ACM548	epa548.1 CCC 50
6	Sample	4	11030806	ACM548	IDC WS-LC-1-5-1
7	Sample	5	11030807	ACM548	IDC WS-LC-1-5-2
8	Sample	6	11030808	ACM548	IDC WS-LC-1-5-3
9	Sample	7	11030809	ACM548	IDC WS-LC-1-5-4

```
Sequence Name: C:\HPCHEM\1\SEQUENCE\110308.S
      Comment: MON 11/03/08 TINA GC/MS-3
     Operator: R. VICCHIARELLI
    Data Path: C:\HPCHEM\1\DATA\110308\
  Pre-Seq Cmd:
 Post-Seq Cmd:

Method Sections To Run      On A Barcode Mismatch
 (X) Full Method              (X) Inject Anyway
 ( ) Reprocessing Only        ( ) Don't Inject

-------------------------------------------------------------------------
Line                    Sample Name/Misc Info
-------------------------------------------------------------------------
1   Type: Sample        method blank
    Vial: 1
    Meth: ACM548.M      Barcode:
    Data: 11030801.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
2   Type: Sample        method blank
    Vial: 1
    Meth: ACM548.M      Barcode:
    Data: 11030802.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
3   Type: Sample        epa548.1 CRITERIA
    Vial: 2
    Meth: ACM548.M      Barcode:
    Data: 11030803.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
4   Type: Sample        epa548.1 CRITERIA
    Vial: 2
    Meth: ACM548.M      Barcode:
    Data: 11030804.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
5   Type: Sample        epa548.1 CCC 50
    Vial: 3
    Meth: ACM548.M      Barcode:
    Data: 11030805.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
6   Type: Sample        IDC WS-LC-1-5-1
    Vial: 4
    Meth: ACM548.M      Barcode:
    Data: 11030806.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method

Sequence:110308.S  Last Modified:Mon Nov 03 10:46:52 2008  Page: 1
```

```
    CR Database      :per Method       CR Spreadsheet  :per Method
-------------------------------------------------------------------------
7   Type: Sample       IDC WS-LC-1-5-2
    Vial: 5
    Meth: ACM548.M     Barcode:
    Data: 11030807.D  Samp Amt: 0          Multiplr: 1
    Area% Report     :per Method       Lib. Search Rep :per Method
    Quant Report     :per Method       Post-Quant Macro:per Method
    CR Database      :per Method       CR Spreadsheet  :per Method
-------------------------------------------------------------------------
8   Type: Sample       IDC WS-LC-1-5-3
    Vial: 6
    Meth: ACM548.M     Barcode:
    Data: 11030808.D  Samp Amt: 0          Multiplr: 1
    Area% Report     :per Method       Lib. Search Rep :per Method
    Quant Report     :per Method       Post-Quant Macro:per Method
    CR Database      :per Method       CR Spreadsheet  :per Method
-------------------------------------------------------------------------
9   Type: Sample       IDC WS-LC-1-5-4
    Vial: 7
    Meth: ACM548.M     Barcode:
    Data: 11030809.D  Samp Amt: 0          Multiplr: 1
    Area% Report     :per Method       Lib. Search Rep :per Method
    Quant Report     :per Method       Post-Quant Macro:per Method
    CR Database      :per Method       CR Spreadsheet  :per Method
-------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030802.D Vial: 1
Acq On : 3 Nov 2008 11:15 am Operator: R. VICCHIARELLI
Sample : method blank Inst : GC/MS Ins
lisc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 11:39 2008 Quant Results File: C5481029.RES

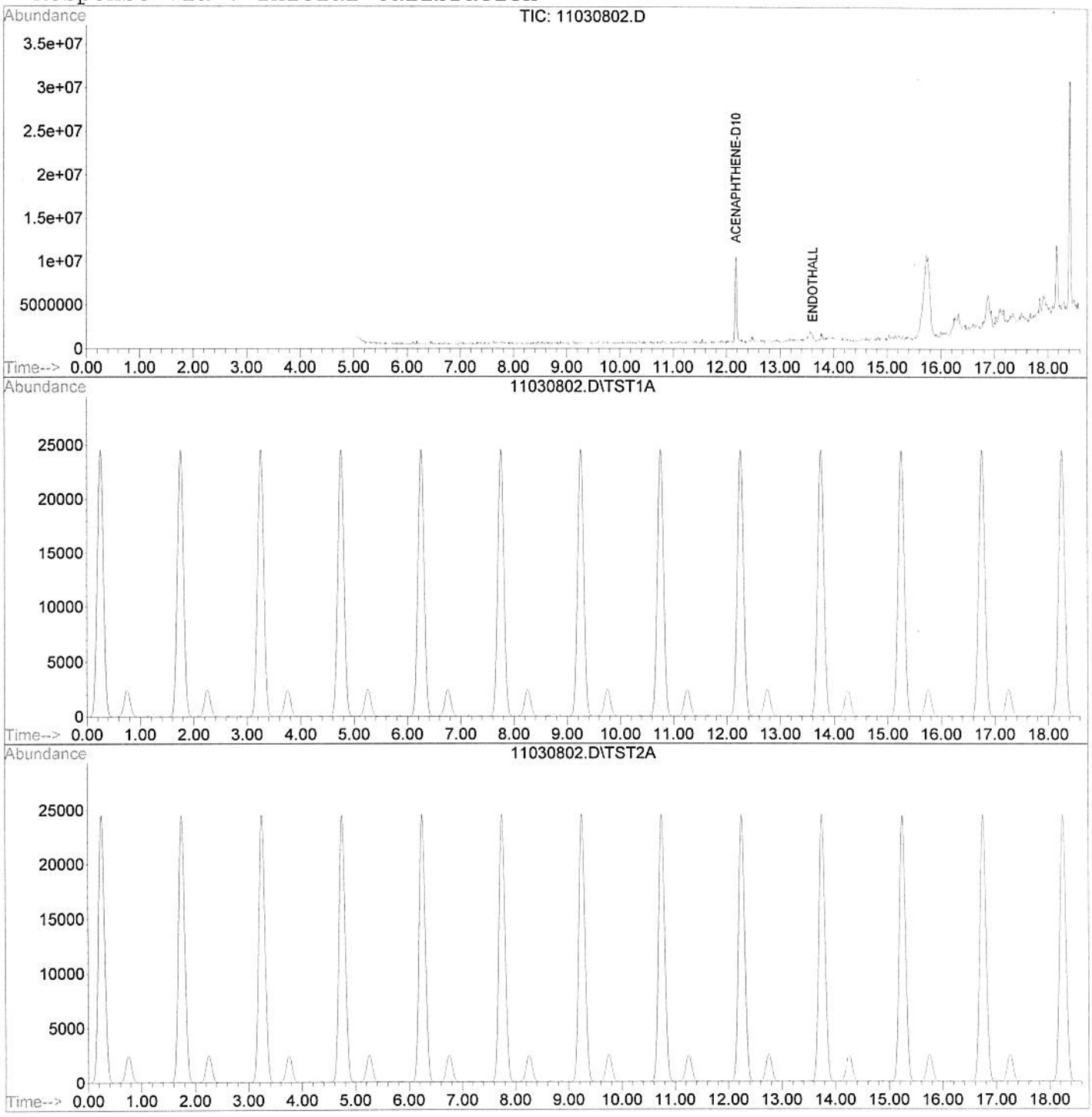
Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.18	164	4490139	2.50	UG/L	-0.01
Target Compounds						Qvalue
2) ENDOTHALL	13.61	123	10218	0.19	UG/L	# 26

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\110308\11030802.D Vial: 1
Acq On : 3 Nov 2008 11:15 am Operator: R. VICCHIARE
Sample : method blank Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 11:39 2008 Quant Results File: C5481029.RES

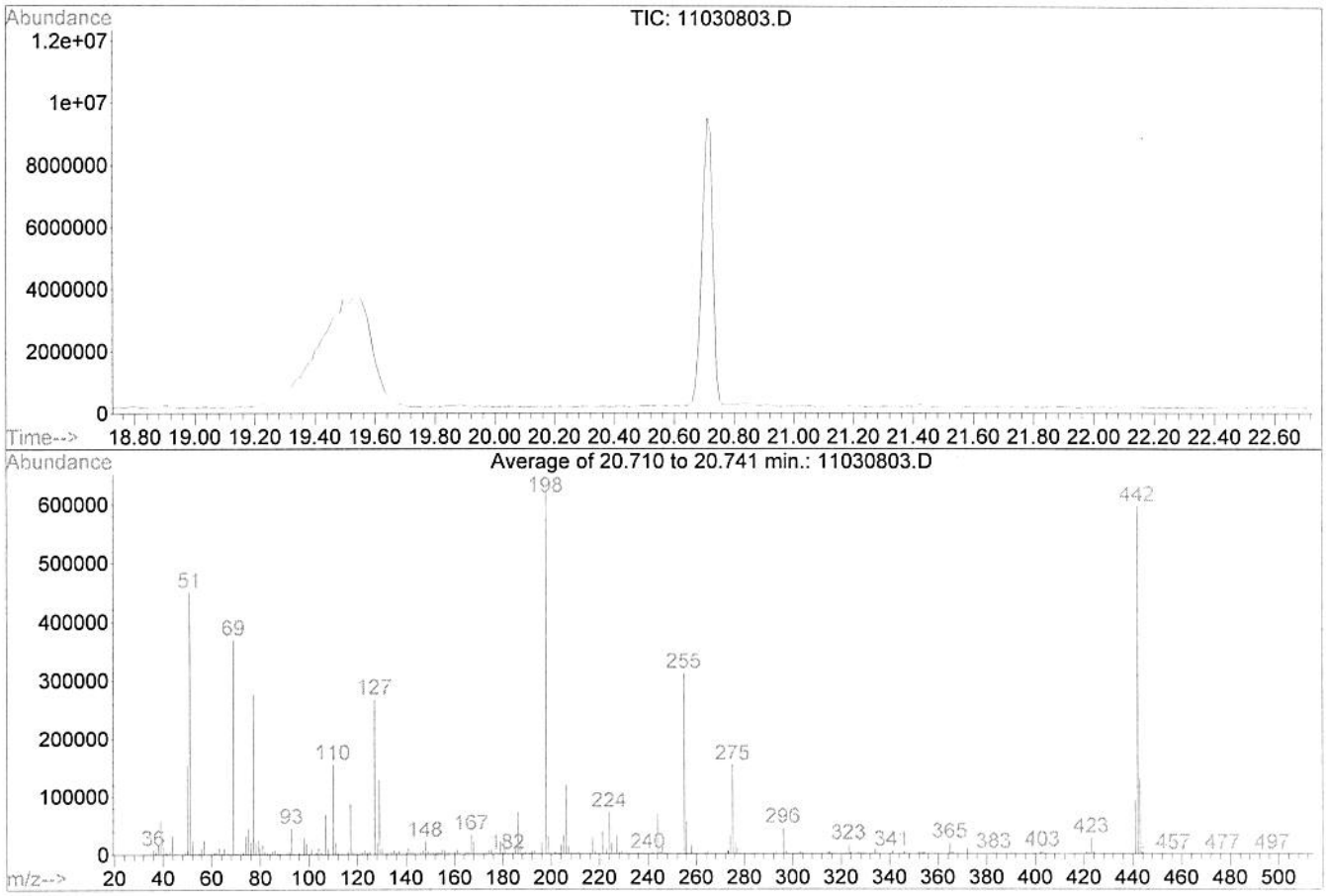
Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



DFTPP

Data File : C:\HPCHEM\1\DATA\110308\11030803.D
Acq On : 3 Nov 2008 1:02 pm
Sample : epa548.1 CRITERIA
Misc :
MS Integration Params: ACBNAX.P
Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI

Vial: 2
Operator: R. VICCHIA
Inst : GC/MS Ins
Multiplr: 1.00



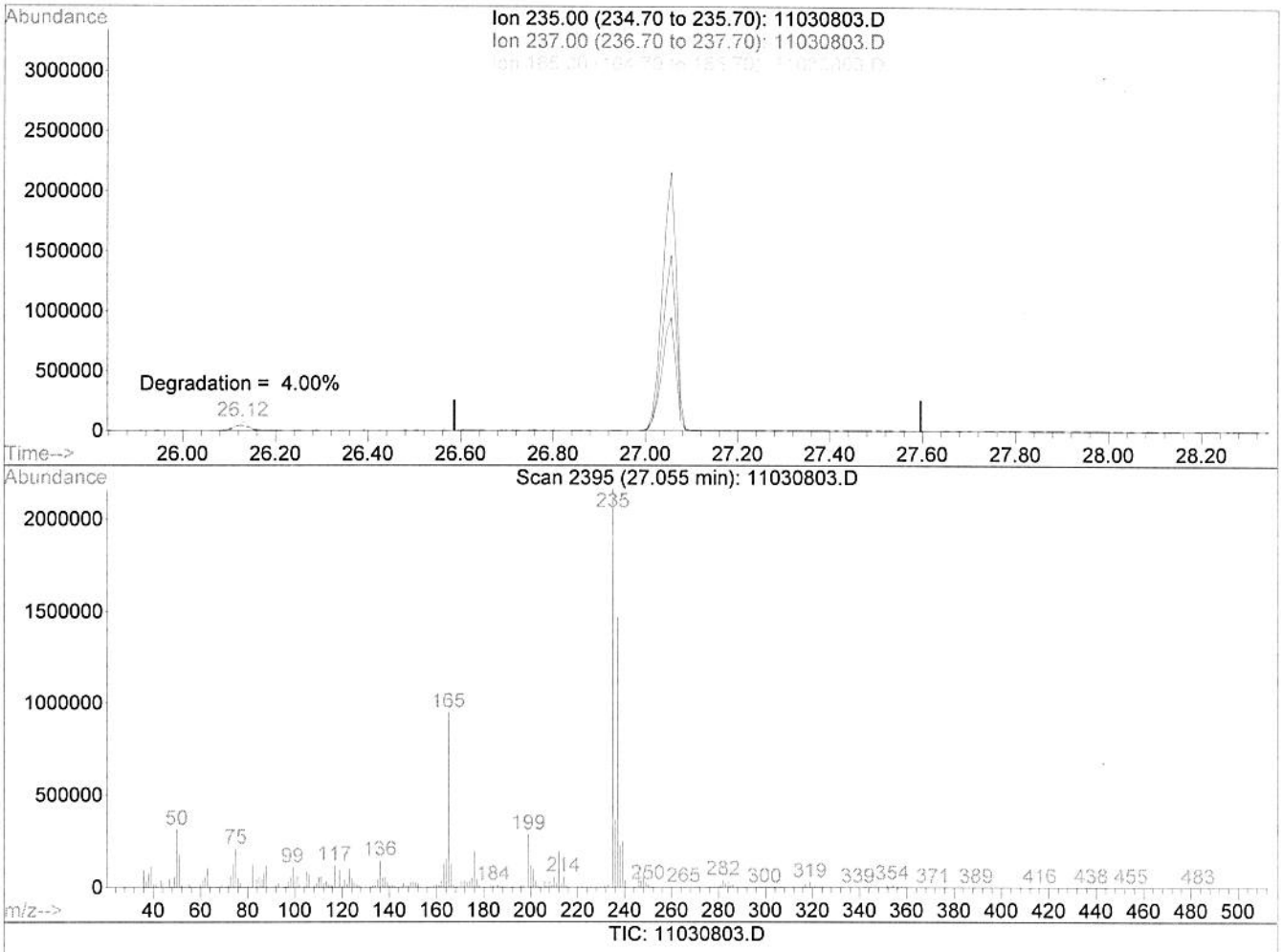
Spectrum Information: Average of 20.710 to 20.741 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	72.5	450442	PASS
68	69	0.00	2	0.1	494	PASS
69	198	0.00	100	59.5	369316	PASS
70	69	0.00	2	0.3	1239	PASS
127	198	10	80	43.1	267942	PASS
197	198	0.00	2	0.0	0	PASS
198	198	40	100	100.0	620964	PASS
199	198	5	9	5.0	31191	PASS
275	198	10	60	24.8	154050	PASS
365	198	1	100	3.0	18393	PASS
441	443	0.01	100	71.6	93722	PASS
442	198	40	100	96.1	596768	PASS
443	442	15	24	21.9	130886	PASS

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\110308\11030803.D Vial: 2
Acq On : 3 Nov 2008 1:02 pm Operator: R. VICCHIA
Sample : epa548.1 CRITERIA Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 14:00 2008 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\C8270A25.M (RTE Integrator)
Title : EPA 8270D BY TINA GC/MS#3 A. CASTELLANOS
Last Update : Mon Oct 27 12:12:53 2008
Response via : Multiple Level Calibration



TIC: 11030803.D

(99) 4,4'DDT (T)

27.06min 15384.13ug/L

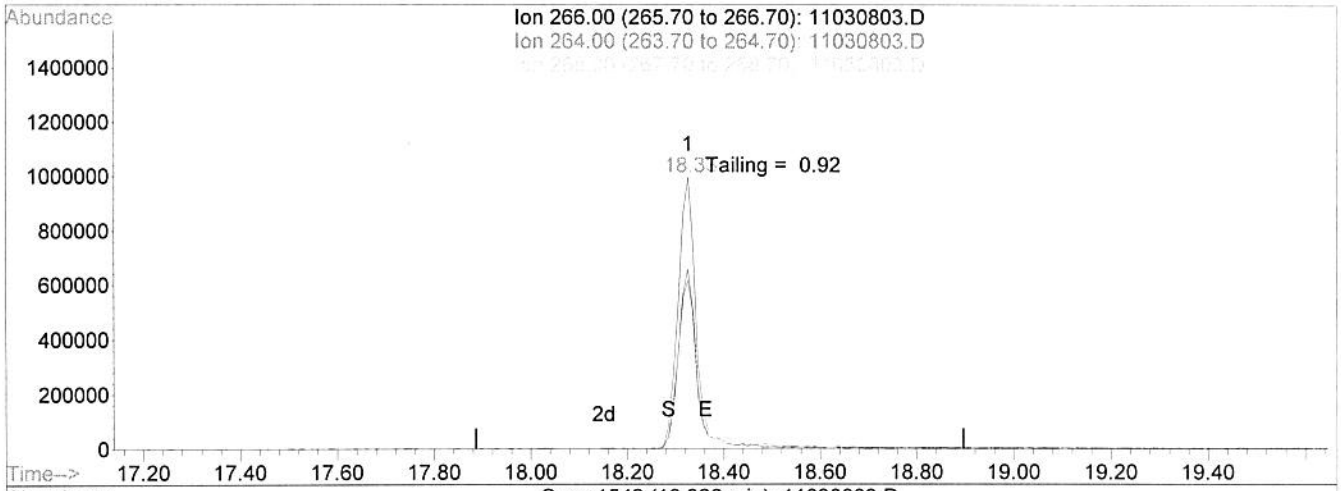
response 4545178

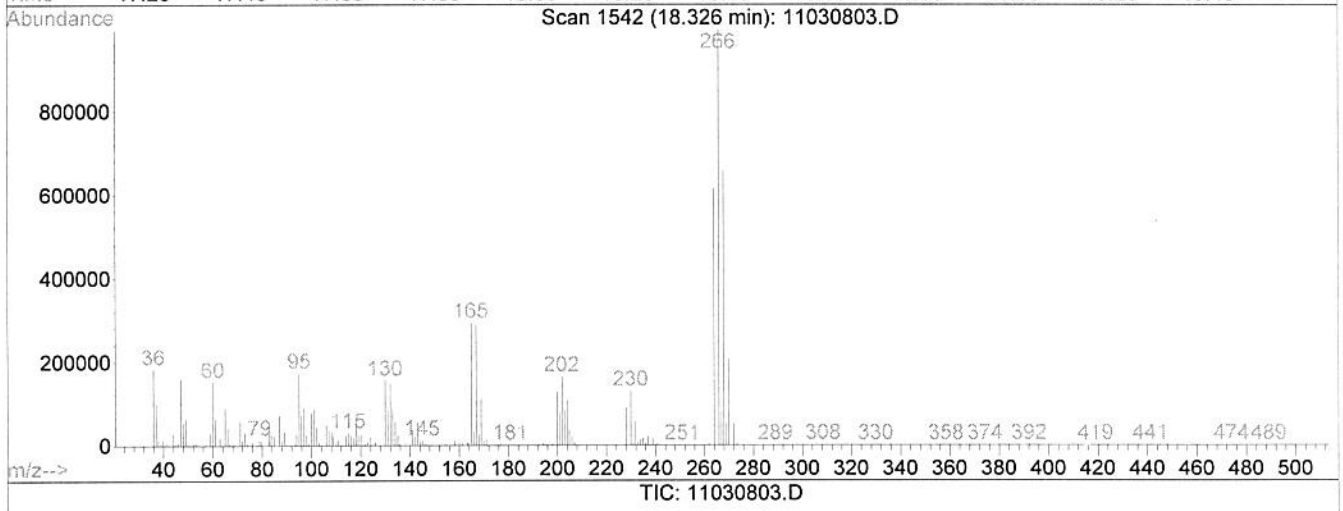
Ion	Exp%	Act%
235.00	100	100
237.00	66.60	67.93
165.00	43.30	43.87
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\110308\11030803.D Vial: 2
Acq On : 3 Nov 2008 1:02 pm Operator: R. VICCHIA
Sample : epa548.1 CRITERIA Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 14:00 2008 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\C8270A25.M (RTE Integrator)
Title : EPA 8270D BY TINA GC/MS#3 A. CASTELLANOS
Last Update : Mon Oct 27 12:12:53 2008
Response via : Multiple Level Calibration





TIC: 11030803.D

(68) Pentachlorophenol (ccc) (TM)

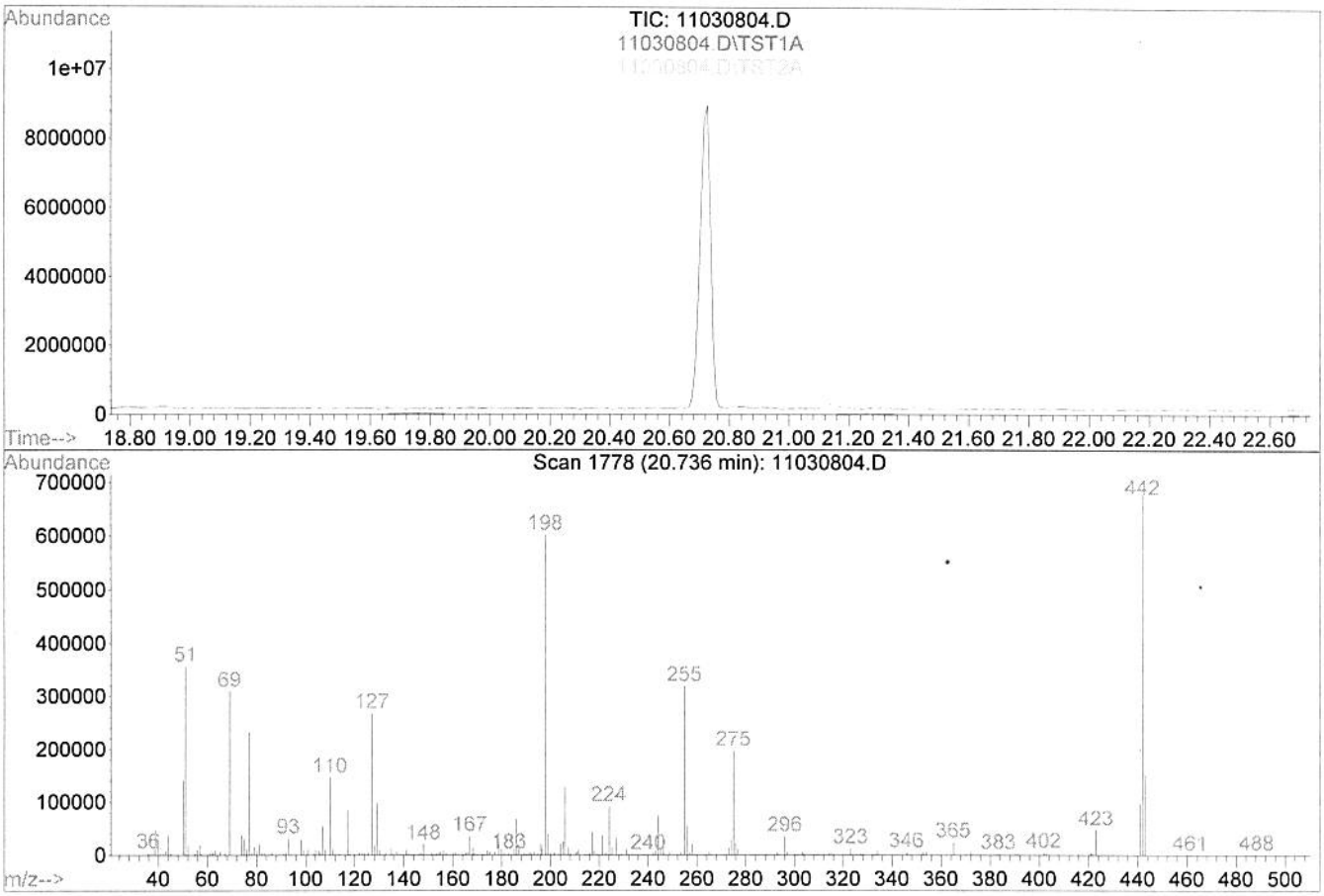
18.33min 20711.92ug/L

response 2532878

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	61.95
268.00	64.40	66.07
0.00	0.00	0.00

DFTPP

Data File : C:\HPCHEM\1\DATA\110308\11030804.D Vial: 2
Acq On : 3 Nov 2008 1:59 pm Operator: R. VICCHIA
Sample : epa548.1 CRITERIA Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Method : C:\HPCHEM\1\METHODS\C8270A25.M (RTE Integrator)
Title : EPA 8270D BY TINA GC/MS#3 A. CASTELLANOS



Spectrum Information: Scan 1778

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	59.4	357184	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.4	309504	PASS
70	69	0.00	2	0.0	0	PASS
127	198	30	80	44.5	267968	PASS
197	198	0.00	1	0.0	0	PASS
198	442	40	100	88.5	601600	PASS
199	198	5	9	6.5	39264	PASS
275	198	10	80	32.8	197376	PASS
365	198	1	100	3.9	23640	PASS
441	443	0.01	100	64.3	97376	PASS
442	442	40	100	100.0	679488	PASS
443	442	15	24	22.3	151552	PASS

11030804.D C8270A25.M Mon Nov 03 14:41:02 2008

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030802.D Vial: 1
Acq On : 3 Nov 2008 2:45 pm Operator: R. VICCHIARELLI
Sample : method blank Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 15:15 2008 Quant Results File: C5481029.RES

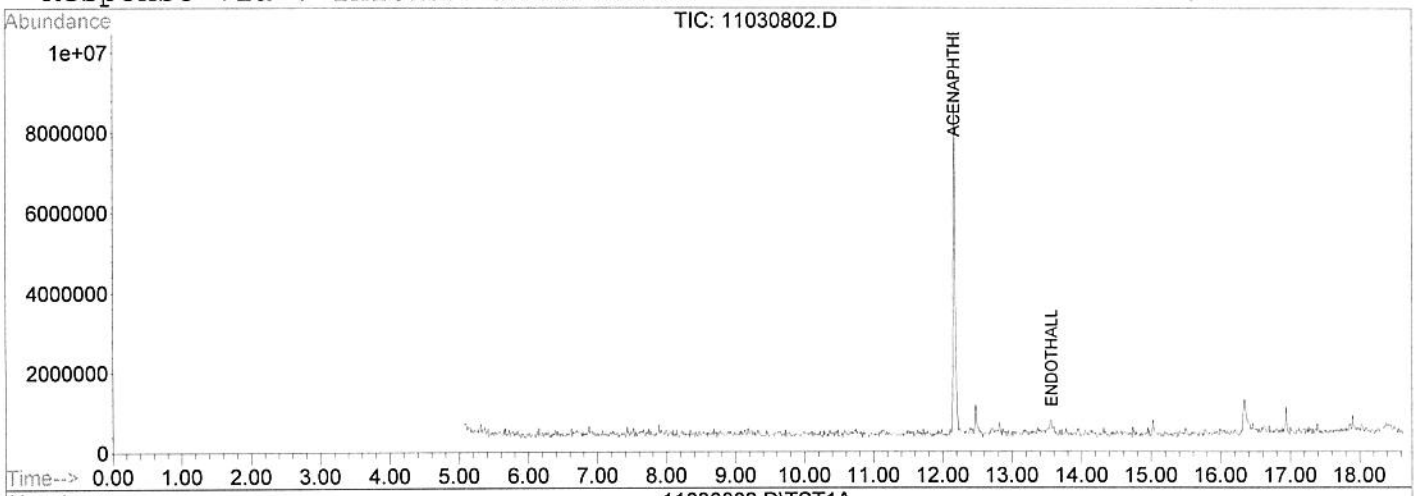
Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

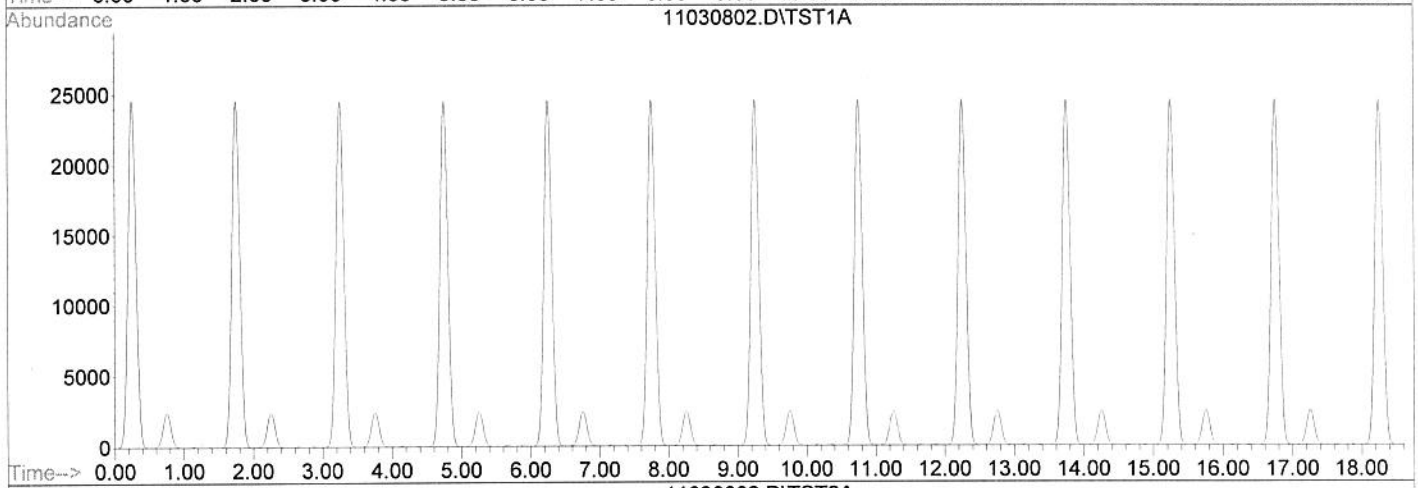
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3649564	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.57	123	2809	0.07	UG/L	# 47

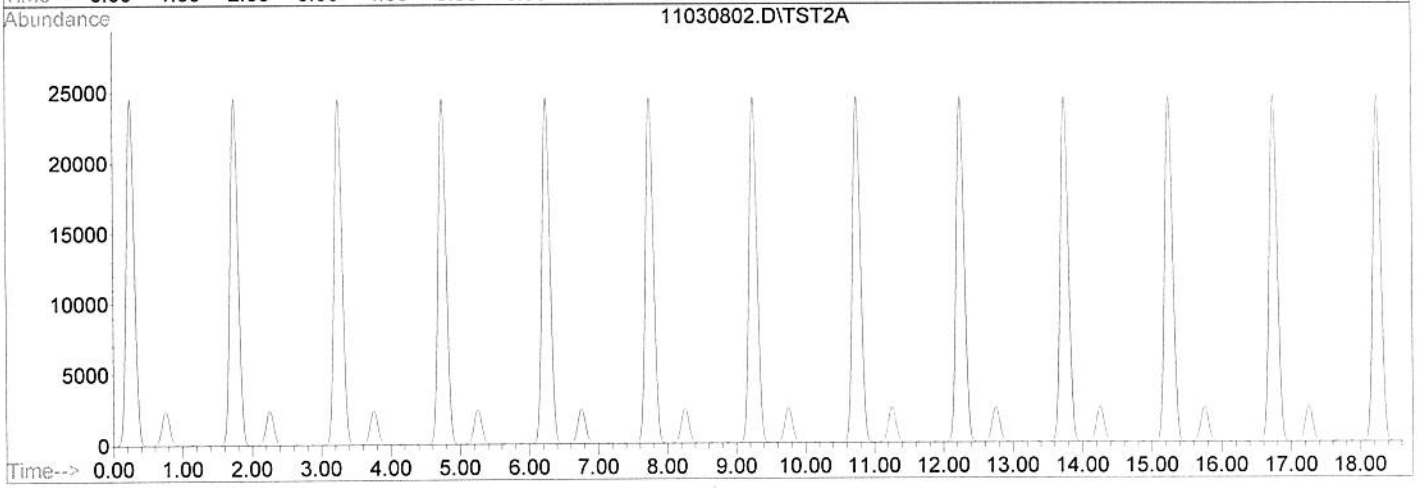
(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\110308\11030802.D Vial: 1
Acq On : 3 Nov 2008 2:45 pm Operator: R. VICCHIARE
Sample : method blank Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 15:15 2008 Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration







Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030805.D Vial: 3
Acq On : 3 Nov 2008 3:08 pm Operator: R. VICCHIARELLI
Sample : epa548.1 CCC 50 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 15:28 2008 Quant Results File: C5481029.RES

Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3026147	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.58	123	1651544	46.09	UG/L #	71

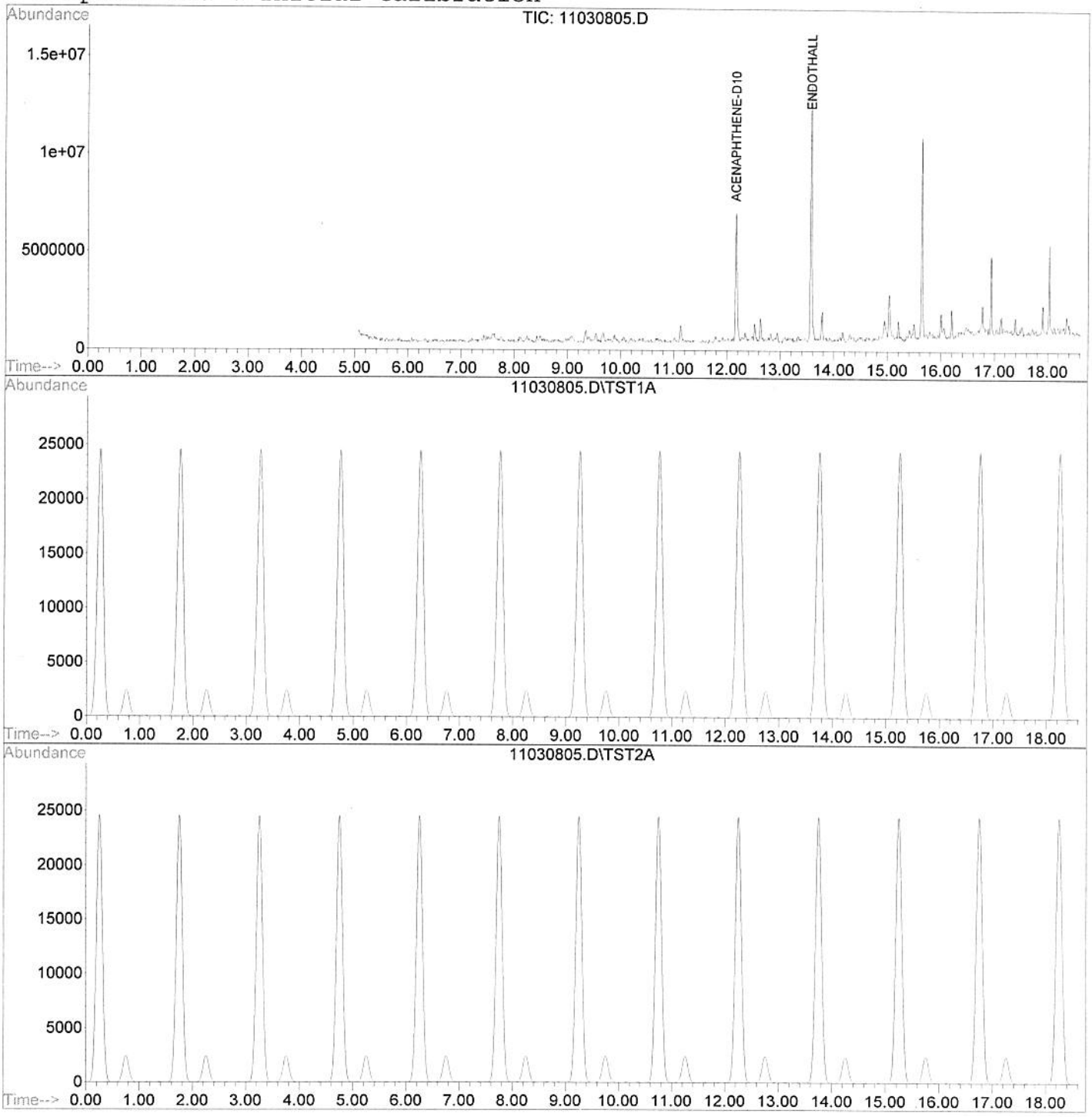
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\110308\11030805.D
Acq On : 3 Nov 2008 3:08 pm
Sample : epa548.1 CCC 50
Misc :
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 15:28 2008

Vial: 3
Operator: R. VICCHIARE
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\110308\11030805.D Vial: 3
Acq On : 3 Nov 2008 3:08 pm Operator: R. VICCHIAREL
Sample : epa548.1 CCC 50 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Multiple Level Calibration

Min. RRF : 0.060 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	ACENAPHTHENE-D10	1.000	1.000	0.0	161#	-0.02
2	ENDOTHALL	0.030	0.027#	10.0	166#	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\110308\11030805.D Vial: 3
Acq On : 3 Nov 2008 3:08 pm Operator: R. VICCHIAREL
Sample : epa548.1 CCC 50 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Multiple Level Calibration

Min. RRF : 0.060 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	ACENAPHTHENE-D10	2.500	2.500	0.0	161	-0.02
2	ENDOTHALL	50.000	46.090	7.8	166	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030806.D Vial: 4
Acq On : 3 Nov 2008 3:32 pm Operator: R. VICCHIARELLI
Sample : IDC WS-LC-1-5-1 Inst : GC/MS Ins
isc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:03 2008 Quant Results File: C5481029.RES

Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

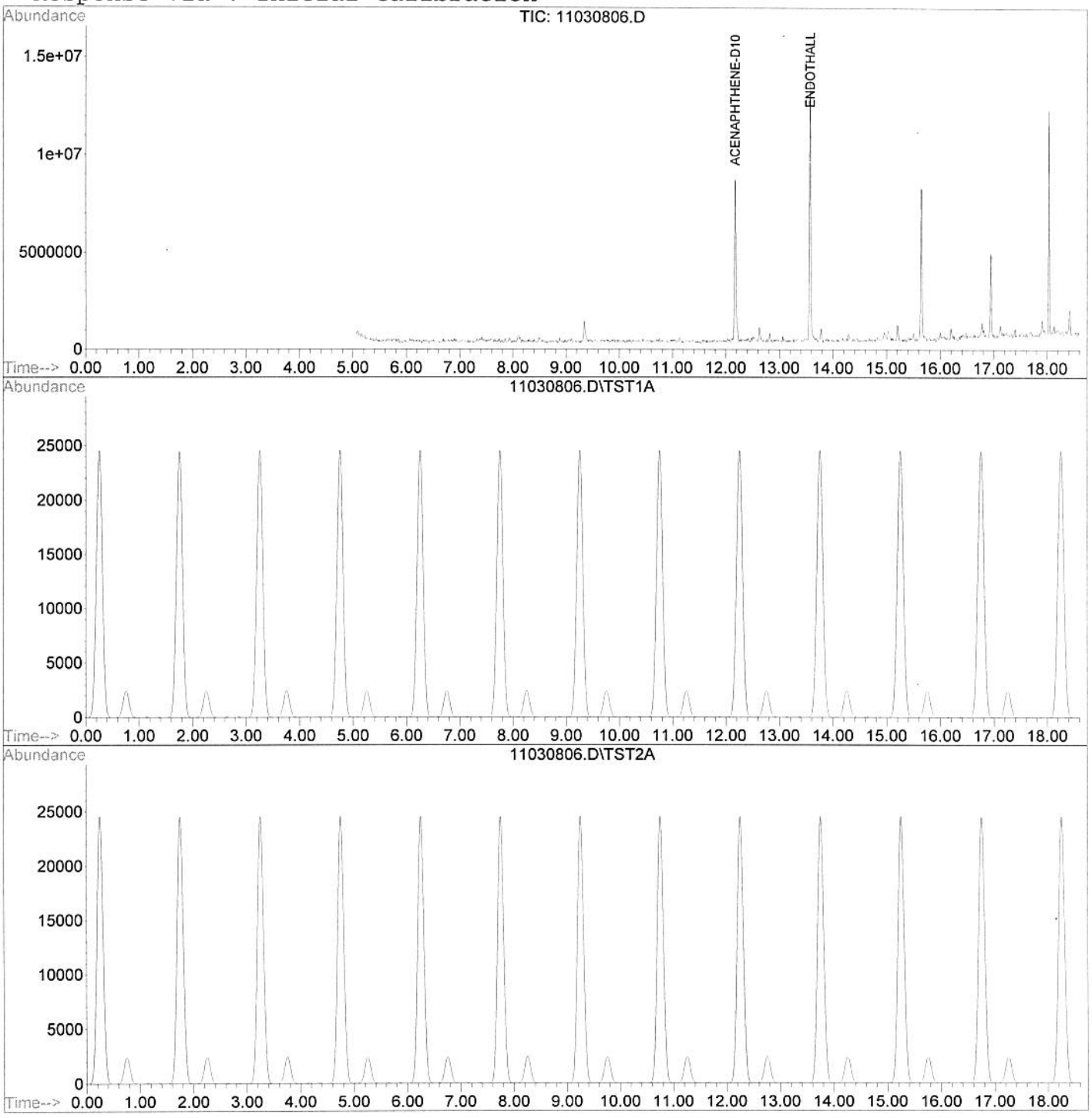
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3336716	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.58	123	1518462m	38.43	UG/L	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\110308\11030806.D Vial: 4
Acq On : 3 Nov 2008 3:32 pm Operator: R. VICCHIARE
Sample : IDC WS-LC-1-5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:03 2008 Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030807.D Vial: 5
Acq On : 3 Nov 2008 3:55 pm Operator: R. VICCHIARELLI
Sample : IDC WS-LC-1-5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:16 2008 Quant Results File: C5481029.RES

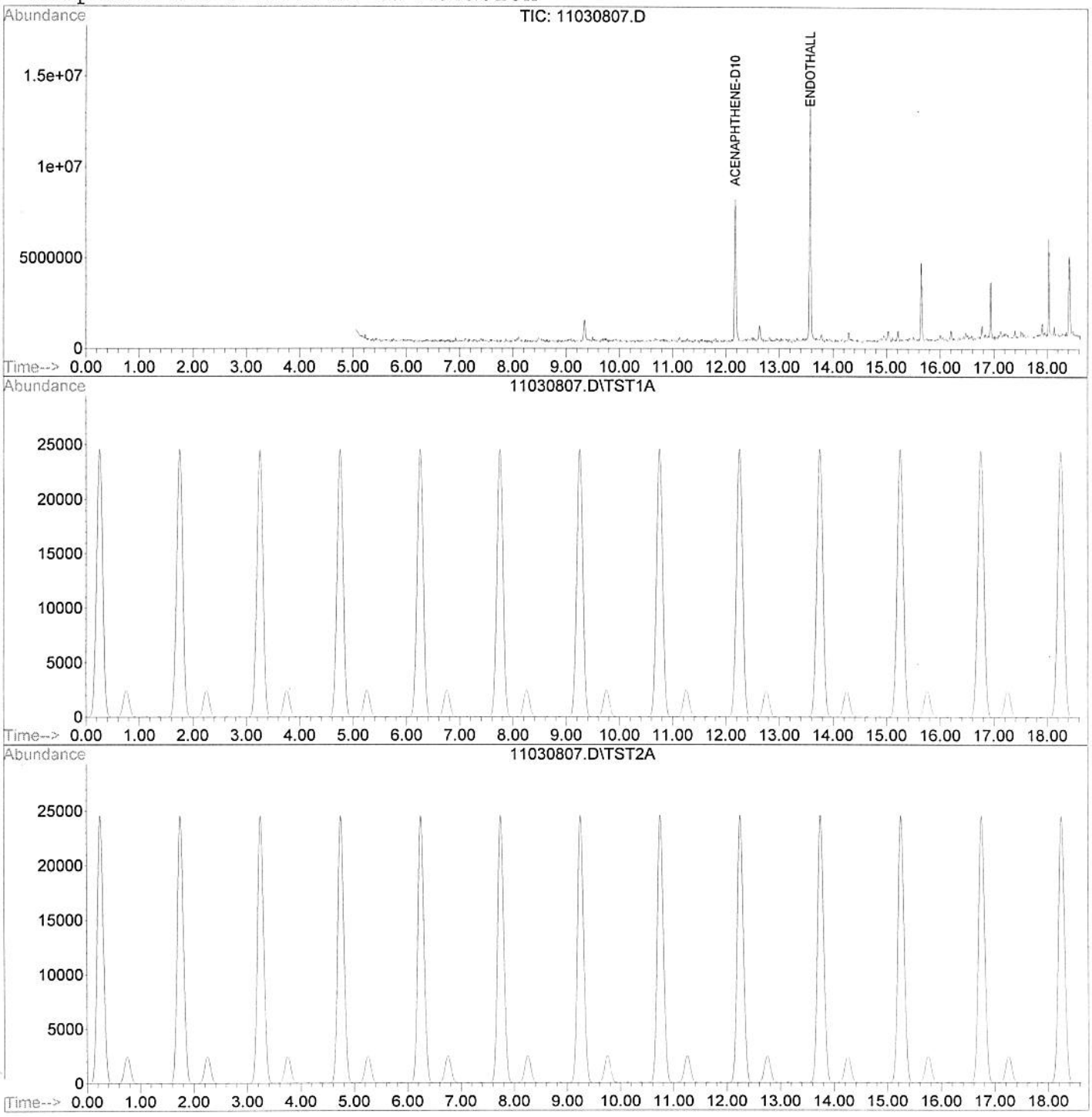
Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3590013	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.58	123	1709502	40.21	UG/L	85

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\110308\11030807.D Vial: 5
Acq On : 3 Nov 2008 3:55 pm Operator: R. VICCHIARE
Sample : IDC WS-LC-1-5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:16 2008 Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030808.D Vial: 6
Acq On : 3 Nov 2008 4:19 pm Operator: R. VICCHIARELLI
Sample : IDC WS-LC-1-5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:41 2008 Quant Results File: C5481029.RES

Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3516975	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.57	123	1733435	41.62	UG/L	# 76

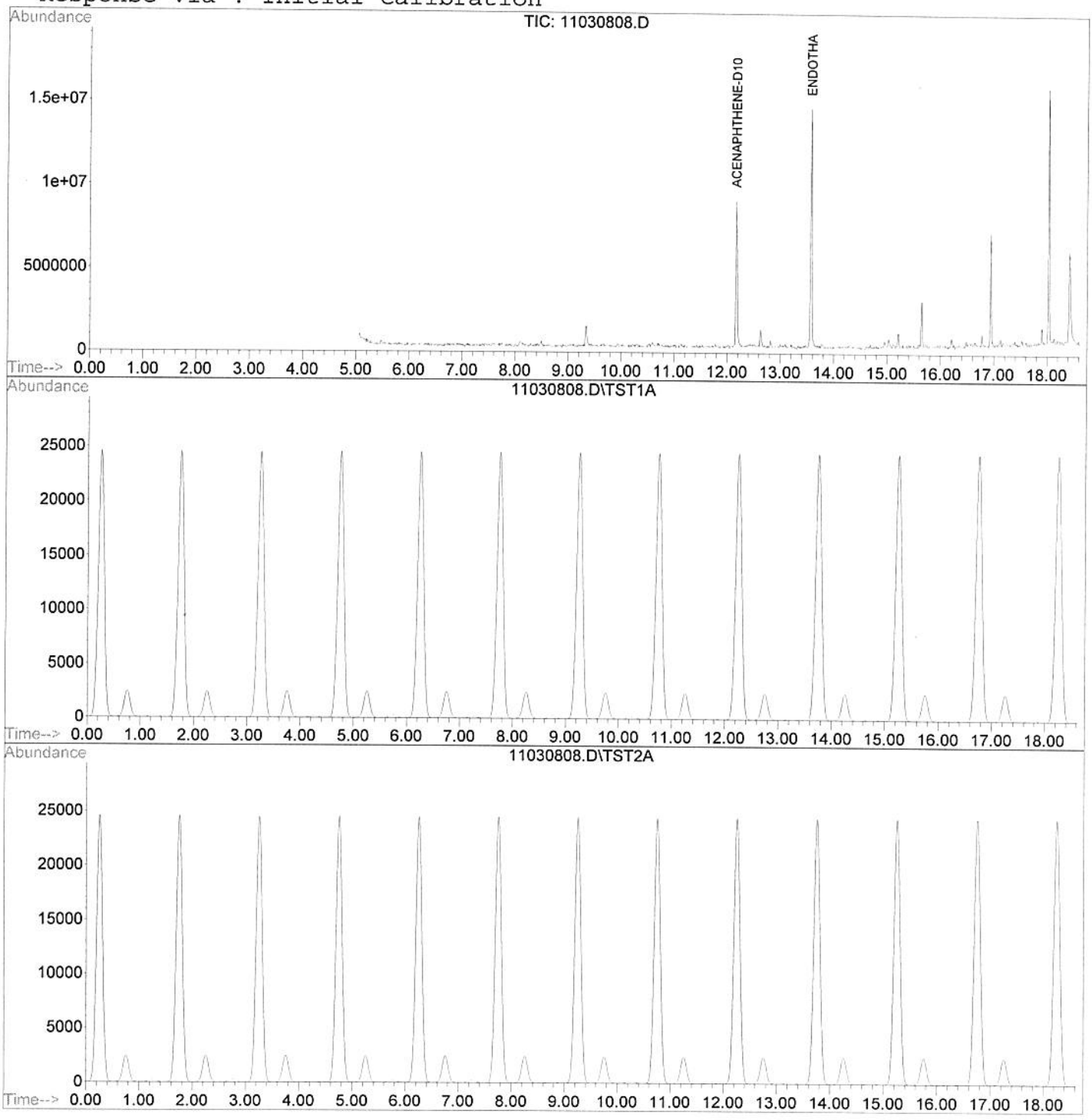
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\110308\11030808.D
Acq On : 3 Nov 2008 4:19 pm
Sample : IDC WS-LC-1-5-3
Misc :
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:41 2008

Vial: 6
Operator: R. VICCHIARE
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030809.D Vial: 7
Acq On : 3 Nov 2008 4:42 pm Operator: R. VICCHIARELLI
Sample : IDC WS-LC-1-5-4 Inst : GC/MS Ins
'isc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 17:06 2008 Quant Results File: C5481029.RES

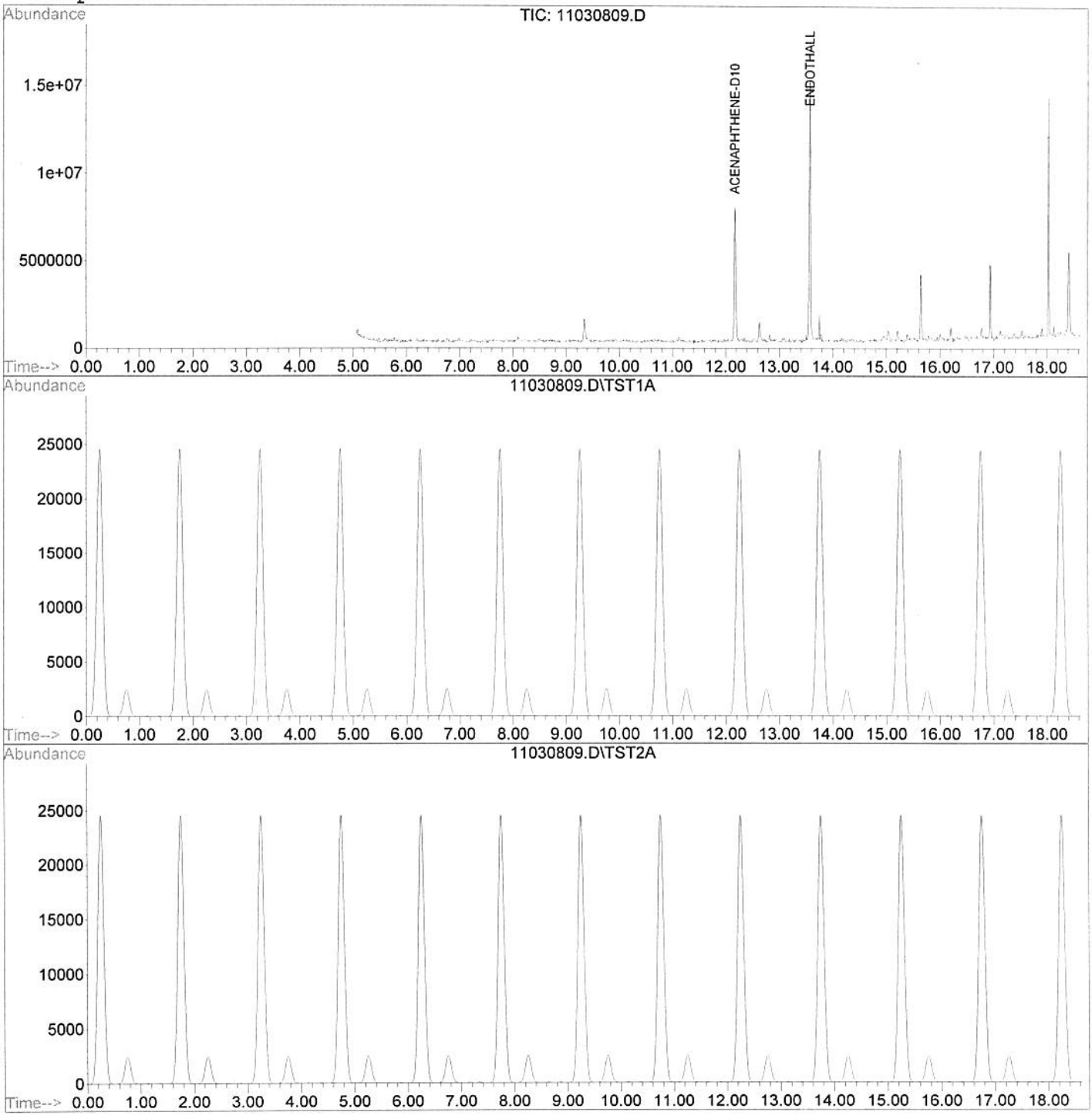
Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3522878	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.58	123	1725970	41.38	UG/L #	70

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\110308\11030809.D Vial: 7
Acq On : 3 Nov 2008 4:42 pm Operator: R. VICCHIARE
Sample : IDC WS-LC-1-5-4 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 17:06 2008 Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Demonstration of Capability
Certification Statement

Date: 11/3/8
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): RICHARD VICCHIARELLI
Matrix: WATER
Method number EPA 548.1

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I RICHARD VICCHIARELLI current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

Maria E. Castellanos — Technical Director's Name and Title
Signature
Date 11/4/08

Quality Assurance Officer's Name
Signature
Date

This certification form must be completed each time a demonstration of capability study is completed

.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

IDC:

Matrix: (Water) Soil Air

Date of Analysis: 11/03/8

Method Number: EPA 548.1

Method Description: Endothall

Instrument Used: GC/MS-3

[X]	Raw Data Given to QA?
[ ]	All Crossouts Initialed, Dated and Explained?
[ ]	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Endothall Standard	50 ppb
wslc 1-5-1,1-5-2,1-5-3,1-5-4	
See Extraction Log	

Comments:

Analyst Name: Richard Vicchiarelli

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
Endothall	38.400	40.210	41.620	41.380	41.208	50.000	82.4	3.64%

Richard Vicchiarelli 11/3/8

Semivolatile HPLC and Endothall Extraction Log

Batch#_____

Date Extracted: 10/31/18
Time Started: 9:45
Time Finished:_____

Total Number of Samples:_____+ QC= 5
Analysis Method: 548.1
IDC STUDY

Conditioning Reagents:
1. CH_3OH 3. 10% 01-LCR-06 5. 31-R-6EN-12 7._____
2. $DI\ H_2O$ 4. $DI\ H_2O$ 6. $DI\ H_2O$ 8._____

Cartridge Disk: SPEEDISK QUATERNARY AMINE LOT G04N33

10% H_2SO_4/CH_3OH 01-LCR-06
CH_2Cl_2 SV 1082

FSES 1036

Surrogate ID: EXWS_____ Vol, mL_____ Conc. Ug/mL_____

Internal Std: ~~EXWS~~ WSLC 1-2-19_____ Spike ID: EXWS_____ Vol, mL_____ Conc. Ug/mL_____

Sx#	Log #	Extracted By	Sample ID	Date Sampled	Volume (mL)	Final Volume (mL)	Surr/Spike Witness	Conc. Tube #	Comments
1	Blank	RPV	$DI\ H_2O$	—	100	1			100 mg EDTA added
2	LCS	↓		↓	↓	↓			to each sample
3	LCSD								07-WC-02
4	MS								
5	MSD								
6	IDC 1		WSLC 1-5-1						
7	IDC 2		WSLC 1-5-2						
8	IDC 3		WSLC 1-5-3						
9	IDC 4	↓	WSLC 1-5-4	↓	↓	↓			
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Reviewed By:_____Date:____

Sequence Name: C:\HPCHEM\1\SEQUENCE\110308.S
Comment: MON 11/03/08 TINA GC/MS-3
Operator: R. VICCHIARELLI
Data Path: C:\HPCHEM\1\DATA\110308\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	11030801	ACM548	method blank
2	Sample	1	11030802	ACM548	method blank
3	Sample	2	11030803	ACM548	epa548.1 CRITERIA
4	Sample	2	11030804	ACM548	epa548.1 CRITERIA
5	Sample	3	11030805	ACM548	epa548.1 CCC 50
6	Sample	4	11030806	ACM548	IDC WS-LC-1-5-1
7	Sample	5	11030807	ACM548	IDC WS-LC-1-5-2
8	Sample	6	11030808	ACM548	IDC WS-LC-1-5-3
9	Sample	7	11030809	ACM548	IDC WS-LC-1-5-4

```
Sequence Name: C:\HPCHEM\1\SEQUENCE\110308.S
      Comment: MON 11/03/08 TINA GC/MS-3
     Operator: R. VICCHIARELLI
    Data Path: C:\HPCHEM\1\DATA\110308\
  Pre-Seq Cmd:
 Post-Seq Cmd:

Method Sections To Run      On A Barcode Mismatch
 (X) Full Method              (X) Inject Anyway
 ( ) Reprocessing Only        ( ) Don't Inject

-------------------------------------------------------------------------
Line                    Sample Name/Misc Info
-------------------------------------------------------------------------
1   Type: Sample        method blank
    Vial: 1
    Meth: ACM548.M      Barcode:
    Data: 11030801.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
2   Type: Sample        method blank
    Vial: 1
    Meth: ACM548.M      Barcode:
    Data: 11030802.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
3   Type: Sample        epa548.1 CRITERIA
    Vial: 2
    Meth: ACM548.M      Barcode:
    Data: 11030803.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
4   Type: Sample        epa548.1 CRITERIA
    Vial: 2
    Meth: ACM548.M      Barcode:
    Data: 11030804.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
5   Type: Sample        epa548.1 CCC 50
    Vial: 3
    Meth: ACM548.M      Barcode:
    Data: 11030805.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method
    CR Database      :per Method        CR Spreadsheet  :per Method
-------------------------------------------------------------------------
6   Type: Sample        IDC WS-LC-1-5-1
    Vial: 4
    Meth: ACM548.M      Barcode:
    Data: 11030806.D  Samp Amt: 0           Multiplr: 1
    Area% Report     :per Method        Lib. Search Rep :per Method
    Quant Report     :per Method        Post-Quant Macro:per Method

Sequence:110308.S  Last Modified:Mon Nov 03 10:46:52 2008  Page: 1
```

```
    CR Database      :per Method       CR Spreadsheet  :per Method
-------------------------------------------------------------------------
7   Type: Sample       IDC WS-LC-1-5-2
    Vial: 5
    Meth: ACM548.M     Barcode:
    Data: 11030807.D  Samp Amt: 0          Multiplr: 1
    Area% Report     :per Method       Lib. Search Rep :per Method
    Quant Report     :per Method       Post-Quant Macro:per Method
    CR Database      :per Method       CR Spreadsheet  :per Method
-------------------------------------------------------------------------
8   Type: Sample       IDC WS-LC-1-5-3
    Vial: 6
    Meth: ACM548.M     Barcode:
    Data: 11030808.D  Samp Amt: 0          Multiplr: 1
    Area% Report     :per Method       Lib. Search Rep :per Method
    Quant Report     :per Method       Post-Quant Macro:per Method
    CR Database      :per Method       CR Spreadsheet  :per Method
-------------------------------------------------------------------------
9   Type: Sample       IDC WS-LC-1-5-4
    Vial: 7
    Meth: ACM548.M     Barcode:
    Data: 11030809.D  Samp Amt: 0          Multiplr: 1
    Area% Report     :per Method       Lib. Search Rep :per Method
    Quant Report     :per Method       Post-Quant Macro:per Method
    CR Database      :per Method       CR Spreadsheet  :per Method
-------------------------------------------------------------------------
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030802.D Vial: 1
Acq On : 3 Nov 2008 11:15 am Operator: R. VICCHIARELLI
Sample : method blank Inst : GC/MS Ins
lisc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 11:39 2008 Quant Results File: C5481029.RES

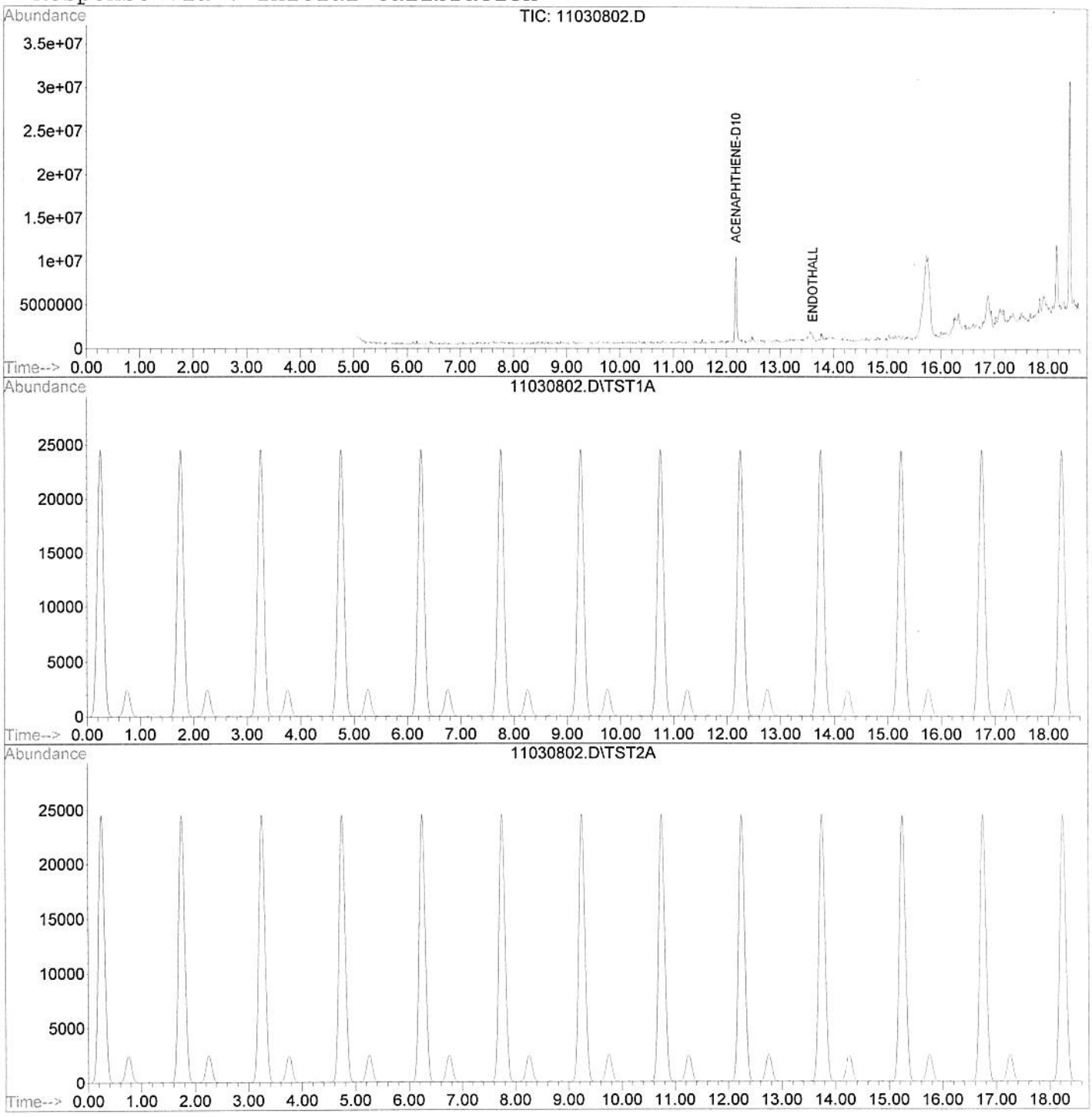
Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.18	164	4490139	2.50	UG/L	-0.01
Target Compounds						Qvalue
2) ENDOTHALL	13.61	123	10218	0.19	UG/L	# 26

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\110308\11030802.D Vial: 1
Acq On : 3 Nov 2008 11:15 am Operator: R. VICCHIARE
Sample : method blank Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 11:39 2008 Quant Results File: C5481029.RES

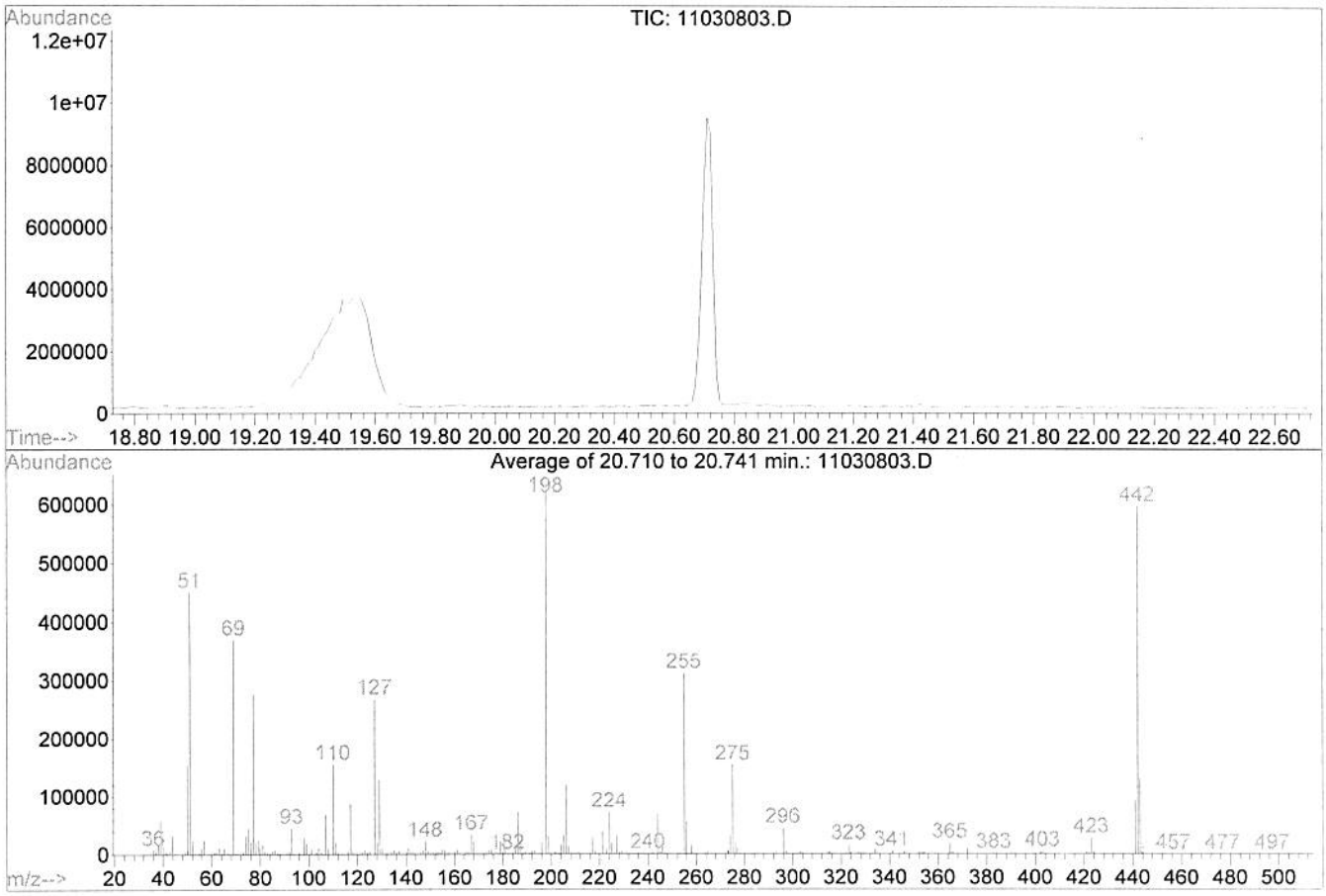
Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



DFTPP

Data File : C:\HPCHEM\1\DATA\110308\11030803.D
Acq On : 3 Nov 2008 1:02 pm
Sample : epa548.1 CRITERIA
Misc :
MS Integration Params: ACBNAX.P
Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI

Vial: 2
Operator: R. VICCHIA
Inst : GC/MS Ins
Multiplr: 1.00



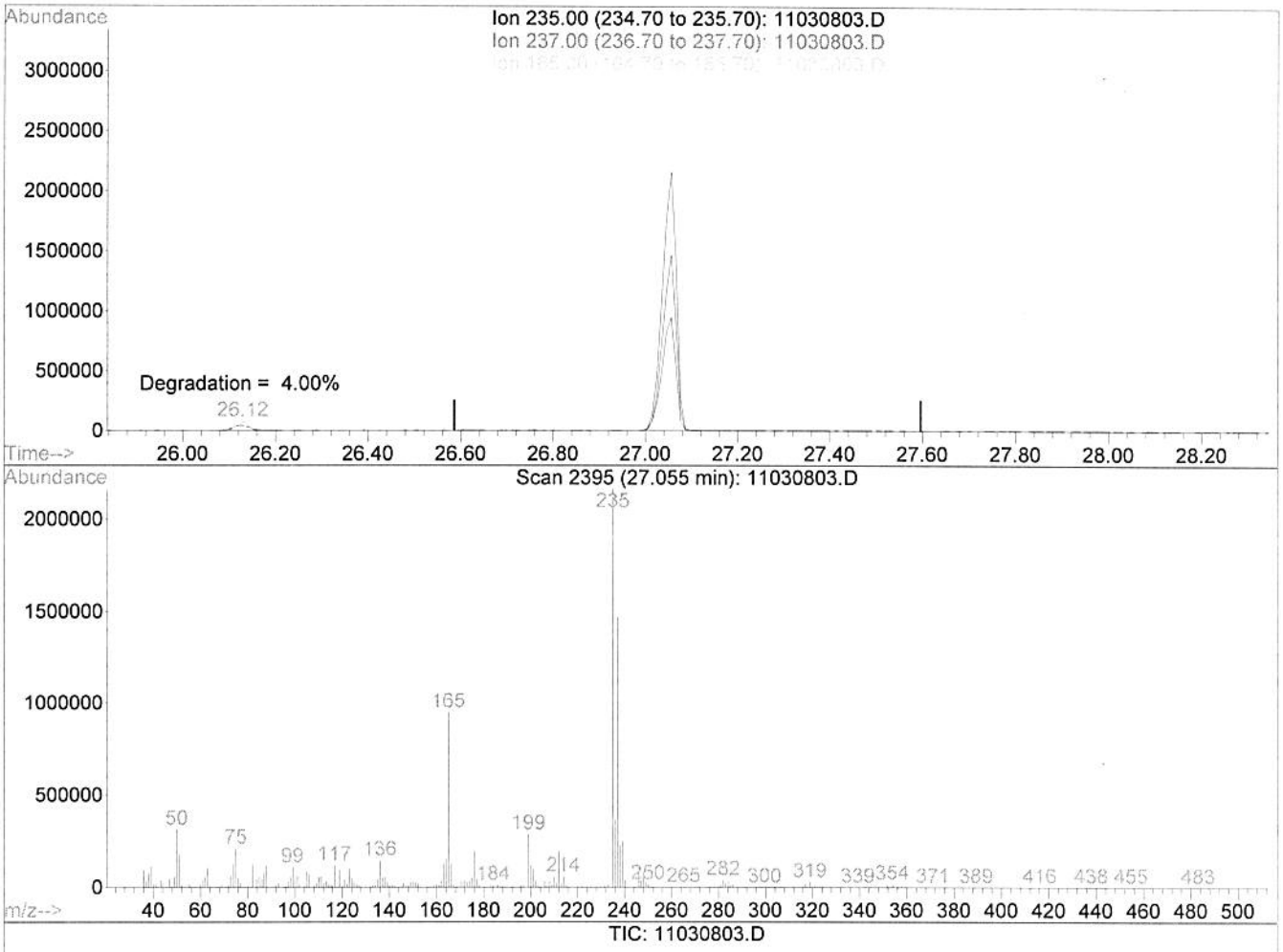
Spectrum Information: Average of 20.710 to 20.741 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	72.5	450442	PASS
68	69	0.00	2	0.1	494	PASS
69	198	0.00	100	59.5	369316	PASS
70	69	0.00	2	0.3	1239	PASS
127	198	10	80	43.1	267942	PASS
197	198	0.00	2	0.0	0	PASS
198	198	40	100	100.0	620964	PASS
199	198	5	9	5.0	31191	PASS
275	198	10	60	24.8	154050	PASS
365	198	1	100	3.0	18393	PASS
441	443	0.01	100	71.6	93722	PASS
442	198	40	100	96.1	596768	PASS
443	442	15	24	21.9	130886	PASS

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\110308\11030803.D Vial: 2
Acq On : 3 Nov 2008 1:02 pm Operator: R. VICCHIA
Sample : epa548.1 CRITERIA Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 14:00 2008 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\C8270A25.M (RTE Integrator)
Title : EPA 8270D BY TINA GC/MS#3 A. CASTELLANOS
Last Update : Mon Oct 27 12:12:53 2008
Response via : Multiple Level Calibration



TIC: 11030803.D

(99) 4,4'DDT (T)

27.06min 15384.13ug/L

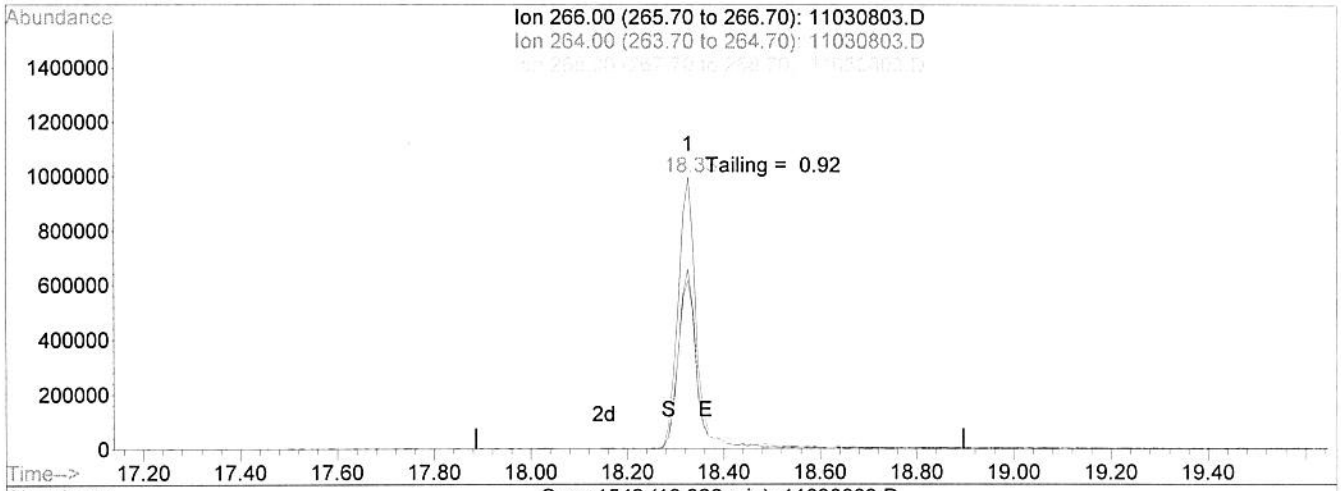
response 4545178

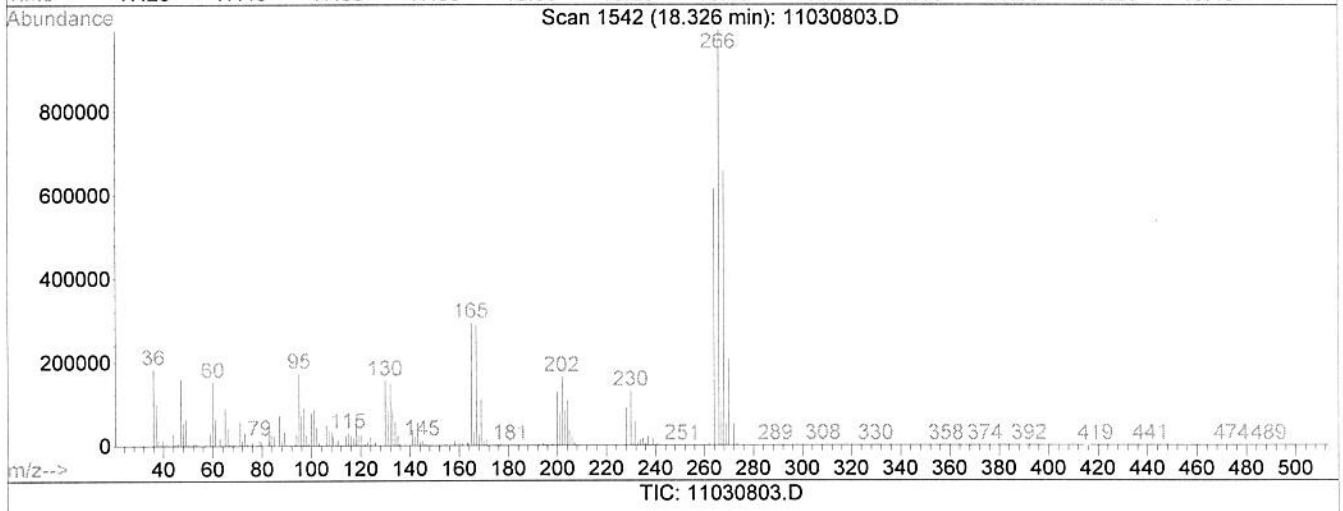
Ion	Exp%	Act%
235.00	100	100
237.00	66.60	67.93
165.00	43.30	43.87
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\110308\11030803.D Vial: 2
Acq On : 3 Nov 2008 1:02 pm Operator: R. VICCHIA
Sample : epa548.1 CRITERIA Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 14:00 2008 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\C8270A25.M (RTE Integrator)
Title : EPA 8270D BY TINA GC/MS#3 A. CASTELLANOS
Last Update : Mon Oct 27 12:12:53 2008
Response via : Multiple Level Calibration





TIC: 11030803.D

(68) Pentachlorophenol (ccc) (TM)

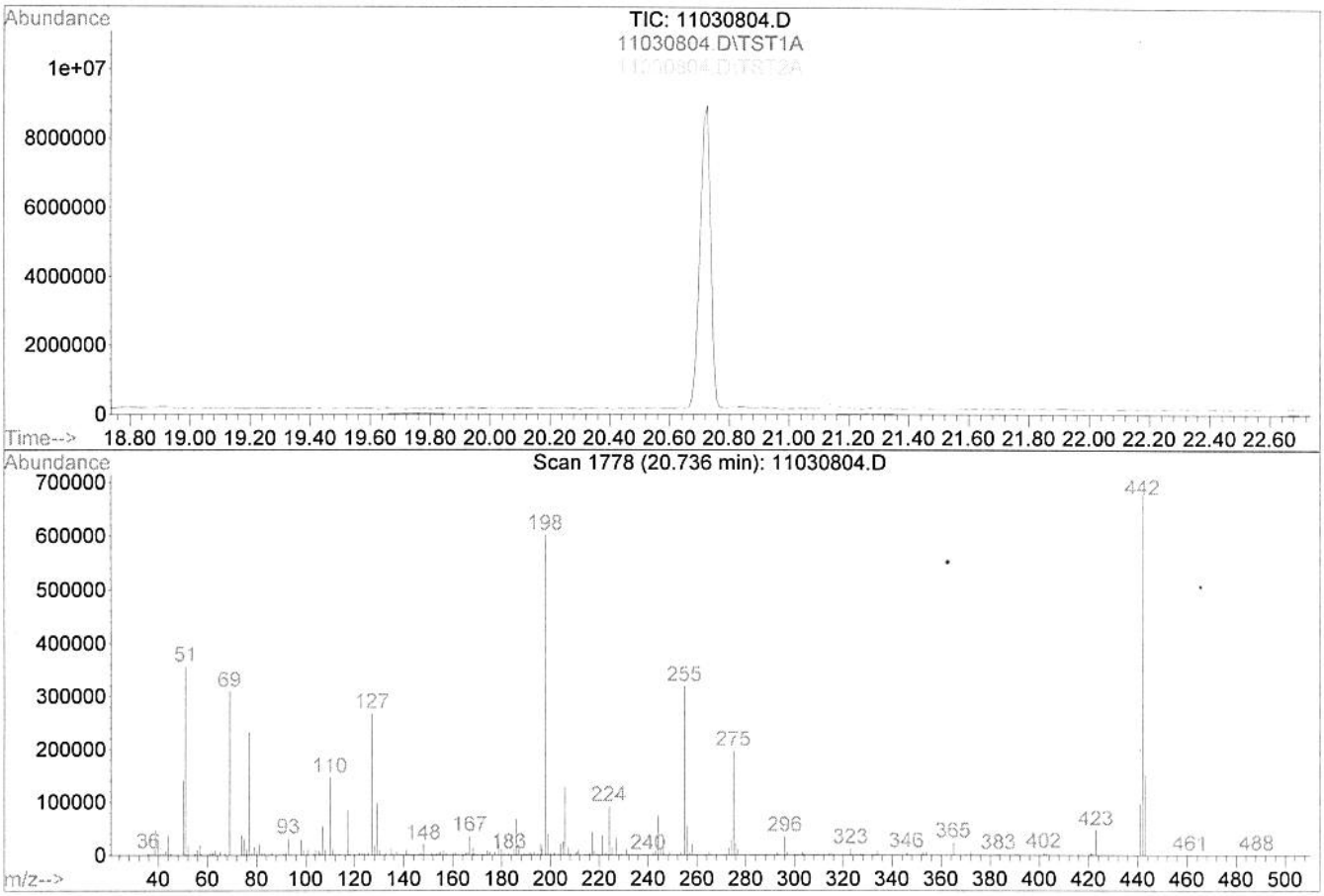
18.33min 20711.92ug/L

response 2532878

Ion	Exp%	Act%
266.00	100	100
264.00	63.10	61.95
268.00	64.40	66.07
0.00	0.00	0.00

DFTPP

Data File : C:\HPCHEM\1\DATA\110308\11030804.D Vial: 2
Acq On : 3 Nov 2008 1:59 pm Operator: R. VICCHIA
Sample : epa548.1 CRITERIA Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Method : C:\HPCHEM\1\METHODS\C8270A25.M (RTE Integrator)
Title : EPA 8270D BY TINA GC/MS#3 A. CASTELLANOS



Spectrum Information: Scan 1778

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	59.4	357184	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.4	309504	PASS
70	69	0.00	2	0.0	0	PASS
127	198	30	80	44.5	267968	PASS
197	198	0.00	1	0.0	0	PASS
198	442	40	100	88.5	601600	PASS
199	198	5	9	6.5	39264	PASS
275	198	10	80	32.8	197376	PASS
365	198	1	100	3.9	23640	PASS
441	443	0.01	100	64.3	97376	PASS
442	442	40	100	100.0	679488	PASS
443	442	15	24	22.3	151552	PASS

11030804.D C8270A25.M Mon Nov 03 14:41:02 2008

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030802.D Vial: 1
Acq On : 3 Nov 2008 2:45 pm Operator: R. VICCHIARELLI
Sample : method blank Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 15:15 2008 Quant Results File: C5481029.RES

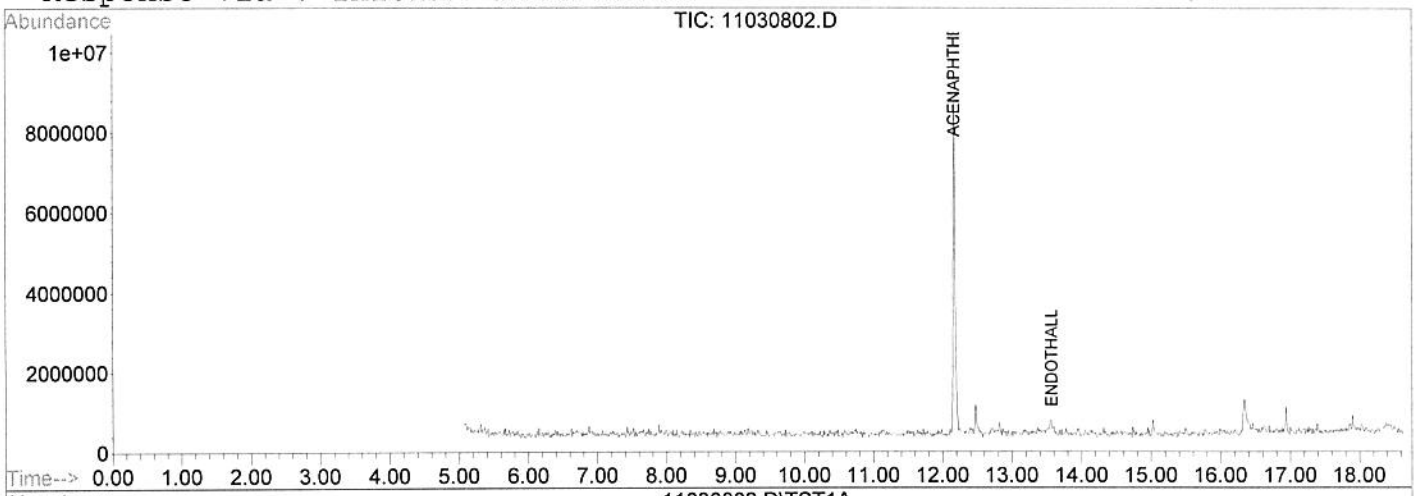
Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

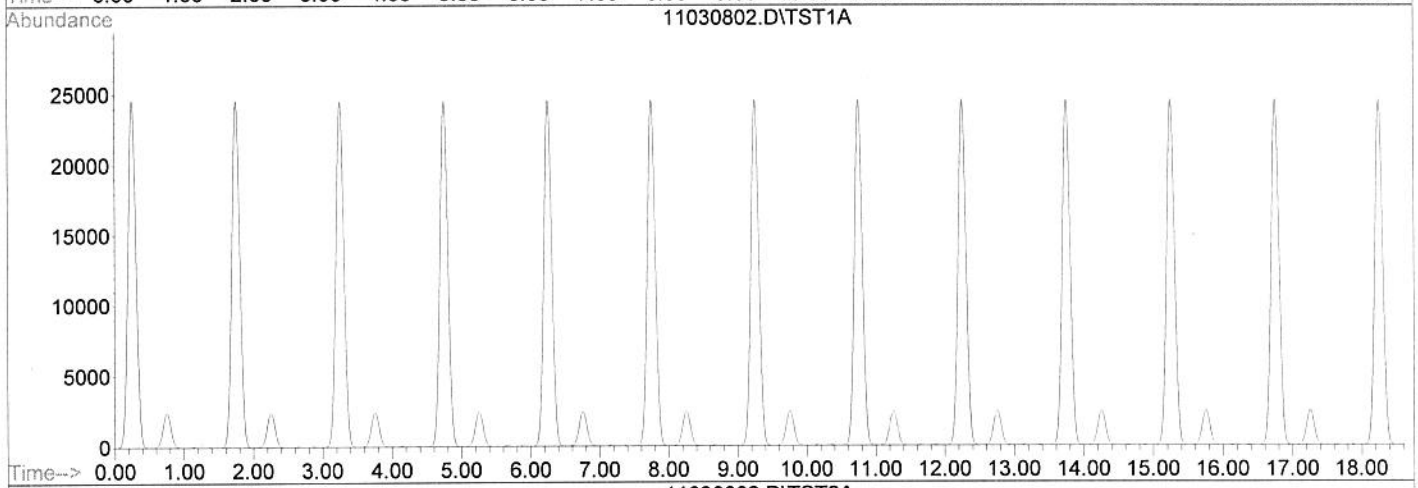
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3649564	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.57	123	2809	0.07	UG/L	# 47

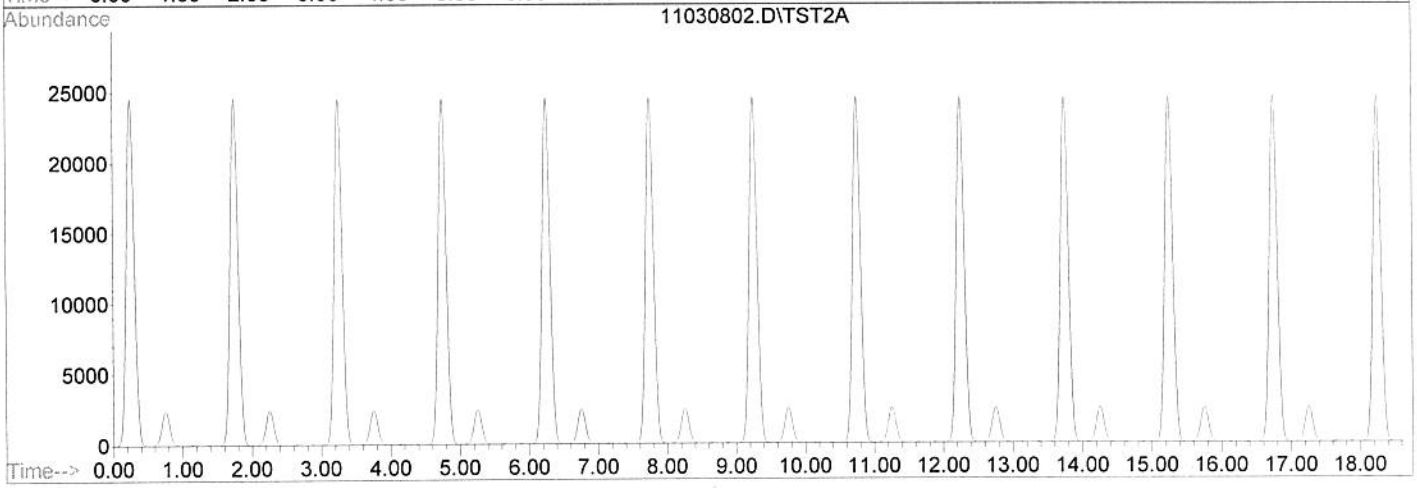
(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\110308\11030802.D Vial: 1
Acq On : 3 Nov 2008 2:45 pm Operator: R. VICCHIARE
Sample : method blank Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 15:15 2008 Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration







Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030805.D Vial: 3
Acq On : 3 Nov 2008 3:08 pm Operator: R. VICCHIARELLI
Sample : epa548.1 CCC 50 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 15:28 2008 Quant Results File: C5481029.RES

Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3026147	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.58	123	1651544	46.09	UG/L #	71

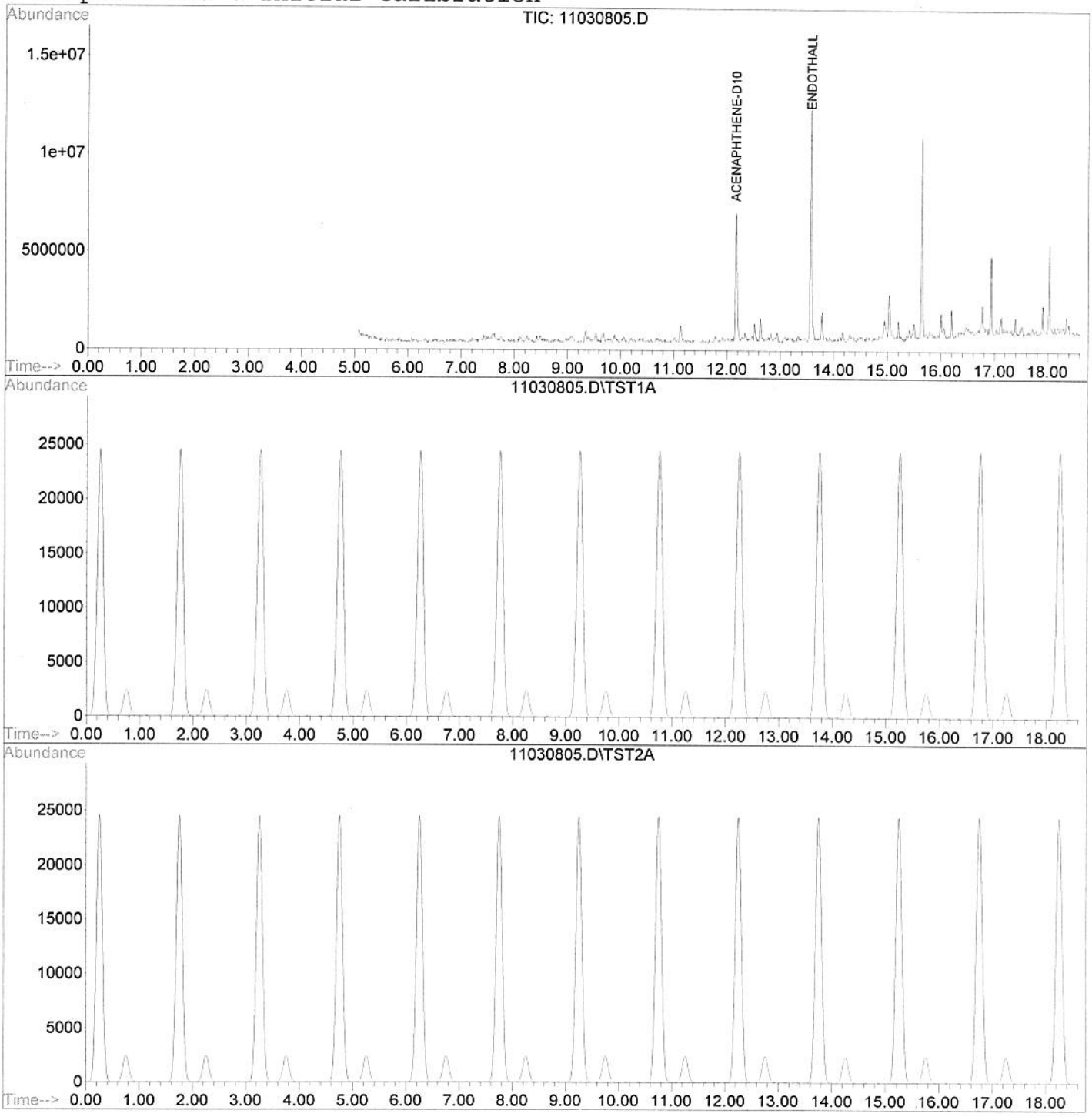
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\110308\11030805.D
Acq On : 3 Nov 2008 3:08 pm
Sample : epa548.1 CCC 50
Misc :
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 15:28 2008

Vial: 3
Operator: R. VICCHIARE
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\110308\11030805.D Vial: 3
Acq On : 3 Nov 2008 3:08 pm Operator: R. VICCHIAREL
Sample : epa548.1 CCC 50 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Multiple Level Calibration

Min. RRF : 0.060 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	ACENAPHTHENE-D10	1.000	1.000	0.0	161#	-0.02
2	ENDOTHALL	0.030	0.027#	10.0	166#	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\110308\11030805.D Vial: 3
Acq On : 3 Nov 2008 3:08 pm Operator: R. VICCHIAREL
Sample : epa548.1 CCC 50 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Multiple Level Calibration

Min. RRF : 0.060 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	ACENAPHTHENE-D10	2.500	2.500	0.0	161	-0.02
2	ENDOTHALL	50.000	46.090	7.8	166	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030806.D Vial: 4
Acq On : 3 Nov 2008 3:32 pm Operator: R. VICCHIARELLI
Sample : IDC WS-LC-1-5-1 Inst : GC/MS Ins
isc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:03 2008 Quant Results File: C5481029.RES

Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

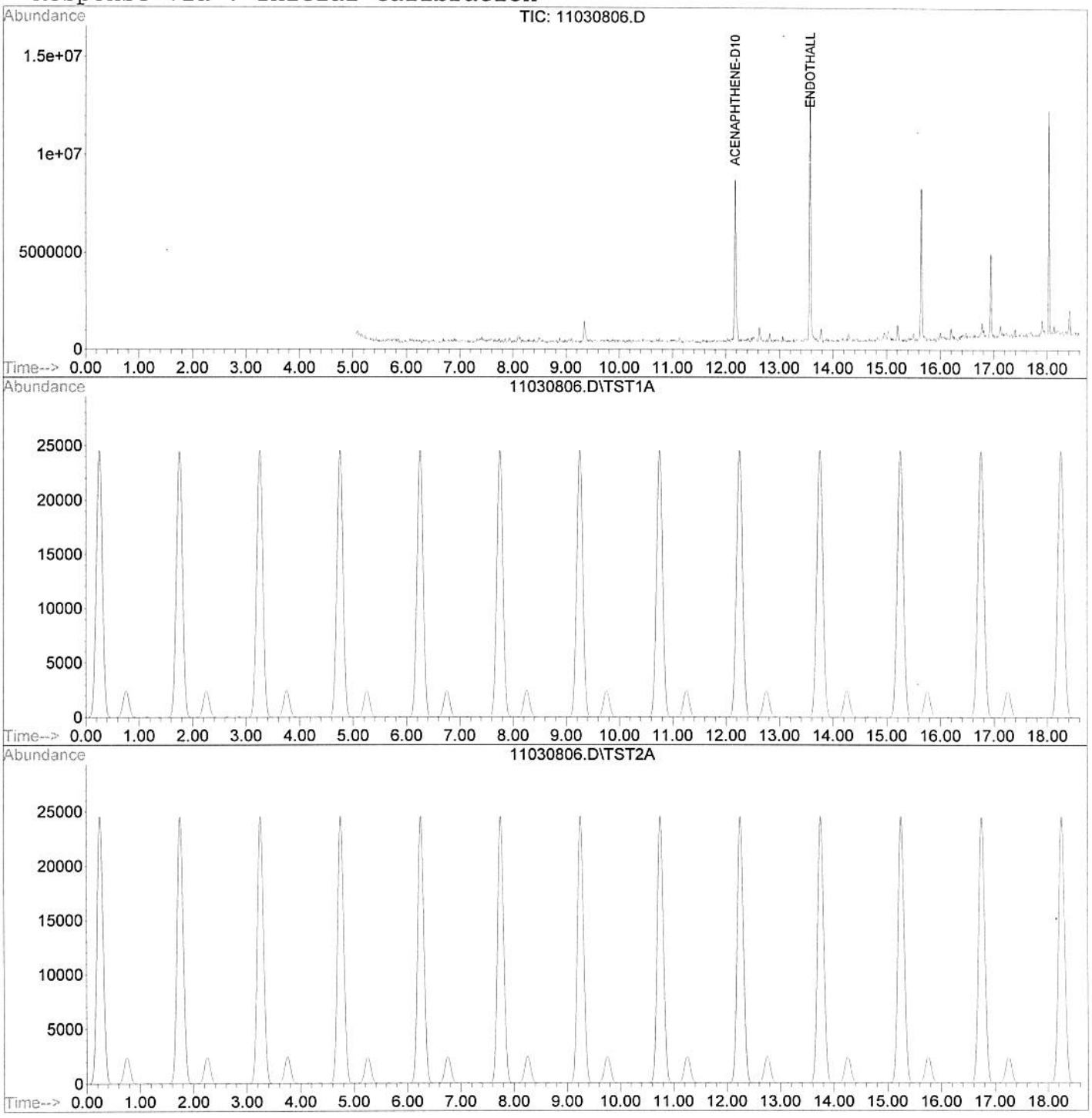
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3336716	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.58	123	1518462m	38.43	UG/L	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\110308\11030806.D Vial: 4
Acq On : 3 Nov 2008 3:32 pm Operator: R. VICCHIARE
Sample : IDC WS-LC-1-5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:03 2008 Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030807.D Vial: 5
Acq On : 3 Nov 2008 3:55 pm Operator: R. VICCHIARELLI
Sample : IDC WS-LC-1-5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:16 2008 Quant Results File: C5481029.RES

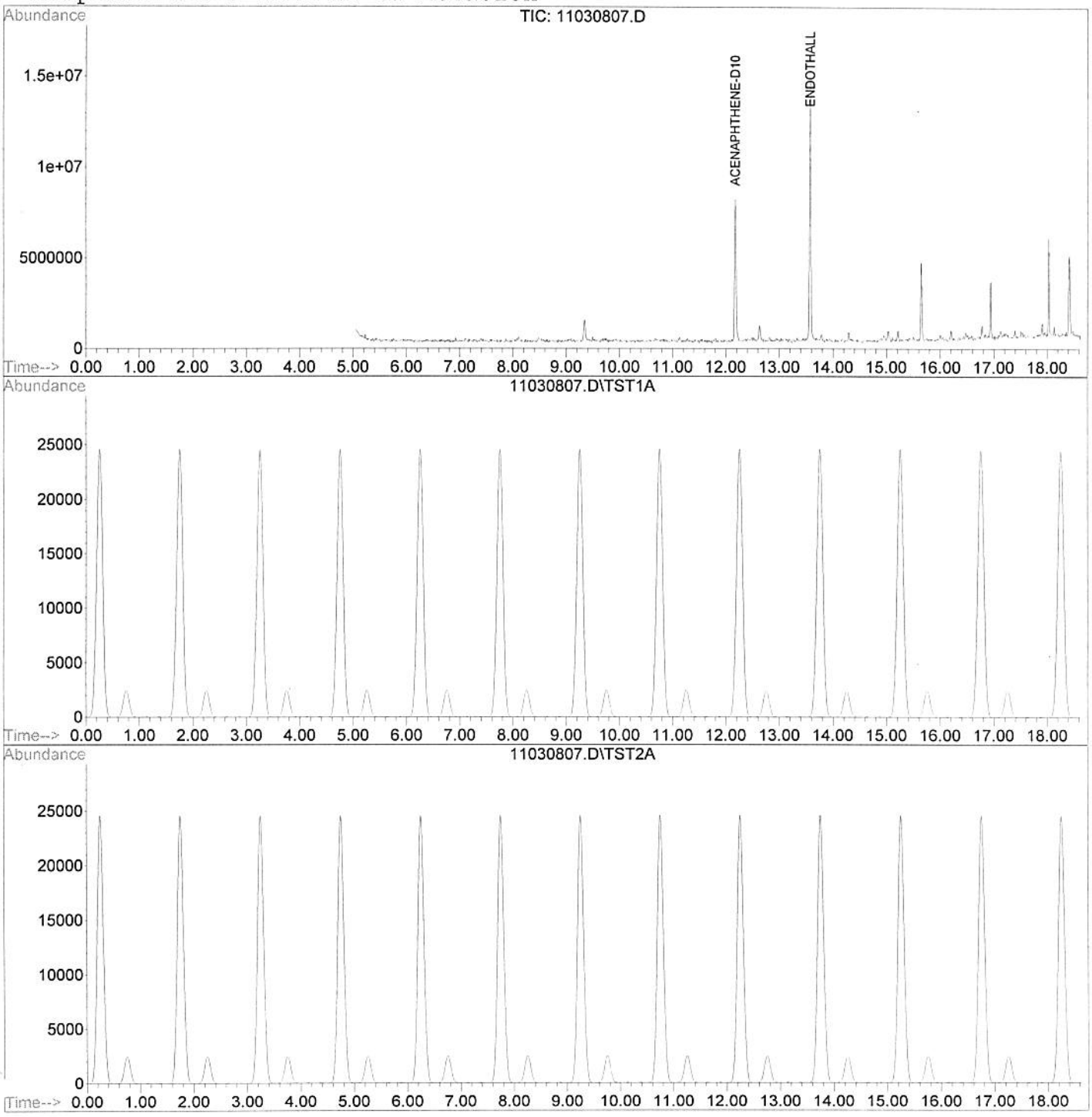
Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3590013	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.58	123	1709502	40.21	UG/L	85

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\110308\11030807.D Vial: 5
Acq On : 3 Nov 2008 3:55 pm Operator: R. VICCHIARE
Sample : IDC WS-LC-1-5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:16 2008 Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030808.D Vial: 6
Acq On : 3 Nov 2008 4:19 pm Operator: R. VICCHIARELLI
Sample : IDC WS-LC-1-5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:41 2008 Quant Results File: C5481029.RES

Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3516975	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.57	123	1733435	41.62	UG/L	# 76

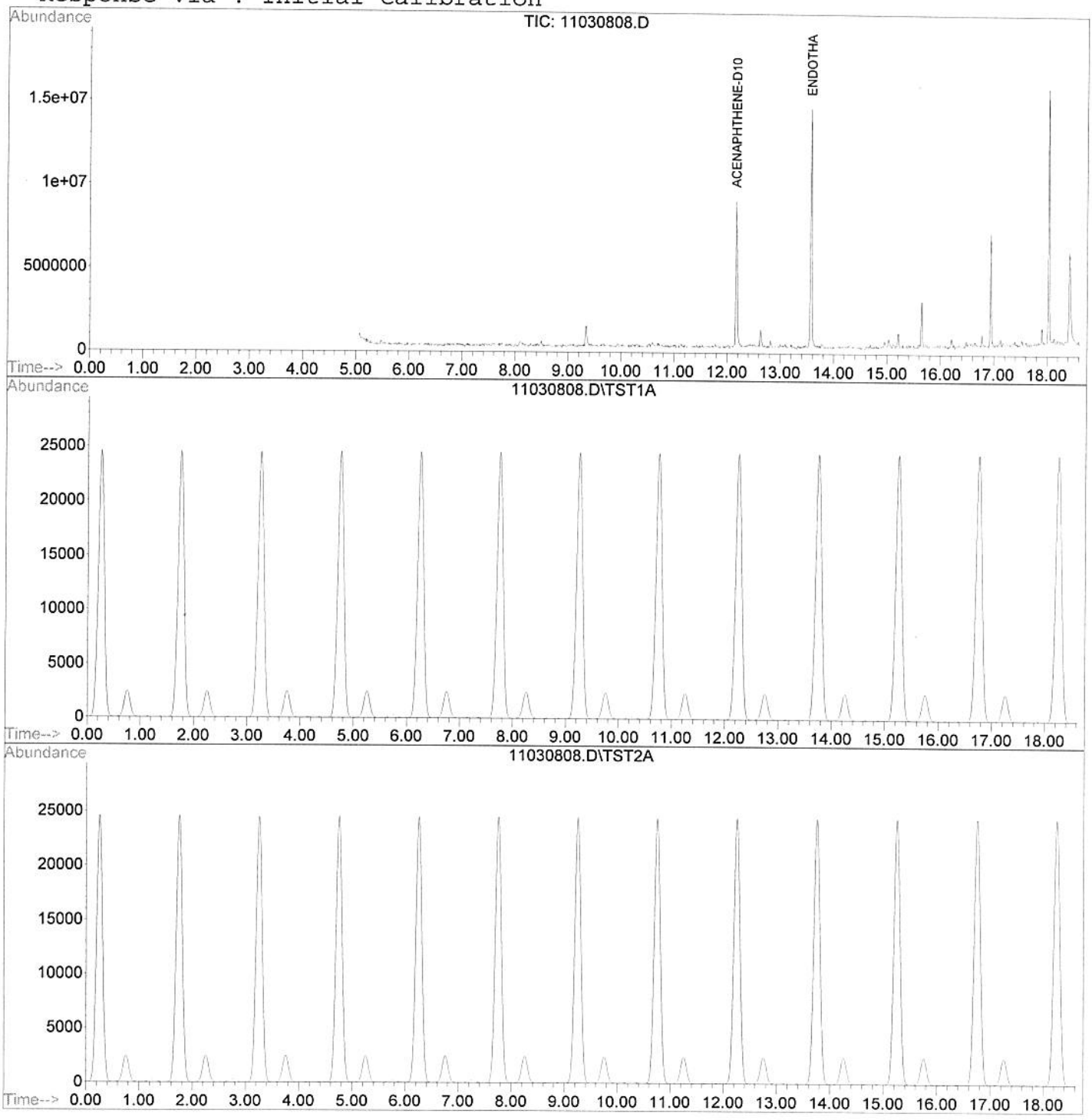
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\110308\11030808.D
Acq On : 3 Nov 2008 4:19 pm
Sample : IDC WS-LC-1-5-3
Misc :
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 16:41 2008

Vial: 6
Operator: R. VICCHIARE
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\110308\11030809.D Vial: 7
Acq On : 3 Nov 2008 4:42 pm Operator: R. VICCHIARELLI
Sample : IDC WS-LC-1-5-4 Inst : GC/MS Ins
'isc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 17:06 2008 Quant Results File: C5481029.RES

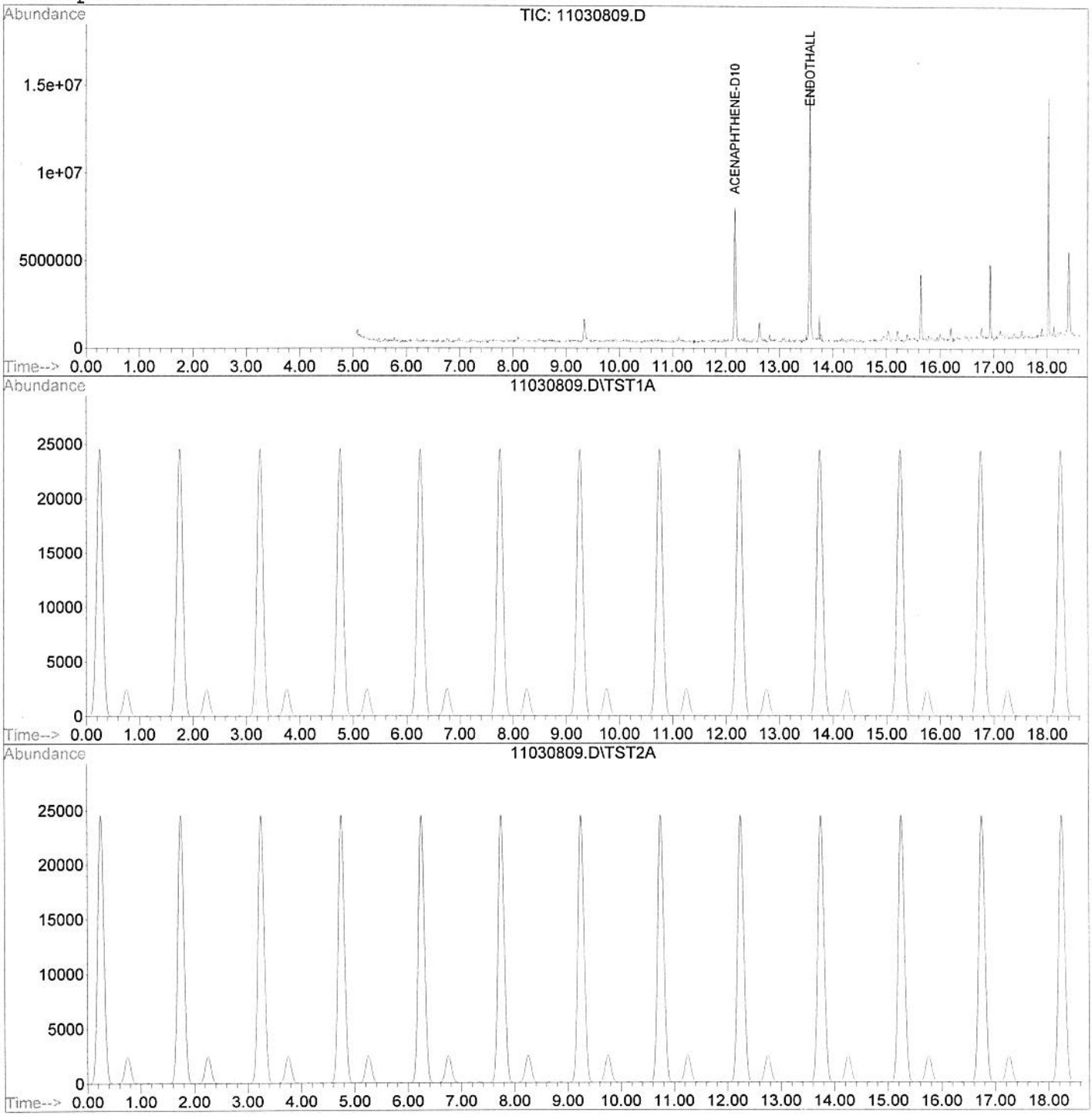
Quant Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration
DataAcq Meth : ACM548

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) ACENAPHTHENE-D10	12.17	164	3522878	2.50	UG/L	-0.02
Target Compounds						Qvalue
2) ENDOTHALL	13.58	123	1725970	41.38	UG/L #	70

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\110308\11030809.D Vial: 7
Acq On : 3 Nov 2008 4:42 pm Operator: R. VICCHIARE
Sample : IDC WS-LC-1-5-4 Inst : GC/MS Ins
Misc : Multiplr: 1.00
Integration Parameters - MS: ACBNAX.P GC1: rteint2.p GC2: rteint3.p
Quant Time: Nov 3 17:06 2008 Quant Results File: C5481029.RES

Method : C:\HPCHEM\1\METHODS\C5481029.M (RTE Integrator)
Title : EPA548.1 BY TINA GC/MS-3/R. VICHIAREELI
Last Update : Thu Oct 30 08:19:16 2008
Response via : Initial Calibration



Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	11/02/2016
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 1600	☒ Water ☐ DW ☐ Solid ☐ Other:_____	020161b-001
Analyte or Class of Analytes		
Enterococcus Membrane Filtration		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	11/02/16 *Date*
Brian Mercer *Technical Director*	*Signature*	11/02/16 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	11/2/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
DATE OF ANALYSIS:	11/2/2016
NALYZED BY:	Karina Ramirez
ETHOD NUMBER:	EPA 1600
EXTRACTION METHOD (IF APPLY):	Membrane Filtration
INCUBATOR ID:	Micro -6A
LAMP ID	Micro-28
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	11/1/2016
ACCEPTANCE CRITERIA:	23.3-108 CFU/100 mL

Standards Used:	**Std. ID#**	**Conc.**
E. Faecalis Bacteria	052815	47.9 ± 3.56 CFU/100 mL
Surrogate	na	na
Internal Standard	na	na

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{x}$	% RSD	% Recovery	SD
UNITS:	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL			
Enteroccoci	47.9	50.0	45.0	45.0	50.0	47.5	6.08	99.16	2.89

EPA 1600 Enterococci Membrane Filtration

Extraction		Analysis		
Date:	11/01/16	Date:	11/02/16	Media ME110121L6
Analyst:		Analyst:	/KR	Run # 1611050 LIMS Template # 34
Start Time #1:	17:46	Incubator Temp In #1:	41.1	Incubator(41.0±0.5°) : Micro -6A
Stop Time #1	18:00	Incubator Temp Out #1:	41.1	Buffer ID# MUSP4102816
Analyst:	KR			Bacti Bottle # HMB
Start Time #2:	18:20	Incubator Temp In #2:	41.1	Memb. Filter Lot # 6031102
Stop time #2:	18:30	Incubator Temp Out#2:	41.1	Chlorine Strips: SYRMA
Analyst				Thermometer ID: ~~GTC113~~
Start Time #3:		Incubator Temp In #3:		Lamp ID: Micro-28
Stop time #3: :		Incubator Temp Out #3:		Pipette: BD72

Order #	Sample ID	Sample Size(mL)	Colonies Counted	cfu's per 100 mL	Incubation Time In	Incubation Time Out	CI-check	Notes/ Verification
BB	**BB**	**100**	0	u	18:00	18:00	0	
1611005-01	Sm EB	100	0	u				
-02	FB	100	0	u				
-03	L2SU	10	2	20				
-03	⊥	50	14	28				
-05	BCSOG	10	55	550				
-05	⊥	50	74	148				
-06	BCSO4	10	4	40				
-06	⊥	50	19	38				
-07	PCI2	10	18	180				
-07	⊥	50	69	138				
MB	MB	100	0	u				
1611005-08	Sm BCSOG	10	2	20				
-08	⊥ ⊥	50	34	68				
EB	EB	100	0	u				
BB	BB	100	0	u	18:30	18:30	0	
Known IDOL	E. Faecalis	20	10	50				
		20	9	45				
		20	9	45				
		20	10	50				
EB	EB	100	0	u				

Quality Control Guidelines: Each filtration series consists of no more than 20 samples, with sterlity blanks at the beginning and end of each series as well as after the 10th sample. **Verification:** Once a month verify at least 10 presumptive fecal colonies from a positive sample. **Ideal range** :20-60 CFU/plate.

Reviewed by: _____ Date: 11/03/16

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Yanet Echevarria	7/16/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 525.2 (S-L) extraction	☐ Water ☑ DW ☐ Solid ☐ Other: _____	0201417-001
Analyte or Class of Analytes		
Semi-Volatiles		

We, the undersigned, CERTIFY that:

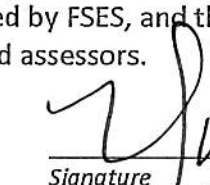
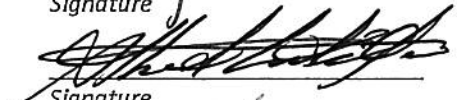
1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria *Analyst*	 *Signature*	7/16/18 *Date*
Albert Castellanos *Technical Director*	 *Signature*	7/16/18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	7/16/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Drinking Water liquid- solid
DATE OF ANALYSIS:	7/5/2018
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 525.2
EXTRACTION METHOD (IF APPLY):	EPA 525.2
INSTRUMENT ID:	Barbara GC/MS #2
EXTRACTED BY:	Yanet Echevarria
DATE EXTRACTED:	7/5/2018
ACCEPTANCE CRITERIA:	70-130% and %RSD<30

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
Standard(s)	1800541	2 PPM
Surrogate	1800045	50 PPM
Internal Standard	1600236	50 PPM

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
Simazine	2	1.633	1.754	1.895	1.905	1.80	7.19	89.84	0.13
Atrazine	2	1.673	1.810	1.913	1.808	1.80	5.46	90.05	0.10
Alachlor	2	1.966	1.901	2.038	1.991	1.97	2.89	98.70	0.06
Bis (2-ethylhexyl) adipate	2	1.927	1.962	1.963	1.934	1.95	0.96	97.33	0.02
Di (2-ethylhexyl) phthalate	2	2.218	2.244	2.259	2.204	2.23	1.11	111.56	0.02
Benzo (a) pyrene	2	1.623	1.646	1.597	1.666	1.63	1.82	81.65	0.03

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\07052018\
Data File : 07052018_09.D
Acq On : 5 Jul 2018 5:57 pm
Operator : YE
Sample : IDOC 525.2 S/L #1
Misc : S/L
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 06 14:03:31 2018
Quant Method : C:\msdchem\1\METHODS\C52507062018.M
Quant Title : EPA 525.2 by Barbara GC/MS#2
QLast Update : Fri Jul 06 12:37:21 2018
Response via : Initial Calibration

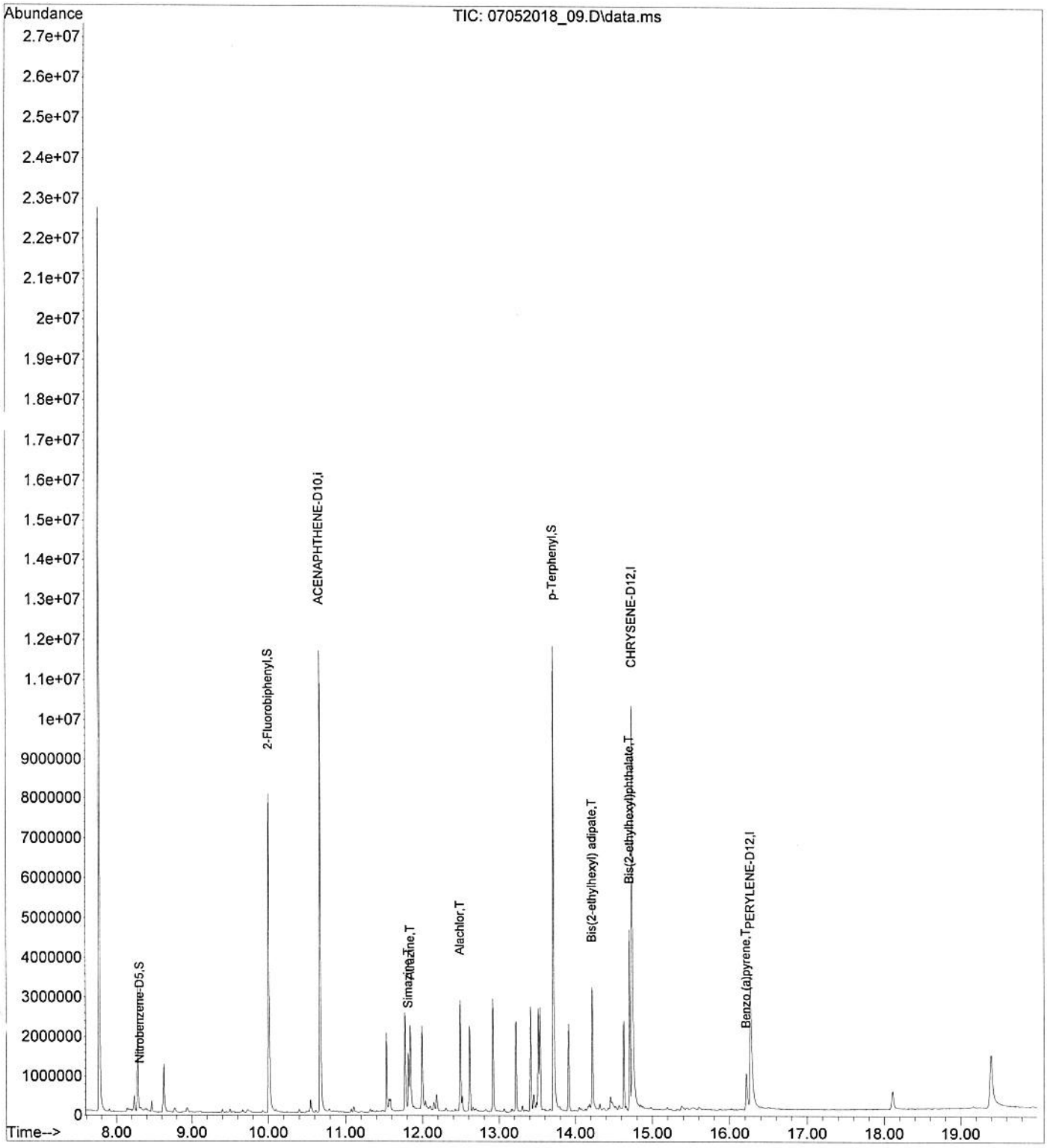
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) ACENAPHTHENE-D10	10.670	164	2838561	5.00	ug/L	0.00
3) CHRYSENE-D12	14.743	240	4756499	5.00	ug/L	0.00
12) PERYLENE-D12	16.272	264	2473320	5.00	ug/L	0.00
System Monitoring Compounds						
2) Nitrobenzene-D5	8.309	82	156648m	0.54	ug/L	0.09
7) 2-Fluorobiphenyl	10.006	172	2949793	4.29	ug/L	0.00
8) p-Terphenyl	13.714	230	4460632	4.52	ug/L	0.00
Target Compounds						Qvalue
4) Simazine	11.814	201	189910m	1.633	ug/L	
5) Atrazine	11.843	200	303089m	1.673	ug/L	
6) Alachlor	12.492	45	310520m	1.966	ug/L	
9) Bis(2-ethylhexyl) adipate	14.219	129	586674	1.927	ug/L	98
10) Bis(2-ethylhexyl)phtha...	14.709	149	1311207	2.218	ug/L	99
11) Benzo (a)pyrene	16.215	252	667675m	1.623	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\07052018\
Data File : 07052018_09.D
Acq On : 5 Jul 2018 5:57 pm
Operator : YE
Sample : IDOC 525.2 S/L #1
Misc : S/L
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 06 14:03:31 2018
Quant Method : C:\msdchem\1\METHODS\C52507062018.M
Quant Title : EPA 525.2 by Barbara GC/MS#2
QLast Update : Fri Jul 06 12:37:21 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\07052018\
Data File : 07052018_10.D
Acq On : 5 Jul 2018 6:32 pm
Operator : YE
Sample : IDOC 525.2 S/L #2
Misc : S/L
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 06 14:04:46 2018
Quant Method : C:\msdchem\1\METHODS\C52507062018.M
Quant Title : EPA 525.2 by Barbara GC/MS#2
QLast Update : Fri Jul 06 12:37:21 2018
Response via : Initial Calibration

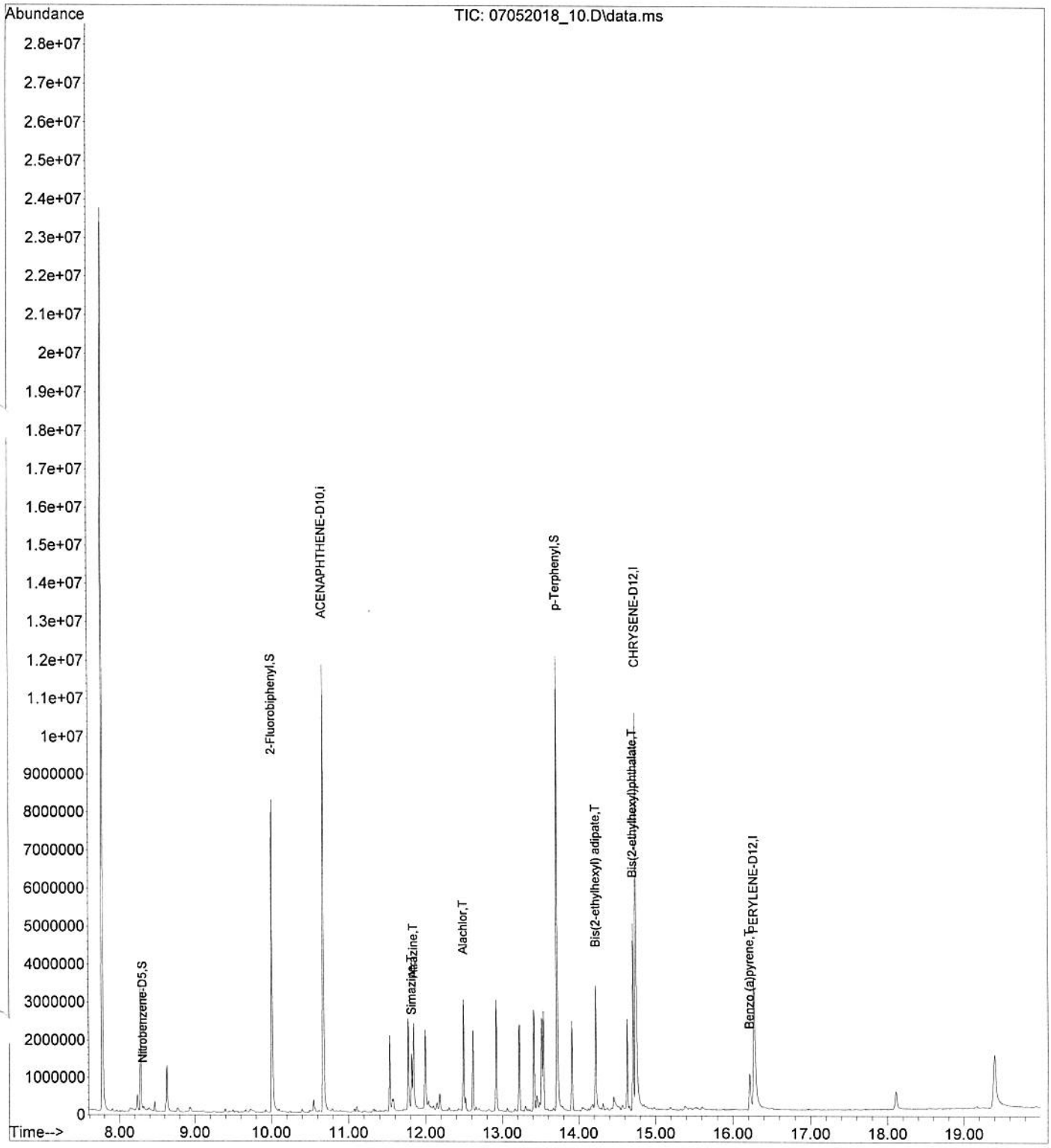
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) ACENAPHTHENE-D10	10.670	164	2866854	5.00	ug/L	0.00
3) CHRYSENE-D12	14.743	240	4842623	5.00	ug/L	0.00
12) PERYLENE-D12	16.272	264	2476277	5.00	ug/L	0.00
System Monitoring Compounds						
2) Nitrobenzene-D5	8.309	82	168459m	0.58	ug/L	0.09
7) 2-Fluorobiphenyl	10.006	172	3011226	4.30	ug/L	0.00
8) p-Terphenyl	13.714	230	4561230	4.54	ug/L	0.00
Target Compounds						Qvalue
4) Simazine	11.819	201	207617m	1.754	ug/L	
5) Atrazine	11.843	200	333946m	1.810	ug/L	
6) Alachlor	12.492	45	305651	1.901	ug/L #	71
9) Bis(2-ethylhexyl) adipate	14.224	129	608694m	1.962	ug/L	
10) Bis(2-ethylhexyl)phtha...	14.709	149	1350968	2.244	ug/L	99
11) Benzo (a)pyrene	16.215	252	691198m	1.646	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\07052018\
Data File : 07052018_10.D
Acq On : 5 Jul 2018 6:32 pm
Operator : YE
Sample : IDOC 525.2 S/L #2
Misc : S/L
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 06 14:04:46 2018
Quant Method : C:\msdchem\1\METHODS\C52507062018.M
Quant Title : EPA 525.2 by Barbara GC/MS#2
QLast Update : Fri Jul 06 12:37:21 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\07052018\
Data File : 07052018_11.D
Acq On : 5 Jul 2018 7:09 pm
Operator : YE
ample : IDOC 525.2 S/L #3
Misc : S/L
ALS Vial : 10 Sample Multiplier: 1

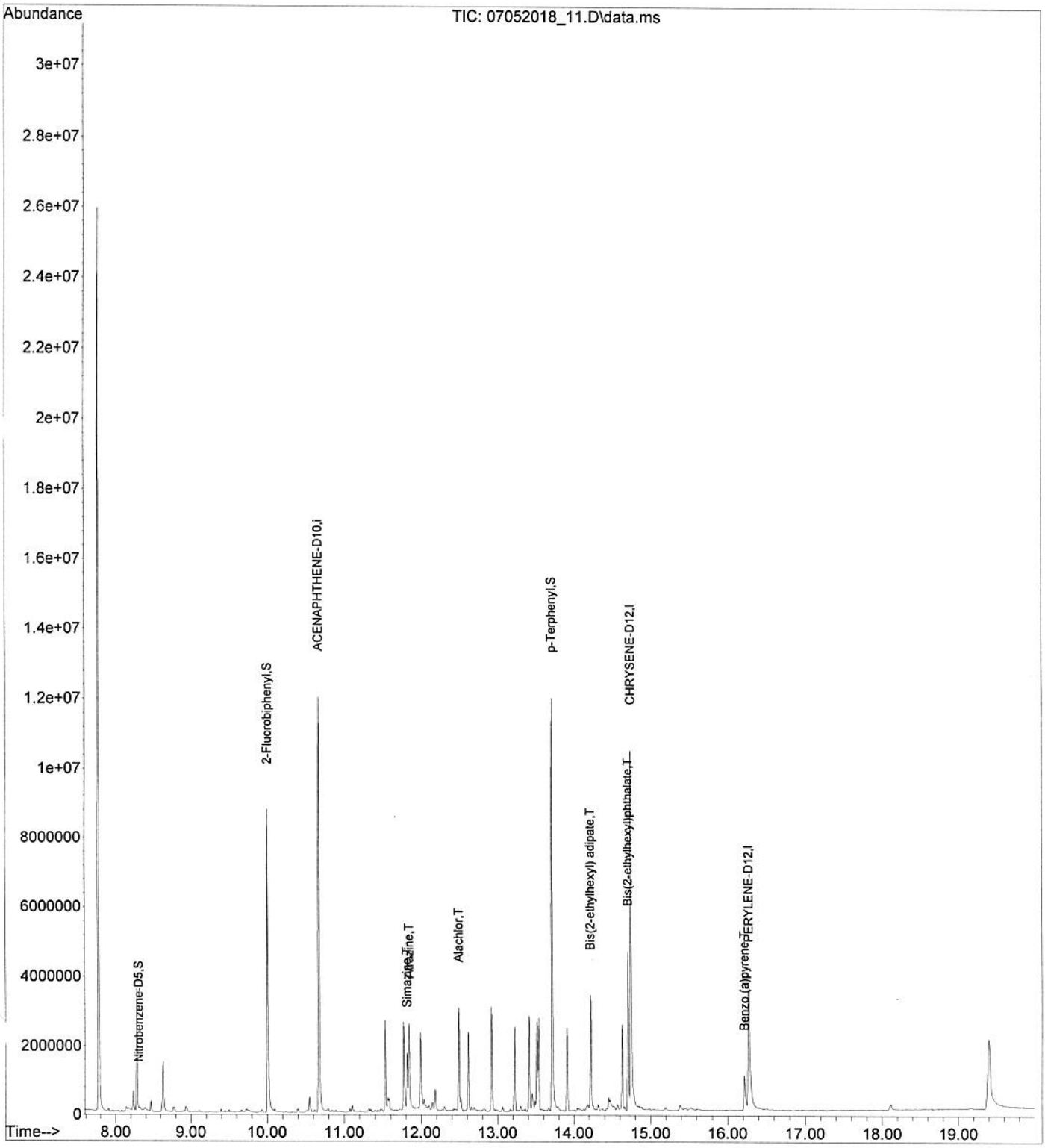
Quant Time: Jul 06 14:06:05 2018
Quant Method : C:\msdchem\1\METHODS\C52507062018.M
Quant Title : EPA 525.2 by Barbara GC/MS#2
QLast Update : Fri Jul 06 12:37:21 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) ACENAPHTHENE-D10	10.670	164	2907684	5.00	ug/L	0.00
3) CHRYSENE-D12	14.743	240	4846604	5.00	ug/L	0.00
12) PERYLENE-D12	16.272	264	2506182	5.00	ug/L	0.00
System Monitoring Compounds						
2) Nitrobenzene-D5	8.309	82	141241m	0.48	ug/L	0.09
7) 2-Fluorobiphenyl	10.006	172	3041838	4.34	ug/L	0.00
8) p-Terphenyl	13.714	230	4445819	4.42	ug/L	0.00
Target Compounds						Qvalue
4) Simazine	11.814	201	224477m	1.895	ug/L	
5) Atrazine	11.843	200	353202m	1.913	ug/L	
6) Alachlor	12.492	45	327956m	2.038	ug/L	
9) Bis(2-ethylhexyl) adipate	14.219	129	609817m	1.963	ug/L	
10) Bis(2-ethylhexyl)phtha...	14.709	149	1361701m	2.259	ug/L	
11) Benzo (a)pyrene	16.214	252	667869m	1.597	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\07052018\
Data File : 07052018_11.D
Acq On : 5 Jul 2018 7:09 pm
Operator : YE
Sample : IDOC 525.2 S/L #3
Misc : S/L
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 06 14:06:05 2018
Quant Method : C:\msdchem\1\METHODS\C52507062018.M
Quant Title : EPA 525.2 by Barbara GC/MS#2
QLast Update : Fri Jul 06 12:37:21 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\07052018\
Data File : 07052018_12.D
Acq On : 5 Jul 2018 7:45 pm
Operator : YE
Sample : IDOC 525.2 S/L #4
Misc : S/L
ALS Vial : 11 Sample Multiplier: 1

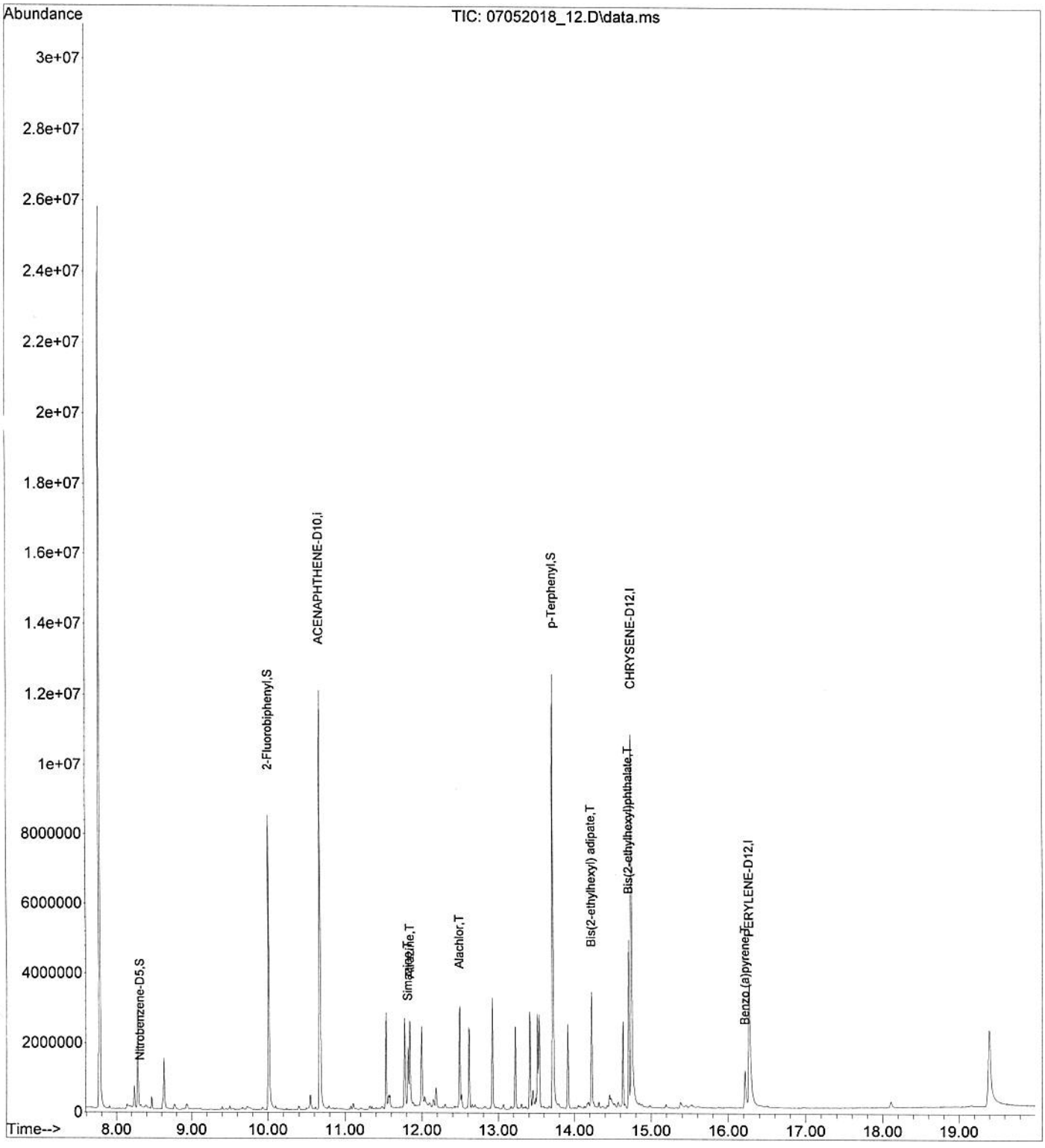
Quant Time: Jul 06 14:07:03 2018
Quant Method : C:\msdchem\1\METHODS\C52507062018.M
Quant Title : EPA 525.2 by Barbara GC/MS#2
QLast Update : Fri Jul 06 12:37:21 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) ACENAPHTHENE-D10	10.670	164	2967914	5.00	ug/L	0.00
3) CHRYSENE-D12	14.743	240	5000047	5.00	ug/L	0.00
12) PERYLENE-D12	16.268	264	2596600	5.00	ug/L	0.00
System Monitoring Compounds						
2) Nitrobenzene-D5	8.309	82	139424m	0.46	ug/L	0.09
7) 2-Fluorobiphenyl	10.006	172	3086687	4.27	ug/L	0.00
8) p-Terphenyl	13.714	230	4601569	4.43	ug/L	0.00
Target Compounds						Qvalue
4) Simazine	11.815	201	232789m	1.905	ug/L	
5) Atrazine	11.843	200	344492	1.808	ug/L	98
6) Alachlor	12.488	45	330485m	1.991	ug/L	
9) Bis(2-ethylhexyl) adipate	14.219	129	619165m	1.934	ug/L	
10) Bis(2-ethylhexyl)phtha...	14.710	149	1369077	2.204	ug/L	98
11) Benzo (a)pyrene	16.215	252	723985m	1.666	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\07052018\
Data File : 07052018_12.D
Acq On : 5 Jul 2018 7:45 pm
Operator : YE
Sample : IDOC 525.2 S/L #4
Misc : S/L
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 06 14:07:03 2018
Quant Method : C:\msdchem\1\METHODS\C52507062018.M
Quant Title : EPA 525.2 by Barbara GC/MS#2
QLast Update : Fri Jul 06 12:37:21 2018
Response via : Initial Calibration



Method # 525.2

✓ **Extraction :** Liquid-Solid Extraction
__ **Extraction :** Liquid-Liquid Extraction

	Std. ID	Amt. Added	Initials
Surrogate	1800045	100ul	YE.
Spike	1800541	1.0 ml	YE
Internal Std.			

Florida Environmental

Batch#: 18G0180
Analyst: AC / YE.
Date: 07.05.18
Transferred to vials by: YE/AC

Initial Solvent: DCM/EA 1:1
Final Solvent: DCM

Order #	Sample ID	Sample Date	Volume Extracted (ml)	Chlorine* I	Chlorine* F	pH* I	pH* E	pH* F	Final Vol (ml)	Date Extracted	Comments
18G0180	MB	07.05.18	1000	0	0	7	2	2	1	07.05.18	
	LCS										
	MS										
	MSD										
	IDOC's #1	07.05.18	1ml/1000	0	0	7	2	2	1	07.05.18	SK=1800541
	IDOC's #2	07.05.18		0	0	7	2	2			
	IDOC's #3	07.05.18		0	0	7	2	2			
	IDOC's #4	07.05.18		0	0	7	2	2			
18G0006-01A	MDL's.	07.05.18		0	0	7	2	2			MDL's SK 1800542 0.1 ppm
↓	MDL's	07.05.18		0	0	7	2	2			MDL's SK 1800543 1 ppm

Item	SVT#
Filter Paper	517
Sodium Sulfate	523
Methylene Chloride	534/7
Ethyl Acetate	SV 335
DCM/EA 1:1	SV 06.29
Methanol	VOC: 259
Cartidge Disk (C18)	SV 393
10ml pipette	SV 531
5 ml pipette	
1.8ml Vials	543
1.8ml Vial Caps	544
Pasteur pipette	511
pH Strips	2160117
Sodium Sulfite	
Chlorine Strips	6363 2
Miscelaneous	
Hcl 6N=	SV 070

* pH: I = Initial, E = Exchange, F= Final
*Chlorine: I= Initial, F=Final

Document Control #: 0401417-005
Date: 3/9/17
Revision:1

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800045

Description:	I-ISSU-525-01262018 525.2 IS+SURR 50.0 u	Expires:	1/26/2020
Standard Type:	Surrogate Spike	Prepared:	1/26/2018
Solvent:	ACETONE SV-485	Prepared By:	Yanet Echevarria 2
Final Volume (mls):	100	Department:	SVOCGCMS
Vials:	1	Last Edit:	01/26/2018 14:24 by YA
Vendor:	AA	Lot Number:	N/A

10 ML OF EACH OF THE FOLLOWING LISTED STANDARDS (IS-PAH-082714 PAH\525.2\OPP ISTD AND ISU-PAH-101817 OF 500 PPM EACH) WERE DILUTED UP TO 100 ML USING ACETONE TO MAKE THIS SURROGATE.

Analyte	CAS Number	Concentration	Units
p-Terphenyl	92-94-4	50	ug/mL
Nitrobenzene-d5	NA	50	ug/mL
2-Fluorobiphenyl	321-60-8	50	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800541

Description:	SK-525.2-062718	Expires:	3/1/2019
Standard Type:	Analyte Spike	Prepared:	6/27/2018
Solvent:	ACETONE	Prepared By:	Yanet Echevarria 2
Final Volume (mls):	100	Department:	SVOCGCMS
Vials:	1	Last Edit:	06/27/2018 14:52 by YE
Vendor:	FSES	Lot Number:	SV-522

Analyte	CAS Number	Concentration	Units
Heptachlor	76-44-8	2	ug/mL
Aldrin	309-00-2	2	ug/mL
Atrazine	1912-24-9	2	ug/mL
Benzo (a) pyrene	50-32-8	2	ug/mL
Bis(2-ethylhexyl) phthalate	117-81-7	2	ug/mL
Bis-(2-Ethylhexyl) Adipate	103-23-1	2	ug/mL
Chlordane-alpha	NA	2	ug/mL
Alachlor	15972-60-8	2	ug/mL
Endrin	72-20-8	2	ug/mL
trans-Nonachlor	39765-80-5	2	ug/mL
Heptachlor epoxide	1024-57-3	2	ug/mL
Hexachlorobenzene	118-74-1	2	ug/mL
Hexachlorocyclopentadiene	77-47-4	2	ug/mL
Lindane	58-89-9	2	ug/mL
Methoxychlor	72-43-5	2	ug/mL
Pentachlorophenol	87-86-5	8	ug/mL
Simazine	122-34-9	2	ug/mL
Chlordane-gamma	NA	2	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700438	IQ-525.2-081417	08/14/201	Albert Castellanos	08/13/201	09/21/2017 14:15 by MLR	10

Reviewed By _____ Date _____

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Martha Rendez	6/11/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 625.1 / 3510	☑ Water ☐ DW ☐ Solid ☐ Other: _____	(625.1) 0201418-001 (3510) - 0201416-007 0201418-007 (R1)
Analyte or Class of Analytes		
Semi Volatiles (Regular XL)		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet / Martha *Analyst*	Yanet / MR. *Signature*	6/11/18 *Date*
Albert Castellanos *Technical Director*	 *Signature*	6/11/18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	6/11/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

x Initial Demonstration of Capability
__Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Water
DATE OF ANALYSIS:	3/30/18-5/4/18-6/7/18
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 625.1
EXTRACTION METHOD (IF APPLY):	EPA 3510
INSTRUMENT ID:	GC/MS-4 Imhotep Barbara GC/MS-2
EXTRACTED BY:	Martha Raudez
DATE EXTRACTED:	3/27/18-5/3/18-6/7/18
ACCEPTANCE CRITERIA:	Various

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	IQ-8270D-120516 SK 625.1-052418 IQX-625XL-123016	20ppm 10 ppm 20 ppm
Surrogate	1800097 1800188 1800441	25/50ppm
Internal Standard	IS-8270D-042516	2000ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD	Acceptance Limits % Recovery	Acceptance Limits % RSD	
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L						
Pyridine	10	4.20	4.29	4.54	4.29	4.33	3.38	43.3	0.15	24-64	20	
n-Nitroso-dimethylamine	10	4.17	4.27	4.39	4.21	4.26	2.25	42.6	0.10	24-72	20	
Aniline	10	8.45	8.81	9.16	8.81	8.81	3.29	88.1	0.29	10-170	20	
Phenol	10	2.73	2.98	3.10	2.88	2.92	5.36	29.2	0.16	17-120	39	
2-Chlorophenol	10	6.17	6.33	6.56	6.33	6.35	2.53	63.5	0.16	36-120	37	
Bis (2-Chloroethyl)ether	10	6.66	7.18	7.31	7.01	7.04	4.00	70.4	0.28	43-126	65	
1,3-Dichlorobenzene	10	6.27	6.40	6.54	6.28	6.37	1.98	63.7	0.13	38-85	20	
1,4-Dichlorobenzene	10	6.25	6.44	6.59	6.25	6.38	2.58	63.8	0.16	40-83	20	
1,2-Dichlorobenzene	10	6.52	6.61	6.83	6.40	6.59	2.76	65.9	0.18	42-87	20	
bis(2-Chloroisopropyl)ether	10	5.52	5.63	5.82	5.53	5.63	2.47	56.3	0.14	63-139	46	
2-Methylphenol (o-Cresol)	10	5.87	6.08	6.33	6.11	6.10	3.09	61.0	0.19	43-93	20	
n-nitrosodi-n-propylamine	10	6.67	6.88	7.09	6.73	6.84	2.74	68.4	0.19	14-198	52	
Hexachloroethane	10	6.24	6.41	6.58	6.29	6.38	2.37	63.8	0.15	55-120	32	
ɔ-Cresol	10	6.24	6.66	6.54	6.61	6.51	2.89	65.1	0.19	10-131	20	
ɾobenzene	10	7.40	7.60	7.87	7.44	7.58	2.81	75.8	0.21	54-158	37	
Isophorone	10	6.11	6.29	6.46	6.09	6.24	2.78	62.4	0.17	47-180	56	
2-Nitrophenol	10	5.62	5.95	5.98	5.79	5.84	2.84	58.4	0.17	45-167	33	
2,4-Dimethylphenol	10	6.03	6.28	6.35	5.69	6.09	4.90	60.9	0.30	42-120	35	
bis(2-Chloroethoxy)methane	10	6.16	6.32	6.50	6.13	6.28	2.71	62.8	0.17	49-165	32	
2,4-Dichlorophenol	10	6.12	6.35	6.43	6.17	6.27	2.34	62.7	0.15	53-122	30	
1,2,4-Trichlorobenzene	10	5.89	5.88	6.16	5.83	5.94	2.51	59.4	0.15	57-130	30	
Naphthalene	10	5.96	6.19	6.28	6.06	6.12	2.30	61.2	0.14	36-120	39	
2,6-Dichlorophenol	10	5.90	6.11	6.38	5.89	6.07	3.79	60.7	0.23	44-105	20	
Hexachlorobutadiene	10	5.70	5.97	6.11	5.79	5.89	3.11	58.9	0.18	38-120	38	
4-chloro-3-methylphenol	10	6.12	6.33	6.44	6.08	6.24	2.74	62.4	0.17	41-128	44	
2-Methylnaphthalene	10	7.24	7.67	7.67	7.35	7.48	2.96	74.8	0.22	47-101	20	
Hexachlorocyclopentadiene	10	4.73	4.78	4.78	4.78	4.77	0.52	47.7	0.02	10-123	20	
2,4,6-Trichlorophenol	10	6.59	6.89	6.97	6.69	6.79	2.59	67.9	0.18	52-129	35	
2,4,5-Trichlorophenol	10	6.11	6.33	6.46	6.36	6.32	2.34	63.2	0.15	41-114	20	
2-Chloronaphthalene	10	6.87	7.22	7.28	7.00	7.09	2.69	70.9	0.19	65-120	15	
Dimethylphthalene	10	7.38	7.73	7.77	7.44	7.58	2.62	75.8	0.20	d-120	110	
Acenaphthylene	10	8.07	8.49	8.55	8.17	8.32	2.83	83.2	0.24	54-126	45	
2,6-Dinitrotoluene	10	7.83	8.16	8.41	7.96	8.09	3.13	80.9	0.25	68-137	29	
Acenaphtene	10	7.30	7.58	7.70	7.36	7.49	2.50	74.9	0.19	60-132	29	
Dibenzofuran	10	8.03	8.43	8.50	8.11	8.27	2.81	82.7	0.23	57-105	20	
4-Nitrophenol	10	6.38	6.72	6.71	6.44	6.56	2.71	65.6	0.18	13-129	79	
2,4-Dinitrotoluene	10	6.98	7.28	7.27	7.01	7.14	2.27	71.4	0.16	48-127	25	
2,4-Dinitrophenol	25	31.39	31.36	31.36	31.63	31.44	0.42	125.7	0.13	d-173	79	
Fluorene	10	7.38	7.72	7.80	7.44	7.59	2.72	75.9	0.21	70-120	23	
Diethylphthalate	10	8.07	8.42	8.44	8.17	8.28	2.22	82.8	0.18	d-120	60	
4-Chlorodiphenylether	10	7.47	7.67	7.73	7.32	7.55	2.49	75.5	0.19	38-145	36	
n-Nitrosodiphenylamine	10	8.31	8.67	8.82	8.49	8.57	2.58	85.7	0.22	62-112	20	
4,6-Dinitro-2-methylphenol	25	15.46	16.29	15.85	16.12	15.93	2.27	63.7	0.36	56-130	122	
4-Bromodiphenylether	10	10.12	9.97	10.07	9.94	10.02	0.86	100.2	0.09	65-120	26	6/7/2018
ɛachlorobenzene	10	6.56	6.67	7.00	6.74	6.74	2.77	67.4	0.19	8-142	33	
₋ntachlorophenol	10	3.98	3.99	3.64	4.22	3.96	6.04	39.6	0.24	38-152	52	
Phenanthrene	10	6.56	6.76	6.87	6.72	6.73	1.91	67.3	0.13	65-120	24	
Anthracene	10	7.16	7.38	7.38	7.36	7.32	1.46	73.2	0.11	43-120	40	
Di-n-butyl Phthalate	10	7.49	7.72	7.88	7.63	7.68	2.13	76.8	0.16	8-120	28	
Fluoranthene	10	6.77	6.95	6.99	6.76	6.87	1.74	68.7	0.12	43-121	40	
Benzidine	10	8.17	7.66	7.64	6.73	7.55	7.94	75.5	0.60	10-113	20	
Pyrene	10	10.69	10.66	10.68	10.64	10.67	0.21	106.7	0.02	70-120	30	6/7/2018
Butylbenzylphthalate	10	7.73	8.12	8.27	7.87	8.00	3.04	80.0	0.24	0-140	36	

Benzo(a) anthracene	10	7.08	7.55	7.55	7.21	7.35	3.26	73.5	0.24	42-133	32	
Chrysene	10	8.01	8.40	8.25	7.88	8.14	2.87	81.4	0.23	44-140	53	
bis(2-Ethylhexyl)phthalate	10	7.84	8.14	7.69	7.32	7.75	4.40	77.5	0.34	29-137	50	
3,3-Dichlorobenzidine	10	18.73	19.74	19.27	19.28	19.26	2.14	192.6	0.41	8-213	65	
D-n-octyl phthalate	10	7.68	8.03	7.45	7.09	7.56	5.22	75.6	0.40	19-132	42	
zo(b)fluoranthene	10	7.62	8.05	7.52	7.31	7.63	4.08	76.3	0.31	42-140	43	
Benzo(k)fluoranthene	10	7.61	8.64	7.99	7.95	8.05	5.35	80.5	0.43	25-146	38	
Benzo(a)pyrene	10	8.53	9.08	8.45	8.24	8.58	4.18	85.8	0.36	32-148	43	
Indeno(123cd)pyrene	10	7.17	7.90	7.22	6.88	7.29	5.92	72.9	0.43	d-151	60	
Dibenzo(ah)anthracene	10	7.09	7.63	6.82	6.51	7.01	6.77	70.1	0.48	d-200	75	
Benzo(ghi)perylene	10	6.90	7.59	6.85	6.67	7.00	5.77	70.0	0.40	d-195	61	
Benzyl Alcohol	10	5.91	6.21	6.44	6.09	6.16	3.61	61.6	0.22	60-140	20	NC
Carbazole	10	9.09	9.23	9.36	9.21	9.22	1.20	92.2	0.11	60-140	20	NC
2-Nitroaniline	10	7.04	7.47	7.48	7.33	7.33	2.80	73.3	0.21	60-140	20	NC
n-decane	20	14.42	13.19	14.05	13.93	13.90	3.71	69.5	0.52	60-140	20	5/4/2018
a,a-terpeniol	20	26.25	24.63	26.03	26.62	25.88	3.36	129.4	0.87	60-140	20	5/4/2018
2,3-dichloroaniline	20	22.86	21.2	22.65	22.36	22.27	3.33	111.3	0.74	60-140	20	5/4/2018
n-octadecane	20	20.43	18.55	19.14	19.00	19.28	4.19	96.4	0.81	60-140	20	5/4/2018

Notes:
EPA 625.1 extended list analyzed 5/4/18 and extracted 5/3/18
Benzyl Alcohol, Carbazole, 2-Nitroaniline not currently certified (NC)
Pyrene and 4-Bromodiphenylether failed firt time and re-run on 6/7/18

Liquid Extraction Log

Method # 8270 D / 625.1

Extraction Method 3510

	Std. ID	Amt. Added	Initials
Surrogate	1800097	1.0 mL	MR
Spike	1800009 "	1.0 mL	MR
Internal Std.			

Florida Environmental

Batch#: 18C0834

Analyst: AC / AE

Date: 03.27.18

Transferred to vials by: MR

Initial Solvent: DCM

Final Solvent: 1

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
18C0834	MB	03.27.18	1000	7	1	12	1	03.27.18	N/A	
18C0834	LCS	03.27.18	1000	7	1	12				
18C0834	MS 18C0864-01 D	03.27.18	1000	7	1	12				
18C0834	MSD 18C0864-01 E	03.27.18	1000	7	1	12				
18C0864-01 F	MS	03.27.18	1000	7	1	12				
18C0837-01 A	Flamingo Quinn Trap pool	03.21.18	1000	7	1	12				Library Search.
	MDL #1	03.27.18	200 uL / 1000	7	1	12				8270/625.1 1800009
	MDL #2	03.27.18	✓	7	1	12				✓ ✓
	MDL #3	03.27.18	✓	7	1	12				✓ ✓
	MDL #1	03.27.18	500 uL / 1000	7	1	12				✓ ✓
	MDL #2	03.27.18	✓	7	1	12				✓ ✓
	MDL #3	03.27.18	✓	7	1	12				✓ ✓
	IDOC #1	03.27.18	500 uL / 1000	7	1	12				625.1 IC @ 200ng/ml 12.05.16
	IDOC #2	03.27.18	✓	7	1	12				✓ ✓
	IDOC #3	03.27.18	✓	7	1	12				✓ ✓
	IDOC #4	03.27.18	✓	7	1	12				✓ ✓

Item	SVT#
Filter Paper:	190
Sodium Sulfate:	504
Silica Gel:	
Sodium Hydroxide:	10N = SV 112417
Sililic Acid:	
Sulfuric Acid:	1:1 11.29.17A
10 mL pipette:	SV 469
1.8mL Vials	505
1.8mL Vial Caps	513
20 mL Vials:	
Pasteur pipette:	511
Hexane	
MTBE	
Ethyl Ether	
Cu	
Phosphate Buffer	
NaCL	
Diazomethane	
CH2CL2	561/116-51
pH paper Lot #	206717
Chlorine Strips Lot #	

* pH: I = Initial, E = Exchange, F= Final

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1600620

Description:	IQ-8270D-120516	Expires:	12/31/2020
Standard Type:	Analyte Spike	Prepared:	12/5/2016
Solvent:	Acetone SV379	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGCMS
Vials:	1	Last Edit:	04/25/2018 16:11 by YE
Vendor:	AA	Lot Number:	120516

FSV0980 / FSV0981 / FSV0982 / FSV0983 / FSV0792 / FSV0950 / FSV0946 / FSV0947 / FSV0948 / FSV0949 /

Analyte	CAS Number	Concentration	Units
Acenaphthene	83-32-9	20	ug/mL
1,2,4-Trichlorobenzene	120-82-1	20	ug/mL
3-Nitroaniline	99-09-2	19.72	ug/mL
4,6-Dinitro-2-methylphenol	534-52-1	50.09	ug/mL
4-Bromophenyl phenyl ether	101-55-3	19.68	ug/mL
4-Chloro-3-methylphenol	59-50-7	20.03	ug/mL
4-Chloroaniline	106-47-8	20	ug/mL
4-Chlorophenyl phenyl ether	7005-72-3	19.72	ug/mL
2-Nitrophenol	88-75-5	20.08	ug/mL
4-Nitrophenol	100-02-7	19.9	ug/mL
2-Nitroaniline	88-74-4	19.98	ug/mL
Acenaphthylene	208-96-8	19.68	ug/mL
Aniline	62-53-3	19.6	ug/mL
Anthracene	120-12-7	20.04	ug/mL
Benzidine	92-87-5	20	ug/mL
Benzo (a) anthracene	56-55-3	20.08	ug/mL
Benzo (b) fluoranthene	205-99-2	20.02	ug/mL
Benzo (g,h,i) perylene	191-24-2	19.73	ug/mL
4-Nitroaniline	100-01-6	19.92	ug/mL
2,4-Dimethylphenol	105-67-9	20.1	ug/mL
1,2-Dichlorobenzene	95-50-1	19.84	ug/mL
1,2-Diphenylhydrazine as Azobenzene	103-33-3	19.88	ug/mL
1,3-Dichlorobenzene	541-73-1	19.78	ug/mL
1,4-Dichlorobenzene	106-46-7	19.66	ug/mL
1-Methylnaphthalene	90-12-0	20.05	ug/mL
2,3,4,6-Tetrachlorophenol	58-90-2	20	ug/mL
2,4,5-Trichlorophenol	95-95-4	20.17	ug/mL
3,3'-Dichlorobenzidine	91-94-1	19.86	ug/mL
2,4-Dichlorophenol	120-83-2	20.04	ug/mL
Benzoic acid	65-85-0	50.13	ug/mL

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1600620

2,4-Dinitrophenol	51-28-5	50.08	ug/mL
2,4-Dinitrotoluene	121-14-2	20	ug/mL
2,6-Dichlorophenol	87-65-0	20.08	ug/mL
2,6-Dinitrotoluene	606-20-2	20.04	ug/mL
2-Chloronaphthalene	91-58-7	19.6	ug/mL
2-Chlorophenol	95-57-8	19.98	ug/mL
2-Methylnaphthalene	91-57-6	19.71	ug/mL
2,4,6-Trichlorophenol	88-06-2	20.05	ug/mL
Naphthalene	91-20-3	19.7	ug/mL
Hexachlorobutadiene	87-68-3	19.66	ug/mL
Hexachlorocyclopentadiene	77-47-4	19.79	ug/mL
Hexachloroethane	67-72-1	20.09	ug/mL
Indeno(1,2,3-cd)pyrene	193-39-5	20.03	ug/mL
Isophorone	78-59-1	19.7	ug/mL
Methyl Methanesulfonate	66-27-3	20.13	ug/mL
N-Nitrosodi-n-propylamine	621-64-7	19.92	ug/mL
Benzo (k) fluoranthene	207-08-9	20.11	ug/mL
N-Nitrosodiphenylamine	86-30-6	20.01	ug/mL
Fluoranthene	206-44-0	19.72	ug/mL
Nitrobenzene	98-95-3	19.96	ug/mL
o-Cresol	95-48-7	19.95	ug/mL
p-Cresol	106-44-5	20.07	ug/mL
Pentachlorophenol	87-86-5	19.83	ug/mL
Phenanthrene	85-01-8	20.04	ug/mL
Phenol	108-95-2	19.98	ug/mL
Pyrene	129-00-0	19.68	ug/mL
N-Nitrosodimethylamine	62-75-9	20.09	ug/mL
Di-n-butyl phthalate	84-74-2	19.68	ug/mL
Pyridine	110-86-1	19.75	ug/mL
Benzyl alcohol	100-51-6	19.71	ug/mL
Biphenyl	92-52-4	20	ug/mL
Bis(2-chloroethoxy)methane	111-91-1	20.09	ug/mL
Bis(2-chloroethyl)ether	111-44-4	19.85	ug/mL
Bis(2-chloroisopropyl)ether	39638-32-9	20.01	ug/mL
Bis(2-ethylhexyl) phthalate	117-81-7	19.96	ug/mL
Hexachlorobenzene	118-74-1	20.02	ug/mL
Chrysene	218-01-9	19.96	ug/mL
Fluorene	86-73-7	19.7	ug/mL
Di-n-octyl phthalate	117-84-0	19.63	ug/mL

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800097

Description:	SU-8270D-022818	Expires:	2/28/2019
Standard Type:	Surrogate Spike	Prepared:	2/28/2018
Solvent:	Acetone SV-485	Prepared By:	Yanet Echevarria
Final Volume (mls):	200	Department:	SVOCGCMS
Vials:	1	Last Edit:	04/18/2018 12:22 by MLR
Vendor:	FSES	Lot Number:	N/A

Analyte	CAS Number	Concentration	Units
p-Terphenyl	92-94-4	25	ug/mL
Phenol-d6		25	ug/mL
Nitrobenzene-d5	NA	25	ug/mL
2-Fluorophenol	367-12-4	50	ug/mL
2-Fluorobiphenyl	321-60-8	25	ug/mL
2,4,6-Tribromophenol	118-79-6	50	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700725	ISU-8270D-120417	12/04/201	Albert Castellanos	12/03/202	12/04/2017 14:50 by AC	2

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1600620

Dibenz(a,h)anthracene	53-70-3	19.96	ug/mL
Dibenzofuran	132-64-9	20.01	ug/mL
Diethyl phthalate	84-66-2	20.06	ug/mL
Dimethyl phthalate	131-11-3	19.66	ug/mL
Dinoseb	88-85-7	30.07	ug/mL
Ethyl Methanesulfonate	62-50-0	20.16	ug/mL
Benzo(a)pyrene	50-32-8	20.01	ug/mL
Butyl benzyl phthalate	85-68-7	19.72	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1600549	FSV0946 / 2,4-Dinitrophenol	10/22/201	** Vendor **	10/22/202	12/01/2016 09:03 by JF	3
1600550	FSV0947 / 4,6-Dinitro-2-methylph	10/23/201	** Vendor **	10/23/202	12/01/2016 09:03 by JF	3
1600551	FSV0948 / Dinoseb	12/30/201	** Vendor **	12/30/202	12/01/2016 09:05 by JF	3
1600552	FSV0949 / Benzoic acid	07/12/201	** Vendor **	07/12/202	12/01/2016 09:08 by JF	3
1600553	FSV0950 / 1-Methylnaphthalene	12/21/201	** Vendor **	12/21/202	12/01/2016 09:10 by JF	2
1600583	FSV0980 / B/N Composite MIX	08/29/201	** Vendor **	08/29/201	12/01/2016 11:49 by JF	1
1600584	FSV0981 / Benzidine & 3,3-Dichlo	08/09/201	** Vendor **	08/09/201	12/01/2016 11:52 by JF	1
1600585	FSV0982 / Composite MIX #2	10/24/201	** Vendor **	10/24/201	12/01/2016 11:56 by JF	1
1600586	FSV0983 / Acid Composite MIX	06/07/201	** Vendor **	06/07/201	12/01/2016 12:08 by JF	1
1600621	FSV0792 / Biphenyl	07/09/201	** Vendor **	12/09/201	12/23/2016 08:50 by JF	2

Reviewed By _____ Date _____

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_13.D
Acq On : 30 Mar 2018 7:52 pm
Operator : AC
Sample : 625.1 IDOC#1 YANET
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 02 17:01:00 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-D4	8.918	150	2984564	20.00	ug/L		0.00
21) Naphthalene-D8	10.323	136	7536681	20.00	ug/L		0.00
34) Acenaphthene-D10	12.107	164	4461722	20.00	ug/L		0.00
62) Phenanhthrene-D10	13.587	188	6966032	20.00	ug/L		0.00
75) Chrysene-D12	16.418	240	5805919	20.00	ug/L	#	0.00
85) Perylene-D12	18.763	264	3245300	20.00	ug/L	#	-0.01
System Monitoring Compounds							
4) 2-Fluorophenol	7.342	112	2799777	22.78	ug/L		0.00
6) Phenol-D6	8.667	99	1179973	16.50	ug/L		0.00
19) Nitrobenzene-D5	9.564	82	2747811	18.15	ug/L		0.00
39) 2-Fluorobiphenyl	11.434	172	5858325	23.31	ug/L		0.00
61) 2,4,6-Tribromophenol	12.903	62	1049168	35.65	ug/L		0.00
74) p-Terphenyl	15.195	230	2909853	18.70	ug/L		0.00
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.099	74	323382m	4.17	ug/L		
3) Pyridine	4.117	79	540552m	4.20	ug/L		
5) Aniline	8.565	93	839986	8.45	ug/L		92
7) Phenol	8.677	94	498255	2.73	ug/L	#	85
8) Bis(2-chloroethyl)ether	8.640	93	921470	6.66	ug/L	#	87
9) 2-Chlorophenol	8.725	128	978842	6.17	ug/L		93
10) 1,3-Dichlorobenzene	8.848	146	1018334	6.27	ug/L		95
11) 1,4-Dichlorobenzene	8.934	146	1038483	6.25	ug/L		96
12) 1,2-Dichlorobenzene	9.115	146	1013329	6.52	ug/L		95
13) Benzyl alcohol	9.147	79	574168	5.91	ug/L		97
14) Bis(2-chloroisopropyl)...	9.265	45	1195134	5.52	ug/L	#	92
15) 2-Methylphenol	9.324	108	785447	5.87	ug/L		97
16) n-Nitrodi-n-propylamine	9.409	70	632959	6.67	ug/L	#	85
17) 4-Methylphenol	9.505	107	902281	6.24	ug/L	#	88
18) Hexachloroethane	9.495	117	371747	6.24	ug/L		94
20) Nitrobenzene	9.580	77	973409	7.40	ug/L	#	86
22) Isophorone	9.842	82	1911983	6.11	ug/L	#	94
23) 2-Nitrophenol	9.933	139	519413	5.62	ug/L	#	87
24) 2,4-Dimethylphenol	10.034	107	1080357	6.03	ug/L		92
25) Bis(2-chloroethoxy)met...	10.088	93	1110094	6.16	ug/L	#	90
26) Benzoic acid	10.232	105	27259	11.58	ug/L		97
27) 2,4-Dichlorophenol	10.237	162	818396	6.12	ug/L	#	87
28) 1,2,4-Trichlorobenzene	10.269	180	867394	5.89	ug/L		98
29) Naphthalene	10.344	128	2890116	5.96	ug/L		98
30) 2,6-Dichlorophenol	10.440	162	826704	5.90	ug/L	#	84
31) 4-Chloroaniline	10.435	127	972548	10.36	ug/L	#	78
32) Hexachlorobutadiene	10.488	225	535098	5.70	ug/L	#	89
33) 4-Chloro-3-methylphenol	10.974	107	890453	6.12	ug/L		89
35) 2-Methylnaphthalene	11.060	142	2057470	7.24	ug/L		93
36) 1-Methylnaphthalene	11.156	142	2072688m	6.76	ug/L		
37) Hexachlorocyclopentadiene	11.226	237	10583	4.73	ug/L	#	90
38) 2,4,6-Trichlorophenol	11.375	196	556672	6.59	ug/L		94
40) 2,4,5-Trichlorophenol	11.439	196	556553	6.11	ug/L		93
41) Biphenyl	11.530	154	2890627	8.62	ug/L		98
42) 2-Chloronaphthalene	11.551	162	1767258	6.87	ug/L		97
43) 2-Nitroaniline	11.680	138	572704	7.04	ug/L		89
44) Dimethylphthalate	11.840	163	2437784	7.38	ug/L		97

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_13.D
Acq On : 30 Mar 2018 7:52 pm
Operator : AC
Sample : 625.1 IDOC#1 YANET
Misc :
ALS Vial : 12 Sample Multiplier: 1

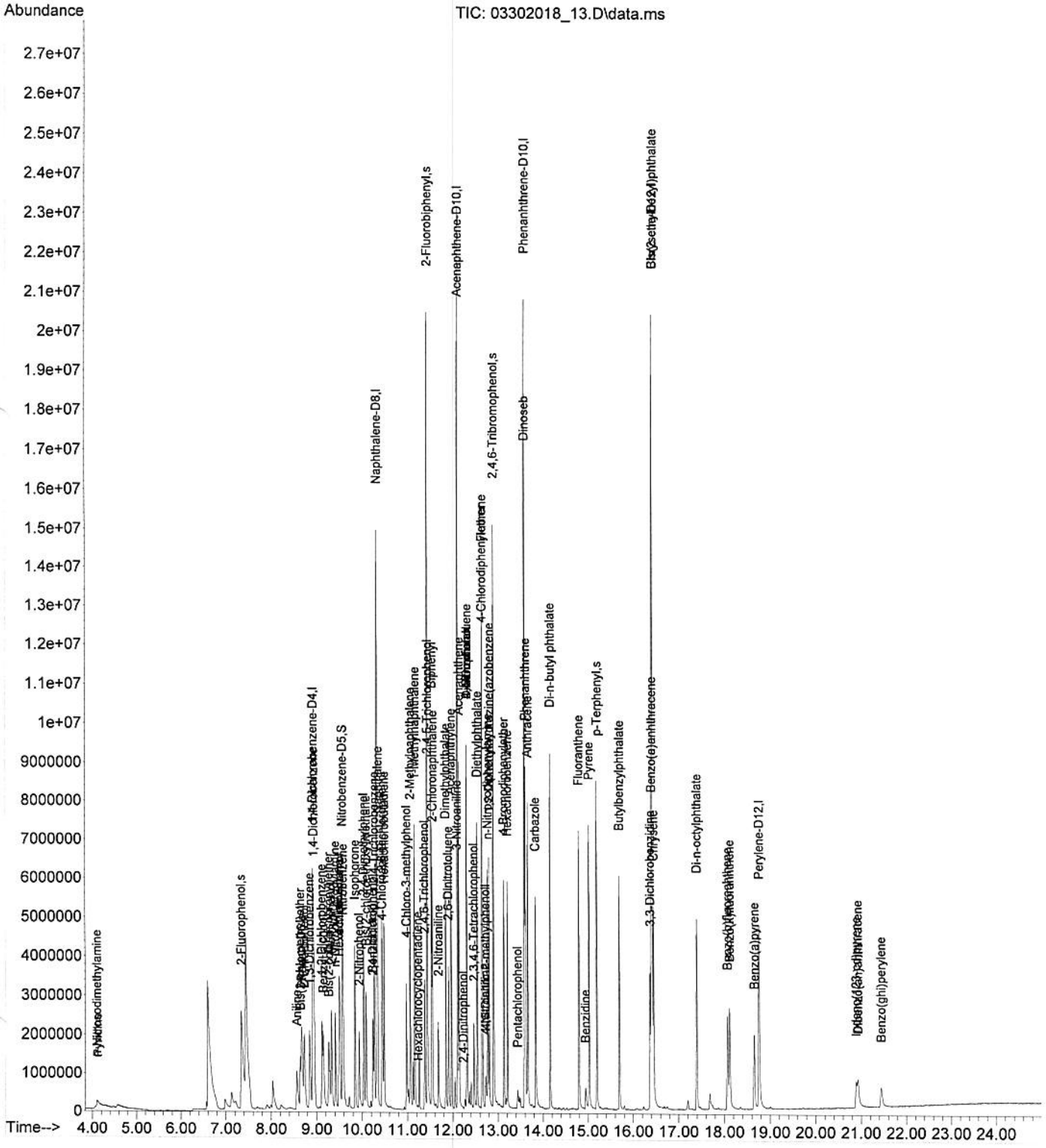
Quant Time: Apr 02 17:01:00 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) 2,6-Dinitrotoluene	11.899	165	507019	7.83	ug/L		98
46) Acenaphthylene	11.963	152	2885662	8.07	ug/L		96
47) 3-Nitroaniline	12.096	138	359487	8.55	ug/L	#	96
48) Acenaphthene	12.139	153	1994681	7.30	ug/L		97
49) 2,4-Dinitrotoluene	12.310	165	578227	6.98	ug/L	#	85
50) 2,4-Dinitrophenol	12.225	184	714	31.39	ug/L	#	1
51) Dibenzofuran	12.310	168	2786421	8.03	ug/L		93
52) 4-Nitrophenol	12.310	139	1089731	6.38	ug/L	#	20
53) 4-Nitroaniline	12.721	138	174114	4.38	ug/L	#	1
54) 2,3,4,6-Tetrachlorophenol	12.465	232	351561	5.03	ug/L	#	84
55) Diethylphthalate	12.540	149	2574137	8.07	ug/L		97
56) 4-Chlorodiphenylether	12.647	204	1118966	7.47	ug/L		97
57) Fluorene	12.652	166	2211915	7.38	ug/L	#	98
58) 4,6-Dinitro-2-methylph...	12.727	198	120771	15.46	ug/L		96
59) n-Nitrosodiphenylamine	12.775	169	1567076	8.31	ug/L		99
60) 1,2-Diphenylhydrazine(...	12.807	77	2013530	7.30	ug/L	#	84
63) Pentachlorophenol	13.432	266	95515m	3.98	ug/L		
64) Dinoseb	13.592	211	208904	12.92	ug/L		95
65) Phenanhthrene	13.608	178	3046486	6.56	ug/L		99
66) Anthracene	13.662	178	3053801	7.16	ug/L		99
67) 4-Bromodiphenylether	13.133	141	539850	6.08	ug/L	#	75
68) Hexachlorobenzene	13.213	284	710285	6.56	ug/L	#	76
69) Carbazole	13.833	167	2867517	9.09	ug/L		100
70) Di-n-butyl phthalate	14.158	149	4292550	7.49	ug/L		99
71) Fluoranthene	14.794	202	3061965	6.77	ug/L		97
72) Benzidine	14.944	184	378803	8.17	ug/L	#	96
73) Pyrene	15.024	202	3083627	6.76	ug/L		93
76) Butylbenzylphthalate	15.692	149	1527948	7.73	ug/L		98
77) Bis(2-ethylhexyl)phtha...	16.418	149	2296149	7.84	ug/L	#	98
78) 3,3-Dichlorobenzidine	16.375	252	1221081	18.73	ug/L	#	87
79) Benzo(a)anhthracene	16.402	228	2262126	7.08	ug/L	#	90
80) Chrysene	16.450	228	2335810	8.01	ug/L		92
81) Di-n-octylphthalate	17.396	149	3364036	7.68	ug/L	#	93
82) Benzo(b)fluoranhthene	18.069	252	1601057	7.62	ug/L	#	84
83) Benzo(k)fluoranhthene	18.117	252	1813804	7.61	ug/L	#	78
84) Benzo(a)pyrene	18.657	252	1391891	8.53	ug/L	#	81
86) Indeno(123-cd)pyrene	20.890	276	793104	7.17	ug/L	#	66
87) Dibenzo(ah)anhthracene	20.927	278	658793	7.09	ug/L	#	61
88) Benzo(ghi)perylene	21.440	276	561355	6.90	ug/L	#	74

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_13.D
Acq On : 30 Mar 2018 7:52 pm
Operator : AC
Sample : 625.1 IDOC#1 YANET
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Apr 02 17:01:00 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_14.D
Acq On : 30 Mar 2018 8:26 pm
Operator : AC
Sample : 625.1 IDOC#2 YANET
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 02 17:03:42 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-D4	8.918	150	2992336	20.00	ug/L		0.00
21) Naphthalene-D8	10.323	136	7559471	20.00	ug/L		0.00
34) Acenaphthene-D10	12.107	164	4421852	20.00	ug/L		0.00
62) Phenanhthrene-D10	13.587	188	7044033	20.00	ug/L		0.00
75) Chrysene-D12	16.418	240	5837420	20.00	ug/L	#	0.00
85) Perylene-D12	18.758	264	3362180	20.00	ug/L	#	-0.02
System Monitoring Compounds							
4) 2-Fluorophenol	7.336	112	2902371	23.55	ug/L		-0.01
6) Phenol-D6	8.661	99	1236737	17.25	ug/L		-0.01
19) Nitrobenzene-D5	9.559	82	2885259	19.01	ug/L		0.00
39) 2-Fluorobiphenyl	11.429	172	6053842	24.31	ug/L		0.00
61) 2,4,6-Tribromophenol	12.903	62	1082440	37.12	ug/L		0.00
74) p-Terphenyl	15.195	230	3078667	19.56	ug/L		0.00
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.094	74	331967m	4.27	ug/L		
3) Pyridine	4.108	79	554351m	4.29	ug/L		
5) Aniline	8.560	93	877619	8.81	ug/L	#	89
7) Phenol	8.677	94	544677	2.98	ug/L	#	85
8) Bis(2-chloroethyl)ether	8.635	93	996065	7.18	ug/L	#	85
9) 2-Chlorophenol	8.725	128	1006569	6.33	ug/L		92
10) 1,3-Dichlorobenzene	8.848	146	1041177	6.40	ug/L		93
11) 1,4-Dichlorobenzene	8.934	146	1073865	6.44	ug/L		95
12) 1,2-Dichlorobenzene	9.115	146	1030435	6.61	ug/L		92
13) Benzyl alcohol	9.142	79	604572	6.21	ug/L		93
14) Bis(2-chloroisopropyl)...	9.265	45	1222126	5.63	ug/L	#	90
15) 2-Methylphenol	9.324	108	816796	6.08	ug/L		96
16) n-Nitrodi-n-propylamine	9.409	70	655435	6.88	ug/L		88
17) 4-Methylphenol	9.505	107	965010	6.66	ug/L		89
18) Hexachloroethane	9.489	117	383374	6.41	ug/L		96
20) Nitrobenzene	9.580	77	999796	7.60	ug/L	#	87
22) Isophorone	9.842	82	1975490	6.29	ug/L	#	93
23) 2-Nitrophenol	9.933	139	551552	5.95	ug/L		90
24) 2,4-Dimethylphenol	10.034	107	1129633	6.28	ug/L		94
25) Bis(2-chloroethoxy)met...	10.082	93	1142941	6.32	ug/L	#	90
26) Benzoic acid	10.227	105	87897m	12.21	ug/L		
27) 2,4-Dichlorophenol	10.232	162	852024	6.35	ug/L	#	87
28) 1,2,4-Trichlorobenzene	10.264	180	869223	5.88	ug/L		95
29) Naphthalene	10.344	128	3013774	6.19	ug/L		99
30) 2,6-Dichlorophenol	10.440	162	857974	6.11	ug/L	#	87
31) 4-Chloroaniline	10.435	127	994062	10.55	ug/L	#	77
32) Hexachlorobutadiene	10.488	225	562004	5.97	ug/L		90
33) 4-Chloro-3-methylphenol	10.974	107	924954	6.33	ug/L		88
35) 2-Methylnaphthalene	11.060	142	2160755	7.67	ug/L		94
36) 1-Methylnaphthalene	11.156	142	2134695m	7.02	ug/L		
37) Hexachlorocyclopentadiene	11.226	237	11856	4.78	ug/L	#	91
38) 2,4,6-Trichlorophenol	11.375	196	578771	6.89	ug/L		95
40) 2,4,5-Trichlorophenol	11.434	196	571453	6.33	ug/L		98
41) Biphenyl	11.530	154	3013534	9.07	ug/L		98
42) 2-Chloronaphthalene	11.546	162	1840136	7.22	ug/L		94
43) 2-Nitroaniline	11.680	138	602029	7.47	ug/L		87
44) Dimethylphthalate	11.840	163	2532837	7.73	ug/L		100

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_14.D
Acq On : 30 Mar 2018 8:26 pm
Operator : AC
Sample : 625.1 IDOC#2 YANET
Misc :
ALS Vial : 13 Sample Multiplier: 1

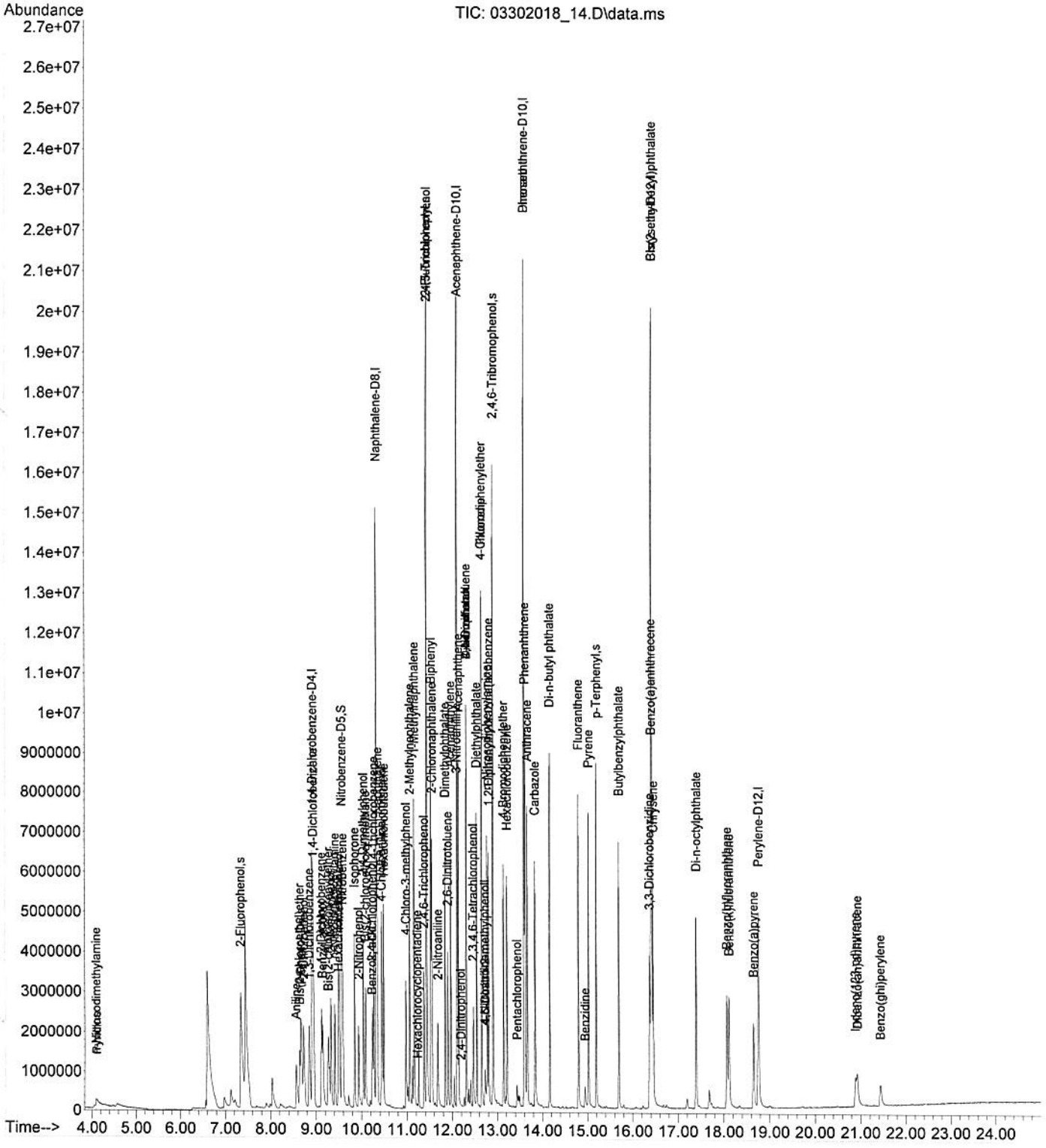
Quant Time: Apr 02 17:03:42 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) 2,6-Dinitrotoluene	11.899	165	523470	8.16	ug/L		98
46) Acenaphthylene	11.963	152	3008915	8.49	ug/L		96
47) 3-Nitroaniline	12.096	138	390292	9.24	ug/L	#	94
48) Acenaphthene	12.139	153	2053209	7.58	ug/L		97
49) 2,4-Dinitrotoluene	12.310	165	597502	7.28	ug/L	#	88
50) 2,4-Dinitrophenol	12.182	184	106	31.36	ug/L	#	1
51) Dibenzofuran	12.310	168	2900461	8.43	ug/L		96
52) 4-Nitrophenol	12.310	139	1135948	6.72	ug/L	#	20
53) 4-Nitroaniline	12.721	138	220443	5.32	ug/L	#	1
54) 2,3,4,6-Tetrachlorophenol	12.460	232	385372	5.50	ug/L	#	86
55) Diethylphthalate	12.534	149	2663288	8.42	ug/L		100
56) 4-Chlorodiphenylether	12.647	204	1138720	7.67	ug/L		98
57) Fluorene	12.652	166	2291660	7.72	ug/L		98
58) 4,6-Dinitro-2-methylph...	12.727	198	157814	16.29	ug/L		97
59) n-Nitrosodiphenylamine	12.769	169	1619540	8.67	ug/L		99
60) 1,2-Diphenylhydrazine(...	12.807	77	2096113	7.67	ug/L	#	86
63) Pentachlorophenol	13.432	266	97658m	3.99	ug/L		
64) Dinoseb	13.587	211	250309	13.67	ug/L		96
65) Phenanhthrene	13.608	178	3173889	6.76	ug/L		99
66) Anthracene	13.662	178	3186045	7.38	ug/L		96
67) 4-Bromodiphenylether	13.133	141	555434	6.19	ug/L	#	67
68) Hexachlorobenzene	13.213	284	730919	6.67	ug/L	#	74
69) Carbazole	13.833	167	2945438	9.23	ug/L		100
70) Di-n-butyl phthalate	14.158	149	4478454	7.72	ug/L		100
71) Fluoranthene	14.794	202	3182526	6.95	ug/L		95
72) Benzidine	14.944	184	350265	7.66	ug/L	#	95
73) Pyrene	15.024	202	3208367	6.95	ug/L	#	91
76) Butylbenzylphthalate	15.692	149	1613428	8.12	ug/L		95
77) Bis(2-ethylhexyl)phtha...	16.418	149	2398077	8.14	ug/L	#	97
78) 3,3-Dichlorobenzidine	16.370	252	1293669	19.74	ug/L	#	90
79) Benzo(a)anhthracene	16.402	228	2425084	7.55	ug/L	#	89
80) Chrysene	16.450	228	2462168	8.40	ug/L	#	90
81) Di-n-octylphthalate	17.396	149	3536499	8.03	ug/L	#	91
82) Benzo(b)fluoranhthene	18.069	252	1698750	8.05	ug/L	#	84
83) Benzo(k)fluoranhthene	18.117	252	2069625	8.64	ug/L	#	77
84) Benzo(a)pyrene	18.651	252	1489593	9.08	ug/L	#	80
86) Indeno(123-cd)pyrene	20.884	276	904531	7.90	ug/L	#	65
87) Dibenzo(ah)anhthracene	20.927	278	734317	7.63	ug/L	#	60
88) Benzo(ghi)perylene	21.435	276	639628	7.59	ug/L	#	67

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_14.D
Acq On : 30 Mar 2018 8:26 pm
Operator : AC
Sample : 625.1 IDOC#2 YANET
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Apr 02 17:03:42 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_15.D
Acq On : 30 Mar 2018 9:00 pm
Operator : AC
Sample : 625.1 IDOC#3 YANET
Misc :
ALS Vial : 14 Sample ~~Multiplier~~: 1

4/2/18

Quant Time: Apr 02 17:08:56 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-D4	8.913	150	2827382	20.00	ug/L	#	0.00
21) Naphthalene-D8	10.324	136	7159866	20.00	ug/L		0.00
34) Acenaphthene-D10	12.108	164	4227045	20.00	ug/L		0.00
62) Phenanhthrene-D10	13.588	188	6595219	20.00	ug/L		0.00
75) Chrysene-D12	16.414	240	5394445	20.00	ug/L	#	-0.01
85) Perylene-D12	18.759	264	3021411	20.00	ug/L	#	-0.02
System Monitoring Compounds							
4) 2-Fluorophenol	7.337	112	2835310	24.35	ug/L		-0.01
6) Phenol-D6	8.662	99	1238147	18.27	ug/L		-0.01
19) Nitrobenzene-D5	9.560	82	2840882	19.81	ug/L		0.00
39) 2-Fluorobiphenyl	11.429	172	5967739	25.07	ug/L		0.00
61) 2,4,6-Tribromophenol	12.899	62	1051166	37.70	ug/L		-0.01
74) p-Terphenyl	15.190	230	2750123	18.66	ug/L		0.00
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.095	74	322317m	4.39	ug/L		
3) Pyridine	4.113	79	554716m	4.54	ug/L		
5) Aniline	8.561	93	862720	9.16	ug/L	#	90
7) Phenol	8.678	94	534952	3.10	ug/L	#	89
8) Bis(2-chloroethyl)ether	8.641	93	959366	7.31	ug/L	#	88
9) 2-Chlorophenol	8.726	128	984675	6.56	ug/L		93
10) 1,3-Dichlorobenzene	8.849	146	1005315	6.54	ug/L		91
11) 1,4-Dichlorobenzene	8.935	146	1036865	6.59	ug/L		96
12) 1,2-Dichlorobenzene	9.116	146	1005941m	6.83	ug/L		
13) Benzyl alcohol	9.148	79	592810	6.44	ug/L		90
14) Bis(2-chloroisopropyl)...	9.266	45	1194353	5.82	ug/L	#	93
15) 2-Methylphenol	9.325	108	802413	6.33	ug/L		96
16) n-Nitrodi-n-propylamine	9.410	70	637718	7.09	ug/L		87
17) 4-Methylphenol	9.501	107	895775	6.54	ug/L		91
18) Hexachloroethane	9.490	117	371647	6.58	ug/L		95
20) Nitrobenzene	9.581	77	975076	7.87	ug/L	#	88
22) Isophorone	9.843	82	1920875	6.46	ug/L	#	95
23) 2-Nitrophenol	9.934	139	525348	5.98	ug/L	#	85
24) 2,4-Dimethylphenol	10.035	107	1080874	6.35	ug/L		93
25) Bis(2-chloroethoxy)met...	10.083	93	1112215	6.50	ug/L	#	88
26) Benzoic acid	10.217	105	110882m	12.51	ug/L		
27) 2,4-Dichlorophenol	10.233	162	816407	6.43	ug/L	#	85
28) 1,2,4-Trichlorobenzene	10.265	180	861913	6.16	ug/L		95
29) Naphthalene	10.340	128	2894385	6.28	ug/L		99
30) 2,6-Dichlorophenol	10.441	162	848744	6.38	ug/L	#	89
31) 4-Chloroaniline	10.436	127	1008100	11.30	ug/L	#	77
32) Hexachlorobutadiene	10.484	225	545001	6.11	ug/L		92
33) 4-Chloro-3-methylphenol	10.975	107	890696	6.44	ug/L		90
35) 2-Methylnaphthalene	11.055	142	2063299	7.67	ug/L	#	93
36) 1-Methylnaphthalene	11.157	142	2018952	6.95	ug/L	#	93
37) Hexachlorocyclopentadiene	11.226	237	11295	4.78	ug/L	#	77
38) 2,4,6-Trichlorophenol	11.371	196	560305	6.97	ug/L		98
40) 2,4,5-Trichlorophenol	11.435	196	557350	6.46	ug/L		97
41) Biphenyl	11.526	154	2914815	9.17	ug/L		98
42) 2-Chloronaphthalene	11.547	162	1773683	7.28	ug/L		96
43) 2-Nitroaniline	11.675	138	575900	7.48	ug/L	#	85
44) Dimethylphthalate	11.841	163	2434676	7.77	ug/L		99

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_15.D
Acq On : 30 Mar 2018 9:00 pm
Operator : AC
Sample : 625.1 IDOC#3 YANET
Misc :
ALS Vial : 14 Sample Multiplier: 1

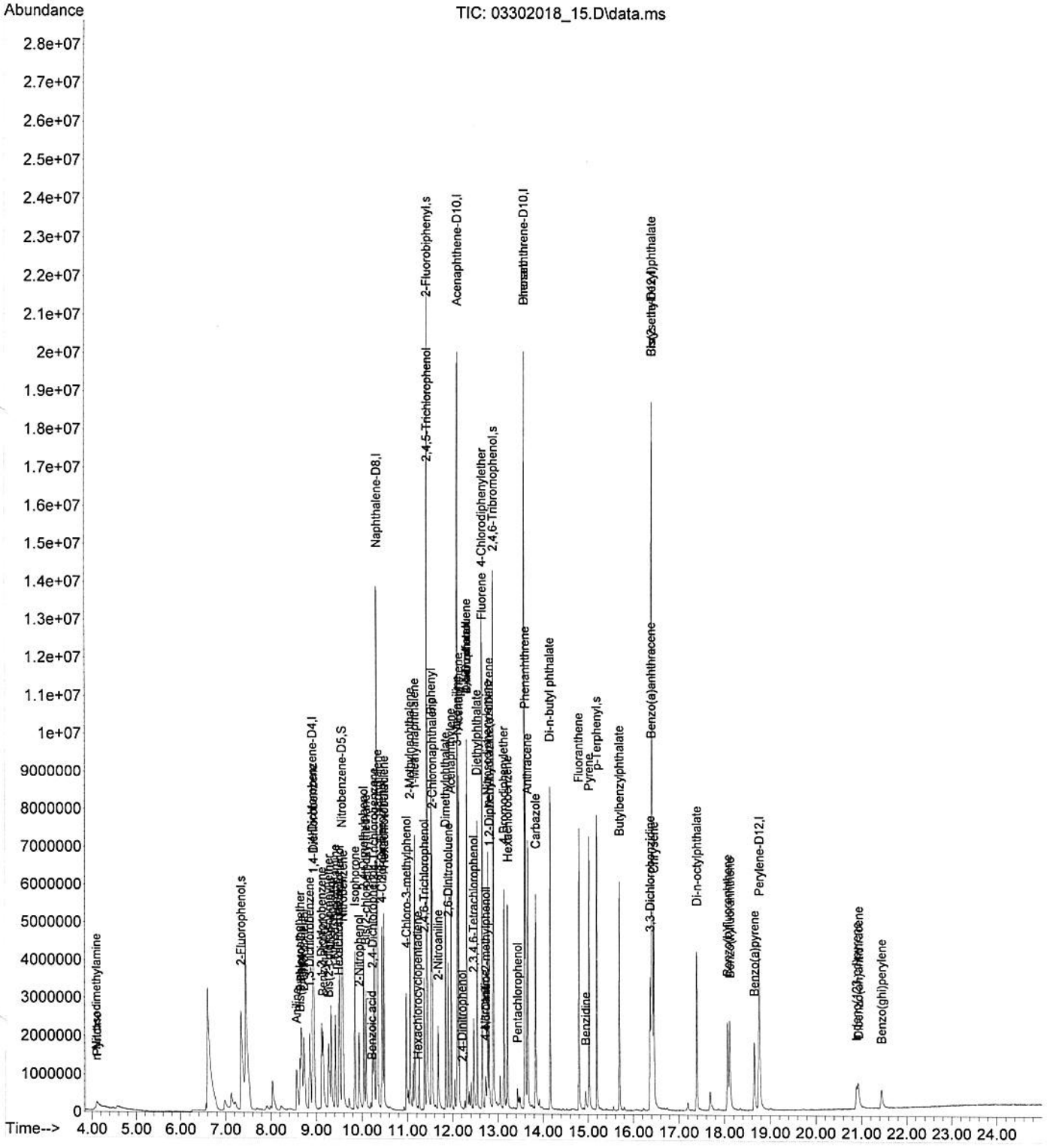
Quant Time: Apr 02 17:08:56 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) 2,6-Dinitrotoluene	11.900	165	515827	8.41	ug/L		98
46) Acenaphthylene	11.964	152	2896983	8.55	ug/L	#	95
47) 3-Nitroaniline	12.097	138	348168	8.71	ug/L		95
48) Acenaphthene	12.135	153	1993696	7.70	ug/L		97
49) 2,4-Dinitrotoluene	12.311	165	570684	7.27	ug/L	#	81
50) 2,4-Dinitrophenol	12.204	184	202	31.36	ug/L	#	1
51) Dibenzofuran	12.311	168	2794468	8.50	ug/L		97
52) 4-Nitrophenol	12.311	139	1085159	6.71	ug/L	#	20
53) 4-Nitroaniline	12.717	138	244605m	6.02	ug/L		
54) 2,3,4,6-Tetrachlorophenol	12.460	232	368186	5.50	ug/L	#	87
55) Diethylphthalate	12.535	149	2551552	8.44	ug/L		99
56) 4-Chlorodiphenylether	12.647	204	1096556	7.73	ug/L		97
57) Fluorene	12.653	166	2213846	7.80	ug/L		99
58) 4,6-Dinitro-2-methylph...	12.728	198	131199	15.85	ug/L		94
59) n-Nitrosodiphenylamine	12.770	169	1575238	8.82	ug/L		97
60) 1,2-Diphenylhydrazine(...	12.808	77	2000333	7.65	ug/L	#	88
63) Pentachlorophenol	13.433	266	71539	3.64	ug/L	#	87
64) Dinoseb	13.588	211	212723	13.23	ug/L	#	93
65) Phenanhthrene	13.609	178	3021865	6.87	ug/L		99
66) Anthracene	13.657	178	2983070	7.38	ug/L		98
67) 4-Bromodiphenylether	13.134	141	548929	6.53	ug/L	#	61
68) Hexachlorobenzene	13.214	284	718124	7.00	ug/L	#	71
69) Carbazole	13.833	167	2794620	9.36	ug/L		100
70) Di-n-butyl phthalate	14.154	149	4278836	7.88	ug/L		98
71) Fluoranthene	14.795	202	2993916m	6.99	ug/L		
72) Benzidine	14.945	184	326540	7.64	ug/L	#	99
73) Pyrene	15.019	202	3056723	7.07	ug/L		96
76) Butylbenzylphthalate	15.692	149	1517913	8.27	ug/L		93
77) Bis(2-ethylhexyl)phtha...	16.414	149	2092489	7.69	ug/L	#	97
78) 3,3-Dichlorobenzidine	16.371	252	1167013	19.27	ug/L	#	89
79) Benzo(a)anhthracene	16.403	228	2241427	7.55	ug/L	#	88
80) Chrysene	16.451	228	2233483	8.25	ug/L	#	88
81) Di-n-octylphthalate	17.391	149	3029508	7.45	ug/L	#	92
82) Benzo(b)fluoranhthene	18.070	252	1467806	7.52	ug/L	#	79
83) Benzo(k)fluoranhthene	18.118	252	1770459	7.99	ug/L	#	77
84) Benzo(a)pyrene	18.652	252	1280999	8.45	ug/L	#	82
86) Indeno(123-cd)pyrene	20.890	276	742781	7.22	ug/L	#	63
87) Dibenzo(ah)anhthracene	20.933	278	590563	6.82	ug/L	#	59
88) Benzo(ghi)perylene	21.441	276	518661	6.85	ug/L	#	73

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_15.D
Acq On : 30 Mar 2018 9:00 pm
Operator : AC
Sample : 625.1 IDOC#3 YANET
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 02 17:08:56 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_16.D
Acq On : 30 Mar 2018 9:35 pm
Operator : AC
Sample : 625.1 IDOC#4 YANET
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 02 17:24:44 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-D4	8.913	150	3030456	20.00	ug/L	#	0.00
21) Naphthalene-D8	10.318	136	7707752	20.00	ug/L		0.00
34) Acenaphthene-D10	12.108	164	4555130	20.00	ug/L		0.00
62) Phenanhthrene-D10	13.588	188	7081243	20.00	ug/L		0.00
75) Chrysene-D12	16.419	240	5936406	20.00	ug/L	#	0.00
85) Perylene-D12	18.759	264	3364010	20.00	ug/L	#	-0.02
System Monitoring Compounds							
4) 2-Fluorophenol	7.337	112	2913870	23.35	ug/L		-0.01
6) Phenol-D6	8.662	99	1278110	17.60	ug/L		-0.01
19) Nitrobenzene-D5	9.559	82	2873436	18.69	ug/L		0.00
39) 2-Fluorobiphenyl	11.429	172	6140588	23.94	ug/L		0.00
61) 2,4,6-Tribromophenol	12.898	62	1091226	36.32	ug/L		-0.01
74) p-Terphenyl	15.196	230	2875078	18.17	ug/L		0.00
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.093	74	331718m	4.21	ug/L		
3) Pyridine	4.100	79	561319m	4.29	ug/L		
5) Aniline	8.560	93	889176	8.81	ug/L		93
7) Phenol	8.678	94	533628	2.88	ug/L	#	87
8) Bis(2-chloroethyl)ether	8.635	93	986083	7.01	ug/L	#	86
9) 2-Chlorophenol	8.726	128	1018688	6.33	ug/L		93
10) 1,3-Dichlorobenzene	8.849	146	1035630	6.28	ug/L		98
11) 1,4-Dichlorobenzene	8.934	146	1055362	6.25	ug/L		97
12) 1,2-Dichlorobenzene	9.116	146	1010072	6.40	ug/L		95
13) Benzyl alcohol	9.143	79	600041	6.09	ug/L		93
14) Bis(2-chloroisopropyl)...	9.266	45	1217291	5.53	ug/L		93
15) 2-Methylphenol	9.324	108	830468	6.11	ug/L		96
16) n-Nitrodi-n-propylamine	9.410	70	648881	6.73	ug/L		88
17) 4-Methylphenol	9.501	107	970109	6.61	ug/L		85
18) Hexachloroethane	9.490	117	380734	6.29	ug/L		98
20) Nitrobenzene	9.581	77	993146	7.44	ug/L	#	88
22) Isophorone	9.843	82	1948734	6.09	ug/L	#	94
23) 2-Nitrophenol	9.933	139	547372	5.79	ug/L	#	86
24) 2,4-Dimethylphenol	10.035	107	1042979	5.69	ug/L		93
25) Bis(2-chloroethoxy)met...	10.083	93	1130138	6.13	ug/L	#	88
26) Benzoic acid	10.211	105	131579m	12.64	ug/L		
27) 2,4-Dichlorophenol	10.233	162	843964	6.17	ug/L	#	87
28) 1,2,4-Trichlorobenzene	10.265	180	878755	5.83	ug/L		98
29) Naphthalene	10.339	128	3008920	6.06	ug/L		99
30) 2,6-Dichlorophenol	10.441	162	843596	5.89	ug/L	#	84
31) 4-Chloroaniline	10.436	127	1003982	10.45	ug/L	#	78
32) Hexachlorobutadiene	10.484	225	555408	5.79	ug/L		94
33) 4-Chloro-3-methylphenol	10.975	107	905234	6.08	ug/L		89
35) 2-Methylnaphthalene	11.055	142	2131592	7.35	ug/L	#	94
36) 1-Methylnaphthalene	11.157	142	2071531	6.62	ug/L		95
37) Hexachlorocyclopentadiene	11.226	237	12073	4.78	ug/L		93
38) 2,4,6-Trichlorophenol	11.370	196	578037	6.69	ug/L		96
40) 2,4,5-Trichlorophenol	11.435	196	591217	6.36	ug/L		96
41) Biphenyl	11.531	154	2986242	8.72	ug/L		98
42) 2-Chloronaphthalene	11.547	162	1838099	7.00	ug/L		94
43) 2-Nitroaniline	11.675	138	608666	7.33	ug/L	#	84
44) Dimethylphthalate	11.841	163	2511473	7.44	ug/L		98

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_16.D
Acq On : 30 Mar 2018 9:35 pm
Operator : AC
Sample : 625.1 IDOC#4 YANET
Misc :
ALS Vial : 15 Sample Multiplier: 1

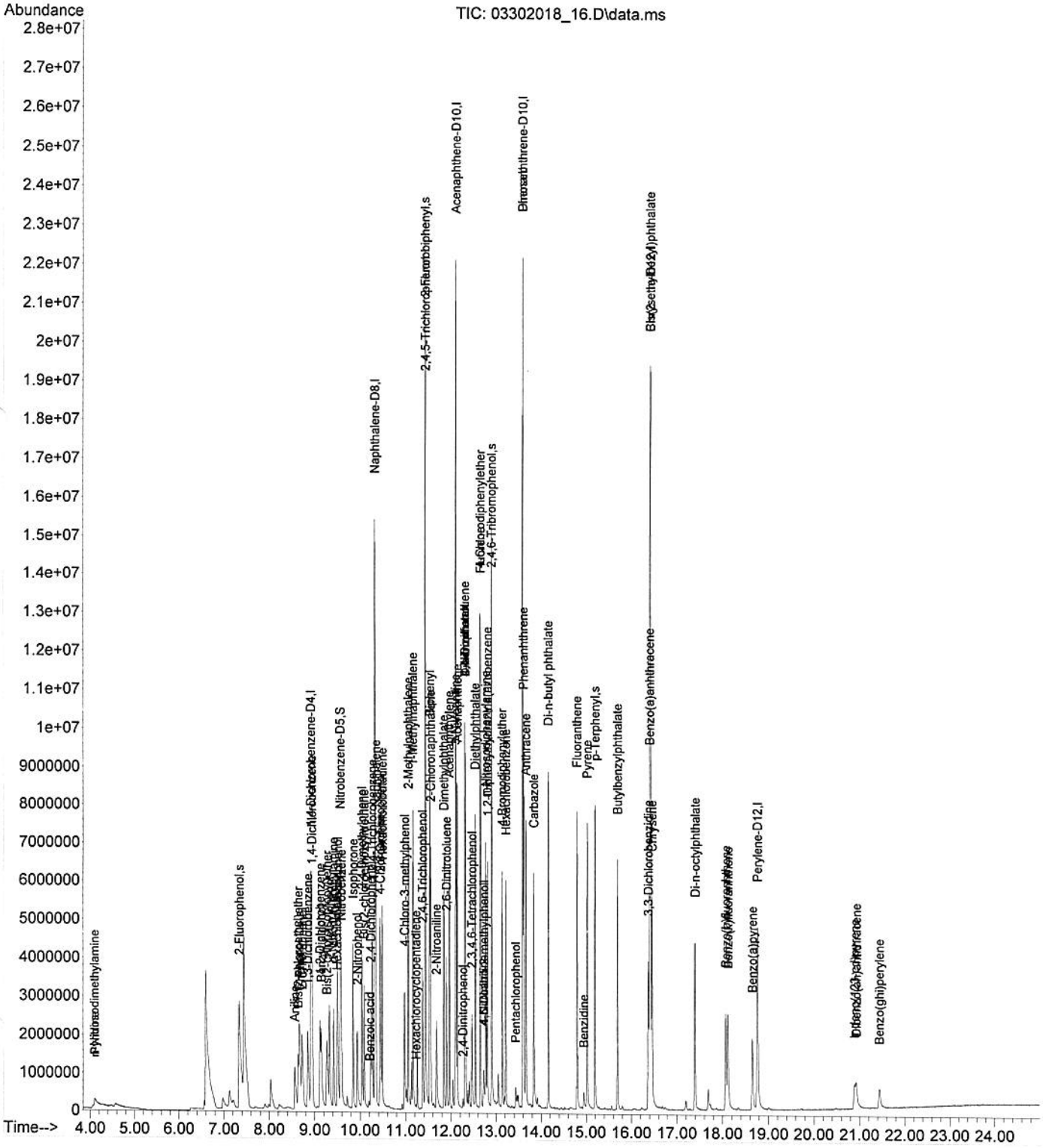
Quant Time: Apr 02 17:24:44 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) 2,6-Dinitrotoluene	11.899	165	526093	7.96	ug/L		98
46) Acenaphthylene	11.963	152	2980108	8.17	ug/L		97
47) 3-Nitroaniline	12.097	138	382732	8.86	ug/L	#	95
48) Acenaphthene	12.140	153	2053732	7.36	ug/L		95
49) 2,4-Dinitrotoluene	12.311	165	592756	7.01	ug/L	#	85
50) 2,4-Dinitrophenol	12.263	184	5265	31.63	ug/L	#	10
51) Dibenzofuran	12.311	168	2874744	8.11	ug/L		96
52) 4-Nitrophenol	12.311	139	1122043	6.44	ug/L	#	19
53) 4-Nitroaniline	12.722	138	234565	5.47	ug/L	#	1
54) 2,3,4,6-Tetrachlorophenol	12.460	232	373951	5.22	ug/L	#	90
55) Diethylphthalate	12.535	149	2660831	8.17	ug/L		98
56) 4-Chlorodiphenylether	12.647	204	1118915	7.32	ug/L		98
57) Fluorene	12.653	166	2277871	7.44	ug/L		98
58) 4,6-Dinitro-2-methylph...	12.727	198	154487	16.12	ug/L		97
59) n-Nitrosodiphenylamine	12.770	169	1633601	8.49	ug/L		99
60) 1,2-Diphenylhydrazine(...	12.808	77	2076278	7.37	ug/L	#	88
63) Pentachlorophenol	13.433	266	112082m	4.22	ug/L		
64) Dinoseb	13.588	211	239350	13.44	ug/L		97
65) Phenanhthrene	13.609	178	3171415	6.72	ug/L		99
66) Anthracene	13.662	178	3193186	7.36	ug/L		97
67) 4-Bromodiphenylether	13.133	141	572086	6.34	ug/L	#	68
68) Hexachlorobenzene	13.214	284	742450	6.74	ug/L	#	73
69) Carbazole	13.833	167	2954382	9.21	ug/L		98
70) Di-n-butyl phthalate	14.159	149	4450667	7.63	ug/L		100
71) Fluoranthene	14.795	202	3108868m	6.76	ug/L		
72) Benzidine	14.944	184	290996	6.73	ug/L		98
73) Pyrene	15.019	202	3198146	6.89	ug/L		97
76) Butylbenzylphthalate	15.692	149	1589122	7.87	ug/L		96
77) Bis(2-ethylhexyl)phtha...	16.419	149	2193196	7.32	ug/L	#	97
78) 3,3-Dichlorobenzidine	16.371	252	1285100	19.28	ug/L	#	87
79) Benzo(a)anhthracene	16.403	228	2354294	7.21	ug/L	#	91
80) Chrysene	16.451	228	2349507	7.88	ug/L	#	90
81) Di-n-octylphthalate	17.397	149	3174797	7.09	ug/L	#	90
82) Benzo(b)fluoranhthene	18.070	252	1569405	7.31	ug/L	#	79
83) Benzo(k)fluoranhthene	18.118	252	1936374	7.95	ug/L	#	77
84) Benzo(a)pyrene	18.652	252	1373731	8.24	ug/L	#	80
86) Indeno(123-cd)pyrene	20.890	276	788459	6.88	ug/L	#	60
87) Dibenzo(ah)anhthracene	20.928	278	626886	6.51	ug/L	#	62
88) Benzo(ghi)perylene	21.435	276	562199	6.67	ug/L	#	66

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\03302018\
Data File : 03302018_16.D
Acq On : 30 Mar 2018 9:35 pm
Operator : AC
Sample : 625.1 IDOC#4 YANET
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Apr 02 17:24:44 2018
Quant Method : C:\msdchem\1\methods\C62503202018.M
Quant Title : EPA 625.1 IMHOTEP GC/MS-4
QLast Update : Wed Mar 28 12:57:41 2018
Response via : Initial Calibration



Liquid Extraction Log

Method # 6n3.1

Extraction Method 3510

	Std. ID	Amt. Added	Initials
Surrogate	1800188	1.0 ml	MR.
Spike	1600620	500ul	MR
Internal Std.			

Florida Environmental

Batch#: 18E0159
Analyst: AC/YE
Date: 05.03.18
Transferred to vials by: MR.

Initial Solvent: DCM
Final Solvent: 1

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
18E0159	MB1	05.03.18	1000	7	1	12	1	05.03.18	N/A	
18E0159	LCS	05.03.18	1000	7	1	12				
18E0159	MS 18E0012-01G	05.01.18	1000	7	1	12				
18E0159	MSD 18E0012-01H	05.01.18	1000	7	1	12				
18E0012-01I	MS	05.01.18	1000	7	1	12				
18D0985-01C	SMP-1	04.30.18	980	7	1	12				
	MDL-1	05.03.18	1ml/1000	7	1	12				625 x2 05.03.18 2ppm
	MB2	05.03.18	1000	7	1	12				
	MDL-2	05.03.18	1ml/1000	7	1	12				625 x2 05.03.18 2ppm
	MB3	05.03.18	1000	7	1	12				
	MDL-3	05.03.18	1ml/1000	7	1	12				625 x2 05.03.18 2ppm
	CDOC's #1	05.03.18	1ml/1000	7	1	12				1230 x2 20ppm/ml 1OX 625 X2A
	CDOC's #2	05.03.18		7	1	12				
	CDOC's #3	05.03.18		7	1	12				
	CDOC's #4	05.03.18	↓	7	1	12	↓	↓	↓	↓
										05.03.18 MR

Item	SVT#
Filter Paper:	516
Sodium Sulfate:	523
Silica Gel:	
Sodium Hydroxide:	10N 05.21.18
Sililic Acid:	
Sulfuric Acid:	1:1 11.29.17
10 mL pipette:	516 246 MR 5.31
1.8mL Vials	512
1.8mL Vial Caps	513
20 mL Vials:	469 MR 5.31 514
Pasteur pipette:	511
Hexane	
MTBE	
Ethyl Ether	
Cu	486
Phosphate Buffer	
NaCL	
Diazomethane	
CH2CL2	535/55-1
pH paper Lot #	21'6017
Chlorine Strips Lot #	

* pH: I = Initial, E = Exchange, F= Final

Document Control #: 0401416-001
Date:8/31/16

FLA ENV Assigned Designation Type+Dept+Date+Suffix	Description	DIL -or- AMT	Manufacter Lot# and/or FLA ENV Designation # of Materials used to prepared this item	Expires	Analyst
I-625XL-123016	625-Add Cx ~~4000~~ 100 ppm (HP=500ppm)	2.5mL	IX-625XL-122916 (4000ppm) in 100 mL Acetone SV-410	12/30/20	~~Ano~~
IQX-625XL-123016	625 Add Cx QCS 20 ppm	~~2.5~~ 2mL 2mL 2mL	IQX-625XL-122916 (4000) FSV0952 FSV0946 in 100mL Acetone SV 410	12/30/20	SC
SX-8270D-123016	8270D SPIKE 20 ug/mL	25mL	I-8270D-120516 (600 ppm) in 125 mL Acetone SV-410	12/30/16	AL

Types: R=Reagent I=Intermediate S=Standard QC= Quality Control SU=Surrogate IS=Internal Standard

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800188

Description:	SU-8270D-04032018	Expires:	12/30/2020
Standard Type:	Surrogate Spike	Prepared:	4/3/2018
Solvent:	ACETONE SV-485	Prepared By:	Yanet Echevarria
Final Volume (mls):	200	Department:	SVOCGCMS
Vials:	1	Last Edit:	04/03/2018 09:47 by YE
Vendor:	FSES	Lot Number:	N/A

Analyte	CAS Number	Concentration	Units
p-Terphenyl	92-94-4	25	ug/mL
Phenol-d6		25	ug/mL
Nitrobenzene-d5	NA	25	ug/mL
2-Fluorophenol	367-12-4	50	ug/mL
2-Fluorobiphenyl	321-60-8	25	ug/mL
2,4,6-Tribromophenol	118-79-6	50	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700725	ISU-8270D-120417	12/04/201	Albert Castellanos	12/03/202	12/04/2017 14:50 by AC	2

Reviewed By _____ Date _____

Data Path : C:\msdchem\1\data\05042018\
Data File : 05042018_24.D
Acq On : 5 May 2018 4:24 am
Operator : YE
Sample : 625.1 XL IDOC #1 YANET
Misc :
ALS Vial : 21 Sample Multiplier: 1

T 30 ppm
QL 05/07/18

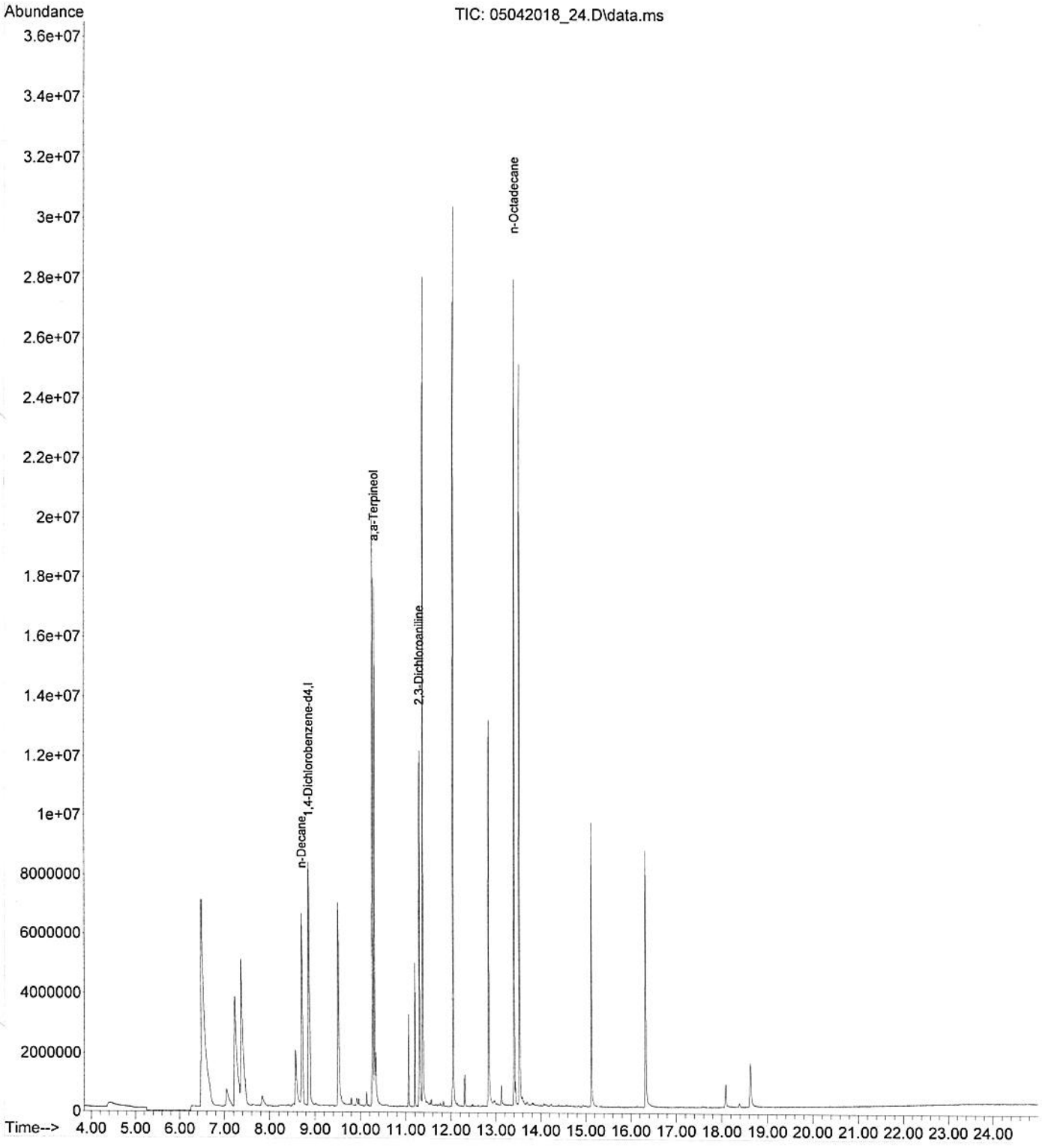
Quant Time: May 07 12:51:12 2018
Quant Method : C:\msdchem\1\methods\625APP061417.M
Quant Title : 625 APPIX BY IMHOTEP GC/MS-4
QLast Update : Wed May 02 17:56:35 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.854	150	3944376	20.00	ug/L		0.00
Target Compounds							Qvalue
2) n-Decane	8.705	57	2419304m	14.42	ug/L		
3) a,a-Terpineol	10.302	59	2218805m	26.25	ug/L		
4) 2,3-Dichloroaniline	11.296	161	2864991	22.86	ug/L	#	97
5) n-Octadecane	13.401	57	3832162	20.43	ug/L		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\05042018\
Data File : 05042018_24.D
Acq On : 5 May 2018 4:24 am
Operator : YE
Sample : 625.1 XL IDOC #1 YANET
Misc :
ALS Vial : 21 Sample Multiplier: 1

Quant Time: May 07 12:51:12 2018
Quant Method : C:\msdchem\1\methods\625APP061417.M
Quant Title : 625 APPIX BY IMHOTEP GC/MS-4
QLast Update : Wed May 02 17:56:35 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\05042018\
Data File : 05042018_25.D
Acq On : 5 May 2018 4:58 am
Operator : YE
Sample : 625.1 XL IDOC #2 YANET
Misc :
ALS Vial : 22 Sample Multiplier: 1

TV 20ppm
05/07/18

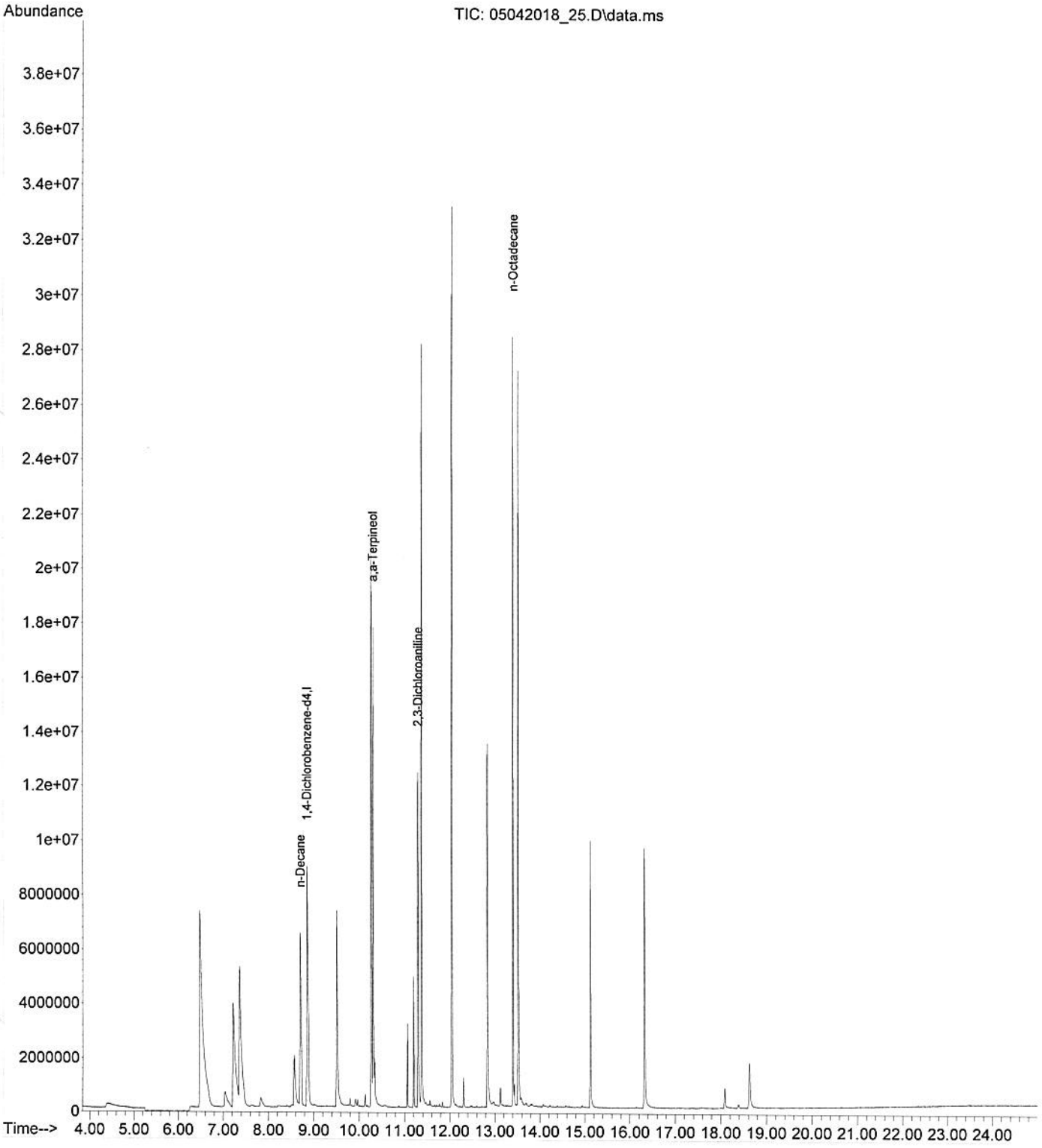
Quant Time: May 07 12:52:27 2018
Quant Method : C:\msdchem\1\methods\625APP061417.M
Quant Title : 625 APPIX BY IMHOTEP GC/MS-4
QLast Update : Wed May 02 17:56:35 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.849	150	4345835	20.00	ug/L	-0.01
Target Compounds						Qvalue
2) n-Decane	8.705	57	2438759m	13.19	ug/L	
3) a,a-Terpineol	10.302	59	2278526m	24.63	ug/L	
4) 2,3-Dichloroaniline	11.296	161	2927052	21.20	ug/L	96
5) n-Octadecane	13.401	57	3834592m	18.55	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\05042018\
Data File : 05042018_25.D
Acq On : 5 May 2018 4:58 am
Operator : YE
Sample : 625.1 XL IDOC #2 YANET
Misc :
ALS Vial : 22 Sample Multiplier: 1

Quant Time: May 07 12:52:27 2018
Quant Method : C:\msdchem\1\methods\625APP061417.M
Quant Title : 625 APPIX BY IMHOTEP GC/MS-4
QLast Update : Wed May 02 17:56:35 2018
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\05042018\
Data File : 05042018_26.D
Acq On : 5 May 2018 5:33 am
Operator : YE
Sample : 625.1 XL IDOC #3 YANET
Misc :
ALS Vial : 23 Sample Multiplier: 1

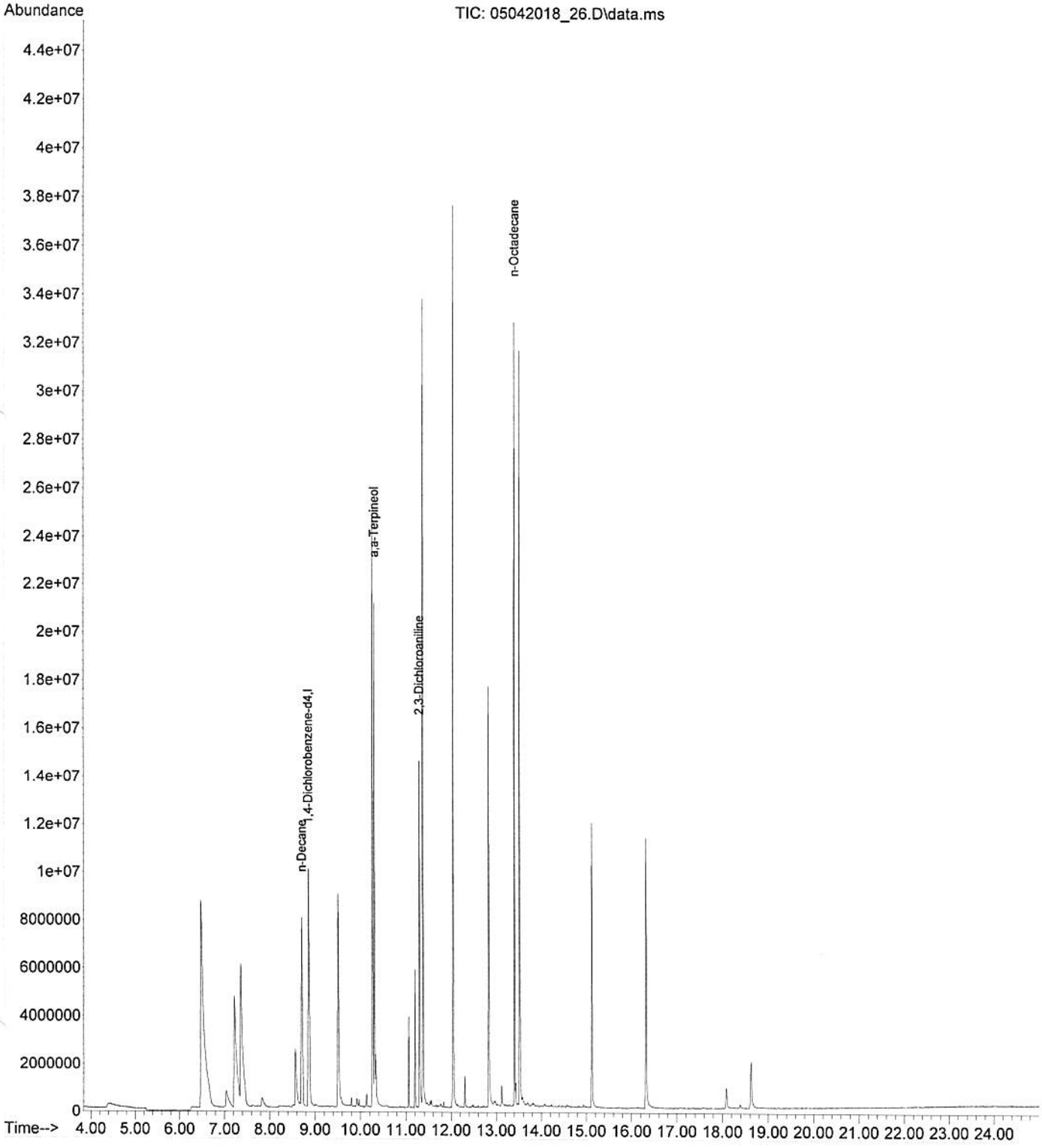
Quant Time: May 07 12:53:19 2018
Quant Method : C:\msdchem\1\methods\625APP061417.M
Quant Title : 625 APPIX BY IMHOTEP GC/MS-4
QLast Update : Wed May 02 17:56:35 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	8.849	150	4857403	20.00	ug/L	-0.01
Target Compounds						Qvalue
2) n-Decane	8.705	57	2903882	14.05	ug/L	93
3) a,a-Terpineol	10.302	59	2707302m	26.03	ug/L	
4) 2,3-Dichloroaniline	11.296	161	3496045	22.65	ug/L	96
5) n-Octadecane	13.401	57	4421693m	19.14	ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\05042018\
Data File : 05042018_26.D
Acq On : 5 May 2018 5:33 am
Operator : YE
Sample : 625.1 XL IDOC #3 YANET
Misc :
ALS Vial : 23 Sample Multiplier: 1

Quant Time: May 07 12:53:19 2018
Quant Method : C:\msdchem\1\methods\625APP061417.M
Quant Title : 625 APPIX BY IMHOTEP GC/MS-4
QLast Update : Wed May 02 17:56:35 2018
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\05042018\
Data File : 05042018_27.D
Acq On : 5 May 2018 6:07 am
Operator : YE
Sample : 625.1 XL IDOC #4 YANET
Misc :
ALS Vial : 24 Sample Multiplier: 1

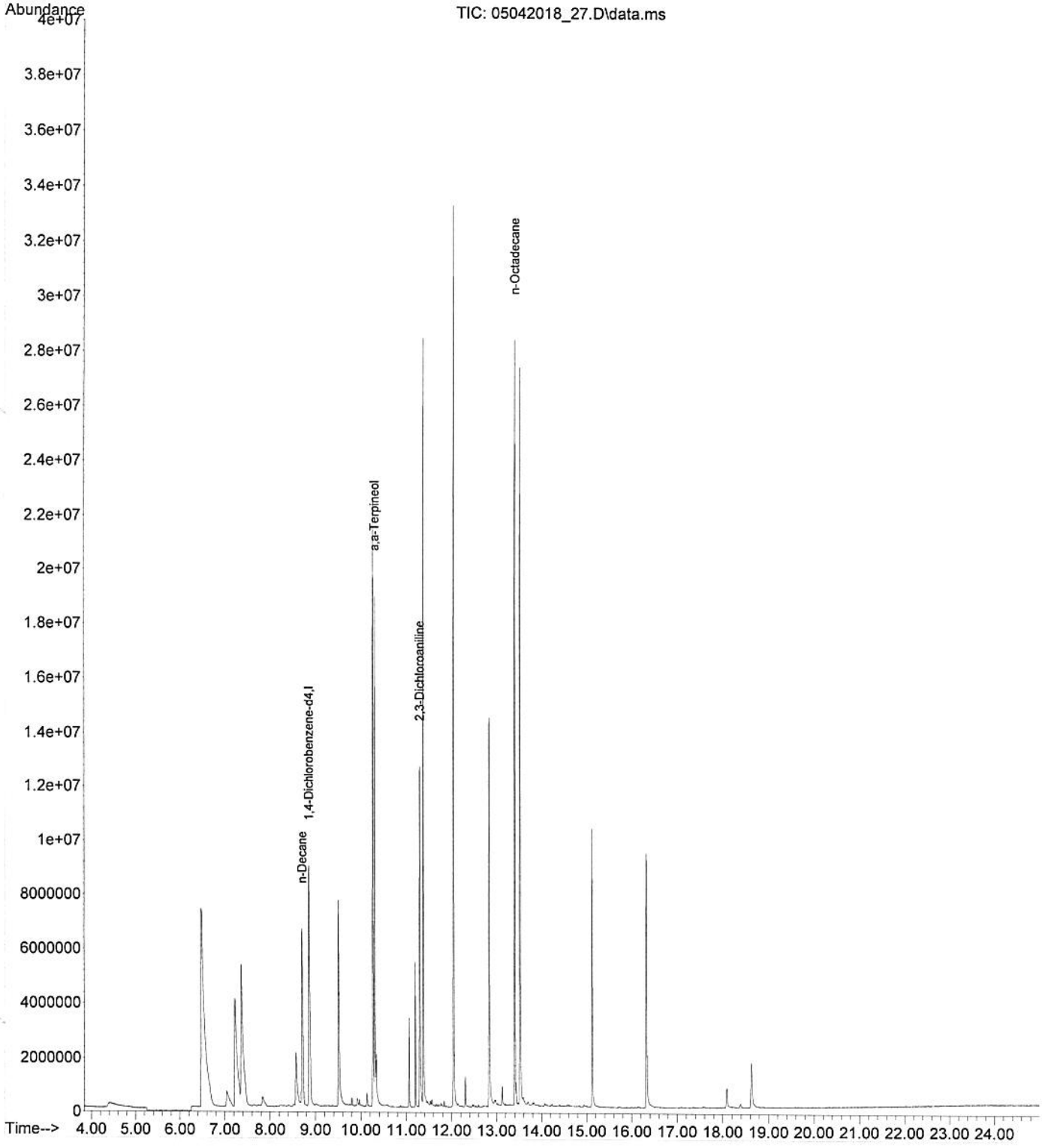
Quant Time: May 07 12:54:02 2018
Quant Method : C:\msdchem\1\methods\625APP061417.M
Quant Title : 625 APPIX BY IMHOTEP GC/MS-4
QLast Update : Wed May 02 17:56:35 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	8.854	150	4335084	20.00	ug/L		0.00
Target Compounds							Qvalue
2) n-Decane	8.705	57	2569256	13.93	ug/L		93
3) a,a-Terpineol	10.302	59	2476319	26.62	ug/L		93
4) 2,3-Dichloroaniline	11.296	161	3080284	22.36	ug/L		96
5) n-Octadecane	13.401	57	3916764	19.00	ug/L	#	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\05042018\
Data File : 05042018_27.D
Acq On : 5 May 2018 6:07 am
Operator : YE
Sample : 625.1 XL IDOC #4 YANET
Misc :
ALS Vial : 24 Sample Multiplier: 1

Quant Time: May 07 12:54:02 2018
Quant Method : C:\msdchem\1\methods\625APP061417.M
Quant Title : 625 APPIX BY IMHOTEP GC/MS-4
QLast Update : Wed May 02 17:56:35 2018
Response via : Initial Calibration



Liquid Extraction Log

Method # 625.1/8270D

Extraction Method 3510

	Std. ID	Amt. Added	Initials
Surrogate	1800441	1.0 ml	MR.
Spike	1800428	1.0 ml	MR.
Internal Std.			

Florida Environmental

Batch#:

Analyst: AC/YE

Date: 06.07.18

Transferred to vials by: MR.

Initial Solvent: DCM

Final Solvent: 1

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
	MB 7	06.07.18	1000	7	1	12	1	06.07.18	N/A	
	LCS									
	MS									
	MSD									
	IDOC / CCOC 8270/625.1									
	#1	06.07.18	1ml/1000	7	1	12	1	06.07.18	N/A	SK 1800428
	#2	06.07.18		7	1	12	1			
	#3	06.07.18		7	1	12	1			
	#4	06.07.18		7	1	12	1			
	MDL #7 625.1	06.07.18	1ml/1000	7	1	12	1			MDL SK 1800127 0.5ug
	MB8	06.07.18	1000	7	1	12	1			
	MDL #8	06.07.18	1ml/1000	7	1	12	1			MDL SK1800127 0.5ug
	MB 9	06.07.18	1000	7	1	12	1			
	MDL #7	06.07.18	1ml/1000	7	1	12	1			MDL 05.24.18 5.0ug
	MB10	06.07.18	1000	7	1	12	1			
	MDL #8	06.07.18	1ml/1000	7	1	12	1			MDL 05.24.18 5.0ug

Item	SVT#
Filter Paper:	517
Sodium Sulfate:	523
Silica Gel:	
Sodium Hydroxide:	10N 05.21.18
Sililic Acid:	
Sulfuric Acid:	1:1 11.29.17
10 mL pipette:	467
1.8mL Vials	539
1.8mL Vial Caps	540
20 mL Vials:	
Pasteur pipette:	511
Hexane	
MTBE	
Ethyl Ether	
Cu	
Phosphate Buffer	
NaCL	
Diazomethane	
CH2CL2	554/25-7
pH paper Lot #	216017
Chlorine Strips Lot #	

* pH: I = Initial, E = Exchange, F= Final

Document Control #: 0401416-001
Date:8/31/16

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800428

Description:	SK 625.1-052418	Expires:	5/24/2022
Standard Type:	Analyte Spike	Prepared:	5/24/2018
Solvent:	ACETONE	Prepared By:	Yanet Echevarria
Final Volume (mls):	100	Department:	SVOCGCMS
Vials:	1	Last Edit:	05/24/2018 15:38 by YE
Vendor:	N/A	Lot Number:	SV-508

Analyte	CAS Number	Concentration	Units
Acenaphthene	83-32-9	10	ug/mL
1,2,4-Trichlorobenzene	120-82-1	10	ug/mL
3-Nitroaniline	99-09-2	10	ug/mL
4,6-Dinitro-2-methylphenol	534-52-1	35	ug/mL
4-Bromophenyl phenyl ether	101-55-3	10 ✓	ug/mL
4-Chloro-3-methylphenol	59-50-7	10	ug/mL
4-Chloroaniline	106-47-8	10	ug/mL
4-Chlorophenyl phenyl ether	7005-72-3	10	ug/mL
-Nitrophenol	88-75-5	10	ug/mL
4-Nitrophenol	100-02-7	10	ug/mL
2-Nitroaniline	88-74-4	10	ug/mL
Acenaphthylene	208-96-8	10	ug/mL
Aniline	62-53-3	10	ug/mL
Anthracene	120-12-7	10	ug/mL
Benzidine	92-87-5	50	ug/mL
Benzo (a) anthracene	56-55-3	10	ug/mL
Benzo (b) fluoranthene	205-99-2	10	ug/mL
Benzo (g,h,i) perylene	191-24-2	10	ug/mL
4-Nitroaniline	100-01-6	10	ug/mL
2,4-Dimethylphenol	105-67-9	10	ug/mL
1,2-Dichlorobenzene	95-50-1	10	ug/mL
1,2-Diphenylhydrazine as Azobenzene	103-33-3	10	ug/mL
1,3-Dichlorobenzene	541-73-1	10	ug/mL
1,4-Dichlorobenzene	106-46-7	10	ug/mL
1-Methylnaphthalene	90-12-0	15	ug/mL
2,3,4,6-Tetrachlorophenol	58-90-2	10	ug/mL
2,4,5-Trichlorophenol	95-95-4	10	ug/mL
3,3'-Dichlorobenzidine	91-94-1	20	ug/mL
,4-Dichlorophenol	120-83-2	10	ug/mL
Benzoic acid	65-85-0	40	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800428

2,4-Dinitrophenol	51-28-5	35	ug/mL
2,4-Dinitrotoluene	121-14-2	10	ug/mL
2,6-Dichlorophenol	87-65-0	10	ug/mL
2,6-Dinitrotoluene	606-20-2	10	ug/mL
2-Chloronaphthalene	91-58-7	10	ug/mL
2-Chlorophenol	95-57-8	10	ug/mL
2-Methylnaphthalene	91-57-6	15	ug/mL
2,4,6-Trichlorophenol	88-06-2	10	ug/mL
Naphthalene	91-20-3	10	ug/mL
Hexachlorobutadiene	87-68-3	10	ug/mL
Hexachlorocyclopentadiene	77-47-4	20	ug/mL
Hexachloroethane	67-72-1	10	ug/mL
Indeno(1,2,3-cd)pyrene	193-39-5	10	ug/mL
Isophorone	78-59-1	10	ug/mL
Methyl Methanesulfonate	66-27-3	10	ug/mL
N-Nitrosodi-n-propylamine	621-64-7	10	ug/mL
Benzo (k) fluoranthene	207-08-9	10	ug/mL
N-Nitrosodiphenylamine	86-30-6	10	ug/mL
Fluoranthene	206-44-0	10	ug/mL
Nitrobenzene	98-95-3	10	ug/mL
o-Cresol	95-48-7	10	ug/mL
p-Cresol	106-44-5	10	ug/mL
Pentachlorophenol	87-86-5	10	ug/mL
Phenanthrene	85-01-8	10	ug/mL
Phenol	108-95-2	10	ug/mL
Pyrene	129-00-0	10 ✓	ug/mL
N-Nitrosodimethylamine	62-75-9	10	ug/mL
Chrysene	218-01-9	10	ug/mL
Pyridine	110-86-1	10	ug/mL
Benzyl alcohol	100-51-6	10	ug/mL
Biphenyl	92-52-4	10	ug/mL
Bis(2-chloroethoxy)methane	111-91-1	10	ug/mL
Bis(2-chloroethyl)ether	111-44-4	10	ug/mL
Bis(2-chloroisopropyl)ether	39638-32-9	10	ug/mL
Bis(2-ethylhexyl) phthalate	117-81-7	10	ug/mL
Hexachlorobenzene	118-74-1	10	ug/mL
Carbazole	86-74-8	10	ug/mL
Fluorene	86-73-7	10	ug/mL
Di-n-butyl phthalate	84-74-2	10	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800428

Di-n-octyl phthalate	117-84-0	10	ug/mL
Dibenz(a,h)anthracene	53-70-3	10	ug/mL
Dibenzofuran	132-64-9	10	ug/mL
Diethyl phthalate	84-66-2	10	ug/mL
Dimethyl phthalate	131-11-3	10	ug/mL
Ethyl Methanesulfonate	62-50-0	10	ug/mL
Benzo(a)pyrene	50-32-8	10	ug/mL
Butyl benzyl phthalate	85-68-7	10	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1800424	IQ-8270D-052418	05/24/201	Albert Castellanos	08/05/201	05/24/2018 15:37 by YE	25

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800441

Description:	SU-8270D-05302018	Expires:	12/30/2020
Standard Type:	Surrogate Spike	Prepared:	5/30/2018
Solvent:	ACETONE	Prepared By:	Yanet Echevarria
Final Volume (mls):	200	Department:	SVOCGCMS
Vials:	1	Last Edit:	05/30/2018 10:09 by YE
Vendor:	FSES	Lot Number:	SV-508

Analyte	CAS Number	Concentration	Units
p-Terphenyl	92-94-4	25	ug/mL
Phenol-d6		25	ug/mL
Nitrobenzene-d5	NA	25	ug/mL
2-Fluorophenol	367-12-4	50	ug/mL
2-Fluorobiphenyl	321-60-8	25	ug/mL
2,4,6-Tribromophenol	118-79-6	50	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700725	ISU-8270D-120417	12/04/201	Albert Castellanos	12/03/202	12/04/2017 14:50 by AC	2

Reviewed By Date

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_07.D
Acq On : 8 Jun 2018 8:09 pm
Operator : AC
Sample : 625.1/8270DL IDOC #1 YANET
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 11 11:38:42 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.391	150	6168644	20.00	ug/l		0.00
19) NAPHTHALENE-D8	10.759	136	11705978	20.00	ug/l		0.00
34) ACENAPHTHENE-D10	12.533	164	9172116	20.00	ug/l		0.00
58) PHENANHTRENE-D10	14.002	188	11748965	20.00	ug/l		0.00
73) CHRYSENE-D12	16.956	240	15940407	20.00	ug/l		0.00
80) PERYLENE-D12	19.520	264	13091687	20.00	ug/l		0.00
System Monitoring Compounds							
4) 2-Fluorophenol surrogate	7.831	112	10685345	47.21	ug/l		0.03
Spiked Amount 50.000			Recovery =	94.42%			
5) Phenol-d6 surrogate	9.049	99	6836332	47.88	ug/l		0.00
Spiked Amount 50.000			Recovery =	95.76%			
20) NITROBENZENE-D5	10.016	82	6822420	26.14	ug/l		0.00
Spiked Amount 25.000			Recovery =	104.56%			
40) 2-Fluorobiphenyl (surr...	11.843	172	11330141	20.74	ug/l		0.00
Spiked Amount 25.000			Recovery =	82.96%			
61) 2,4,6-Tribromophenol (...	13.323	330	6041321	64.83	ug/l		0.00
Spiked Amount 50.000			Recovery =	129.66%			
75) p-Terphenyl (surrogate)	15.604	230	9506664	32.75	ug/l		0.00
Spiked Amount 25.000			Recovery =	131.00%			
Target Compounds							Qvalue
2) Pyridine	5.058	79	1743991m	8.318	ug/l		
3) n-Nitrosodimethylamine	5.066	42	885486m	9.319	ug/l		
6) Aniline	9.039	93	1977431	14.620	ug/l	#	39
7) Phenol (ccc)	9.071	94	3291725	8.375	ug/l		85
8) 2-Chlorophenol	9.188	128	2478811	7.752	ug/l		92
9) Bis(2-chloroethyl)ether	9.103	93	2683100	8.153	ug/l		94
10) 1,3-Dichlorobenzene	9.327	146	2600835	7.944	ug/l		99
11) 1,4-Dichlorobenzene (ccc)	9.407	146	2685911	7.907	ug/l		98
12) Benzyl alcohol	9.589	79	1571825	9.130	ug/l		94
13) 1,2-Dichlorobenzene	9.584	146	2575280	8.181	ug/l		97
14) Bis(2-chloroisopropyl)...	9.712	45	2958409	7.287	ug/l		95
15) 2-Methylphenol	9.733	108	2310163	8.588	ug/l		98
16) n-Nitrosodi-n-propylam...	9.861	43	1266194	8.123	ug/l		98
17) Hexachloroethane	9.947	117	876313	8.158	ug/l		96
18) 4-Methylphenol	9.904	107	2955695	5.218	ug/l		87
21) Nitrobenzene	10.032	77	2455562	8.313	ug/l		96
22) Isophorone	10.289	82	4695012	10.531	ug/l		95
23) 2-Nitrophenol (ccc)	10.380	139	1231311	11.325	ug/l	#	53
24) 2,4-Dimethylphenol	10.438	107	2447358	9.505	ug/l		94
25) Bis(2-chloroethoxy)met...	10.508	93	2801344	10.158	ug/l		95
26) Benzoic acid	10.657	105	145226	20.226	ug/l	#	82
27) 2,4-Dichlorophenol (ccc)	10.657	162	2039396	10.919	ug/l		96
28) 1,2,4-Trichlorobenzene	10.711	180	2224363	9.693	ug/l		97
29) Naphthalene	10.786	128	7222795	9.334	ug/l		99
30) 2,6-Dichlorophenol	10.871	162	2098430	10.693	ug/l		74
31) 4-Chloroaniline	10.887	127	1458580	15.345	ug/l		93
32) Hexachlorobutadfiene (...	10.914	225	1401460	9.827	ug/l		100
33) 4-Chloro-3-methylphenol	11.363	107	2128243	10.876	ug/l		96
35) 2-Methylnaphthalene	11.491	142	7429510	13.219	ug/l		97
36) 1-Methylnaphthalene	11.587	142	7232252	11.797	ug/l		99
37) Hexachlorocylopentadie...	11.806	237	77	Below Cal		#	1

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_07.D
Acq On : 8 Jun 2018 8:09 pm
Operator : AC
Sample : 625.1/8270DL IDOC #1 YANET
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 11 11:38:42 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration

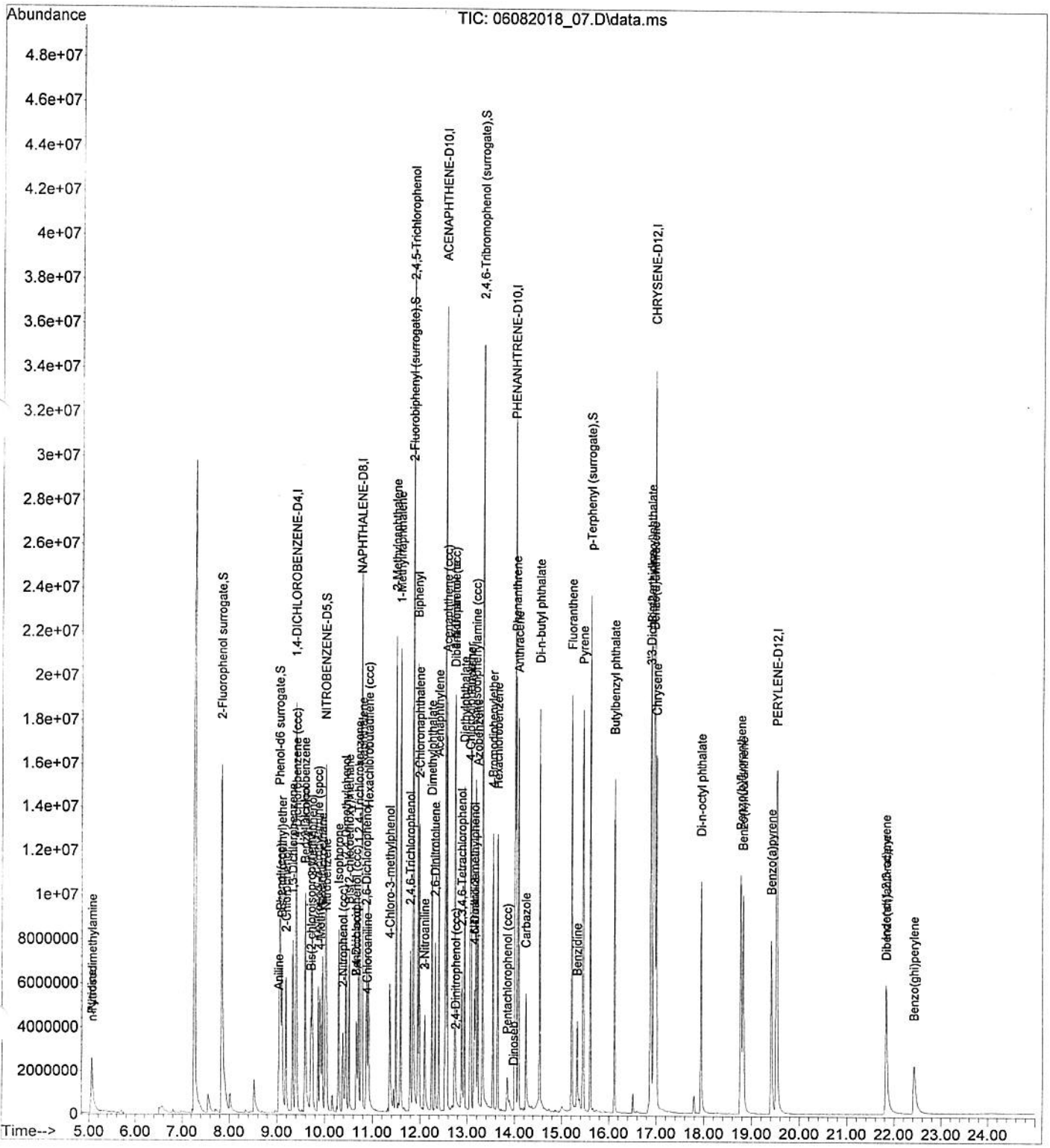
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) 2,4,6-Trichlorophenol	11.790	196	1486692	9.669 ug/l	95
39) 2,4,5-Trichlorophenol	11.854	196	1531715	9.223 ug/l	95
41) Biphenyl	11.950	154	7232820	9.977 ug/l	85
42) 2-Chloronaphthalene	11.982	162	4742833	8.553 ug/l	95
43) 2-Nitroaniline	12.095	138	1570241	10.653 ug/l	89
44) Dimethylphthalate	12.244	163	5667286	8.729 ug/l	97
45) Acenaphthylene	12.394	152	7138498	9.588 ug/l	95
46) 2,6-Dinitrotoluene	12.314	165	1315139	9.303 ug/l #	56
47) 3-Nitroaniline	12.095	65	1244687	9.020 ug/l #	67
48) Acenaphthene (ccc)	12.565	154	4866521	8.686 ug/l	95
49) Dibenzofuran	12.736	168	6948089	8.974 ug/l	99
50) 4-Nitrophenol (ccc)	12.730	65	96560	2.949 ug/l #	1
51) 2-4-Dinitrotolene	12.730	165	1676445	10.035 ug/l	74
52) 2,3,4,6-Tetrachlorophenol	12.874	232	1195646	7.952 ug/l	98
53) 2,4-Dinitrophenol (ccc)	12.752	184	16531	48.932 ug/l #	1
54) Fluorene	13.072	166	5765785	8.662 ug/l	96
55) Diethylphthalate	12.933	149	5423628	8.548 ug/l	97
56) 4-Chlorodiphenylether	13.056	204	2999328	8.794 ug/l	92
57) 4-Nitroaniline	13.147	65	561960	8.741 ug/l	79
59) n-Nitrosodiphenylamine...	13.174	169	4305000	12.378 ug/l	87
60) Azobenzene	13.216	77	5303487	10.441 ug/l	91
62) 4,6-Dinitro-2-methylph...	13.147	198	1188565	44.363 ug/l #	44
63) 4-Bromodiphenylether	13.537	248	1908773	10.122 ug/l	97
64) Hexachlorobenzene	13.638	284	2163533	10.478 ug/l	97
65) Pentachlorophenol (ccc)	13.847	266	438074	8.899 ug/l	97
66) Phenanthrene	14.028	178	8117018	9.461 ug/l	98
67) Anthracene	14.076	178	8434913	10.440 ug/l	98
68) Dinoseb	13.980	211	662	19.109 ug/l #	1
69) Carbazole	14.237	167	3765119	11.394 ug/l	98
70) Di-n-butyl phthalate	14.531	149	8625895	9.490 ug/l #	90
71) Fluoranthene	15.209	202	9084838	10.361 ug/l	98
72) Benzidine	15.327	184	2827660m	114.108 ug/l	
74) Pyrene	15.449	202	9398046	10.692 ug/l	96
76) Butylbenzyl phthalate	16.117	149	4250888	10.735 ug/l	92
77) Benzo(a)anthracene	16.940	228	8974926	9.779 ug/l	100
78) Chrysene	16.999	228	9009200	10.340 ug/l	100
79) Bis(2-ethylhexyl)phtha...	16.886	149	5931212	10.793 ug/l	95
81) 3'3-Dichlorobenzidine	16.876	252	4637325	24.681 ug/l	98
82) Di-n-octyl phthalate	17.939	149	8371983	10.194 ug/l	98
83) Benzo(b)fluoranthene	18.767	252	8089814	10.105 ug/l	98
84) Benzo(k)fluoranthene	18.815	252	8448036	9.678 ug/l	97
85) Benzo(a)pyrene	19.408	252	6561440	9.948 ug/l	96
86) Indeno(1,2,3-cd)pyrene	21.823	276	4624773	8.831 ug/l	98
87) Dibenzo(ah)anthracene	21.833	278	3511337	8.210 ug/l #	63
88) Benzo(ghi)perylene	22.421	276	3529563	8.624 ug/l	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_07.D
Acq On : 8 Jun 2018 8:09 pm
Operator : AC
Sample : 625.1/8270DL IDOC #1 YANET
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 11 11:38:42 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_08.D
Acq On : 8 Jun 2018 8:52 pm
Operator : AC
Sample : 625.1/8270DL IDOC #2 YANET
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 11 11:40:22 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DICHLOROBENZENE-D4	9.386	150	6177476	20.00	ug/l	0.00
19) NAPHTHALENE-D8	10.759	136	11753029	20.00	ug/l	0.00
34) ACENAPHTHENE-D10	12.532	164	9152018	20.00	ug/l	0.00
58) PHENANHTRENE-D10	14.001	188	11865146	20.00	ug/l	0.00
73) CHRYSENE-D12	16.950	240	15946192	20.00	ug/l	-0.01
80) PERYLENE-D12	19.515	264	13300945	20.00	ug/l	0.00
System Monitoring Compounds						
4) 2-Fluorophenol surrogate	7.826	112	10648411	46.97	ug/l	0.02
Spiked Amount 50.000			Recovery =	93.94%		
5) Phenol-d6 surrogate	9.049	99	6865820	48.01	ug/l	0.00
Spiked Amount 50.000			Recovery =	96.02%		
20) NITROBENZENE-D5	10.011	82	6776871	25.87	ug/l	0.00
Spiked Amount 25.000			Recovery =	103.48%		
40) 2-Fluorobiphenyl (surr...	11.849	172	11155248	20.47	ug/l	0.00
Spiked Amount 25.000			Recovery =	81.88%		
61) 2,4,6-Tribromophenol (...	13.323	330	6090166	64.71	ug/l	0.00
Spiked Amount 50.000			Recovery =	129.42%		
75) p-Terphenyl (surrogate)	15.604	230	9513337	32.76	ug/l	0.00
Spiked Amount 25.000			Recovery =	131.04%		
Target Compounds						Qvalue
2) Pyridine	5.042	79	1724606m	8.214	ug/l	
3) n-Nitrosodimethylamine	5.049	42	880612m	9.254	ug/l	
6) Aniline	9.033	93	2025222	14.952	ug/l #	38
7) Phenol (ccc)	9.071	94	3294235	8.369	ug/l	84
8) 2-Chlorophenol	9.188	128	2470230	7.714	ug/l	91
9) Bis(2-chloroethyl)ether	9.103	93	2651655	8.046	ug/l	95
10) 1,3-Dichlorobenzene	9.327	146	2587994	7.893	ug/l	98
11) 1,4-Dichlorobenzene (ccc)	9.407	146	2660615	7.821	ug/l	98
12) Benzyl alcohol	9.589	79	1549615	8.988	ug/l	94
13) 1,2-Dichlorobenzene	9.583	146	2546743	8.079	ug/l	98
14) Bis(2-chloroisopropyl)...	9.706	45	2906138	7.148	ug/l	97
15) 2-Methylphenol	9.733	108	2343069	8.698	ug/l	98
16) n-Nitrosodi-n-propylam...	9.861	43	1233318	7.901	ug/l	97
17) Hexachloroethane	9.947	117	878083	8.163	ug/l	95
18) 4-Methylphenol	9.904	107	2915230	5.139	ug/l	87
21) Nitrobenzene	10.032	77	2456390	8.283	ug/l	96
22) Isophorone	10.289	82	4683285	10.463	ug/l	95
23) 2-Nitrophenol (ccc)	10.379	139	1236267	11.325	ug/l #	52
24) 2,4-Dimethylphenol	10.438	107	2455916	9.500	ug/l	95
25) Bis(2-chloroethoxy)met...	10.508	93	2787231	10.067	ug/l	94
26) Benzoic acid	10.652	105	165719	20.395	ug/l	84
27) 2,4-Dichlorophenol (ccc)	10.657	162	2047840	10.920	ug/l	96
28) 1,2,4-Trichlorobenzene	10.711	180	2236650	9.708	ug/l	96
29) Naphthalene	10.785	128	7235570	9.313	ug/l	99
30) 2,6-Dichlorophenol	10.871	162	2106709	10.692	ug/l	73
31) 4-Chloroaniline	10.882	127	1513821	15.863	ug/l	94
32) Hexachlorobutadfiene (...	10.914	225	1406787	9.825	ug/l	99
33) 4-Chloro-3-methylphenol	11.362	107	2054956	10.460	ug/l	94
35) 2-Methylnaphthalene	11.491	142	7437665	13.262	ug/l	97
36) 1-Methylnaphthalene	11.587	142	7198096	11.767	ug/l	100
37) Hexachlorocylopentadie...	11.822	237	73	Below Cal	#	1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_08.D
Acq On : 8 Jun 2018 8:52 pm
Operator : AC
Sample : 625.1/8270DL IDOC #2 YANET
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 11 11:40:22 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration

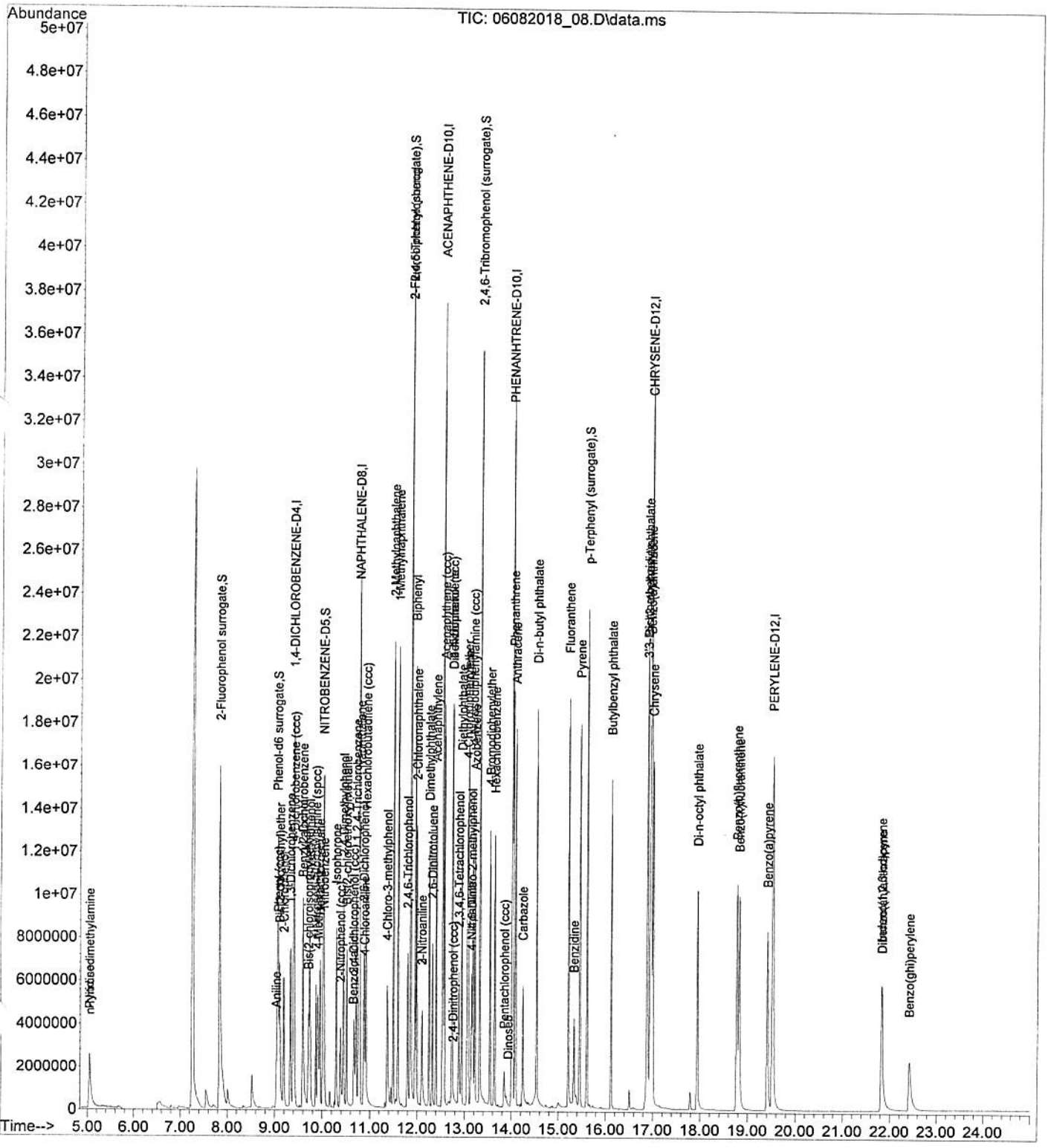
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) 2,4,6-Trichlorophenol	11.790	196	1498448	9.767	ug/l		94
39) 2,4,5-Trichlorophenol	11.854	196	1521835	9.184	ug/l		98
41) Biphenyl	11.950	154	7184831	9.932	ug/l		84
42) 2-Chloronaphthalene	11.982	162	4685437	8.468	ug/l		95
43) 2-Nitroaniline	12.094	138	1595442	10.848	ug/l		89
44) Dimethylphthalate	12.244	163	5666290	8.747	ug/l		97
45) Acenaphthylene	12.393	152	7069530	9.516	ug/l		96
46) 2,6-Dinitrotoluene	12.313	165	1302237	9.232	ug/l	#	56
47) 3-Nitroaniline	12.094	65	1246093	9.050	ug/l	#	68
48) Acenaphthene (ccc)	12.564	154	4823333	8.628	ug/l		96
49) Dibenzofuran	12.735	168	6947626	8.993	ug/l		100
50) 4-Nitrophenol (ccc)	12.730	65	97273	2.964	ug/l	#	1
51) 2-4-Dinitrotolene	12.730	165	1709410	10.255	ug/l		72
52) 2,3,4,6-Tetrachlorophenol	12.874	232	1197949	7.980	ug/l		99
53) 2,4-Dinitrophenol (ccc)	12.757	184	17444	48.966	ug/l	#	1
54) Fluorene	13.072	166	5748422	8.655	ug/l		96
55) Diethylphthalate	12.933	149	5497606	8.684	ug/l		97
56) 4-Chlorodiphenylether	13.056	204	2993697	8.796	ug/l		92
57) 4-Nitroaniline	13.141	65	634777	9.895	ug/l		81
59) n-Nitrosodiphenylamine...	13.173	169	4302309	12.249	ug/l		86
60) Azobenzene	13.216	77	5318755	10.369	ug/l		91
62) 4,6-Dinitro-2-methylph...	13.147	198	1318190	45.779	ug/l	#	44
63) 4-Bromodiphenylether	13.537	248	1898692	9.970	ug/l		97
64) Hexachlorobenzene	13.638	284	2185234	10.480	ug/l		96
65) Pentachlorophenol (ccc)	13.847	266	440250	8.871	ug/l		99
66) Phenanthrene	14.028	178	8166999	9.426	ug/l		98
67) Anthracene	14.076	178	8461221	10.370	ug/l		98
68) Dinoseb	13.932	211	1405	19.116	ug/l		77
69) Carbazole	14.237	167	3894705	11.671	ug/l		97
70) Di-n-butyl phthalate	14.530	149	8634794	9.407	ug/l	#	89
71) Fluoranthene	15.209	202	9049692	10.220	ug/l		98
72) Benzidine	15.326	184	3096302	123.427	ug/l		97
74) Pyrene	15.449	202	9375577	10.662	ug/l		97
76) Butylbenzyl phthalate	16.117	149	4224112	10.663	ug/l		92
77) Benzo(a)anthracene	16.940	228	8957092	9.756	ug/l		100
78) Chrysene	16.993	228	8907541	10.219	ug/l		100
79) Bis(2-ethylhexyl)phtha...	16.886	149	5894721	10.723	ug/l		96
81) 3'3-Dichlorobenzidine	16.876	252	4740038	24.830	ug/l		98
82) Di-n-octyl phthalate	17.939	149	8301388	9.949	ug/l		98
83) Benzo(b)fluoranthene	18.767	252	8043800	9.889	ug/l		97
84) Benzo(k)fluoranthene	18.815	252	8459588	9.538	ug/l		97
85) Benzo(a)pyrene	19.408	252	6553307	9.779	ug/l		96
86) Indeno(1,2,3-cd)pyrene	21.823	276	4680175	8.796	ug/l		97
87) Dibenzo(ah)anthracene	21.833	278	3556387	8.185	ug/l	#	65
88) Benzo(ghi)perylene	22.415	276	3535632	8.503	ug/l		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_08.D
Acq On : 8 Jun 2018 8:52 pm
Operator : AC
Sample : 625.1/8270DL IDOC #2 YANET
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 11 11:40:22 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_09.D
Acq On : 8 Jun 2018 9:35 pm
Operator : AC
Sample : 625.1/8270DL IDOC #3 YANET
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 11 11:42:35 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.391	150	6443622	20.00	ug/l		0.00
19) NAPHTHALENE-D8	10.759	136	11824883	20.00	ug/l		0.00
34) ACENAPHTHENE-D10	12.533	164	9439785	20.00	ug/l		0.00
58) PHENANHTRENE-D10	14.002	188	11943515	20.00	ug/l		0.00
73) CHRYSENE-D12	16.956	240	16111584	20.00	ug/l	#	0.00
80) PERYLENE-D12	19.520	264	14171976	20.00	ug/l		0.00
System Monitoring Compounds							
4) 2-Fluorophenol surrogate	7.831	112	10872708	45.98	ug/l		0.03
Spiked Amount 50.000			Recovery =	91.96%			
5) Phenol-d6 surrogate	9.049	99	6980952	46.80	ug/l		0.00
Spiked Amount 50.000			Recovery =	93.60%			
20) NITROBENZENE-D5	10.016	82	6895583	26.16	ug/l		0.00
Spiked Amount 25.000			Recovery =	104.64%			
40) 2-Fluorobiphenyl (surr...	11.849	172	11281204	20.07	ug/l		0.00
Spiked Amount 25.000			Recovery =	80.28%			
61) 2,4,6-Tribromophenol (...	13.323	330	6222205	65.68	ug/l		0.00
Spiked Amount 50.000			Recovery =	131.36%			
75) p-Terphenyl (surrogate)	15.604	230	9479831	32.31	ug/l		0.00
Spiked Amount 25.000			Recovery =	129.24%			
Target Compounds							Qvalue
2) Pyridine	5.057	79	1792158m	8.183	ug/l		
3) n-Nitrosodimethylamine	5.061	42	826512m	8.327	ug/l		
6) Aniline	9.039	93	1979185	14.009	ug/l	#	38
7) Phenol (ccc)	9.071	94	3329078	8.109	ug/l		86
8) 2-Chlorophenol	9.188	128	2491404	7.459	ug/l		92
9) Bis(2-chloroethyl)ether	9.103	93	2675656	7.783	ug/l		95
10) 1,3-Dichlorobenzene	9.327	146	2617447	7.653	ug/l		99
11) 1,4-Dichlorobenzene (ccc)	9.407	146	2708526	7.633	ug/l		98
12) Benzyl alcohol	9.589	79	1560397	8.677	ug/l		95
13) 1,2-Dichlorobenzene	9.584	146	2590426	7.878	ug/l		98
14) Bis(2-chloroisopropyl)...	9.707	45	2946615	6.948	ug/l		96
15) 2-Methylphenol	9.733	108	2382209	8.478	ug/l		97
16) n-Nitrosodi-n-propylam...	9.861	43	1257832	7.725	ug/l		97
17) Hexachloroethane	9.947	117	892393	7.953	ug/l		95
18) 4-Methylphenol	9.904	107	2983039	5.041	ug/l		88
21) Nitrobenzene	10.032	77	2470389	8.279	ug/l		96
22) Isophorone	10.289	82	4722110	10.485	ug/l		94
23) 2-Nitrophenol (ccc)	10.380	139	1261507	11.486	ug/l	#	52
24) 2,4-Dimethylphenol	10.438	107	2494861	9.592	ug/l		95
25) Bis(2-chloroethoxy)met...	10.508	93	2834126	10.174	ug/l		95
26) Benzoic acid	10.636	105	200417	20.679	ug/l	#	87
27) 2,4-Dichlorophenol (ccc)	10.657	162	2080735	11.028	ug/l		95
28) 1,2,4-Trichlorobenzene	10.711	180	2243752	9.680	ug/l		97
29) Naphthalene	10.786	128	7277374	9.310	ug/l		98
30) 2,6-Dichlorophenol	10.866	162	2129569	10.743	ug/l		76
31) 4-Chloroaniline	10.887	127	1501892	15.642	ug/l		93
32) Hexachlorobutadfiene (...	10.914	225	1391515	9.659	ug/l		98
33) 4-Chloro-3-methylphenol	11.363	107	2141219	10.832	ug/l		94
35) 2-Methylnaphthalene	11.491	142	7475126	12.923	ug/l		97
36) 1-Methylnaphthalene	11.587	142	7276048	11.532	ug/l		99
37) Hexachlorocylopentadie...	11.902	237	173	Below Cal		#	1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_09.D
Acq On : 8 Jun 2018 9:35 pm
Operator : AC
Sample : 625.1/8270DL IDOC #3 YANET
Misc :
ALS Vial : 8 Sample Multiplier: 1

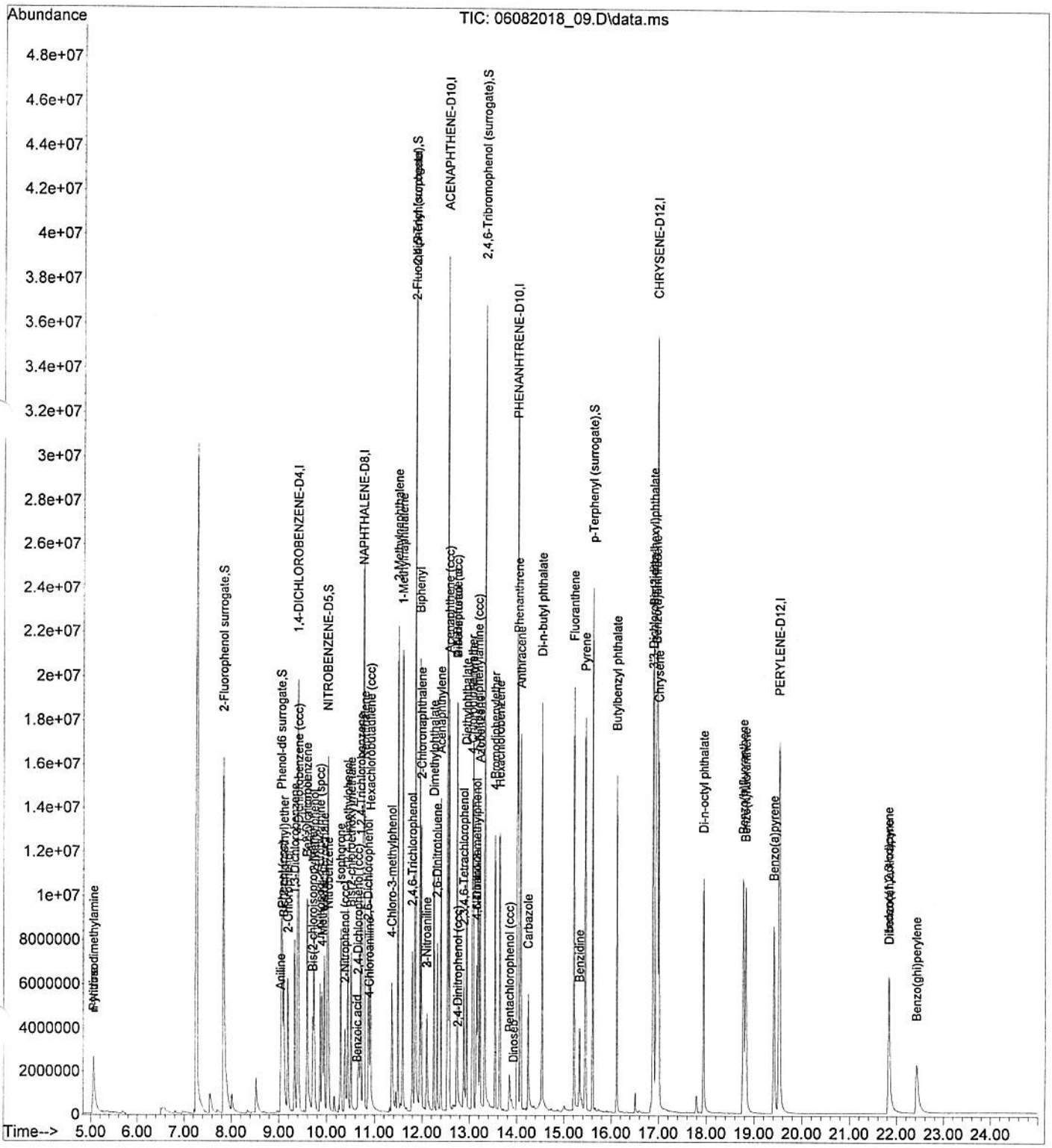
Quant Time: Jun 11 11:42:35 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) 2,4,6-Trichlorophenol	11.790	196	1518358	9.595 ug/l	94
39) 2,4,5-Trichlorophenol	11.854	196	1547250	9.053 ug/l	96
41) Biphenyl	11.950	154	7176779	9.619 ug/l	84
42) 2-Chloronaphthalene	11.982	162	4729882	8.287 ug/l	95
43) 2-Nitroaniline	12.094	138	1616495	10.656 ug/l	89
44) Dimethylphthalate	12.244	163	5699994	8.531 ug/l	97
45) Acenaphthylene	12.394	152	7175432	9.364 ug/l	96
46) 2,6-Dinitrotoluene	12.314	165	1308319	8.992 ug/l #	57
47) 3-Nitroaniline	12.094	65	1251237	8.810 ug/l #	67
48) Acenaphthene (ccc)	12.565	154	4880048	8.463 ug/l	95
49) Dibenzofuran	12.736	168	6958417	8.732 ug/l	100
50) 4-Nitrophenol (ccc)	12.730	65	100914	2.973 ug/l #	1
51) 2-4-Dinitrotolene	12.730	165	1702295	9.901 ug/l	72
52) 2,3,4,6-Tetrachlorophenol	12.874	232	1226181	7.927 ug/l	99
53) 2,4-Dinitrophenol (ccc)	12.752	184	41362	49.794 ug/l #	1
54) Fluorene	13.072	166	5794184	8.458 ug/l	97
55) Diethylphthalate	12.933	149	5462041	8.364 ug/l	97
56) 4-Chlorodiphenylether	13.056	204	2982446	8.496 ug/l	92
57) 4-Nitroaniline	13.147	65	564135	8.526 ug/l	76
59) n-Nitrosodiphenylamine...	13.179	169	4342786	12.283 ug/l	86
60) Azobenzene	13.216	77	5359808	10.380 ug/l	92
62) 4,6-Dinitro-2-methylph...	13.147	198	1443529	47.170 ug/l #	44
63) 4-Bromodiphenylether	13.537	248	1931004	10.073 ug/l	98
64) Hexachlorobenzene	13.638	284	2181053	10.391 ug/l	97
65) Pentachlorophenol (ccc)	13.847	266	442881	8.867 ug/l	99
66) Phenanthrene	14.028	178	8189911	9.391 ug/l	98
67) Anthracene	14.082	178	8549760	10.410 ug/l	95
68) Dinoseb	13.932	211	1481	19.116 ug/l	94
69) Carbazole	14.237	167	3827984	11.396 ug/l	98
70) Di-n-butyl phthalate	14.531	149	8680510	9.395 ug/l #	89
71) Fluoranthene	15.209	202	9128401	10.241 ug/l	99
72) Benzidine	15.327	184	2910273	115.484 ug/l	99
74) Pyrene	15.449	202	9488907	10.680 ug/l	98
76) Butylbenzyl phthalate	16.117	149	4262078	10.649 ug/l	94
77) Benzo(a)anthracene	16.940	228	9013833	9.717 ug/l	99
78) Chrysene	16.999	228	9036168	10.260 ug/l	99
79) Bis(2-ethylhexyl)phtha...	16.886	149	5928562	10.674 ug/l	97
81) 3'3-Dichlorobenzidine	16.876	252	4849053	23.840 ug/l	99
82) Di-n-octyl phthalate	17.939	149	8490281	9.550 ug/l	99
83) Benzo(b)fluoranthene	18.767	252	8038083	9.275 ug/l	97
84) Benzo(k)fluoranthene	18.820	252	8857094	9.373 ug/l	97
85) Benzo(a)pyrene	19.408	252	6647860	9.311 ug/l	97
86) Indeno(1,2,3-cd)pyrene	21.823	276	4750767	8.380 ug/l	95
87) Dibenzo(ah)anthracene	21.833	278	3648444	7.880 ug/l #	63
88) Benzo(ghi)perylene	22.416	276	3649764	8.238 ug/l	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_09.D
Acq On : 8 Jun 2018 9:35 pm
Operator : AC
Sample : 625.1/8270DL IDOC #3 YANET
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 11 11:42:35 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_10.D
Acq On : 8 Jun 2018 10:17 pm
Operator : AC
Sample : 625.1/8270DL IDOC #4 YANET
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 11 11:44:48 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.391	150	6287466	20.00	ug/l		0.00
19) NAPHTHALENE-D8	10.759	136	11728049	20.00	ug/l		0.00
34) ACENAPHTHENE-D10	12.533	164	9206658	20.00	ug/l		0.00
58) PHENANHTRENE-D10	14.002	188	11898024	20.00	ug/l		0.00
73) CHRYSENE-D12	16.956	240	15891278	20.00	ug/l	#	0.00
80) PERYLENE-D12	19.520	264	13777345	20.00	ug/l		0.00
System Monitoring Compounds							
4) 2-Fluorophenol surrogate	7.831	112	10680560	46.29	ug/l		0.03
Spiked Amount 50.000			Recovery =	92.58%			
5) Phenol-d6 surrogate	9.049	99	6836057	46.97	ug/l		0.00
Spiked Amount 50.000			Recovery =	93.94%			
20) NITROBENZENE-D5	10.016	82	6816210	26.07	ug/l		0.00
Spiked Amount 25.000			Recovery =	104.28%			
40) 2-Fluorobiphenyl (surr...	11.849	172	11135302	20.31	ug/l		0.00
Spiked Amount 25.000			Recovery =	81.24%			
61) 2,4,6-Tribromophenol (...	13.323	330	6121548	64.87	ug/l		0.00
Spiked Amount 50.000			Recovery =	129.74%			
75) p-Terphenyl (surrogate)	15.604	230	9432796	32.59	ug/l		0.00
Spiked Amount 25.000			Recovery =	130.36%			
Target Compounds							Qvalue
2) Pyridine	5.056	79	1680979m	7.866	ug/l		
3) n-Nitrosodimethylamine	5.062	42	831944m	8.590	ug/l		
6) Aniline	9.033	93	2005105	14.545	ug/l	#	38
7) Phenol (ccc)	9.071	94	3263278	8.146	ug/l		86
8) 2-Chlorophenol	9.188	128	2456430	7.537	ug/l		91
9) Bis(2-chloroethyl)ether	9.103	93	2651218	7.904	ug/l		94
10) 1,3-Dichlorobenzene	9.327	146	2593519	7.772	ug/l		97
11) 1,4-Dichlorobenzene (ccc)	9.407	146	2662332	7.689	ug/l		98
12) Benzyl alcohol	9.589	79	1518672	8.654	ug/l		95
13) 1,2-Dichlorobenzene	9.584	146	2543652	7.928	ug/l		98
14) Bis(2-chloroisopropyl)...	9.706	45	2927299	7.074	ug/l		97
15) 2-Methylphenol	9.733	108	2276267	8.302	ug/l		97
16) n-Nitrosodi-n-propylam...	9.861	43	1233960	7.767	ug/l		97
17) Hexachloroethane	9.947	117	867122	7.920	ug/l		96
18) 4-Methylphenol	9.904	107	2897851	5.019	ug/l		88
21) Nitrobenzene	10.032	77	2444003	8.258	ug/l		97
22) Isophorone	10.289	82	4654497	10.420	ug/l		96
23) 2-Nitrophenol (ccc)	10.380	139	1245977	11.438	ug/l	#	52
24) 2,4-Dimethylphenol	10.438	107	2436935	9.447	ug/l		94
25) Bis(2-chloroethoxy)met...	10.508	93	2801686	10.140	ug/l		95
26) Benzoic acid	10.647	105	180960	20.528	ug/l		84
27) 2,4-Dichlorophenol (ccc)	10.657	162	2040511	10.904	ug/l		95
28) 1,2,4-Trichlorobenzene	10.711	180	2227977	9.691	ug/l		98
29) Naphthalene	10.786	128	7218135	9.310	ug/l		99
30) 2,6-Dichlorophenol	10.871	162	2093141	10.646	ug/l		73
31) 4-Chloroaniline	10.887	127	1526419	16.029	ug/l		92
32) Hexachlorobutadfiene (...	10.914	225	1402944	9.819	ug/l		100
33) 4-Chloro-3-methylphenol	11.363	107	2098912	10.706	ug/l		94
35) 2-Methylnaphthalene	11.491	142	7385009	13.090	ug/l		96
36) 1-Methylnaphthalene	11.587	142	7139734	11.602	ug/l		100
37) Hexachlorocylopentadie...	11.870	237	158	Below Cal		#	1

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_10.D
Acq On : 8 Jun 2018 10:17 pm
Operator : AC
Sample : 625.1/8270DL IDOC #4 YANET
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 11 11:44:48 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration

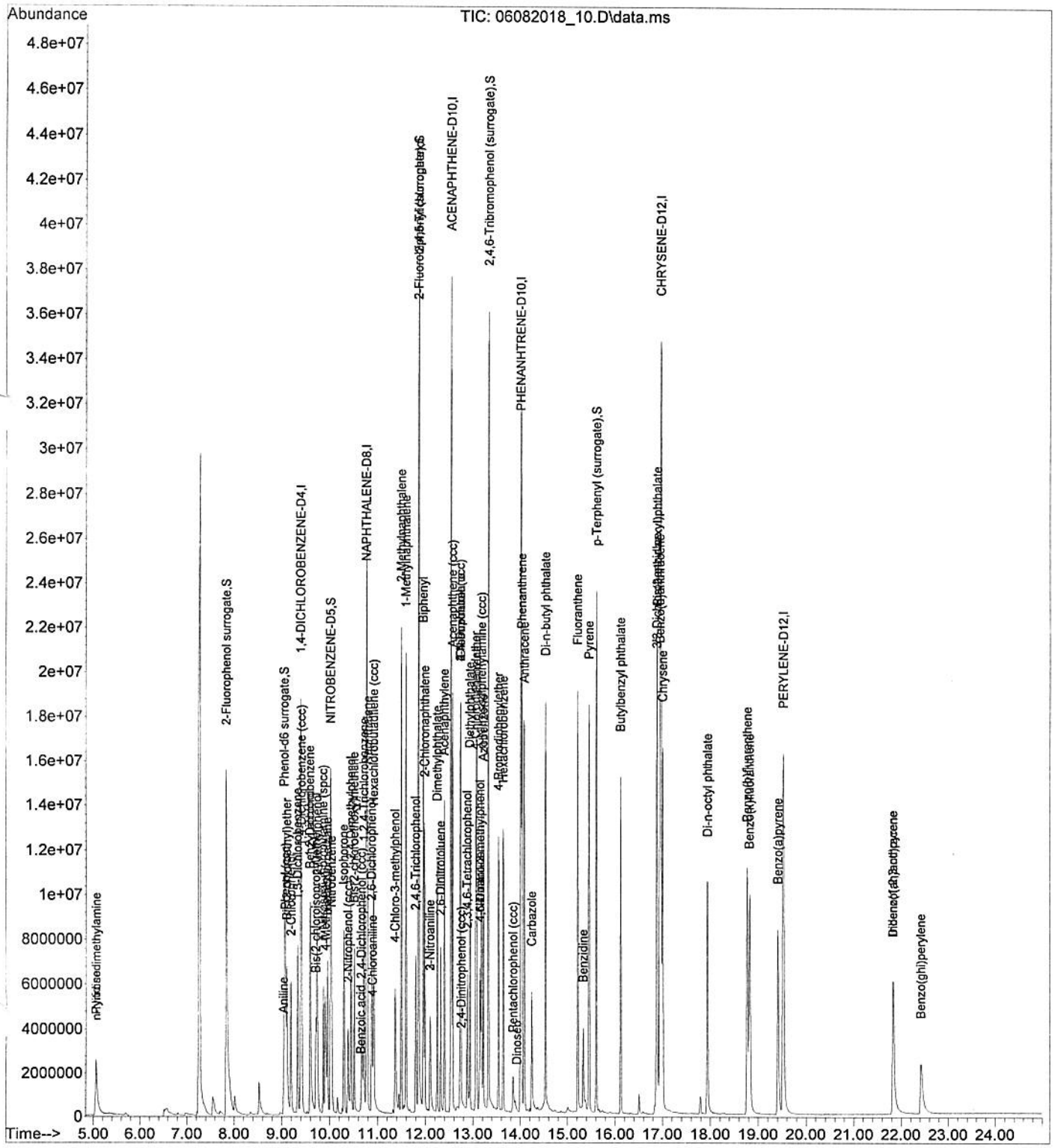
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38) 2,4,6-Trichlorophenol	11.790	196	1481519	9.599	ug/l		95
39) 2,4,5-Trichlorophenol	11.854	196	1526603	9.158	ug/l		97
41) Biphenyl	11.950	154	7152888	9.829	ug/l		84
42) 2-Chloronaphthalene	11.982	162	4635501	8.328	ug/l		96
43) 2-Nitroaniline	12.094	138	1564447	10.574	ug/l		89
44) Dimethylphthalate	12.244	163	5593774	8.584	ug/l		98
45) Acenaphthylene	12.394	152	7090467	9.488	ug/l		97
46) 2,6-Dinitrotoluene	12.319	165	1306881	9.210	ug/l	#	51
47) 3-Nitroaniline	12.094	65	1264072	9.127	ug/l	#	68
48) Acenaphthene (ccc)	12.565	154	4798062	8.532	ug/l		96
49) Dibenzofuran	12.736	168	6905941	8.886	ug/l		100
50) 4-Nitrophenol (ccc)	12.730	65	91551	2.863	ug/l	#	1
51) 2-4-Dinitrotolene	12.730	165	1705830	10.172	ug/l		74
52) 2,3,4,6-Tetrachlorophenol	12.874	232	1210523	8.011	ug/l		99
53) 2,4-Dinitrophenol (ccc)	12.752	184	24142	49.206	ug/l	#	1
54) Fluorene	13.072	166	5737675	8.588	ug/l		96
55) Diethylphthalate	12.933	149	5428198	8.523	ug/l		97
56) 4-Chlorodiphenylether	13.056	204	2973152	8.684	ug/l		92
57) 4-Nitroaniline	13.147	65	640066	9.918	ug/l		74
59) n-Nitrosodiphenylamine...	13.179	169	4289707	12.179	ug/l		86
60) Azobenzene	13.216	77	5294210	10.293	ug/l		92
62) 4,6-Dinitro-2-methylph...	13.147	198	1428289	47.054	ug/l	#	43
63) 4-Bromodiphenylether	13.537	248	1897391	9.936	ug/l		97
64) Hexachlorobenzene	13.638	284	2146358	10.265	ug/l		97
65) Pentachlorophenol (ccc)	13.847	266	441805	8.875	ug/l		98
66) Phenanthrene	14.028	178	8084002	9.305	ug/l		98
67) Anthracene	14.082	178	8422831	10.294	ug/l		95
68) Dinoseb	13.927	211	2052	19.121	ug/l		90
69) Carbazole	14.237	167	3813175	11.395	ug/l		97
70) Di-n-butyl phthalate	14.531	149	8579775	9.321	ug/l	#	90
71) Fluoranthene	15.209	202	8999925	10.136	ug/l		99
72) Benzidine	15.326	184	2947807	117.362	ug/l		97
74) Pyrene	15.449	202	9323769	10.640	ug/l		96
76) Butylbenzyl phthalate	16.117	149	4207612	10.658	ug/l		92
77) Benzo(a)anthracene	16.940	228	8953513	9.786	ug/l		100
78) Chrysene	16.999	228	9039266	10.406	ug/l		99
79) Bis(2-ethylhexyl)phtha...	16.886	149	5877167	10.728	ug/l		96
81) 3'3-Dichlorobenzidine	16.876	252	4795031	24.250	ug/l		98
82) Di-n-octyl phthalate	17.939	149	8415864	9.738	ug/l		98
83) Benzo(b)fluoranthene	18.767	252	8171717	9.699	ug/l		97
84) Benzo(k)fluoranthene	18.815	252	8597763	9.359	ug/l		98
85) Benzo(a)pyrene	19.408	252	6643901	9.572	ug/l		96
86) Indeno(1,2,3-cd)pyrene	21.823	276	4765337	8.646	ug/l		96
87) Dibenzo(ah)anthracene	21.828	278	3611859	8.025	ug/l	#	51
88) Benzo(ghi)perylene	22.416	276	3607458	8.375	ug/l		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\06072018\
Data File : 06082018_10.D
Acq On : 8 Jun 2018 10:17 pm
Operator : AC
Sample : 625.1/8270DL IDOC #4 YANET
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 11 11:44:48 2018
Quant Method : C:\msdchem\1\METHODS\C62505312018.M
Quant Title : EPA 625.1 BARBARA GC/MS-2
QLast Update : Mon Jun 04 10:00:47 2018
Response via : Initial Calibration



Date: 3/10/14
Document #: 0401114-005

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
IRENA NUTZU	IRENA NUTZU	3-12-14
Method Number 900.0	**Matrix** ☐ Water ☒ DW ☐ Solid ☐ Other: _____	**SOP Document Control Number or Revision Number:** 02011014-001
Analyte or Class of Analytes GROSS α/β		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

IRENA NUTZU *Analyst*	*Signature*	03.12.14 *Date*
IRENA NUTZU *Technical Director*	*Signature*	03.12.14 *Date*
Caitlin E. Brice *Quality Assurance Director*	*Signature*	3-12-14 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

DATE: Feb. 2014
ANALYST: IRENA NUTZU

INITIAL DEMONSTRATION OF CAPABILITY
METHOD: 900.0
GROSS α GROSS ß
MATRIX: LIQUID

ACTIVITY	TV (pCi/l)	IDOC#1 (pCi/l)	IDOC#2 (pCi/l)	IDOC#3 (pCi/l)	IDOC#4 (pCi/l)	STD.DEV.	MEAN %R	Acceptance Criteria
ALPHA (α)	667	566	684	580	599	52.9	91.0%	60%-125%
BETA (ß)	611	572	598	592	651	33.7	98.7%	60%-125%

Wate Sample Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: WATER005
Batch Ended: 2-4-14 11:26

Alpha activity action level (pCi/l): 2.00E+00
Alpha efficiency logfile: TH230AB
Alpha attenuation logfile: 10714
Alpha Activity Multiplier: 1.00E+00

Beta activity action level (pCi/l): 2.00E+00
Beta efficiency logfile: SR90AB
Beta attenuation logfile: 12314
Beta Activity Muliplier: 1.00E+00

Certainty level for MDA and flags: 95.00%
High Voltage Mode: Simultaneous

Application Revision: 2
Application Version: Standard

Batch ID: 20414

Detector ID	Sample ID	Alpha Activity				Beta Activity				Residual Mass	Sample Volume
		pCi/l	σ	flags	MDA	pCi/l	σ	flags	MDA	mg	l
A1	IDOC#1	5.655E+02	3.579E+01	>AL	2.720E+00	5.719E+02	1.463E+01	>AL	2.434E+00	56.20	0.15
A2	IDOC#2	6.839E+02	5.152E+01	>AL	2.964E+00	5.981E+02	1.484E+01	>AL	2.424E+00	56.60	0.15
A3	IDOC#3	5.795E+02	4.575E+01	>AL	2.194E+00	5.917E+02	1.528E+01	>AL	2.440E+00	56.70	0.15
A4	IDOC#4	5.994E+02	4.397E+01	>AL	2.417E+00	6.513E+02	2.065E+01	>AL	2.666E+00	56.30	0.15
B1	RAD-96-100ml	3.461E+01	2.556E+00	>AL	2.147E+00	2.538E+01	1.789E+00	>AL	3.019E+00	30.00	0.10
B2	RAD-96-125ml	3.067E+01	2.658E+00	>AL	3.236E+00	2.215E+01	1.576E+00	>AL	2.737E+00	47.30	0.13
B3	RAD-96-150ml	2.999E+01	2.785E+00	>AL	2.276E+00	2.207E+01	1.405E+00	>AL	2.221E+00	56.40	0.15
B4	RAD-83	3.296E+01	2.012E+00	>AL	1.049E+00	3.385E+01	1.556E+00	>AL	1.706E+00	27.00	0.20

Reference date for RAD-96 : January 6 2014
Decay Correct Results : Alpha : 30.67 pCi/l
Beta : 22.2 pCi/l

Detector ID	Sample ID	Alpha	Beta	G[illegible]d	Count Time	Event	Voltage	TOD
A1	IDOC#1	4340	9962	61287	120	0	1560	41674.47664
A2	IDOC#2	5174	10413	61289	120	0	1560	41674.47664
A3	IDOC#3	4309	10037	61287	120	0	1560	41674.47664
A4	IDOC#4	4624	10520	61288	120	0	1560	41674.47666
B1	RAD-96-100ml	251	390	62645	120	0	1380	41674.47667
B2	RAD-96-125ml	242	421	62647	120	0	1380	41674.47667
B3	RAD-96-150ml	228	472	62647	120	0	1380	41674.47668
B4	RAD-83	442	877	62646	120	0	1380	41674.47668

BATCH# : 001

DATE : 01.27.14

ANALYST : IN

LOGBOOK
METHOD 900.0

HNO3 : AA#1140024

Gross Alpha Std: Th230-ERA#112113 02

Gross Beta Std: Cs-137-ERA#04151005B

	Beaker / Planchet #	LCN#	PH	V init. (ml)	V spike (ml)	C spike (pCi/ml)	Weight (g) planchet	Weight-1 (g) planchet +residue	Weight-2 (g) planchet +residue	Weight (mg) residue
		LRB			-	-				
		LCS								
		LCSD								
1	1	1DOC#1	<2	150	1	100	8.6184	8.6746	8.6745	56.2
2	2	1DOC#2	<2	150	1	100	8.6434	8.7000	8.7001	56.6
3	3	1DOC#3	<2	150	1	100	8.6476	8.7043	8.7043	56.7
4	4	1DOC#4	<2	150	1	100	8.6017	8.6580	8.6579	56.3
5	5	RAD-96-100ml 14A0169-01A	<2	100	-	-	8.6335	8.6631	8.6630	30
6	6	RAD-96-125ml	<2	125	-	-	8.6258	8.6731	8.6730	47.3
7	7	RAD-96-150ml	<2	150	-	-	8.5744	8.6308	8.6309	56.4
8		RAD-83	<2	200	-	-	10.6196	10.6466	10.6466	27.0
9					-	-				
10					-	-				
11					-	-				
12					-	-				
13					-	-				
14					-	-				
15					-	-				
16					-	-				
17					-	-				
18					-	-				
19					-	-				
20					-	-				
		MS								
		MSD								

050146-001

Controlled Copy
Always Appears
Stamped in Red

Demonstration of Capability
Certification Statement

Date:
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): Albert Castellanos / Martha Raudez
Matrix: Non-potable water
Method number 625/8270D

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I Albert Castellanos current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

Maria E. Castellanos — Technical Director's Name and Title
Date

M. Castellanos — Signature

Caitlin Brice — Quality Assurance Officer's Name
Date 3-15-13

Caitlin Brice — Signature

This certification form must be completed each time a demonstration of capability study is completed

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES
IDOC WATERS 8270D/625

MATRIX: WATERS
DATE OF ANALYSIS: 05/03/2012 ANALYST:ALBERT CASTELLANOS
METHOD: 625/8270D
Extracted Method Description: 3510
INSTRUMENT USED: GC/MS #1 BRAVO AGILENT 7890/5975
EXTRACTED BY: MARTHA RAUDEZ
DATE OF EXTRACTION: 05/03/2012

Standards Used:	Std. ID#	Conc.
Spike	SEE BELOW	2
Surrogate	SEE BELOW	40.00
Internal Standard	SEE BELOW	40.00

	Y/N
Raw Data given to QA?	Y
All Crossouts initialed, dated and explained?	Y
Calculations referenced or shown in raw data?	Y

ANALYTE	TRUE Value (ug/L)	MDL 1 5031207 (ug/L)	MDL 2 5031208 (ug/L)	MDL 3 5031209 (ug/L)	MDL4 5031210 (ug/L)	$\bar{X}$ (ug/L)	RPD	%	SD
n-Nitrosodimethylamine	2.000	1.075	1.079	1.098	1.168	1.105	3.91	55.25	0.043
Pyridne	2.000	0.997	1.005	1.020	1.091	1.028	4.17	51.42	0.043
Methyl methanesulfonate	2.000	1.500	1.482	1.499	1.587	1.517	3.12	75.85	0.047
Ethyl methanesulfonate	2.000	1.898	1.864	1.883	2.033	1.920	4.01	95.98	0.077
Aniline	2.000	2.102	2.149	2.246	2.405	2.226	6.01	111.28	0.134
Phenol	2.000	1.076	1.061	1.077	1.135	1.087	3.00	54.36	0.033
2-Chlorophenol	2.000	1.825	1.844	1.757	1.893	1.830	3.08	91.49	0.056
Bis(2-chloroethyl)ether	2.000	1.566	1.579	1.647	1.696	1.622	3.75	81.10	0.061
m-Dichlorobenzene	2.000	1.149	1.151	1.207	1.300	1.202	5.89	60.09	0.071
p-Dichlorobenzene	2.000	1.165	1.196	1.233	1.340	1.234	6.18	61.68	0.076
o-Dichlorobenzene	2.000	1.213	1.226	1.292	1.386	1.279	6.19	63.96	0.079
Benzyl alcohol	2.000	2.032	2.019	2.056	2.196	2.076	3.93	103.79	0.082
Bis(2-chloroisopropyl)ether	2.000	1.538	1.541	1.578	1.712	1.592	5.14	79.61	0.082
o-Cresol	2.000	1.895	1.901	1.809	1.930	1.884	2.77	94.19	0.052
Hexachloroethane	2.000	1.143	1.156	1.197	1.270	1.192	4.80	59.58	0.057
n-Nitrosodi-n-propylamine	2.000	1.665	1.676	1.685	1.864	1.723	5.50	86.13	0.095
p-Cresol	2.000	2.060	2.059	2.013	2.148	2.070	2.73	103.50	0.056
Nitrobenzene	2.000	1.654	1.650	1.713	1.843	1.715	5.25	85.75	0.090
Isophorone	2.000	1.787	1.850	1.801	1.953	1.848	4.07	92.39	0.075
2-Nitrophenol	2.000	1.959	1.971	1.935	2.067	1.983	2.92	99.15	0.058
2,4-Dimethylphenol	2.000	2.033	2.009	1.961	2.099	2.026	2.83	101.28	0.057
Bis(2-chloroethoxy)methane	2.000	1.774	1.798	1.813	1.929	1.829	3.77	91.43	0.069

2,[illegible]henol	2.000	2.371	2.356	2.270	2.408	[illegible]	2.48	117.56	0.058
1,[illegible]-Tric[illegible]robenzene	2.000	1.360	1.332	1.439	1.539	1.[illegible]8	6.55	70.88	0.093
Naphthalene	2.000	1.502	1.492	1.573	1.690	1.564	5.83	78.21	0.091
2,6-Dichlorophenol	2.000	2.187	2.197	2.060	2.251	2.174	3.72	108.69	0.081
p-Chloroaniline	2.000	1.694	1.759	2.065	2.182	1.925	12.24	96.25	0.236
Benzoic acid	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
Hexachlorobutadiene	2.000	1.256	1.240	1.281	1.360	1.284	4.15	64.21	0.053
4-Chloro-3-methylphenol	2.000	1.928	1.936	1.847	1.985	1.924	2.97	96.20	0.057
2-Methylnaphthalene	2.000	1.496	1.472	1.568	1.671	1.552	5.76	77.59	0.089
1-Methylnaphthalene	2.000	1.632	1.603	1.695	1.798	1.682	5.13	84.10	0.086
Hexachlorocyclopentadiene	2.000	1.305	1.315	1.430	1.548	1.400	8.15	69.98	0.114
2,4,5-Trichlorophenol	2.000	1.960	2.000	1.898	2.023	1.970	2.78	98.51	0.055
2,4,5-Trichlorophenol	2.000	1.947	1.934	1.829	1.993	1.926	3.60	96.29	0.069
2-Chloronaphthalene	2.000	1.510	1.511	1.572	1.689	1.571	5.36	78.53	0.084
o-Nitroaniline	2.000	1.604	1.594	1.632	1.738	1.642	4.02	82.10	0.066
Dimethylphthalate	2.000	1.442	1.421	1.276	1.375	1.379	5.36	68.93	0.074
2,6-Dinitrotoluene	2.000	1.723	1.730	1.704	1.828	1.746	3.18	87.31	0.056
Acenaphthylene	2.000	1.993.	1.972	2.071	2.185	2.076	5.13	103.80	0.107
Acenaphthene	2.000	1.650	1.640	1.690	1.817	1.699	4.79	84.96	0.081
Dibenzofuran	2.000	1.835	1.818	1.868	2.015	1.884	4.76	94.20	0.090
2,4-Dinitrotoluene	2.000	1.574	1.527	1.598	1.669*	1.566	2.31	78.32	0.036
4-Nitrophenol	2.000	1.238	1.231	1.182	1.324	1.244	4.75	62.19	0.059
2,3,4,6-Tetrachlorophenol	2.000	1.802	1.840	1.737	1.910	1.822	3.97	91.11	0.072
Diethylphthalate	2.000	1.882	1.862	1.779	1.913	1.859	3.08	92.95	0.057
Fluorene	2.000	1.752	1.756	1.812	1.914	1.809	4.17	90.43	0.075
4-Chlrodiphenylether	2.000	1.664	1.684	1.717	1.869	1.734	5.36	86.68	0.093
m-Nitroaniline	2.000	1.665	1.664	1.745	1.787	1.715	3.56	85.76	0.061
4,6-Dinitro-2-methylphenol	2.000	0.000	3.420	0.000	0.000	0.855	200.00	42.75	1.710
2,4-Dinitrophenol	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
p-Nitroaniline	2.000	2.036	2.065	2.268	2.283	2.163	6.04	108.15	0.131
n-Nitrosodiphenylamine	2.000	1.946	1.940	1.994	2.178	2.015	5.54	100.73	0.112
Azobenzene(1,2-Diphenylhy)	2.000	1.674	1.671	1.697	1.816	1.715	4.00	85.73	0.069
4-Bromo-diphenylether	2.000	1.515	1.528	1.566	1.694	1.576	5.19	78.79	0.082
BHC-alpha	2.000	1.664	1.640	1.647	1.746	1.674	2.92	83.71	0.049
Hexachlorobenzene	2.000	1.625	1.618	1.650	1.807	1.675	5.32	83.75	0.089
Demeton-O	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
BHC-beta	2.000	1.874	1.831	1.851	2.014	1.893	4.38	94.63	0.083
Pentachlorophenol	2.000	2.696	2.609	2.649	2.759	2.678	2.41	133.91	0.065
Lindane	2.000	1.789	1.758	1.744	1.871	1.791	3.18	89.53	0.057

[illegible]	2.000	1.787	1.771	1.807	1.947	[illegible]8	4.41	91.40	0.081
[illegible]enanthrene	2.000	1.956	1.958	1.954	2.146	2.004	4.74	100.18	0.095
Anthracene	2.000	1.976	1.978	1.974	2.167	2.024	4.72	101.19	0.096
Dinoseb	2.000	0.559	0.489	0.450	0.535	0.508	9.54	25.41	0.048
BHC-delta	2.000	1.431	1.445	1.277	1.395	1.387	5.50	69.35	0.076
Parathion methyl	2.000	1.571	1.575	1.593	1.705	1.611	3.94	80.55	0.063
Heptachlor	2.000	1.583	1.584	1.581	1.751	1.625	5.18	81.24	0.084
Di-n-butyl phthalate	2.000	2.126	2.128	2.044	2.219	2.129	3.36	106.46	0.071
Malathion	2.000	0.280	0.260	0.253	0.256	0.262	4.64	13.11	0.012
Aldrin	2.000	1.841	1.808	1.847	2.001	1.874	4.60	93.71	0.086
Parathion	2.000	1.609	1.648	1.678	1.749	1.671	3.54	83.55	0.059
Heptachlor epoxide	2.000	1.679	1.670	1.686	1.778	1.703	2.95	85.16	0.050
Fluoranthene	2.000	1.819	1.821	2.036	2.204	1.970	9.46	98.50	0.186
Benzidine	2.000	1.266	1.369	1.428	1.462	1.381	6.22	69.06	0.086
Endosulfan I	2.000	0.643	0.568	0.632	0.690	0.633	7.94	31.66	0.050
Pyrene	2.000	1.665	1.662	1.692	1.826	1.711	4.54	85.56	0.078
p'p-DDE	2.000	1.613	1.611	1.669	1.759	1.663	4.17	83.15	0.069
Dieldrin	2.000	1.537	1.500	1.552	1.646	1.559	3.99	77.94	0.062
Endrin	2.000	1.560	1.588	1.705	1.925	1.695	9.80	84.73	0.166
Ethion	2.000	1.416	1.423	1.368	1.493	1.425	3.61	71.25	0.052
Endosulfan II	2.000	0.467	0.305	0.564	0.681	0.504	31.54	25.21	0.159
p'p-DDD	2.000	1.297	1.634	1.643	1.763	1.584	12.64	79.21	0.200
Endrin aldehyde	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
Butylbenzyl phthalate	2.000	1.540	1.537	1.465	1.569	1.528	2.90	76.39	0.044
p'p-DDT	2.000	1.744	1.741	1.759	1.899	1.786	4.25	89.29	0.076
Endosulfan sulfate	2.000	1.713	1.769	1.736	1.866	1.771	3.80	88.55	0.067
Endrin ketone	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
Methoxychlor	2.000	1.723	1.726	1.757	1.924	1.783	5.36	89.13	0.096
Benzo(a)anthracene	2.000	1.523	1.506	1.543	1.665	1.559	4.62	77.96	0.072
Chrysene	2.000	1.715	1.587	1.625	1.876	1.701	7.56	85.04	0.129
Bis(2-ethylhexyl)phthalate	2.000	2.135	2.120	2.158	2.338	2.188	4.63	109.39	0.101
Guthion	2.000	1.128	1.059	0.898	0.963	1.012	10.05	50.60	0.102
Di-n-octyl phthalate	2.000	1.910	1.871	1.917	2.107	1.951	5.42	97.56	0.106
Benzo(b)fluoranthene	2.000	1.738	1.746	1.978	1.892	1.839	6.36	91.93	0.117
Benzo(k)fluoranthene	2.000	1.752	1.765	1.762	1.979	1.815	6.05	90.73	0.110
Benzo(a)pyrene	2.000	1.920	1.906	1.946	2.118	1.973	4.99	98.63	0.098
Indeno(123-cd)pyrene	2.000	1.466	1.850	1.503	1.627	1.612	10.75	80.58	0.173

Dibe[illegible]nthracene	2.000	1.998	2.073	2.082	2.234	[illegible]7	4.72	104.84	0.099
Benzo(ghi)perylene	2.000	1.887	1.927	1.956	2.118	1.972	5.14	98.60	0.101

FLORIDA SPECTRUM ENVIRONMENTAL S[illegible]VICES
IDOC WATERS 8270D/625

MATRIX: WATERS
DATE OF ANALYSIS: 05/03/2012 ANALYST:ALBERT CASTELLANOS
METHOD: 625/8270D
Extracted Method Description: 3510
INSTRUMENT USED: GC/MS #1 BRAVO AGILENT 7890/5975
EXTRACTED BY: MARTHA RAUDEZ
DATE OF EXTRACTION: 05/03/2012

Standards Used:	Std. ID#	Conc.
Spike	SEE BELOW	2
Surrogate	SEE BELOW	40.00
Internal Standard	SEE BELOW	40.00

	Y/N
Raw Data given to QA?	Y
All Crossouts initialed, dated and explained?	Y
Calculations referenced or shown in raw data?	Y

ANALYTE	TRUE Value (ug/L)	MDL 1 5031207 (ug/L)	MDL 2 5031208 (ug/L)	MDL 3 5031209 (ug/L)	MDL4 5031210 (ug/L)	$\bar{X}$ (ug/L)	RPD	%	SD
n-Nitrosodimethylamine	2.000	1.075	1.079	1.098	1.168	1.105	3.91	55.25	0.043
Pyridne	2.000	0.997	1.005	1.020	1.091	1.028	4.17	51.42	0.043
Methyl methanesulfonate	2.000	1.500	1.482	1.499	1.587	1.517	3.12	75.85	0.047
Ethyl methanesulfonate	2.000	1.898	1.864	1.883	2.033	1.920	4.01	95.98	0.077
Aniline	2.000	2.102	2.149	2.246	2.405	2.226	6.01	111.28	0.134
Phenol	2.000	1.076	1.061	1.077	1.135	1.087	3.00	54.36	0.033
2-Chlorophenol	2.000	1.825	1.844	1.757	1.893	1.830	3.08	91.49	0.056
Bis(2-chloroethyl)ether	2.000	1.566	1.579	1.647	1.696	1.622	3.75	81.10	0.061
m-Dichlorobenzene	2.000	1.149	1.151	1.207	1.300	1.202	5.89	60.09	0.071
p-Dichlorobenzene	2.000	1.165	1.196	1.233	1.340	1.234	6.18	61.68	0.076
o-Dichlorobenzene	2.000	1.213	1.226	1.292	1.386	1.279	6.19	63.96	0.079
Benzyl alcohol	2.000	2.032	2.019	2.056	2.196	2.076	3.93	103.79	0.082
Bis(2-chloroisopropyl)ether	2.000	1.538	1.541	1.578	1.712	1.592	5.14	79.61	0.082
o-Cresol	2.000	1.895	1.901	1.809	1.930	1.884	2.77	94.19	0.052
Hexachloroethane	2.000	1.143	1.156	1.197	1.270	1.192	4.80	59.58	0.057
n-Nitrosodi-n-propylamine	2.000	1.665	1.676	1.685	1.864	1.723	5.50	86.13	0.095
p-Cresol	2.000	2.060	2.059	2.013	2.148	2.070	2.73	103.50	0.056
Nitrobenzene	2.000	1.654	1.650	1.713	1.843	1.715	5.25	85.75	0.090
Isophorone	2.000	1.787	1.850	1.801	1.953	1.848	4.07	92.39	0.075
2-Nitrophenol	2.000	1.959	1.971	1.935	2.067	1.983	2.92	99.15	0.058
2,4-Dimethylphenol	2.000	2.033	2.009	1.961	2.099	2.026	2.83	101.28	0.057
Bis(2-chloroethoxy)methane	2.000	1.774	1.798	1.813	1.929	1.829	3.77	91.43	0.069

2,4-Dich[illegible]phenol	2.000	2.371	2.356	2.270	2.408	[illegible]	2.48	117.56	0.058
1,2,4-Trichlorobenzene	2.000	1.360	1.332	1.439	1.539	1.[illegible]18	6.55	70.88	0.093
Naphthalene	2.000	1.502	1.492	1.573	1.690	1.564	5.83	78.21	0.091
2,6-Dichlorophenol	2.000	2.187	2.197	2.060	2.251	2.174	3.72	108.69	0.081
p-Chloroaniline	2.000	1.694	1.759	2.065	2.182	1.925	12.24	96.25	0.236
Benzoic acid	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
Hexachlorobutadiene	2.000	1.256	1.240	1.281	1.360	1.284	4.15	64.21	0.053
4-Chloro-3-methylphenol	2.000	1.928	1.936	1.847	1.985	1.924	2.97	96.20	0.057
2-Methylnaphthalene	2.000	1.496	1.472	1.568	1.671	1.552	5.76	77.59	0.089
1-Methylnaphthalene	2.000	1.632	1.603	1.695	1.798	1.682	5.13	84.10	0.086
Hexachlorocyclopentadiene	2.000	1.305	1.315	1.430	1.548	1.400	8.15	69.98	0.114
2,4,5-Trichlorophenol	2.000	1.960	2.000	1.898	2.023	1.970	2.78	98.51	0.055
2,4,5-Trichlorophenol	2.000	1.947	1.934	1.829	1.993	1.926	3.60	96.29	0.069
2-Chloronaphthalene	2.000	1.510	1.511	1.572	1.689	1.571	5.36	78.53	0.084
o-Nitroaniline	2.000	1.604	1.594	1.632	1.738	1.642	4.02	82.10	0.066
Dimethylphthalate	2.000	1.442	1.421	1.276	1.375	1.379	5.36	68.93	0.074
2,6-Dinitrotoluene	2.000	1.723	1.730	1.704	1.828	1.746	3.18	87.31	0.056
Acenaphthylene	2.000	1.993.	1.972	2.071	2.185	2.076	5.13	103.80	0.107
Acenaphthene	2.000	1.650	1.640	1.690	1.817	1.699	4.79	84.96	0.081
Dibenzofuran	2.000	1.835	1.818	1.868	2.015	1.884	4.76	94.20	0.090
2,4-Dinitrotoluene	2.000	1.574	1.527	1.598	1.669*	1.566	2.31	78.32	0.036
4-Nitrophenol	2.000	1.238	1.231	1.182	1.324	1.244	4.75	62.19	0.059
2,3,4,6-Tetrachlorophenol	2.000	1.802	1.840	1.737	1.910	1.822	3.97	91.11	0.072
Diethylphthalate	2.000	1.882	1.862	1.779	1.913	1.859	3.08	92.95	0.057
Fluorene	2.000	1.752	1.756	1.812	1.914	1.809	4.17	90.43	0.075
4-Chlrodiphenylether	2.000	1.664	1.684	1.717	1.869	1.734	5.36	86.68	0.093
m-Nitroaniline	2.000	1.665	1.664	1.745	1.787	1.715	3.56	85.76	0.061
4,6-Dinitro-2-methylphenol	2.000	0.000	3.420	0.000	0.000	0.855	200.00	42.75	1.710
2,4-Dinitrophenol	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
p-Nitroaniline	2.000	2.036	2.065	2.268	2.283	2.163	6.04	108.15	0.131
n-Nitrosodiphenylamine	2.000	1.946	1.940	1.994	2.178	2.015	5.54	100.73	0.112
Azobenzene(1,2-Diphenylhy)	2.000	1.674	1.671	1.697	1.816	1.715	4.00	85.73	0.069
4-Bromo-diphenylether	2.000	1.515	1.528	1.566	1.694	1.576	5.19	78.79	0.082
BHC-alpha	2.000	1.664	1.640	1.647	1.746	1.674	2.92	83.71	0.049
Hexachlorobenzene	2.000	1.625	1.618	1.650	1.807	1.675	5.32	83.75	0.089
Demeton-O	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
BHC-beta	2.000	1.874	1.831	1.851	2.014	1.893	4.38	94.63	0.083
Pentachlorophenol	2.000	2.696	2.609	2.649	2.759	2.678	2.41	133.91	0.065
Lindane	2.000	1.789	1.758	1.744	1.871	1.791	3.18	89.53	0.057

Diazinn	2.000	1.787	1.771	1.807	1.947	[illegible]8	4.41	91.40	0.081
Phenanthrene	2.000	1.956	1.958	1.954	2.146	2.004	4.74	100.18	0.095
Anthracene	2.000	1.976	1.978	1.974	2.167	2.024	4.72	101.19	0.096
Dinoseb	2.000	0.559	0.489	0.450	0.535	0.508	9.54	25.41	0.048
BHC-delta	2.000	1.431	1.445	1.277	1.395	1.387	5.50	69.35	0.076
Parathion methyl	2.000	1.571	1.575	1.593	1.705	1.611	3.94	80.55	0.063
Heptachlor	2.000	1.583	1.584	1.581	1.751	1.625	5.18	81.24	0.084
Di-n-butyl phthalate	2.000	2.126	2.128	2.044	2.219	2.129	3.36	106.46	0.071
Malathion	2.000	0.280	0.260	0.253	0.256	0.262	4.64	13.11	0.012
Aldrin	2.000	1.841	1.808	1.847	2.001	1.874	4.60	93.71	0.086
Parathion	2.000	1.609	1.648	1.678	1.749	1.671	3.54	83.55	0.059
Heptachlor epoxide	2.000	1.679	1.670	1.686	1.778	1.703	2.95	85.16	0.050
Fluoranthene	2.000	1.819	1.821	2.036	2.204	1.970	9.46	98.50	0.186
Benzidine	2.000	1.266	1.369	1.428	1.462	1.381	6.22	69.06	0.086
Endosulfan I	2.000	0.643	0.568	0.632	0.690	0.633	7.94	31.66	0.050
Pyrene	2.000	1.665	1.662	1.692	1.826	1.711	4.54	85.56	0.078
p'p-DDE	2.000	1.613	1.611	1.669	1.759	1.663	4.17	83.15	0.069
Dieldrin	2.000	1.537	1.500	1.552	1.646	1.559	3.99	77.94	0.062
Endrin	2.000	1.560	1.588	1.705	1.925	1.695	9.80	84.73	0.166
Ethion	2.000	1.416	1.423	1.368	1.493	1.425	3.61	71.25	0.052
Endosulfan II	2.000	0.467	0.305	0.564	0.681	0.504	31.54	25.21	0.159
p'p-DDD	2.000	1.297	1.634	1.643	1.763	1.584	12.64	79.21	0.200
Endrin aldehyde	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
Butylbenzyl phthalate	2.000	1.540	1.537	1.465	1.569	1.528	2.90	76.39	0.044
p'p-DDT	2.000	1.744	1.741	1.759	1.899	1.786	4.25	89.29	0.076
Endosulfan sulfate	2.000	1.713	1.769	1.736	1.866	1.771	3.80	88.55	0.067
Endrin ketone	2.000	0.000	0.000	0.000	0.000	0.000	#DIV/0!	0.00	0.000
Methoxychlor	2.000	1.723	1.726	1.757	1.924	1.783	5.36	89.13	0.096
Benzo(a)anthracene	2.000	1.523	1.506	1.543	1.665	1.559	4.62	77.96	0.072
Chrysene	2.000	1.715	1.587	1.625	1.876	1.701	7.56	85.04	0.129
Bis(2-ethylhexyl)phthalate	2.000	2.135	2.120	2.158	2.338	2.188	4.63	109.39	0.101
Guthion	2.000	1.128	1.059	0.898	0.963	1.012	10.05	50.60	0.102
Di-n-octyl phthalate	2.000	1.910	1.871	1.917	2.107	1.951	5.42	97.56	0.106
Benzo(b)fluoranthene	2.000	1.738	1.746	1.978	1.892	1.839	6.36	91.93	0.117
Benzo(k)fluoranthene	2.000	1.752	1.765	1.762	1.979	1.815	6.05	90.73	0.110
Benzo(a)pyrene	2.000	1.920	1.906	1.946	2.118	1.973	4.99	98.63	0.098
Indeno(123-cd)pyrene	2.000	1.466	1.850	1.503	1.627	1.612	10.75	80.58	0.173

Dibenzo( )nthracene	2.000	1.998	2.073	2.082	2.234	[illegible]7	4.72	104.84	0.099
Benzo(ghi)perylene	2.000	1.887	1.927	1.956	2.118	1.972	5.14	98.60	0.101

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031207.D
Acq On : 3 May 2012 6:43 pm
Operator : A. CASTELLANOS
Sample : IDCW-01
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 10:07:01 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.249	150	1996671	5.00	ug/l	#	0.00
34) NAPHTHALENE-D8	10.667	136	4887794	5.00	ug/l		0.00
62) ACENAPHTHENE-D10	12.455	164	2596444	5.00	ug/l		0.00
85) PHENANTHRENE-D10	13.925	188	4432474	5.00	ug/l		0.00
98) CHRYSENE-D12	16.555	240	4728411	5.00	ug/l		0.00
109) PERYLENE-D12	18.137	264	3835484	5.00	ug/l		0.00
System Monitoring Compounds							
6) 2-Fluorophenol	7.543	112	7860526	28.18	ug/l		0.04
Spiked Amount 20.000			Recovery =	140.90%			
8) Phenol-d6	8.890	99	7182206	23.92	ug/l		0.01
Spiked Amount 20.000			Recovery =	119.60%			
21) Nitrobenzene-d5	9.896	82	6304266	17.74	ug/l		0.00
Spiked Amount 10.000			Recovery =	177.40%			
41) 2-Fluorobiphenil	11.778	172	10584782	18.20	ug/l		0.00
Spiked Amount 10.000			Recovery =	182.00%			
61) 2,4,6-Tribromophenol	13.237	330	4725961	47.52	ug/l		0.00
Spiked Amount 20.000			Recovery =	237.60%			
88) p-Terphenyl	15.514	230	13052759	28.90	ug/l		0.00
Spiked Amount 10.000			Recovery =	289.00%			
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.261	74	208089m	1.0754	ug/l		
3) Pyridine	4.283	79	300311m	0.9972	ug/l		
4) Methyl methanesulfonate	7.238	80	246176	1.5009	ug/l		85
5) Ethyl methanesulfonate	8.343	79	374906	1.8982	ug/l		98
7) Aniline	8.873	93	503694	2.1021	ug/l		80
9) Phenol	8.902	94	379504	1.0763	ug/l	#	51
10) 2-Chlorophenol	9.020	128	508278	1.8256	ug/l	#	75
11) Bis(2-chloroethyl)ether	8.967	93	419662	1.5657	ug/l	#	86
12) m-Dichlorobenzene	9.185	146	390163	1.1489	ug/l		92
13) p-Dichlorobenzene	9.273	146	408124	1.1650	ug/l		96
14) o-Dichlorobenzene	9.455	146	423040	1.2127	ug/l		94
15) Benzyl alcohol	9.455	79	418245	2.0321	ug/l		92
16) Bis(2-chloroisopropyl)...	9.602	45	873345	1.5379	ug/l	#	83
17) o-Cresol1	9.608	108	443663	1.8954	ug/l	#	89
18) Hexachloroethane	9.832	117	152633	1.1433	ug/l		95
19) n-Nitrosodi-n-propylamine	9.767	70	331752	1.6650	ug/l	#	63
20) p-Cresol	9.796	107	494318	2.0600	ug/l	#	86
22) Nitrobenzene	9.914	77	525358	1.6543	ug/l		87
23) Isophorone	10.226	82	924529	1.7877	ug/l		84
24) 2-Nitrophenol	10.279	139	240625	1.9589	ug/l		96
25) 2,4-Dimethylphenol	10.373	107	532147	2.0330	ug/l		95
26) Bis(2-chloroethoxy)met...	10.449	93	520863	1.7742	ug/l		88
27) 2,4-Dichlorophenol	10.561	162	440140	2.3713	ug/l		97
28) 1,2,4-Trichlorobenzene	10.614	180	358972	1.3604	ug/l		94
29) Naphthalene	10.690	128	1220893	1.5018	ug/l		92
30) 2,6-Dichlorophenol	10.796	162	441430	2.1865	ug/l	#	75
31) p-Chloroaniline	10.802	127	219736	1.6936	ug/l		94
32) Benzoic acid	8.802	105	19685	Below Cal		#	68
33) Hexachlorobutadiene	10.843	225	210025	1.2558	ug/l	#	78
35) 4-Chloro-3-methylphenol	11.290	107	456644	1.9275	ug/l		94
36) 2-Methylnaphthalene	11.420	142	879474	1.4961	ug/l		93

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031207.D
Acq On : 3 May 2012 6:43 pm
Operator : A. CASTELLANOS
Sample : IDCW-01
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 10:07:01 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
37) 1-Methyl naphthalene	11.520	142	947530	1.6323 ug/l		92
38) Hexachlorocyclopentadiene	11.590	237	11843	1.3052 ug/l	#	73
39) 2,4,6-Trichlorophenol	11.720	196	303418	1.9600 ug/l		94
40) 2,4,5-Trichlorophenol	11.767	196	324678	1.9469 ug/l		94
42) 2-Chloronaphthalene	11.902	162	786936	1.5100 ug/l	#	88
43) o-Nitroaniline	12.026	138	268964	1.6038 ug/l		90
44) Dimethylphthalate	12.190	163	700570	1.4420 ug/l	#	86
45) 2,6-Dinitrotoluene	12.249	165	210755	1.7233 ug/l		98
46) Acenaphthylene	12.320	152	1363509	1.9929 ug/l	#	80
47) Acenaphthene	12.490	153	878451	1.6500 ug/l		94
48) Dibenzofuran	12.661	168	1296137	1.8354 ug/l		86
49) 2,4-Dinitrotoluebne	12.655	165	246423	1.5737 ug/l		89
50) 4-Nitrophenol	12.620	139	41050	1.2384 ug/l	#	53
51) 2,3,4,6-Tetrachlorophenol	12.790	232	206225	1.8020 ug/l	#	81
52) Diethylphthalate	12.884	149	974855	1.8817 ug/l		84
53) fluorene	12.996	166	1000393	1.7517 ug/l	#	91
54) 4-Chlorodiphenylether	12.984	204	450558	1.6636 ug/l		97
55) m-Nitroaniline	12.426	65	198820	1.6645 ug/l	#	56
56) 4,6-Dinitro-2-methylph...	13.090	198	7194m	Below Cal		
57) 2,4-Dinitrophenol	12.631	184	458m	Below Cal		
58) p-Nitroaniline	13.043	65	137910	2.0359 ug/l	#	63
59) n-Nitrosodiphenylamine	13.108	169	627037	1.9459 ug/l	#	95
60) Azobenzene(12-Diphylhy...	13.149	77	1033277	1.6744 ug/l		92
63) 4-Bromodiphenylether	13.473	248	234284	1.5154 ug/l		87
64) BHC-alpha	13.496	181	196443	1.6636 ug/l		96
65) Hexachlorobenzene	13.561	284	254799	1.6248 ug/l		95
66) Demeton-O	12.984	88	313286	34.2681 ug/l	#	50
67) BHC-beta	13.720	181	190193	1.8738 ug/l		92
68) Pentachlorophenol	13.761	266	73227	2.6955 ug/l		99
69) Lindane	13.790	181	177333	1.7893 ug/l		97
70) Diazinon	13.778	137	228971	1.7872 ug/l	#	87
71) Phenanthrene	14.002	178	1453940	1.9560 ug/l		87
72) Anthracene	14.002	178	1453940	1.9758 ug/l		99
73) Dinoseb	14.514	211	1641	0.5587 ug/l	#	76
74) BHC-delta	14.020	181	137918	1.4307 ug/l		96
75) Parathion methyl	14.290	109	274353	1.5706 ug/l		96
76) Heptachlor	14.420	100	169028	1.5826 ug/l		96
77) Di-n-butyl phthalate	14.484	149	1880973	2.1263 ug/l		99
78) Malathion	14.514	125	14316m	0.2795 ug/l		
79) Aldrin	14.725	66	204485	1.8408 ug/l	#	59
80) Parathion	14.672	97	190848	1.6085 ug/l	#	84
81) Heptachlor epoxide	15.031	81	146340	1.6787 ug/l		100
82) Fluoranthene	15.131	202	1576578	1.8193 ug/l		83
83) Benzidine	15.267	184	22654	1.2660 ug/l		93
84) Endosulfan I	15.325	195	17733	0.6429 ug/l		77
86) Pyrene	15.355	202	1730407	1.6654 ug/l		91
87) p'p-DDE	15.437	246	334842	1.6133 ug/l		84
89) Dieldrin	15.549	79	284677	1.5370 ug/l		85
90) Endrin	15.725	81	70937	1.5602 ug/l	#	73
91) Ethion	15.725	231	294080	1.4161 ug/l		98
92) Endosulfan II	15.919	207	14563m	0.4666 ug/l		
93) p'p-DDD	16.072	235	462825	1.2970 ug/l		92
94) Endrin aldehyde	15.919	331	26774	13.9112 ug/l	#	56
95) Butylbenzylphthalate	15.966	149	660016m	1.5404 ug/l		

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031207.D
Acq On : 3 May 2012 6:43 pm
Operator : A. CASTELLANOS
Sample : IDCW-01
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 6 Sample Multiplier: 1

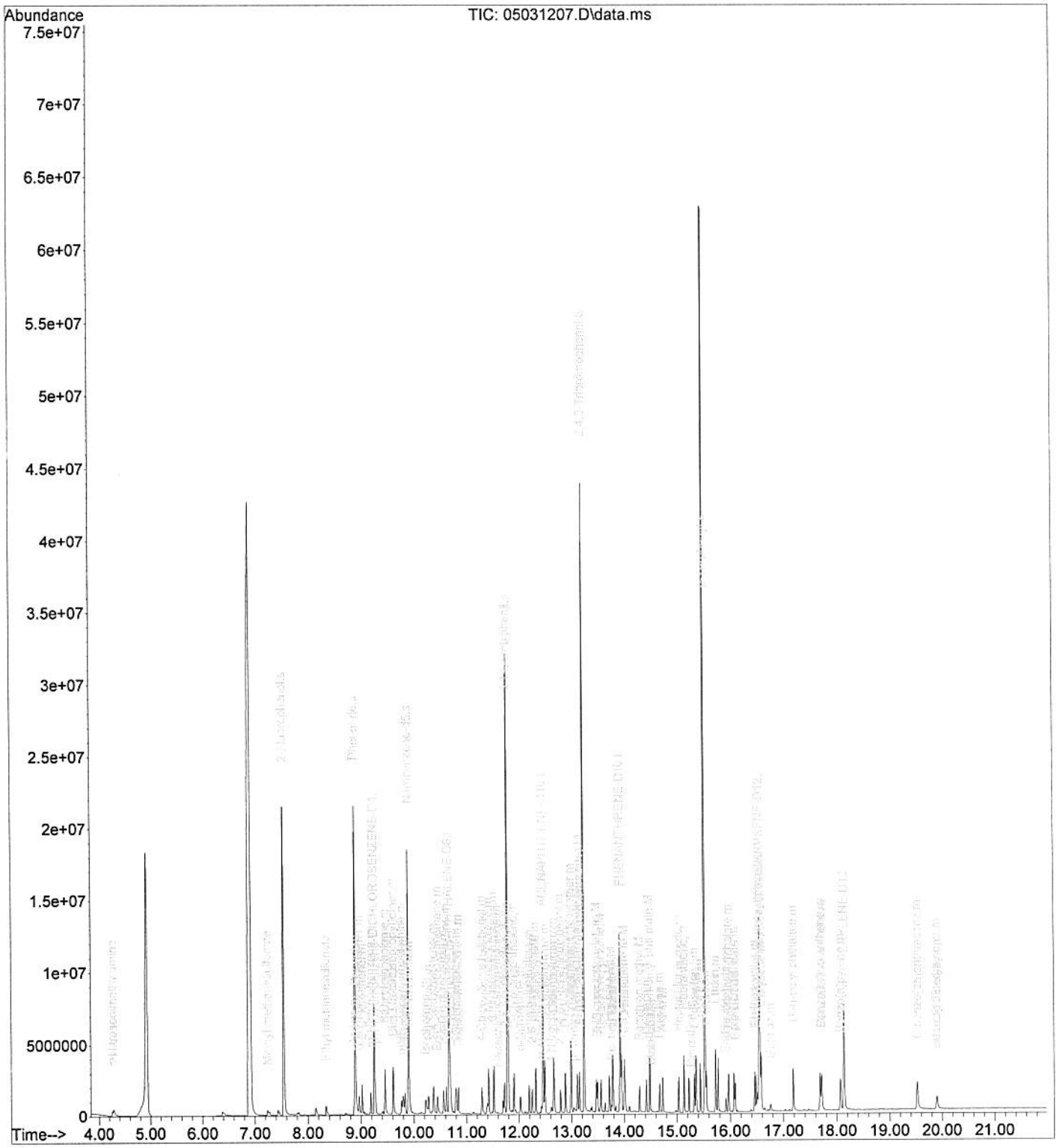
Quant Time: May 04 10:07:01 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96) p'p-DDT	16.072	235	462825	1.7448	ug/l		99
97) Endosulfan sulfate	16.096	272	88294	1.7131	ug/l	#	50
99) Endrin ketone	16.484	67	131765	13.8128	ug/l		95
100) Methoxychlor	16.455	227	834867	1.7231	ug/l		97
101) Benzo(a)anthracene	16.543	228	1355979	1.5239	ug/l	#	81
102) Chrysene	16.578	228	1448555	1.7150	ug/l	#	81
103) Bis(2-ethylhexyl)phtha...	16.531	149	1132993	2.1354	ug/l		97
104) Guthion	16.755	77	77111	1.1228	ug/l		95
105) Di-n-octyl phthalate	17.178	149	1727783	1.9101	ug/l	#	65
106) Benzo(b)fluoranthene	17.684	252	1145356	1.7384	ug/l		80
107) Benzo(k)fluoranthene	17.713	252	1295264	1.7515	ug/l		86
108) Benzo(a)pyrene	18.066	252	1122097	1.9204	ug/l	#	82
110) Indeno(123-cd)pyrene	19.896	276	673391	1.4661	ug/l		84
111) Dibenzo(ah)anthracene	19.525	278	694644	1.9978	ug/l		100
112) Benzo(ghi)perylene	19.896	276	678999	1.8867	ug/l		84

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031207.D
Acq On : 3 May 2012 6:43 pm
Operator : A. CASTELLANOS
Sample : IDCW-01
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 04 10:07:01 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031207.D
Acq On : 3 May 2012 6:43 pm
Operator : A. CASTELLANOS
Sample : IDCW-01
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 19:02:09 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.249	150	1996671	5.00	ug/l	#	0.00
34) NAPHTHALENE-D8	10.667	136	4887794	5.00	ug/l		0.00
62) ACENAPHTHENE-D10	12.455	164	2596444	5.00	ug/l		0.00
85) PHENANTHRENE-D10	13.925	188	4432474	5.00	ug/l		0.00
98) CHRYSENE-D12	16.555	240	4728411	5.00	ug/l		0.00
109) PERYLENE-D12	18.137	264	3835484	5.00	ug/l		0.00
System Monitoring Compounds							
6) 2-Fluorophenol	7.543	112	7860526	28.18	ug/l		0.04
Spiked Amount 20.000			Recovery =	140.90%			
8) Phenol-d6	8.890	99	7182206	23.92	ug/l		0.01
Spiked Amount 20.000			Recovery =	119.60%			
21) Nitrobenzene-d5	9.896	82	6304266	17.74	ug/l		0.00
Spiked Amount 10.000			Recovery =	177.40%			
41) 2-Fluorobiphenil	11.778	172	10584782	18.20	ug/l		0.00
Spiked Amount 10.000			Recovery =	182.00%			
61) 2,4,6-Tribromophenol	13.237	330	4725961	47.52	ug/l		0.00
Spiked Amount 20.000			Recovery =	237.60%			
88) p-Terphenyl	15.514	230	13052759	28.90	ug/l		0.00
Spiked Amount 10.000			Recovery =	289.00%			
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.261	74	77365	0.3998	ug/l		80
3) Pyridine	4.283	79	82023	0.2724	ug/l	#	55
4) Methyl methanesulfonate	7.238	80	246176	1.5009	ug/l		85
5) Ethyl methanesulfonate	8.343	79	374906	1.8982	ug/l		98
7) Aniline	8.873	93	503694	2.1021	ug/l		80
9) Phenol	8.902	94	379504	1.0763	ug/l	#	51
10) 2-Chlorophenol	9.020	128	508278	1.8256	ug/l	#	75
11) Bis(2-chloroethyl)ether	8.967	93	419662	1.5657	ug/l	#	86
12) m-Dichlorobenzene	9.185	146	390163	1.1489	ug/l		92
13) p-Dichlorobenzene	9.273	146	408124	1.1650	ug/l		96
14) o-Dichlorobenzene	9.455	146	423040	1.2127	ug/l		94
15) Benzyl alcohol	9.455	79	418245	2.0321	ug/l		92
16) Bis(2-chloroisopropyl)...	9.602	45	873345	1.5379	ug/l	#	83
17) o-Cresoll	9.608	108	443663	1.8954	ug/l	#	89
18) Hexachloroethane	9.832	117	152633	1.1433	ug/l		95
19) n-Nitrosodi-n-propylamine	9.767	70	331752	1.6650	ug/l	#	63
20) p-Cresol	9.796	107	494318	2.0600	ug/l	#	86
22) Nitrobenzene	9.914	77	525358	1.6543	ug/l		87
23) Isophorone	10.226	82	924529	1.7877	ug/l		84
24) 2-Nitrophenol	10.279	139	240625	1.9589	ug/l		96
25) 2,4-Dimethylphenol	10.373	107	532147	2.0330	ug/l		95
26) Bis(2-chloroethoxy)met...	10.449	93	520863	1.7742	ug/l		88
27) 2,4-Dichlorophenol	10.561	162	440140	2.3713	ug/l		97
28) 1,2,4-Trichlorobenzene	10.614	180	358972	1.3604	ug/l		94
29) Naphthalene	10.690	128	1220893	1.5018	ug/l		92
30) 2,6-Dichlorophenol	10.796	162	441430	2.1865	ug/l	#	75
31) p-Chloroaniline	10.802	127	219736	1.6936	ug/l		94
32) Benzoic acid	8.802	105	19685	Below Cal		#	68
33) Hexachlorobutadiene	10.843	225	210025	1.2558	ug/l	#	78
35) 4-Chloro-3-methylphenol	11.290	107	456644	1.9275	ug/l		94
36) 2-Methylnaphthalene	11.420	142	879474	1.4961	ug/l		93

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031207.D
Acq On : 3 May 2012 6:43 pm
Operator : A. CASTELLANOS
Sample : IDCW-01
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 19:02:09 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
37) 1-Methyl naphthalene	11.520	142	947530	1.6323 ug/l		92
38) Hexachlorocyclopentadiene	11.590	237	11843	1.3052 ug/l	#	73
39) 2,4,6-Trichlorophenol	11.720	196	303418	1.9600 ug/l		94
40) 2,4,5-Trichlorophenol	11.767	196	324678	1.9469 ug/l		94
42) 2-Chloronaphthalene	11.902	162	786936	1.5100 ug/l	#	88
43) o-Nitroaniline	12.026	138	268964	1.6038 ug/l		90
44) Dimethylphthalate	12.190	163	700570	1.4420 ug/l	#	86
45) 2,6-Dinitrotoluene	12.249	165	210755	1.7233 ug/l		98
46) Acenaphthylene	12.320	152	1363509	1.9929 ug/l	#	80
47) Acenaphthene	12.490	153	878451	1.6500 ug/l		94
48) Dibenzofuran	12.661	168	1296137	1.8354 ug/l		86
49) 2,4-Dinitrotoluebne	12.655	165	246423	1.5737 ug/l		89
50) 4-Nitrophenol	12.620	139	41050	1.2384 ug/l	#	53
51) 2,3,4,6-Tetrachlorophenol	12.790	232	206225	1.8020 ug/l	#	81
52) Diethylphthalate	12.884	149	974855	1.8817 ug/l		84
53) fluorene	12.996	166	1000393	1.7517 ug/l	#	91
54) 4-Chlorodiphenylether	12.984	204	450558	1.6636 ug/l		97
55) m-Nitroaniline	12.426	65	198820	1.6645 ug/l	#	56
56) 4,6-Dinitro-2-methylph...	13.073	198	15971	Below Cal	#	66
57) 2,4-Dinitrophenol	12.673	184	4095	4.8636 ug/l		79
58) p-Nitroaniline	13.043	65	137910	2.0359 ug/l	#	63
59) n-Nitrosodiphenylamine	13.108	169	627037	1.9459 ug/l	#	95
60) Azobenzene(12-Diphylhy...	13.149	77	1033277	1.6744 ug/l		92
63) 4-Bromodiphenylether	13.473	248	234284	1.5154 ug/l		87
64) BHC-alpha	13.496	181	196443	1.6636 ug/l		96
65) Hexachlorobenzene	13.561	284	254799	1.6248 ug/l		95
66) Demeton-O	12.984	88	313286	34.2681 ug/l	#	50
67) BHC-beta	13.720	181	190193	1.8738 ug/l		92
68) Pentachlorophenol	13.761	266	73227	2.6955 ug/l		99
69) Lindane	13.790	181	177333	1.7893 ug/l		97
70) Diazinon	13.778	137	228971	1.7872 ug/l	#	87
71) Phenanthrene	14.002	178	1453940	1.9560 ug/l		87
72) Anthracene	14.002	178	1453940	1.9758 ug/l		99
73) Dinoseb	14.514	211	1641	0.5587 ug/l	#	76
74) BHC-delta	14.020	181	137918	1.4307 ug/l		96
75) Parathion methyl	14.290	109	274353	1.5706 ug/l		96
76) Heptachlor	14.420	100	169028	1.5826 ug/l		96
77) Di-n-butyl phthalate	14.484	149	1880973	2.1263 ug/l		99
78) Malathion	14.514	125	11085	0.2602 ug/l	#	76
79) Aldrin	14.725	66	204485	1.8408 ug/l	#	59
80) Parathion	14.672	97	190848	1.6085 ug/l	#	84
81) Heptachlor epoxide	15.031	81	146340	1.6787 ug/l		100
82) Fluoranthene	15.131	202	1576578	1.8193 ug/l		83
83) Benzidine	15.267	184	22654	1.2660 ug/l		93
84) Endosulfan I	15.325	195	17733	0.6429 ug/l		77
86) Pyrene	15.355	202	1730407	1.6654 ug/l		91
87) p'p-DDE	15.437	246	334842	1.6133 ug/l		84
89) Dieldrin	15.549	79	284677	1.5370 ug/l		85
90) Endrin	15.725	81	70937	1.5602 ug/l	#	73
91) Ethion	15.725	231	294080	1.4161 ug/l		98
92) Endosulfan II	15.802	207	2198	0.0192 ug/l	#	56
93) p'p-DDD	16.072	235	462825	1.2970 ug/l		92
94) Endrin aldehyde	15.919	331	26774	13.9112 ug/l	#	56
95) Butylbenzylphthalate	15.725	149	20907	0.0488 ug/l		77

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031207.D
Acq On : 3 May 2012 6:43 pm
Operator : A. CASTELLANOS
Sample : IDCW-01
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 6 Sample Multiplier: 1

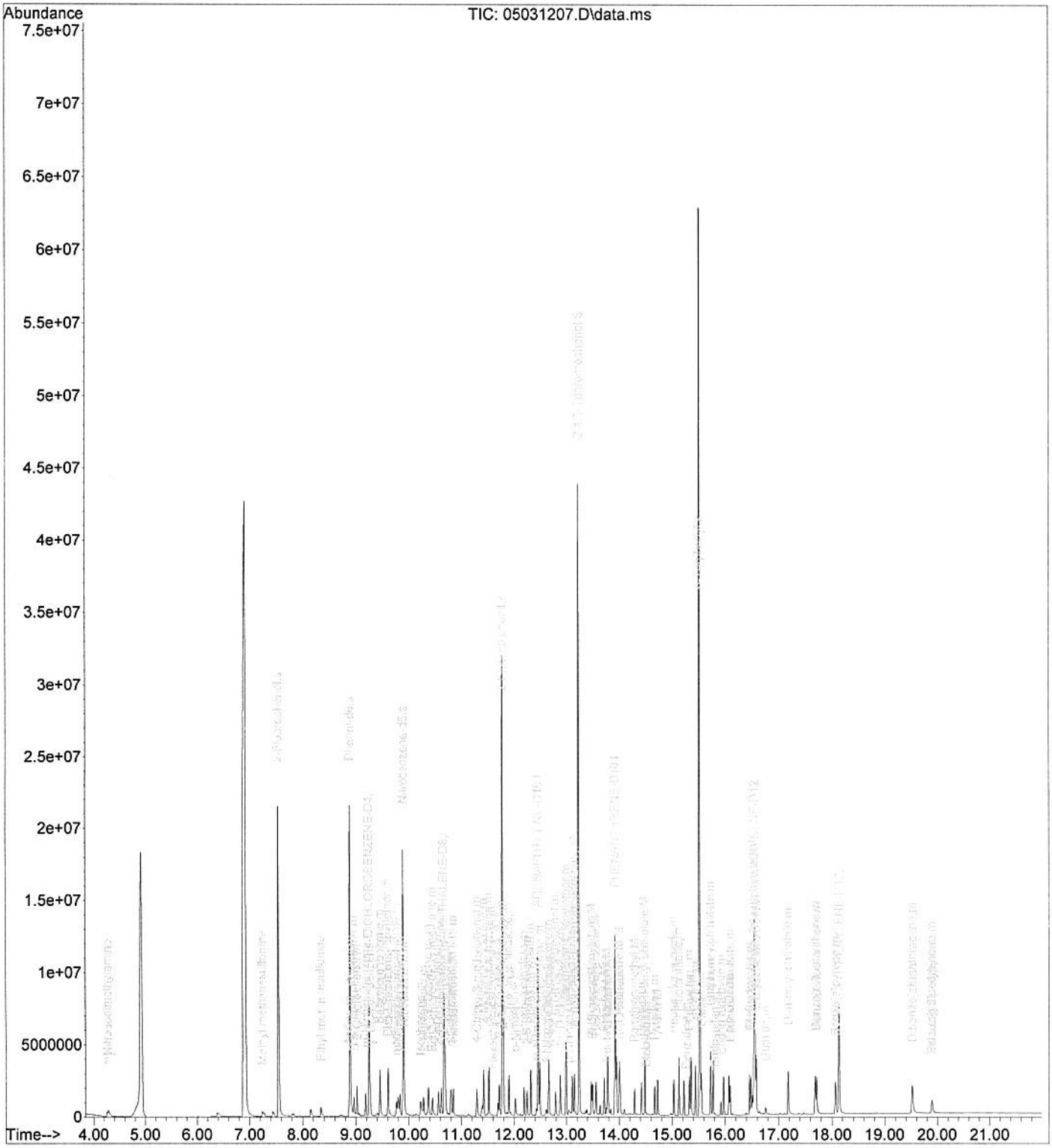
Quant Time: May 03 19:02:09 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96)	p'p-DDT	16.072	235	462825	1.7448	ug/l		99
97)	Endosulfan sulfate	16.096	272	88294	1.7131	ug/l	#	50
99)	Endrin ketone	16.484	67	131765	13.8128	ug/l		95
100)	Methoxychlor	16.455	227	834867	1.7231	ug/l		97
101)	Benzo(a)anthracene	16.543	228	1355979	1.5239	ug/l	#	81
102)	Chrysene	16.578	228	1448555	1.7150	ug/l	#	81
103)	Bis(2-ethylhexyl)phtha...	16.531	149	1132993	2.1354	ug/l		97
104)	Guthion	16.755	77	77111	1.1228	ug/l		95
105)	Di-n-octyl phthalate	17.178	149	1727783	1.9101	ug/l	#	65
106)	Benzo(b)fluoranthene	17.684	252	1145356	1.7384	ug/l		80
107)	Benzo(k)fluoranthene	17.713	252	1295264	1.7515	ug/l		86
108)	Benzo(a)pyrene	18.066	252	1122097	1.9204	ug/l	#	82
110)	Indeno(123-cd)pyrene	19.896	276	673391	1.4661	ug/l		84
111)	Dibenzo(ah)anthracene	19.525	278	694644	1.9978	ug/l		100
112)	Benzo(ghi)perylene	19.896	276	678999	1.8867	ug/l		84

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031207.D
Acq On : 3 May 2012 6:43 pm
Operator : A. CASTELLANOS
Sample : IDCW-01
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 03 19:02:09 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031208.D
Acq On : 3 May 2012 7:12 pm
Operator : A. CASTELLANOS
Sample : IDCW-02
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 04 10:09:44 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.249	150	1998104	5.00	ug/l	#	0.00
34) NAPHTHALENE-D8	10.667	136	4913833	5.00	ug/l		0.00
62) ACENAPHTHENE-D10	12.455	164	2607691	5.00	ug/l		0.00
85) PHENANTHRENE-D10	13.926	188	4444087	5.00	ug/l		0.00
98) CHRYSENE-D12	16.555	240	4796533	5.00	ug/l	#	0.00
109) PERYLENE-D12	18.137	264	3864953	5.00	ug/l		0.00
System Monitoring Compounds							
6) 2-Fluorophenol	7.544	112	7775797	27.85	ug/l		0.04
Spiked Amount 20.000			Recovery =	139.25%			
8) Phenol-d6	8.891	99	7161789	23.84	ug/l		0.01
Spiked Amount 20.000			Recovery =	119.20%			
21) Nitrobenzene-d5	9.897	82	6279785	17.66	ug/l		0.00
Spiked Amount 10.000			Recovery =	176.60%			
41) 2-Fluorobiphenil	11.779	172	10452617	17.88	ug/l		0.00
Spiked Amount 10.000			Recovery =	178.80%			
61) 2,4,6-Tribromophenol	13.237	330	4709499	47.10	ug/l		0.00
Spiked Amount 20.000			Recovery =	235.50%			
88) p-Terphenyl	15.514	230	12755694	28.17	ug/l		0.00
Spiked Amount 10.000			Recovery =	281.70%			
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.262	74	208897m	1.0788	ug/l		
3) Pyridine	4.284	79	302721m	1.0045	ug/l		
4) Methyl methanesulfonate	7.238	80	243308	1.4823	ug/l		87
5) Ethyl methanesulfonate	8.344	79	368418	1.8640	ug/l		96
7) Aniline	8.873	93	515334	2.1491	ug/l		81
9) Phenol	8.902	94	374391	1.0610	ug/l	#	55
10) 2-Chlorophenol	9.020	128	513753	1.8439	ug/l	#	75
11) Bis(2-chloroethyl)ether	8.967	93	422683	1.5759	ug/l	#	84
12) m-Dichlorobenzene	9.185	146	391035	1.1507	ug/l		93
13) p-Dichlorobenzene	9.273	146	419274	1.1960	ug/l		95
14) o-Dichlorobenzene	9.455	146	427173	1.2258	ug/l		95
15) Benzyl alcohol	9.455	79	415933	2.0194	ug/l		93
16) Bis(2-chloroisopropyl)...	9.602	45	875820	1.5411	ug/l	#	82
17) o-Cresoll	9.608	108	445229	1.9007	ug/l	#	87
18) Hexachloroethane	9.832	117	154480	1.1564	ug/l		93
19) n-Nitrosodi-n-propylamine	9.767	70	334239	1.6762	ug/l	#	60
20) p-Cresol	9.797	107	494384	2.0588	ug/l	#	85
22) Nitrobenzene	9.914	77	524434	1.6497	ug/l		90
23) Isophorone	10.220	82	931075	1.7995	ug/l		85
24) 2-Nitrophenol	10.279	139	242358	1.9711	ug/l		94
25) 2,4-Dimethylphenol	10.373	107	526224	2.0089	ug/l		95
26) Bis(2-chloroethoxy)met...	10.449	93	528309	1.7983	ug/l		91
27) 2,4-Dichlorophenol	10.561	162	437652	2.3562	ug/l		96
28) 1,2,4-Trichlorobenzene	10.614	180	351663	1.3318	ug/l		97
29) Naphthalene	10.691	128	1213902	1.4921	ug/l		92
30) 2,6-Dichlorophenol	10.791	162	443870	2.1970	ug/l	#	74
31) p-Chloroaniline	10.796	127	228442	1.7594	ug/l		92
32) Benzoic acid	8.802	105	20221	Below Cal		#	63
33) Hexachlorobutadiene	10.844	225	207597	1.2404	ug/l	#	81
35) 4-Chloro-3-methylphenol	11.291	107	461298	1.9363	ug/l		93
36) 2-Methylnaphthalene	11.420	142	869820	1.4718	ug/l		94

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031208.D
Acq On : 3 May 2012 7:12 pm
Operator : A. CASTELLANOS
Sample : IDCW-02
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 04 10:09:44 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
37) 1-Methyl naphthalene	11.520	142	935422	1.6029 ug/l		92
38) Hexachlorocyclopentadiene	11.591	237	12103	1.3149 ug/l	#	69
39) 2,4,6-Trichlorophenol	11.720	196	311817	2.0001 ug/l		97
40) 2,4,5-Trichlorophenol	11.767	196	324051	1.9337 ug/l		95
42) 2-Chloronaphthalene	11.902	162	791514	1.5107 ug/l	#	86
43) o-Nitroaniline	12.026	138	268509	1.5939 ug/l		92
44) Dimethylphthalate	12.190	163	693914	1.4207 ug/l	#	88
45) 2,6-Dinitrotoluene	12.249	165	212715	1.7295 ug/l		97
46) Acenaphthylene	12.320	152	1356132	1.9716 ug/l	#	79
47) Acenaphthene	12.490	153	877683	1.6398 ug/l		94
48) Dibenzofuran	12.661	168	1290806	1.8182 ug/l		86
49) 2,4-Dinitrotoluebne	12.649	165	239211	1.5274 ug/l		92
50) 4-Nitrophenol	12.620	139	41350	1.2399 ug/l	#	37
51) 2,3,4,6-Tetrachlorophenol	12.790	232	212585	1.8405 ug/l	#	81
52) Diethylphthalate	12.885	149	970006	1.8624 ug/l		83
53) fluorene	12.996	166	1008163	1.7560 ug/l	#	91
54) 4-Chlorodiphenylether	12.985	204	458568	1.6842 ug/l		98
55) m-Nitroaniline	12.426	65	199754	1.6636 ug/l	#	54
56) 4,6-Dinitro-2-methylph...	13.073	198	19972	3.4186 ug/l	#	65
57) 2,4-Dinitrophenol	12.596	184	283	Below Cal	#	1
58) p-Nitroaniline	13.043	65	141023	2.0646 ug/l	#	65
59) n-Nitrosodiphenylamine	13.108	169	628552	1.9403 ug/l	#	96
60) Azobenzene(12-Diphylhy...	13.149	77	1036468	1.6709 ug/l		94
63) 4-Bromodiphenylether	13.473	248	237286	1.5282 ug/l		89
64) BHC-alpha	13.496	181	194474	1.6399 ug/l		97
65) Hexachlorobenzene	13.561	284	254776	1.6177 ug/l		93
66) Demeton-O	12.985	88	319061	34.7492 ug/l	#	54
67) BHC-beta	13.720	181	186674	1.8312 ug/l		97
68) Pentachlorophenol	13.755	266	69645	2.6090 ug/l		92
69) Lindane	13.790	181	175031	1.7584 ug/l		96
70) Diazinon	13.779	137	227886	1.7711 ug/l	#	90
71) Phenanthrene	14.002	178	1461790	1.9581 ug/l		87
72) Anthracene	14.002	178	1461790	1.9779 ug/l		99
73) Dinoseb	14.514	211	922	0.4894 ug/l	#	69
74) BHC-delta	14.020	181	139937	1.4454 ug/l		97
75) Parathion methyl	14.290	109	276578	1.5754 ug/l		95
76) Heptachlor	14.420	100	169932	1.5841 ug/l		92
77) Di-n-butyl phthalate	14.484	149	1890903	2.1283 ug/l		97
78) Malathion	14.514	125	11060	0.2598 ug/l	#	70
79) Aldrin	14.726	66	201679	1.8077 ug/l	#	59
80) Parathion	14.673	97	197203	1.6481 ug/l		83
81) Heptachlor epoxide	15.031	81	146170	1.6696 ug/l		93
82) Fluoranthene	15.131	202	1585214	1.8214 ug/l		83
83) Benzidine	15.261	184	25962	1.3689 ug/l	#	81
84) Endosulfan I	15.326	195	15728m	0.5678 ug/l		
86) Pyrene	15.355	202	1731137	1.6618 ug/l		91
87) p'p-DDE	15.437	246	335147	1.6105 ug/l		85
89) Dieldrin	15.549	79	278592	1.5002 ug/l		83
90) Endrin	15.726	81	72374	1.5877 ug/l	#	70
91) Ethion	15.726	231	296431	1.4226 ug/l		97
92) Endosulfan II	15.802	207	10123m	0.3050 ug/l		
93) p'p-DDD	15.773	235	584515	1.6338 ug/l	#	86
94) Endrin aldehyde	15.920	331	25987	13.4689 ug/l	#	58
95) Butylbenzylphthalate	15.967	149	660333	1.5371 ug/l		86

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031208.D
Acq On : 3 May 2012 7:12 pm
Operator : A. CASTELLANOS
Sample : IDCW-02
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 7 Sample Multiplier: 1

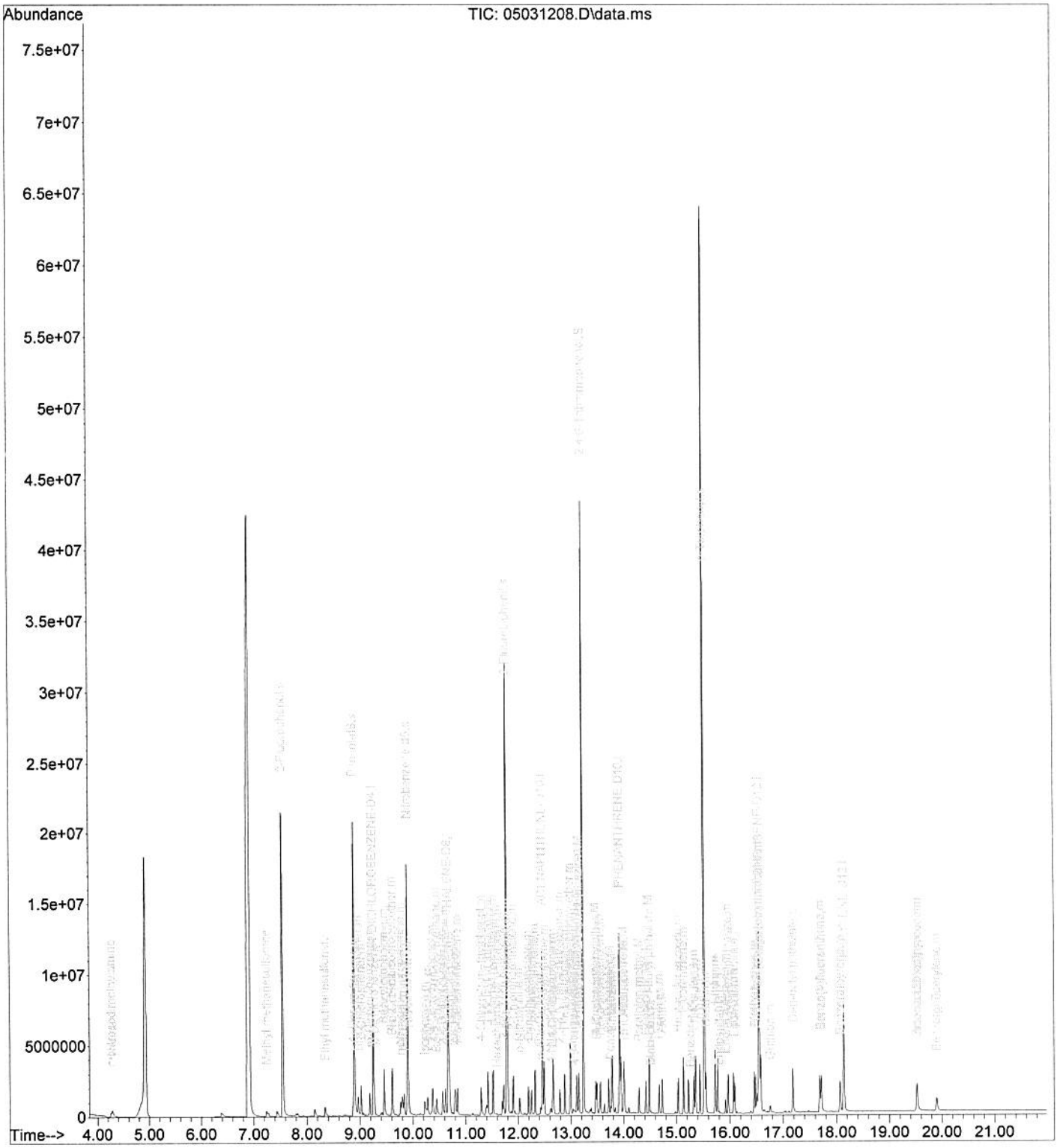
Quant Time: May 04 10:09:44 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96) p'p-DDT	16.067	235	462858	1.7408	ug/l		92
97) Endosulfan sulfate	16.090	272	91407	1.7688	ug/l	#	50
99) Endrin ketone	16.484	67	132616	13.7046	ug/l		93
100) Methoxychlor	16.455	227	848759	1.7263	ug/l		97
101) Benzo(a)anthracene	16.543	228	1359420	1.5060	ug/l		83
102) Chrysene	16.543	228	1359420	1.5866	ug/l		83
103) Bis(2-ethylhexyl)phtha...	16.531	149	1141077	2.1201	ug/l		97
104) Guthion	16.755	77	72394	1.0589	ug/l		93
105) Di-n-octyl phthalate	17.178	149	1715105	1.8707	ug/l	#	65
106) Benzo(b)fluoranthene	17.684	252	1166991	1.7461	ug/l		80
107) Benzo(k)fluoranthene	17.714	252	1324376	1.7654	ug/l		84
108) Benzo(a)pyrene	18.067	252	1129427	1.9055	ug/l	#	82
110) Indeno(123-cd)pyrene	19.519	276	856024	1.8495	ug/l	#	78
111) Dibenzo(ah)anthracene	19.519	278	726358	2.0730	ug/l		97
112) Benzo(ghi)perylene	19.896	276	698764	1.9269	ug/l	#	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031208.D
Acq On : 3 May 2012 7:12 pm
Operator : A. CASTELLANOS
Sample : IDCW-02
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 04 10:09:44 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031208.D
Acq On : 3 May 2012 7:12 pm
Operator : A. CASTELLANOS
Sample : IDCW-02
Misc : DOX 05/03/12-MR 2.00
LS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 19:30:31 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.249	150	1998104	5.00	ug/l	#	0.00
34) NAPHTHALENE-D8	10.667	136	4913833	5.00	ug/l		0.00
62) ACENAPHTHENE-D10	12.455	164	2607691	5.00	ug/l		0.00
85) PHENANTHRENE-D10	13.926	188	4444087	5.00	ug/l		0.00
98) CHRYSENE-D12	16.555	240	4796533	5.00	ug/l	#	0.00
109) PERYLENE-D12	18.137	264	3864953	5.00	ug/l		0.00
System Monitoring Compounds							
6) 2-Fluorophenol	7.544	112	7775797	27.85	ug/l		0.04
Spiked Amount 20.000			Recovery =	139.25%			
8) Phenol-d6	8.891	99	7161789	23.84	ug/l		0.01
Spiked Amount 20.000			Recovery =	119.20%			
21) Nitrobenzene-d5	9.897	82	6279785	17.66	ug/l		0.00
Spiked Amount 10.000			Recovery =	176.60%			
41) 2-Fluorobiphenil	11.779	172	10452617	17.88	ug/l		0.00
Spiked Amount 10.000			Recovery =	178.80%			
61) 2,4,6-Tribromophenol	13.237	330	4709499	47.10	ug/l		0.00
Spiked Amount 20.000			Recovery =	235.50%			
88) p-Terphenyl	15.514	230	12755694	28.17	ug/l		0.00
Spiked Amount 10.000			Recovery =	281.70%			
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.262	74	191363	0.9882	ug/l		80
3) Pyridine	4.284	79	66147	0.2195	ug/l	#	50
4) Methyl methanesulfonate	7.238	80	243308	1.4823	ug/l		87
5) Ethyl methanesulfonate	8.344	79	368418	1.8640	ug/l		96
7) Aniline	8.873	93	515334	2.1491	ug/l		81
9) Phenol	8.902	94	374391	1.0610	ug/l	#	55
10) 2-Chlorophenol	9.020	128	513753	1.8439	ug/l	#	75
11) Bis(2-chloroethyl)ether	8.967	93	422683	1.5759	ug/l	#	84
12) m-Dichlorobenzene	9.185	146	391035	1.1507	ug/l		93
13) p-Dichlorobenzene	9.273	146	419274	1.1960	ug/l		95
14) o-Dichlorobenzene	9.455	146	427173	1.2258	ug/l		95
15) Benzyl alcohol	9.455	79	415933	2.0194	ug/l		93
16) Bis(2-chloroisopropyl)...	9.602	45	875820	1.5411	ug/l	#	82
17) o-Cresoll	9.608	108	445229	1.9007	ug/l	#	87
18) Hexachloroethane	9.832	117	154480	1.1564	ug/l		93
19) n-Nitrosodi-n-propylamine	9.767	70	334239	1.6762	ug/l	#	60
20) p-Cresol	9.797	107	494384	2.0588	ug/l	#	85
22) Nitrobenzene	9.914	77	524434	1.6497	ug/l		90
23) Isophorone	10.220	82	931075	1.7995	ug/l		85
24) 2-Nitrophenol	10.279	139	242358	1.9711	ug/l		94
25) 2,4-Dimethylphenol	10.373	107	526224	2.0089	ug/l		95
26) Bis(2-chloroethoxy)met...	10.449	93	528309	1.7983	ug/l		91
27) 2,4-Dichlorophenol	10.561	162	437652	2.3562	ug/l		96
28) 1,2,4-Trichlorobenzene	10.614	180	351663	1.3318	ug/l		97
29) Naphthalene	10.691	128	1213902	1.4921	ug/l		92
30) 2,6-Dichlorophenol	10.791	162	443870	2.1970	ug/l	#	74
31) p-Chloroaniline	10.796	127	228442	1.7594	ug/l		92
32) Benzoic acid	8.802	105	20221	Below Cal		#	63
33) Hexachlorobutadiene	10.844	225	207597	1.2404	ug/l	#	81
35) 4-Chloro-3-methylphenol	11.291	107	461298	1.9363	ug/l		93
36) 2-Methylnaphthalene	11.420	142	869820	1.4718	ug/l		94

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031208.D
Acq On : 3 May 2012 7:12 pm
Operator : A. CASTELLANOS
Sample : IDCW-02
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 19:30:31 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
37) 1-Methyl naphthalene	11.520	142	935422	1.6029 ug/l		92
38) Hexachlorocyclopentadiene	11.591	237	12103	1.3149 ug/l	#	69
39) 2,4,6-Trichlorophenol	11.720	196	311817	2.0001 ug/l		97
40) 2,4,5-Trichlorophenol	11.767	196	324051	1.9337 ug/l		95
42) 2-Chloronaphthalene	11.902	162	791514	1.5107 ug/l	#	86
43) o-Nitroaniline	12.026	138	268509	1.5939 ug/l		92
44) Dimethylphthalate	12.190	163	693914	1.4207 ug/l	#	88
45) 2,6-Dinitrotoluene	12.249	165	212715	1.7295 ug/l		97
46) Acenaphthylene	12.320	152	1356132	1.9716 ug/l	#	79
47) Acenaphthene	12.490	153	877683	1.6398 ug/l		94
48) Dibenzofuran	12.661	168	1290806	1.8182 ug/l		86
49) 2,4-Dinitrotoluebne	12.649	165	239211	1.5274 ug/l		92
50) 4-Nitrophenol	12.620	139	41350	1.2399 ug/l	#	37
51) 2,3,4,6-Tetrachlorophenol	12.790	232	212585	1.8405 ug/l	#	81
52) Diethylphthalate	12.885	149	970006	1.8624 ug/l		83
53) fluorene	12.996	166	1008163	1.7560 ug/l	#	91
54) 4-Chlorodiphenylether	12.985	204	458568	1.6842 ug/l		98
55) m-Nitroaniline	12.426	65	199754	1.6636 ug/l	#	54
56) 4,6-Dinitro-2-methylph...	13.073	198	19972	3.4186 ug/l	#	65
57) 2,4-Dinitrophenol	12.596	184	283	Below Cal	#	1
58) p-Nitroaniline	13.043	65	141023	2.0646 ug/l	#	65
59) n-Nitrosodiphenylamine	13.108	169	628552	1.9403 ug/l	#	96
60) Azobenzene(12-Diphylhy...	13.149	77	1036468	1.6709 ug/l		94
63) 4-Bromodiphenylether	13.473	248	237286	1.5282 ug/l		89
64) BHC-alpha	13.496	181	194474	1.6399 ug/l		97
65) Hexachlorobenzene	13.561	284	254776	1.6177 ug/l		93
66) Demeton-O	12.985	88	319061	34.7492 ug/l	#	54
67) BHC-beta	13.720	181	186674	1.8312 ug/l		97
68) Pentachlorophenol	13.755	266	69645	2.6090 ug/l		92
69) Lindane	13.790	181	175031	1.7584 ug/l		96
70) Diazinon	13.779	137	227886	1.7711 ug/l	#	90
71) Phenanthrene	14.002	178	1461790	1.9581 ug/l		87
72) Anthracene	14.002	178	1461790	1.9779 ug/l		99
73) Dinoseb	14.514	211	922	0.4894 ug/l	#	69
74) BHC-delta	14.020	181	139937	1.4454 ug/l		97
75) Parathion methyl	14.290	109	276578	1.5754 ug/l		95
76) Heptachlor	14.420	100	169932	1.5841 ug/l		92
77) Di-n-butyl phthalate	14.484	149	1890903	2.1283 ug/l		97
78) Malathion	14.514	125	11060	0.2598 ug/l	#	70
79) Aldrin	14.726	66	201679	1.8077 ug/l	#	59
80) Parathion	14.673	97	197203	1.6481 ug/l		83
81) Heptachlor epoxide	15.031	81	146170	1.6696 ug/l		93
82) Fluoranthene	15.131	202	1585214	1.8214 ug/l		83
83) Benzidine	15.261	184	25962	1.3689 ug/l	#	81
84) Endosulfan I	15.802	195	2312	0.0835 ug/l		76
86) Pyrene	15.355	202	1731137	1.6618 ug/l		91
87) p'p-DDE	15.437	246	335147	1.6105 ug/l		85
89) Dieldrin	15.549	79	278592	1.5002 ug/l		83
90) Endrin	15.726	81	72374	1.5877 ug/l	#	70
91) Ethion	15.726	231	296431	1.4226 ug/l		97
92) Endosulfan II	15.802	207	1974	0.0109 ug/l	#	68
93) p'p-DDD	15.773	235	584515	1.6338 ug/l	#	86
94) Endrin aldehyde	15.920	331	25987	13.4689 ug/l	#	58
95) Butylbenzylphthalate	15.967	149	660333	1.5371 ug/l		86

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031208.D
Acq On : 3 May 2012 7:12 pm
Operator : A. CASTELLANOS
Sample : IDCW-02
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 19:30:31 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

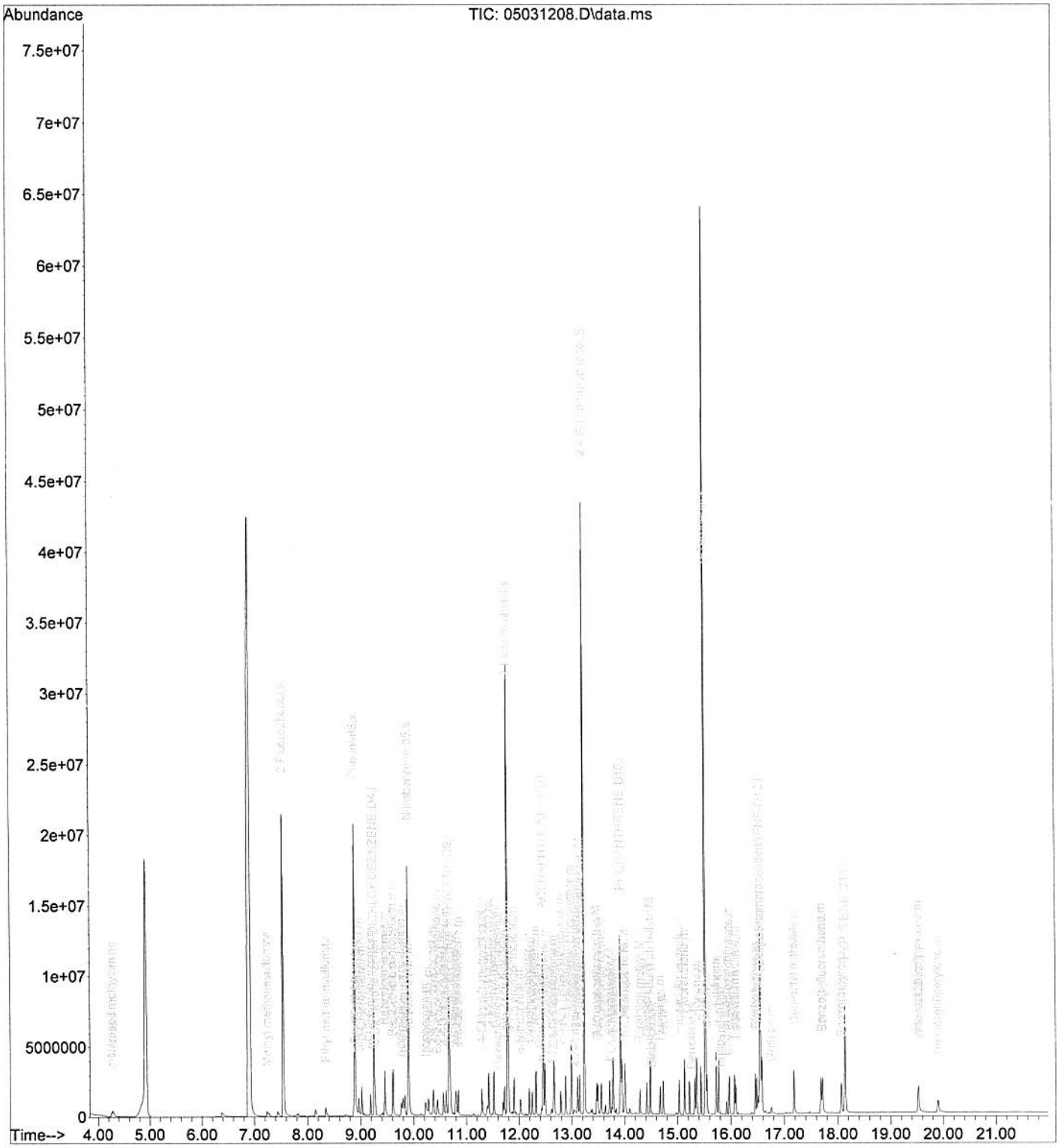
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96) p'p-DDT	16.067	235	462858	1.7408	ug/l		92
97) Endosulfan sulfate	16.090	272	91407	1.7688	ug/l	#	50
99) Endrin ketone	16.484	67	132616	13.7046	ug/l		93
100) Methoxychlor	16.455	227	848759	1.7263	ug/l		97
101) Benzo(a)anthracene	16.543	228	1359420	1.5060	ug/l		83
102) Chrysene	16.543	228	1359420	1.5866	ug/l		83
103) Bis(2-ethylhexyl)phtha...	16.531	149	1141077	2.1201	ug/l		97
104) Guthion	16.755	77	72394	1.0589	ug/l		93
105) Di-n-octyl phthalate	17.178	149	1715105	1.8707	ug/l	#	65
106) Benzo(b)fluoranthene	17.684	252	1166991	1.7461	ug/l		80
107) Benzo(k)fluoranthene	17.714	252	1324376	1.7654	ug/l		84
108) Benzo(a)pyrene	18.067	252	1129427	1.9055	ug/l	#	82
110) Indeno(123-cd)pyrene	19.519	276	856024	1.8495	ug/l	#	78
111) Dibenzo(ah)anthracene	19.519	278	726358	2.0730	ug/l		97
112) Benzo(ghi)perylene	19.896	276	698764	1.9269	ug/l	#	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031208.D
Acq On : 3 May 2012 7:12 pm
Operator : A. CASTELLANOS
Sample : IDCW-02
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 03 19:30:31 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031209.D
Acq On : 3 May 2012 7:40 pm
Operator : A. CASTELLANOS
Sample : IDCW-03
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 10:11:12 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.249	150	2121019	5.00	ug/l	#	0.00
34) NAPHTHALENE-D8	10.667	136	5129684	5.00	ug/l		0.00
62) ACENAPHTHENE-D10	12.455	164	2750177	5.00	ug/l		0.00
85) PHENANTHRENE-D10	13.926	188	4711770	5.00	ug/l		0.00
98) CHRYSENE-D12	16.555	240	5055007	5.00	ug/l	#	0.00
109) PERYLENE-D12	18.131	264	4106681	5.00	ug/l		0.00
System Monitoring Compounds							
6) 2-Fluorophenol	7.544	112	8190808	27.64	ug/l		0.04
Spiked Amount 20.000			Recovery =	138.20%			
8) Phenol-d6	8.891	99	7454917	23.38	ug/l		0.01
Spiked Amount 20.000			Recovery =	116.90%			
21) Nitrobenzene-d5	9.896	82	6746892	17.87	ug/l		0.00
Spiked Amount 10.000			Recovery =	178.70%			
41) 2-Fluorobiphenil	11.779	172	10773239	17.65	ug/l		0.00
Spiked Amount 10.000			Recovery =	176.50%			
61) 2,4,6-Tribromophenol	13.237	330	4638202	44.44	ug/l		0.00
Spiked Amount 20.000			Recovery =	222.20%			
88) p-Terphenyl	15.514	230	12990683	27.06	ug/l		0.00
Spiked Amount 10.000			Recovery =	270.60%			
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.271	74	225691m	1.0980	ug/l		
3) Pyridine	4.293	79	326154m	1.0195	ug/l		
4) Methyl methanesulfonate	7.238	80	261214	1.4992	ug/l		85
5) Ethyl methanesulfonate	8.344	79	395153	1.8834	ug/l		96
7) Aniline	8.873	93	571604	2.2456	ug/l		79
9) Phenol	8.908	94	403321	1.0768	ug/l	#	74
10) 2-Chlorophenol	9.020	128	519682	1.7571	ug/l	#	77
11) Bis(2-chloroethyl)ether	8.967	93	468994	1.6472	ug/l	#	85
12) m-Dichlorobenzene	9.185	146	435577	1.2074	ug/l		96
13) p-Dichlorobenzene	9.273	146	458995	1.2334	ug/l		95
14) o-Dichlorobenzene	9.455	146	474095	1.2922	ug/l		97
15) Benzyl alcohol	9.455	79	449517	2.0560	ug/l		93
16) Bis(2-chloroisopropyl)...	9.602	45	951996	1.5781	ug/l	#	84
17) o-Cresoll	9.608	108	449756	1.8088	ug/l	#	85
18) Hexachloroethane	9.832	117	169781	1.1972	ug/l		91
19) n-Nitrosodi-n-propylamine	9.767	70	356710	1.6852	ug/l	#	62
20) p-Cresol	9.796	107	513089	2.0129	ug/l	#	85
22) Nitrobenzene	9.914	77	575721	1.7123	ug/l		89
23) Isophorone	10.220	82	989088	1.8008	ug/l		83
24) 2-Nitrophenol	10.279	139	252349	1.9348	ug/l		96
25) 2,4-Dimethylphenol	10.373	107	545198	1.9607	ug/l		95
26) Bis(2-chloroethoxy)met...	10.449	93	565465	1.8132	ug/l		91
27) 2,4-Dichlorophenol	10.561	162	447604	2.2701	ug/l		95
28) 1,2,4-Trichlorobenzene	10.614	180	403351	1.4390	ug/l		96
29) Naphthalene	10.691	128	1358284	1.5729	ug/l		92
30) 2,6-Dichlorophenol	10.791	162	441877	2.0604	ug/l	#	71
31) p-Chloroaniline	10.796	127	284549	2.0645	ug/l		93
32) Benzoic acid	8.902	105	17592	Below Cal			84
33) Hexachlorobutadiene	10.843	225	227564	1.2809	ug/l	#	82
35) 4-Chloro-3-methylphenol	11.290	107	457977	1.8468	ug/l		92
36) 2-Methylnaphthalene	11.420	142	967034	1.5675	ug/l		91

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031209.D
Acq On : 3 May 2012 7:40 pm
Operator : A. CASTELLANOS
Sample : IDCW-03
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 10:11:12 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
37) 1-Methyl naphthalene	11.520	142	1032803	1.6953 ug/l		89
38) Hexachlorocyclopentadiene	11.585	237	15139	1.4298 ug/l	#	68
39) 2,4,6-Trichlorophenol	11.720	196	307512	1.8983 ug/l		94
40) 2,4,5-Trichlorophenol	11.767	196	318875	1.8290 ug/l		93
42) 2-Chloronaphthalene	11.902	162	859541	1.5715 ug/l	#	87
43) o-Nitroaniline	12.020	138	287941	1.6325 ug/l		93
44) Dimethylphthalate	12.190	163	650811	1.2764 ug/l	#	88
45) 2,6-Dinitrotoluene	12.249	165	218545	1.7045 ug/l		95
46) Acenaphthylene	12.320	152	1487117	2.0710 ug/l	#	79
47) Acenaphthene	12.490	153	944393	1.6902 ug/l		96
48) Dibenzofuran	12.661	168	1384333	1.8678 ug/l		85
49) 2,4-Dinitrotoluebne	12.649	165	263294	1.5981 ug/l		92
50) 4-Nitrophenol	12.620	139	39950	1.1824 ug/l	#	44
51) 2,3,4,6-Tetrachlorophenol	12.790	232	207191	1.7373 ug/l	#	81
52) Diethylphthalate	12.879	149	967257	1.7790 ug/l		82
53) fluorene	12.996	166	1086103	1.8121 ug/l	#	90
54) 4-Chlorodiphenylether	12.985	204	487900	1.7165 ug/l		97
55) m-Nitroaniline	12.426	65	219991	1.7475 ug/l	#	58
56) 4,6-Dinitro-2-methylph...	13.567	198	1419	Below Cal		76
57) 2,4-Dinitrophenol	12.579	184	186	Below Cal	#	1
58) p-Nitroaniline	13.043	65	165115	2.2675 ug/l	#	63
59) n-Nitrosodiphenylamine	13.108	169	674138	1.9935 ug/l	#	96
60) Azobenzene(12-Diphylhy...	13.149	77	1099898	1.6972 ug/l		94
63) 4-Bromodiphenylether	13.473	248	256382	1.5656 ug/l		90
64) BHC-alpha	13.490	181	206027	1.6473 ug/l		91
65) Hexachlorobenzene	13.561	284	274116	1.6503 ug/l		95
66) Demeton-O	12.985	88	342253	35.3439 ug/l	#	55
67) BHC-beta	13.720	181	199006	1.8510 ug/l		94
68) Pentachlorophenol	13.755	266	75235	2.6468 ug/l		92
69) Lindane	13.790	181	183083	1.7440 ug/l		95
70) Diazinon	13.779	137	245214	1.8070 ug/l	#	87
71) Phenanthrene	14.002	178	1538350	1.9539 ug/l		88
72) Anthracene	14.002	178	1538350	1.9737 ug/l		99
73) Dinoseb	14.514	211	533	0.4496 ug/l	#	1
74) BHC-delta	14.020	181	130382	1.2769 ug/l		95
75) Parathion methyl	14.290	109	295517	1.5925 ug/l		97
76) Heptachlor	14.420	100	178822	1.5809 ug/l		97
77) Di-n-butyl phthalate	14.484	149	1915375	2.0442 ug/l		97
78) Malathion	14.514	125	10507	0.2533 ug/l	#	84
79) Aldrin	14.726	66	217409	1.8477 ug/l	#	60
80) Parathion	14.667	97	212155	1.6765 ug/l	#	76
81) Heptachlor epoxide	15.031	81	155682	1.6861 ug/l		98
82) Fluoranthene	15.355	202	1868370	2.0355 ug/l		89
83) Benzidine	15.261	184	29429	1.4276 ug/l		97
84) Endosulfan I	15.326	195	18458	0.6318 ug/l	#	72
86) Pyrene	15.355	202	1868370	1.6916 ug/l		89
87) p'p-DDE	15.437	246	368166	1.6687 ug/l		86
89) Dieldrin	15.549	79	305495	1.5516 ug/l		83
90) Endrin	15.725	81	82421	1.7053 ug/l	#	70
91) Ethion	15.725	231	300365	1.3682 ug/l		97
92) Endosulfan II	15.802	207	18351m	0.5643 ug/l		
93) p'p-DDD	15.773	235	623038	1.6425 ug/l	#	88
94) Endrin aldehyde	15.920	331	27201	13.2980 ug/l	#	57
95) Butylbenzylphthalate	15.967	149	667386	1.4653 ug/l		91

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031209.D
Acq On : 3 May 2012 7:40 pm
Operator : A. CASTELLANOS
Sample : IDCW-03
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 10:11:12 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96) p'p-DDT	16.067	235	496674	1.7594	ug/l		94
97) Endosulfan sulfate	16.090	272	95121	1.7361	ug/l	#	44
99) Endrin ketone	16.484	67	141460	13.8710	ug/l		96
100) Methoxychlor	16.455	227	913006	1.7568	ug/l		98
101) Benzo(a)anthracene	16.543	228	1467457	1.5426	ug/l		83
102) Chrysene	16.543	228	1467457	1.6252	ug/l		83
103) Bis(2-ethylhexyl)phtha...	16.531	149	1224283	2.1584	ug/l		97
104) Guthion	16.755	77	60827	0.8978	ug/l		91
105) Di-n-octyl phthalate	17.178	149	1854093	1.9170	ug/l	#	65
106) Benzo(b)fluoranthene	17.714	252	1392910	1.9775	ug/l		82
107) Benzo(k)fluoranthene	17.714	252	1392910	1.7618	ug/l		82
108) Benzo(a)pyrene	18.067	252	1215542	1.9459	ug/l	#	82
110) Indeno(123-cd)pyrene	19.896	276	739570	1.5039	ug/l		85
111) Dibenzo(ah)anthracene	19.519	278	775166	2.0821	ug/l		96
112) Benzo(ghi)perylene	19.896	276	753669	1.9559	ug/l		85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031209.D
Acq On : 3 May 2012 7:40 pm
Operator : A. CASTELLANOS
Sample : IDCW-03
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 03 19:58:53 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.249	150	2121019	5.00	ug/l	#	0.00
34) NAPHTHALENE-D8	10.667	136	5129684	5.00	ug/l		0.00
62) ACENAPHTHENE-D10	12.455	164	2750177	5.00	ug/l		0.00
85) PHENANTHRENE-D10	13.926	188	4711770	5.00	ug/l		0.00
98) CHRYSENE-D12	16.555	240	5055007	5.00	ug/l	#	0.00
109) PERYLENE-D12	18.131	264	4106681	5.00	ug/l		0.00
System Monitoring Compounds							
6) 2-Fluorophenol	7.544	112	8190808	27.64	ug/l		0.04
Spiked Amount 20.000			Recovery =	138.20%			
8) Phenol-d6	8.891	99	7454917	23.38	ug/l		0.01
Spiked Amount 20.000			Recovery =	116.90%			
21) Nitrobenzene-d5	9.896	82	6746892	17.87	ug/l		0.00
Spiked Amount 10.000			Recovery =	178.70%			
41) 2-Fluorobiphenil	11.779	172	10773239	17.65	ug/l		0.00
Spiked Amount 10.000			Recovery =	176.50%			
61) 2,4,6-Tribromophenol	13.237	330	4638202	44.44	ug/l		0.00
Spiked Amount 20.000			Recovery =	222.20%			
88) p-Terphenyl	15.514	230	12990683	27.06	ug/l		0.00
Spiked Amount 10.000			Recovery =	270.60%			
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.271	74	79086	0.3848	ug/l		83
3) Pyridine	4.293	79	270438	0.8454	ug/l	#	52
4) Methyl methanesulfonate	7.238	80	261214	1.4992	ug/l		85
5) Ethyl methanesulfonate	8.344	79	395153	1.8834	ug/l		96
7) Aniline	8.873	93	571604	2.2456	ug/l		79
9) Phenol	8.908	94	403321	1.0768	ug/l	#	74
10) 2-Chlorophenol	9.020	128	519682	1.7571	ug/l	#	77
11) Bis(2-chloroethyl)ether	8.967	93	468994	1.6472	ug/l	#	85
12) m-Dichlorobenzene	9.185	146	435577	1.2074	ug/l		96
13) p-Dichlorobenzene	9.273	146	458995	1.2334	ug/l		95
14) o-Dichlorobenzene	9.455	146	474095	1.2922	ug/l		97
15) Benzyl alcohol	9.455	79	449517	2.0560	ug/l		93
16) Bis(2-chloroisopropyl)...	9.602	45	951996	1.5781	ug/l	#	84
17) o-Cresoll	9.608	108	449756	1.8088	ug/l	#	85
18) Hexachloroethane	9.832	117	169781	1.1972	ug/l		91
19) n-Nitrosodi-n-propylamine	9.767	70	356710	1.6852	ug/l	#	62
20) p-Cresol	9.796	107	513089	2.0129	ug/l	#	85
22) Nitrobenzene	9.914	77	575721	1.7123	ug/l		89
23) Isophorone	10.220	82	989088	1.8008	ug/l		83
24) 2-Nitrophenol	10.279	139	252349	1.9348	ug/l		96
25) 2,4-Dimethylphenol	10.373	107	545198	1.9607	ug/l		95
26) Bis(2-chloroethoxy)met...	10.449	93	565465	1.8132	ug/l		91
27) 2,4-Dichlorophenol	10.561	162	447604	2.2701	ug/l		95
28) 1,2,4-Trichlorobenzene	10.614	180	403351	1.4390	ug/l		96
29) Naphthalene	10.691	128	1358284	1.5729	ug/l		92
30) 2,6-Dichlorophenol	10.791	162	441877	2.0604	ug/l	#	71
31) p-Chloroaniline	10.796	127	284549	2.0645	ug/l		93
32) Benzoic acid	8.902	105	17592	Below Cal			84
33) Hexachlorobutadiene	10.843	225	227564	1.2809	ug/l	#	82
35) 4-Chloro-3-methylphenol	11.290	107	457977	1.8468	ug/l		92
36) 2-Methylnaphthalene	11.420	142	967034	1.5675	ug/l		91

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031209.D
Acq On : 3 May 2012 7:40 pm
Operator : A. CASTELLANOS
Sample : IDCW-03
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 03 19:58:53 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
37)	1-Methyl naphthalene	11.520	142	1032803	1.6953 ug/l		89
38)	Hexachlorocyclopentadiene	11.585	237	15139	1.4298 ug/l	#	68
39)	2,4,6-Trichlorophenol	11.720	196	307512	1.8983 ug/l		94
40)	2,4,5-Trichlorophenol	11.767	196	318875	1.8290 ug/l		93
42)	2-Chloronaphthalene	11.902	162	859541	1.5715 ug/l	#	87
43)	o-Nitroaniline	12.020	138	287941	1.6325 ug/l		93
44)	Dimethylphthalate	12.190	163	650811	1.2764 ug/l	#	88
45)	2,6-Dinitrotoluene	12.249	165	218545	1.7045 ug/l		95
46)	Acenaphthylene	12.320	152	1487117	2.0710 ug/l	#	79
47)	Acenaphthene	12.490	153	944393	1.6902 ug/l		96
48)	Dibenzofuran	12.661	168	1384333	1.8678 ug/l		85
49)	2,4-Dinitrotoluebne	12.649	165	263294	1.5981 ug/l		92
50)	4-Nitrophenol	12.620	139	39950	1.1824 ug/l	#	44
51)	2,3,4,6-Tetrachlorophenol	12.790	232	207191	1.7373 ug/l	#	81
52)	Diethylphthalate	12.879	149	967257	1.7790 ug/l		82
53)	fluorene	12.996	166	1086103	1.8121 ug/l	#	90
54)	4-Chlorodiphenylether	12.985	204	487900	1.7165 ug/l		97
55)	m-Nitroaniline	12.426	65	219991	1.7475 ug/l	#	58
56)	4,6-Dinitro-2-methylph...	13.567	198	1419	Below Cal		76
57)	2,4-Dinitrophenol	12.579	184	186	Below Cal	#	1
58)	p-Nitroaniline	13.043	65	165115	2.2675 ug/l	#	63
59)	n-Nitrosodiphenylamine	13.108	169	674138	1.9935 ug/l	#	96
60)	Azobenzene(12-Diphylhy...	13.149	77	1099898	1.6972 ug/l		94
63)	4-Bromodiphenylether	13.473	248	256382	1.5656 ug/l		90
64)	BHC-alpha	13.490	181	206027	1.6473 ug/l		91
65)	Hexachlorobenzene	13.561	284	274116	1.6503 ug/l		95
66)	Demeton-O	12.985	88	342253	35.3439 ug/l	#	55
67)	BHC-beta	13.720	181	199006	1.8510 ug/l		94
68)	Pentachlorophenol	13.755	266	75235	2.6468 ug/l		92
69)	Lindane	13.790	181	183083	1.7440 ug/l		95
70)	Diazinon	13.779	137	245214	1.8070 ug/l	#	87
71)	Phenanthrene	14.002	178	1538350	1.9539 ug/l		88
72)	Anthracene	14.002	178	1538350	1.9737 ug/l		99
73)	Dinoseb	14.514	211	533	0.4496 ug/l	#	1
74)	BHC-delta	14.020	181	130382	1.2769 ug/l		95
75)	Parathion methyl	14.290	109	295517	1.5925 ug/l		97
76)	Heptachlor	14.420	100	178822	1.5809 ug/l		97
77)	Di-n-butyl phthalate	14.484	149	1915375	2.0442 ug/l		97
78)	Malathion	14.514	125	10507	0.2533 ug/l	#	84
79)	Aldrin	14.726	66	217409	1.8477 ug/l	#	60
80)	Parathion	14.667	97	212155	1.6765 ug/l	#	76
81)	Heptachlor epoxide	15.031	81	155682	1.6861 ug/l		98
82)	Fluoranthene	15.355	202	1868370	2.0355 ug/l		89
83)	Benzidine	15.261	184	29429	1.4276 ug/l		97
84)	Endosulfan I	15.326	195	18458	0.6318 ug/l	#	72
86)	Pyrene	15.355	202	1868370	1.6916 ug/l		89
87)	p'p-DDE	15.437	246	368166	1.6687 ug/l		86
89)	Dieldrin	15.549	79	305495	1.5516 ug/l		83
90)	Endrin	15.725	81	82421	1.7053 ug/l	#	70
91)	Ethion	15.725	231	300365	1.3682 ug/l		97
92)	Endosulfan II	15.802	207	4736	0.1009 ug/l	#	55
93)	p'p-DDD	15.773	235	623038	1.6425 ug/l	#	88
94)	Endrin aldehyde	15.920	331	27201	13.2980 ug/l	#	57
95)	Butylbenzylphthalate	15.967	149	667386	1.4653 ug/l		91

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031209.D
Acq On : 3 May 2012 7:40 pm
Operator : A. CASTELLANOS
Sample : IDCW-03
Misc : DOX 05/03/12-MR 2.00
LS Vial : 8 Sample Multiplier: 1

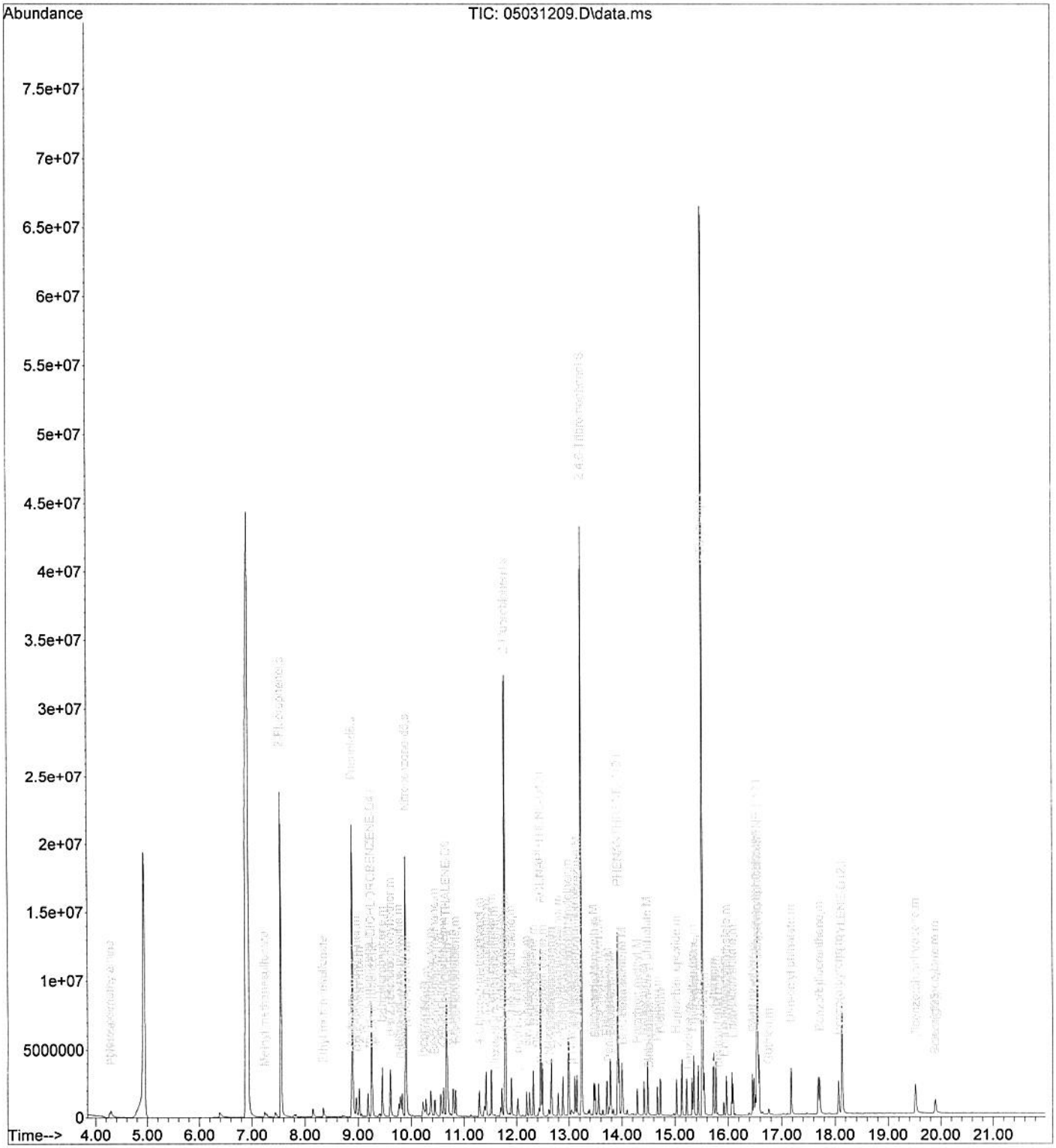
Quant Time: May 03 19:58:53 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96) p'p-DDT	16.067	235	496674	1.7594	ug/l		94
97) Endosulfan sulfate	16.090	272	95121	1.7361	ug/l	#	44
99) Endrin ketone	16.484	67	141460	13.8710	ug/l		96
100) Methoxychlor	16.455	227	913006	1.7568	ug/l		98
101) Benzo(a)anthracene	16.543	228	1467457	1.5426	ug/l		83
102) Chrysene	16.543	228	1467457	1.6252	ug/l		83
103) Bis(2-ethylhexyl)phtha...	16.531	149	1224283	2.1584	ug/l		97
104) Guthion	16.755	77	60827	0.8978	ug/l		91
105) Di-n-octyl phthalate	17.178	149	1854093	1.9170	ug/l	#	65
106) Benzo(b)fluoranthene	17.714	252	1392910	1.9775	ug/l		82
107) Benzo(k)fluoranthene	17.714	252	1392910	1.7618	ug/l		82
108) Benzo(a)pyrene	18.067	252	1215542	1.9459	ug/l	#	82
110) Indeno(123-cd)pyrene	19.896	276	739570	1.5039	ug/l		85
111) Dibenzo(ah)anthracene	19.519	278	775166	2.0821	ug/l		96
112) Benzo(ghi)perylene	19.896	276	753669	1.9559	ug/l		85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

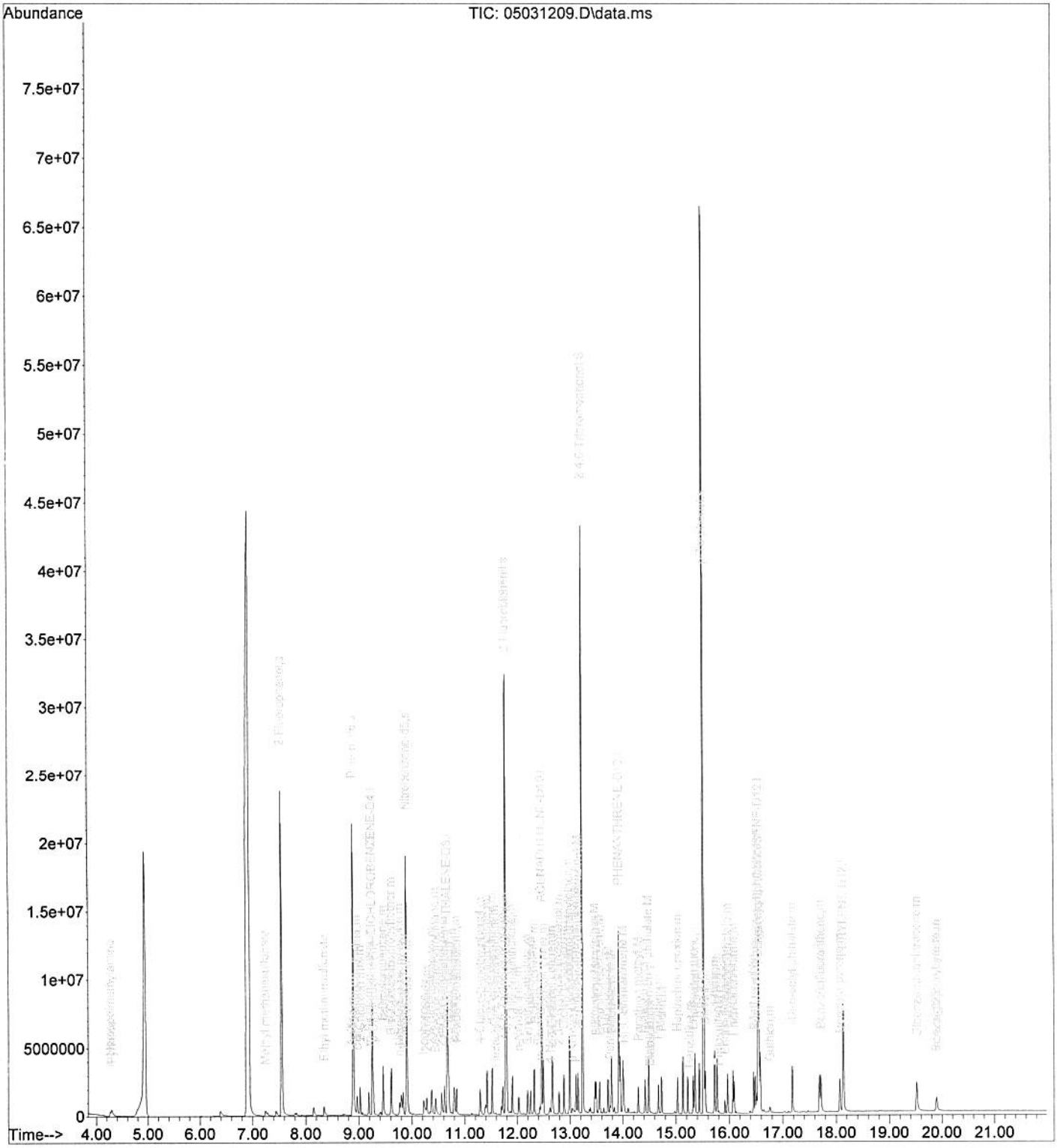
Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031209.D
Acq On : 3 May 2012 7:40 pm
Operator : A. CASTELLANOS
Sample : IDCW-03
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 03 19:58:53 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031209.D
Acq On : 3 May 2012 7:40 pm
Operator : A. CASTELLANOS
Sample : IDCW-03
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 04 10:11:12 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031210.D
Acq On : 3 May 2012 8:08 pm
Operator : A. CASTELLANOS
Sample : IDCW-04
Misc : DOX 05/03/12-MR 2.00
LS Vial : 9 Sample Multiplier: 1

Quant Time: May 04 10:12:04 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.255	150	1968868	5.00	ug/l	#	0.01
34) NAPHTHALENE-D8	10.673	136	4737834	5.00	ug/l		0.01
62) ACENAPHTHENE-D10	12.455	164	2509806	5.00	ug/l		0.00
85) PHENANTHRENE-D10	13.925	188	4315678	5.00	ug/l		0.00
98) CHRYSENE-D12	16.555	240	4619654	5.00	ug/l	#	0.00
109) PERYLENE-D12	18.137	264	3747419	5.00	ug/l		0.00
System Monitoring Compounds							
6) 2-Fluorophenol	7.543	112	8156587	29.65	ug/l		0.04
Spiked Amount 20.000			Recovery =	148.25%			
8) Phenol-d6	8.890	99	7449381	25.16	ug/l		0.01
Spiked Amount 20.000			Recovery =	125.80%			
21) Nitrobenzene-d5	9.896	82	6771382	19.32	ug/l		0.00
Spiked Amount 10.000			Recovery =	193.20%			
41) 2-Fluorobiphenil	11.778	172	10739954	19.05	ug/l		0.00
Spiked Amount 10.000			Recovery =	190.50%			
61) 2,4,6-Tribromophenol	13.237	330	4597244	47.69	ug/l		0.00
Spiked Amount 20.000			Recovery =	238.45%			
88) p-Terphenyl	15.514	230	13438550	30.56	ug/l		0.00
Spiked Amount 10.000			Recovery =	305.60%			
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.274	74	222914m	1.1683	ug/l		
3) Pyridine	4.298	79	323867m	1.0906	ug/l		
4) Methyl methanesulfonate	7.238	80	256726	1.5873	ug/l		86
5) Ethyl methanesulfonate	8.343	79	395937	2.0330	ug/l		94
7) Aniline	8.873	93	568202	2.4048	ug/l		83
9) Phenol	8.908	94	394629	1.1350	ug/l	#	71
10) 2-Chlorophenol	9.020	128	519796	1.8933	ug/l	#	76
11) Bis(2-chloroethyl)ether	8.967	93	448113	1.6955	ug/l	#	86
12) m-Dichlorobenzene	9.185	146	435224	1.2997	ug/l		94
13) p-Dichlorobenzene	9.273	146	462741	1.3396	ug/l		94
14) o-Dichlorobenzene	9.455	146	467196	1.3862	ug/l		98
15) Benzyl alcohol	9.455	79	445612	2.1956	ug/l		93
16) Bis(2-chloroisopropyl)...	9.602	45	958854	1.7123	ug/l	#	84
17) o-Cresoll	9.614	108	445457	1.9299	ug/l		90
18) Hexachloroethane	9.832	117	167212	1.2702	ug/l		96
19) n-Nitrosodi-n-propylamine	9.767	70	366450	1.8635	ug/l	#	61
20) p-Cresol	9.796	107	508260	2.1481	ug/l	#	85
22) Nitrobenzene	9.914	77	571327	1.8430	ug/l		88
23) Isophorone	10.220	82	993527	1.9531	ug/l		84
24) 2-Nitrophenol	10.279	139	250895	2.0671	ug/l		93
25) 2,4-Dimethylphenol	10.373	107	541854	2.0993	ug/l		95
26) Bis(2-chloroethoxy)met...	10.449	93	558384	1.9289	ug/l		91
27) 2,4-Dichlorophenol	10.561	162	440654	2.4076	ug/l		97
28) 1,2,4-Trichlorobenzene	10.614	180	400350	1.5387	ug/l		94
29) Naphthalene	10.690	128	1352115	1.6867	ug/l		92
30) 2,6-Dichlorophenol	10.796	162	448194	2.2513	ug/l	#	73
31) p-Chloroaniline	10.796	127	279221	2.1824	ug/l		93
32) Benzoic acid	8.902	105	15775	Below Cal			77
33) Hexachlorobutadiene	10.843	225	224285	1.3600	ug/l	#	81
35) 4-Chloro-3-methylphenol	11.290	107	456607	1.9849	ug/l		95
36) 2-Methylnaphthalene	11.420	142	952210	1.6711	ug/l		95

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031210.D
Acq On : 3 May 2012 8:08 pm
Operator : A. CASTELLANOS
Sample : IDCW-04
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 04 10:12:04 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
37) 1-Methyl naphthalene	11.520	142	1011718	1.7980 ug/l		91
38) Hexachlorocyclopentadiene	11.590	237	16491	1.5483 ug/l	#	71
39) 2,4,6-Trichlorophenol	11.720	196	304528	2.0238 ug/l		96
40) 2,4,5-Trichlorophenol	11.767	196	322613	1.9930 ug/l		90
42) 2-Chloronaphthalene	11.902	162	853397	1.6894 ug/l	#	85
43) o-Nitroaniline	12.026	138	285242	1.7382 ug/l		92
44) Dimethylphthalate	12.190	163	647365	1.3746 ug/l	#	88
45) 2,6-Dinitrotoluene	12.249	165	217863	1.8280 ug/l		98
46) Acenaphthylene	12.320	152	1449135	2.1850 ug/l	#	79
47) Acenaphthene	12.490	153	937709	1.8170 ug/l		93
48) Dibenzofuran	12.661	168	1379164	2.0148 ug/l		86
49) 2,4-Dinitrotoluebne	12.649	165	255769	1.6691 ug/l		92
50) 4-Nitrophenol	12.620	139	44289	1.3247 ug/l	#	50
51) 2,3,4,6-Tetrachlorophenol	12.790	232	214118	1.9099 ug/l	#	81
52) Diethylphthalate	12.878	149	960894	1.9134 ug/l		82
53) fluorene	12.996	166	1059568	1.9141 ug/l	#	93
54) 4-Chlorodiphenylether	12.984	204	490620	1.8688 ug/l		98
55) m-Nitroaniline	12.426	65	208134	1.7867 ug/l	#	56
56) 4,6-Dinitro-2-methylph...	13.137	198	1299	Below Cal	#	1
57) 2,4-Dinitrophenol	12.673	184	5747	5.3639 ug/l		79
58) p-Nitroaniline	13.043	65	153795	2.2831 ug/l	#	64
59) n-Nitrosodiphenylamine	13.108	169	680277	2.1780 ug/l	#	95
60) Azobenzene(12-Diphylhy...	13.149	77	1090451	1.8162 ug/l		94
63) 4-Bromodiphenylether	13.473	248	253145	1.6939 ug/l		89
64) BHC-alpha	13.496	181	199315	1.7462 ug/l		97
65) Hexachlorobenzene	13.561	284	273921	1.8071 ug/l		93
66) Demeton-O	12.984	88	344202	38.9494 ug/l	#	49
67) BHC-beta	13.720	181	197608	2.0140 ug/l		93
68) Pentachlorophenol	13.755	266	73589	2.7589 ug/l		95
69) Lindane	13.790	181	179213	1.8707 ug/l		92
70) Diazinon	13.778	137	241065	1.9466 ug/l	#	89
71) Phenanthrene	14.002	178	1541579	2.1455 ug/l		87
72) Anthracene	14.002	178	1541579	2.1673 ug/l		98
73) Dinoseb	14.514	211	1347	0.5350 ug/l	#	78
74) BHC-delta	14.020	181	129986	1.3950 ug/l		97
75) Parathion methyl	14.290	109	292819	1.7052 ug/l		97
76) Heptachlor	14.419	100	182899	1.7508 ug/l		91
77) Di-n-butyl phthalate	14.484	149	1897090	2.2185 ug/l		98
78) Malathion	14.514	125	10012	0.2559 ug/l	#	80
79) Aldrin	14.725	66	214887	2.0012 ug/l	#	62
80) Parathion	14.672	97	203285	1.7485 ug/l		84
81) Heptachlor epoxide	15.031	81	149853	1.7784 ug/l		99
82) Fluoranthene	15.355	202	1846697	2.2045 ug/l		91
83) Benzidine	15.267	184	27992	1.4621 ug/l		100
84) Endosulfan I	15.325	195	18391m	0.6898 ug/l		
86) Pyrene	15.355	202	1846697	1.8255 ug/l		91
87) p'p-DDE	15.437	246	355507	1.7592 ug/l		86
89) Dieldrin	15.549	79	296893	1.6463 ug/l		83
90) Endrin	15.725	81	85197	1.9246 ug/l	#	71
91) Ethion	15.725	231	304366	1.4931 ug/l		97
92) Endosulfan II	15.802	207	19949m	0.6810 ug/l		
93) p'p-DDD	15.772	235	612484	1.7629 ug/l	#	87
94) Endrin aldehyde	15.919	331	27305	14.5682 ug/l	#	55
95) Butylbenzylphthalate	15.966	149	653685	1.5669 ug/l	#	88

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031210.D
Acq On : 3 May 2012 8:08 pm
Operator : A. CASTELLANOS
Sample : IDCW-04
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 9 Sample Multiplier: 1

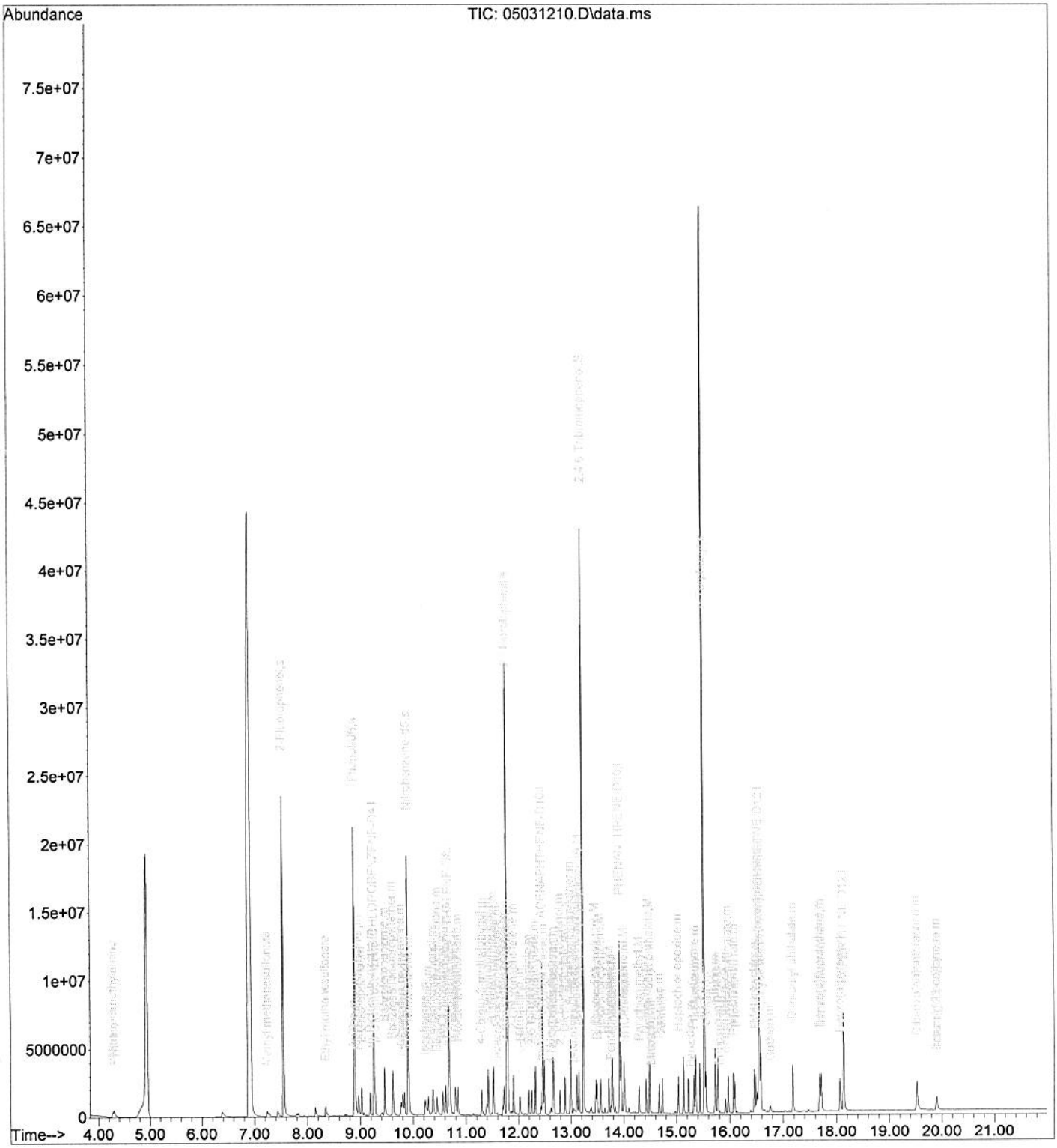
Quant Time: May 04 10:12:04 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
96) p'p-DDT	16.066	235	495622	1.8986 ug/l		93
97) Endosulfan sulfate	16.090	272	93651	1.8662 ug/l	#	48
99) Endrin ketone	16.484	67	141259	15.1567 ug/l		98
100) Methoxychlor	16.455	227	927083	1.9236 ug/l		98
101) Benzo(a)anthracene	16.543	228	1447210	1.6647 ug/l	#	82
102) Chrysene	16.578	228	1547786	1.8757 ug/l	#	82
103) Bis(2-ethylhexyl)phtha...	16.531	149	1211940	2.3380 ug/l		98
104) Guthion	16.755	77	61332	0.9633 ug/l		93
105) Di-n-octyl phthalate	17.178	149	1868861	2.1067 ug/l	#	65
106) Benzo(b)fluoranthene	17.684	252	1217660	1.8916 ug/l		83
107) Benzo(k)fluoranthene	17.713	252	1430075	1.9793 ug/l		84
108) Benzo(a)pyrene	18.066	252	1208790	2.1175 ug/l	#	82
110) Indeno(123-cd)pyrene	19.896	276	730151	1.6271 ug/l		85
111) Dibenzo(ah)anthracene	19.519	278	758841	2.2337 ug/l		97
112) Benzo(ghi)perylene	19.896	276	744794	2.1182 ug/l		85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031210.D
Acq On : 3 May 2012 8:08 pm
Operator : A. CASTELLANOS
Sample : IDCW-04
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 04 10:12:04 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031210.D
Acq On : 3 May 2012 8:08 pm
Operator : A. CASTELLANOS
Sample : IDCW-04
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 03 20:27:15 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.255	150	1968868	5.00	ug/l	#	0.01
34) NAPHTHALENE-D8	10.673	136	4737834	5.00	ug/l		0.01
62) ACENAPHTHENE-D10	12.455	164	2509806	5.00	ug/l		0.00
85) PHENANTHRENE-D10	13.925	188	4315678	5.00	ug/l		0.00
98) CHRYSENE-D12	16.555	240	4619654	5.00	ug/l	#	0.00
109) PERYLENE-D12	18.137	264	3747419	5.00	ug/l		0.00
System Monitoring Compounds							
6) 2-Fluorophenol	7.543	112	8156587	29.65	ug/l		0.04
Spiked Amount 20.000			Recovery =	148.25%			
8) Phenol-d6	8.890	99	7449381	25.16	ug/l		0.01
Spiked Amount 20.000			Recovery =	125.80%			
21) Nitrobenzene-d5	9.896	82	6771382	19.32	ug/l		0.00
Spiked Amount 10.000			Recovery =	193.20%			
41) 2-Fluorobiphenil	11.778	172	10739954	19.05	ug/l		0.00
Spiked Amount 10.000			Recovery =	190.50%			
61) 2,4,6-Tribromophenol	13.237	330	4597244	47.69	ug/l		0.00
Spiked Amount 20.000			Recovery =	238.45%			
88) p-Terphenyl	15.514	230	13438550	30.56	ug/l		0.00
Spiked Amount 10.000			Recovery =	305.60%			
Target Compounds							Qvalue
2) n-Nitrosodimethylamine	4.269	74	56470	0.2960	ug/l		82
3) Pyridine	4.295	79	70875	0.2387	ug/l	#	55
4) Methyl methanesulfonate	7.238	80	256726	1.5873	ug/l		86
5) Ethyl methanesulfonate	8.343	79	395937	2.0330	ug/l		94
7) Aniline	8.873	93	568202	2.4048	ug/l		83
9) Phenol	8.908	94	394629	1.1350	ug/l	#	71
10) 2-Chlorophenol	9.020	128	519796	1.8933	ug/l	#	76
11) Bis(2-chloroethyl)ether	8.967	93	448113	1.6955	ug/l	#	86
12) m-Dichlorobenzene	9.185	146	435224	1.2997	ug/l		94
13) p-Dichlorobenzene	9.273	146	462741	1.3396	ug/l		94
14) o-Dichlorobenzene	9.455	146	467196	1.3862	ug/l		98
15) Benzyl alcohol	9.455	79	445612	2.1956	ug/l		93
16) Bis(2-chloroisopropyl)...	9.602	45	958854	1.7123	ug/l	#	84
17) o-Cresoll	9.614	108	445457	1.9299	ug/l		90
18) Hexachloroethane	9.832	117	167212	1.2702	ug/l		96
19) n-Nitrosodi-n-propylamine	9.767	70	366450	1.8635	ug/l	#	61
20) p-Cresol	9.796	107	508260	2.1481	ug/l	#	85
22) Nitrobenzene	9.914	77	571327	1.8430	ug/l		88
23) Isophorone	10.220	82	993527	1.9531	ug/l		84
24) 2-Nitrophenol	10.279	139	250895	2.0671	ug/l		93
25) 2,4-Dimethylphenol	10.373	107	541854	2.0993	ug/l		95
26) Bis(2-chloroethoxy)met...	10.449	93	558384	1.9289	ug/l		91
27) 2,4-Dichlorophenol	10.561	162	440654	2.4076	ug/l		97
28) 1,2,4-Trichlorobenzene	10.614	180	400350	1.5387	ug/l		94
29) Naphthalene	10.690	128	1352115	1.6867	ug/l		92
30) 2,6-Dichlorophenol	10.796	162	448194	2.2513	ug/l	#	73
31) p-Chloroaniline	10.796	127	279221	2.1824	ug/l		93
32) Benzoic acid	8.902	105	15775	Below Cal			77
33) Hexachlorobutadiene	10.843	225	224285	1.3600	ug/l	#	81
35) 4-Chloro-3-methylphenol	11.290	107	456607	1.9849	ug/l		95
36) 2-Methylnaphthalene	11.420	142	952210	1.6711	ug/l		95

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031210.D
Acq On : 3 May 2012 8:08 pm
Operator : A. CASTELLANOS
Sample : IDCW-04
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 03 20:27:15 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
37) 1-Methyl naphthalene	11.520	142	1011718	1.7980 ug/l		91
38) Hexachlorocyclopentadiene	11.590	237	16491	1.5483 ug/l	#	71
39) 2,4,6-Trichlorophenol	11.720	196	304528	2.0238 ug/l		96
40) 2,4,5-Trichlorophenol	11.767	196	322613	1.9930 ug/l		90
42) 2-Chloronaphthalene	11.902	162	853397	1.6894 ug/l	#	85
43) o-Nitroaniline	12.026	138	285242	1.7382 ug/l		92
44) Dimethylphthalate	12.190	163	647365	1.3746 ug/l	#	88
45) 2,6-Dinitrotoluene	12.249	165	217863	1.8280 ug/l		98
46) Acenaphthylene	12.320	152	1449135	2.1850 ug/l	#	79
47) Acenaphthene	12.490	153	937709	1.8170 ug/l		93
48) Dibenzofuran	12.661	168	1379164	2.0148 ug/l		86
49) 2,4-Dinitrotoluebne	12.649	165	255769	1.6691 ug/l		92
50) 4-Nitrophenol	12.620	139	44289	1.3247 ug/l	#	50
51) 2,3,4,6-Tetrachlorophenol	12.790	232	214118	1.9099 ug/l	#	81
52) Diethylphthalate	12.878	149	960894	1.9134 ug/l		82
53) fluorene	12.996	166	1059568	1.9141 ug/l	#	93
54) 4-Chlorodiphenylether	12.984	204	490620	1.8688 ug/l		98
55) m-Nitroaniline	12.426	65	208134	1.7867 ug/l	#	56
56) 4,6-Dinitro-2-methylph...	13.137	198	1299	Below Cal	#	1
57) 2,4-Dinitrophenol	12.673	184	5747	5.3639 ug/l		79
58) p-Nitroaniline	13.043	65	153795	2.2831 ug/l	#	64
59) n-Nitrosodiphenylamine	13.108	169	680277	2.1780 ug/l	#	95
60) Azobenzene(12-Diphylhy...	13.149	77	1090451	1.8162 ug/l		94
63) 4-Bromodiphenylether	13.473	248	253145	1.6939 ug/l		89
64) BHC-alpha	13.496	181	199315	1.7462 ug/l		97
65) Hexachlorobenzene	13.561	284	273921	1.8071 ug/l		93
66) Demeton-O	12.984	88	344202	38.9494 ug/l	#	49
67) BHC-beta	13.720	181	197608	2.0140 ug/l		93
68) Pentachlorophenol	13.755	266	73589	2.7589 ug/l		95
69) Lindane	13.790	181	179213	1.8707 ug/l		92
70) Diazinon	13.778	137	241065	1.9466 ug/l	#	89
71) Phenanthrene	14.002	178	1541579	2.1455 ug/l		87
72) Anthracene	14.002	178	1541579	2.1673 ug/l		98
73) Dinoseb	14.514	211	1347	0.5350 ug/l	#	78
74) BHC-delta	14.020	181	129986	1.3950 ug/l		97
75) Parathion methyl	14.290	109	292819	1.7052 ug/l		97
76) Heptachlor	14.419	100	182899	1.7508 ug/l		91
77) Di-n-butyl phthalate	14.484	149	1897090	2.2185 ug/l		98
78) Malathion	14.514	125	10012	0.2559 ug/l	#	80
79) Aldrin	14.725	66	214887	2.0012 ug/l	#	62
80) Parathion	14.672	97	203285	1.7485 ug/l		84
81) Heptachlor epoxide	15.031	81	149853	1.7784 ug/l		99
82) Fluoranthene	15.355	202	1846697	2.2045 ug/l		91
83) Benzidine	15.267	184	27992	1.4621 ug/l		100
84) Endosulfan I	15.802	195	2808	0.1053 ug/l		93
86) Pyrene	15.355	202	1846697	1.8255 ug/l		91
87) p'p-DDE	15.437	246	355507	1.7592 ug/l		86
89) Dieldrin	15.549	79	296893	1.6463 ug/l		83
90) Endrin	15.725	81	85197	1.9246 ug/l	#	71
91) Ethion	15.725	231	304366	1.4931 ug/l		97
92) Endosulfan II	15.802	207	3251	0.0605 ug/l	#	56
93) p'p-DDD	15.772	235	612484	1.7629 ug/l	#	87
94) Endrin aldehyde	15.919	331	27305	14.5682 ug/l	#	55
95) Butylbenzylphthalate	15.966	149	653685	1.5669 ug/l	#	88

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031210.D
Acq On : 3 May 2012 8:08 pm
Operator : A. CASTELLANOS
Sample : IDCW-04
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 03 20:27:15 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration

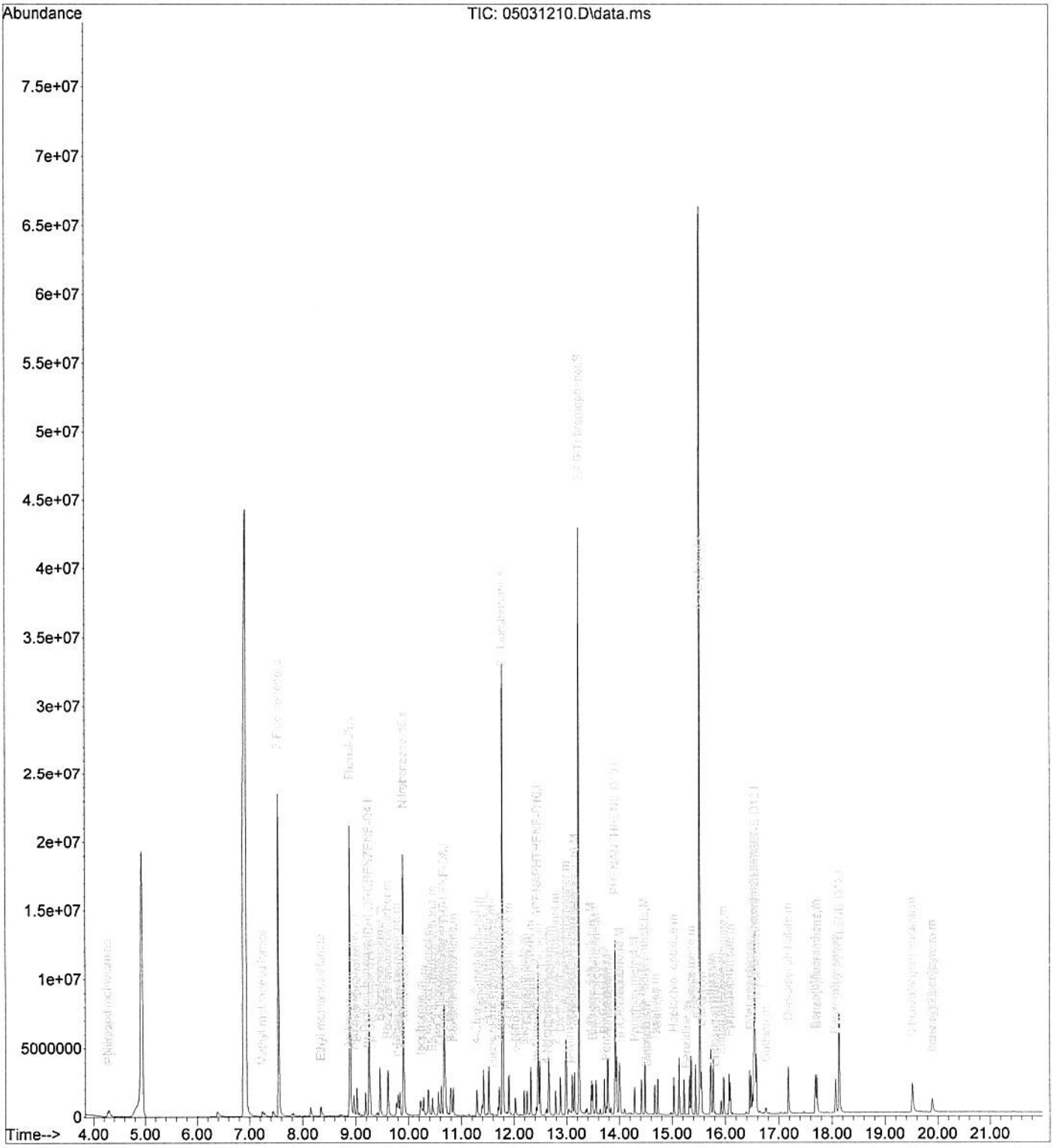
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
96) p'p-DDT	16.066	235	495622	1.8986	ug/l		93
97) Endosulfan sulfate	16.090	272	93651	1.8662	ug/l	#	48
99) Endrin ketone	16.484	67	141259	15.1567	ug/l		98
100) Methoxychlor	16.455	227	927083	1.9236	ug/l		98
101) Benzo(a)anthracene	16.543	228	1447210	1.6647	ug/l	#	82
102) Chrysene	16.578	228	1547786	1.8757	ug/l	#	82
103) Bis(2-ethylhexyl)phtha...	16.531	149	1211940	2.3380	ug/l		98
104) Guthion	16.755	77	61332	0.9633	ug/l		93
105) Di-n-octyl phthalate	17.178	149	1868861	2.1067	ug/l	#	65
106) Benzo(b)fluoranthene	17.684	252	1217660	1.8916	ug/l		83
107) Benzo(k)fluoranthene	17.713	252	1430075	1.9793	ug/l		84
108) Benzo(a)pyrene	18.066	252	1208790	2.1175	ug/l	#	82
110) Indeno(123-cd)pyrene	19.896	276	730151	1.6271	ug/l		85
111) Dibenzo(ah)anthracene	19.519	278	758841	2.2337	ug/l		97
112) Benzo(ghi)perylene	19.896	276	744794	2.1182	ug/l		85

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\050312\
Data File : 05031210.D
Acq On : 3 May 2012 8:08 pm
Operator : A. CASTELLANOS
Sample : IDCW-04
Misc : DOX 05/03/12-MR 2.00
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 03 20:27:15 2012
Quant Method : C:\MSDCHEM\1\METHODS\C8270050212.M
Quant Title : EPA8270D BY BRAVO GC/MS-1
QLast Update : Thu May 03 12:59:07 2012
Response via : Initial Calibration



Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	10/27/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM9222D	☑ Water ☐ DW ☐ Solid ☐ Other: _____	G201616-002
Analyte or Class of Analytes		
Fecal Coliform Membrane Filtration		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	10/27/16 *Date*
Brian Mercer *Technical Director*	*Signature*	10/27/16 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	10/27/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	10/27/2016
ANALYZED BY:	Karina Ramirez
METHOD NUMBER:	SM 9222D
EXTRACTION METHOD (IF APPLY):	Membrane Filtration
INCUBATOR ID:	Micro -21
LAMP ID	Micro-28
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	10/26/2016
ACCEPTANCE CRITERIA:	150-5536 CFU/100 mL

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
E. Coli bacteria (Fecal Coliform)	102115	857±105 CFU/100 mL
Surrogate	na	na
Internal Standard	na	na

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL			
Fecal Coliform	857	100.00	260.00	340.00	290.00	247.50	41.91	28.88	103.72

SM 9222D Fecal Coliform Membrane Filtration

Extraction		Analysis	
Date:	10/26/16	Date:	10/27/16
Analyst:	KR/BM	Analyst:	BM/KR
Start Time #1:	15:40	Incubator Temp In #1:	44.5
Stop Time #1	15:00	Incubator Temp Out #1:	44.5
Analyst:			
Start Time #2:	17:10	Incubator Temp In #2:	44.5
Stop time #2:	17:15	Incubator Temp Out#2:	44.5
Analyst			
Start Time #3:		Incubator Temp In #3:	
Stop time #3: :		Incubator Temp Out #3:	

Media	MFC 102616
Run #	1610697 LIMS Template # 33
Incubator(44.5±0.2°) : Micro -21	
Buffer ID#	Phosphate 1616
Bacti Bottle #	HM013
Memb. Filter Lot #	60311402
Chlorine Strips:	5112414
Thermometer ID:	MC1025
Lamp ID: Micro-28	
Pipette:	DM271

Order #	Sample ID	Sample Size(mL)	Colonies Counted	cfu's per 100 mL	Incubation Time In	Incubation Time Out	Cl-check	Notes/ Verification
BB	BB	100	0	~	16:00	16:00	0	
MFC102616	E. coli	26	+	+				
↓	P. aer	20	-	-				
1001	Marine	1	1	100				
		5	13	260				
	E. coli	5	17	340				
	↓	10	29	290				
FB	FB	100	0	~	↓	↓	↓	
BB	BB	100	0	~	17:15	17:15	0	
1610715-01	100 wq	100	1	1				
↓ -04	↓ DNA	100	0	~				
1610717-03	NKLV P1	100	7	7				
FB	FB	100	0	~	↓	↓	↓	

Quality Control Guidelines: Each filtration series consists of no more than 20 samples, with sterlity blanks at the beginning and end of each series as well as after the 10th sample. **Verification:** Once a month verify at least 10 presumptive fecal colonies from a positive sample. **Ideal range** :20-60 CFU/plate.

Reviewed by: _____ Date: 10/28/16

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (if Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	8/15/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 9230 C	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020618-006
Analyte or Class of Analytes		
Fecal Streptococcus Membrane Filtration		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	8/15/19 *Date*
Brian Mercer *Technical Director*	*Signature*	8/15/19 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	8/15/19 *Date*

[1] Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

__X__Initial Demonstration of Capability
___Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
DATE OF ANALYSIS:	8/2/2019
ANALYZED BY:	Karina Ramirez
METHOD NUMBER:	SM 9230C
EXTRACTION METHOD (IF APPLY):	Membrane Filtration
INCUBATOR ID:	Micro -16
LAMP ID	Micro-28
THERMOMETER ID:	912113
BACTI BOTTLES Lot:	CR012V
MEMBRANE FILTERS Lot:	80925202
BUFFER ID:	phospho060519
MEDIA :	mEnterococcus073119
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	7/31/2019
ACCEPTANCE CRITERIA:	65-1160 CFU/100 mL

Standards Used:	**Std. ID#**	**Conc.**
Fecal Streptoccous PT (Phenova WPM0719)	Lot# 5306-13	274 CFU/100 mL
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL			
Fecal Streptococcus	274	200	240	260	220	230	11.2	83.9	25.8

SM 9230C Fecal Streptococcus Membrane Filtration

Extraction		Analysis	
Date:	07/31/19	Date:	08/02/19
Analyst:	M / ICR	Analyst:	M / ICR
Start Time #1:	10:30	Temp In Corrected#1:	35.0
Stop Time #1	10:35	Temp Out Corrected#1:	35.0

Run #	1910193
Media	mEnterococcus 073119
Pipette:	P0102-180
Incubator(35.0±0.5°C) : Micro -16	
Buffer ID#	Phosph 060519
Bacti Bottle #	CR012U
Memb. Filter Lot #	80975202
Chlorine Strips:	E337
Petri Dish Lot #:	F8MA24736
Thermometer ID:	91713
Lamp ID: Micro-28	

Order #	Sample ID	Sample Size(mL)	Funnel ID	Colonies Counted	cfu's per 100 mL	Incubation Time In	Incubation Time Out	CI-check	Notes/ Verification
BB	BB	100	1	0	<1	10:35	10:35	0	
mEnterococ 073119	Streptococcus	100	↓	+	+				
↓	E. coli	100	2	−	−				
1910827-02	FSES PT	1	3	2	200				
-02		5		10	200				
-02		5		11	220				
-02		10	↓	20	200				
Kaplan IDDL	Lot#E530b-13	1	4	2	200				
		5		12	240				
		5		13	260				
↓	↓	10	↓	22	220				
FB	FB	100	1	0	<1				

Quality Control Guidelines: Each filtration series consists of no more than 20 samples, with sterility blanks at the beginning and end of each series as well as after the 10th sample. **Verification**: Once a month verify at least 10 presumptive fecal colonies from a positive sample. Ideal range :20-60 CFU/plate.

Reviewed by: [signature] Date: 08/02/19

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	ESTELA MARTINEZ	10/18/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
FLPRO	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020416-019
Analyte or Class of Analytes		
TPH		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria / Estela Martinez *Analyst*	Estela Martinez *Signature*	10/18/17 *Date*
Albert Castellanos *Technical Director*	 *Signature*	10/18/17 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	10/18/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

X Initial Demonstration of Capability Estela/Yanet
___ Continuing Demostration of Capabilities

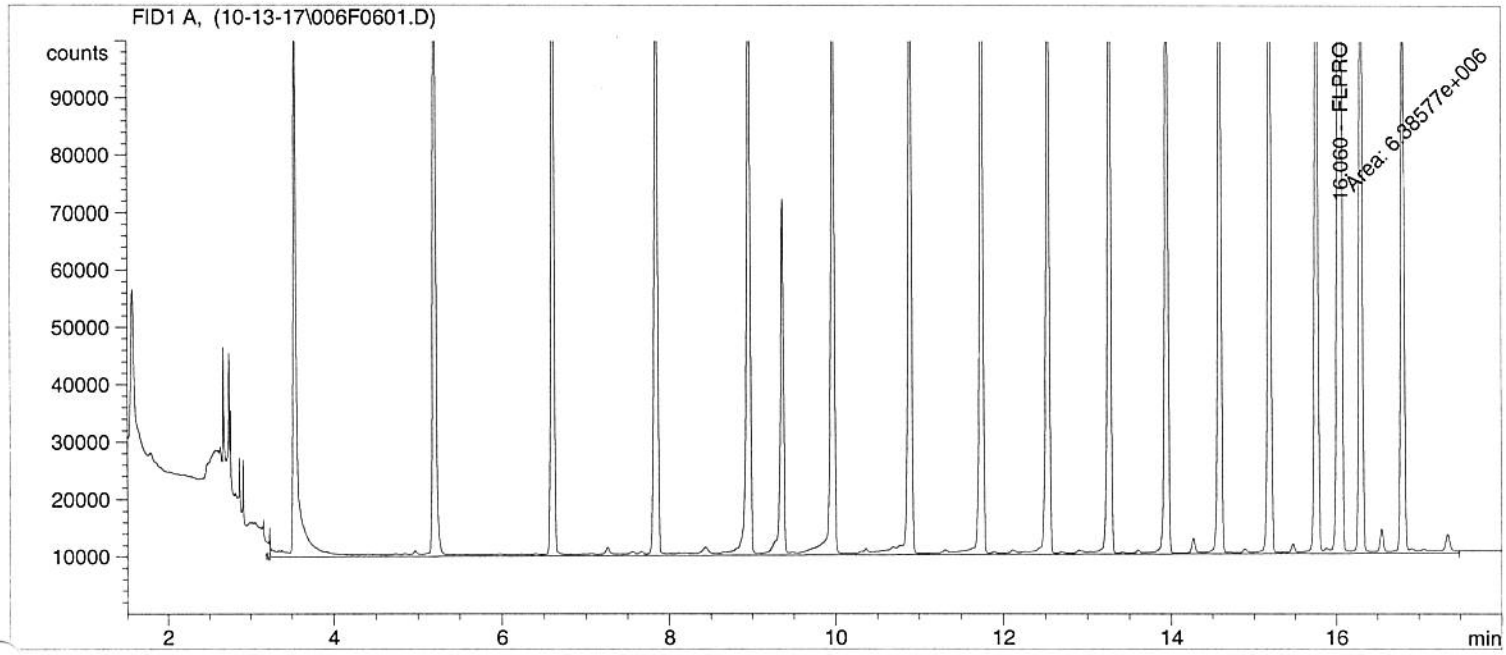
MATRIX:	LIQUID
DATE OF ANALYSIS:	10/13/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	FLPRO
EXTRACTION METHOD (IF APPLY):	3510
INSTRUMENT ID:	RAY
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	10/13/2017
ACCEPTANCE CRITERIA:	55-118%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	IQC-PRO-060116	2040 ppm
Surrogate	SU-PRO-091217	50/300 ppm
Internal Standard	N/A	N/A

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
FL-PRO	2.04	1.82	1.84	1.90	1.98	1.89	3.81	92.4	0.07

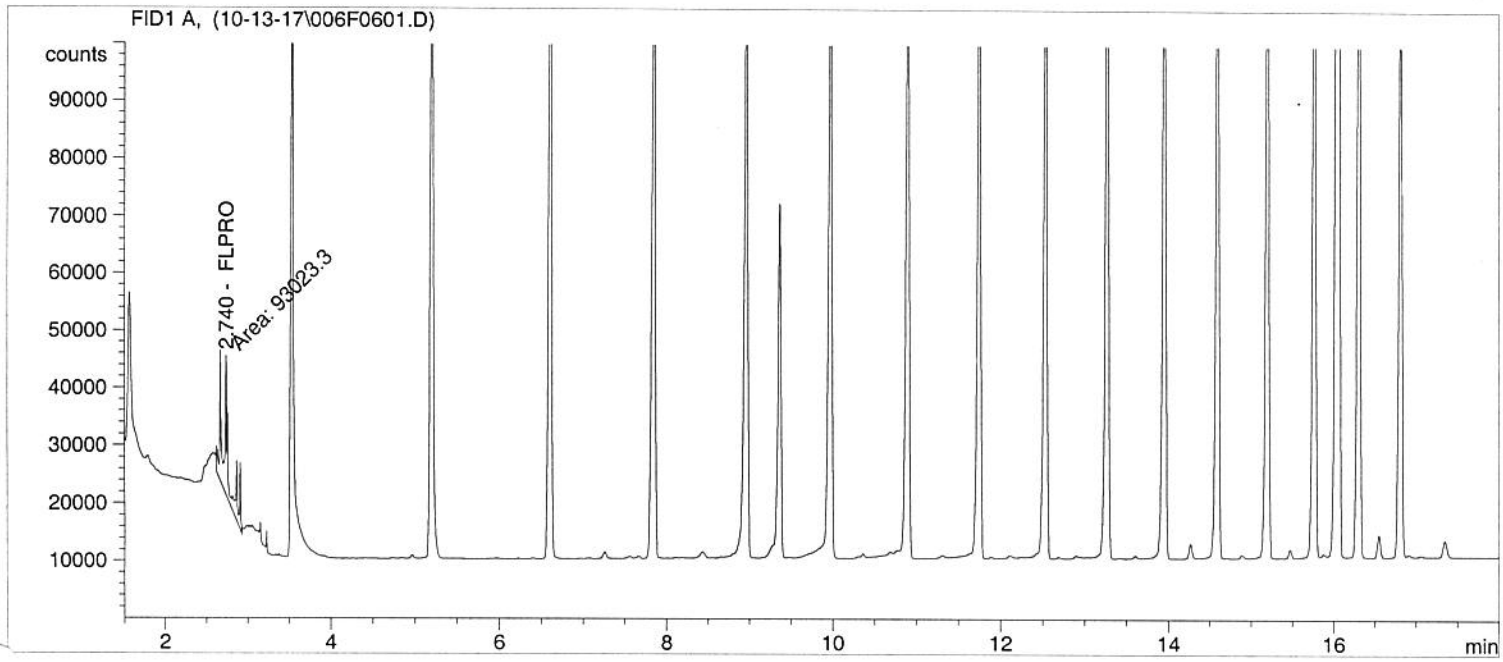
```
==========================================================================
Injection Date  : 10/13/2017 8:42:19 PM          Seq. Line :   6
Sample Name     : IDOC L #1                       Location : Vial 6
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                          Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ng/ul]
-------|------|----------|----------|----------|--|------------------
 16.060 MM     6.38577e6  1.62522e-4    2.07566     FLPRO

Totals :                                 2.07566

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

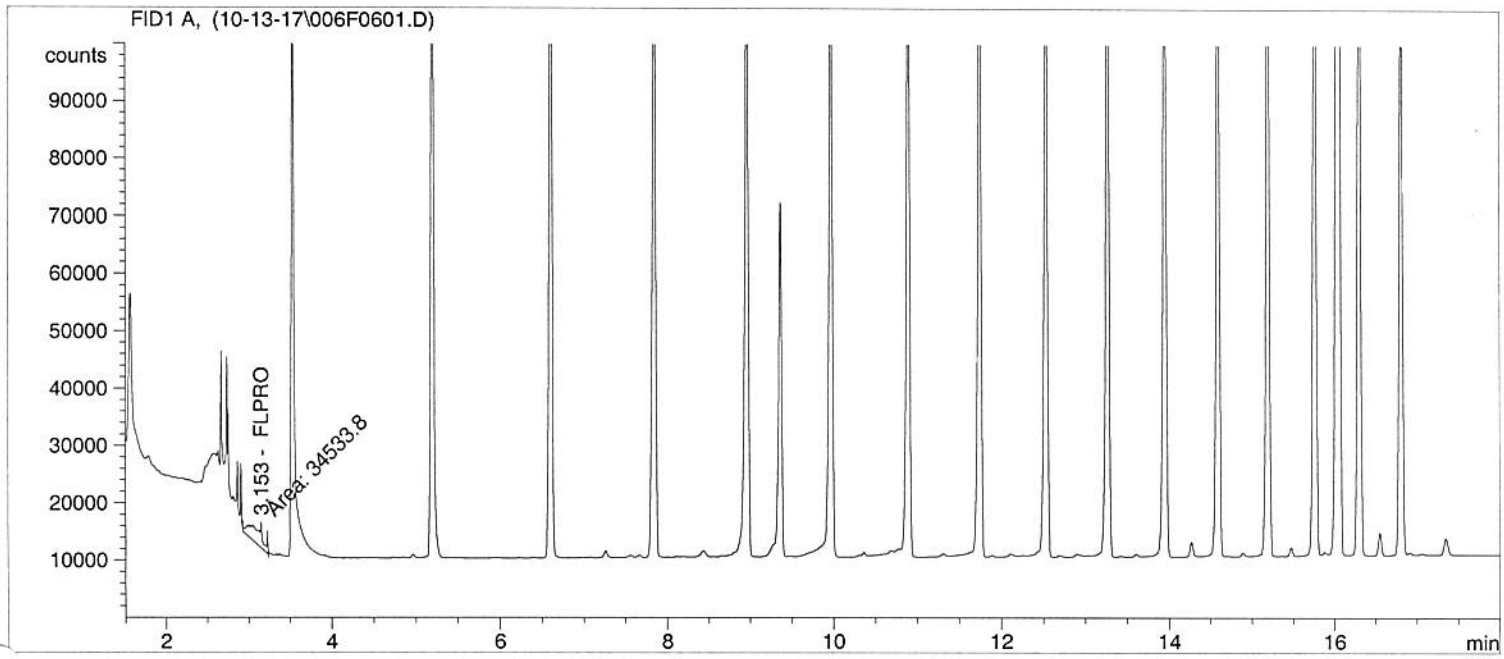
2.07566
+ 0.030207
0.011225
0.296403
1.820787.

```
==========================================================================
Injection Date  : 10/13/2017 8:42:19 PM          Seq. Line :   6
Sample Name     : IDOC L #1                      Location : Vial 6
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```



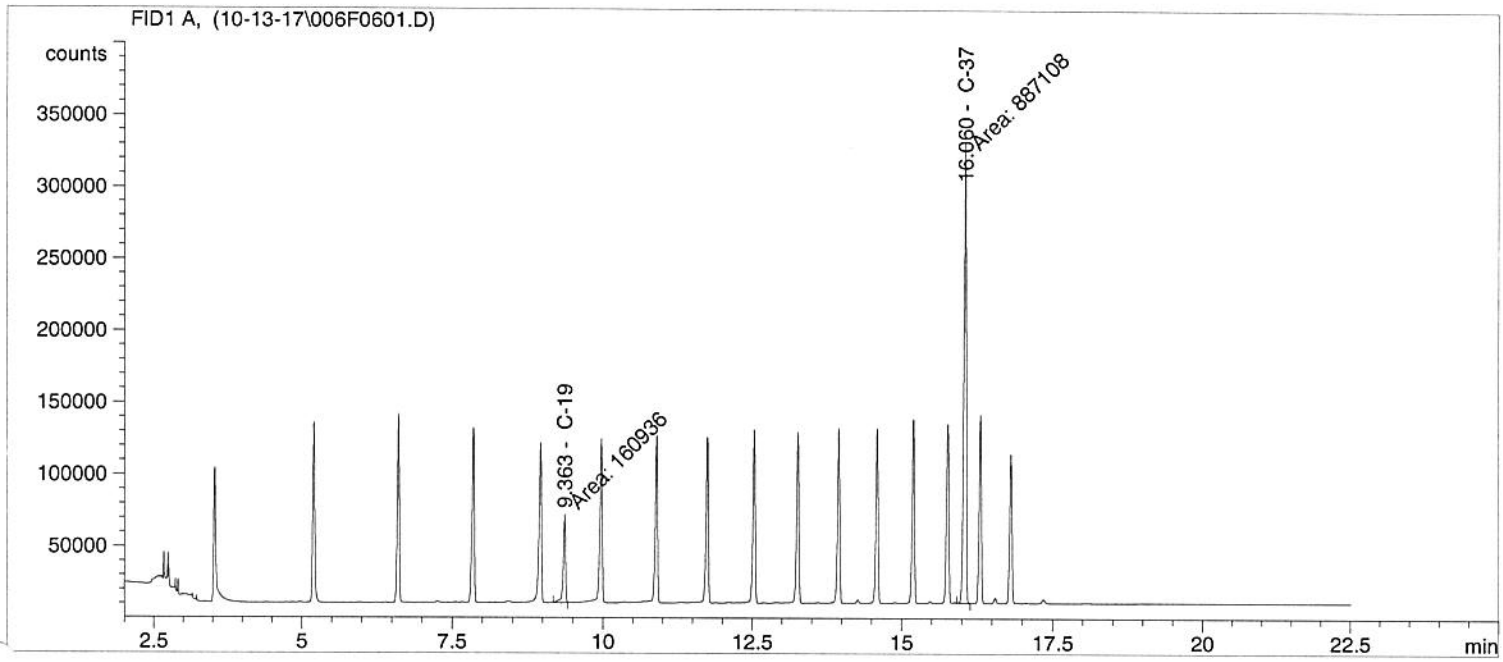

```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  2.740 MM     9.30233e4  1.62522e-4 3.02367e-2    FLPRO

Totals :                               3.02367e-2

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Injection Date  : 10/13/2017 8:42:19 PM          Seq. Line :   6
Sample Name     : IDOC L #1                       Location : Vial 6
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                          Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  3.153 MM     3.45338e4  1.62522e-4 1.12250e-2    FLPRO

Totals :                               1.12250e-2

 Results obtained with enhanced integrator!
==========================================================================
                           *** End of Report ***
```

```
Injection Date  : 10/13/2017 8:42:19 PM          Seq. Line :   6
Sample Name     : IDOC L #1                     Location : Vial 6
Acq. Operator   : AC                                Inj :   1
Acq. Instrument : RAY                       Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AS100617.M
Last changed    : 10/9/2017 11:16:38 AM by AC
FLPRO SURROGATE BY RAY GC#3 FID A
```

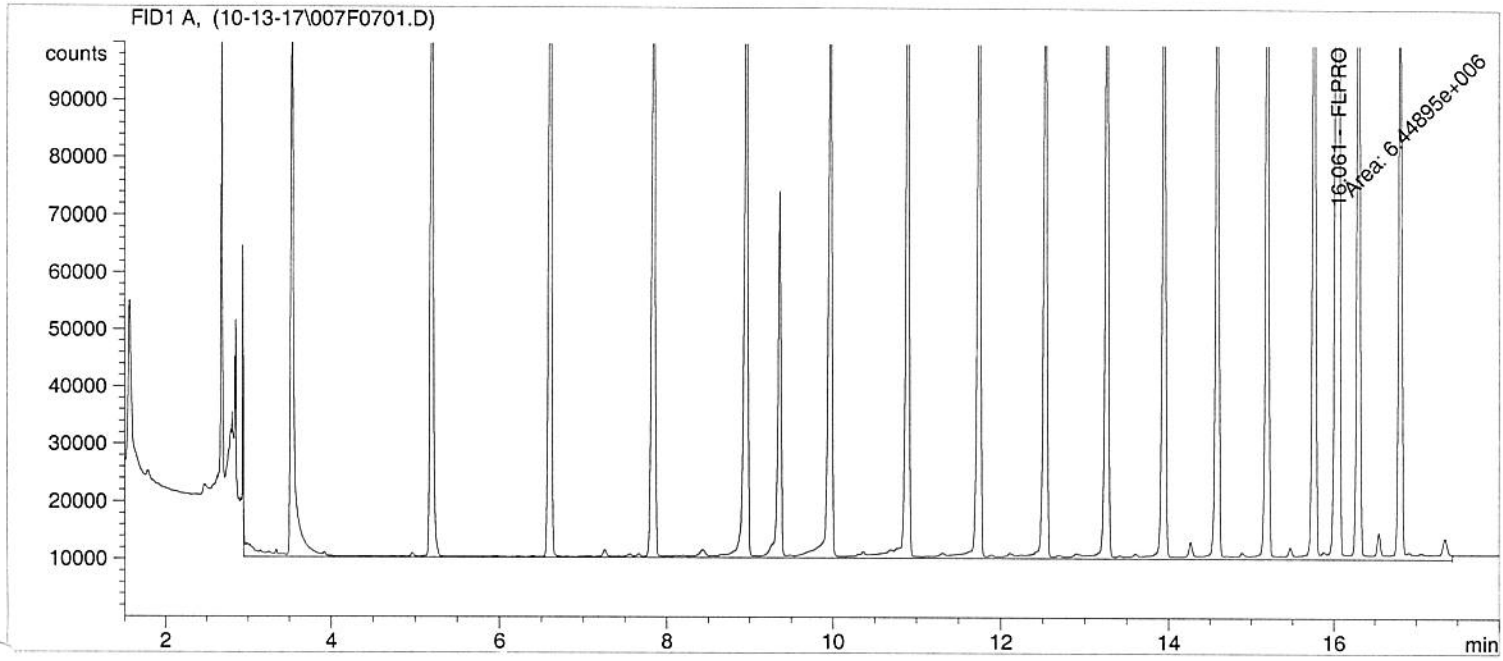


External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, October 09, 2017 11:16:01 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  9.363 MM     1.60936e5  1.37647e-4 4.43045e-2    C-19
 16.060 MM     8.87108e5  1.42090e-4 2.52098e-1    C-37

Totals :                              2.96403e-1

 Results obtained with enhanced integrator!
```

*** End of Report ***

```
==========================================================================
Injection Date  : 10/13/2017 9:19:18 PM          Seq. Line :   7
Sample Name     : IDOC L #2                       Location : Vial 7
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                          Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```



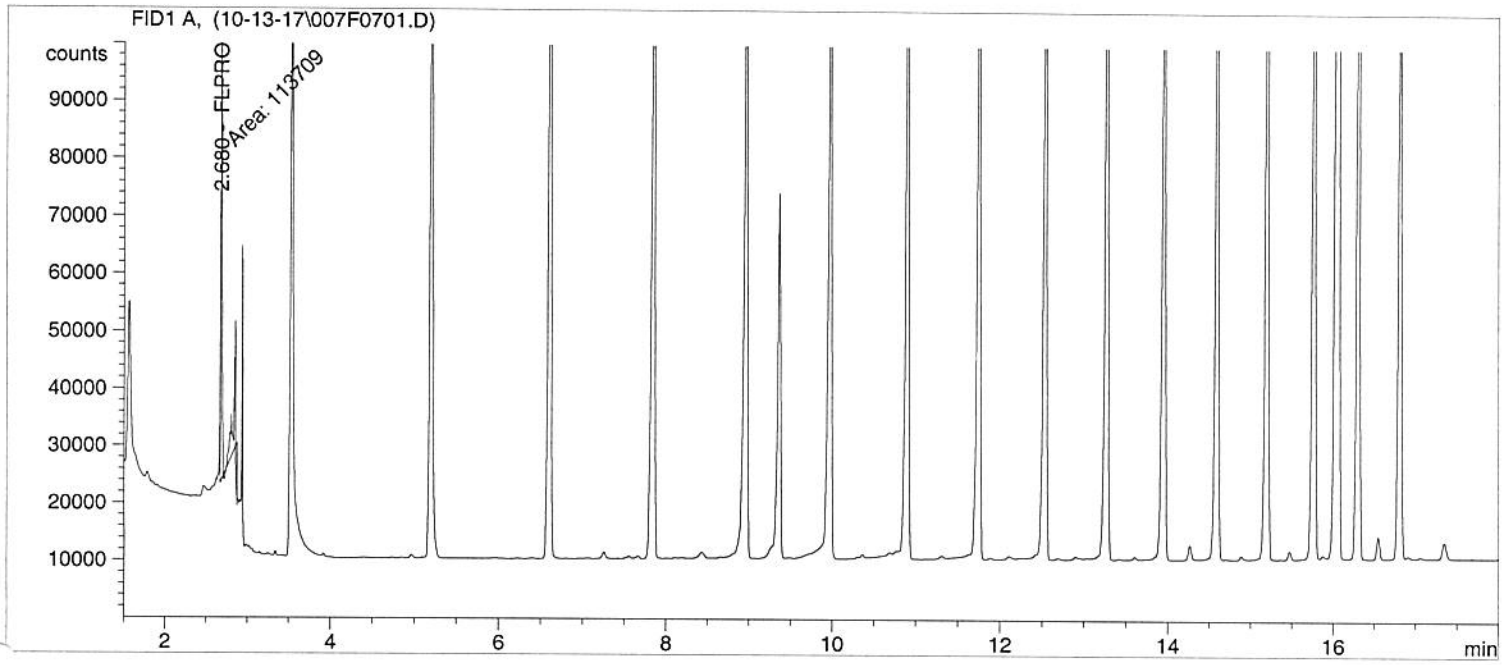

```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ng/ul]
-------|------|----------|----------|----------|--|------------------
 16.061 MM     6.44895e6  1.62522e-4    2.09619     FLPRO

Totals :                                 2.09619

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

2.09614
+ 0.0036603
0.2959411
1.8372353

Data File C:\HPCHEM\1\DATA\10-13-17\007F0701.D

Sample Name: IDOC L #2

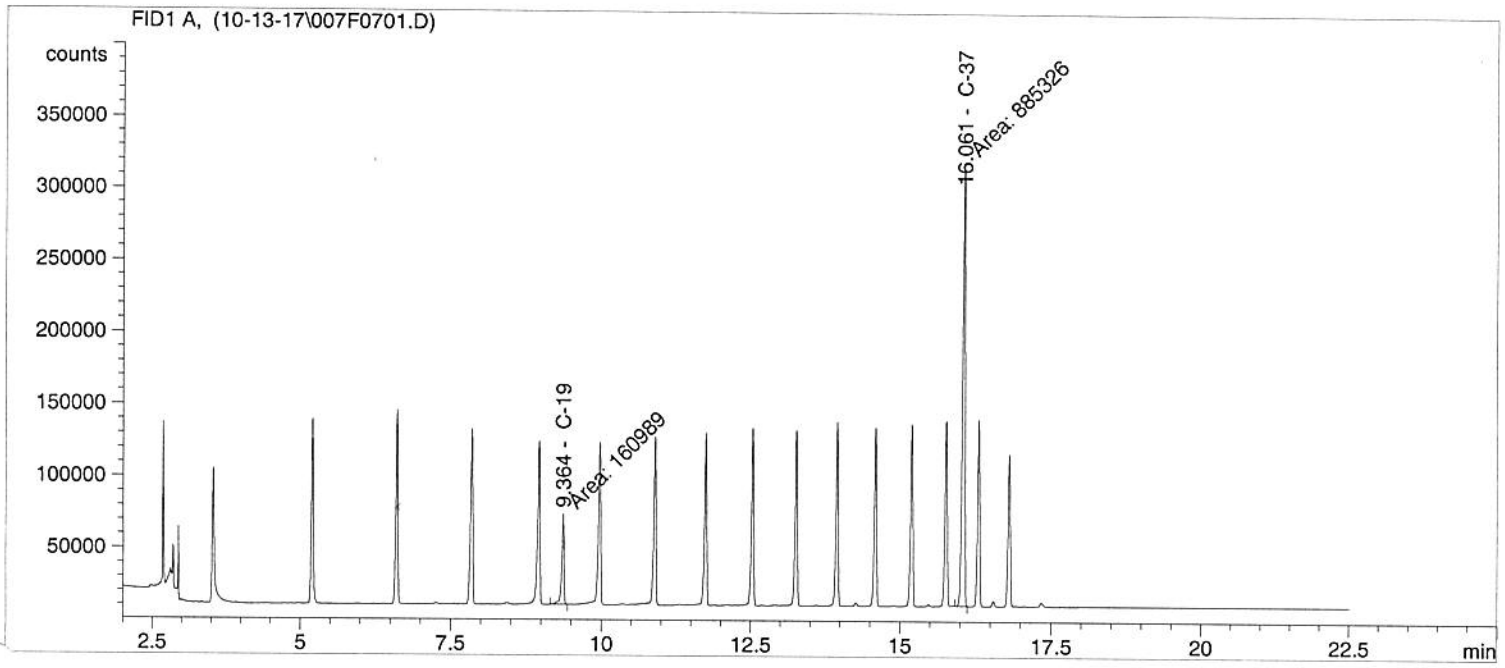
```
==========================================================================
Injection Date  : 10/13/2017 9:19:18 PM          Seq. Line :   7
Sample Name     : IDOC L #2                      Location : Vial 7
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  2.680 MM     1.13709e5  1.62522e-4 3.69603e-2    FLPRO

Totals :                               3.69603e-2

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Injection Date : 10/13/2017 9:19:18 PM
Sample Name : IDOC L #2
Acq. Operator : AC
Acq. Instrument : RAY
Acq. Method : C:\HPCHEM\1\METHODS\DUAL.M
Last changed : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AS100617.M
Last changed : 10/9/2017 11:16:38 AM by AC
FLPRO SURROGATE BY RAY GC#3 FID A

Seq. Line : 7
Location : Vial 7
Inj : 1
Inj Volume : 2 µl



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, October 09, 2017 11:16:01 AM
Multiplier : 2.000e-3
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ng/ul]	Grp	Name
9.364	MM	1.60989e5	1.37647e-4	4.43192e-2		C-19
16.061	MM	8.85326e5	1.42090e-4	2.51592e-1		C-37

Totals : 2.95911e-1

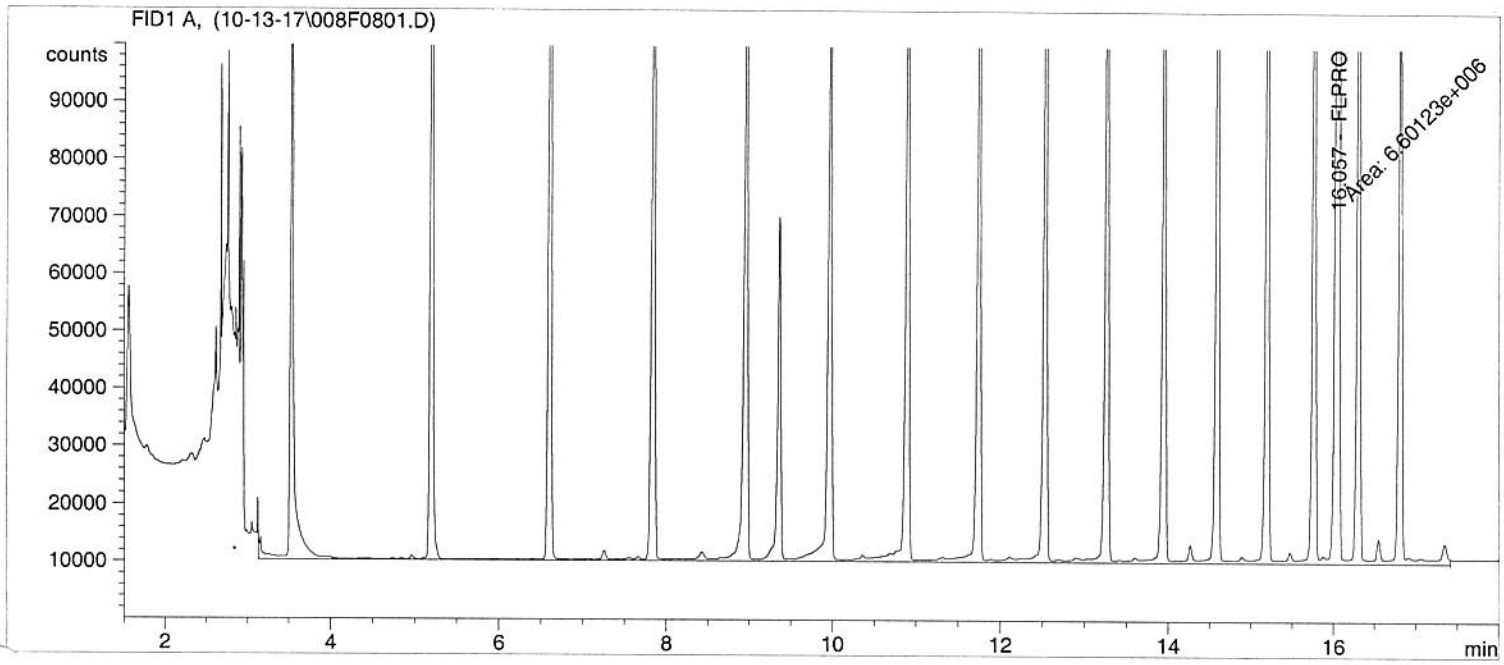
Results obtained with enhanced integrator!

*** End of Report ***

Data File C:\HPCHEM\1\DATA\10-13-17\008F0801.D

Sample Name: IDOC L #3

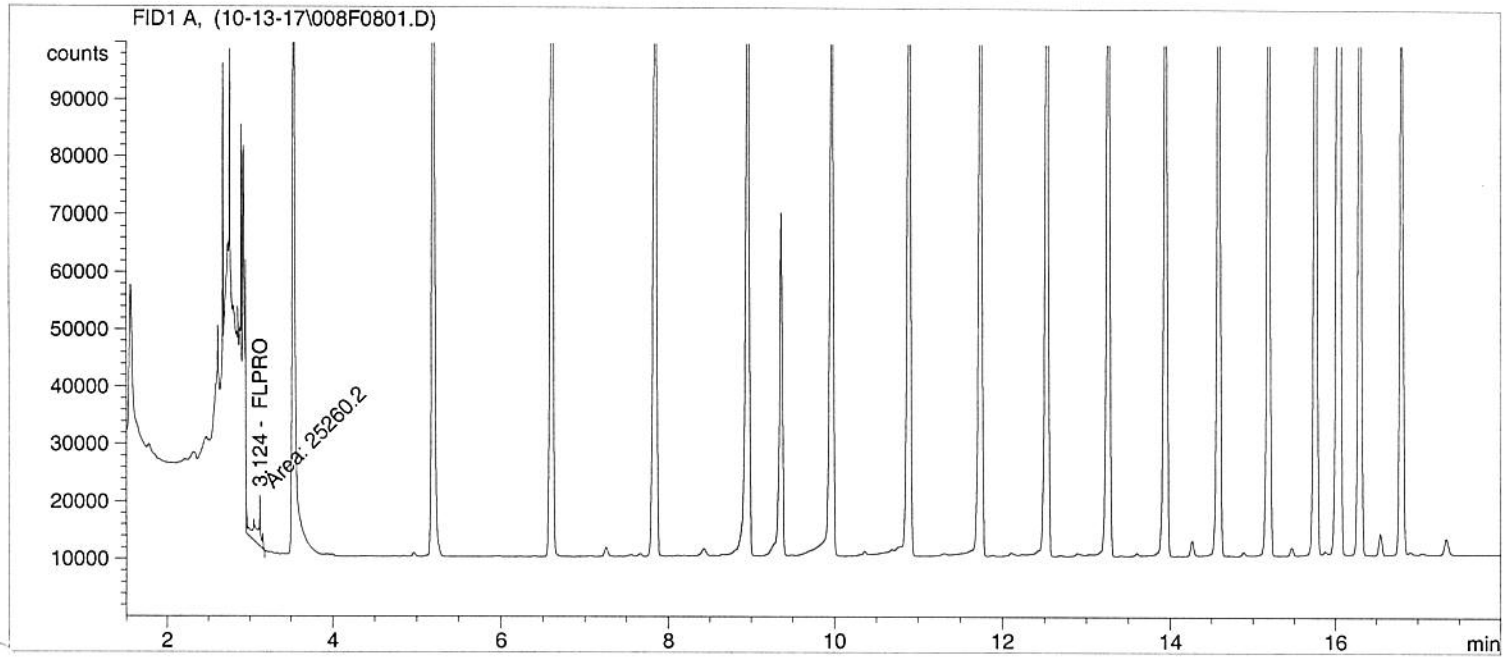
```
==========================================================================
Injection Date  : 10/13/2017 9:56:16 PM          Seq. Line :   8
Sample Name     : IDOC L #3                      Location : Vial 8
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ng/ul]
-------|------|----------|----------|----------|--|------------------
 16.057 MM     6.60123e6  1.62522e-4    2.14569     FLPRO

Totals :                                 2.14569

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

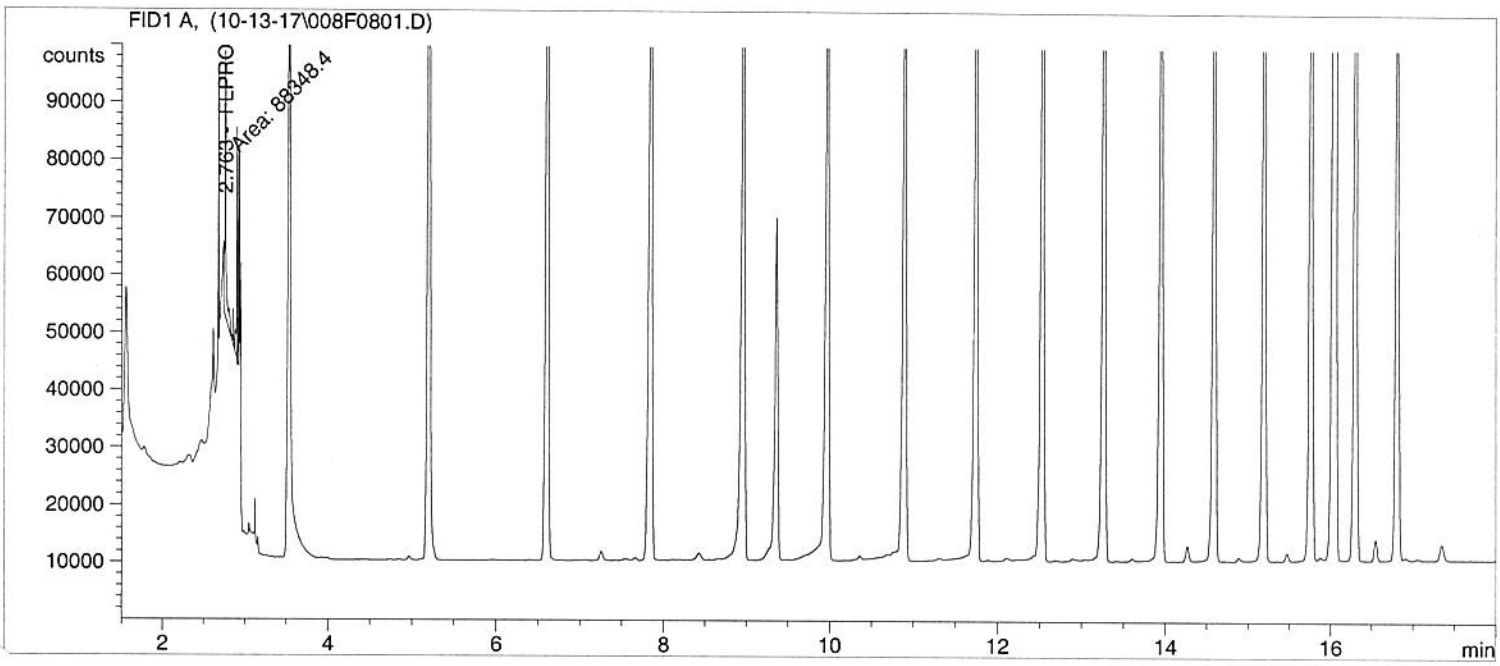
2.14569 µl
+0.02917
+0.00821
-0.27407
1.90472

```
==========================================================================
Injection Date  : 10/13/2017 9:56:16 PM          Seq. Line :   8
Sample Name     : IDOC L #3                       Location : Vial 8
Acq. Operator   : AC                                  Inj :   1
Acq. Instrument : RAY                         Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  3.124 MM     2.52602e4  1.62522e-4 8.21069e-3     FLPRO

Totals :                               8.21069e-3

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

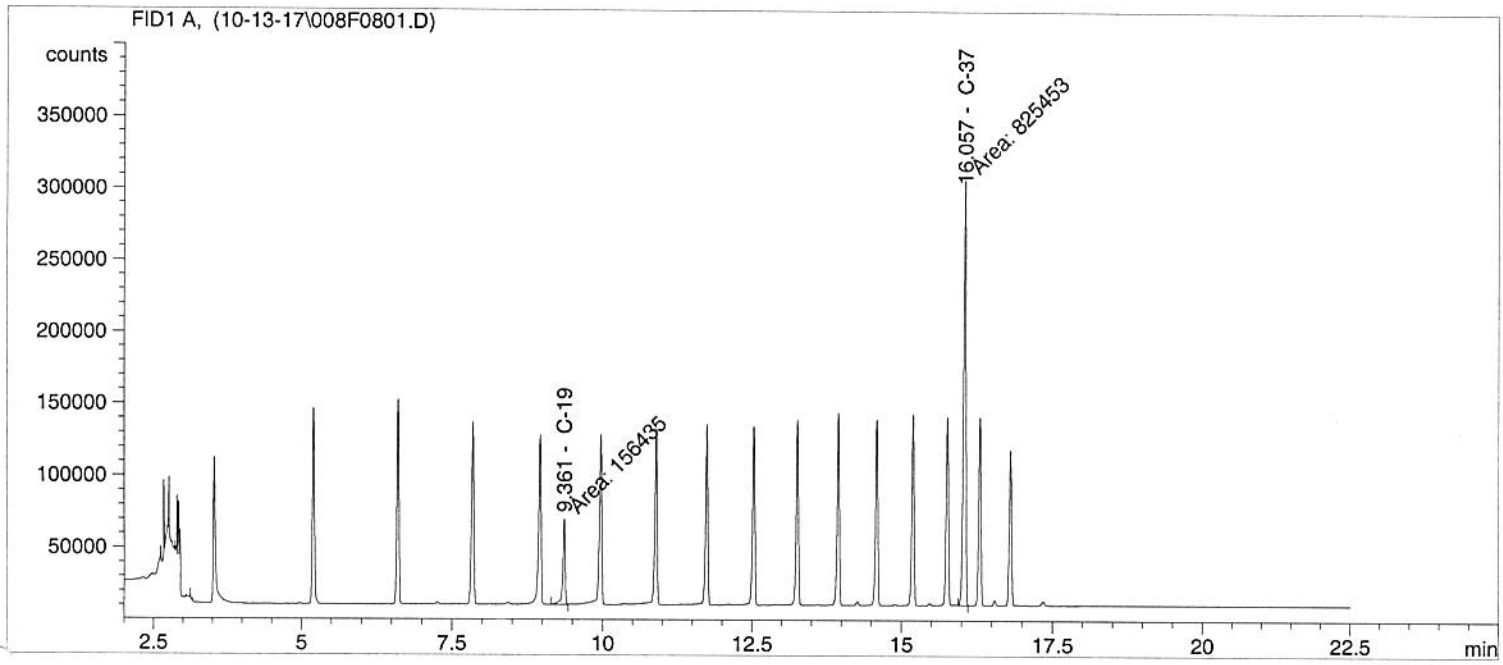
```
==========================================================================
Injection Date  : 10/13/2017 9:56:16 PM          Seq. Line :   8
Sample Name     : IDOC L #3                      Location : Vial 8
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  2.763 MM     8.83484e4  1.62522e-4 2.87172e-2    FLPRO

Totals :                              2.87172e-2

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Injection Date : 10/13/2017 9:56:16 PM
Sample Name : IDOC L #3
Acq. Operator : AC
Acq. Instrument : RAY
Acq. Method : C:\HPCHEM\1\METHODS\DUAL.M
Last changed : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AS100617.M
Last changed : 10/9/2017 11:16:38 AM by AC
FLPRO SURROGATE BY RAY GC#3 FID A

Seq. Line : 8
Location : Vial 8
Inj : 1
Inj Volume : 2 µl



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, October 09, 2017 11:16:01 AM
Multiplier : 2.000e-3
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

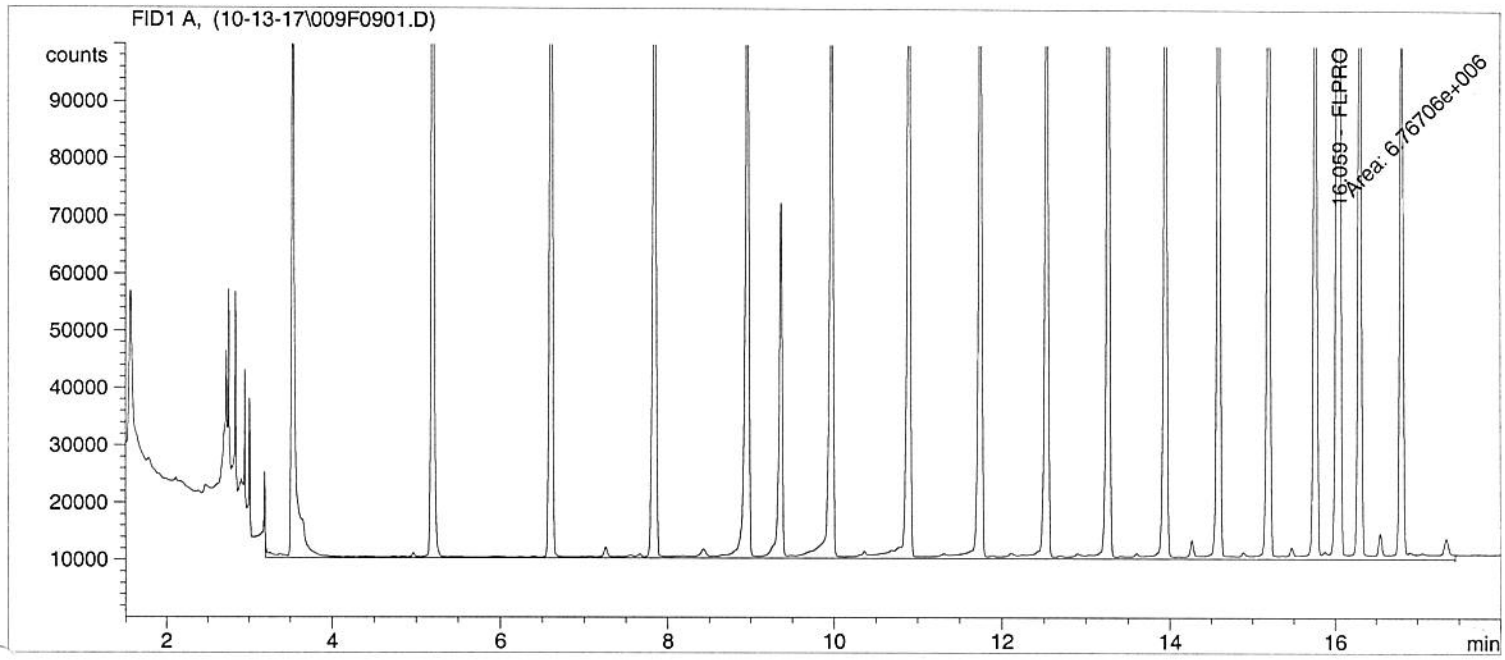
RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ng/ul]	Grp	Name
9.361	MM	1.56435e5	1.37647e-4	4.30654e-2		C-19
16.057	MM	8.25453e5	1.42090e-4	2.34577e-1		C-37

Totals : 2.77643e-1

Results obtained with enhanced integrator!

*** End of Report ***

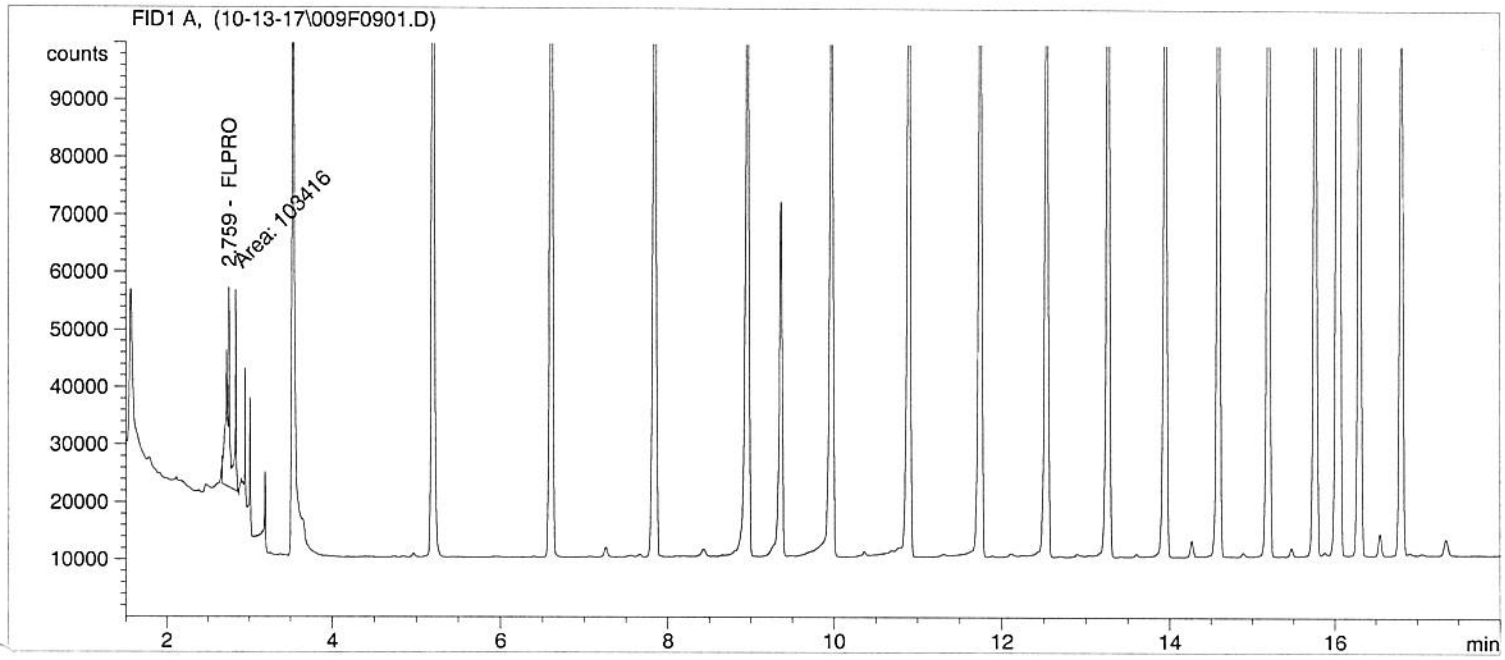
```
==========================================================================
Injection Date  : 10/13/2017 10:33:24 PM        Seq. Line :   9
Sample Name     : IDOC L #4                      Location : Vial 9
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
 16.059 MM     6.76706e6  1.62522e-4    2.19959     FLPRO

Totals :                                 2.19959

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

2.19959
0.03916472
+ 0.00664092
+ 0.01894977
+ 0.28337360
/ 1.6x 5356772

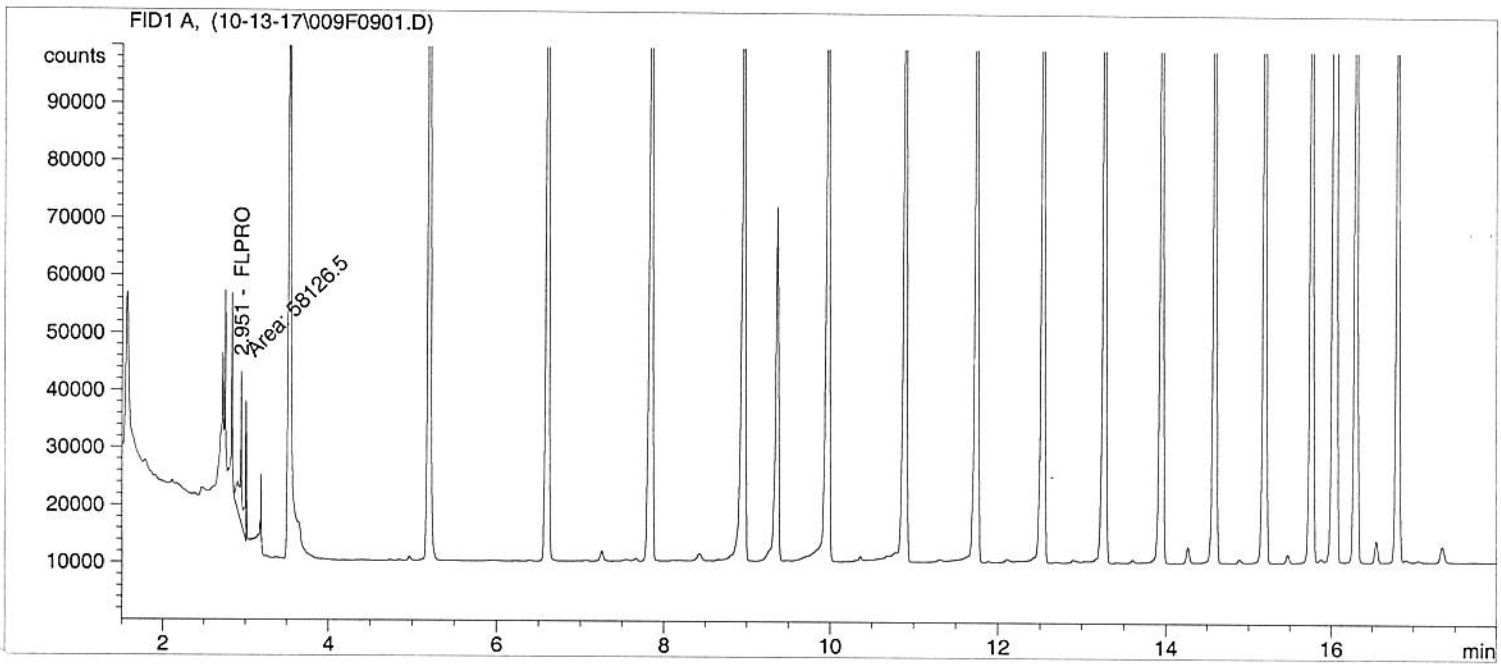
```
==========================================================================
Injection Date  : 10/13/2017 10:33:24 PM        Seq. Line :   9
Sample Name     : IDOC L #4                      Location : Vial 9
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ng/ul]
-------|------|----------|----------|----------|--|------------------
  2.759 MM     1.03416e5  1.62522e-4 3.36147e-2    FLPRO

Totals :                              3.36147e-2

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Injection Date : 10/13/2017 10:33:24 PM
Sample Name : IDOC L #4
Acq. Operator : AC
Acq. Instrument : RAY
Acq. Method : C:\HPCHEM\1\METHODS\DUAL.M
Last changed : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A

Seq. Line : 9
Location : Vial 9
Inj : 1
Inj Volume : 2 µl



External Standard Report

Sorted By : Signal
Calib. Data Modified : 10/9/2017 11:27:51 AM
Multiplier : 2.000e-3
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

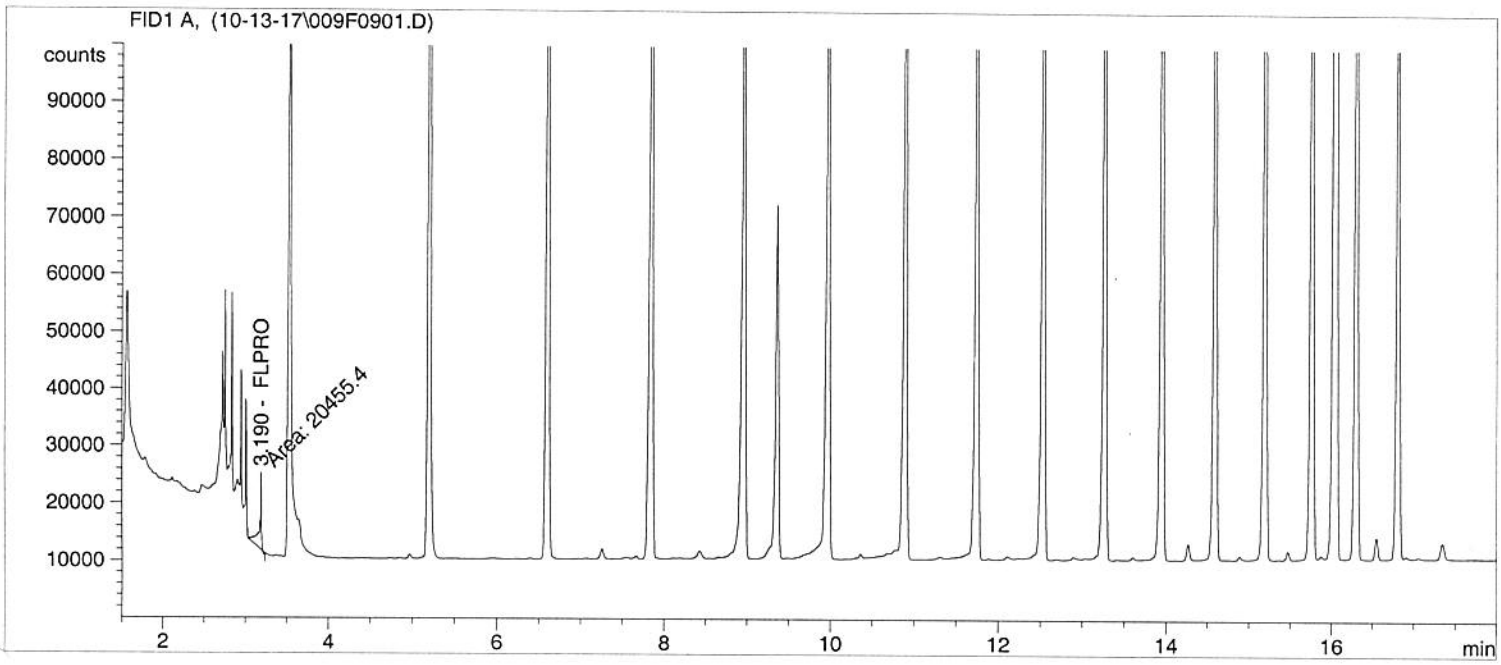
RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ng/ul]	Grp	Name
2.951	MM	5.81265e4	1.62522e-4	1.88937e-2		FLPRO

Totals : 1.88937e-2

Results obtained with enhanced integrator!

*** End of Report ***

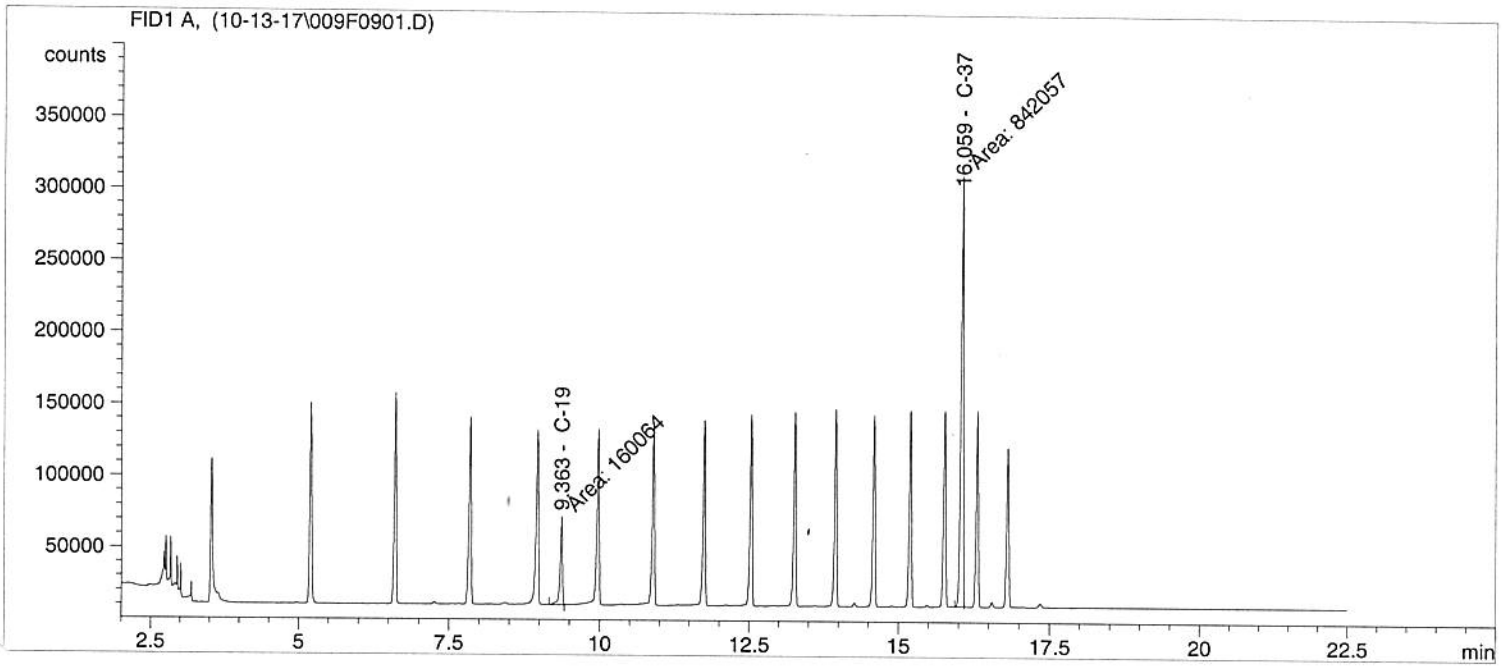
```
==========================================================================
Injection Date  : 10/13/2017 10:33:24 PM        Seq. Line :   9
Sample Name     : IDOC L #4                      Location : Vial 9
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    2.000e-3
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  3.190 MM     2.04554e4  1.62522e-4 6.64892e-3     FLPRO

Totals :                               6.64892e-3

 Results obtained with enhanced integrator!
==========================================================================
                           *** End of Report ***
```

Injection Date : 10/13/2017 10:33:24 PM
Sample Name : IDOC L #4
Acq. Operator : AC
Acq. Instrument : RAY
Acq. Method : C:\HPCHEM\1\METHODS\DUAL.M
Last changed : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AS100617.M
Last changed : 10/9/2017 11:16:38 AM by AC
FLPRO SURROGATE BY RAY GC#3 FID A

Seq. Line : 9
Location : Vial 9
Inj : 1
Inj Volume : 2 µl



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, October 09, 2017 11:16:01 AM
Multiplier : 2.000e-3
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ng/ul]	Grp	Name
9.363	MM	1.60064e5	1.37647e-4	4.40646e-2		C-19
16.059	MM	8.42057e5	1.42090e-4	2.39296e-1		C-37

Totals : 2.83360e-1

Results obtained with enhanced integrator!

*** End of Report ***

Liquid Extraction Log **Method #** 1L PRO **Extraction Method 3510**

	Std. ID	Amt. Added	Initials
Surrogate	1700517	1ml	EP
Spike	1600312	1ml	EP
Internal Std.			

Florida Environmental

Batch#: 17J0395
Analyst: YE + AC
Date: 10-13-17
Transferred to vials by: EP / HR.

Initial Solvent: DCM
Final Solvent: DCM

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
17J0395	MB	10-13-17	1000	7	2	2	2	10-13-17	N/A	
	LCS	10-13-17	1000	7	2					
	MS 17J0444-01B	10-12-17	1000	7	2					
	MSD 17J0444-01K	10-12-17	1000	7	2					
17J0444-01C	Matrix Spike.	10-12-17	1000	7	2					
17J0379-01B	SW-1	10-11-17	1000	2						
17J0441-01A	40402	10-11-17	940	2						
17J0442-02A	40406.	10-11-17	1000	2						
	IDOC #1	10-13-17	1000	7	2					Spike IQL-PRO
	IDOC#2	10-13-17	1000	7	2					060116-1ml.
	IDOC#3	10-13-17	1000	7	2					
	IDOC#4	10-13-17	1000	7	2					

Item	SVT#
Filter Paper:	465
Sodium Sulfate:	466
Silica Gel:	071
Sodium Hydroxide:	
Sililic Acid:	
Sulfuric Acid:	1:1 030117
10 mL pipette:	469
1.8mL Vials	482
1.8mL Vial Caps	480
20 mL Vials:	
Pasteur pipette:	442
Hexane	
MTBE	
Ethyl Ether	
Cu	
Phosphate Buffer	
NaCL	
Diazomethane	
CH2CL2	474/111
pH paper Lot #	202513
Chlorine Strips Lot #	

* pH: I = Initial, E = Exchange, F= Final

Document Control #: 0401416-001
Date:8/31/16

Demonstration of Capability
Certification Statement

Date: 8/15/08
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): RICHARD VICCHIARELLI
Matrix: LIQUID
Method number EPA 547

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I RICHARD VICCHIARELLI current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

Maria E. Castellanos — Technical Director's Name and Title
Signature
Date 8/27/08

Donald S. McLaughlin — Quality Assurance Officer's Name
Signature
Date

This certification form must be completed each time a demonstration of capability study is completed

.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

IDC:

Matrix: Water Soil Air

Date of Analysis: 8/15/8

Method Number: EPA 547

Method Description: Glyphosate

Instrument Used: Agilent 1100 HPLC

[x]	Raw Data Given to QA?
[ ]	All Crossouts Initialed, Dated and Explained?
[ ]	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Glyphosate Standard	200 ppb
wslc 1-2-5	

Comments:

Analyst Name: Richard Vicchiarelli

Yes / No

Units:

FILL IN COLORED CELLS ONLY

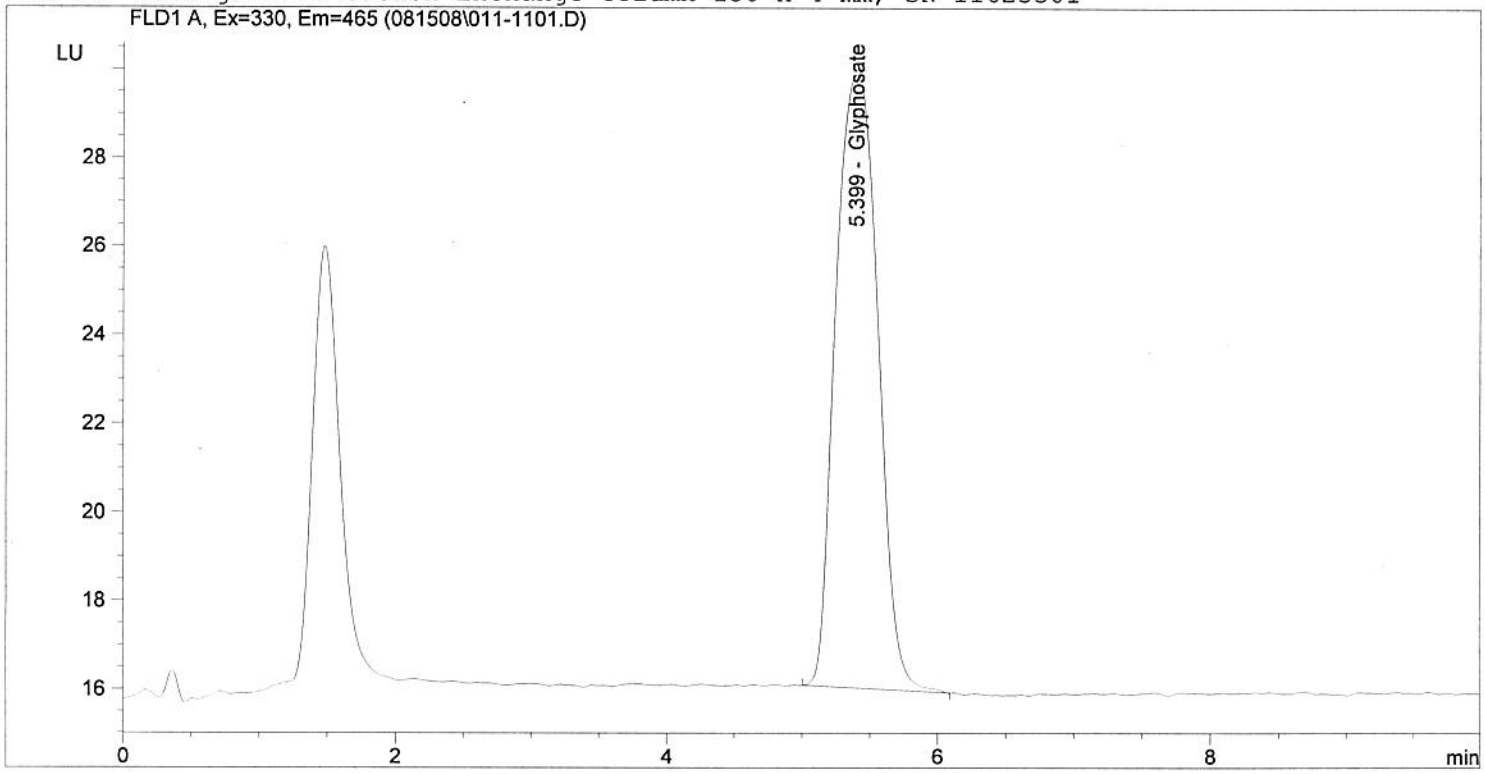
Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD	%RSD
Glyphosate	174	183	189	164	181.250	200.000	90.6	6.15%	

Analyst Signature: R. Vicchiarelli **Date:** 8/15/8

200 ppb wslc 1-2-5

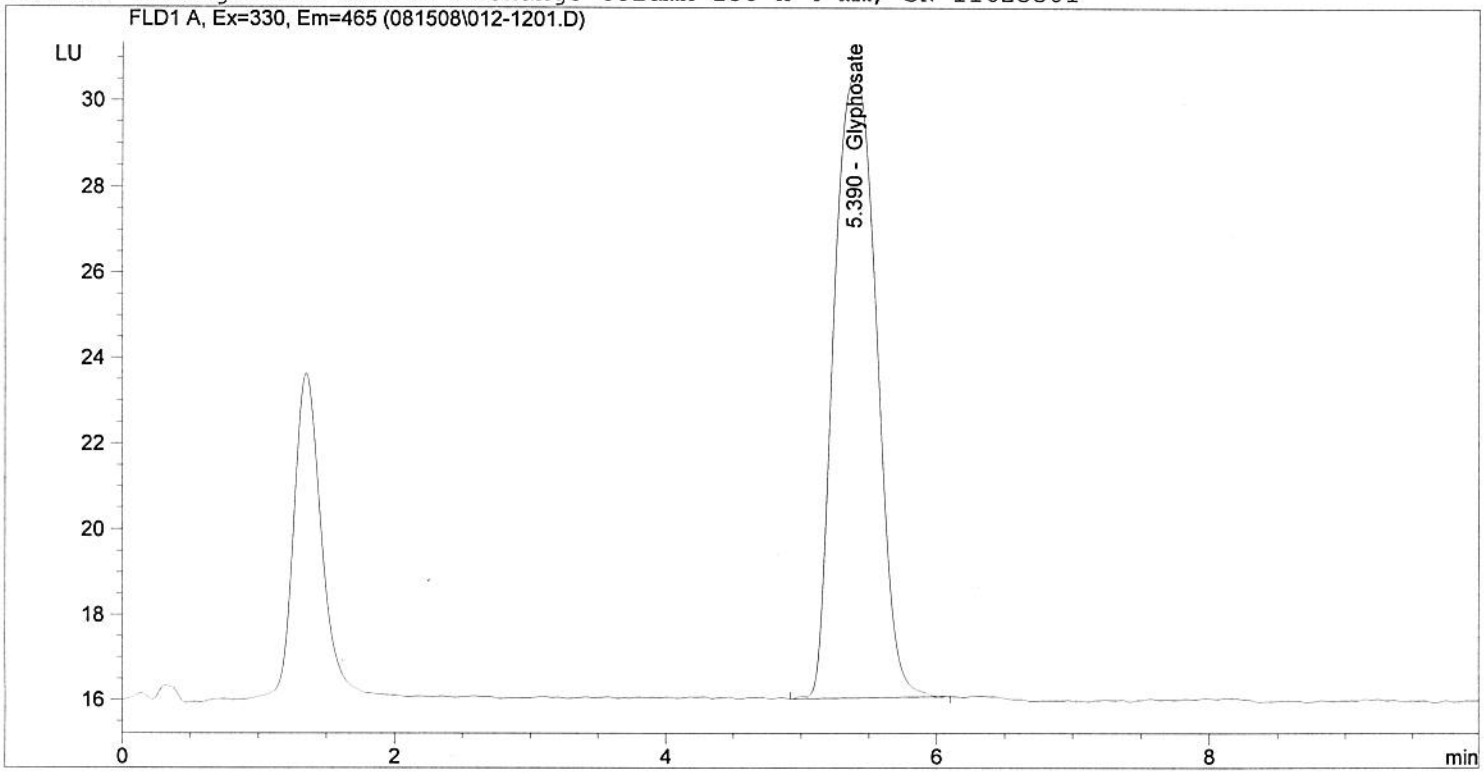
```
==========================================================================
Injection Date  : 8/15/2008 12:49:35 PM          Seq. Line :  11
Sample Name     : IDOC 1 200 ppb                  Location : Vial 11
Acq. Operator   : Richard   hplc#2                    Inj :   1
                                                 Inj Volume : 200 µl
Acq. Method     : C:\HPCHEM\1\METHODS\G080508.M
Last changed    : 8/14/2008 4:58:10 PM by Richard   hplc#2
Analysis Method : C:\HPCHEM\1\METHODS\G080508.M
Last changed    : 8/15/2008 11:46:43 AM by Richard   hplc#2
                  (modified after loading)
EPA 547 Transgenomic Cation Exchange Column 150 x 4 mm, SN 11623301
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      8/15/2008 11:46:43 AM
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: FLD1 A, Ex=330, Em=465

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         LU    *s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  5.399 BP      300.61325 5.78874e-1  174.01713    Glyphosate

Totals :                               174.01713

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

200 ppb wslc 1-2-5

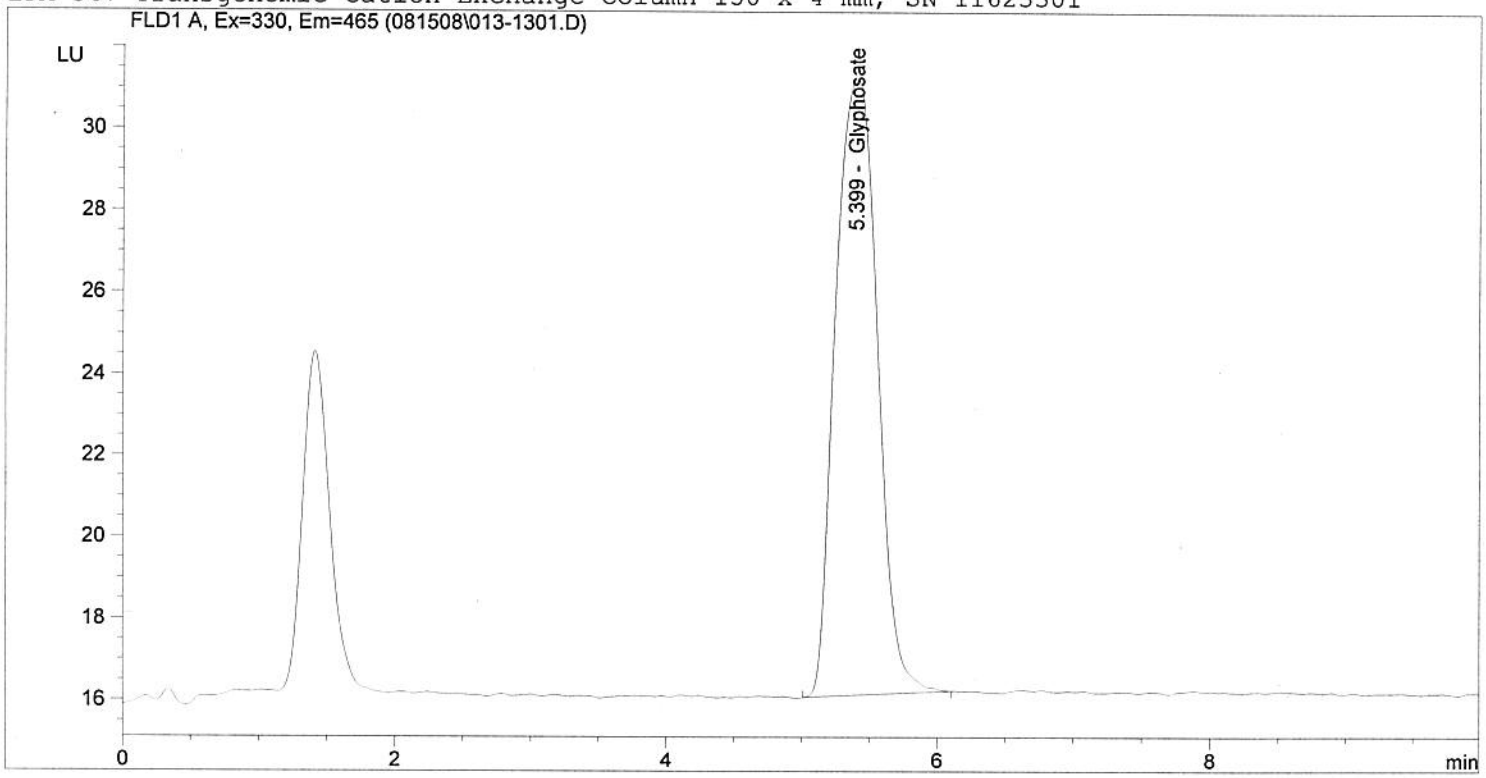
```
==========================================================================
Injection Date  : 8/15/2008 1:04:33 PM          Seq. Line :  12
Sample Name     : IDOC 2 200 ppb                 Location : Vial 12
Acq. Operator   : Richard   hplc#2                   Inj :   1
                                                Inj Volume : 200 µl
Acq. Method     : C:\HPCHEM\1\METHODS\G080508.M
Last changed    : 8/14/2008 4:58:10 PM by Richard   hplc#2
Analysis Method : C:\HPCHEM\1\METHODS\G080508.M
Last changed    : 8/15/2008 11:46:43 AM by Richard   hplc#2
                  (modified after loading)
EPA 547 Transgenomic Cation Exchange Column 150 x 4 mm, SN 11623301
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      8/15/2008 11:46:43 AM
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: FLD1 A, Ex=330, Em=465

RetTime  Type    Area      Amt/Area    Amount   Grp   Name
 [min]         LU    *s                [ug/L]
-------|------|----------|----------|----------|--|------------------
  5.390 PB      316.61447 5.78874e-1  183.27982    Glyphosate

Totals :                              183.27982

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

200 ppb wslc 1-2-5

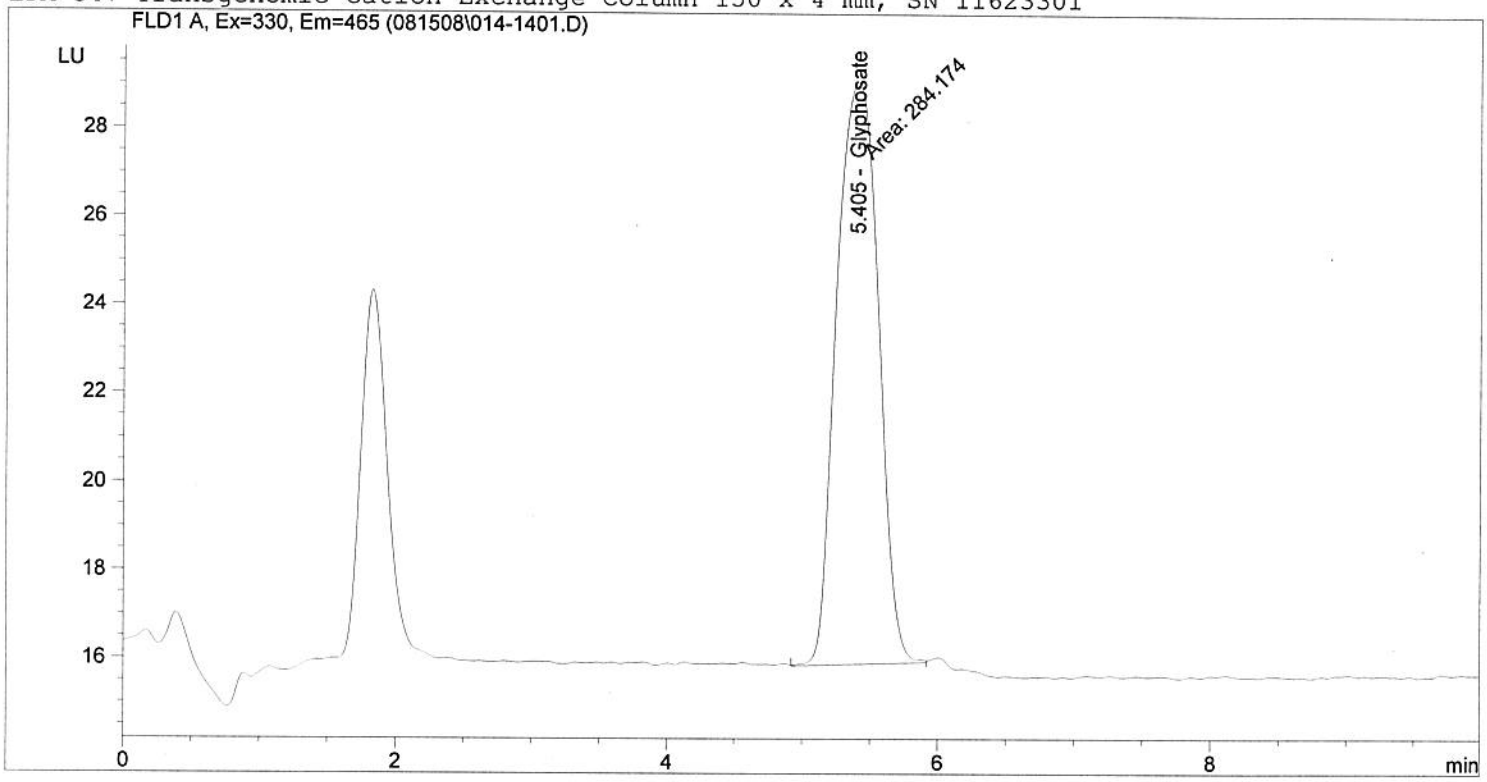
```
==========================================================================
Injection Date  : 8/15/2008 1:19:32 PM          Seq. Line :  13
Sample Name     : IDOC 3 200 ppb                 Location : Vial 13
Acq. Operator   : Richard   hplc#2                   Inj :   1
                                                Inj Volume : 200 µl
Acq. Method     : C:\HPCHEM\1\METHODS\G080508.M
Last changed    : 8/14/2008 4:58:10 PM by Richard   hplc#2
Analysis Method : C:\HPCHEM\1\METHODS\G080508.M
Last changed    : 8/15/2008 11:46:43 AM by Richard   hplc#2
                  (modified after loading)
EPA 547 Transgenomic Cation Exchange Column 150 x 4 mm, SN 11623301
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      8/15/2008 11:46:43 AM
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: FLD1 A, Ex=330, Em=465

RetTime  Type      Area      Amt/Area    Amount   Grp   Name
 [min]          LU    *s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  5.399 BB       326.22183 5.78874e-1  188.84127    Glyphosate

Totals :                               188.84127

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

200 ppb wslc 1-2-5

```
==========================================================================
Injection Date  : 8/15/2008 1:34:30 PM          Seq. Line :  14
Sample Name     : IDOC 4 200 ppb                 Location : Vial 14
Acq. Operator   : Richard   hplc#2                   Inj :   1
                                                Inj Volume : 200 µl
Acq. Method     : C:\HPCHEM\1\METHODS\G080508.M
Last changed    : 8/14/2008 4:58:10 PM by Richard   hplc#2
Analysis Method : C:\HPCHEM\1\METHODS\G080508.M
Last changed    : 8/15/2008 11:46:43 AM by Richard   hplc#2
                  (modified after loading)
EPA 547 Transgenomic Cation Exchange Column 150 x 4 mm, SN 11623301
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      8/15/2008 11:46:43 AM
Multiplier            :      1.0000
Dilution              :      1.0000

Signal 1: FLD1 A, Ex=330, Em=465

RetTime  Type      Area      Amt/Area    Amount   Grp   Name
 [min]          LU    *s                 [ug/L]
-------|------|----------|----------|----------|--|------------------
  5.405 MM       284.17444 5.78874e-1  164.50113    Glyphosate

Totals :                               164.50113

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Irena Nutan	Irena Nutan	7/10/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 200.7 (calc)	☑ Water ☑ DW ☐ Solid ☐ Other: _____	020318-004
Analyte or Class of Analytes		
Ca Hardness (DW/NPW) Hardness (DW)		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Irena Nutan *Analyst*	*Signature*	6/26/18 *Date*
Irena Nutan *Technical Director*	*Signature*	6/26/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	7/10/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	LIQUID
DATE OF ANALYSIS:	6/26/2018
ANALYZED BY:	IRENA NUTZU
METHOD NUMBER:	EPA 200.7
EXTRACTION METHOD (IF APPLY):	EPA 3010
INSTRUMENT ID:	MET-19
EXTRACTED BY:	IRENA NUTZU
DATE EXTRACTED:	6/26/2018
ACCEPTANCE CRITERIA:	±15%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard 1	HPS#1801714	100ppm
LCS Spike Standard 2 (MIN)	QC-MET-030618-A	2500ppm
Internal Standard		

Compound	TRUE Value	IDOC 1	IDOC 2	IDOC 3	IDOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Calcium	25.5	26.034	25.946	25.858	25.803	25.910	0.39	101.61	0.10
Calcium Hardness ([Ca]*2.497)	63.6735	65.0069	64.787162	64.567426	64.430091	64.698	0.39	101.61	0.25
Magnesium	0.50	0.49259	0.48790	0.48578	0.48589	0.488	0.65	97.61	0.00
Magnesium Hardness ([Mg]*4.118)	2.059	2.028486	2.0091722	2.000442	2.000895	2.010	0.65	97.61	0.01
Total Hardness (CaH+MgH)	65.7325	67.03538	66.79633	66.56787	66.43099	66.708	0.40	101.48	0.27

DATE : JUNE 2018
ANALYST: IRENA NUTZU

IDOC
METHOD:200.7
MATRIX : LIQUID

	T V (PPM)	IDOC-1 (PPM)	IDOC-2 (PPM)	IDOC-3 (PPM)	IDOC-4 (PPM)	Average (PPM)	% Recovery	Std.Dev.
Ca	25.50000	26.034	25.946	25.858	25.803	25.91025	101.6	0.101365
Ca Hardness	63.67350	65.00690	64.78716	64.56743	64.43009	64.69789	101.6	0.253109
Mg	0.50000	0.49259	0.4879	0.48578	0.48589	0.48804	97.6	0.003186
Mg Hardness	2.05900	2.02849	2.00917	2.00044	2.00090	2.009749	97.6	0.01312
Total Hardness	65.73250	67.03538	66.79633	66.56787	66.43099	66.70764	101.5	0.265428

CaH=[Ca]*2.497
MgH=[Mg]*4.118
TH=CaH+MgH

062618.wvq. All Data Report

Blank (Blk) **6/26/2018, 8:40:01 AM** **Rack 0, Tube 1**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ca 315.887	0.00000	mg/L	2.382	111.0	2.1465
Mg 279.078	0.00000	mg/L	4.435	107.7	4.1178

1.0 ppm (Std) **6/26/2018, 8:44:41 AM** **Rack 0, Tube 2**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Mg 279.078	1.0000	mg/L	8.605	0.3	3310.4

50 ppm (Std) **6/26/2018, 8:49:21 AM** **Rack 0, Tube 3**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ca 315.887	50.000	mg/L	2466.646	0.6	397304

Ca 315.887 Calibration (mg/L) **6/26/2018, 8:49:21 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		2.1465	0.00000	0.00000	-	-
50 ppm		397304	50.000	50.000	0.00000	0.0

Curve Type: Linear Equation: y = 7946.0 x + 2.1

Mg 279.078 Calibration (mg/L) **6/26/2018, 8:44:41 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		4.1178	0.00000	0.00000	-	-
1.0 ppm		3310.4	1.0000	1.0000	0.00000	0.0

Curve Type: Linear Equation: y = 3306.2 x + 4.1

QCS-1-0.5ppm (ICV) **6/26/2018, 8:59:45 AM** **Rack 0, Tube 4**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
Mg 279.078	0.50228	mg/L	0.00318	0.6	1664.8	0.50228 mg/L	100.45594

QCS-2-25ppm (ICV) **6/26/2018, 9:05:27 AM** **Rack 0, Tube 5**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
Ca 315.887	25.259	mg/L	0.22525	0.9	200714	25.259 mg/L	101.03729

ICV-2-25ppm (ICV) **6/26/2018, 9:11:09 AM** **Rack 4, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
Ca 315.887	25.251	mg/L	0.15200	0.6	200645	25.251 mg/L	101.00271

ICV-1-0.5ppm (ICV) 6/26/2018, 9:16:51 AM Rack 4, Tube 1
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
Mg 279.078	0.50259	mg/L	0.00382	0.8	1665.8	0.50259 mg/L	100.51889

CCB (Samp) 6/26/2018, 9:35:08 AM Rack 4, Tube 5
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
Ca 315.887	-0.00017uv	mg/L	0.00006	36.9	0.81327	-0.00017 mg/L
Mg 279.078	-0.00032uv	mg/L	0.00015	47.2	3.0697	-0.00032 mg/L

PQL-200.7 (CRI) 6/26/2018, 9:39:19 AM Rack 1, Tube 1
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
Ca 315.887	0.00865	mg/L	0.00468	54.1	70.895	0.00865 mg/L	86.51936
Mg 279.078	0.00569	mg/L	0.00058	10.2	22.914	0.00569 mg/L	113.70349

LRB BATCH#4179 (Samp) 6/26/2018, 5:13:51 PM Rack 1, Tube 46
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
Ca 315.887	0.00042uv	mg/L	0.00047	111.4	5.4921	0.00042 mg/L
Mg 279.078	0.00090uv	mg/L	0.00156	173.4	7.0890	0.00090 mg/L

LCS-200.7 (LCS) 6/26/2018, 4:39:16 PM Rack 1, Tube 59
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
Ca 315.887	26.196	mg/L	0.07253	0.3	208156	26.196 mg/L	102.72902
Mg 279.078	0.49337	mg/L	0.00050	0.1	1635.3	0.49337 mg/L	98.67416

IDOC#1 (Samp) 6/26/2018, 4:43:27 PM Rack 2, Tube 7
Weight: 1 Volume: 1 Dilution: 1

Label	Calc Conc.	Units
Ca Hard	65.008	mg/L
Mg Hard	2.0285	mg/L
Total Hard.	67.04	mg/L

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
Ca 315.887	26.034	mg/L	0.06097	0.2	206872	26.034 mg/L
Mg 279.078	0.49259	mg/L	0.00046	0.1	1632.7	0.49259 mg/L

IDOC#2 (Samp) 6/26/2018, 4:47:38 PM Rack 2, Tube 8
Weight: 1 Volume: 1 Dilution: 1

Label	Calc Conc.	Units
Ca Hard	64.786	mg/L
Mg Hard	2.0092	mg/L

Label	Calc Conc.	Units
Total Hard.	66.80	mg/L

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
Ca 315.887	25.946	mg/L	0.05185	0.2	206166	25.946 mg/L
Mg 279.078	0.48790	mg/L	0.00224	0.5	1617.2	0.48790 mg/L

IDOC#3 (Samp) **6/26/2018, 4:51:49 PM** **Rack 2, Tube 9**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Calc Conc.	Units
Ca Hard	64.567	mg/L
Mg Hard	2.0005	mg/L
Total Hard.	66.57	mg/L

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
Ca 315.887	25.858	mg/L	0.08261	0.3	205471	25.858 mg/L
Mg 279.078	0.48578	mg/L	0.00276	0.6	1610.2	0.48578 mg/L

IDOC#4 (Samp) **6/26/2018, 4:56:01 PM** **Rack 2, Tube 10**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Calc Conc.	Units
Ca Hard	64.430	mg/L
Mg Hard	2.0009	mg/L
Total Hard.	66.43	mg/L

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
Ca 315.887	25.803	mg/L	0.01817	0.1	205035	25.803 mg/L
Mg 279.078	0.48589	mg/L	0.00349	0.7	1610.6	0.48589 mg/L

CCV-1-0.5ppm (CCV) **6/26/2018, 5:00:33 PM** **Rack 4, Tube 1**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
Mg 279.078	0.50732	mg/L	0.00306	0.6	1681.4	0.50732 mg/L	101.46368

CCV-2-25ppm (CCV) **6/26/2018, 5:04:56 PM** **Rack 4, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
Ca 315.887	25.377	mg/L	0.16297	0.6	201652	25.377 mg/L	101.50979

CCB (Samp) **6/26/2018, 5:09:08 PM** **Rack 4, Tube 5**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
Ca 315.887	0.00050	mg/L	0.00048	95.9	6.1138	0.00050 mg/L
Mg 279.078	0.00098	mg/L	0.00047	47.6	7.3620	0.00098 mg/L

3010 LIQUID DIGESTION

	SAMPLE LCN	pH	Vi(ml)	Vf(ml)	Comments
	LRB	<2	50	50	Filtered
	LCS	<2	50	50	Filtered
1	18F0825-01C	<2	50	50	RCRA4 9:15
2	-02C	<2	50	50	
3	-03C	<2	50	50	
4	-04C	<2	50	50	
5	-05C	<2	50	50	
6	-06C	<2	50	50	
7	-07C	<2	50	50	
8	-08C	<2	50	50	Filtered
9	-09C	<2	50	50	
10	-10C	<2	50	50	
	MS 18F0825-10C	<2	50	50	
	MSD 18F0825-10C	<2	50	50	
11	18F0825-11C	<2	50	50	Filtered
12	-12C	<2	50	50	Filtered
13	18F0830-01B	<2	50	50	Cd 10:25
14	18F0849-01A	<2	50	50	AS RUSH 12:50
15	IDOC#1	<2	50	50	* **
16	IDOC#2	<2	50	50	* **
17	IDOC#3	<2	50	50	* **
18	IDOC#4	<2	50	50	* **
19			50	50	
20			50	50	
	MS 18F0825-12C	<2	50	50	
	MSD 18F0825-12C	<2	50	50	

DIGESTION # 4179

BATCH# 18F0050

DATE : 06.26.18

ANALYST : IN/EM

HNO3 LOT # 170209 - FISHER

HCl LOT# SHBH8586 - ACS

QCS-27 100ppm HPS LOT# 180H14 *

Spike 250ul from QCS-27 in 50 ml for 0.50ppm *

MIN(Ca,K,Na) 2500ppm QC-MET- 030618-A **

Spike 500ul from MIN in 50ml for 25ppm **

HOTBLOCK : MET-14

DIG. TUBES: EE-LOT# 1709027

pH PAPER : # 206717

FILTERS : EE # 71222752

PIPETTE 1mL ID: BLUE-2

PIPETTE 5mL ID:

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

PA 12/20/17

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Yanet Echevarria	~~9/20/17~~ 12/20/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 515.3	☐ Water ☑ ~~DW~~ ☐ Solid ☐ Other: _____	0201416-008
Analyte or Class of Analytes		
Herbicides		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria *Analyst*	*Signature*	08/2/17 *Date*
Albert Castellanos *Technical Director*	*Signature*	08/2/17 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	~~9/20/17~~ 12/20/17 *Date* PA 12/20/17.

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Drinking Water
DATE OF ANALYSIS:	8/21/17-12/08/17
ANALYZED BY:	YE
METHOD NUMBER:	EPA 515.3
EXTRACTION METHOD (IF APPLY):	EPA 515.3
INSTRUMENT ID:	Jason GC#2
EXTRACTED BY:	YE
DATE EXTRACTED:	8/21/17-12/08/17
ACCEPTANCE CRITERIA:	80-120% and %RSD<20

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
Standard(s)	IQ-515.3-080817	Various
Surrogate	SU-515.3-080917	25 ppm
Internal Standard	IS-515/8151-080917	20 ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD	
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L				
Dalapon	50	59.12	62.72	54.90	55.13	57.97	6.41	115.94	3.72	
Dicamba	25	28.41	28.27	24.76	28.36	27.45	6.53	109.79	1.79	
2,4-D	50	46.64	43.77	35.20	47.99	43.40	13.23	86.80	5.74	
Pentachlorophenol	5	4.31	4.19	5.44	4.88	4.70	12.24	94.03	0.58	
2,4,5-TP Silvex	12.5	11.31	10.94	10.06	11.59	10.98	6.06	87.80	0.67	
2,4,5-T	12.5	15.84	14.57	12.60	13.22	14.06	10.28	112.44	1.45	
2,4-DB	50	44.77	42.78	38.74	43.23	42.38	6.07	84.76	2.57	
Pichloram	50	51.06	45.43	49.91	43.94	47.58	7.22	95.17	3.44	12/8/2017
Dinoseb	50	49.50	48.57	51.13	46.37	48.89	4.06	97.78	1.99	
Acifluoren	25	30.07	27.15	23.27	26.14	26.66	10.52	106.63	2.81	

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Drinking Water
DATE OF ANALYSIS:	8/21/2017
ANALYZED BY:	YE
METHOD NUMBER:	EPA 515.3
EXTRACTION METHOD (IF APPLY):	EPA 515.3
INSTRUMENT ID:	Jason GC#2
EXTRACTED BY:	YE
DATE EXTRACTED:	8/21/2017
ACCEPTANCE CRITERIA:	80-120% and %RSD<20

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
Standard(s)	IQ-515.3-080817	Various
Surrogate	SU-515.3-080917	25 ppm
Internal Standard	IS-515/8151-080917	20 ppm

Compound	TRUE Value	DOC 1 M08212017_40	DOC 2 M08212017_41	DOC 3 M08212017_42	DOC 4 M08212017_43	_ X	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
Dalapon	50	59.12	62.72	54.90	55.13	57.97	6.41	115.94	3.72
Dicamba	25	28.41	28.27	24.76	28.36	27.45	6.53	109.79	1.79
2,4-D	50	46.64	43.77	35.20	47.99	43.40	13.23	86.80	5.74
Pentachlorophenol	5	4.31	4.19	5.44	4.88	4.70	12.24	94.03	0.58
2,4,5-TP Silvex	12.5	11.31	10.94	10.06	11.59	10.98	6.06	87.80	0.67
2,4,5-T	12.5	15.84	14.57	12.60	13.22	14.06	10.28	112.44	1.45
2,4-DB	50	44.77	42.78	38.74	43.23	42.38	6.07	84.76	2.57
Pichloram	50	42.87	36.96	30.32	33.72	35.97	14.85	71.93	5.34
Dinoseb	50	49.50	48.57	51.13	46.37	48.89	4.06	97.78	1.99
Acifluoren	25	30.07	27.15	23.27	26.14	26.66	10.52	106.63	2.81

Data Path : C:\MSDCHEM\1\DATA\08212017\
Data File : M08212017_40.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Aug 2017 3:49 am
Operator : AC
Sample : IDOC #1
isc :
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Aug 23 15:15:47 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51508232017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Wed Aug 23 15:03:05 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320

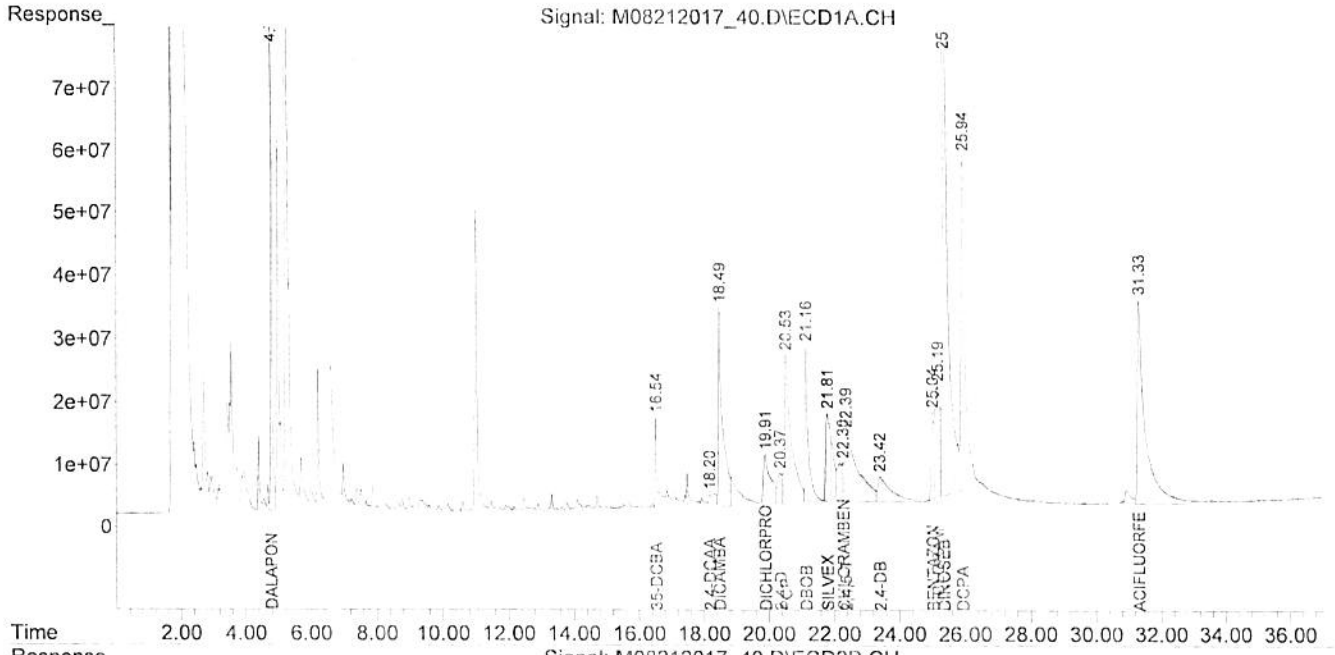
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
		Internal Standards						
1)	I	DBOB	21.16	21.20	1593.0E6	324.8E6	25.000m	25.000m
		System Monitoring Compounds						
5)	S	2,4-DCAA	18.20	19.11	220.2E6	127.8E6	21.178m	24.427
		Spiked Amount 25.000			Recovery	=	84.71%	97.71%
		Target Compounds						
2)	T	DALAPON	4.79	4.90	2690.8E6	1045.5E6	45.040	59.123m#
3)	T	35-DCBA	16.54	17.09	433.8E6	158.9E6	23.503m	31.768m#
4)	T	4-NP	17.95	17.92	86887119	19225790	BelowCal	BelowCal
6)	T	DICAMBA	18.49	19.34	2829.1E6	954.4E6	20.946	28.405 #
7)	T	DICHLORPROP	19.91	20.71	1213.1E6	459.3E6	40.551m	41.917m
	T	2,4-D	20.37	21.31	466.6E6	489.0E6	40.212m	46.635
9)	T	PCP	20.54	21.92	3406.0E6	741.8E6	5.759	4.306 #
10)	T	SILVEX	21.81	22.84	1340.0E6	695.6E6	11.311m	11.447
11)	T	CHLORAMBEN	22.30	24.12	723.2E6	165.5E6	25.615m	25.880m
12)	T	2,4,5-T	22.39	23.66	3322.3E6	896.9E6	11.240m	15.839m#
13)	T	2,4-DB	23.42	24.65	1048.3E6	277.1E6	47.058m	44.767
14)	T	BENTAZON	25.04	26.26	728.3E6	388.8E6	36.687	54.968 #
15)	T	PICLORAM	25.19	27.21	1993.0E6	1903.6E6	32.176m	42.869m#
16)	T	DINOSEB	25.37	25.22	9747.0E6	2142.1E6	57.225	49.499
17)	T	DCPA	25.94	27.07	4609.4E6	776.8E6	26.314	25.397
18)	T	ACIFLUORFEN	31.33	31.88	5484.4E6	1153.1E6	25.292m	30.068

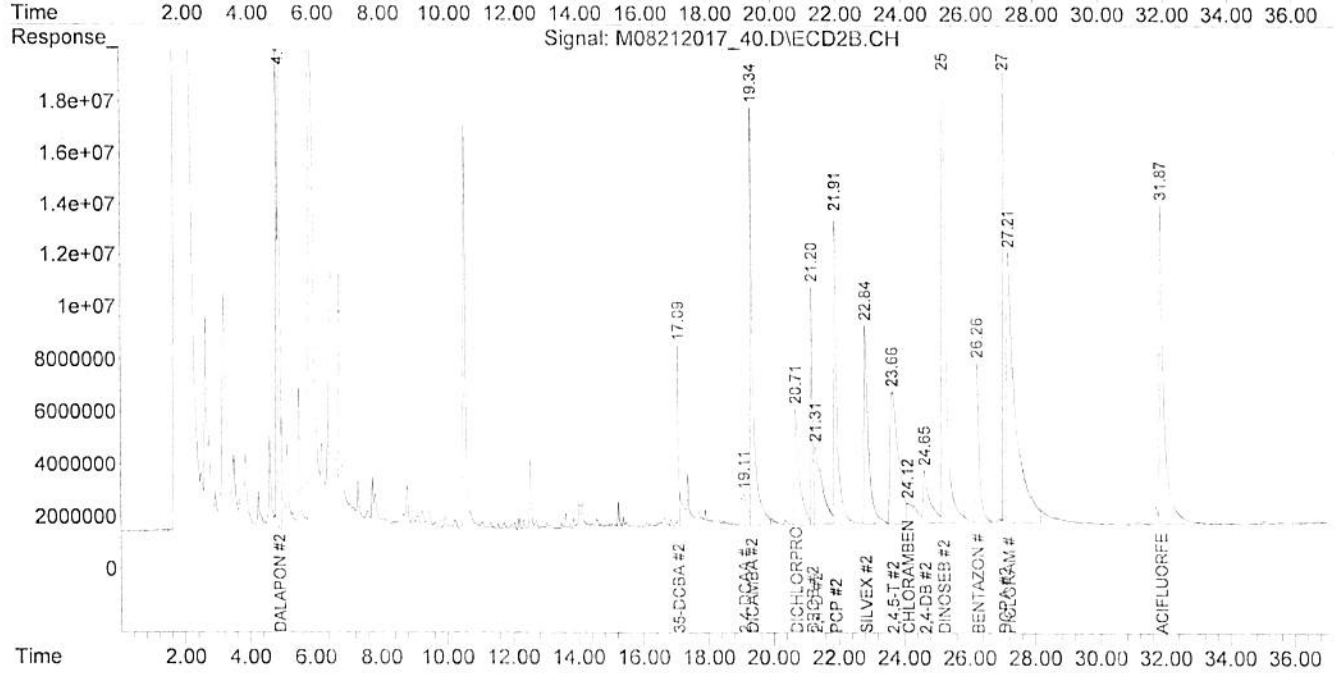
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\08212017\
Data File : M08212017_40.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Aug 2017 3:49 am
Operator : AC
Sample : IDOC #1
Misc :
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Aug 23 15:15:47 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51508232017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Wed Aug 23 15:03:05 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320





Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\08212017\
Data File : M08212017_41.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Aug 2017 4:32 am
Operator : AC
Sample : IDOC #2
isc :
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Aug 23 15:19:13 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51508232017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Wed Aug 23 15:03:05 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320

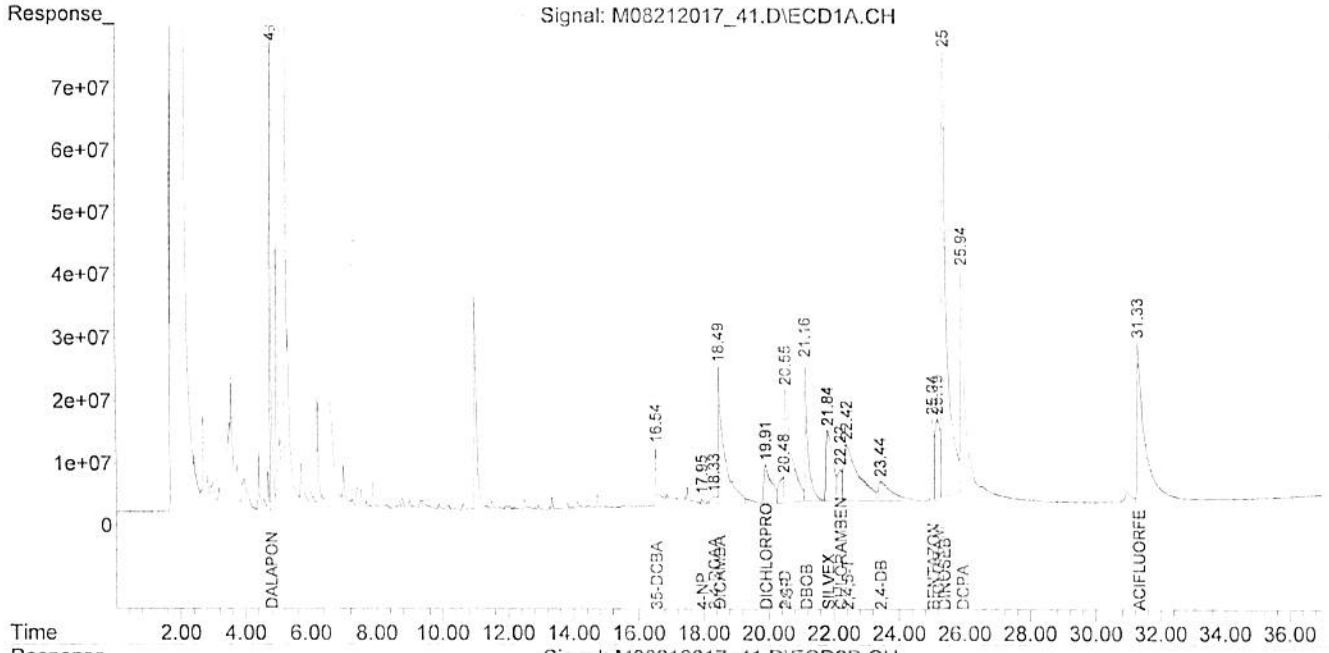
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
		Internal Standards							
1)	I	DBOB	21.16	21.20	1384.8E6	280.1E6	25.000m	25.000m	
		System Monitoring Compounds							
5)	S	2,4-DCAA	18.33	19.12	156.4E6	103.8E6	17.311m	23.025	#
		Spiked Amount 25.000			Recovery	=	69.24%	92.10%	
		Target Compounds							
2)	T	DALAPON	4.80	4.91	2392.0E6	982.4E6	46.035	62.724	# ✓
3)	T	35-DCBA	16.54	17.09	299.8E6	114.0E6	19.009	27.489m	#
4)	T	4-NP	17.95	17.92	50082352	10308654	36.289	BelowCal	#
6)	T	DICAMBA	18.49	19.34	2690.8E6	818.7E6	23.114m	28.271	✓
7)	T	DICHLORPROP	19.91	20.73	985.0E6	397.3E6	38.029m	42.038m	
8)	T	2,4-D	20.48	21.31	427.6E6	393.6E6	42.232m	43.766m	✓
9)	T	PCP	20.54	21.92	2659.3E6	621.7E6	5.172	4.185	✓
10)	T	SILVEX	21.84	22.85	1644.8E6	572.1E6	15.830	10.944	# ✓
11)	T	CHLORAMBEN	22.22	24.11	592.4E6	153.4E6	24.400m	27.806m	
12)	T	2,4,5-T	22.42	23.70	2718.2E6	689.1E6	10.612m	14.566m	# ✓
13)	T	2,4-DB	23.44	24.67	807.7E6	226.6E6	41.656m	42.784	✓
14)	T	BENTAZON	25.04	26.27	703.7E6	359.4E6	40.776	58.929	#
15)	T	PICLORAM	25.19	27.21	1390.0E6	1406.9E6	26.303m	36.964m	# ✓
16)	T	DINOSEB	25.38	25.23	8354.3E6	1812.3E6	56.423	48.566	✓
17)	T	DCPA	25.94	27.08	3161.9E6	496.6E6	20.765	18.828m	
18)	T	ACIFLUORFEN	31.33	31.88	4371.5E6	880.3E6	23.191m	27.147	✓

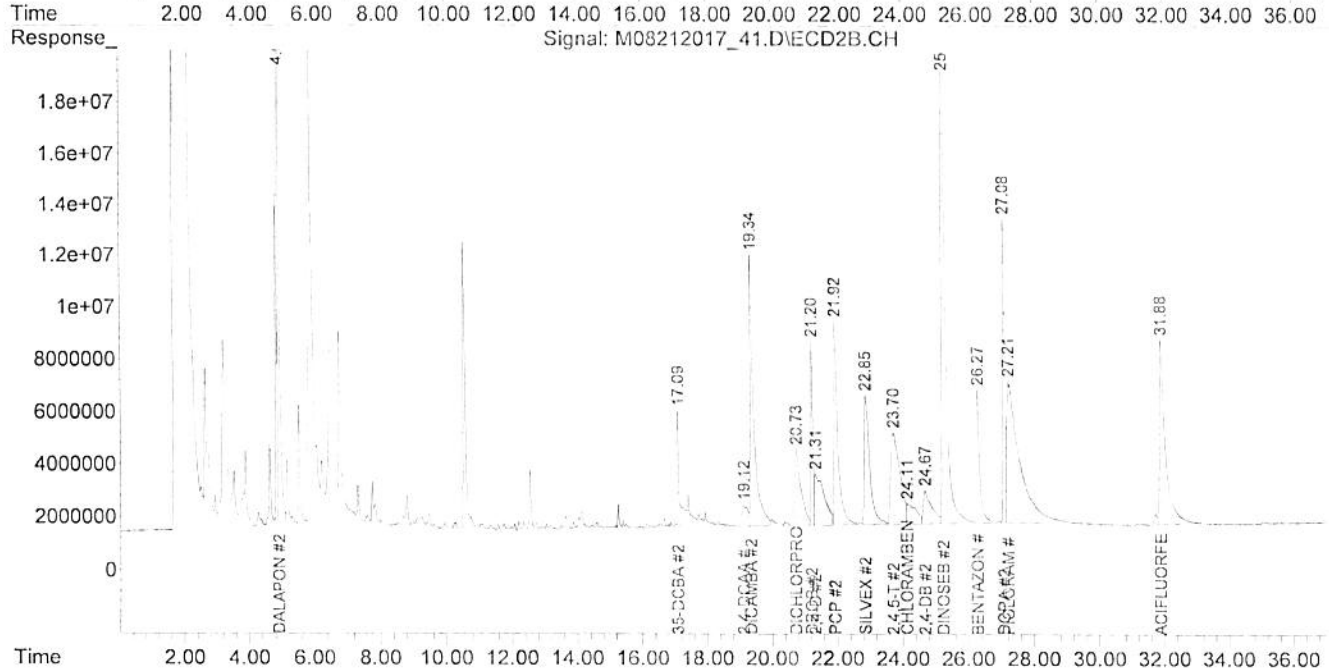
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\08212017\
Data File : M08212017_41.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Aug 2017 4:32 am
Operator : AC
Sample : IDOC #2
Misc :
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Aug 23 15:19:13 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51508232017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Wed Aug 23 15:03:05 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320





Data Path : C:\MSDCHEM\1\DATA\08212017\
Data File : M08212017_42.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Aug 2017 5:15 am
Operator : AC
Sample : IDOC #3
isc :
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Aug 23 15:22:38 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51508232017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Wed Aug 23 15:03:05 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320

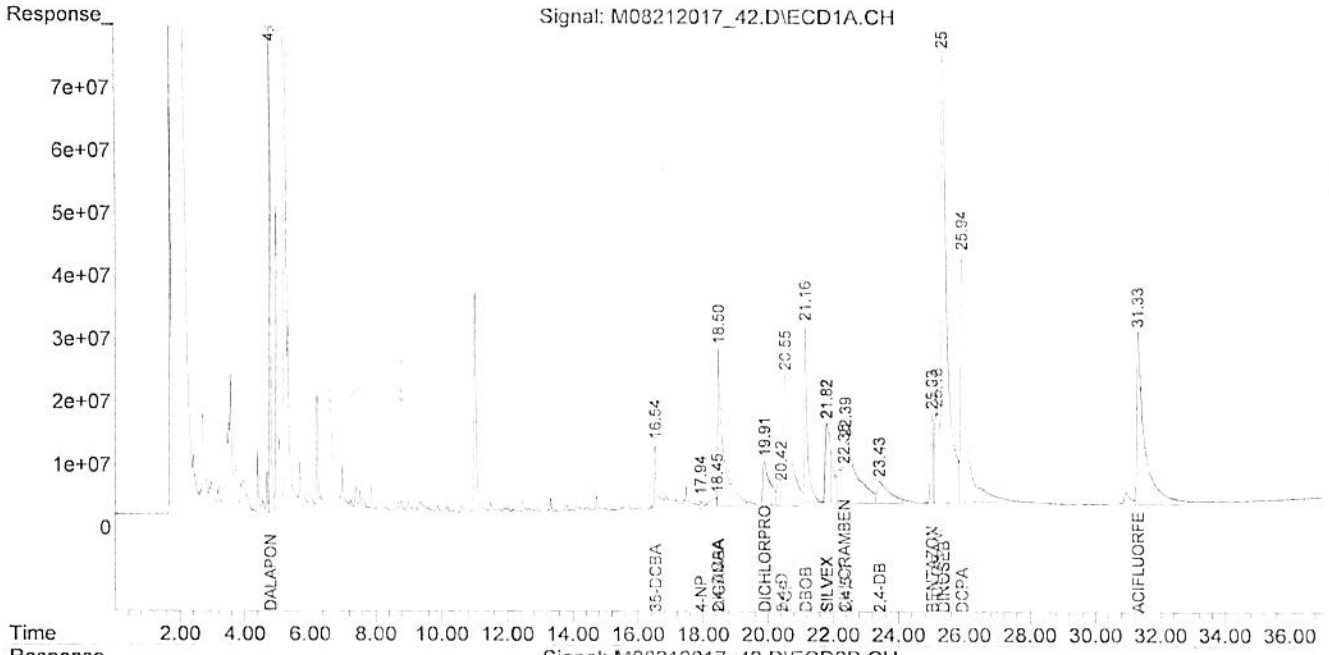
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
		Internal Standards						
1)	I	DBOB	21.16	21.21	1668.8E6	346.8E6	25.000m	25.000m
		System Monitoring Compounds						
5)	S	2,4-DCAA	18.45	19.20	185.8E6	97648922	17.066m	17.490
		Spiked Amount 25.000			Recovery =		68.26%	69.96%
		Target Compounds						
2)	T	DALAPON	4.80	4.91	2470.0E6	1003.4E6	39.598	54.900 # ✓
3)	T	35-DCBA	16.54	17.09	347.9E6	107.6E6	18.363	21.900
4)	T	4-NP	17.95	17.92	68814025	5037979	51.288	BelowCal #
6)	T	DICAMBA	18.50	19.35	2802.3E6	878.6E6	19.691m	24.759m# ✓
7)	T	DICHLORPROP	19.91	20.75	1052.6E6	403.6E6	33.984m	34.877m
8)	T	2,4-D	20.42	21.47	530.8E6	383.5E6	43.415m	35.199m ✓
9)	T	PCP	20.54	21.94	3367.5E6	661.7E6	5.435 ✓	3.598m#
10)	T	SILVEX	21.82	22.89	1243.4E6	584.0E6	10.059m ✓	9.124
11)	T	CHLORAMBEN	22.35	24.20	761.0E6	130.8E6	25.707m	19.148m#
12)	T	2,4,5-T	22.39	23.75	2904.8E6	702.6E6	9.473m	12.598m# ✓
13)	T	2,4-DB	23.43	24.70	906.1E6	224.7E6	38.741m ✓	35.595
14)	T	BENTAZON	25.03	26.27	828.0E6	354.9E6	39.813m	47.002m
15)	T	PICLORAM	25.18	27.28	1487.4E6	1414.9E6	23.632	30.317m# ✓
16)	T	DINOSEB	25.37	25.24	9123.2E6	1859.0E6	51.130 ✓	40.240
17)	T	DCPA	25.94	27.09	4344.9E6	553.7E6	23.678	16.956m#
18)	T	ACIFLUORFEN	31.33	31.90	4574.0E6	910.4E6	20.136m	23.270 ✓

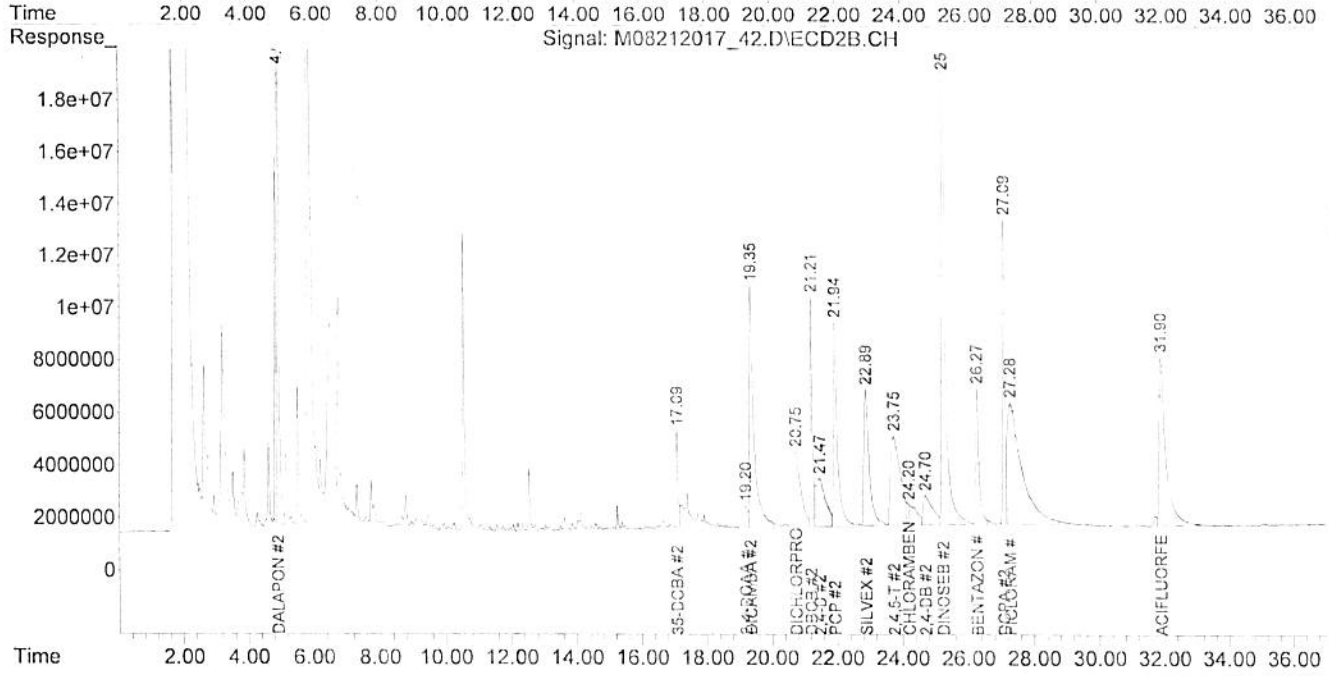
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\08212017\
Data File : M08212017_42.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Aug 2017 5:15 am
Operator : AC
Sample : IDOC #3
Misc :
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Aug 23 15:22:38 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51508232017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Wed Aug 23 15:03:05 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320





Data Path : C:\MSDCHEM\1\DATA\08212017\
Data File : M08212017_43.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Aug 2017 5:58 am
Operator : AC
Sample : IDOC #4
isc :
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Aug 23 15:25:06 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51508232017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Wed Aug 23 15:03:05 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320

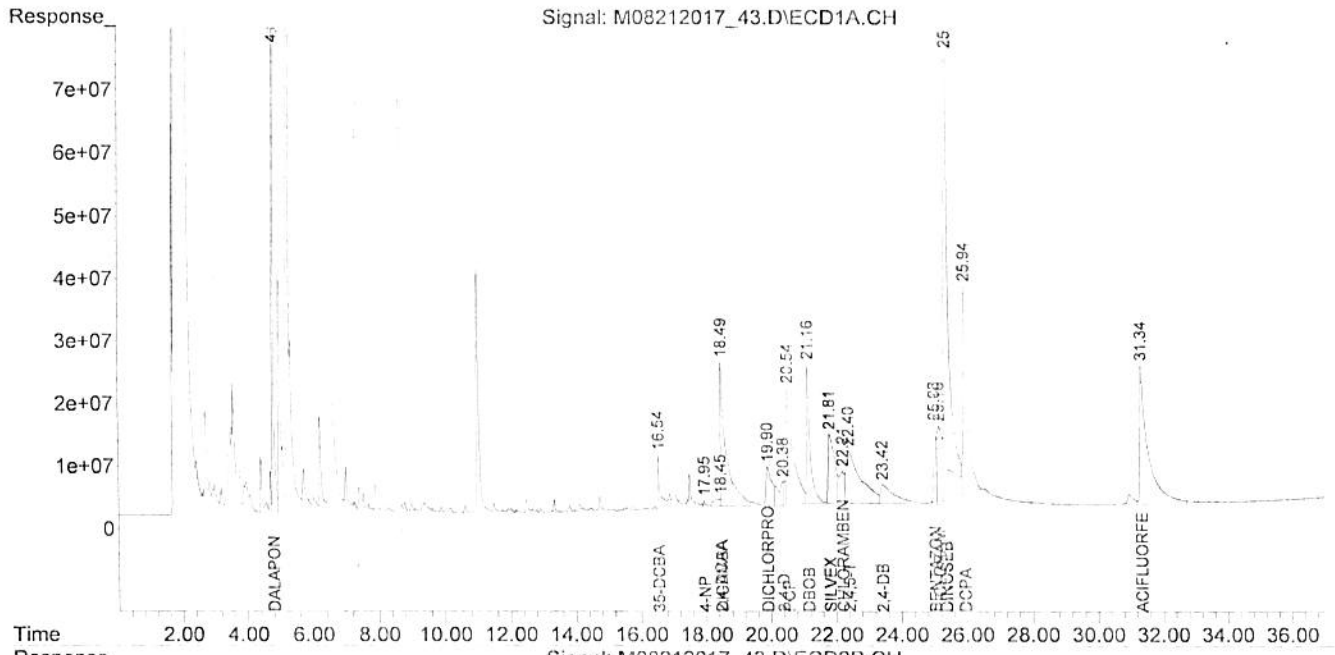
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
		Internal Standards						
1)	I	DBOB	21.16	21.21	1394.6E6	284.0E6	25.000m	25.000
		System Monitoring Compounds						
5)	S	2,4-DCAA	18.45	19.12	167.0E6	103.2E6	18.347m	22.568m
		Spiked Amount 25.000			Recovery	=	73.39%	90.27%
		Target Compounds						
2)	T	DALAPON	4.80	4.91	2418.8E6	826.7E6	46.221	55.127m ✓
3)	T	35-DCBA	16.54	17.09	271.0E6	100.6E6	17.227	24.511m#
4)	T	4-NP	17.95	17.92	51812321	25481071	39.027	BelowCal #
6)	T	DICAMBA	18.49	19.34	2710.8E6	832.9E6	23.124m	28.357m ✓
7)	T	DICHLORPROP	19.90	20.73	986.9E6	356.7E6	37.848m	37.459
	T	2,4-D	20.38	21.31	493.8E6	366.0E6	47.995m ✓	40.436m
9)	T	PCP	20.54	21.93	2526.7E6	607.5E6	4.880 ✓	4.033
10)	T	SILVEX	21.81	22.86	1202.6E6	548.8E6	11.587m ✓	10.384
11)	T	CHLORAMBEN	22.21	24.16	674.3E6	120.8E6	26.960m	21.593m
12)	T	2,4,5-T	22.40	23.70	2643.3E6	613.1E6	10.266m	13.217m# ✓
13)	T	2,4-DB	23.42	24.67	843.8E6	207.3E6	43.231m ✓	39.263
14)	T	BENTAZON	25.03	26.27	790.6E6	351.2E6	45.493	56.781
15)	T	PICLORAM	25.16	27.24	1366.8E6	1295.9E6	25.742m	33.718m# ✓
16)	T	DINOSEB	25.37	25.23	6595.4E6	1754.6E6	44.232m	46.371 ✓
17)	T	DCPA	25.94	27.08	2839.6E6	478.4E6	18.518	17.889m
18)	T	ACIFLUORFEN	31.34	31.88	4147.7E6	853.8E6	21.850m	26.141m ✓

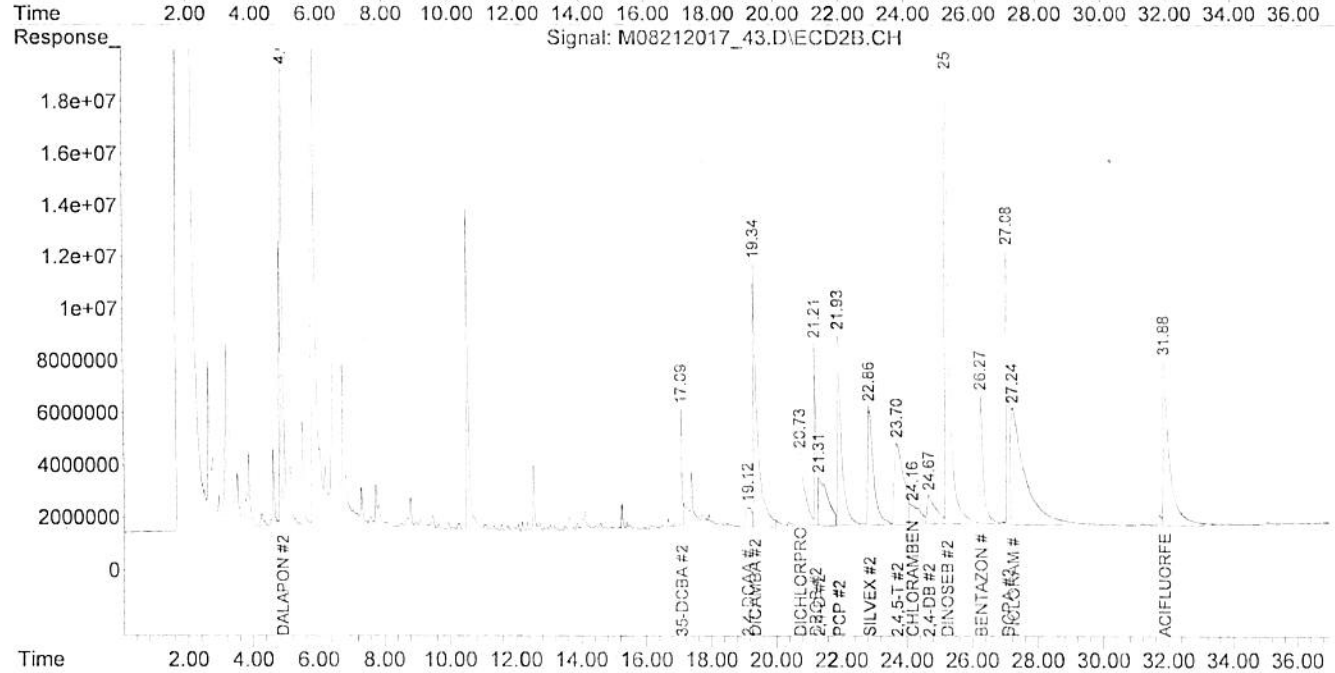
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\08212017\
Data File : M08212017_43.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 23 Aug 2017 5:58 am
Operator : AC
Sample : IDOC #4
Misc :
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Aug 23 15:25:06 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51508232017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Wed Aug 23 15:03:05 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320





Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700424

Description:	IQ-515.3-080817	Expires:	8/8/2018
Standard Type:	Analyte Spike	Prepared:	8/9/2017
Solvent:	ACETONE/MKBX4896V	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	09/13/2017 13:51 by YA

Analyte	CAS Number	Concentration	Units
Chloramben	133-90-4	5.01	ug/mL
2,4,5-TP (Silvex)	93-72-1	2.537	ug/mL
2,4-D	94-75-7	10.03	ug/mL
2,4-DB	94-82-6	10.01	ug/mL
3,5-Dichlorobenzoic acid	51-365-5	4.926	ug/mL
4-Nitrophenol	100-02-7	10.14	ug/mL
2,4,5-T	93-76-5	2.478	ug/mL
Bentazon	25057-89-0	10.13	ug/mL
Picloram	1918-02-1	10.01	ug/mL
Dalapon	75-99-0	10.14	ug/mL
DCPA	1861-32-1	5.033	ug/mL
Dicamba	1918-00-9	5.022	ug/mL
Dichloroprop	120-36-5	10.1	ug/mL
Dinoseb	88-85-7	10.06	ug/mL
Pentachlorophenol	87-86-5	0.999	ug/mL
Acifluorfen	50594-66-6	4.999	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700423	CHLORINATED ACID MIX#3 5	108/08/201	Albert Castellanos	11/30/201	08/10/2017 08:32 by AC	1

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700427

Description:	SU-515.3-080917	Expires:	8/8/2018
Standard Type:	Surrogate Spike	Prepared:	8/9/2017
Solvent:	ACETONE/MKBX4896V	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	08/21/2017 17:38 by YA

Analyte	CAS Number	Concentration	Units
2,4-Dichlorophenylacetic acid	Please Add	25.18	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700426	ISU-515.3-080917	08/09/201	Albert Castellanos	08/08/201	08/10/2017 08:52 by AC	25

Reviewed By Date

Liquid Ex tion Log

Method # .3

	Std. ID	Amt. Added	Initials
Surrogate	1700427	40 uL	YE
Curve Spike	1700420	40 uL	YE
Check Std. Spk	1700419	40 uL	YE

Florida Environmental

Batch#: 17H0737
Analyst: YE/AC
Date: 082117

Init. Solvent: MTBE
Fin. Solvent: MTBE
Transferred by: YE/AC

Order #	Sample ID	Sample Date	Vol. Ext. (mL)	PH I	PH F	Final Vol (mL)	Cl	Pres.	Comments
	MB	082117	40	12	2	3	0	✓	
	LCS1	082117							
	MS1 17H0335-01	080717							
	DUP1 17H0578-01	081417							
	LPC								
	CCV1 at 2ppm S515.3080917-05	082117							
17H0670-24	9069-29	072017							
17H0335-01	P17H094-01	080717							
17H0335-02	P17H094-02	080717							
17H0335-03	P17H094-03	080717							
17H0578-01	Pointsource entry	081417							
17H0644-01	317H111-01	081517							
IDOC #1	NA standard IQ515.3-080817 (200 uL)	082117	40	12	2	3	0	✓	
IDOC #2	NA LCS2 -								
IDOC #3	NA MS2 -								
IDOC #4	NA DUP2 -								
CAL1	standard S515.3080917-01 (40uL)	082117	40	12	2	3	0	✓	
CAL2	02								
CAL3	03								
CAL4	04								
CAL5	05								
CAL6	06								
CAL7	07								
CAL8	08								
ICV	IQ515.3080817	082117							

Item	SVT#
Filter Paper:	
445 Na2SO4	SV051216 YE 082117
4N NaOH	SV051216
Sulfuric Acid:	38 WC10
1 ml pipette:	
5 ml pipette:	
1.8ml Vials	46
1.8ml Vial Caps	~~460~~ 459 YE 082117
20 mL Vials:	458
Pasteur Pipette	442
9:1 MTBE/Hexane	SV082117B
MTBE	~~SV082117B~~ BYE SV337
Acid. Na2SO4	SV372
Ascorbic Acid	FSV1035
Diazomethane	SV082117
Chlorine Strips	571244A
pH Strips:	232514

* pH: I = Initial, F= Final

Document Control #: 0401616-007
Date:9/15/16

Liquid Ex tion Log — Method # 8

	Std. ID	Amt. Added	Initials
Surrogate	1700427	40 uL	
Curve Spike	1700420	40 uL	
Check Std. Spk	1700419	40 uL	

Florida Environmental

Batch#: 17L0754
Analyst:
Date: 120817

Init. Solvent: MTBE
Fin. Solvent: MTBE
Transferred by:

Order #	Sample ID	Sample Date	Vol. Ext. (mL)	PH I	PH F	Final Vol (mL)	Cl	Pres.	Comments
	MB	120817	40	12	2	3	0	✓	
	LCS1 S-515.3-080917-06	↓							
	MS1 17L0115-01(L)	100417							
	DUP1 17L0115-01 (L)	↓							
	LPC 1PC-515.3-120*17	120817							
	CCV1 S-515.3-080917-05	↓							
* 17L0016-01(D)	S17K1134-01	112817						✓	20 mL vial
17L0115-01(L)	MDL36-100417	100417							
	CAL1-S-515.3-080917-01	120817						N/A	
	CAL2-S-515.3-080917-02								
	CAL3-S-515.3-080917-03								
	CAL4-S-515.3-080917-04								
	CAL5-S-515.3-080917-05								
	CAL6-S-515.3-080917-06								
	CAL7-515.3-080917-07								
	CAL8-515.3-080917-08	↓	↓	↓	↓	↓	↓	↓	
	LCS2								
MW	MS2 n/a			MW			MW	120812	
	DUP2								
	IQS15.3-080817-KV	120812	40	12	2	3	0	MW	
YANET	IPC #1 + spike 515.3-091117-ICV								
	IPC #2								
	IPC #3								
	IPC #4								
Estella	IPC #5								
12/08/17	IPC #2								
	IPC #3								
	IPC #4	↓	↓	↓	↓	↓	↓	↓	

Item	SVT#
Filter Paper:	
Na2SO4	SV484
4N NaOH	SV101117A
Sulfuric Acid:	SV479
1 ml pipette:	
5 ml pipette:	
1.8ml Vials	SV447
1.8ml Vial Caps	SV451
20 mL Vials:	SV497
Pasteur Pipette	SV442
9:1 MTBE/Hexane	SV 101117B
MTBE	SV337
Acid. Na2SO4	SV 050417B
Ascorbic Acid	SV 102417B
Diazomethane	SV 120817
Chlorine Strips	71537-2017-11
pH Strips:	239576
	SV453
	SV071

Purchase SV453 for 2018

* pH: I = Initial, F= Final

Spike 120C's - [2nd injection of IQICV]

Document Control #: 0401616-007
Date:9/15/16

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\12082017\
Data File : F12082017_24.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 Dec 2017 1:34 am
rator : AC
Sample : IDOC #1 yanet
Misc : IQ-515.3-080817-ICV 200ul
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Dec 20 16:06:01 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51512082017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Mon Dec 11 11:38:33 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
		Internal Standards						
1)	I	DBOB	21.31	21.15	1574.7E6	290.9E6	25.000m	25.000m
		System Monitoring Compounds						
5)	S	2,4-DCAA	18.43	18.99	325.4E6	284.1E6	32.097m	33.840m
		Spiked Amount 25.000			Recovery	=	128.39%	135.36%
		rget Compounds						
2,	T	DALAPON	4.75	4.86	3761.3E6	3191.3E6	50.671	25.781m#
3)	T	35-DCBA	16.56	17.05	389.6E6	327.6E6	31.167m	24.055m
4)	T	4-NP	17.93	18.13	53661036	12920257	12.873	0.656 #
6)	T	DICAMBA	18.55	19.30	3571.4E6	1366.0E6	24.506m	28.937
7)	T	DICHLORPROP	19.95	20.62	1093.5E6	635.6E6	52.903m	59.309
8)	T	2,4-D	20.45	21.21	417.9E6	712.4E6	33.802m	62.526m#
9)	T	PCP	20.64	21.86	4402.8E6	1096.4E6	5.877	4.896
10)	T	SILVEX	21.94	22.75	1610.7E6	922.2E6	12.834m	13.357
11)	T	CHLORAMBEN	22.25	24.05	1158.0E6	184.5E6	26.195m	24.983m
12)	T	2,4,5-T	22.61	23.56	4694.1E6	1605.9E6	13.379m	13.713m
13)	T	2,4-DB	23.63	24.54	1368.8E6	349.4E6	50.855m	52.957
14)	T	BENTAZON	25.28	26.15	715.5E6	476.3E6	58.316m	55.388
15)	T	PICLORAM	25.45	27.10	2929.5E6	2857.6E6	47.308m	51.061
16)	T	DINOSEB	25.67	25.15	14914.7E6	2923.3E6	47.951m	55.448m
17)	T	DCPA	26.27	26.99	9941.7E6	1205.3E6	55.395m	42.365
18)	T	ACIFLUORFEN	32.18	31.78	7351.3E6	1813.3E6	24.340	29.753

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

C51512082017.M Wed Dec 20 16:08:23 2017

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\12082017\
Data File : F12082017_25.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 Dec 2017 2:18 am
rator : AC
Sample : IDOC #2 yanet
Misc : IQ-515.3-080817-ICV 200ul
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Dec 20 16:07:01 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51512082017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Mon Dec 11 11:38:33 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	Internal Standards							
1) I	DBOB	21.31	21.15	2081.2E6	771.3E6	25.000	25.000	
	System Monitoring Compounds							
5) S	2,4-DCAA	18.41	18.99	215.2E6	295.4E6	16.061	13.270	
	Spiked Amount 25.000			Recovery	=	64.24%	53.08%	
	Target Compounds							
2, f	DALAPON	4.75	4.86	3821.7E6	3443.0E6	40.542	10.490	#
3) T	35-DCBA	16.56	17.05	411.9E6	474.1E6	26.181	13.966	#
4) T	4-NP	17.93	18.13	64825501	12780430	7.820	N.D.	#
6) T	DICAMBA	18.55	19.30	3760.2E6	1407.8E6	19.676	10.687	#
7) T	DICHLORPROP	19.98	20.61	1162.1E6	640.6E6	45.898	22.334	#
8) T	2,4-D	20.44	21.15	599.3E6	771.3E6	35.803	23.536	#
9) T	PCP	20.65	21.86	4835.2E6	1112.6E6	4.929	1.874	#
10) T	SILVEX	21.94	22.75	2525.9E6	992.6E6	14.666	5.592	#
11) T	CHLORAMBEN	22.26	24.27	1056.4E6	87903838	19.370	BelowCal	#
12) T	2,4,5-T	22.60	23.56	5221.3E6	1719.5E6	11.412	6.133	#
13) T	2,4-DB	23.65	24.55	2112.3E6	365.2E6	59.476	17.093	#
14) T	BENTAZON	25.46	26.15	3619.1E6	495.6E6	131.086	21.084	#
15) T	PICLORAM	25.46	27.09	3619.1E6	3517.7E6	45.433	23.706	#
16) T	DINOSEB	25.66	25.15	15301.2E6	2958.9E6	37.221	21.004	#
17) T	DCPA	26.26	26.99	11683.1E6	1242.9E6	49.097	16.477	#
18) T	ACIFLUORFEN	32.16	31.78	7378.1E6	1818.6E6	18.483	11.255	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

C51512082017.M Wed Dec 20 16:08:36 2017

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\12082017\
Data File : F12082017_26.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 Dec 2017 3:01 am
rator : AC
Sample : IDOC #3 yanet
Misc : IQ-515.3-080817-ICV 200ul
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Dec 20 16:09:35 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51512082017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Mon Dec 11 11:38:33 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
		Internal Standards							
1)	I	DBOB	21.31	21.15	1473.6E6	295.3E6	25.000	25.000	
		System Monitoring Compounds							
5)	S	2,4-DCAA	18.41	18.99	205.7E6	241.5E6	21.676	28.341	#
		Spiked Amount 25.000			Recovery	=	86.70%	113.36%	
		Target Compounds							
2,	T	DALAPON	4.75	4.86	4100.2E6	3454.2E6	57.375	27.493	#
3)	T	35-DCBA	16.56	17.05	479.9E6	503.5E6	38.276	35.483	
4)	T	4-NP	17.93	18.20	62952720	12119668	28.823	0.464	#
6)	T	DICAMBA	18.55	19.30	4367.9E6	1254.5E6	31.794	26.095	
7)	T	DICHLORPROP	19.94	20.61	1416.0E6	599.3E6	64.952	55.077	
8)	T	2,4-D	20.45	21.21	557.2E6	401.3E6	43.148	33.202	
9)	T	PCP	20.64	21.86	4231.6E6	1022.1E6	6.029	4.497	#
10)	T	SILVEX	22.20	22.75	340.4E6	917.7E6	3.655	13.102	#
11)	T	CHLORAMBEN	22.27	24.27	724.9E6	73474955	18.871	2.006	#
12)	T	2,4,5-T	22.57	23.55	4411.1E6	1621.4E6	13.431	13.647	
13)	T	2,4-DB	23.62	24.54	697.5E6	147.2E6	27.420	18.333	#
14)	T	BENTAZON	25.23	26.15	758.5E6	463.0E6	63.155	53.007	
15)	T	PICLORAM	25.46	27.10	2999.4E6	3003.1E6	49.906	52.869	
16)	T	DINOSEB	25.65	25.15	15120.9E6	2846.3E6	51.948	53.182	
17)	T	DCPA	26.25	26.99	13729.7E6	1991.1E6	82.417	68.954	
18)	T	ACIFLUORFEN	32.16	31.78	7508.0E6	1796.6E6	26.563	29.044	

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

C51512082017.M Wed Dec 20 16:09:36 2017

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\12082017\
Data File : F12082017_27.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 09 Dec 2017 3:44 am
rator : AC
Sample : IDOC #4 yanet
Misc : IQ-515.3-080817-ICV 200ul
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Dec 20 16:15:42 2017
Quant Method : C:\MSDCHEM\1\METHODS\C51512082017.M
Quant Title : EPA 515.3 BY JASON GC#2
QLast Update : Mon Dec 11 11:38:33 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : RXI CLP PESTICIDE Signal #2 Phase: RXI CLP PESTICIDES 2
Signal #1 Info : 30M x 0.320 Signal #2 Info : 30m x 0.320

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
		Internal Standards							
1)	I	DBOB	21.30	21.15	1717.7E6	267.4E6	25.000	25.000	
		System Monitoring Compounds							
5)	S	2,4-DCAA	18.42	18.99	207.3E6	226.6E6	18.745	29.372	#
		Spiked Amount 25.000			Recovery	=	74.98%	117.49%	
		rget Compounds							
2)	T	DALAPON	4.75	4.86	3900.5E6	3249.6E6	48.587	28.561	#
3)	T	35-DCBA	16.56	17.05	485.2E6	489.4E6	34.452	37.945	
4)	T	4-NP	17.93	18.20	96451774	11690051	58.007	0.616	#
6)	T	DICAMBA	18.55	19.29	4563.7E6	1199.4E6	28.577	27.600	
7)	T	DICHLORPROP	19.94	20.61	1569.7E6	562.8E6	62.953	57.122	
8)	T	2,4-D	20.45	21.20	626.0E6	382.2E6	42.092	35.086	
9)	T	PCP	20.63	21.86	4425.1E6	939.5E6	5.436	4.564	
10)	T	SILVEX	22.20	22.75	440.4E6	883.2E6	4.008	13.905	#
11)	T	CHLORAMBEN	22.26	24.27	416.1E6	71671862	10.221	3.080	#
12)	T	2,4,5-T	22.62	23.55	4609.5E6	1542.4E6	12.140	14.284	
13)	T	2,4-DB	23.62	24.53	304.2E6	134.5E6	9.887	18.550	#
14)	T	BENTAZON	25.23	26.15	782.1E6	448.3E6	58.392	56.747	
15)	T	PICLORAM	25.43	27.09	2825.6E6	3341.5E6	43.938m	64.956m	#
16)	T	DINOSEB	25.65	25.14	14673.8E6	2753.0E6	43.249	56.816	#
17)	T	DCPA	26.25	26.99	12645.0E6	1905.2E6	64.824	72.854	
18)	T	ACIFLUORFEN	32.15	31.77	7419.5E6	1749.0E6	22.520	31.223	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

C51512082017.M Wed Dec 20 16:15:49 2017

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	10/18/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8151 / 3510	☑ Water ☐ DW ☐ Solid ☐ Other: _____	8151 – 0201417-002 3510 – 0201416-007
Analyte or Class of Analytes		
Herbicides		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria / Estela Echevarria	Y Echevarria / Estela	10/18/17
Analyst	*Signature*	*Date*
Albert Castellanos		10/18/17
Technical Director	*Signature*	*Date*
Roxana Llambias		10/18/17
Quality Assurance Director	*Signature*	*Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Water
DATE OF ANALYSIS:	10/12/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 8151
EXTRACTION METHOD (IF APPLY):	EPA 3510
INSTRUMENT ID:	Jason GC#2
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	10/11/2017
ACCEPTANCE CRITERIA:	Various

Standards Used:	Std. ID#	Conc.
Standard(s)	SK-8151-020717	2/200ppm
Surrogate	SU-8151-101516	2ppm
Internal Standard	IS-8151-071415	10ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD	Acceptance limits (%)	Conversion factor Mol WT acid / Mol WT methyl ester
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L					
Dalapon	1	0.90	0.82	0.99	0.97	0.84	8.50	83.58	0.07	23-102	0.91
3,5-DCBA	1	0.96	0.93	0.95	1.07	0.91	6.48	90.93	0.06	10-134	0.93
4-Nitrophenol	1	0.91	0.15	0.86	0.83	0.62	52.72	62.34	0.33	10-190	0.91
Dicamba	1	0.96	0.88	0.89	0.87	0.84	4.62	84.34	0.04	37-105	0.94
Dichlorprop	1	1.21	0.96	1.07	0.97	0.99	11.27	98.89	0.11	58-148	0.94
2,4-D	1	1.20	1.10	1.12	0.83	1.00	15.20	99.59	0.15	11-155	0.94
Pentachlorophenol	1	0.74	0.85	0.69	0.68	0.70	10.20	70.40	0.07	10-123	0.95
2,4,5-TP	1	0.98	0.76	0.83	0.79	0.80	11.28	79.82	0.09	36-158	0.95
Chloramben	1	0.75	0.67	0.69	0.70	0.65	5.34	65.33	0.03	10-142	0.93
2,4,5-T	1	1.06	1.14	1.02	1.14	1.03	5.37	103.48	0.06	20-123	0.95
2,4-DB	1	1.13	0.97	1.17	1.14	1.06	8.22	105.65	0.09	10-159	0.96
Bentazon	1	1.10	1.33	0.97	1.17	1.07	13.28	107.30	0.14	10-153	0.94
Pichloram	1	1.65	1.69	0.97	0.72	1.18	38.96	118.06	0.46	10-181	0.94
Dinoseb	1	1.03	1.03	1.04	1.01	0.98	1.13	97.61	0.01	12-120	0.95
DCPA	1	0.19	0.26	0.23	0.20	0.21	14.80	20.64	0.03	10-95.0	0.95
Acifluorfen	1	0.73	0.70	0.75	0.84	0.73	8.01	72.50	0.06	25-130	0.96
MCPP	100	100.29	99.28	100.72	106.53	94.58	3.22	94.58	3.04	10-190	0.93
MCPA	100	108.73	110.07	111.40	117.75	105.27	3.56	105.27	3.75	10-190	0.94

Note: Molecular weight from methyl ester to acid herbicide has been corrected on the average results and the standard deviation multipliying by the conversion factor associated to each compound.

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_13.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 1:57 am
Operator : YE
Sample : 8151L IDOC #1
Misc :
ALS Vial : 11 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 10:58:58 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	DBOB	21.02	3698100908	0.025 ug/l m
22) I	DBOB #2	20.89	955406763	0.025 ug/l m
	System Monitoring Compounds			
5) S	2,4-DCAA	18.03	1896940239	2.579 ug/l
Spiked Amount	2.000		Recovery =	128.95%
27) S	2,4-DCAA #2	18.76	722958030	2.126 ug/l
Spiked Amount	2.000		Recovery =	106.30%
	Target Compounds			
2) T	DALAPON	4.55	1227210222	0.902 ug/l
3) T	35-DCBA	16.33	1072524851	0.962 ug/l m
4) T	4-NP	17.64	121591818	0.912 ug/l
6) T	DICAMBA	18.31	4124302749	0.958 ug/l
7) T	MCPP	18.72	6033307	100.290 ug/l
8) T	MCPA	18.99	5161718	108.729 ug/l
9) T	DICHLORPROP	19.64	844535091	1.214 ug/l m
10) T	2,4-D	20.07	318771580	1.195 ug/l m
11) T	PCP	20.33	12037288084	0.740 ug/l
12) T	SILVEX	21.60	5273730073	1.902 ug/l m
13) T	CHLORAMBEN	21.87	1085181873	0.754 ug/l
14) T	2,4,5-T	22.15	4484750354	1.063 ug/l m
15) T	2,4-DB	22.70	113954189	1.125 ug/l m
16) T	BENTAZON	24.88	126827702	1.098 ug/l m
17) T	PICLORAM	24.99	1103332460	1.648 ug/l m
18) T	DINOSEB	25.30	2530268130	1.031 ug/l m
19) T	DCPA	25.87	1236026105	0.186 ug/l m
20) T	ACIFLUORFEN	31.05	3844024187	0.733 ug/l
23) T	DALAPON #2	4.66	573713173	0.792 ug/l
24) T	35-DCBA #2	16.83	464126959	0.847 ug/l
25) T	4-NP #2	17.87	26216021	0.642 ug/l
26) T	DICAMBA #2	19.05	1344865163	0.866 ug/l
28) T	MCPP #2	19.31	4597575	109.527 ug/l
29) T	MCPA #2	19.73	5582612	117.894 ug/l
30) T	DICHLORPROP #2	20.35	416572762	1.167 ug/l m
31) T	2,4-D #2	20.92	360687750	0.926 ug/l m
32) T	PCP #2	21.57	4464936963	0.720 ug/l
33) T	SILVEX #2	22.45	1810384905	0.975 ug/l m
34) T	CHLORAMBEN #2	23.95	27861237	0.839 ug/l m
35) T	2,4,5-T #2	23.21	2360568068	0.995 ug/l
36) T	2,4-DB #2	24.27	4678155	0.407 ug/l m
37) T	BENTAZON #2	25.81	124530194	0.607 ug/l m
38) T	PICLORAM #2	26.73	1347146408	0.457 ug/l m
9) T	DINOSEB #2	24.83	1007671226	0.679 ug/l m
40) T	DCPA #2	26.66	489122851	N.D. ug/l

TV=1.

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_13.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 12 Oct 2017   1:57 am
Operator : YE
Sample   : 8151L IDOC #1
Misc   :
ALS Vial : 11   Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 10:58:58 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 2-ul
Signal #1 Phase : CLP PESTICIDES   Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm   Signal #2 Info : 30m X 0.32mm

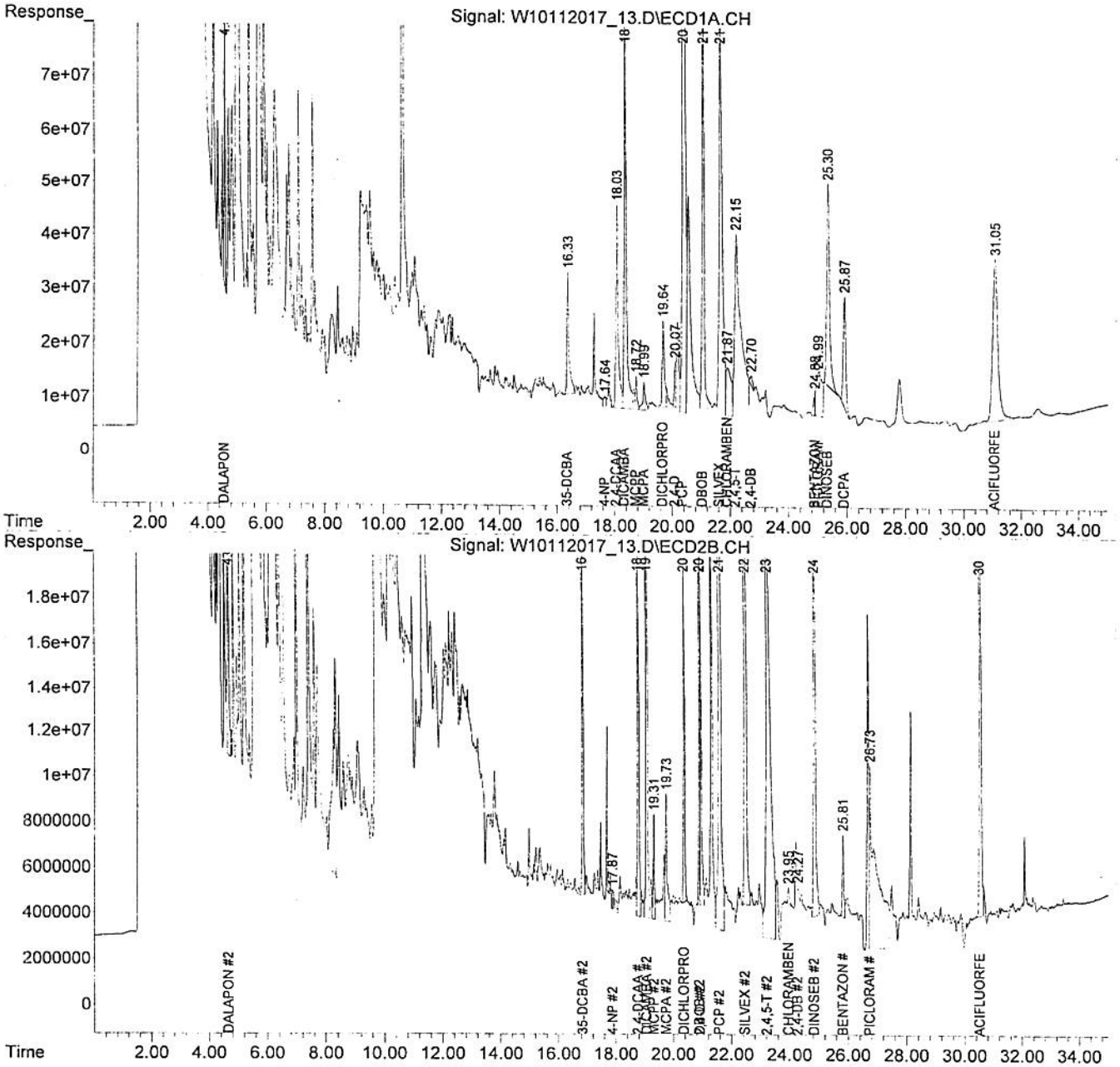
	Compound	R.T.	Response	Conc Units
41) T	ACIFLUORFEN #2	30.51	1240077091	0.784 ug/l m

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_13.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 1:57 am
Operator : YE
Sample : 8151L IDOC #1
Misc :
ALS Vial : 11 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 10:58:58 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm



Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 12 Oct 2017   2:39 am
Operator : YE
Sample   : 8151L IDOC #2
Misc   :
ALS Vial : 12   Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:25:32 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 2-ul
Signal #1 Phase : CLP PESTICIDES   Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm   Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc	Units	
	Internal Standards					
1)	I DBOB	21.01	3649886803	0.025	ug/l	
22)	I DBOB #2	20.89	1350406131	0.025	ug/l	m
	System Monitoring Compounds					
5)	S 2,4-DCAA	18.03	1809460109	2.493	ug/l	
	Spiked Amount 2.000		Recovery =	124.65%		
27)	S 2,4-DCAA #2	18.75	710278341	1.478	ug/l	
	Spiked Amount 2.000		Recovery =	73.90%		
	Target Compounds					
2)	T DALAPON	4.55	1095156459	0.815	ug/l	
3)	T 35-DCBA	16.32	1015693128	0.926	ug/l	m
4)	T 4-NP	17.52	7378720	0.146	ug/l	m
6)	T DICAMBA	18.31	3742799242	0.877	ug/l	m
7)	T MCPP	18.72	5877695	99.279	ug/l	
8)	T MCPA	18.99	5182756	110.066	ug/l	
9)	T DICHLORPROP	19.64	655396109	0.961	ug/l	m
10)	T 2,4-D	20.07	282295902	1.100	ug/l	
11)	T PCP	20.33	13614770546	0.848	ug/l	m
12)	T SILVEX	21.60	5082909611	1.867	ug/l	
13)	T CHLORAMBEN	21.88	883516690	0.665	ug/l	m
14)	T 2,4,5-T	22.15	4796092458	1.138	ug/l	
15)	T 2,4-DB	22.70	76943776	0.968	ug/l	m
16)	T BENTAZON	24.89	156256986	1.332	ug/l	m
17)	T PICLORAM	24.98	1131081966	1.692	ug/l	m
18)	T DINOSEB	25.30	2496033260	1.030	ug/l	m
19)	T DCPA	25.87	1690791226	0.258	ug/l	m
20)	T ACIFLUORFEN	31.05	3623448173	0.700	ug/l	
23)	T DALAPON #2	4.66	637522653	0.623	ug/l	m
24)	T 35-DCBA #2	16.83	479478561	0.608	ug/l	m
25)	T 4-NP #2	17.87	24926763	0.610	ug/l	m
26)	T DICAMBA #2	19.05	1257744941	0.573	ug/l	m
28)	T MCPP #2	19.31	4341691	76.830	ug/l	m
29)	T MCPA #2	19.73	5411043	80.846	ug/l	
30)	T DICHLORPROP #2	20.35	565999940	1.121	ug/l	
31)	T 2,4-D #2	20.92	391445072	0.711	ug/l	m
32)	T PCP #2	21.56	4094033234	0.467	ug/l	m
33)	T SILVEX #2	22.45	1992440913	0.759	ug/l	
34)	T CHLORAMBEN #2	23.95	38373347	0.830	ug/l	m
35)	T 2,4,5-T #2	23.20	2337178432	0.736	ug/l	m
36)	T 2,4-DB #2	24.20	158800160	1.943	ug/l	m
37)	T BENTAZON #2	25.81	255016760	0.879	ug/l	
38)	T PICLORAM #2	26.72	325182519	0.159	ug/l	
39)	T DINOSEB #2	24.83	1208945820	0.576	ug/l	m
40)	T DCPA #2	26.66	474289918	N.D.	ug/l	

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On   : 12 Oct 2017   2:39 am
Operator : YE
Sample   : 8151L IDOC #2
Misc   :
ALS Vial : 12   Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:25:32 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation   6890 Scale Mode: Large solvent peaks clipped

Volume Inj.   : 2-ul
Signal #1 Phase : CLP PESTICIDES   Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm   Signal #2 Info : 30m X 0.32mm

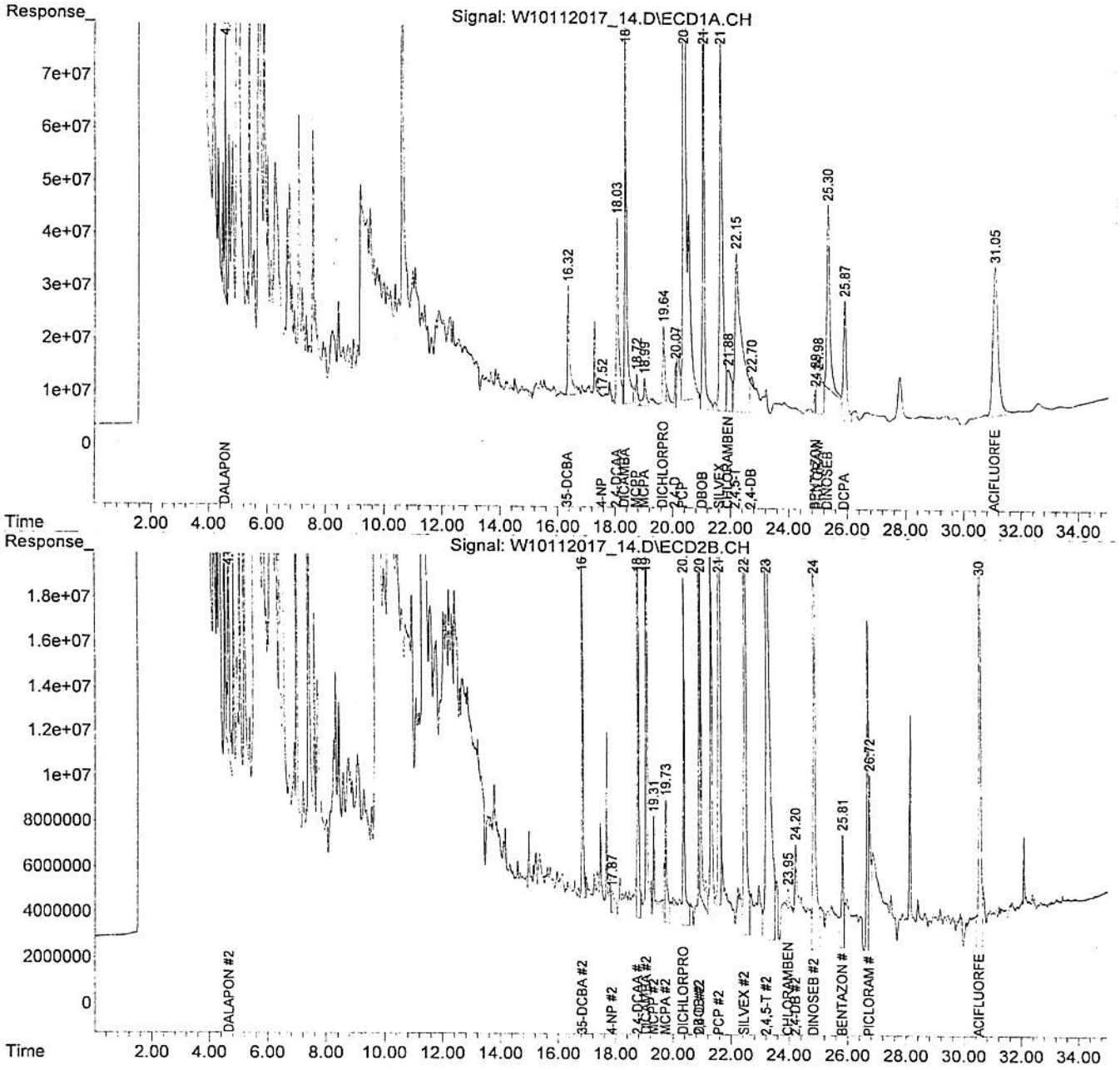
	Compound	R.T.	Response	Conc Units
41) T	ACIFLUORFEN #2	30.51	1350272511	0.604 ug/l m

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_14.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 2:39 am
Operator : YE
Sample : 8151L IDOC #2
Misc :
ALS Vial : 12 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:25:32 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 3:20 am
Operator : YE
Sample : 8151L IDOC #3
Misc :
ALS Vial : 13 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:34:11 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	DBOB	21.01	3330866990	0.025 ug/l m
22) I	DBOB #2	20.89	1197151014	0.025 ug/l m
	System Monitoring Compounds			
5) S	2,4-DCAA	18.02	1653449538	2.496 ug/l m
Spiked Amount	2.000		Recovery =	124.80%
27) S	2,4-DCAA #2	18.75	690204444	1.620 ug/l m
Spiked Amount	2.000		Recovery =	81.00%
	Target Compounds			
2) T	DALAPON	4.54	1209152311	0.986 ug/l m
3) T	35-DCBA	16.32	955739922	0.953 ug/l
4) T	4-NP	17.63	101472682	0.857 ug/l m
6) T	DICAMBA	18.31	3455778845	0.888 ug/l
7) T	MCPP	18.72	5464179	100.721 ug/l
8) T	MCPA	18.99	4810660	111.404 ug/l
9) T	DICHLORPROP	19.64	666030362	1.067 ug/l m
10) T	2,4-D	20.07	262811293	1.117 ug/l
11) T	PCP	20.33	10165161431	0.694 ug/l
12) T	SILVEX	21.60	4709670565	1.889 ug/l
13) T	CHLORAMBEN	21.86	854207474	0.690 ug/l
14) T	2,4,5-T	22.14	3839916172	1.019 ug/l m
15) T	2,4-DB	22.69	111788651	1.171 ug/l m
16) T	BENTAZON	24.87	99385684	0.968 ug/l m
17) T	PICLORAM	24.98	479056464	0.968 ug/l m
18) T	DINOSEB	25.30	2296159409	1.038 ug/l m
19) T	DCPA	25.87	1360804243	0.227 ug/l m
20) T	ACIFLUORFEN	31.05	3529193444	0.747 ug/l
23) T	DALAPON #2	4.66	640165244	0.705 ug/l m
24) T	35-DCBA #2	16.83	554060437	0.805 ug/l m
25) T	4-NP #2	17.87	29237667	0.631 ug/l
6) T	DICAMBA #2	19.05	1272703072	0.654 ug/l m
28) T	MCPP #2	19.31	4176280	82.427 ug/l m
29) T	MCPA #2	19.73	5255806	88.579 ug/l

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 3:20 am
Operator : YE
Sample : 8151L IDOC #3
Misc :
ALS Vial : 13 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:34:11 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

		Compound	R.T.	Response	Conc	Units	
30)	T	DICHLORPROP #2	20.35	550744753	1.233	ug/l	
31)	T	2,4-D #2	20.92	448183056	0.918	ug/l	m
32)	T	PCP #2	21.57	4034671389	0.519	ug/l	m
33)	T	SILVEX #2	22.45	1938908643	0.833	ug/l	
34)	T	CHLORAMBEN #2	23.95	38420624	0.871	ug/l	m
35)	T	2,4,5-T #2	23.20	2285126394	0.798	ug/l	m
36)	T	2,4-DB #2	24.20	107436531	1.619	ug/l	m
37)	T	BENTAZON #2	25.81	260182398	1.012	ug/l	
38)	T	PICLORAM #2	26.72	323590416	0.166	ug/l	
39)	T	DINOSEB #2	24.83	1611017512	0.866	ug/l	m
40)	T	DCPA #2	26.66	475765143	N.D.	ug/l	
41)	T	ACIFLUORFEN #2	30.51	1230975463	0.621	ug/l	

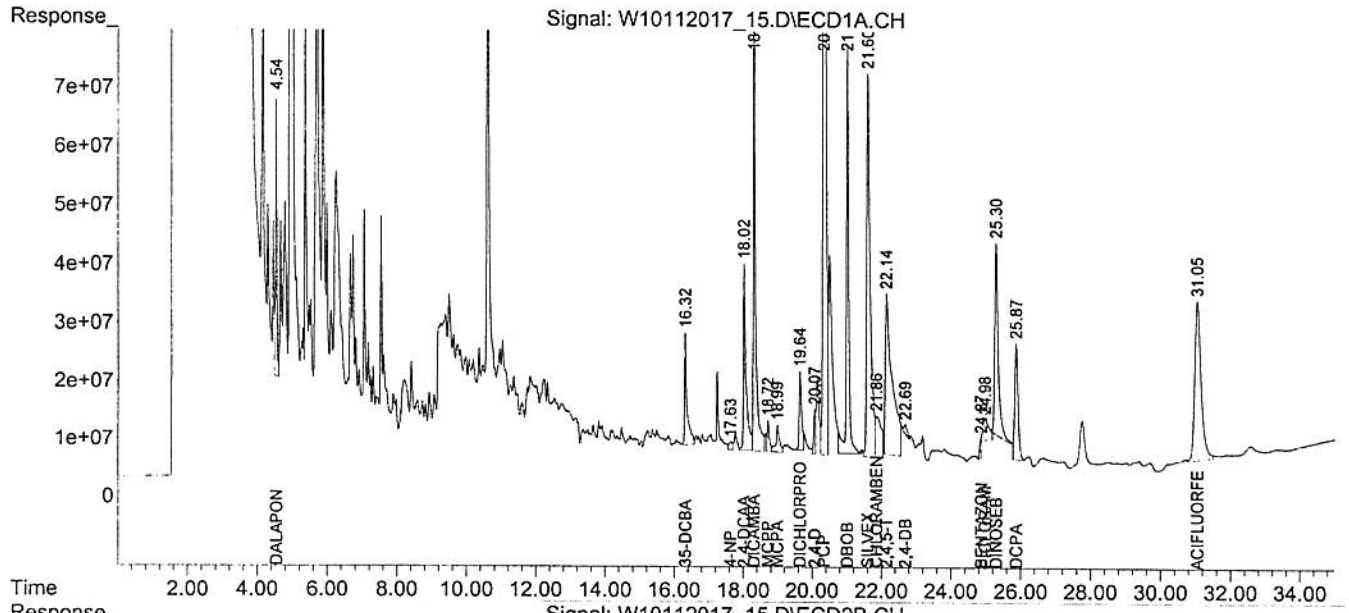
(f)=RT Delta > 1/2 Window (m)=manual int.

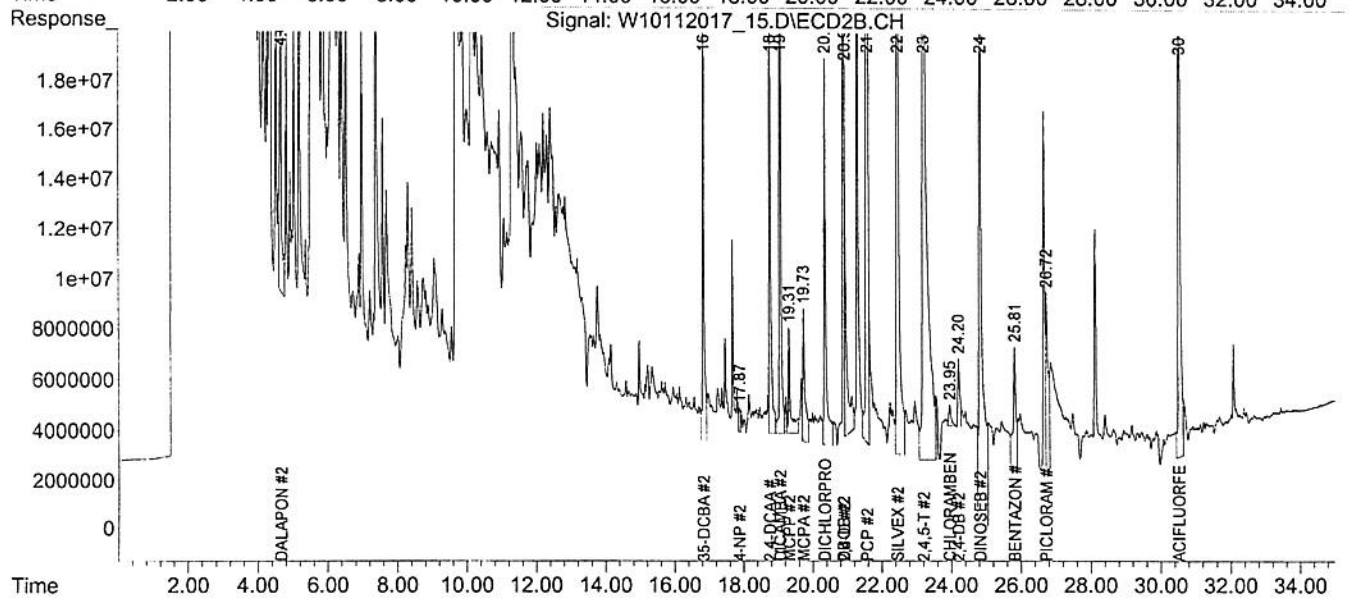
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_15.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 3:20 am
Operator : YE
Sample : 8151L IDOC #3
Misc :
ALS Vial : 13 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:34:11 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm





Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_16.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 4:02 am
Operator : YE
Sample : 8151L IDOC #4
Misc :
ALS Vial : 14 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:48:36 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	DBOB	21.01	3233771188	0.025 ug/l
22) I	DBOB #2	20.89	1278205524	0.025 ug/l m
	System Monitoring Compounds			
5) S	2,4-DCAA	18.03	1530148432	2.379 ug/l m
Spiked Amount	2.000		Recovery =	118.95%
27) S	2,4-DCAA #2	18.76	714188266	1.570 ug/l m
Spiked Amount	2.000		Recovery =	78.50%
	Target Compounds			
2) T	DALAPON	4.54	1156010599	0.971 ug/l m
3) T	35-DCBA	16.32	1050450749	1.070 ug/l
4) T	4-NP	17.64	94151196	0.825 ug/l
6) T	DICAMBA	18.31	3275481602	0.866 ug/l m
7) T	MCPP	18.72	5696630	106.526 ug/l
8) T	MCPA	18.99	5046935	117.746 ug/l
9) T	DICHLORPROP	19.64	583471331	0.966 ug/l m
10) T	2,4-D	20.07	171668776	0.826 ug/l m
11) T	PCP	20.33	9701432167	0.682 ug/l m
12) T	SILVEX	21.60	4552613115	1.883 ug/l
13) T	CHLORAMBEN	21.87	850737188	0.701 ug/l
14) T	2,4,5-T	22.15	4244004552	1.137 ug/l
15) T	2,4-DB	22.70	102254669	1.138 ug/l m
16) T	BENTAZON	24.88	118948802	1.168 ug/l m
17) T	PICLORAM	24.98	316005772	0.716 ug/l m
18) T	DINOSEB	25.30	2169795846	1.011 ug/l m
19) T	DCPA	25.88	1149123482	0.198 ug/l m
20) T	ACIFLUORFEN	31.05	3856704818	0.841 ug/l
23) T	DALAPON #2	4.66	670503720	0.692 ug/l m
24) T	35-DCBA #2	16.83	684757818	0.938 ug/l m
25) T	4-NP #2	17.87	115408527	0.868 ug/l m
26) T	DICAMBA #2	19.05	1230921011	0.593 ug/l m
28) T	MCPP #2	19.31	4159879	77.636 ug/l m
29) T	MCPA #2	19.73	5219938	82.396 ug/l

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_16.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 4:02 am
Operator : YE
Sample : 8151L IDOC #4
Misc :
ALS Vial : 14 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:48:36 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

		Compound	R.T.	Response	Conc Units
30)	T	DICHLORPROP #2	20.35	535445756	1.120 ug/l
31)	T	2,4-D #2	20.91	543376645	1.043 ug/l m
32)	T	PCP #2	21.57	4271281051	0.515 ug/l m
33)	T	SILVEX #2	22.45	1972214905	0.794 ug/l m
34)	T	CHLORAMBEN #2	23.95	88225321	1.286 ug/l m
35)	T	2,4,5-T #2	23.20	2306956239	0.762 ug/l m
36)	T	2,4-DB #2	24.27	25501257	0.658 ug/l m
37)	T	BENTAZON #2	25.81	250680954	0.913 ug/l
38)	T	PICLORAM #2	26.72	289005533	0.156 ug/l
39)	T	DINOSEB #2	24.83	1812831164	0.913 ug/l m
40)	T	DCPA #2	26.66	463714890	N.D. ug/l
41)	T	ACIFLUORFEN #2	30.51	1369948406	0.647 ug/l m

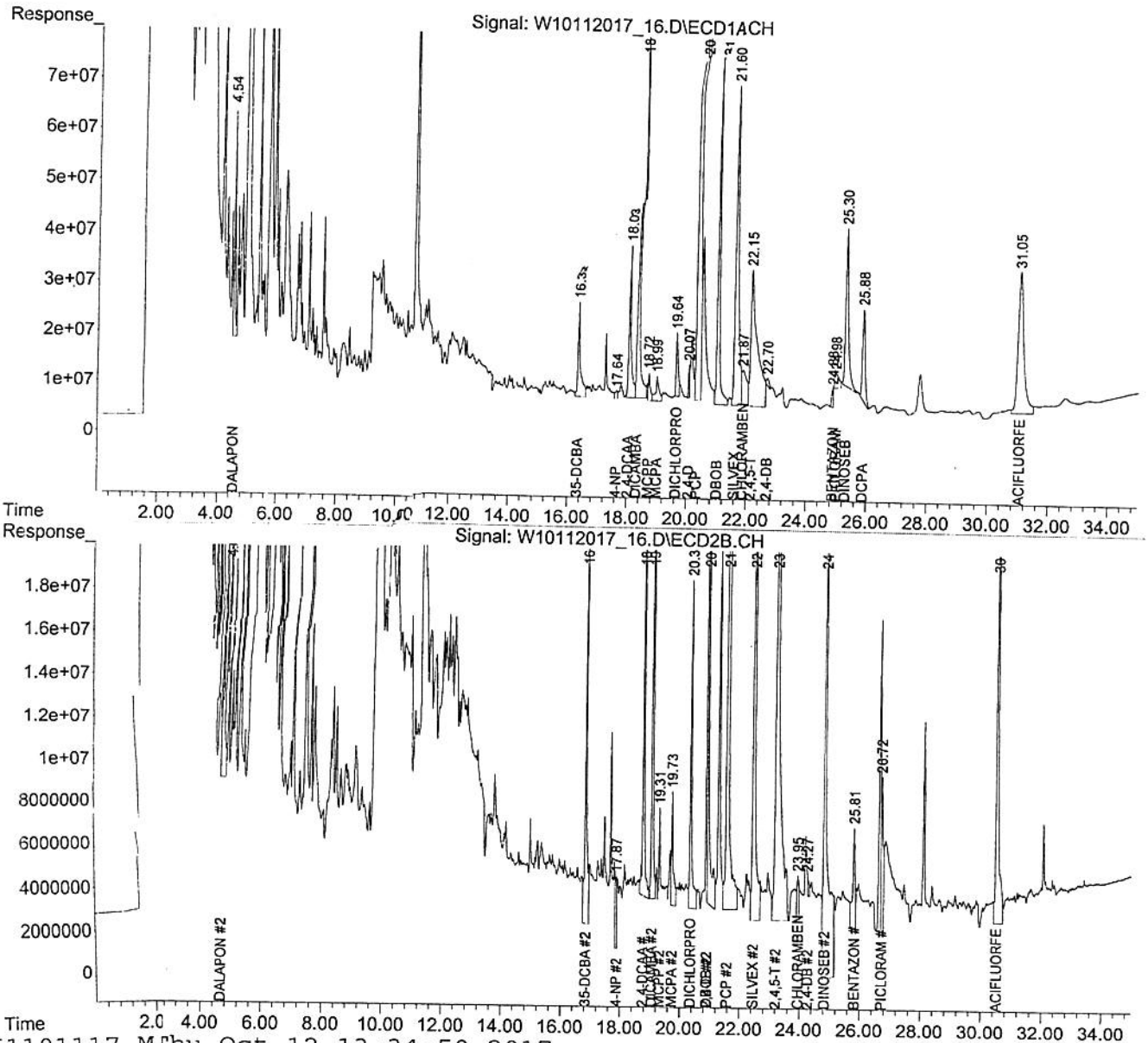
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\10112017\
Data File : W10112017_16.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Oct 2017 4:02 am
Operator : YE
Sample : 8151L IDOC #4
Misc :
ALS Vial : 14 Sample Multiplier: 10

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 12 11:48:36 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151101117.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Thu Oct 12 10:45:47 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES
Signal #1 Info : 30m x 0.32mm
Signal #2 Phase: CLP PESTICIDES 2
Signal #2 Info : 30m X 0.32mm



	Std. ID	Amt. Added	Initials
Surrogate	1600413	1ml	EP
Spike	1700055	0.5 ml	EP
Internal Std.			

Florida Environmental

Batch#: 17J0333
Analyst: YE + AC
Date: 10-11-17
Transferred to vials by: EP / MIE

Initial Solvent: Ether
Final Solvent: Hexane

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
17J0333	MB	10-11-17	1000	7	12	1	10	10-11-17	N/A	
	LCS	10-11-17	1000							
	MS 17J0359-01A	10-11-17	1000							
	MSD 17J0359-01B	10-11-17	1000							
17J0359-01C	Matrix Spike	10-11-17	1000							
17J0298-02B	S17J037-02.	10-06-17	1000							
17J0361-02C	14643/FB-Round2	10-10-17	1000	7	12	1	10	10-12-17	N/A	
17J0361-03C	14644/Round 2	10-10-17	1000							
17J0361-04C	14645/Round 1	10-10-17	1000							
17J0361-01C	14642/Round 2 EB	10-10-17	1000							
	IDOC #1	10-11-17	1000					10-11-17		
	IDOC #2	10-11-17	1000							
	IDOC #3	10-11-17	1000							
	IDOC #4	10-11-17	1000							

Item	SVT#
Filter Paper:	
Sodium Sulfate:	AC: 0504172
Silica Gel:	
Sodium Hydroxide:	(6N) 062217A
Sililic Acid:	373
Sulfuric Acid:	(12N) 042117
10 mL pipette:	469
1.8mL Vials	461
1.8mL Vial Caps	462
20 mL Vials:	467
Pasteur pipette:	442
Hexane	457
MTBE	
Ethyl Ether	456
Cu	
~~Phosphate Buffer~~	Rosarit 136000/2001
NaCL	↓
Diazomethane	09-06-17A
CH2CL2	474/78
pH paper Lot #	202513
Chlorine Strips Lot #	

* pH: I = Initial, E = Exchange, F= Final

Document Control #: 0401416-001
Date:8/31/16

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700055

Description:	SK-8151-020717 8151 Spike 2.0 ppm	Expires:	2/2/2019
Standard Type:	Analyte Spike	Prepared:	2/7/2017
Solvent:	ACETONE SV410	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	03/07/2017 15:13 by MLR

Analyte	CAS Number	Concentration	Units
Dalapon	75-99-0	2	ug/mL
2,4,5-TP (Silvex)	93-72-1	2	ug/mL
2,4-D	94-75-7	2	ug/mL
2,4-DB	94-82-6	2	ug/mL
3,5-Dichlorobenzoic acid	51-365-5	2	ug/mL
4-Nitrophenol	100-02-7	2	ug/mL
Acifluorfen	50594-66-6	2	ug/mL
2,4,5-T	93-76-5	2	ug/mL
Chloramben	133-90-4	2	ug/mL
Picloram	1918-02-1	2	ug/mL
DCPA	1861-32-1	2	ug/mL
Dicamba	1918-00-9	2	ug/mL
Dichloroprop	120-36-5	2	ug/mL
Dinoseb	88-85-7	2	ug/mL
MCPA	94-74-6	200	ug/mL
MCPP	7085-19-0	200	ug/mL
Pentachlorophenol	87-86-5	2	ug/mL
Bentazon	25057-89-0	2	ug/mL

true value

100X

100X

500ul to a liter

$2.500\,mL = X \cdot 1000\,mL$

$\frac{1000\,mg}{1000\,mL} = X$

True value → $\frac{1\,mg}{mL} = X$

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1600413

Description:	SU-8151-101516 8151 SURROGATE 2.0 pp	Expires:	10/15/2017
Standard Type:	Surrogate Spike	Prepared:	10/15/2016
Solvent:	ACETONE SV 410	Prepared By:	Judy Regis
Final Volume (mls):	200	Department:	SVOCGC
Vials:	2	Last Edit:	10/15/2016 02:48 by JR

Analyte	CAS Number	Concentration	Units
2,4-Dichlorophenylacetic acid	Please Add	2	ug/mL

Reviewed By Date

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Angel Reyes	NA	9/26/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 3500 Cr-B	☑ Water ☑ DW ☐ Solid ☐ Other: _____	020218-006
Analyte or Class of Analytes		
Hexavalent Chromium		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Angel Reyes *Analyst*	 *Signature*	9/26/18 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	9/26/18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	9/26/18 *Date*

[1] Tr... sistent with supporting data.
Acc... Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIR MENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	9/26/2018
ANALYZED BY:	Angel Reyes
METHOD NUMBER:	SM 3500Cr-B
EXTRACTION METHOD (IF APPLY):	NA
pH meter ID:	WET-4
INSTRUMENT ID:	Wet Chem Spectph-1
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	995-S-GEN-05	0.2 ppm
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ppm	ppm	ppm	ppm	ppm	ppm			
Hexavalent Chromium	0.200	0.210	0.213	0.212	0.209	0.211	0.865	106	0.00

Hexavalent Chromium

SM 3500 Cr-B

Standard Curve
Range: 0.025-0.5mg/L

mg/L	IDs
0.025	994-S-Gen-03
0.05	-04
0.1	-05
0.2	-06
0.4	-07
0.5	-08

Absorbance:540 nm	
pH Meter ID:	Wet-4
pH Meter Cal Date:	09/26/18
Pipette:	001
Instument: Wet Chem Spectph-1	
Stock LCS ID:	994-S-Gen-02
Stock CCV ID:	948-S-Gen-11
Diphenylcarbazide:	994-S-Gen-09
H2SO4 (1:1):	993-S-Gen-18

Analyst: AR/SA
Date: 9/26/18
Batch: 18IQ806

Acceptance Criteria	
ICV:	95-105%
RLV	50-150%
LCS:	85-115%
MS/MSD	70-130%
CCV	90-110%

Log #	Sample ID	TV	DF	ABS 540nm	mg/L	Initial pH	Adjusted pH (2±0.5)	Comments
ICV	995-S-Gen-05	0.2	1	~~0.216~~	0.208	5.49	2.16	# ~~0.227~~ 0.216
RLV	994-S-Gen-03	0.025	1	0.030	0.029	5.57	2.51	
ICB	DI H2O	-	1	0.000	0.000	5.28	2.34	
LCS (IDOC-AR-1)	995-S-Gen-05	0.2	1	0.218	0.210	4.97	2.12	
18I0430-01A	Inlet	-	1	0.000	0.000	7.06	2.44	
18I0430-02A	Outlet	-	1	0.000	0.000	9.15	2.36	
18I0616-01A	Batch	-	1	0.003	0.003	9.35	2.28	
IDOC-AR-2	0.2	0.2	1	0.221	0.213	5.38	2.36	995-S-Gen-05
IDOC-AR-3	0.2	0.2	1	0.220	0.212	5.36	2.30	↓
IDOC-AR-4	0.2	0.2	1	0.217	0.209	5.41	2.16	
DUP 0616-01A	Batch	-	1	0.003	0.003	9.33	2.26	
MS -01A	Batch	0.2	1	0.227	0.219	9.21	2.32	
MSD -01A	Batch	0.2	1	0.226	0.218	9.20	2.02	
CCV	994-S-Gen-05	0.1	1	0.112	0.108	5.41	2.12	
CCB	DI H2O	-	1	0.001	0.001	5.48	2.18	
994-S-Gen-03	0.025	-	1	0.027	0.026	4.93	2.32	
-04	0.05	-	1	0.057	0.055	5.56	2.37	18I0011-C4A
-05	0.1	-	1	0.111	0.107	5.03	2.16	
-06	0.2	-	1	0.222	0.214	5.40	2.30	
-07	0.4	-	1	0.423	0.407	5.30	2.17	
-08	0.5	-	1	0.504	0.486	5.28	2.08	
CCV								
CCB								

09/26/18.

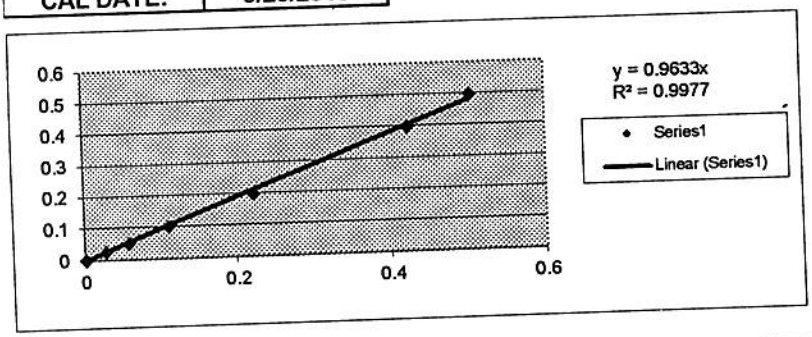
HEXAVALENT CHROMIUM
SM 3500-Cr B

Absorbance at 540 nm	Concentration (mg/L)	Standard ID
0.001	0	DI Water
0.027	0.025	994-S-GEN-03
0.057	0.05	994-S-GEN-04
0.111	0.1	994-S-GEN-05
0.222	0.2	994-S-GEN-06
0.423	0.4	994-S-GEN-07
0.504	0.5	994-S-GEN-08
CAL DATE:	**9/26/2018**	

Analyst: AR
Batch: 18IC504
Analysis date: 9/26/2018

Instrument: Wet Chem Spectph-1

Acceptance Criteria
ICV: 95-105%
RLV: 50-150%
CCV: 90-110%
LCS: 85-115%
MS/MSD: 70-130%



	True Value (mg/L)	DIL	ABS	HEX CHROME (mg/L)	%Recovery
ICV	0.2	1	0.216	0.208	104.0%
RLV	0.025	1	0.030	0.029	115.6%
BLANK		1	0.000	0.000	
LCS (IDOC-AR-1)	0.2	1	0.218	0.210	105.0%
18I0430-01A		1	0.000	0.000	
18I0430-02A		1	0.000	0.000	
18I0616-01A		1	0.003	0.003	
IDOC-AR-2	0.2	1	0.221	0.213	106.4%
IDOC-AR-3	0.2	1	0.220	0.212	106.0%
IDOC-AR-4	0.2	1	0.217	0.209	104.5%
				0.000	
				0.000	
				0.000	
				0.000	
18I0616-01A DUP		1	0.003	0.003	
18I0616-01A MS	0.2	1	0.227	0.219	2.9%
18I0616-01A MSD	0.2	1	0.226	0.218	107.4%
CCV	0.1	1	0.112	0.108	107.9%
BLANK	D.I.	1	0.001	0.001	
				0.000	
994-S-GEN-03	0.025	1	0.027	0.026	104.0%
994-S-GEN-04	0.05	1	0.057	0.055	109.8%
994-S-GEN-05	0.1	1	0.111	0.107	106.9%
994-S-GEN-06	0.2	1	0.222	0.214	106.9%
994-S-GEN-07	0.4	1	0.423	0.407	101.9%
994-S-GEN-08	0.5	1	0.504	0.486	97.1%
				0.000	
				0.000	
				0.000	
CCV	0.1			0.000	0.0%
BLANK	D.I.			0.000	

Document Control #: 0401218-007
Revision: 1
Date: 7/23/18

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	2/16/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 9215B	☐ Water ☑ DW ☐ Solid ☐ Other: _____	020616-004
Analyte or Class of Analytes		
Heterotrophic Plate Count		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	02/16/18 *Date*
Brian Mercer *Technical Director*	*Signature*	02/16/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	2/16/18 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

__X__ Initial Demonstration of Capability
___ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
ATE OF ANALYSIS:	1/31/2018
IALYZED BY:	Karina Ramirez
METHOD NUMBER:	SM9215B
EXTRACTION METHOD (IF APPLY):	Pour Plate
INCUBATOR ID (35±0.5°C):	Micro-16
DARK COLONY COUNTER ID:	Micro-32
THERMOMETER ID:	912113
MEDIA:	HPC121817
BUFFER ID:	Phosph010518
PLATE Lot:	F5PA7112
BACTI BOTTLES Lot:	KN003V
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	1/29/2018
ACCEPTANCE CRITERIA:	208-326 CFU/mL

Standards Used:	Std. ID#	Conc.
Phenova PT (WSM0118)	Smicro012918B	260 CFU/ml
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{x}$	% RSD	% Recovery	SD
UNITS:	CFU/mL	CFU/mL	CFU/mL	CFU/mL	CFU/mL	CFU/mL			
Heterotrophic Plate Count	260	257	234	262	224	244	7.45	93.94	18.19

SM 9215B Heterotrophic Plate Count

LIMS TEMPLATE # 71

Extraction		Analysis			
Date:	01/24/18	Date:	01/31/18	Run #	1840874
Analyst:	KR	Analyst:	KR	Media	HPC121917
Start Time #1:	16:05	Incubator Temp In #1:	35.0	Pipette:	BDZH
Stop Time #1	16:15	Incubator Temp Out #1:	35.0	Incubator(35.0±0.5°C) : Micro -16	
Analyst:				Buffer ID#	AWSPH010518
Start Time #2:		Incubator Temp In #2:		Bacti Bottle #	KNEW3
Stop Time #2		Incubator Temp Out #2:		Plate #:	FSPA742
				Chlorine Strips:	SU12424
				Thermometer ID:	01243
				Dark Colony Counter: Micro-32	

Order #	Sample ID	Sample Size(mL)	Colony Count	Incubation Time In	Incubation Time Out	Cl-check	Notes/ Verification
BB	BB	1	0	16:15	16:15	0	
1810722-61	FSES PT	1mL	227 (227)	↓			
-11	↓	1mL	231		↓	↓	
-11	↓	0.1mL	7 (70/mL)				
-11	↓	0.1mL	25 (250/mL)				
BB	BB	1mL	0	↓	↓	↓	
BB	BB	1mL	0	16:45	16:45	0	
KMIM IDOC	PT	1mL	257	↓	↓	↓	
↓	↓	1mL	234				
↓	↓	1mL	262				
↓	↓	1mL	224				
BB	BB	1mL	0				

Quality Control Guidelines: Each filtration series consists of no more than 20 samples, with sterlity blanks at the beginning and end each series as well as after the 10th sample. Do not let more than 20 minutes elapse between pipetting and pouring plates. **Ideal range** :30-300 CFU/plate.

Reviewed by: _____ Date: 01/31/18

Document Control #: 0401616-009
Date: 9/12/16

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date RA 4/8/16
Sophia Andre	Sophia Andre	4/25/14 4/8/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 5540 C	☑ Water ☑ DW ☐ Solid ☐ Other: _____	030125-011
Analyte or Class of Analytes		
MBAS		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	4/25/14 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	4/25/14 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	4/8/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

MBAS

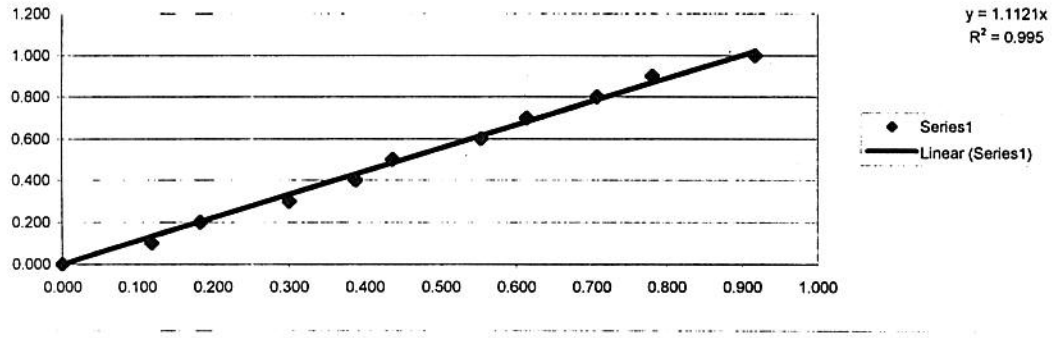
SM 5540-C

CALIBRATION CURVE:070909
CALIBRATION 7/9/2009 ABS @652nm

ANALYST: SOA	
DATE:	4/25/2014
BATCH# :	1404707

ABSnm	CONC. PPM
0.000	0.000
0.119	0.100
0.183	0.200
0.300	0.300
0.387	0.400
0.436	0.500
0.553	0.600
0.613	0.700
0.707	0.800
0.780	0.900
0.917	1.000

STANDARDS:



ORDER #	ID	DIL	ABS	mg/l
BLANK	D.I. water	1	0.001	0.001
LCS	328-S-GEN-03	1	0.483	0.537
14D0645-01J	2W-16	1	0.044	0.049
14D0645-01J	DUP	1	0.051	0.057
14D0645-01J	MS	1	0.450	0.500
14D0645-01J	MSD	1	0.444	0.494
DOC-SOA-1	328-S-GEN-03	1	0.488	0.543
DOC-SOA-2	328-S-GEN-03	1	0.482	0.536
DOC-SOA-3	328-S-GEN-03	1	0.486	0.540
DOC-SOA-4	328-S-GEN-03	1	0.481	0.535
CCV (0.5)	328-S-GEN-04	1	0.485	0.539
BLANK	D.I. water	1	0.003	0.003
14D0678-01C	efa-2 effluent	1	0.089	0.099
CCV (0.5)	328-S-GEN-04	1	0.481	0.535
BLANK	D.I. water	1	0.002	0.002
CCV (0.5)	328-S-GEN-04	1	0.487	0.542
BLANK	D.I. water	1	0.000	0.000
14D0705-01B	FLCC	1	0.082	0.091
14D0705-02B	OGC	2	0.094	0.209

MBAS

Methylene Blue Active Substances
EPA 425.1/ SM 5540-C

Standard Curve mg/L

Range: 0 - 2.0 mg/L
Absorbance @ 652nm
Molecular Weight of LAS: 340

Analyst: SOA Date: 4-25-14
Batch: 140464|

0.10
0.25 0.9
0.50 0.9
1.00
2.00

Nelac Traceability Information
Log# for Methylene Blue reagent : 317-R-Gen-18
Log# H2SO4 : 304-R-Gen 07
Log# Chloroform solvent : 30WC-07

Inst: Wet Chem Spectph-1

Acceptance Criteria: 80-120%

Log #	Sample Description	mLs	DF	ABS	mg/l	mg/l x DF	Comments
Blank	DI	100	1	0.001	0.001		
LCS (0.5)	328-S-Gen-03	100	1	0.483	0.537		108%
14D0645-01S	2W-16	100	1	0.044	0.049		
	Dup	100	1	0.051	0.057		
MS	2W-16	100	1	0.450	0.500		100%
MSD	2W-16	100	1	0.444	0.494		100%
CCC-SOA-1	328-S-Gen-03	100	1	0.488	0.543		109%
2	328-S-Gen-03	100	1	0.482	0.536		107%
3	328-S-Gen-03	100	1	0.486	0.540		108%
4	328-S-Gen-03	100	1	0.481	0.535		107%
CCV (0.5)	328-S-Gen-04	100	1	0.485	0.539		108%
Blank	DI	100	1	0.003	0.003		
14D0678-01C	EFA-2 Effluent	100	1	0.089	0.099		
CCV (0.5)	328-S-Gen-04	100	1	0.481	0.535		
Blank		100	1	0.002	0.002		
CCV (0.5)	328-S-Gen-04	100	1	0.487	0.542		109%
Blank	DI	100	1	0.000	0.000		
14D0705-01B	FLCC	100	1	0.082	0.091		
02B	OGC	100	2	0.094	0.105		
CCV	328-S-Gen-04	100	1	0.488	0.543		109%
Blank	DI	100	1	0.000	0.000		

CCV (0.5)	328-S-GEN-04	1	0.488	0.543
BLANK	D.I. water	1	0.000	0.000

IDC:

Matrix: (Water) Soil Air

Date of Analysis: 04/25/2014

Method Number: SM 5540-C

Method Description: Methylene Blue Anionic Surfactants

Instrument Used: WET-6

☑	Raw Data Given to QA?
☐	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
MBAS Standard	0.5 PPM
328-S-GEN-03	

Comments:

Data given to QA on 4/8/16. Analyst analyzed them but not turn to ex-QA/QC Officer

Analyst Name: Sophia Andre

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
MBAS	0.543	0.536	0.540	0.535	0.538	0.500	107.6	0.69%

Accentance Criteria: 80-120%

Analyst Signature: Sophia Andre **Date:** 4-25-14

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Mercedes Zaldivar	Mercedes Zaldivar	12/1/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 200.8	☐ Water ☑ DW ☐ Solid ☐ Other: _____	020316-013
Analyte or Class of Analytes		
Mercury		

We, the undersigned, CERTIFY that:

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2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Mercedes Zaldivar *Analyst*	M Zaldivar *Signature*	12/1/16 *Date*
Irena Notzl *Technical Director*	 *Signature*	12/1/16 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	12/1/16 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	12/01/2016
ANALYZED BY:	M.Zadivar
METHOD NUMBER:	200.8
EXTRACTION METHOD (IF APPLY):	200.8
INSTRUMENT ID:	MET-21
EXTRACTED BY:	M.Zadivar
DATE EXTRACTED:	12/1/2016
ACCEPTANCE CRITERIA:	±15%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	HPS#1509020	100 ppb
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
Hg	5.0000	5.055409	4.855029	4.885014	4.942304	4.934439	1.79	98.69	0.088

Batch Summary Report

Batch Folder: D:\Agilent\ICPMH\1\DATA\2016\12-DEC-2016\120116-IDOC-MAZ-Hg.b\
Analysis File: 120116-IDOC-MAZ-Hg.batch.bin
Tune Step: #1 No Gas

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		12/1/2016 10:50:42 AM	001CALB.d	Cal-0	CalBlk	1	1.0000
2		12/1/2016 10:53:38 AM	002CALS.d	Cal-0.10	CalStd	2	1.0000
3		12/1/2016 10:56:19 AM	003CALS.d	Cal-1.00	CalStd	3	1.0000
4		12/1/2016 10:59:28 AM	004CALS.d	Cal-2.50	CalStd	4	1.0000
5		12/1/2016 11:02:39 AM	005CALS.d	Cal-5.00	CalStd	5	1.0000
6		12/1/2016 11:10:26 AM	006CALS.d	Cal-7.50	CalStd	6	1.0000
7		12/1/2016 11:13:35 AM	007CALS.d	Cal-10.0	CalStd	7	1.0000
8		12/1/2016 11:16:46 AM	008 RSE.d	RINSE	RINSE		1.0000
9		12/1/2016 11:19:06 AM	009 ICV.d	ICV	ICV		1.0000
10	On	12/1/2016 11:21:26 AM	010 QCS.d	TEST	Sample		1.0000
11		12/1/2016 11:25:57 AM	011 QCS.d	QCS	QCS		1.0000
12		12/1/2016 11:28:18 AM	012 QCS.d	QCS	QCS		1.0000
13		12/1/2016 11:30:38 AM	013 RSE.d	RINSE	RINSE		1.0000
14		12/1/2016 11:32:58 AM	014 CCB.d	ICB	CCB		1.0000
15		12/1/2016 11:35:19 AM	015 LRB.d	LRB BATCH#001	LRB		1.0000
16		12/1/2016 11:37:42 AM	016 LCS.d	LCS #001	LCS		1.0000
17		12/1/2016 11:40:03 AM	017SMPL.d	IDOC#1	Sample		1.0000
18		12/1/2016 11:42:24 AM	018SMPL.d	IDOC#2	Sample		1.0000
19		12/1/2016 11:44:46 AM	019SMPL.d	IDOC#3	Sample		1.0000
20		12/1/2016 11:47:06 AM	020SMPL.d	IDOC#4	Sample		1.0000
21		12/1/2016 11:51:13 AM	021 CCV.d	CCV	CCV		1.0000
22		12/1/2016 11:53:33 AM	022 RSE.d	RINSE	RINSE		1.0000
23		12/1/2016 11:55:54 AM	023 CCB.d	CCB	CCB		1.0000

Analyte Table

		202 Hg [No Gas]
	Sample Name	Conc. [ug/l]
1	Cal-0	0.000000
2	Cal-0.10	0.080333
3	Cal-1.00	0.885486
4	Cal-2.50	2.307140
5	Cal-5.00	5.015465
6	Cal-7.50	7.384785
7	Cal-10.0	10.138542
8	RINSE	0.022713
9	ICV	4.807616
10	TEST	
11	QCS	4.930078
12	QCS	4.988264
13	RINSE	0.038758
14	ICB	<0.000000
15	LRB BATCH#001	0.019039
16	LCS #001	4.826033
17	IDOC#1	5.055409
18	IDOC#2	4.855029
19	IDOC#3	4.885014
20	IDOC#4	4.942304
21	CCV	4.869467
22	RINSE	0.030727
23	CCB	<0.000000

ISTD Table

		45 Sc (ISTD) [No Gas]		89 Y (ISTD) [No Gas]		103 Rh (ISTD) [No Gas]		115 In (ISTD) [No Gas]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
1	Cal-0	612147.63	100.0	1280432.95	100.0	1347102.64	100.0	1367693.90	100.0
2	Cal-0.10	594101.31	97.1	1240061.78	96.8	1332002.45	98.9	1328518.09	97.1
3	Cal-1.00	608060.92	99.3	1269279.90	99.1	1344561.91	99.8	1401366.61	102.5
4	Cal-2.50	610703.73	99.8	1266211.23	98.9	1339260.29	99.4	1359421.78	99.4
5	Cal-5.00	606991.24	99.2	1286154.72	100.4	1349176.91	100.2	1381262.38	101.0
6	Cal-7.50	600449.00	98.1	1262902.87	98.6	1330634.90	98.8	1403307.94	102.6
7	Cal-10.0	614175.02	100.3	1282188.57	100.1	1355229.04	100.6	1366710.14	99.9
8	RINSE	607142.07	99.2	1273310.71	99.4	1380574.30	102.5	1337067.55	97.8
9	ICV	608566.31	99.4	1275265.09	99.6	1369013.42	101.6	1336191.41	97.7
10	TEST								
11	QCS	608702.89	99.4	1298043.42	101.4	1354683.10	100.6	1395427.86	102.0
12	QCS	613300.86	100.2	1265506.26	98.8	1362253.32	101.1	1408614.03	103.0
13	RINSE	587869.37	96.0	1228630.03	96.0	1304892.61	96.9	1372945.38	100.4
14	ICB	612698.36	100.1	1292092.27	100.9	1343472.01	99.7	1415370.64	103.5
15	LRB BATCH#001	610490.00	99.7	1283315.53	100.2	1378073.21	102.3	1435648.07	105.0
16	LCS #001	608716.59	99.4	1319424.56	103.0	1386302.06	102.9	1340592.57	98.0
17	IDOC#1	592887.97	96.9	1265879.64	98.9	1313901.05	97.5	1360313.15	99.5
18	IDOC#2	619210.25	101.2	1321229.72	103.2	1371898.05	101.8	1440181.16	105.3
19	IDOC#3	610899.87	99.8	1254521.34	98.0	1372299.20	101.9	1390125.10	101.6
20	IDOC#4	611156.55	99.8	1243844.65	97.1	1353453.55	100.5	1343284.52	98.2
21	CCV	609933.47	99.6	1241720.09	97.0	1352491.28	100.4	1385602.84	101.3
22	RINSE	567777.22	92.8	1219797.40	95.3	1282832.74	95.2	1325492.83	96.9
23	CCB	576488.87	94.2	1230952.48	96.1	1277061.70	94.8	1286927.34	94.1

		159 Tb (ISTD) [No Gas]		165 Ho (ISTD) [No Gas]		175 Lu (ISTD) [No Gas]		209 Bi (ISTD) [No Gas]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
1	Cal-0	2082221.06	100.0	2124445.13	100.0	2131665.33	100.0	1427242.27	100.0
2	Cal-0.10	2115684.14	101.6	2079249.34	97.9	2110362.42	99.0	1462358.88	102.5
3	Cal-1.00	2076991.48	99.7	2118416.89	99.7	2136005.96	100.2	1530846.80	107.3

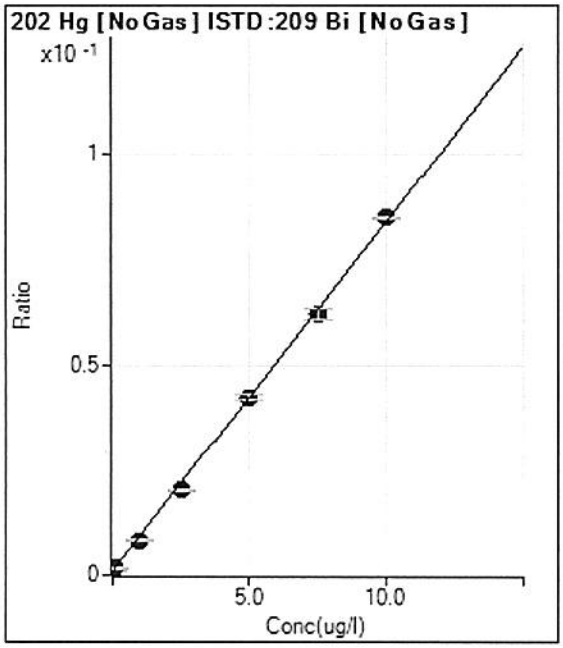
ISTD Table

		159 Tb (ISTD) [No Gas]		165 Ho (ISTD) [No Gas]		175 Lu (ISTD) [No Gas]		209 Bi (ISTD) [No Gas]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
4	Cal-2.50	2147683.04	103.1	2139324.76	100.7	2165529.76	101.6	1496574.56	104.9
5	Cal-5.00	2154594.34	103.5	2090889.29	98.4	2139436.38	100.4	1457914.35	102.1
6	Cal-7.50	2112636.53	101.5	2086641.53	98.2	2148152.94	100.8	1468080.45	102.9
7	Cal-10.0	2111548.20	101.4	2092599.45	98.5	2155069.92	101.1	1458881.44	102.2
8	RINSE	2108990.44	101.3	2150744.08	101.2	2205907.15	103.5	1437001.80	100.7
9	ICV	2101426.06	100.9	2179871.48	102.6	2128470.39	99.9	1512585.65	106.0
10	TEST								
11	QCS	2190565.96	105.2	2157308.72	101.5	2193816.43	102.9	1495721.90	104.8
12	QCS	2176852.10	104.5	2125478.15	100.0	2142360.65	100.5	1488144.46	104.3
13	RINSE	2069372.68	99.4	2010832.26	94.7	2133925.28	100.1	1451499.25	101.7
14	ICB	2140281.90	102.8	2103246.37	99.0	2165473.51	101.6	1538592.95	107.8
15	LRB BATCH#001	2154539.92	103.5	2129339.76	100.2	2162549.34	101.4	1483992.69	104.0
16	LCS #001	2092718.88	100.5	2093757.89	98.6	2193928.92	102.9	1522936.75	106.7
17	IDOC#1	2094351.48	100.6	2047363.56	96.4	2119978.77	99.5	1448658.68	101.5
18	IDOC#2	2229911.58	107.1	2204144.40	103.8	2204613.72	103.4	1519350.24	106.5
19	IDOC#3	2161886.58	103.8	2185663.87	102.9	2295772.05	107.7	1523556.85	106.7
20	IDOC#4	2240904.34	107.6	2166411.06	102.0	2267991.53	106.4	1490175.81	104.4
21	CCV	2207599.39	106.0	2167348.87	102.0	2187855.44	102.6	1506544.77	105.6
22	RINSE	1979002.94	95.0	1929744.82	90.8	2089693.51	98.0	1417301.70	99.3
23	CCB	2050193.51	98.5	2094364.71	98.6	2072122.05	97.2	1443887.59	101.2

Calibration for 022_RSE.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2016\12-DEC-2016\120116-IDOC-MAZ-Hg.b\
Analysis File: 120116-IDOC-MAZ-Hg.batch.bin
DA Date-Time: 12/1/2016 11:58:49 AM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

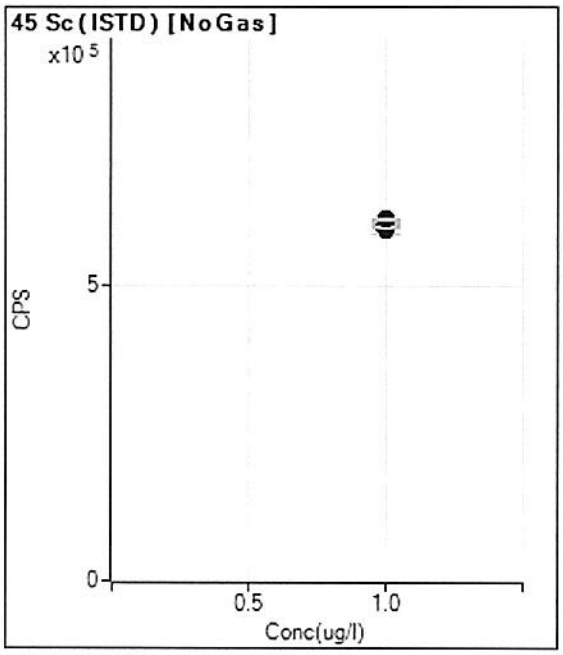
Level	Standard Data File	Sample Name	Acq. Date-Time
1	001CALB.d	Cal-0	12/1/2016 10:50:42 AM
2	002CALS.d	Cal-0.10	12/1/2016 10:53:38 AM
3	003CALS.d	Cal-1.00	12/1/2016 10:56:19 AM
4	004CALS.d	Cal-2.50	12/1/2016 10:59:28 AM
5	005CALS.d	Cal-5.00	12/1/2016 11:02:39 AM
6	006CALS.d	Cal-7.50	12/1/2016 11:10:26 AM
7	007CALS.d	Cal-10.0	12/1/2016 11:13:35 AM



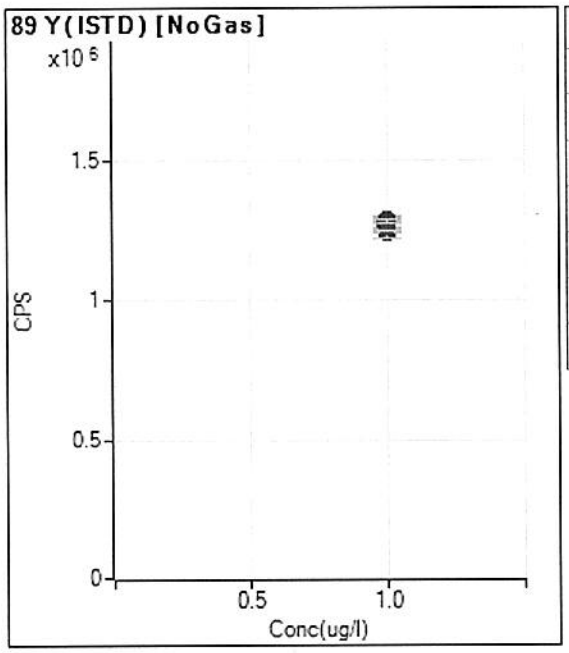
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000000	0.000000	1316.74	0.0009	P	12.1
2	☐	0.100000	0.080333	2320.22	0.0016	P	7.0
3	☐	1.000000	0.885486	12626.14	0.0083	P	2.9
4	☐	2.500000	2.307140	29941.09	0.0200	P	3.6
5	☐	5.000000	5.015465	61806.33	0.0424	P	3.5
6	☐	7.500000	7.384785	90993.80	0.0620	P	4.7
7	☐	10.000000	10.138542	123741.67	0.0848	P	0.7

y = 0.0083 * x + 9.2332E-004
R = 0.9997
DL = 0.04056
BEC = 0.1116

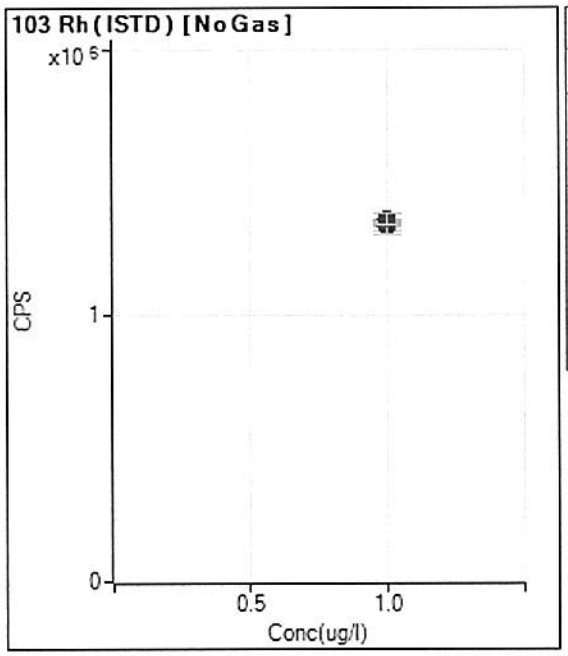
Weight: <None>
Min Conc: 0



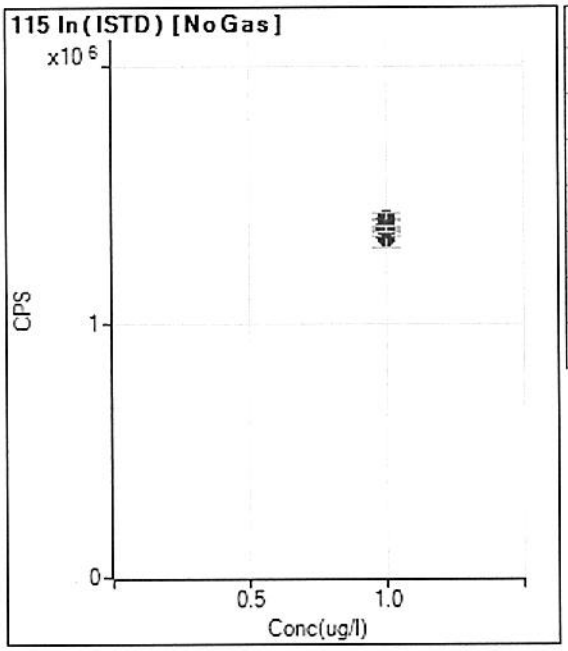
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000000		612147.63		P	1.1
2	☐	1.000000		594101.31		P	1.5
3	☐	1.000000		608060.92		P	0.3
4	☐	1.000000		610703.73		P	1.9
5	☐	1.000000		606991.24		P	1.8
6	☐	1.000000		600449.00		P	0.9
7	☐	1.000000		614175.02		P	0.6



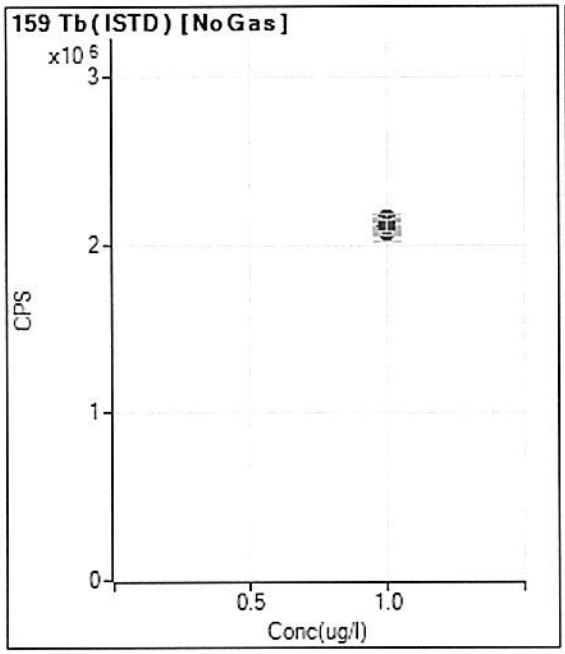
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000000		1280432.95		A	3.5
2	☐	1.000000		1240061.78		A	3.7
3	☐	1.000000		1269279.90		A	4.5
4	☐	1.000000		1266211.23		A	2.3
5	☐	1.000000		1286154.72		A	1.6
6	☐	1.000000		1262902.87		A	2.0
7	☐	1.000000		1282188.57		A	1.4



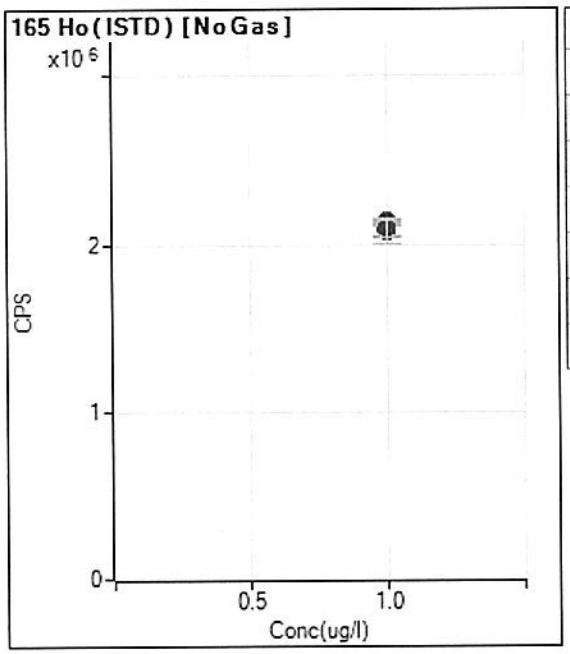
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000000		1347102.64		A	1.9
2	☐	1.000000		1332002.45		A	2.4
3	☐	1.000000		1344561.91		A	0.5
4	☐	1.000000		1339260.29		A	1.1
5	☐	1.000000		1349176.91		A	0.6
6	☐	1.000000		1330634.90		A	4.3
7	☐	1.000000		1355229.04		A	3.2



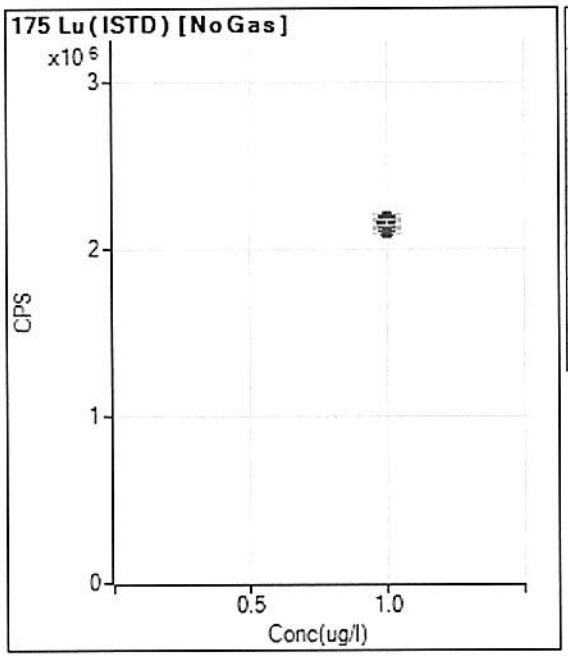
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000000		1367693.90		A	1.5
2	☐	1.000000		1328518.09		A	4.8
3	☐	1.000000		1401366.61		A	0.5
4	☐	1.000000		1359421.78		A	2.9
5	☐	1.000000		1381262.38		A	2.0
6	☐	1.000000		1403307.94		A	3.4
7	☐	1.000000		1366710.14		A	1.6



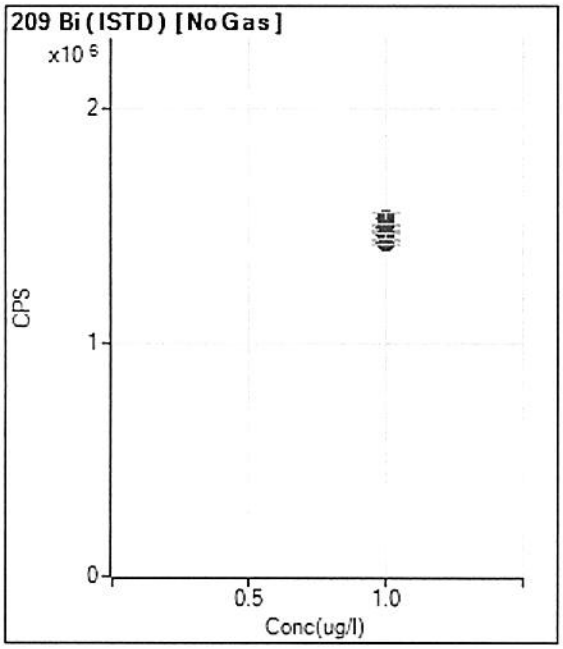
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000000		2082221.06		A	6.2
2	☐	1.000000		2115684.14		A	2.3
3	☐	1.000000		2076991.48		A	1.9
4	☐	1.000000		2147683.04		A	3.3
5	☐	1.000000		2154594.34		A	2.1
6	☐	1.000000		2112636.53		A	4.5
7	☐	1.000000		2111548.20		A	3.4



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000000		2124445.13		A	1.3
2	☐	1.000000		2079249.34		A	6.8
3	☐	1.000000		2118416.89		A	1.0
4	☐	1.000000		2139324.76		A	1.7
5	☐	1.000000		2090889.29		A	3.5
6	☐	1.000000		2086641.53		A	2.9
7	☐	1.000000		2092599.45		A	5.3



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000000		2131665.33		A	4.4
2	☐	1.000000		2110362.42		A	2.5
3	☐	1.000000		2136005.96		A	2.6
4	☐	1.000000		2165529.76		A	3.9
5	☐	1.000000		2139436.38		A	1.7
6	☐	1.000000		2148152.94		A	3.4
7	☐	1.000000		2155069.92		A	1.7



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000000		1427242.27		A	1.0
2	☐	1.000000		1462358.88		A	2.0
3	☐	1.000000		1530846.80		A	3.9
4	☐	1.000000		1496574.56		A	1.8
5	☐	1.000000		1457914.35		A	3.4
6	☐	1.000000		1468080.45		A	2.8
7	☐	1.000000		1458881.44		A	1.5

200.8 DIGESTION LOGBOOK

	SAMPLE LCN	pH	Vi(ml)	Vf(ml)	Comments
	LRB	<2	50	50	
	LCS	<2	50	50	
1	IDOC#1	<2	50	50	
2	IDOC#2	<2	50	50	
3	IDOC#3	<2	50	50	
4	IDOC#4	<2	50	50	
5			50	50	
6			50	50	
7			50	50	
8			50	50	
9			50	50	
10			50	50	
	MS		50	50	
	MSD		50	50	
11			50	50	
12			50	50	
13			50	50	
14			50	50	
15			50	50	
16			50	50	
17			50	50	
18			50	50	
19			50	50	
20			50	50	
	MS		50	50	
	MSD		50	50	

DIGESTION # 001

BATCH #

DATE : 12.01.16

ANALYST : MA2

HNO3 LOT # SHBG0577V-ALA

HCl LOT# SHBG5422V-ALA

QCS Hg 1000ppb QC-MET- 120116-B

Spike 250ul from QCS 1000ppb in 50 ml for 5ppb

Internal Standard IS-MET- 092116-A

HOTBLOCK : MET-14

DIG. TUBES: EE-LOT# 1512329

pH PAPER : # # 208515

FILTERS :

PIPETTE 1ml ID: BLUE-2

PIPETTE 5ml ID: GREEN-

050136-006

Controlled Copy
Always Appears
Stamped in Red

Demonstration of Capability
Certification Statement

Date: 10.18.13

Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33309
Analyst(s) Name(s): MERCEDES ZALDIVAR
Matrix: LIQUID
Method number: 245.1

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I Mercedes Zaldivar current employee of FSES have read, understood, and agree to perform the latest version of the SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and the associated information is well organized and available for review by authorized assessors.

IRENA NUTZU
Technical Director's Name

Signature

Date 10.18.13

Caitlin Brice
Quality Assurance Director's Name

Caitlin Brice
Signature

Date 11/7/13

This certification form must be completed each time a demonstration of capability study is completed.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

ANALYST : MERCEDES ZALDIVAR

IDOC
METHOD 245.1
MATRIX : LIQUID
DATE : 10/14/13

	TV(ppb)	IDOC#1 (ppb)	IDOC#2 (ppb)	IDOC#3 (ppb)	IDOC#4 (ppb)	STD.DEV.	AVERAGE %RECOV.
HG	5.00	5.106871	5.071572	4.947200	5.066721	0.0696001	100.96

Calibration Report -

(3)

General Details

Me red By :

Calibration #: Default

Fit Type : Least Squares

Unit : ppb

Slope : 42.134094

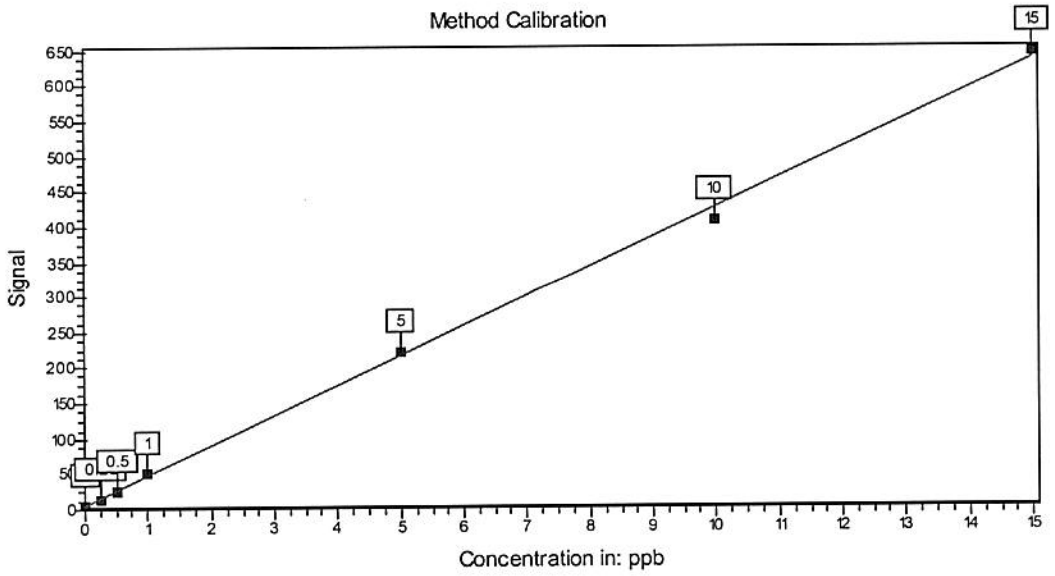
Intercept : 4.830843

Correlation Coefficient : 0.999420

Reslope %:

Definition of Standards

Include	Pos	Runs	Conc	Pk Ht	Pk Area	Res %	Res Conc	Date/Time
Yes	1	1	0.000	5.281784	325.020844	0.000000	0.010703	14 Oct 2013 13:33
Yes	2	1	0.250	14.397552	931.981934	-9.178462	-0.022946	14 Oct 2013 13:36
Yes	3	1	0.500	25.397604	1676.348145	-2.374735	-0.011874	14 Oct 2013 13:38
Yes	4	1	1.000	50.917637	3358.588867	9.381237	0.093812	14 Oct 2013 13:41
Yes	6	1	5.000	220.033020	14505.972656	2.151087	0.107554	14 Oct 2013 13:47
Yes	187	1	10.00	408.990936	27762.308594	-4.077660	-0.407766	14 Oct 2013 13:50
Yes	188	1	15.00	646.554871	44282.753906	1.536778	0.230517	14 Oct 2013 13:52



Analysis Sequence Report C:\Program Files\Millennium\Sequences\2 BATCHES -IDOC-MAZ-.sqf

(4)

General Details

Instrument Type	Millennium Merlin
AutoSampler Type	20.400
Tray Type	Tray84

Analyses for current Session

Line #	Pos	Runs	Type	Name / Conc	ID / Action	Mass	Volume	Dil Factor
1	1	1	Cal	0.000				
2	2	1	Cal	0.250				
3	3	1	Cal	0.500				
4	4	1	Cal	1.000				
5	5	1	Cal	2.500				
6	6	1	Cal	5.000				
7	187	1	Cal	10.00				
8	188	1	Cal	15.00				
9	190	1	QC	ICV 5.00 PPB	Ignore	4.75	5.25	
10	191	1	Sample	CCB		1	1	1
11	192	1	QC	QCS 5.00 PPB	Ignore	4.5	5.5	
12	7	1	Sample	LRB Dig. # 530-L		1	1	1
13	8	1	QC	LCS 5.00 PPB	Ignore	4.25	5.75	
14	9	1	Sample	13J-218-02-C		1	1	1
15	10	1	Sample	13J-223-01-D		1	1	1
16	11	1	Sample	13J-227-01-B-tclp		1	1	1
17	12	1	Sample	13J-323-01-B		1	1	1
18	13	1	Sample	13J-340-01-C		1	1	1
19	14	1	Sample	I D O C-L#1-MAZ		1	1	1
20	15	1	Sample	I D O C-L#2-MAZ		1	1	1
21	16	1	Sample	I D O C-L#3-MAZ		1	1	1
22	17	1	Sample	I D O C-L#4-MAZ		1	1	1
23	18	1	Sample	13J-187-01-D		1	1	1
24	19	1	Sample	13-J-266-01-J		1.00	1.00	1
25	20	1	Sample	13-J-266-01-J -MS		1.00	1.00	1
26	21	1	Sample	13-J-266-01-J-MSD		1.00	1.00	1
27	190	1	QC	CCC 5.00 PPB	Ignore	4.5	5.5	
28	191	1	Sample	CCB		1	1	1

Analysis Sequence Report C:\Program Files\Millennium\Sequences\2 BATCHES -IDOC-MAZ-.sqf

Line #	Pos	Runs	Type	Name / Conc	ID / Action	Mass	Volume	Dil Factor
29	40	1	Sample	LRB Dig.#274-S		1	1	1
30	22	1	Sample	LCS 5.00 ppb		1	1	1
31	23	1	Sample	13J204-01A(0.2562)		1	1	1
32	24	1	Sample	13J204-03A(0.5751)		1	1	1
33	25	1	Sample	13J204-04A(0.5444)		1	1	1
34	26	1	Sample	13J204-05A(0.5565)		1	1	1
35	27	1	Sample	13J269-01A(5.1316)		1	1	1
36	28	1	Sample	IDOC-S#1-MAZ(0.2)		1	1	1
37	29	1	Sample	IDOC-S#2-MAZ(0.2)		1	1	1
38	30	1	Sample	IDOC-S#3-MAZ(0.2)		1	1	1
39	31	1	Sample	IDOC-S#4-MAZ(0.2)		1	1	1
40	32	1	Sample	13J204-02A(0.2011)		1	1	1
41	33	1	Sample	13J204-02A-MS(0.2)		1	1	1
42	34	1	Sample	13J20402-MSD(0.2)		1	1	1
43	35	1	Sample	13J274-01A(5.2905)		1	1	1
44	36	1	Sample	13J274-02A(0.5682)		1	1	1
45	190	1	QC	CCC 5.00 PPB	Ignore	4.5	5.5	
46	191	1	Sample	CCB		1	1	1

(5)

Analysis Report - Filename: C:\Program Files\Millennium\Res 10.14.13.-MAZ-IDOC.rsf

Pos	Runs	Type	Name	ID / Action	Conc	Pk Ht	Pk Area	Baseline	Message	Flag	Slope/ CFm	Intercept	Dilutio Factor	SD	RSD	Cal	Method	Date/Time
1	1	Cal	0.000		0.000	5.281784	325.020844	-0.034909	----		0.000000	0.000000	----	----	----	D	245.1	14 Oct 13 13:33
2	1	Cal	0.250		0.250	14.397552	931.981934	-0.050677	----		36.463070	5.281784	----	----	----	D	245.1	14 Oct 13 13:36
3	1	Cal	0.500		0.500	25.397604	1676.348145	-0.113576	----		40.231640	4.967737	----	----	----	D	245.1	14 Oct 13 13:38
4	1	Cal	1.000		1.000	50.917637	3358.588867	-0.216244	----		46.113277	3.824085	----	----	----	D	245.1	14 Oct 13 13:41
5	1	Cal	2.500		2.500	100.857559	6894.067383	-0.528615	----	I	38.489979	6.653946	----	----	----	D	245.1	14 Oct 13 13:44
6	1	Cal	5.000		5.000	220.033020	14505.972656	-1.036740	----		42.444725	4.045243	----	----	----	D	245.1	14 Oct 13 13:47
187	1	Cal	10.00		10.00	408.990936	27762.308594	-0.816947	----		40.643562	7.373138	----	----	----	D	245.1	14 Oct 13 13:50
188	1	Cal	15.00		15.00	646.554871	44282.753906	-0.626164	----		42.134094	4.830843	----	----	----	D	245.1	14 Oct 13 13:52
190	1	QC	ICV 5.00 PPB	Ignore	4.832456	208.441986	14116.902344	-0.396494	Pass		42.134094	4.830843	----	----	----	D	245.1	14 Oct 13 13:56
191	1	Sample	CCB		-0.090681	1.010072	-316.630402	-1.010072	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 13:59
192	1	QC	QCS 5.00 PPB	Ignore	5.014528	216.113449	15121.322266	-0.021650	Pass		42.134094	4.830843	----	----	----	D	245.1	14 Oct 13 14:02
7	1	Sample	LRB Dig. # 530-L		-0.095480	0.807899	-187.271759	-0.807899	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:05
8	1	QC	LCS 5.00 PPB	Ignore	4.750924	205.006714	13440.928711	-0.011691	Pass		42.134094	4.830843	----	----	----	D	245.1	14 Oct 13 14:08
9	1	Sample	13J-218-02-C		-0.056699	2.441881	25.323589	-0.773681	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:11
10	1	Sample	13J-223-01-D		-0.084723	1.261122	76.381332	-0.058182	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:13
11	1	Sample	13J-227-01-B-tclp		1.081768	50.410156	3202.342529	0.009340	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:16
12	1	Sample	13J-323-01-B		-0.080384	1.443939	31.852066	-0.409380	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:19
13	1	Sample	13J-340-01-C		-0.084771	1.259082	80.324554	-0.057979	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:22
14	1	Sample	I D O C-L#1-MAZ		5.106871	220.004242	14460.543945	-0.007379	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:24
15	1	Sample	I D O C-L#2-MAZ		5.071572	218.516937	14373.505859	-0.804439	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:27
16	1	Sample	I D O C-L#3-MAZ		4.947200	213.276642	13678.452148	-1.148485	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:30
17	1	Sample	I D O C-L#4-MAZ		5.066721	218.312561	14112.528320	-1.593801	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:33
18	1	Sample	13J-187-01-D		-0.078444	1.525670	-560.836853	-1.525670	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:36
19	1	Sample	13-J-266-01-J		-0.071365	1.823964	113.118095	-0.030215	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:39
20	1	Sample	13-J-266-01-J - MS		6.383698	273.802155	18273.609375	-0.000825	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:41
21	1	Sample	13-J-266-01-J-MSD		6.446797	276.460815	18371.294922	-0.761386	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:44
190	1	QC	CCC 5.00 PPB	Ignore	5.305758	228.384171	15870.051758	-0.087657	Pass		42.134094	4.830843	----	----	----	D	245.1	14 Oct 13 14:47

Analysis Report - Filename: C:\Program Files\Millennium\Resu...10.14.13.-MAZ-IDOC.rsf

Pos	Runs	Type	Name	ID / Action	Conc	Pk Ht	Pk Area	Baseline	Message	Flag	Slope/ CFm	Intercept	Dilutio Factor	SD	RSD	Cal	Method	Date/Time
191	1	Sample	CCB		-0.095224	0.818657	-175.362534	-0.818657	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:50
40	1	Sample	LRB Dig.#274-S		-0.060512	2.281241	138.946503	-0.059366	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:53
22	1	Sample	LCS 5.00 ppb		5.286367	227.567139	15487.044922	-0.018610	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:56
23	1	Sample	13J204-01A(0.2562)		0.552206	28.097548	1678.963257	-0.792579	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 14:59
24	1	Sample	13J204-03A(0.5751)		2.292957	101.442490	6542.003906	-0.283295	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:02
25	1	Sample	13J204-04A(0.5444)		1.958271	87.340836	5435.228027	-0.761051	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:04
26	1	Sample	13J204-05A(0.5565)		2.956377	129.395111	8281.832031	-0.722492	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:07
27	1	Sample	13J269-01A(5.1316)		2.604417	114.565582	6961.401855	-0.962474	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:10
28	1	Sample	IDOC-S#1-MAZ(0.2)		5.040870	217.223343	14009.918945	-0.942092	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:12
29	1	Sample	IDOC-S#2-MAZ(0.2)		4.976465	214.509689	13753.950195	-1.272175	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:15
30	1	Sample	IDOC-S#3-MAZ(0.2)		5.048049	217.525818	13847.721680	-1.668147	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:18
31	1	Sample	IDOC-S#4-MAZ(0.2)		5.002592	215.610504	13681.532227	-1.705691	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:21
32	1	Sample	13J204-02A(0.2011)		0.271070	16.252123	692.833984	-1.980983	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:23
33	1	Sample	13J204-02A-MS(0.2)		7.917654	338.434021	21011.421875	-0.208997	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:26
34	1	Sample	13J20402-MSD(0.2)		7.886236	337.110260	20742.255859	-0.802763	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:29
35	1	Sample	13J274-01A(5.2905)		6.253852	268.331238	17167.494141	-0.047958	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:32
36	1	Sample	13J274-02A(0.5682)		5.679917	244.149002	15404.289063	-0.884638	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:35
190	1	QC	CCC 5.00 PPB	Ignore	5.306161	228.401123	15117.195313	-1.327528	Pass		42.134094	4.830843	----	----	----	D	245.1	14 Oct 13 15:38
191	1	Sample	CCB		-0.081516	1.396244	-514.221558	-1.396244	----		42.134094	4.830843	1	----	----	D	245.1	14 Oct 13 15:41

HG - DIGEST(245.1-

530

DIGESTION # ~~529~~ IN

#1310287

	SAMPLE LCN	Vi(ml)	Vf(ml)	Vstd.	C std.
	LRB	50	50	-	-
	STD#1 0.25PPB	50	50	0.125ml	100ug/l
	STD#2 0.50PPB	50	50	0.25ml	100ug/l
	STD#3 1.00PPB	50	50	0.50ml	100ug/l
	STD#4 2.00PPB	50	50	1.00ml	100ug/l
	STD#5 5.00PPB	50	50	2.50ml	100ug/l
	STD#6 10.0PPB	50	50	5.00ml	100ug/l
	STD#7 15.0PPB	50	50	7.50ml	100ug/l
	CCC - 5ppb	50	50	2.50ml	100ug/l
	QCS - 5ppb	50	50	2.50ml	100ug/l
	LRB	50	50	-	-
	LCS - 5ppb	50	50	2.50ml	100ug/l
1	137-218-02-C	50	50	-	-
2	13T-223-01-D	50	50	-	-
3	137-227-01-B top	50	50	-	-
4	IDOC #1	50	50	-	-
5	IDOC #2	50	50	-	-
6	IDOC #3	50	50	-	-
7	IDOC #4	50	50	-	-
8	137-187-01-D	50	50	-	-
9	13A-323-01 B	50	50	-	-
10	13J-340-01 C	50	50	-	-
	MS 137-187-01-5ppb-D	50	50	2.50ml	100ug/l
	MSD 137-187-01-5ppb-D	50	50	2.50ml	100ug/l
11	1370266-01Y	50	50	-	-
12				-	-
13				-	-
14				-	-
15				-	-
16				-	-
17				-	-
18				-	-
19				-	-
20				-	-
	MS 1370266-01Y-5ppb	50	50	2.50ml	100ug/l

HNO3 LOT #	SHBD0695 V-ALD
H2SO4 LOT#	C147567 -GFS
HCl LOT#	L04039 - MC
KMnO4 LOT#	C17X008 - AA
K2S2O8 LOT#	Y007W001 - AA
(NH2OH)2*H2SO4 LOT#	E30.40.13-AA
SnCl2*2H2O LOT#	G30W033 - AA
Hg CAL STD. LOT#	1304310 - HPS
Hg QCS STD. LOT#	1304311 - HPS

DATE :	10.10.13
TIME DIGESTED:	2hrs
TEMPERATURE:	95°C
ANALYST:	MAZ / EN

HOTBLOCK ; MET-HOTBLOCK-1

(8)

Date: 1/09/2

Document Control Number: 0401115-

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Eugene Nutzu	Eugene Nutzu	8/2/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Nu**
EPA 7470	☒ Water ☐ DW ☐ Solid ☐ Other:_____	020317-001
Analyte or Class of Analytes		
Mercury		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Eugene Nutzu *Analyst*	*Signature*	8/2/17 *Date*
Irena Nutzu *Technical Director*	*Signature*	8/2/17 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	8/2/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	7/27/2017
ANALYZED BY:	EN
METHOD NUMBER:	7470
EXTRACTION METHOD (IF APPLY):	7470
INSTRUMENT ID:	MET-5
EXTRACTED BY:	EN
DATE EXTRACTED:	7/27/2017
ACCEPTANCE CRITERIA:	±15%

Document Control#: 0401116-002
Date: 8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	HPS#1530715	10ppb
Surrogate		
Internal Standard		

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
Mercury	10.00	10.3563	9.9430	9.9927	10.1315	10.11	1.83	101.06	0.19

DATE : 07.27.2017
ANALYST : Eugene Nutzu

IDOC
METHOD : 7470
MATRIX : LIQUID
ANALYTE : Hg

	C(X) (ppb)	IDOC-1- (ppb)	IDOC-2- (ppb)	IDOC-3- (ppb)	IDOC-4- (ppb)	Average (ppb)	% Recovery	Std.Dev.
Hg	10.000000	10.356320	9.942995	9.992695	10.131530	10.1059	101.1	0.185041

Calibration Report -

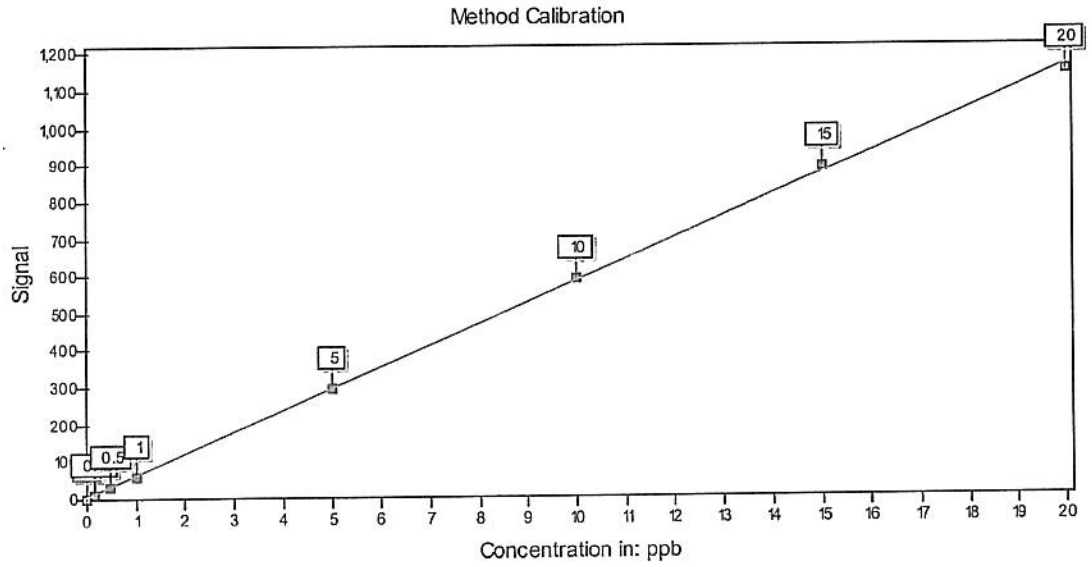
General Details

...easured By :

Calibration #:	Default
Fit Type :	Least Squares
Unit :	ppb
Slope :	58.067890
Y Intercept :	2.915405
Correlation Coefficient :	0.999731
Reslope %:	
Method Name:	Hg 0-20ppb

Definition of Standards

Include	*Pos*	*Runs*	*Conc*	*Pk Ht*	*Pk Area*	*Res %*	*Res Conc*	*Date/Time*
Yes	7	1	0.000	0.788476	45.077930	0.000000	-0.036628	27 Jul 2017 11:04
Yes	8	1	0.150	10.394170	609.216300	-14.137700	-0.021207	27 Jul 2017 11:06
Yes	9	1	0.500	29.559540	1753.440000	-8.231096	-0.041155	27 Jul 2017 11:09
Yes	10	1	1.000	57.921020	3439.508000	-5.273617	-0.052736	27 Jul 2017 11:12
Y...	11	1	5.000	292.767400	17725.820000	-0.167900	-0.008395	27 Jul 2017 11:15
...	12	1	10.00	592.230800	35170.520000	1.487298	0.148730	27 Jul 2017 11:18
Yes	13	1	15.00	892.478100	54006.680000	2.129034	0.319355	27 Jul 2017 11:21
Yes	14	1	20.00	1146.391000	69258.690000	-1.539775	-0.307955	27 Jul 2017 11:24



Analysis Sequence Report C:\Program Files\P S Analytical\Millennium\Sequences\WS-WP-07-17--E.N.--.sqf

eral Details

Instrument Type	Millennium Merlin
AutoSampler Type	20.400
Tray Type	Tray75

Analyses for current Session

Line #	*Pos*	*Runs*	*Type*	*Name / Conc*	*ID / Action*	*Mass(g) / Min*	*Vol(ml) / Max*	*Mass 2*	*Vol 2*	*Dil Factor*
1	7	1	Cal	0.000						
2	8	1	Cal	0.150						
3	9	1	Cal	0.500						
4	10	1	Cal	1.000						
5	11	1	Cal	5.000						
6	12	1	Cal	10.00						
7	13	1	Cal	15.00						
8	14	1	Cal	20.00						
	190	1	QC	QCS 10.00 PPB	Ignore	9	11			
10	191	1	QC	CCC 10.00 PPB	Ignore	9.5	10.5			
11	192	1	Sample	CCB		1	1			1
12	19	1	Sample	LRB		1	1			1
13	20	1	QC	LCS 10.00 PPB	Ignore	8.5	11.5			
14	21	1	Sample	RINSE		1	1			1
15	22	1	Sample	MDL #1- 1ppb		1	1			1
16	23	1	Sample	MDL #2- 1ppb		1	1			1
17	24	1	Sample	MDL #3- 1ppb		1	1			1
18	25	1	Sample	MDL #4- 1ppb		1	1			1
19	26	1	Sample	MDL #5- 1ppb		1	1			1
20	27	1	Sample	MDL #6- 1ppb		1	1			1
21	28	1	Sample	MDL #7- 1ppb		1	1			1
22	29	1	Sample	RINSE		1	1			1
23	30	1	Sample	1DOC#1- 10ppb		1	1			1
24	31	1	Sample	IDOC#2- 10ppb		1.00	1.00			1
25	32	1	Sample	IDOC#3- 10ppb		1	1			1
26	33	1	Sample	IDOC#4- 10ppb		1.00	1.00			1
	34	1	Sample	RINSE		1.00	1.00			1
28	35	1	Sample	17G-670-2(WS-7.1		1.00	1.00			1

Analysis Sequence Report C:\Program Files\P S Analytical\Millennium\Sequences\WS-WP-07-17--E.N.--.sqf

Line #	Pos	Runs	Type	Name / Conc	ID / Action	Mass(g) / Min	Vol(ml) / Max	Mass 2	Vol 2	Dil Factor
29	36	1	Sample	17G-343-2(WP-1:2		1.00	1.00			1
30	191	1	QC	CCC 10.00 PPB	Ignore	9	11			
31	192	1	Sample	CCB		1	1			1

Analysis Report - Filename: C:\Program Files\P S Analytical Millennium\Results\01.27.17--E.N.--.rsf

Pos	Runs	Type	Name	Conc	Pk Ht	Baseline	Message	Dilution Factor	Cal	Method	Date/Time	Unit
7	1	Cal	0.000	0.000	0.788476	12.246710	----	----	D	Hg 0-20ppb	27 Jul 17 11:04	ppb
8	1	Cal	0.150	0.150	10.394170	12.048420	----	----	D	Hg 0-20ppb	27 Jul 17 11:06	ppb
9	1	Cal	0.500	0.500	29.559540	12.083060	----	----	D	Hg 0-20ppb	27 Jul 17 11:09	ppb
10	1	Cal	1.000	1.000	57.921020	12.530850	----	----	D	Hg 0-20ppb	27 Jul 17 11:12	ppb
11	1	Cal	5.000	5.000	292.767400	13.260370	----	----	D	Hg 0-20ppb	27 Jul 17 11:15	ppb
12	1	Cal	10.00	10.00	592.230800	16.076740	----	----	D	Hg 0-20ppb	27 Jul 17 11:18	ppb
13	1	Cal	15.00	15.00	892.478100	18.227440	----	----	D	Hg 0-20ppb	27 Jul 17 11:21	ppb
14	1	Cal	20.00	20.00	1146.391000	20.034560	----	----	D	Hg 0-20ppb	27 Jul 17 11:24	ppb
190	1	QC	QCS 10.00 PPB	10.111950	590.095200	21.178780	Pass	----	D	Hg 0-20ppb	27 Jul 17 11:27	ppb
191	1	QC	CCC 10.00 PPB	10.084490	588.500400	21.677380	Pass	----	D	Hg 0-20ppb	27 Jul 17 11:30	ppb
192	1	Sample	CCB	0.000000	0.097956	13.407040	----	1	D	Hg 0-20ppb	27 Jul 17 11:35	ppb
19	1	Sample	LRB	0.006399	3.287005	12.812990	----	1	D	Hg 0-20ppb	27 Jul 17 11:38	ppb
20	1	QC	LCS 10.00 PPB	10.034220	585.581200	12.513180	Pass	----	D	Hg 0-20ppb	27 Jul 17 11:40	ppb
21	1	Sample	RINSE	0.000000	0.773539	16.159800	----	1	D	Hg 0-20ppb	27 Jul 17 11:44	ppb
22	1	Sample	MDL #1- 1ppb	0.931272	56.992420	12.768700	----	1	D	Hg 0-20ppb	27 Jul 17 11:47	ppb
23	1	Sample	MDL #2- 1ppb	0.927611	56.779830	14.173880	----	1	D	Hg 0-20ppb	27 Jul 17 11:49	ppb
24	1	Sample	MDL #3- 1ppb	0.914658	56.027650	14.122350	----	1	D	Hg 0-20ppb	27 Jul 17 11:52	ppb
25	1	Sample	MDL #4- 1ppb	0.900382	55.198680	14.084660	----	1	D	Hg 0-20ppb	27 Jul 17 11:55	ppb
26	1	Sample	MDL #5- 1ppb	0.911408	55.838950	14.009200	----	1	D	Hg 0-20ppb	27 Jul 17 11:57	ppb
27	1	Sample	MDL #6- 1ppb	0.841190	51.761550	14.082880	----	1	D	Hg 0-20ppb	27 Jul 17 12:00	ppb
28	1	Sample	MDL #7- 1ppb	1.002431	61.124470	14.084780	----	1	D	Hg 0-20ppb	27 Jul 17 12:03	ppb
29	1	Sample	RINSE	0.000000	0.131487	12.818510	----	1	D	Hg 0-20ppb	27 Jul 17 12:06	ppb
30	1	Sample	1DOC#1-10ppb	10.356320	604.284900	12.079960	----	1	D	Hg 0-20ppb	27 Jul 17 12:10	ppb
31	1	Sample	IDOC#2-10ppb	9.942995	580.284200	15.678790	----	1	D	Hg 0-20ppb	27 Jul 17 12:14	ppb
32	1	Sample	IDOC#3- 10ppb	9.992695	583.170200	17.955720	----	1	D	Hg 0-20ppb	27 Jul 17 12:17	ppb
33	1	Sample	IDOC#4- 10ppb	10.131530	591.231900	19.357050	----	1	D	Hg 0-20ppb	27 Jul 17 12:20	ppb
34	1	Sample	RINSE	0.000000	1.992762	20.273910	----	1	D	Hg 0-20ppb	27 Jul 17 12:23	ppb
35	1	Sample	17G-670-2(WS-7.17)	8.559767	499.963000	12.959270	----	1	D	Hg 0-20ppb	27 Jul 17 12:26	ppb
36	1	Sample	17G-343-2(WP-1:2-7.17)	12.513100	729.525000	16.276730	----	1	D	Hg 0-20ppb	27 Jul 17 12:29	ppb

Analys Report - Filename: C:\Program Files\P S Analyti Millennium\Results\01.27.17--E.N.--.rsf

Pos	Runs	Type	Name	Conc	Pk Ht	Baseline	Message	Dilutio Factor	Cal	Method	Date/Time	Unit
191	1	QC	CCC 10.00 PPB	9.850528	574.914800	18.509340	Pass	----	D	Hg 0-20ppb	27 Jul 17 12:32	ppb
192	1	Sample	CCB	0.000000	1.814756	19.780240	----	1	D	Hg 0-20ppb	27 Jul 17 12:35	ppb

HG DIGES N 7470

	SAMPLE LCN	W(g)	Vf(ml)	Vstd.	C std.	COMMENTS
	CAL. BLANK	50	50	-	-	
	STD#1 0.44 ppb	50	50	22ul	1000ug/l	
	STD#2 2.00 ppb	50	50	100ul	1000ug/l	
	STD#3 5.00 ppb	50	50	250ul	1000ug/l	
	STD#4 10.0 ppb	50	50	500ul	1000ug/l	
	STD#5 15.0 ppb	50	50	750ul	1000ug/l	
	STD#6 20.0 ppb	50	50	1000ul	1000ug/l	
	CCC - 10ppb	50	50	500ul	1000ug/l	
	QCS - 10ppb	50	50	500ul	1000ug/l	
	LRB	50	50	-	-	
	LCS - 10ppb	50	50	500ul	1000ug/l	
1	MDL#1 - 1ppb	50	50	50µl	1000µg/l	
2	MDL#2 - 1ppb	50	50	50µl	"	
3	MDL#3 - 1ppb	50	50	50µl	-	
4	MDL#4 - 1ppb	50	50	50µl	-	
5	MDL#5 - 1ppb	50	50	50µl	-	
6	MDL#6 - 1ppb	50	50	50µl	-	
7	MDL#7 - 1ppb	50	50	50µl	-	
8	IDOC#1 - 10ppb	50	50	500µl	-	
9	IDOC#2 - 10ppb	50	50	500µl	-	
10	IDOC#3 - 10ppb	50	50	500µl	-	
11	IDOC#4 - 10ppb	50	50	500µl	↓	
12	17G0670-02A	50	50	-	-	WS0717
13	17G0343-02A	250	50	-	-	WP0717 1:2
14			50	-	-	
15			50	-	-	
16			50	-	-	
17			50	-	-	
18			50	-	-	
19			50	-	-	
20			50	-	-	
	MS	50	50	500ul	1000ug/l	
	MSD	50	50	500ul	1000ug/l	

DIGESTION # 001

BATCH# —

DATE : 07.27.17

ANALYST : EN

HNO3 LOT# SHBH6660 - ALD

H2SO4 LOT# SHBG0914V - ALD

HCl LOT# SHBG9034V - ALD

KMnO4 LOT# H19Z051 - AA

K2S2O8 LOT# A30Z008 - AA

(NH2OH)2*H2SO4 LOT# Z016A019 - AA

SnCl2*2H2O LOT# W03B012 - AA

Hg SPIKE STD: QC-MET- 032817 - B

HOTBLOCK : MET-14

DIG.TUBES:EE-LOT# 1612138

pH PAPER : H# 208515

FILTERS:EE-LOT#

PIPETTE 1ml ID: BLUE-2

PIPETTE 5ml ID:

Document Control: 0401317-006

Date:7/27/17

050136-002

Controlled Copy
Always Appears
Stamped in Red

Demonstration of Capability
Certification Statement

Date: 10.03.13
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): MERCEDES ZALDIVAR
Matrix: LIQUID
Method number: 200.7

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I Mercedes Zaldivar current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

IRENA NUTZU
Technical Director's Name and Title

Signature

Date 10.03.13

Caitlin Brice
Quality Assurance Officer's Name

Caitlin Brice
Signature

Date 10-3-13

This certification form must be completed each time a demonstration of capability study is completed

.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

DATE : 10/01/2013
ANALYST: MERCEDES ZALDIVAR

IDOC
METHOD 200.7
MATRIX : LIQUID

	T V (PPM)	IDOC-1 (PPM)	IDOC-2 (PPM)	IDOC-3 (PPM)	IDOC-4 (PPM)	Average (PPM)	% Recovery	Std.Dev.
Ag	1.00000	0.988697	0.988109	0.980037	0.980984	0.984457	98.4	0.004579
Al	1.00000	1.01483	1.01543	1.00838	1.00651	1.011288	101.1	0.004509
As	1.00000	1.0161	1.02172	1.01449	1.01033	1.01566	101.6	0.004715
B	1.00000	1.03875	1.04255	1.03985	1.03584	1.039248	103.9	0.002777
Ba	1.00000	0.981304	0.981435	0.973993	0.974522	0.977814	97.8	0.004112
Be	1.00000	1.00741	1.00929	1.00063	0.999392	1.004181	100.4	0.004901
Ca	26.00000	26.5227	26.5566	26.3258	26.3675	26.44315	101.7	0.113568
Cd	1.00000	1.0124	1.01342	1.0054	1.00671	1.009483	100.9	0.004015
Co	1.00000	0.990409	0.987593	0.97892	0.9798926	0.984204	98.4	0.005671
Cr	1.00000	0.986243	0.98881	0.980824	0.981237	0.984279	98.4	0.003898
Cu	1.00000	1.00019	0.995424	0.992003	0.990527	0.994536	99.5	0.004291
Fe	1.00000	0.987382	0.98652	0.98324	0.982438	0.984895	98.5	0.002422
K	35.00000	35.1923	35.2226	34.9171	34.9648	35.0742	100.2	0.155584
Mg	1.00000	0.991354	0.988559	0.984313	0.980792	0.986255	98.6	0.004652
Mn	1.00000	0.959678	0.965531	0.95301	0.951697	0.957479	95.7	0.006405
Mo	1.00000	1.00058	1.01486	1.01623	1.01783	1.012375	101.2	0.007956
Na	25.00000	25.4769	25.4362	25.2596	25.3565	25.3823	101.5	0.095874
Ni	1.00000	0.971258	0.97206	0.96511	0.965058	0.968372	96.8	0.00381
Pb	1.00000	0.972572	0.959859	0.953541	0.949958	0.958983	95.9	0.009941
Sb	1.00000	0.901606	0.976674	1.00254	1.01757	0.974598	97.5	0.051509
Se	1.00000	1.01286	1.01848	1.01498	1.01333	1.014913	101.5	0.002546
Si	0.50000	0.488721	0.488276	0.485813	0.484249	0.486765	97.4	0.002109
Sr	1.00000	0.955258	0.958778	0.946739	0.956022	0.954199	95.4	0.005198
Ti	1.00000	0.992188	0.995678	0.988875	0.986164	0.990726	99.1	0.004119
Tl	1.00000	0.958875	0.963541	0.954824	0.955342	0.958146	95.8	0.004022
V	1.00000	1.00075	0.999742	0.991597	0.990313	0.995601	99.6	0.005405
Zn	1.00000	0.993287	0.999046	0.98823	0.984388	0.991238	99.1	0.006354

Vista PRO.100113.

Method Parameters

METHOD : 200.7 , 6010 , 6010 TCLP
ANALYST : IRENA NUTZU / MERCEDES ZALDIVAR
INSTRUMENT : VARIAN 720-ES-SERIAL#EL06073103
NELAC Traceability Information :
CALIB. STANDARDS : HPS-QCS-26,LOT# 1204112
HPS-Sr-LOT# 1208804
HPS-Ca-LOT # 1207226
HPS-K-LOT # 1131215
HPS-Na-LOT # 1130805

CCV : HPS-QCS-26,LOT# 1204112
HPS-Sr-LOT# 1208804
HPS-Ca-LOT # 1207226
HPS-K-LOT # 1131215
HPS-Na-LOT # 1130805

EXTERNAL SOURCE STD.: QCS-HPS-QCS-26,LOT# 1305106
-HPS-Sr-LOT # 1127324
-HPS-Ca-LOT#1128701
-HPS-K-LOT # 1118723
-HPS-Na-LOT # 1115410

LCS/MS- HPS-QCS-26,LOT# 1305106
-HPS-Sr-LOT # 1127324
-HPS-Ca-LOT#1128701
-HPS-K-LOT # 1118723
-HPS-Na-LOT # 1115410

REAGENTS: HNO3 : Aldrich, LOT# SHBD0895V
HCl : MC-LOT#L04039
H2O2: EMD,LOT#52007229

QA/QC STATISTICS FOR ANALYTICAL RUN :see raw data
QA/QC ACCEPTANCE CRITERIA : CCV : ± 5% (First after calibration) , ± 10% (The rest)
QCS : ± 5% (Second source)
LCS : ± 15% (200.7,6010)
MS/MSD : ± 30% (200.7) , ± 25% (6010)

BATCH#_____

RUN#_____

PARENT SAMPLE SPIKED:_____

Blank (Blk) **10/1/2013, 11:25:55 AM** **Rack 0, Tube 1**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	0.000000	mg/L	4.731	152.7	3.09810
Al 308.215	0.000000	mg/L	1.182	0.6	187.100
As 188.980	0.000000	mg/L	0.459	14.8	3.10457
B 208.889	0.000000	mg/L	1.374	37.7	3.64418
Ba 233.527	0.000000	mg/L	0.679	10.8	6.29427
Be 234.861	0.000000	mg/L	1.356	87.9	1.54360
Ca 430.253	0.000000	mg/L	12.368	11.4	108.866
Cd 228.802	0.000000	mg/L	1.539	37.4	4.11805
Co 228.615	0.000000	mg/L	1.104	63.3	1.74268
Cr 206.158	0.000000	mg/L	0.387	49.1	0.787750
Cu 324.754	0.000000	mg/L	7.544	4.1	183.974
Fe 238.204	0.000000	mg/L	2.319	15.2	15.2578
K 766.491	0.000000	mg/L	9.784	5.7	171.835
Mg 279.078	0.000000	mg/L	2.218	31.8	6.98450
Mn 257.610	0.000000	mg/L	0.445	2.2	20.4326
Mo 202.032	0.000000	mg/L	1.950	24.2	8.06522
Na 568.821	0.000000	mg/L	3.702	2.5	145.650
Ni 231.604	0.000000	mg/L	0.859	20.9	4.10638
Pb 220.353	0.000000	mg/L	0.742	24.1	3.07656
Sb 206.834	0.000000	mg/L	0.459	12.7	3.62214
Se 196.026	0.000000	mg/L	0.415	18.2	2.27438
Si 212.412	0.000000	mg/L	2.234	9.3	23.9644
Sr 407.771	0.000000	mg/L	4.960	2.7	182.631
Ti 334.941	0.000000	mg/L	8.291	71.3	11.6322
Tl 190.794	0.000000	mg/L	0.464	45.7	1.01510
V 292.401	0.000000	mg/L	1.971	29.4	6.70622
Zn 213.857	0.000000	mg/L	1.338	8.7	15.3970

0.50 ppm (Std) **10/1/2013, 11:30:08 AM** **Rack 0, Tube 2**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	0.500000	mg/L	72.702	0.5	16132.1
Al 308.215	0.500000	mg/L	18.105	0.7	2623.60
As 188.980	0.500000	mg/L	2.770	0.7	372.455
B 208.889	0.500000	mg/L	9.268	2.0	459.524
Ba 233.527	0.500000	mg/L	90.566	0.4	22121.2
Be 234.861	0.500000	mg/L	225.724	0.4	59733.0
Cd 228.802	0.500000	mg/L	32.624	0.3	11900.9
Co 228.615	0.500000	mg/L	45.426	0.7	6546.30
Cr 206.158	0.500000	mg/L	6.778	0.7	1013.30
Cu 324.754	0.500000	mg/L	131.049	0.4	30638.3
Fe 238.204	0.500000	mg/L	10.714	0.1	15280.9
Mg 279.078	0.500000	mg/L	5.480	0.7	743.642
Mn 257.610	0.500000	mg/L	215.534	0.3	83632.8
Mo 202.032	0.500000	mg/L	63.618	1.9	3331.88
Ni 231.604	0.500000	mg/L	9.812	0.5	2100.49

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Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Pb 220.353	0.500000	mg/L	70.354	8.9	792.548
Sb 206.834	0.500000	mg/L	8.533	2.1	397.026
Se 196.026	0.500000	mg/L	4.919	1.7	292.306
Si 212.412	0.250000	mg/L	1.587	0.3	500.984
Sr 407.771	0.500000	mg/L	4707.898	0.4	1210505
Ti 334.941	0.500000	mg/L	163.167	0.3	61692.6
Tl 190.794	0.500000	mg/L	1.320	0.2	548.841
V 292.401	0.500000	mg/L	74.016	0.4	19020.4
Zn 213.857	0.500000	mg/L	41.092	0.4	9788.83

2.00 ppm (Std) **10/1/2013, 11:34:22 AM** **Rack 0, Tube 3**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	2.00000	mg/L	225.118	0.4	62583.9
Al 308.215	2.00000	mg/L	41.234	0.4	9611.23
As 188.980	2.00000	mg/L	4.498	0.3	1480.46
B 208.889	2.00000	mg/L	32.480	1.8	1829.12
Ba 233.527	2.00000	mg/L	241.957	0.3	84574.7
Be 234.861	2.00000	mg/L	865.242	0.4	235750
Cd 228.802	2.00000	mg/L	118.573	0.3	46721.7
Co 228.615	2.00000	mg/L	112.109	0.4	25312.2
Cr 206.158	2.00000	mg/L	22.785	0.6	3951.86
Cu 324.754	2.00000	mg/L	426.997	0.4	117432
Fe 238.204	2.00000	mg/L	242.027	0.4	60072.3
Mg 279.078	2.00000	mg/L	5.255	0.2	2853.69
Mn 257.610	2.00000	mg/L	783.862	0.2	321503
Mo 202.032	2.00000	mg/L	195.286	1.4	14190.1
Ni 231.604	2.00000	mg/L	27.966	0.3	8031.73
Pb 220.353	2.00000	mg/L	92.462	2.6	3625.83
Sb 206.834	2.00000	mg/L	18.815	1.2	1613.82
Se 196.026	2.00000	mg/L	9.177	0.8	1169.73
Si 212.412	1.00000	mg/L	8.636	0.5	1868.90
Sr 407.771	2.00000	mg/L	26079.305	0.6	4180509
Ti 334.941	2.00000	mg/L	403.099	0.2	236824
Tl 190.794	2.00000	mg/L	3.714	0.2	2105.88
V 292.401	2.00000	mg/L	517.793	0.7	74608.9
Zn 213.857	2.00000	mg/L	497.107	1.3	38166.5

50 ppm Minerals (Std) **10/1/2013, 11:38:35 AM** **Rack 0, Tube 4**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ca 430.253	50.0000	mg/L	457.127	0.2	265978
K 766.491	50.0000	mg/L	2493.953	0.1	1907240
Na 568.821	50.0000	mg/L	33.377	0.2	21714.2

100 ppm Minerals (Std) **10/1/2013, 11:42:48 AM** **Rack 0, Tube 5**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ca 430.253	100.000	mg/L	844.495	0.2	527540
K 766.491	100.000	mg/L	4056.182	0.1	3766085
Na 568.821	100.000	mg/L	69.843	0.2	44697.5

Ag 328.068 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999966**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.09810	0.000000	0.000000	-	-
0.50 ppm		16132.1	0.500000	0.509558	0.009558	1.9
2.00 ppm		62583.9	2.00000	1.97709	-0.022910	-1.1

Curve Type: Linear Equation: y = 31653.0 x + 3.1

Al 308.215 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999958**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		187.100	0.000000	0.000000	-	-
0.50 ppm		2623.60	0.500000	0.512789	0.012789	2.6
2.00 ppm		9611.23	2.00000	1.98341	-0.016585	-0.8

Curve Type: Linear Equation: y = 4751.5 x + 187.1

As 188.980 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.10457	0.000000	0.000000	-	-
0.50 ppm		372.455	0.500000	0.500012	0.000012	0.0
2.00 ppm		1480.46	2.00000	1.99999	-0.000008	0.0

Curve Type: Linear Equation: y = 738.7 x + 3.1

B 208.889 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.64418	0.000000	0.000000	-	-
0.50 ppm		459.524	0.500000	0.499696	-0.000304	-0.1
2.00 ppm		1829.12	2.00000	2.00093	0.000934	0.0

Curve Type: Linear Equation: y = 912.3 x + 3.6

Ba 233.527 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999924**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.29427	0.000000	0.000000	-	-
0.50 ppm		22121.2	0.500000	0.515686	0.015686	3.1
2.00 ppm		84574.7	2.00000	1.97201	-0.027989	-1.4

Curve Type: Linear Equation: y = 42884.4 x + 6.3

Be 234.861 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999994**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.54360	0.000000	0.000000	-	-
0.50 ppm		59733.0	0.500000	0.503491	0.003491	0.7
2.00 ppm		235750	2.00000	1.98718	-0.012822	-0.6

Curve Type: Linear Equation: y = 118634.7 x + 1.5

Ca 430.253 Calibration (mg/L) 10/1/2013, 11:42:48 AM Correlation Coefficient: 0.999989

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		108.866	0.000000	0.000000	-	-
50 ppm Minerals		265978	50.0000	50.2195	0.219463	0.4
100 ppm Mineral		527540	100.000	99.6255	-0.374512	-0.4

Curve Type: Linear Equation: y = 5294.1 x + 108.9

Cd 228.802 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999988

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		4.11805	0.000000	0.000000	-	-
0.50 ppm		11900.9	0.500000	0.505055	0.005055	1.0
2.00 ppm		46721.7	2.00000	1.98331	-0.016693	-0.8

Curve Type: Linear Equation: y = 23555.4 x + 4.1

Co 228.615 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999958

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.74268	0.000000	0.000000	-	-
0.50 ppm		6546.30	0.500000	0.512300	0.012300	2.5
2.00 ppm		25312.2	2.00000	1.98127	-0.018729	-0.9

Curve Type: Linear Equation: y = 12774.9 x + 1.7

Cr 206.158 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999978

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		0.787750	0.000000	0.000000	-	-
0.50 ppm		1013.30	0.500000	0.507266	0.007266	1.5
2.00 ppm		3951.86	2.00000	1.97948	-0.020525	-1.0

Curve Type: Linear Equation: y = 1996.0 x + 0.8

Cu 324.754 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999946

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		183.974	0.000000	0.000000	-	-
0.50 ppm		30638.3	0.500000	0.511535	0.011535	2.3
2.00 ppm		117432	2.00000	1.96938	-0.030616	-1.5

Curve Type: Linear Equation: y = 59535.2 x + 184.0

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Fe 238.204 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999990**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		15.2578	0.000000	0.000000	-	-
0.50 ppm		15280.9	0.500000	0.500250	0.000250	0.1
2.00 ppm		60072.3	2.00000	1.96805	-0.031950	-1.6

Curve Type: Linear Equation: y = 30516.0 x + 15.3

K 766.491 Calibration (mg/L) **10/1/2013, 11:42:48 AM** **Correlation Coefficient: 0.999973**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		171.835	0.000000	0.000000	-	-
50 ppm Minerals		1907240	50.0000	50.3834	0.383442	0.8
100 ppm Mineral		3766085	100.000	99.4929	-0.507141	-0.5

Curve Type: Linear Equation: y = 37851.1 x + 171.8

Mg 279.078 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999956**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.98450	0.000000	0.000000	-	-
0.50 ppm		743.642	0.500000	0.516566	0.016566	3.3
2.00 ppm		2853.69	2.00000	1.99619	-0.003808	-0.2

Curve Type: Linear Equation: y = 1426.1 x + 7.0

Mn 257.610 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999942**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		20.4326	0.000000	0.000000	-	-
0.50 ppm		83632.8	0.500000	0.510843	0.010843	2.2
2.00 ppm		321503	2.00000	1.96415	-0.035853	-1.8

Curve Type: Linear Equation: y = 163675.4 x + 20.4

Mo 202.032 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999863**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		8.06522	0.000000	0.000000	-	-
0.50 ppm		3331.88	0.500000	0.479857	-0.020143	-4.0
2.00 ppm		14190.1	2.00000	2.04745	0.047451	2.4

Curve Type: Linear Equation: y = 6926.7 x + 8.1

Na 568.821 Calibration (mg/L) **10/1/2013, 11:42:48 AM** **Correlation Coefficient: 0.999832**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		145.650	0.000000	0.000000	-	-
50 ppm Minerals		21714.2	50.0000	49.2292	-0.770775	-1.5
100 ppm Mineral		44697.5	100.000	101.688	1.68750	1.7

Curve Type: Linear Equation: y = 438.1 x + 145.7

Ni 231.604 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999929**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		4.10638	0.000000	0.000000	-	-
0.50 ppm		2100.49	0.500000	0.514567	0.014567	2.9
2.00 ppm		8031.73	2.00000	1.97042	-0.029580	-1.5

Curve Type: Linear Equation: y = 4074.1 x + 4.1

Pb 220.353 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999427**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.07656	0.000000	0.000000	-	-
0.50 ppm		792.548	0.500000	0.441359	-0.058641	-11.7
2.00 ppm		3625.83	2.00000	2.02532	0.025322	1.3

Curve Type: Linear Equation: y = 1788.7 x + 3.1

Sb 206.834 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999982**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.62214	0.000000	0.000000	-	-
0.50 ppm		397.026	0.500000	0.491240	-0.008760	-1.8
2.00 ppm		1613.82	2.00000	2.01065	0.010646	0.5

Curve Type: Linear Equation: y = 800.8 x + 3.6

Se 196.026 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999999**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		2.27438	0.000000	0.000000	-	-
0.50 ppm		292.306	0.500000	0.497419	-0.002581	-0.5
2.00 ppm		1169.73	2.00000	2.00225	0.002246	0.1

Curve Type: Linear Equation: y = 583.1 x + 2.3

Si 212.412 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999958**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		23.9644	0.000000	0.000000	-	-
0.50 ppm		500.984	0.250000	0.252935	0.002935	1.2
2.00 ppm		1868.90	1.00000	0.978259	-0.021741	-2.2

Curve Type: Linear Equation: y = 1885.9 x + 24.0

Sr 407.771 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999092**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		182.631	0.000000	0.000000	-	-
0.50 ppm		1210505	0.500000	0.524543	0.024543	4.9
2.00 ppm		4180509	2.00000	1.81172	-0.188282	-9.4

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Curve Type: Linear Equation: y = 2307382.8 x + 182.6

Ti 334.941 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999937**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		11.6322	0.000000	0.000000	-	-
0.50 ppm		61692.6	0.500000	0.514976	0.014976	3.0
2.00 ppm		236824	2.00000	1.97715	-0.022850	-1.1

Curve Type: Linear Equation: y = 119774.6 x + 11.6

Tl 190.794 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999940**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.01510	0.000000	0.000000	-	-
0.50 ppm		548.841	0.500000	0.513554	0.013554	2.7
2.00 ppm		2105.88	2.00000	1.97318	-0.026817	-1.3

Curve Type: Linear Equation: y = 1066.7 x + 1.0

V 292.401 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999986**

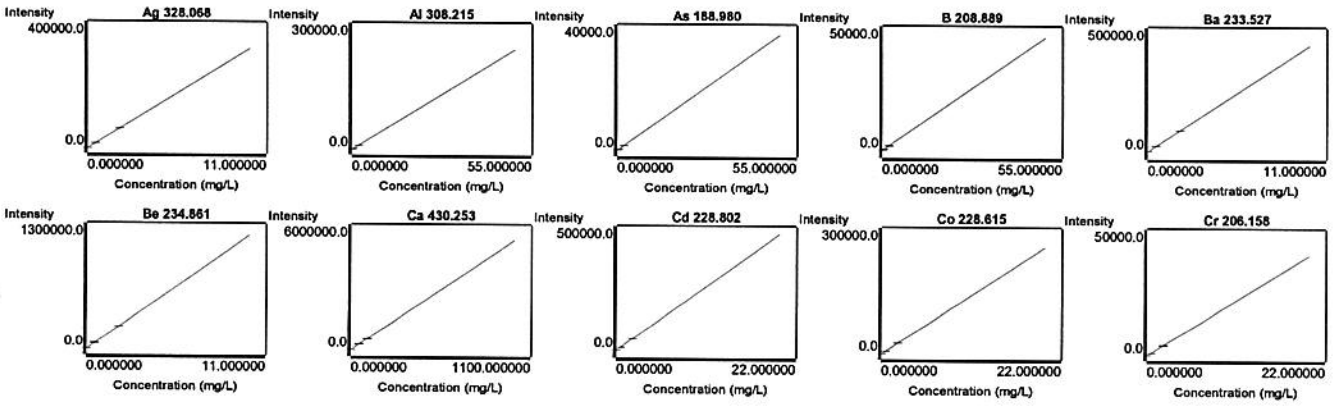
Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.70622	0.000000	0.000000	-	-
0.50 ppm		19020.4	0.500000	0.502364	0.002364	0.5
2.00 ppm		74608.9	2.00000	1.97108	-0.028924	-1.4

Curve Type: Linear Equation: y = 37848.5 x + 6.7

Zn 213.857 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999978**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		15.3970	0.000000	0.000000	-	-
0.50 ppm		9788.83	0.500000	0.501191	0.001191	0.2
2.00 ppm		38166.5	2.00000	1.95643	-0.043572	-2.2

Curve Type: Linear Equation: y = 19500.4 x + 15.4



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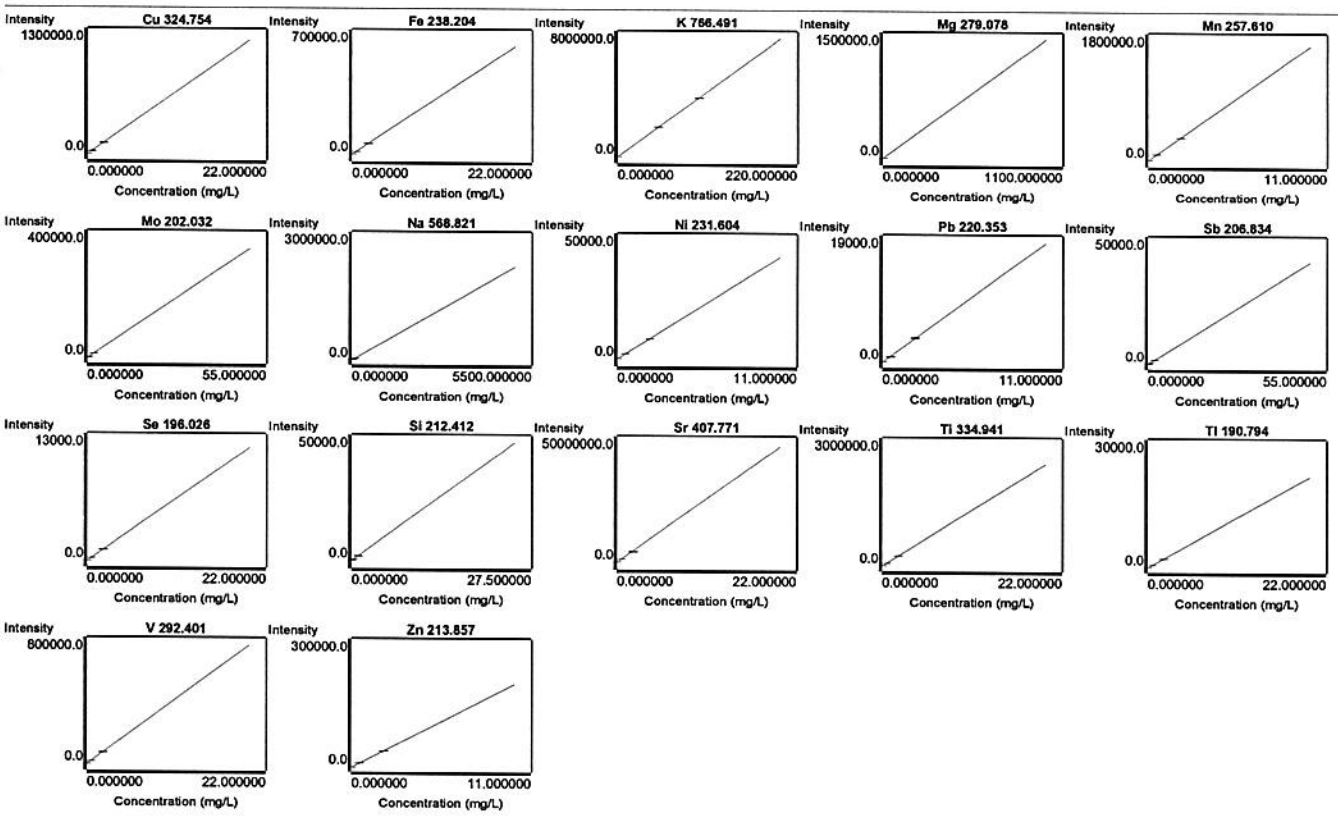

CCV1-1ppm (CCV) **10/1/2013, 11:47:02 AM** **Rack 4, Tube 1**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.01854	mg/L	0.004926	0.5	32243.0	101.85423
Al 308.215	1.03619	mg/L	0.002553	0.2	5110.51	103.61864
As 188.980	1.02281	mg/L	0.003668	0.4	758.639	102.28127
B 208.889	1.01913	mg/L	0.018918	1.9	933.411	101.91303
Ba 233.527	1.03010	mg/L	0.002565	0.2	44181.3	103.00967
Be 234.861	1.01122	mg/L	0.004458	0.4	119968	101.12220
Cd 228.802	1.02072	mg/L	0.001742	0.2	24047.7	102.07229
Co 228.615	1.02164	mg/L	0.002336	0.2	13053.0	102.16385
Cr 206.158	1.02822	mg/L	0.002490	0.2	2053.13	102.82158
Cu 324.754	1.03541	mg/L	0.003706	0.4	61827.5	103.54139
Fe 238.204	1.01479	mg/L	0.004419	0.4	30982.5	101.47860
Mg 279.078	1.03479	mg/L	0.004478	0.4	1482.66	103.47854
Mn 257.610	1.02379	mg/L	0.002549	0.2	167590	102.37895
Mo 202.032	1.03877	mg/L	0.013504	1.3	7203.30	103.87705
Ni 231.604	1.02927	mg/L	0.004556	0.4	4197.41	102.92654
Pb 220.353	1.02616	mg/L	0.040564	4.0	1838.59	102.61559
Sb 206.834	1.09298	mg/L	0.010093	0.9	878.923	109.29813
Se 196.026	1.00770	mg/L	0.018113	1.8	589.836	100.76981
Si 212.412	0.491059	mg/L	0.003836	0.8	950.073	98.21183
Sr 407.771	1.02327	mg/L	0.004697	0.5	2361248	102.32657
Ti 334.941	1.01939	mg/L	0.003641	0.4	122109	101.93920
Tl 190.794	1.02458	mg/L	0.003065	0.3	1093.98	102.45836
V 292.401	1.01864	mg/L	0.003505	0.3	38560.8	101.86440
Zn 213.857	1.00736	mg/L	0.003207	0.3	19659.4	100.73643

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CCV2-50ppm (CCV) **10/1/2013, 11:51:16 AM** **Rack 4, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ca 430.253	51.3275	mg/L	0.122156	0.2	271844	102.65505
K 766.491	51.3943	mg/L	0.111854	0.2	1945504	102.78869
Na 568.821	50.4579	mg/L	0.099962	0.2	22252.6	100.91587

QCS1-1ppm (ICV) **10/1/2013, 11:55:30 AM** **Rack 4, Tube 3**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.03362	mg/L	0.003305	0.3	32720.2	103.36188
Al 308.215	1.04655	mg/L	0.001109	0.1	5159.76	104.65516
As 188.980	1.02635	mg/L	0.005370	0.5	761.252	102.63499
B 208.889	1.02882	mg/L	0.020829	2.0	942.247	102.88158
Ba 233.527	1.02640	mg/L	0.001725	0.2	44022.8	102.63992
Be 234.861	1.02427	mg/L	0.005838	0.6	121516	102.42704
Cd 228.802	1.03145	mg/L	0.003107	0.3	24300.3	103.14499
Co 228.615	1.03163	mg/L	0.003985	0.4	13180.6	103.16280
Cr 206.158	1.03213	mg/L	0.003712	0.4	2060.94	103.21310
Cu 324.754	1.03698	mg/L	0.003132	0.3	61920.8	103.69810
Fe 238.204	1.02329	mg/L	0.001515	0.1	31241.9	102.32860
Mg 279.078	1.04103	mg/L	0.007317	0.7	1491.57	104.10339
Mn 257.610	1.01521	mg/L	0.001079	0.1	166185	101.52052
Mo 202.032	1.03303	mg/L	0.012150	1.2	7163.55	103.30316
Ni 231.604	1.02847	mg/L	0.004283	0.4	4194.15	102.84661
Pb 220.353	1.01776	mg/L	0.050601	5.0	1823.57	101.77603
Sb 206.834	1.03370	mg/L	0.014997	1.5	831.449	103.37009
Se 196.026	1.02327	mg/L	0.001900	0.2	598.914	102.32682
Si 212.412	0.516933	mg/L	0.002074	0.4	998.870	103.38665
Sr 407.771	1.01130	mg/L	0.003919	0.4	2333643	101.13017
Ti 334.941	1.01932	mg/L	0.004608	0.5	122100	101.93182
Tl 190.794	1.03094	mg/L	0.002520	0.2	1100.75	103.09370
V 292.401	1.02382	mg/L	0.002261	0.2	38756.6	102.38165
Zn 213.857	1.01518	mg/L	0.002035	0.2	19811.9	101.51842

QCS2-25ppm (ICV) **10/1/2013, 11:59:44 AM** **Rack 4, Tube 4**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ca 430.253	25.8827	mg/L	0.056949	0.2	137135	103.53071
K 766.491	25.7083	mg/L	0.050935	0.2	973260	102.83335
Na 568.821	25.1709	mg/L	0.068135	0.3	11173.7	100.68380

Blank (CCB) **10/1/2013, 12:03:58 PM** **Rack 4, Tube 5**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	0.000066	mg/L	0.000025	38.6	5.18490	0.00007
Al 308.215	0.000816	mg/L	0.000553	67.8	190.976	0.00082
As 188.980	0.000150uv	mg/L	0.001272	847.9	3.21540	0.00015
Ba 233.527	-0.000016uv	mg/L	0.000029	178.0	5.59081	-0.00002

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Be 234.861	0.000035	mg/L	0.000009	25.2	5.65564	0.00003
Ca 430.253	0.000163uv	mg/L	0.002437	1491.7	109.730	0.00016
Co 228.615	0.000253	mg/L	0.000097	38.3	4.97434	0.00025
Cr 206.158	-0.000076uv	mg/L	0.000155	203.2	0.635212	-0.00008
Cu 324.754	0.000250	mg/L	0.000077	30.8	198.879	0.00025
Fe 238.204	0.001454	mg/L	0.000237	16.3	59.6234	0.00145
Mg 279.078	-0.002478uv	mg/L	0.000883	35.7	3.45085	-0.00248
Mn 257.610	0.000034	mg/L	0.000016	46.6	26.0399	0.00003
Na 568.821	-0.011256uv	mg/L	0.017902	159.0	140.719	-0.01126
Ni 231.604	-0.000128uv	mg/L	0.000329	257.7	3.58612	-0.00013
Pb 220.353	0.000462uv	mg/L	0.001241	268.4	3.90384	0.00046
Se 196.026	0.000476uv	mg/L	0.002201	462.4	2.55193	0.00048
Si 212.412	0.000832	mg/L	0.000760	91.3	25.5339	0.00083
Sr 407.771	0.000013	mg/L	0.000001	6.5	213.766	0.00001Z
Ti 334.941	0.000854	mg/L	0.000362	42.4	113.875	0.00085
Tl 190.794	0.000178uv	mg/L	0.001142	642.6	1.20467	0.00018
V 292.401	0.000081	mg/L	0.000071	87.0	9.78564	0.00008
Zn 213.857	0.000234	mg/L	0.000050	21.2	19.9613	0.00023

PQL 5 PPB (Samp) **10/1/2013, 12:08:13 PM** **Rack 1, Tube 1**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.004428	mg/L	0.000317	7.2	143.250
Al 308.215	0.005761	mg/L	0.000327	5.7	214.471
As 188.980	0.004608	mg/L	0.002661	57.8	6.50832
B 208.889	0.006437	mg/L	0.001951	30.3	9.51653
Ba 233.527	0.005006	mg/L	0.000065	1.3	220.966
Be 234.861	0.004919	mg/L	0.000008	0.2	585.052
Cd 228.802	0.004913	mg/L	0.000106	2.2	119.842
Co 228.615	0.005191	mg/L	0.000081	1.6	68.0547
Cr 206.158	0.005608	mg/L	0.000397	7.1	11.9811
Cu 324.754	0.005450	mg/L	0.000062	1.1	508.453
Fe 238.204	0.005837	mg/L	0.000152	2.6	193.382
Mg 279.078	0.006970	mg/L	0.001219	17.5	16.9237
Mn 257.610	0.005280	mg/L	0.000046	0.9	884.644
Mo 202.032	0.007416	mg/L	0.000978	13.2	59.4323
Ni 231.604	0.004618	mg/L	0.000265	5.7	22.9186
Pb 220.353	0.003256	mg/L	0.000771	23.7	8.90030
Se 196.026	0.006284	mg/L	0.001074	17.1	5.93841
Si 212.412	0.003549	mg/L	0.000487	13.7	30.6584
Sr 407.771	0.005582	mg/L	0.000017	0.3	13063.1
Ti 334.941	0.005758	mg/L	0.000261	4.5	701.236
Tl 190.794	0.005653	mg/L	0.000642	11.4	7.04509
V 292.401	0.004976	mg/L	0.000050	1.0	195.049
Zn 213.857	0.005010	mg/L	0.000141	2.8	113.096

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LRB#2306 (Samp) **10/1/2013, 12:12:28 PM** **Rack 1, Tube 2**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	-0.000005uv	mg/L	0.000084	1539.0	2.92444
Al 308.215	0.002942	mg/L	0.000658	22.4	201.078
As 188.980	-0.000140uv	mg/L	0.002224	1587.7	3.00109
B 208.889	0.000764	mg/L	0.000380	49.7	4.34142
Ba 233.527	0.000078	mg/L	0.000005	6.9	9.65239
Be 234.861	0.000012uv	mg/L	0.000018	147.9	2.95099
Cd 228.802	0.000045	mg/L	0.000035	78.6	5.17610
Co 228.615	0.000094	mg/L	0.000025	27.0	2.94116
Cr 206.158	0.000444	mg/L	0.000321	72.2	1.67406
Cu 324.754	0.000318	mg/L	0.000035	10.9	202.910
Fe 238.204	0.001193	mg/L	0.000235	19.7	51.6778
K 766.491	0.001795	mg/L	0.000351	19.6	239.764
Mg 279.078	0.002048	mg/L	0.001642	80.1	9.90553
Mn 257.610	0.000317	mg/L	0.000021	6.6	72.3602
Mo 202.032	0.002535	mg/L	0.001084	42.8	25.6269
Na 568.821	-0.004691uv	mg/L	0.021403	456.2	143.595
Ni 231.604	-0.000113uv	mg/L	0.000334	295.8	3.64635
Pb 220.353	0.001227	mg/L	0.000641	52.3	5.27103
Se 196.026	0.000414uv	mg/L	0.001966	475.2	2.51559
Si 212.412	-0.002186uv	mg/L	0.000550	25.1	19.8423
Sr 407.771	0.000021	mg/L	0.000000	1.8	231.971
Ti 334.941	0.000437	mg/L	0.000261	59.6	64.0037
Tl 190.794	-0.000331uv	mg/L	0.000823	248.8	0.662364
V 292.401	0.000093	mg/L	0.000016	17.0	10.2126

IDOC#1 MAZ (Samp) **10/1/2013, 12:16:56 PM** **Rack 1, Tube 3**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.988697	mg/L	0.000710	0.1	31298.3
Al 308.215	1.01483	mg/L	0.000539	0.1	5009.05
As 188.980	1.01610	mg/L	0.008163	0.8	753.682
B 208.889	1.03875	mg/L	0.009686	0.9	951.306
Ba 233.527	0.981304	mg/L	0.001771	0.2	42088.9
Be 234.861	1.00741	mg/L	0.003388	0.3	119515
Ca 430.253	26.5227	mg/L	0.061456	0.2	140524
Cd 228.802	1.01240	mg/L	0.001948	0.2	23851.6
Co 228.615	0.990409	mg/L	0.002052	0.2	12654.1
Cr 206.158	0.986243	mg/L	0.002980	0.3	1969.35
Cu 324.754	1.00019	mg/L	0.002464	0.2	59730.7
Fe 238.204	0.987382	mg/L	0.000747	0.1	30146.2
K 766.491	35.1923	mg/L	0.126882	0.4	1332239
Mg 279.078	0.991354	mg/L	0.006651	0.7	1420.72
Mn 257.610	0.959678	mg/L	0.002837	0.3	157096
Mo 202.032	1.00058	mg/L	0.019124	1.9	6938.78
Na 568.821	25.4769	mg/L	0.062918	0.2	11307.7
Ni 231.604	0.971258	mg/L	0.000853	0.1	3961.08
Pb 220.353	0.972572	mg/L	0.039072	4.0	1742.74
Sb 206.834	0.901606	mg/L	0.009233	1.0	725.663
Se 196.026	1.01286	mg/L	0.005319	0.5	592.848

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Si 212.412	0.488721	mg/L	0.002411	0.5	945.663
Sr 407.771	0.955258	mg/L	0.004973	0.5	2204328
Ti 334.941	0.992188	mg/L	0.001835	0.2	118850
Tl 190.794	0.958875	mg/L	0.002592	0.3	1023.88
V 292.401	1.00075	mg/L	0.001818	0.2	37883.5
Zn 213.857	0.993287	mg/L	0.004920	0.5	19384.9

IDOC#2 MAZ (Samp) **10/1/2013, 12:21:12 PM** **Rack 1, Tube 4**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.988109	mg/L	0.004419	0.4	31279.7
Al 308.215	1.01543	mg/L	0.002911	0.3	5011.88
As 188.980	1.02172	mg/L	0.005838	0.6	757.834
B 208.889	1.04255	mg/L	0.012560	1.2	954.775
Ba 233.527	0.981435	mg/L	0.003399	0.3	42094.5
Be 234.861	1.00929	mg/L	0.000305	0.0	119738
Ca 430.253	26.5566	mg/L	0.086894	0.3	140703
Cd 228.802	1.01342	mg/L	0.002317	0.2	23875.6
Co 228.615	0.987593	mg/L	0.002510	0.3	12618.1
Cr 206.158	0.988810	mg/L	0.005338	0.5	1974.47
Cu 324.754	0.995424	mg/L	0.004496	0.5	59446.7
Fe 238.204	0.986520	mg/L	0.005296	0.5	30119.9
K 766.491	35.2226	mg/L	0.129819	0.4	1333385
Mg 279.078	0.988559	mg/L	0.003325	0.3	1416.74
Mn 257.610	0.965531	mg/L	0.004701	0.5	158054
Mo 202.032	1.01486	mg/L	0.014265	1.4	7037.69
Na 568.821	25.4362	mg/L	0.053872	0.2	11289.9
Ni 231.604	0.972060	mg/L	0.002301	0.2	3964.35
Pb 220.353	0.959859	mg/L	0.046779	4.9	1720.00
Sb 206.834	0.976674	mg/L	0.019261	2.0	785.780
Se 196.026	1.01848	mg/L	0.008262	0.8	596.121
Si 212.412	0.488276	mg/L	0.002636	0.5	944.825
Sr 407.771	0.958778	mg/L	0.003976	0.4	2212451
Ti 334.941	0.995678	mg/L	0.000431	0.0	119269
Tl 190.794	0.963541	mg/L	0.004865	0.5	1028.86
V 292.401	0.999742	mg/L	0.002411	0.2	37845.4
Zn 213.857	0.999046	mg/L	0.004857	0.5	19497.2

IDOC#3 MAZ (Samp) **10/1/2013, 12:25:27 PM** **Rack 1, Tube 5**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.980037	mg/L	0.003454	0.4	31024.2
Al 308.215	1.00838	mg/L	0.003342	0.3	4978.38
As 188.980	1.01449	mg/L	0.005179	0.5	752.490
B 208.889	1.03985	mg/L	0.014517	1.4	952.313
Ba 233.527	0.973993	mg/L	0.002932	0.3	41775.4
Be 234.861	1.00063	mg/L	0.002280	0.2	118711
Ca 430.253	26.3258	mg/L	0.049475	0.2	139481
Cd 228.802	1.00540	mg/L	0.002502	0.2	23686.8
Co 228.615	0.978920	mg/L	0.002697	0.3	12507.3

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Cr 206.158	0.980824	mg/L	0.005144	0.5	1958.53
Cu 324.754	0.992003	mg/L	0.002592	0.3	59243.0
Fe 238.204	0.983240	mg/L	0.003868	0.4	30019.8
K 766.491	34.9171	mg/L	0.043505	0.1	1321823
Mg 279.078	0.984313	mg/L	0.009886	1.0	1410.68
Mn 257.610	0.953010	mg/L	0.005238	0.5	156005
Mo 202.032	1.01623	mg/L	0.017471	1.7	7047.17
Na 568.821	25.2596	mg/L	0.050191	0.2	11212.5
Ni 231.604	0.965110	mg/L	0.003268	0.3	3936.03
Pb 220.353	0.953541	mg/L	0.044564	4.7	1708.70
Sb 206.834	1.00254	mg/L	0.012551	1.3	806.492
Se 196.026	1.01498	mg/L	0.008695	0.9	594.084
Si 212.412	0.485813	mg/L	0.002906	0.6	940.180
Sr 407.771	0.946739	mg/L	0.003208	0.3	2184672
Ti 334.941	0.988875	mg/L	0.005451	0.6	118454
Tl 190.794	0.954824	mg/L	0.000967	0.1	1019.56
V 292.401	0.991597	mg/L	0.002815	0.3	37537.1
Zn 213.857	0.988230	mg/L	0.002208	0.2	19286.3

IDOC#4 MAZ (Samp) **10/1/2013, 12:29:40 PM** **Rack 1, Tube 6**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.980984	mg/L	0.001775	0.2	31054.2
Al 308.215	1.00651	mg/L	0.001670	0.2	4969.48
As 188.980	1.01033	mg/L	0.002842	0.3	749.416
B 208.889	1.03584	mg/L	0.010620	1.0	948.652
Ba 233.527	0.974522	mg/L	0.000918	0.1	41798.0
Be 234.861	0.999392	mg/L	0.004624	0.5	118564
Ca 430.253	26.3675	mg/L	0.044473	0.2	139702
Cd 228.802	1.00671	mg/L	0.004175	0.4	23717.6
Co 228.615	0.978926	mg/L	0.003078	0.3	12507.4
Cr 206.158	0.981237	mg/L	0.004073	0.4	1959.35
Cu 324.754	0.990527	mg/L	0.001479	0.1	59155.2
Fe 238.204	0.982438	mg/L	0.004707	0.5	29995.3
K 766.491	34.9648	mg/L	0.028216	0.1	1323627
Mg 279.078	0.980792	mg/L	0.005312	0.5	1405.66
Mn 257.610	0.951697	mg/L	0.003347	0.4	155790
Mo 202.032	1.01783	mg/L	0.018010	1.8	7058.25
Na 568.821	25.3565	mg/L	0.017772	0.1	11255.0
Ni 231.604	0.965058	mg/L	0.001655	0.2	3935.82
Pb 220.353	0.949958	mg/L	0.042911	4.5	1702.29
Sb 206.834	1.01757	mg/L	0.011482	1.1	818.535
Se 196.026	1.01333	mg/L	0.010586	1.0	593.117
Si 212.412	0.484249	mg/L	0.002254	0.5	937.229
Sr 407.771	0.956022	mg/L	0.003408	0.4	2206091
Ti 334.941	0.986164	mg/L	0.002596	0.3	118129
Tl 190.794	0.955342	mg/L	0.002308	0.2	1020.11
V 292.401	0.990313	mg/L	0.002211	0.2	37488.5
Zn 213.857	0.984388	mg/L	0.003004	0.3	19211.4

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LCS (LCS) **10/1/2013, 1:05:40 PM** **Rack 1, Tube 13**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	0.992264	mg/L	0.000702	0.1	31411.2	99.22638
Al 308.215	1.01778	mg/L	0.003597	0.4	5023.06	101.77816
As 188.980	1.01934	mg/L	0.003523	0.3	756.076	101.93435
B 208.889	1.02375	mg/L	0.013406	1.3	937.623	102.37479
Ba 233.527	0.988440	mg/L	0.002332	0.2	42394.9	98.84402
Be 234.861	1.00133	mg/L	0.001398	0.1	118794	100.13299
Ca 430.253	26.5181	mg/L	0.041723	0.2	140500	106.07249
Cd 228.802	1.00350	mg/L	0.003757	0.4	23642.0	100.35006
Co 228.615	0.991603	mg/L	0.004317	0.4	12669.3	99.16027
Cr 206.158	0.992003	mg/L	0.001967	0.2	1980.84	99.20026
Cu 324.754	1.01298	mg/L	0.002093	0.2	60492.1	101.29835
Fe 238.204	0.997853	mg/L	0.001325	0.1	30465.7	99.78528
K 766.491	34.8781	mg/L	0.046098	0.1	1320344	99.65160
Mg 279.078	0.987831	mg/L	0.005680	0.6	1415.70	98.78310
Mn 257.610	0.965510	mg/L	0.003827	0.4	158051	96.55099
Mo 202.032	1.05514	mg/L	0.012431	1.2	7316.66	105.51353
Na 568.821	25.3851	mg/L	0.019012	0.1	11267.5	101.54037
Ni 231.604	0.973564	mg/L	0.001143	0.1	3970.47	97.35641
Pb 220.353	1.01096	mg/L	0.022557	2.2	1811.41	101.09617
Sb 206.834	0.911360	mg/L	0.023179	2.5	733.474	91.13599
Se 196.026	0.998828	mg/L	0.009966	1.0	584.664	99.88277
Si 212.412	0.494571	mg/L	0.001465	0.3	956.695	98.91418
Sr 407.771	-0.000313uv	mg/L	0.000001	0.5	-539.110	-
Ti 334.941	1.00733	mg/L	0.004094	0.4	120664	100.73298
Tl 190.794	0.992461	mg/L	0.005099	0.5	1059.71	99.24609
V 292.401	1.01033	mg/L	0.000821	0.1	38246.2	101.03327

CCV1-1ppm (CCV) **10/1/2013, 1:09:58 PM** **Rack 4, Tube 1**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.02669	mg/L	0.004283	0.4	32501.0	102.66933
Al 308.215	1.04351	mg/L	0.004417	0.4	5145.30	104.35084
As 188.980	1.03418	mg/L	0.004025	0.4	767.038	103.41829
B 208.889	1.04344	mg/L	0.016587	1.6	955.588	104.34396
Ba 233.527	1.03708	mg/L	0.004249	0.4	44480.8	103.70792
Be 234.861	1.01198	mg/L	0.003495	0.3	120057	101.19781
Ca 430.253	0.971684	mg/L	0.005130	0.5	5253.10	-
Cd 228.802	1.02803	mg/L	0.007147	0.7	24219.9	102.80344
Co 228.615	1.02788	mg/L	0.005461	0.5	13132.8	102.78793
Cr 206.158	1.03368	mg/L	0.002639	0.3	2064.03	103.36781
Cu 324.754	1.04397	mg/L	0.004960	0.5	62336.9	104.39705
Fe 238.204	1.02360	mg/L	0.005976	0.6	31251.4	102.35979
Mg 279.078	1.04212	mg/L	0.003371	0.3	1493.12	104.21214
Mn 257.610	1.02529	mg/L	0.004521	0.4	167836	102.52929
Mo 202.032	1.06220	mg/L	0.018938	1.8	7365.59	106.21999
Ni 231.604	1.03401	mg/L	0.004904	0.5	4216.72	103.40057
Pb 220.353	1.04488	mg/L	0.033837	3.2	1872.09	104.48833
Se 196.026	1.02238	mg/L	0.010037	1.0	598.395	102.23781
Si 212.412	0.498711	mg/L	0.004109	0.8	964.504	99.74220

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Sr 407.771	1.04565	mg/L	0.004138	0.4	2412893	104.56482
Ti 334.941	1.02662	mg/L	0.005611	0.5	122975	102.66234
Tl 190.794	1.03943	mg/L	0.008372	0.8	1109.82	103.94344
V 292.401	1.02372	mg/L	0.002989	0.3	38752.8	102.37155
Zn 213.857	1.00761	mg/L	0.002761	0.3	19664.1	100.76057

CCV2-50ppm (CCV) **10/1/2013, 1:14:13 PM** **Rack 4, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
K 766.491	51.4581	mg/L	0.054205	0.1	1947918	102.91627
Na 568.821	51.0189	mg/L	0.111057	0.2	22498.3	102.03777

Blank (CCB) **10/1/2013, 1:18:28 PM** **Rack 4, Tube 5**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ba 233.527	-0.000019uv	mg/L	0.000029	154.9	5.48400	-0.00002
Be 234.861	0.000058	mg/L	0.000020	34.7	8.45541	0.00006
Cd 228.802	0.000002uv	mg/L	0.000142	6069.5	4.17310	0.00000
Co 228.615	0.000130	mg/L	0.000126	96.5	3.40813	0.00013
K 766.491	0.001275	mg/L	0.000297	23.3	220.087	0.00127
Mg 279.078	-0.002304uv	mg/L	0.001927	83.6	3.69890	-0.00230
Mn 257.610	0.000027	mg/L	0.000015	54.5	24.8477	0.00003
Ni 231.604	-0.000397uv	mg/L	0.000185	46.7	2.49019	-0.00040
Pb 220.353	0.000168uv	mg/L	0.000441	263.2	3.37621	0.00017
Si 212.412	0.001089	mg/L	0.000239	21.9	26.0174	0.00109
Sr 407.771	0.000008	mg/L	0.000001	12.5	200.538	0.00001Z
V 292.401	-0.000073uv	mg/L	0.000054	73.4	3.93119	-0.00007
Zn 213.857	0.000264	mg/L	0.000040	15.3	20.5449	0.00026

CCV1-1ppm (CCV) **10/1/2013, 2:13:32 PM** **Rack 4, Tube 1**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Sb 206.834	1.03679	mg/L	0.011585	1.1	833.923	103.67893

BATCH# : 2306

3010 LIQUID DIGESTION

HNO3 : Ald#SHBD0895V

DATE : 10.01.13

HCl : MC#L04039

ANALYST : EN/MAR

Spike : HPS# 1305106
100ppm

QC-MET-091113-B
2500 ppm

#10763 1310008.

	LCN#	PH	V init. (ml)	V spike (ml)	C spike (ppm)	V final (ml)	Dil. factor	Comments
	LRB	<2	50	-	-	50		
	LCS		50	0.5	1.0/25.0	50		
1	13-i-795-01-A			-	-			Al, Fe, Pb, Zn
2	-02-A			-	-			
3	-03-A			-	-			
4	-04-A			-	-			
5	13-i-795-05-A			-	-			
6	13i-802-01-A			-	-			Fe
7	-02-A			-	-			
8	-03-A			-	-			
9	-04-A			-	-			
10	-05-A			-	-			
	MS -05-A		50	0.5	1.0/25.0	50		Fe
	MSD 13i802-05-A		50	0.5	1.0/25.0	50		
11	13i-802-06-A		50	-	-			Fe
12	1310750-01 ATCLP	<2	N/A	-	-			
13	13i0788-01 ATCLP			-	-			Cd, Cr, Pb TCLP
14	-02			-	-			
15	-03	<2	50	-	-	50		
16	13i0806-03B	<2	50	-	-	50		RCRA 8-6010
17	51501 A	<2	50	-	-	50		
18	51502A	<2	50	-	-	50		
19	1 IOC #1, #2, #3, #4	<2	50	0.5	1/25	50		
20	51503E	<2	50	-	-	50		
	MS 13i0788-03A	<2	50	0.5	1.0/25.0	50		
	MSD 13i0788-03A		50	0.5	1.0/25.0	50		

MET-HOTBLOCK-2
T(C) 95

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Mercedes Zaldivar	Mercedes Zaldivar	6/8/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 200.8	☑ Water ☑ DW ☐ Solid ☐ Other: _____	020316-006 (Rev. 7)
Analyte or Class of Analytes		
Metal		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Mercedes Zaldivar *Analyst*	Zaldivar *Signature*	6/8/16 *Date*
IRENA NUTZU *Technical Director*	 *Signature*	6/8/16 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	6/8/16 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

Initial Demonstration of Capability

MATRIX:	LIQUID
DATE OF ANALYSIS:	6/8/2016
ANALYZED BY:	M. ZALDIVAR
METHOD NUMBER:	200.8
EXTRACTION METHOD (IF APPLICABLE):	200.8
INSTRUMENT ID:	JP16040228
EXTRACTED BY:	M. ZALDIVAR
DATE EXTRACTED:	6/8/2016
ACCEPTANCE CRITERIA:	±15%

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	HPS#1502715	25 PPB
	HPS#1419518 Sr	25 PPB
Internal Standard	IS-MET# 041216H	100ppb

Compound	TRUE Value	IDOC 1	IDOC 2	IDOC 3	IDOC 4	$\bar{X}$	RSD	% Recovery	SD
UNITS:	ppb	ppb	ppb	ppb	ppb	ppb			
Ag	25	23.45	23.51	23.82	23.38	23.54	0.83	94.2	0.19
As	25	24.27	23.99	23.84	23.83	23.98	0.85	95.9	0.20
Ba	25	24.31	24.03	24.05	23.94	24.08	0.67	96.3	0.16
Be	25	23.64	23.43	23.47	23.66	23.55	0.49	94.2	0.12
Cd	25	23.88	24.13	24.31	23.70	24.01	1.12	96.0	0.27
Co	25	24.45	25.09	24.55	24.18	24.56	1.55	98.3	0.38
Cr	25	24.95	23.98	24.50	24.21	24.41	1.71	97.6	0.42
Cu	25	24.67	24.76	24.89	24.46	24.69	0.73	98.8	0.18
Mn	25	25.01	24.15	24.87	23.60	24.41	2.69	97.6	0.66
Mo	25	23.71	23.65	23.96	23.74	23.76	0.57	95.1	0.14
Ni	25	24.40	24.11	24.41	24.02	24.23	0.82	96.9	0.20
Pb	25	23.66	24.32	24.10	23.95	24.01	1.15	96.0	0.28
Sb	25	24.06	24.01	23.99	23.68	23.93	0.73	95.7	0.17
Se	25	24.58	24.11	23.60	23.19	23.87	2.54	95.5	0.61
SR	25	24.41	24.37	24.40	24.52	24.43	0.27	97.7	0.07
Tl	25	24.20	23.74	23.84	23.90	23.92	0.82	95.7	0.20
Th	25	24.91	24.23	23.84	24.72	24.42	1.98	97.7	0.48
U	25	24.75	24.52	24.46	24.44	24.54	0.59	98.2	0.14
V	25	24.37	23.16	23.62	24.50	23.91	2.65	95.6	0.63
Zn	25	23.78	23.33	23.45	23.08	23.41	1.23	93.6	0.29

Batch Summary Report

Batch Folder: D:\Agilent\ICPMH\1\DATA\2016\060816-IDOC-MAZ-2.b\
Analysis File: 060816-IDOC-MAZ-2.batch.bin
Tune Step: #1 No Gas
#2 He

	Rjct	Acq. Date-Time	Data File	Sample Name	Type	Level	Dilution
1		6/8/2016 3:08:50 PM	001CALS.d	Cal-0	CalBlk	1	1.0000
2		6/8/2016 3:13:29 PM	002CALS.d	Cal-1	CalStd	2	1.0000
3		6/8/2016 3:18:05 PM	003CALS.d	Cal-5	CalStd	3	1.0000
4		6/8/2016 3:22:43 PM	004CALS.d	Cal-10	CalStd	4	1.0000
5		6/8/2016 3:27:20 PM	005CALS.d	Cal-25	CalStd	5	1.0000
6		6/8/2016 3:31:55 PM	006CALS.d	Cal-50	CalStd	6	1.0000
7		6/8/2016 3:36:25 PM	007SMPL.d	Rinse	Sample		1.0000
8	On	6/8/2016 3:40:26 PM	008_QC1.d	ICV	QC1		1.0000
9		6/8/2016 3:44:22 PM	009_QC2.d	QCS	QC2		1.0000
10		6/8/2016 3:48:31 PM	010_QC1.d	ICV	QC1		1.0000
11		6/8/2016 3:52:27 PM	011SMPL.d	Rinse	Sample		1.0000
12		6/8/2016 3:56:27 PM	012BLKV.d	ICB	BlkVrfy		1.0000
13		6/8/2016 4:00:27 PM	013SMPL.d	LRB	Sample		1.0000
14		6/8/2016 4:04:28 PM	014SMPL.d	LLOQ	Sample		1.0000
15		6/8/2016 4:08:27 PM	015SMPL.d	LCS	Sample		1.0000
16		6/8/2016 4:12:27 PM	016SMPL.d	IDOC#1	Sample		1.0000
17		6/8/2016 4:16:37 PM	017SMPL.d	IDOC#2	Sample		1.0000
18		6/8/2016 4:20:49 PM	018SMPL.d	IDOC#3	Sample		1.0000
19		6/8/2016 4:24:54 PM	019SMPL.d	IDOC#4	Sample		1.0000
20		6/8/2016 4:29:04 PM	020SMPL.d	Rinse	Sample		1.0000
21		6/8/2016 4:33:03 PM	021_QC3.d	CCV	QC3		1.0000
22		6/8/2016 4:37:14 PM	022SMPL.d	Rinse	Sample		1.0000
23		6/8/2016 4:41:13 PM	023BLKV.d	CCB	BlkVrfy		1.0000

Analyte Table

		9 Be [No Gas]		9 Be [He]		27 Al [No Gas]		27 Al [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	46.67	0.000000	1.11	0.000000	89229.34	0.000000	44.44
2	Cal-1	1.068183	8702.58	1.251027	122.22	1.012951	121185.40	1.548860	77.78
3	Cal-5	4.915765	39486.31	4.821272	468.90	5.168410	256110.85	4.928734	140.00
4	Cal-10	9.887290	79845.93	9.911374	917.81	9.388201	395408.39	9.733588	236.67
5	Cal-25	24.290316	198510.70	23.323708	2270.18	23.766928	872511.60	23.430562	493.34
6	Cal-50	50.384444	408494.95	50.868723	4829.69	50.721796	1740360.60	50.834151	1041.15
7	Rinse	0.000271	46.67	<0.000000	0.00	<0.000000	81292.95	1.074454	67.78
8	ICV							.	
9	QCS	23.635793	193366.51	25.867335	2387.97	23.797799	867111.13	22.184859	487.79
10	ICV	24.403563	196084.85	24.434732	2241.28	23.765563	853023.56	26.837329	557.79
11	Rinse	0.001444	56.67	<0.000000	0.00	<0.000000	77921.21	0.519681	55.55
12	ICB	<0.000000	33.33	<0.000000	0.00	0.030302	78926.09	0.102298	44.44
13	LRB	<0.000000	40.00	0.009068	2.22	1.626026	138414.28	1.768760	78.89
14	LLOQ	0.012164	143.33	<0.000000	0.00	1.952357	148331.67	2.526242	94.45
15	LCS	23.618931	193967.83	24.019460	2321.30	26.880767	959076.21	26.901586	587.79
16	IDOC#1	23.642343	192874.06	23.902130	2182.39	26.954584	957898.08	27.968261	572.23
17	IDOC#2	23.434787	191971.98	22.642170	2247.95	26.899934	951512.98	24.504917	540.01
18	IDOC#3	23.469194	194001.54	21.783220	2209.06	26.001415	920797.96	27.918035	618.90
19	IDOC#4	23.660737	193072.42	22.523595	2244.62	26.015818	925060.97	24.700255	526.68
20	Rinse	0.004133	80.00	<0.000000	0.00	<0.000000	80488.44	0.321159	52.22
21	CCV	24.264316	199841.59	26.286570	2372.42	24.036443	875079.86	25.309204	557.79
22	Rinse	0.001770	60.00	<0.000000	1.11	<0.000000	79392.65	0.093106	46.67
23	CCB	0.005326	90.00	<0.000000	1.11	0.039872	86426.13	<0.000000	37.78

		51 V [No Gas]		51 V [He]		52 Cr [No Gas]		52 Cr [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	1374.16	0.000000	8.89	0.000000	8692.67	0.000000	135.56
2	Cal-1	1.006910	58396.72	1.017789	2166.83	1.020791	63229.33	1.019462	3559.33
3	Cal-5	4.846915	272627.53	4.935277	9892.31	4.845312	264961.19	4.961914	15862.12

Analyte Table

		51 V [No Gas]		51 V [He]		52 Cr [No Gas]		52 Cr [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
4	Cal-10	9.547141	536848.89	9.818397	19876.02	9.411035	507684.26	9.673414	31113.74
5	Cal-25	23.898770	1348649.81	24.958757	48992.46	23.909098	1282916.13	24.824300	77254.42
6	Cal-50	50.656357	2820218.57	50.063058	100166.31	50.678297	2675228.92	50.156587	158999.19
7	Rinse	0.003972	1525.79	0.000999	11.11	<0.000000	8048.96	<0.000000	127.78
8	ICV								
9	QCS	24.247842	1357774.17	24.142285	49164.15	24.031702	1280080.14	24.191748	78117.87
10	ICV	24.156589	1332399.00	24.694415	48399.35	23.736218	1245297.74	24.621079	76483.54
11	Rinse	0.002935	1485.38	<0.000000	5.55	<0.000000	8155.68	<0.000000	133.33
12	ICB	0.005258	1467.10	0.000201	8.89	0.014893	8249.06	0.000764	132.22
13	LRB	0.003250	1496.09	<0.000000	3.33	0.001737	8429.17	0.008323	161.11
14	LLOQ	2.620976	145896.68	2.583816	5287.65	2.445530	135871.37	2.398175	7894.40
15	LCS	23.450834	1300540.75	23.731082	48995.86	24.165727	1274673.31	23.790020	77913.46
16	IDOC#1	24.367518	1346579.69	25.523568	49182.02	24.945365	1311038.99	25.661596	78377.08
17	IDOC#2	23.158947	1273634.05	23.676182	48829.72	23.977440	1254282.72	23.831315	77917.89
18	IDOC#3	23.615288	1296319.36	23.525136	49208.73	24.498977	1278653.86	23.470607	77836.37
19	IDOC#4	24.499575	1350198.02	24.460350	48849.77	24.208359	1268967.71	24.365981	77133.69
20	Rinse	0.005802	1640.53	<0.000000	3.33	<0.000000	8219.04	0.006850	162.22
21	CCV	25.076680	1404048.01	24.477591	50609.16	24.632988	1312012.74	23.933704	78457.51
22	Rinse	0.006881	1704.34	<0.000000	5.55	<0.000000	8175.70	0.004141	150.00
23	CCB	0.000674	1348.56	<0.000000	2.22	<0.000000	7935.55	0.008991	160.00

		55 Mn [No Gas]		55 Mn [He]		59 Co [No Gas]		59 Co [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	27252.71	0.000000	315.56	0.000000	676.69	0.000000	77.78
2	Cal-1	1.103035	99790.50	0.920283	1153.38	1.041654	65121.74	0.987439	7518.65
3	Cal-5	4.950234	350326.31	4.807189	4395.13	4.936554	302438.95	4.921954	35119.88
4	Cal-10	9.742589	665217.38	9.563226	8520.32	9.656894	592163.87	9.543374	68728.49
5	Cal-25	25.107154	1680893.78	24.865907	21027.68	24.216942	1491426.07	24.832216	173341.94
6	Cal-50	50.000821	3278551.20	50.175277	42941.05	50.465662	3067031.52	50.183273	357001.34

Analyte Table

		55 Mn [No Gas]		55 Mn [He]		59 Co [No Gas]		59 Co [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
7	Rinse	0.004209	26153.98	<0.000000	306.67	0.004544	913.37	0.000217	81.11
8	ICV								
9	QCS	24.807259	1648749.30	23.541104	20672.73	24.208438	1479781.33	24.071631	174386.11
10	ICV	24.205276	1585222.89	24.917930	21044.39	24.181687	1455644.20	24.862150	173284.92
11	Rinse	<0.000000	25816.64	<0.000000	298.89	0.003902	886.70	0.002136	94.44
12	ICB	0.010612	24351.71	<0.000000	272.22	0.002712	736.69	<0.000000	65.56
13	LRB	<0.000000	25796.66	<0.000000	272.23	0.002061	773.36	<0.000000	70.00
14	LLOQ	0.576970	63212.82	0.536166	776.69	2.443928	147812.61	2.408688	17581.95
15	LCS	23.956319	1577475.18	23.558988	20956.49	23.968405	1450904.82	23.552934	172911.43
16	IDOC#1	25.005632	1639794.09	25.662051	21294.75	24.445613	1474632.69	25.728732	176233.96
17	IDOC#2	24.147975	1576853.99	23.796152	21156.76	25.088458	1506036.69	23.887394	175182.53
18	IDOC#3	24.873746	1620186.85	23.254938	20982.07	24.545740	1470558.52	23.448483	174389.21
19	IDOC#4	23.598638	1544261.28	24.051541	20702.77	24.179797	1454850.50	24.434685	173498.83
20	Rinse	<0.000000	25399.27	<0.000000	268.89	0.004508	920.04	0.000906	86.66
21	CCV	24.613112	1636125.70	23.979219	21377.09	24.585242	1503089.09	24.043038	176769.43
22	Rinse	<0.000000	25305.83	<0.000000	305.56	0.002980	830.03	0.002548	96.67
23	CCB	<0.000000	25088.76	<0.000000	292.22	0.003893	880.03	0.001984	90.00

		60 Ni [No Gas]		60 Ni [He]		63 Cu [No Gas]		63 Cu [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	1806.79	0.000000	303.34	0.000000	3720.50	0.000000	757.80
2	Cal-1	1.073539	16849.99	1.017601	2790.28	1.083037	40223.60	0.998357	8225.72
3	Cal-5	5.043053	71730.19	4.906163	11593.62	5.081289	173124.34	4.959347	35693.64
4	Cal-10	9.835140	138499.83	9.725845	22925.10	9.915189	335060.58	9.615240	69211.30
5	Cal-25	24.241844	340503.55	25.087566	56907.82	24.619859	830643.94	24.841210	172328.37
6	Cal-50	50.406274	697046.63	50.020080	115363.69	50.197243	1668286.59	50.160445	353982.37
7	Rinse	0.012352	1883.46	0.011088	336.67	0.018613	4140.62	0.006501	821.13
8	ICV								
9	QCS	24.180287	337108.78	23.936334	56367.93	24.284320	813318.16	24.132398	173718.51

Analyte Table

		60 Ni [No Gas]		60 Ni [He]		63 Cu [No Gas]		63 Cu [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
10	ICV	24.326834	334041.53	24.617712	55753.31	24.692972	814495.85	24.901760	172459.93
11	Rinse	<0.000000	1720.11	<0.000000	277.78	0.006715	3797.19	0.010565	842.25
12	ICB	0.009965	1703.46	<0.000000	276.67	0.021760	3903.92	0.004502	754.47
13	LRB	0.044433	2343.54	0.036218	385.56	0.015720	4087.26	0.014035	853.36
14	LLOQ	2.773877	39661.99	2.701636	6651.56	1.388633	49195.26	1.297382	10084.70
15	LCS	24.369892	336436.74	23.774011	56741.61	24.699877	819184.86	23.704108	172974.85
16	IDOC#1	24.396815	335645.09	25.622608	57023.91	24.672780	815445.12	25.721050	175099.36
17	IDOC#2	24.105610	330049.63	23.640126	56355.60	24.763091	814422.41	23.933611	174448.33
18	IDOC#3	24.406324	333482.92	23.574356	56994.86	24.885506	816781.08	23.633902	174702.52
19	IDOC#4	24.022299	329566.33	24.436362	56385.77	24.456399	806023.37	24.355962	171877.16
20	Rinse	0.004041	1786.78	<0.000000	308.89	0.017978	4153.95	0.002974	798.91
21	CCV	24.471446	341201.64	24.122262	57671.96	24.568810	823016.68	24.100675	176133.21
22	Rinse	<0.000000	1673.44	<0.000000	253.34	0.010507	3917.22	0.010795	838.91
23	CCB	0.003638	1773.45	0.010110	316.67	0.008678	3833.86	0.008167	791.13

		66 Zn [No Gas]		66 Zn [He]		75 As [No Gas]		75 As [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	16177.52	0.000000	847.80	0.000000	678.55	0.000000	3.33
2	Cal-1	0.708343	22481.22	0.826991	1411.18	1.026521	10463.16	1.127193	395.56
3	Cal-5	4.536200	57610.04	4.663426	3707.15	4.874724	47401.01	4.970486	1761.22
4	Cal-10	9.233964	101243.27	9.810836	6963.94	9.766297	93453.99	9.886970	3464.87
5	Cal-25	24.064300	239821.92	24.380231	15583.01	24.834818	234469.27	24.589379	8589.29
6	Cal-50	50.673270	481379.74	50.384835	31963.73	50.141329	474724.79	50.228324	17201.60
7	Rinse	<0.000000	11518.05	<0.000000	800.02	<0.000000	633.62	0.010122	6.67
8	ICV								
9	QCS	23.775126	235404.96	23.666847	15716.48	24.225075	227670.64	24.421809	8468.11
10	ICV	24.104286	234859.97	24.984506	15922.27	24.452993	226199.93	24.681371	8650.44
11	Rinse	<0.000000	11834.96	<0.000000	762.24	<0.000000	629.74	0.003603	4.45
12	ICB	<0.000000	11421.35	<0.000000	778.91	0.027007	787.98	<0.000000	1.11

Analyte Table

		66 Zn [No Gas]		66 Zn [He]		75 As [No Gas]		75 As [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
13	LRB	<0.000000	7195.18	<0.000000	483.34	0.009885	748.77	0.006972	5.55
14	LLOQ	2.573454	38869.90	2.749225	2573.57	0.256389	3047.25	0.234854	87.78
15	LCS	23.845986	233799.09	23.444826	15791.01	24.299035	225367.27	23.976482	8414.74
16	IDOC#1	23.778493	232359.08	24.905685	15621.94	24.265910	228828.31	25.155204	8744.94
17	IDOC#2	23.334086	227186.40	23.398417	15746.52	23.994432	224661.31	23.093459	8355.81
18	IDOC#3	23.448384	227752.61	22.627959	15469.55	23.841385	223030.07	24.007190	8557.05
19	IDOC#4	23.083959	225377.87	23.637812	15392.79	23.828246	223119.05	23.509959	8433.65
20	Rinse	<0.000000	12819.91	<0.000000	780.02	<0.000000	620.79	0.000165	3.33
21	CCV	23.611830	233941.51	23.825079	16073.56	24.484981	229505.74	23.768742	8587.06
22	Rinse	<0.000000	11454.65	<0.000000	773.36	0.009803	745.30	<0.000000	1.11
23	CCB	<0.000000	12120.22	<0.000000	810.02	<0.000000	577.68	0.003311	4.44

		82 Se [No Gas]		82 Se [He]		98 Mo [No Gas]		98 Mo [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	-22.21	0.000000	4.44	0.000000	114.23	0.000000	32.22
2	Cal-1	1.004569	518.10	0.939975	8.89	1.046186	25886.05	1.016093	5024.25
3	Cal-5	4.687744	2511.63	6.669900	37.78	4.951032	122644.81	4.744448	23716.90
4	Cal-10	9.540084	5089.09	8.298513	45.56	9.724758	238629.54	9.627585	47610.24
5	Cal-25	24.465366	12974.01	24.644171	126.67	24.726835	601065.21	24.204380	119350.04
6	Cal-50	50.390435	26844.31	50.519412	250.00	50.195604	1225363.62	50.497526	244058.87
7	Rinse	<0.000000	-38.83	0.052894	4.44	0.006330	263.34	0.008836	73.33
8	ICV								
9	QCS	24.264198	12800.78	25.539663	130.00	24.217768	586035.91	24.147493	118136.36
10	ICV	24.212368	12574.03	23.912373	123.34	24.443070	582193.09	23.958796	118507.11
11	Rinse	<0.000000	-38.67	0.053492	4.44	0.006519	266.67	0.008664	73.33
12	ICB	0.121765	34.59	0.041886	4.44	0.003293	166.67	0.000103	31.11
13	LRB	0.036213	-2.37	<0.000000	2.22	0.001747	152.85	0.001373	37.78
14	LLOQ	0.441614	211.07	0.896642	8.89	2.618513	63266.21	2.571241	13100.62
15	LCS	24.666143	12840.65	21.850130	113.33	24.211763	578188.00	23.784057	117803.47

Analyte Table

		82 Se [No Gas]		82 Se [He]		98 Mo [No Gas]		98 Mo [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
16	IDOC#1	24.578975	13011.02	26.822682	136.67	23.709764	575649.04	24.114876	118288.63
17	IDOC#2	24.112818	12673.55	25.659473	136.67	23.646996	570036.88	23.301231	118982.26
18	IDOC#3	23.597390	12390.62	27.227545	142.22	23.957488	577012.29	23.542916	118396.09
19	IDOC#4	23.188914	12186.99	25.710619	135.56	23.736421	572245.62	23.332745	118128.36
20	Rinse	0.082342	21.35	<0.000000	0.00	0.009218	333.75	0.007291	68.89
21	CCV	24.662508	12977.85	22.503305	120.00	24.466805	590486.63	23.887592	121766.45
22	Rinse	<0.000000	-66.05	<0.000000	4.44	0.005110	233.33	0.004794	56.67
23	CCB	<0.000000	-32.50	<0.000000	2.22	0.002789	176.18	0.001419	38.89

		107 Ag [No Gas]		107 Ag [He]		111 Cd [No Gas]		111 Cd [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	36.67	0.000000	11.11	0.000000	727.89	0.000000	1.11
2	Cal-1	1.012291	45224.01	1.011345	12763.67	1.054723	9978.91	0.993135	1111.16
3	Cal-5	4.772661	213986.79	4.745909	60801.13	4.864389	43628.06	4.878410	5538.89
4	Cal-10	9.371026	416401.87	9.558991	121219.97	9.628914	84896.56	9.520128	10699.71
5	Cal-25	24.087146	1060455.71	24.258473	306817.45	24.512538	213039.13	24.408265	27357.13
6	Cal-50	50.604710	2237763.82	50.484148	625926.78	50.330415	438589.20	50.404138	55391.05
7	Rinse	0.010291	486.68	0.013324	176.67	0.004933	746.99	0.001060	2.22
8	ICV								
9	QCS	24.195113	1060361.73	24.257757	304420.52	24.606503	212884.06	24.223590	26940.75
10	ICV	24.028098	1036545.19	23.911356	303369.65	24.542769	209018.97	23.945202	26920.71
11	Rinse	0.013272	613.35	0.013677	183.33	<0.000000	632.63	0.000065	1.11
12	ICB	0.008833	376.67	0.007977	111.11	<0.000000	598.30	<0.000000	0.00
13	LRB	0.006774	333.34	0.006488	93.33	<0.000000	703.62	0.000044	1.11
14	LLOQ	2.359706	103136.91	2.302976	30040.38	0.053037	1159.19	0.054695	64.44
15	LCS	23.833127	1030829.05	23.831992	302787.38	24.699650	210910.40	23.814186	26814.96
16	IDOC#1	23.450883	1031231.31	24.445989	307651.09	23.881640	207339.75	24.641702	27472.93
17	IDOC#2	23.511963	1026615.45	23.607988	309217.69	24.131234	208009.38	23.574354	27367.15
18	IDOC#3	23.822426	1039220.12	23.895351	308232.32	24.310489	209370.95	23.957003	27386.07

Analyte Table

		107 Ag [No Gas]		107 Ag [He]		111 Cd [No Gas]		111 Cd [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
19	IDOC#4	23.380691	1020908.68	23.426617	304226.22	23.698337	204305.78	23.294295	26809.39
20	Rinse	0.012716	593.35	0.013482	186.67	<0.000000	659.72	0.002926	4.45
21	CCV	23.879871	1043841.99	23.941244	313072.42	24.728105	213388.65	23.795351	27577.55
22	Rinse	0.014058	650.02	0.012534	176.67	<0.000000	654.69	0.000016	1.11
23	CCB	0.008095	386.68	0.008143	116.66	<0.000000	639.59	<0.000000	0.00

		123 Sb [No Gas]		123 Sb [He]		137 Ba [No Gas]		137 Ba [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	53.33	0.000000	3.33	0.000000	490.01	0.000000	37.78
2	Cal-1	1.024858	28940.66	1.040281	1800.12	1.082748	13486.75	1.086572	696.68
3	Cal-5	4.848472	136483.60	4.865521	8352.56	4.910016	59349.79	4.858638	2965.88
4	Cal-10	9.594931	266523.19	9.688991	16550.02	9.882032	117416.07	9.863259	5954.65
5	Cal-25	24.276570	674508.06	24.517246	41185.22	24.488889	290386.00	24.694690	14603.43
6	Cal-50	50.457384	1401641.85	50.316221	85349.74	50.286493	595644.82	50.192408	29936.33
7	Rinse	0.005614	206.67	0.006665	14.45	0.006940	556.68	<0.000000	24.45
8	ICV								
9	QCS	24.328168	673072.05	24.382091	41246.54	24.303018	286937.08	23.724100	14132.93
10	ICV	24.357237	661725.86	24.250530	41263.22	24.589536	285090.89	24.142961	14463.27
11	Rinse	0.006029	216.67	0.002670	7.78	<0.000000	426.68	<0.000000	23.33
12	ICB	0.002586	106.67	0.000702	4.44	0.007322	483.34	<0.000000	20.00
13	LRB	0.001287	86.67	0.002618	7.78	0.331438	4360.72	0.286845	210.00
14	LLOQ	0.015451	476.68	0.016168	31.11	0.235063	3230.40	0.217003	168.89
15	LCS	24.197592	667702.99	23.796847	41134.00	24.081240	283589.83	23.840110	14509.99
16	IDOC#1	24.062727	661157.36	24.784998	41807.15	24.313191	285087.83	23.968816	14238.59
17	IDOC#2	24.007806	655233.63	23.819197	41415.91	24.032856	279928.50	24.502407	14998.29
18	IDOC#3	23.989584	659469.83	24.272786	42108.03	24.046656	282098.28	23.562321	14390.98
19	IDOC#4	23.676540	647750.35	23.895476	41501.73	23.935374	279452.08	23.529152	14388.75
20	Rinse	0.003616	150.00	0.005090	12.22	<0.000000	436.68	<0.000000	28.89
21	CCV	24.701691	674601.86	24.749227	42841.41	24.448082	284954.41	24.440996	14894.86

Analyte Table

		123 Sb [No Gas]		123 Sb [He]		137 Ba [No Gas]		137 Ba [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
22	Rinse	0.002283	113.33	0.003796	10.00	0.003530	510.01	<0.000000	22.22
23	CCB	0.001183	83.33	0.000623	4.44	0.006264	543.35	<0.000000	17.78

		205 Tl [No Gas]		205 Tl [He]		208 Pb [No Gas]		208 Pb [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	83.33	0.000000	36.67	0.000000	2890.14	0.000000	892.24
2	Cal-1	1.021079	81890.39	1.062241	28303.00	1.042926	115756.22	1.050898	37021.97
3	Cal-5	4.768309	378876.62	4.910347	129919.92	4.927855	531589.37	4.925811	169263.64
4	Cal-10	9.340303	742671.94	9.701573	258019.10	9.643934	1038534.04	9.693803	334002.97
5	Cal-25	24.158495	1903511.07	24.482153	646340.93	24.278603	2586477.49	24.551661	838507.68
6	Cal-50	50.575439	3979954.32	50.326329	1329015.29	50.438268	5364107.50	50.291810	1717312.27
7	Rinse	0.000185	96.67	<0.000000	25.56	0.005393	3413.52	0.001551	916.68
8	ICV								
9	QCS	24.098507	1888767.63	24.340759	643690.10	24.386643	2585048.57	24.429858	835788.39
10	ICV	24.063176	1862251.12	24.556343	644852.73	24.554001	2569538.79	24.502703	832420.16
11	Rinse	<0.000000	60.00	<0.000000	34.44	0.002534	3103.48	<0.000000	788.90
12	ICB	0.000047	73.33	<0.000000	34.45	<0.000000	1976.73	<0.000000	684.45
13	LRB	<0.000000	46.67	<0.000000	24.44	<0.000000	2053.41	<0.000000	643.34
14	LLOQ	0.008297	733.36	0.009607	291.11	0.199014	23888.74	0.197437	7655.36
15	LCS	23.981319	1876678.83	24.220525	641609.75	23.953428	2535056.23	24.364487	834994.63
16	IDOC#1	24.196994	1896499.24	24.857871	649641.19	23.660274	2507319.45	24.982882	844634.08
17	IDOC#2	23.739109	1844153.62	24.318794	650042.41	24.320109	2554726.29	24.288968	839957.46
18	IDOC#3	23.843633	1858014.71	24.346315	650880.34	24.097919	2539166.21	24.333577	841608.25
19	IDOC#4	23.903387	1858632.00	24.103146	640554.02	23.954773	2518964.61	24.257824	834035.64
20	Rinse	0.000328	106.67	<0.000000	32.22	<0.000000	2753.46	0.001621	950.04
21	CCV	25.059328	1935993.98	24.197160	653281.23	24.556236	2565728.15	24.408830	852555.97
22	Rinse	<0.000000	73.33	<0.000000	23.34	<0.000000	2790.13	<0.000000	716.68
23	CCB	<0.000000	36.67	<0.000000	25.55	0.003179	3134.72	<0.000000	651.11

		232 Th [No Gas]		232 Th [He]		238 U [No Gas]		238 U [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0	0.000000	16.67	0.000000	8.89	0.000000	10.00	0.000000	0.00

Analyte Table

		232 Th [No Gas]		232 Th [He]		238 U [No Gas]		238 U [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
2	Cal-1	1.036736	121504.37	1.033026	35578.27	1.026472	119134.19	1.019541	41273.35
3	Cal-5	4.846142	563168.52	4.829353	165295.62	4.846701	557765.21	4.812541	193656.26
4	Cal-10	9.460554	1100158.52	9.493532	326641.64	9.471155	1090832.61	9.421544	381118.75
5	Cal-25	24.710921	2847912.46	24.098303	823154.19	24.540028	2800564.02	23.991629	963527.88
6	Cal-50	50.267080	5785758.45	50.568546	1727850.66	50.350556	5739873.66	50.638232	2034317.14
7	Rinse	0.001190	153.33	0.002106	80.00	0.000089	20.00	0.000167	6.67
8	ICV								
9	QCS	24.970086	2863601.42	23.978447	820454.36	24.681861	2802414.02	23.614588	950003.50
10	ICV	24.717809	2797880.79	24.204736	822414.45	24.571240	2754808.81	23.885088	954169.48
11	Rinse	0.001304	166.67	0.002450	92.22	0.000031	13.33	0.000277	11.11
12	ICB	0.000601	73.33	0.001110	46.67	0.000053	13.33	0.000138	5.55
13	LRB	0.000501	73.33	0.000489	25.56	0.000122	23.33	0.000110	4.44
14	LLOQ	0.006050	710.02	0.005832	208.89	0.007487	860.03	0.006737	272.22
15	LCS	24.456820	2799363.19	23.816619	816348.60	24.128029	2735631.11	23.331523	940250.94
16	IDOC#1	24.907582	2855077.45	24.305692	821827.38	24.752248	2810430.37	23.821171	947114.51
17	IDOC#2	24.226185	2752728.81	23.528183	813727.12	24.516030	2759002.15	23.227945	944540.10
18	IDOC#3	23.840260	2717150.69	23.852168	825060.52	24.455182	2760851.94	23.403658	951827.15
19	IDOC#4	24.724397	2811963.71	23.591522	811220.96	24.444169	2753205.48	23.239973	939548.37
20	Rinse	0.001699	210.00	0.001650	66.67	<0.000000	3.33	0.000135	5.56
21	CCV	24.650671	2786145.06	23.879897	834209.05	24.805626	2776638.19	23.402076	961158.54
22	Rinse	0.001673	206.67	0.002141	83.34	<0.000000	6.67	0.000245	10.00
23	CCB	0.000829	110.00	0.000573	28.89	0.000002	10.00	0.000108	4.45

		239 Pu [No Gas]		239 Pu [He]		244 Pu [No Gas]		244 Pu [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
1	Cal-0		0.00		0.00		3.33		0.00
2	Cal-1		23.33		1.11		3.33		1.11
3	Cal-5		70.00		13.33		0.00		0.00
4	Cal-10		103.33		27.78		0.00		0.00

Analyte Table

		239 Pu [No Gas]		239 Pu [He]		244 Pu [No Gas]		244 Pu [He]	
	Sample Name	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS	Conc. [ug/l]	CPS
5	Cal-25		353.34		54.44		3.33		0.00
6	Cal-50		723.36		111.11		3.33		1.11
7	Rinse		0.00		0.00		0.00		0.00
8	ICV								
9	QCS		306.67		50.00		0.00		0.00
10	ICV		306.67		50.00		0.00		0.00
11	Rinse		3.33		0.00		0.00		0.00
12	ICB		3.33		0.00		0.00		0.00
13	LRB		0.00		0.00		0.00		0.00
14	LLOQ		0.00		0.00		0.00		1.11
15	LCS		290.00		44.44		3.33		0.00
16	IDOC#1		256.67		53.33		3.33		0.00
17	IDOC#2		256.67		45.55		0.00		0.00
18	IDOC#3		276.67		60.00		3.33		1.11
19	IDOC#4		246.67		57.78		0.00		0.00
20	Rinse		6.67		0.00		0.00		0.00
21	CCV		243.33		38.89		0.00		0.00
22	Rinse		0.00		0.00		0.00		0.00
23	CCB		3.33		0.00		0.00		1.11

ISTD Table

		6 Li (ISTD) [No Gas]		6 Li (ISTD) [He]		45 Sc (ISTD) [No Gas]		45 Sc (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
1	Cal-0	261758.07	100.0	297.47	100.0	474968.14	100.0	3100.34	100.0
2	Cal-1	250644.52	95.8	322.04	108.3	465873.22	98.1	3182.58	102.7
3	Cal-5	247958.88	94.7	318.43	107.0	460216.57	96.9	3006.98	97.0
4	Cal-10	249497.00	95.3	308.67	103.8	461203.73	97.1	3039.22	98.0
5	Cal-25	252490.53	96.5	319.43	107.4	463437.54	97.6	2946.97	95.1
6	Cal-50	250612.50	95.7	313.69	105.5	457467.06	96.3	3004.76	96.9
7	Rinse	249129.93	95.2	296.93	99.8	451065.76	95.0	3168.13	102.2
8	ICV								
9	QCS	252810.42	96.6	303.51	102.0	459962.99	96.8	3061.44	98.7
10	ICV	248300.81	94.9	303.33	102.0	453049.80	95.4	2943.64	94.9
11	Rinse	251817.11	96.2	345.07	116.0	456397.51	96.1	3130.34	101.0
12	ICB	235043.30	89.8	309.06	103.9	415849.24	87.6	2963.64	95.6
13	LRB	254512.46	97.2	308.67	103.8	455540.02	95.9	3074.78	99.2
14	LLOQ	250659.78	95.8	323.72	108.8	453467.86	95.5	3070.33	99.0
15	LCS	253741.13	96.9	321.02	107.9	455551.31	95.9	3111.45	100.4
16	IDOC#1	252072.75	96.3	301.11	101.2	453943.34	95.6	2902.52	93.6
17	IDOC#2	253129.08	96.7	326.75	109.8	451718.18	95.1	3095.89	99.9
18	IDOC#3	255406.19	97.6	339.06	114.0	450838.25	94.9	3142.56	101.4
19	IDOC#4	252120.50	96.3	327.11	110.0	452830.23	95.3	2998.09	96.7
20	Rinse	255970.61	97.8	323.21	108.7	454929.61	95.8	3181.46	102.6
21	CCV	254474.62	97.2	296.75	99.8	460064.06	96.9	3108.12	100.3
22	Rinse	255110.39	97.5	286.11	96.2	455746.79	96.0	3113.67	100.4
23	CCB	257470.17	98.4	326.57	109.8	453154.73	95.4	3011.43	97.1

		89 Y (ISTD) [No Gas]		89 Y (ISTD) [He]		103 Rh (ISTD) [No Gas]		103 Rh (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
1	Cal-0	806593.22	100.0	23593.24	100.0	861735.25	100.0	231608.12	100.0
2	Cal-1	795254.10	98.6	22428.00	95.1	850597.30	98.7	229593.89	99.1
3	Cal-5	798731.94	99.0	22781.90	96.6	849026.91	98.5	228127.95	98.5

ISTD Table

		89 Y (ISTD) [No Gas]		89 Y (ISTD) [He]		103 Rh (ISTD) [No Gas]		103 Rh (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
4	Cal-10	791594.57	98.1	22553.74	95.6	837925.14	97.2	227024.70	98.0
5	Cal-25	784540.09	97.3	22498.10	95.4	838246.89	97.3	223266.27	96.4
6	Cal-50	787758.06	97.7	22052.96	93.5	838064.73	97.3	225455.88	97.3
7	Rinse	779586.60	96.7	22202.07	94.1	834223.92	96.8	223691.33	96.6
8	ICV								
9	QCS	780854.75	96.8	22322.26	94.6	834792.90	96.9	224857.65	97.1
10	ICV	768580.40	95.3	22564.87	95.6	819616.60	95.1	226151.27	97.6
11	Rinse	775278.56	96.1	22416.86	95.0	828307.23	96.1	224136.39	96.8
12	ICB	693880.28	86.0	22431.33	95.1	732804.89	85.0	225577.03	97.4
13	LRB	781856.06	96.9	22618.31	95.9	830767.62	96.4	227924.98	98.4
14	LLOQ	778516.58	96.5	23193.69	98.3	831244.26	96.5	229089.50	98.9
15	LCS	770582.59	95.5	22596.03	95.8	832490.64	96.6	229758.26	99.2
16	IDOC#1	783443.95	97.1	22393.53	94.9	828973.84	96.2	224442.65	96.9
17	IDOC#2	777893.37	96.4	23298.30	98.7	823391.34	95.6	231107.77	99.8
18	IDOC#3	777191.45	96.4	22945.49	97.3	829408.84	96.2	230580.96	99.6
19	IDOC#4	777911.37	96.4	23096.85	97.9	825376.84	95.8	230843.81	99.7
20	Rinse	781249.39	96.9	23252.68	98.6	826647.70	95.9	231273.00	99.9
21	CCV	778761.42	96.5	23258.23	98.6	824009.60	95.6	230076.36	99.3
22	Rinse	778495.90	96.5	23489.74	99.6	824774.78	95.7	232730.12	100.5
23	CCB	773080.95	95.8	23116.89	98.0	826719.07	95.9	232945.55	100.6

		115 In (ISTD) [No Gas]		115 In (ISTD) [He]		159 Tb (ISTD) [No Gas]		159 Tb (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
1	Cal-0	835030.15	100.0	34508.05	100.0	1135497.69	100.0	251522.84	100.0
2	Cal-1	831414.99	99.6	34155.63	99.0	1130501.36	99.6	248506.33	98.8
3	Cal-5	819545.53	98.1	33608.90	97.4	1139050.51	100.3	248446.72	98.8
4	Cal-10	820336.41	98.2	34059.98	98.7	1117090.09	98.4	248591.51	98.8
5	Cal-25	820404.46	98.2	33765.54	97.8	1114522.98	98.2	246781.01	98.1
6	Cal-50	820312.21	98.2	33894.92	98.2	1119702.95	98.6	246647.62	98.1

ISTD Table

		115 In (ISTD) [No Gas]		115 In (ISTD) [He]		159 Tb (ISTD) [No Gas]		159 Tb (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
7	Rinse	800278.65	95.8	33144.46	96.0	1112868.99	98.0	243050.15	96.6
8	ICV								
9	QCS	814104.38	97.5	33942.39	98.4	1120431.34	98.7	244304.10	97.1
10	ICV	805035.47	96.4	33723.28	97.7	1095261.47	96.5	245453.56	97.6
11	Rinse	807446.24	96.7	33423.93	96.9	1102740.53	97.1	245712.75	97.7
12	ICB	714944.27	85.6	33939.06	98.4	989923.68	87.2	245068.61	97.4
13	LRB	813322.83	97.4	33838.03	98.1	1105979.04	97.4	246554.43	98.0
14	LLOQ	808373.25	96.8	34288.22	99.4	1111092.59	97.9	247482.37	98.4
15	LCS	813457.41	97.4	34053.92	98.7	1115791.29	98.3	249398.45	99.2
16	IDOC#1	809749.76	97.0	33582.30	97.3	1108487.80	97.6	245259.07	97.5
17	IDOC#2	804345.16	96.3	34181.51	99.1	1109809.25	97.7	251542.19	100.0
18	IDOC#3	812355.34	97.3	34525.96	100.1	1110420.14	97.8	251672.65	100.1
19	IDOC#4	803800.65	96.3	34156.12	99.0	1103809.28	97.2	248451.00	98.8
20	Rinse	805754.19	96.5	34500.92	100.0	1099857.15	96.9	251597.35	100.0
21	CCV	813501.92	97.4	34754.92	100.7	1104618.11	97.3	253813.66	100.9
22	Rinse	804288.40	96.3	35007.75	101.4	1093002.46	96.3	251417.93	100.0
23	CCB	805110.82	96.4	34550.55	100.1	1085908.89	95.6	252149.41	100.2

		165 Ho (ISTD) [No Gas]		165 Ho (ISTD) [He]		175 Lu (ISTD) [No Gas]		175 Lu (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
1	Cal-0	1119512.46	100.0	247116.41	100.0	1103760.63	100.0	118927.82	100.0
2	Cal-1	1120916.47	100.1	243701.27	98.6	1114997.90	101.0	117951.42	99.2
3	Cal-5	1112686.21	99.4	243198.48	98.4	1108833.08	100.5	117000.93	98.4
4	Cal-10	1115318.81	99.6	243915.89	98.7	1096111.81	99.3	117288.95	98.6
5	Cal-25	1106879.15	98.9	242654.74	98.2	1093373.81	99.1	113865.98	95.7
6	Cal-50	1096348.27	97.9	243094.39	98.4	1096483.00	99.3	115353.38	97.0
7	Rinse	1097174.46	98.0	237927.22	96.3	1094109.10	99.1	113451.46	95.4
8	ICV								
9	QCS	1111423.86	99.3	239935.54	97.1	1097196.44	99.4	113849.28	95.7

ISTD Table

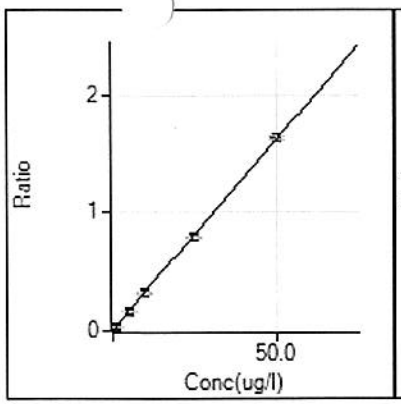
		165 Ho (ISTD) [No Gas]		165 Ho (ISTD) [He]		175 Lu (ISTD) [No Gas]		175 Lu (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]	CPS	Recovery [%]
10	ICV	1086960.24	97.1	240964.40	97.5	1076333.13	97.5	115250.02	96.9
11	Rinse	1097044.98	98.0	242820.57	98.3	1083622.17	98.2	115264.73	96.9
12	ICB	988523.73	88.3	241978.73	97.9	952641.26	86.3	115057.43	96.7
13	LRB	1098912.72	98.2	243291.08	98.5	1083345.30	98.2	117251.00	98.6
14	LLOQ	1095783.89	97.9	243496.55	98.5	1091434.98	98.9	115287.07	96.9
15	LCS	1095659.80	97.9	246999.78	100.0	1086351.18	98.4	117254.49	98.6
16	IDOC#1	1093461.70	97.7	239110.54	96.8	1089633.34	98.7	114728.86	96.5
17	IDOC#2	1096876.91	98.0	249726.60	101.1	1082228.79	98.0	118479.49	99.6
18	IDOC#3	1092190.14	97.6	246894.15	99.9	1078053.11	97.7	117649.02	98.9
19	IDOC#4	1076807.33	96.2	244411.38	98.9	1084966.21	98.3	116712.79	98.1
20	Rinse	1084236.34	96.8	245244.37	99.2	1074293.81	97.3	116563.77	98.0
21	CCV	1091095.14	97.5	250231.06	101.3	1084003.79	98.2	118710.47	99.8
22	Rinse	1073372.95	95.9	248629.35	100.6	1075301.15	97.4	118361.98	99.5
23	CCB	1073382.12	95.9	249741.89	101.1	1058269.13	95.9	117092.94	98.5

		209 Bi (ISTD) [No Gas]		209 Bi (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]
1	Cal-0	782067.90	100.0	210545.78	100.0
2	Cal-1	781691.11	100.0	207259.65	98.4
3	Cal-5	775209.49	99.1	206017.26	97.8
4	Cal-10	775700.95	99.2	207131.47	98.4
5	Cal-25	768709.02	98.3	205613.20	97.7
6	Cal-50	767778.35	98.2	205682.11	97.7
7	Rinse	768534.29	98.3	203934.61	96.9
8	ICV				
9	QCS	764955.51	97.8	205982.24	97.8
10	ICV	755090.80	96.6	204528.10	97.1
11	Rinse	767266.65	98.1	205303.95	97.5
12	ICB	675637.88	86.4	205969.44	97.8

ISTD Table

		209 Bi (ISTD) [No Gas]		209 Bi (ISTD) [He]	
	Sample Name	CPS	Recovery [%]	CPS	Recovery [%]
13	LRB	763049.10	97.6	206999.34	98.3
14	LLOQ	764565.17	97.8	206914.71	98.3
15	LCS	763595.64	97.6	206323.85	98.0
16	IDOC#1	764615.09	97.8	203801.47	96.8
17	IDOC#2	757918.30	96.9	208188.01	98.9
18	IDOC#3	760281.19	97.2	208222.34	98.9
19	IDOC#4	758728.37	97.0	207001.69	98.3
20	Rinse	760810.46	97.3	210478.89	100.0
21	CCV	753916.27	96.4	210284.94	99.9
22	Rinse	759745.51	97.1	209421.13	99.5
23	CCB	757460.22	96.9	210325.74	99.9

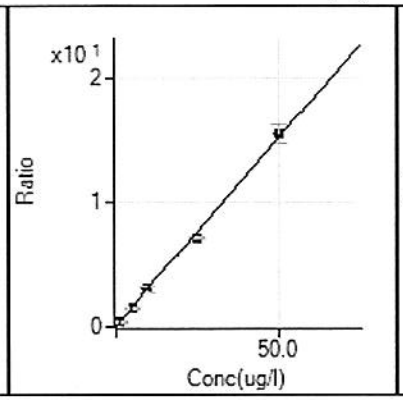
Calibration for D:\Agilent\ICPMH\1\DA[illegible]2016\060816-IDOC-MAZ-2.b\001CALS.d



9 Be [No Gas] / ISTD: 6 Li

y = 3.236E-2 x + 1.781E-4

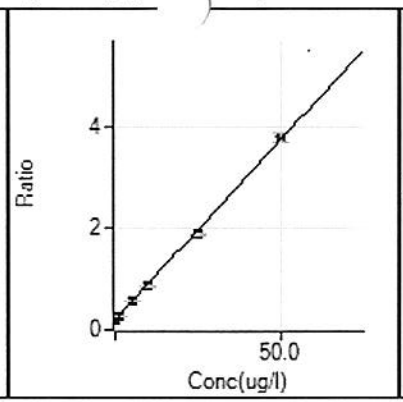
R	0.9998
DL	0.005378
BEC	0.005505



9 Be [He] / ISTD: 6 Li

y = 3.046E-1 x + 4.157E-3

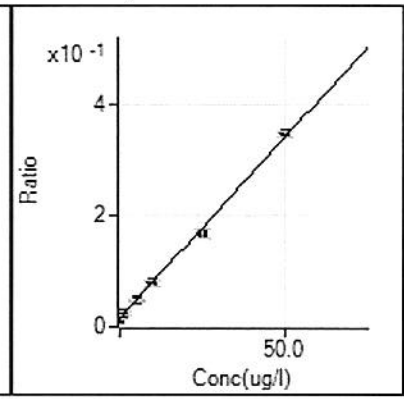
R	0.9991
DL	0.07091
BEC	0.01365



27 Al [No Gas] / ISTD: 45 Sc

y = 7.132E-2 x + 1.879E-1

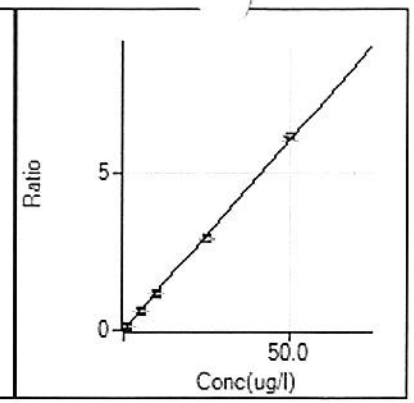
R	0.9994
DL	0.1587
BEC	2.634



27 Al [He] / ISTD: 45 Sc

y = 6.536E-3 x + 1.434E-2

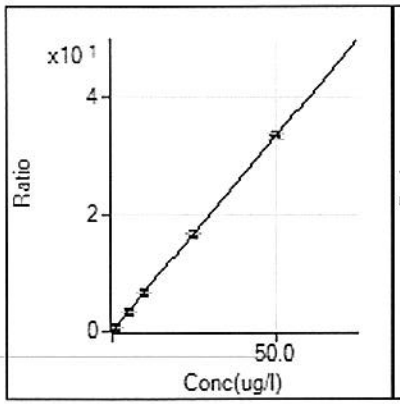
R	0.9991
DL	1.24
BEC	2.194



51 V [No Gas] / ISTD: 45 Sc

y = 1.216E-1 x + 2.893E-3

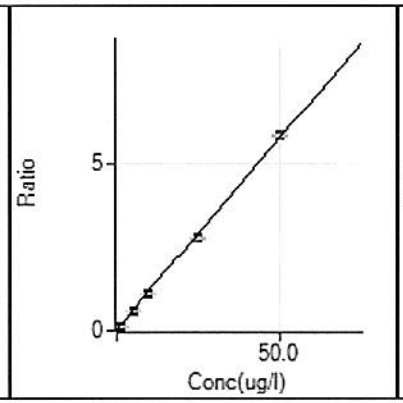
R	0.9996
DL	0.02157
BEC	0.02379



51 V [He] / ISTD: 45 Sc

y = 6.660E-1 x + 2.859E-3

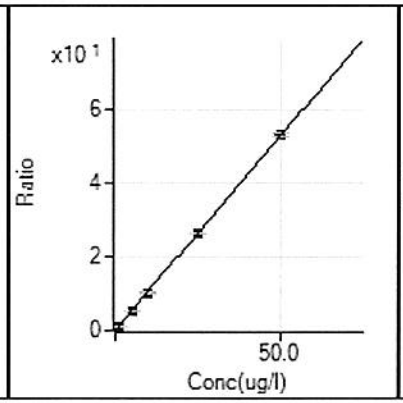
R	1.0000
DL	0.005423
BEC	0.004293



52 Cr [No Gas] / ISTD: 45 Sc

y = 1.150E-1 x + 1.831E-2

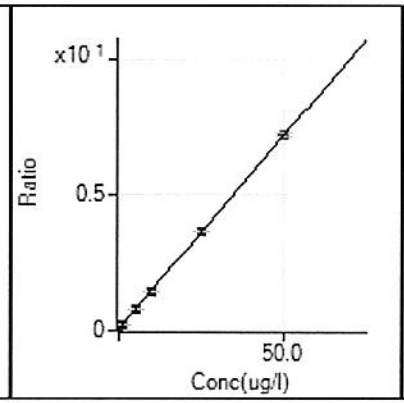
R	0.9996
DL	0.0238
BEC	0.1591



52 Cr [He] / ISTD: 45 Sc

y = 1.054E0 x + 4.376E-2

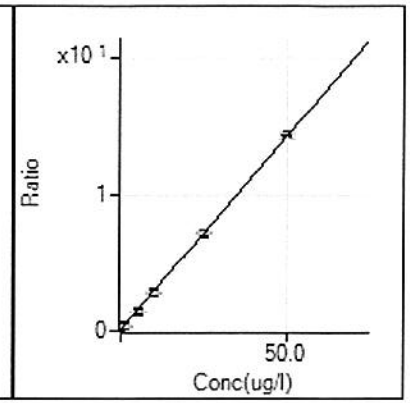
R	1.0000
DL	0.01234
BEC	0.0415



55 Mn [No Gas] / ISTD: 45 Sc

y = 1.422E-1 x + 5.738E-2

R	1.0000
DL	0.009655
BEC	0.4036

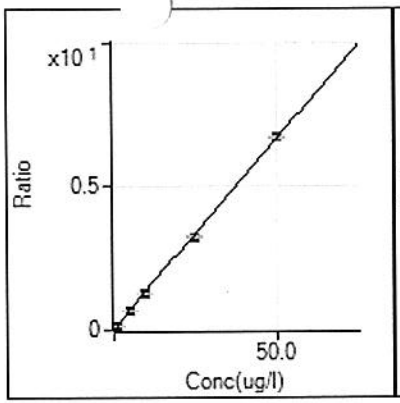


55 Mn [He] / ISTD: 45 Sc

y = 2.829E-1 x + 1.018E-1

R	1.0000
DL	0.03281
BEC	0.3598

Calibration for D:\Agilent\ICPMH\1\DA[illegible]2016\060816-IDOC-MAZ-2.b\001CALS.d



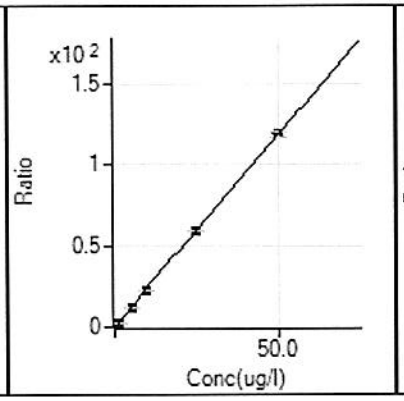
59 Co [No Gas] / ISTD: 45 Sc

y = 1.328E-1 x + 1.425E-3

R 0.9998

DL 0.002261

BEC 0.01073



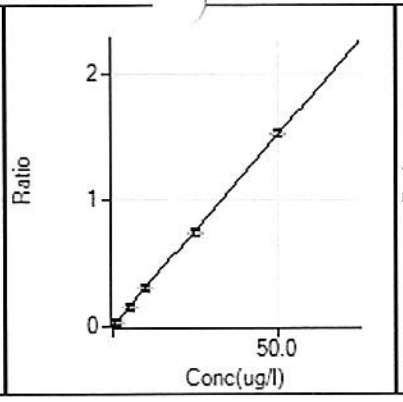
59 Co [He] / ISTD: 45 Sc

y = 2.368E0 x + 2.512E-2

R 0.9999

DL 0.009196

BEC 0.01061



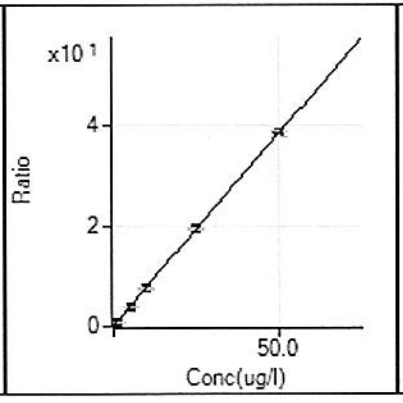
60 Ni [No Gas] / ISTD: 45 Sc

y = 3.015E-2 x + 3.803E-3

R 0.9998

DL 0.0251

BEC 0.1261



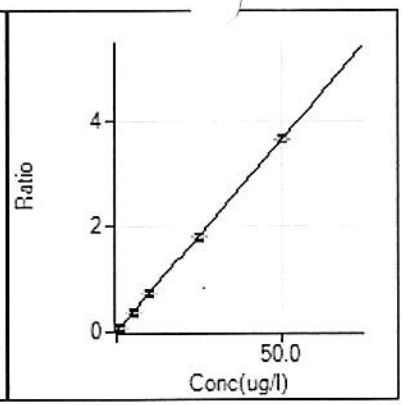
60 Ni [He] / ISTD: 45 Sc

y = 7.659E-1 x + 9.794E-2

R 1.0000

DL 0.05646

BEC 0.1279



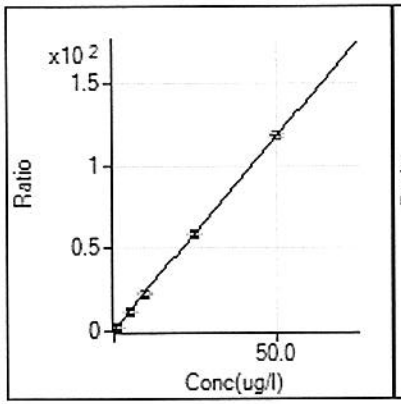
63 Cu [No Gas] / ISTD: 45 Sc

y = 7.249E-2 x + 7.832E-3

R 0.9999

DL 0.02333

BEC 0.108



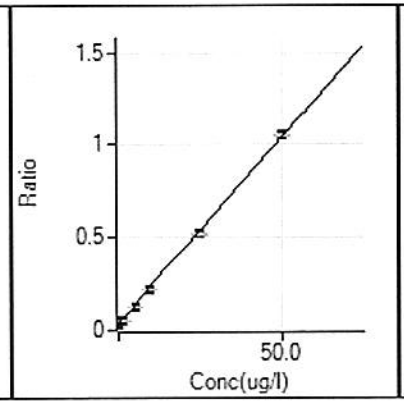
63 Cu [He] / ISTD: 45 Sc

y = 2.344E0 x + 2.443E-1

R 1.0000

DL 0.02252

BEC 0.1042



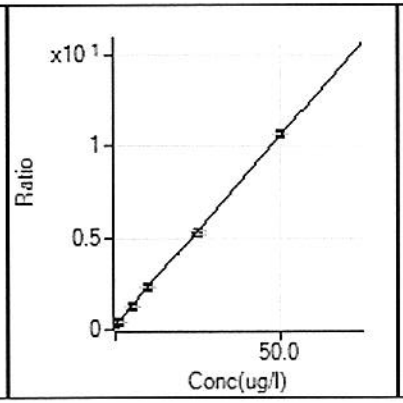
66 Zn [No Gas] / ISTD: 45 Sc

y = 2.010E-2 x + 3.402E-2

R 0.9997

DL 1.505

BEC 1.693



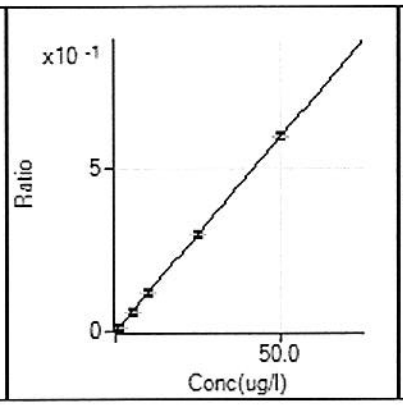
66 Zn [He] / ISTD: 45 Sc

y = 2.057E-1 x + 2.735E-1

R 0.9999

DL 0.3115

BEC 1.33



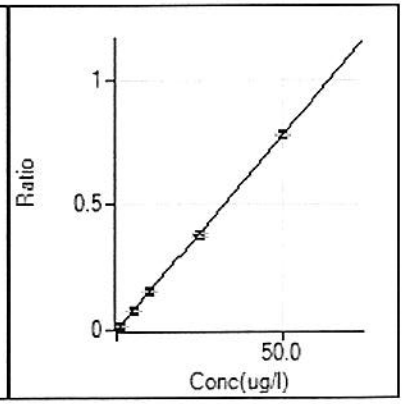
75 As [No Gas] / ISTD: 89 Y

y = 1.200E-2 x + 8.398E-4

R 1.0000

DL 0.03498

BEC 0.06997



75 As [He] / ISTD: 89 Y

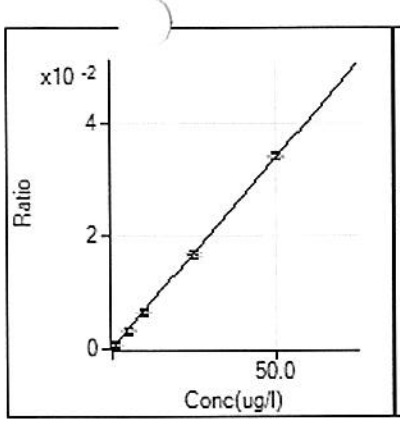
y = 1.553E-2 x + 1.412E-4

R 0.9999

DL 0.02724

BEC 0.009092

Calibration for D:\Agilent\ICPMH\1\DA[illegible]2016\060816-IDOC-MAZ-2.b\001CALS.d



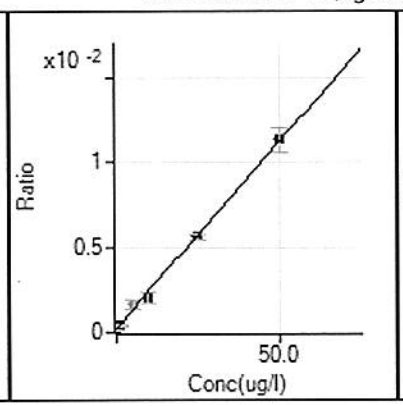
82 Se [No Gas] / ISTD: 89 Y

y = 6.768E-4 x - 2.785E-5

R 0.9999

DL 0.1436

BEC -0.04115



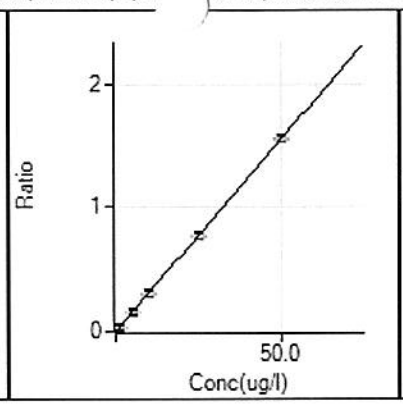
82 Se [He] / ISTD: 89 Y

y = 2.209E-4 x + 1.887E-4

R 0.9993

DL 2.94

BEC 0.8543



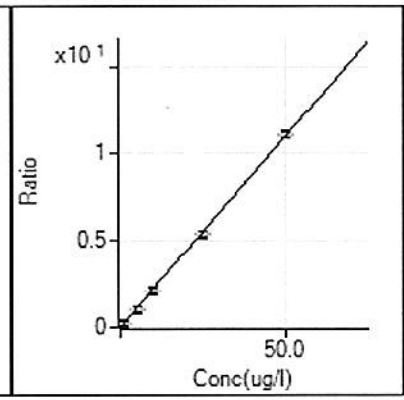
98 Mo [No Gas] / ISTD: 89 Y

y = 3.098E-2 x + 1.414E-4

R 1.0000

DL 0.005904

BEC 0.004565



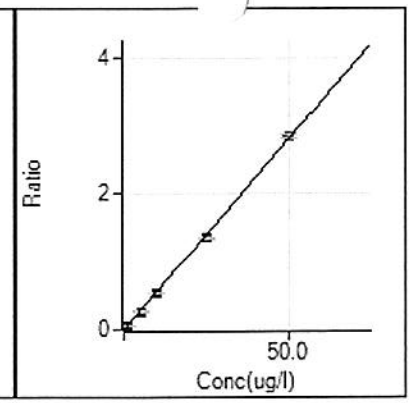
98 Mo [He] / ISTD: 89 Y

y = 2.191E-1 x + 1.366E-3

R 0.9998

DL 0.002938

BEC 0.006232



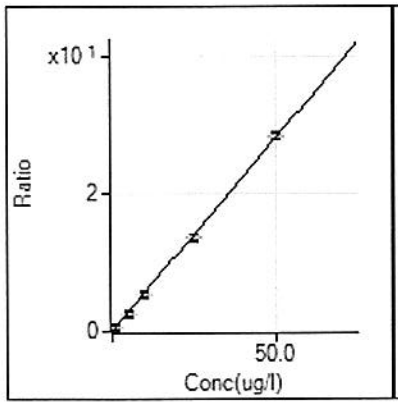
107 Ag [No Gas] / ISTD: 89 Y

y = 5.613E-2 x + 4.574E-5

R 0.9997

DL 0.001954

BEC 0.000815



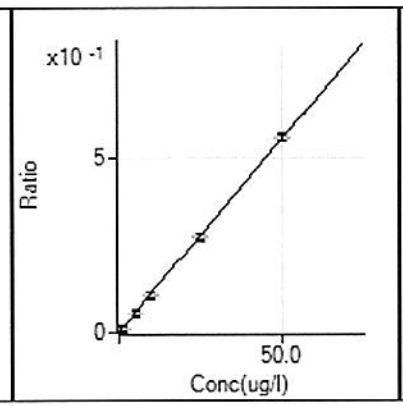
107 Ag [He] / ISTD: 89 Y

y = 5.623E-1 x + 4.712E-4

R 0.9998

DL 0.002307

BEC 0.000838



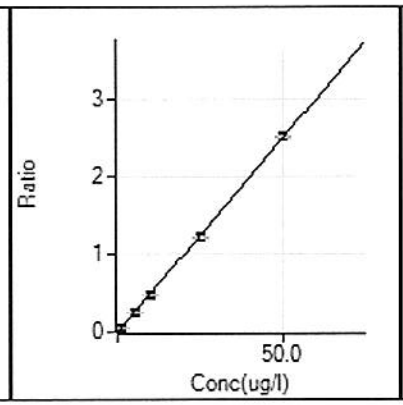
111 Cd [No Gas] / ISTD: 89 Y

y = 1.104E-2 x + 9.030E-4

R 0.9999

DL 0.01385

BEC 0.08176



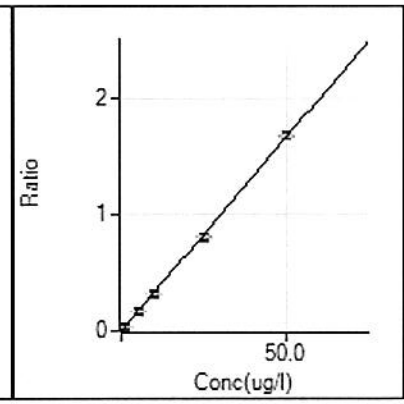
111 Cd [He] / ISTD: 89 Y

y = 4.983E-2 x + 4.693E-5

R 0.9998

DL 0.004893

BEC 0.0009418



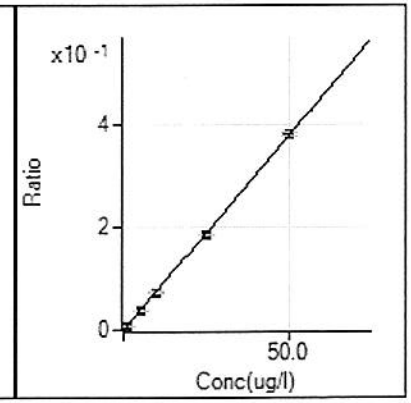
123 Sb [No Gas] / ISTD: 103 Rh

y = 3.314E-2 x + 6.160E-5

R 0.9998

DL 0.003613

BEC 0.001858



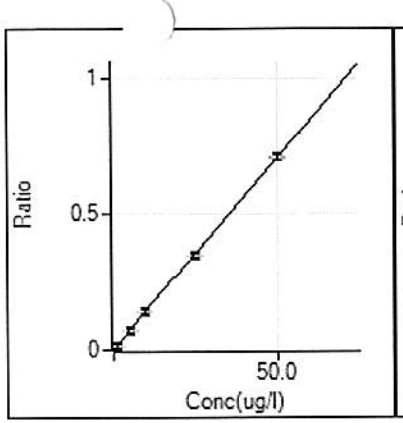
123 Sb [He] / ISTD: 103 Rh

y = 7.523E-3 x + 1.438E-5

R 0.9999

DL 3.897E-05

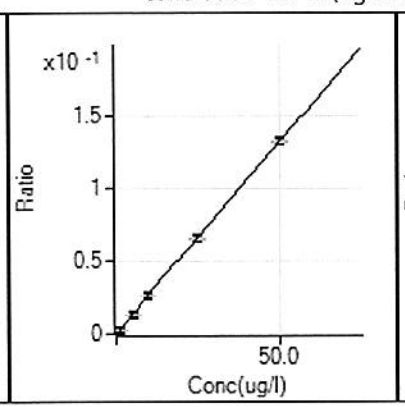
BEC 0.001911



137 Ba [No Gas] / ISTD: 103 Rh

y = 1.412E-2 x + 5.685E-4

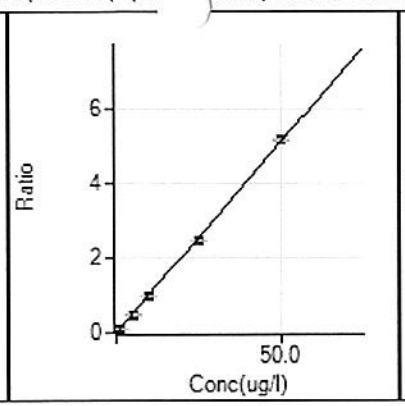
R	0.9999
DL	0.007899
BEC	0.04026



137 Ba [He] / ISTD: 103 Rh

y = 2.642E-3 x + 1.632E-4

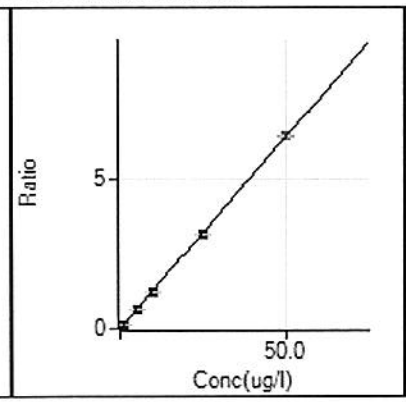
R	1.0000
DL	0.06235
BEC	0.06177



205 Tl [No Gas] / ISTD: 209 Bi

y = 1.025E-1 x + 1.065E-4

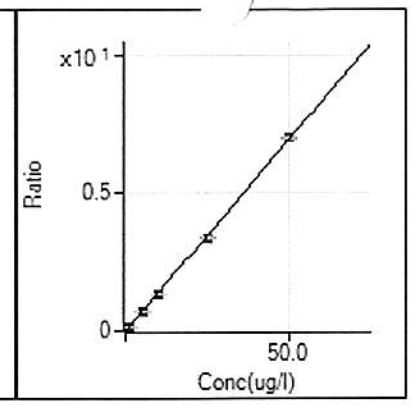
R	0.9997
DL	0.0005666
BEC	0.001039



205 Tl [He] / ISTD: 209 Bi

y = 1.284E-1 x + 1.743E-4

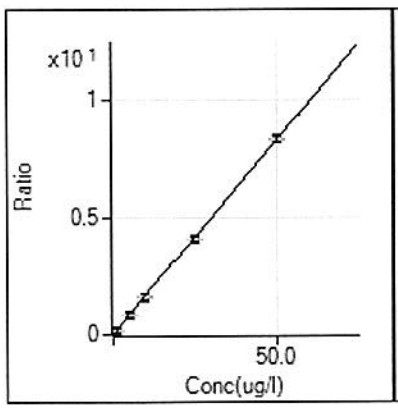
R	0.9999
DL	0.001345
BEC	0.001357



208 Pb [No Gas] / ISTD: 209 Bi

y = 1.384E-1 x + 3.695E-3

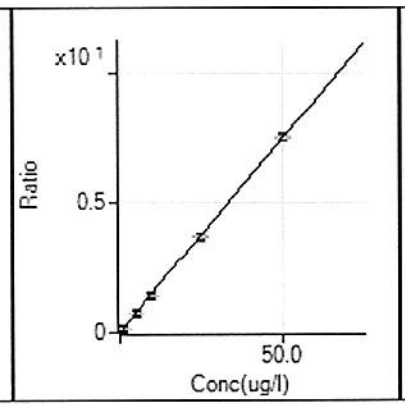
R	0.9998
DL	0.003956
BEC	0.02669



208 Pb [He] / ISTD: 209 Bi

y = 1.659E-1 x + 4.238E-3

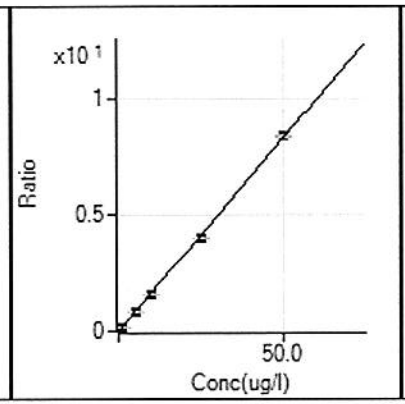
R	0.9999
DL	0.003428
BEC	0.02554



232 Th [No Gas] / ISTD: 209 Bi

y = 1.499E-1 x + 2.134E-5

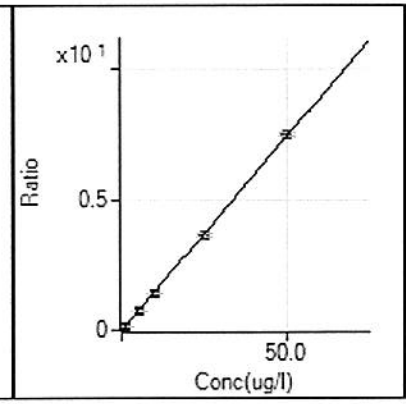
R	0.9999
DL	0.0003916
BEC	0.0001423



232 Th [He] / ISTD: 209 Bi

y = 1.661E-1 x + 4.220E-5

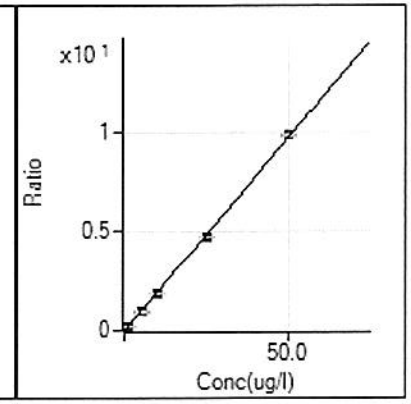
R	0.9997
DL	0.0001622
BEC	0.000254



238 U [No Gas] / ISTD: 209 Bi

y = 1.485E-1 x + 1.280E-5

R	0.9999
DL	0.0002583
BEC	8.618E-05

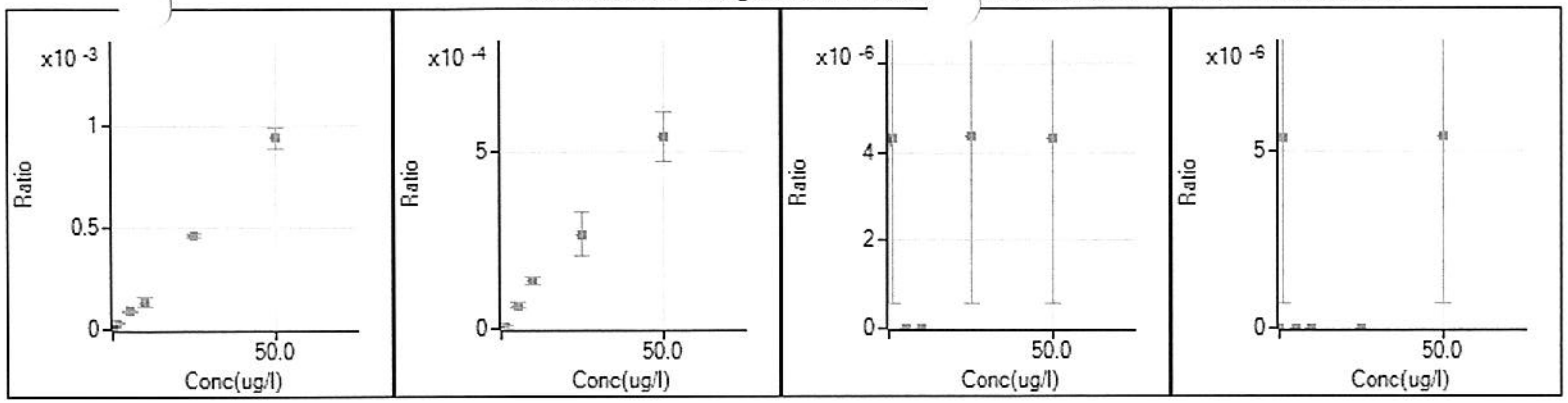


238 U [He] / ISTD: 209 Bi

y = 1.953E-1 x

R	0.9996
DL	0
BEC	0

Calibration for D:\Agilent\ICPMH\1\D/ 2016\060816-IDOC-MAZ-2.b\001CALS.d



239 Pu [No Gas] / ISTD: 209 Bi	239 Pu [He] / ISTD: 209 Bi	244 Pu [No Gas] / ISTD: 209 Bi	244 Pu [He] / ISTD: 209 Bi
y =	y =	y =	y =
R	R	R	R
DL	DL	DL	DL
BEC	BEC	BEC	BEC

DATE: 06.08.16

ANALYST: MAZ

200.8
DIGESTION LOGBOOK

DIGESTION# 1217

MET-HOTBLOCK-2

T (*C) 95.0-17

HNO3 : ALD# SHBG3638V

SPIKE STD.: HPS# 1502715
HPS# 1419518 (5x)

I.S.: IS-MET-041216H

	LCN	PH	Vi (ml)	V HNO3 (ml)	V I.S. (ul)	C I.S. (ppb)	V spike (ul)	C spike (ppb)	Vf (ml)	Dil. Factor	Comments
	LRB	<2	50	3.0	250	50	-	-	50		
	LCS	<2	50	3.0	250	50	125	25	50		
1	IDOC-1	<2	50	3.0	250	50	125	25	50		
2	IDOC-2	<2	50	3.0	250	50	125	25	50		
3	IDOC-3	<2	50	3.0	250	50	125	25	50		
4	IDOC-4	<2	50	3.0	250	50	125	25	50		
5			50	3.0	250	50	-	-	50		
6			50	3.0	250	50	-	-	50		
			50	3.0	250	50	-	-	50		
8			50	3.0	250	50	-	-	50		
9			50	3.0	250	50	-	-	50		
10			50	3.0	250	50	-	-	50		
	MS		50	3.0	250	50			50		
	MSD		50	3.0	250	50			50		
11			50	3.0	250	50	-	-	50		
12			50	3.0	250	50	-	-	50		
13			50	3.0	250	50	-	-	50		
14			50	3.0	250	50	-	-	50		
15			50	3.0	250	50	-	-	50		
16			50	3.0	250	50	-	-	50		
17			50	3.0	250	50	-	-	50		
18			50	3.0	250	50	-	-	50		
19			50	3.0	250	50	-	-	50		
20			50	3.0	250	50	-	-	50		
	3		50	3.0	250	50			50		
	MSD		50	3.0	250	50			50		

DIG. TUBES EE# 1509104

not added

050136-003

Controlled Copy
Always Appears
Stamped in Red

Demonstration of Capability
Certification Statement

Date: 10.03.13
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): MERCEDES ZALDIVAR
Matrix: LIQUID
Method number: 6010

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. V Mercedes Zaldivar current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

IRENA NUTZU — Technical Director's Name and Title — Signature
Date 10.03.13

Caitlin Brice — Quality Assurance Officer's Name — Signature
Date 10-3-13

This certification form must be completed each time a demonstration of capability study is completed

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

* see EPA 200.7 raw data from Mercedes Zaldivar IDOC.

DATE : 10/01/2013
ANALYST: MERCEDES ZALDIVAR

IDOC
METHOD 6010
MATRIX : LIQUID

	T V (PPM)	IDOC-1 (PPM)	IDOC-2 (PPM)	IDOC-3 (PPM)	IDOC-4 (PPM)	Average (PPM)	% Recovery	Std.Dev.
Ag	1.00000	0.988697	0.988109	0.980037	0.980984	0.984457	98.4	0.004579
Al	1.00000	1.01483	1.01543	1.00838	1.00651	1.011288	101.1	0.004509
As	1.00000	1.0161	1.02172	1.01449	1.01033	1.01566	101.6	0.004715
B	1.00000	1.03875	1.04255	1.03985	1.03584	1.039248	103.9	0.002777
Ba	1.00000	0.981304	0.981435	0.973993	0.974522	0.977814	97.8	0.004112
Be	1.00000	1.00741	1.00929	1.00063	0.999392	1.004181	100.4	0.004901
Ca	26.00000	26.5227	26.5566	26.3258	26.3675	26.44315	101.7	0.113568
Cd	1.00000	1.0124	1.01342	1.0054	1.00671	1.009483	100.9	0.004015
Co	1.00000	0.990409	0.987593	0.97892	0.9798926	0.984204	98.4	0.005671
Cr	1.00000	0.986243	0.98881	0.980824	0.981237	0.984279	98.4	0.003898
Cu	1.00000	1.00019	0.995424	0.992003	0.990527	0.994536	99.5	0.004291
Fe	1.00000	0.987382	0.98652	0.98324	0.982438	0.984895	98.5	0.002422
K	35.00000	35.1923	35.2226	34.9171	34.9648	35.0742	100.2	0.155584
Mg	1.00000	0.991354	0.988559	0.984313	0.980792	0.986255	98.6	0.004652
Mn	1.00000	0.959678	0.965531	0.95301	0.951697	0.957479	95.7	0.006405
Mo	1.00000	1.00058	1.01486	1.01623	1.01783	1.012375	101.2	0.007956
Na	25.00000	25.4769	25.4362	25.2596	25.3565	25.3823	101.5	0.095874
Ni	1.00000	0.971258	0.97206	0.96511	0.965058	0.968372	96.8	0.00381
Pb	1.00000	0.972572	0.959859	0.953541	0.949958	0.958983	95.9	0.009941
Sb	1.00000	0.901606	0.976674	1.00254	1.01757	0.974598	97.5	0.051509
Se	1.00000	1.01286	1.01848	1.01498	1.01333	1.014913	101.5	0.002546
Si	0.50000	0.488721	0.488276	0.485813	0.484249	0.486765	97.4	0.002109
Sr	1.00000	0.955258	0.958778	0.946739	0.956022	0.954199	95.4	0.005198
Ti	1.00000	0.992188	0.995678	0.988875	0.986164	0.990726	99.1	0.004119
Tl	1.00000	0.958875	0.963541	0.954824	0.955342	0.958146	95.8	0.004022
V	1.00000	1.00075	0.999742	0.991597	0.990313	0.995601	99.6	0.005405
Zn	1.00000	0.993287	0.999046	0.98823	0.984388	0.991238	99.1	0.006354

Vista PRO.100113.

Method Parameters

METHOD : 200.7 , 6010 , 6010 TCLP
ANALYST : IRENA NUTZU / MERCEDES ZALDIVAR
INSTRUMENT : VARIAN 720-ES-SERIAL#EL06073103
NELAC Traceability Information :
CALIB. STANDARDS : HPS-QCS-26,LOT# 1204112
HPS-Sr-LOT# 1208804
HPS-Ca-LOT # 1207226
HPS-K-LOT # 1131215
HPS-Na-LOT # 1130805

CCV : HPS-QCS-26,LOT# 1204112
HPS-Sr-LOT# 1208804
HPS-Ca-LOT # 1207226
HPS-K-LOT # 1131215
HPS-Na-LOT # 1130805

EXTERNAL SOURCE STD.: QCS-HPS-QCS-26,LOT# 1305106
-HPS-Sr-LOT # 1127324
-HPS-Ca-LOT#1128701
-HPS-K-LOT # 1118723
-HPS-Na-LOT # 1115410

LCS/MS- HPS-QCS-26,LOT# 1305106
-HPS-Sr-LOT # 1127324
-HPS-Ca-LOT#1128701
-HPS-K-LOT # 1118723
-HPS-Na-LOT # 1115410

REAGENTS: HNO3 : Aldrich, LOT# SHBD0895V
HCl : MC-LOT#L04039
H2O2: EMD,LOT#52007229

QA/QC STATISTICS FOR ANALYTICAL RUN :see raw data
QA/QC ACCEPTANCE CRITERIA : CCV : ± 5% (First after calibration) , ± 10% (The rest)
QCS : ± 5% (Second source)
LCS : ± 15% (200.7,6010)
MS/MSD : ± 30% (200.7) , ± 25% (6010)

BATCH#_____

_____

RUN#_____

_____

PARENT SAMPLE SPIKED:_____

Blank (Blk) **10/1/2013, 11:25:55 AM** **Rack 0, Tube 1**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	0.000000	mg/L	4.731	152.7	3.09810
Al 308.215	0.000000	mg/L	1.182	0.6	187.100
As 188.980	0.000000	mg/L	0.459	14.8	3.10457
B 208.889	0.000000	mg/L	1.374	37.7	3.64418
Ba 233.527	0.000000	mg/L	0.679	10.8	6.29427
Be 234.861	0.000000	mg/L	1.356	87.9	1.54360
Ca 430.253	0.000000	mg/L	12.368	11.4	108.866
Cd 228.802	0.000000	mg/L	1.539	37.4	4.11805
Co 228.615	0.000000	mg/L	1.104	63.3	1.74268
Cr 206.158	0.000000	mg/L	0.387	49.1	0.787750
Cu 324.754	0.000000	mg/L	7.544	4.1	183.974
Fe 238.204	0.000000	mg/L	2.319	15.2	15.2578
K 766.491	0.000000	mg/L	9.784	5.7	171.835
Mg 279.078	0.000000	mg/L	2.218	31.8	6.98450
Mn 257.610	0.000000	mg/L	0.445	2.2	20.4326
Mo 202.032	0.000000	mg/L	1.950	24.2	8.06522
Na 568.821	0.000000	mg/L	3.702	2.5	145.650
Ni 231.604	0.000000	mg/L	0.859	20.9	4.10638
Pb 220.353	0.000000	mg/L	0.742	24.1	3.07656
Sb 206.834	0.000000	mg/L	0.459	12.7	3.62214
Se 196.026	0.000000	mg/L	0.415	18.2	2.27438
Si 212.412	0.000000	mg/L	2.234	9.3	23.9644
Sr 407.771	0.000000	mg/L	4.960	2.7	182.631
Ti 334.941	0.000000	mg/L	8.291	71.3	11.6322
Tl 190.794	0.000000	mg/L	0.464	45.7	1.01510
V 292.401	0.000000	mg/L	1.971	29.4	6.70622
Zn 213.857	0.000000	mg/L	1.338	8.7	15.3970

0.50 ppm (Std) **10/1/2013, 11:30:08 AM** **Rack 0, Tube 2**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	0.500000	mg/L	72.702	0.5	16132.1
Al 308.215	0.500000	mg/L	18.105	0.7	2623.60
As 188.980	0.500000	mg/L	2.770	0.7	372.455
B 208.889	0.500000	mg/L	9.268	2.0	459.524
Ba 233.527	0.500000	mg/L	90.566	0.4	22121.2
Be 234.861	0.500000	mg/L	225.724	0.4	59733.0
Cd 228.802	0.500000	mg/L	32.624	0.3	11900.9
Co 228.615	0.500000	mg/L	45.426	0.7	6546.30
Cr 206.158	0.500000	mg/L	6.778	0.7	1013.30
Cu 324.754	0.500000	mg/L	131.049	0.4	30638.3
Fe 238.204	0.500000	mg/L	10.714	0.1	15280.9
Mg 279.078	0.500000	mg/L	5.480	0.7	743.642
Mn 257.610	0.500000	mg/L	215.534	0.3	83632.8
Mo 202.032	0.500000	mg/L	63.618	1.9	3331.88
Ni 231.604	0.500000	mg/L	9.812	0.5	2100.49

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Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Pb 220.353	0.500000	mg/L	70.354	8.9	792.548
Sb 206.834	0.500000	mg/L	8.533	2.1	397.026
Se 196.026	0.500000	mg/L	4.919	1.7	292.306
Si 212.412	0.250000	mg/L	1.587	0.3	500.984
Sr 407.771	0.500000	mg/L	4707.898	0.4	1210505
Ti 334.941	0.500000	mg/L	163.167	0.3	61692.6
Tl 190.794	0.500000	mg/L	1.320	0.2	548.841
V 292.401	0.500000	mg/L	74.016	0.4	19020.4
Zn 213.857	0.500000	mg/L	41.092	0.4	9788.83

2.00 ppm (Std) **10/1/2013, 11:34:22 AM** **Rack 0, Tube 3**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	2.00000	mg/L	225.118	0.4	62583.9
Al 308.215	2.00000	mg/L	41.234	0.4	9611.23
As 188.980	2.00000	mg/L	4.498	0.3	1480.46
B 208.889	2.00000	mg/L	32.480	1.8	1829.12
Ba 233.527	2.00000	mg/L	241.957	0.3	84574.7
Be 234.861	2.00000	mg/L	865.242	0.4	235750
Cd 228.802	2.00000	mg/L	118.573	0.3	46721.7
Co 228.615	2.00000	mg/L	112.109	0.4	25312.2
Cr 206.158	2.00000	mg/L	22.785	0.6	3951.86
Cu 324.754	2.00000	mg/L	426.997	0.4	117432
Fe 238.204	2.00000	mg/L	242.027	0.4	60072.3
Mg 279.078	2.00000	mg/L	5.255	0.2	2853.69
Mn 257.610	2.00000	mg/L	783.862	0.2	321503
Mo 202.032	2.00000	mg/L	195.286	1.4	14190.1
Ni 231.604	2.00000	mg/L	27.966	0.3	8031.73
Pb 220.353	2.00000	mg/L	92.462	2.6	3625.83
Sb 206.834	2.00000	mg/L	18.815	1.2	1613.82
Se 196.026	2.00000	mg/L	9.177	0.8	1169.73
Si 212.412	1.00000	mg/L	8.636	0.5	1868.90
Sr 407.771	2.00000	mg/L	26079.305	0.6	4180509
Ti 334.941	2.00000	mg/L	403.099	0.2	236824
Tl 190.794	2.00000	mg/L	3.714	0.2	2105.88
V 292.401	2.00000	mg/L	517.793	0.7	74608.9
Zn 213.857	2.00000	mg/L	497.107	1.3	38166.5

50 ppm Minerals (Std) **10/1/2013, 11:38:35 AM** **Rack 0, Tube 4**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ca 430.253	50.0000	mg/L	457.127	0.2	265978
K 766.491	50.0000	mg/L	2493.953	0.1	1907240
Na 568.821	50.0000	mg/L	33.377	0.2	21714.2

100 ppm Minerals (Std) **10/1/2013, 11:42:48 AM** **Rack 0, Tube 5**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ca 430.253	100.000	mg/L	844.495	0.2	527540
K 766.491	100.000	mg/L	4056.182	0.1	3766085
Na 568.821	100.000	mg/L	69.843	0.2	44697.5

Ag 328.068 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999966**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.09810	0.000000	0.000000	-	-
0.50 ppm		16132.1	0.500000	0.509558	0.009558	1.9
2.00 ppm		62583.9	2.00000	1.97709	-0.022910	-1.1

Curve Type: Linear Equation: y = 31653.0 x + 3.1

Al 308.215 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999958**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		187.100	0.000000	0.000000	-	-
0.50 ppm		2623.60	0.500000	0.512789	0.012789	2.6
2.00 ppm		9611.23	2.00000	1.98341	-0.016585	-0.8

Curve Type: Linear Equation: y = 4751.5 x + 187.1

As 188.980 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.10457	0.000000	0.000000	-	-
0.50 ppm		372.455	0.500000	0.500012	0.000012	0.0
2.00 ppm		1480.46	2.00000	1.99999	-0.000008	0.0

Curve Type: Linear Equation: y = 738.7 x + 3.1

B 208.889 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 1.000000**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.64418	0.000000	0.000000	-	-
0.50 ppm		459.524	0.500000	0.499696	-0.000304	-0.1
2.00 ppm		1829.12	2.00000	2.00093	0.000934	0.0

Curve Type: Linear Equation: y = 912.3 x + 3.6

Ba 233.527 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999924**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.29427	0.000000	0.000000	-	-
0.50 ppm		22121.2	0.500000	0.515686	0.015686	3.1
2.00 ppm		84574.7	2.00000	1.97201	-0.027989	-1.4

Curve Type: Linear Equation: y = 42884.4 x + 6.3

Be 234.861 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999994**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.54360	0.000000	0.000000	-	-
0.50 ppm		59733.0	0.500000	0.503491	0.003491	0.7
2.00 ppm		235750	2.00000	1.98718	-0.012822	-0.6

Curve Type: Linear Equation: y = 118634.7 x + 1.5

Ca 430.253 Calibration (mg/L) 10/1/2013, 11:42:48 AM Correlation Coefficient: 0.999989

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		108.866	0.000000	0.000000	-	-
50 ppm Minerals		265978	50.0000	50.2195	0.219463	0.4
100 ppm Mineral		527540	100.000	99.6255	-0.374512	-0.4

Curve Type: Linear Equation: y = 5294.1 x + 108.9

Cd 228.802 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999988

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		4.11805	0.000000	0.000000	-	-
0.50 ppm		11900.9	0.500000	0.505055	0.005055	1.0
2.00 ppm		46721.7	2.00000	1.98331	-0.016693	-0.8

Curve Type: Linear Equation: y = 23555.4 x + 4.1

Co 228.615 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999958

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.74268	0.000000	0.000000	-	-
0.50 ppm		6546.30	0.500000	0.512300	0.012300	2.5
2.00 ppm		25312.2	2.00000	1.98127	-0.018729	-0.9

Curve Type: Linear Equation: y = 12774.9 x + 1.7

Cr 206.158 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999978

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		0.787750	0.000000	0.000000	-	-
0.50 ppm		1013.30	0.500000	0.507266	0.007266	1.5
2.00 ppm		3951.86	2.00000	1.97948	-0.020525	-1.0

Curve Type: Linear Equation: y = 1996.0 x + 0.8

Cu 324.754 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999946

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		183.974	0.000000	0.000000	-	-
0.50 ppm		30638.3	0.500000	0.511535	0.011535	2.3
2.00 ppm		117432	2.00000	1.96938	-0.030616	-1.5

Curve Type: Linear Equation: y = 59535.2 x + 184.0

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Fe 238.204 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999990**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		15.2578	0.000000	0.000000	-	-
0.50 ppm		15280.9	0.500000	0.500250	0.000250	0.1
2.00 ppm		60072.3	2.00000	1.96805	-0.031950	-1.6

Curve Type: Linear Equation: y = 30516.0 x + 15.3

K 766.491 Calibration (mg/L) **10/1/2013, 11:42:48 AM** **Correlation Coefficient: 0.999973**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		171.835	0.000000	0.000000	-	-
50 ppm Minerals		1907240	50.0000	50.3834	0.383442	0.8
100 ppm Mineral		3766085	100.000	99.4929	-0.507141	-0.5

Curve Type: Linear Equation: y = 37851.1 x + 171.8

Mg 279.078 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999956**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.98450	0.000000	0.000000	-	-
0.50 ppm		743.642	0.500000	0.516566	0.016566	3.3
2.00 ppm		2853.69	2.00000	1.99619	-0.003808	-0.2

Curve Type: Linear Equation: y = 1426.1 x + 7.0

Mn 257.610 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999942**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		20.4326	0.000000	0.000000	-	-
0.50 ppm		83632.8	0.500000	0.510843	0.010843	2.2
2.00 ppm		321503	2.00000	1.96415	-0.035853	-1.8

Curve Type: Linear Equation: y = 163675.4 x + 20.4

Mo 202.032 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999863**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		8.06522	0.000000	0.000000	-	-
0.50 ppm		3331.88	0.500000	0.479857	-0.020143	-4.0
2.00 ppm		14190.1	2.00000	2.04745	0.047451	2.4

Curve Type: Linear Equation: y = 6926.7 x + 8.1

Na 568.821 Calibration (mg/L) **10/1/2013, 11:42:48 AM** **Correlation Coefficient: 0.999832**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		145.650	0.000000	0.000000	-	-
50 ppm Minerals		21714.2	50.0000	49.2292	-0.770775	-1.5
100 ppm Mineral		44697.5	100.000	101.688	1.68750	1.7

Curve Type: Linear Equation: y = 438.1 x + 145.7

Ni 231.604 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999929**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		4.10638	0.000000	0.000000	-	-
0.50 ppm		2100.49	0.500000	0.514567	0.014567	2.9
2.00 ppm		8031.73	2.00000	1.97042	-0.029580	-1.5

Curve Type: Linear Equation: y = 4074.1 x + 4.1

Pb 220.353 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999427**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.07656	0.000000	0.000000	-	-
0.50 ppm		792.548	0.500000	0.441359	-0.058641	-11.7
2.00 ppm		3625.83	2.00000	2.02532	0.025322	1.3

Curve Type: Linear Equation: y = 1788.7 x + 3.1

Sb 206.834 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999982**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.62214	0.000000	0.000000	-	-
0.50 ppm		397.026	0.500000	0.491240	-0.008760	-1.8
2.00 ppm		1613.82	2.00000	2.01065	0.010646	0.5

Curve Type: Linear Equation: y = 800.8 x + 3.6

Se 196.026 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999999**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		2.27438	0.000000	0.000000	-	-
0.50 ppm		292.306	0.500000	0.497419	-0.002581	-0.5
2.00 ppm		1169.73	2.00000	2.00225	0.002246	0.1

Curve Type: Linear Equation: y = 583.1 x + 2.3

Si 212.412 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999958**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		23.9644	0.000000	0.000000	-	-
0.50 ppm		500.984	0.250000	0.252935	0.002935	1.2
2.00 ppm		1868.90	1.00000	0.978259	-0.021741	-2.2

Curve Type: Linear Equation: y = 1885.9 x + 24.0

Sr 407.771 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999092**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		182.631	0.000000	0.000000	-	-
0.50 ppm		1210505	0.500000	0.524543	0.024543	4.9
2.00 ppm		4180509	2.00000	1.81172	-0.188282	-9.4

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Curve Type: Linear Equation: y = 2307382.8 x + 182.6

Ti 334.941 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999937**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		11.6322	0.000000	0.000000	-	-
0.50 ppm		61692.6	0.500000	0.514976	0.014976	3.0
2.00 ppm		236824	2.00000	1.97715	-0.022850	-1.1

Curve Type: Linear Equation: y = 119774.6 x + 11.6

Tl 190.794 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999940**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.01510	0.000000	0.000000	-	-
0.50 ppm		548.841	0.500000	0.513554	0.013554	2.7
2.00 ppm		2105.88	2.00000	1.97318	-0.026817	-1.3

Curve Type: Linear Equation: y = 1066.7 x + 1.0

V 292.401 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999986**

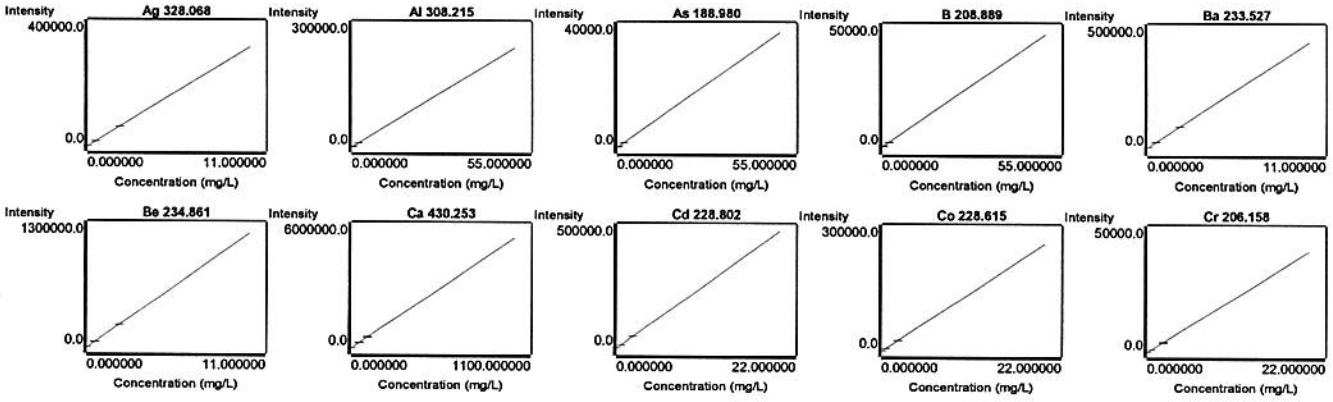
Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.70622	0.000000	0.000000	-	-
0.50 ppm		19020.4	0.500000	0.502364	0.002364	0.5
2.00 ppm		74608.9	2.00000	1.97108	-0.028924	-1.4

Curve Type: Linear Equation: y = 37848.5 x + 6.7

Zn 213.857 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999978**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		15.3970	0.000000	0.000000	-	-
0.50 ppm		9788.83	0.500000	0.501191	0.001191	0.2
2.00 ppm		38166.5	2.00000	1.95643	-0.043572	-2.2

Curve Type: Linear Equation: y = 19500.4 x + 15.4



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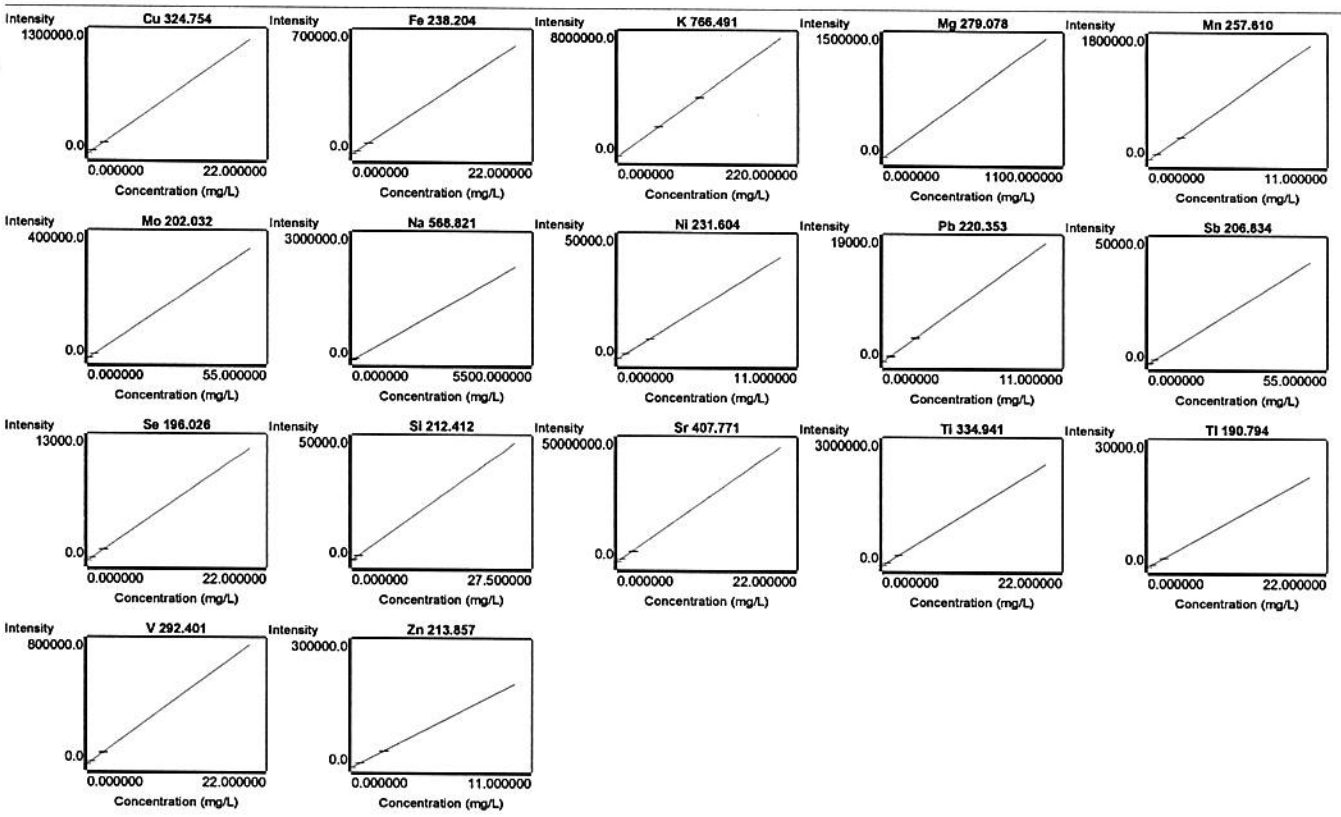

CCV1-1ppm (CCV) **10/1/2013, 11:47:02 AM** **Rack 4, Tube 1**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.01854	mg/L	0.004926	0.5	32243.0	101.85423
Al 308.215	1.03619	mg/L	0.002553	0.2	5110.51	103.61864
As 188.980	1.02281	mg/L	0.003668	0.4	758.639	102.28127
B 208.889	1.01913	mg/L	0.018918	1.9	933.411	101.91303
Ba 233.527	1.03010	mg/L	0.002565	0.2	44181.3	103.00967
Be 234.861	1.01122	mg/L	0.004458	0.4	119968	101.12220
Cd 228.802	1.02072	mg/L	0.001742	0.2	24047.7	102.07229
Co 228.615	1.02164	mg/L	0.002336	0.2	13053.0	102.16385
Cr 206.158	1.02822	mg/L	0.002490	0.2	2053.13	102.82158
Cu 324.754	1.03541	mg/L	0.003706	0.4	61827.5	103.54139
Fe 238.204	1.01479	mg/L	0.004419	0.4	30982.5	101.47860
Mg 279.078	1.03479	mg/L	0.004478	0.4	1482.66	103.47854
Mn 257.610	1.02379	mg/L	0.002549	0.2	167590	102.37895
Mo 202.032	1.03877	mg/L	0.013504	1.3	7203.30	103.87705
Ni 231.604	1.02927	mg/L	0.004556	0.4	4197.41	102.92654
Pb 220.353	1.02616	mg/L	0.040564	4.0	1838.59	102.61559
Sb 206.834	1.09298	mg/L	0.010093	0.9	878.923	109.29813
Se 196.026	1.00770	mg/L	0.018113	1.8	589.836	100.76981
Si 212.412	0.491059	mg/L	0.003836	0.8	950.073	98.21183
Sr 407.771	1.02327	mg/L	0.004697	0.5	2361248	102.32657
Ti 334.941	1.01939	mg/L	0.003641	0.4	122109	101.93920
Tl 190.794	1.02458	mg/L	0.003065	0.3	1093.98	102.45836
V 292.401	1.01864	mg/L	0.003505	0.3	38560.8	101.86440
Zn 213.857	1.00736	mg/L	0.003207	0.3	19659.4	100.73643

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CCV2-50ppm (CCV) **10/1/2013, 11:51:16 AM** **Rack 4, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ca 430.253	51.3275	mg/L	0.122156	0.2	271844	102.65505
K 766.491	51.3943	mg/L	0.111854	0.2	1945504	102.78869
Na 568.821	50.4579	mg/L	0.099962	0.2	22252.6	100.91587

QCS1-1ppm (ICV) **10/1/2013, 11:55:30 AM** **Rack 4, Tube 3**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.03362	mg/L	0.003305	0.3	32720.2	103.36188
Al 308.215	1.04655	mg/L	0.001109	0.1	5159.76	104.65516
As 188.980	1.02635	mg/L	0.005370	0.5	761.252	102.63499
B 208.889	1.02882	mg/L	0.020829	2.0	942.247	102.88158
Ba 233.527	1.02640	mg/L	0.001725	0.2	44022.8	102.63992
Be 234.861	1.02427	mg/L	0.005838	0.6	121516	102.42704
Cd 228.802	1.03145	mg/L	0.003107	0.3	24300.3	103.14499
Co 228.615	1.03163	mg/L	0.003985	0.4	13180.6	103.16280
Cr 206.158	1.03213	mg/L	0.003712	0.4	2060.94	103.21310
Cu 324.754	1.03698	mg/L	0.003132	0.3	61920.8	103.69810
Fe 238.204	1.02329	mg/L	0.001515	0.1	31241.9	102.32860
Mg 279.078	1.04103	mg/L	0.007317	0.7	1491.57	104.10339
Mn 257.610	1.01521	mg/L	0.001079	0.1	166185	101.52052
Mo 202.032	1.03303	mg/L	0.012150	1.2	7163.55	103.30316
Ni 231.604	1.02847	mg/L	0.004283	0.4	4194.15	102.84661
Pb 220.353	1.01776	mg/L	0.050601	5.0	1823.57	101.77603
Sb 206.834	1.03370	mg/L	0.014997	1.5	831.449	103.37009
Se 196.026	1.02327	mg/L	0.001900	0.2	598.914	102.32682
Si 212.412	0.516933	mg/L	0.002074	0.4	998.870	103.38665
Sr 407.771	1.01130	mg/L	0.003919	0.4	2333643	101.13017
Ti 334.941	1.01932	mg/L	0.004608	0.5	122100	101.93182
Tl 190.794	1.03094	mg/L	0.002520	0.2	1100.75	103.09370
V 292.401	1.02382	mg/L	0.002261	0.2	38756.6	102.38165
Zn 213.857	1.01518	mg/L	0.002035	0.2	19811.9	101.51842

QCS2-25ppm (ICV) **10/1/2013, 11:59:44 AM** **Rack 4, Tube 4**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ca 430.253	25.8827	mg/L	0.056949	0.2	137135	103.53071
K 766.491	25.7083	mg/L	0.050935	0.2	973260	102.83335
Na 568.821	25.1709	mg/L	0.068135	0.3	11173.7	100.68380

Blank (CCB) **10/1/2013, 12:03:58 PM** **Rack 4, Tube 5**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	0.000066	mg/L	0.000025	38.6	5.18490	0.00007
Al 308.215	0.000816	mg/L	0.000553	67.8	190.976	0.00082
As 188.980	0.000150uv	mg/L	0.001272	847.9	3.21540	0.00015
Ba 233.527	-0.000016uv	mg/L	0.000029	178.0	5.59081	-0.00002

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Be 234.861	0.000035	mg/L	0.000009	25.2	5.65564	0.00003
Ca 430.253	0.000163uv	mg/L	0.002437	1491.7	109.730	0.00016
Co 228.615	0.000253	mg/L	0.000097	38.3	4.97434	0.00025
Cr 206.158	-0.000076uv	mg/L	0.000155	203.2	0.635212	-0.00008
Cu 324.754	0.000250	mg/L	0.000077	30.8	198.879	0.00025
Fe 238.204	0.001454	mg/L	0.000237	16.3	59.6234	0.00145
Mg 279.078	-0.002478uv	mg/L	0.000883	35.7	3.45085	-0.00248
Mn 257.610	0.000034	mg/L	0.000016	46.6	26.0399	0.00003
Na 568.821	-0.011256uv	mg/L	0.017902	159.0	140.719	-0.01126
Ni 231.604	-0.000128uv	mg/L	0.000329	257.7	3.58612	-0.00013
Pb 220.353	0.000462uv	mg/L	0.001241	268.4	3.90384	0.00046
Se 196.026	0.000476uv	mg/L	0.002201	462.4	2.55193	0.00048
Si 212.412	0.000832	mg/L	0.000760	91.3	25.5339	0.00083
Sr 407.771	0.000013	mg/L	0.000001	6.5	213.766	0.00001Z
Ti 334.941	0.000854	mg/L	0.000362	42.4	113.875	0.00085
Tl 190.794	0.000178uv	mg/L	0.001142	642.6	1.20467	0.00018
V 292.401	0.000081	mg/L	0.000071	87.0	9.78564	0.00008
Zn 213.857	0.000234	mg/L	0.000050	21.2	19.9613	0.00023

PQL 5 PPB (Samp) **10/1/2013, 12:08:13 PM** **Rack 1, Tube 1**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.004428	mg/L	0.000317	7.2	143.250
Al 308.215	0.005761	mg/L	0.000327	5.7	214.471
As 188.980	0.004608	mg/L	0.002661	57.8	6.50832
B 208.889	0.006437	mg/L	0.001951	30.3	9.51653
Ba 233.527	0.005006	mg/L	0.000065	1.3	220.966
Be 234.861	0.004919	mg/L	0.000008	0.2	585.052
Cd 228.802	0.004913	mg/L	0.000106	2.2	119.842
Co 228.615	0.005191	mg/L	0.000081	1.6	68.0547
Cr 206.158	0.005608	mg/L	0.000397	7.1	11.9811
Cu 324.754	0.005450	mg/L	0.000062	1.1	508.453
Fe 238.204	0.005837	mg/L	0.000152	2.6	193.382
Mg 279.078	0.006970	mg/L	0.001219	17.5	16.9237
Mn 257.610	0.005280	mg/L	0.000046	0.9	884.644
Mo 202.032	0.007416	mg/L	0.000978	13.2	59.4323
Ni 231.604	0.004618	mg/L	0.000265	5.7	22.9186
Pb 220.353	0.003256	mg/L	0.000771	23.7	8.90030
Se 196.026	0.006284	mg/L	0.001074	17.1	5.93841
Si 212.412	0.003549	mg/L	0.000487	13.7	30.6584
Sr 407.771	0.005582	mg/L	0.000017	0.3	13063.1
Ti 334.941	0.005758	mg/L	0.000261	4.5	701.236
Tl 190.794	0.005653	mg/L	0.000642	11.4	7.04509
V 292.401	0.004976	mg/L	0.000050	1.0	195.049
Zn 213.857	0.005010	mg/L	0.000141	2.8	113.096

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LRB#2306 (Samp) **10/1/2013, 12:12:28 PM** **Rack 1, Tube 2**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	-0.000005uv	mg/L	0.000084	1539.0	2.92444
Al 308.215	0.002942	mg/L	0.000658	22.4	201.078
As 188.980	-0.000140uv	mg/L	0.002224	1587.7	3.00109
B 208.889	0.000764	mg/L	0.000380	49.7	4.34142
Ba 233.527	0.000078	mg/L	0.000005	6.9	9.65239
Be 234.861	0.000012uv	mg/L	0.000018	147.9	2.95099
Cd 228.802	0.000045	mg/L	0.000035	78.6	5.17610
Co 228.615	0.000094	mg/L	0.000025	27.0	2.94116
Cr 206.158	0.000444	mg/L	0.000321	72.2	1.67406
Cu 324.754	0.000318	mg/L	0.000035	10.9	202.910
Fe 238.204	0.001193	mg/L	0.000235	19.7	51.6778
K 766.491	0.001795	mg/L	0.000351	19.6	239.764
Mg 279.078	0.002048	mg/L	0.001642	80.1	9.90553
Mn 257.610	0.000317	mg/L	0.000021	6.6	72.3602
Mo 202.032	0.002535	mg/L	0.001084	42.8	25.6269
Na 568.821	-0.004691uv	mg/L	0.021403	456.2	143.595
Ni 231.604	-0.000113uv	mg/L	0.000334	295.8	3.64635
Pb 220.353	0.001227	mg/L	0.000641	52.3	5.27103
Se 196.026	0.000414uv	mg/L	0.001966	475.2	2.51559
Si 212.412	-0.002186uv	mg/L	0.000550	25.1	19.8423
Sr 407.771	0.000021	mg/L	0.000000	1.8	231.971
Ti 334.941	0.000437	mg/L	0.000261	59.6	64.0037
Tl 190.794	-0.000331uv	mg/L	0.000823	248.8	0.662364
V 292.401	0.000093	mg/L	0.000016	17.0	10.2126

IDOC#1 MAZ (Samp) **10/1/2013, 12:16:56 PM** **Rack 1, Tube 3**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.988697	mg/L	0.000710	0.1	31298.3
Al 308.215	1.01483	mg/L	0.000539	0.1	5009.05
As 188.980	1.01610	mg/L	0.008163	0.8	753.682
B 208.889	1.03875	mg/L	0.009686	0.9	951.306
Ba 233.527	0.981304	mg/L	0.001771	0.2	42088.9
Be 234.861	1.00741	mg/L	0.003388	0.3	119515
Ca 430.253	26.5227	mg/L	0.061456	0.2	140524
Cd 228.802	1.01240	mg/L	0.001948	0.2	23851.6
Co 228.615	0.990409	mg/L	0.002052	0.2	12654.1
Cr 206.158	0.986243	mg/L	0.002980	0.3	1969.35
Cu 324.754	1.00019	mg/L	0.002464	0.2	59730.7
Fe 238.204	0.987382	mg/L	0.000747	0.1	30146.2
K 766.491	35.1923	mg/L	0.126882	0.4	1332239
Mg 279.078	0.991354	mg/L	0.006651	0.7	1420.72
Mn 257.610	0.959678	mg/L	0.002837	0.3	157096
Mo 202.032	1.00058	mg/L	0.019124	1.9	6938.78
Na 568.821	25.4769	mg/L	0.062918	0.2	11307.7
Ni 231.604	0.971258	mg/L	0.000853	0.1	3961.08
Pb 220.353	0.972572	mg/L	0.039072	4.0	1742.74
Sb 206.834	0.901606	mg/L	0.009233	1.0	725.663
Se 196.026	1.01286	mg/L	0.005319	0.5	592.848

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Si 212.412	0.488721	mg/L	0.002411	0.5	945.663
Sr 407.771	0.955258	mg/L	0.004973	0.5	2204328
Ti 334.941	0.992188	mg/L	0.001835	0.2	118850
Tl 190.794	0.958875	mg/L	0.002592	0.3	1023.88
V 292.401	1.00075	mg/L	0.001818	0.2	37883.5
Zn 213.857	0.993287	mg/L	0.004920	0.5	19384.9

IDOC#2 MAZ (Samp) **10/1/2013, 12:21:12 PM** **Rack 1, Tube 4**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.988109	mg/L	0.004419	0.4	31279.7
Al 308.215	1.01543	mg/L	0.002911	0.3	5011.88
As 188.980	1.02172	mg/L	0.005838	0.6	757.834
B 208.889	1.04255	mg/L	0.012560	1.2	954.775
Ba 233.527	0.981435	mg/L	0.003399	0.3	42094.5
Be 234.861	1.00929	mg/L	0.000305	0.0	119738
Ca 430.253	26.5566	mg/L	0.086894	0.3	140703
Cd 228.802	1.01342	mg/L	0.002317	0.2	23875.6
Co 228.615	0.987593	mg/L	0.002510	0.3	12618.1
Cr 206.158	0.988810	mg/L	0.005338	0.5	1974.47
Cu 324.754	0.995424	mg/L	0.004496	0.5	59446.7
Fe 238.204	0.986520	mg/L	0.005296	0.5	30119.9
K 766.491	35.2226	mg/L	0.129819	0.4	1333385
Mg 279.078	0.988559	mg/L	0.003325	0.3	1416.74
Mn 257.610	0.965531	mg/L	0.004701	0.5	158054
Mo 202.032	1.01486	mg/L	0.014265	1.4	7037.69
Na 568.821	25.4362	mg/L	0.053872	0.2	11289.9
Ni 231.604	0.972060	mg/L	0.002301	0.2	3964.35
Pb 220.353	0.959859	mg/L	0.046779	4.9	1720.00
Sb 206.834	0.976674	mg/L	0.019261	2.0	785.780
Se 196.026	1.01848	mg/L	0.008262	0.8	596.121
Si 212.412	0.488276	mg/L	0.002636	0.5	944.825
Sr 407.771	0.958778	mg/L	0.003976	0.4	2212451
Ti 334.941	0.995678	mg/L	0.000431	0.0	119269
Tl 190.794	0.963541	mg/L	0.004865	0.5	1028.86
V 292.401	0.999742	mg/L	0.002411	0.2	37845.4
Zn 213.857	0.999046	mg/L	0.004857	0.5	19497.2

IDOC#3 MAZ (Samp) **10/1/2013, 12:25:27 PM** **Rack 1, Tube 5**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.980037	mg/L	0.003454	0.4	31024.2
Al 308.215	1.00838	mg/L	0.003342	0.3	4978.38
As 188.980	1.01449	mg/L	0.005179	0.5	752.490
B 208.889	1.03985	mg/L	0.014517	1.4	952.313
Ba 233.527	0.973993	mg/L	0.002932	0.3	41775.4
Be 234.861	1.00063	mg/L	0.002280	0.2	118711
Ca 430.253	26.3258	mg/L	0.049475	0.2	139481
Cd 228.802	1.00540	mg/L	0.002502	0.2	23686.8
Co 228.615	0.978920	mg/L	0.002697	0.3	12507.3

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Cr 206.158	0.980824	mg/L	0.005144	0.5	1958.53
Cu 324.754	0.992003	mg/L	0.002592	0.3	59243.0
Fe 238.204	0.983240	mg/L	0.003868	0.4	30019.8
K 766.491	34.9171	mg/L	0.043505	0.1	1321823
Mg 279.078	0.984313	mg/L	0.009886	1.0	1410.68
Mn 257.610	0.953010	mg/L	0.005238	0.5	156005
Mo 202.032	1.01623	mg/L	0.017471	1.7	7047.17
Na 568.821	25.2596	mg/L	0.050191	0.2	11212.5
Ni 231.604	0.965110	mg/L	0.003268	0.3	3936.03
Pb 220.353	0.953541	mg/L	0.044564	4.7	1708.70
Sb 206.834	1.00254	mg/L	0.012551	1.3	806.492
Se 196.026	1.01498	mg/L	0.008695	0.9	594.084
Si 212.412	0.485813	mg/L	0.002906	0.6	940.180
Sr 407.771	0.946739	mg/L	0.003208	0.3	2184672
Ti 334.941	0.988875	mg/L	0.005451	0.6	118454
Tl 190.794	0.954824	mg/L	0.000967	0.1	1019.56
V 292.401	0.991597	mg/L	0.002815	0.3	37537.1
Zn 213.857	0.988230	mg/L	0.002208	0.2	19286.3

IDOC#4 MAZ (Samp) **10/1/2013, 12:29:40 PM** **Rack 1, Tube 6**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.980984	mg/L	0.001775	0.2	31054.2
Al 308.215	1.00651	mg/L	0.001670	0.2	4969.48
As 188.980	1.01033	mg/L	0.002842	0.3	749.416
B 208.889	1.03584	mg/L	0.010620	1.0	948.652
Ba 233.527	0.974522	mg/L	0.000918	0.1	41798.0
Be 234.861	0.999392	mg/L	0.004624	0.5	118564
Ca 430.253	26.3675	mg/L	0.044473	0.2	139702
Cd 228.802	1.00671	mg/L	0.004175	0.4	23717.6
Co 228.615	0.978926	mg/L	0.003078	0.3	12507.4
Cr 206.158	0.981237	mg/L	0.004073	0.4	1959.35
Cu 324.754	0.990527	mg/L	0.001479	0.1	59155.2
Fe 238.204	0.982438	mg/L	0.004707	0.5	29995.3
K 766.491	34.9648	mg/L	0.028216	0.1	1323627
Mg 279.078	0.980792	mg/L	0.005312	0.5	1405.66
Mn 257.610	0.951697	mg/L	0.003347	0.4	155790
Mo 202.032	1.01783	mg/L	0.018010	1.8	7058.25
Na 568.821	25.3565	mg/L	0.017772	0.1	11255.0
Ni 231.604	0.965058	mg/L	0.001655	0.2	3935.82
Pb 220.353	0.949958	mg/L	0.042911	4.5	1702.29
Sb 206.834	1.01757	mg/L	0.011482	1.1	818.535
Se 196.026	1.01333	mg/L	0.010586	1.0	593.117
Si 212.412	0.484249	mg/L	0.002254	0.5	937.229
Sr 407.771	0.956022	mg/L	0.003408	0.4	2206091
Ti 334.941	0.986164	mg/L	0.002596	0.3	118129
Tl 190.794	0.955342	mg/L	0.002308	0.2	1020.11
V 292.401	0.990313	mg/L	0.002211	0.2	37488.5
Zn 213.857	0.984388	mg/L	0.003004	0.3	19211.4

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LCS (LCS) **10/1/2013, 1:05:40 PM** **Rack 1, Tube 13**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	0.992264	mg/L	0.000702	0.1	31411.2	99.22638
Al 308.215	1.01778	mg/L	0.003597	0.4	5023.06	101.77816
As 188.980	1.01934	mg/L	0.003523	0.3	756.076	101.93435
B 208.889	1.02375	mg/L	0.013406	1.3	937.623	102.37479
Ba 233.527	0.988440	mg/L	0.002332	0.2	42394.9	98.84402
Be 234.861	1.00133	mg/L	0.001398	0.1	118794	100.13299
Ca 430.253	26.5181	mg/L	0.041723	0.2	140500	106.07249
Cd 228.802	1.00350	mg/L	0.003757	0.4	23642.0	100.35006
Co 228.615	0.991603	mg/L	0.004317	0.4	12669.3	99.16027
Cr 206.158	0.992003	mg/L	0.001967	0.2	1980.84	99.20026
Cu 324.754	1.01298	mg/L	0.002093	0.2	60492.1	101.29835
Fe 238.204	0.997853	mg/L	0.001325	0.1	30465.7	99.78528
K 766.491	34.8781	mg/L	0.046098	0.1	1320344	99.65160
Mg 279.078	0.987831	mg/L	0.005680	0.6	1415.70	98.78310
Mn 257.610	0.965510	mg/L	0.003827	0.4	158051	96.55099
Mo 202.032	1.05514	mg/L	0.012431	1.2	7316.66	105.51353
Na 568.821	25.3851	mg/L	0.019012	0.1	11267.5	101.54037
Ni 231.604	0.973564	mg/L	0.001143	0.1	3970.47	97.35641
Pb 220.353	1.01096	mg/L	0.022557	2.2	1811.41	101.09617
Sb 206.834	0.911360	mg/L	0.023179	2.5	733.474	91.13599
Se 196.026	0.998828	mg/L	0.009966	1.0	584.664	99.88277
Si 212.412	0.494571	mg/L	0.001465	0.3	956.695	98.91418
Sr 407.771	-0.000313uv	mg/L	0.000001	0.5	-539.110	-
Ti 334.941	1.00733	mg/L	0.004094	0.4	120664	100.73298
Tl 190.794	0.992461	mg/L	0.005099	0.5	1059.71	99.24609
V 292.401	1.01033	mg/L	0.000821	0.1	38246.2	101.03327

CCV1-1ppm (CCV) **10/1/2013, 1:09:58 PM** **Rack 4, Tube 1**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.02669	mg/L	0.004283	0.4	32501.0	102.66933
Al 308.215	1.04351	mg/L	0.004417	0.4	5145.30	104.35084
As 188.980	1.03418	mg/L	0.004025	0.4	767.038	103.41829
B 208.889	1.04344	mg/L	0.016587	1.6	955.588	104.34396
Ba 233.527	1.03708	mg/L	0.004249	0.4	44480.8	103.70792
Be 234.861	1.01198	mg/L	0.003495	0.3	120057	101.19781
Ca 430.253	0.971684	mg/L	0.005130	0.5	5253.10	-
Cd 228.802	1.02803	mg/L	0.007147	0.7	24219.9	102.80344
Co 228.615	1.02788	mg/L	0.005461	0.5	13132.8	102.78793
Cr 206.158	1.03368	mg/L	0.002639	0.3	2064.03	103.36781
Cu 324.754	1.04397	mg/L	0.004960	0.5	62336.9	104.39705
Fe 238.204	1.02360	mg/L	0.005976	0.6	31251.4	102.35979
Mg 279.078	1.04212	mg/L	0.003371	0.3	1493.12	104.21214
Mn 257.610	1.02529	mg/L	0.004521	0.4	167836	102.52929
Mo 202.032	1.06220	mg/L	0.018938	1.8	7365.59	106.21999
Ni 231.604	1.03401	mg/L	0.004904	0.5	4216.72	103.40057
Pb 220.353	1.04488	mg/L	0.033837	3.2	1872.09	104.48833
Se 196.026	1.02238	mg/L	0.010037	1.0	598.395	102.23781
Si 212.412	0.498711	mg/L	0.004109	0.8	964.504	99.74220

Vista PRO.100113.

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Sr 407.771	1.04565	mg/L	0.004138	0.4	2412893	104.56482
Ti 334.941	1.02662	mg/L	0.005611	0.5	122975	102.66234
Tl 190.794	1.03943	mg/L	0.008372	0.8	1109.82	103.94344
V 292.401	1.02372	mg/L	0.002989	0.3	38752.8	102.37155
Zn 213.857	1.00761	mg/L	0.002761	0.3	19664.1	100.76057

CCV2-50ppm (CCV) **10/1/2013, 1:14:13 PM** **Rack 4, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
K 766.491	51.4581	mg/L	0.054205	0.1	1947918	102.91627
Na 568.821	51.0189	mg/L	0.111057	0.2	22498.3	102.03777

Blank (CCB) **10/1/2013, 1:18:28 PM** **Rack 4, Tube 5**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ba 233.527	-0.000019uv	mg/L	0.000029	154.9	5.48400	-0.00002
Be 234.861	0.000058	mg/L	0.000020	34.7	8.45541	0.00006
Cd 228.802	0.000002uv	mg/L	0.000142	6069.5	4.17310	0.00000
Co 228.615	0.000130	mg/L	0.000126	96.5	3.40813	0.00013
K 766.491	0.001275	mg/L	0.000297	23.3	220.087	0.00127
Mg 279.078	-0.002304uv	mg/L	0.001927	83.6	3.69890	-0.00230
Mn 257.610	0.000027	mg/L	0.000015	54.5	24.8477	0.00003
Ni 231.604	-0.000397uv	mg/L	0.000185	46.7	2.49019	-0.00040
Pb 220.353	0.000168uv	mg/L	0.000441	263.2	3.37621	0.00017
Si 212.412	0.001089	mg/L	0.000239	21.9	26.0174	0.00109
Sr 407.771	0.000008	mg/L	0.000001	12.5	200.538	0.00001Z
V 292.401	-0.000073uv	mg/L	0.000054	73.4	3.93119	-0.00007
Zn 213.857	0.000264	mg/L	0.000040	15.3	20.5449	0.00026

CCV1-1ppm (CCV) **10/1/2013, 2:13:32 PM** **Rack 4, Tube 1**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Sb 206.834	1.03679	mg/L	0.011585	1.1	833.923	103.67893

BATCH# : 2306

3010 LIQUID DIGESTION

HNO3 : AGI#SHBD0895V

DATE : 10.01.13

HCl : MC#L04039

ANALYST : EN/MAZ

Spike : HPS# 1305106
100ppm

QC-MET-091113-B
2500 ppm

#10763 1310008.

	LCN#	PH	V init. (ml)	V spike (ml)	C spike (ppm)	V final (ml)	Dil. factor	Comments
	LRB	<2	50	-	-	50		
	LCS		50	0.5	1.0/25.0	50		
1	13-i-795-01-A			-	-			Al, Fe, Pb, Zn
2	-02-A			-	-			
3	-03-A			-	-			
4	-04-A			-	-			
5	13-i-795-05-A			-	-			
6	13i-802-01-A			-	-			Fe
7	-02-A			-	-			
8	-03-A			-	-			
9	-04-A			-	-			
10	-05-A			-	-			
	MS -05-A		50	0.5	1.0/25.0	50		Fe
	MSD 13i802-05-A		50	0.5	1.0/25.0	50		
11	13i-802-06-A		50	-	-			Fe
12	1310750-01 ATCLP	<2	N/A	-	-			
13	1310788-01 ATCLP			-	-			Cd, Cr, Pb TCLP
14	-02			-	-			
15	-03	<2	50	-	-	50		
16	1310806-03B	<2	50	-	-	50		RCRA 8-6010
17	51501 A	<2	50	-	-	50		
18	51502A	<2	50	-	-	50		
19	10C #1, #2, #3, #4	<2	50	0.5	1/25	50		
20	51503E	<2	50	-	-	50		
	MS 1310788-03A	<2	50	0.5	1.0/25.0	50		
	MSD 1310788-03A		50	0.5	1.0/25.0	50		

MET-HOTBLOCK-2
T(C) 95

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
OSWALD R CHINKOO	N/A	2/20/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM4500-NO_3-B	■ Water ☒ DW ☐ Solid ☐ Other: _____	0201216-017
Analyte or Class of Analytes		
NO_3-N		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Oswald R. Chinkoo *Analyst*	*Signature*	02-19-19 *Date*
Sophia Andre *Technical Director*	*Signature*	2-19-19 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	2/20/19 *Date*

1. T[illegible]nsistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	2/19/2019
ANALYZED BY:	OC
METHOD NUMBER:	SM 4500-NO2-B
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	WETCHEM-SPECTPH-1
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	90 - 110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1063-S-GEN-02	10 ppm
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Nitrite	0.1000	0.0989	0.0973	0.0998	0.0998	0.0990	1.2	99.0	0.0012

Nitrite SM 4500-NO2-B

Analyst	OC
Date	02-19-19
Batch	19B0598

Buffer Color Reagent	1063-R-GEN-11
FAS (0.05N)	—
KMnO4 (0.05N)	—
Conc. H2SO4	—

ABS 543 nm	Conc. mg/L	Standard ID
0.001	0	1063-S-GEN-03
0.038	0.01	1063-S-GEN-04
0.083	0.02	1063-S-GEN-05
0.164	0.04	1063-S-GEN-06
0.433	0.1	1063-S-GEN-07
0.853	0.2	1063-S-GEN-08

pH - SB-WC-08

Log #	Sample ID	Initial pH	Adjusted pH (5-9)	Volume mL	DIL.	CONC. mg/L	Comments
BLANK	DI H_2O	6	—	50	1	0.000	
ICV (0.1)	1063-S-GEN-01	6	—	50	1	0.0975	
LCS (0.1)	1063-S-GEN-02	6	—	50	1	0.0977	
~~Cal Std 1~~ OC-10C1			—	50	1	0.0989	
~~Cal Std 2~~ OC-10C2			—		1	0.0973	
~~Cal Std 3~~ OC-10C3			—		1	0.0998	
~~Cal Std 4~~ OC-10C4			—		1	0.0998	
~~Cal Std 5~~ 19A0269-10A	PT	6	—		*$20	2.78	
19A0498-06A	PT	6	—		*10	1.73	
LOD (0.030 ppm)	1063-S-GEN-01	6	—	50	1	0.0301	
DUP 19A0498-06A	PT	6	—	50	*10	1.73	
(0.1) MS 19A0498-06A		6	—		*10	2.65	
(0.1) MSD 19A0498-06A		6	—		*10	2.72	
CCV (0.20)	1063-S-GEN-01	6	—		1	0.198	
Blank	DI H_2O	6	—		1	0.000	
CCV							
BLANK							

OC 02/19

NITRITE

EPA 354.1 / SM4500-NO2-B

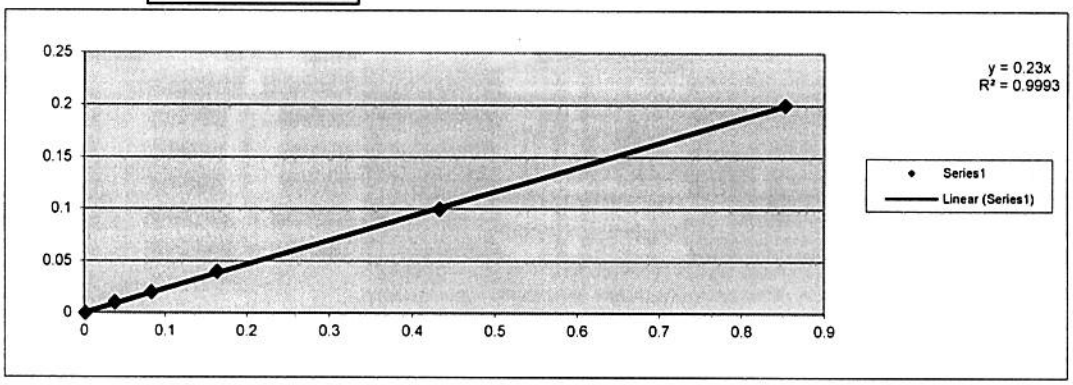
CALIBRATION CURVE: 021919CAL
CALIBRATION DATE: 02/19/2019 ABS @543nm

ANALYST:	OC
DATE:	2/19/2019
BATCH# :	19B0598

ABSnm	CONC. PPM
0.001	**0**
0.038	**0.01**
0.083	**0.02**
0.164	**0.04**
0.433	**0.1**
0.853	**0.2**

STANDARDS:

1063-S-GEN-03
1063-S-GEN-04
1063-S-GEN-05
1063-S-GEN-06
1063-S-GEN-07
1063-S-GEN-08



ORDER #	ID	DIL	ABS	mg/l	
BLANK	DI	1	0.001	0.00023	
ICV	0.1 ppm	1	0.424	0.09752	98%
LCS	0.1 ppm	1	0.425	0.09775	98%
19A0269-12A		20	0.604	2.7784	
19A0498-06A		10	0.75	1.725	
19A0498-06A	DUP	10	0.75	1.725	
19A0498-06A	MS (0.10ppm)	10	1.154	2.6542	92%
19A0498-06A	MSD (0.10ppm)	10	1.182	2.7186	98%
OC-IDOC1	0.1 ppm	1	0.43	0.0989	99 %
OC-IDOC2	0.1 ppm	1	0.423	0.09729	97 %
OC-IDOC3	0.1 ppm	1	0.434	0.09982	100 %
OC-IDOC4	0.1 ppm	1	0.434	0.09982	100 %
LOD	0.030ppm	1	0.131	0.03013	
CCV	0.2ppm	1	0.859	0.19757	99%
BLANK	DI	1	0.001	0.00023	

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Oswald Chilcoo	N/A	6/6/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 4500 NO_3-F	☒ Water ☒ DW ☐ Solid ☐ Other:_____	0201219-015
Analyte or Class of Analytes		
NO_3, NO_2, NOX		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Oswald R. Chilcoo *Analyst*	*Signature*	06/06/19 *Date*
Sophia Andre *Technical Director*	*Signature*	6-6-19 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	6/6/19 *Date*

1. True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRON[illegible]ENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	6/6/2019 (NO2) 6/4/19 (NOX)
ANALYZED BY:	OC
METHOD NUMBER:	SM 4500NO3-F
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	WET47
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	90 - 110%

Document Control #: 0401116-002

Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1120-S-GEN-09 (NOX) 1122-S-GEN-06 (NO2)	1 ppm
Surrogate	na	na
Internal Standard	na	na

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	_ X	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Nitrite-Nitrate (NOX)	1.00	1.02	1.02	1.01	1.02	1.02	0.491	102	0.0050
Nitrite (NO2)	1.00	1.07	1.05	1.09	1.08	1.07	1.592	107	0.0171
Nitrate (NO3)	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	#DIV/0!	0.0000

NO3= NOX-NO2

Noter: See NO3 calculation logbook. Results were negatives due to NO2 values were higher than NOX and reported as "zero". The IDOC basically is to show how calculation should be performed when environmental samples are analyzed

Nitrate Calculation Logbook

NO3 = NOX-NO2

Order #	Sample ID	NOX mg/L	NO2 mg/L	NO3 mg/L	Comments
17K0617-01A		0.260	0.0232	0.237	17L0456
17K0618-01A		0.0	0.0	0.0	↓
17K0619-01A		0.263	0.0641	0.199	
17K0620-01A	*	0.0923	0.500	0.0	
17K0621-01A	*	0.0685	0.429	0.0	
17K0622-01A	*	0.0510	0.470	0.0	
17K0623-01A	*	0.0822	0.503	0.0	
17K0624-01A		0.261	0.032	0.229	17L0456
17K0625-01A	*	0.0	0.0552		
17K0626-01A		0.260	0.0519	0.208	17L0456
17J1019-01A		0.0	0.0	0	Entered in 3# 17H0902 11-20-17
17J1131-01A		0.0397	0.0	0.0397	NO_2 done OOH
17J1132-01A		0.0	0.0	0	NO_2 done COH
17J1133-01A		0.072	0.0	0.072	NO_2 done OOH
IDOC 1-EP		1.01	1.03	-0.02=0	
IDOC 2-EP		1.03	1.03	0.00	
IDOC 3-EP		1.01	1.03	-0.02=0	
IDOC 4-EP		1.00	1.03	-0.03=0	
IDOC 1-OC		1.02	1.07	-0.05=0	
IDOC 2-OC		1.02	1.05	-0.03=0	
IDOC 3-OC		1.01	1.09	-0.08=0	
IDOC 4-OC		1.02	1.08	-0.06=0	

11-15-17 15:12

done on 11-1-17 14:16

added to 3# 17H09 11-27-17

FLORIDA ENVIRONMETAL

NUTRIENT ANALYSIS

LACHAT QUICK CHEM 8500 (WET-47).

DATE: 6/4/2019
ANALYST: SA & DC
BATCH: 19F0186

ANALYSIS:	**ACCEPTANCE CRITERIA:ICV/CCV/LCS/MS/MSD**
□ Total Cyanide 335.4/SM4500CN/SW846 9012	90-110%
□ Total Phenols 420.4/9066	90-110%
□ Ammonia	90-110%
□ Unionized Ammonia DEP SOP	
□ Ammonium DEP SOP	
□ Total Kjeldahl Nitrogen 351.2	90-110%
□ Total Phosphorus 365.4	90-110%
□ Total Phosphorus EPA 365.1/SM 4500P-F	90-110%
□ OPO4 EPA 365.1/SM4500 P-F	90-110%
■NO3/N02, NO3, NO2 SM 4500-NO3-F	90-110%
□Alkalinity EPA 310.2	90-110%

CALIBRATION DATE: 6/4/19
METHOD FILE:

TRACEABILITY

ICV#	1119-S-GEN-07
CCV#	1119-S-GEN-08
LCS/LCSD#	1119-S-GEN-12

RECOVERY

ICV% RECOVERY: SEE REPORT	LCS% RECOVERY: SEE REPORT
MS% RECOVERY: SEE REPORT	MSD% RECOVERY: SEE REPORT
%RPD: SEE REPORT	

color reagent 1109-R-Gen-01
NaOH Buffer 1109-R-Gen-03
Cadmium column 57-WC-05

Original Run Filename: OM_6-4-2019_02-16-27PM.OMN Created: 6/4/2019 2:16:27 PM
Original Run Author's Signature: [wetchem]
Current Run Filename: OM_6-4-2019_02-16-27PM.OMN Last Modified: 6/4/2019 2:52:03 PM
Current Run Author's Signature: [wetchem]
Description: NO2+NO3/ SM 4500NO3-F

Sample	Rep.	Cup No.	Channel 1 NO2+NO3 (mg Cl/L)	MDF
CAL STD TV=2.0MG/L	1	49	2.00	
CAL STD TV=1.0MG/L	1	57	1.00	
CAL STD TV=0.5MG/L	1	59	0.500	
CAL STD TV=0.25MG/L	1	50	0.250	
CAL STD TV=0.10MG/L	1	51	0.100	
CAL STD TV=0.05MG/L	1	52	0.0500	
CAL STD TV=0.0MG/L	1	60	0.00	
NO2 STD TV=1.0MG/L	1	53	0.979	
		Calibration:	Table/Fig. : 1	
NO3 STD TV=1.0MG/L	1	57	1.01	
CCB	1	60	2.93e-3	
ICV/ LCS TV=1.0MG/L	1	58	1.01	
CCV =0.5MG/L	1	59	0.495	
LCSD TV=1.0MG/L	1	58	1.00	
19E0919-01A	1	1	-3.94e-3	
19E0919-01A DUP	1	2	8.62e-4	
19E0919-01A MS 1.0MG/L	1	56	0.948	
19E0919-01A MSD 1.0MG/L	1	55	0.953	
19E0920-01A	1	3	0.0236	
19E0954-01A	1	4	0.0176	
19E0864-01B	1	4	0.0170	
19E0864-02B	1	6	0.0123	
19F0027-01L	1	7	0.0767	
19F0042-01A	1	12	-0.0106	
IDOC-OC-1	1	8	1.02	
IDOC-OC-2	1	9	1.02	
IDOC-OC-3	1	10	1.01	
IDOC-OC-4	1	11	1.02	
CCV TV=1.0MG/L	1	57	1.01	
CCB	1	60	2.55e-3	
19F0014-02A TV=0.05 MDL VER.	1	13	0.0468	
CCV TV=1.0MG/L	1	57	1.01	
CCB	1	60	6.52e-4	
CCB	1	60	-2.44e-3	

101 %.
101 %.
99 %.
95 %.
95 %.
102 %.
102 %.
101 %.
102 %.
101 %.
101 %.

efficiency OK.

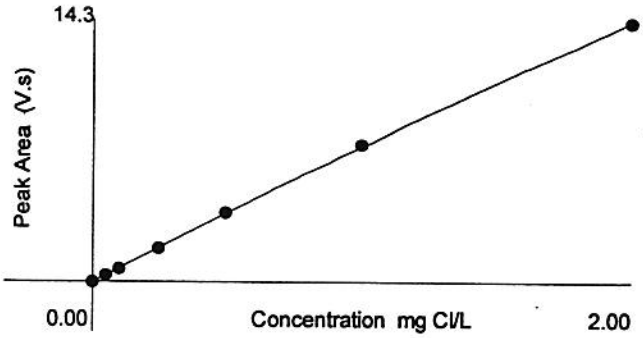
$\frac{NO_3}{NO_2} = \frac{1.01}{0.979} = 103\%$

Table : 1 (NO2+NO3)

	Known Conc. (mg Cl/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg Cl/L)	Detection Date	Detection Time
1	2.00	1	14.3	1.14	0.0	0.3	1.99	6/4/2019	2:17:38 PM
2	1.00	1	7.54	0.642	0.0	-1.3	1.01	6/4/2019	2:18:36 PM
3	0.500	1	3.83	0.332	0.0	-1.0	0.505	6/4/2019	2:19:34 PM
4	0.250	1	1.86	0.164	0.0	2.4	0.243	6/4/2019	2:20:33 PM
5	0.100	1	0.705	0.0635	0.0	6.5	0.0935	6/4/2019	2:21:33 PM
6	0.0500	1	0.379	0.0320	0.0	-3.0	0.0514	6/4/2019	2:22:32 PM
7	0.00	1	-3.97e-3	4.53e-4			2.20e-3	6/4/2019	2:23:30 PM

19F0186

Figure : 1 (NO2+NO3)



Area = - 0.296 * Conc^2 + 7.77 * Conc - 0.0193
Conc = 7.85e-4 * Area^2 + 0.128 * Area + 2.71e-3
Correlation Coefficient (r) = 0.99997

Weighting : 1/x

FLORIDA ENVIRONMETAL

NUTRIENT ANALYSIS

LACHAT QUICK CHEM 8500 (WET-47)

DATE: 6/6/2019
ANALYST: SA & OC
BATCH: 19F0259

ANALYSIS: **ACCEPTANCE CRITERIA:ICV/CCV/LCS/MS/MSD**

□ Total Cyanide 335.4/SM4500CN/SW846 9012	90-110%
□ Total Phenols 420.4/9066	90-110%
□ Ammonia	90-110%
□ Unionized Ammonia DEP SOP	
□ Ammonium DEP SOP	
□ Total Kjeldahl Nitrogen 351.2	90-110%
□ Total Phosphorus 365.4	90-110%
□ Total Phosphorus EPA 365.1/SM 4500P-F	90-110%
□ OPO4 EPA 365.1/SM4500 P-F	90-110%
■NO3/N02, NO3, NO2 SM 4500-NO3-F	90-110%
□Alkalinity EPA 310.2	90-110%

CALIBRATION DATE:
METHOD FILE:

TRACEABILITY	NO_x	NO_2
ICV#	1119-S-GEN-07	1014-J-Gen-17
CCV#	1119-S-GEN-08	1014-J-Gen-16
LCS/LCSD#	1119-S-GEN-12	1014-J-Gen-14

RECOVERY

ICV% RECOVERY: SEE REPORT	LCS% RECOVERY: SEE REPORT
MS% RECOVERY: SEE REPORT	MSD% RECOVERY: SEE REPORT
%RPD: SEE REPORT	

Color Reagent 1107-R-CHEM-01
NO_x Buffer 1107-R-CHEM-02
Cadmium Column 57-02-05

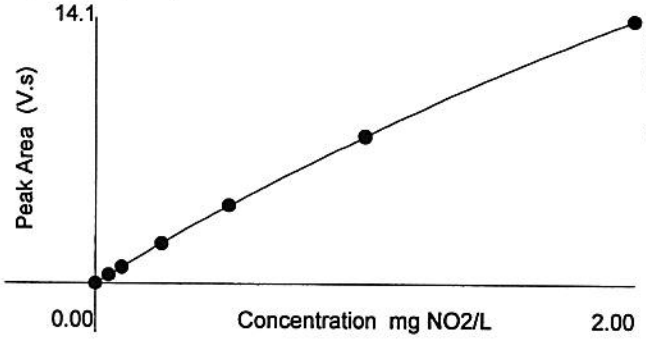
Original Run Filename: OM_6-6-2019_12-28-40PM.OMN Created: 6/6/2019 12:28:40 PM
Original Run Author's Signature: [wetchem]
Current Run Filename: OM_6-6-2019_12-28-40PM.OMN Last Modified: 6/6/2019 12:56:16 PM
Current Run Author's Signature: [wetchem]
Description: NO2 RUN/ SM4500NO3-F

Sample	Rep.	Cup No.	Channel 1 NO2 (mg NO2/L)	MDF
CAL STD TV=2.0MG/L	1	1	2.00	
CAL STD TV=1.0MG/L	1	2	1.00	
CAL STD TV=0.5MG/L	1	3	0.500	
CAL STD TV=0.25MG/L	1	4	0.250	
CAL STD TV=0.10MG/L	1	5	0.100	
CAL STD TV=0.05MG/L	1	6	0.0500	
CAL STD TV=0.0MG/L	1	7	0.00	
CCB	1	7	8.50e-4	
		Calibration:	Table/Fig. : 1	
ICV/ LCS TV=1.0MG/L	1	8	1.01	
CCV TV=0.5MG/L	1	3	0.504	
LCSD TV=1.0MG/L	1	8	1.01	
IDOC-OC-1	1	9	0.430	
IDOC-OC-2	1	10	0.487	
IDOC-OC-3	1	11	0.487	
IDOC-OC-4	1	12	0.485	
19C0102-01 TV=0.02 MG/L	1	13	0.0243	
CCV TV=1.0MG/L	1	2	1.02	
CCB	1	14	-6.25e-4	
CCB	1	15	2.77e-4	
CCB	1	16	0.235	
IDOC-OC-1	1	9	1.07	
IDOC-OC-2	1	10	1.05	
IDOC-OC-3	1	11	1.09	
IDOC-OC-4	1	12	1.08	
CCV TV=1.0MG/L	1	2	1.02	
CCB	1	7	-5.30e-4	

Table : 1 (NO2)

	Known Conc. (mg NO2/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg NO2/L)	Detection Date	Detection Time
1	2.00	1	14.1	1.31	0.0	0.0	1.99	6/6/2019	12:29:49 PM
2	1.00	1	7.84	0.769	0.0	-0.1	1.01	6/6/2019	12:30:45 PM
3	0.500	1	4.12	0.412	0.0	-0.1	0.500	6/6/2019	12:31:45 PM
4	0.250	1	2.10	0.212	0.0	0.5	0.246	6/6/2019	12:32:44 PM
5	0.100	1	0.854	0.0865	0.0	0.6	0.0982	6/6/2019	12:33:43 PM
6	0.0500	1	0.440	0.0445	0.0	-1.4	0.0505	6/6/2019	12:34:42 PM
7	0.00	1	1.83e-3	5.22e-4			7.91e-4	6/6/2019	12:35:41 PM

Figure : 1 (NO2)



Area = - 0.795 * Conc^2 + 8.63 * Conc + 4.12e-3
Conc = 2.06e-3 * Area^2 + 0.113 * Area + 5.85e-4
Correlation Coefficient (r) = 1.00000

Weighting : 1/x

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	Sophia Andre	10/16/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 2150 B	☐ Water ☑ DW ☐ Solid ☐ Other: _____	0201218-010
Analyte or Class of Analytes		
ODOR		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	10/16/19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	10/16/19 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	10/16/19 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	10/16/2019
ANALYZED BY:	SA (Preparer) EP,DAB,AR,BM,KR (Observer)
METHOD NUMBER:	SM 2150B
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	Prep-8
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	RSD ≤ 20%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	1200-S-GEN-15 1200-S-GEN-16	2400 ppm
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	SD
UNITS:	TON	TON	TON	TON	TON		
ODOR	7	6	7	6	7	8.88	0.577

ODOR SM 2150B

Analyst (Prep): SA
Analyst (Observer) (1) EP (2) DAB (3) AR (4) BM (5) KR
Date/ Time: 10-16-19 / 10:00

Batch No: –
Incubator ID: Prep-8
Pipette ID: 005
Cylinder ID: WC-16

Sample ID: IDA-1 (1200 - 3 - Gen' - 15)

PRELIMINARY TEST

Sample Volume (mL)	Odor-Free Water Volume (mL)	Incubation Temperature (°C)	Response (- /+)	Volumes to Be Diluted to 200 mL (mL)	Comments
Blank	200	60	–		
200	0		+	200, 140, 100, 70, 50	
50	150		+	50, 35, 25, 17, 12	
12	188		–	12, 8.3, 5.7, 4.0, 2.8	
2.8	197.2	↓	–	Intermediate dilution	

mL Sample Diluted to 200 mL	50	0	35	25	0	17	12	8.3	5.7	4.0
Observer #1 Response (- /+)	+	–	(+) TON = 6	–	–	–	–	–	–	–
Observer #2 Response (- /+)	+	–	+	(+) TON = 8	–	–	–	–	–	–
Observer #3 Response (- /+)	+	–	+	(+) TON = 8	–	–	–	–	–	–
Observer #4 Response (- /+)	+	–	(+) TON = 6	–	–	–	–	–	–	–
Observer #5 Response (- /+)	+	–	(+) TON = 6	–	–	–	–	–	–	–

Calculations:

$$TON = \sqrt[5]{6 \times 8 \times 8 \times 6 \times 6}$$
$$= \sqrt[5]{13824}$$
$$= 6.73$$
$$= 7.00$$

TON = A+B / A
A: mL of sample
B: mL odor-free water

Note: When differents are obtained from the panel calculate the geometric mean that is equal to the nth root of the product of n numbers.

ODOR SM 2150B

Analyst (Prep): SA
Analyst (Observer) (1) EP (2) DAB (3) AR (4) BM (5) KR
Date/ Time: 10-16-19 / 10:00

Batch No: —
Incubator ID: Prep-8
Pipette ID: 005
Cylinder ID: WC-16

Sample ID: DOC-2 (1:200 - J- (conc- 15)

PRELIMINARY TEST

Sample Volume (mL)	Odor-Free Water Volume (mL)	Incubation Temperature (°C)	Response (- /+)	Volumes to Be Diluted to 200 mL (mL)	Comments
Blank	200	60	—		
200	0	↓	+	200, 140, 100, 70, 50	
50	150		+	50, 35, 25, 17, 12	
12	188		—	12, 8.3, 5.7, 4.0, 2.8	
2.8	197.2	↓	—	Intermediate dilution	

mL Sample Diluted to 200 mL	50	35	25	c	c	17	12	8.3	5.7	4
Observer #1 Response (- /+)	+	(+) TON = 6	—	—	—	—	—	—	—	—
Observer #2 Response (- /+)	+	(+) TON = 6	—	—	—	—	—	—	—	—
Observer #3 Response (- /+)	+	(+) TON = 6	—	—	—	—	—	—	—	—
Observer #4 Response (- /+)	+	35 +	25 (+) TON = 3	c —	c —	17 —	12 —	8.3 —	5.7 —	4 —
Observer #5 Response (- /+)	+	35 (+) TON = 6	25 —	c —	c —	17 —	12 —	8.3 —	5.7 —	4 —

Calculations:

$$TON = \sqrt[5]{6 \times 6 \times 6 \times 8 \times 6}$$

$$= \sqrt[5]{10368}$$

$$= 6.35 = 6$$

TON = A+B / A
A: mL of sample
B: mL odor-free water

Note: When differents are obtained from the panel calculate the geometric mean that is equal to the nth root of the product of n numbers.

ODOR SM 2150B

Analyst (Prep): SA
Analyst (Observer) (1) EP (2) DAB (3) EP (4) BM (5) KR
Date/ Time: 10-16-19 / 10:00

Batch No: –
Incubator ID: Prep-8
Pipette ID: 005
Cylinder ID: 116-16

Sample ID: TDOC-3 (1200-S-Com-16)

PRELIMINARY TEST

Sample Volume (mL)	Odor-Free Water Volume (mL)	Incubation Temperature (°C)	Response (- /+)	Volumes to Be Diluted to 200 mL (mL)	Comments
Blank	200	60	–		
200	0	↓	+	200, 140, 100, 70, 50	
50	150	↓	+	50, 35, 25, 17, 12	
12	188	↓	–	12, 8.3, 5.7, 4.0, 2.8	
2.8	197.2	↓	–	Intermediate dilution	

mL Sample Diluted to 200 mL	50	35	25	0	17	12	8.3	0	5.7	4.0
Observer #1 Response (- /+)	+	+	(+) TON=8	–	–	–	–	–	–	–
Observer #2 Response (- /+)	+	(+) TON=6	–	–	–	–	–	–	–	–
Observer #3 Response (- /+)	+	+	(+) TON=8	–	–	–	–	–	–	–
Observer #4 Response (- /+)	+	(+) TON=6	–	–	–	–	–	–	–	–
Observer #5 Response (- /+)	+	(+) TON=6	–	–	–	–	–	–	–	–

Calculations:

$$TON = \sqrt[5]{8 \times 6 \times 8 \times 6 \times 6}$$

$$= \sqrt[5]{13824}$$

$$= 6.73$$

$$= 7.00$$

TON = A+B / A

A: mL of sample
B: mL odor-free water

Note: When differents are obtained from the panel calculate the geometric mean that is equal to the nth root of the product of n numbers.

ODOR SM 2150B

Analyst (Prep): SA
Analyst (Observer) (1) EP (2) DAB (3) AR (4) BM (5) KR
Date/ Time: 10-16-19 / 10:30

Batch No: -
Incubator ID: Prep-8
Pipette ID: 005
Cylinder ID: CYL-16

Sample ID: FDC-4 (1200 - J - Gen - 16

PRELIMINARY TEST

Sample Volume (mL)	Odor-Free Water Volume (mL)	Incubation Temperature (°C)	Response (- /+)	Volumes to Be Diluted to 200 mL (mL)	Comments
Blank	200	60	-		
200	0	↓	+	200, 140, 100, 70, 50	
50	150	↓	+	50, 35, 25, 17, 12	
12	188	↓	-	12, 8.3, 5.7, 4.0, 2.8	
2.8	197.2	↓	-	Intermediate dilution	

mL Sample Diluted to 200 mL	0	50	35	25	17	12	8.3	5.7	4.0	0
Observer #1 Response (- /+)		+	(+) TON = 6	-	-	-	-	-	-	-
Observer #2 Response (- /+)		(+) TON = 4	-	-	-	-	-	-	-	-
Observer #3 Response (- /+)		+	(+) TON = 6	-	-	-	-	-	-	-
Observer #4 Response (- /+)		+	(+) TON = 6	-	-	-	-	-	-	-
Observer #5 Response (- /+)		(+)	+	(+) TON = 8	-	-	-	-	-	-

Calculations:

$$TON = \sqrt[5]{6 \times 4 \times 6 \times 6 \times 8}$$

$$= \sqrt[5]{6912}$$

$$= 5.86 = 6.00$$

TON = A+B / A A: mL of sample
B: mL odor-free water

Note: When differents are obtained from the panel calculate the geometric mean that is equal to the nth root of the product of n numbers.

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	SA	per 4/15/16 ~~4/24/14~~ 4/15/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Numb**
EPA 1664	☑ Water ☐ DW ☐ Solid ☐ Other: _____	030126-001
Analyte or Class of Analytes		
Oil & Grease		

We, the undersigned, CERTIFY that:

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2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	4-24-14 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	4-24-14 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	4/15/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
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Method 1664

Oil and Grease / TRPH

Batch #: 1404621
Analyst: MC2 / DGK / SA
Date: 4-24-14 / 10:00

HEM ONLY

	Standard ID	(mL)	Std conc.	Spiked conc
Spike	334-S-602-10	5	20.000	100
Matrix Spike				

Log No.	Sample ID	Sample Date	pH F	Amount Ext (mL)	1 Initial Wt	2 Initial Wt	3 Initial Wt	1 Final Wt*	2 Final Wt*	3 Final Wt*	Final Conc	Comments
BLANK	MB	HEM	<2	1000	121.8410	121.8410	121.8410	121.8410	121.8410	121.8410	0	
LCS	LCS	HEM	<2	1000	114.9295	114.9295	114.9295	115.0208	115.0208	115.0208	91.4	
LCS DUP	LCSD	HEM	<2	1000	118.9386	118.9386	118.9386	119.0299	119.0299	119.0299	91.3	
LCS	TRPH LCS	TRPH	<2	1000	114.9295	114.9295	114.9295					
LCS DUP	TRPH LCSD	TRPH	<2	1000	118.9386	118.9386	118.9386	SEE	NEXT	PAGE		
14D0514-01C	(MS)	HEM	<2	1000	126.5721	126.5721	126.5721	126.6655	126.6655	126.6655	93.4	= 85.7%
	MSD											
14D0592-01A	1	HEM	<2	1000	126.5025	126.5025	126.5025	126.5979	126.5979	126.5979	95.4	
14D0602-01B	2	HEM	<2	1000	117.7740	117.7740	117.7740	117.7870	117.7870	117.7870	1.3	
14D0631-01A	3	HEM	<2	1000	123.6506	123.6506	123.6506	123.6519	123.6519	123.6519	1.3	
14D0705-01A	5	HEM	<2	1000	128.0486	128.0486	128.0486	128.0499	128.0499	128.0499	1.3	
14D0705-02A	6	HEM	<2	1000	122.7322	122.7322	122.7322	122.7332	122.7332	122.7332	1.00	
14D0712-01A	7	HEM	<2	1000	123.8686	123.8686	123.8686	123.8702	123.8702	123.8702	1.60	
14D0713-01A	8	HEM	<2	1000	119.5513	119.5513	119.5513	119.5538	119.5538	119.5538	2.50	
14D0714-01A	9	HEM	<2	1000	117.2019	117.2019	117.2019	117.2020	117.2020	117.2020	0.10	
IDOC-SA-1	10	HEM	<2	1000	120.2242	120.2242	120.2242	120.2319	120.2319	120.2319	7.70	
IDOC-SA-2	11	HEM	<2	1000	126.5701	126.5703	126.5700	126.6642	126.6640	126.6641	94.1	
IDOC-SA-3	12	HEM	<2	1000	122.9304	122.9304	122.9305	123.0261	123.0265	123.0262	95.7	
IDOC-SA-4	13	HEM	<2	1000	123.9863	123.9861	123.9864	124.0780	124.0780	124.0781	91.7	
					117.5052	117.5052	117.5050	117.5996	117.5999	117.5995	94.5	

Hexane:	Log #	34-WC-13
Filter Paper:	Log #	32-WC-14
odium Sulfate:	Log #	SV-076
Sulfuric Acid:	Log #	338-R-Chem-17

Silica Gel: Log # N/A

*Weighings must agree within 0.5 mg or 4% whichever is less

Balance Number: Prep 3

Wt Verification - 2 mg: 0.0021 (± 0.0002g)
1g: 1.0001 (± 0.005g)
4-24-14

IDC:

Matrix: (Water) Soil Air

Date of Analysis: 04/24/14

Method Number: EPA 1664

Method Description: OIL & GREASE

Instrument Used:

☑	Raw Data Given to QA?
☐	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
334-S-GEN-10	100 mg/L

Comments:

Done 4/24/14
Given to QA on 4/15/16.

Acc criteria ~~78%-114%~~ 83-101 %

SA 4-24-14

Analyst Name: Sophia Andre

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
Oil & Grease STD	94.10	95.70	91.90	94.50	93.5	100.0	93.5	1.69%

Analyst Signature: Sophia Andre **Date:** 4-24-14

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (if Applicable)	Effective Date
Oswald R. Chukoo	N/A	11/6/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 365.1 SM 4500 P-F	■ Water ■ DW ☐ Solid ☐ Other: _____	0201216-023
Analyte or Class of Analytes		
Ortho-Phosphate		

We, the undersigned, CERTIFY that:

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5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Oswald R. Chukoo *Analyst*	*Signature*	11-03-18 *Date*
Sophia Andre *Technical Director*	*Signature*	11-03-18 *Date*
Roxana Llamblas *Quality Assurance Director*	*Signature*	11/6/18 *Date*

1 Tr[illegible]nsistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	11/2/2018
ANALYZED BY:	OC
METHOD NUMBER:	EPA 365.1/SM 4500 P-F
EXTRACTION METHOD (IF APPLY):	N/A
INSTRUMENT ID:	WET 47
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard (s)	1015-S-GEN-07	1 mg/L
Internal standard	NA	NA
Surrogate	NA	NA

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	_ X	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Ortho-Phosphate	1.00	0.991	0.983	1.00	0.997	0.993	0.76	99.3	0.01

Author: Administrator

Date : 11/3/2018

Original Run Filename: OM_11-2-2018_04-28-44PM.OMN Created: 11/2/2018 4:28:44 PM
Original Run Author's Signature: [Administrator]
Current Run Filename: OM_11-2-2018_04-28-44PM.OMN Last Modified: 11/2/2018 5:11:45 PM
Current Run Author's Signature: [Administrator]
Description: OPO4 EPA 365.1/SM 4500 P-F

Sample	Rep.	Cup No.	Channel 2 OPHOS (PPM)	MDF
ICAL STD TV=2.0MG/L	1	49	2.00	
ICAL STD TV=1.0MG/L	1	57	1.00	
ICAL STD TV=0.5MG/L	1	59	0.500	
ICAL STD TV=0.1MG/L	1	50	0.100	
ICAL STD TV=0.05MG/L	1	51	0.0500	
ICAL STD TV=0.01MG/L	1	52	0.0100	
ICAL STD TV=0.005MG/L	1	53	5.00e-3	
ICAL STD TV=0.00MG/L	1	60	0.00	
LCS TV=1.0 MG/L	1	58	1.01	
Calibration:			Table/Fig. : 1	
ICAL STD TV=0.005MG/L	1	53	5.00e-3	
ICB	1	60	3.24e-3	
Calibration:			Table/Fig. : 2	
LCS TV=1.0 MG/L	1	58	1.01	
ICV TV=0.5 MG/L	1	59	0.495	
LCSD TV=1.0 MG/L	1	58	1.02	
18K0053-01A	1	1	-3.62e-3	
18K0053-02A	1	2	-2.41e-3	
18K0054-01A	1	3	1.37e-3	
18K0054-02A	1	4	7.93e-3	
18K0054-03A	1	5	1.67e-3	
18K0054-04A	1	6	0.0109	
18K0054-04A DUP	1	7	0.0102	
18K0054-04A MS TV=1.0 MG/L	1	56	1.02	
IDOC-01 OC	1	8	0.991	
IDOC-02 OC	1	9	0.983	
IDOC-03 OC	1	10	1.00	
IDOC-04 OC	1	11	0.997	
CCV TV=1.0MG/L	1	57	0.997	
CCB	1	60	2.29e-3	
CCB	1	60	3.46e-3	

101%

101%
99%
102%

102%
99%
98%
100%
100%
100%

pH = 7 ± 0.2

pH ID: SB-WC-08

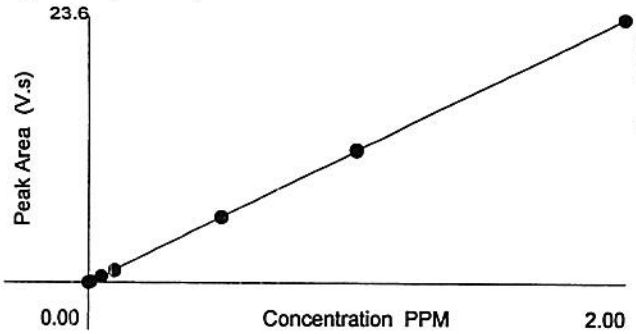
Table : 1 (OPHOS)

	Known Conc. (PPM)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (PPM)	Detection Date	Detection Time
1	2.00	1	23.6	1.67	0.0	0.0	2.00	11/2/2018	4:32:00 PM
2	1.00	1	11.8	0.836	0.0	-0.3	1.00	11/2/2018	4:33:12 PM
3	0.500	1	5.83	0.408	0.0	0.7	0.497	11/2/2018	4:34:25 PM
4	0.100	1	1.09	0.0731	0.0	4.8	0.0954	11/2/2018	4:35:38 PM
5	0.0500	1	0.549	0.0363	0.0	1.2	0.0495	11/2/2018	4:36:51 PM
6	0.0100	1	0.0953	6.28e-3	0.0	-14.6	0.0110	11/2/2018	4:38:04 PM
7	5.00e-3	1	0.0454	3.09e-3	0.0	-88.3	6.81e-3	11/2/2018	4:39:17 PM
8	0.00	1	4.37e-4	-6.43e-4			3.00e-3	11/2/2018	4:40:29 PM

Author: Administrator

Date : 11/3/2018

Figure : 1 (OPHOS)



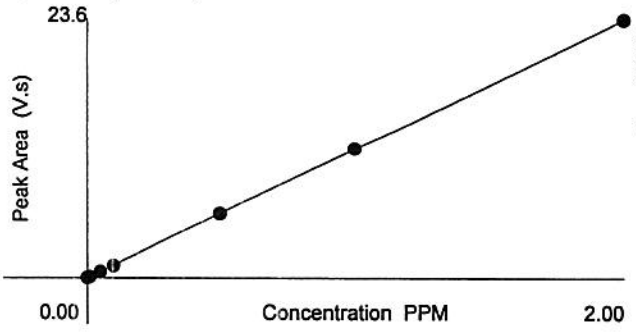
Area = 11.8 * Conc - 0.0350
Conc = 0.0847 * Area + 2.97e-3
Correlation Coefficient (r) = 0.99999

Weighting : None

Table : 2 (OPHOS)

	Known Conc. (PPM)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (PPM)	Detection Date	Detection Time
1	2.00	1	23.6	1.67	0.0	0.0	2.00	11/2/2018	4:32:00 PM
2	1.00	1	11.8	0.836	0.0	-0.3	1.00	11/2/2018	4:33:12 PM
3	0.500	1	5.83	0.408	0.0	0.6	0.497	11/2/2018	4:34:25 PM
4	0.100	1	1.09	0.0731	0.0	4.5	0.0956	11/2/2018	4:35:38 PM
5	0.0500	1	0.549	0.0363	0.0	0.7	0.0497	11/2/2018	4:36:51 PM
6	0.0100	1	0.0953	6.28e-3	0.0	-18.6	0.0113	11/2/2018	4:38:04 PM
7	5.00e-3	1	0.0299	2.95e-3	0.0	-40.7	5.74e-3	11/2/2018	4:44:46 PM
8	0.00	1	4.37e-4	-6.43e-4			3.24e-3	11/2/2018	4:40:29 PM

Figure : 2 (OPHOS)



Area = 11.8 * Conc - 0.0378
Conc = 0.0847 * Area + 3.21e-3
Correlation Coefficient (r) = 0.99999

Weighting : None

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	12/15/17
Method Number OPP by 8270/FSE-OPP/GC-MS EPA 3510	**Matrix** ☑ Water ☐ DW ☐ Solid ☐ Other: _____	**SOP Document Control Number or Revision Number:** OPP by 8270/FSE-OPP/GC-MS (0201416-012) 3510 - 0201416-007
Analyte or Class of Analytes Organophosphorus Pesticides (OPP)		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet / Estela *Analyst*	Yanet / Estela *Signature*	12/1/17 *Date*
Albert Castellanos *Technical Director*	 *Signature*	12/1/17 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	12/15/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Water
DATE OF ANALYSIS:	11/15/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	OPP by 8270 FSE-OPP/GC-MS
EXTRACTION METHOD (IF APPLY):	EPA 3510
INSTRUMENT ID:	Bravo GC/MS-1
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	11/15/2017
ACCEPTANCE CRITERIA:	Various

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	1700696	See attach
Surrogate	1700620	See attach
Internal Standard	IS-PAH-082714	500ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{x}$	% RSD	% Recovery	SD	Acceptance limits
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L				
Aspon	1	0.8671	0.8107	0.8529	0.7774	0.83	4.94	82.70	0.04	12-161
Atrazine	1	0.9796	0.8908	1.0098	0.8496	0.93	8.03	93.25	0.07	31-118
Azinphos-methyl	1	0.5857	0.6109	0.6053	0.5891	0.60	2.05	59.78	0.01	10-180
Azinphos-ethyl	1	0.8668	0.8604	0.8794	0.8235	0.86	2.80	85.75	0.02	10-163
Bolstar	1	0.8477	0.8267	0.8352	0.7797	0.82	3.61	82.23	0.03	11-173
Carbophenothion	1	0.9374	0.8593	0.9606	0.8351	0.90	6.72	89.81	0.06	13-164
Chlorfenviphos	1	0.626	0.5612	0.5824	0.5356	0.58	6.64	57.63	0.04	30-141
Chlorpyrifos	1	0.9819	0.9003	1.0048	0.8201	0.93	9.07	92.68	0.08	23-155
Chlorpyrifos methyl	1	0.9107	0.8718	0.9014	0.8115	0.87	5.12	87.39	0.04	20-154
Coumaphos	1	1.2971	1.3212	1.3249	1.1195	1.27	7.76	126.57	0.10	10-189
Crotoxyphos	1	1.0233	0.9661	1.0005	0.9277	0.98	4.26	97.94	0.04	12-169
Demeton-s	0.67	0.5508	0.5478	0.5813	0.5229	0.55	4.34	82.19	0.02	21-132
Demeton-o	0.5	0.6504	0.6421	0.732	0.6116	0.66	7.80	131.81	0.05	10-141
Diazinon	1	0.941	0.8539	0.9477	0.8048	0.89	7.83	88.69	0.07	10-168
Dichlorofenthion	1	0.688	0.6138	0.6734	0.5948	0.64	7.03	64.25	0.05	25-137
Dichlorvos	1	0.8996	0.8072	0.9409	0.8201	0.87	7.39	86.70	0.06	34-140
Dicrotophos	1	0.5027	0.4924	0.5117	0.4957	0.50	1.71	50.06	0.01	10-155
Dimetoate	1	0.8929	0.8201	0.9361	0.8266	0.87	6.39	86.89	0.06	10-144
Dioxathion	1	0.4028	0.3784	0.4097	0.3719	0.39	4.70	39.07	0.02	10-131
Disulfoton	1	0.8902	0.8258	0.9401	0.8034	0.86	7.19	86.49	0.06	15-151
EPN	1	0.9374	0.8593	0.9606	0.8351	0.90	6.72	89.81	0.06	17-155
Ethion	1	0.9735	0.9208	0.9828	0.8474	0.93	6.67	93.11	0.06	10-169
Ethoprop	1	0.8901	0.8446	0.9213	0.8241	0.87	5.05	87.00	0.04	35-118
Famphur	1	0.9833	0.9316	1.001	0.877	0.95	5.89	94.82	0.06	25-151
Fenitrothion	1	0.8716	0.8273	0.8777	0.7948	0.84	4.64	84.29	0.04	10-161
Fensulfothion	1	1.1917	1.0538	1.1164	0.9064	1.07	11.34	106.71	0.12	10-184
Fenthion	1	0.8483	0.785	0.8478	0.7564	0.81	5.70	80.94	0.05	20-151
Fonophos	1	1.0035	0.91	1.0235	0.8695	0.95	7.75	95.16	0.07	29-114
Hexamethylphosphoramide	1	0.4127	0.3841	0.4564	0.4419	0.42	7.57	42.38	0.03	10-113
Leptophos	1	0.3344	0.2964	0.3121	0.2645	0.30	9.73	30.19	0.03	15-164
Malathion	1	0.9505	0.8768	0.9432	0.8319	0.90	6.28	90.06	0.06	10-174
Merphos	2.83	2.3112	2.1326	0.8348	0.7149	1.50	56.06	52.95	0.84	10-166
Mevinphos	1	0.8652	0.8254	0.9229	0.8172	0.86	5.63	85.77	0.05	25-134
Monocrotophos	1	0.4382	0.4391	0.4608	0.433	0.44	2.78	44.28	0.01	10-127
Naled	1	0.4594	0.4833	0.5114	0.3821	0.46	12.10	45.91	0.06	10-165
Parathion -ethyl	1	0.9401	0.8482	0.9839	0.8582	0.91	7.21	90.76	0.07	10-187
Parathion-methyl	1	0.3983	0.3985	0.8885	0.7965	0.62	41.77	62.05	0.26	10-177
Phorate	1	0.885	0.9091	0.8966	0.789	0.87	6.30	86.99	0.05	10-159
Phosmet	1	0.6637	0.6514	0.8876	0.8282	0.76	15.61	75.77	0.12	10-177
Phosphamidon	1	0.7763	0.7482	0.821	0.722	0.77	5.52	76.69	0.04	10-190
Ronnel	1	0.3394	0.3186	0.3319	0.2903	0.32	6.75	32.01	0.02	14-153
Simazine	1	1.2275	1.15	1.2845	1.1036	1.19	6.75	119.14	0.08	10-147
TEPP	5	4.4626	4.8043	5.1172	4.1074	4.62	9.42	92.46	0.44	40-140
Tetrachlorvinphos (Stirophos)	1	1.4315	1.3653	1.4031	1.2905	1.37	4.45	137.26	0.06	10-187
Sulfotep	1	0.779	0.7758	0.8388	0.7003	0.77	7.34	77.35	0.06	23-132
Terbufos	1	0.8128	0.7695	0.8497	0.7316	0.79	6.49	79.09	0.05	10-139

Thionazin	1	0.9883	0.9336	1.031	0.9069	0.96	5.76	96.50	0.06	31-116
Tokuthion	1	0.8543	0.8332	0.8648	0.7698	0.83	5.12	83.05	0.04	10-160
Trichloronate	1	1.019	0.9692	1.0152	0.899	0.98	5.73	97.56	0.06	10-172
Tri-o-cresylphosphate (TOCP)	1	0.80	0.77	0.79	0.74	0.78	3.75	77.65	0.03	10-185
EPTC	1	0.96	0.88	1.02	0.85	0.93	8.31	92.56	0.08	10-167
:bulate	1	0.93	0.86	0.97	0.82	0.90	7.32	89.68	0.07	14-130
Molinate	1	0.97	0.91	0.99	0.87	0.93	6.29	93.47	0.06	30-116

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_07.D
Acq On : 15 Nov 2017 7:03 pm
Operator : YE
Sample : IDOCW-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 01 09:22:05 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	5867727	5.00	ug/l	#	0.00
34) Chrysene-D12	16.677	240	8649152	5.00	ug/l	#	0.00
57) Perylene-D12	18.303	264	7124514	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.986	54	1285968	4.11	ug/l		0.00
Spiked Amount 5.000			Recovery =	82.20%			
35) 2-Fluorobiphenyl	11.863	172	5349009	4.31	ug/l		0.00
Spiked Amount 5.000			Recovery =	86.20%			
58) p-Terphenyl	15.629	230	7224919	3.79	ug/l		0.00
Spiked Amount 5.000			Recovery =	75.80%			
Target Compounds							Qvalue
3) Dichlorvos	11.061	109	676766	0.8996	ug/l	#	76
4) Hexamethylphosphoramide	11.403	44	86659m	0.2521	ug/l		
5) EPTC	11.745	43	549010	0.9571	ug/l	#	69
6) Butylate	12.147	57	395480	0.9327	ug/l		91
7) Vernolate	12.238	43	670475	0.9719	ug/l	#	71
8) Mevinphos	12.104	127	472893	0.8652	ug/l	#	83
9) Pebulate	12.318	57	493715	0.9330	ug/l	#	75
10) Molinate	12.794	126	453125	0.9748	ug/l		90
11) Tebuthiuiron	12.542	156	284596	0.4166	ug/l	#	84
12) TEPP	12.788	161	63440	4.4626	ug/l		87
13) Thionazin	13.045	97	162151	0.9883	ug/l	#	70
14) Demeton-O	13.072	60	55349m	0.6504	ug/l		
15) Cycloate	13.238	154	343126	0.8781	ug/l	#	90
16) Naled	13.355	109	33201m	0.5084	ug/l		
17) Ethoprophos	13.200	97	144684	0.8901	ug/l	#	45
18) Dicrotophos	13.307	127	35953	0.5027	ug/l	#	81
19) Sulfotep	13.350	97	155485	0.7790	ug/l	#	77
20) Monocrotophos	13.366	127	49492	0.4382	ug/l	#	80
21) Phorate	13.494	75	451792	0.8850	ug/l	#	89
22) Demeton-S	13.623	88	213799	0.5508	ug/l	#	19
23) Diphenamid	14.869	72	9149	0.0108	ug/l	#	1
24) Dimethoate	13.655	125	151362	0.8929	ug/l	#	13
25) Simazine	13.692	201	199310	1.2275	ug/l		76
26) Atrazine	13.724	200	322422	0.9796	ug/l		92
27) Dioxathion degradation...	13.826	97	57010	0.4028	ug/l		89
28) Terbufos	13.864	57	410503	0.8128	ug/l	#	74
29) Diazinone	13.869	137	203102	0.9410	ug/l		93
30) Fonofos	13.928	109	647519	1.0035	ug/l	#	71
31) Disulfoton	14.008	61	111350	0.8902	ug/l	#	1
32) Phosphamidon	14.227	127	199885	0.7763	ug/l	#	77
33) Dichlofenthion	14.270	223	243436	0.6880	ug/l		89
36) chlorpyifos methyl	14.340	286	288284	0.9107	ug/l		97
37) Methyl parathion	14.382	109	212580	0.8453	ug/l	#	13
38) Ronnel	14.484	285	353619	0.3394	ug/l	#	82
39) Malathion	14.612	125	275406	0.9505	ug/l		82
40) Fenitrothion	14.580	125	226730	0.8716	ug/l		91
41) Aspon	14.618	211	471590	0.8671	ug/l		94
42) Chlorpyrifos	14.709	197	208784	0.9819	ug/l	#	89
43) Fenthion	14.741	278	362679	0.8483	ug/l	#	82
44) Parathion	14.767	97	186953	0.9401	ug/l	#	76

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_07.D
Acq On : 15 Nov 2017 7:03 pm
Operator : YE
Sample : IDOCW-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 01 09:22:05 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

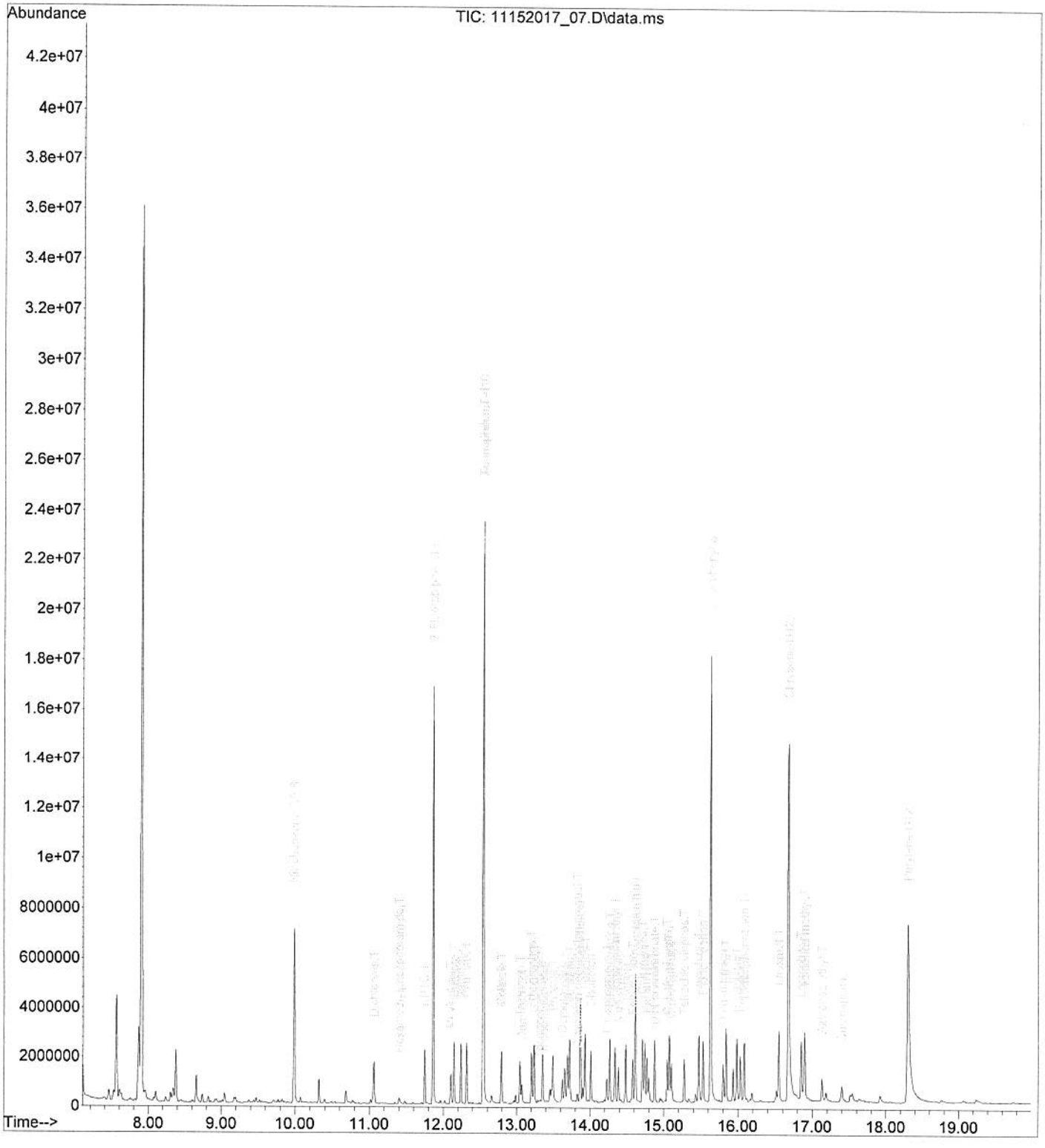
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.072	209	410597m	2.3112	ug/l		
46) Trichloronate	14.874	109	375438	1.0190	ug/l	#	71
47) Chlorfenvinphos	15.046	267	187513	0.5876	ug/l	#	75
48) Triademephon	15.527	57	310387	3.2372	ug/l	#	81
49) Crotoxyphos	15.099	105	220099	1.0233	ug/l	#	45
50) Tetrachlorvinphos	15.276	109	297495	1.4315	ug/l	#	65
51) Tokuthion	15.468	113	154322	0.8543	ug/l	#	64
52) Fensulfothion	15.800	292	119919	1.1917	ug/l	#	67
53) Ethion	15.837	97	353238	0.9735	ug/l	#	74
54) EPN	16.083	157	317671	0.9374	ug/l	#	16
55) Famphur	16.030	218	507564	0.9833	ug/l	#	80
56) Carbophenothion	16.083	157	317671	0.9374	ug/l		88
59) Phosmet	16.549	160	706672	0.8722	ug/l	#	71
60) Bolstar	15.982	140	246607	0.8477	ug/l	#	80
61) Leptophos	16.848	171	433011	0.3123	ug/l	#	74
62) Azinphos-methyl	16.896	77	261256m	0.6474	ug/l		
63) TOCPP	16.896	165	340812	0.8017	ug/l		92
64) Azinphos-ethyl	17.132	132	189072	0.8668	ug/l		84
65) Coumaphos	17.399	97	79333	1.2971	ug/l	#	74

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_07.D
Acq On : 15 Nov 2017 7:03 pm
Operator : YE
Sample : IDOCW-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 01 09:22:05 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_07.D
Acq On : 15 Nov 2017 7:03 pm
Operator : YE
Sample : IDOCW-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 15 19:17:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	12.542	164	5867727	5.00	ug/l	# 0.00
34) Chrysene-D12	16.677	240	8649152	5.00	ug/l	# 0.00
57) Perylene-D12	18.303	264	7124514	5.00	ug/l	0.00
System Monitoring Compounds						
2) Nitrobenzene-D5	9.986	54	1285968	4.11	ug/l	0.00
Spiked Amount 5.000			Recovery =	82.20%		
35) 2-Fluorobiphenyl	11.863	172	5349009	4.31	ug/l	0.00
Spiked Amount 5.000			Recovery =	86.20%		
58) p-Terphenyl	15.629	230	7224919	3.79	ug/l	0.00
Spiked Amount 5.000			Recovery =	75.80%		
Target Compounds						Qvalue
3) Dichlorvos	11.061	109	676766	0.8996	ug/l #	76
4) Hexamethylphosphoramide	11.344	44	2747	0.0160	ug/l #	23
5) EPTC	11.745	43	549010	0.9571	ug/l #	69
6) Butylate	12.147	57	395480	0.9327	ug/l	91
7) Vernolate	12.238	43	670475	0.9719	ug/l #	71
8) Mevinphos	12.104	127	472893	0.8652	ug/l #	83
9) Pebulate	12.318	57	493715	0.9330	ug/l #	75
10) Molinate	12.794	126	453125	0.9748	ug/l	90
11) Tebuthiuiron	12.542	156	284596	0.4166	ug/l #	84
12) TEPP	12.788	161	63440	4.4626	ug/l	87
13) Thionazin	13.045	97	162151	0.9883	ug/l #	70
14) Demeton-O	13.072	60	62104	0.7297	ug/l #	1
15) Cycloate	13.238	154	343126	0.8781	ug/l #	90
16) Naled	13.323	109	11614	0.0218	ug/l #	73
17) Ethoprophos	13.200	97	144684	0.8901	ug/l #	45
18) Dicrotophos	13.307	127	35953	0.5027	ug/l #	81
19) Sulfotep	13.350	97	155485	0.7790	ug/l #	77
20) Monocrotophos	13.366	127	49492	0.4382	ug/l #	80
21) Phorate	13.494	75	451792	0.8850	ug/l #	89
22) Demeton-S	13.623	88	213799	0.5508	ug/l #	19
23) Diphenamid	14.869	72	9149	0.0108	ug/l #	1
24) Dimethoate	13.655	125	151362	0.8929	ug/l #	13
25) Simazine	13.692	201	199310	1.2275	ug/l	76
26) Atrazine	13.724	200	322422	0.9796	ug/l	92
27) Dioxathion degradation...	13.826	97	57010	0.4028	ug/l	89
28) Terbufos	13.864	57	410503	0.8128	ug/l #	74
29) Diazinone	13.869	137	203102	0.9410	ug/l	93
30) Fonofos	13.928	109	647519	1.0035	ug/l #	71
31) Disulfoton	14.008	61	111350	0.8902	ug/l #	1
32) Phosphamidon	14.227	127	199885	0.7763	ug/l #	77
33) Dichlofenthion	14.270	223	243436	0.6880	ug/l	89
36) chlorpyifos methyl	14.340	286	288284	0.9107	ug/l	97
37) Methyl parathion	14.382	109	212580	0.3983	ug/l #	13
38) Ronnel	14.484	285	353619	0.3394	ug/l #	82
39) Malathion	14.612	125	275406	0.9505	ug/l	82
40) Fenitrothion	14.580	125	226730	0.8716	ug/l	91
41) Aspon	14.618	211	471590	0.8671	ug/l	94
42) Chlorpyrifos	14.709	197	208784	0.9819	ug/l #	89
43) Fenthion	14.741	278	362679	0.8483	ug/l #	82
44) Parathion	14.767	97	186953	0.9401	ug/l #	76

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_07.D
Acq On : 15 Nov 2017 7:03 pm
Operator : YE
Sample : IDOCW-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 15 19:17:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

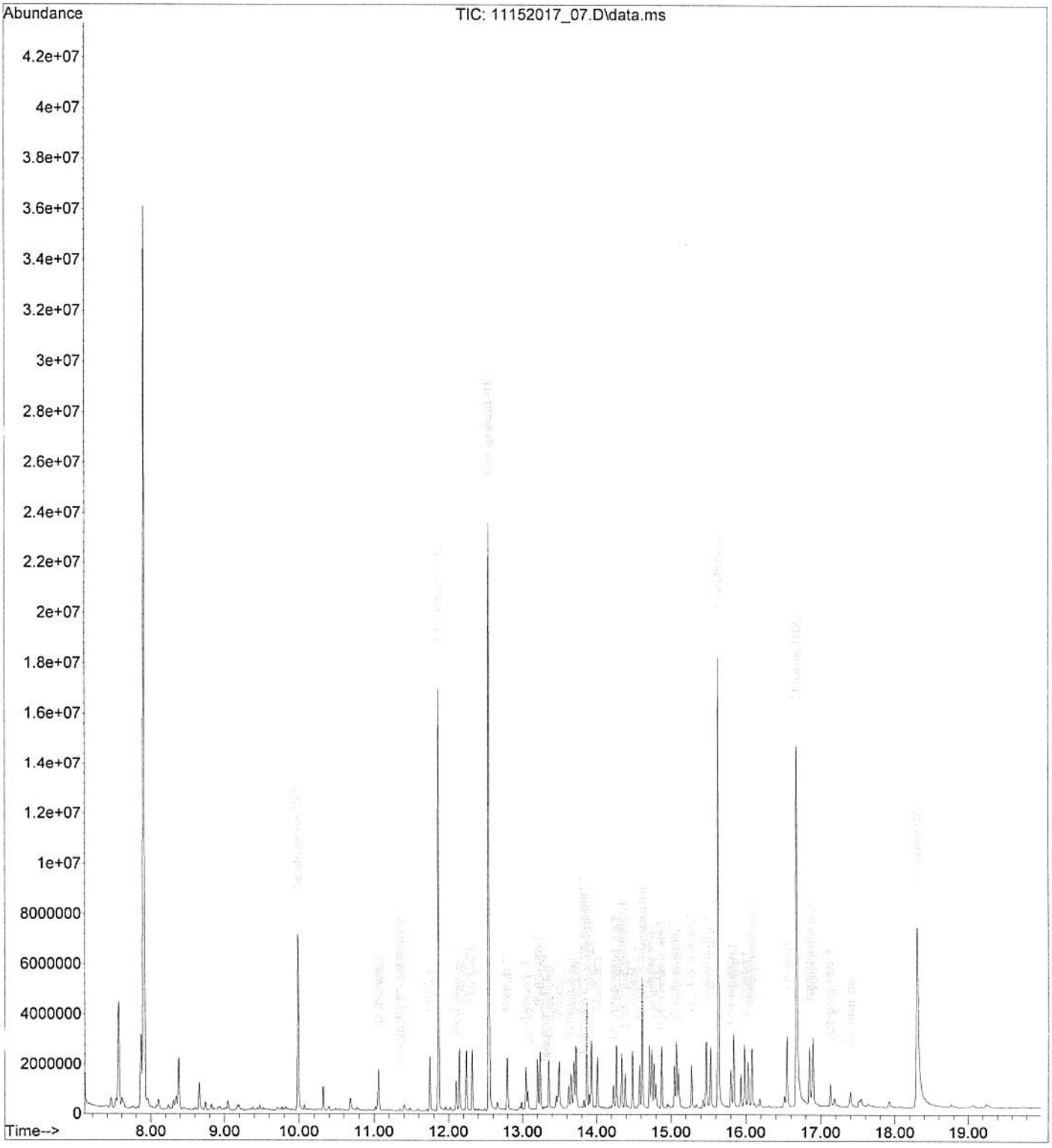
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.072	209	434282	2.4364	ug/l		76
46) Trichloronate	14.874	109	375438	1.0190	ug/l	#	71
47) Chlorfenvinphos	15.046	267	187513	0.5876	ug/l	#	75
48) Triademephon	15.527	57	310387	3.2372	ug/l	#	81
49) Crotoxyphos	15.099	105	220099	1.0233	ug/l	#	45
50) Tetrachlorvinphos	15.276	109	297495	1.4315	ug/l	#	65
51) Tokuthion	15.468	113	154322	0.8543	ug/l	#	64
52) Fensulfothion	15.800	292	119919	1.1917	ug/l	#	67
53) Ethion	15.837	97	353238	0.9735	ug/l	#	74
54) EPN	16.083	157	317671	0.9374	ug/l	#	16
55) Famphur	16.030	218	507564	0.9833	ug/l	#	80
56) Carbophenothion	16.083	157	317671	0.9374	ug/l		88
59) Phosmet	16.549	160	706672	0.6637	ug/l	#	71
60) Bolstar	15.982	140	246607	0.8477	ug/l	#	80
61) Leptophos	16.848	171	433011	0.3123	ug/l	#	74
62) Azinphos-methyl	16.848	77	140563	0.4620	ug/l	#	85
63) TOCPP	16.896	165	340812	0.8017	ug/l		92
64) Azinphos-ethyl	17.132	132	189072	0.8668	ug/l		84
65) Coumaphos	17.399	97	79333	1.2971	ug/l	#	74

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_07.D
Acq On : 15 Nov 2017 7:03 pm
Operator : YE
Sample : IDOCW-01
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 15 19:17:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_08.D
Acq On : 15 Nov 2017 7:30 pm
Operator : YE
Sample : IDOCW-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 01 09:24:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Acenaphthene-d10	12.542	164	6489033	5.00 ug/l	# 0.00
34) Chrysene-D12	16.677	240	9417776	5.00 ug/l	0.00
57) Perylene-D12	18.303	264	7558879	5.00 ug/l	0.00
System Monitoring Compounds					
2) Nitrobenzene-D5	9.986	54	1288900	3.73 ug/l	0.00
Spiked Amount 5.000			Recovery =	74.60%	
35) 2-Fluorobiphenyl	11.863	172	5356993	3.96 ug/l	0.00
Spiked Amount 5.000			Recovery =	79.20%	
58) p-Terphenyl	15.629	230	7244229	3.58 ug/l	0.00
Spiked Amount 5.000			Recovery =	71.60%	
Target Compounds					Qvalue
3) Dichlorvos	11.061	109	671518	0.8072 ug/l #	73
4) Hexamethylphosphoramide	11.408	44	72996m	0.3841 ug/l	
5) EPTC	11.745	43	556327	0.8770 ug/l #	69
6) Butylate	12.147	57	416147	0.8875 ug/l	94
7) Vernolate	12.238	43	689663	0.9040 ug/l #	76
8) Mevinphos	12.104	127	491500	0.8254 ug/l #	82
9) Pebulate	12.318	57	503748	0.8608 ug/l #	76
10) Molinate	12.794	126	465514	0.9055 ug/l #	92
11) Tebuthiuiron	12.542	156	454107m	0.6011 ug/l	
12) TEPP	12.788	161	75529	4.8043 ug/l	94
13) Thionazin	13.045	97	166481	0.9336 ug/l #	68
14) Demeton-O	13.067	60	60434m	0.6421 ug/l	
15) Cycloate	13.238	154	353708	0.8185 ug/l #	85
16) Naled	13.350	109	35229m	0.4833 ug/l	
17) Ethoprophos	13.200	97	149745	0.8446 ug/l #	44
18) Dicrotophos	13.307	127	34259	0.4924 ug/l #	84
19) Sulfotep	13.350	97	171237	0.7758 ug/l #	80
20) Monocrotophos	13.366	127	55257	0.4391 ug/l #	88
21) Phorate	13.489	75	447690	0.8091 ug/l #	92
22) Demeton-S	13.623	88	234345	0.5478 ug/l #	19
23) Diphenamid	14.874	72	5397	0.0058 ug/l #	1
24) Dimethoate	13.655	125	148871	0.8201 ug/l #	7
25) Simazine	13.692	201	203431	1.1500 ug/l	77
26) Atrazine	13.719	200	324243	0.8908 ug/l	91
27) Dioxathion degradation...	13.826	97	56924	0.3784 ug/l	88
28) Terbufos	13.863	57	429778	0.7695 ug/l #	70
29) Diazinone	13.869	137	203813	0.8539 ug/l	88
30) Fonofos	13.928	109	649342	0.9100 ug/l #	67
31) Disulfoton	14.008	61	112745	0.8258 ug/l #	1
32) Phosphamidon	14.227	127	211309	0.7482 ug/l #	73
33) Dichlofenthion	14.270	223	234137	0.6138 ug/l	88
36) chlorpyifos methyl	14.339	286	297110	0.8718 ug/l	92
37) Methyl parathion	14.382	109	231643m	0.3985 ug/l	
38) Ronnel	14.484	285	361477	0.3186 ug/l #	82
39) Malathion	14.612	125	274922	0.8768 ug/l #	76
40) Fenitrothion	14.575	125	228480	0.8273 ug/l	98
41) Aspon	14.618	211	472673	0.8107 ug/l	93
42) Chlorpyrifos	14.709	197	208456	0.9003 ug/l #	87
43) Fenthion	14.741	278	358968	0.7850 ug/l #	79
44) Parathion	14.767	97	175725	0.8482 ug/l #	76

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_08.D
Acq On : 15 Nov 2017 7:30 pm
Operator : YE
Sample : IDOCW-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 01 09:24:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

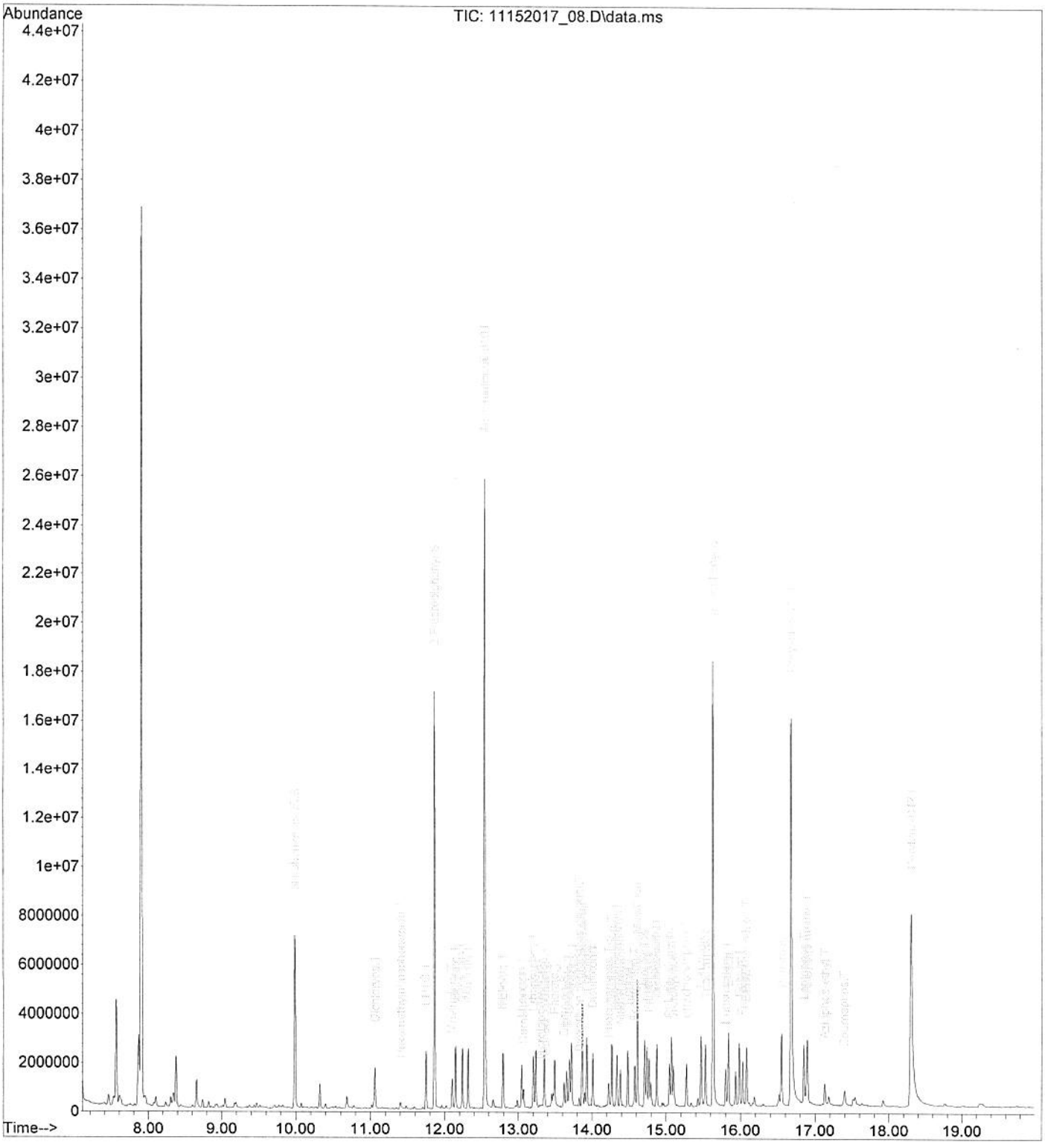
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.072	209	410281m	2.1326	ug/l		
46) Trichloronate	14.874	109	388809	0.9692	ug/l	#	69
47) Chlorfenvinphos	15.046	267	188979	0.5612	ug/l	#	78
48) Triademephon	15.527	57	319202	3.0996	ug/l	#	75
49) Crotoxyphos	15.099	105	218817	0.9661	ug/l	#	39
50) Tetrachlorvinphos	15.270	109	304833	1.3653	ug/l	#	95
51) Tokuthion	15.468	113	163139	0.8332	ug/l	#	64
52) Fensulfothion	15.800	292	116244	1.0538	ug/l	#	72
53) Ethion	15.837	97	359925	0.9208	ug/l	#	69
54) EPN	16.078	157	310871	0.8593	ug/l	#	16
55) Famphur	16.030	218	514734	0.9316	ug/l	#	82
56) Carbophenothion	16.078	157	310871	0.8593	ug/l		97
59) Phosmet	16.549	160	732067	0.6514	ug/l	#	73
60) Bolstar	15.982	140	252794	0.8267	ug/l	#	72
61) Leptophos	16.848	171	435992	0.2964	ug/l	#	73
62) Azinphos-methyl	16.891	77	252090m	0.6109	ug/l		
63) TOCPP	16.896	165	344294	0.7725	ug/l		96
64) Azinphos-ethyl	17.131	132	198107	0.8604	ug/l		89
65) Coumaphos	17.394	97	86108	1.3212	ug/l	#	79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_08.D
Acq On : 15 Nov 2017 7:30 pm
Operator : YE
Sample : IDOCW-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 01 09:24:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_08.D
Acq On : 15 Nov 2017 7:30 pm
Operator : YE
Sample : IDOCW-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 15 19:43:29 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	6489033	5.00	ug/l	#	0.00
34) Chrysene-D12	16.677	240	9417776	5.00	ug/l		0.00
57) Perylene-D12	18.303	264	7558879	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.986	54	1288900	3.73	ug/l		0.00
Spiked Amount 5.000			Recovery =	74.60%			
35) 2-Fluorobiphenyl	11.863	172	5356993	3.96	ug/l		0.00
Spiked Amount 5.000			Recovery =	79.20%			
58) p-Terphenyl	15.629	230	7244229	3.58	ug/l		0.00
Spiked Amount 5.000			Recovery =	71.60%			
Target Compounds							Qvalue
3) Dichlorvos	11.061	109	671518	0.8072	ug/l	#	73
4) Hexamethylphosphoramide	11.408	44	64594	0.3398	ug/l	#	78
5) EPTC	11.745	43	556327	0.8770	ug/l	#	69
6) Butylate	12.147	57	416147	0.8875	ug/l		94
7) Vernolate	12.238	43	689663	0.9040	ug/l	#	76
8) Mevinphos	12.104	127	491500	0.8254	ug/l	#	82
9) Pebulate	12.318	57	503748	0.8608	ug/l	#	76
10) Molinate	12.794	126	465514	0.9055	ug/l	#	92
11) Tebuthiuiron	12.542	156	319649	0.4231	ug/l	#	84
12) TEPP	12.788	161	75529	4.8043	ug/l		94
13) Thionazin	13.045	97	166481	0.9336	ug/l	#	68
14) Demeton-O	13.067	60	65178	0.6925	ug/l	#	8
15) Cycloate	13.238	154	353708	0.8185	ug/l	#	85
16) Naled	13.323	109	14126	0.0546	ug/l	#	10
17) Ethoprophos	13.200	97	149745	0.8446	ug/l	#	44
18) Dicrotophos	13.307	127	34259	0.4924	ug/l	#	84
19) Sulfotep	13.350	97	171237	0.7758	ug/l	#	80
20) Monocrotophos	13.366	127	55257	0.4391	ug/l	#	88
21) Phorate	13.489	75	447690	0.8091	ug/l	#	92
22) Demeton-S	13.623	88	234345	0.5478	ug/l	#	19
23) Diphenamid	14.874	72	5397	0.0058	ug/l	#	1
24) Dimethoate	13.655	125	148871	0.8201	ug/l	#	7
25) Simazine	13.692	201	203431	1.1500	ug/l		77
26) Atrazine	13.719	200	324243	0.8908	ug/l		91
27) Dioxathion degradation...	13.826	97	56924	0.3784	ug/l		88
28) Terbufos	13.863	57	429778	0.7695	ug/l	#	70
29) Diazinone	13.869	137	203813	0.8539	ug/l		88
30) Fonofos	13.928	109	649342	0.9100	ug/l	#	67
31) Disulfoton	14.008	61	112745	0.8258	ug/l	#	1
32) Phosphamidon	14.227	127	211309	0.7482	ug/l	#	73
33) Dichlofenthion	14.270	223	234137	0.6138	ug/l		88
36) chlorpyifos methyl	14.339	286	297110	0.8718	ug/l		92
37) Methyl parathion	14.382	109	223583	0.3891	ug/l	#	8
38) Ronnel	14.484	285	361477	0.3186	ug/l	#	82
39) Malathion	14.612	125	274922	0.8768	ug/l	#	76
40) Fenitrothion	14.575	125	228480	0.8273	ug/l		98
41) Aspon	14.618	211	472673	0.8107	ug/l		93
42) Chlorpyrifos	14.709	197	208456	0.9003	ug/l	#	87
43) Fenthion	14.741	278	358968	0.7850	ug/l	#	79
44) Parathion	14.767	97	175725	0.8482	ug/l	#	76

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_08.D
Acq On : 15 Nov 2017 7:30 pm
Operator : YE
Sample : IDOCW-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

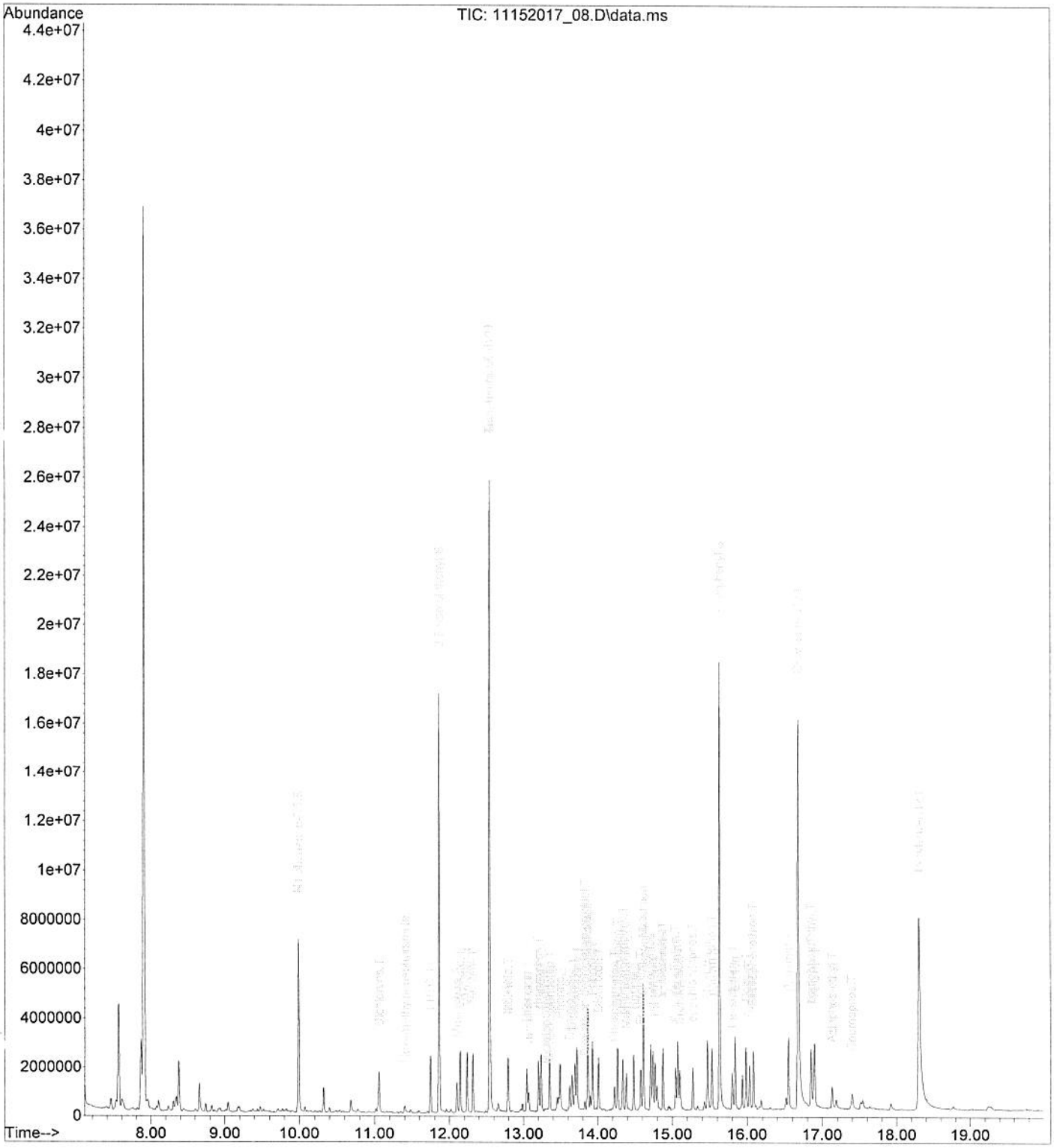
Quant Time: Nov 15 19:43:29 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.072	209	448573	2.3184	ug/l		78
46) Trichloronate	14.874	109	388809	0.9692	ug/l	#	69
47) Chlorfenvinphos	15.046	267	188979	0.5612	ug/l	#	78
48) Triademephon	15.527	57	319202	3.0996	ug/l	#	75
49) Crotoxyphos	15.099	105	218817	0.9661	ug/l	#	39
50) Tetrachlorvinphos	15.270	109	304833	1.3653	ug/l	#	95
51) Tokuthion	15.468	113	163139	0.8332	ug/l	#	64
52) Fensulfothion	15.800	292	116244	1.0538	ug/l	#	72
53) Ethion	15.837	97	359925	0.9208	ug/l	#	69
54) EPN	16.078	157	310871	0.8593	ug/l	#	16
55) Famphur	16.030	218	514734	0.9316	ug/l	#	82
56) Carbophenothion	16.078	157	310871	0.8593	ug/l		97
59) Phosmet	16.549	160	732067	0.6514	ug/l	#	73
60) Bolstar	15.982	140	252794	0.8267	ug/l	#	72
61) Leptophos	16.848	171	435992	0.2964	ug/l	#	73
62) Azinphos-methyl	16.848	77	145248	0.4564	ug/l	#	84
63) TOCPP	16.896	165	344294	0.7725	ug/l		96
64) Azinphos-ethyl	17.131	132	198107	0.8604	ug/l		89
65) Coumaphos	17.394	97	86108	1.3212	ug/l	#	79

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_08.D
Acq On : 15 Nov 2017 7:30 pm
Operator : YE
Sample : IDOCW-02
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 15 19:43:29 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_09.D
Acq On : 15 Nov 2017 7:56 pm
Operator : YE
Sample : IDOCW-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 01 09:26:07 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.543	164	5597357	5.00	ug/l	#	0.00
34) Chrysene-D12	16.672	240	8393422	5.00	ug/l		0.00
57) Perylene-D12	18.298	264	7100234	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.986	54	1252879	4.20	ug/l		0.00
Spiked Amount 5.000			Recovery =	84.00%			
35) 2-Fluorobiphenyl	11.863	172	5074812	4.21	ug/l		0.00
Spiked Amount 5.000			Recovery =	84.20%			
58) p-Terphenyl	15.629	230	7060909	3.71	ug/l		0.00
Spiked Amount 5.000			Recovery =	74.20%			
Target Compounds							Qvalue
3) Dichlorvos	11.061	109	675160	0.9409	ug/l	#	75
4) Hexamethylphosphoramide	11.403	44	74828m	0.4564	ug/l		
5) EPTC	11.746	43	557292	1.0185	ug/l	#	64
6) Butylate	12.147	57	406237	1.0044	ug/l		93
7) Vernolate	12.238	43	677533	1.0295	ug/l	#	71
8) Mevinphos	12.104	127	490440	0.9229	ug/l	#	82
9) Pebulate	12.318	57	488860	0.9685	ug/l	#	75
10) Molinate	12.794	126	439795	0.9918	ug/l	#	90
11) Tebuthiuiron	12.543	156	407549m	0.6254	ug/l		
12) TEPP	12.789	161	69393	5.1172	ug/l		94
13) Thionazin	13.045	97	163337	1.0310	ug/l	#	69
14) Demeton-O	13.067	60	59424m	0.7320	ug/l		
15) Cycloate	13.238	154	337780	0.9062	ug/l	#	92
16) Naled	13.350	109	31826m	0.5114	ug/l		
17) Ethoprophos	13.200	97	144090	0.9213	ug/l	#	44
18) Dicrotophos	13.307	127	38506	0.5117	ug/l	#	94
19) Sulfotep	13.350	97	159713	0.8388	ug/l	#	84
20) Monocrotophos	13.366	127	58386	0.4608	ug/l	#	87
21) Phorate	13.489	75	437813	0.8966	ug/l	#	90
22) Demeton-S	13.623	88	222330	0.5813	ug/l	#	19
23) Diphenamid	14.875	72	8014m	0.0099	ug/l		
24) Dimethoate	13.655	125	153877	0.9361	ug/l	#	17
25) Simazine	13.693	201	200915	1.2845	ug/l		80
26) Atrazine	13.719	200	317055	1.0098	ug/l		90
27) Dioxathion degradation...	13.826	97	55876	0.4097	ug/l		87
28) Terbufos	13.864	57	409353	0.8497	ug/l	#	74
29) Diazinone	13.869	137	195121	0.9477	ug/l		90
30) Fonofos	13.928	109	629972	1.0235	ug/l	#	69
31) Disulfoton	14.008	61	113173	0.9401	ug/l	#	1
32) Phosphamidon	14.227	127	204010	0.8210	ug/l	#	77
33) Dichlofenthion	14.270	223	226262	0.6734	ug/l		88
36) chlorpyifos methyl	14.340	286	276165	0.9014	ug/l		94
37) Methyl parathion	14.382	109	222741	0.8885	ug/l	#	6
38) Ronnel	14.484	285	335579m	0.3319	ug/l		
39) Malathion	14.612	125	265046	0.9432	ug/l	#	74
40) Fenitrothion	14.575	125	222309	0.8777	ug/l		94
41) Aspon	14.612	211	448458	0.8529	ug/l		94
42) Chlorpyrifos	14.709	197	207332	1.0048	ug/l	#	89
43) Fenthion	14.741	278	351722	0.8478	ug/l	#	81
44) Parathion	14.768	97	193240	0.9839	ug/l		78

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_09.D
Acq On : 15 Nov 2017 7:56 pm
Operator : YE
Sample : IDOCW-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 01 09:26:07 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

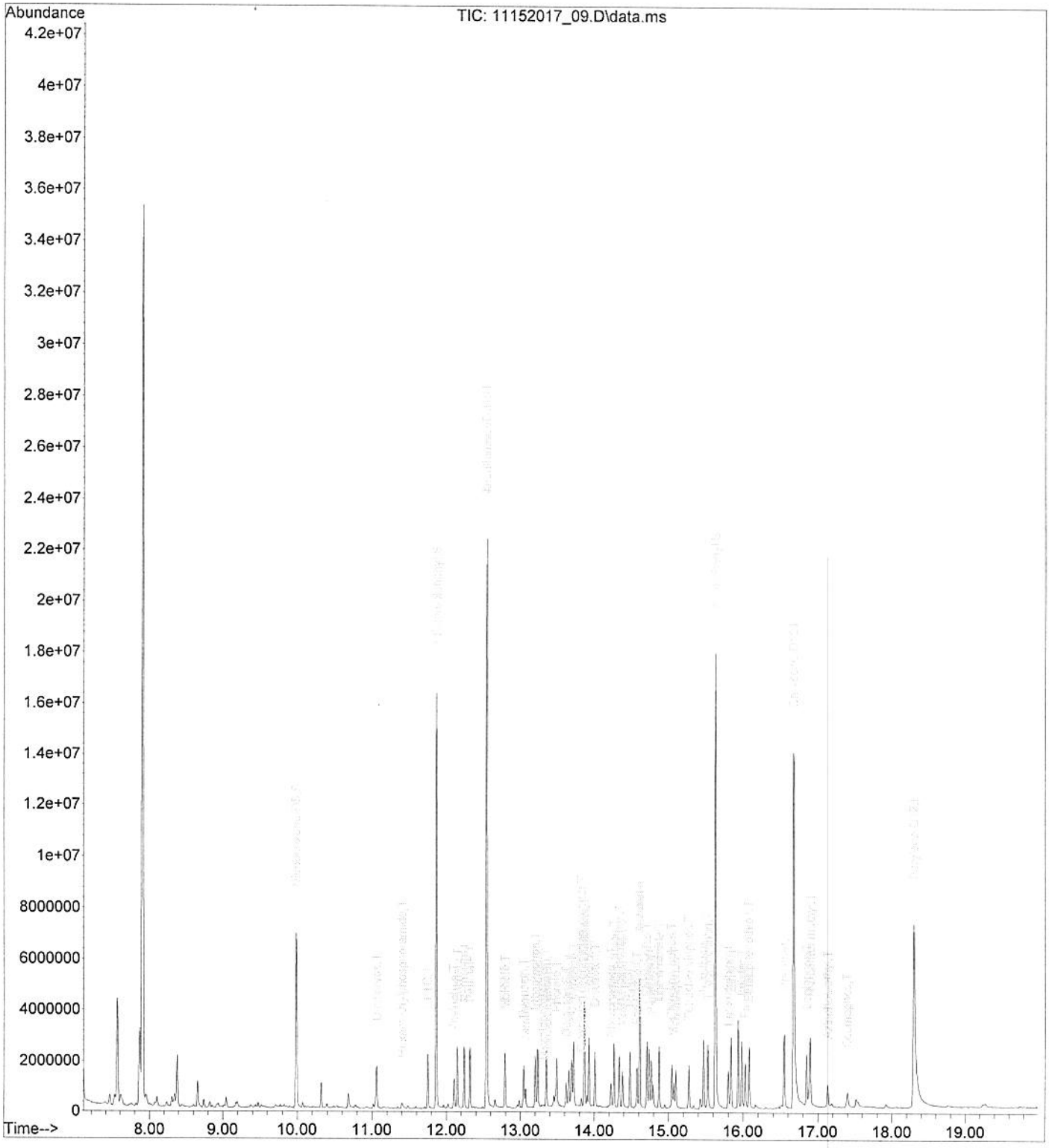
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
45) Merphos	15.072	209	127348m	0.8348 ug/l		
46) Trichloronate	14.875	109	362958	1.0152 ug/l	#	65
47) Chlorfenvinphos	15.046	267	179277	0.5824 ug/l	#	74
48) Triademephon	15.527	57	299567	3.2238 ug/l	#	67
49) Crotoxyphos	15.099	105	206195	1.0005 ug/l	#	44
50) Tetrachlorvinphos	15.276	109	281391	1.4031 ug/l	#	60
51) Tokuthion	15.468	113	151919	0.8648 ug/l	#	64
52) Fensulfothion	15.800	292	109424	1.1164 ug/l	#	65
53) Ethion	15.837	97	346676	0.9828 ug/l	#	67
54) EPN	16.078	157	317566	0.9606 ug/l	#	16
55) Famphur	16.030	218	504125	1.0010 ug/l	#	78
56) Carbophenothion	16.078	157	317566	0.9606 ug/l		94
59) Phosmet	16.549	160	725447	0.8876 ug/l	#	72
60) Bolstar	15.982	140	240806	0.8352 ug/l	#	78
61) Leptophos	16.848	171	431199	0.3121 ug/l	#	74
62) Azinphos-methyl	16.896	77	233168m	0.6053 ug/l		
63) TOCPP	16.896	165	335866	0.7949 ug/l		96
64) Azinphos-ethyl	17.132	132	193103	0.8794 ug/l		89
65) Coumaphos	17.394	97	81164	1.3249 ug/l		76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_09.D
Acq On : 15 Nov 2017 7:56 pm
Operator : YE
Sample : IDOCW-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 01 09:26:07 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_09.D
Acq On : 15 Nov 2017 7:56 pm
Operator : YE
Sample : IDOCW-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 15 20:09:55 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Acenaphthene-d10	12.543	164	5597357	5.00 ug/l	# 0.00
34) Chrysene-D12	16.672	240	8393422	5.00 ug/l	0.00
57) Perylene-D12	18.298	264	7100234	5.00 ug/l	0.00
System Monitoring Compounds					
2) Nitrobenzene-D5	9.986	54	1252879	4.20 ug/l	0.00
Spiked Amount 5.000			Recovery =	84.00%	
35) 2-Fluorobiphenyl	11.863	172	5074812	4.21 ug/l	0.00
Spiked Amount 5.000			Recovery =	84.20%	
58) p-Terphenyl	15.629	230	7060909	3.71 ug/l	0.00
Spiked Amount 5.000			Recovery =	74.20%	
Target Compounds					Qvalue
3) Dichlorvos	11.061	109	675160	0.9409 ug/l #	75
4) Hexamethylphosphoramide	11.366	44	2238	0.0137 ug/l #	30
5) EPTC	11.746	43	557292	1.0185 ug/l #	64
6) Butylate	12.147	57	406237	1.0044 ug/l	93
7) Vernolate	12.238	43	677533	1.0295 ug/l #	71
8) Mevinphos	12.104	127	490440	0.9229 ug/l #	82
9) Pebulate	12.318	57	488860	0.9685 ug/l #	75
10) Molinate	12.794	126	439795	0.9918 ug/l #	90
11) Tebuthiuiron	12.543	156	278112	0.4268 ug/l #	85
12) TEPP	12.789	161	69393	5.1172 ug/l	94
13) Thionazin	13.045	97	163337	1.0310 ug/l #	69
14) Demeton-O	13.067	60	65154	0.8025 ug/l #	19
15) Cycloate	13.238	154	337780	0.9062 ug/l #	92
16) Naled	13.307	109	7704	Below Cal #	82
17) Ethoprophos	13.200	97	144090	0.9213 ug/l #	44
18) Dicrotophos	13.307	127	38506	0.5117 ug/l #	94
19) Sulfotep	13.350	97	159713	0.8388 ug/l #	84
20) Monocrotophos	13.366	127	58386	0.4608 ug/l #	87
21) Phorate	13.489	75	437813	0.8966 ug/l #	90
22) Demeton-S	13.623	88	222330	0.5813 ug/l #	19
23) Diphenamid	14.896	72	1280	0.0016 ug/l	94
24) Dimethoate	13.655	125	153877	0.9361 ug/l #	17
25) Simazine	13.693	201	200915	1.2845 ug/l	80
26) Atrazine	13.719	200	317055	1.0098 ug/l	90
27) Dioxathion degradation...	13.826	97	55876	0.4097 ug/l	87
28) Terbufos	13.864	57	409353	0.8497 ug/l #	74
29) Diazinone	13.869	137	195121	0.9477 ug/l	90
30) Fonofos	13.928	109	629972	1.0235 ug/l #	69
31) Disulfoton	14.008	61	113173	0.9401 ug/l #	1
32) Phosphamidon	14.227	127	204010	0.8210 ug/l #	77
33) Dichlofenthion	14.270	223	226262	0.6734 ug/l	88
36) chlorpyifos methyl	14.340	286	276165	0.9014 ug/l	94
37) Methyl parathion	14.382	109	222741	0.4199 ug/l #	6
38) Ronnel	14.484	285	334470	0.3308 ug/l	81
39) Malathion	14.612	125	265046	0.9432 ug/l #	74
40) Fenitrothion	14.575	125	222309	0.8777 ug/l	94
41) Aspon	14.612	211	448458	0.8529 ug/l	94
42) Chlorpyrifos	14.709	197	207332	1.0048 ug/l #	89
43) Fenthion	14.741	278	351722	0.8478 ug/l #	81
44) Parathion	14.768	97	193240	0.9839 ug/l	78

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_09.D
Acq On : 15 Nov 2017 7:56 pm
Operator : YE
Sample : IDOCW-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 15 20:09:55 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

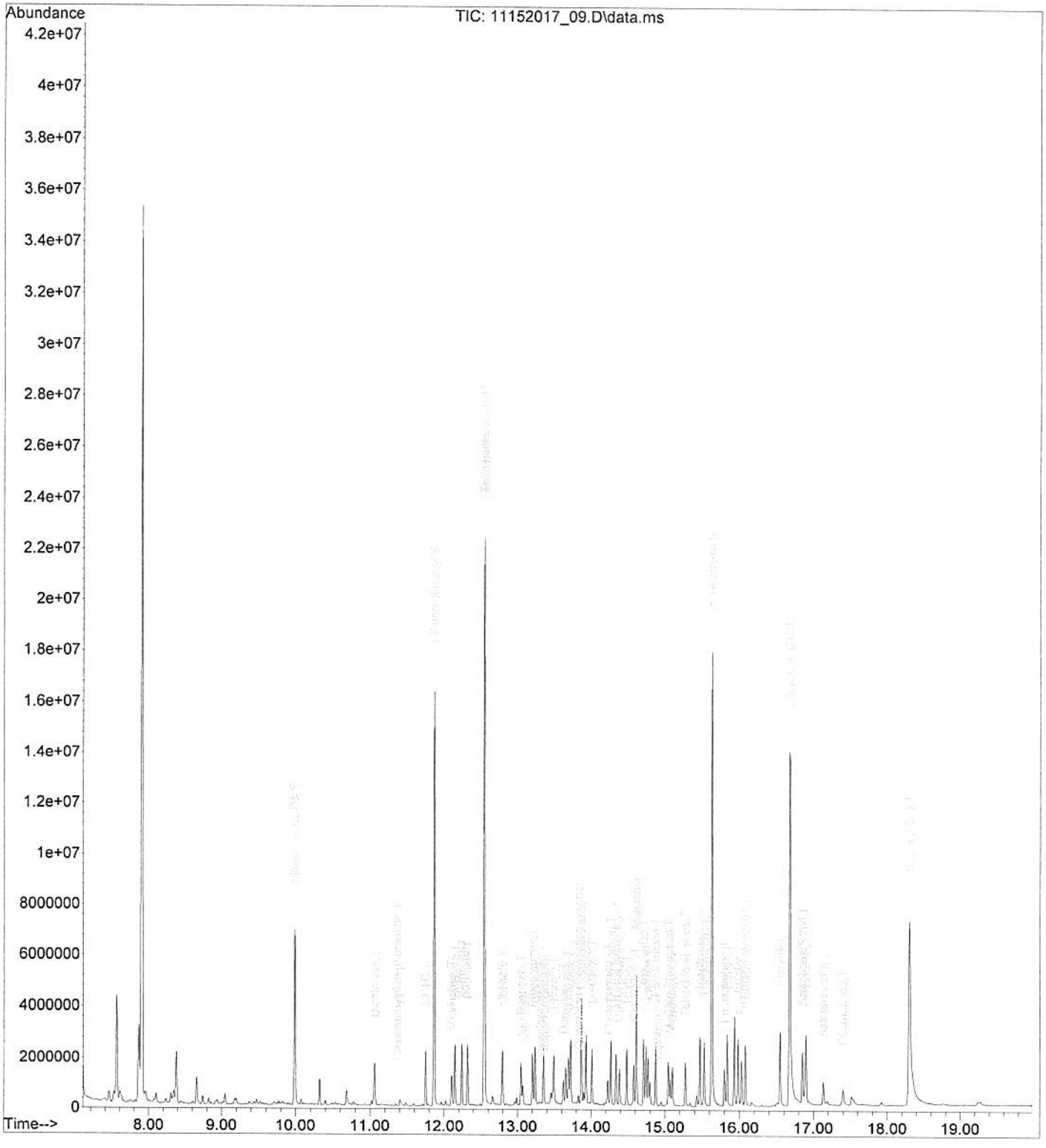
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.072	209	137363	0.8894	ug/l		81
46) Trichloronate	14.875	109	362958	1.0152	ug/l	#	65
47) Chlorfenvinphos	15.046	267	179277	0.5824	ug/l	#	74
48) Triademephon	15.527	57	299567	3.2238	ug/l	#	67
49) Crotoxyphos	15.099	105	206195	1.0005	ug/l	#	44
50) Tetrachlorvinphos	15.276	109	281391	1.4031	ug/l	#	60
51) Tokuthion	15.468	113	151919	0.8648	ug/l	#	64
52) Fensulfothion	15.800	292	109424	1.1164	ug/l	#	65
53) Ethion	15.837	97	346676	0.9828	ug/l	#	67
54) EPN	16.078	157	317566	0.9606	ug/l	#	16
55) Famphur	16.030	218	504125	1.0010	ug/l	#	78
56) Carbophenothion	16.078	157	317566	0.9606	ug/l		94
59) Phosmet	16.549	160	725447	0.6795	ug/l	#	72
60) Bolstar	15.982	140	240806	0.8352	ug/l	#	78
61) Leptophos	16.848	171	431199	0.3121	ug/l	#	74
62) Azinphos-methyl	16.848	77	136232	0.4561	ug/l	#	84
63) TOCPP	16.896	165	335866	0.7949	ug/l		96
64) Azinphos-ethyl	17.132	132	193103	0.8794	ug/l		89
65) Coumaphos	17.394	97	81164	1.3249	ug/l		76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_09.D
Acq On : 15 Nov 2017 7:56 pm
Operator : YE
Sample : IDOCW-03
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 15 20:09:55 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_10.D
Acq On : 15 Nov 2017 8:23 pm
Operator : YE
Sample : IDOCW-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 01 09:32:33 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	6421029	5.00	ug/l	#	0.00
34) Chrysene-D12	16.672	240	9489206	5.00	ug/l		0.00
57) Perylene-D12	18.298	264	7559510	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.986	54	1250843	3.65	ug/l		0.00
Spiked Amount 5.000			Recovery =	73.00%			
35) 2-Fluorobiphenyl	11.863	172	4970304	3.65	ug/l		0.00
Spiked Amount 5.000			Recovery =	73.00%			
58) p-Terphenyl	15.629	230	6897725	3.41	ug/l		0.00
Spiked Amount 5.000			Recovery =	68.20%			
Target Compounds							Qvalue
3) Dichlorvos	11.061	109	675099	0.8201	ug/l	#	72
4) Hexamethylphosphoramide	11.403	44	83118m	0.4419	ug/l		
5) EPTC	11.745	43	533272	0.8496	ug/l	#	70
6) Butylate	12.147	57	392786	0.8466	ug/l		93
7) Vernolate	12.238	43	649272	0.8600	ug/l	#	72
8) Mevinphos	12.104	127	479893	0.8172	ug/l	#	81
9) Pebulate	12.318	57	477596	0.8248	ug/l	#	72
10) Molinate	12.794	126	440839	0.8666	ug/l		91
11) Tebuthiuiron	12.542	156	422563m	0.5653	ug/l		
12) TEPP	12.788	161	63897	4.1074	ug/l		92
13) Thionazin	13.045	97	158532	0.9069	ug/l	#	67
14) Demeton-O	13.072	60	56957m	0.6116	ug/l		
15) Cycloate	13.238	154	341539	0.7988	ug/l	#	86
16) Naled	13.355	109	29213m	0.3821	ug/l		
17) Ethoprophos	13.200	97	143593	0.8241	ug/l	#	46
18) Dicrotophos	13.307	127	35625	0.4957	ug/l	#	82
19) Sulfotep	13.350	97	152939	0.7003	ug/l	#	79
20) Monocrotophos	13.366	127	51192	0.4330	ug/l	#	80
21) Phorate	13.489	75	429407	0.7890	ug/l	#	89
22) Demeton-S	13.623	88	214663	0.5229	ug/l	#	18
23) Diphenamid	14.874	72	6730	0.0073	ug/l	#	1
24) Dimethoate	13.655	125	148939	0.8266	ug/l	#	13
25) Simazine	13.692	201	191214	1.1036	ug/l		76
26) Atrazine	13.719	200	306030	0.8496	ug/l		91
27) Dioxathion degradation...	13.826	97	54725	0.3719	ug/l		83
28) Terbufos	13.864	57	404327	0.7316	ug/l	#	76
29) Diazinone	13.869	137	190084	0.8048	ug/l		92
30) Fonofos	13.928	109	613956	0.8695	ug/l	#	70
31) Disulfoton	14.008	61	107983	0.8034	ug/l	#	1
32) Phosphamidon	14.227	127	200126	0.7220	ug/l	#	74
33) Dichlofenthion	14.270	223	222809	0.5948	ug/l		90
36) chlorpyifos methyl	14.340	286	273090	0.8115	ug/l		94
37) Methyl parathion	14.382	109	212196	0.7965	ug/l	#	14
38) Ronnel	14.484	285	331895	0.2903	ug/l		84
39) Malathion	14.612	125	261698	0.8319	ug/l	#	77
40) Fenitrothion	14.580	125	216589	0.7948	ug/l		90
41) Aspon	14.618	211	451923	0.7774	ug/l		92
42) Chlorpyrifos	14.709	197	191318	0.8201	ug/l		90
43) Fenthion	14.741	278	345309	0.7564	ug/l	#	79
44) Parathion	14.767	97	180127	0.8582	ug/l		79

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_10.D
Acq On : 15 Nov 2017 8:23 pm
Operator : YE
Sample : IDOCW-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

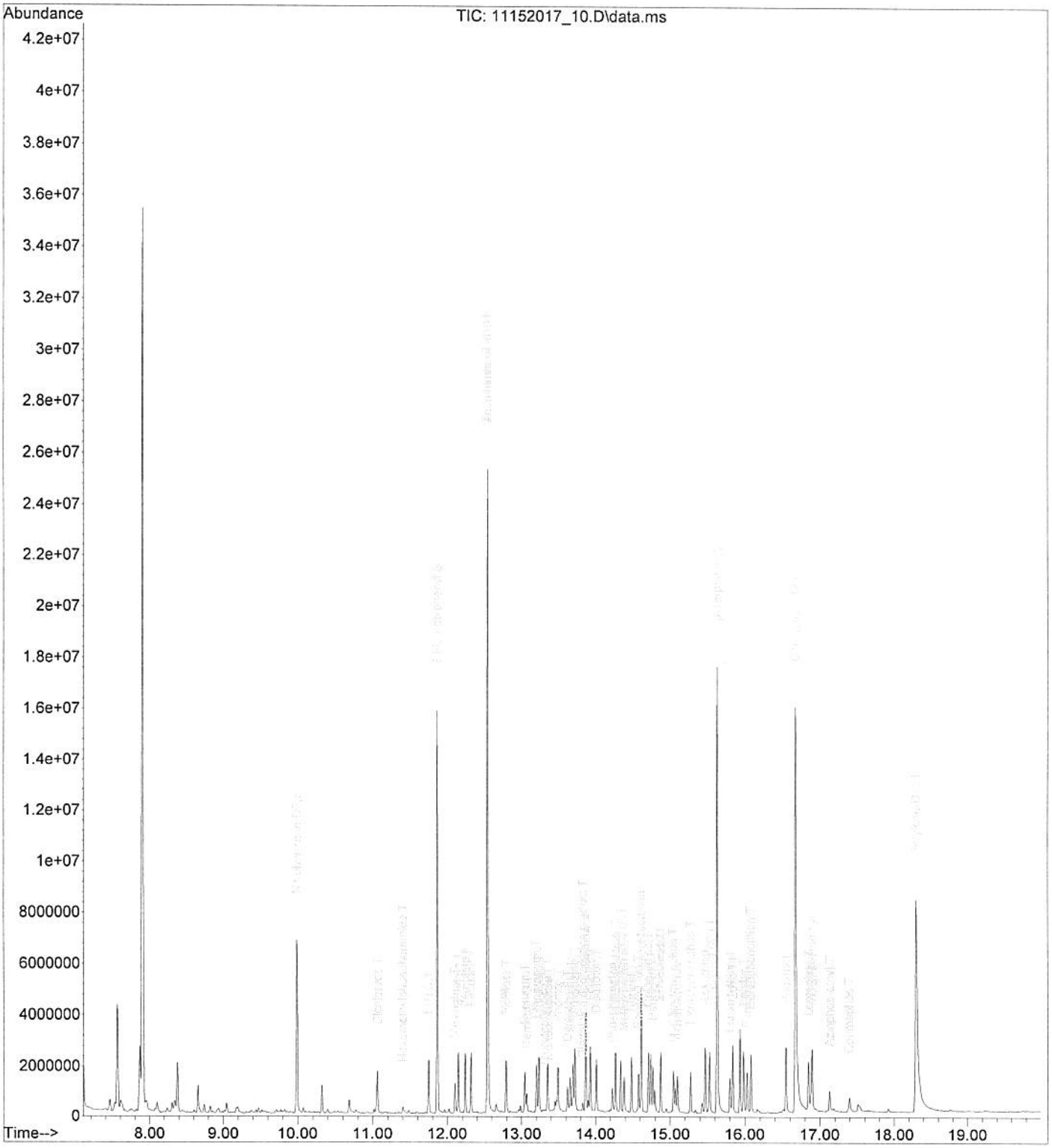
Quant Time: Dec 01 09:32:33 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
45) Merphos	15.072	209	119069m	0.7149 ug/l		
46) Trichloronate	14.874	109	362989	0.8980 ug/l	#	74
47) Chlorfenvinphos	15.046	267	175647	0.5356 ug/l	#	74
48) Triademephon	15.527	57	295491	2.9046 ug/l	#	70
49) Crotoxyphos	15.099	105	206403	0.9277 ug/l	#	39
50) Tetrachlorvinphos	15.276	109	285397	1.2905 ug/l	#	66
51) Tokuthion	15.468	113	149615	0.7698 ug/l	#	62
52) Fensulfothion	15.800	292	101454	0.9064 ug/l	#	72
53) Ethion	15.837	97	327976	0.8474 ug/l	#	71
54) EPN	16.078	157	302271	0.8351 ug/l	#	16
55) Famphur	16.030	218	478297	0.8770 ug/l	#	80
56) Carbophenothion	16.078	157	302271	0.8351 ug/l		92
59) Phosmet	16.549	160	685124	0.8282 ug/l	#	76
60) Bolstar	15.982	140	232950	0.7797 ug/l	#	73
61) Leptophos	16.848	171	389089	0.2645 ug/l	#	76
62) Azinphos-methyl	16.891	77	237108m	0.5891 ug/l		
63) TOCPP	16.896	165	323364	0.7370 ug/l		94
64) Azinphos-ethyl	17.132	132	183582	0.8235 ug/l	#	85
65) Coumaphos	17.394	97	70100	1.1195 ug/l	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_10.D
Acq On : 15 Nov 2017 8:23 pm
Operator : YE
Sample : IDOCW-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 01 09:32:33 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_10.D
Acq On : 15 Nov 2017 8:23 pm
Operator : YE
Sample : IDOCW-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 15 20:36:21 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Acenaphthene-d10	12.542	164	6421029	5.00 ug/l	# 0.00
34) Chrysene-D12	16.672	240	9489206	5.00 ug/l	0.00
57) Perylene-D12	18.298	264	7559510	5.00 ug/l	0.00
System Monitoring Compounds					
2) Nitrobenzene-D5	9.986	54	1250843	3.65 ug/l	0.00
Spiked Amount 5.000			Recovery =	73.00%	
35) 2-Fluorobiphenyl	11.863	172	4970304	3.65 ug/l	0.00
Spiked Amount 5.000			Recovery =	73.00%	
58) p-Terphenyl	15.629	230	6897725	3.41 ug/l	0.00
Spiked Amount 5.000			Recovery =	68.20%	
Target Compounds					Qvalue
3) Dichlorvos	11.061	109	675099	0.8201 ug/l #	72
4) Hexamethylphosphoramide	11.403	44	55135	0.2932 ug/l #	84
5) EPTC	11.745	43	533272	0.8496 ug/l #	70
6) Butylate	12.147	57	392786	0.8466 ug/l	93
7) Vernolate	12.238	43	649272	0.8600 ug/l #	72
8) Mevinphos	12.104	127	479893	0.8172 ug/l #	81
9) Pebulate	12.318	57	477596	0.8248 ug/l #	72
10) Molinate	12.794	126	440839	0.8666 ug/l	91
11) Tebuthiuiron	12.542	156	299989	0.4013 ug/l #	84
12) TEPP	12.788	161	63897	4.1074 ug/l	92
13) Thionazin	13.045	97	158532	0.9069 ug/l #	67
14) Demeton-O	13.072	60	64341	0.6909 ug/l #	1
15) Cycloate	13.238	154	341539	0.7988 ug/l #	86
16) Naled	13.302	109	4349	Below Cal #	4
17) Ethoprophos	13.200	97	143593	0.8241 ug/l #	46
18) Dicrotophos	13.307	127	35625	0.4957 ug/l #	82
19) Sulfotep	13.350	97	152939	0.7003 ug/l #	79
20) Monocrotophos	13.366	127	51192	0.4330 ug/l #	80
21) Phorate	13.489	75	429407	0.7890 ug/l #	89
22) Demeton-S	13.623	88	214663	0.5229 ug/l #	18
23) Diphenamid	14.874	72	6730	0.0073 ug/l #	1
24) Dimethoate	13.655	125	148939	0.8266 ug/l #	13
25) Simazine	13.692	201	191214	1.1036 ug/l	76
26) Atrazine	13.719	200	306030	0.8496 ug/l	91
27) Dioxathion degradation...	13.826	97	54725	0.3719 ug/l	83
28) Terbufos	13.864	57	404327	0.7316 ug/l #	76
29) Diazinone	13.869	137	190084	0.8048 ug/l	92
30) Fonofos	13.928	109	613956	0.8695 ug/l #	70
31) Disulfoton	14.008	61	107983	0.8034 ug/l #	1
32) Phosphamidon	14.227	127	200126	0.7220 ug/l #	74
33) Dichlofenthion	14.270	223	222809	0.5948 ug/l	90
36) chlorpyifos methyl	14.340	286	273090	0.8115 ug/l	94
37) Methyl parathion	14.382	109	212196	0.3740 ug/l #	14
38) Ronnel	14.484	285	331895	0.2903 ug/l	84
39) Malathion	14.612	125	261698	0.8319 ug/l #	77
40) Fenitrothion	14.580	125	216589	0.7948 ug/l	90
41) Aspon	14.618	211	451923	0.7774 ug/l	92
42) Chlorpyrifos	14.709	197	191318	0.8201 ug/l	90
43) Fenthion	14.741	278	345309	0.7564 ug/l #	79
44) Parathion	14.767	97	180127	0.8582 ug/l	79

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_10.D
Acq On : 15 Nov 2017 8:23 pm
Operator : YE
Sample : IDOCW-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 15 20:36:21 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

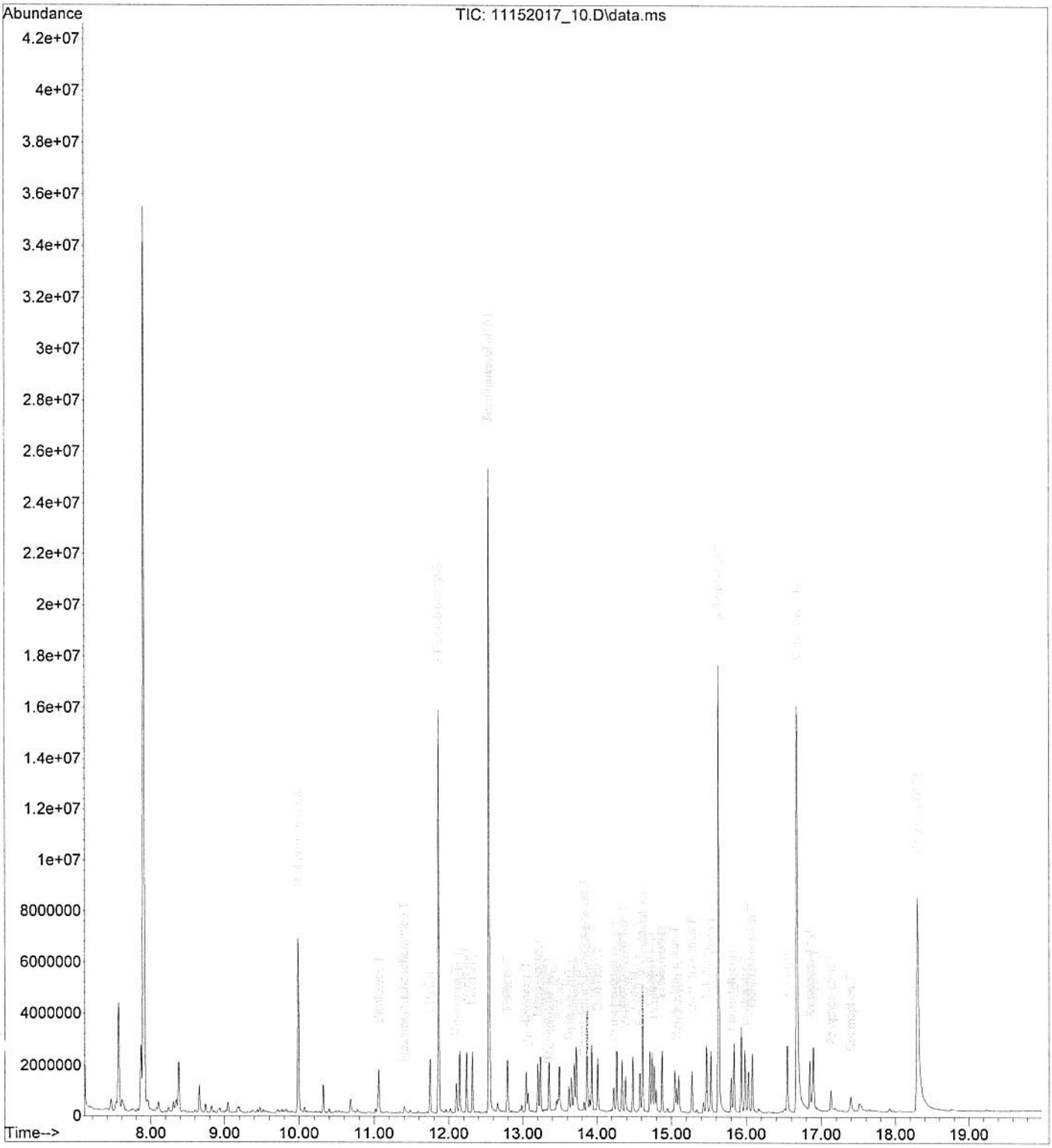
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.072	209	121163	0.7250	ug/l		84
46) Trichloronate	14.874	109	362989	0.8980	ug/l	#	74
47) Chlorfenvinphos	15.046	267	175647	0.5356	ug/l	#	74
48) Triademephon	15.527	57	295491	2.9046	ug/l	#	70
49) Crotoxyphos	15.099	105	206403	0.9277	ug/l	#	39
50) Tetrachlorvinphos	15.276	109	285397	1.2905	ug/l	#	66
51) Tokuthion	15.468	113	149615	0.7698	ug/l	#	62
52) Fensulfothion	15.800	292	101454	0.9064	ug/l	#	72
53) Ethion	15.837	97	327976	0.8474	ug/l	#	71
54) EPN	16.078	157	302271	0.8351	ug/l	#	16
55) Famphur	16.030	218	478297	0.8770	ug/l	#	80
56) Carbophenothion	16.078	157	302271	0.8351	ug/l		92
59) Phosmet	16.549	160	685124	0.6184	ug/l	#	76
60) Bolstar	15.982	140	232950	0.7797	ug/l	#	73
61) Leptophos	16.848	171	389089	0.2645	ug/l	#	76
62) Azinphos-methyl	16.843	77	135008	0.4417	ug/l	#	85
63) TOCPP	16.896	165	323364	0.7370	ug/l		94
64) Azinphos-ethyl	17.132	132	183582	0.8235	ug/l	#	85
65) Coumaphos	17.394	97	70100	1.1195	ug/l	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_10.D
Acq On : 15 Nov 2017 8:23 pm
Operator : YE
Sample : IDOCW-04
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 15 20:36:21 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Liquid Extraction Log

Method # 8270D / OPP

Extraction Method 3510

Florida Environmental

Batch#: N/A
Analyst: AC / YE
Date: 11.15.17
Transferred to vials by: MR / EP

Initial Solvent: DCM
Final Solvent: ↓

	Std. ID	Amt. Added	Initials
Surrogate	1700620	1.0 mL	MR / EP
Spike	1700696	200ul / 500ul	MR / EP
Internal Std.			

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
	MB	11.15.17	1000	7		7	1	11.15.17	N/A	
	LCS	—	—	—		—	—	—	—	
	MS	—	—	—		—	—	—	—	
	MSD	—	—	—		—	—	11.15.17	N/A	ICV 1700616 2.000 ppm 06/16
	MDL #1	11.15.17	200ul / 1000	7		7	1			
	MDL #2	11.15.17								
	MDL #3	11.15.17								
	MDL #4 MR 11/15/17	11.15.17								
	MDL #5	11.15.17								
	MDL #6	11.15.17								
	MDL #7	11.15.17								
	MDL #8	11.15.17	↓	↓						
	CDOC / IDOC	11.15.17	500ul / 1000	7						
	CDOC / IDOC	11.15.17								
	CDOC / IDOC	11.15.17								
	CDOC / IDOC	11.15.17	↓	↓		↓	↓	↓	↓	↓
										11.15.17 MR

Item	SVT#
Filter Paper:	465-
Sodium Sulfate:	489
Silica Gel:	
Sodium Hydroxide:	
Sililic Acid:	
Sulfuric Acid:	
10 mL pipette:	
1.8mL Vials	492
1.8mL Vial Caps	491
20 mL Vials:	
Pasteur pipette:	
Hexane	
MTBE	
Ethyl Ether	
Cu	
Phosphate Buffer	
NaCL	
Diazomethane	
CH2CL2	475/148-
pH paper Lot #	232516
Chlorine Strips Lot #	

Document Control #: 0401416-001
Date:8/31/16

* pH: I = Initial, E = Exchange, F= Final

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700696

Description:	IQ-OPP-060116-M	Expires:	2/28/2019
Standard Type:	Analyte Spike	Prepared:	6/1/2016
Solvent:	ACETONE/SV-329	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGCMS
Vials:	1	Last Edit:	11/15/2017 14:40 by AC

Analyte	CAS Number	Concentration	Units
Demeton-O	298-03-3	1	ug/mL
Aspon	3244-90-4	2	ug/mL
Famphur	52-85-7	2	ug/mL
Ethoprop	13194-48-4	2	ug/mL
Ethion	563-12-2	2	ug/mL
EPTC	759-94-4	2	ug/mL
EPN	2104-64-5	2	ug/mL
Disulfoton	298-04-4	2	ug/mL
Dioxathion	78-34-2	2	ug/mL
Dimethoate	60-51-5	2	ug/mL
Dicrotophos	141-66-2	2	ug/mL
Dichlorvos	62-73-7	2	ug/mL
Dichlorofenthion	97-17-6	2	ug/mL
Fensulfothion	115-90-2	2	ug/mL
Demeton-S	126-75-0	1.34	ug/mL
Fenthion	55-38-9	2	ug/mL
Cycloate	NA	2	ug/mL
Crotoxyphos	7700-17-6	2	ug/mL
Coumaphos	56-72-4	2	ug/mL
Chlorpyrifos methyl	5598-13-0	2	ug/mL
Chlorpyrifos	2921-88-2	2	ug/mL
Chlorfenvinphos	470-90-6	2	ug/mL
Carbophenothion	786-19-6	2	ug/mL
Butylate	NA	2	ug/mL
Bolstar	35400-43-2	2	ug/mL
Azinphos-Ethyl	2642-71-9	2	ug/mL
Azinphos methyl	86-50-0	2	ug/mL
Atrazine	1912-24-9	2	ug/mL
Diazinon	333-41-5	2	ug/mL
Phorate	298-02-2	2	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700696

Trichloronate	327-98-0	2	ug/mL
Triademefon	43121-43-3	1	ug/mL
Tri-o-cresylphosphate	78-30-8	2	ug/mL
Tokuthion (Prothiofos)	34643-46-4	2	ug/mL
Thionazin	297-97-2	2	ug/mL
Terbufos	13071-79-9	2	ug/mL
TEPP	107-49-3	10	ug/mL
Tebuthiuron	34014-18-1	1	ug/mL
Sulfotep	3689-24-5	2	ug/mL
Stirophos	961-11-5	2	ug/mL
Simazine	122-34-9	2	ug/mL
Ronnel	299-84-3	2	ug/mL
Fenitrothion	122-14-5	2	ug/mL
Phosmet	732-11-6	2	ug/mL
Vernolate	1929-77-7	2	ug/mL
Pebulate	1114-71-2	2	ug/mL
Parathion-methyl	298-00-0	2	ug/mL
Parathion-ethyl	56-38-2	2	ug/mL
Naled	300-76-5	2	ug/mL
Monocrotophos	6923-22-4	2	ug/mL
Molinate	2212-67-1	2	ug/mL
Mevinphos	7786-34-7	2	ug/mL
Merphos	150-50-5	5.67	ug/mL
Malathion	121-75-5	2	ug/mL
Leptophos	21609-90-5	2	ug/mL
Hexamethylphosphoramide	680-31-9	2	ug/mL
Fonophos	944-22-9	2	ug/mL
Phosphamidon	13171-21-6	2	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700696

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700685	8140 OPP MIX	06/01/201	Albert Castellanos	11/01/201	11/14/2017 11:58 by AC	1
1700687	8141 OPP MIX	06/01/201	Albert Castellanos	08/01/201	11/14/2017 12:01 by AC	1
1700688	8141A OPP MIC-A	06/01/201	Albert Castellanos	05/01/201	11/14/2017 12:05 by AC	1
1700689	8141A OPP MIX-B	06/01/201	Albert Castellanos	11/01/201	11/14/2017 12:08 by AC	1
1700690	INDUSTRIAL CHEM-MIX	06/01/201	Albert Castellanos	11/01/201	11/14/2017 12:11 by AC	1
1700691	8141A TRIAZINE-MIX	06/01/201	Albert Castellanos	11/01/201	11/14/2017 12:15 by AC	1
1700692	TRIADIMEFON SOLUTION	06/01/201	Albert Castellanos	10/31/201	11/14/2017 12:19 by AC	1
1700693	DEMETON-O SOLUTION	06/30/201	Albert Castellanos	12/31/201	11/14/2017 12:21 by AC	0.34
1700694	TEBUTHIURON SOLUTION	06/01/201	Albert Castellanos	02/28/201	11/14/2017 12:24 by AC	1
1700695	THIOCARBAMATE PEST MIX-5	06/01/201	Albert Castellanos	12/31/201	11/14/2017 12:29 by AC	0.2
1700699	OPP XTRA	06/01/201	Albert Castellanos	06/01/201	11/15/2017 14:39 by AC	0.2

Reviewed By Date

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Martha Rauder	4/13/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8082 / EPA 3510	☑ Water ☐ DW ☐ Solid ☐ Other: _____	8082 - 0201416-018 3510 - 0201416-007
Analyte or Class of Analytes		
Aroclor 1242		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

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4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet / Martha *Analyst*	*Signature*	4/11/18 *Date*
Albert Castellanos *Technical Director*	*Signature*	4/11/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	4/13/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability (**Yanet Echevarria**)
_X_ Continuing Demostration of Capabilities (**Martha Raudez**)

MATRIX:	Water
DATE OF ANALYSIS:	4/11/2018
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 8082
EXTRACTION METHOD (IF APPLY):	EPA 3550
INSTRUMENT ID:	Monica GC#1
EXTRACTED BY:	Martha Raudez
DATE EXTRACTED:	4/4/2018
ACCEPTANCE CRITERIA:	Various

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
Standard(s)	SK-1242-080717	20ppm
Surrogate	SU-Pesticides-022718	1 ppm
Internal Standard	IS-PEST-051217	10 ppm

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD	Acceptance Criteria (%)
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L				
Arochlor-1242	10	8.31	8.65	8.35	8.64	8.49	2.15	84.88	0.18	42-110

Liquid Extraction Log

Method # 8081 / 8083.3

Extraction Method 3510

	Std. ID	Amt. Added	Initials
Surrogate	1,8 DCB/TCMX	1.0 mL	
Spike			
Internal Std.			

Florida Environmental

Batch#:
Analyst: AC 146
Date: 04.04.18
Transferred to vials by: MR

Initial Solvent: DCM
Final Solvent: Hexane

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
	MB									
	LCS									
	MS									
	~~MSD~~ 608/8082 #1221									
	IDCC #1	04.04.18	0.5 mL/1000	7		7	5	04.04.18		1700385
	IDCC #2	04.04.18	↓	7		7	↓	↓		↓
	IDCC #3	04.04.18	↓	7		7	↓	↓		↓
	IDCC #4	04.04.18	↓	7		7	↓	↓		↓
	608/8082 #1254									
	IDCC #1	04.04.18	0.5 mL/1000	7		7	5	04.04.18		1700385
	IDCC #2	04.04.18	↓	7		7	↓	↓		↓
	IDCC #3	04.04.18	↓	7		7	↓	↓		↓
	IDCC #4	04.04.18	↓	7		7	↓	↓		↓
	608/8082 #1242									
	IDCC #1	04.04.18	0.5 mL/1000	7		7	5	04.04.18		1700387
	IDCC #2	04.04.18	↓	7		7	↓	↓		↓
	IDCC #3	04.04.18	↓	7		7	↓	↓		↓
	IDCC #4	04.04.18	↓	7		7	↓	↓		↓
	608/8082 #1248									
	IDCC #1	04.04.18	0.5 mL/1000	7		7	5	04.04.18		1700388
	IDCC #2	04.04.18	↓	7		7	↓	↓		↓
	IDCC #3	04.04.18	↓	7		7	↓	↓		↓
	IDCC #4	04.04.18	↓	7		7	↓	↓		↓

Item	SVT#
Filter Paper:	514
Sodium Sulfate:	523
Silica Gel:	
Sodium Hydroxide:	
Sililic Acid:	
Sulfuric Acid:	
10 mL pipette:	
1.8mL Vials	512
1.8mL Vial Caps	513
20 mL Vials:	494
Pasteur pipette:	511
Hexane	509
MTBE	
Ethyl Ether	
Cu	486
Phosphate Buffer	
NaCL	
Diazomethane	
CH2CL2	501/3
pH paper Lot #	206717
Chlorine Strips Lot #	

* pH: I = Initial, E = Exchange, F= Final

Document Control #: 0401416-001
Date:8/31/16

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700387

Description:	SK-1242-080717	Expires:	8/6/2023
Standard Type:	Analyte Spike	Prepared:	8/7/2017
Solvent:	ACETONE/MKBX4896V	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	08/22/2017 15:54 by AC
Vendor:	FSES	Lot Number:	NA

Analyte	CAS Number	Concentration	Units
PCB-1242	53469-21-9	20.08	ug/mL
Aroclor-1242	53469-21-9	20.08	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700382	AROCLOR 1242	08/07/201	Albert Castellanos	11/12/202	08/22/2017 15:54 by AC	2

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800094

Description:	SU-PESTICIDES-022718	Expires:	11/24/2018
Standard Type:	Surrogate Spike	Prepared:	2/27/2018
Solvent:	ACETONE SV-485	Prepared By:	Yanet Echevarria
Final Volume (mls):	250	Department:	SVOCGC
Vials:	1	Last Edit:	02/27/2018 16:44 by YE
Vendor:	FSES	Lot Number:	N/A

Analyte	CAS Number	Concentration	Units
Decachlorobiphenyl	2051-24-3	1	ug/mL
2,4,5,6 Tetrachloro-m-xylene		1	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700531	ISU-PEST-092017	09/20/201	Albert Castellanos	09/19/202	09/20/2017 14:34 by AC	2.5

Reviewed By _____ Date _____

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\04102018\04101849.D\ECD1A.CH Vial: 42
Acq On : 11 Apr 2018 1:27 pm Operator: YE
Sample : 80 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS.E

Data File : C:\HPCHEM\1\DATA\04102018\04101849.D\ECD2B.CH Vial: 42
Acq On : 11 Apr 2018 1:27 pm Operator: YE
Sample : 8082 1242 IDOC_60 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS2.E
Quant Time: Jun 01 15:12:33 2018 Quant Results File: C124204052018.RES

Quant Method : F:\MSDCHEM\2...\C124204052018.M (Chemstation Integrator)
Title : AROCLOR 1242 MONICA GC#1
Last Update : Mon Apr 09 08:40:11 2018
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	1B2NB	5.14	5.01	24524000	10003670	0.100m	0.100m
	Target Compounds						
2)	1242-A	8.54	8.53	2269466	261320	8.023m	5.351m#
3)	1242-B	9.45	10.11	8344333	4206200	6.168m	5.649m
4)	1242-C	9.95	10.69	5413508	2679662	9.512m	5.893m#
5)	1242-D	10.67	11.27	11766349	7470745	8.714m	7.723m
6)	1242-E	10.99	11.60	3134081	2699320	10.313m	8.266m
7)	1242-F	11.49	12.11	8904031	5745654	6.368m	7.085m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
04101849.D C124204052018.M Fri Jun 01 15:14:56 2018

04/11/18.

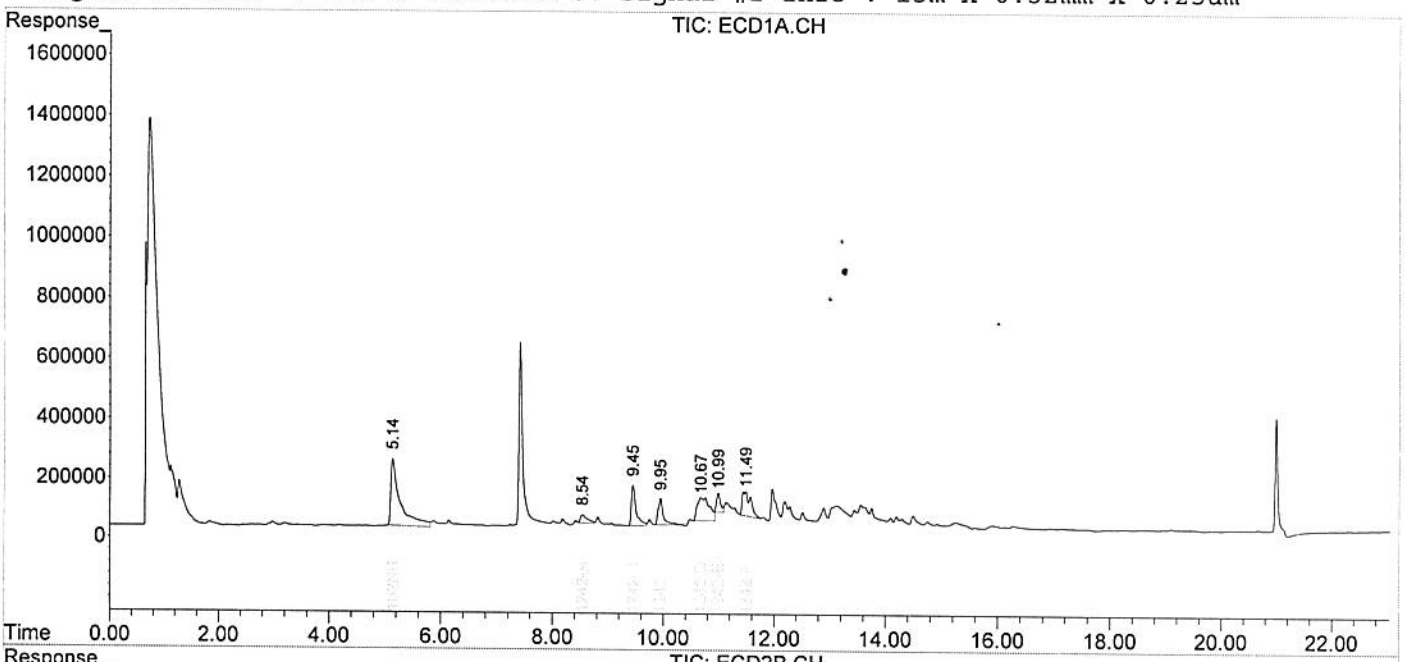
x 8.205

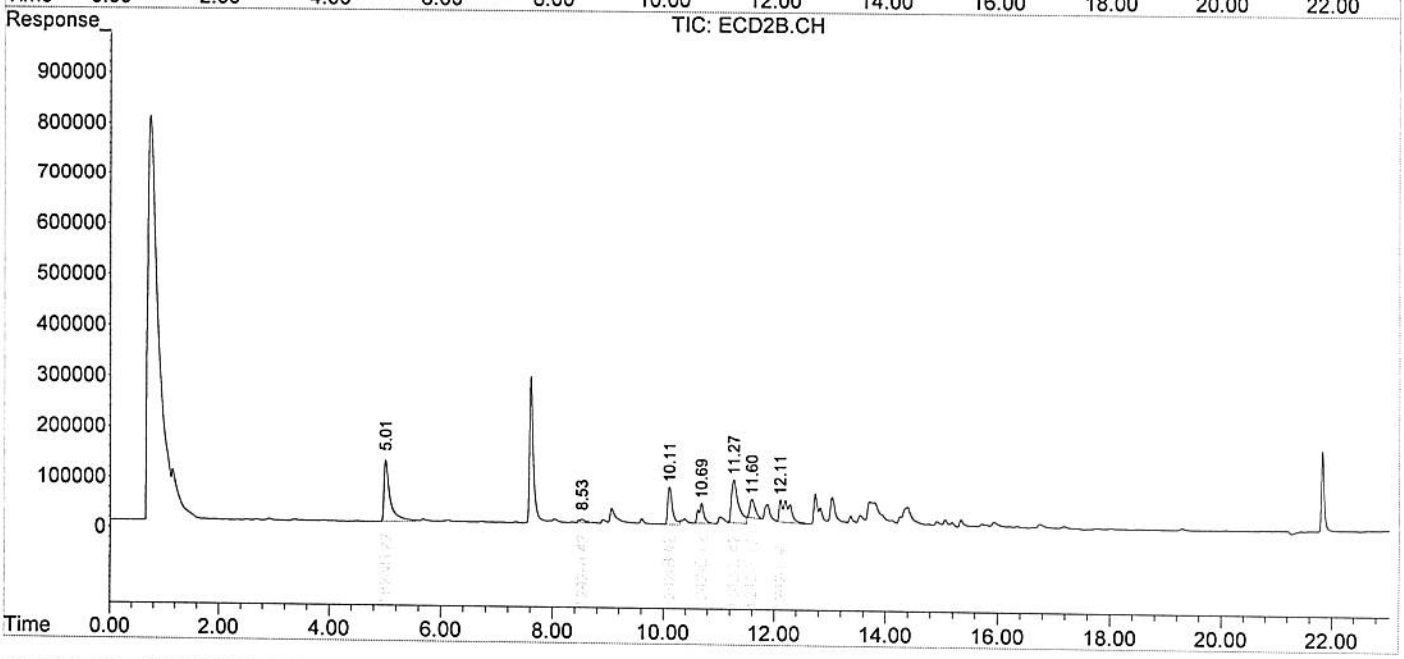
Data File : C:\HPCHEM\1\DATA\04102018\04101849.D\ECD1A.CH Vial: 42
Acq On : 11 Apr 2018 1:27 pm Operator: YE
Sample : 80 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS.E

Data File : C:\HPCHEM\1\DATA\04102018\04101849.D\ECD2B.CH Vial: 42
Acq On : 11 Apr 2018 1:27 pm Operator: YE
Sample : 608.3 1242 IDOC_60 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS2.E
Quant Time: Apr 11 13:53 2018 Quant Results File: C124204052018.RES

Quant Method : F:\MSDCHEM\2...\C124204052018.M (Chemstation Integrator)
Title : AROCLOR 1242 MONICA GC#1
Last Update : Mon Apr 09 08:40:11 2018
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\04102018\04101850.D\ECD1A.CH Vial: 43
Acq On : 11 Apr 2018 1:54 pm Operator: YE
Sample : 80 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS.E

Data File : C:\HPCHEM\1\DATA\04102018\04101850.D\ECD2B.CH Vial: 43
Acq On : 11 Apr 2018 1:54 pm Operator: YE
Sample : 8082 1242 IDOC_60 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS2.E
Quant Time: Apr 12 12:39:17 2018 Quant Results File: C124204052018.RES

Quant Method : F:\MSDCHEM\2...\C124204052018.M (Chemstation Integrator)
Title : AROCLOR 1242 MONICA GC#1
Last Update : Mon Apr 09 08:40:11 2018
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	1B2NB	5.14	5.01	23892878	8720444	0.100m	0.100m
	Target Compounds						
2)	1242-A	8.54	8.53	2273561	315517	8.250m	7.411m
3)	1242-B	9.45	10.11	8264832	4109588	6.271m	6.332m
4)	1242-C	9.95	10.69	5590285	2637681	10.096m	6.655m#
5)	1242-D	10.67	11.27	11851736	7135251	9.010m	8.461m
6)	1242-E	10.99	11.60	3133050	2484777	10.582m	8.729m
7)	1242-F	11.49	12.11	8782229	5427728	6.447m	7.678m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
04101850.D C124204052018.M Fri Jun 01 15:15:47 2018

6 of 11 ✓

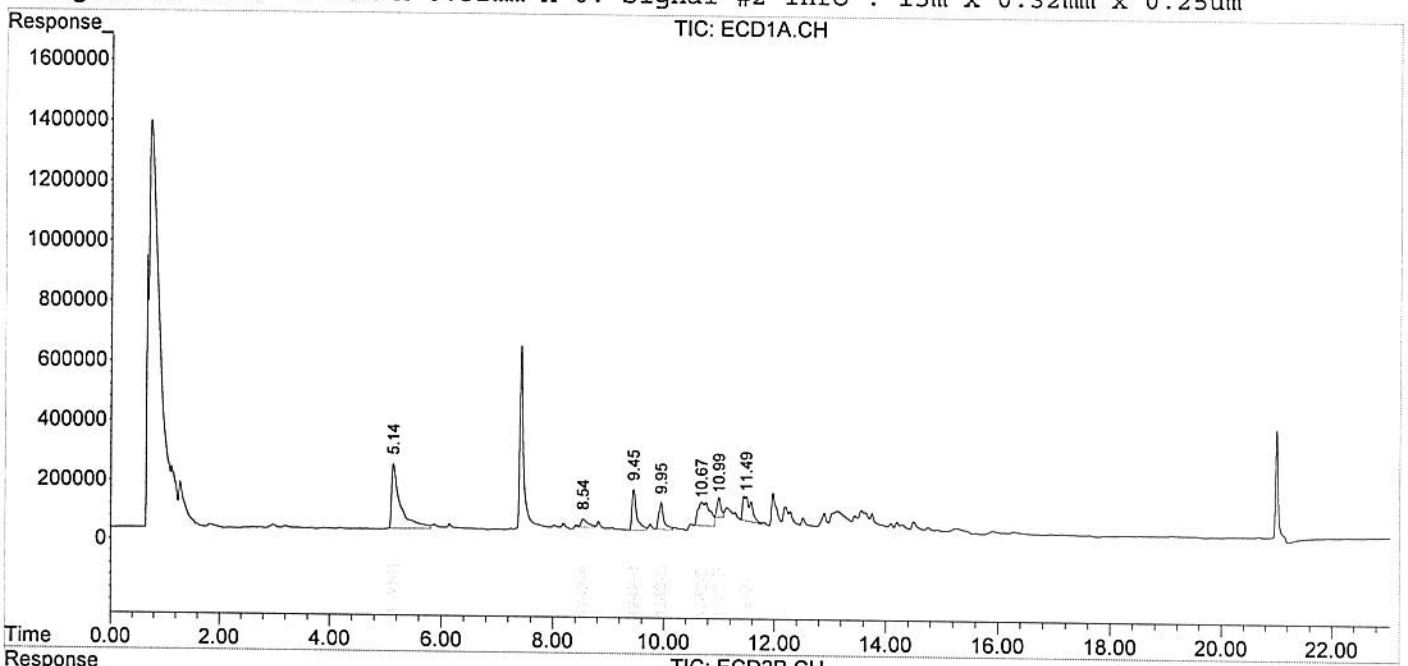
$\bar{X} = 8.167$

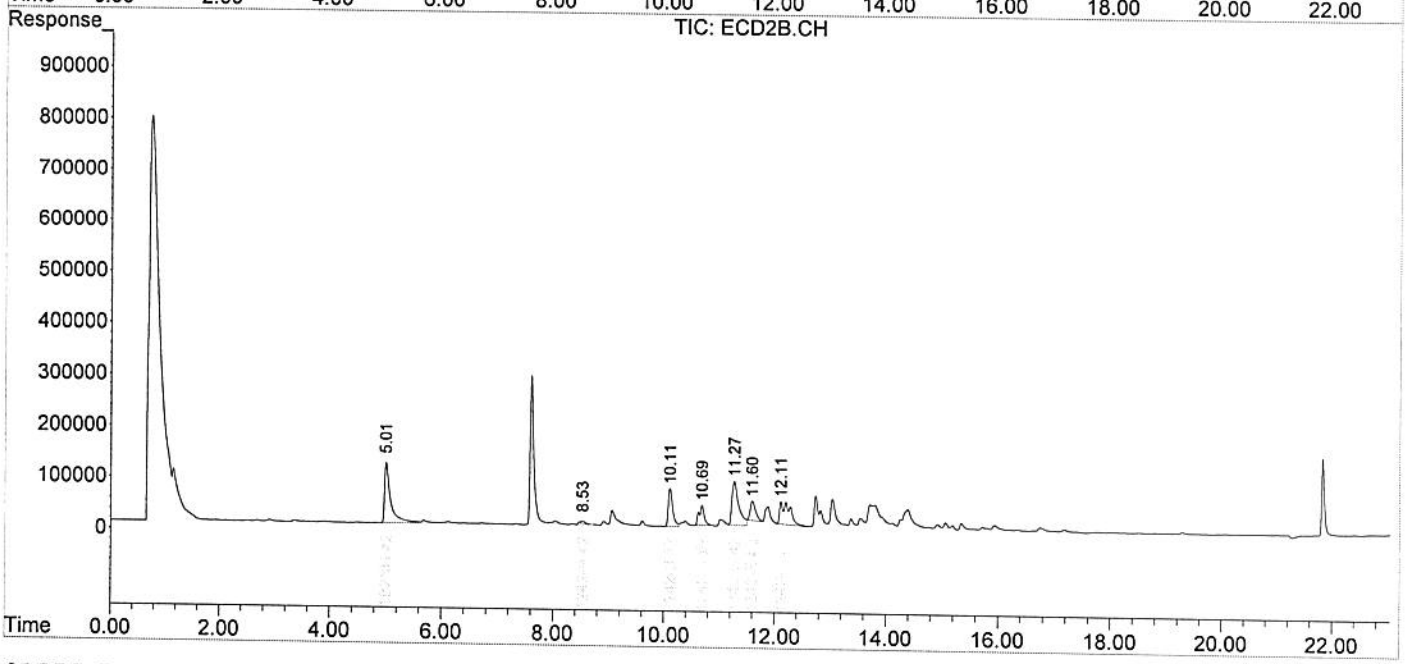
Data File : C:\HPCHEM\1\DATA\04102018\04101850.D\ECD1A.CH Vial: 43
Acq On : 11 Apr 2018 1:54 pm Operator: YE
Sample : 80 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS.E

Data File : C:\HPCHEM\1\DATA\04102018\04101850.D\ECD2B.CH Vial: 43
Acq On : 11 Apr 2018 1:54 pm Operator: YE
Sample : 608.3 1242 IDOC_60 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS2.E
Quant Time: Apr 12 12:40 2018 Quant Results File: C124204052018.RES

Quant Method : F:\MSDCHEM\2...\C124204052018.M (Chemstation Integrator)
Title : AROCLOR 1242 MONICA GC#1
Last Update : Mon Apr 09 08:40:11 2018
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\04102018\04101851.D\ECD1A.CH Vial: 44
Acq On : 11 Apr 2018 2:21 pm Operator: YE
Sample : 80 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS.E

Data File : C:\HPCHEM\1\DATA\04102018\04101851.D\ECD2B.CH Vial: 44
Acq On : 11 Apr 2018 2:21 pm Operator: YE
Sample : 8082 1242 IDOC_60 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS2.E
Quant Time: Apr 12 12:41:09 2018 Quant Results File: C124204052018.RES

Quant Method : F:\MSDCHEM\2...\C124204052018.M (Chemstation Integrator)
Title : AROCLOR 1242 MONICA GC#1
Last Update : Mon Apr 09 08:40:11 2018
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	1B2NB	5.14	5.01	26864940	9619950	0.100m	0.100m
	Target Compounds						
2)	1242-A	8.54	8.53	2270192	392821	7.326m	8.364m
3)	1242-B	9.45	10.11	8442758	4321121	5.697m	6.035m
4)	1242-C	9.95	10.69	6136582	2771352	9.851m	6.338m#
5)	1242-D	10.67	11.27	12612863	7599454	8.527m	8.169m
6)	1242-E	10.99	11.60	3422699	2615253	10.282m	8.328m
7)	1242-F	11.49	12.11	9197632	5692383	6.005m	7.300m

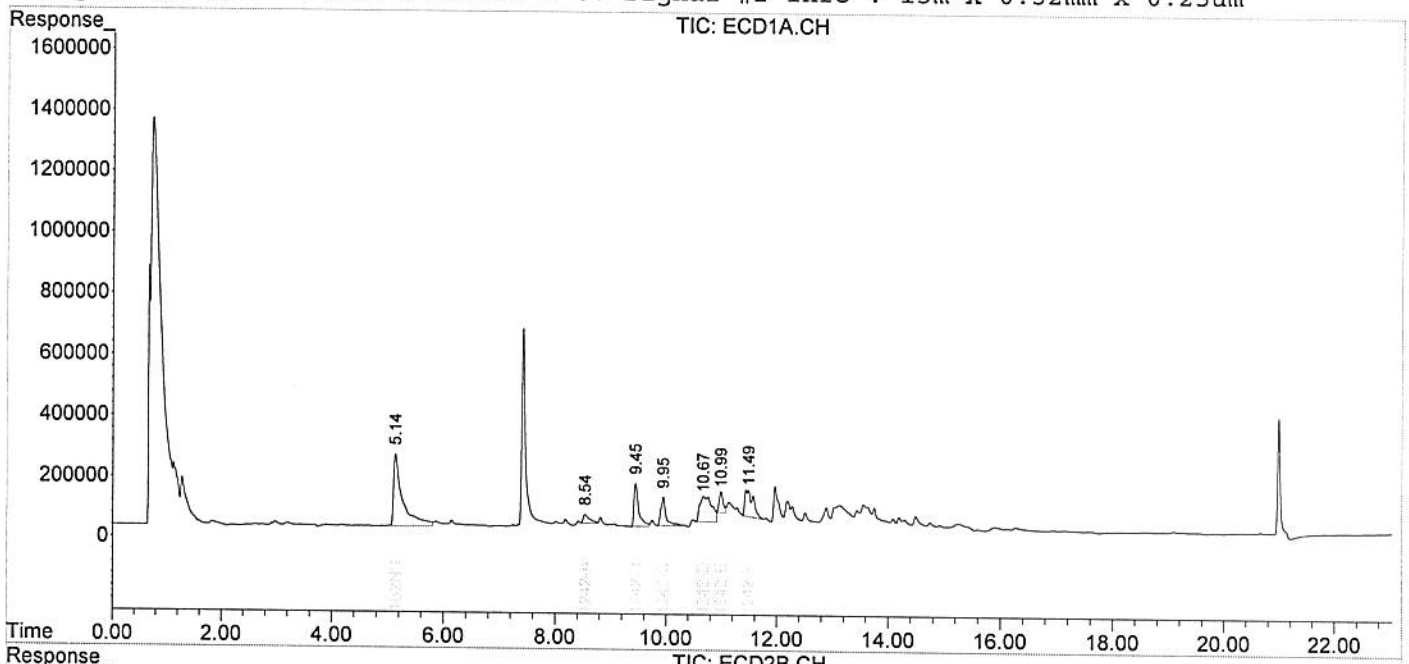
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
04101851.D C124204052018.M Fri Jun 01 15:16:32 2018

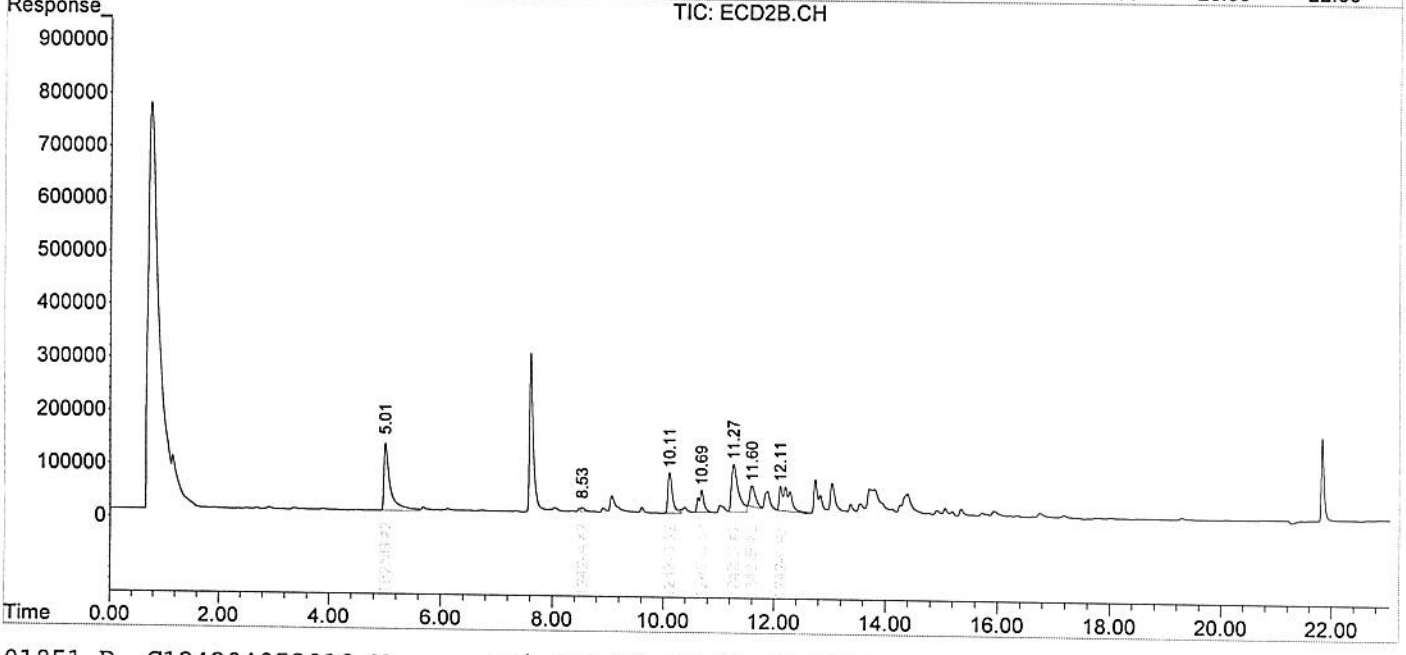
Data File : C:\HPCHEM\1\DATA\04102018\04101851.D\ECD1A.CH Vial: 44
Acq On : 11 Apr 2018 2:21 pm Operator: YE
Sample : 80 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS.E

Data File : C:\HPCHEM\1\DATA\04102018\04101851.D\ECD2B.CH Vial: 44
Acq On : 11 Apr 2018 2:21 pm Operator: YE
Sample : 608.3 1242 IDOC_60 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS2.E
Quant Time: Apr 12 12:42 2018 Quant Results File: C124204052018.RES

Quant Method : F:\MSDCHEM\2...\C124204052018.M (Chemstation Integrator)
Title : AROCLOR 1242 MONICA GC#1
Last Update : Mon Apr 09 08:40:11 2018
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\04102018\04101852.D\ECD1A.CH Vial: 45
Acq On : 11 Apr 2018 2:49 pm Operator: YE
Sample : 80 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS.E

Data File : C:\HPCHEM\1\DATA\04102018\04101852.D\ECD2B.CH Vial: 45
Acq On : 11 Apr 2018 2:49 pm Operator: YE
Sample : 8082 1242 IDOC_60 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS2.E
Quant Time: Apr 12 12:42:57 2018 Quant Results File: C124204052018.RES

Quant Method : F:\MSDCHEM\2...\C124204052018.M (Chemstation Integrator)
Title : AROCLOR 1242 MONICA GC#1
Last Update : Mon Apr 09 08:40:11 2018
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	1B2NB	5.14	5.01	25409823	8962215	0.100m	0.100m
	Target Compounds						
2)	1242-A	8.54	8.53	2036127	335187	6.947m	7.661m
3)	1242-B	9.45	10.11	8611413	4266769	6.144m	6.396m
4)	1242-C	9.95	10.69	6142824	2942283	10.440m	7.223m#
5)	1242-D	10.67	11.27	12755576	7469331	9.118m	8.618m
6)	1242-E	10.99	11.60	3344289	2667281	10.622m	9.117m
7)	1242-F	11.49	12.20	9737395	5708490	6.721m	7.857m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
04101852.D C124204052018.M Fri Jun 01 15:17:06 2018

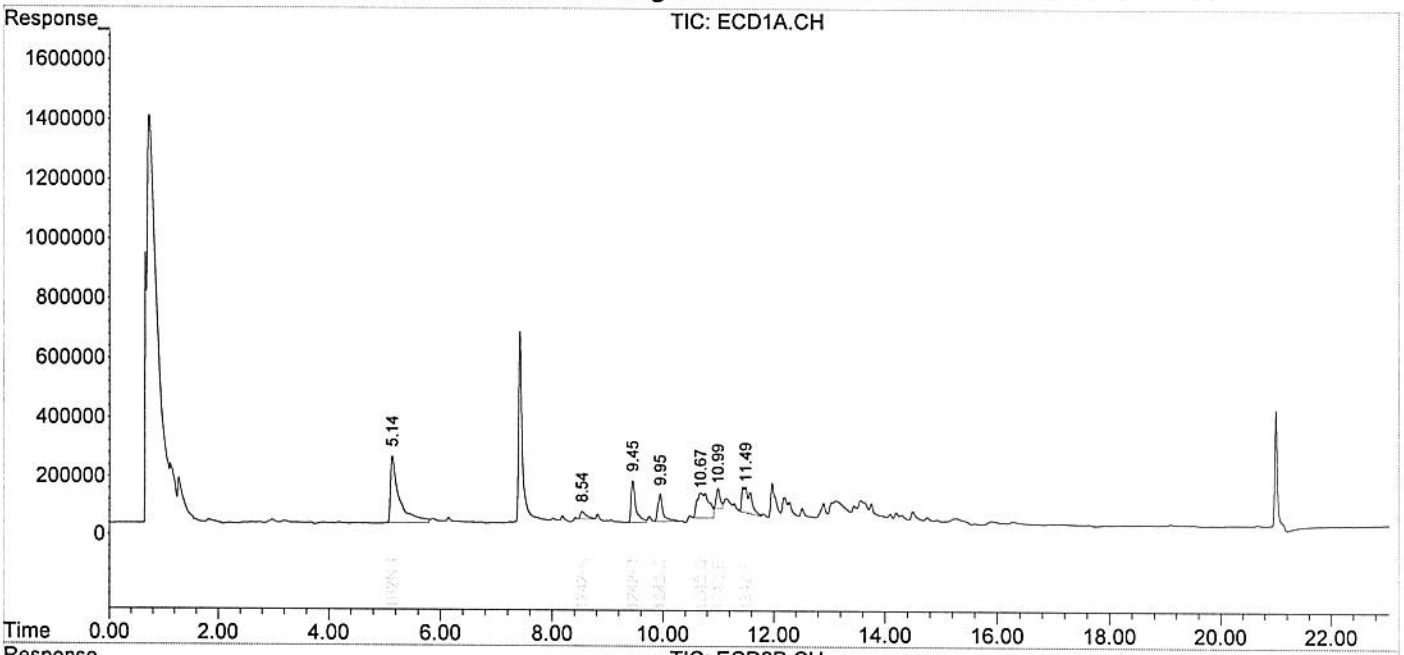
YH 04/12/18
mean $\bar{x}$ = 8.640

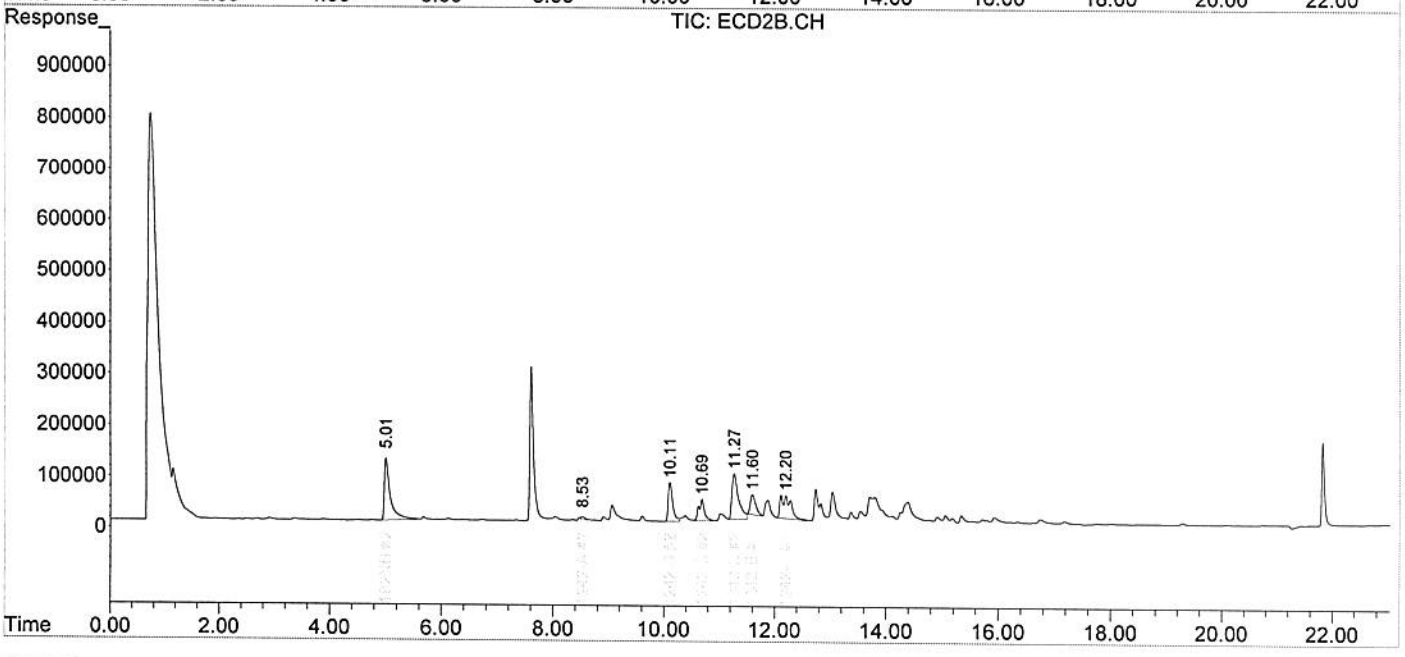
Data File : C:\HPCHEM\1\DATA\04102018\04101852.D\ECD1A.CH Vial: 45
Acq On : 11 Apr 2018 2:49 pm Operator: YE
Sample : 80 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS.E

Data File : C:\HPCHEM\1\DATA\04102018\04101852.D\ECD2B.CH Vial: 45
Acq On : 11 Apr 2018 2:49 pm Operator: YE
Sample : 608.3 1242 IDOC_60 Inst : Monica
Misc : Multiplr: 5.00
IntFile : EVENTS2.E
Quant Time: Apr 12 12:43 2018 Quant Results File: C124204052018.RES

Quant Method : F:\MSDCHEM\2...\C124204052018.M (Chemstation Integrator)
Title : AROCLOR 1242 MONICA GC#1
Last Update : Mon Apr 09 08:40:11 2018
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	10/13/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 508 / EPA 3510	☐ Water ☑ DW ☐ Solid ☐ Other: _____	508 - 0201416-003 3510 - 0201416-007
Analyte or Class of Analytes		
Semi-Volatiles (Pesticides)		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria / Estela Martinez *Analyst*	Yanet / Estela *Signature*	10/13/17 *Date*
Albert Castellanos *Technical Director*	 *Signature*	10/13/17 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	10/13/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Drinking water
DATE OF ANALYSIS:	10/10/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 508
EXTRACTION METHOD (IF APPLY):	EPA 3510
INSTRUMENT ID:	Monica GC#1
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	10/6/2017
ACCEPTANCE CRITERIA:	70-130% and %RSD<20

Standards Used:	Std. ID#	Conc.
Standard(s)	SK-PEST-100417 SK-TOX-100417 SK-CHLOR-100417 SK-8082-080717	0.5/1.0 ppm 10 ppm 1 ppm 10 ppm
Surrogate	SU-Pesticides-092017	1 ppm
Internal Standard	IS-PEST-051217	10 ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
Chlordane	1	0.859	0.858	0.831	0.872	0.86	2.01	85.50	0.02
Toxaphene	10	7.980	7.895	9.417	9.147	8.61	9.12	86.10	0.78
Endrin	0.5	0.504	0.397	0.416	0.421	0.43	10.93	86.90	0.05
gamma-BHC (Lindane)	0.5	0.602	0.478	0.499	0.492	0.52	10.98	103.55	0.06
Heptachlor	0.5	0.508	0.456	0.470	0.466	0.48	4.79	95.00	0.02
Hepthachlor Epoxide	0.5	0.520	0.409	0.451	0.423	0.45	10.95	90.15	0.05
Hexachlorobenzene	0.5	0.508	0.404	0.404	0.396	0.43	12.49	85.60	0.05
Hexachlorocyclopentadiene	1	1.015	0.759	0.789	0.860	0.86	13.36	85.58	0.11
Methoxychlor	0.5	0.563	0.447	0.441	0.432	0.47	13.13	94.15	0.06
drin	0.5	0.515	0.400	0.415	0.409	0.43	12.39	86.95	0.05
Dieldrin	0.5	0.492	0.400	0.429	0.428	0.44	8.90	87.45	0.04
Propachlor	0.5	0.465	0.408	0.538	0.434	0.46	12.19	92.25	0.06
Trifluralin	0.5	0.543	0.411	0.438	0.420	0.45	13.47	90.60	0.06

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101709.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101709.D\ECD2B.CH
Acq On : 10 Oct 2017 5:05 pm Operator: YE
Sample : 17J0216-BLK1 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:03:01 2017 Quant Results File: 508092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\508092617.M (Chemstation Integrator)
Title : EPA 508 BY MONICA GC #1
Last Update : Wed Oct 11 09:59:09 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

IDOC W 01 508

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

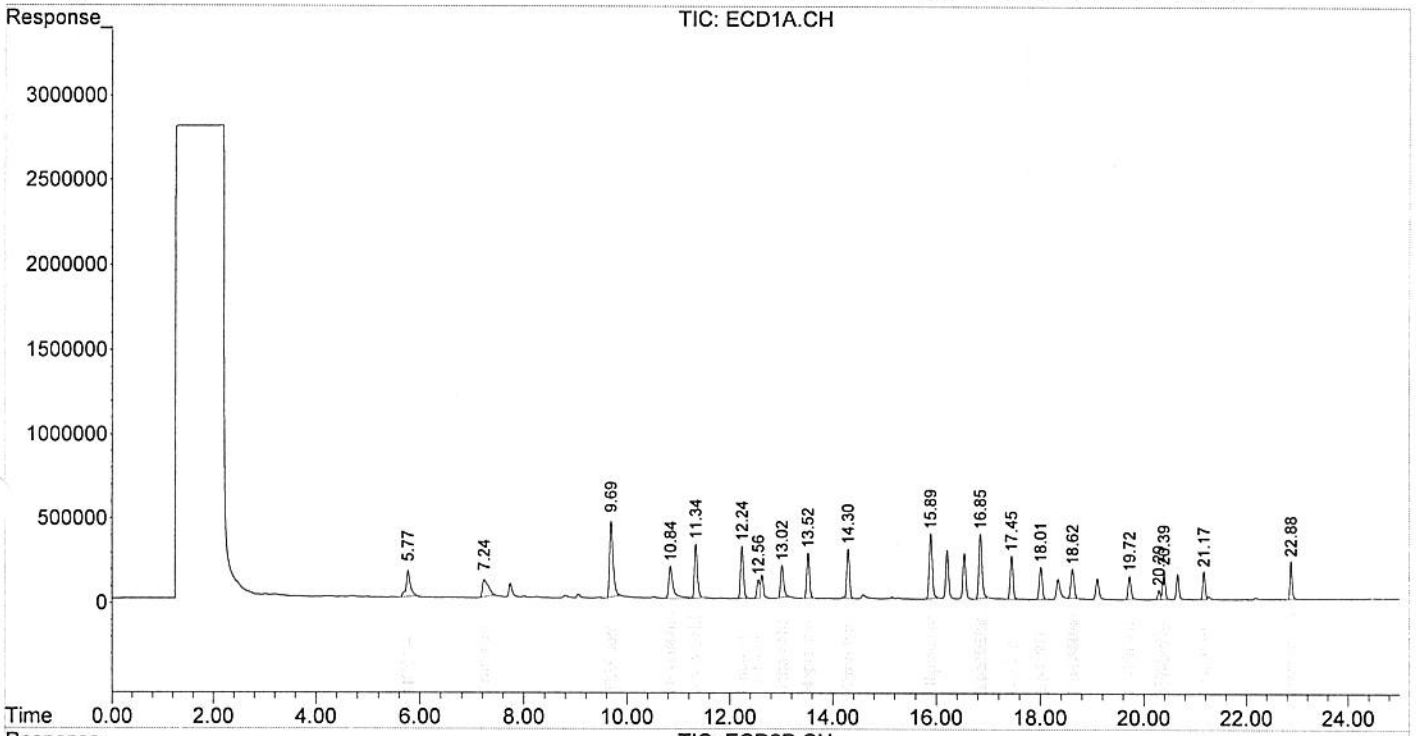
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.24	7.06	9961736	5020460	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.69	9.86	20766071	12339480	1.260	1.256
	Spiked Amount 1.000			Recovery	=	126.00%	125.60%
31) s	Decachlorobiphen	22.88	23.64	6257713	3806553	0.633	0.632
	Spiked Amount 1.000			Recovery	=	63.30%	63.20%
	Target Compounds						
2)	HCCPA	5.77	5.69	8638636	2934470	0.868	1.015m
3)	Etridiazole	7.24	0.00	7827215	0	1.318	N.D. #
4)	Chlorneb	0.00	0.00	0	0	N.D.	N.D.
6)	Propachlor	10.84	10.90	10116127	362854	0.453m	0.465m
7)	Hexaclbenzene	10.84	11.27	11932592	4964271	0.508m	0.466m
8)	alpha-BHC	11.34	11.73	12805864	6613283	0.565	0.617
9)	Lindane	12.24	12.75	12033455	5842616	0.602	0.614
10)	Trifluralin	12.56	11.16	3830182	2131209	0.543	0.410m
11)	beta-BHC	12.24	0.00	12033455	0	BelowCal	N.D.
12)	delta-BHC	13.02	13.88	7953727	8037558	0.648	0.604
13)	Heptachlor	13.52	13.88	9856033	8037558	0.508	0.596
14)	Aldrin	14.30	14.72	10476649	5431677	0.481	0.515
15)	Chlorothalonil	14.30	14.72	10476649	5431677	1.234	1.479
16)	DCPA	15.90	15.75	15793122	4111579	0.607	0.533
17)	Heptachlor epoxi	15.90	16.24	15793122	4703316	0.610	0.520
18)	p'p-DDE	16.85	17.64	16103525	4132803	0.515	0.429
19)	Endosulfan I	16.85	17.64	16103525	4132803	0.526	0.650
20)	Dieldrin	17.45	17.89	9492928	3910649	0.531	0.492m
21)	Endrin	18.01	18.69	7679873	3407579	0.504	0.522m
22)	p'p-DDD	18.01	0.00	7679873	0	0.756	N.D. #
23)	Endosulfan II	18.62	0.00	7457536	0	0.692	N.D. #
24)	p'p-DDT	18.62	0.00	7457536	0	0.886	N.D. #
25)	Endrin aldehyde	19.73	0.00	5165648	0	0.874	N.D. #
26)	Methoxychlor	20.29	21.37	1717451	965374	0.563m	0.773m#
27)	Endosulfan sulfa	20.39	0.00	6207533	0	0.699	N.D. #
28)	Mirex	20.39	0.00	6207533	0	0.465	N.D. #
29)	Endrin ketone	21.17	21.67	5468498	2324873	0.538m	0.461m
30)	Permethrins	0.00	0.00	0	0	N.D.	N.D.

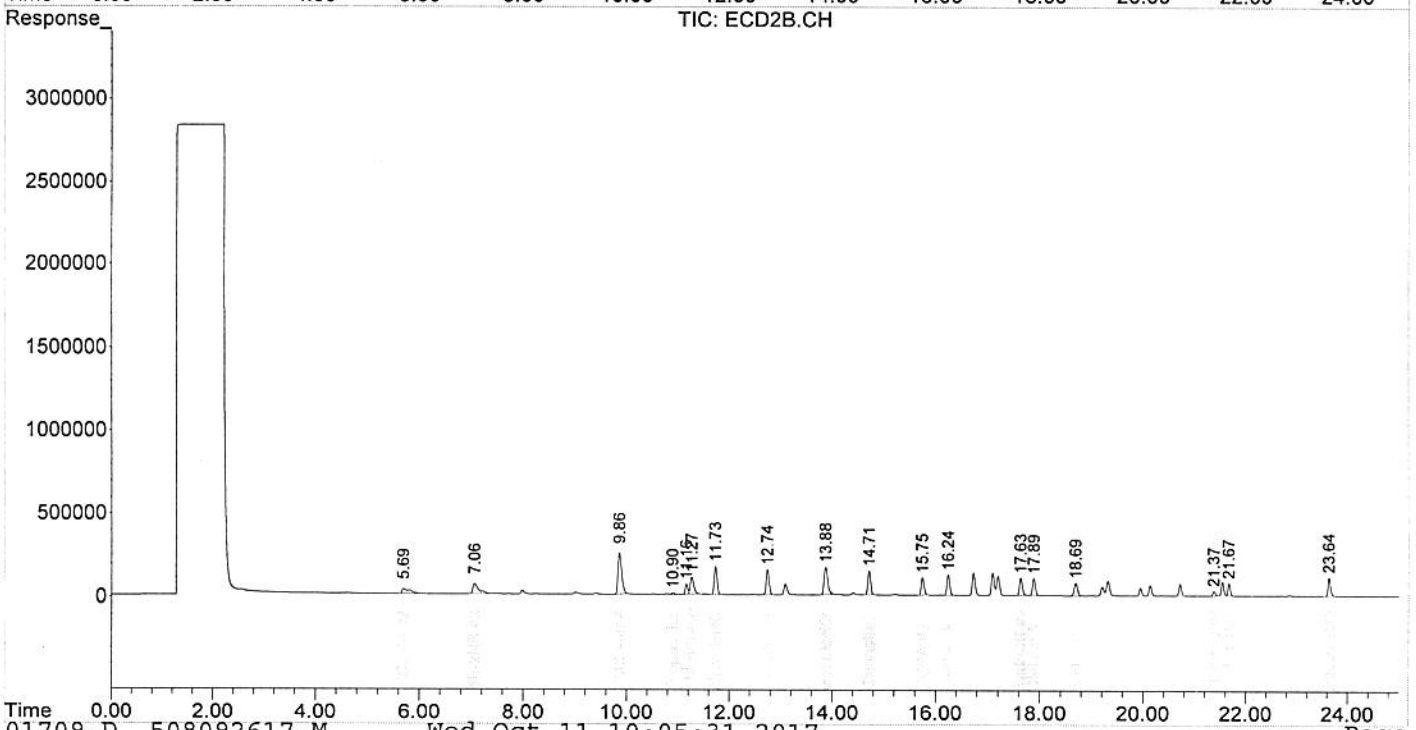
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101709.D\ECD1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101709.D\ECD2B.CH
Acq On : 10 Oct 2017 5:05 pm Operator: YE
Sample : 17J0216-BLK1 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:05 2017 Quant Results File: 508092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\508092617.M (Chemstation Integrator)
Title : EPA 508 BY MONICA GC #1
Last Update : Wed Oct 11 09:59:09 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101710.D\ECD1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101710.D\ECD2B.CH
Acq On : 10 Oct 2017 5:35 pm Operator: YE
Sample : 508 IDC-01 02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:05:58 2017 Quant Results File: 508092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\508092617.M (Chemstation Integrator)
Title : EPA 508 BY MONICA GC #1
Last Update : Wed Oct 11 09:59:09 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

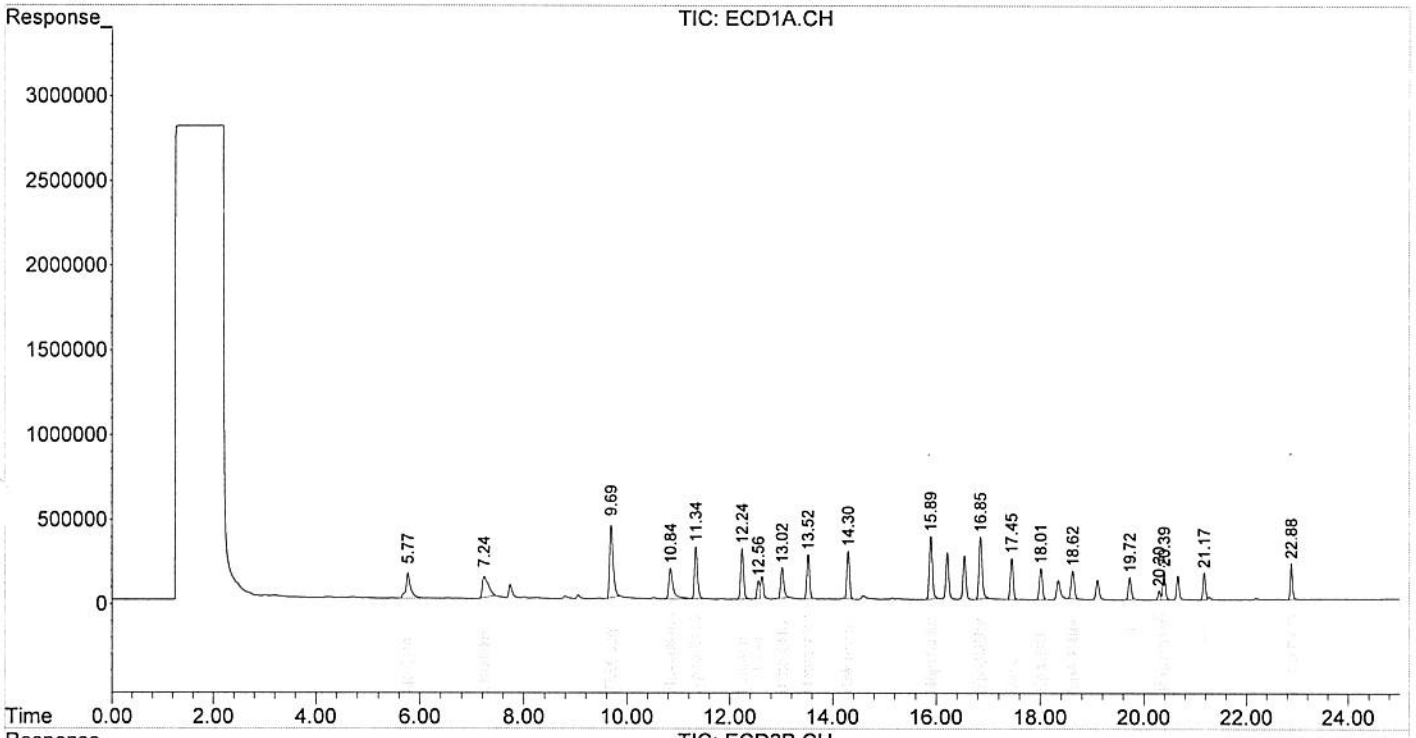
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.24	7.06	12812067	6256259	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.69	9.86	20342090	11930946	0.960	0.975
	Spiked Amount 1.000			Recovery =		96.00%	97.50%
31) s	Decachlorobiphen	22.88	23.64	5981319	3593013	0.470	0.479
	Spiked Amount 1.000			Recovery =		47.00%	47.90%
	Target Compounds						
2)	HCCPA	5.77	5.69	9599072	2733171	0.750m	0.759m
3)	Etridiazole	7.24	0.00	10033415	0	1.314	N.D. #
4)	Chlorneb	0.00	0.00	0	0	N.D.	N.D.
6)	Propachlor	10.84	10.90	11702010	390153	0.408m	0.400m
7)	Hexaclbenzene	10.84	11.27	10954533	5354602	0.363m	0.404m
8)	alpha-BHC	11.34	11.73	12507100	6400256	0.429	0.479
9)	Lindane	12.24	12.74	11693219	5662939	0.455	0.478
10)	Trifluralin	12.56	11.16	3733668	2074309	0.411	0.321m
11)	beta-BHC	12.24	0.00	11693219	0	BelowCal	N.D.
12)	delta-BHC	13.02	13.88	7658210	7676129	0.485	0.463
13)	Heptachlor	13.52	13.88	9591804	7676129	0.384	0.456
14)	Aldrin	14.30	14.72	10209424	5250045	0.364	0.400
15)	Chlorothalonil	14.30	14.72	10209424	5250045	0.935	1.147
16)	DCPA	15.89	16.24f	15368903	4541363	0.409	0.472
17)	Heptachlor epoxi	15.89	16.24	15368903	4541363	0.409	0.403
18)	p'p-DDE	16.85	0.00	15594029	0	0.387	N.D. #
19)	Endosulfan I	16.85	17.10f	15594029	3406887	0.396	0.430
20)	Dieldrin	17.45	17.89	9195548	3799595	0.400	0.384m
21)	Endrin	18.01	18.69	7437644	3225937	0.380	0.397m
22)	p'p-DDD	18.01	0.00	7437644	0	0.570	N.D. #
23)	Endosulfan II	18.62	0.00	7152879	0	0.516	N.D. #
24)	p'p-DDT	18.62	0.00	7152879	0	0.667	N.D. #
25)	Endrin aldehyde	19.73	0.00	4973013	0	0.654	N.D. #
26)	Methoxychlor	20.30	21.37	1753635	936191	0.447m	0.604m#
27)	Endosulfan sulfa	20.39	0.00	5968269	0	0.522	N.D. #
28)	Mirex	20.39	0.00	5968269	0	0.326	N.D. #
29)	Endrin ketone	21.17	21.67	5220360	2333199	0.400m	0.371m
30)	Permethrins	0.00	0.00	0	0	N.D.	N.D.

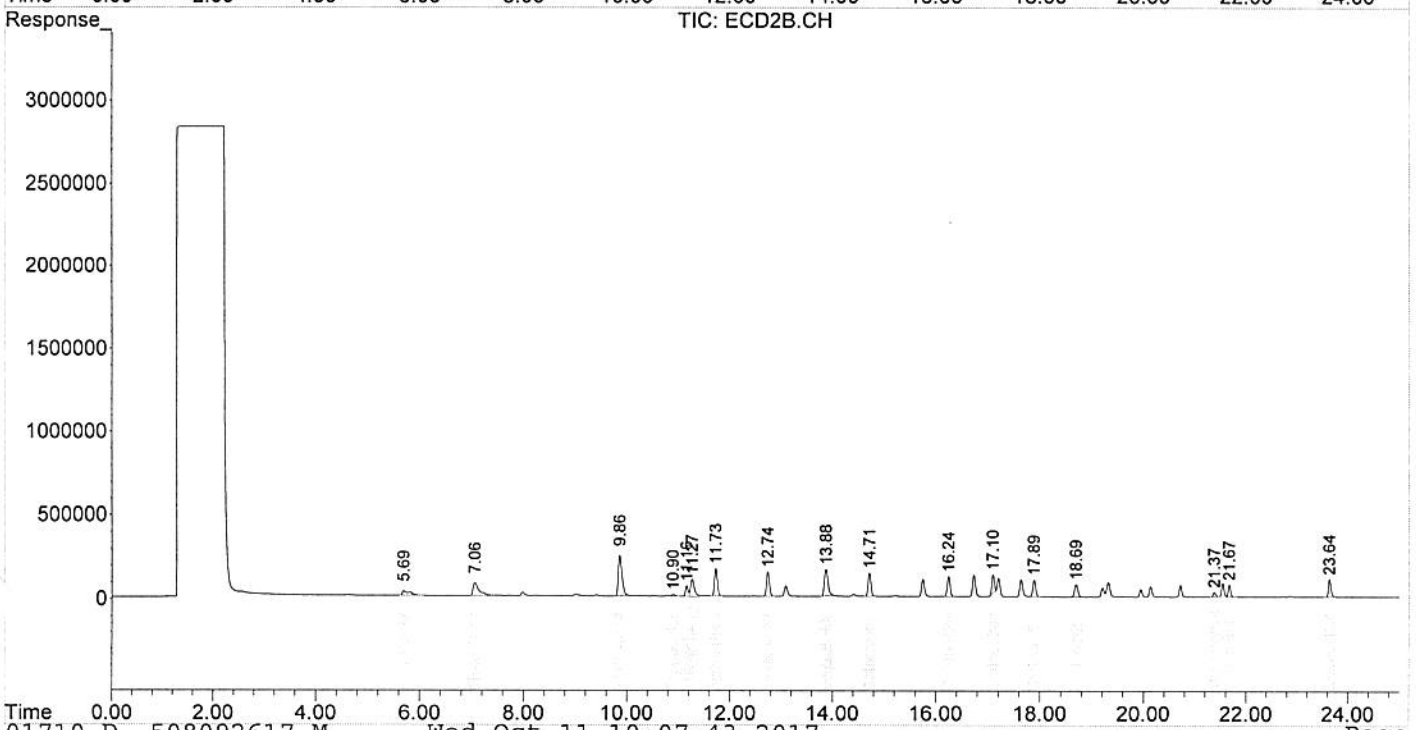
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101710.D\ECD1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101710.D\ECD2B.CH
Acq On : 10 Oct 2017 5:35 pm Operator: YE
Sample : 508 IDC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:07 2017 Quant Results File: 508092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\508092617.M (Chemstation Integrator)
Title : EPA 508 BY MONICA GC #1
Last Update : Wed Oct 11 09:59:09 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101712.D\ECD1A.CH Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101712.D\ECD2B.CH
Acq On : 10 Oct 2017 6:34 pm Operator: YE
Sample : 508 IDC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:08:25 2017 Quant Results File: 508092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\508092617.M (Chemstation Integrator)
Title : EPA 508 BY MONICA GC #1
Last Update : Wed Oct 11 09:59:09 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

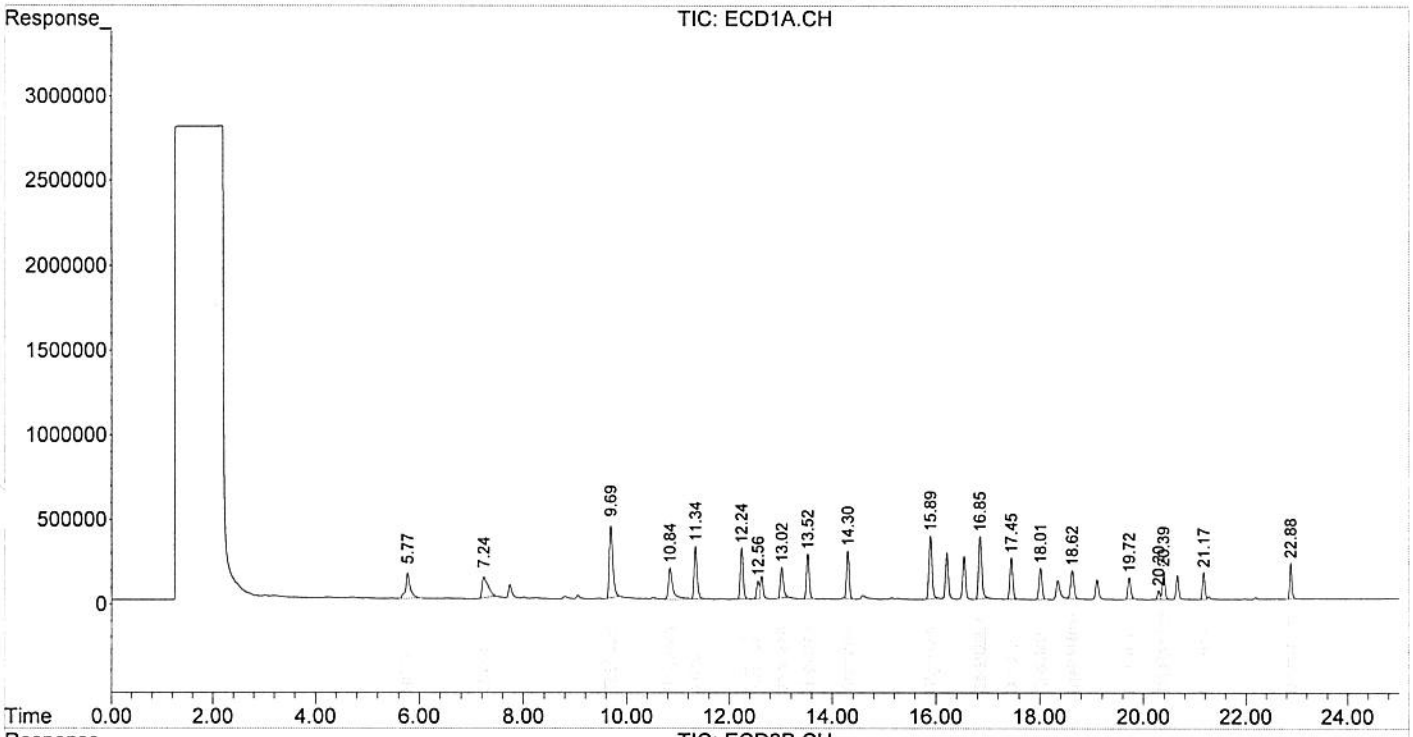
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.24	7.06	11842321	5867706	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.69	9.86	20025004	11609949	1.022	1.011
	Spiked Amount 1.000			Recovery	=	102.20%	101.10%
31) s	Decachlorobiphen	22.88	23.64	5891820	3599276	0.501	0.511m
	Spiked Amount 1.000			Recovery	=	50.10%	51.10%
	Target Compounds						
2)	HCCPA	5.77	5.69	9183080	2665271	0.776m	0.789m
3)	Etridiazole	7.24	0.00	9606116	0	1.362	N.D. #
4)	Chlorneb	0.00	0.00	0	0	N.D.	N.D.
6)	Propachlor	10.84	10.90	11574219	490211	0.436m	0.538m
7)	Hexaclbenzene	10.84	11.27	11276444	4708693	0.404m	0.378m
8)	alpha-BHC	11.34	11.73	12405678	6236412	0.460	0.497
9)	Lindane	12.24	12.75	11571140	5541423	0.487	0.499
10)	Trifluralin	12.56	11.16	3677533	2062088	0.438	0.340m
11)	beta-BHC	12.24	0.00	11571140	0	BelowCal	N.D.
12)	delta-BHC	13.02	13.88	7593779	7414170	0.520	0.477
13)	Heptachlor	13.52	13.88	9593409	7414170	0.416	0.470
14)	Aldrin	14.30	14.72	10097444	5108708	0.390	0.415
15)	Chlorothalonil	14.30	14.72	10097444	5108708	1.001	1.190
16)	DCPA	15.89	16.24f	15256702	4432754	0.450	0.492
17)	Heptachlor epoxi	15.89	16.24	15256702	4432754	0.451	0.419
18)	p'p-DDE	16.85	0.00	15435368	0	0.415	N.D. #
19)	Endosulfan I	16.85	17.10f	15435368	3290905	0.424	0.443
20)	Dieldrin	17.45	17.89	9115221	3823143	0.429	0.412m
21)	Endrin	18.01	18.69	7396958	3168310	0.409	0.416m
22)	p'p-DDD	18.01	0.00	7396958	0	0.613	N.D. #
23)	Endosulfan II	18.62	0.00	7100283	0	0.554	N.D. #
24)	p'p-DDT	18.62	0.00	7100283	0	0.715	N.D. #
25)	Endrin aldehyde	19.73	0.00	4870881	0	0.693	N.D. #
26)	Methoxychlor	20.30	21.38	1599155	917086	0.441m	0.630m#
27)	Endosulfan sulfa	20.39	0.00	5915517	0	0.560	N.D. #
28)	Mirex	20.39	0.00	5915517	0	0.355	N.D. #
29)	Endrin ketone	21.17	21.67	5165919	2274661	0.428m	0.386m
30)	Permethrins	0.00	0.00	0	0	N.D.	N.D.

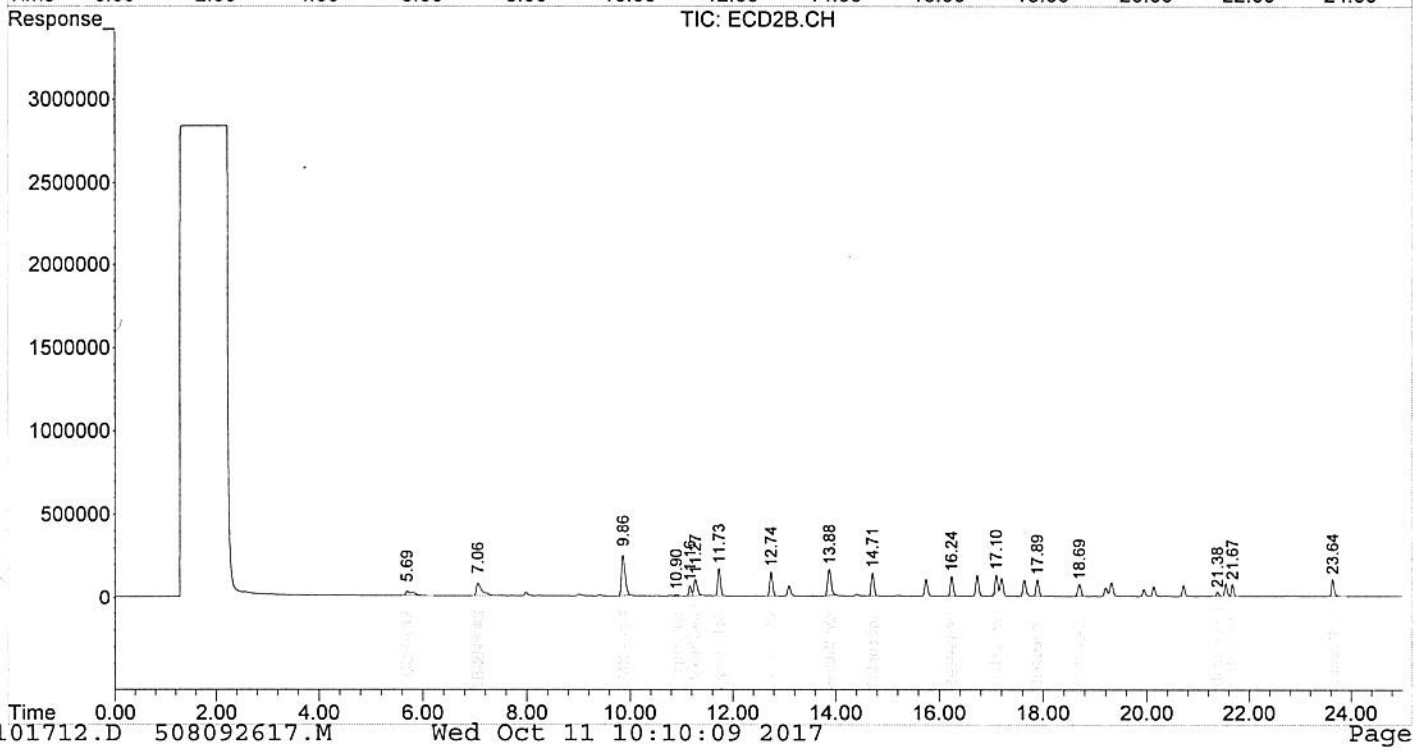
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101712.D\ECD1A.CH Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101712.D\ECD2B.CH
Acq On : 10 Oct 2017 6:34 pm Operator: YE
Sample : 508 IDC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:10 2017 Quant Results File: 508092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\508092617.M (Chemstation Integrator)
Title : EPA 508 BY MONICA GC #1
Last Update : Wed Oct 11 09:59:09 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101757.D\ECD1A.CH Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101757.D\ECD2B.CH
Acq On : 10 Oct 2017 7:03 pm Operator: YE
Sample : 508 IDC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:11:12 2017 Quant Results File: 508092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\508092617.M (Chemstation Integrator)
Title : EPA 508 BY MONICA GC #1
Last Update : Wed Oct 11 09:59:09 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

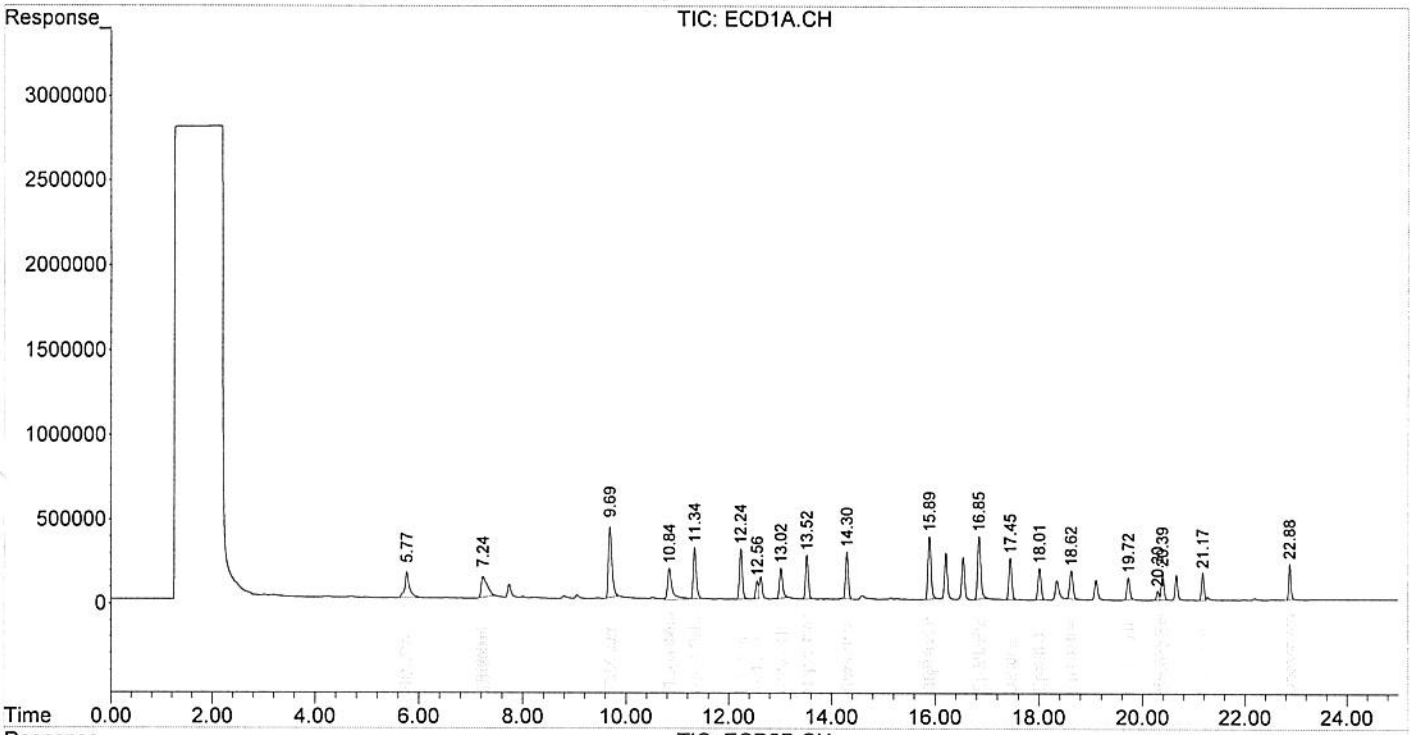
Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

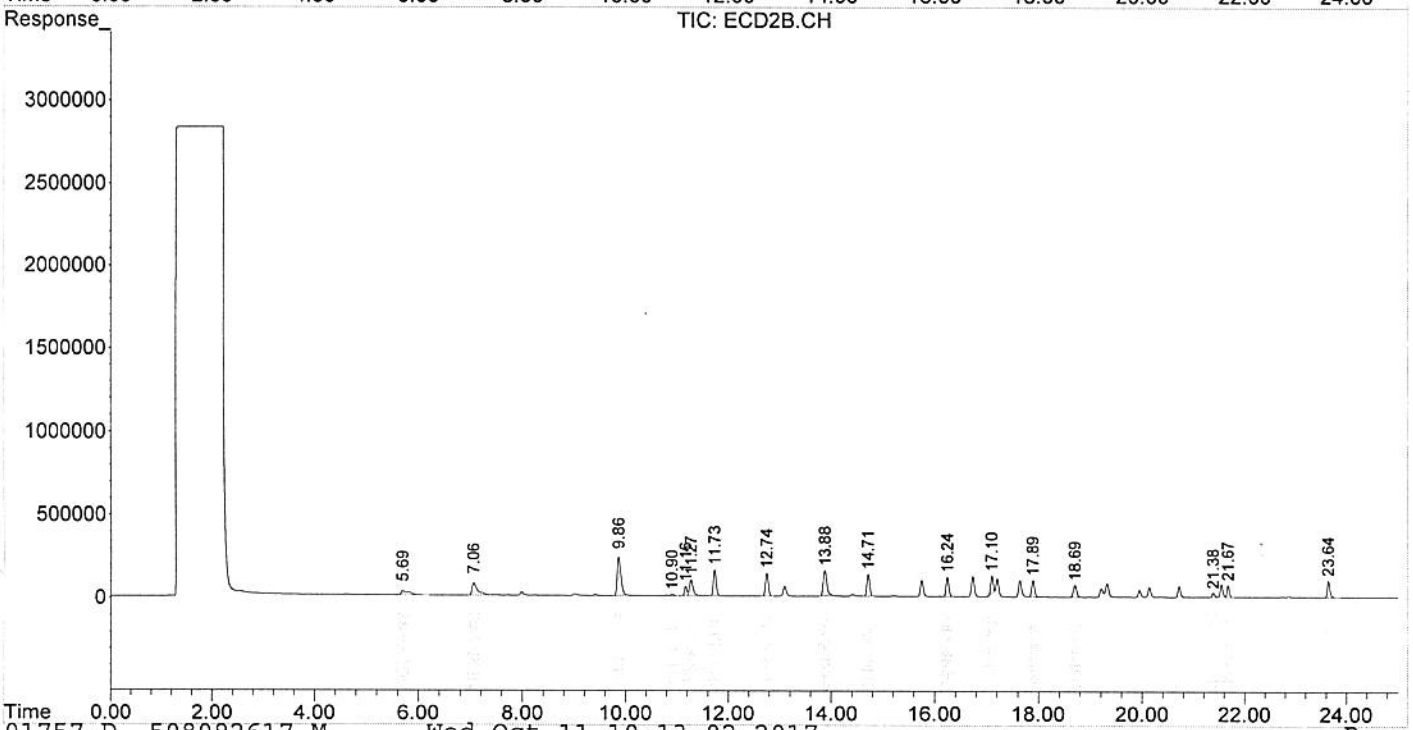
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.24	7.06	12341219	5821093	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.69	9.86	19772647	11395160	0.969	1.001
	Spiked Amount 1.000			Recovery =		96.90%	100.10%
31) s	Decachlorobiphen	22.88	23.64	5879501	3575227	0.480	0.512m
	Spiked Amount 1.000			Recovery =		48.00%	51.20%
	Target Compounds						
2)	HCCPA	5.77	5.69	9350422	2883226	0.759m	0.860m
3)	Etridiazole	7.24	0.00	9640046	0	1.310	N.D. #
4)	Chlorneb	0.00	0.00	0	0	N.D.	N.D.
6)	Propachlor	10.84	10.90	10046811	393155	0.363m	0.434m
7)	Hexaclbenzene	10.84	11.27	11513344	4742553	0.396m	0.384m
8)	alpha-BHC	11.34	11.73	12227851	6092122	0.435	0.490
9)	Lindane	12.24	12.75	11466440	5424245	0.463	0.492
10)	Trifluralin	12.56	11.16	3672196	1981724	0.420	0.329m
11)	beta-BHC	12.24	0.00	11466440	0	BelowCal	N.D.
12)	delta-BHC	13.02	13.88	7453707	7288478	0.490	0.472
13)	Heptachlor	13.53	13.88	9417881	7288478	0.392	0.466
14)	Aldrin	14.30	14.72	9950905	4995604	0.369	0.409
15)	Chlorothalonil	14.30	14.72	9950905	4995604	0.946	1.173
16)	DCPA	15.90	16.24f	15175961	4377847	0.422	0.489
17)	Heptachlor epoxi	15.90	16.24	15175961	4377847	0.423	0.417
18)	p'p-DDE	16.85	0.00	15502467	0	0.400	N.D. #
19)	Endosulfan I	16.85	17.10f	15502467	3281578	0.409	0.445
20)	Dieldrin	17.45	17.89	9156634	3937869	0.413	0.428m
21)	Endrin	18.01	18.69	7467845	3183347	0.396	0.421m
22)	p'p-DDD	18.01	0.00	7467845	0	0.594	N.D. #
23)	Endosulfan II	18.62	0.00	7196593	0	0.539	N.D. #
24)	p'p-DDT	18.62	0.00	7196593	0	0.696	N.D. #
25)	Endrin aldehyde	19.73	0.00	4960852	0	0.677	N.D. #
26)	Methoxychlor	20.30	21.38	1634133	1003057	0.432m	0.693m#
27)	Endosulfan sulfa	20.39	0.00	6004365	0	0.546	N.D. #
28)	Mirex	20.39	21.67	6004365	2269720	0.344	0.282m
29)	Endrin ketone	21.17	21.67	5368538	2321147	0.427m	0.397m
30)	Permethrins	0.00	0.00	0	0	N.D.	N.D.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101757.D\ECD1A.CH Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101757.D\ECD2B.CH
Acq On : 10 Oct 2017 7:03 pm Operator: YE
Sample : 508 IDC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:12 2017 Quant Results File: 508092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\508092617.M (Chemstation Integrator)
Title : EPA 508 BY MONICA GC #1
Last Update : Wed Oct 11 09:59:09 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101713.D\ECD1A.CH Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101713.D\ECD2B.CH
Acq On : 10 Oct 2017 7:33 pm Operator: YE
Sample : 508 CHLOR IDC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:14:03 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

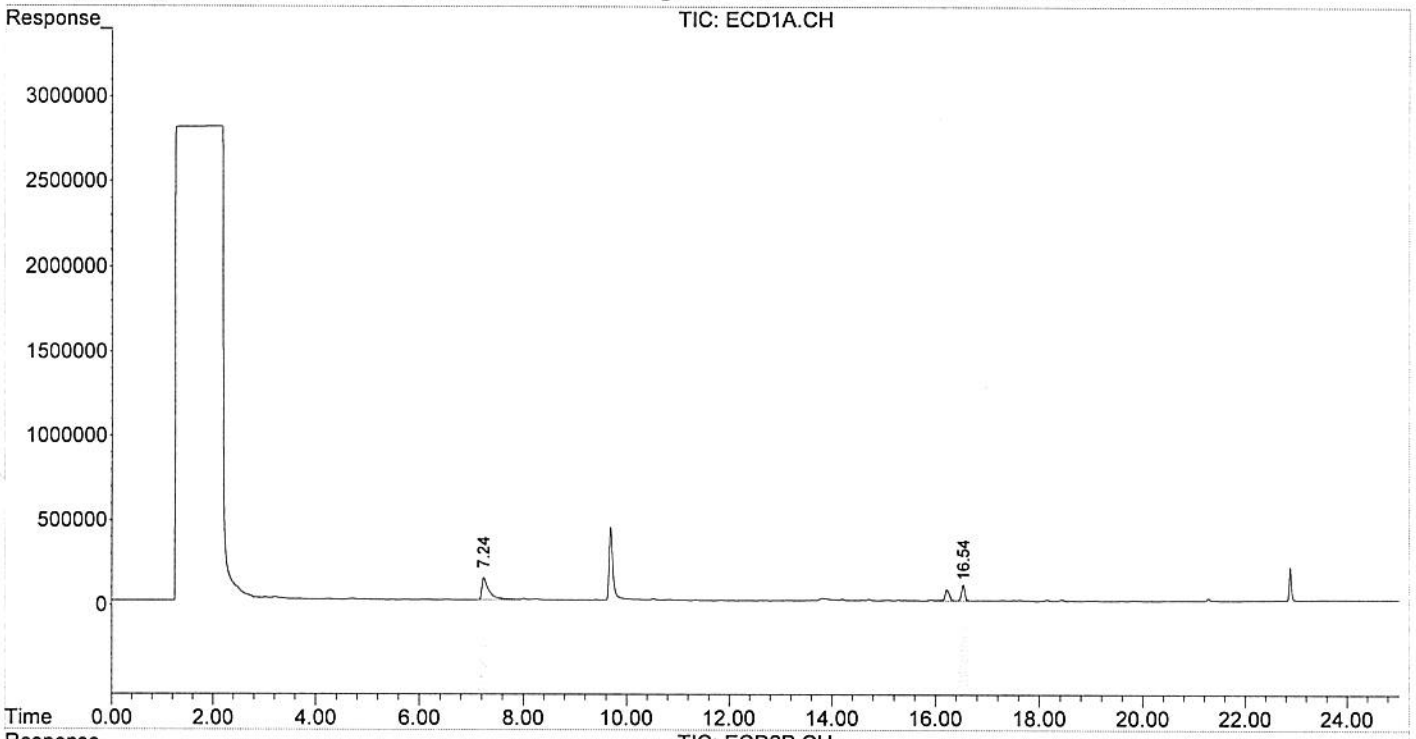
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.24f	7.06f	12618316	5725564	0.100m	0.100m
		Target Compounds						
2)		Chlordane	16.54	17.10	8135692	3199082	0.859m	0.741m

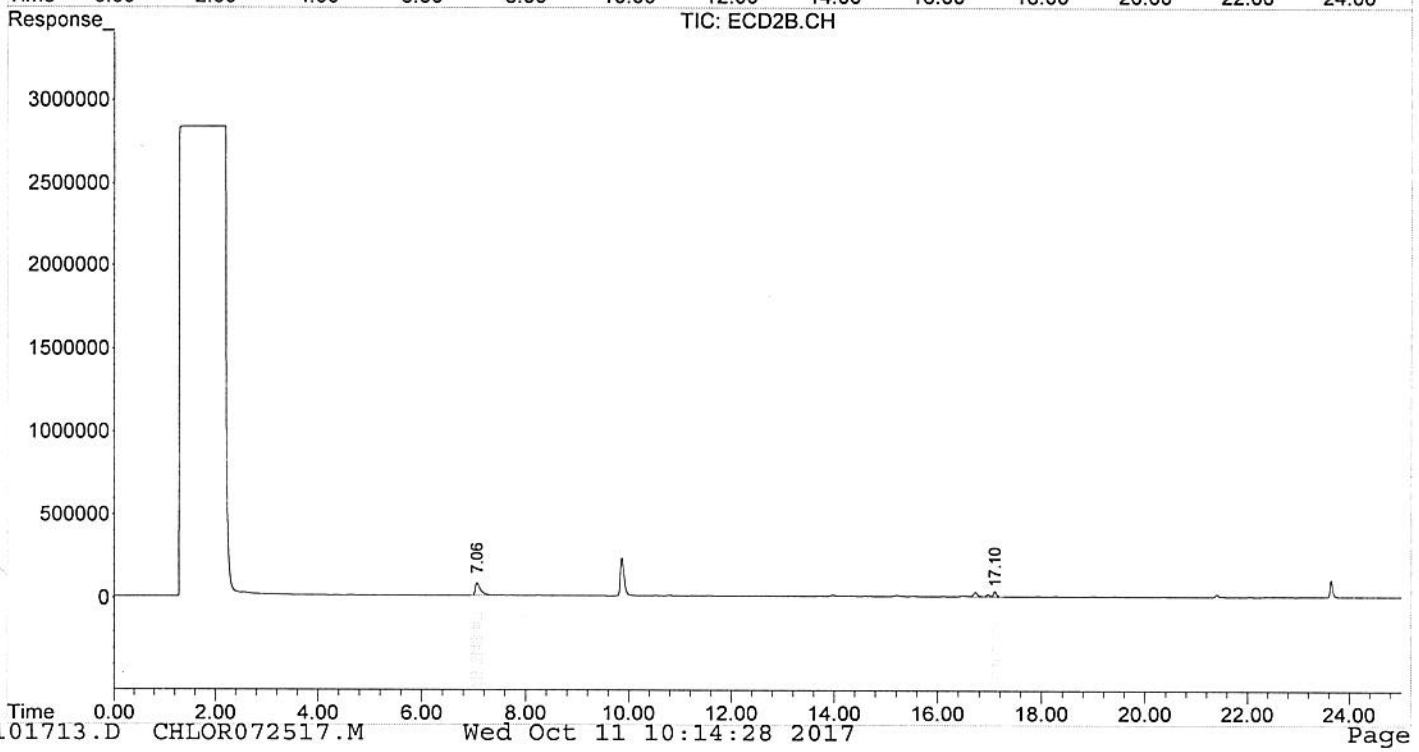
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101713.D\ECD1A.CH Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101713.D\ECD2B.CH
Acq On : 10 Oct 2017 7:33 pm Operator: YE
Sample : 508 CHLOR IDC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:14 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101714.D\ECD1A.CH Vial: 13
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101714.D\ECD2B.CH
Acq On : 10 Oct 2017 8:02 pm Operator: YE
Sample : 508 CHLOR IDC-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:14:33 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

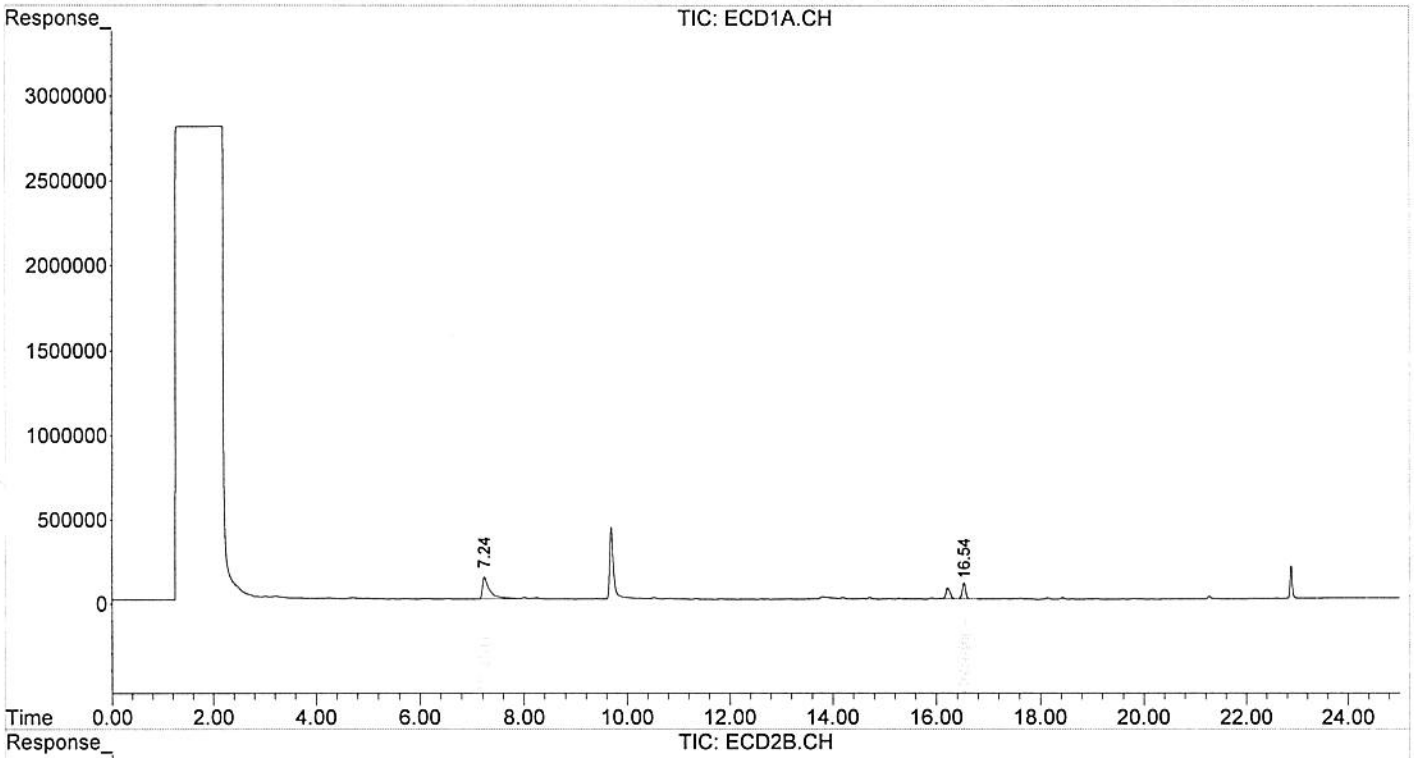
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.24f	7.06f	12222528	5517621	0.100m	0.100m
	Target Compounds						
2)	Chlordane	16.54	17.10	7872168	3085531	0.858m	0.741m

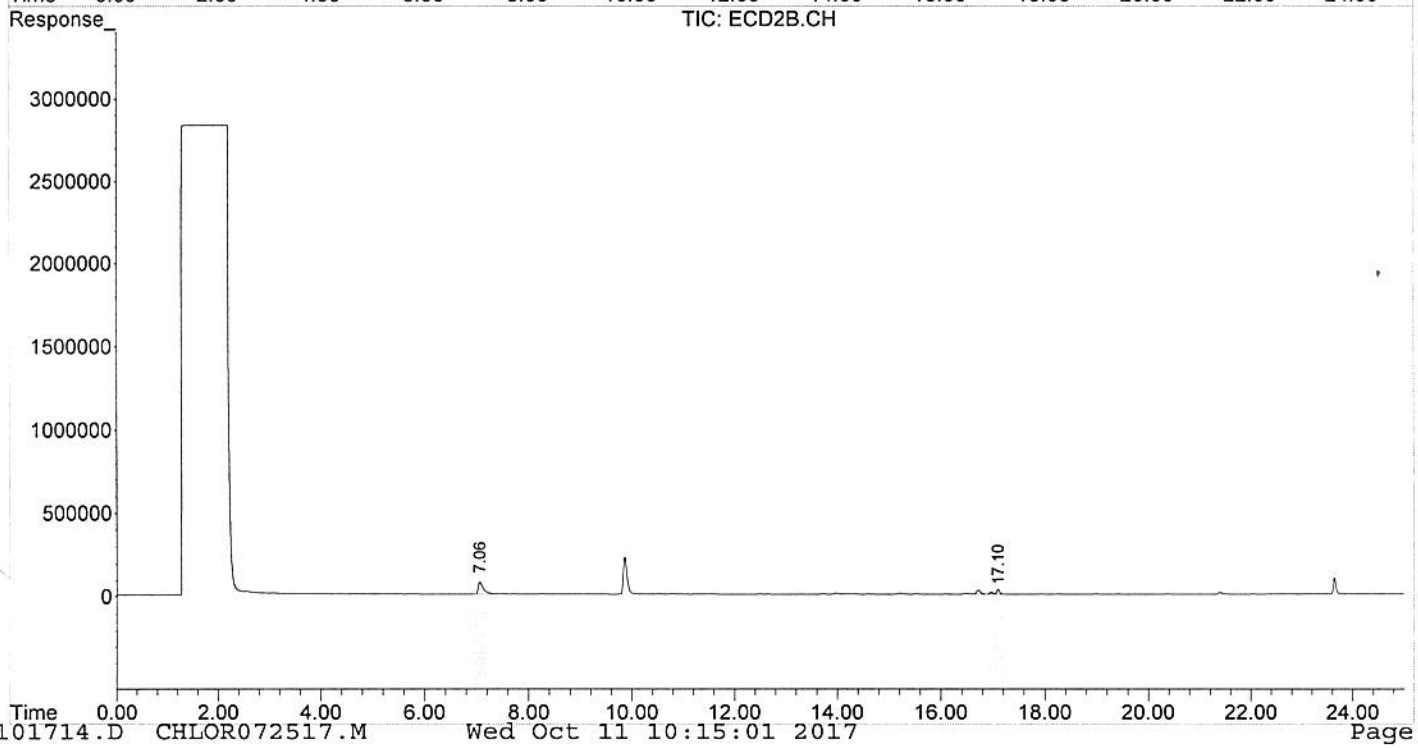
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101714.D\ECD1A.CH Vial: 13
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101714.D\ECD2B.CH
Acq On : 10 Oct 2017 8:02 pm Operator: YE
Sample : 508 CHLOR IDC-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:14 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101715.D\ECD1A.CH Vial: 14
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101715.D\ECD2B.CH
Acq On : 10 Oct 2017 8:31 pm Operator: YE
Sample : 508 CHLOR IDC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:15:14 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

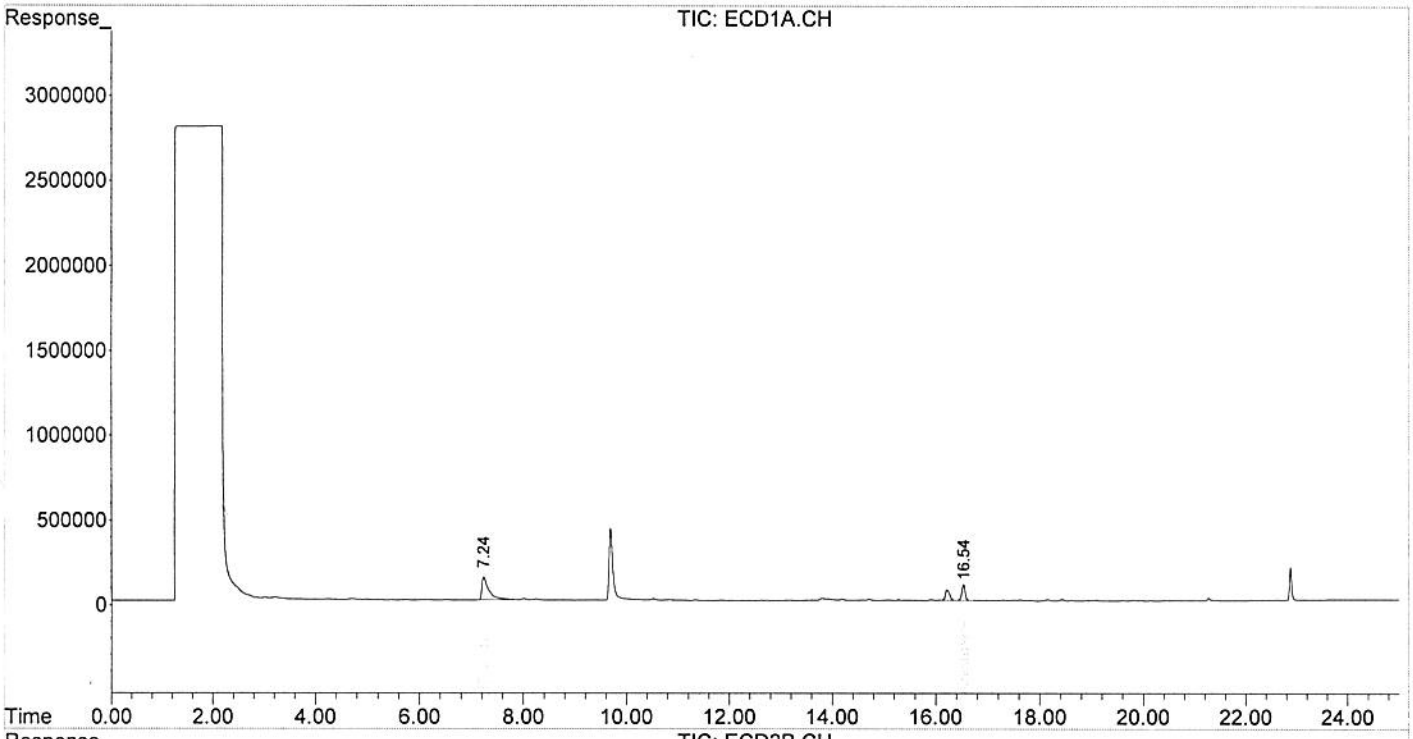
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.24f	7.06f	12551427	5520207	0.100m	0.100m
		Target Compounds						
2)		Chlordane	16.54	17.10	7830021	3103479	0.831m	0.745m

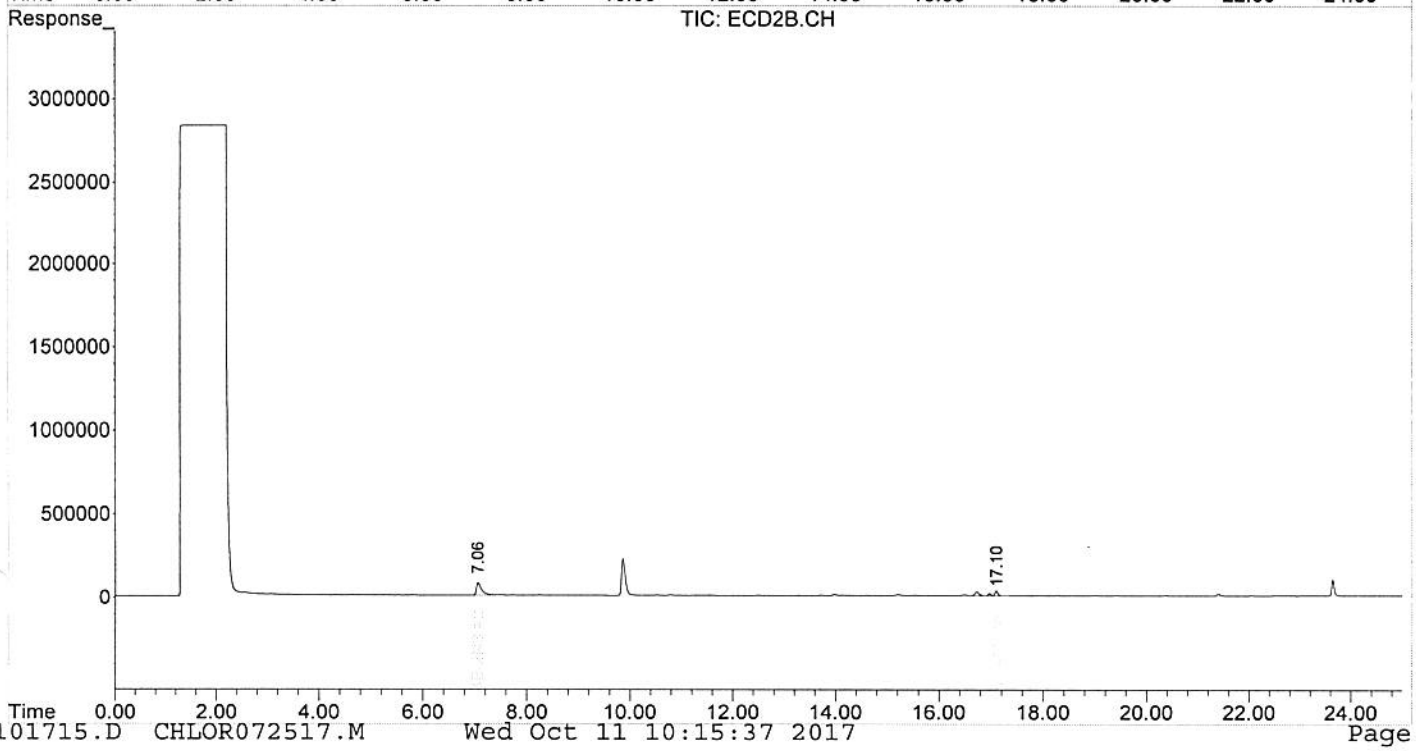
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101715.D\ECD1A.CH Vial: 14
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101715.D\ECD2B.CH
Acq On : 10 Oct 2017 8:31 pm Operator: YE
Sample : 508 CHLOR IDC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:15 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101716.D\ECD1A.CH Vial: 15
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101716.D\ECD2B.CH
Acq On : 10 Oct 2017 9:01 pm Operator: YE
Sample : 508 CHLOR IDC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:15:53 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

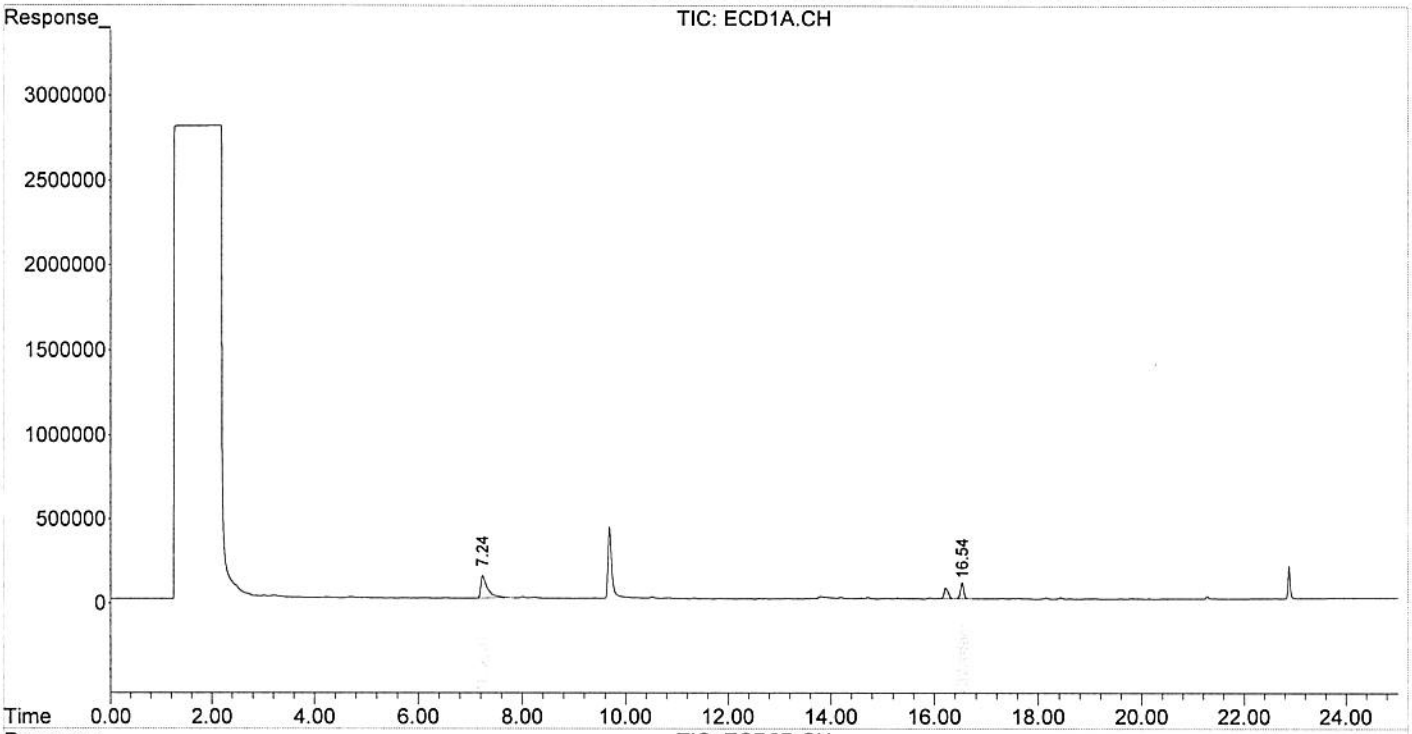
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.24f	7.06f	12098341	5606628	0.100m	0.100m
	Target Compounds						
2)	Chlordane	16.54	17.10	7922183	3015928	0.872m	0.713m

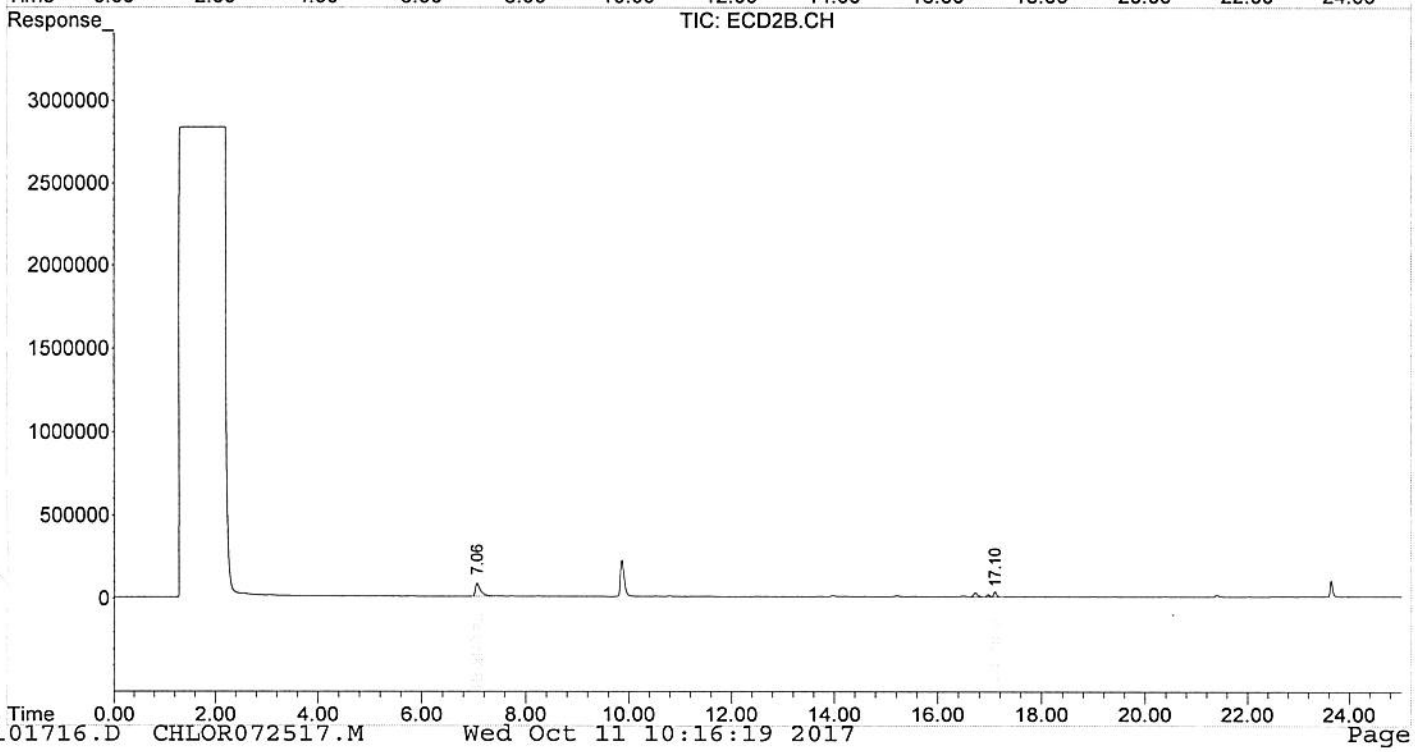
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101716.D\ECD1A.CH Vial: 15
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101716.D\ECD2B.CH
Acq On : 10 Oct 2017 9:01 pm Operator: YE
Sample : 508 CHLOR IDC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:16 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101717.D\ECD1A.CH Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101717.D\ECD2B.CH
Acq On : 10 Oct 2017 9:30 pm Operator: YE
Sample : 508 TOX IDC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:17:21 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

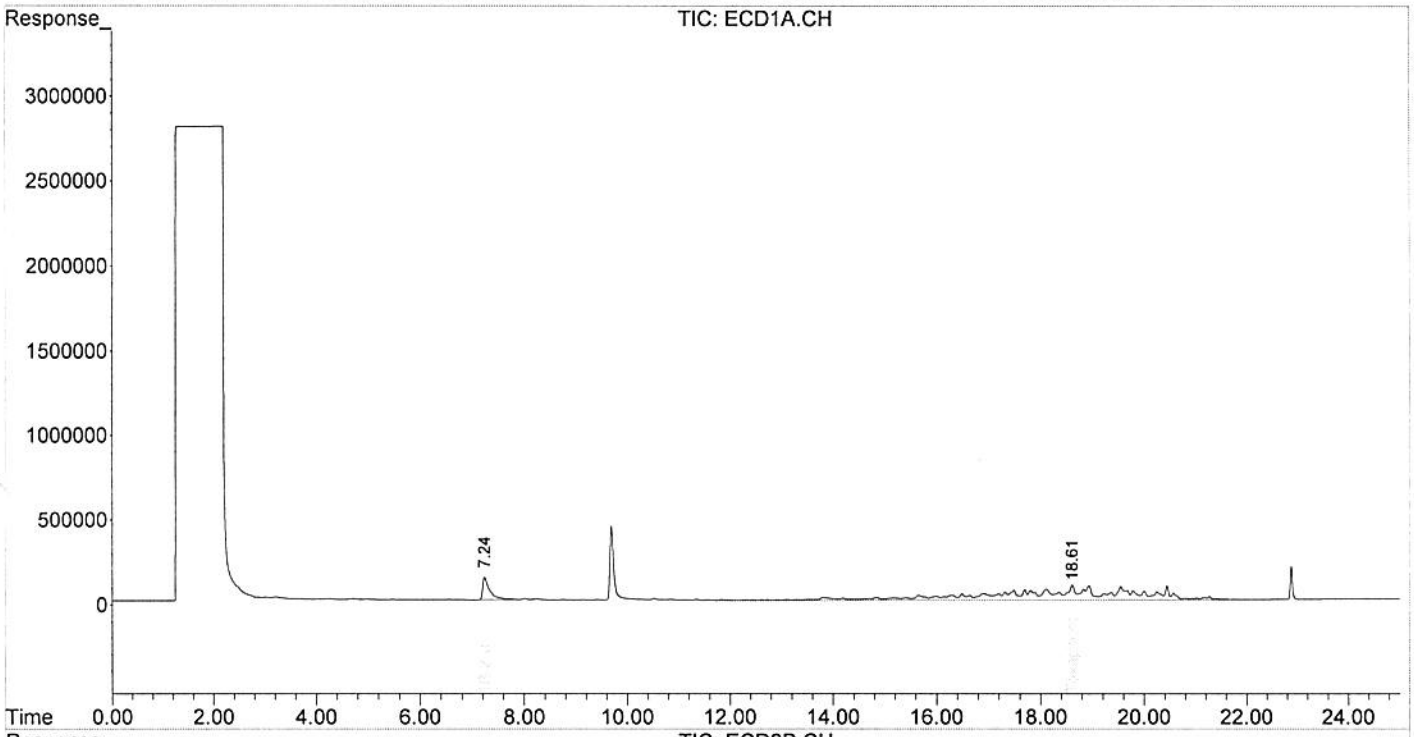
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.24f	7.06f	12342951	5238238	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	18.61	19.54	125.1E6	47531688	7.980m	7.752m

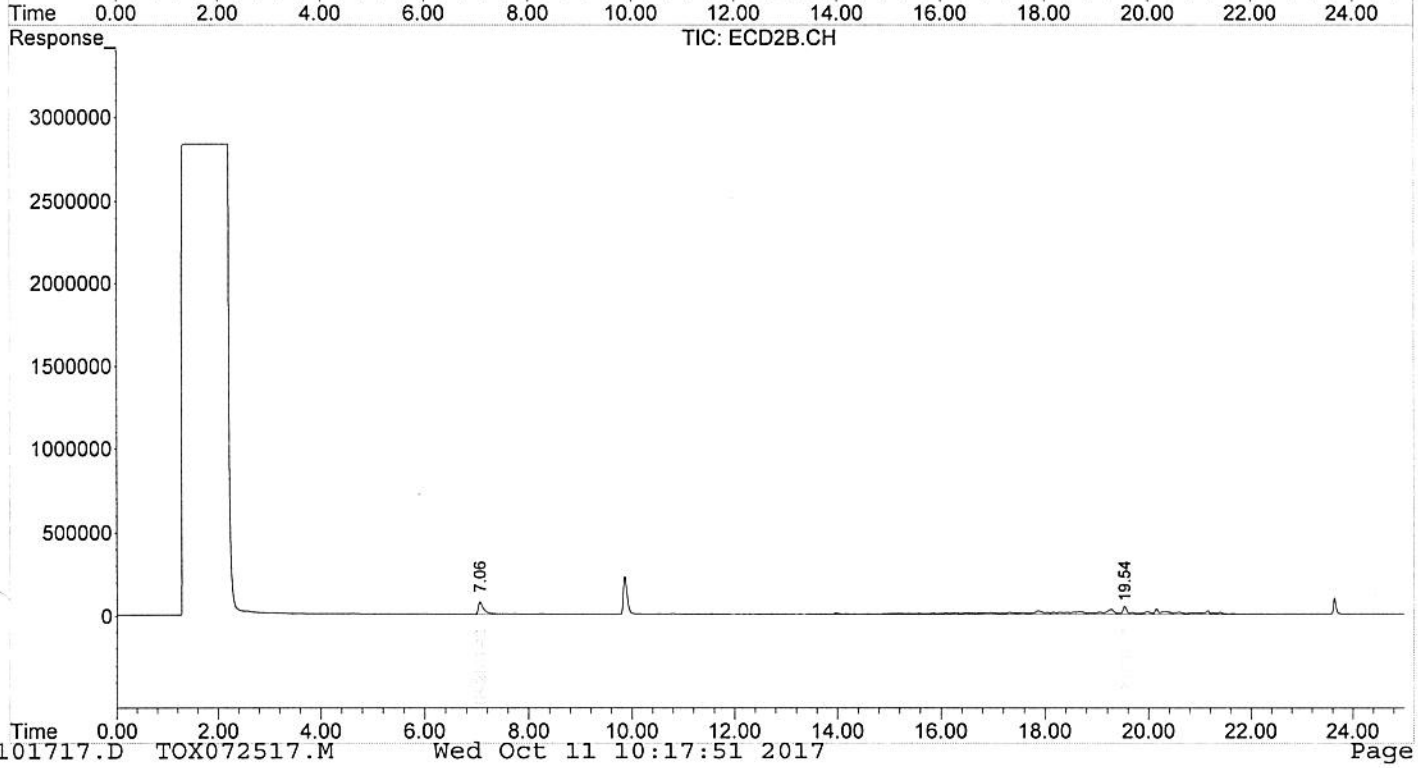
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101717.D\ECD1A.CH Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101717.D\ECD2B.CH
Acq On : 10 Oct 2017 9:30 pm Operator: YE
Sample : 508 TOX IDC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:17 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101718.D\ECD1A.CH Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101718.D\ECD2B.CH
Acq On : 10 Oct 2017 10:00 pm Operator: YE
Sample : 508 TOX IDC-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:18:18 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

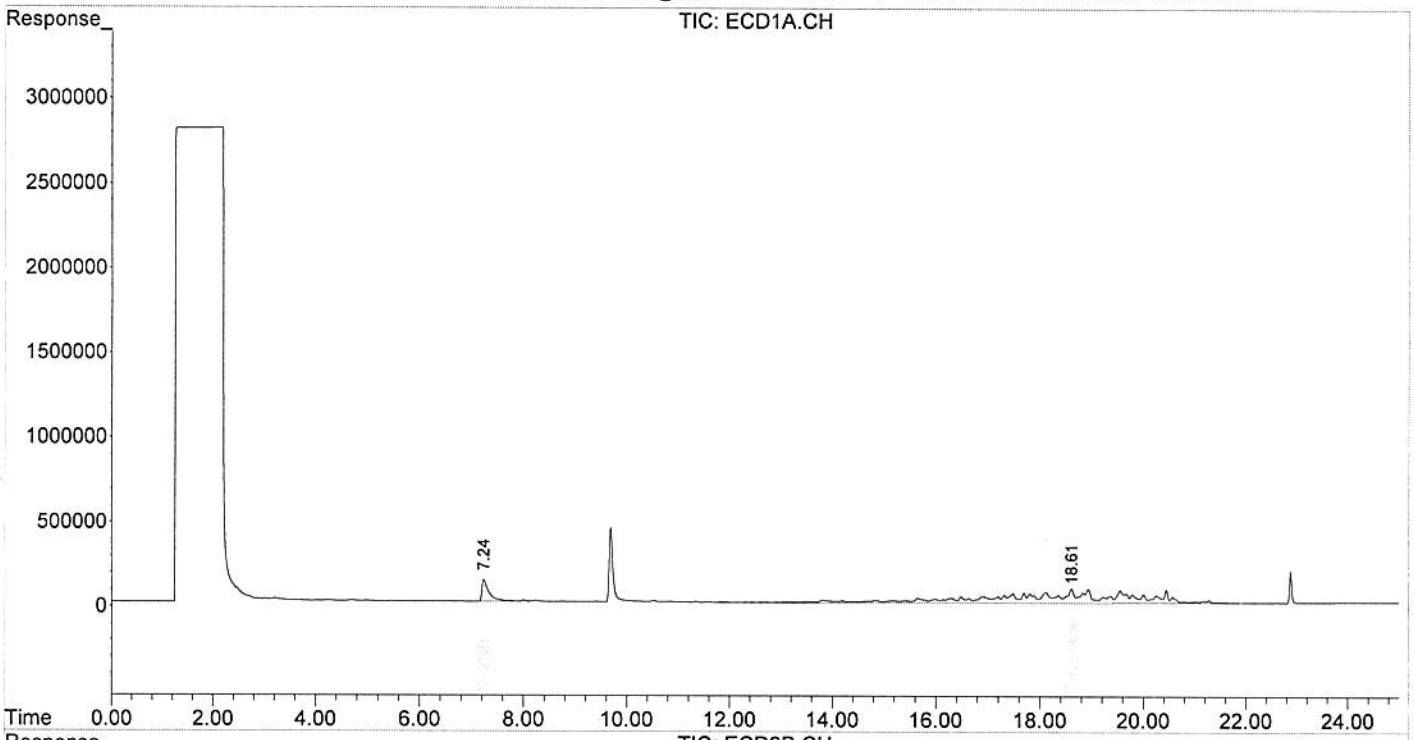
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.24f	7.06f	12436754	5178907	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	18.61	19.53	124.7E6	43863888	7.895m	7.236m

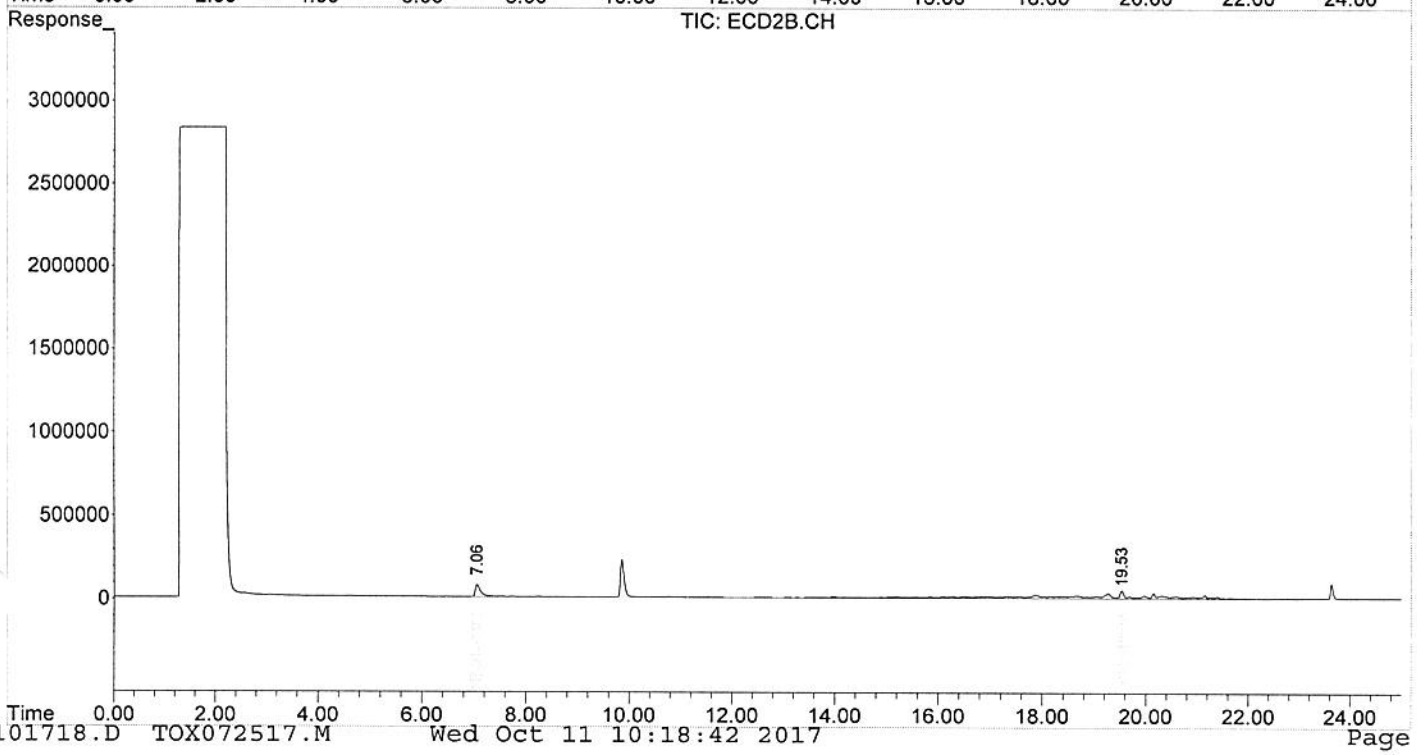
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101718.D\ECD1A.CH Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101718.D\ECD2B.CH
Acq On : 10 Oct 2017 10:00 pm Operator: YE
Sample : 508 TOX IDC-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:18 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101719.D\ECD1A.CH Vial: 18
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101719.D\ECD2B.CH
Acq On : 10 Oct 2017 10:29 pm Operator: YE
Sampl : 508 TOX IDC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:18:48 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

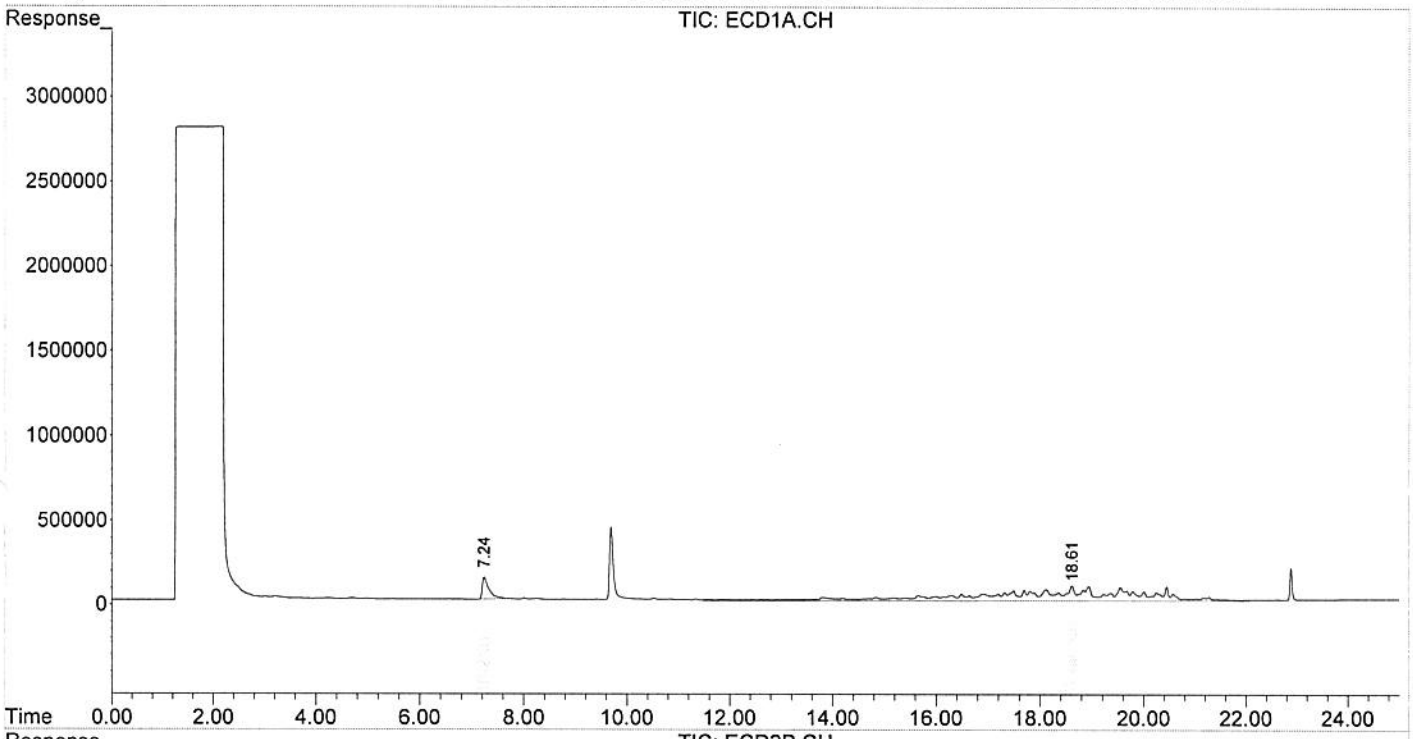
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.24f	7.06f	11745802	5292546	0.100m	0.100m
		Target Compounds						
2)		Toxaphene	18.61	19.54	140.5E6	52838061	9.417m	8.530m

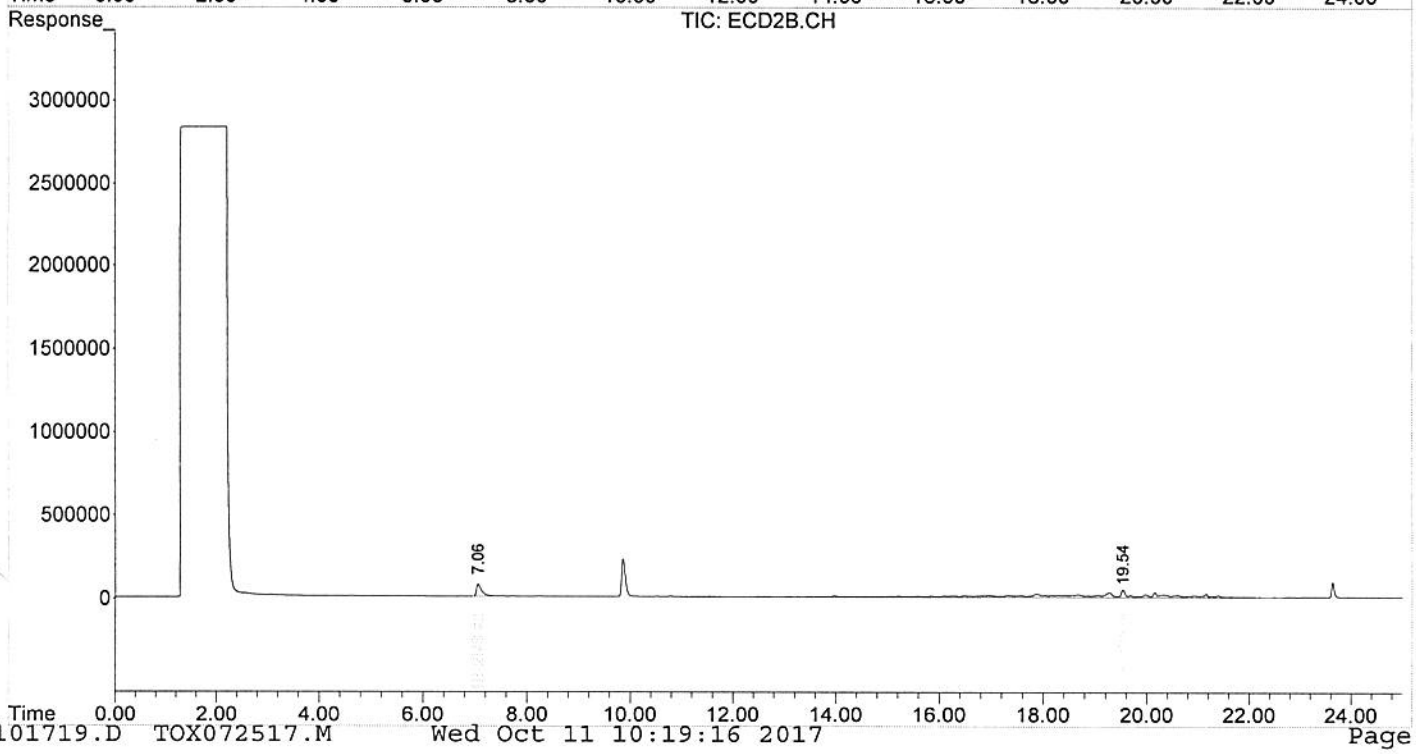
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101719.D\ECD1A.CH Vial: 18
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101719.D\ECD2B.CH
Acq On : 10 Oct 2017 10:29 pm Operator: YE
Sample : 508 TOX IDC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:19 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10102017\10101720.D\ECD1A.CH Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101720.D\ECD2B.CH
Acq On : 10 Oct 2017 10:59 pm Operator: YE
Sample : 508 TOX IDC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:19:52 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

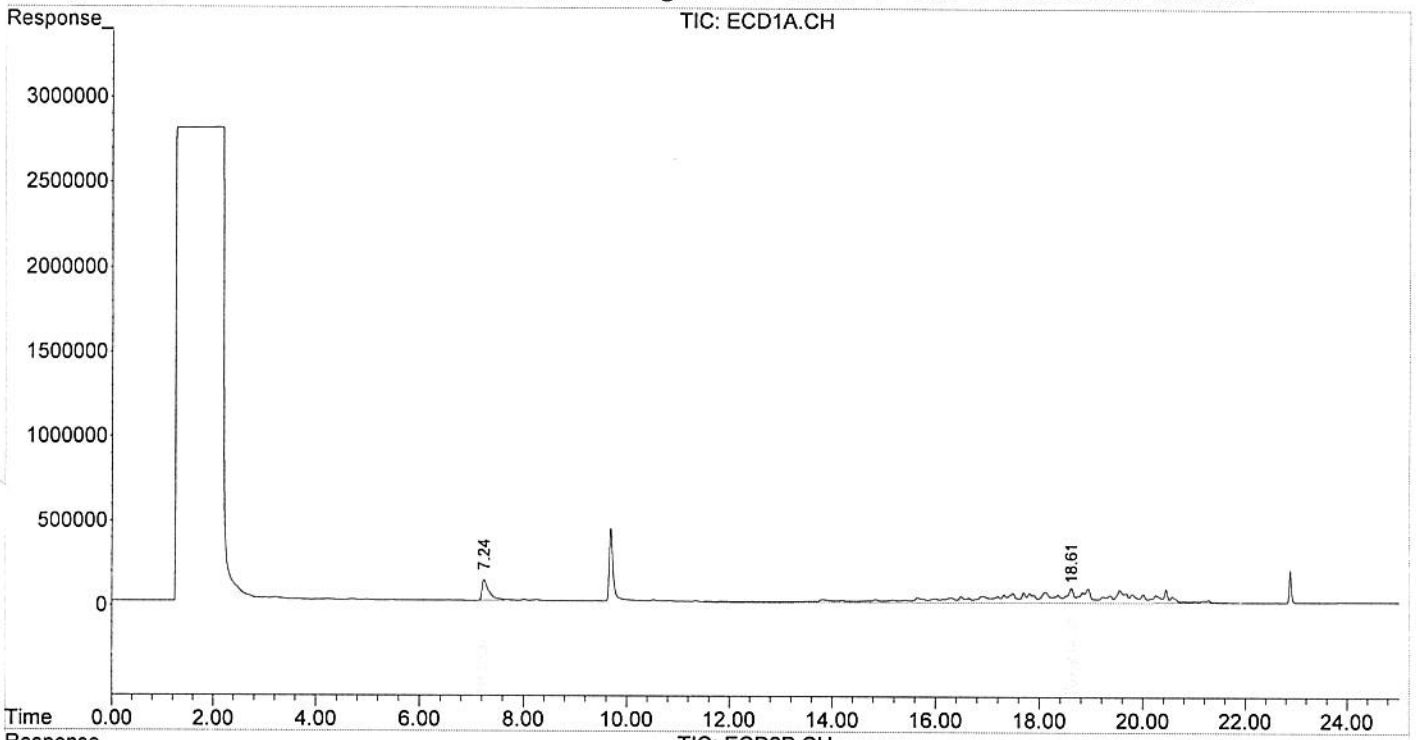
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.24f	7.06f	11203561	5078978	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	18.61	19.53	130.1E6	52856155	9.147m	8.891m

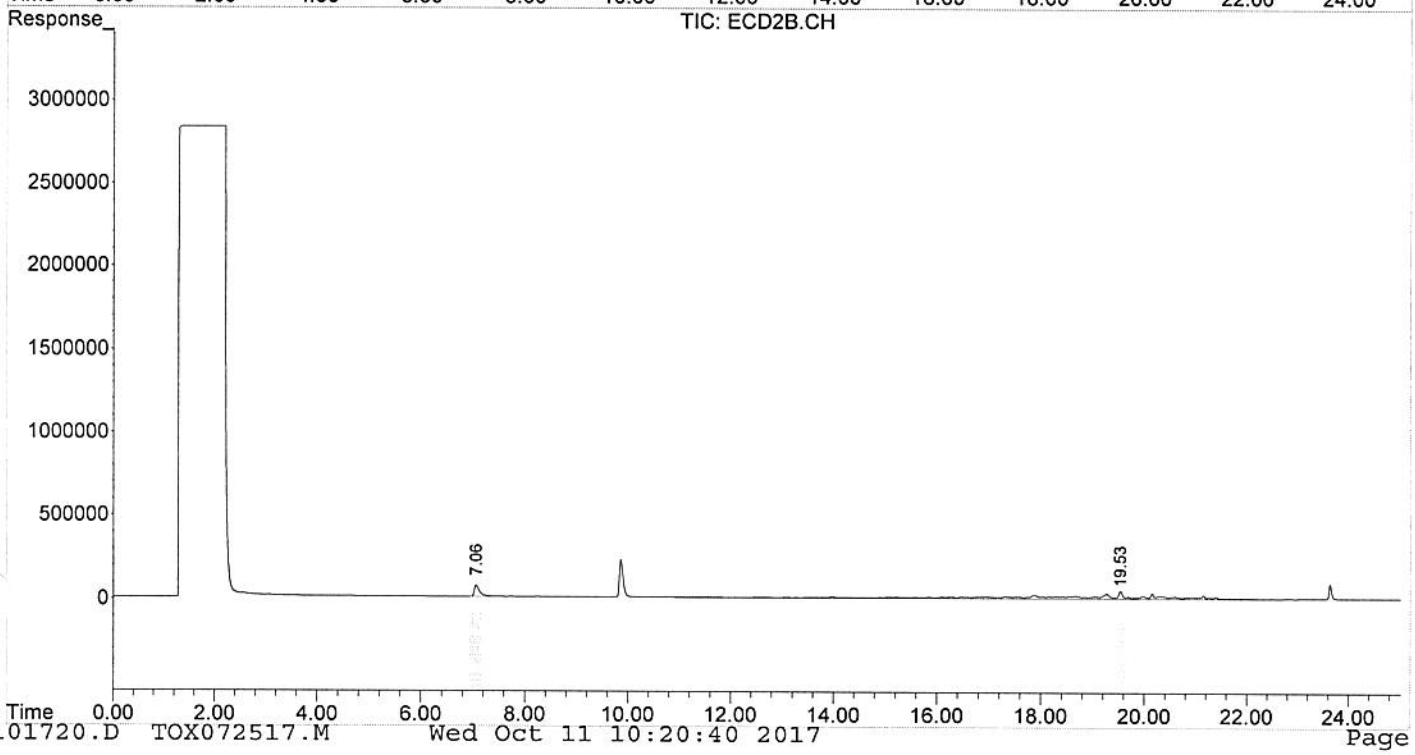
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10102017\10101720.D\ECD1A.CH Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\10102017\10101720.D\ECD2B.CH
Acq On : 10 Oct 2017 10:59 pm Operator: YE
Sample : 508 TOX IDC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 11 10:20 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Liquid Extraction Log **Method #** 508 **Extraction Method 3510**

	Std. ID	Amt. Added	Initials
Surrogate	1700532	1ml	EP
Spike	1700216	1ml	EP
Internal Std.			

Batch#: 17J0216
Analyst: AC + YE
Date: 10-06-17
Transferred to vials by: EP/MR.

Initial Solvent: DCM
Final Solvent: MTBE

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
17J0216	MB	10-6-17	1000	7	7	7	5	10-6-17	0	
	LCS	10-6-17	1000							
	MS 17J0229-01H	10-6-17	1000							
	MSD 17J0229-01I	10-6-17	1000							
17J0229-01G	Matrix - SK.	10-6-17	1000							17J0229-01G
17J0169-01A	20171004DCW	10-4-17	970							
17J0169-02A	20171004TTW	10-4-17	1000							
17J0169-03A	20171004TGW	10-4-17	1000							
IDOC-1	SKpest100417-0.5ppm	10-6-17	1000							1ml SPike Added.
IDOC-2			1000							Add 1ml SPike.
IDOC-3										
IDOC-4										Added 1ml spike
IDOC-1	SKtoxaphene100417-0.5ppm.									
IDOC-2										Add 1ml SPike
IDOC-3										
IDOC-4										Add 1ml SPike.
IDOC-1	SKChlordene100417-1ppm.									
IDOC-2										
IDOC-3										
IDOC-4										Add 1ml SPike.
IDOC-1	SKPCB, 1700379.									
IDOC-2										
IDOC-3										
IDOC-4										

Item	SVT#
Filter Paper:	465
Sodium Sulfate:	466
Silica Gel:	
Sodium Hydroxide:	
Sililic Acid:	
Sulfuric Acid:	
10 mL pipette:	
1.8mL Vials	469
1.8mL Vial Caps	463
20 mL Vials:	458
Pasteur pipette:	442
Hexane	
MTBE	337
Ethyl Ether	
Cu	
Phosphate Buffer	081017-C
NaCL	136000/2001
Diazomethane	
CH2CL2	474/135
pH paper Lot #	202513
Chlorine Strips Lot #	6324/20190

Document Control #: 0401416-001
Date:8/31/16

* pH: I = Initial, E = Exchange, F= Final

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Albert Castellanos	Martha Rauder	9/17/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 608-3 / 3510	☑ Water ☐ DW ☐ Solid ☐ Other: _____	3510: 0201418-007 608-3: 0201418-021
Analyte or Class of Analytes		
Pesticides		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Albert / Martha *Analyst*	*Signature*	9/17/19 *Date*
Albert Castellanos *Technical Director*	*Signature*	9/17/19 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	9/17/19 *Date*

[1] ...test with supporting data.
...ased on good laboratory practices consistent with sound scientific principles/practices.
...plete: Includes the results of all supporting performance testing.
...Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability (***New Column ECHO***)

__ Continuing Demonstration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Water
DATE OF ANALYSIS:	9/10/2019
ANALYZED BY:	Albert Castellanos
METHOD NUMBER:	EPA 608.3
EXTRACTION METHOD (IF APPLY):	EPA 3510
INSTRUMENT ID:	ECHO GC#6
EXTRACTED BY:	Martha Raudez
DATE EXTRACTED:	9/10/2019
ACCEPTANCE CRITERIA:	Various

Standards Used:	**Std. ID#**	**Conc.**
Standard(s)	1900298	0.5 ppm
Surrogate	1900610	1 ppm
Internal Standard	1900207	10 ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD	Acceptance limits (%)
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L				
4,4-DDD	0.5	0.555	0.603	0.683	0.623	0.616	8.60	123	0.05	31-141
4,4-DDE	0.5	0.508	0.553	0.607	0.544	0.553	7.40	111	0.04	30-145
4,4-DDT	0.5	0.542	0.576	0.634	0.560	0.578	6.89	116	0.04	25-160
Aldrin	0.5	0.399	0.398	0.416	0.394	0.402	2.43	80.4	0.01	42-122
alpha-BHC	0.5	0.418	0.422	0.422	0.407	0.417	1.70	83.5	0.01	37-134
beta-BHC	0.5	0.445	0.453	0.449	0.433	0.445	1.94	89.0	0.01	17-147
delta-BHC	0.5	0.519	0.540	0.544	0.540	0.536	2.11	107	0.01	19-140
Dieldrin	0.5	0.547	0.543	0.602	0.556	0.562	4.84	112	0.03	36-146
Endosulfan I	0.5	0.517	0.552	0.593	0.544	0.552	5.70	110	0.03	45-153
Endosulfan II	0.5	0.536	0.568	0.624	0.568	0.574	6.37	115	0.04	0-202
Endosulfan Sulfate	0.5	0.498	0.530	0.579	0.519	0.532	6.46	106	0.03	26-144
Endrin	0.5	0.556	0.628	0.640	0.618	0.611	6.13	122	0.04	30-147
Endrin Aldehyde	0.5	0.638	0.690	0.733	0.724	0.696	6.18	139	0.04	60-140
Endrin Ketone	0.5	0.586	0.631	0.712	0.642	0.643	8.11	129	0.05	60-140
gamma-BHC (lindane)	0.5	0.458	0.470	0.471	0.447	0.462	2.45	92.3	0.01	32-127
Heptachlor	0.5	0.447	0.372	0.378	0.343	0.385	11.4	77.0	0.04	34-111
Hepthachlor Epoxide	0.5	0.455	0.477	0.507	0.459	0.475	4.99	94.9	0.02	37-142
Methoxychlor	0.5	0.603	0.653	0.739	0.680	0.669	8.47	134	0.06	60-140

Liqu Extraction Log **Method #** 6 /8081 IDOC's. **Extraction Method** 10

	Std. ID	Amt. Added	Initials
Surrogate	19000610	1.0 mL	MR.
Spike			
Internal Std.			

Florida Environmental

Batch#:
Analyst: RC/YE
Date: 09.10.19
Transferred to vials by: MR.

Initial Solvent: DCM
Final Solvent: Hexane

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
	MB	09.10.19	1000	7		7	5	09.10.19	0	
	LCS									
	MS									
	MSD									
	SK: 19002978 (V-H)	09.10.19								
	~~IDOC MR 09.10.19~~	—								
	IDOC +1	09.10.19	1ml/1000	7		7	5	09.10.19	0	
	IDOC +2	09.10.19	"	7		7	"	"	0	
	IDOC +3	09.10.19	"	7		7	"	"	0	
	IDOC +4	09.10.19	"	7		7	"	"	0	
	SK: Tetraphene. 18003HK									
	IDOC +1	09.10.19	1ml/1000	7		7	5	"	0	
	IDOC +2	09.10.19	"	7		7	"	"	0	
	IDOC +3	09.10.19	"	7		7	"	"	0	
	IDOC +4	09.10.19	"	7		7	"	"	0	
	SK Chlordane: 18003HS									
	IDOC +1	09.10.19	1ml/1000	7		7	5	"	0	
	IDOC +2	09.10.19	"	7		7	"	"	0	
	IDOC +3	09.10.19	"	7		7	"	"	0	
	IDOC +4	09.10.19	"	7		7	"	"	0	

Item	SVT#
Filter Paper:	SV-656
Sodium Sulfate:	SV-674
Silica Gel:	
Sodium Hydroxide:	
Sililic Acid:	
Sulfuric Acid:	
10 mL pipette:	
1.8mL Vials	SV 677
1.8mL Vial Caps	SV 669
20 mL Vials:	SV-668
Pasteur pipette:	SV-666
Hexane	SV-660
MTBE	
Ethyl Ether	
Cu	SV-654
Phosphate Buffer	
NaCL	
Diazomethane	
CH2CL2	SV 661/5G
pH paper Lot #	HYDRION 231018
Chlorine Strips Lot #	HYDRION 8355 2021 05
Turbo Vap ID	1,2

Please refer to FLEN-Method 3510C SOP Revision #: 1 to see the amount of reagents used during the extraction.

Document Control #: 0401418-003
Date:8/15/18
Revision: 1

*** pH: I = Initial, E = Exchange, F= Final**

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_12.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Sep 2019 23:22 pm
Operator : AC
Sample : 608/8081 L IIDOC #1
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 11 09:27:52 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

AC 9-11-19

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1)	I 1B2NB	9.589	7.732	220.0E6	138.5E6	0.100	0.100
	System Monitoring Compounds						
2)	S TMX surr	12.365	10.408	390.4E6	240.1E6	0.718	0.694
	Spiked Amount 1.000			Recovery	=	71.80%	69.40%
21)	S Decachlor...	27.471	24.755	192.9E6	115.6E6	0.677	0.658
	Spiked Amount 1.000			Recovery	=	67.70%	65.80%
	Target Compounds						
	T BHC-alpha	14.653	12.547	221.9E6	131.8E6	0.418	0.418
4)	T Lindane	15.875	13.731	208.5E6	112.7E6	0.458	0.443
5)	T BHC-beta	16.075	14.396	97845286	56362747	0.445	0.450
6)	T Heptachlor	16.861	14.566	265.2E6	69675271	0.621	0.447 #
7)	T BHC-delta	17.183	15.249	169.9E6	129.5E6	0.519	0.583
8)	T Aldrin	17.848	15.458	198.6E6	120.5E6	0.399	0.379
9)	T Heptachlo...	19.583	17.126	177.4E6	99588801	0.455	0.435
10)	T Endosulfan I	20.509	18.146	163.0E6	95069870	0.517	0.500
11)	T p'p-DDE	20.970	18.884	160.4E6	115.7E6	0.508	0.485
12)	T Endrin	21.972	20.026	109.1E6	58875996	0.556	0.576
13)	T Dieldrin	21.208	19.093	150.1E6	77825167	0.547	0.517
14)	T p'p-DDD	22.096	20.436	102.7E6	53219222	0.664	0.555
15)	T Endosulfa...	22.303	20.637	125.5E6	79469117	0.537	0.536
16)	T p'p-DDT	22.651	21.036	95847790	54646495	0.617	0.542
17)	T Endrin al...	22.885	21.251	111.9E6	53907488	0.642	0.638
18)	T Endosulfa...	23.091	21.569	103.0E6	56596490	0.576	0.498
19)	T Methoxychlor	24.173	22.580	38240039	18156151	0.721	0.603
20)	T Endrin ke...	24.639	22.831	129.9E6	61919766	0.605	0.586

SemiQuant Compounds - Not Calibrated on this Instrument

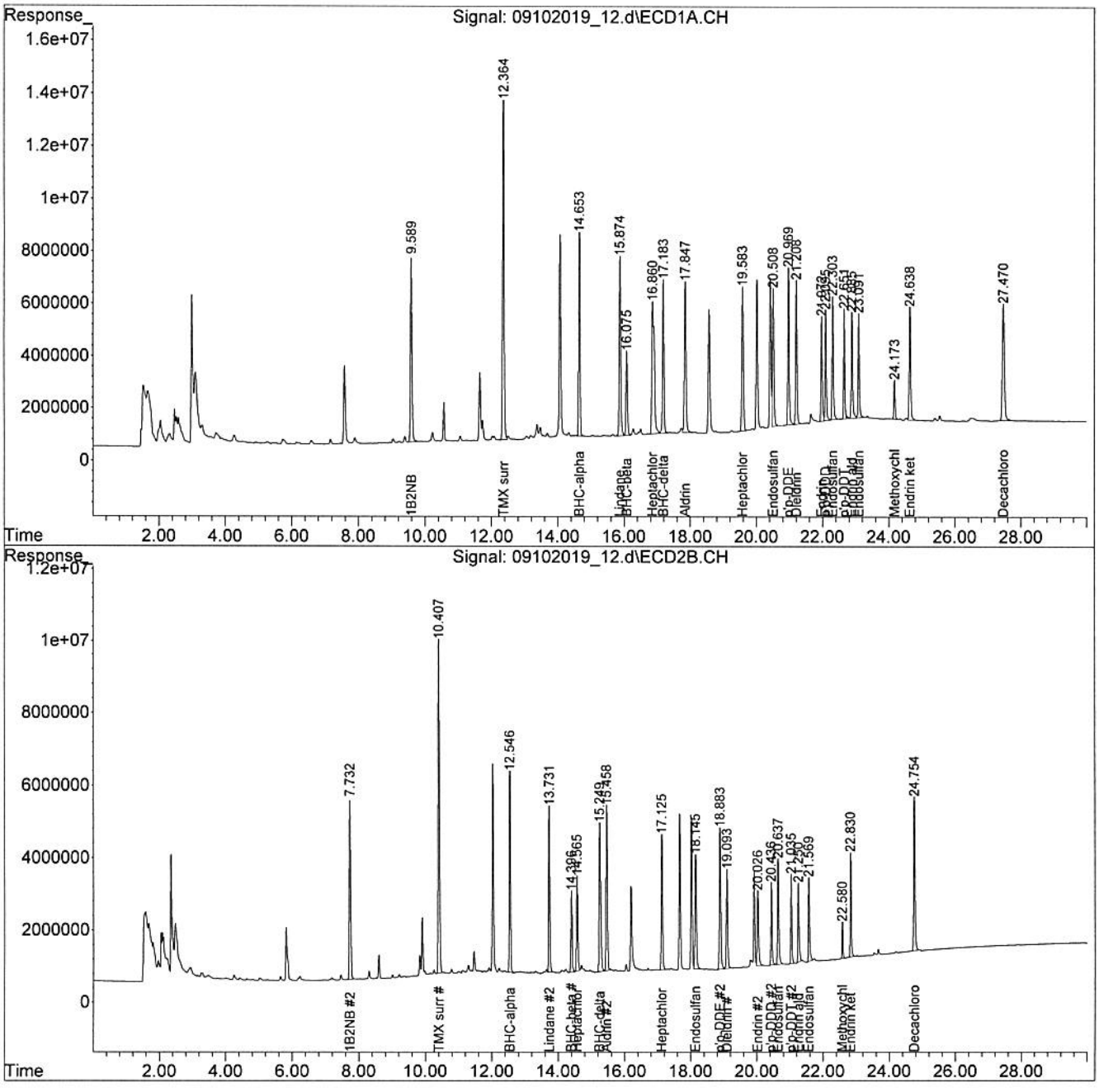
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_12.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Sep 2019 23:22 pm
Operator : AC
Sample : 608/8081 L IIDOC #1
Misc :
ALS Vial : 11 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 11 09:27:52 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_13.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Sep 2019 23:57 pm
Operator : AC
Sample : 608/8081 L IIDOC #2
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 11 09:39:58 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

9-11-19

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
		Internal Standards							
1)	I	1B2NB	9.589	7.732	217.2E6	135.8E6	0.100	0.100	
		System Monitoring Compounds							
2)	S	TMX surr	12.364	10.408	385.2E6	235.9E6	0.718	0.695	
		Spiked Amount 1.000			Recovery	=	71.80%	69.50%	
21)	S	Decachlor...	27.469	24.754	212.8E6	122.5E6	0.756	0.711	
		Spiked Amount 1.000			Recovery	=	75.60%	71.10%	
		Target Compounds							
	T	BHC-alpha	14.654	12.546	221.0E6	131.2E6	0.422	0.425	
4)	T	Lindane	15.875	13.730	211.0E6	114.5E6	0.470	0.459	
5)	T	BHC-beta	16.075	14.396	98193433	56959243	0.453	0.464	
6)	T	Heptachlor	16.861	14.566	156.8E6	73611114	0.372m	0.481	#
7)	T	BHC-delta	17.184	15.248	174.5E6	131.8E6	0.540	0.606	
8)	T	Aldrin	17.848	15.457	195.4E6	119.7E6	0.398	0.383	
9)	T	Heptachlo...	19.584	17.125	183.5E6	100.5E6	0.477	0.448	
10)	T	Endosulfan I	20.509	18.145	172.0E6	96249699	0.552	0.516	
11)	T	p'p-DDE	20.970	18.882	172.3E6	117.5E6	0.553	0.503	
12)	T	Endrin	21.972	20.026	121.6E6	59220202	0.628	0.591	
13)	T	Dieldrin	21.208	19.092	163.8E6	80085209	0.604	0.543	
14)	T	p'p-DDD	22.095	20.436	102.1E6	56739887	0.668m	0.603	
15)	T	Endosulfa...	22.302	20.637	140.9E6	82581404	0.611	0.568	
16)	T	p'p-DDT	22.651	21.035	106.6E6	56928303	0.695	0.576	
17)	T	Endrin al...	22.884	21.251	122.7E6	57149577	0.712	0.690	
18)	T	Endosulfa...	23.091	21.569	109.3E6	59025020	0.619	0.530	
19)	T	Methoxychlor	24.172	22.580	40934762	19262545	0.780m	0.653	
20)	T	Endrin ke...	24.637	22.831	149.8E6	65368021	0.707	0.631	

SemiQuant Compounds - Not Calibrated on this Instrument

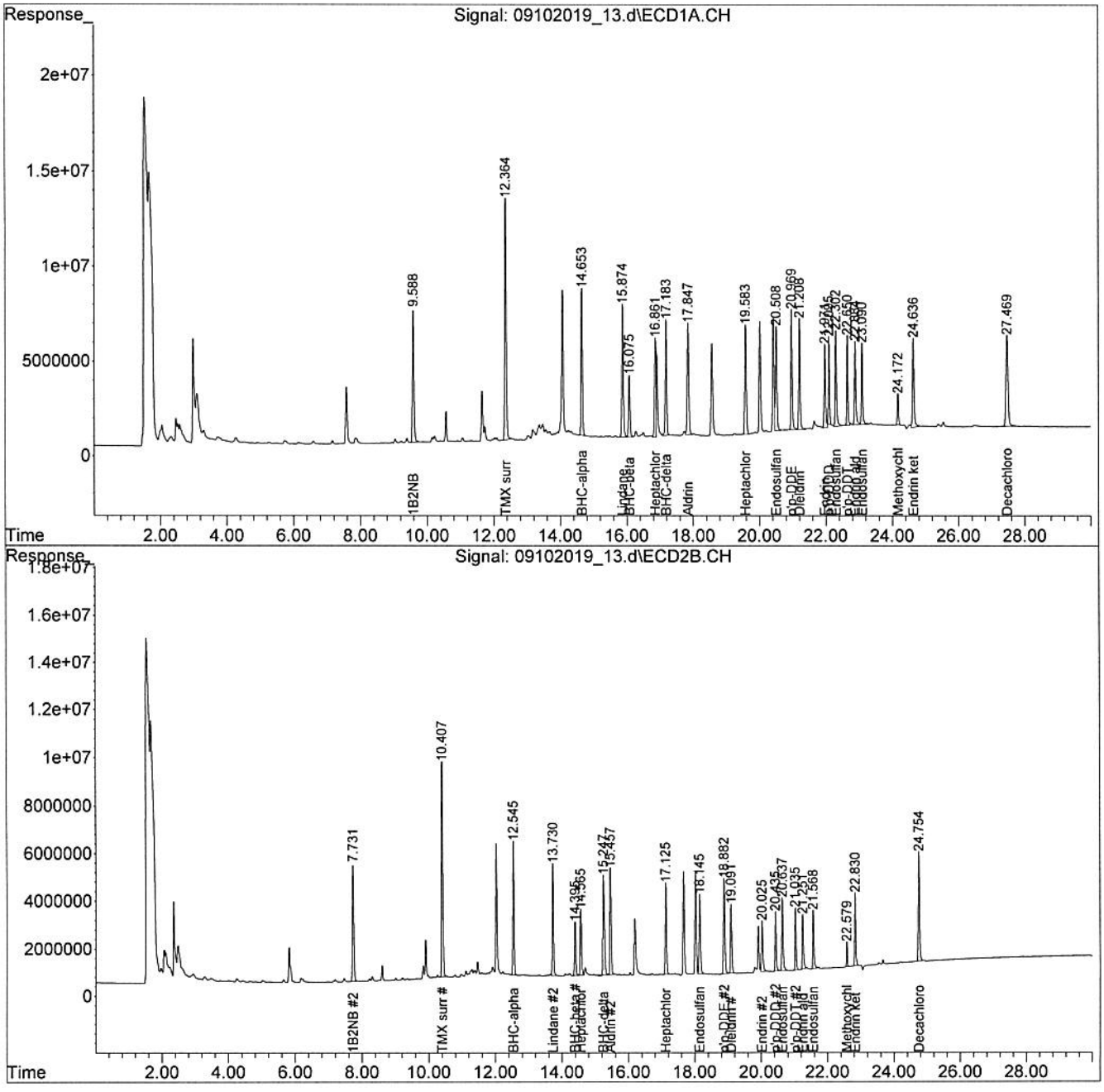
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_13.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Sep 2019 23:57 pm
Operator : AC
Sample : 608/8081 L IIDOC #2
Misc :
ALS Vial : 12 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 11 09:39:58 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_14.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 0:31 am
Operator : AC
Sample : 608/8081 L IIDOC #3
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

09/17/19 AC 9/11/19

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 17 17:18:53 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
		Internal Standards							
1)	I	1B2NB	9.590	7.734	201.5E6	124.4E6	0.100m	0.100	
		System Monitoring Compounds							
2)	S	TMX surr	12.364	10.407	355.3E6	212.0E6	0.713	0.682	
		Spiked Amount 1.000			Recovery	=	71.30%	68.20%	
21)	S	Decachlor...	27.470	24.754	235.3E6	133.0E6	0.901	0.843	
		Spiked Amount 1.000			Recovery	=	90.10%	84.30%	
		Target Compounds							
	T	BHC-alpha	14.654	12.547	205.2E6	121.7E6	0.422	0.430	
4)	T	Lindane	15.875	13.731	196.5E6	106.3E6	0.471	0.465	
5)	T	BHC-beta	16.076	14.396	90277894	52178256	0.449	0.465	
6)	T	Heptachlor	16.861	14.567	148.0E6	71519851	0.378m	0.510	#
7)	T	BHC-delta	17.183	15.248	163.1E6	126.8E6	0.544	0.636	
8)	T	Aldrin	17.848	15.457	189.4E6	109.6E6	0.416	0.383	
9)	T	Heptachlo...	19.583	17.126	181.1E6	96326729	0.507	0.469	
10)	T	Endosulfan I	20.509	18.147	171.4E6	95008698	0.593	0.556	
11)	T	p'p-DDE	20.970	18.884	175.8E6	117.5E6	0.607	0.549	
12)	T	Endrin	21.970	20.027	114.9E6	59241561	0.640m	0.645	
13)	T	Dieldrin	21.208	19.093	168.8E6	81413903	0.671	0.602	
14)	T	p'p-DDD	22.095	20.437	109.4E6	58841609	0.772m	0.683	
15)	T	Endosulfa...	22.302	20.638	137.9E6	83077235	0.644	0.624	
16)	T	p'p-DDT	22.650	21.036	112.3E6	57454961	0.790	0.634	
17)	T	Endrin al...	22.884	21.251	117.1E6	58747772	0.733m	0.775m	
18)	T	Endosulfa...	23.090	21.569	112.6E6	59010306	0.687	0.579	
19)	T	Methoxychlor	24.172	22.580	44265665	19974449	0.905m	0.739	
20)	T	Endrin ke...	24.638	22.831	167.1E6	67584336	0.849	0.712	

SemiQuant Compounds - Not Calibrated on this Instrument

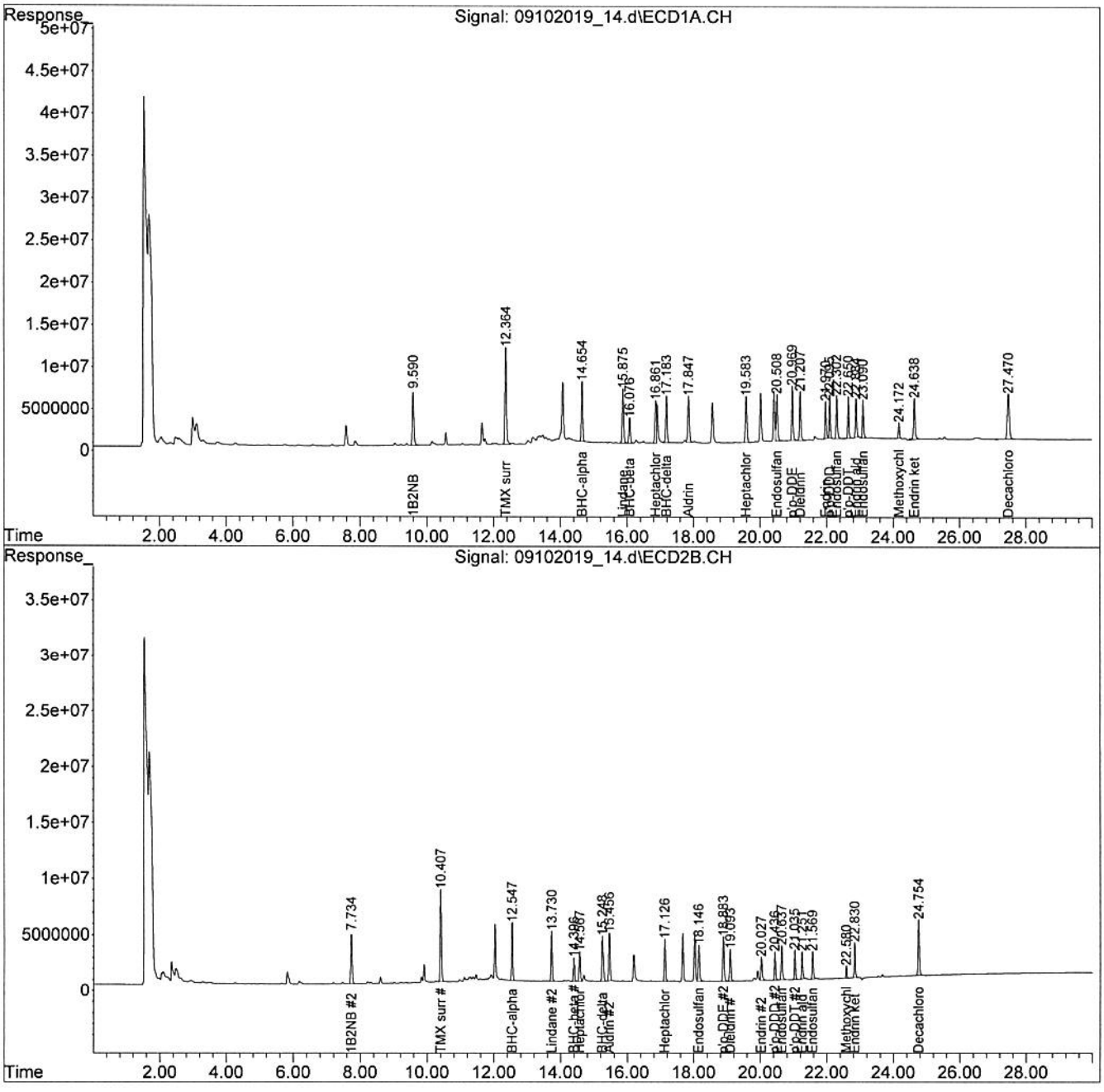
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_14.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 0:31 am
Operator : AC
Sample : 608/8081 L IIDOC #3
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 17 17:18:53 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_14.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 0:31 am
Operator : AC
Sample : 608/8081 L IIDOC #3
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 11 09:41:28 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	9.590	7.734	201.5E6	124.4E6	0.100m	0.100
		System Monitoring Compounds						
2)	S	TMX surr	12.364	10.407	355.3E6	212.0E6	0.713	0.682
		Spiked Amount 1.000			Recovery	=	71.30%	68.20%
21)	S	Decachlor...	27.470	24.754	235.3E6	133.0E6	0.901	0.843
		Spiked Amount 1.000			Recovery	=	90.10%	84.30%
		Target Compounds						
	T	BHC-alpha	14.654	12.547	205.2E6	121.7E6	0.422	0.430
4)	T	Lindane	15.875	13.731	196.5E6	106.3E6	0.471	0.465
5)	T	BHC-beta	16.076	14.396	90277894	52178256	0.449	0.465
6)	T	Heptachlor	16.861	14.567	148.0E6	71519851	0.378m	0.510 #
7)	T	BHC-delta	17.183	15.248	163.1E6	126.8E6	0.544	0.636
8)	T	Aldrin	17.848	15.457	189.4E6	109.6E6	0.416	0.383
9)	T	Heptachlo...	19.583	17.126	181.1E6	96326729	0.507	0.469
10)	T	Endosulfan I	20.509	18.147	171.4E6	95008698	0.593	0.556
11)	T	p'p-DDE	20.970	18.884	175.8E6	117.5E6	0.607	0.549
12)	T	Endrin	21.970	20.027	114.9E6	59241561	0.640m	0.645
13)	T	Dieldrin	21.208	19.093	168.8E6	81413903	0.671	0.602
14)	T	p'p-DDD	22.095	20.437	109.4E6	58841609	0.772m	0.683
15)	T	Endosulfa...	22.302	20.638	137.9E6	83077235	0.644	0.624
16)	T	p'p-DDT	22.650	21.036	112.3E6	57454961	0.790	0.634
17)	T	Endrin al...	22.884	21.251	130.1E6	59398881	0.814	0.784
18)	T	Endosulfa...	23.090	21.569	112.6E6	59010306	0.687	0.579
19)	T	Methoxychlor	24.172	22.580	44265665	19974449	0.905m	0.739
20)	T	Endrin ke...	24.638	22.831	167.1E6	67584336	0.849	0.712

SemiQuant Compounds - Not Calibrated on this Instrument

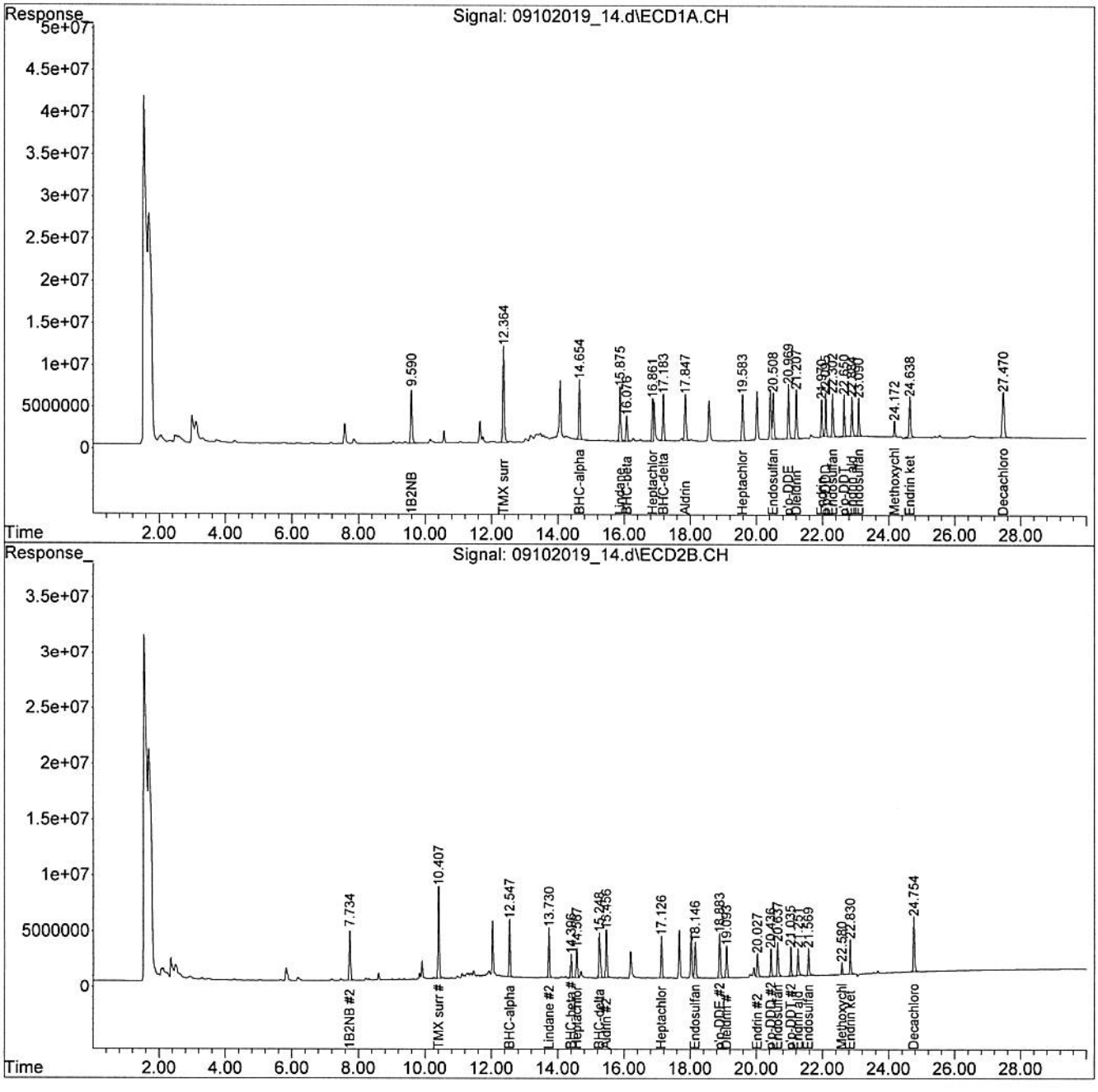
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_14.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 0:31 am
Operator : AC
Sample : 608/8081 L IIDOC #3
Misc :
ALS Vial : 13 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 11 09:41:28 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_15.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 1:05 am
Operator : AC
Sample : 608/8081 L IIDOC #4
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 11 09:43:17 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	Internal Standards							
1)	I 1B2NB	9.588	7.731	230.1E6	141.7E6	0.100m	0.100m	
	System Monitoring Compounds							
2)	S TMX surr	12.364	10.408	386.2E6	230.5E6	0.679	0.651	
	Spiked Amount 1.000			Recovery	=	67.90%	65.10%	
21)	S Decachlor...	27.471	24.756	207.3E6	117.8E6	0.695	0.655	
	Spiked Amount 1.000			Recovery	=	69.50%	65.50%	
	Target Compounds							
	T BHC-alpha	14.654	12.547	225.8E6	132.4E6	0.407	0.411	
4)	T Lindane	15.875	13.731	212.9E6	116.0E6	0.447	0.446	
5)	T BHC-beta	16.075	14.396	99384379	58228792	0.433	0.455	
6)	T Heptachlor	16.863	14.567	153.1E6	78254809	0.343	0.490	#
7)	T BHC-delta	17.183	15.250	184.8E6	146.0E6	0.540	0.643	
8)	T Aldrin	17.848	15.459	205.1E6	118.1E6	0.394	0.362	
9)	T Heptachlo...	19.584	17.126	187.1E6	101.0E6	0.459	0.432	
10)	T Endosulfan I	20.509	18.146	179.3E6	99118672	0.544	0.509	
11)	T p'p-DDE	20.970	18.884	179.6E6	121.8E6	0.544	0.500	
12)	T Endrin	21.972	20.027	126.8E6	64350945	0.618	0.615	
13)	T Dieldrin	21.208	19.093	172.6E6	85597884	0.601	0.556	
14)	T p'p-DDD	22.096	20.437	120.7E6	61125873	0.746	0.623	
15)	T Endosulfa...	22.303	20.638	145.6E6	86165479	0.596	0.568	
16)	T p'p-DDT	22.651	21.036	115.0E6	57736269	0.708	0.560	
17)	T Endrin al...	22.885	21.252	131.6E6	62506481	0.722	0.724	
18)	T Endosulfa...	23.091	21.569	121.3E6	60338912	0.648	0.519	
19)	T Methoxychlor	24.174	22.581	47885013	20942508	0.859	0.680	
20)	T Endrin ke...	24.637	22.832	146.2E6	69427476	0.651m	0.642	

SemiQuant Compounds - Not Calibrated on this Instrument

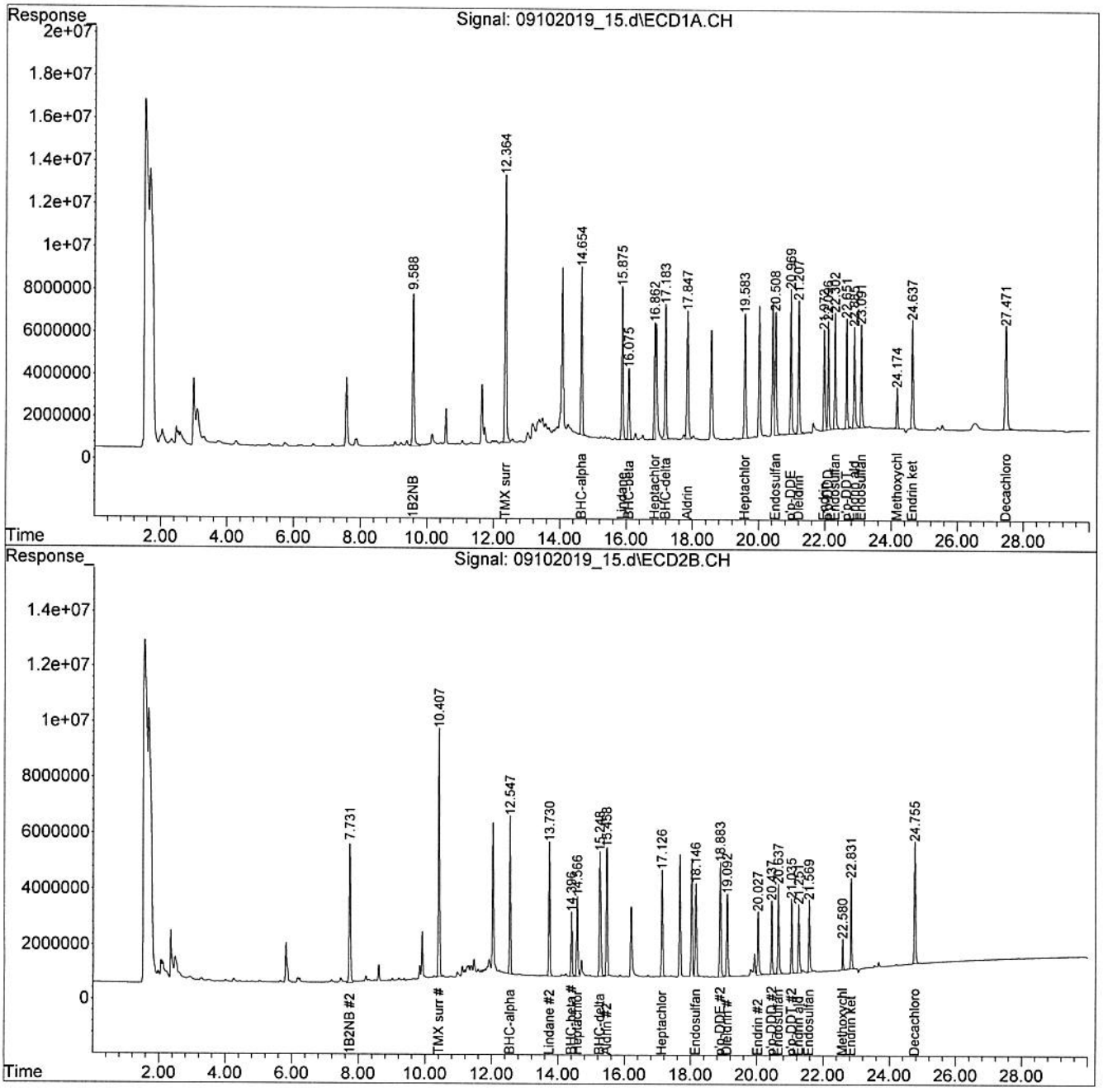
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\09102019\
Data File : 09102019_15.d
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Sep 2019 1:05 am
Operator : AC
Sample : 608/8081 L IIDOC #4
Misc :
ALS Vial : 14 (Sig #1); 0 (Sig #2) Sample Multiplier: 5

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 11 09:43:17 2019
Quant Method : C:\msdchem\1\methods\C60809062019.M
Quant Title : EPA 608.3 BY ECHO GC#6
QLast Update : Mon Sep 09 08:03:17 2019
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	10/13/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8081 / 3510	☑ Water ☐ DW ☐ Solid ☐ Other: _____	8081 – 020141G-017 3510 – 020141G-007
Analyte or Class of Analytes		
Pesticides		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria / Estela Martinez	Yanet Echevarria / Estela	10/13/17
Analyst	*Signature*	*Date*
Albert Castellanos		10/13/17
Technical Director	*Signature*	*Date*
Roxana Llambias		10/13/17
Quality Assurance Director	*Signature*	*Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

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FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	10/6/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 8081
EXTRACTION METHOD (IF APPLY):	EPA 3510
INSTRUMENT ID:	Monica GC#1
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	10/5/2017
ACCEPTANCE CRITERIA:	40-140%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
Standard(s)	SK-PEST-100417	0.5 ppm
	SK-TOX-100417	10 ppm
	SK-CHLOR-100417	1 ppm
	SK-PESTXLA-100417	1 ppm
	SK-PESTXLB-100417	1 ppm
Surrogate	SU-Pesticides-092017	1 ppm
Internal Standard	IS-PEST-051217	10 ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
Chlordane	1	0.736	0.658	0.689	0.695	0.69	4.62	69.45	0.03
Toxaphene	10	7.448	7.674	7.112	7.842	7.52	4.20	75.19	0.32
4,4-DDD	0.5	0.412	0.375	0.410	0.429	0.41	5.58	81.30	0.02
4,4-DDE	0.5	0.317	0.298	0.315	0.302	0.31	3.06	61.60	0.01
4,4-DDT	0.5	0.379	0.351	0.354	0.354	0.36	3.64	71.90	0.01
Aldrin	0.5	0.331	0.336	0.346	0.333	0.34	1.98	67.30	0.01
Alpha-BHC	0.5	0.407	0.415	0.426	0.414	0.42	1.89	83.10	0.01
Beta-BHC	0.5	0.392	0.385	0.386	0.373	0.38	2.07	76.80	0.01
delta-BHC	0.5	0.470	0.457	0.479	0.479	0.47	2.21	94.25	0.01
Dieldrin	0.5	0.333	0.314	0.331	0.317	0.32	2.98	64.75	0.01
Endosulfan I	0.5	0.525	0.505	0.532	0.479	0.51	4.66	102.05	0.02
Endosulfan II	0.5	0.504	0.513	0.531	0.515	0.52	2.18	103.15	0.01
Endosulfan sulfate	0.5	0.417	0.414	0.444	0.400	0.42	4.39	83.75	0.02
Endrin	0.5	0.333	0.334	0.366	0.337	0.34	4.60	68.50	0.02
Endrin Aldehyde	0.5	0.589	0.549	0.577	0.565	0.57	3.00	114.00	0.02
Endrin Ketone	0.5	0.424	0.374	0.381	0.398	0.39	5.64	78.85	0.02
gamma-BHC (Lindane)	0.5	0.396	0.405	0.418	0.407	0.41	2.22	81.30	0.01
Heptachlor	0.5	0.375	0.387	0.398	0.392	0.39	2.52	77.60	0.01
Hepthachlor Epoxide	0.5	0.33	0.336	0.345	0.333	0.34	1.93	67.20	0.01
Methoxychlor	0.5	0.476	0.484	0.467	0.508	0.48	3.64	96.75	0.02
Cloroneb	0.5	0.429	0.436	0.458	0.473	0.45	4.50	89.80	0.02
Chlorothalonil	0.5	0.293	0.23	0.217	0.276	0.25	14.29	50.80	0.04
DCPA	0.5	0.346	0.300	0.369	0.368	0.35	9.34	69.15	0.03
Etridiazole	0.5	0.352	0.353	0.336	0.329	0.34	3.48	68.50	0.01
Total Permethrins	0.5	0.607	0.422	0.468	0.471	0.49	16.24	98.40	0.08
Propachlor	0.5	0.322	0.327	0.373	0.336	0.34	6.80	67.90	0.02
Mirex	0.5	0.291	0.293	0.289	0.286	0.29	1.03	57.95	0.00
Chlorobenzilate	1	0.813	0.862	0.897	0.842	0.85	4.14	85.35	0.04
Isodrin	1	0.809	0.835	0.855	0.886	0.85	3.84	84.63	0.03
Dicofol	1	0.486	0.532	0.655	0.624	0.57	13.70	57.43	0.08
Kepone	1	0.852	0.732	0.636	0.666	0.72	13.28	72.15	0.10
Pentanitrobenzene	1	0.887	0.85	0.804	0.863	0.85	4.10	85.10	0.03
Chloropropylate	1	1.06	1.097	1.132	1.06	1.09	3.18	108.73	0.03
Diclone	1	0.855	1.135	0.928	0.873	0.95	13.57	94.78	0.13
Nitrofen	1	0.813	0.955	0.972	0.849	0.90	8.72	89.73	0.08

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061735.D\ECD1A.CH Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061735.D\ECD2B.CH
Acq On : 7 Oct 2017 7:38 am Operator: YE
Sample : CHLORW IDOC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:18:30 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

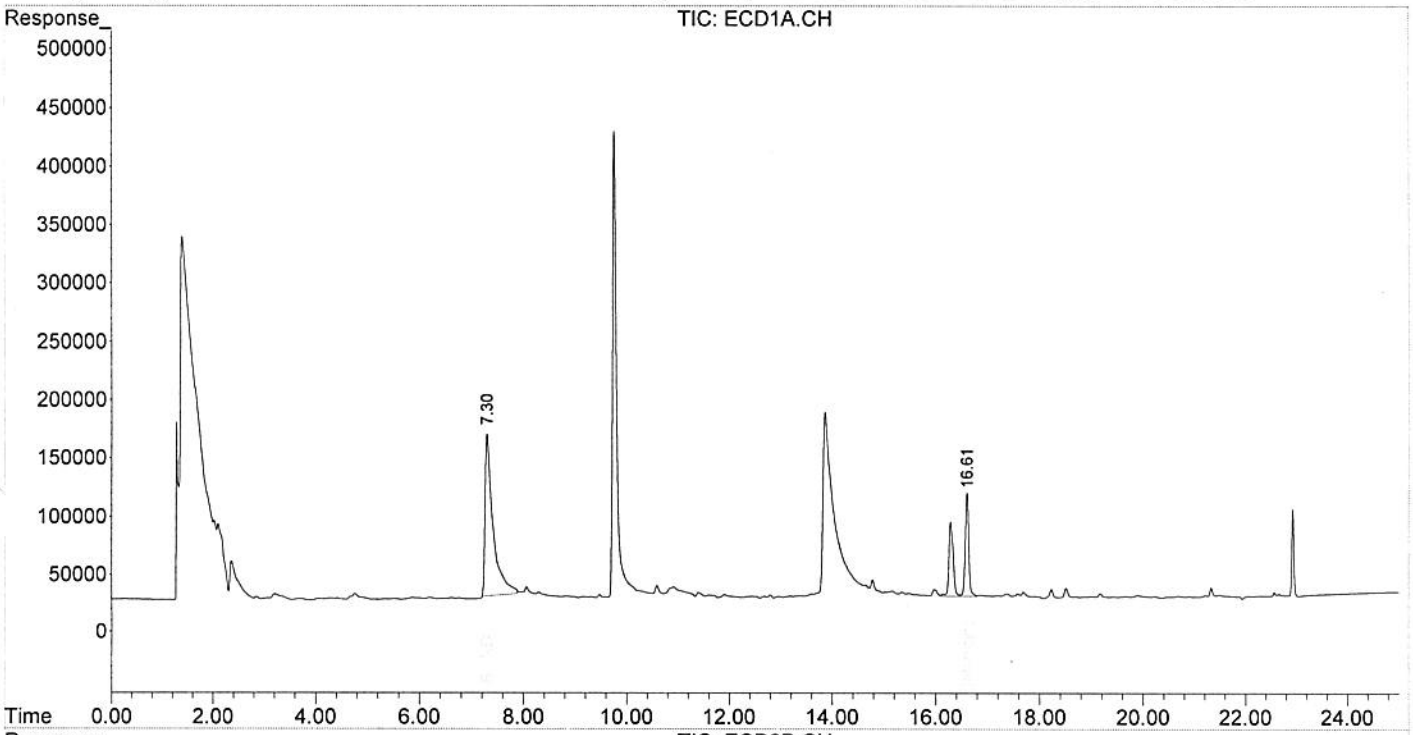
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30f	7.11f	14971883	5877747	0.100m	0.100m
	Target Compounds						
2)	Chlordane	16.61	17.15	7835510	3262770	0.697m	0.736m

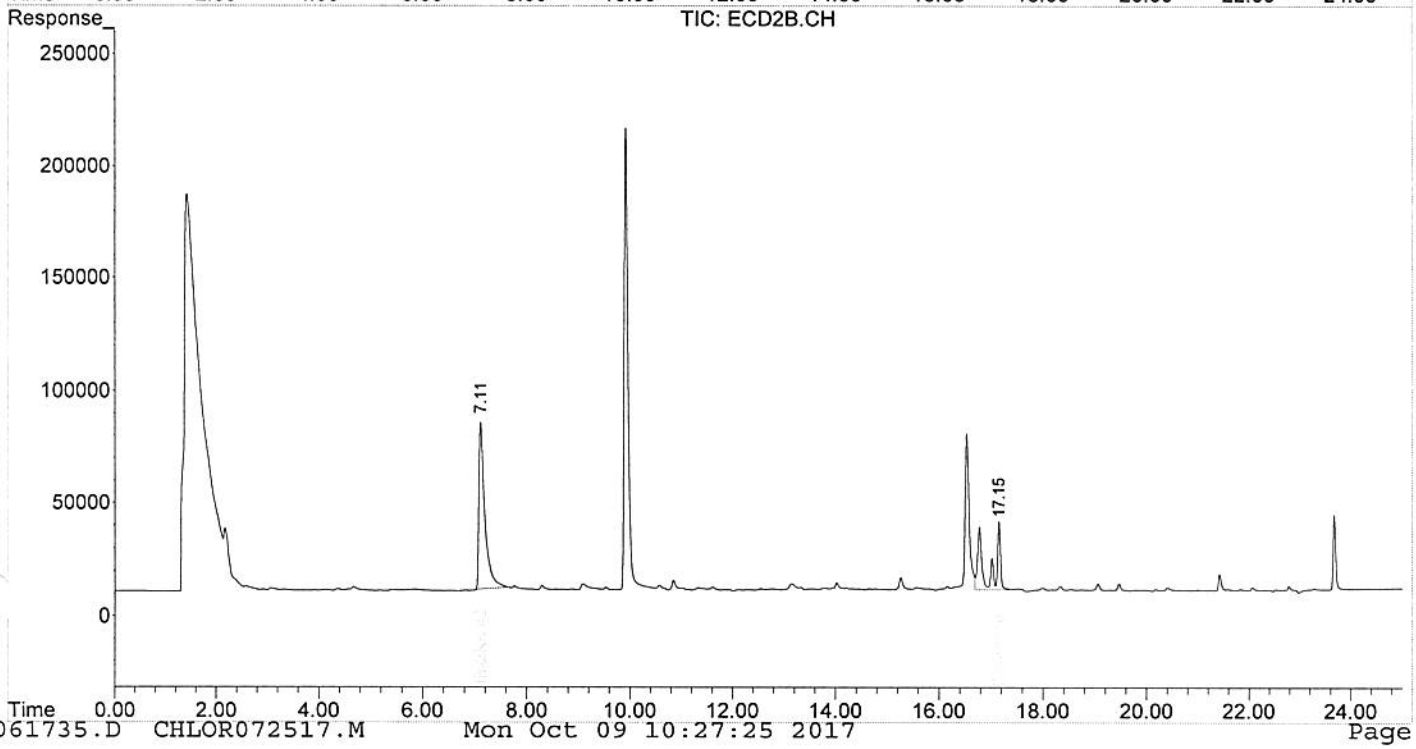
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061735.D\ECD1A.CH Vial: 34
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061735.D\ECD2B.CH
Acq On : 7 Oct 2017 7:38 am Operator: YE
Sample : CHLORW IDOC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:18 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061736.D\ECD1A.CH Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061736.D\ECD2B.CH
Acq On : 7 Oct 2017 8:07 am Operator: YE
Sample : CHLORW IDOC-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:27:31 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

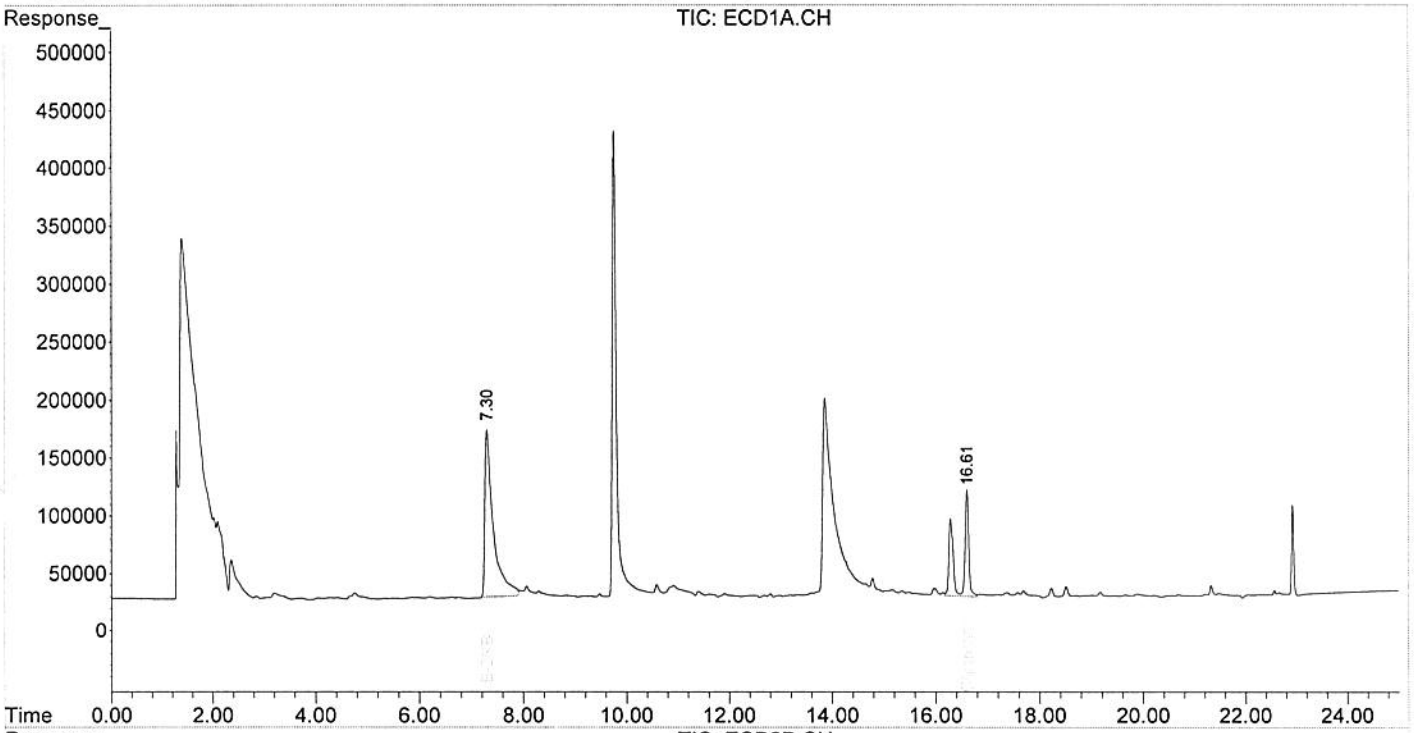
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.30f	7.11f	16419369	6234239	0.100m	0.100m
		Target Compounds						
2)		Chlordane	16.61	17.15	8139864	3092688	0.660m	0.658m

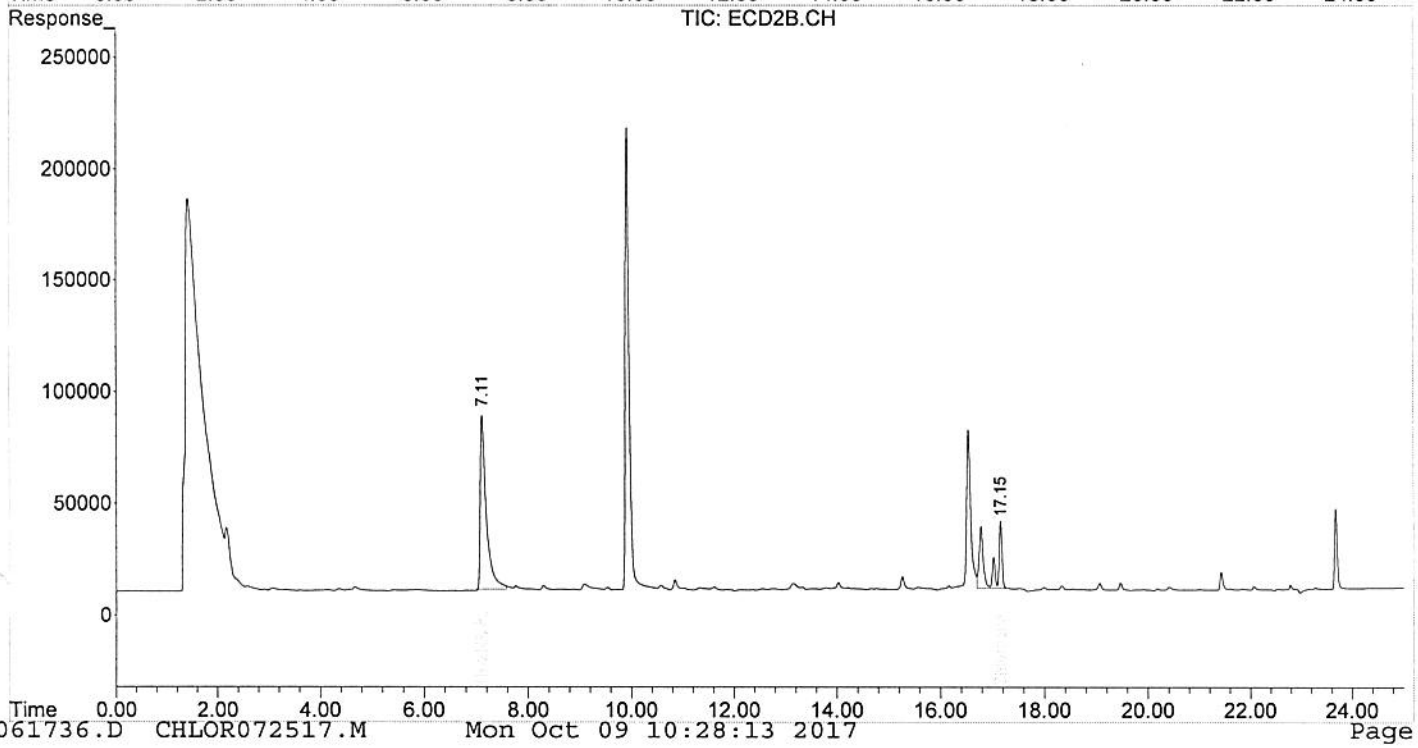
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061736.D\ECD1A.CH Vial: 35
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061736.D\ECD2B.CH
Acq On : 7 Oct 2017 8:07 am Operator: YE
Sample : CHLORW IDOC-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:28 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061737.D\ECD1A.CH Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061737.D\ECD2B.CH
Acq On : 7 Oct 2017 8:37 am Operator: YE
Sample : CHLORW IDOC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:28:23 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

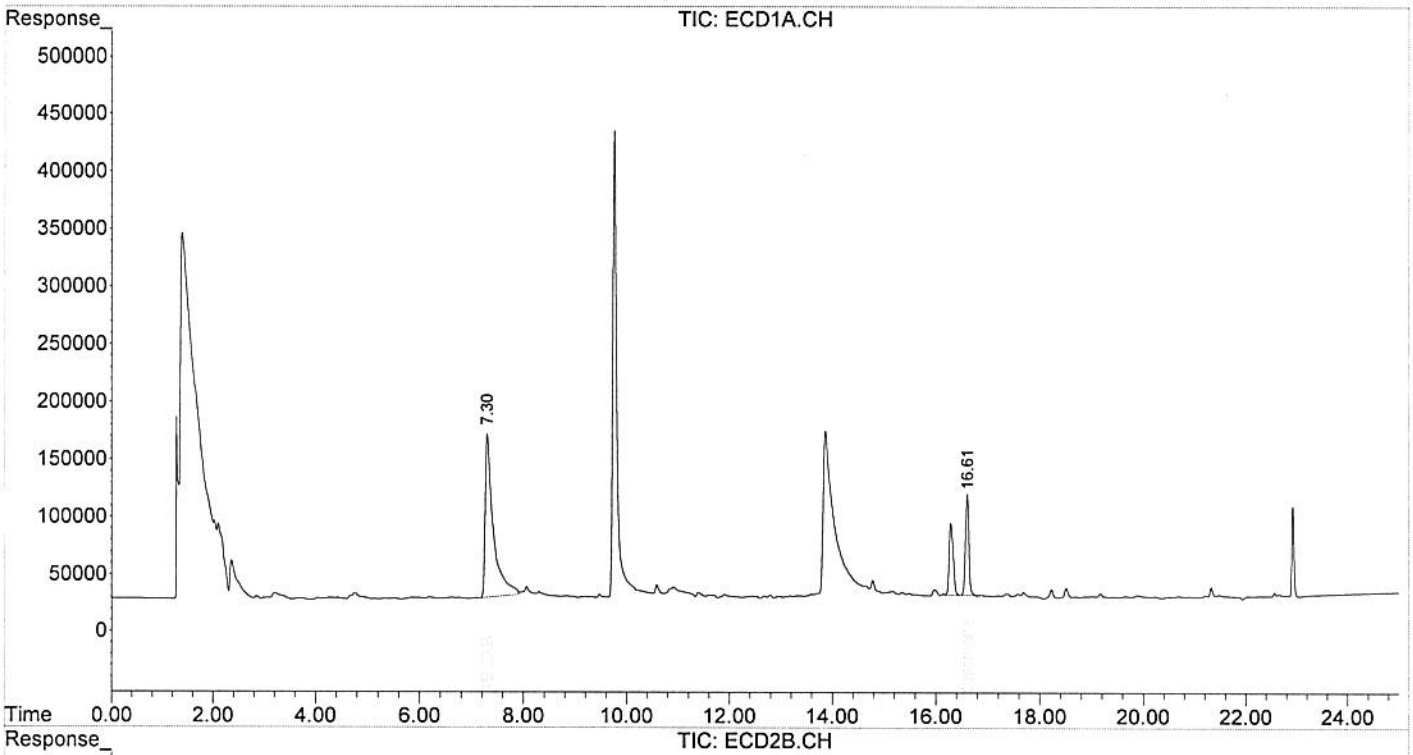
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.30f	7.11f	15579730	5945544	0.100m	0.100m
		Target Compounds						
2)		Chlordane	16.61	17.15	7453370	3090159	0.637m	0.689m

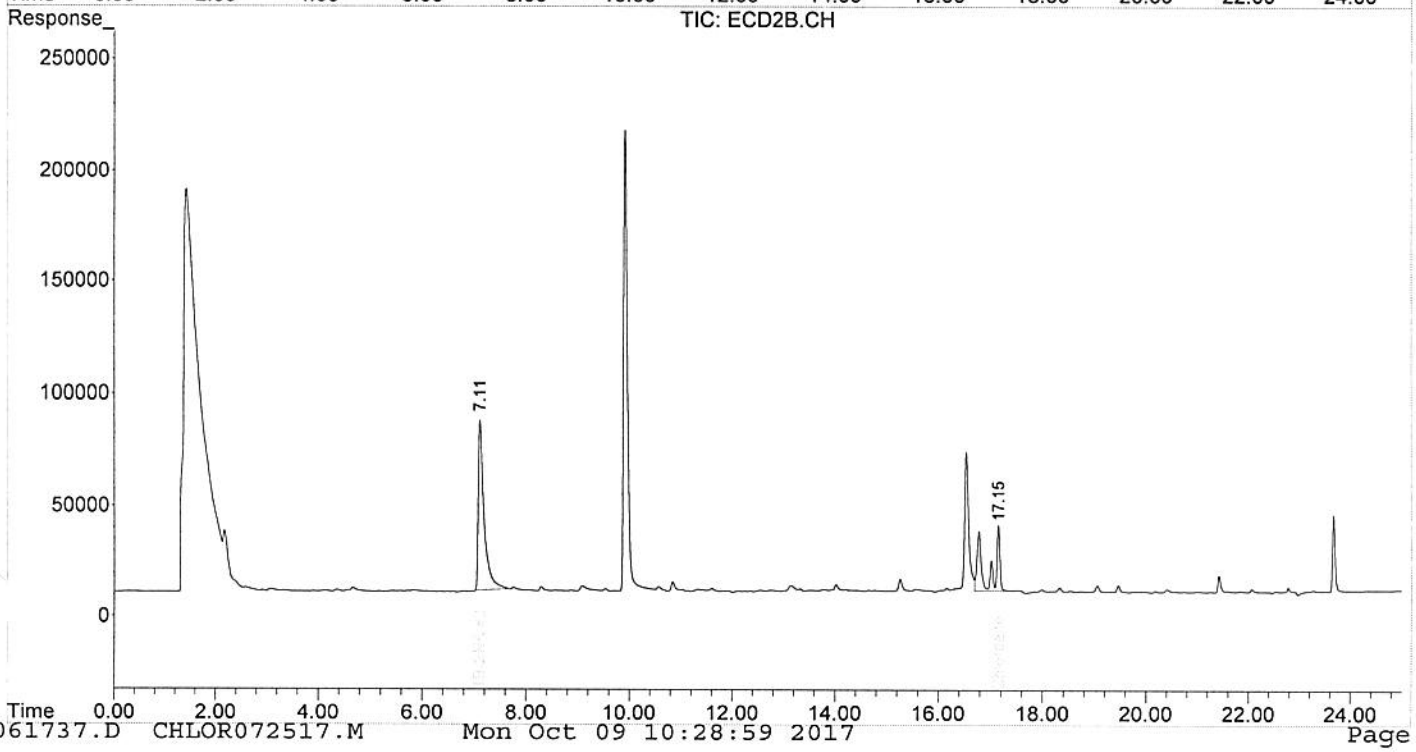
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061737.D\ECD1A.CH Vial: 36
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061737.D\ECD2B.CH
Acq On : 7 Oct 2017 8:37 am Operator: YE
Sample : CHLORW IDOC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:28 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061738.D\ECD1A.CH Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061738.D\ECD2B.CH
Acq On : 7 Oct 2017 9:06 am Operator: YE
Sample : CHLORW IDOC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:29:13 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

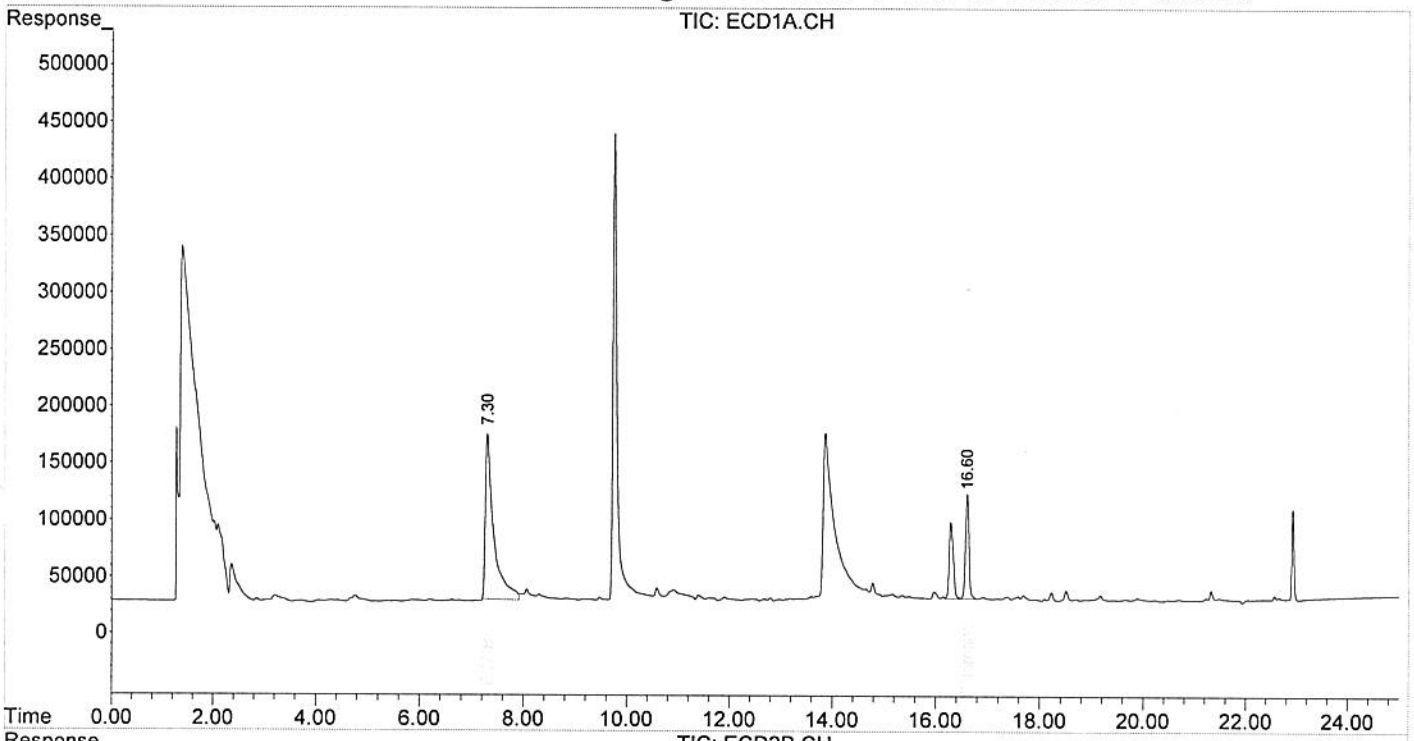
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.30f	7.11f	16301700	6373092	0.100m	0.100m
		Target Compounds						
2)		Chlordane	16.60	17.15	7881234	3340401	0.644m	0.695m

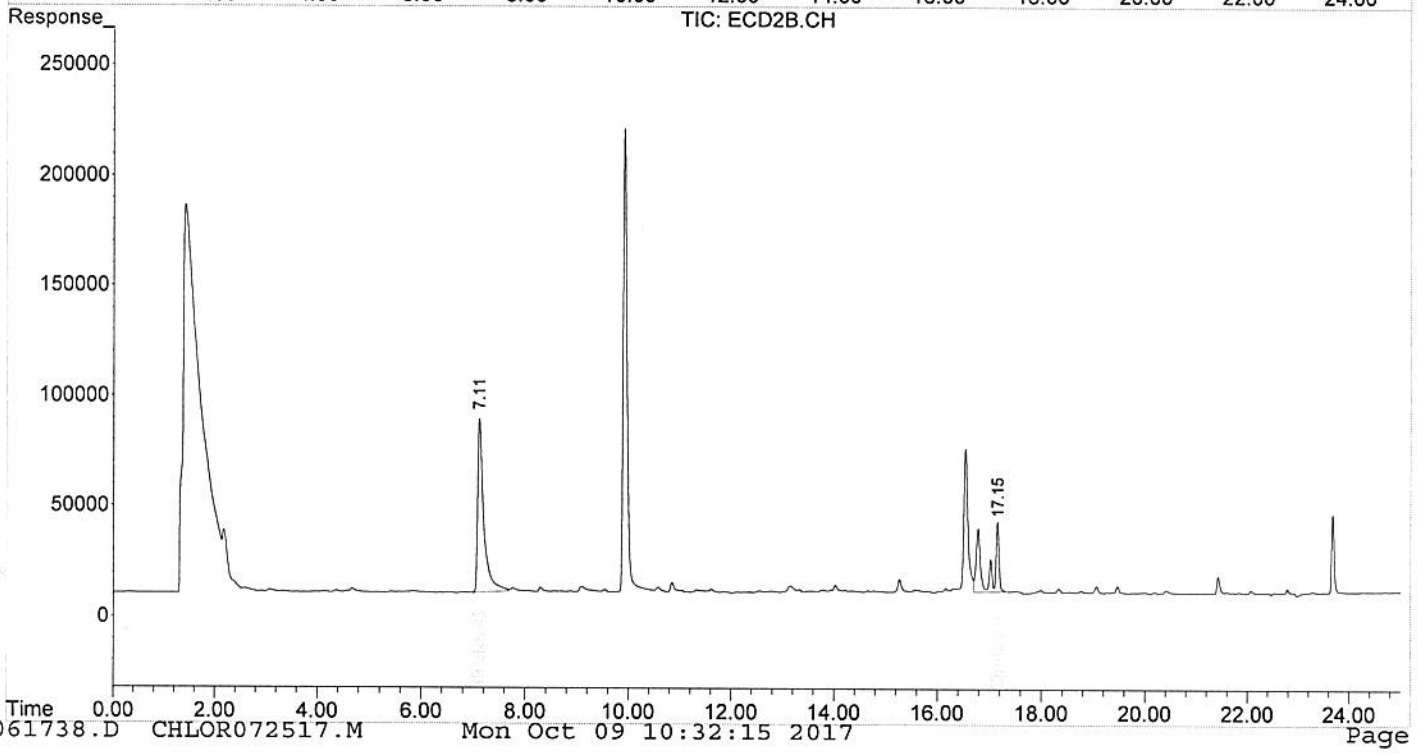
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061738.D\ECD1A.CH Vial: 37
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061738.D\ECD2B.CH
Acq On : 7 Oct 2017 9:06 am Operator: YE
Sample : CHLORW IDOC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:29 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061743.D\ECD1A.CH Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061743.D\ECD2B.CH
Acq On : 7 Oct 2017 11:33 am Operator: YE
Sample : TOXW IDOC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:35:47 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

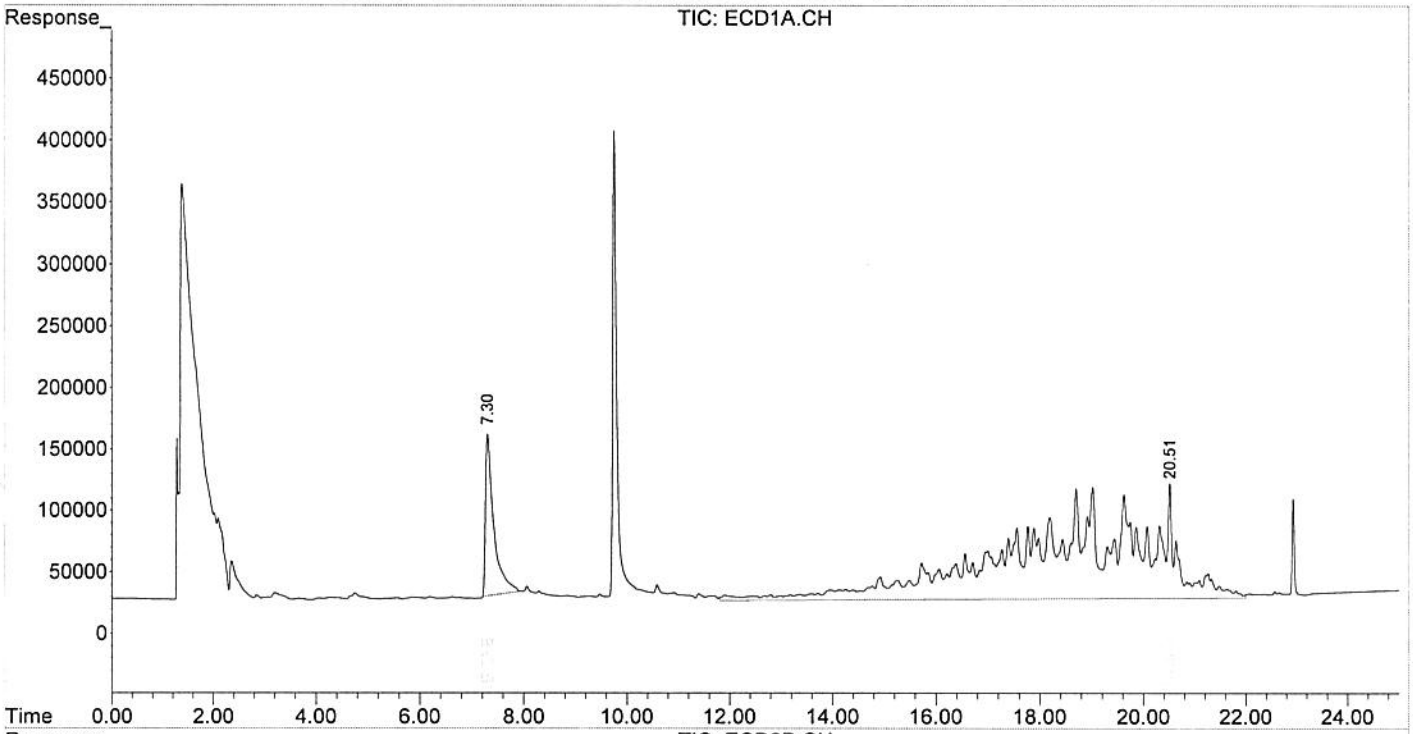
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30	7.11	14605863	5947839	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	20.51	19.59	138.2E6	44595895	7.448m	6.406m

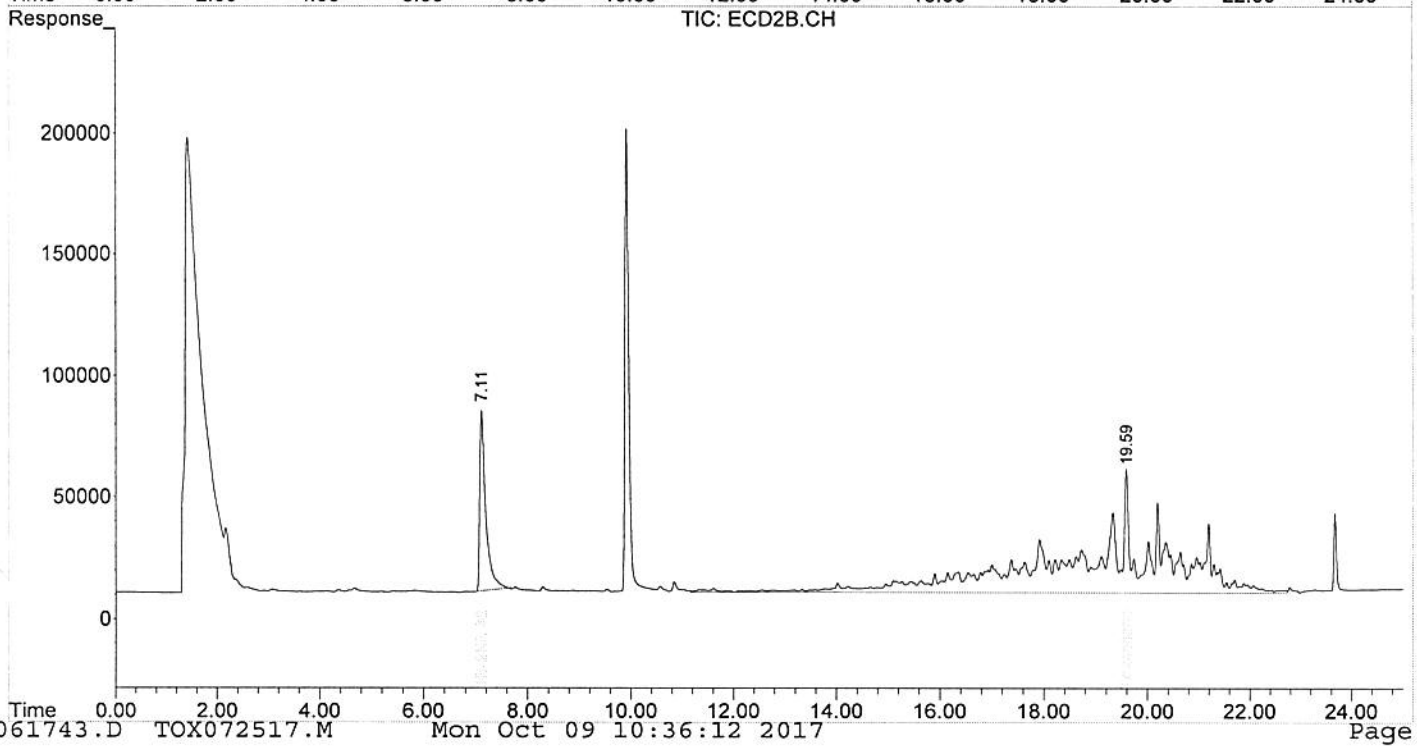
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061743.D\ECD1A.CH Vial: 42
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061743.D\ECD2B.CH
Acq On : 7 Oct 2017 11:33 am Operator: YE
Sample : TOXW IDOC-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:36 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061744.D\ECD1A.CH Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061744.D\ECD2B.CH
Acq On : 7 Oct 2017 12:03 pm Operator: YE
Sample : TOXW IDOC-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:36:27 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

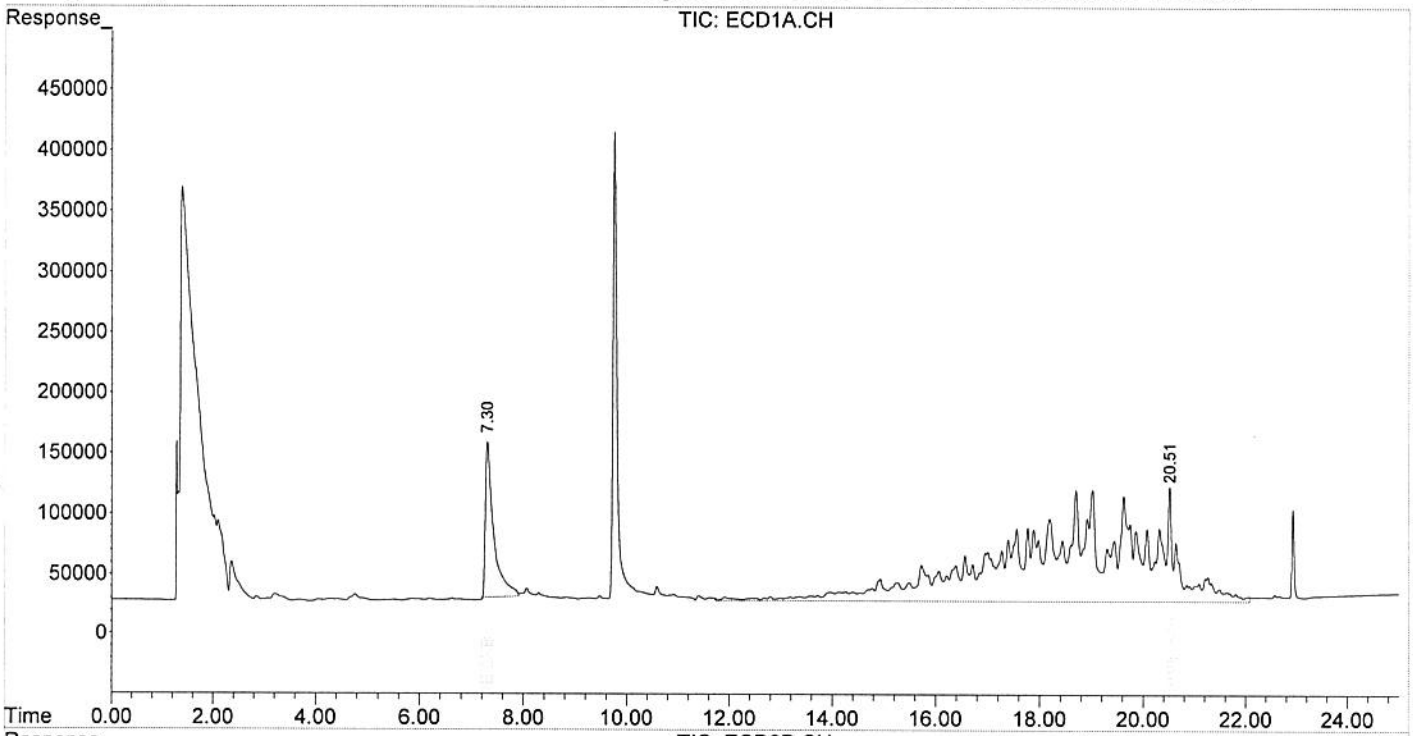
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30	7.11	14343228	5670129	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	20.51	19.59	139.8E6	46775482	7.674m	7.048m

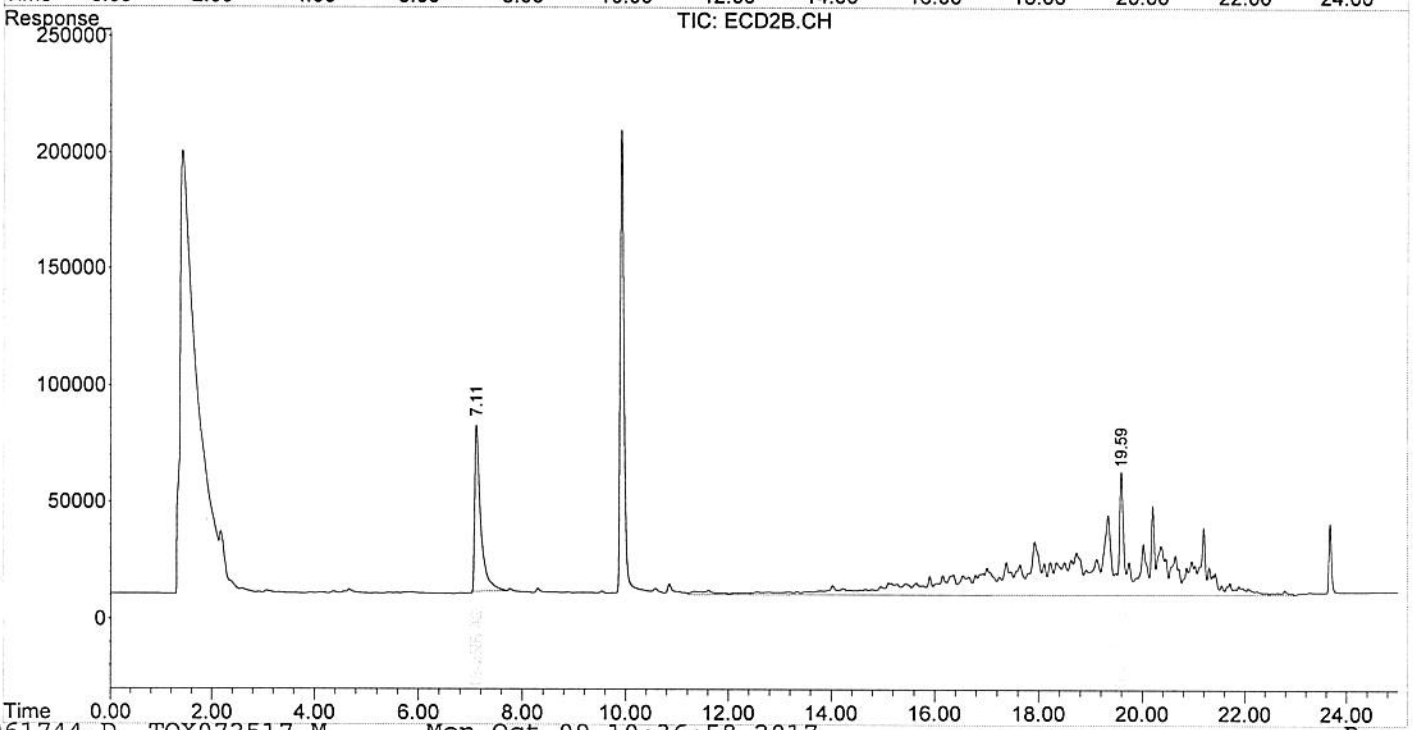
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061744.D\ECD1A.CH Vial: 43
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061744.D\ECD2B.CH
Acq On : 7 Oct 2017 12:03 pm Operator: YE
Sample : TOXW IDOC-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:36 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061745.D\ECD1A.CH Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061745.D\ECD2B.CH
Acq On : 7 Oct 2017 12:32 pm Operator: YE
Sample : TOXW IDOC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:37:06 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

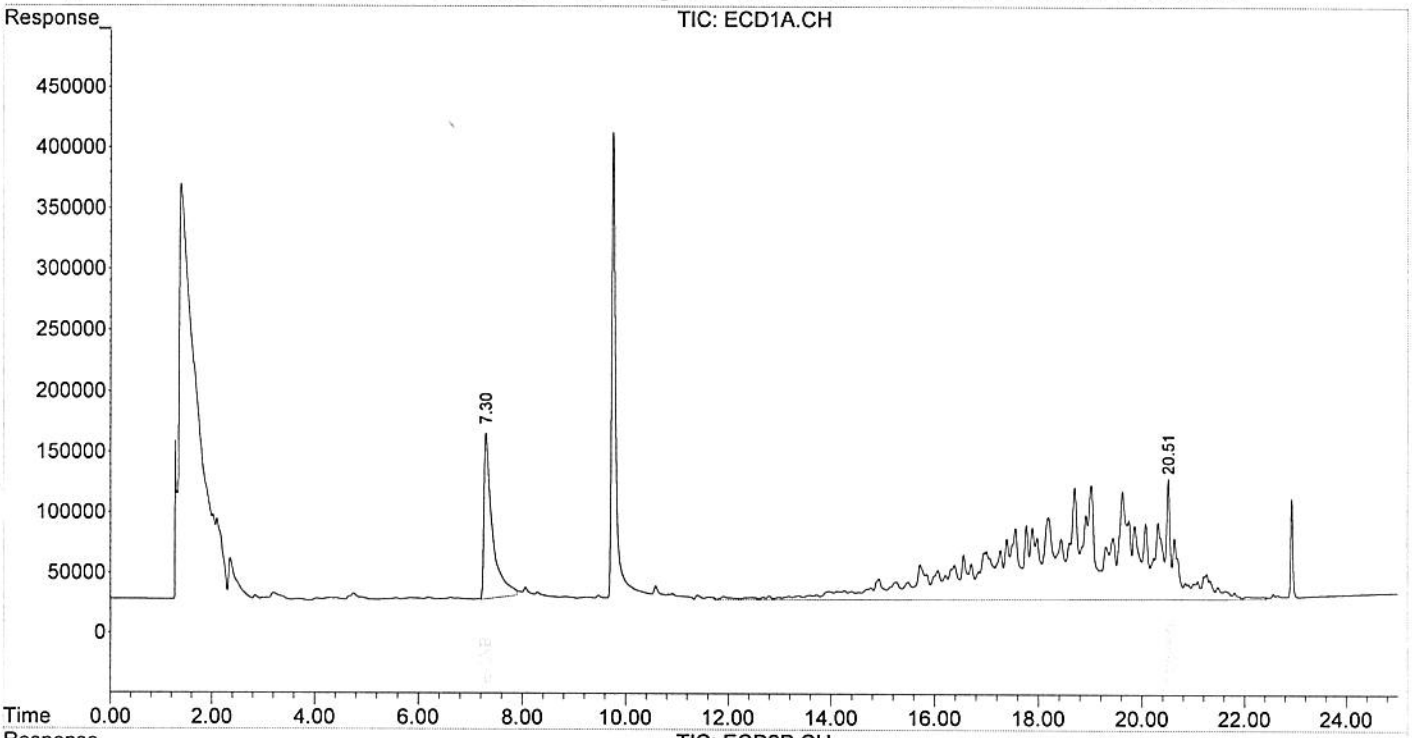
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30	7.11	15436211	6428328	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	20.51	19.59	139.4E6	48327940	7.112m	6.423m

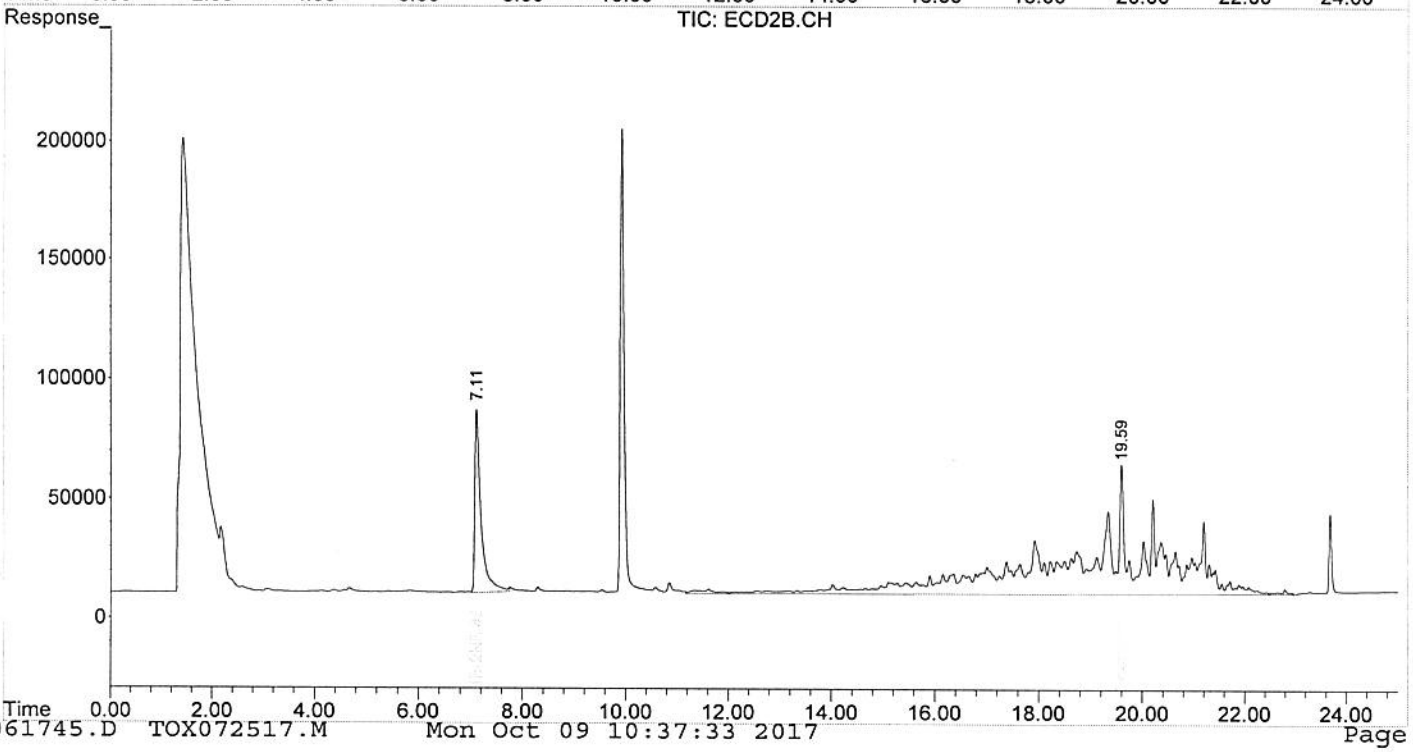
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061745.D\ECD1A.CH Vial: 44
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061745.D\ECD2B.CH
Acq On : 7 Oct 2017 12:32 pm Operator: YE
Sample : TOXW IDOC-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:37 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061746.D\ECD1A.CH Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061746.D\ECD2B.CH
Acq On : 7 Oct 2017 1:02 pm Operator: YE
Sample : TOXW IDOC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:37:48 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

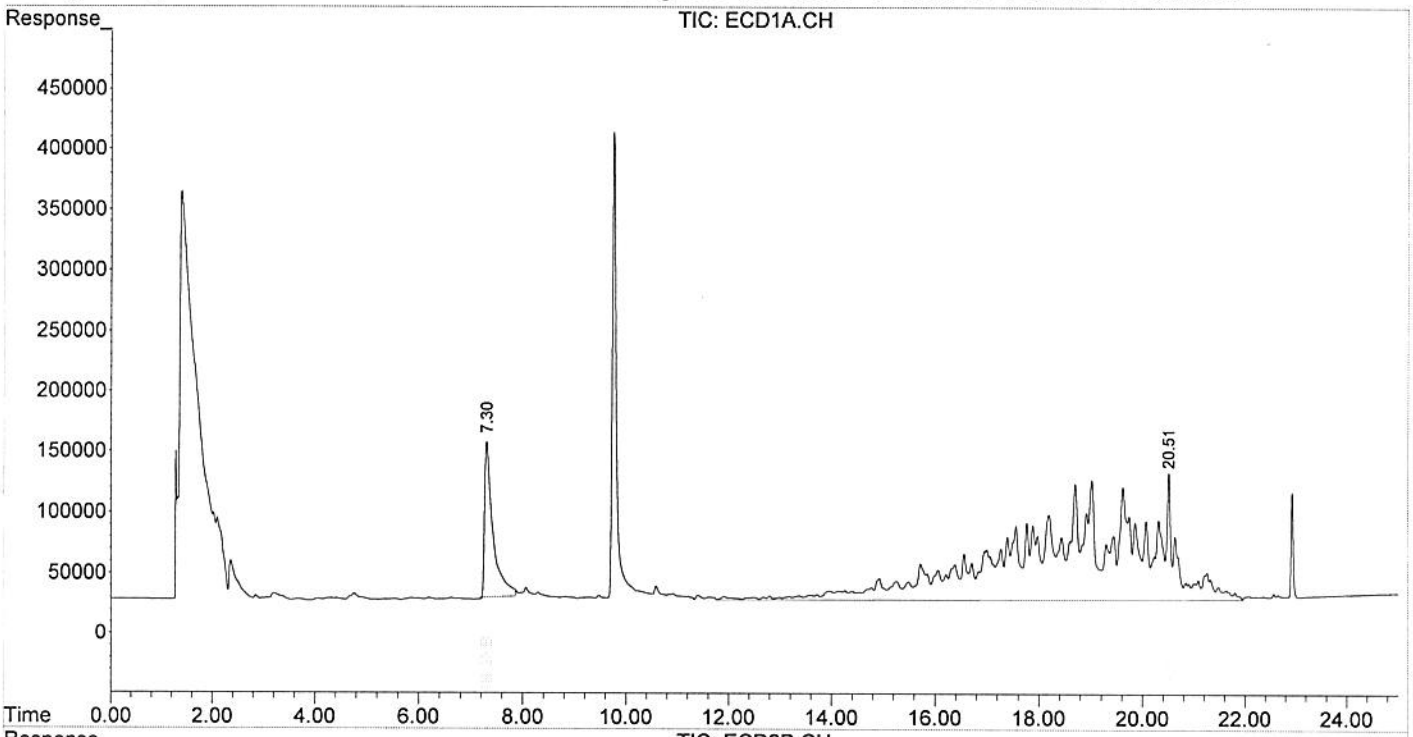
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30	7.11	14474829	6154978	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	20.51	19.59	144.2E6	51266930	7.842m	7.116m

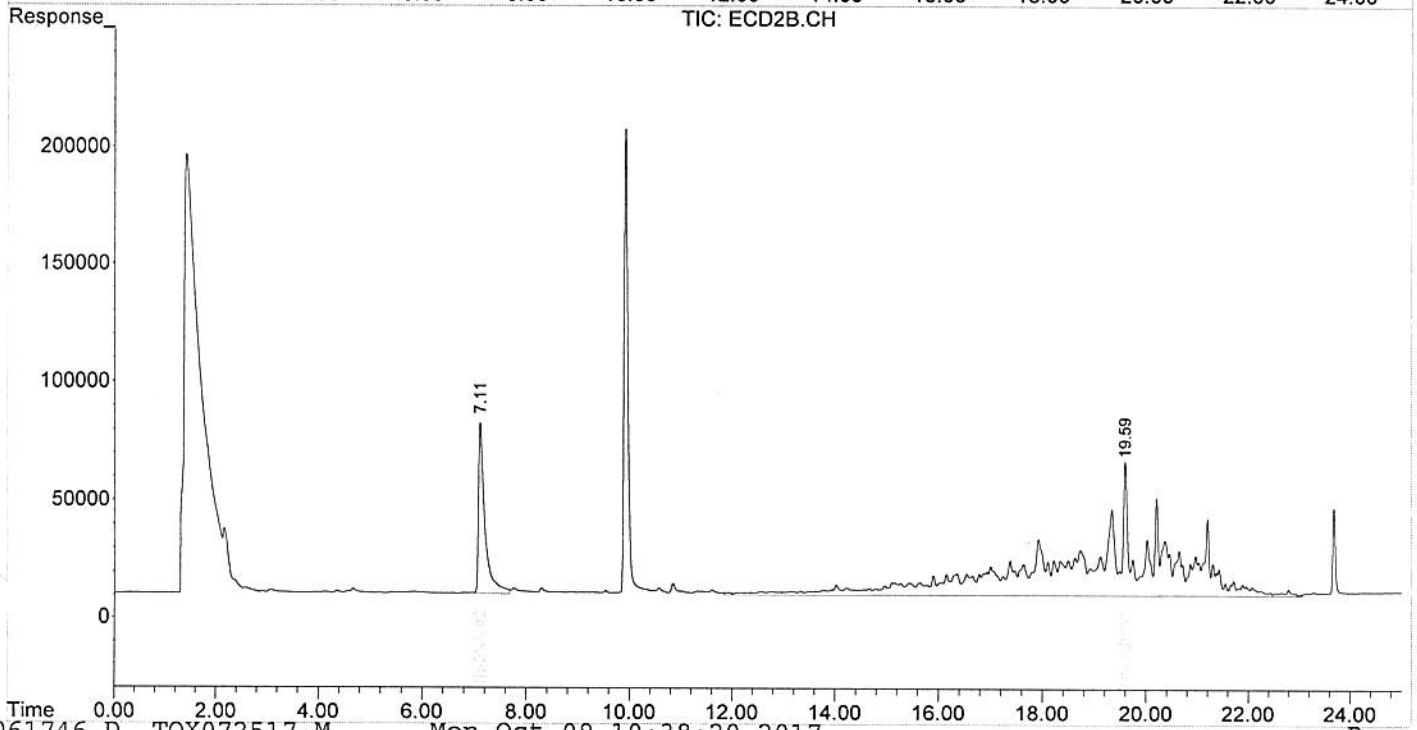
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061746.D\ECD1A.CH Vial: 45
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061746.D\ECD2B.CH
Acq On : 7 Oct 2017 1:02 pm Operator: YE
Sample : TOXW IDOC-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:38 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061711.D\ECD1A.CH Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061711.D\ECD2B.CH
Acq On : 6 Oct 2017 7:51 pm Operator: YE
Sample : 608/8081 IDOC_01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 08:50:25 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

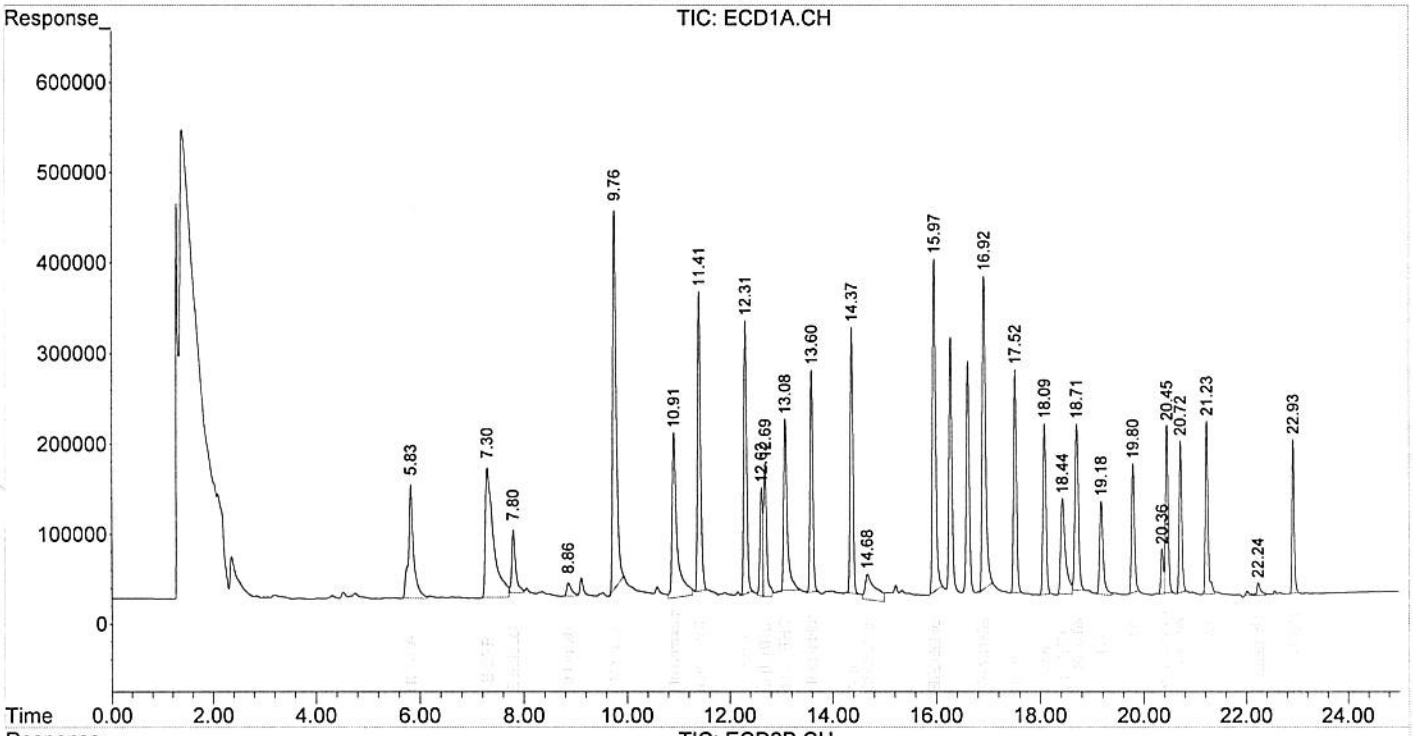
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.11	15796982	7077457	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.76	9.92	20158012	11082454	0.772	0.800
	Spiked Amount 1.000			Recovery =		77.20%	80.00%
31) s	Decachlorobiphen	22.93	23.68	4790169	2665697	0.305	0.314m
	Spiked Amount 1.000			Recovery =		30.50%	31.40%
	Target Compounds						
2)	HCCPA	5.83	5.87	8599949	2328230	0.545m	0.571m
3)	Etridiazole	7.80	8.04	3635748	916315	0.352m	0.217m#
4)	Chlorneb	8.86	9.06	918281	662603	0.429m	0.368m
6)	Propachlor	10.91	10.96	11398455	312785	0.322m	0.282m
7)	Hexaclbenzene	10.91	11.33	12254822	5523037	0.329m	0.368m
8)	alpha-BHC	11.41	11.79	13295488	6153258	0.370	0.407
9)	Lindane	12.31	12.81	11909216	5304180	0.376	0.396
10)	Trifluralin	12.62	11.22	4447859	2023636	0.397m	0.276m#
11)	beta-BHC	12.69	13.15	6236983	2952726	0.385m	0.392m
12)	delta-BHC	13.08	13.93	9142493	7551422	0.470m	0.403m
13)	Heptachlor	13.60	13.94	9067595	7141242	0.295	0.375 #
14)	Aldrin	14.37	14.78	10807165	4915467	0.313	0.331
15)	Chlorothalonil	14.68	14.47	3950182	1253072	0.293m	0.242m
16)	DCPA	15.97	15.81	15704450	3767299	0.321	0.346m
17)	Heptachlor epoxi	15.97	16.30	15704450	4213833	0.321	0.330
18)	p'p-DDE	16.93	17.69	15715785	3919184	0.317	0.289m
19)	Endosulfan I	16.93	17.26	15715785	4705570	0.324	0.525m#
20)	Dieldrin	17.53	17.95	9444901	3601201	0.333	0.322m
21)	Endrin	18.09	18.77	7668987	3061314	0.318	0.333m
22)	p'p-DDD	18.44	19.27	6625432	2085584	0.412m	0.341m
23)	Endosulfan II	18.71	19.38	8620636	4412313	0.504m	0.577m
24)	p'p-DDT	19.18	20.00	4857818	1379693	0.379m	0.319m
25)	Endrin aldehyde	19.80	20.19	5524316	2328821	0.589	0.622m
26)	Methoxychlor	20.36	21.41	1634822	830846	0.338m	0.476m#
27)	Endosulfan sulfa	20.72	20.76	5787998	2740026	0.411	0.417m
28)	Mirex	20.46	21.58	6683631	2828348	0.291	0.289m
29)	Endrin ketone	21.23	21.71	6828637	2687933	0.424m	0.378m
30)	Permethrins	22.24	22.89	933314	427590	0.607m	0.314m#

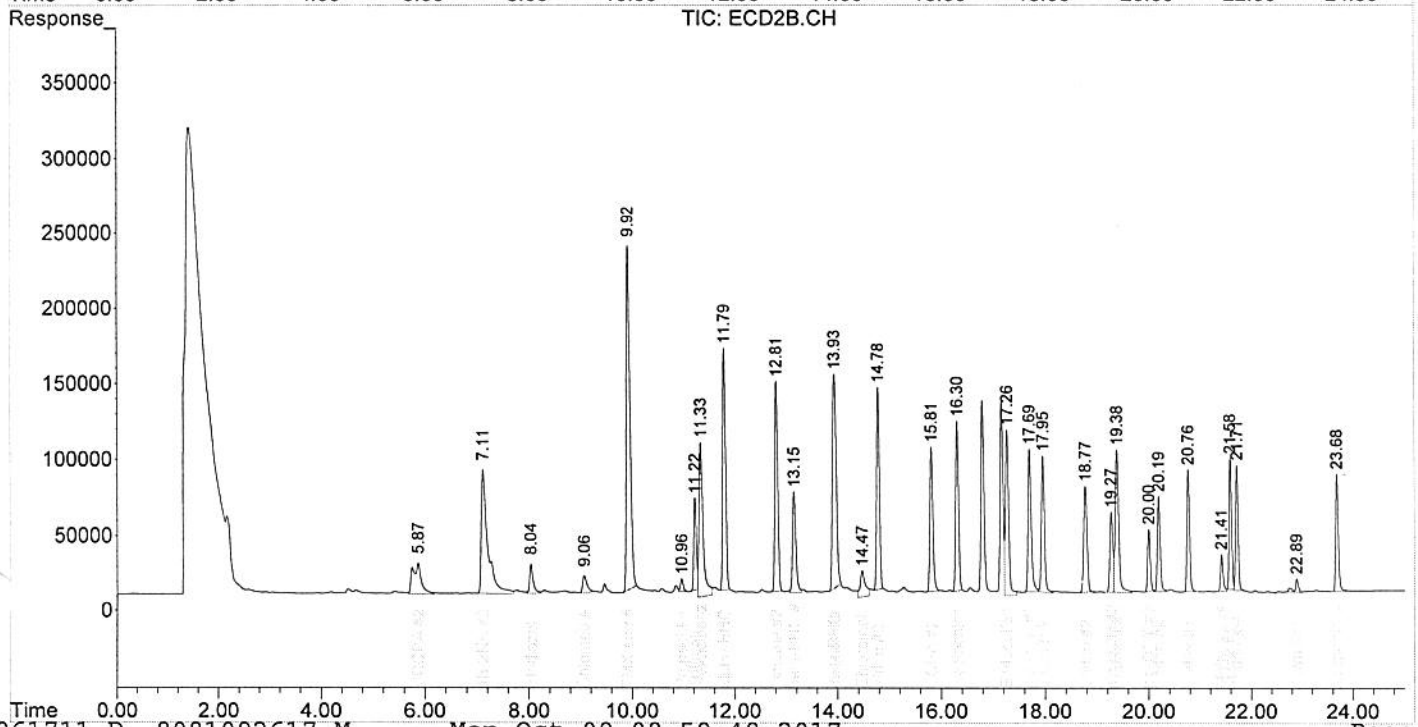
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061711.D\ECD1A.CH Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061711.D\ECD2B.CH
Acq On : 6 Oct 2017 7:51 pm Operator: YE
Sample : 608/8081 IDOC_01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 8:59 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061712.D\ECD1A.CH Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061712.D\ECD2B.CH
Acq On : 6 Oct 2017 8:20 pm Operator: YE
Sample : 608/8081 IDOC_02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 09:00:01 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

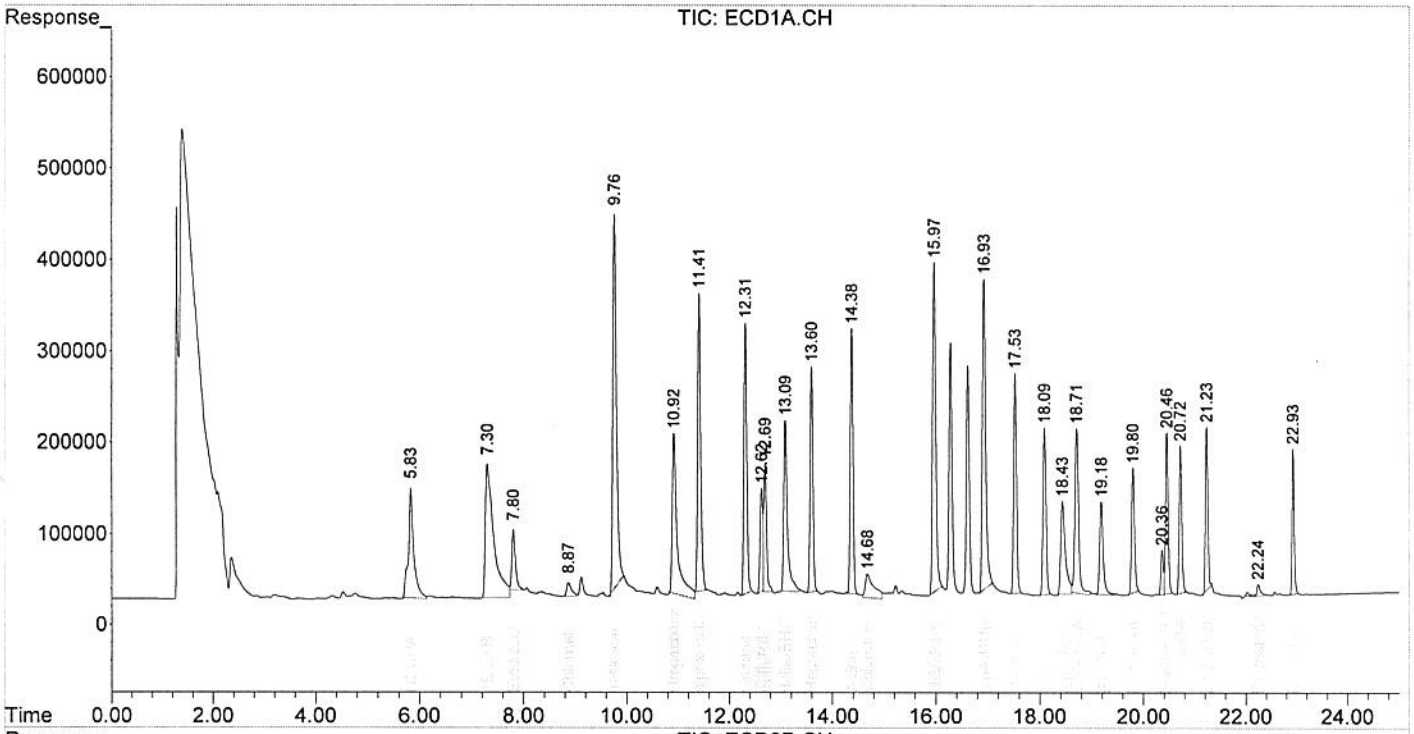
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.12	16400546	6874033	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.76	9.92	19999836	10990226	0.737	0.817
	Spiked Amount 1.000			Recovery =		73.70%	81.70%
31) s	Decachlorobiphen	22.93	23.67	4456984	2338157	0.274	0.284m
	Spiked Amount 1.000			Recovery =		27.40%	28.40%
	Target Compounds						
2)	HCCPA	5.83	5.87	8485087	2318207	0.518m	0.586m
3)	Etridiazole	7.80	8.04	3124047	777993	0.283m	0.190m#
4)	Chlorneb	8.87	9.07	968238	652822	0.436m	0.373m
6)	Propachlor	10.92	10.96	11366275	350915	0.309m	0.327m
7)	Hexaclbenzene	10.92	11.33	11876292	4868350	0.307m	0.334m
8)	alpha-BHC	11.41	11.79	13235565	6096900	0.354	0.415
9)	Lindane	12.31	12.81	11688947	5277042	0.355	0.405
10)	Trifluralin	12.63	11.22	3985778	2085159	0.343	0.293m
11)	beta-BHC	12.69	13.15	5592481	2817877	0.317m	0.385m
12)	delta-BHC	13.09	13.94	9244652	7143656	0.457m	0.392
13)	Heptachlor	13.60	13.94	9167500	7143656	0.287	0.387 #
14)	Aldrin	14.38	14.78	10670066	4849403	0.297	0.336
15)	Chlorothalonil	14.68	14.47	2986357	1154726	0.214m	0.230m
16)	DCPA	15.97	15.81	15514572	3728415	0.302	0.353m
17)	Heptachlor epoxi	15.97	16.31	15514572	4158481	0.302	0.336
18)	p'p-DDE	16.93	17.70	15357100	3776462	0.298	0.286m
19)	Endosulfan I	16.93	17.26	15357100	4395787	0.305	0.505m#
20)	Dieldrin	17.53	17.95	9235481	3353133	0.314	0.308m
21)	Endrin	18.09	18.77	7530671	2980653	0.300	0.334m
22)	p'p-DDD	18.43	19.27	6267345	1996596	0.375m	0.336m
23)	Endosulfan II	18.71	19.38	9100457	3993937	0.513m	0.538m
24)	p'p-DDT	19.18	20.00	4640839	1430496	0.351m	0.338m
25)	Endrin aldehyde	19.80	20.19	5340056	2228365	0.549	0.613m
26)	Methoxychlor	20.36	21.41	1575635	820365	0.314m	0.484m#
27)	Endosulfan sulfa	20.72	20.76	5552733	2645379	0.380	0.414m
28)	Mirex	20.46	21.58	6346179	2785515	0.262	0.293m
29)	Endrin ketone	21.23	21.71	5752575	2577675	0.344	0.374m
30)	Permethrins	22.24	22.89	721702	405110	0.422m	0.306m#

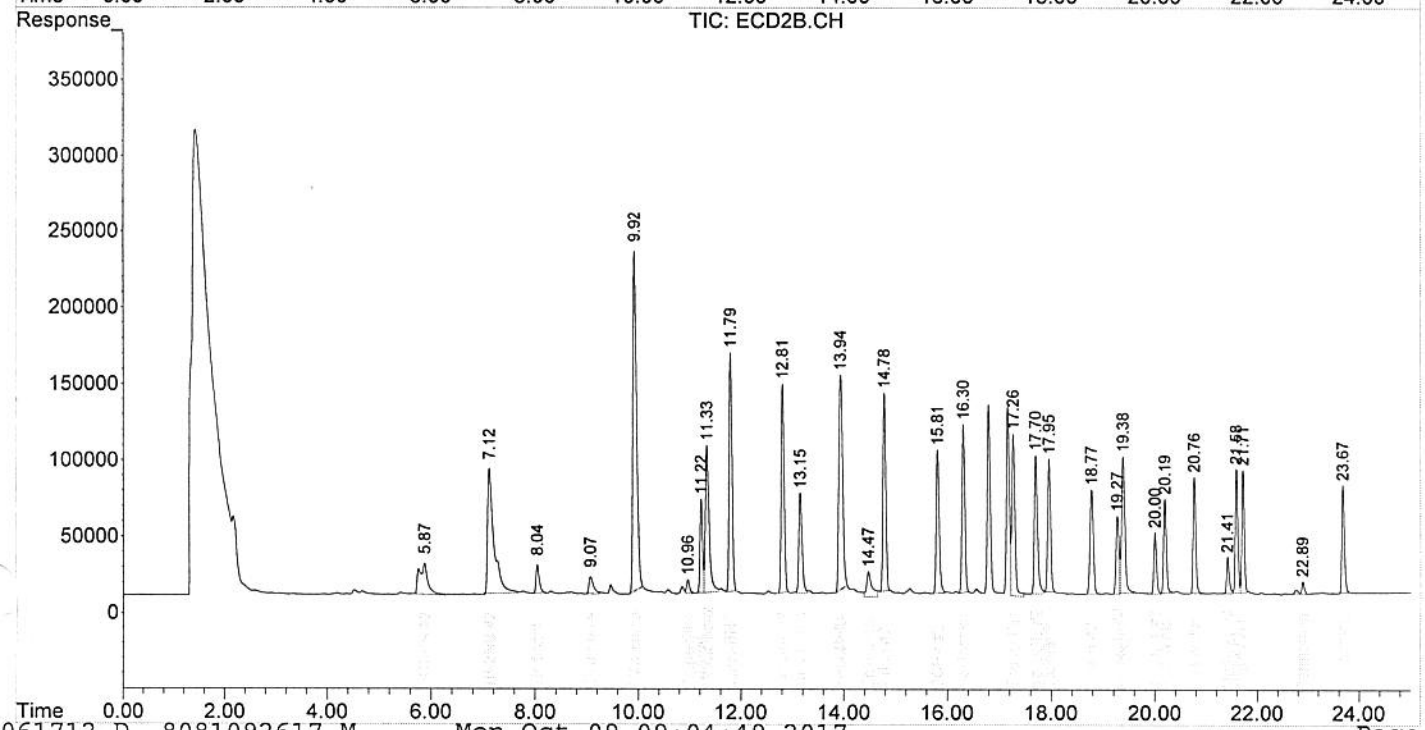
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061712.D\ECD1A.CH Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061712.D\ECD2B.CH
Acq On : 6 Oct 2017 8:20 pm Operator: YE
Sample : 608/8081 IDOC_02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 9:03 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061713.D\ECD1A.CH Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061713.D\ECD2B.CH
Acq On : 6 Oct 2017 8:50 pm Operator: YE
Sample : 608/8081 IDOC_03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 09:10:12 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

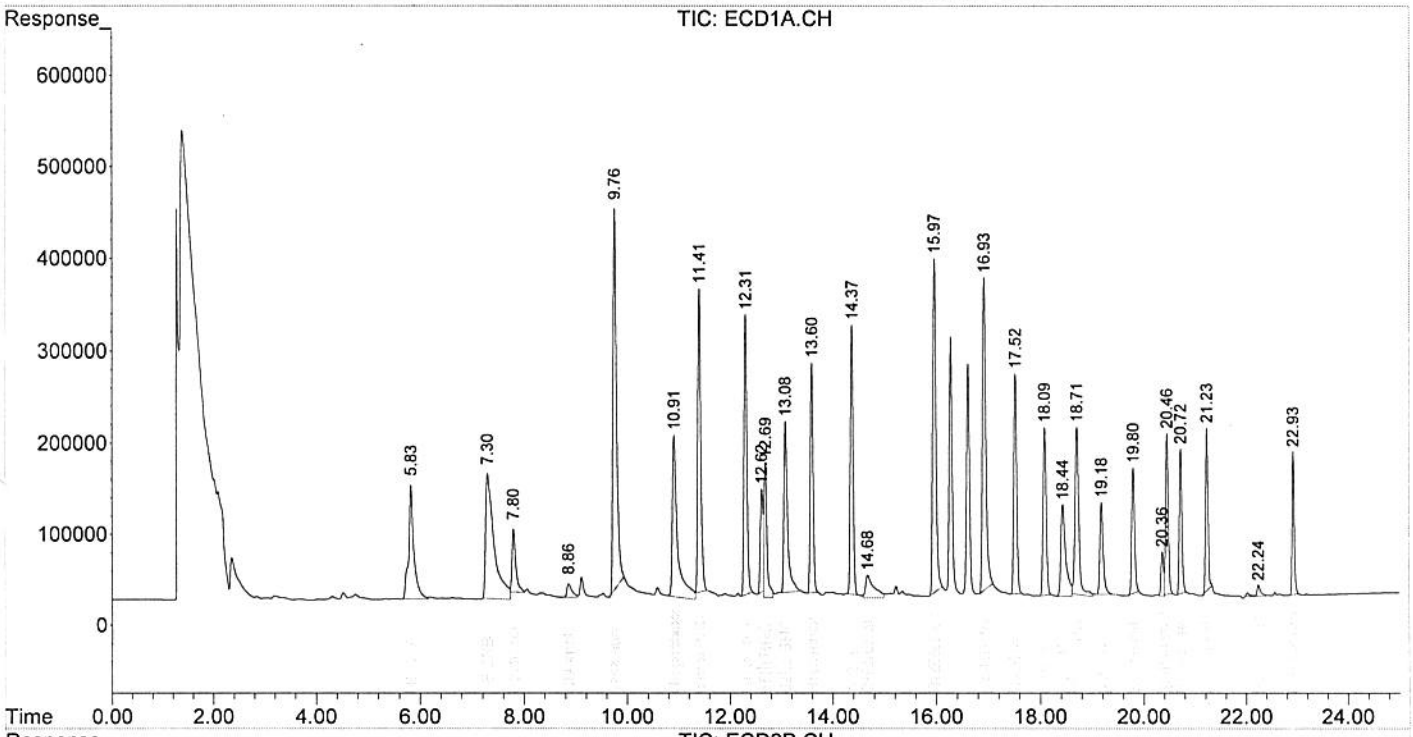
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.12	15515341	6674286	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.76	9.92	19946297	10931702	0.777	0.837
	Spiked Amount 1.000			Recovery =		77.70%	83.70%
31) s	Decachlorobiphen	22.93	23.67	4337617	2372926	0.282	0.296m
	Spiked Amount 1.000			Recovery =		28.20%	29.60%
	Target Compounds						
2)	HCCPA	5.83	5.87	8657178	2286085	0.559m	0.595m
3)	Etridiazole	7.80	8.04	3420749	795230	0.336m	0.200m#
4)	Chlorneb	8.86	9.06	962252	575427	0.458m	0.339m#
6)	Propachlor	10.91	10.96	10753710	388063	0.309m	0.373m
7)	Hexaclbenzene	10.91	11.33	12385758	4709768	0.339m	0.333m
8)	alpha-BHC	11.41	11.79	13207156	6080074	0.374	0.426
9)	Lindane	12.31	12.81	11907763	5289464	0.382	0.418
10)	Trifluralin	12.63	11.22	3955541	2109098	0.360	0.305m
11)	beta-BHC	12.69	13.15	6137146	2731546	0.386m	0.385m
12)	delta-BHC	13.08	13.94	9154052	7140128	0.479m	0.404
13)	Heptachlor	13.60	13.94	9283300	7140128	0.307	0.398 #
14)	Aldrin	14.38	14.78	10735232	4845725	0.316	0.346
15)	Chlorothalonil	14.68	14.47	2869529	955637	0.217m	0.196m
16)	DCPA	15.97	15.81	15504887	3785232	0.323	0.369m
17)	Heptachlor epoxi	15.97	16.30	15504887	4149229	0.323	0.345
18)	p'p-DDE	16.93	17.70	15335031	3848418	0.315	0.301m
19)	Endosulfan I	16.93	17.26	15335031	4494619	0.322	0.532m#
20)	Dieldrin	17.53	17.95	9220755	3341489	0.331	0.316m
21)	Endrin	18.09	18.77	7543338	3172867	0.318	0.366m
22)	p'p-DDD	18.44	19.27	6482284	2056334	0.410m	0.357m
23)	Endosulfan II	18.71	19.38	9310481	3828963	0.555m	0.531m
24)	p'p-DDT	19.18	19.99	4431045	1355757	0.354m	0.331m
25)	Endrin aldehyde	19.80	20.19	5312815	2158546	0.577	0.611m
26)	Methoxychlor	20.36	21.41	1619366	767940	0.341m	0.467m#
27)	Endosulfan sulfa	20.72	20.76	5480279	2756502	0.396	0.444m
28)	Mirex	20.46	21.58	6238830	2665296	0.274	0.289m
29)	Endrin ketone	21.23	21.71	5740529	2550123	0.363	0.381m
30)	Permethrins	22.24	22.89	740747	384912	0.468m	0.300m#

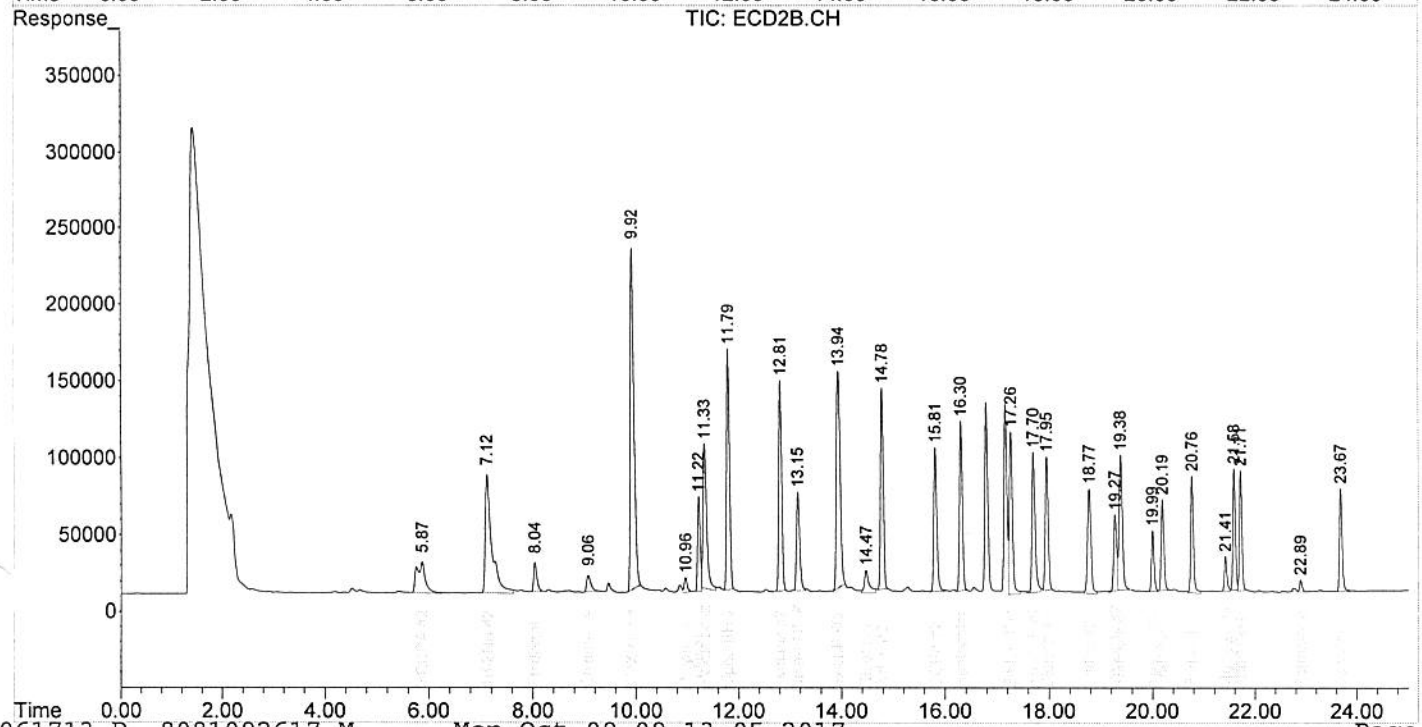
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061713.D\ECD1A.CH Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061713.D\ECD2B.CH
Acq On : 6 Oct 2017 8:50 pm Operator: YE
Sample : 608/8081 IDOC_03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 9:12 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061714.D\ECD1A.CH Vial: 13
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061714.D\ECD2B.CH
Acq On : 6 Oct 2017 9:20 pm Operator: YE
Sample : 608/8081 IDOC_04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 09:13:15 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

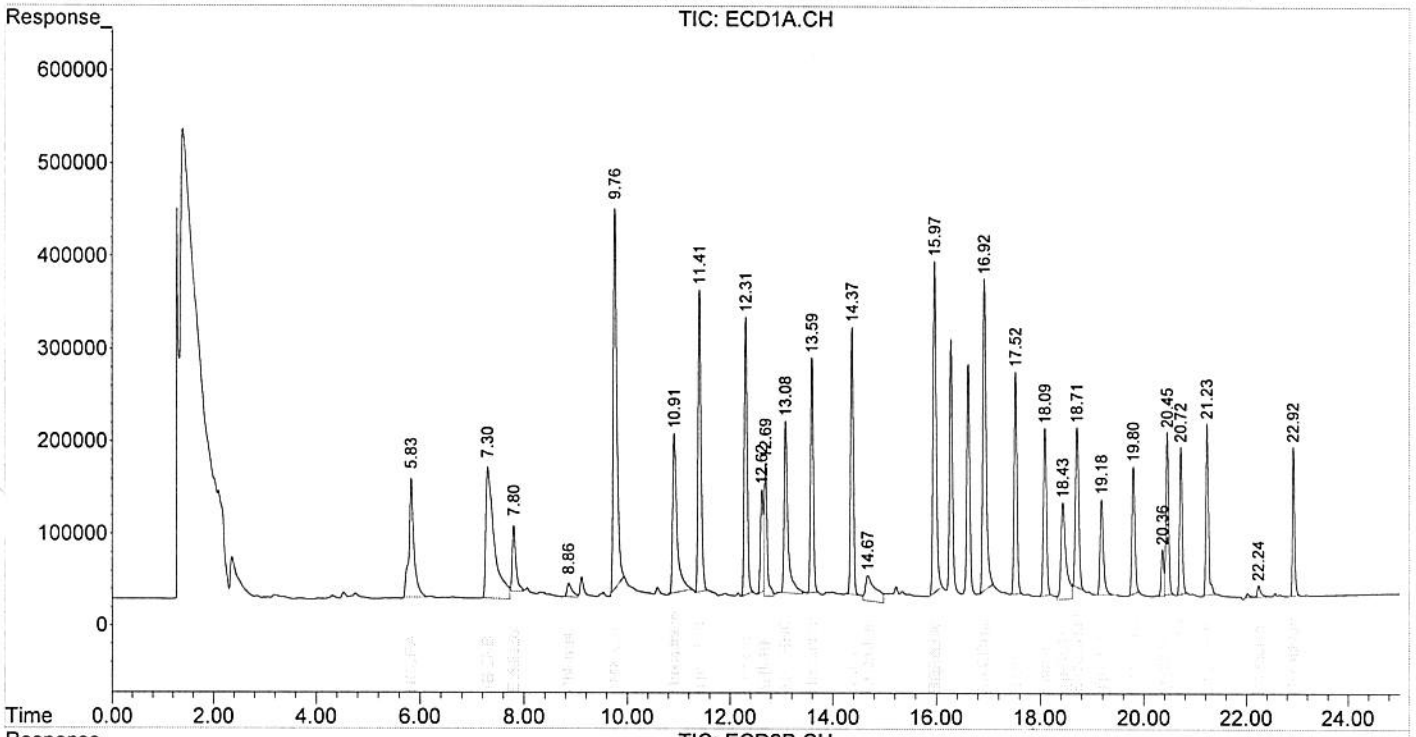
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.11	16077796	6879104	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.76	9.92	19802480	10946924	0.745	0.813
	Spiked Amount 1.000			Recovery =		74.50%	81.30%
31) s	Decachlorobiphen	22.93	23.67	4534028	2582132	0.284	0.313m
	Spiked Amount 1.000			Recovery =		28.40%	31.30%
	Target Compounds						
2)	HCCPA	5.83	5.87	8545024	2322543	0.532m	0.586m
3)	Etridiazole	7.80	8.04	3479867	903791	0.329m	0.220m#
4)	Chlorneb	8.86	9.06	1028851	665948	0.473m	0.381m
6)	Propachlor	10.91	10.96	11582479	360688	0.322m	0.336m
7)	Hexaclbenzene	10.91	11.33	10295672	4816923	0.272m	0.330m
8)	alpha-BHC	11.41	11.79	13129975	6078312	0.359	0.414
9)	Lindane	12.31	12.81	11905000	5303403	0.369	0.407
10)	Trifluralin	12.62	11.22	3930745	2130908	0.345	0.299m
11)	beta-BHC	12.69	13.15	5890653	2727948	0.348m	0.373m
12)	delta-BHC	13.08	13.94	9494305	7244710	0.479m	0.397
13)	Heptachlor	13.60	13.94	9388287	7244710	0.300	0.392 #
14)	Aldrin	14.37	14.78	10595265	4814142	0.301	0.333
15)	Chlorothalonil	14.67	14.47	3782242	1211934	0.276m	0.241m
16)	DCPA	15.97	15.80	15350341	3890708	0.305	0.368m
17)	Heptachlor epoxi	15.97	16.30	15350341	4134516	0.305	0.333
18)	p'p-DDE	16.92	17.69	15239789	3673886	0.302	0.278m
19)	Endosulfan I	16.92	17.26	15239789	4166992	0.308	0.479m#
20)	Dieldrin	17.53	17.95	9144141	3380990	0.317	0.311m
21)	Endrin	18.09	18.77	7464682	3014555	0.304	0.337m
22)	p'p-DDD	18.43	19.26	7035504	2397744	0.429m	0.403m
23)	Endosulfan II	18.71	19.38	7821669	3823042	0.450	0.515m
24)	p'p-DDT	19.18	19.99	4588205	1495597	0.354m	0.351m
25)	Endrin aldehyde	19.80	20.18	5391103	2218226	0.565	0.609m
26)	Methoxychlor	20.36	21.41	1692190	864219	0.343m	0.508m#
27)	Endosulfan sulfa	20.72	20.76	5547331	2558452	0.387	0.400m
28)	Mirex	20.46	21.58	6345336	2717731	0.268	0.286m
29)	Endrin ketone	21.23	21.71	6529680	2674148	0.398m	0.387m
30)	Permethrins	22.24	22.89	771024	498964	0.471m	0.377m

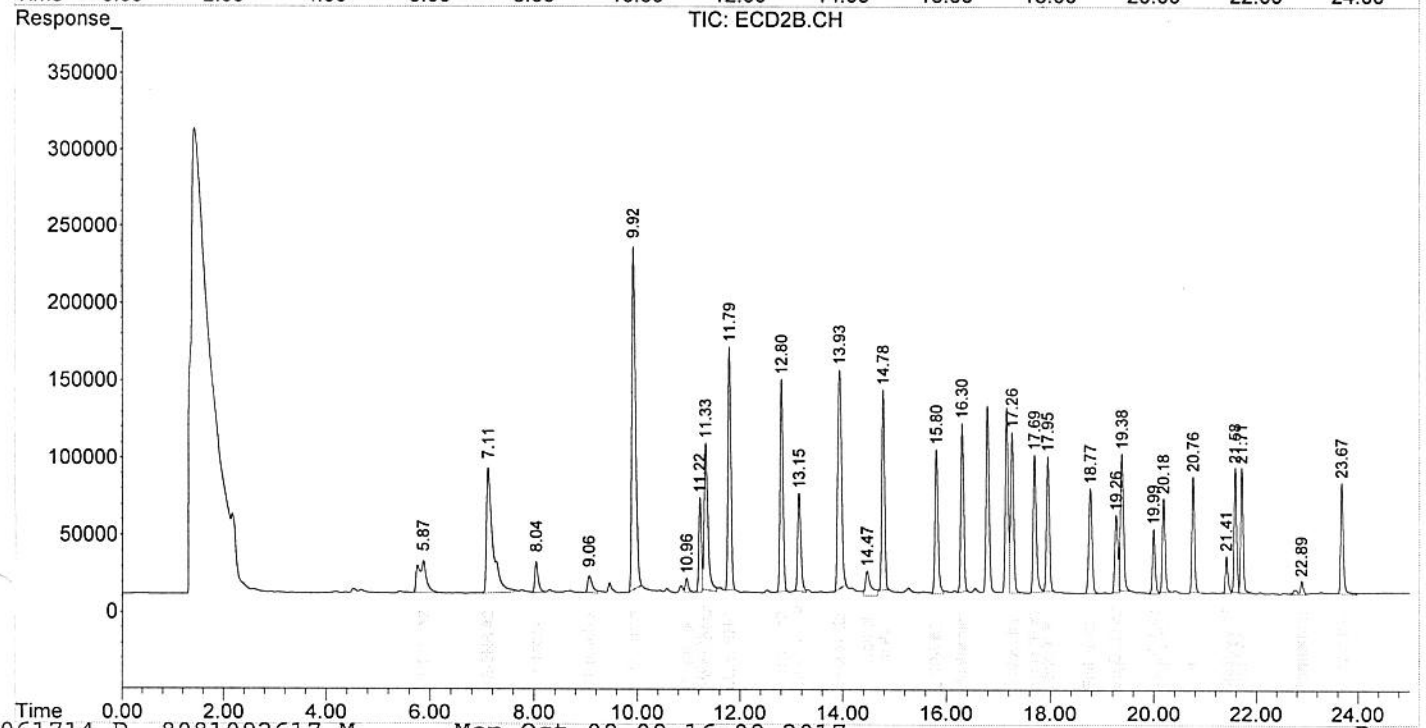
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061714.D\ECD1A.CH Vial: 13
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061714.D\ECD2B.CH
Acq On : 6 Oct 2017 9:20 pm Operator: YE
Sample : 608/8081 IDOC_04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 9:16 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061719.D\ECD1A.CH Vial: 18
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061719.D\ECD2B.CH
Acq On : 6 Oct 2017 11:47 pm Operator: YE
Sample : 8081 IDOCXLA-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:08:48 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

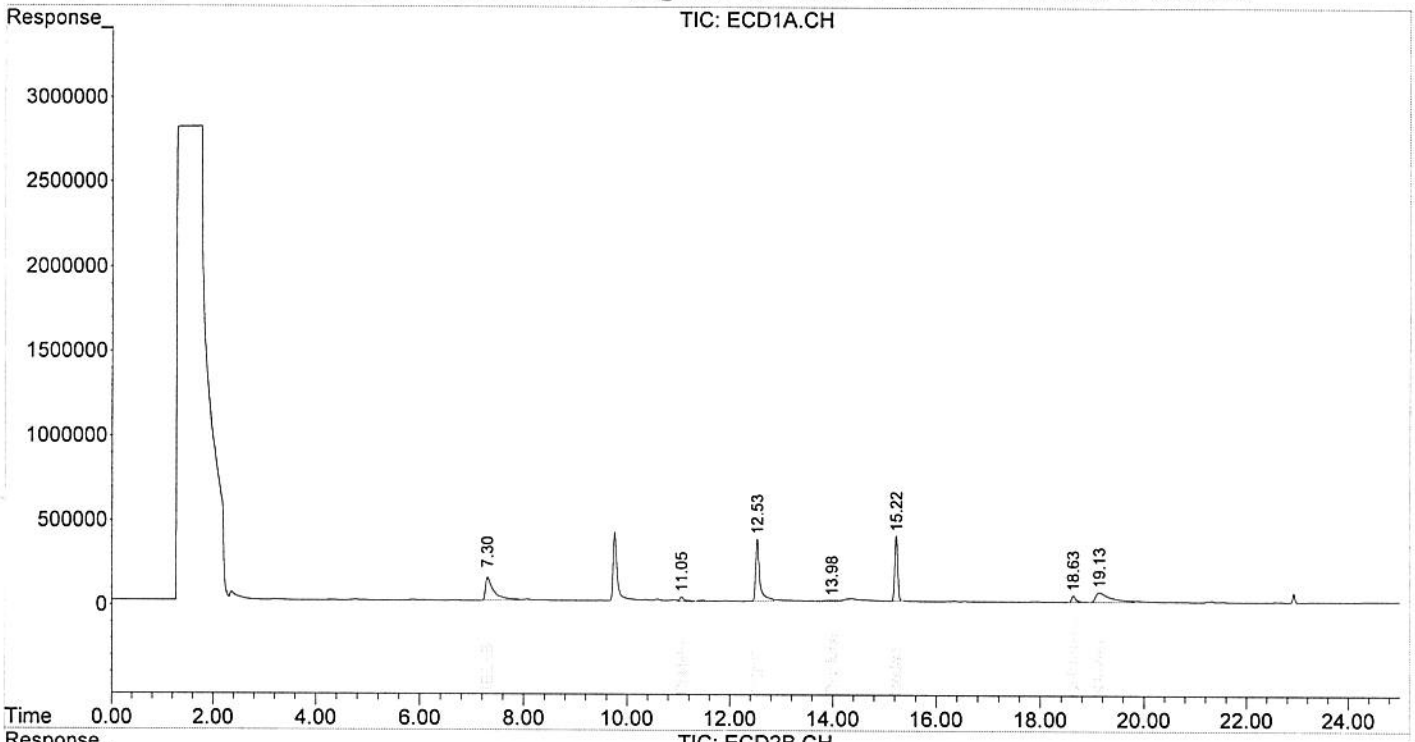
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B2NB	7.30	7.11	15391837	6483099	0.100m	0.100m
	Target Compounds						
2)	Diallate	11.05	11.25	2347651	1289650	0.500m	0.602m
3)	PCNB	12.53	12.72	20455128	10858513	0.768m	0.887m
4)	Dichlone	13.98	14.77f	1157500	2134103	0.543m	0.855m#
5)	Isodrin	15.23	15.80	14829048	7078559	0.809	0.707
6)	Chloropropylate	18.63	18.85	2472978	1209608	1.060m	1.052m
7)	Nitrofen	19.13	19.23	11603391	4255092	0.813m	0.695m

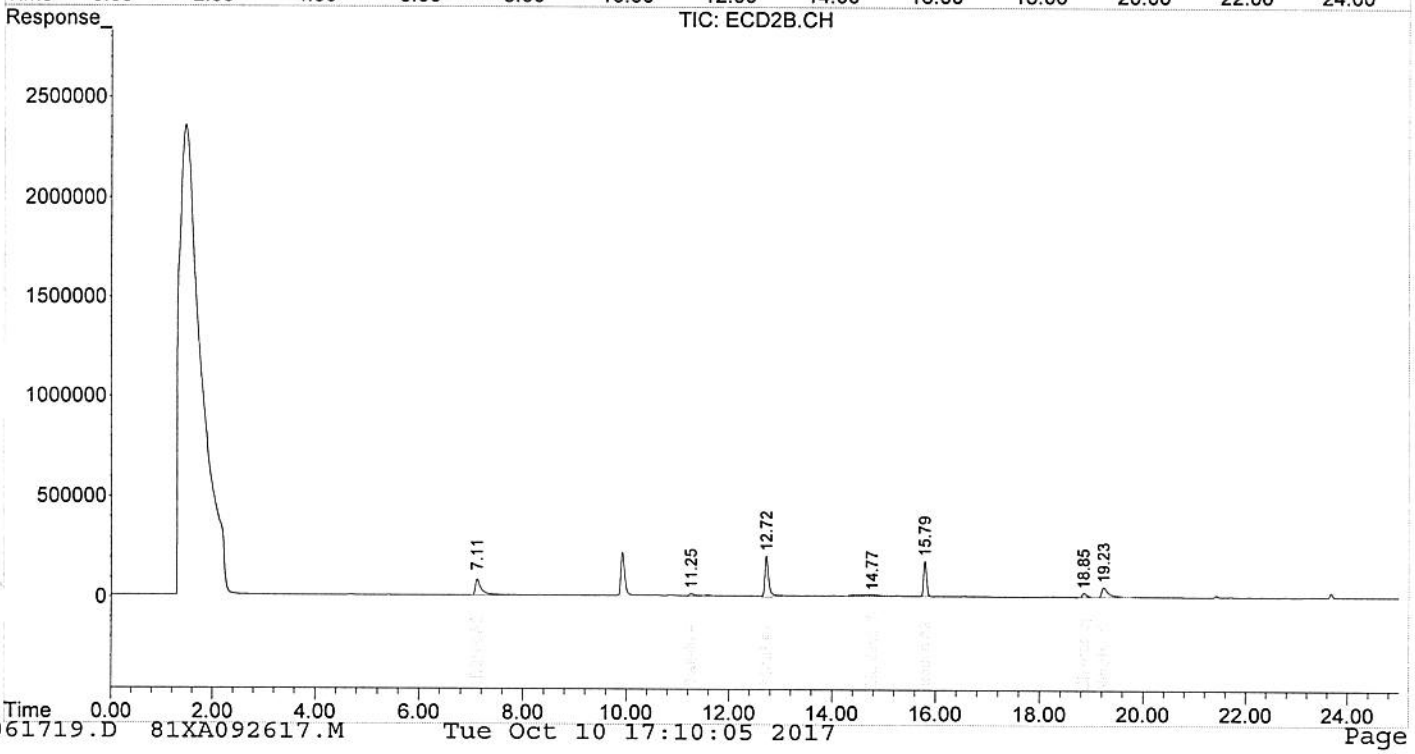
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061719.D\ECD1A.CH Vial: 18
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061719.D\ECD2B.CH
Acq On : 6 Oct 2017 11:47 pm Operator: YE
Sample : 8081 IDOCXLA-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:09 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061720.D\ECD1A.CH Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061720.D\ECD2B.CH
Acq On : 7 Oct 2017 12:16 am Operator: YE
Sample : 8081 IDOCXLA-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:19:32 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

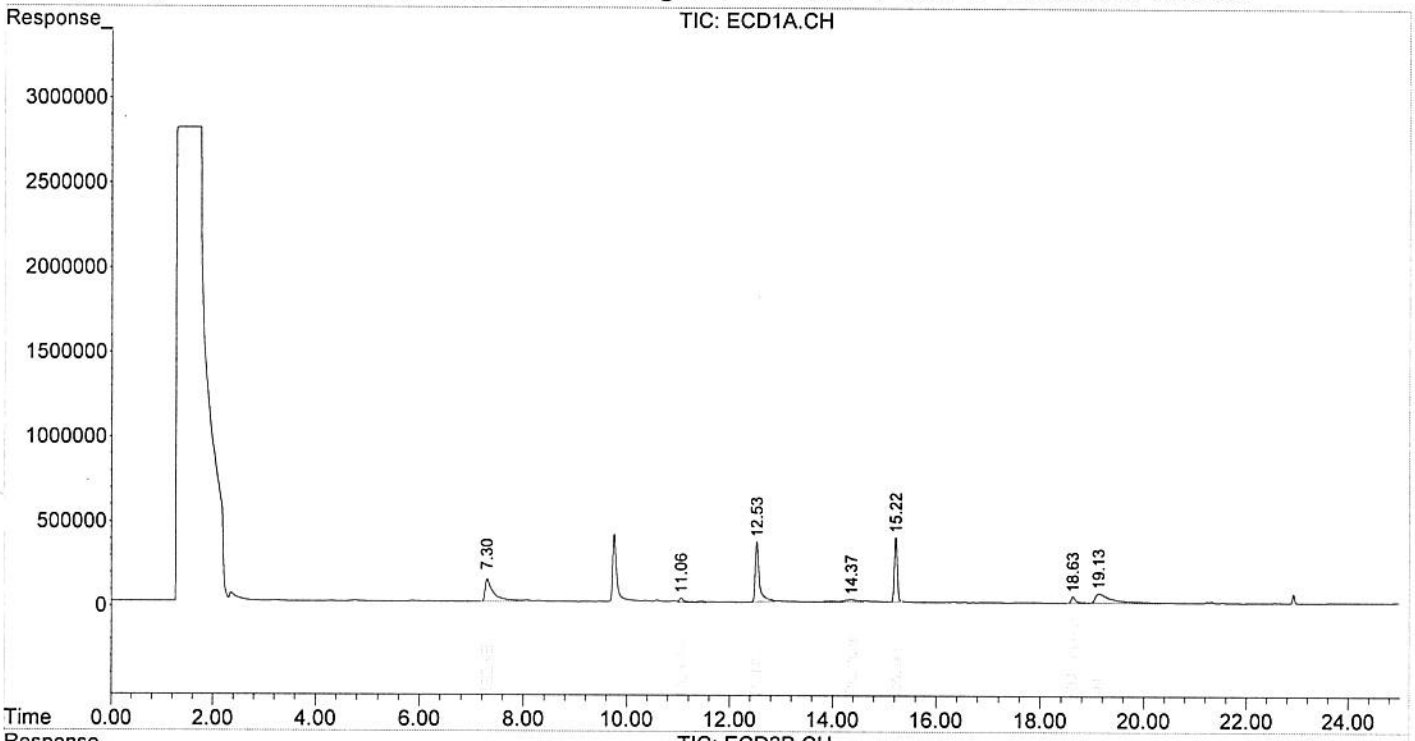
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	14800745	5895489	0.100m	0.100m
		Target Compounds						
2)		Diallate	11.06	11.25	2572456	1212424	0.658m	0.650m
3)		PCNB	12.53	12.72	19881527	9543209	0.779m	0.850m
4)		Dichlone	14.37f	14.77f	3820859	3176815	1.135m	1.210m
5)		Isodrin	15.22	15.79	14589661	6949211	0.835	0.763
6)		Chloropropylate	18.63	18.85	2461015	1179891	1.097m	1.128m
7)		Nitrofen	19.13	19.23	13113066	4654195	0.955m	0.836m

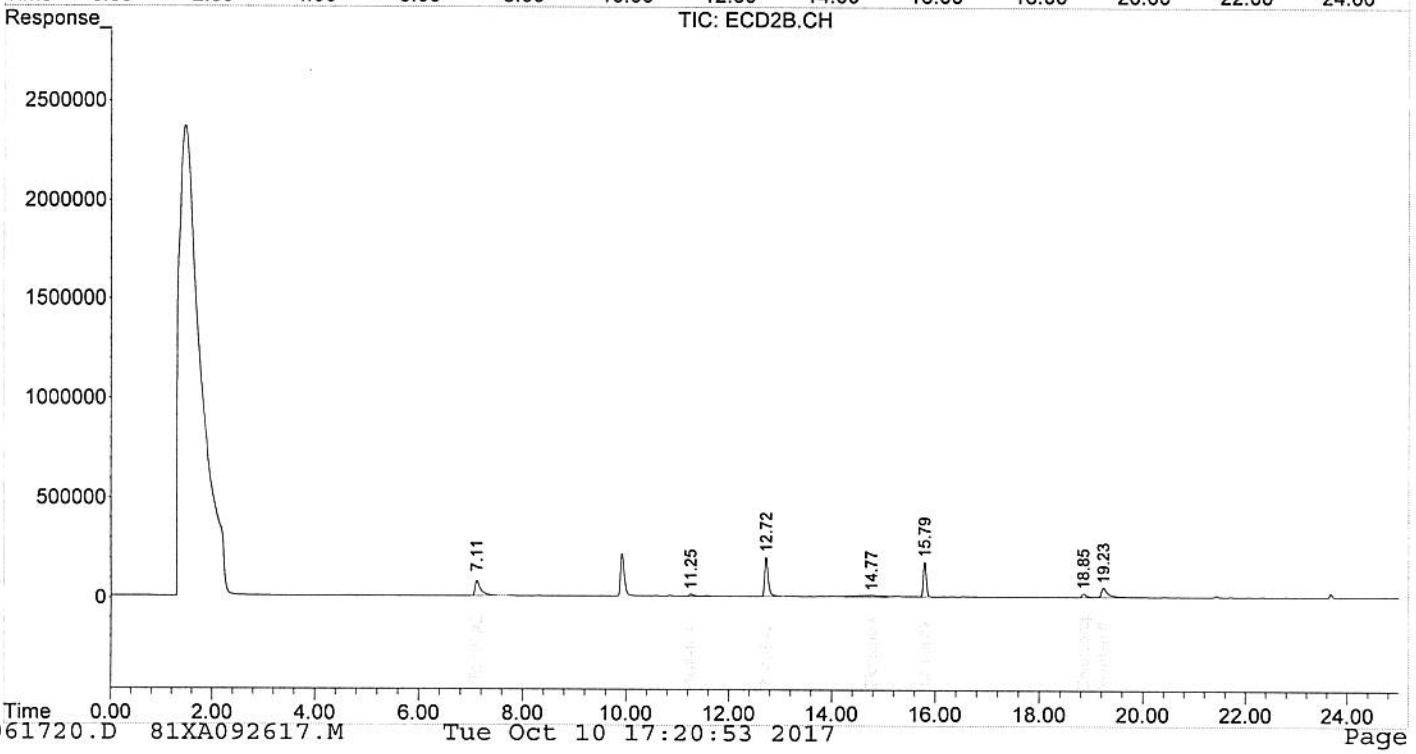
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061720.D\ECD1A.CH Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061720.D\ECD2B.CH
Acq On : 7 Oct 2017 12:16 am Operator: YE
Sample : 8081 IDOCXLA-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:20 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061721.D\ECD1A.CH Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061721.D\ECD2B.CH
Acq On : 7 Oct 2017 12:46 am Operator: YE
Sample : 8081 IDOCXLA-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:20:58 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

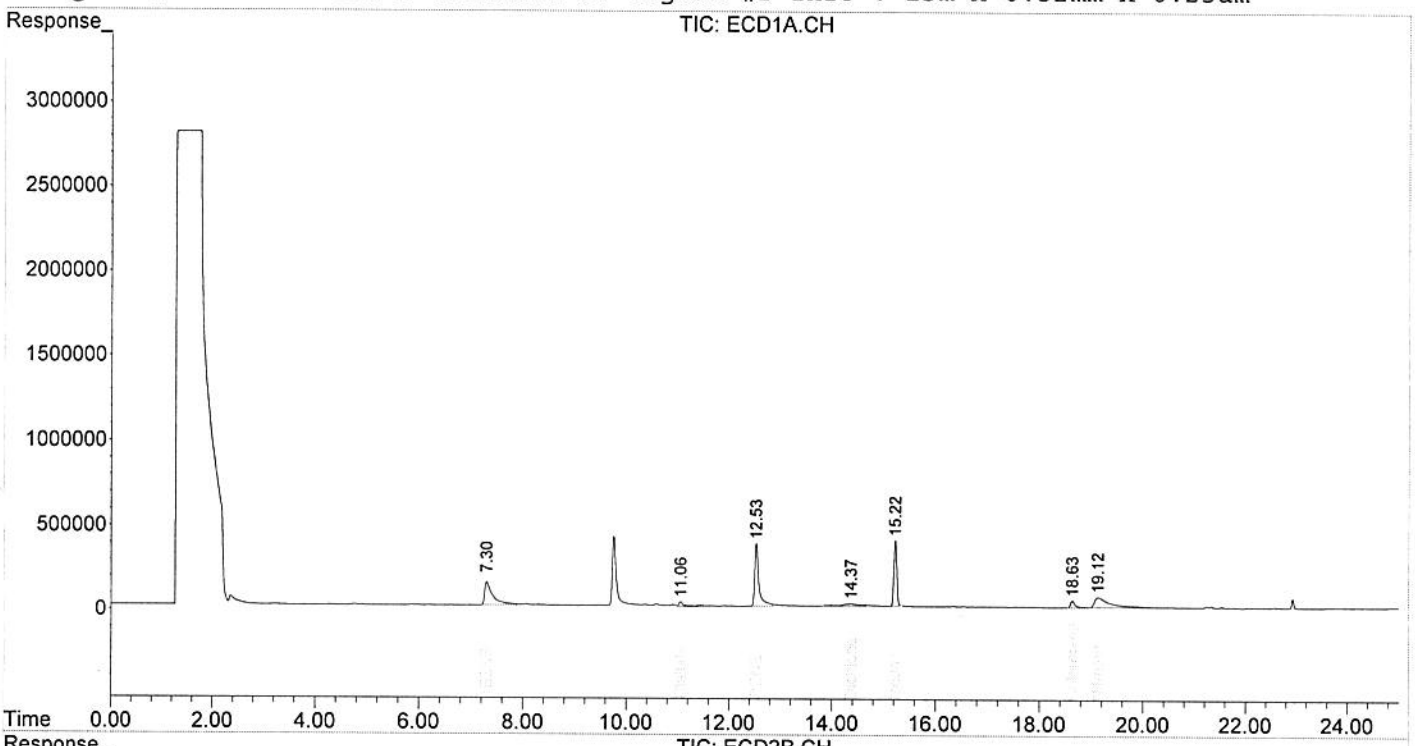
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	15064065	6367550	0.100m	0.100m
		Target Compounds						
2)		Diallate	11.06	11.25	2448768	1121905	0.573m	0.440m
3)		PCNB	12.53	12.72	20712008	9718143	0.804m	0.789m
4)		Dichlone	14.37f	14.77f	2745339	2372062	0.901m	0.928m
5)		Isodrin	15.23	15.80	15103613	7205442	0.855	0.733
6)		Chloropropylate	18.63	18.85	2584012	1291949	1.132m	1.144m
7)		Nitrofen	19.12	19.23	13589123	4976816	0.972m	0.828m

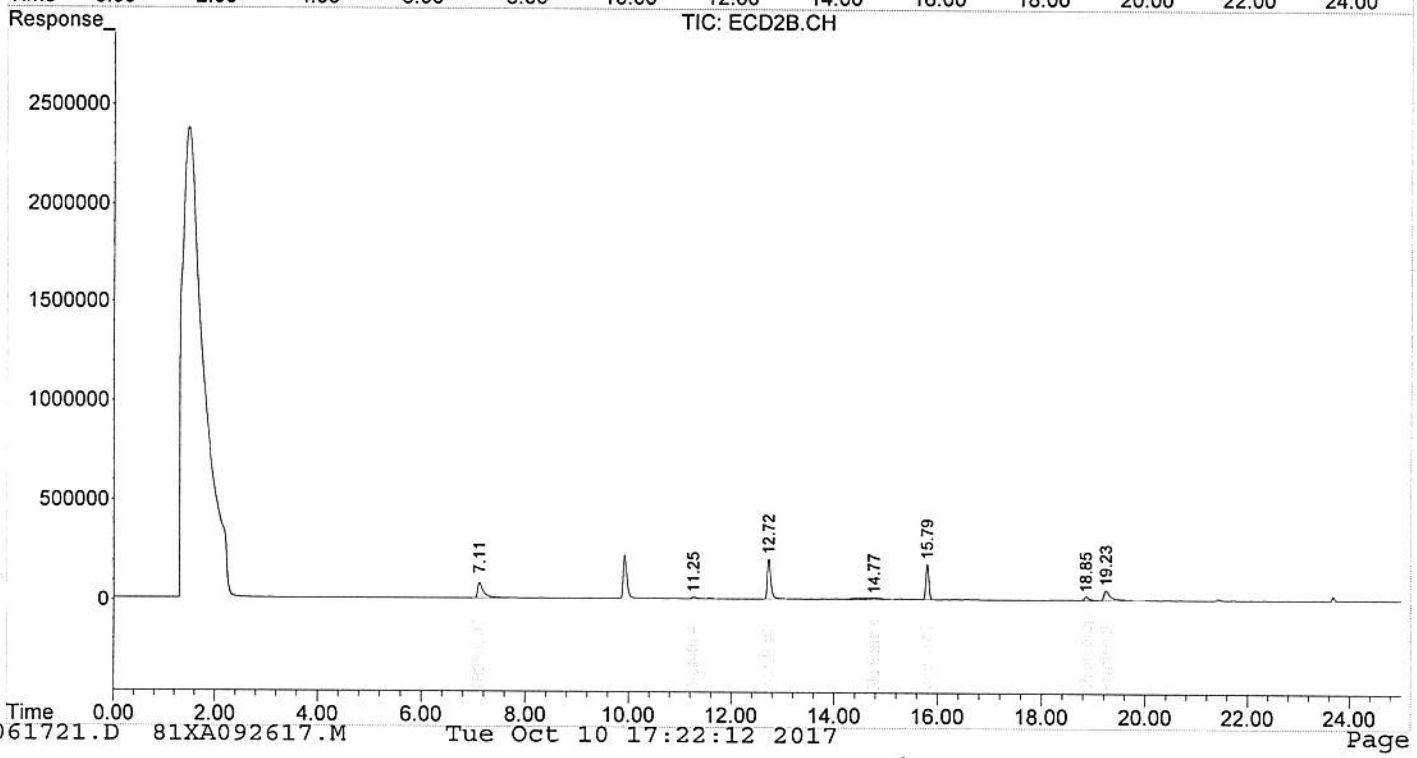
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061721.D\ECD1A.CH Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061721.D\ECD2B.CH
Acq On : 7 Oct 2017 12:46 am Operator: YE
Sample : 8081 IDOCXLA-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:22 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061722.D\ECD1A.CH Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061722.D\ECD2B.CH
Acq On : 7 Oct 2017 1:15 am Operator: YE
Sample : 8081 IDOCXLA-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:22:22 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

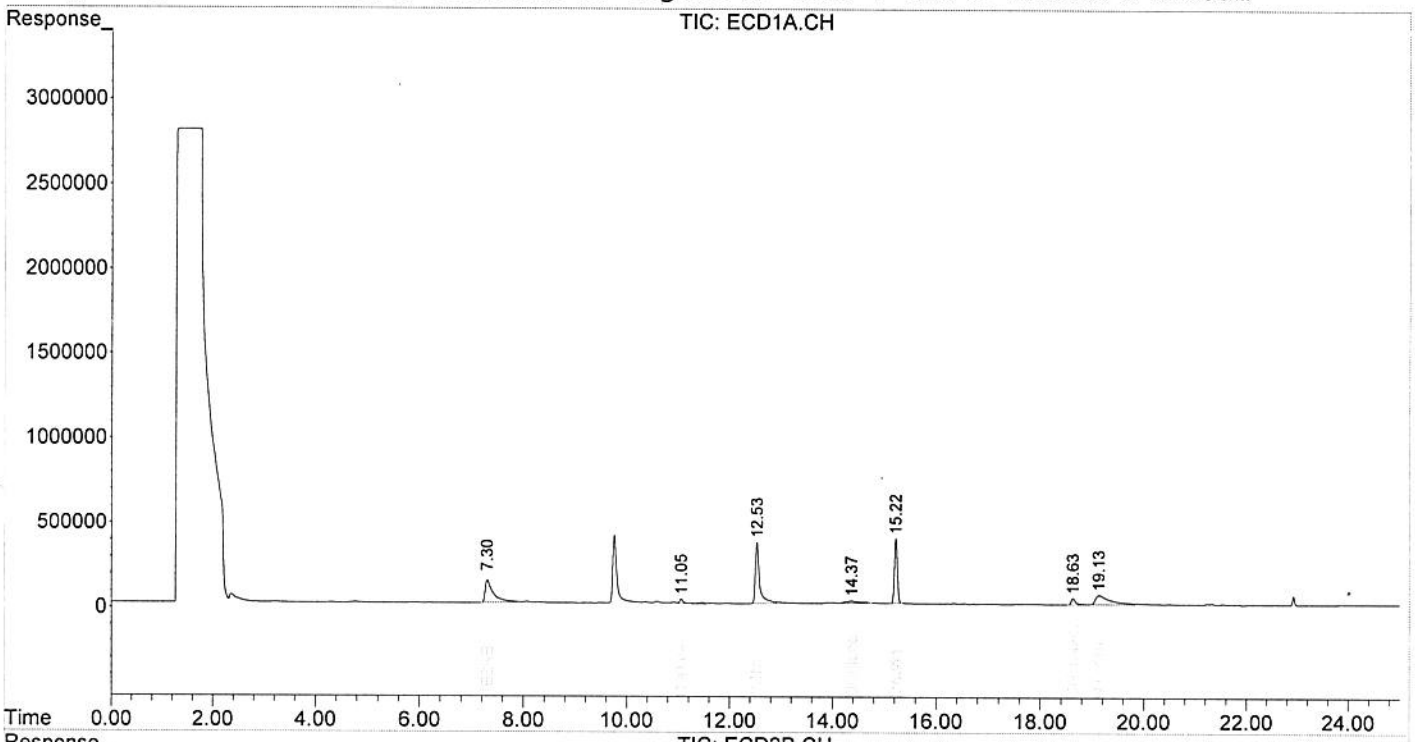
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B2NB	7.30	7.11	14171004	6322764	0.100m	0.100m
	Target Compounds						
2)	Diallate	11.05	11.25	2115466	1412222	0.477m	0.777m#
3)	PCNB	12.53	12.72	20547314	9685411	0.863m	0.792m
4)	Dichlone	14.37f	14.77f	2456873	2102064	0.873m	0.860m
5)	Isodrin	15.22	15.79	14584935	6953096	0.886	0.712
6)	Chloropropylate	18.63	18.85	2276498	1171303	1.060m	1.044m
7)	Nitrofen	19.13	19.23	11157398	4368300	0.849m	0.732m

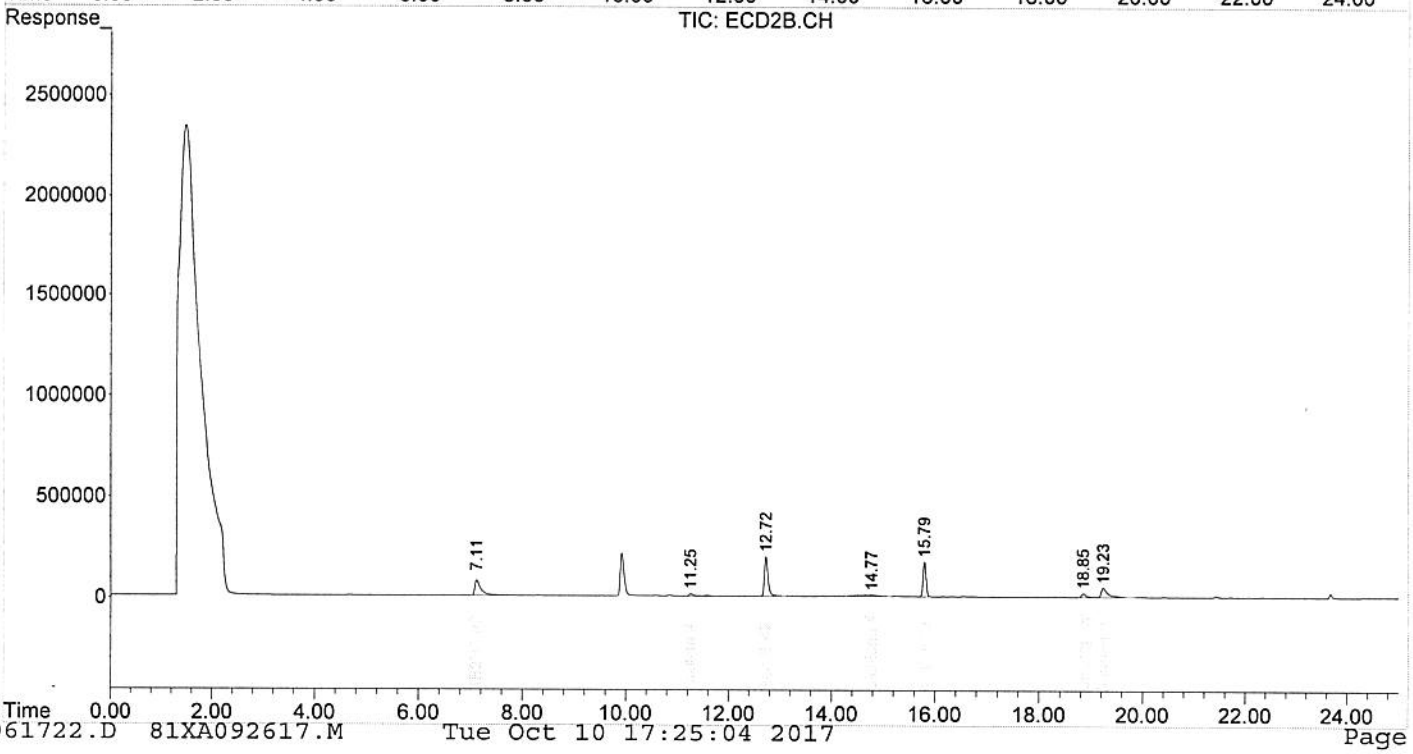
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061722.D\ECD1A.CH Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061722.D\ECD2B.CH
Acq On : 7 Oct 2017 1:15 am Operator: YE
Sample : 8081 IDOCXLA-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:23 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061727.D\ECD1A.CH Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061727.D\ECD2B.CH
Acq On : 7 Oct 2017 3:43 am Operator: YE
Sample : 8081 IDOCXLB-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:11:46 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

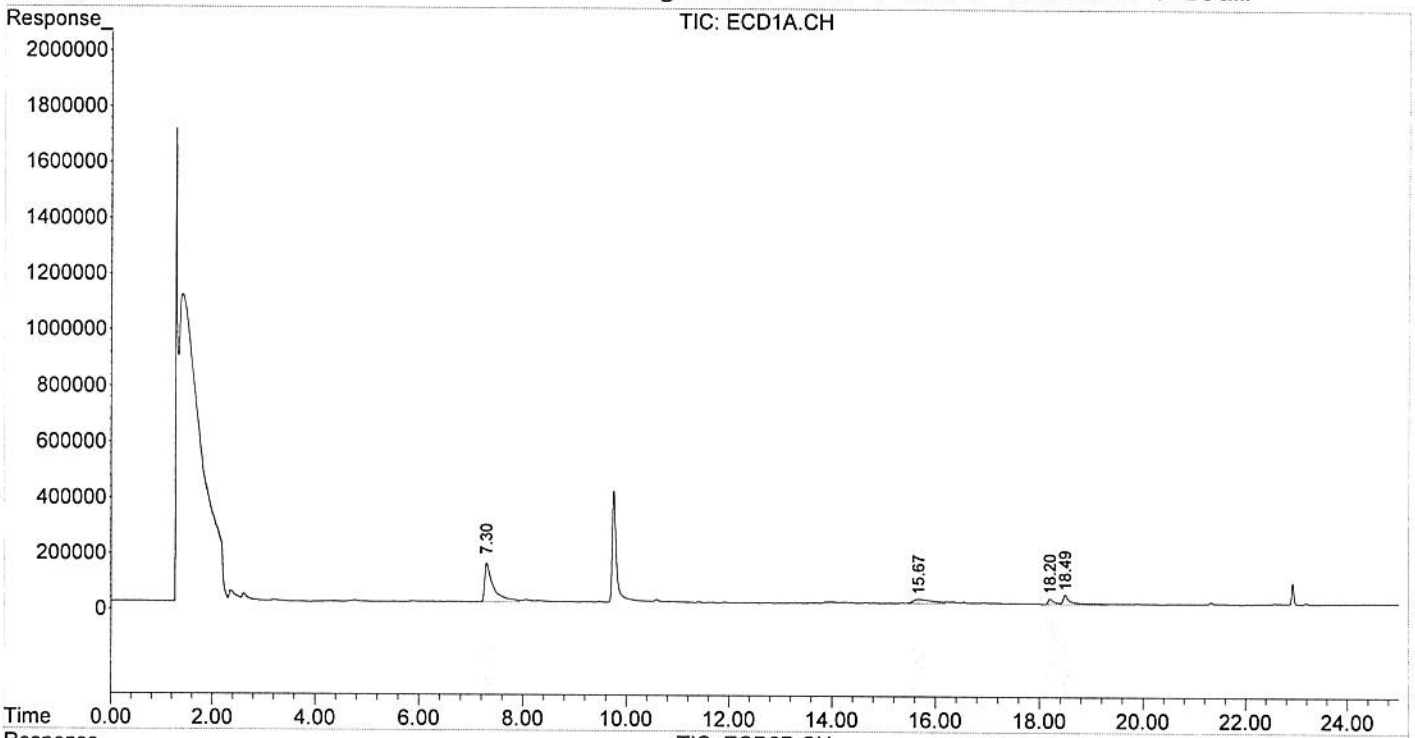
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	16184839	6369325	0.100m	0.100m
		Target Compounds						
2)		Dicofol	15.67	15.88	3949696	1610266	0.464m	0.486m
3)		Chlorobenzilate	18.20	18.95	1639245	1039825	0.670m	0.813m
4)		Kepone	18.49	19.01	3890394	1163804	0.852m	0.611m#

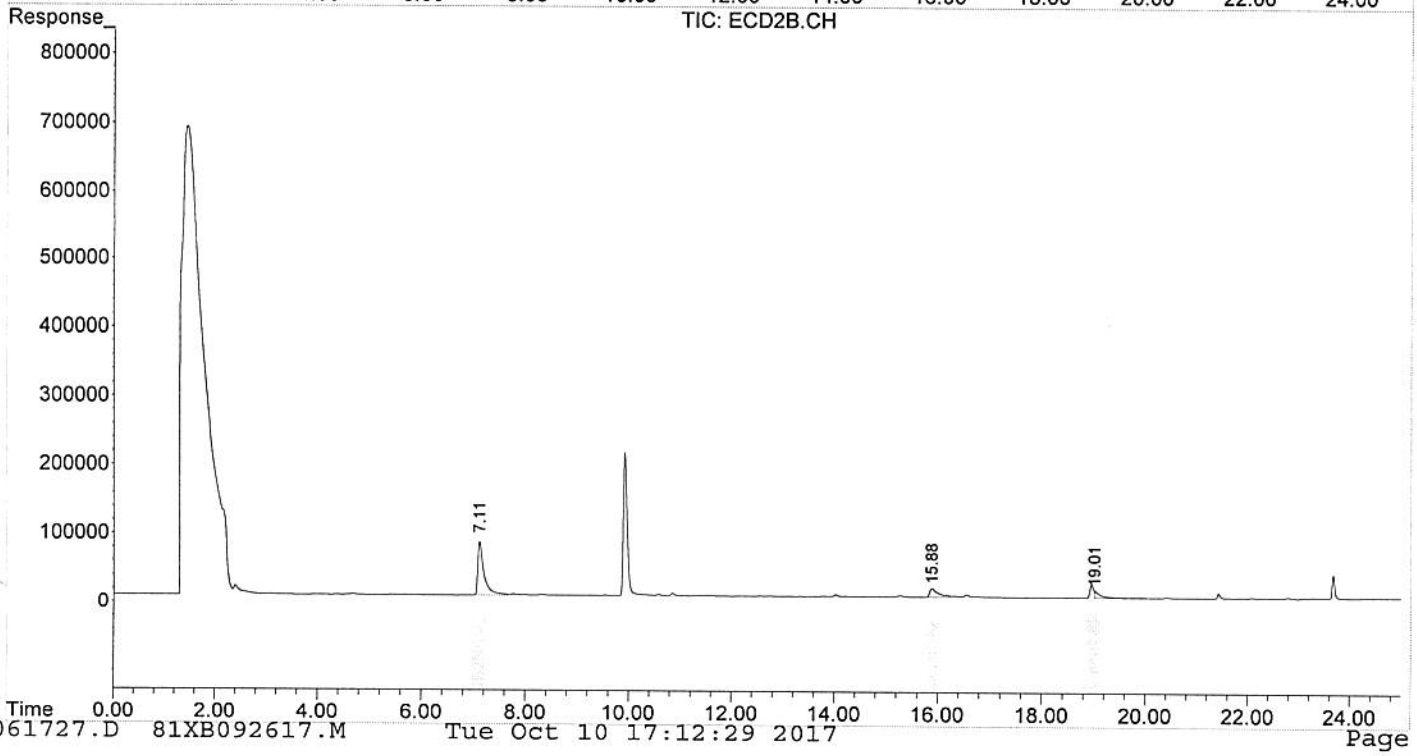
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061727.D\ECD1A.CH Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061727.D\ECD2B.CH
Acq On : 7 Oct 2017 3:43 am Operator: YE
Sample : 8081 IDOCXLB-01 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:12 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061728.D\ECD1A.CH Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061728.D\ECD2B.CH
Acq On : 7 Oct 2017 4:12 am Operator: YE
Sample : 8081 IDOCXLB-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:29:12 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

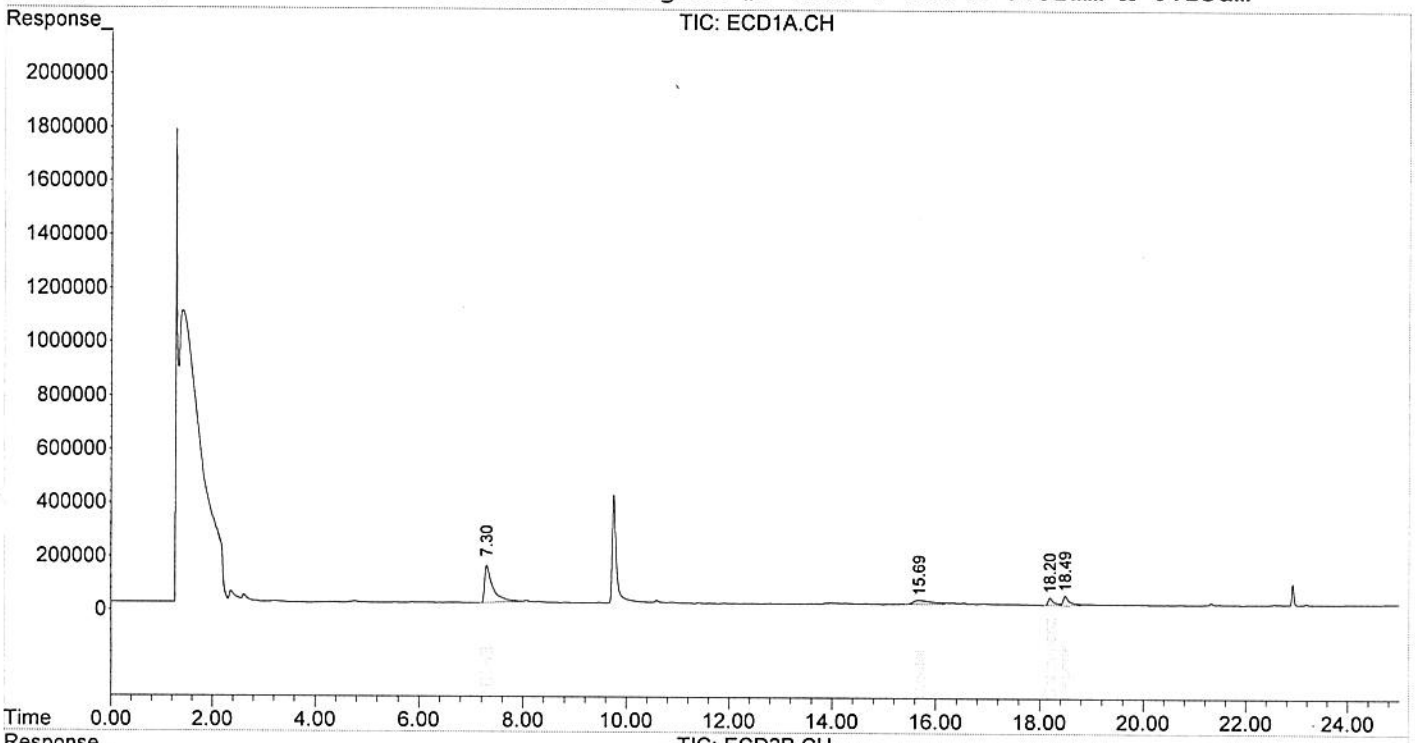
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	14565669	6136398	0.100m	0.100m
		Target Compounds						
2)		Dicofol	15.69	15.88	3832186	1590376	0.532m	0.511m
3)		Chlorobenzilate	18.20	18.96	1993578	1063947	0.822m	0.862m
4)		Kepone	18.49	19.03	3046110	1024471	0.732m	0.558m

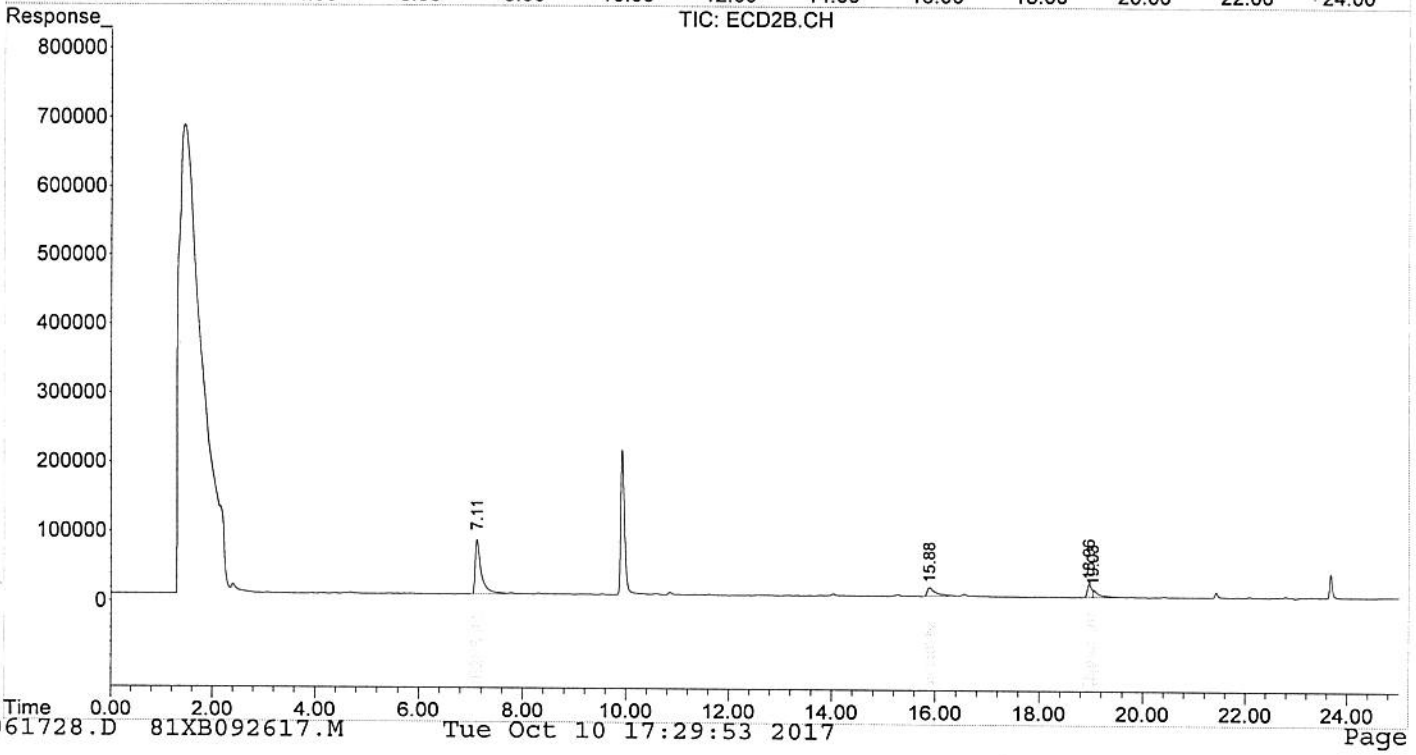
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061728.D\ECD1A.CH Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061728.D\ECD2B.CH
Acq On : 7 Oct 2017 4:12 am Operator: YE
Sample : 8081 IDOCXLB-02 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:29 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061729.D\ECD1A.CH Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061729.D\ECD2B.CH
Acq On : 7 Oct 2017 4:41 am Operator: YE
Sample : 8081 IDOCXLB-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:29:59 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

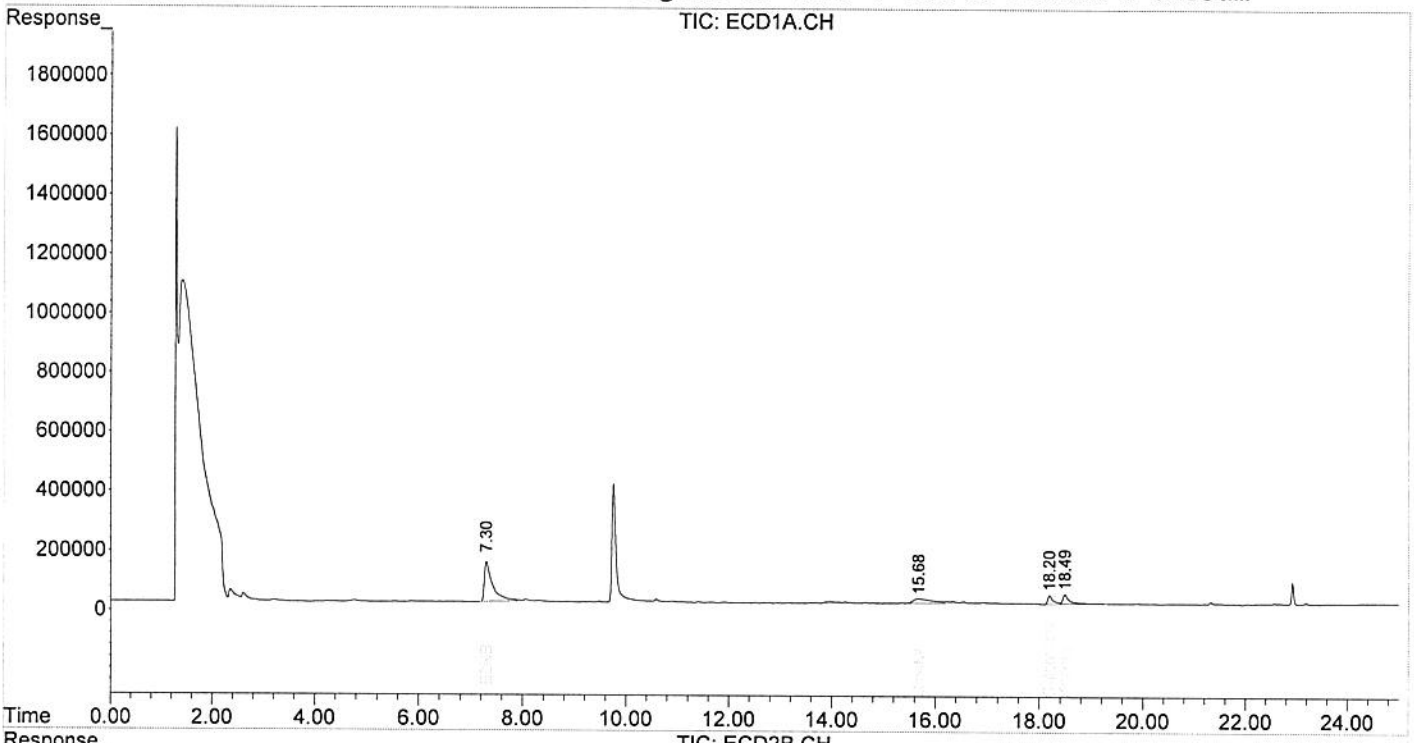
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	14611015	6022224	0.100m	0.100m
		Target Compounds						
2)		Dicofol	15.68	15.88	3899782	1780360	0.545m	0.655m
3)		Chlorobenzilate	18.20	18.95	2257072	1027369	0.897m	0.849m
4)		Kepone	18.49	19.02	2686510	977084	0.636m	0.543m

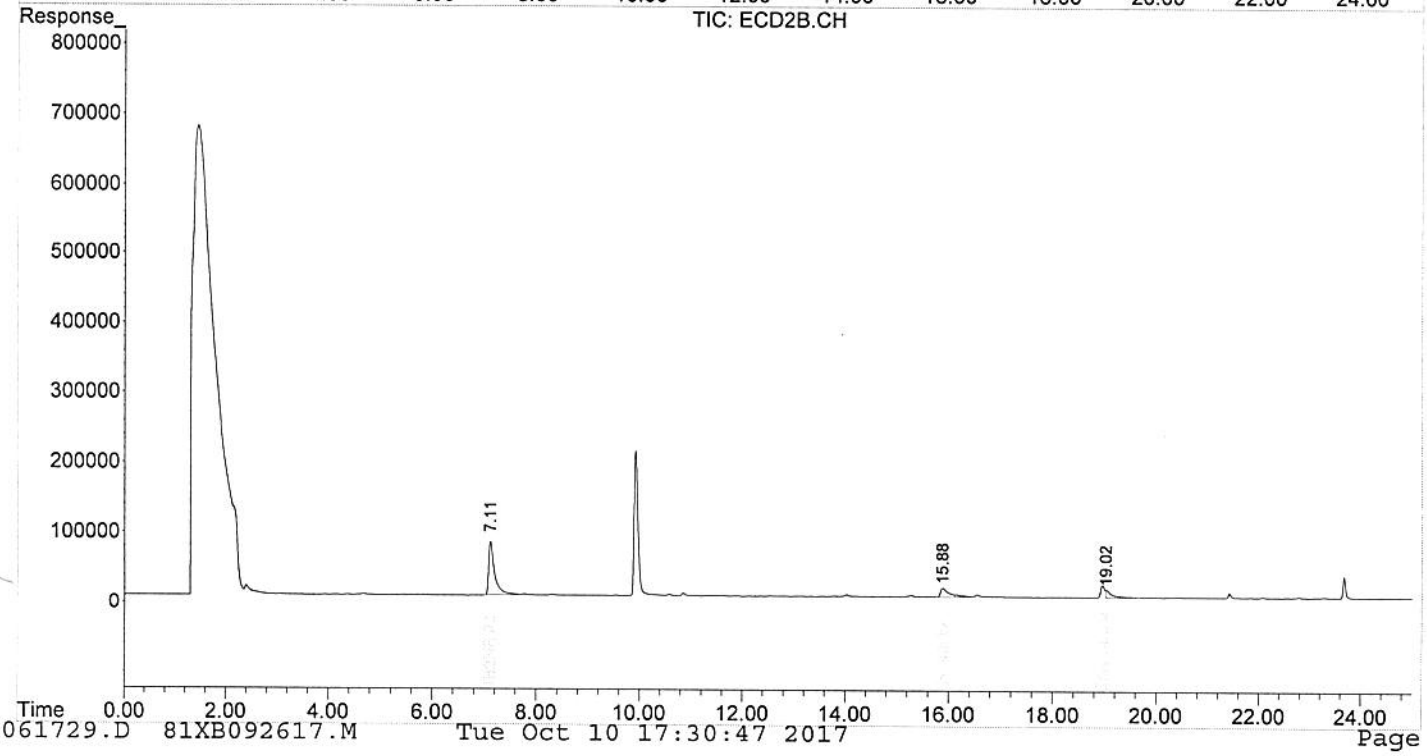
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061729.D\ECD1A.CH Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061729.D\ECD2B.CH
Acq On : 7 Oct 2017 4:41 am Operator: YE
Sample : 8081 IDOCXLB-03 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:30 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061730.D\ECD1A.CH Vial: 29
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061730.D\ECD2B.CH
Acq On : 7 Oct 2017 5:11 am Operator: YE
Sample : 8081 IDOCXLB-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:30:54 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

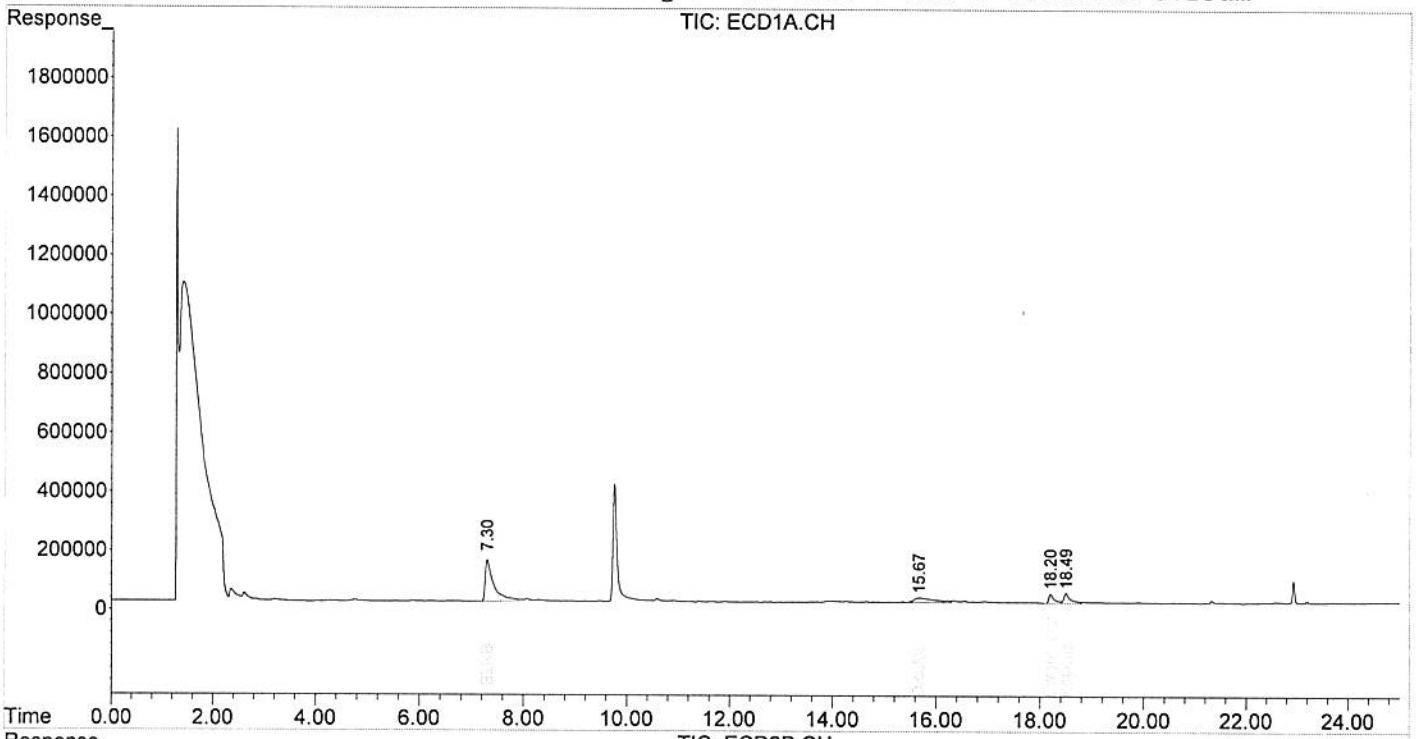
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	16098779	6299775	0.100m	0.100m
		Target Compounds						
2)		Dicofol	15.67	15.88	4390078	1813491	0.565m	0.624m
3)		Chlorobenzilate	18.20	18.96	2279530	1062575	0.842m	0.839m
4)		Kepone	18.49	19.03	3089188	1189118	0.666m	0.631m

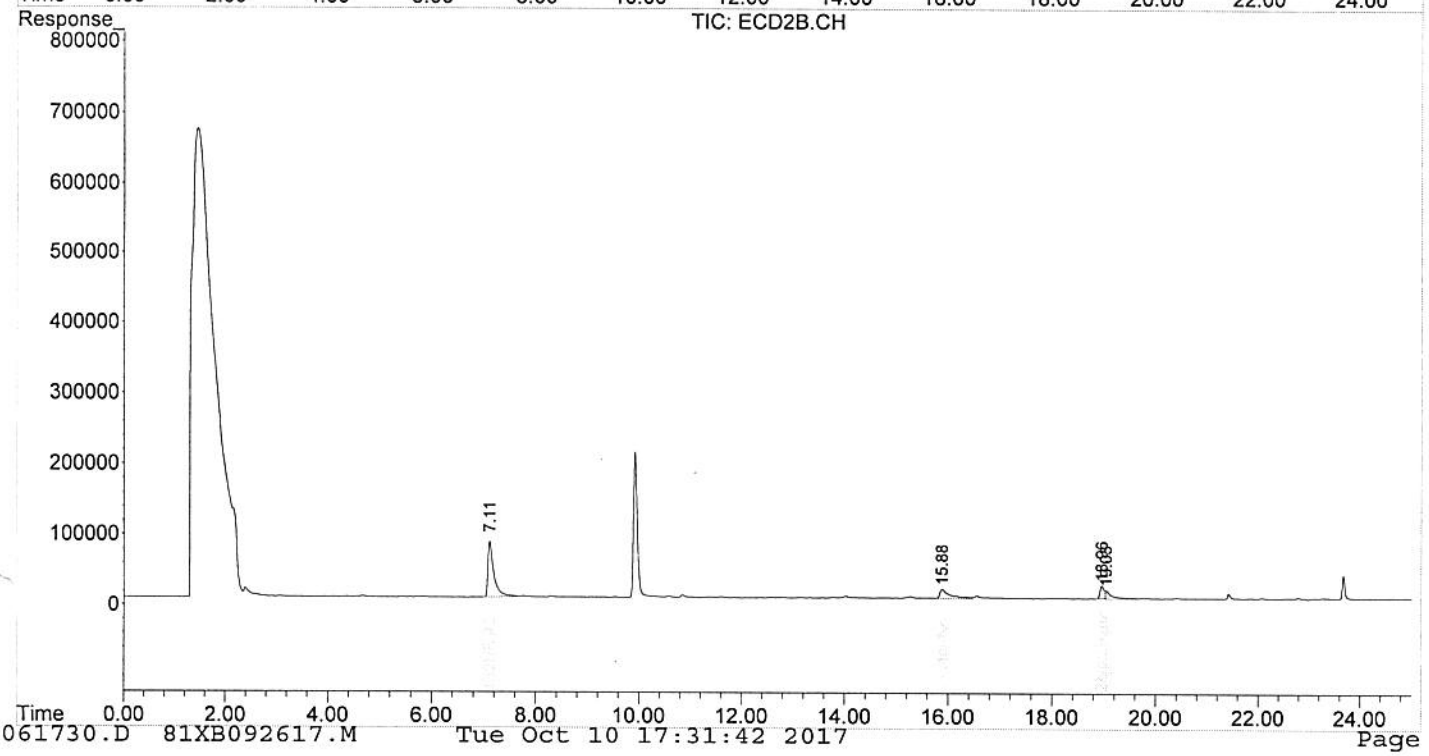
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061730.D\ECD1A.CH Vial: 29
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061730.D\ECD2B.CH
Acq On : 7 Oct 2017 5:11 am Operator: YE
Sample : 8081 IDOCXLB-04 Inst : Monica
Misc : Multiplr: 5.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:31 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Liqu Extraction Log — Method # 8I-IDOC/608 — Extraction Meth 35-10

	Std. ID	Amt. Added	Initials
Surrogate	1700532	1ml	EP
Spike		1ml	EP
Internal Std.			

Florida Environmental

Batch#: N/A
Analyst: YE + AC
Date: 10-5-17
Transferred to vials by: EP / ME.

Initial Solvent: DCM
Final Solvent: Hexane

Order #	Sample ID	Sample Date	Volume Extracted (mL)	pH* I	pH* E	pH* F	Final Vol (mL)	Date Extracted	Clorine Check	Comments
	MB	10-5-17	1000	7		7	5ml	10-5-17	0	
	LCS	—	—	-		-			-	
	MS	—	—	-		-			-	
	MSD	—	—	-		-			-	
8081IDOC-1	SK Pest 100417-0.5ppm	10-5-17	1000	7		7			0	8081/608
8081IDOC-2		1								8081/608
8081IDOC-3										8081/608
8081IDOC-4										8081/608
8081XLAIDOC-1	SK Pest XLA 100417-1ppm									
8081XLAIDOC-2										
8081XLAIDOC-3										
8081XLAIDOC-4										
8081XLBIDOC-1	SK Pest XLB 100417-1ppm									
8081XLBIDOC-2										
8081XLBIDOC-3										
8081XLBIDOC-4										
8081ToxapheneIDOC-1	SK Toxaphene 100417-10ppm									
8081ToxapheneIDOC-2										
8081ToxapheneIDOC-3										
8081ToxapheneIDOC-4										
8081chlordaneIDOC-1	SK chlordane 100417-1ppm									
8081ChlordaneIDOC-2										
8081chlordaneIDOC-3										
8081chlordaneIDOC-4										

Item	SVT#
Filter Paper:	465
Sodium Sulfate:	466
Silica Gel:	
Sodium Hydroxide:	
Sililic Acid:	
Sulfuric Acid:	
10 mL pipette:	
1.8mL Vials	482
1.8mL Vial Caps	463
20 mL Vials:	
Pasteur pipette:	442
Hexane	457
MTBE	
Ethyl Ether	
Cu	289
Phosphate Buffer	
NaCL	
Diazomethane	
CH2CL2	474/39
pH paper Lot #	202513
Chlorine Strips Lot #	6524/20190

* pH: I = Initial, E = Exchange, F= Final

Document Control #: 0401416-001
Date:8/31/16

Florida Spectrum
Environmental Services, Inc.

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Angel E. Reyes	NA	8/22/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 4500 H+B	☑ Water ☑ DW ☐ Solid ☐ Other: _____	0201216-018
Analyte or Class of Analytes		
pH.		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Angel E. Reyes *Analyst*	A Reyes *Signature*	8/22/18 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	8/22/18 *Date*
Roxana Llambias *Quality Assurance Director*	R Llambias *Signature*	8/22/18 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	8/22/2018
ANALYZED BY:	Angel Reyes
METHOD NUMBER:	SM 4500 H+-B
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	WET-4
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	50-WC-19	4.01 pH units
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units			
pH	4.01	4.02	4.02	4.01	4.02	4.02	0.12	100	0.00

pH Logbook
SM4500H+B /EPA 9045

Analyst:	SA/AR
Date:	08/22/18
Run #	18H0731
Instrument ID	Wet-4
Balance	N/A
Balance Cal Date	N/A

Calibration Table		Slope:	97%	Calibration Time:	12:30
Point#	Nominal pH	Measured pH	Buffer Vendor	Lot#	Expiration Date
1	4.00	4.01	BDH	57-WC-24	8-1-2019
2	7.00	7.0	BDH	53-WC-21	2-2019
3	10.00	10.1	BDH	55-WC-21	10-2018

Acceptance Criteria
97.5-102.5%

LCN	Description	Matrix	pH	Temperature Corrected (°C)	Soil Preparation Time	Analysis time	Soil Weight /Volume (g/mL)	Comments
BLANK	DI	L	6.09	23.8	N/A	12:35		
LCS	50-WC-19	↓	3.99	23.6	↓	↓		
DUP 18H0782-01			7.75	24.2				
18H0780-01	P18H051-01		7.62	24.1				
18H0781-01	P18H052-01		7.74	23.7				
18H0782-01	P18H053-01	↓	7.73	24.1	↓	↓		
IDOC 1 AR	50-WC-19		4.02	24.7	N/A			
IDOC 2 AR	50-WC-19		4.02	24.7	↓	↓		
IDOC 3 AR	50-WC-19		* 4.05	24.7				
IDOC 4 AR	50-WC-19		4.02	24.7	↓	↓		4.05
18H0787-02	16775-2	L	7.31	23.9	N/A	14:00		
BLANK	DI	L	5.81	23.9	N/A	12:35		
CCV	57-WC-24	↓	3.98	23.6	↓	↓		
LCS		L	4.04	24.1	N/A	17:40		
18H0805-01F	ROW TP		8.88	24.3				
↓ -02F	NW 154	↓	8.85	24.3	↓	↓		
18H0822-01	Lowell Well	L	7.28	24.3				
18H0823-01	Velva Well	↓	7.11	24.1	↓	↓		
BLANK	DI	L	5.27	24.0	N/A	17:40		
CCV	57-WC-24	↓	4.05	24.2	↓	↓		

* Δ2 08/22/18.

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	Sophia Andre	2-19-16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 420.4	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020121G-001
Analyte or Class of Analytes		
Phenol		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	2-19-16 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	2-19-16 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	2/19/16. *Date*

1. **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

IDC:

Matrix: Water Soil Air

Date of Analysis: 021916

Method Number: EPA 420.4

Method Description: TOTAL PHENOLICS

Instrument Used: Lachat Quick Chem 8500 (wet 47)

☑	Raw Data Given to QA?
☐	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Phenol Standard	0.5MG/L
476-S-GEN-09	

Comments:

Analyst Name: Sophia Andre

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
0.5MG/L	0.496	0.498	0.496	0.498	0.497	0.500	99.4	0.23%

Acceptance Criteria: 90-110%

Analyst Signature: Sophia Andre

Date: 2-19-16

12 690

Author: Lenovo

Date : 2/21/2016

Original Run Filename: OM_2-19-2016_05-32-31PM.OMN Created: 2/19/2016 5:32:31 PM
Original Run Author's Signature: [Lenovo]
Current Run Filename: OM_2-19-2016_05-32-31PM.OMN Last Modified: 2/21/2016 4:31:59 PM
Current Run Author's Signature: [Lenovo]
Description: PHENOL METHOD EPA 420.4/9066
10-210-00-1X

Sample	Rep.	Cup No.	Channel 2 PHENOL (MG/L)	MDF	
CAL STD TV=1.0 MG/L	1	1	1.00		
CAL STD TV=0.5 MG/L	1	2	0.500		
CAL STD TV=0.25 MG/L	1	3	0.250		
CAL STD TV=0.10 MG/L	1	4	0.100		
CAL STD TV=0.05 MG/L	1	5	0.0500		
CAL STD TV=0.01 MG/L	1	6	0.0100		
CAL STD TV=0.00 MG/L	1	7	0.00		
ICV TV=0.25 MG/L	1	59	0.264		106%
		Calibration:	Table/Fig. : 1		
ICB	1	60	0.00240		
LCS TV=0.5 MG/L	1	58	0.496		99%
LCSD TV=0.5 MG/L	1	58	0.498		100%
IDOC-3	1	58	0.496		99%
IDOC-4	1	58	0.498		100%
16A0294-16A	1	1	1.08		
16A0294-16A DUP	1	2	1.08		
16A0294-16A	1	1	1.08		
16A0294-16A MS TV=0.5MG/L	1	56	1.59		
15G0252-16A	1	3	0.400		
15G0252-16A MS	1	4	0.982		
16A0294-16A	1	1	1.11	2.00	
16A0294-16A DUP	1	2	1.11	2.00	
16A0294-16A MS TV=0.5MG/L	1	56	1.61	2.00	
16A0294-16A MSD TV=0.5MG/L	1	56	0.806		
CCV TV=0.50 MG/L	1	57	0.514		103%
CCB	1	60	0.00754		
BLK S	1	8	-0.0572	12.00	
LCS S TV=6.0 MG/KG	1	9	5.99	12.00	100%
LCSD S TV=6.0 MG/KG	1	9	6.01	12.00	100%
IDOC-3	1	9	6.05	12.00	101%
IDOC-4	1	9	5.99	12.00	100%
16B0403-01A	1	10	0.146	12.00	
16B0403-01A ~~DUP~~ MS	1	11	5.45	12.00	88%
116B 403-01A MS TV=6.0MG/KG	1	12	5.46	12.00	89%
16B0403-01A DUP	1	13	0.132	12.00	
16A0294-16A MS TV=0.5MG/L	1	56	1.61	2.00	
16B0403-01A DUP	1	13	0.148	12.00	
LOD WATER 0.01	1	14	0.00736		
LOD SOIL	1	15	0.00519		
CCV TV=0.50 MG/L	1	57	0.512		102%
CCB	1	60	-0.00291		

Table : 1 (PHENOL)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	1.00	1	1.10	0.0846	0.0	1.0	0.989	2/19/2016	5:33:53 PM
2	0.500	1	0.576	0.0482	0.0	-2.5	0.513	2/19/2016	5:34:48 PM
3	0.250	1	0.307	0.0240	0.0	-6.7	0.268	2/19/2016	5:35:41 PM
4	0.100	1	0.116	0.00902	0.0	6.2	0.0932	2/19/2016	5:36:35 PM
5	0.0500	1	0.0667	0.00503	0.0	3.8	0.0478	2/19/2016	5:37:30 PM
6	0.0100	1	0.0180	0.00131	0.0	29.5	0.00335	2/19/2016	5:38:23 PM
7	0.00	1	0.0100	0.00111			-0.00400	2/19/2016	5:39:17 PM

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	08/13/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 9213 E	☒ Water ☐ DW ☐ Solid ☐ Other: _____	0201615-018
Analyte or Class of Analytes		
Pseudomonas Membrane Filtration		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	08/13/17 *Date*
Brian Mercer *Technical Director*	*Signature*	08/13/17 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	8/13/17 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
___ Continuing Demostration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	8/13/2017
ANALYZED BY:	Karina ramirez
METHOD NUMBER:	SM 9213E
EXTRACTION METHOD (IF APPLY):	Membrane Filtration
INCUBATOR ID (41.5±0.5°C):	Micro -6B
LAMP ID	Micro-28
MEDIA ID:	MPA081017
BUFFER ID	PhosPh071317
THERMOMETER ID:	C6611
MEMBRANE FILTERS Lot:	61006102
BACTI BOTTLES Lot:	DN011
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	8/10/2017
ACCEPTANCE CRITERIA:	461-1984 CFU/100 mL

Document Control:0401116-002
Date:8/29/16

Bacteria Used:	Bacteria. ID#	Conc
Pseudomona Aeruginosa	051016	1223 ± 51 CFU/100 mL

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL			
Pseudomonas Aeruginosa	1223	1200.00	1280.00	1340.00	1250.00	1267.50	4.62	103.64	58.52

SM 9213E Pseudomonas Membrane Filtration

Extraction		Analysis	
Date: 08/10/17		Date: 08/13/17	
Analyst: [illegible]		Analyst: [illegible]	
Start Time #1: 16:50	Incubator Temp In #1: 41.5		
Stop Time #1: 17:00	Incubator Temp Out #1: 41.5		

Run # 17H0435	
Media MPA 081017	
Pipette: BD2767	
Incubator(41.5±0.5°) : Micro -6B	
Buffer ID# PhosPh0071317	
Bacti Bottle # DN011	
Memb. Filter Lot # 61006102	
Chlorine Strips: 511244A	
Thermometer ID: C6611	
Lamp ID: Micro-28	

Order #	Sample ID	Sample Size(mL)	Colonies Counted	cfu's per 100 mL	Incubation Time In	Incubation Time Out	Cl-check	Notes/ Verification
BB	BB	100	0	~	17:00	17:00	0	
17H0406-02	Big Kelley	100	0	~	↓	↓	↓	
MPA081017	P. aeru	20	+	+	↓	↓	↓	
↓	F. coli	20	−	−	↓	↓	↓	
Karina IDEXX	QA/QC	1	12	1200	↓	↓	↓	
↓	↓	5	64	1280	↓	↓	↓	
↓	↓	5	67	1340	↓	↓	↓	
↓	↓	10	125	1250	↓	↓	↓	
FB	FB	100	0	~	↓	↓	↓	

Quality Control Guidelines: Each filtration series consists of no more than 20 samples, with sterlity blanks at the beginning and end of [illegible]h series as well as after the 10th sample. **Verification:** Once a month verify at least 10 presumptive fecal colonies from a positive [illegible]ple. **Ideal range** :20-80 CFU/plate.

Reviewed by: [signature] Date: 08/13/17

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
DB	N4	8/22/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 4500SiO_2-C	☑ Water ☑ DW (not certified) ☐ Solid ☐ Other: _____	0201219-011
Analyte or Class of Analytes		
Silica		

We, the undersigned, CERTIFY that:

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2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona *Analyst*	David Barahona *Signature*	8/15/19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	8-15-19 *Date*
Roxana Llambias *Quality Assurance Director*	R. Llambias *Signature*	8/22/19 *Date*

1. True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	8/15/2019
ANALYZED BY:	David Barahona
METHOD NUMBER:	SM 4500SiO_2-C
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	WET-CHEM-SPECTPH-1
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	90-110 %

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	1164-S-GEN-02	10PPM
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Silica	10.0	10.0	10.4	10.4	10.4	10.3	1.71	103	0.176

Silica

SM 4500-SiO_2-C

Colorimetric

Absorbance @ 410 nm

Analyst SA / DB

Date 8-15-19

Batch 19H0525

Standard Curve

Conc.(mg/L)	ABS 410 nm	Standard ID
0.0	0.001	DI water
0.1	0.004	1163-S-Cen-15
0.5	0.018	1163-S-Cen-16
1.0	0.031	1163-S-Cen-17
2.0	0.076	1163-S-Cen-18
5.0	0.170	1066-S-Cen-08
10.0	0.327	1066-S-Cen-09
20.0	0.637	1163-S-Cen-19
Corr. Coeff.:	0.999	

HCL 6N: 1141-2-Cen-18

Ammonium Molybdate: 1120-2-Cen-18

Oxalic Acid: 1059-2-Cen-12

Pipette 1 mL: D1, M1

Pipette 5 ml: 005

INST: Wet Chem Spectph-1

ACC: 90-110%

LCN	Sample ID	mls.	DF	ABS	mg/L	mg/L x DF	Comments
BLANK	D.I. WATER	25	1	0.001	0.03		0.03
ICV 10 PPM	1066-S-Cen-09	↓	↓	0.326	10.07		10.09
LCS 10 PPM	1066-S-Cen-13	↓	↓	0.324	10.01		10.07
LCSD 10 PPM	↓	↓	↓	0.325	10.04		10.05
19H0272-01	17286/EB	↓	↓	0.001	0.03		* ~~0.5~~ 0.03
↓ -02	17287/SHG	↓	↓	0.019	0.59		* ~~0.56~~ 0.59
DB IDCC 1	1164-S-Cen-02	25	1	0.324	10.01		* ~~10.05~~ 10.02
2	↓	↓	↓	0.335	10.35		* ~~10.15~~ 10.36
3	↓	↓	↓	0.335	10.35		* ~~6.0~~ ~~10.3~~ 10.36
4	↓	↓	↓	0.336	10.38		10.36
DUP 19H0272-02	17287/SHG	25	1	0.018	0.56		0.56
MS 19H0272-02	17287/SHG	↓	↓	0.325	10.04		10.05
MSD 19H0272-02	17287/SHG	↓	↓	0.328	10.15		10.15
CCV 5 PPM	1066-S-Cen-09	↓	↓	0.153	4.73		4.73
BLANK	D.I.WATER	↓	↓	0.001	0.03		0.03
CCV 5 PPM							
BLANK	D.I. WATER						

Comments: Linearity between 0 and 0.5 was not ~~observed~~ observed. The reporting limit was raised to 1. The point 2.0 was removed because the linearity wasn't observed there either.

SA 8-22-19

Document Control #: 0401218-005
Date: 7/13/18
Revision: 1

* New slope was calculated after omitting values in previous comment, corrected values can be seen in

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Angel Reyes	NA	8/20/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 4500 S-D	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020216-021
Analyte or Class of Analytes		
Sulfide		

We, the undersigned, CERTIFY that:

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2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Angel Reyes *Analyst*	 *Signature*	8/15/18 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	8/15/18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	8/20/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	8/15/2018
ANALYZED BY:	Angel Reyes
METHOD NUMBER:	SM4500-S-D
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	Wet-Chem-Spectph-1
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	975-S-GEN-03 through 975-S-GEN-06	0.500 ppm
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	ppm	ppm	ppm	ppm	ppm	ppm			
Sulfide	0.500	0.472	0.518	0.494	0.513	0.499	4.19	99.9	0.02

Sulfide Logbook
SM 4500-S- D

Calibration Curve

Conc.(mg/L)	AB 664nm	Standard ID	
0	0.001	DI Water	
0.05	0.073	973-S-Gn-06	97.3%
0.1	0.139	973-S-Gn-07	92.6%
0.2	0.324	973-S-Gn-08	108%
0.4	0.627	973-S-Gn-09	104.5%
0.6	0.907	973-S-Gn-10	100.7%
0.8	1.176	973-S-Gn-11	98%
Corr. Coeff.:	0.9983		

HCL 6N:	962.R-Gn-02
Iodine (0.025N).:	60-WC-21
Na2S2O3 (0.025N):	61-WC-23
Sulfide1 Reagent:	62-WC-06
Sulfide 2 Reagent:	62-WC-67
Starch Indicator:	60-WC-01
Pipette 1 mL:	01
Pipette 5 mL:	005

Analyst: LC/AR
Date: 8.15.18 14.45
Batch ID: 18H0503
Inst. ID: Wet-Chem-Spectph-1
LCS Stock ID: 974-S-Gn-07
CCV Stock ID: 974-S-Gn-08

Acceptance Criteria: 90-110%

Environmental Log #	Sample/ STD ID	TV	DF	Reading (664nm)	Concentration (mg/L)	Comments
ICV	974-S-Gn-10	0.3	1	0.479	0.319	106.4%
ICB	DI H_2O	–	1	0.001	0.001	
LCS	974-S-Gn-09	0.5	1	0.708	0.472	94.4%
LCSD	974-S-Gn-09	0.5	1	0.778	0.518	103.7%
18H0472-01B	OPR-410 L1	–	5	0.683	2.276	2.132 DF=1
18H0472-02B	OPR-410 L2	–	5	0.923	3.075	2.336 DF=1
18H0472-03B	OPR-410 L5	–	1	0.343	0.229	
18H0485-01D	RO WTP	–	1	0.002	0.001	
18H0486-01F	RO WTP (Finished)	–	1	0.002	0.001	
18H0486-02F	Raw Water	–	5	0.575	1.916	
18H0486-03F	Mid Point	–	1	0.002	0.001	
DUP 18H0486-03F	Mid Point	–	1	0.002	0.001	
MS 18H0486-03F	Mid Point	–	1	0.381	0.254	50.5%
MSD 18H0486-03F	Mid Point	–	1	0.474	0.316	62.9%
CCV		0.3	1	0.477	0.318	106%
CCB	DI H_2O	–	1	0.001	0.001	
975-S-Gn-03	IDOC-AR-1	0.5	1	0.708	0.472	
975-S-Gn-04	IDOC-AR-2	0.5	1	0.778	0.518	
975-S-Gn-05	IDOC-AR-3	0.5	1	0.741	0.494	
975-S-Gn-06	IDOC-AR-4	0.5	1	0.770	0.513	
CCV						
CCB						

Sulfide SM 4500-S D

CALIBRATION CURVE ABS @ 664nm

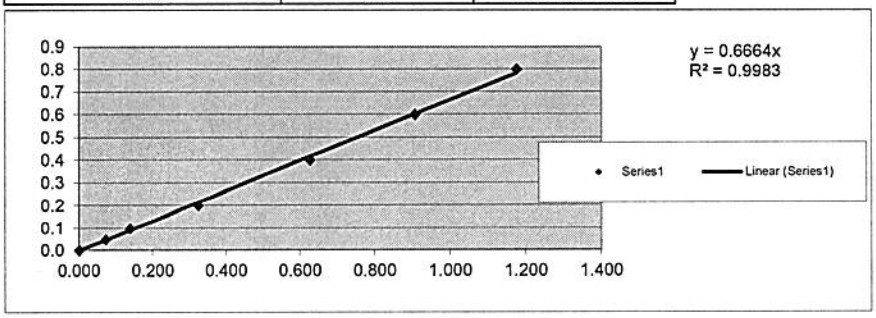
ANALYST: LC
DATE: 8/15/2018
BATCH# : 18H0503

CALIBRATION DATE: 8/15/2018

ABS. at 664 nm	CONC. PPM	STANDARD ID
0.001	0.0	DI WATER
0.073	0.05	973-S-GEN-06
0.139	0.1	973-S-GEN-07
0.324	0.2	973-S-GEN-08
0.627	0.4	973-S-GEN-09
0.907	0.6	973-S-GEN-10
1.176	0.8	973-S-GEN-11

Acceptance Criteria: 90-110%
(ICV,CCV,LCS,MS,MSD)

Instrument: Wet Chem Spectph-1



ORDER #	True Value (mg/L)	DF	ABS	mg/l	% Rec.
ICV	0.3	1	0.479	0.319	106.4%
BLANK	DI WATER	1	0.001	0.001	
LCS	0.5	1	0.708	0.472	94.4%
LCSD	0.5	1	0.778	0.518	103.7%
18H0472-01B		5	0.683	2.276	
18H0472-02B		5	0.923	3.075	
18H0472-03B		1	0.343	0.229	
18H0485-01D		1	0.002	0.001	
18H0486-01F		1	0.002	0.001	
[illegible]486-02F		5	0.575	1.916	
[illegible]486-03F		1	0.002	0.001	
				0.000	
				0.000	
				0.000	
18H0486-03F DUP		1	0.002	0.001	
18H0486-03F MS	0.5	1	0.381	0.254	50.5%
18H0486-03F MSD	0.5	1	0.474	0.316	62.9%
CCV	0.3	1	0.477	0.318	106.0%
BLANK	DI WATER	1	0.001	0.001	
				0.000	
975-S-GEN-03	IDOC 1	1	0.708	0.472	94%
975-S-GEN-04	IDOC 2	1	0.778	0.518	104%
975-S-GEN-05	IDOC 3	1	0.741	0.494	99%
975-S-GEN-06	IDOC 4	1	0.770	0.513	103%
				0.000	
				0.000	
				0.000	
				0.000	
				0.000	
CCV	0.3	1	0.497	0.331	110.4%
BLANK	DI WATER	1	0.001	0.001	

$$CCV_{ppm} = \frac{16{,}000[(0.021N \times 10mL) - (0.025 \times 5mL)]}{100mL} = 13.6 \text{ ppm}$$

$$LCS_{ppm} = \frac{16{,}000[(0.021N \times 10mL) - (0.025 \times 5mL)]}{100mL} = 13.6ppm$$

$CCV_{0.3}$ (13.6 ppm)V = (0.3ppm)(100mL)
V = 2.21 mL

$LCS_{0.5}$ (13.6 ppm)V = (0.5ppm)(100mL)
V = 3.68 mL

$MS_{0.5}$ (13.6 ppm)V = (0.5ppm)(25mL)
V = 0.919 mL

Document Control #: 0401216-014
Date: 9/13/16

STANDARDS AND REAGENTS PREPARATION

LOGBOOK

(WET CHEMISTRY DEPARTMENT)

	Laboratory ID	Chemical name	Chemical ID used	Chemical ID Amount (g or mL)	Balance ID used	Pipette ID used	Volume prep, ml	Date prepared	Date expired	Analyst
	975-S-Gen-01	Cal. Std. 5 (NO_2-N)	973-S-Gen-14	0.50 ml	–	Vol "A"	50	8/15/18	4/30/19	DGH
	975-S-Gen-02	Cal. Std. L (NO_2-N)	↓	1.00 ml	–	↓	↓	↓	↓	↓
*	975-S-Gen-03	IDOC-1-AR Sulfide 0.5 ppm LCS	957-S-Gen-07	0.919 mL	–	D1	25	8.15.18	8.15.18	AR
*	975-S-Gen-04	IDOC-2-AR Sulfide 0.5 ppm LCS	957-S-Gen-07	0.919 mL	–	D1	25	8.15.18	8.15.18	AR
*	975-S-Gen-05	IDOC-3-AR Sulfide 0.5 ppm LCS	957-S-Gen-07	0.919 mL	–	D1	25	8.15.18	8.15.18	AR
*	975-S-Gen-06	IDOC-4-AR Sulfide 0.5 ppm LCS	957-S-Gen-07	0.919 mL	–	D1	25	8.15.18	8.15.18	AR
*	175-S-Gn-07	Silica 5 ppm CCV	62-WC-05	2.5mL	–	005	500	8.15.18	2.15.19	LC
	975-S-Gn-08	Silica 0.1 ppm std	975-S-Gn-07	0.5mL	–	D1	25	8.15.18	8.15.18	LC
	975-S-Gn-09	Silica 0.5 ppm std	975-S-Gn-07	2.5mL	–	005	25	8.15.18	8.15.18	LC
	975-S-Gn-10	Silica 1 ppm std	975-S-Gn-07	5mL	–	005	25	8.15.18	8.15.18	LC
*	975-S-Gn-11	Silica 2 ppm std	~~975-S-Gn-14~~ 961-S-Gn-14	5mL	–	005	25	8.15.18	5.15.18	LC
	975-S-Gn-12	Silica 2 ppm std	62-WC-05	0.5mL	–	D1	25	8.15.18	8.15.18	LC
	975-N-Gen-13	Na ferrocyanide	55-WC-24	50 g	weigh-30	~	250	8-16-18	9-16-18	SA
	↓	↓	46-WC-01	7.5 mL	–	WC-1	↓	↓	↓	↓
	975-12-Gen-14	H_2SO_4	822-12-Gen-01	10 ml	–	glass pipet	500	8/16/18	8/16/19	AR/LC

* 8.15.18 LC

Document Control #:0401216-044
Date:9/16/16

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
David Barahona	DB	1/11/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
2540C	☑ Water ☑ DW ☐ Solid ☐ Other: _____	020121S-11
Analyte or Class of Analytes		
Total Dissolved Solids		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona *Analyst*	David Barahona *Signature*	1/11/19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	1-11-19 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	1/11/19 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	1/11/2019
ANALYZED BY:	David Barahona
METHOD NUMBER:	SM2540C
EXTRACTION METHOD (IF APPLY):	SM 2540C
Oven ID 103-105°C	WET-12
Thermometer ID 103-105°C:	Wet-12 Digital
Oven ID 180±2°C	WET-18
Thermomether ID 180±2°C	14-985E
Dessicator ID:	Dess-3
Balance ID	WET-20
Graduated Cylinder ID	WC-9
Filters	63-WC-23
EXTRACTED BY:	David Barahona
DATE EXTRACTED:	1/10/2019
ACCEPTANCE CRITERIA:	80-120%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1045-S-GEN-08	500 ppm
Surrogate	na	na
Internal Standard	na	na

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ppm	ppm	ppm	ppm	ppm	ppm			
Total Dissolved Solids	500	540	552	548	556	549	1.24	109.8	6.83

TDS logbook

FLEN-EPA SM2540C

Analyst:	DB/SA
Date/Time	1/9/19 17:30
Run #	19A0287

Aceptance Criteria: 80-120%

Dried Residue: 2.5-200 mg

Balance ID	WET-20	Filters Lot	63- WC-23
Oven ID 103-105°C	~~WET-12~~	Thermometer	Wet-12 Digital
Oven ID 103-105°C	WET-39	Thermometer	76 MM IMM
Oven ID 180±2°C	~~WET-18~~	Thermometer	14-985E
Dessicator	Dess-3	Pipette 5 mL	001

Grad. Cylinder 25mL:	WC-1 / WC-8 , WC-9
Grad. Cylinder 50 mL:	WC-10
Grad. Cylinder 100 mL:	WC-13 / WC-14 , WC-12

Dish ID	Log #	Sample ID	Samp. Vol, mL	Dish weight, g	Final weight, g	Final weight, g	Final weight, g	Wt. Change Accep.(<0.5mg)	Cond. uS/cm	TDS, mg/L	Comments
1	BLANK	DI Water	100	50.2781	~~50.2184~~	50.2183					
2	CHECK STD	1026-S-Gen-07	25	26.1383	26.1500	26.1501					
3	19A0188-01 F	R.O WTP	50	25.4959	25.4843	25.4843					
4	-02 E	154 & NW 97 Ave	50	25.9319	25.9399	25.9396					
5	19A0189-01 C	RO WTP	50	26.4105	26.4186	26.4185					
6	-02 C	Raw Water Entry	25	25.7509	25.8453	25.8452					
7	-03 C	Mid Point	50	25.7581	25.7667	25.7671					
8	19A0206-01 C	Si 9A022-01	10	26.0630	26.1264	26.1265			12150		
9	19A0211-01 A	Deep Well	25	25.7056	25.8740	25.8741			10400		
10	-02 A	Upper Zone	10	25.9886	26.0724	26.0721			14400		
11	-03 A	Lower Zone	3	25.0924	25.1788	25.1787			41900		
12	19A0212-01 A	BF-6	25	25.6441	25.7193	25.7194			5620		
13	SAMPLE DUP 0188-02	154 & NW 97 Ave	50	25.9887	25.9967	25.9966					
14	BLANK	DI Water	100	50.5687	50.5681	50.5685					
15	CHECK STD	1026-S-Gen-07	25	26.5531	26.5652	26.5651					
16	19A0217-01 F	RO WTP	50	25.8380	25.8461	25.8464					
17	-02 F	154 & NW 97 Ave	50	26.4643	26.4732	26.4731					
18	DB IDOC 1	104.5-S-Gen-08	25	26.4498	26.4631	26.4633					
19	2		25	26.0710	26.0844	26.0848					Prepped on 1/10/19 at 17:02
20	3		25	26.0385	26.0526	26.0522					
21	4		25	30.7465	30.7602	30.7604					
22				25.8084							
23				25.9708							
24				25.6407							
25				26.3073							
26	SAMPLE DUP 0217-01	RO WTP	50	26.1310	26.1378	26.1375					
27	BLANK	DI Water	100	48.3241	48.3240	48.3242					
28	CHECK STD	1026-S-Gen-07	25	25.7573	25.7698	25.7698					

Cycle	Date In	Time In	Temp. (°C)	Anaiyst*	Date Out	Time Out	Temp. (°C)	Analyst
1	1/9/19	17:30	105	DB	1/10/19	9:12	105	DB
2	1/10/19	9:12	~~180~~ 179	DB	~~1/10/19~~	15:00	179	DB
3	1/10/19	17:00	181	DB	1/11/19	~~9:25~~ 9:20	181	DB
4	1/11/19	9:25	180	DB	1/11/19	~~11:30~~ 10:50	180	DB
5	1/11/19	11:30	180	DB	1/11/19	12:50	180	DB
6	1/10/19	17:02	105	DB	1/11/19	9:20	105	DB

* Time out 9:20 DB 1/11/19

TDS							RPD1	2.56						
							RPD2	1.18						
	Dish	SV	FINAL	FINAL	Analyzed	Analyzed	Wt change	RESIDUE	DF	TDS	FINAL TDS (TDS*DF)	Rec.	Cond.	tds/cond
Sample #	Mass (g)	(mL)	mass (g)	mass (g)	Date - Time	Date - Time	(<0.5 mg)	(0.0025-0.2g)		mg/L	mg/L	%	uS/cm	(0.55-0.9)
BLANK	50.2181	100	50.2184	50.2183	01/09/19-17:30	/10/19/-16:0	0.1	0.0002	1	2.0	2.0			#DIV/0!
QC 500 PPM	26.1383	25	26.1500	26.1501	01/09/19-17:30	/10/19/-16:0	0.1	0.0118	4	118.0	472.0	94.4		#DIV/0!
19A0188-01F	25.4759	50	25.4843	25.4843	01/09/19-17:30	/10/19/-16:0	0.0	0.0084	2	84.0	168.0			#DIV/0!
19A0189-01C	26.4105	50	26.4186	26.4185	01/09/19-17:30	/10/19/-16:0	0.1	0.0080	2	80.0	160.0			#DIV/0!
19A0189-02C	25.7509	25	25.8453	25.8452	01/09/19-17:30	/11/19/-09:2	0.1	0.0943	4	943.0	3772.0			#DIV/0!
19A0189-03C	25.7581	50	25.7667	25.7671	01/09/19-17:30	/10/19/-16:0	0.4	0.0090	2	90.0	180.0			#DIV/0!
19A0206-01C	26.0630	10	26.1264	26.1265	01/09/19-17:30	/11/19/-14:2	0.1	0.0635	10	635.0	6350.0		12150	0.52
19A0211-01A	25.7056	25	25.8740	25.8741	01/09/19-17:30	/11/19/-12:4	0.1	0.1685	4	1685.0	6740.0		10400	0.65
19A0211-02A	25.9886	10	26.0724	26.0721	01/09/19-17:30	/11/19/-12:4	0.3	0.0835	10	835.0	8350.0		14400	0.58
19A0211-03A	25.0924	3	25.1788	25.1787	01/09/19-17:30	1/11/19/-9:20	0.1	0.0863	33	863.0	28766.7		41900	0.69
19A0212-01A	25.6441	25	25.7193	25.7194	01/09/19-17:30	/11/19/-12:4	0.1	0.0753	4	753.0	3012.0		5620	0.54
Parent 19A0188-02	25.9319	50	25.9399	25.9396	01/09/19-17:30	/10/19/-16:0	0.3	0.0077	2	77.0	154.0			#DIV/0!
Parent DUP	25.9887	50	25.9967	25.9966	01/09/19-17:30	/10/19/-16:0	0.1	0.0079	2	79.0	158.0			#DIV/0!
BLANK	50.5687	100	50.5681	50.5685	01/09/19-17:30	/11/19/-09:2	0.4	-0.0002	1	-2.0	-2.0			#DIV/0!
QC 500 PPM	26.5531	25	26.5652	26.5651	01/09/19-17:30	/10/19/-16:0	0.1	0.0120	4	120.0	480.0	96		#DIV/0!
19A0217-02F	26.4643	50	26.4732	26.4731	01/09/19-17:30	/11/19/-09:2	0.1	0.0088	2	88.0	176.0			#DIV/0!
IDOC DB 1	26.4498	25	26.4631	26.4633	1/10/19-17:02	/11/19/-14:2	0.2	0.0135	4	135.0	540.0			#DIV/0!
IDOC DB 2	26.0710	25	26.0844	26.0848	1/10/19-17:02	/11/19/-14:2	0.4	0.0138	4	138.0	552.0			#DIV/0!
IDOC DB 3	26.0385	25	26.0526	26.0522	1/10/19-17:02	/11/19/-14:2	0.4	0.0137	4	137.0	548.0			#DIV/0!
IDOC DB 4	30.7465	25	30.7602	30.7604	1/10/19-17:02	/11/19/-14:2	0.2	0.0139	4	139.0	556.0			#DIV/0!
							0.0	0.0000	#####	#DIV/0!	#DIV/0!			#DIV/0!
							0.0	0.0000	#####	#DIV/0!	#DIV/0!			#DIV/0!
							0.0	0.0000	#####	#DIV/0!	#DIV/0!			#DIV/0!
							0.0	0.0000	#####	#DIV/0!	#DIV/0!			#DIV/0!
Parent 19A0217-01	25.8380	50	25.8461	25.8464	01/09/19-17:30	/11/19/-09:2	0.3	0.0084	2	84.0	168.0			#DIV/0!
Parent DUP	26.1310	50	26.1398	26.1395	01/09/19-17:30	/11/19/-09:2	0.3	0.0085	2	85.0	170.0			#DIV/0!
BLANK	48.3241	100	48.3240	48.3242	01/09/19-17:30	/11/19/-12:4	0.2	0.0001	1	1.0	1.0			#DIV/0!
QC 500 PPM	25.7573	25	25.7698	25.7698	01/09/19-17:30	/10/19/-16:0	0.0	0.0125	4	125.0	500.0	100		#DIV/0!

Document Control #: 0401218-017
Revision: 1
Date: 12/18/18

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Estela Paz Martinez	EP	10/22/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 351.2/EPA 365.4	☒ Water ☒ DW (NOT CERTIFIED) ☐ Solid ☐ Other: _____	0201217-002 (TKN) 0201217-003 (TP)
Analyte or Class of Analytes		
TKN/TP		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Estela Paz *Analyst*	*Signature*	10-02-18 *Date*
Sophia Andre *Technical Director*	*Signature*	10-2-18 *Date*
Roxana Llamblas *Quality Assurance Director*	*Signature*	10/22/18 *Date*

1. T[illegible]nsistent with supporting data.
Ac[illegible]ate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
DATE OF ANALYSIS:	10/2/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 351.2 (TKN) EPA 365.4 (TP)
EXTRACTION METHOD (IF APPLY):	EPA 351.2 (TKN) EPA 365.4 (TP)
INSTRUMENT ID:	WET-26
BLOCK DIGESTION ID:	WET-7
EXTRACTED BY:	EP
DATE EXTRACTED:	10/1/2018
ACCEPTANCE CRITERIA:	90-110%

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	996-S-GEN-15	5 mg/L (TKN) 2.5 mg/L (TP)
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
TKN	5.00	5.01	5.14	5.20	5.03	5.10	1.77	102	0.09
Total Phosphorus	2.50	2.41	2.29	2.46	2.31	2.37	3.42	94.7	0.08

Author: Lachat1

Date : 10/2/2018

Original Run Filename: OM_10-2-2018_09-46-01AM.OMN Created: 10/2/2018 9:46:01 AM
Original Run Author's Signature: [Lachat1]
Current Run Filename: OM_10-2-2018_09-46-01AM.omn Last Modified: 10/18/2018 10:06:58 AM
Current Run Author's Signature: [Lachat1]
Description: TKN/TP METHOD 351.2/365.4

Sample	Rep.	Cup No.	Channel 1 TKN (mg N/L)	Channel 2 TP (mg P/L)	MDF	
CAL STD TV=5.0/1.0 MG/L	1	3	5.00	1.00		
ICB	1	90	-0.0470	-0.0119		
ICV TV=5.0/1.0	1	89	4.99	0.922		100% - 92%
ICB	1	90	-0.0470	0.0428		
LCS TV=5.0/2.5 MG/L	1	88	5.03	2.51		
LCSD TV=5.0/2.5 MG/L	1	88	5.02	2.50		
18I0802-01B	1	1	-8.56e-3	-0.143		
18I0802-02B	1	2	0.0593	-0.0955		
18I0802-03B	1	3	1.20	0.109		
18I0802-03B DUP	1	4	1.20	0.0984		
18I0802-03B MS TV=5.0/2.5MG.L	1	86	6.41	2.40		104% - 92%
18I0802-04B	1	5	2.63	0.0519		
18I0802-05B	1	6	1.08	0.165		
18I0804-01B	1	7	0.673	0.0797		
18I0804-02C	1	8	27.1	4.48		
18I0805-02A	1	9	1.05	0.309		
Calibration:			Table/Fig. : 1	Table/Fig. : 2		
18I0819-01B	1	10	7.77	0.0757		
CCV TV=7.5/2.5 MG/L	1	87	7.38	2.72		98% - 108%
CCB	1	90	-0.0334	0.0242		
18I0823-01A	1	11	0.132	0.0735		
18I0825-01A	1	12	0.989	0.0302		
18I0826-01A	1	13	1.30	0.127		
18I0826-02B	1	14	0.900	0.223		
18I0826-03B	1	15	1.50	0.242		
18I0826-04B	1	16	1.04	0.0885		
18I0826-05B	1	17	0.905	0.0552		
18I0826-06B	1	18	0.965	0.0501		
18I0881-01B	1	19	0.771	0.0868		
18I0881-01B MS TV=5.0/2.5MG.L	1	85	5.90	2.90		103% - 112%
18I0881-02B	1	20	0.738	0.0238		
CCV TV=5.0/1.0	1	89	5.02	0.944		100% - 94%
ICB	1	90	-0.0475	0.0406		
LCS TV=5.0/2.5 MG/L	1	88	5.04	2.54		
LCSD TV=5.0/2.5 MG/L	1	88	5.04	2.53		
18I0844-01B	1	21	-0.0318	0.274		
18I0844-01B DUP	1	22	0.105	0.137		
18I0844-01B MS TV=5.0/2.5MG/L	1	84	4.94	2.19		
18I0881-03B	1	23	0.933	0.0137		
18I0884-01E	1	24	62.2	56.5		
18I0584-02A	1	25	1.12	0.0131		
18I0617-01B	1	26	7.77	1.33		
IDOC1-EP	1	27	~~4.99~~	~~2.20~~		reran
IDOC2-EP	1	28	5.14	2.29		102% - 92%
IDOC3-EP	1	29	5.20	2.46		104% - 98%
IDOC4-EP	1	30	5.03	2.31		101% - 92%
CCV TV=7.5/2.5 MG/L	1	87	7.39	2.55		
CCB	1	90	-0.0400	0.0313		
18I0804-02C	1	8	34.5	4.16	5.00	
IDOC1-EP	1	27	5.01	2.41	✓	100% - 96%
18I0884-01E	1	24	669	240	20.00	
18I0884-01E	1	24	~~3.66e+3~~	~~1.29e+3~~	~~100.00~~	not diluted
18I0884-01E	1	24	1.05e+3	310	100.00	✓
18I0884-01E	1	24	1.12e+3	303	200.00	see next batch
CCV TV=7.5/2.5 MG/L	1	87	1.56	2.67		
CCB	1	90	-6.50e-3	-0.0200		
CCV TV=7.5/2.5 MG/L	1	87	1.01	1.19		
CCV TV=7.5/2.5 MG/L	1	87	7.45	2.65		99% - 106%

TKN/TKP DIGESTION LOGBOOK
FLEN EPA 351.2/365.4

Batch	180165
Analyst	EP
Date/Time	10.1.18 – 11:47am
Digestion solution ID	943-2-Gen-11
Block Digester ID	WET-41
Block Digester ID	WET-7
Balance	–
Balance Cal Date	–
pH Strips	50-WC-08
Boiling Chips	59-WC-07
Pipette	005

ID	Concentration
	15/5.0
	7.5/2.5
	5.0/1.0
	2.5/0.5
	1.0/0.25
	0.5/0.10
	0.1/0.025
	0.0/0.0

Log #	Sample ID	Matrix	DF	pH	Volume used (mL)	Comments
ICV		L	1	<2.	20	TV= 5.0/1.0
Blank	DI H_2O					
LCS	996-S-Geo-15					TV= 5.0/1.0 2.5 EP 10-1-18
LCSD	↓					TV= 5.0/1.0 2.5 EP 10-1-18
EP 10/1/18 Dup 1810844-01B	MWC-001					
Dup(1810844-01B)	MWC-001					
1810881-02B	PH-HW4-20374					
1810884-01E	Effluent					
1810584-02A	Composite Plant Effluent					
3I0617-01B	P1810843-01					
IDOC #1	IDOC-EP					TV= 5.0/2.5
IDOC #2	↓					↓
IDOC #3						
IDOC #4	↓	↓	↓	↓	↓	↓
CCV	964-S-Gen.02	L	1	<2	20	TV= 7.5/2.5
CCB	DI H_2O	↓	↓	↓	↓	
						EP 10.1.18.
CCV						TV=
CCB						
MS1 (1810844-01B)	MWC-001	L	1	<2.	20	TV= 5.0/2.5
MS2						TV=

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

PA 4/18/16

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	N/A	~~6-18-14~~ 4/8/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 5310C	☑ Water ☑ DW ☐ Solid ☐ Other: _____	030125-032
Analyte or Class of Analytes		
TOC		

We, the undersigned, CERTIFY that:

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2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	6-18-14 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	6-18-14 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	4/8/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

Detailed Analysis Report Print Date/Time: 2014/06/18 12:18:36

Sample ID: Cleaning Mode: UTILITY
Method: Cleaning Procedure Filename: 06181032
Cal. Curve: default Timestamp: 06/18/2014 10:56
Operator ID: ROL Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.4365	8.7303	2095264	13.074	14.317	241
2	0.5440	10.8794	2611050	13.613	14.111	122
3	0.1140	2.2809	547418	13.401	13.895	96
4	0.0422	0.8434	202427	13.294	13.791	85
5	0.0242	0.4831	115945	13.261	13.759	78
6	0.0183	0.3651	87624	13.225	13.721	74

Last Message: Max Integration Time Reached
<<<Statistics>>> Mean: 0.1965 Std Dev: 0.2326 RSD: 118.33

Sample ID: BLANK Mode: TC
Method: Blank TC Range 2 Drinking H2O Filename: 06181032
Cal. Curve: default Timestamp: 06/18/2014 11:11
Operator ID: ROL Sample Type: Blank TC Range 2

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1			116997	13.327	13.826	85
2			127402	13.180	13.678	91
3			102866	13.249	13.747	86
4			101830	13.227	13.723	85
5			100230	13.147	13.645	87

<<<Statistics>>> Mean: 109865 Std Dev: 11883 RSD: 10.82

Sample ID: BLANK Mode: TOC
Method: Drinking H2O TOC 0.1-20ppmC Filename: 06181032
Cal. Curve: 032114CAL Timestamp: 06/18/2014 11:18
Operator ID: ROL Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	0.0515	0.2059	148032	13.159	13.655	78

Sample ID: CCV 5 Mode: TOC
Method: Drinking H2O TOC 0.1-20ppmC Filename: 06181032
Cal. Curve: 032114CAL Timestamp: 06/18/2014 11:29
Operator ID: ROL Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.3480	17.3918	4085533	13.177	13.676	220

87%

Sample ID: IDOC-SA-1 Mode: TOC
Method: Drinking H2O TOC 0.1-20ppmC Filename: 06181032
Cal. Curve: 032114CAL Timestamp: 06/18/2014 11:38
Operator ID: ROL Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.5626	18.2504	4214329	13.269	13.769	139

Sample ID: IDOC-SA-2 Mode: TOC
Method: Drinking H2O TOC 0.1-20ppmC Filename: 06181032
Cal. Curve: 032114CAL Timestamp: 06/18/2014 11:47
Operator ID: ROL Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning	Ending	Integration

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.5849	18.3397	4234463	13.258	13.758	139

Sample ID: IDOC-SA-3
Method: Drinking H2O TOC 0.1-20ppmC
Cal. Curve: 032114CAL
Operator ID: ROL
Mode: TOC
Filename: 06181032
Timestamp: 06/18/2014 11:56
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.5448	18.1793	4198306	13.257	13.756	136

Sample ID: IDOC-SA-4
Method: Drinking H2O TOC 0.1-20ppmC
Cal. Curve: 032114CAL
Operator ID: ROL
Mode: TOC
Filename: 06181032
Timestamp: 06/18/2014 12:05
Sample Type: Sample

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.5006	18.0026	4158493	13.151	13.648	137

Sample ID: LCS 5PPM
Method: Drinking H2O TOC 0.1-20ppmC
Cal. Curve: 032114CAL
Operator ID: ROL
Mode: TOC
Filename: 06181032
Timestamp: 06/18/2014 12:14
Sample Type: Cal. Verification

Rep #	ppm C	ug C	Raw Data	Beginning Baseline	Ending Baseline	Integration Time
1	4.4940	17.9760	4217182	13.110	13.606	145

IDC:

Matrix: (Water) Soil Air

Date of Analysis: 6-18-2014

Method Number: SM 5310C

Method Description: TOTAL ORGANIC CARBON

Instrument Used: WET-37

[x]	Raw Data Given to QA?
[✓]	All Crossouts Initialed, Dated and Explained?
[ ]	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
TOC Standard	5.0 ppm
343—S-GEN-12	

Comments:

Data given to QA on 4/8/16. Analyzed but not turn to ex-QA/QC officer.

Acceptance Criteria ~~90-110%~~ 80-120 %. SA 6-18-14

Analyst Name: Sophia Andre

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
5.0 ppm standard	4.560	4.580	4.540	4.500	4.540	5.000	90.8	0.75%

Analyst Signature: Sophia Andre **Date:** 6-18-14

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	10/27/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 9223B	☒ Water ROL 10/27/16.	
Analyte or Class of Analytes:	☑ DW → correct.	0201615-013
Total Coliform Enzyme Substrate	☐ Solid	
	☐ Other: _____	

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4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	10/27/16 *Date*
Brian Mercer *Technical Director*	*Signature*	10/27/16 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	10/27/16 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control:0401116-002
Date:8/29/16

MATRIX:	Drinking Water
DATE OF ANALYSIS:	10/27/2016
NALYZED BY:	Karina Ramirez
ETHOD NUMBER:	SM 9223B
EXTRACTION METHOD (IF APPLY):	SM 9223B
INCUBATOR ID:	Micro -16
UV LAMP ID	Micro-31
Colillert Lot	EM534
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	10/26/2016
ACCEPTANCE CRITERIA:	P. Aeru A E. Coli P(P) E. Cloac. P(A)

Bacteria Used:	Bacteria. ID#
E.Coli bacteria	102115
P. Aeruginosa	011416
E. Cloacae	102115

Compounds	DOC 1 P. Aeruginosa	DOC2 E.Coli	DOC3 E. Coli	DOC4 E. Cloacae
Total Coliform	Absent	Present	Present	Present
Fecal Coliform	Absent	Present	Present	Absent
E. Coli	Absent	Present	Present	Absent

SM 9223B Enzyme Substrate Coliform Test (P/A)

Extraction

Date	10/26/16
Analyst	MKR

Analysis

Date	10/27/16
Analyst	MKR

Media	Enz 53)
Run #	161641
Incubator (35.0±0.5°C)	MICRO-16
Bacti Bottle #	1-Mar-3
Chlorine Strips Lot#	5112144A
Thermometer ID	412117

Incubation Temp. in	35.0
Incubation Temp. out	35.0

Order #	Sample ID	Sample Size(mL)	Result	Incubation Time in	Incubation Time out	Cl-Check	Notes
BB	**BB**	**100**	A	17:00	17:00	U	
16J0712-06	Marks Sp 11	100	A	↓	↓	↓	
16J0713-01	PPO 2107	100	A	↓	↓	↓	
16J0718-01	Layne SP 1	100	P(A)	17:15	17:15	U	
↓ -02	↓ 2	100	A	↓	↓	↓	
↓ -03	↓ 3	100	A	↓	↓	↓	
16J0719-01	Hynes R.T.	100	P(A)	↓	↓	↓	
16J0720-01	PL OFW.	100	P(A)	↓	↓	↓	
↓ -02	O.D.	100	P(A)	↓	↓	↓	
-03	LdW.	100	A	↓	↓	↓	
-04	L.D.	100	A	↓	↓	↓	
-05	S.W.	100	A	↓	↓	↓	
↓ -06	S.D.	100	A	↓	↓	↓	
FB	FB	100	A	↓	↓	↓	
BB	BB	100	A	17:45	17:45	U	
Known FDOC	P. aeru	100	A	↓	↓	↓	
↓	E. coli	100	P(P)	↓	↓	↓	
↓	E. coli	100	P(P)	↓	↓	↓	
↓	E. cloac	100	P(A)	↓	↓	↓	
FB	FB	100	A	↓	↓	↓	
		100					
		100					
		100					

Quality Control Guidelines: Each analytical batch consists of no more than 20 samples,with sterility blanks at the beginning and end of each batch as well as after the 10th sample. The blanks are DI water

Reviewed by: _____ Date: 10/27/16

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	10/27/16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 9222B ~~SM9213E~~ 10/27/16 RDL	☑ Water ☐ DW ☐ Solid ☐ Other: _____	0201616-005
Analyte or Class of Analytes		
Total Coliform Membrane Filtration		

We, the undersigned, CERTIFY that:

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4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	10/27/16 *Date*
Brian Mead *Technical Director*	*Signature*	10/27/16 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	10/27/16 *Date*

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Complete: Includes the results of all supporting performance testing.
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FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
DATE OF ANALYSIS:	10/27/2016
ANALYZED BY:	Karina Ramirez
METHOD NUMBER:	SM 9222B
EXTRACTION METHOD (IF APPLY):	Membrane Filtration
INCUBATOR ID:	Micro -16
LAMP ID	Micro-28
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	10/26/2016
ACCEPTANCE CRITERIA:	325-2326 CFU/100 mL

Standards Used:	Std. ID#	Conc.
E.Coli bacteria (Total Coliform)	102115	957±117 CFU/100 mL
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL	CFU/100 mL			
Total Coliform	957	400.00	560.00	460.00	660.00	520.00	21.98	54.34	114.31

SM 9222B Total Coliform Membrane Filtration

Run # N/A — LIMS Template # 28

Extraction		Analysis	
te:	10/26/16	Date:	10/27/16
Analyst:	KR/BR	Analyst:	KR/BR

Start Time #1:	15:40	Incubator Temp In #1:	35.0
Stop Time #1	16:00	Incubator Temp Out #1:	35.0
Analyst:			
Start Time #2:		Incubator Temp In #2:	
Stop time #2:		Incubator Temp Out#2:	
Analyst			
Start Time #3:		Incubator Temp In #3:	
Stop time #3: :		Incubator Temp Out #3:	

Media	endo102416
Pipette:	BOZ#
Incubator(35.0±0.5°) : Micro -16	
Buffer ID#	phosph102416
Bacti Bottle #	HMO13
Memb. Filter Lot #	6031102
Chlorine Strips:	542447
Thermometer ID:	912W
Lamp ID: Micro-28	

Order #	Sample ID	Sample Size(mL)	Colonies Counted	cfu's per 100 mL	Incubation Time In	Incubation Time Out	Cl-check	Notes/ Verification
BB	**BB**	**100**	0	4	16:00	16:00	0	
IDEXX	Kanaka	1	4	400	↓	↓	↓	
↓	↓	5	28	560				
	Fukuji	5	23	460				
↓	↓	10	66	660				
EB	EB	100	0	4			+	

Quality Control Guidelines: Each filtration series consists of no more than 20 samples, with sterility blanks at the beginning and end of each series as well as after the 10th sample. **Verification:** Once a month verify at least 10 presumptive fecal colonies from a positive sample. **Ideal range** :20-80 CFU/plate.

Reviewed by: _____ Date: 10/28/16

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
David Barahona	DB	2/20/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
2540B	☑ Water ☐ DW ☐ Solid ☐ Other: _____	0201218-13
Analyte or Class of Analytes		
Total Solids Water		

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David Barahona *Analyst*	David Barahona *Signature*	2/20/19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	2/20/19 *Date*
Roxana Llamblas *Quality Assurance Director*	[illegible] *Signature*	2/20/19 *Date*

1 For: Consistent with supporting data.
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FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	2/20/2019
ANALYZED BY:	David Barahona
METHOD NUMBER:	SM2540B
EXTRACTION METHOD (IF APPLY):	SM 2540B
Oven ID 103-105°C	WET-12
Thermometer ID 103-105°C:	Wet-12 Digital
Dessicator ID:	Dess-3
Balance ID	WET-20
EXTRACTED BY:	David Barahona
DATE EXTRACTED:	2/19/2019
ACCEPTANCE CRITERIA:	80-120%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1054-S-GEN-11	500 ppm
Surrogate	na	na
Internal Standard	na	na

Compound / **UNITS:**	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	_ X	% RSD	% Recovery	SD
	ppm	ppm	ppm	ppm	ppm	ppm			
Total Solids	500	532	532	532	556	538	2.23	108	12.00

		TOTAL SOLIDS		RPD 1	7.17					
				RPD 2	#DIV/0!					
	Dish	SV	FINAL	FINAL	WT change	Residue	DF	Total Solids	Final TS	Recovery
Sample #	Mass (g)	(mL)	mass (g)	mass (g)	(<0.5 mg)	(0.0025-0.2g)		mg/L	mg/L	
BLANK	49.2804	100	49.2801	49.2804	0.3	0.0000	1	0.0	0	
QC 500 PPM	26.0028	25	26.0159	26.0161	0.2	0.0133	4	133.0	532	106%
19B0459-02A	31.0822	50	31.0940	31.0943	0.3	0.0121	2	121.0	242	
DUP 19B0459-02A	25.9498	50	25.9626	25.9628	0.2	0.0130	2	130.0	260	
19B0459-01A	26.1279	50	26.1800	26.1804	0.4	0.0525	2	525.0	1050	
IDOC DB 1	25.9703	25	25.9835	25.9836	0.1	0.0133	4	133.0	532	106%
IDOC DB 2	27.0467	25	27.0598	27.0600	0.2	0.0133	4	133.0	532	106%
IDOC DB 3	26.8818	25	26.8951	26.8951	0.0	0.0133	4	133.0	532	106%
IDOC DB 3	26.0699	25	26.0834	26.0838	0.4	0.0139	4	139.0	556	111%
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
QC 500 PPM		25			0.0	0.0000	4	0.0	0	0%
BLANK		100			0.0	0.0000	1	0.0	0	
Sample					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
Sample DUP					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
					0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
QC 500 PPM		25			0.0	0.0000	4	0.0	0	0%
BLANK		100			0.0	0.0000	1	0.0	0	

Document Control #: 0401216-023
Date: 9/13/16

Total Solids logbook
SM 2540G /SM2540B

Analyst:	DB
Date/Time	2/19/19 13:31
Run #	19B0587
Matrix	

Balance ID	WET-20	
Oven ID (103-105°C)	WET-12	WET-39
Thermometer ID	WET-12 Digital	76 MM IMM
Dessicator ID:	Dess-3	
Pan Dishes Lot:		

Pipette 5 mL:	
Grad. Cylinder 25mL: WC-1 / WC-8	WC-9
Grad. Cylinder 50 mL: WC-10	
Grad. Cylinder 100 mL: WC-13 / WC-14	

Acceptance Criteria: 80-120%

Dried Residue: 2.5-200 mg

Dish ID	Log #	Sample ID	Samp. Vol. mL	Dish weight, g	Final weight, g	Final weight, g	Final weight, g	Wt. Change (<0.5mg)	Dry Residue (0.0025-0.2), g	Total Solids, mg/L	Comments
24	BLANK	DI Water	100	49.2805	49.2801	49.2804					
20	CHECK STD	1054-S-GEN-11	25	26.0028	26.0159	26.0161					
21	19B0459-01A	Plant #1	50	26.1799	26.1800	26.1804					
22	-02A	Plant #2	50	31.0822	31.0940	31.0943					Conduct 695 µS
23	IDOC-1 DB	1054-S-GEN-11	25	25.9703	25.9835	25.9836					Conductivity 435 µS
-24	-2	↓	25	27.0467	27.0598	27.0600					
25	-3	↓	25	26.8818	26.8951	26.8951					
19	-4	↓	25	26.0699	26.0834	26.0838					
18	↓	↓									
17	DUP 0459-02A	Plant #2	50	25.9498	25.9626	25.9628					
	BLANK										
	CHECK STD										
	DUP										
	BLANK										
	CHECK STD										

Cycle	Date In	Time In	Temp. (°C)	Analyst	Date Out	Time Out	Temp. (°C)	Analyst
1	2/19/19	13:31	105	DB	2/20/19	9:15	105	DB
2	2/20/19	10:24	105	DB	2/20/19	11:45	105	DB
3								
4								
5								

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Estela Paz Martinez	EP	10/22/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 365.1 / SM4500P-F	☒ Water ☒ DW ☐ Solid ☐ Other: _____	0201216-023
Analyte or Class of Analytes		
L.L Total Phosphorus.		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Estela Paz *Analyst*	*Signature*	10.12.18 *Date*
Sophia Andre *Technical Director*	*Signature*	10-12-18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	10/22/18 *Date*

1 consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Liquid
DATE OF ANALYSIS:	10/12/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 365.1/ SM 4500 P-F
EXTRACTION METHOD (IF APPLY):	EPA 365.1/ SM 4500 P-F
INSTRUMENT ID:	WET-26
AUTOCLAVE ID:	WET-49
EXTRACTED BY:	EP
DATE EXTRACTED:	10/12/2018
ACCEPTANCE CRITERIA:	90-110%

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	997-S-GEN-07	10 mg/L
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Total Phosphorus (LL)	1.00	0.990	0.990	0.990	0.988	0.990	0.10	99.0	0.00

Author: Administrator

Date : 10/15/2018

Original Run Filename: OM_10-12-2018_03-28-25PM.OMN Created: 10/12/2018 3:28:25 PM
Original Run Author's Signature: [Administrator]
Current Run Filename: OM_10-12-2018_03-28-25PM.omn Last Modified: 10/15/2018 11:28:47 AM
Current Run Author's Signature: [Administrator]
Description: TPO4 METHOD EPA 365.1

Sample	Rep.	Cup No.	Channel 2 TPO4 LL (MG/L)	MDF
ICV TV=0.5 MG/L	1	119	0.507	101
CCB	1	120	1.96e-3	
LCS TV=1.0 MG/L	1	118	0.958	96
LCSD TV=1.0 MG/L	1	118	0.959	96
IDOC-EP-1	1	13	0.990	99
IDOC-EP-2	1	14	0.990	99
IDOC-EP-3	1	15	0.990	99
IDOC-EP-4	1	16	0.988	99
CCB	1	120	-1.07e-6	
18J0089-01B	1	1	1.16	
18J0089-02B	1	2	-2.90e-4	
18J0089-03B	1	3	0.0395	
18J0089-03B DUP	1	4	0.0376	
18J0089-03BMS TV=1.0 MG/L	1	116	0.971	
18J0089-05B	1	5	0.176	
18J0089-06B	1	6	0.181	
18J0089-07B	1	7	0.0223	
18J0089-08B	1	8	0.649	
18J0089-09B	1	9	0.0909	
18J0123-04B	1	10	0.0434	
CCV TV=1.0 MG/L	1	117	0.991	99
CCB	1	120	3.04e-3	
18J0137-01B	1	11	0.178	
18J0137-02B	1	12	0.138	
18J0140-01B	1	13	0.109	
18J0140-01B MS TV=1.0MG/L	1	115	1.05	
18J0140-02B	1	14	0.102	
18J0142-01D	1	15	0.0681	
18J0165-01A	1	16	0.530	
18J0165-02A	1	17	0.488	
18J0165-03A	1	18	0.0826	
18J0183-01C	1	19	0.0870	
18J0183-02C	1	20	0.0603	
		Calibration:	Table/Fig. : 1	
ICV TV=0.5 MG/L	1	119	0.513	103
CCB	1	120	1.93e-3	
LCS TV=1.0 MG/L	1	118	0.987	99
LCSD TV=1.0 MG/L	1	118	0.989	99
18J0190-01D	1	21	9.03e-3	
18J0190-01D DUP	1	22	9.03e-3	
18J0190-02D MS TV=1.0MG/L	1	114	0.940	94
18J0198-01B	1	23	1.96e-3	
18J0198-02B	1	24	-2.40e-4	
18J0198-03B	1	25	0.0715	
18J0198-04B	1	26	0.338	
18J0253-07B	1	27	0.0878	
18J0253-08B	1	28	0.252	
18J0253-09B	1	29	0.265	
18J0253-10B	1	30	0.318	
CCV TV=1.0 MG/L	1	117	0.995	100
CCB	1	120	-2.93e-4	
18J0253-11B	1	31	-6.98e-4	
18J0261-01B	1	32	1.57e-3	
18J0261-02B	1	33	1.76e-3	
18J0261-03B	1	34	0.0423	
18J0261-03B MS TV=1.0MG/L	1	113	0.994	95
18J0261-04B	1	35	0.0798	
18J0261-05B	1	36	0.0403	
18J0236-01A	1	37	0.168	
18J0236-02A	1	38	0.149	
18J0236-03A	1	39	0.0914	
18J0236-04A	1	40	0.113	

TP DIGESTION LOGBOOK
FLEN EPA 365.1

Ana...	ED
Date/ Time	10.12.18 / 12:00 pm
H2SO4 11N	934-2-Gen-07
Ammonium Persulfate ID	1002-2-Gen-05
Autoclave ID:	WET-49
pH Strips	58-WE-08
Pipette 1 mL	001
Pipette 5 mL:	001

Conc.(mg/L)	ID
2.00	
1.00	
0.50	
0.10	
0.05	
0.01	
0.075	
0.005	
0.003	
0.00	

Page 4 of 4

Log #	Sample ID	Matrix	pH	DF	Volume, mL	Comments (mg/L)
ICV	993-5-Gen-15	L	<2	1	10	TV=0.5
Blank	DI H2O					
LCS	1002-5-Gen-08					TV=1.0
LCSD	↓					TV=1.0
Dup IBJ0341-04B	16372/EC NPSO3					
IBJ0341-04B	↓					
IBI0712-01B	NS10SP01					Rerun.
-02B	NS1D-EB #1-SP01					
-03BA	NS1DEC02					-03A * EP 10.12.18
-05BA	NS1DEA01					-05A
-06BA	NS1DNC01					-06A
-07BA	NS1DWC06					-07A
-08BA	NS1DNP02.					-08A
IBI0712-09BA	NS1DWC07					-09A
CCV	1002-5-Gen 14					TV=1.0
CCB	DI H2O					
IBI0712-10A	NS1D-FCEB#1-WC07					
IBI0712-11B	NS1DNP02-RS#1					
IBI0712-12B	NS1DNP02-RS#2					
IDOC-EP-1	TPSt'd TV=10mg/L-1ml.					TV=1.0 (9975-Gen-07)
IDOC-EP-2						TV=1.0
IDOC-EP-3						TV=1.0
IDOC-EP-4	↓					TV=1.0 ↓
CCV	1002-5-Gen-14					TV=1.0
C...						
MS IBJ0341-04B	16372/EC NPSO3					TV=1.0
MS IBI0712-12B	NS1DNP02-RS#2					TV=1.0

Date: 1/09/201

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst: Sophia Andre	Extraction Analyst (If Applicable): SA	Effective Date: DOC ~~4/26/14~~ 4/15/16
Method Number: EPA 1664	Matrix: ☑ Water ☐ DW ☐ Solid ☐ Other: _____	SOP Document Control Number or Revision Numb: 030126-001
Analyte or Class of Analytes: TRPH		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	4-26-14 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	4-26-14 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	4/15/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
mplete: Includes the results of all supporting performance testing.
lf-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

Method 1664

Oil and Grease / TRPH

Batch #: 1405020
Analyst: DGK / SA
Date: 4/26/14

TRPH ONLY

	Standard ID	(mL)	Std conc.	Spiked conc
Spike	33-1-S-Hex-10	(5)	10000	50
Matrix Spike				

Log No.	Sample ID	Sample Date	pH F	Amount Ext (mL)	1 Initial Wt	2 Initial Wt	3 Initial Wt	1 Final Wt*	2 Final Wt*	3 Final Wt*	TRPH Final Conc	Comments
BLANK	MB	TRPH	<2	1000	121,8410	121,8410	121,8410	121,8410	121,8410	121,8410	0	
	LCS											
	LCSD											
LCS	TRPH LCS	TRPH	<2	1000	114,9295	114,9295	114,9295	114,9712	114,9712	114,9712	41.7	
LCSD	TRPH LCSD	TRPH	<2	1000	118,9386	118,9386	118,9386	118,9841	118,9841	118,9841	45.5	
14D0704-01C	MS	TRPH	<2	1000	126,5721	126,5721	126,5721	126,6130	126,6130	126,6130	40.9	
	MSD											
14D0704-01A	9	TRPH	<2	1000	120,2242	120,2242	120,2242	120,2276	120,2276	120,2276	3.4	=75%
DOC-SA-1	10	TRPH	<2	1000	126,5701	126,5703	126,5700	126,6123	126,6121	126,6120	42.0	
-2	11	TRPH	<2	1000	122,9304	122,9304	122,9305	122,9729	122,9730	122,9729	42.4	
-3	12	TRPH	<2	1000	123,9863	123,9863	123,9864	124,0283	124,0280	124,0281	41.7	
-4	13	TRPH	<2	1000	117,5052	117,5052	117,5050	117,5478	117,5477	117,5475	42.5	

Hexane:	Log #	34-WC-13
Filter Paper:	Log #	32-WC-14
Sodium Sulfate:	Log #	SV-076
Sulfuric Acid:	Log #	338-R-Gen-17

Silica Gel: Log # 28-WC-11

*Weighings must agree within 0.5 mg or 4% whichever is less

Balance Number: Prep 3

Wt Verification - 2 mg: 0.0020 (± 0.0002g)

1g: 1.0001 (± 0.005g)

4/26/14 DGK

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
David Barahona	David Barahona	12/24/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 2540D	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020121B-012
Analyte or Class of Analytes		
Total suspended solids		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona	David Barahona	12/24/2018	
Analyst	*Signature*	*Date*	
Sabhia Andre	Sabhia Andre	12-24-18	
Technical Director	*Signature*	*Date*	
Roxana Llamblas			
Quality Assurance Director	*Signature*	12/24/18 *Date*	

1. True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	12/24/2018
ANALYZED BY:	David Barahona
METHOD NUMBER:	SM2540D
EXTRACTION METHOD (IF APPLY):	SM 2540D
Oven ID	WET-12
Thermometer ID:	Wet-12 Digital
Dessicator ID:	Dess-3
Funnel ID	WC-18
Graduated Cylinder ID	WC-14
Balance ID	WET-20
Filters	63-WC-22
EXTRACTED BY:	David Barahona
DATE EXTRACTED:	12/24/2018
ACCEPTANCE CRITERIA:	80-120%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1036-S-GEN-18	100 ppm
Surrogate	na	na
Internal Standard	na	na

Compound / **UNITS:**	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
	ppm	ppm	ppm	ppm	ppm	ppm			
Total Suspended Solids	100	102	104	96.0	95.0	99.3	4.46	99.3	4.43

TSS					RPD 1	#DIV/0!	2	#DIV/0!				
Sample #	SV (mL)	Filter (g)	Final wt. (g)	Final wt. (g)	Analyzed D/T	Analyzed D/T	WT Change (<0.5mg)	Residue (0.0025-0.2g)	DF	TSS (mg/L)	FINAL TSS (mg/L)	% Rec.
BLANK	1000						0.0	0.0000	1	0.00	0.00	
QC 100 PPM	100						0.0	0.0000	10	0.00	0.00	0%
IDOC-DB-1	100	0.1159	0.1265	0.1261	2/24/18-12:1	12/24/18-16:0	0.4	0.0102	10	10.20	102.00	
IDOC-DB-2	100	0.1150	0.1257	0.1254	2/24/18-12:1	12/24/18-16:0	0.3	0.0104	10	10.40	104.00	
IDOC-DB-3	100	0.1124	0.1222	0.1220	2/24/18-12:1	12/24/18-16:0	0.2	0.0096	10	9.60	96.00	
IDOC-DB-4	100	0.1116	0.1213	0.1211	2/24/18-12:1	12/24/18-16:0	0.2	0.0095	10	9.50	95.00	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
Parent							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
Parent DUP							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
BLANK	1000						0.0	0.0000	1	0.00	0.00	
QC 100 PPM	100						0.0	0.0000	10	0.00	0.00	0%
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
Parent							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
Parent DUP							0.0	0.0000	#DIV/0!	#DIV/0!	#DIV/0!	
BLANK	1000						0.0	0.0000	1	0.00	0.00	
QC 100 PPM	100						0.0	0.0000	10	0.00	0.00	0%

Document Control #: 0401218-018
Revision: 1
Date: 12/18/18

Analyst:	DB / SA
Date/Time	12/24/18
Run #	N D

Acceptance Criteria: 80-120%
Dried Residue: 2.5-200 mg

Balance ID	WET- 20	Filters Lot:	63-W6-22
Oven ID 103-105°C	(WET-12)	Thermometer ID	Wet-12 Digital
Oven ID 103-105°C	WET-39	Thermometer ID	76MM IMM
Desiccator ID	Dess-3	Funnel ID	(WC-18) WC-19

Grad. Cylinder 25 mL: WC-1 / WC-8
Grad. Cylinder 50 mL: WC-10
Grad. Cylinder 100 mL: WC-13 / (WC-14)
Grad. Cylinder 250 mL: WC-15 / WC-16 / WC-17

Dish ID	Log #	Sample ID	Samp. Vol. mL	Dish Weight g (*)	Final Weight g	Final Weight, g	Final Weight, g	Wt. Change Accep. (<0.5 mg)	TSS mg/L	Comments
	BLANK									
	CHECK STD									
1	IDOC DB 1	~~[illegible]~~	100	0.1159	0.1265	0.1261				1036-S-Gen-18 * 12/24/18 DB
2	2	1036-S-Gen-18	100	0.1150	0.1257	0.1254				
3	3		100	0.1174	0.1222	0.1220				
4	4		100	0.1116	0.1213	0.124				
	DUP									
	BLANK									
	CHECK STD									
	DUP									
	BLANK									
	CHECK STD									

(*) If the pre-weigh filters in use are PROWEIGH filters the dish weight recorded is the second weight. If they are DOUBLEWEIGHT record the weight as appears.

Cycle	Date In	Time In	Temp. (°C)	Analyst	Date Out	Time Out	Temp. (°C)	Analyst
1	12-24-18	10:14	105	DB	12-24-18	11:30	105	DB
2	12-24-18	12:15	105	DB	12-24-18	13:50	105	DB
3								
4								
5								

IDC:

Matrix: (Water) Soil Air

Date of Analysis: 04/26/14

Method Number: EPA 1664

Method Description: TRPH

Instrument Used:

☑	Raw Data Given to QA?
☐	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
334-S-GEN-10	50 mg/L

Comments:

Done on 4/26/14 given to QA on 4/15/16.

Acc. criteria ~~64% - 132%~~ 83% - 116%

SA 4-26-14

Analyst Name: Sophia Andre

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
TRPH STD	42.00	42.40	41.70	42.50	42.1	50.0	84.2	0.88%

Analyst Signature: Sophia Andre **Date:** 4-26-14

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (if Applicable)	Effective Date
Angel Reyes	NA	8/23/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 180.1	☑ Water ☑ DW ☐ Solid ☐ Other: _____	0201217-006
Analyte or Class of Analytes		
Turbidity		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Angel Reyes *Analyst*	*Signature*	8/23/18 *Date*
Sophia Andre *Technical Director*	*Signature*	8/23/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	8/23/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	8/23/2018
ANALYZED BY:	Angel Reyes
METHOD NUMBER:	EPA 180.1
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	WET-2-Turbidimeter
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	61-WC-10	49.3 NTU
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	NTU	NTU	NTU	NTU	NTU	NTU			
TURBIDITY	49.3	50.0	50.0	50.0	50.0	50.0	0.00	101	0.00

Turbidity Logbook
EPA method 180.1

Analyst: SA
Date: 8-23-18
Time: 9:00
Batch ID: 18H0755

Instrument ID	Wet-2-Turbidimeter
Instrument Cal Date	6-15-18
Next Calibration Date	9-15-18
Acceptance Criteria: 90-110%	

Environmental Log #	Sample/ STD ID	TV NTU	DF	Reading NTU	Reading x DF NTU	Comments
ICB	DI	-	1	0.11	0.10	
LCS	61-WC-10	49.3	1	49.8	50	
18H0763-01F	ROWTP	-	1	0.50	0.50	
↓ -02E	NW 154	-	1	0.30	0.30	
18H0765-01C	Finished	-	1	0.50	0.50	
↓ -02C	Raw Entry	-	1	0.41	0.40	
↓ -03C	Mid Point	-	1	0.45	0.45	
18H0805-01F	ROWTP	-	1	0.39	0.40	
↓ -02F	NW 154	-	1	0.26	0.25	
H0822-01A	Lowell	-	1	57.4	60	
18H0823-01A	Velva well	-	1	458	460	
DUP 18H0805-02F	NW 154	-	1	0.32	0.30	
CCV	61-WC	577	1	581	600	
CCB	DI	1	1	0.11	0.10	
18H0824-01D	Velva Tap	-	1	0.32	0.30	
18H0855-01F	ROWTP	-	1	0.41	0.40	
↓ -02F	NW154	-	1	0.31	0.30	
IDOC AR 1	61-WC-10	49.3	1	50.6	50	
IDOC AR 2	61-WC-10	↓	1	50.5	50	
IDOC AR.3	61-WC-10	↓	1	50.8	50	
IDOC AR 4	61-WC-10	49.3	1	50.1	50	
DUP 18H0824-01D	Velva Tap	-		0.34	0.35	
C		5.37	1	5.43	5.4	
CCB		-	1	0.11	0.10	

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Anna Ulianova	Anna Ulianova	7/2/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 524.2	☐ Water ☑ DW ☐ Solid ☐ Other: _____	020519-001
Analyte or Class of Analytes		
Volatiles		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Anna Ulianova *Analyst*	*Signature*	6/26/19 *Date*
José Fernandez *Technical Director*	*Signature*	6/26/19 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	7/2/19 *Date*

1 T[illegible]nsistent with supporting data.
A[illegible]: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date: 8/29/16

MATRIX:	WATER
DATE OF ANALYSIS:	6/18/2019
ANALYZED BY:	AU
METHOD NUMBER:	EPA 524.2
EXTRACTION METHOD (IF APPLY):	EPA 5030
INSTRUMENT ID:	DELTA
EXTRACTED BY:	AU
DATE EXTRACTED:	6/18/2019
ACCEPTANCE CRITERIA:	80-120%; RSD<20%

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	IQ8260D190617A,B	100 PPM
Surrogate	SU190404	12.5 PPM
Internal Standard	IS190404	100 PPM

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD	Acceptance Criteria (%)
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L				
2) Dichlorodifluoromethane	5	5.47	5.14	5.02	4.97	5.15	4.37	103	0.22	80-120
3) Chloromethane	5	4.87	4.69	4.96	5.05	4.89	3.14	97.9	0.15	80-120
4) Vinyl Chloride	5	5.64	5.30	5.23	5.07	5.31	4.52	106	0.24	80-120
5) Bromomethane	5	4.15	4.07	4.92	4.76	4.48	9.56	89.5	0.43	80-120
6) Chloroethane	5	5.58	4.74	4.95	4.85	5.03	7.49	101	0.38	80-120
7) Trichlorofluoromethane	5	5.24	4.72	5.10	4.92	5.00	4.51	100	0.23	80-120
9) Diethyl Ether	5	5.70	5.41	5.08	4.98	5.29	6.20	106	0.33	80-120
10) 1,1-Dichloroethene	5	4.20	3.63	5.04	4.93	4.45	14.9	89.0	0.66	80-120
11) Acetone	25	26.8	25.9	25.4	24.3	25.6	4.19	102	1.07	80-120
13) Carbon Disulfide	5	5.70	4.97	4.97	5.07	5.18	6.79	104	0.35	80-120
15) Methylene Chloride	5	5.48	5.06	4.94	5.02	5.13	4.72	103	0.24	80-120
18) trans-1,2-Dichloroethene	5	4.95	4.38	4.98	5.19	4.88	7.11	97.5	0.35	80-120
19) MTBE	5	5.90	5.18	5.02	5.30	5.35	7.18	107	0.38	80-120
20) 1,1-Dichloroethane	5	5.20	4.80	5.03	4.86	4.97	3.63	99.5	0.18	80-120
22) 2-Butanone (MEK)	25	26.0	26.2	25.1	25.4	25.7	1.94	103	0.50	80-120
23) cis-1,2-Dichloroethene	5	5.87	5.50	6.02	4.84	5.56	9.46	111	0.53	80-120
24) 2,2-Dichloropropane	5	5.67	5.26	4.44	4.76	5.03	10.8	101	0.54	80-120
26) Methyl Acrylate	5	4.34	5.00	4.62	4.60	4.64	5.86	92.8	0.27	80-120
27) Methacrylonitrile	5	5.13	4.50	4.91	4.72	4.82	5.58	96.3	0.27	80-120
28) Bromochloromethane	5	5.41	4.91	5.02	5.22	5.14	4.30	103	0.22	80-120
29) Tetrahydrofuran	5	5.53	4.63	5.04	5.04	5.06	7.28	101	0.37	80-120
30) Chloroform	5	5.19	4.81	4.96	5.10	5.02	3.31	100	0.17	80-120
31) 1,1,1-Trichloroethane	5	5.89	4.98	5.10	5.05	5.26	8.11	105	0.43	80-120
33) 1,1-Dichloropropene	5	5.00	4.50	4.90	4.93	4.83	4.67	96.7	0.23	80-120
34) Carbon Tetrachloride	5	5.57	4.70	5.11	5.14	5.13	6.93	103	0.36	80-120
35) 1,2-Dichloroethane	5	5.60	4.43	5.09	5.15	5.07	9.51	101	0.48	80-120
36) Benzene	5	5.81	4.95	5.20	4.98	5.24	7.63	105	0.40	80-120
37) Trichloroethene	5	5.27	4.50	5.07	4.78	4.91	6.86	98.1	0.34	80-120
39) 1,2-Dichloropropane	5	5.32	4.75	4.90	4.98	4.99	4.84	100	0.24	80-120
40) Methyl Methacrylate	5	5.00	4.91	4.93	5.03	4.97	1.14	99.4	0.06	80-120
41) Dibromomethane	5	5.03	4.32	4.79	4.96	4.78	6.69	95.5	0.32	80-120
42) Bromodichloromethane	5	4.76	4.12	4.93	4.89	4.68	8.07	93.5	0.38	80-120
45) trans-1,3-Dichloropropene	5	4.65	4.18	4.96	5.06	4.71	8.39	94.3	0.40	80-120
46) 4-Methyl-2-Pentanone	25	25.3	25.3	25.6	26.1	25.6	1.51	102	0.39	80-120
47) Toluene	5	4.47	4.27	5.07	5.06	4.72	8.68	94.4	0.41	80-120
48) cis-1,3-Dichloropropene	5	4.57	4.93	5.12	5.08	4.93	5.08	98.5	0.25	80-120
49) Ethyl Metacrylate	5	4.54	4.63	4.95	4.78	4.73	3.80	94.5	0.18	80-120
51) 1,1,2-Trichloroethane	5	4.85	4.80	5.09	5.05	4.95	2.91	99.0	0.14	80-120
52) 1,3-Dichloropropane	5	4.98	4.75	4.98	4.93	4.91	2.22	98.2	0.11	80-120
53) 2-Hexanone	25	23.6	22.6	25.2	25.1	24.1	5.21	96.5	1.26	80-120
54) tetrachloroethene	5	4.87	4.64	5.12	4.97	4.90	4.11	98.0	0.20	80-120
55) Dibromochloromethane	5	5.01	4.31	4.98	5.01	4.83	7.15	96.6	0.35	80-120
57) Chlorobenzene	5	4.80	4.66	5.05	5.01	4.88	3.75	97.6	0.18	80-120
58) 1,1,1,2-Tetrachloroethane	5	4.62	4.25	4.95	5.04	4.72	7.61	94.3	0.36	80-120
59) Ethylbenzene	5	4.24	4.56	5.09	4.98	4.72	8.30	94.4	0.39	80-120
60) m/p-Xylene	10	8.33	9.13	10.22	8.87	9.14	8.70	91.4	0.79	80-120
61) o-Xylene	5	3.59	3.80	4.99	4.90	4.32	16.8	86.4	0.73	80-120
62) Total xylenes	15	11.9	12.9	15.2	13.8	13.5	10.3	89.7	1.39	80-120
63) Styrene	5	3.56	4.01	5.06	4.80	4.36	15.9	87.2	0.69	80-120
64) Isopropylbenzene	5	3.61	4.08	4.91	4.90	4.38	14.7	87.5	0.64	80-120

67) 1,2,3-Trichloropropane	5	4.54	5.08	5.00	5.60	5.06	8.59	101	0.43	80-120
68) Bromobenzene	5	4.25	4.81	4.95	5.51	4.88	10.6	97.6	0.52	80-120
69) n-Propylbenzene	5	4.93	5.02	4.90	5.40	5.06	4.56	101	0.23	80-120
70) 2-Chlorotoluene	5	4.85	4.46	4.96	5.57	4.96	9.27	99.2	0.46	80-120
71)1,3,5-Trimethylbenzene	5	4.25	4.00	5.09	5.39	4.68	14.2	93.7	0.66	80-120
72) 4-Chlorotoluene	5	4.28	4.71	5.00	5.35	4.84	9.37	96.7	0.45	80-120
73) tert-Butylbenzne	5	4.82	4.91	5.00	5.06	4.95	2.12	99.0	0.11	80-120
75) 1,2,4-Trimethylbenzene	5	4.80	5.02	5.10	5.58	5.13	6.42	103	0.33	80-120
76) sec-Butylbenzene	5	4.67	4.36	5.00	5.41	4.86	9.26	97.2	0.45	80-120
77) p-Isopropyltoluene	5	5.06	4.83	5.02	5.23	5.04	3.26	101	0.16	80-120
78) 1,3-Dichlorobenzene	5	4.69	5.04	4.93	5.18	4.96	4.17	99.2	0.21	80-120
79) 1,4-Dichlorobenzene	5	5.03	4.45	4.87	5.22	4.89	6.70	97.9	0.33	80-120
81) Bromoform	5	4.68	4.01	4.94	5.13	4.69	10.4	93.8	0.49	80-120
82) 1,1,2,2,-Tetrachlorobenzene	5	5.03	4.33	5.02	5.28	4.92	8.30	98.3	0.41	80-120
83) n-Butylbenzene	5	4.41	3.98	4.84	4.96	4.55	9.81	91.0	0.45	80-120
85) 1,2-Dichlorobenzene	5	4.65	4.31	4.90	5.18	4.76	7.77	95.2	0.37	80-120
88) 1,2,4-Trichlorobenzene	5	4.44	3.81	5.05	5.13	4.61	13.3	92.2	0.61	80-120
89) Hexachlorobutadiene	5	4.95	4.55	5.17	5.23	4.98	6.19	100	0.31	80-120
90) Naphthalene	5	4.01	3.57	5.09	4.92	4.40	16.5	88.0	0.73	80-120
91) 1,2,3-Trichlorobenzene	5	4.61	4.10	4.95	4.85	4.63	8.20	92.6	0.38	80-120

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061815.D
Acq On : 18 Jun 2019 4:02 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 15 Sample Multiplier: 1

06/25/2019 A.V.

Quant Time: Jun 25 15:04:14 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 19 11:02:24 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene (IS)	5.083	96	1366249	40.00	ug/l	0.00
38) Toluene-d8 (IS)	6.433	98	1663783	40.00	ug/l	0.00
80) Chlorobenzene-d5 (IS)	7.778	117	1403023	40.00	ug/l	# 0.00
System Monitoring Compounds						
50) 2-Bromo-1-Chloropropan...	6.829	77	90118	4.71	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 94.20%			
65) 4-Bromofluorobenzene (SS)	8.903	95	66841	4.28	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 85.60%			
84) 1,2-Dichlorobenzene-d4...	10.406	152	106837	5.16	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.408	85	44070	5.47	ug/l #	97
3) Chloromethane (SPCC)	1.573	50	34121	4.87	ug/l	96
4) Vinyl Chloride (CCC)	1.646	62	23694	5.64	ug/l	99
5) Bromomethane	1.932	94	15585	4.15	ug/l	97
6) Chloroethane	2.011	64	11580	5.58	ug/l	96
7) Trichlorofluoromethane	2.193	101	23687	5.24	ug/l	97
8) Acrolein	2.631	56	6457m	24.47	ug/l	
9) Diethyl Ether	2.449	59	12518	5.70	ug/l	91
10) 1,1-Dichloroethene (CCC)	2.643	61	18518	4.20	ug/l	93
11) Acetone	2.759	43	29039	26.84	ug/l	97
12) Iodomethane	2.801	142	19669	5.30	ug/l	93
13) Carbon Disulfide	2.832	76	33660	5.70	ug/l	97
14) Allyl Chloride	2.966	41	16230	4.83	ug/l #	90
15) Methylene Chloride	3.100	49	21509	5.48	ug/l	95
16) Acrylonitrile	3.373	53	4849m	5.10	ug/l	
18) trans-1,2-Dichloroethene	3.276	61	20166	4.95	ug/l	99
19) MTBE	3.264	73	37024	5.90	ug/l	92
20) 1,1-Dichloroethane (SPCC)	3.665	63	22160	5.20	ug/l	96
22) 2-Butanone (MEK)	4.195	43	21640m	26.00	ug/l	
23) cis-1,2-Dichloroethene	4.146	61	15017	5.87	ug/l	98
24) 2,2-Dichloropropane	4.122	77	8565m	5.67	ug/l	
25) Propionitrile	4.316	54	4373	5.84	ug/l #	93
Methyl Acrylate	4.231	55	11194m	4.34	ug/l	
27) Methacrylonitrile	4.401	41	13531	5.13	ug/l #	61
28) Bromochloromethane	4.359	49	24278	5.41	ug/l #	77
29) Tetrahydrofuran	4.377	42	5385	5.53	ug/l #	76

Data Path : C:\msdchem\1\data\190618\
Data File : 19061815.D
Acq On : 18 Jun 2019 4:02 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 25 15:04:14 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 19 11:02:24 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units		Dev(Min)
30) Chloroform (CCC)	4.401	83	69018	5.19	ug/l		100
31) 1,1,1-Trichloroethane	4.523	97	54019	5.89	ug/l		98
32) 1-Chlorobutane	4.614	56	31796	4.80	ug/l		90
33) 1,1-Dichloropropene	4.657	75	27954	5.00	ug/l		95
34) Carbon Tetrachloride	4.627	117	45717	5.57	ug/l		98
35) 1,2-Dichloroethane	4.925	62	49354	5.64	ug/l	#	95
36) Benzene	4.840	78	88418	5.81	ug/l		99
37) Trichloroethene	5.381	95	25774	5.27	ug/l		94
39) 1,2-Dichloropropane (CCC)	5.624	63	25714	5.32	ug/l		97
40) Methyl Methacrylate	5.685	41	11453	5.00	ug/l	#	63
41) Dibromomethane	5.734	174	27877	5.03	ug/l	#	85
42) Bromodichloromethane	5.849	83	45731	4.76	ug/l		96
2-Nitropropane	6.379	43	89203	4.88	ug/l	#	29
45) trans-1,3-Dichloropropene	6.245	75	28831	4.65	ug/l		98
46) 4-Methyl-2-Pentanone (...	6.379	43	89203	25.30	ug/l	#	92
47) Toluene (CCC)	6.494	91	116813	4.47	ug/l		97
48) cis-1,3-Dichloropropene	6.762	75	29695	4.57	ug/l		97
49) Ethyl Methacrylate	6.774	69	22434m	4.54	ug/l		
51) 1,1,2-Trichloroethane	6.926	83	31938	4.85	ug/l		97
52) 1,3-Dichloropropane	7.084	76	49636	4.98	ug/l		98
53) 2-Hexanone	7.127	43	59665	23.63	ug/l	#	94
54) Tetrachloroethene	6.957	166	40971	4.87	ug/l		93
55) Dibromochloromethane	7.261	129	35535	5.01	ug/l		98
56) 1,2-Dibromoethane (EDB)	7.382	107	32381	5.01	ug/l		99
57) Chlorobenzene (SPCC)	7.808	112	90941	4.80	ug/l		98
58) 1,1,1,2-Tetrachloroethane	7.887	131	33615	4.62	ug/l	#	80
59) Ethylbenzene (CCC)	7.869	91	104071	4.24	ug/l	#	97
60) m- & -p Xylene	7.985	91	167402	8.33	ug/l		96
61) o-Xylene	8.368	91	62271	3.59	ug/l		99
62) Total Xylenes	7.985	91	167402	12.49	ug/l		96
63) Styrene	8.392	104	46043	3.56	ug/l		98
64) Isopropylbenzene	8.703	105	74382	3.61	ug/l		98
66) trans-1,4-Dichloro-2-b...	9.128	75	41056	4.54	ug/l	#	97
67) 1,2,3-Trichloropropane	9.128	75	41056	4.54	ug/l		96
68) Bromobenzene	9.043	77	41448	4.25	ug/l		89
69) n-Propylbenzene	9.098	91	145696m	4.93	ug/l		
2-Chlorotoluene	9.214	91	87668m	4.85	ug/l		
71) 1,3,5-Trimethylbenzene	9.274	105	91288m	4.25	ug/l		
72) 4-Chlorotoluene	9.329	91	86244	4.28	ug/l		97
73) tert-Butylbenzene	9.579	119	77269m	4.82	ug/l		

Data Path : C:\msdchem\1\data\190618\
Data File : 19061815.D
Acq On : 18 Jun 2019 4:02 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 25 15:04:14 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 19 11:02:24 2019
Response via : Initial Calibration

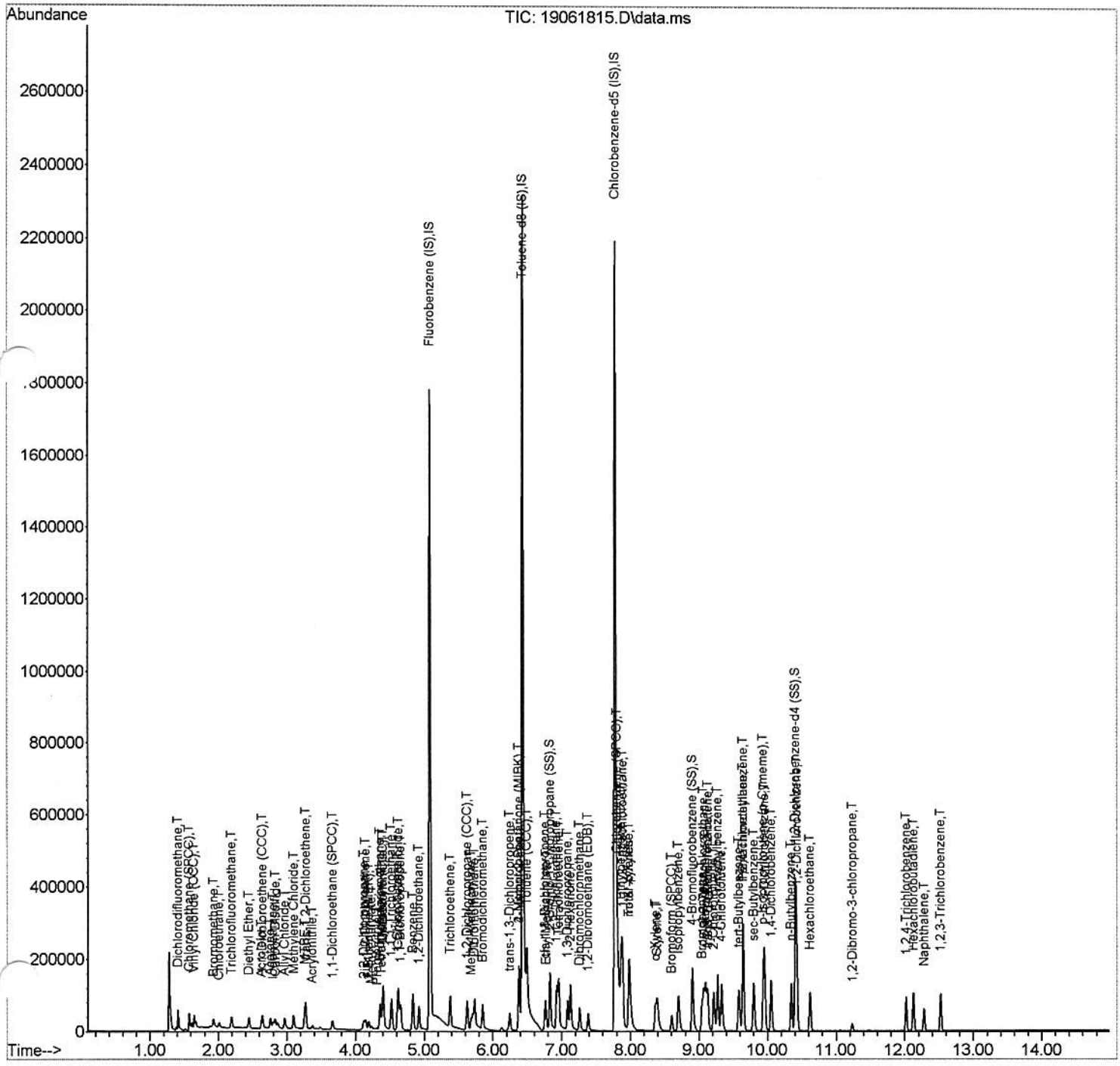
Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
74) Pentachloroethane	9.646	167	22855	4.66	ug/l #	72
75) 1,2,4-Trimethylbenzene	9.646	105	106445m	4.80	ug/l	
76) sec-Butylbenzene	9.798	105	112340m	4.67	ug/l	
77) p-Isopropyltoluene (p-...	9.938	119	105949m	5.06	ug/l	
78) 1,3-Dichlorobenzene	9.956	146	79556m	4.69	ug/l	
79) 1,4-Dichlorobenzene	10.053	146	75455m	5.03	ug/l	
81) Bromoform (SPCC)	8.605	173	20729	4.68	ug/l	96
82) 1,1,2,2-Tetrachloroethane	9.068	83	50251	5.03	ug/l	98
83) n-Butylbenzene	10.345	91	69247	4.41	ug/l	93
85) 1,2-Dichlorobenzene	10.424	146	74177	4.65	ug/l #	94
86) Hexachloroethane	10.619	117	19838	4.74	ug/l #	83
87) 1,2-Dibromo-3-chloropr...	11.239	157	5763	4.83	ug/l	98
1,2,4-Trichlorobenzene	12.018	180	29851	4.44	ug/l	97
89) Hexachlorobutadiene	12.128	225	21277	4.95	ug/l	98
90) Naphthalene	12.280	128	51310m	4.01	ug/l	
91) 1,2,3-Trichlorobenzene	12.523	180	32339	4.61	ug/l #	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061815.D
Acq On : 18 Jun 2019 4:02 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jun 25 15:04:14 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 19 11:02:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061816.D
Acq On : 18 Jun 2019 4:32 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 16 Sample Multiplier: 1

06/25/2019

Quant Time: Jun 25 15:20:01 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 19 11:02:24 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene (IS)	5.083	96	1304245	40.00	ug/l	0.00
38) Toluene-d8 (IS)	6.433	98	1600805	40.00	ug/l	0.00
80) Chlorobenzene-d5 (IS)	7.778	117	1393896	40.00	ug/l	# 0.00
System Monitoring Compounds						
50) 2-Bromo-1-Chloropropan...	6.829	77	84612	4.60	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 92.00%			
65) 4-Bromofluorobenzene (SS)	8.903	95	75204m	5.00	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.00%			
84) 1,2-Dichlorobenzene-d4...	10.406	152	106604	5.18	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.408	85	39421	5.14	ug/l	97
3) Chloromethane (SPCC)	1.573	50	31810	4.69	ug/l	97
4) Vinyl Chloride (CCC)	1.646	62	21347	5.30	ug/l	96
5) Bromomethane	1.932	94	14703	4.07	ug/l	96
6) Chloroethane	2.017	64	9471	4.74	ug/l	89
7) Trichlorofluoromethane	2.193	101	20415	4.72	ug/l	98
8) Acrolein	2.631	56	6492m	25.84	ug/l	
9) Diethyl Ether	2.449	59	11346	5.41	ug/l	92
10) 1,1-Dichloroethene (CCC)	2.643	61	15754	3.63	ug/l	97
11) Acetone	2.765	43	27133	25.93	ug/l	96
12) Iodomethane	2.801	142	17461	4.91	ug/l #	88
13) Carbon Disulfide	2.832	76	29186	4.97	ug/l	97
14) Allyl Chloride	2.966	41	15979m	5.04	ug/l	
15) Methylene Chloride	3.100	49	19209	5.06	ug/l	91
16) Acrylonitrile	3.373	53	4946	5.49	ug/l #	92
18) trans-1,2-Dichloroethene	3.276	61	17596	4.38	ug/l	98
19) MTBE	3.264	73	31063	5.18	ug/l	94
20) 1,1-Dichloroethane (SPCC)	3.665	63	19587	4.80	ug/l	96
22) 2-Butanone (MEK)	4.195	43	20753m	26.16	ug/l	
23) cis-1,2-Dichloroethene	4.152	61	13287	5.50	ug/l	98
24) 2,2-Dichloropropane	4.122	77	7765m	5.26	ug/l	
25) Propionitrile	4.310	54	3513	4.82	ug/l #	85
27) Methyl Acrylate	4.231	55	12336m	5.00	ug/l	
28) Methacrylonitrile	4.401	41	11426	4.50	ug/l #	73
29) Tetrahydrofuran	4.377	42	4399	4.63	ug/l #	84

Data Path : C:\msdchem\1\data\190618\
Data File : 19061816.D
Acq On : 18 Jun 2019 4:32 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 25 15:20:01 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 19 11:02:24 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units		Dev(Min)
30) Chloroform (CCC)	4.401	83	61576	4.81	ug/l		97
31) 1,1,1-Trichloroethane	4.523	97	44288	4.98	ug/l		99
32) 1-Chlorobutane	4.614	56	30624m	4.85	ug/l		
33) 1,1-Dichloropropene	4.657	75	24016	4.50	ug/l		94
34) Carbon Tetrachloride	4.627	117	38478	4.70	ug/l		99
35) 1,2-Dichloroethane	4.925	62	37844	4.43	ug/l	#	91
36) Benzene	4.833	78	71852	4.95	ug/l		100
37) Trichloroethene	5.381	95	21683	4.50	ug/l		97
39) 1,2-Dichloropropane (CCC)	5.624	63	22149	4.75	ug/l		96
40) Methyl Methacrylate	5.685	41	10789m	4.91	ug/l		
41) Dibromomethane	5.734	174	23051m	4.32	ug/l		
42) Bromodichloromethane	5.849	83	38147m	4.12	ug/l		
2-Nitropropane	6.379	43	87792m	4.98	ug/l		
45) trans-1,3-Dichloropropene	6.245	75	24739m	4.18	ug/l		
46) 4-Methyl-2-Pentanone (...	6.379	43	85889m	25.32	ug/l		
47) Toluene (CCC)	6.494	91	107366m	4.27	ug/l		
48) cis-1,3-Dichloropropene	6.762	75	30934m	4.93	ug/l		
49) Ethyl Methacrylate	6.774	69	22081m	4.63	ug/l		
51) 1,1,2-Trichloroethane	6.926	83	30403m	4.80	ug/l		
52) 1,3-Dichloropropane	7.090	76	45521m	4.75	ug/l		
53) 2-Hexanone	7.127	43	54805m	22.56	ug/l		
54) Tetrachloroethene	6.957	166	37551m	4.64	ug/l		
55) Dibromochloromethane	7.261	129	29383m	4.31	ug/l		
56) 1,2-Dibromoethane (EDB)	7.389	107	27419m	4.42	ug/l		
57) Chlorobenzene (SPCC)	7.802	112	84999m	4.66	ug/l		
58) 1,1,1,2-Tetrachloroethane	7.887	131	29724m	4.25	ug/l		
59) Ethylbenzene (CCC)	7.869	91	107749m	4.56	ug/l		
60) m- & -p Xylene	7.979	91	177495m	9.13	ug/l		
61) o-Xylene	8.368	91	63875m	3.80	ug/l		
62) Total Xylenes	7.979	91	166760m	12.91	ug/l		
63) Styrene	8.392	104	50765m	4.01	ug/l		
64) Isopropylbenzene	8.703	105	82364m	4.08	ug/l		
66) trans-1,4-Dichloro-2-b...	9.122	75	41387m	4.76	ug/l		
67) 1,2,3-Trichloropropane	9.122	75	44210m	5.08	ug/l		
68) Bromobenzene	9.043	77	45060m	4.81	ug/l		
69) n-Propylbenzene	9.098	91	142880m	5.02	ug/l		
2-Chlorotoluene	9.214	91	77114m	4.46	ug/l		
71) 1,3,5-Trimethylbenzene	9.274	105	81919m	4.00	ug/l		
72) 4-Chlorotoluene	9.329	91	91811m	4.71	ug/l		
73) tert-Butylbenzene	9.579	119	75901m	4.91	ug/l		

Data Path : C:\msdchem\1\data\190618\
Data File : 19061816.D
Acq On : 18 Jun 2019 4:32 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 25 15:20:01 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 19 11:02:24 2019
Response via : Initial Calibration

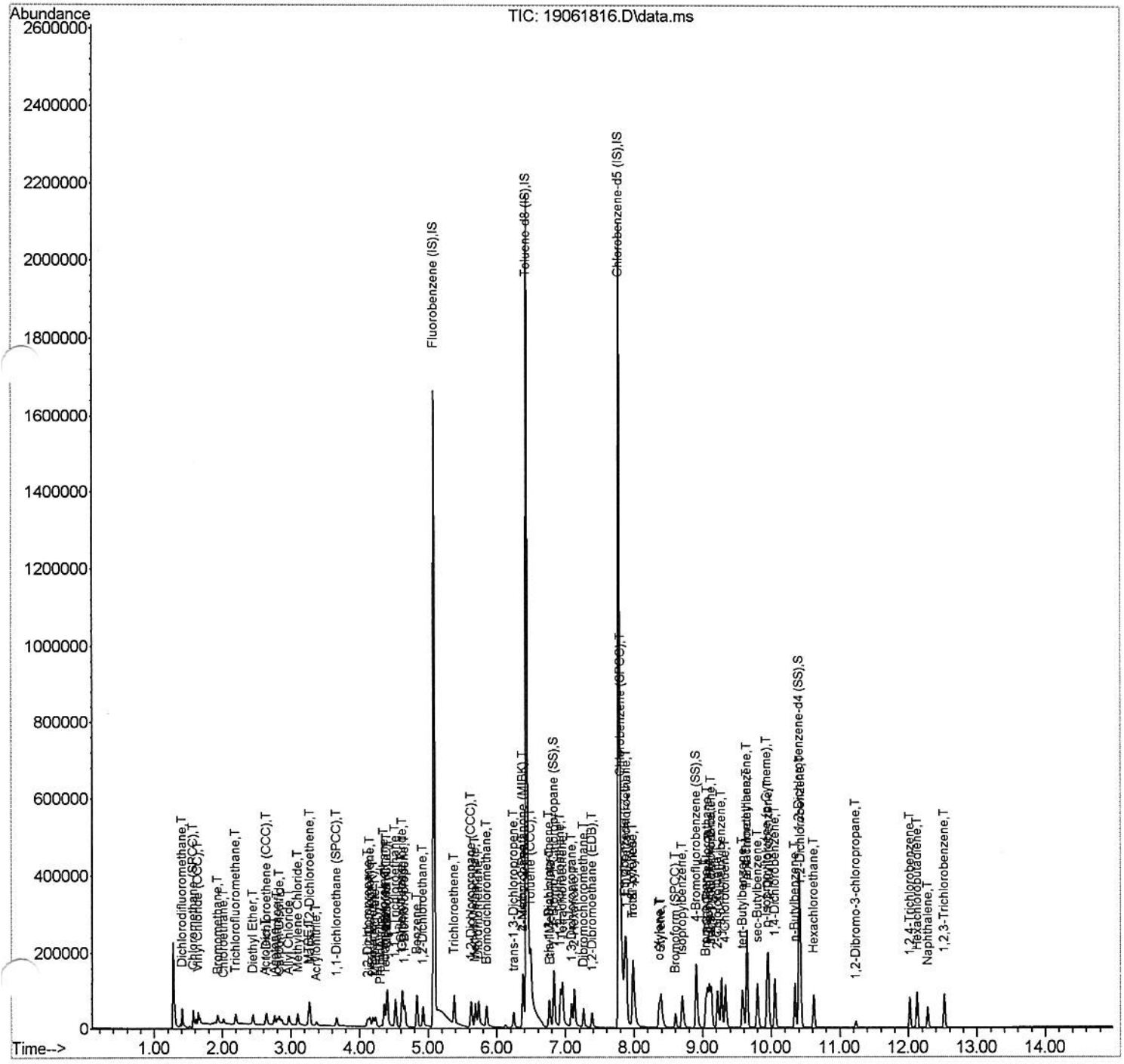
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
74) Pentachloroethane	9.646	167	19306m	4.09 ug/l	
75) 1,2,4-Trimethylbenzene	9.646	105	107614m	5.02 ug/l	
76) sec-Butylbenzene	9.798	105	100064m	4.36 ug/l	
77) p-Isopropyltoluene (p-...	9.938	119	96676m	4.83 ug/l	
78) 1,3-Dichlorobenzene	9.956	146	82392m	5.04 ug/l	
79) 1,4-Dichlorobenzene	10.053	146	64092m	4.45 ug/l	
81) Bromoform (SPCC)	8.605	173	17736m	4.01 ug/l	
82) 1,1,2,2-Tetrachloroethane	9.068	83	43421m	4.33 ug/l	
83) n-Butylbenzene	10.345	91	61493m	3.98 ug/l	
85) 1,2-Dichlorobenzene	10.424	146	68633	4.31 ug/l #	95
86) Hexachloroethane	10.619	117	19094m	4.59 ug/l	
87) 1,2-Dibromo-3-chloropr...	11.233	157	4539m	3.82 ug/l	
1,2,4-Trichlorobenzene	12.018	180	25429m	3.81 ug/l	
89) Hexachlorobutadiene	12.128	225	19573	4.55 ug/l	95
90) Naphthalene	12.280	128	45151	3.57 ug/l	100
91) 1,2,3-Trichlorobenzene	12.523	180	28625	4.10 ug/l	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061816.D
Acq On : 18 Jun 2019 4:32 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 25 15:20:01 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 19 11:02:24 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061817.D
Acq On : 18 Jun 2019 5:02 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 17 Sample Multiplier: 1

6/26/2019 JL AV

Quant Time: Jun 26 13:33:39 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 26 08:56:25 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene (IS)	5.083	96	1505431m	40.00	ug/l	0.00
38) Toluene-d8 (IS)	6.434	98	1655437	40.00	ug/l	0.00
80) Chlorobenzene-d5 (IS)	7.784	117	1423770	40.00	ug/l	# 0.00
System Monitoring Compounds						
50) 2-Bromo-1-Chloropropan...	6.835	77	94436m	4.96	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.20%			
65) 4-Bromofluorobenzene (SS)	8.910	95	77417m	4.98	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.60%			
84) 1,2-Dichlorobenzene-d4...	10.412	152	105820m	5.03	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.408	85	44379m	5.02	ug/l	
3) Chloromethane (SPCC)	1.573	50	38069m	4.96	ug/l	
4) Vinyl Chloride (CCC)	1.646	62	24318m	5.23	ug/l	
5) Bromomethane	1.932	94	19042m	4.92	ug/l	
6) Chloroethane	2.017	64	11384m	4.95	ug/l	
7) Trichlorofluoromethane	2.199	101	25422m	5.10	ug/l	
8) Acrolein	2.631	56	7139m	24.56	ug/l	
9) Diethyl Ether	2.449	59	12320m	5.08	ug/l	
10) 1,1-Dichloroethene (CCC)	2.650	61	23708m	5.04	ug/l	
11) Acetone	2.765	43	30921m	25.41	ug/l	
12) Iodomethane	2.802	142	20591m	5.02	ug/l	
13) Carbon Disulfide	2.832	76	33702m	4.97	ug/l	
14) Allyl Chloride	2.966	41	18404m	5.02	ug/l	
15) Methylene Chloride	3.100	49	21717m	4.94	ug/l	
16) Acrylonitrile	3.373	53	5220m	4.97	ug/l	
18) trans-1,2-Dichloroethene	3.276	61	22345m	4.98	ug/l	
19) MTBE	3.264	73	34746m	5.02	ug/l	
20) 1,1-Dichloroethane (SPCC)	3.665	63	23656m	5.03	ug/l	
22) 2-Butanone (MEK)	4.195	43	23804m	25.12	ug/l	
23) cis-1,2-Dichloroethene	4.152	61	17062m	6.02	ug/l	
24) 2,2-Dichloropropane	4.116	77	8102m	4.44	ug/l	
25) Propionitrile	4.316	54	4276m	5.12	ug/l	
27) Methyl Acrylate	4.231	55	13135m	4.62	ug/l	
28) Methacrylonitrile	4.402	41	14297m	4.91	ug/l	
28) Bromochloromethane	4.359	49	24887m	5.02	ug/l	
29) Tetrahydrofuran	4.377	42	5467m	5.04	ug/l	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061817.D
Acq On : 18 Jun 2019 5:02 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 26 13:33:39 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 26 08:56:25 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
30) Chloroform (CCC)	4.402	83	72959m	4.96	ug/l	
31) 1,1,1-Trichloroethane	4.523	97	52198m	5.10	ug/l	
32) 1-Chlorobutane	4.614	56	36042m	4.94	ug/l	
33) 1,1-Dichloropropene	4.657	75	30212m	4.90	ug/l	
34) Carbon Tetrachloride	4.627	117	47181m	5.11	ug/l	
35) 1,2-Dichloroethane	4.925	62	49492m	5.09	ug/l	
36) Benzene	4.834	78	87010m	5.20	ug/l	
37) Trichloroethene	5.375	95	27526m	5.07	ug/l	
39) 1,2-Dichloropropane (CCC)	5.624	63	23583m	4.90	ug/l	
40) Methyl Methacrylate	5.685	41	11219m	4.93	ug/l	
41) Dibromomethane	5.734	174	26420m	4.79	ug/l	
42) Bromodichloromethane	5.849	83	47187m	4.93	ug/l	
2-Nitropropane	6.379	43	89878m	4.94	ug/l	
45) trans-1,3-Dichloropropene	6.245	75	30749m	4.96	ug/l	
46) 4-Methyl-2-Pentanone (...	6.379	43	89878m	25.60	ug/l	
47) Toluene (CCC)	6.494	91	131962m	5.07	ug/l	
48) cis-1,3-Dichloropropene	6.768	75	33272m	5.12	ug/l	
49) Ethyl Methacrylate	6.780	69	24623m	4.95	ug/l	
51) 1,1,2-Trichloroethane	6.938	83	33303m	5.09	ug/l	
52) 1,3-Dichloropropane	7.097	76	49465m	4.98	ug/l	
53) 2-Hexanone	7.133	43	63285m	25.19	ug/l	
54) Tetrachloroethene	6.969	166	42921m	5.12	ug/l	
55) Dibromochloromethane	7.267	129	35128m	4.98	ug/l	
56) 1,2-Dibromoethane (EDB)	7.395	107	32142m	5.00	ug/l	
57) Chlorobenzene (SPCC)	7.808	112	94897m	5.05	ug/l	
58) 1,1,1,2-Tetrachloroethane	7.894	131	35820m	4.95	ug/l	
59) Ethylbenzene (CCC)	7.875	91	124479m	5.09	ug/l	
60) m- & -p Xylene	7.991	91	207020m	10.22	ug/l	
61) o-Xylene	8.368	91	89638	4.99	ug/l	98
62) Total Xylenes	7.991	91	207207m	15.35	ug/l	
63) Styrene	8.399	104	68029m	5.06	ug/l	
64) Isopropylbenzene	8.703	105	105141m	4.91	ug/l	
66) trans-1,4-Dichloro-2-b...	9.129	75	45887m	5.10	ug/l	
67) 1,2,3-Trichloropropane	9.129	75	44944m	5.00	ug/l	
68) Bromobenzene	9.049	77	47938m	4.95	ug/l	
69) n-Propylbenzene	9.098	91	144049m	4.90	ug/l	
2-Chlorotoluene	9.220	91	89295m	4.96	ug/l	
1,3,5-Trimethylbenzene	9.275	105	110957m	5.09	ug/l	
72) 4-Chlorotoluene	9.335	91	101203m	5.00	ug/l	
73) tert-Butylbenzene	9.585	119	80047	5.00	ug/l	99

Data Path : C:\msdchem\1\data\190618\
Data File : 19061817.D
Acq On : 18 Jun 2019 5:02 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 26 13:33:39 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 26 08:56:25 2019
Response via : Initial Calibration

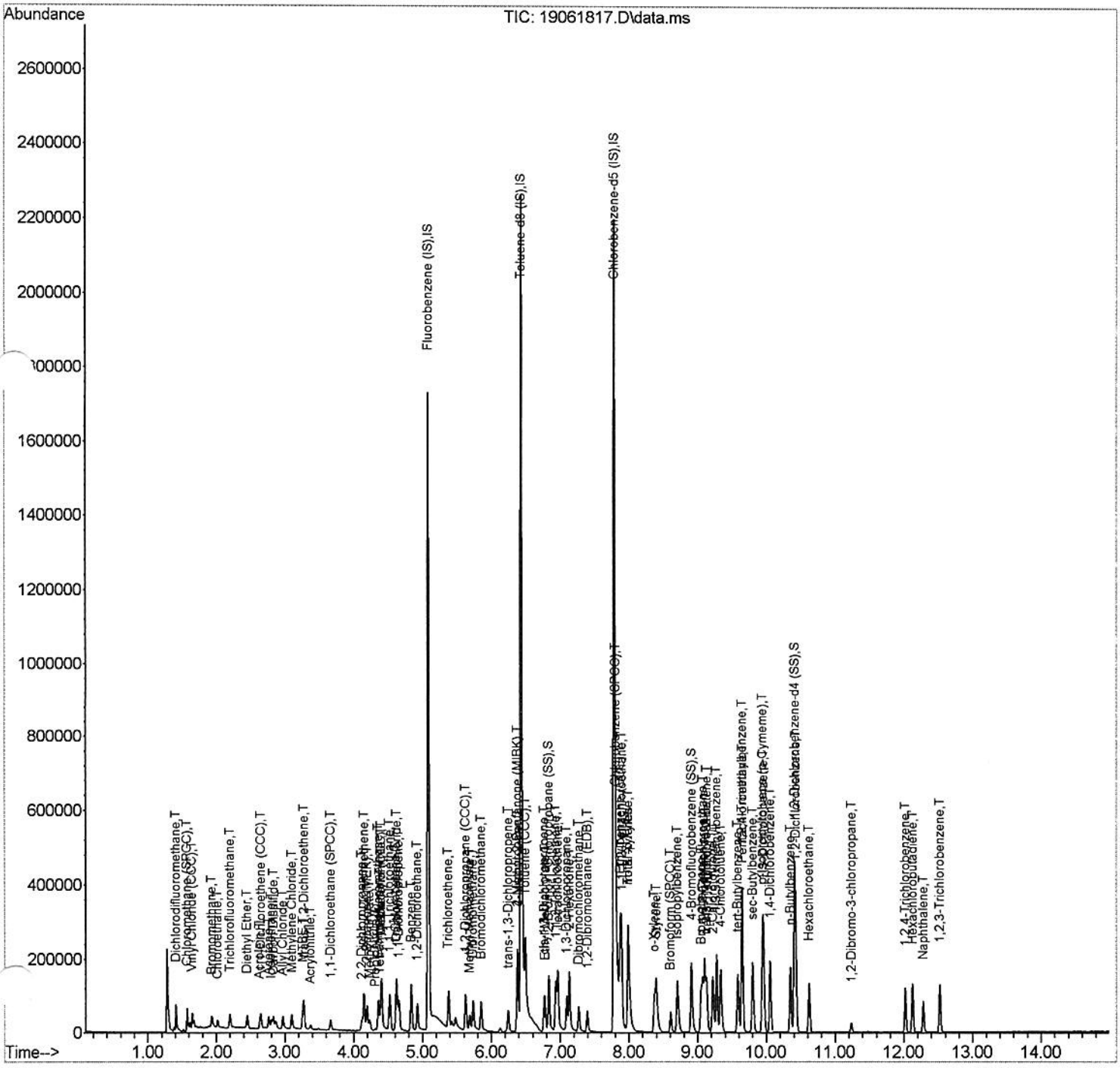
Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
74) Pentachloroethane	9.652	167	23740m	4.86	ug/l	
75) 1,2,4-Trimethylbenzene	9.646	105	113143m	5.10	ug/l	
76) sec-Butylbenzene	9.798	105	120281m	5.00	ug/l	
77) p-Isopropyltoluene (p-...	9.944	119	104483m	5.02	ug/l	
78) 1,3-Dichlorobenzene	9.956	146	83243m	4.93	ug/l	
79) 1,4-Dichlorobenzene	10.053	146	72620m	4.87	ug/l	
81) Bromoform (SPCC)	8.605	173	22201m	4.94	ug/l	
82) 1,1,2,2-Tetrachloroethane	9.074	83	50887m	5.02	ug/l	
83) n-Butylbenzene	10.351	91	77494m	4.84	ug/l	
85) 1,2-Dichlorobenzene	10.424	146	79079m	4.90	ug/l	
86) Hexachloroethane	10.619	117	21834m	5.16	ug/l	
87) 1,2-Dibromo-3-chloropr...	11.240	157	5978m	4.94	ug/l	
1,2,4-Trichlorobenzene	12.018	180	34468m	5.05	ug/l	
89) Hexachlorobutadiene	12.128	225	22484m	5.17	ug/l	
90) Naphthalene	12.280	128	67009m	5.09	ug/l	
91) 1,2,3-Trichlorobenzene	12.523	180	35193m	4.95	ug/l	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061817.D
Acq On : 18 Jun 2019 5:02 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 26 13:33:39 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 26 08:56:25 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061818.D
Acq On : 18 Jun 2019 5:34 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 18 Sample Multiplier: 1

06/26/2019
JF
AV

Quant Time: Jun 26 15:40:17 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 26 08:56:25 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene (IS)	5.083	96	1365887	40.00	ug/l	0.00
38) Toluene-d8 (IS)	6.433	98	1639721	40.00	ug/l	0.00
80) Chlorobenzene-d5 (IS)	7.778	117	1391750	40.00	ug/l	# 0.00
System Monitoring Compounds						
50) 2-Bromo-1-Chloropropan...	6.829	77	96088m	5.10	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.00%			
65) 4-Bromofluorobenzene (SS)	8.903	95	69973	4.54	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 90.80%			
84) 1,2-Dichlorobenzene-d4...	10.406	152	112471	5.47	ug/l	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 109.40%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.408	85	39798m	4.97	ug/l	
3) Chloromethane (SPCC)	1.573	50	34987m	5.05	ug/l	
4) Vinyl Chloride (CCC)	1.646	62	21428m	5.07	ug/l	
5) Bromomethane	1.931	94	16924m	4.76	ug/l	
6) Chloroethane	2.011	64	10144m	4.85	ug/l	
7) Trichlorofluoromethane	2.193	101	22273m	4.92	ug/l	
8) Acrolein	2.631	56	6861m	26.09	ug/l	
9) Diethyl Ether	2.449	59	10972m	4.98	ug/l	
10) 1,1-Dichloroethene (CCC)	2.643	61	21102m	4.93	ug/l	
11) Acetone	2.759	43	27280m	24.27	ug/l	
12) Iodomethane	2.801	142	19062m	5.13	ug/l	
13) Carbon Disulfide	2.826	76	30992m	5.07	ug/l	
14) Allyl Chloride	2.966	41	16447m	4.92	ug/l	
15) Methylene Chloride	3.093	49	19978m	5.02	ug/l	
16) Acrylonitrile	3.373	53	5019m	5.30	ug/l	
18) trans-1,2-Dichloroethene	3.276	61	20894m	5.19	ug/l	
19) MTBE	3.264	73	33301m	5.30	ug/l	
20) 1,1-Dichloroethane (SPCC)	3.665	63	20774m	4.86	ug/l	
22) 2-Butanone (MEK)	4.195	43	21764m	25.37	ug/l	
23) cis-1,2-Dichloroethene	4.146	61	12067m	4.84	ug/l	
24) 2,2-Dichloropropane	4.122	77	7643m	4.76	ug/l	
25) Propionitrile	4.316	54	3824m	5.03	ug/l	
26) Methyl Acrylate	4.231	55	11884m	4.60	ug/l	
27) Methacrylonitrile	4.395	41	12498m	4.72	ug/l	
28) Bromochloromethane	4.359	49	23430m	5.22	ug/l	
29) Tetrahydrofuran	4.383	42	4965m	5.04	ug/l	

Data Path : C:\msdchem\1\data\190618\
Data File : 19061818.D
Acq On : 18 Jun 2019 5:34 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jun 26 15:40:17 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 26 08:56:25 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
30) Chloroform (CCC)	4.401	83	67881m	5.10	ug/l	
31) 1,1,1-Trichloroethane	4.523	97	46927m	5.05	ug/l	
32) 1-Chlorobutane	4.614	56	34205m	5.16	ug/l	
33) 1,1-Dichloropropene	4.657	75	27572m	4.93	ug/l	
34) Carbon Tetrachloride	4.626	117	42985m	5.14	ug/l	
35) 1,2-Dichloroethane	4.925	62	45375m	5.15	ug/l	
36) Benzene	4.833	78	75736m	4.98	ug/l	
37) Trichloroethene	5.381	95	23801m	4.78	ug/l	
39) 1,2-Dichloropropane (CCC)	5.624	63	23729m	4.98	ug/l	
40) Methyl Methacrylate	5.685	41	11355m	5.03	ug/l	
41) Dibromomethane	5.734	174	27064m	4.96	ug/l	
42) Bromodichloromethane	5.849	83	46361m	4.89	ug/l	
2-Nitropropane	6.379	43	90978m	5.04	ug/l	
45) trans-1,3-Dichloropropene	6.245	75	31134m	5.06	ug/l	
46) 4-Methyl-2-Pentanone (...	6.379	43	90978m	26.13	ug/l	
47) Toluene (CCC)	6.494	91	130371m	5.06	ug/l	
48) cis-1,3-Dichloropropene	6.762	75	32704m	5.08	ug/l	
49) Ethyl Methacrylate	6.774	69	23457m	4.78	ug/l	
51) 1,1,2-Trichloroethane	6.926	83	32735m	5.05	ug/l	
52) 1,3-Dichloropropane	7.090	76	48463m	4.93	ug/l	
53) 2-Hexanone	7.127	43	62422m	25.08	ug/l	
54) Tetrachloroethene	6.956	166	41228m	4.97	ug/l	
55) Dibromochloromethane	7.261	129	34971m	5.01	ug/l	
56) 1,2-Dibromoethane (EDB)	7.388	107	31416m	4.94	ug/l	
57) Chlorobenzene (SPCC)	7.802	112	93160m	5.01	ug/l	
58) 1,1,1,2-Tetrachloroethane	7.887	131	36108m	5.04	ug/l	
59) Ethylbenzene (CCC)	7.869	91	120684m	4.98	ug/l	
60) m- & -p Xylene	7.979	91	176403m	8.87	ug/l	
61) o-Xylene	8.368	91	87105	4.90	ug/l	99
62) Total Xylenes	7.979	91	184535m	13.88	ug/l	
63) Styrene	8.392	104	63629m	4.80	ug/l	
64) Isopropylbenzene	8.702	105	103961	4.90	ug/l	96
66) trans-1,4-Dichloro-2-b...	9.128	75	49834	5.60	ug/l #	95
67) 1,2,3-Trichloropropane	9.128	75	49834	5.60	ug/l	95
68) Bromobenzene	9.043	77	52899m	5.51	ug/l	
69) n-Propylbenzene	9.098	91	158313	5.40	ug/l	98
2-Chlorotoluene	9.220	91	100136m	5.57	ug/l	
1,3,5-Trimethylbenzene	9.274	105	117047	5.39	ug/l	100
72) 4-Chlorotoluene	9.329	91	107683m	5.35	ug/l	
73) tert-Butylbenzene	9.585	119	80245	5.06	ug/l	96

Data Path : C:\msdchem\1\data\190618\
Data File : 19061818.D
Acq On : 18 Jun 2019 5:34 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jun 26 15:40:17 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 26 08:56:25 2019
Response via : Initial Calibration

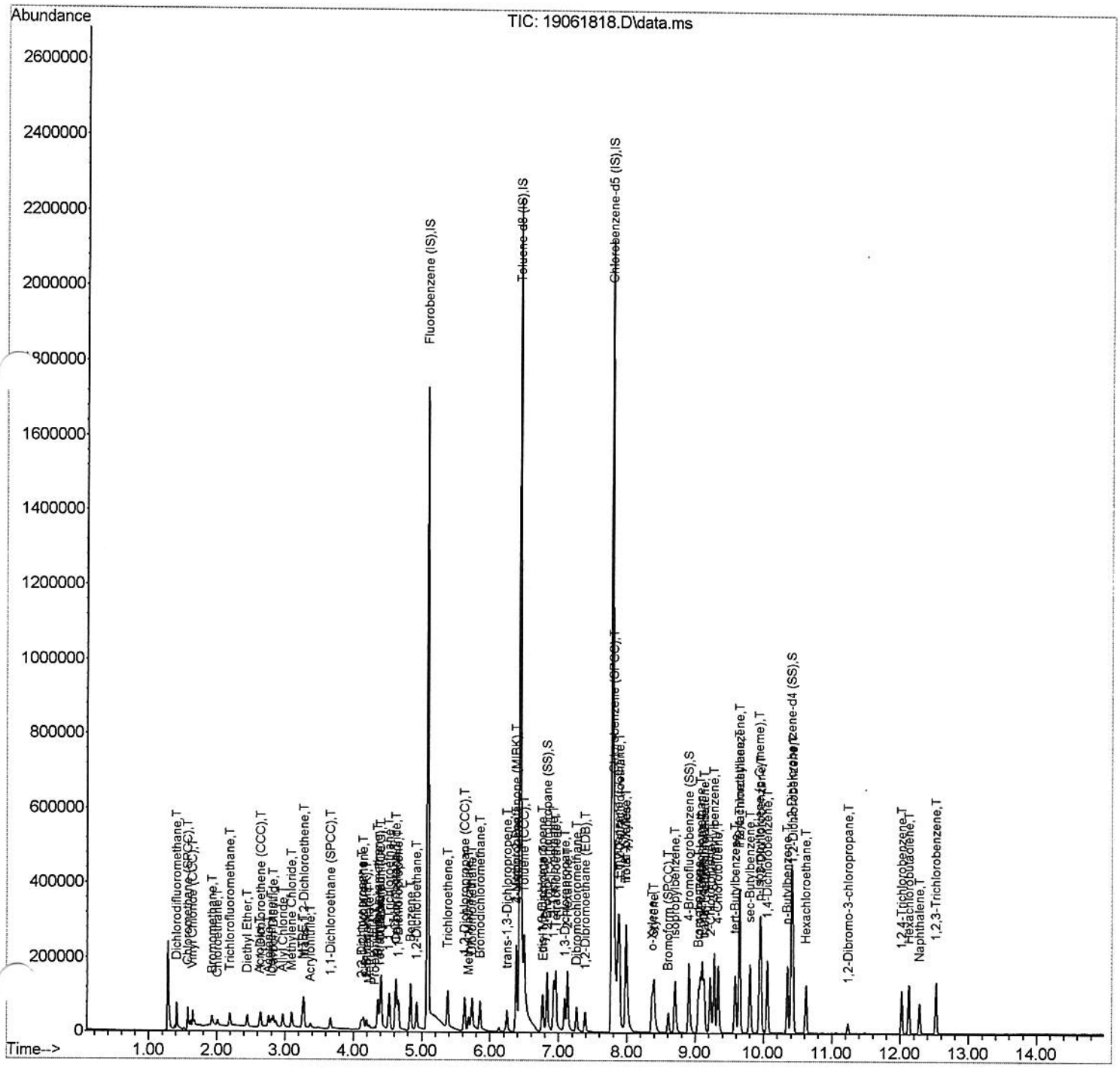
Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
74) Pentachloroethane	9.645	167	26210m	5.42	ug/l	
75) 1,2,4-Trimethylbenzene	9.645	105	123836	5.58	ug/l	100
76) sec-Butylbenzene	9.798	105	129860	5.41	ug/l	100
77) p-Isopropyltoluene (p-...	9.937	119	108244	5.23	ug/l	97
78) 1,3-Dichlorobenzene	9.956	146	86689m	5.18	ug/l	
79) 1,4-Dichlorobenzene	10.053	146	77254m	5.22	ug/l	
81) Bromoform (SPCC)	8.605	173	22523m	5.13	ug/l	
82) 1,1,2,2-Tetrachloroethane	9.074	83	52187m	5.28	ug/l	
83) n-Butylbenzene	10.345	91	77894m	4.96	ug/l	
85) 1,2-Dichlorobenzene	10.424	146	81490m	5.18	ug/l	
86) Hexachloroethane	10.619	117	21924m	5.30	ug/l	
87) 1,2-Dibromo-3-chloropr...	11.239	157	5860m	4.95	ug/l	
1,2,4-Trichlorobenzene	12.018	180	34257m	5.13	ug/l	
89) Hexachlorobutadiene	12.128	225	22208m	5.23	ug/l	
90) Naphthalene	12.280	128	63167m	4.92	ug/l	
91) 1,2,3-Trichlorobenzene	12.523	180	33718m	4.85	ug/l	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\190618\
Data File : 19061818.D
Acq On : 18 Jun 2019 5:34 pm
Operator : JF
Sample : AUIDOC5
Misc : IS-SU190404,VOC314
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jun 26 15:40:17 2019
Quant Method : C:\msdchem\1\methods\W524190618.M
Quant Title : DELTA EPA 8260B
QLast Update : Wed Jun 26 08:56:25 2019
Response via : Initial Calibration



Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Jose Fernandez	Jose Fernandez	7/24/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 624-1	☑ Water ☐ DW ☐ Solid ☐ Other:_____	0201518-001
Analyte or Class of Analytes		
Volatiles		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Jose Fernandez *Analyst*	*Signature*	7/24/18 *Date*
Brenda Lips *Technical Director*	*Signature*	7/24/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	7/24/18 *Date*

1 T[illegible]nsistent with supporting data.
A[illegible]e: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability

__ Continuing Demostration of Capabilities

MATRIX:	WATER
DATE OF ANALYSIS:	7/23/2018
ANALYZED BY:	JF
METHOD NUMBER:	EPA 624.1
EXTRACTION METHOD (IF APPLY):	EPA 5030
INSTRUMENT ID:	DELTA
EXTRACTED BY:	JF
DATE EXTRACTED:	7/23/2018
ACCEPTANCE CRITERIA:	Various

Document Control #: 0401116-002

Date: 8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	IQ8260B071118A AND B IQ2CEVE0071118	100 ppm
Surrogate	SU-050818	12.5 ppm
Internal Standard	IS-050818	200 ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD	Acceptance Criteria (% Recovery)	Acceptance Criteria (%RSD)
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L					
Dichlorodifluoromethane	20	17.3	16.6	19.0	12.7	16.4	13.99	82.0	2.29	60-140	20
Chloromethane	20	17.5	18.1	21.6	14.2	17.9	14.65	89.3	2.61	D-230	472
Vinyl Chloride	20	21.3	22.5	26.2	20.3	22.6	9.96	113	2.25	D-218	100
Bromomethane	20	18.3	19.2	22.7	17.9	19.5	9.62	97.5	1.88	D-206	90
Chloroethane	20	21.3	22.1	25.6	20.0	22.3	9.30	111	2.07	42-202	47
Trichlorofluoromethane	20	21.8	21.7	24.5	19.4	21.9	8.15	109	1.78	45-158	50
Acrolein	100	105	106	124	95.6	108	9.68	108	10.42	50-150	30
1,1-Dichloroethene	20	22.5	23.0	27.2	21.1	23.4	9.82	117	2.30	19-212	40
Acetone	100	122	123	141	99.8	122	12.08	122	14.68	70-130	20
Methylene Chloride	20	23.3	24.7	28.4	21.7	24.5	10.07	123	2.47	D-205	192
trans-1,2-Dichloroethene	20	22.8	22.7	27.3	18.7	22.9	13.29	114	3.04	68-143	27
MTBE	20	16.7	17.3	20.1	15.2	17.3	10.20	86.6	1.77	60-140	20
Acrylonitrile	20	14.6	12.6	15.5	11.0	13.4	13.13	67.1	1.76	50-150	30
1,1-Dichloroethane	20	21.6	22.2	27.0	20.7	22.9	10.72	114	2.45	71-143	24
Chloroform	20	20.4	20.4	25.6	19.6	21.5	11.08	108	2.38	68-121	32
1,1,1-Trichloroethane	20	20.9	20.8	26.1	20.4	22.1	10.72	110	2.36	69-151	21
Carbon Tetrachloride	20	21.7	21.3	25.8	20.7	22.4	9.00	112	2.01	65-125	26
Benzene	20	21.4	20.9	25.5	21.4	22.3	8.47	111	1.89	75-125	33
1,2-Dichloroethane	20	22.2	21.6	25.2	20.8	22.4	7.34	112	1.65	72-137	29
Trichloroethene	20	20.8	18.3	21.0	20.5	20.2	5.29	101	1.07	75-138	29
1,2-Dichloropropane (CCC)	20	21.2	19.6	19.3	20.8	20.2	3.89	101	0.79	19-181	69
Dibromomethane	20	21.0	20.7	19.9	19.9	20.4	2.41	102	0.49	60-140	20
Bromodichloromethane	20	21.8	19.9	20.0	20.8	20.6	3.70	103	0.76	50-140	34
2-Chloroethyl Vinyl Ether	20	21.2	19.7	19.4	20.9	20.3	3.88	101	0.79	D-252	130
cis-1,3-Dichloropropene	20	24.4	22.7	22.7	23.8	23.4	3.02	117	0.71	5-195	79
4-Methyl-2-pentanone(M...	100	102	99.0	94.3	94.2	97.3	3.28	97.3	3.19	60-140	20
Toluene (CCC)	20	20.1	19.8	19.4	20.4	19.9	2.00	99.5	0.40	75-134	22
trans-1,3-Dichloropropene	20	21.5	20.4	20.3	20.9	20.8	2.36	104	0.49	38-162	52
1,1,2-Trichloroethane	20	19.0	19.6	18.7	19.1	19.1	1.60	95.5	0.31	75-136	27
Tetrachloroethene	20	20.7	22.6	23.1	21.7	22.0	4.10	110	0.90	65-133	23
2-Hexanone	100	112	110	106	105	108	2.71	108	2.93	60-140	20
Dibromochloromethane	20	21.3	20.5	20.3	20.7	20.7	1.83	103	0.38	69-133	30
Chlorobenzene	20	17.8	19.4	19.2	19.4	18.9	3.58	94.6	0.68	82-137	29
1,1,1,2-Tetrachloroethane	20	18.7	20.2	19.6	19.6	19.6	2.73	97.8	0.53	60-140	20
Ethylbenzene	20	20.6	22.1	22.2	22.1	21.8	3.02	109	0.66	75-134	34
M&P Xylenes	40	42.5	45.3	45.1	45.3	44.5	2.66	111	1.18	60-140	20
O-Xylene	20	18.0	19.7	19.6	19.0	19.1	3.63	95.3	0.69	60-140	20
Total Xylenes	60	60.5	65.0	64.7	64.3	63.6	2.89	106	1.84	60-140	20
Styrene	20	21.8	24.2	23.8	23.4	23.3	3.82	116	0.89	60-140	20
1,2,3-Trichloropropane	20	16.5	17.5	17.7	17.3	17.2	2.75	86.1	0.47	60-140	20
1,2,4-Trimethylbenzene	20	22.1	23.8	24.6	24.1	23.6	4.01	118	0.95	60-140	20
1,3-Dichlorobenzene	20	19.8	20.2	20.0	20.0	20.0	0.60	99.9	0.12	75-144	24
1,4-Dichlorobenzene	20	19.9	22.2	22.0	21.0	21.3	4.40	106	0.94	59-174	31
1,1,2,2 Tetrachloroeth...	20	17.6	17.8	17.7	18.0	17.8	0.83	88.8	0.15	68-136	36
Bromoform (SPCC)	20	23.3	22.9	22.7	22.7	22.9	1.11	115	0.25	57-156	25
1,2-Dichlorobenzene	20	20.4	20.4	20.4	19.4	20.1	2.14	101	0.43	59-174	31
1,2,4-Trichlorobenzene	20	23.2	23.7	23.3	23.1	23.3	0.97	117	0.23	60-140	20
Hexachlorobutadiene	20	21.0	20.4	21.4	19.8	20.6	2.86	103	0.59	60-140	20
Dichlorodifluoromethane	20	17.3	16.6	19.0	12.7	16.4	13.99	82.0	2.29	60-140	20
cis-1,2-dichloroethene	20	24.5	24.3	29.1	23.4	25.3	8.74	127	2.21	60-140	20
Napthalene	20	18.7	19.5	18.9	18.4	18.9	2.07	94.4	0.39	60-140	20

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201822.D
Acq On : 23 Jul 2018 9:36 pm
Operator : RS
Sample : J 624 IDOC 1
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 22 Sample Multiplier: 1

7/24/18

Quant Time: Jul 24 09:57:31 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	6.914	96	852789	40.00	ug/l		0.00
27) Toluene-d8 (IS)	8.581	98	987980	40.00	ug/l		0.00
63) Chlorobenzene-d5 (IS)	10.084	117	688681	40.00	ug/l		0.00
System Monitoring Compounds							
36) 2-Bromo-1-Chloropropan...	9.025	77	57968	6.08	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 121.60%				
50) 4-Bromofluorobenzene (SS)	11.282	95	51088	5.32	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.40%				
67) 1,2-Dichlorobenzene-d4...	12.828	152	53785	5.12	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.518	85	225967	17.29	ug/l		99
3) Chloromethane (SPCC)	1.707	50	140694	17.50	ug/l		98
4) Vinyl Chloride (CCC)	1.804	62	244141	21.27	ug/l		94
5) Bromomethane	2.133	94	211533	18.27	ug/l		96
6) Chloroethane	2.242	64	139902	21.25	ug/l		97
7) Trichlorofluoromethane	2.467	101	511214	21.82	ug/l		96
8) Acrolein	3.076	56	106013	104.78	ug/l		92
9) 1,1-Dichloroethene (CCC)	3.082	61	332071	22.53	ug/l		92
10) Acetone	3.283	43	286788	122.16	ug/l		95
11) Methylene Chloride	3.824	49	269818	23.28	ug/l	#	82
12) Acrylonitrile	4.341	53	38663	14.61	ug/l	#	87
13) trans-1,2-Dichloroethene	4.146	61	326073	22.80	ug/l		93
14) MTBE	4.146	73	297495	16.69	ug/l	#	73
15) 1,1-Dichloroethane (SPCC)	4.822	63	289296	21.56	ug/l	#	96
16) 2-Butanone (MEK)	5.692	43	216052	103.24	ug/l	#	95
17) cis-1,2-Dichloroethene	5.600	61	209645	24.52	ug/l		90
18) 2,2-Dichloropropane	5.546	77	194162	17.24	ug/l	#	93
19) Bromochloromethane	5.899	49	114152	21.33	ug/l	#	80
20) Chloroform (CCC)	5.996	83	398186	20.43	ug/l		97
21) 1,1,1-Trichloroethane	6.136	97	367607	20.90	ug/l		95
22) 1,1-Dichloropropene	6.330	75	216966	23.30	ug/l		94
23) Carbon Tetrachloride	6.276	117	362041	21.71	ug/l		99
24) 1,2-Dichloroethane	6.695	62	344394	22.23	ug/l	#	95
25) Benzene	6.568	78	497768	21.37	ug/l		99
26) Trichloroethene	7.298	95	147741	20.77	ug/l		88
28) 1,2-Dichloropropane (CCC)	7.602	63	101029	21.18	ug/l	#	65
29) Dibromomethane	7.736	174	111852	21.01	ug/l	#	86
30) Bromodichloromethane	7.894	83	271103	21.75	ug/l		97
31) 2-Chloroethyl Vinyl Erher	7.602	63	101029	21.22	ug/l	#	1

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201822.D
Acq On : 23 Jul 2018 9:36 pm
Operator : RS
Sample : J 624 IDOC 1
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 24 09:57:31 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration

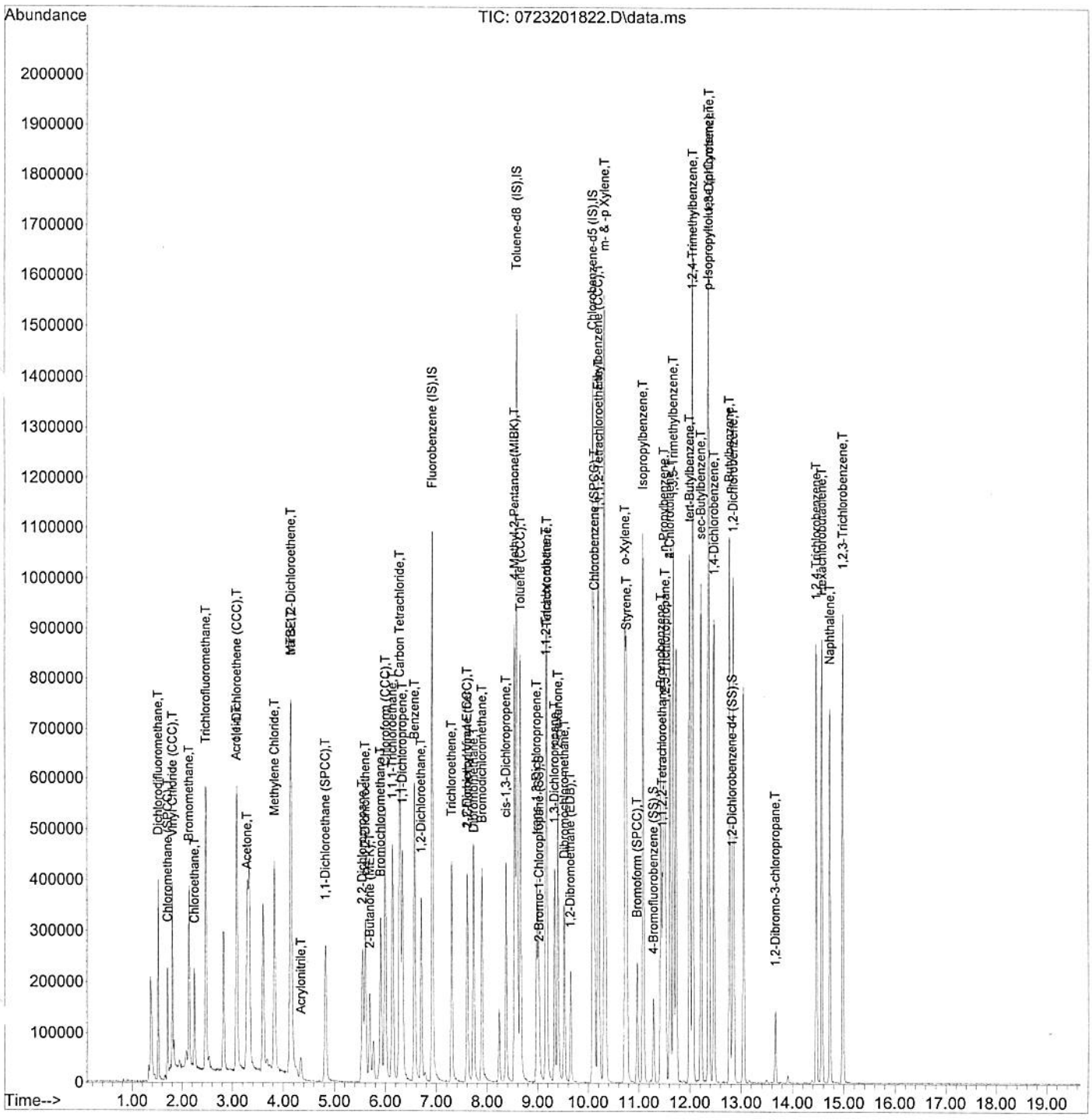
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
32)	cis-1,3-Dichloropropene	8.368	75	212018	24.36	ug/l		96
33)	4-Methyl-2-Pentanone(M...	8.539	43	518209	101.69	ug/l	#	92
34)	Toluene (CCC)	8.654	91	581903	20.10	ug/l		94
35)	trans-1,3-Dichloropropene	8.977	75	191656	21.54	ug/l		98
37)	1,1,2-Trichloroethane	9.159	83	100277	19.03	ug/l		88
38)	1,3-Dichloropropane	9.330	76	201060	20.96	ug/l		95
39)	2-Hexanone	9.397	43	328757	111.89	ug/l	#	95
40)	Tetrachloroethene	9.178	166	189486	20.70	ug/l	#	84
41)	Dibromochloromethane	9.524	129	181933	21.32	ug/l		95
42)	1,2-Dibromoethane (EDB)	9.646	107	132213	20.22	ug/l		95
43)	Chlorobenzene (SPCC)	10.114	112	384910	17.75	ug/l		90
44)	1,1,1,2-Tetrachloroethane	10.206	131	161359	18.74	ug/l	#	86
45)	Ethylbenzene (CCC)	10.194	91	709756	20.63	ug/l		95
46)	m- & -p Xylene	10.315	91	1246986	42.50	ug/l		89
47)	o-Xylene	10.723	91	633743	17.95	ug/l		92
48)	Styrene	10.753	104	395293	21.84	ug/l	#	63
49)	Isopropylbenzene	11.076	105	767721	17.96	ug/l		95
51)	1,2,3-Trichloropropane	11.514	75	156261	16.45	ug/l	#	94
52)	Bromobenzene	11.428	77	282224	19.34	ug/l		94
53)	n-Propylbenzene	11.489	91	836182	18.10	ug/l		92
54)	2-Chlorotoluene	11.605	91	568055	21.13	ug/l		91
55)	1,3,5-Trimethylbenzene	11.672	105	645479	18.02	ug/l	#	85
56)	4-Chlorotoluene	11.605	91	566202	20.71	ug/l		89
57)	tert-Butylbenzene	11.994	119	499386	17.35	ug/l	#	85
58)	1,2,4-Trimethylbenzene	12.049	105	617267	22.06	ug/l	#	84
59)	sec-Butylbenzene	12.213	105	657443	17.04	ug/l		96
60)	p-Isopropyltoluene (p-...	12.359	119	545497	16.96	ug/l	#	92
61)	1,3-Dichlorobenzene	12.365	146	386063	19.81	ug/l		95
62)	1,4-Dichlorobenzene	12.469	146	351237	19.89	ug/l	#	94
64)	Bromoform (SPCC)	10.960	173	103855	19.14	ug/l	#	92
65)	1,1,2,2-Tetrachloroethane	11.459	83	133654	17.55	ug/l		97
66)	n-Butylbenzene	12.773	91	523065	22.99	ug/l		99
68)	1,2-Dichlorobenzene	12.846	146	358067	20.38	ug/l	#	88
69)	1,2-Dibromo-3-chloropr...	13.667	157	31040	18.82	ug/l	#	77
70)	1,2,4-Trichlorobenzene	14.458	180	236806	23.22	ug/l	#	96
71)	Hexachlorobutadiene	14.568	225	171397	20.98	ug/l		98
72)	Naphthalene	14.726	128	480587	18.71	ug/l		100
73)	1,2,3-Trichlorobenzene	14.975	180	267389	24.77	ug/l	#	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201822.D
Acq On : 23 Jul 2018 9:36 pm
Operator : RS
Sample : J 624 IDOC 1
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 24 09:57:31 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201823.D
Acq On : 23 Jul 2018 10:03 pm
perator : RS
Sample : J 624 IDOC 2
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 23 Sample Multiplier: 1

7/24/18

Quant Time: Jul 24 09:57:35 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	6.914	96	851293	40.00	ug/l		0.00
27) Toluene-d8 (IS)	8.581	98	973951	40.00	ug/l		0.00
63) Chlorobenzene-d5 (IS)	10.084	117	747995	40.00	ug/l		0.00
System Monitoring Compounds							
36) 2-Bromo-1-Chloropropan...	9.025	77	49747	5.29	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 105.80%				
50) 4-Bromofluorobenzene (SS)	11.282	95	53057	5.60	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 112.00%				
67) 1,2-Dichlorobenzene-d4...	12.828	152	61747	5.41	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 108.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.518	85	216727	16.61	ug/l		98
3) Chloromethane (SPCC)	1.707	50	145316	18.11	ug/l		95
4) Vinyl Chloride (CCC)	1.804	62	257235	22.45	ug/l		97
5) Bromomethane	2.139	94	221824	19.20	ug/l		96
6) Chloroethane	2.242	64	145358	22.11	ug/l		99
7) Trichlorofluoromethane	2.467	101	507672	21.70	ug/l		93
8) Acrolein	3.076	56	106918	105.87	ug/l		88
9) 1,1-Dichloroethene (CCC)	3.082	61	337902	22.97	ug/l		94
10) Acetone	3.283	43	287877	122.92	ug/l		98
11) Methylene Chloride	3.824	49	284954	24.74	ug/l	#	80
12) Acrylonitrile	4.347	53	33233	12.58	ug/l		90
13) trans-1,2-Dichloroethene	4.146	61	323662	22.67	ug/l		94
14) MTBE	4.146	73	307247	17.27	ug/l	#	76
15) 1,1-Dichloroethane (SPCC)	4.828	63	297820	22.23	ug/l		98
16) 2-Butanone (MEK)	5.686	43	211461	101.22	ug/l	#	91
17) cis-1,2-Dichloroethene	5.600	61	207605	24.32	ug/l		93
18) 2,2-Dichloropropane	5.546	77	197872	17.60	ug/l		97
19) Bromochloromethane	5.905	49	115134	21.55	ug/l	#	72
20) Chloroform (CCC)	5.996	83	396410	20.38	ug/l		99
21) 1,1,1-Trichloroethane	6.136	97	365961	20.84	ug/l		97
22) 1,1-Dichloropropene	6.330	75	223263	24.02	ug/l		94
23) Carbon Tetrachloride	6.276	117	355183	21.33	ug/l		95
24) 1,2-Dichloroethane	6.702	62	334475	21.63	ug/l	#	93
25) Benzene	6.568	78	484707	20.85	ug/l		98
26) Trichloroethene	7.298	95	130214	18.34	ug/l		95
28) 1,2-Dichloropropane (CCC)	7.602	63	92282	19.62	ug/l	#	71
29) Dibromomethane	7.736	174	108760	20.72	ug/l		87
30) Bromodichloromethane	7.894	83	244220	19.87	ug/l		97
31) 2-Chloroethyl Vinyl Erher	7.602	63	92282	19.66	ug/l	#	1

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201823.D
Acq On : 23 Jul 2018 10:03 pm
Operator : RS
Sample : J 624 IDOC 2
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 24 09:57:35 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration

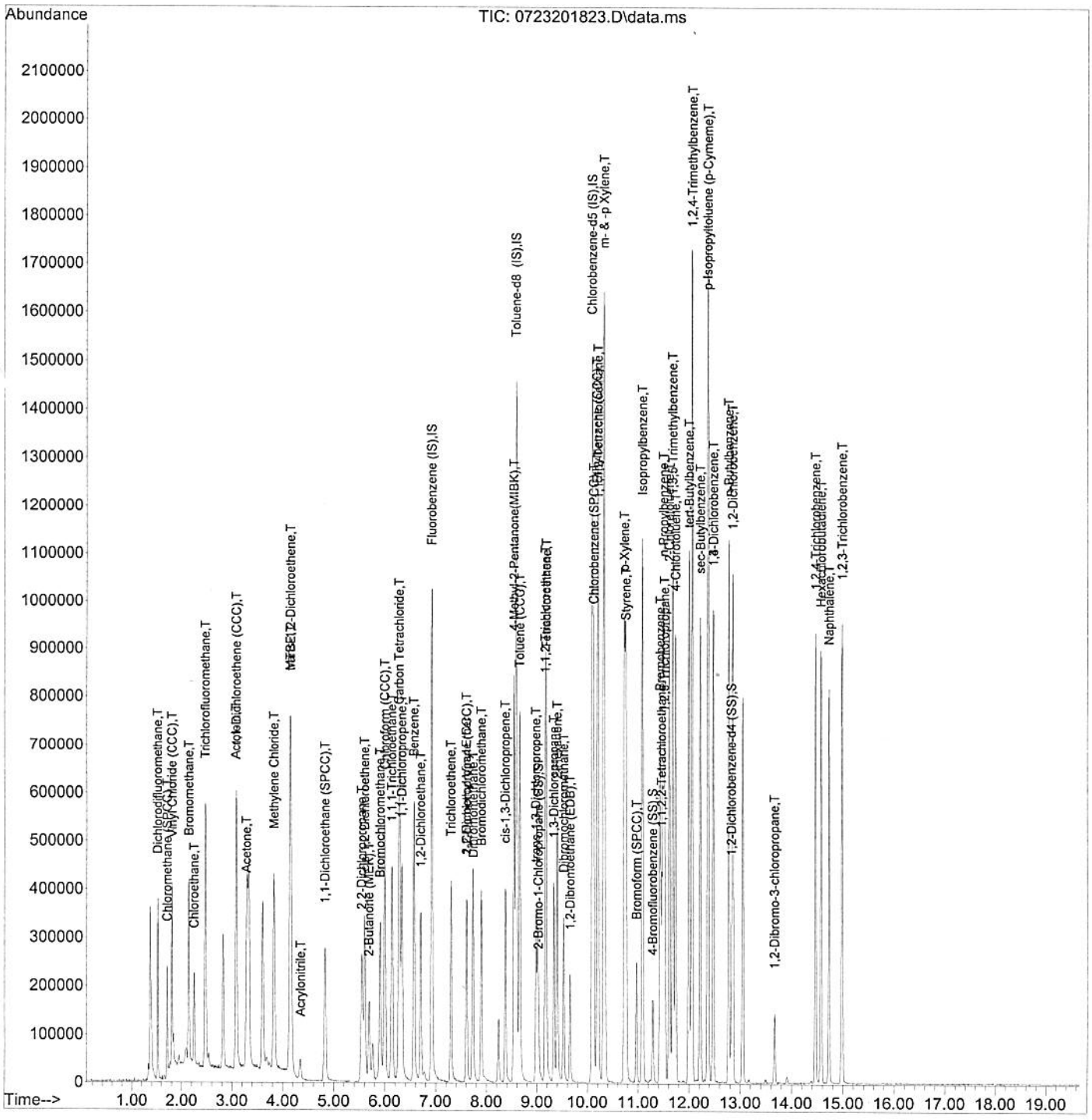
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
32)	cis-1,3-Dichloropropene	8.368	75	194816	22.71	ug/l		98
33)	4-Methyl-2-Pentanone(M...	8.539	43	497064	98.95	ug/l	#	93
34)	Toluene (CCC)	8.654	91	563748	19.75	ug/l		98
35)	trans-1,3-Dichloropropene	8.977	75	179226	20.43	ug/l	#	96
37)	1,1,2-Trichloroethane	9.159	83	101774	19.59	ug/l		96
38)	1,3-Dichloropropane	9.330	76	194787	20.60	ug/l		99
39)	2-Hexanone	9.397	43	319025	110.14	ug/l	#	97
40)	Tetrachloroethene	9.178	166	204050	22.61	ug/l	#	90
41)	Dibromochloromethane	9.524	129	172288	20.48	ug/l		100
42)	1,2-Dibromoethane (EDB)	9.652	107	132266	20.52	ug/l		99
43)	Chlorobenzene (SPCC)	10.114	112	413807	19.35	ug/l		93
44)	1,1,1,2-Tetrachloroethane	10.206	131	171825	20.24	ug/l		91
45)	Ethylbenzene (CCC)	10.187	91	749678	22.11	ug/l		95
46)	m- & -p Xylene	10.315	91	1310725	45.32	ug/l		91
47)	o-Xylene	10.723	91	690642	19.70	ug/l		89
48)	Styrene	10.753	104	431842	24.20	ug/l	#	66
49)	Isopropylbenzene	11.076	105	827374	19.52	ug/l		92
51)	1,2,3-Trichloropropane	11.514	75	163338	17.45	ug/l		94
52)	Bromobenzene	11.428	77	308269	21.43	ug/l		94
53)	n-Propylbenzene	11.495	91	863608	18.91	ug/l		94
54)	2-Chlorotoluene	11.605	91	609517	23.00	ug/l		90
55)	1,3,5-Trimethylbenzene	11.672	105	689164	19.43	ug/l	#	85
56)	4-Chlorotoluene	11.727	91	620657	23.03	ug/l		91
57)	tert-Butylbenzene	11.994	119	527468	18.46	ug/l		90
58)	1,2,4-Trimethylbenzene	12.055	105	655857	23.77	ug/l		88
59)	sec-Butylbenzene	12.213	105	674720	17.67	ug/l		97
60)	p-Isopropyltoluene (p-...	12.359	119	579582	18.15	ug/l	#	94
61)	1,3-Dichlorobenzene	12.469	146	387056	20.15	ug/l		96
62)	1,4-Dichlorobenzene	12.469	146	387056	22.23	ug/l	#	95
64)	Bromoform (SPCC)	10.966	173	110932	18.82	ug/l		98
65)	1,1,2,2-Tetrachloroethane	11.459	83	147277	17.80	ug/l		99
66)	n-Butylbenzene	12.773	91	552877	22.37	ug/l		98
68)	1,2-Dichlorobenzene	12.846	146	389858	20.43	ug/l		94
69)	1,2-Dibromo-3-chloropr...	13.667	157	33362	18.63	ug/l	#	65
70)	1,2,4-Trichlorobenzene	14.458	180	262423	23.69	ug/l		97
71)	Hexachlorobutadiene	14.568	225	181367	20.44	ug/l		96
72)	Naphthalene	14.726	128	545829	19.48	ug/l		100
73)	1,2,3-Trichlorobenzene	14.975	180	284330	24.25	ug/l	#	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201823.D
Acq On : 23 Jul 2018 10:03 pm
Operator : RS
Sample : J 624 IDOC 2
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Jul 24 09:57:35 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201824.D
Acq On : 23 Jul 2018 10:31 pm
perator : RS
Sample : J 624 IDOC 3
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 24 Sample Multiplier: 1

7/24/18

Quant Time: Jul 24 09:57:39 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	6.915	96	718515	40.00	ug/l		0.00
27) Toluene-d8 (IS)	8.581	98	884529	40.00	ug/l		0.00
63) Chlorobenzene-d5 (IS)	10.084	117	669642	40.00	ug/l		0.00
System Monitoring Compounds							
36) 2-Bromo-1-Chloropropan...	9.032	77	43315	5.07	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.40%				
50) 4-Bromofluorobenzene (SS)	11.283	95	45871	5.33	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.60%				
67) 1,2-Dichlorobenzene-d4...	12.828	152	57145	5.60	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 112.00%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.518	85	209282	19.00	ug/l		98
3) Chloromethane (SPCC)	1.707	50	146164	21.58	ug/l		100
4) Vinyl Chloride (CCC)	1.804	62	253560	26.22	ug/l		98
5) Bromomethane	2.139	94	220858	22.65	ug/l		93
6) Chloroethane	2.248	64	142001	25.60	ug/l		100
7) Trichlorofluoromethane	2.467	101	482929	24.46	ug/l		95
8) Acrolein	3.076	56	105968	124.31	ug/l		98
9) 1,1-Dichloroethene (CCC)	3.082	61	338249	27.24	ug/l		92
10) Acetone	3.283	43	275380	141.17	ug/l		97
11) Methylene Chloride	3.824	49	273494	28.41	ug/l	#	84
12) Acrylonitrile	4.341	53	34605	15.52	ug/l	#	82
13) trans-1,2-Dichloroethene	4.147	61	329056	27.31	ug/l		93
14) MTBE	4.147	73	301901	20.10	ug/l	#	76
15) 1,1-Dichloroethane (SPCC)	4.822	63	305233	27.00	ug/l		96
16) 2-Butanone (MEK)	5.692	43	208771	118.40	ug/l	#	95
17) cis-1,2-Dichloroethene	5.601	61	209535	29.08	ug/l		94
18) 2,2-Dichloropropane	5.546	77	205224	21.63	ug/l	#	88
19) Bromochloromethane	5.905	49	116518	25.84	ug/l	#	70
20) Chloroform (CCC)	5.996	83	420167	25.59	ug/l		98
21) 1,1,1-Trichloroethane	6.136	97	387404	26.14	ug/l		98
22) 1,1-Dichloropropene	6.331	75	228764	29.16	ug/l	#	91
23) Carbon Tetrachloride	6.276	117	362466	25.80	ug/l		100
24) 1,2-Dichloroethane	6.696	62	328322	25.15	ug/l	#	93
25) Benzene	6.568	78	500821	25.52	ug/l		97
26) Trichloroethene	7.298	95	125989	21.02	ug/l		90
28) 1,2-Dichloropropane (CCC)	7.602	63	82522	19.32	ug/l	#	71
29) Dibromomethane	7.736	174	94934	19.92	ug/l	#	86
30) Bromodichloromethane	7.894	83	222818	19.96	ug/l		99
31) 2-Chloroethyl Vinyl Erher	7.602	63	82522	19.36	ug/l	#	1

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201824.D
Acq On : 23 Jul 2018 10:31 pm
perator : RS
Sample : J 624 IDOC 3
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 24 09:57:39 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration

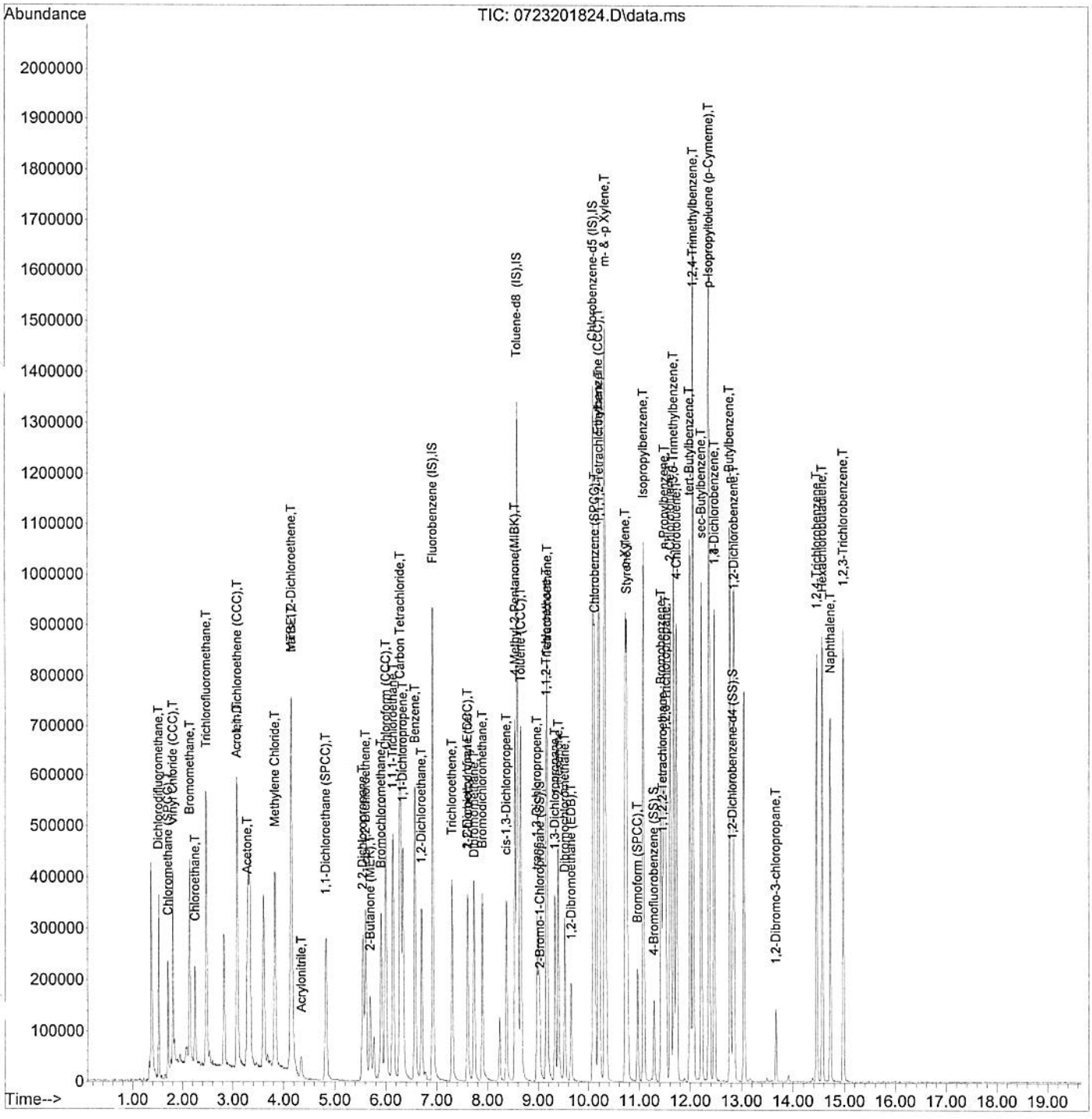
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
32) cis-1,3-Dichloropropene	8.369	75	177053	22.72 ug/l		97
33) 4-Methyl-2-Pentanone(M...	8.539	43	430139	94.31 ug/l	#	92
34) Toluene (CCC)	8.654	91	501589	19.35 ug/l		99
35) trans-1,3-Dichloropropene	8.977	75	161545	20.28 ug/l		97
37) 1,1,2-Trichloroethane	9.159	83	88446	18.74 ug/l		99
38) 1,3-Dichloropropane	9.330	76	170327	19.83 ug/l		94
39) 2-Hexanone	9.397	43	278612	105.91 ug/l	#	95
40) Tetrachloroethene	9.178	166	188892	23.05 ug/l	#	90
41) Dibromochloromethane	9.524	129	155349	20.33 ug/l		100
42) 1,2-Dibromoethane (EDB)	9.652	107	111128	18.99 ug/l		99
43) Chlorobenzene (SPCC)	10.115	112	372893	19.20 ug/l		92
44) 1,1,1,2-Tetrachloroethane	10.206	131	151265	19.62 ug/l		96
45) Ethylbenzene (CCC)	10.194	91	684073	22.21 ug/l		94
46) m- & -p Xylene	10.315	91	1183836	45.07 ug/l		89
47) o-Xylene	10.723	91	623361	19.58 ug/l	#	88
48) Styrene	10.747	104	385399	23.78 ug/l	#	63
49) Isopropylbenzene	11.076	105	754633	19.59 ug/l		95
51) 1,2,3-Trichloropropane	11.514	75	150631	17.72 ug/l		94
52) Bromobenzene	11.423	77	288032	22.05 ug/l	#	82
53) n-Propylbenzene	11.489	91	812716	19.54 ug/l		95
54) 2-Chlorotoluene	11.605	91	560815	23.31 ug/l		89
55) 1,3,5-Trimethylbenzene	11.672	105	631416	19.59 ug/l	#	84
56) 4-Chlorotoluene	11.727	91	570850	23.33 ug/l		88
57) tert-Butylbenzene	11.988	119	500725	19.22 ug/l		87
58) 1,2,4-Trimethylbenzene	12.049	105	616039	24.59 ug/l		87
59) sec-Butylbenzene	12.213	105	643529	18.46 ug/l		97
60) p-Isopropyltoluene (p-...	12.359	119	555949	19.08 ug/l	#	93
61) 1,3-Dichlorobenzene	12.469	146	348437	19.97 ug/l		97
62) 1,4-Dichlorobenzene	12.469	146	348437	22.04 ug/l		97
64) Bromoform (SPCC)	10.960	173	99011	18.76 ug/l	#	98
65) 1,1,2,2-Tetrachloroethane	11.459	83	131328	17.73 ug/l		99
66) n-Butylbenzene	12.767	91	540892	24.45 ug/l		94
68) 1,2-Dichlorobenzene	12.852	146	348059	20.37 ug/l		90
69) 1,2-Dibromo-3-chloropr...	13.667	157	29035	18.11 ug/l	#	75
70) 1,2,4-Trichlorobenzene	14.458	180	230704	23.26 ug/l	#	90
71) Hexachlorobutadiene	14.568	225	169685	21.36 ug/l		96
72) Naphthalene	14.726	128	473701	18.94 ug/l		100
73) 1,2,3-Trichlorobenzene	14.975	180	253978	24.19 ug/l	#	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201824.D
Acq On : 23 Jul 2018 10:31 pm
Operator : RS
Sample : J 624 IDOC 3
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jul 24 09:57:39 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201825.D
Acq On : 23 Jul 2018 10:58 pm
perator : RS
Sample : J 624 IDOC 4
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 25 Sample Multiplier: 1

JP 212418

Quant Time: Jul 24 09:57:43 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	6.915	96	984350	40.00	ug/l		0.00
27) Toluene-d8 (IS)	8.582	98	1184863	40.00	ug/l		0.00
63) Chlorobenzene-d5 (IS)	10.084	117	882451	40.00	ug/l		0.00
System Monitoring Compounds							
36) 2-Bromo-1-Chloropropan...	9.026	77	60655	5.30	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.00%				
50) 4-Bromofluorobenzene (SS)	11.283	95	59688	5.18	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.60%				
67) 1,2-Dichlorobenzene-d4...	12.828	152	67813	5.04	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.519	85	192013	12.73	ug/l		99
3) Chloromethane (SPCC)	1.707	50	131892	14.21	ug/l		99
4) Vinyl Chloride (CCC)	1.804	62	268978	20.30	ug/l		97
5) Bromomethane	2.139	94	239165	17.90	ug/l		100
6) Chloroethane	2.242	64	152309	20.04	ug/l		95
7) Trichlorofluoromethane	2.468	101	525585	19.43	ug/l		100
8) Acrolein	3.076	56	111614	95.58	ug/l		85
9) 1,1-Dichloroethene (CCC)	3.082	61	358167	21.05	ug/l		95
10) Acetone	3.283	43	276546	99.76	ug/l		100
11) Methylene Chloride	3.824	49	292433	21.74	ug/l	#	79
12) Acrylonitrile	4.347	53	33555	10.99	ug/l		98
13) trans-1,2-Dichloroethene	4.147	61	309027	18.72	ug/l		97
14) MTBE	4.147	73	313455	15.23	ug/l	#	80
15) 1,1-Dichloroethane (SPCC)	4.828	63	320175	20.67	ug/l	#	96
16) 2-Butanone (MEK)	5.686	43	226120	93.61	ug/l		95
17) cis-1,2-Dichloroethene	5.601	61	230653	23.37	ug/l		96
18) 2,2-Dichloropropane	5.552	77	213140	16.40	ug/l		98
19) Bromochloromethane	5.899	49	125123	20.25	ug/l	#	78
20) Chloroform (CCC)	5.996	83	441143	19.61	ug/l		96
21) 1,1,1-Trichloroethane	6.136	97	413532	20.36	ug/l		97
22) 1,1-Dichloropropene	6.331	75	246972	22.98	ug/l		96
23) Carbon Tetrachloride	6.276	117	397729	20.66	ug/l		97
24) 1,2-Dichloroethane	6.696	62	371183	20.76	ug/l	#	91
25) Benzene	6.568	78	573946	21.35	ug/l		99
26) Trichloroethene	7.298	95	168301	20.50	ug/l		87
28) 1,2-Dichloropropane (CCC)	7.602	63	119256	20.84	ug/l	#	75
29) Dibromomethane	7.730	174	126974	19.89	ug/l	#	77
30) Bromodichloromethane	7.894	83	311629	20.84	ug/l		99
31) 2-Chloroethyl Vinyl Erher	7.602	63	119256	20.88	ug/l	#	1

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201825.D
Acq On : 23 Jul 2018 10:58 pm
perator : RS
Sample : J 624 IDOC 4
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 24 09:57:43 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration

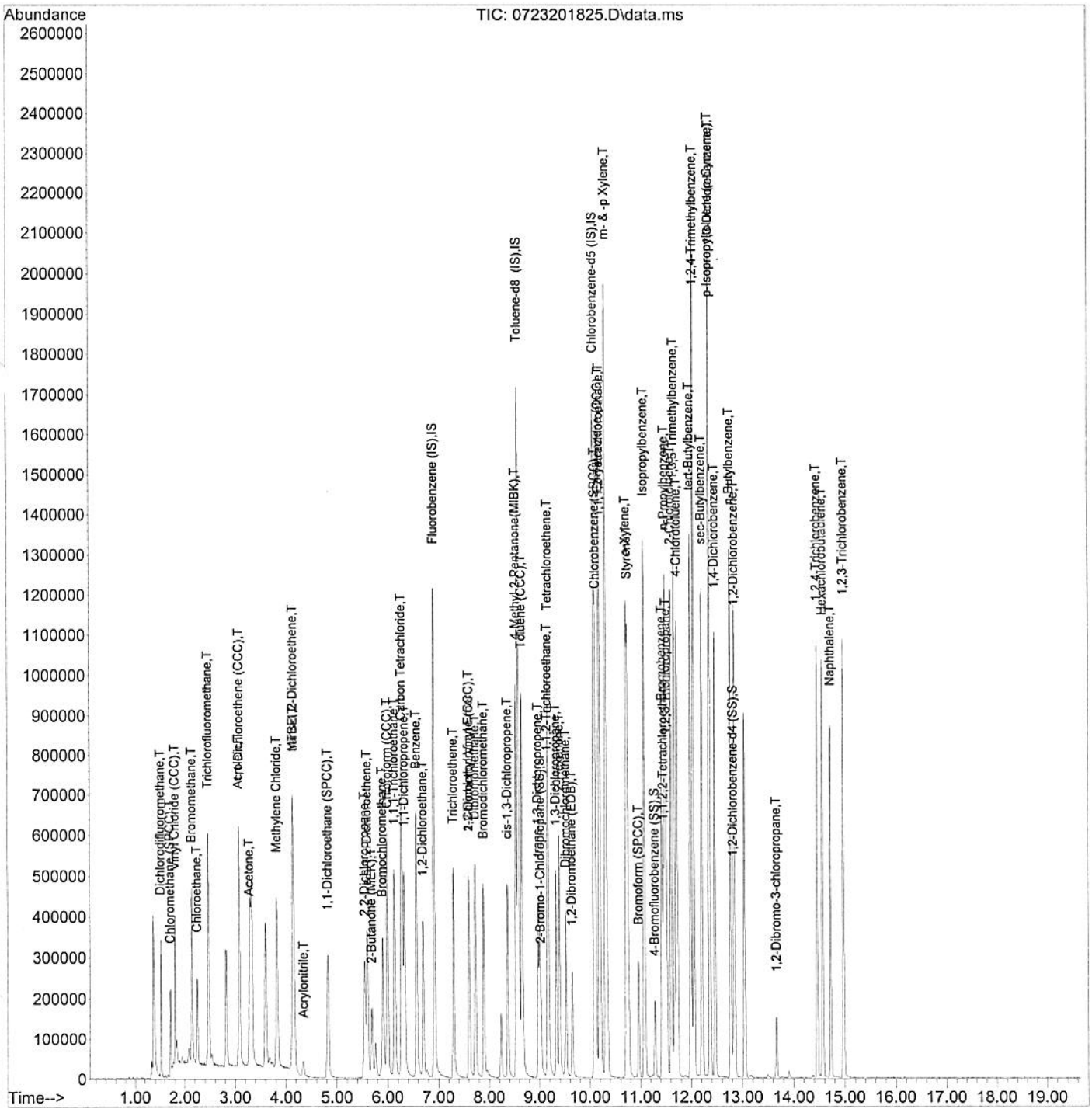
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
32) cis-1,3-Dichloropropene	8.369	75	248148	23.77 ug/l		98
33) 4-Methyl-2-Pentanone(M...	8.539	43	575340	94.17 ug/l	#	90
34) Toluene (CCC)	8.655	91	709191	20.42 ug/l		97
35) trans-1,3-Dichloropropene	8.977	75	222913	20.89 ug/l		95
37) 1,1,2-Trichloroethane	9.153	83	120489	19.06 ug/l		92
38) 1,3-Dichloropropane	9.330	76	247417	21.50 ug/l		94
39) 2-Hexanone	9.397	43	369161	104.76 ug/l	#	96
40) Tetrachloroethene	9.172	166	238154	21.69 ug/l	#	92
41) Dibromochloromethane	9.525	129	211365	20.65 ug/l		98
42) 1,2-Dibromoethane (EDB)	9.646	107	157249	20.06 ug/l		99
43) Chlorobenzene (SPCC)	10.115	112	503701	19.37 ug/l		93
44) 1,1,1,2-Tetrachloroethane	10.206	131	202656	19.63 ug/l		95
45) Ethylbenzene (CCC)	10.188	91	912591	22.12 ug/l	#	90
46) m- & -p Xylene	10.315	91	1593501	45.29 ug/l		91
47) o-Xylene	10.723	91	809831	19.03 ug/l		94
48) Styrene	10.747	104	506909	23.35 ug/l	#	63
49) Isopropylbenzene	11.076	105	986772	19.16 ug/l		93
51) 1,2,3-Trichloropropane	11.514	75	196860	17.28 ug/l		96
52) Bromobenzene	11.429	77	371252	21.21 ug/l		90
53) n-Propylbenzene	11.490	91	1057655	19.02 ug/l		93
54) 2-Chlorotoluene	11.605	91	730516	22.66 ug/l		89
55) 1,3,5-Trimethylbenzene	11.672	105	833879	19.33 ug/l		86
56) 4-Chlorotoluene	11.727	91	757222	23.10 ug/l	#	87
57) tert-Butylbenzene	11.988	119	634494	18.28 ug/l	#	85
58) 1,2,4-Trimethylbenzene	12.049	105	807126	24.05 ug/l		90
59) sec-Butylbenzene	12.213	105	850368	18.24 ug/l		98
60) p-Isopropyltoluene (p-...	12.353	119	698034	17.98 ug/l	#	92
61) 1,3-Dichlorobenzene	12.366	146	467405	20.00 ug/l		96
62) 1,4-Dichlorobenzene	12.469	146	443831	20.96 ug/l		96
64) Bromoform (SPCC)	10.966	173	123749	17.80 ug/l		95
65) 1,1,2,2-Tetrachloroethane	11.459	83	175286	17.96 ug/l	#	97
66) n-Butylbenzene	12.767	91	665889	22.84 ug/l		95
68) 1,2-Dichlorobenzene	12.852	146	436789	19.40 ug/l		90
69) 1,2-Dibromo-3-chloropr...	13.667	157	37464	17.73 ug/l	#	86
70) 1,2,4-Trichlorobenzene	14.458	180	301770	23.09 ug/l		96
71) Hexachlorobutadiene	14.568	225	207163	19.79 ug/l		97
72) Naphthalene	14.726	128	605042	18.41 ug/l		100
73) 1,2,3-Trichlorobenzene	14.975	180	327386	23.67 ug/l		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\07232018\
Data File : 0723201825.D
Acq On : 23 Jul 2018 10:58 pm
Operator : RS
Sample : J 624 IDOC 4
Misc : IS-SU042518,VOC275-01,IQ8260B071118A,B,IQ2CEV
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jul 24 09:57:43 2018
Quant Method : C:\msdchem\1\methods\W624071118.M
Quant Title : DELTA EPA 624.1
QLast Update : Thu Jul 19 12:22:43 2018
Response via : Initial Calibration



Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Jose Fernandez	Jose Fernandez	11/9/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8260	☑ Water ☐ DW ☐ Solid ☐ Other: _____	020518-002
Analyte or Class of Analytes		
Volatiles		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Jose Fernandez *Analyst*	*Signature*	11/8/18 *Date*
Brenda Lyons *Technical Director*	*Signature*	11/8/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	11/9/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability (New Charlie)

__ Continuing Demonstration of Capabilities

Document Control #: 0401116-002

Date: 8/29/16

MATRIX:	WATER
DATE OF ANALYSIS:	11/7/2018
ANALYZED BY:	JF
METHOD NUMBER:	EPA 8260
EXTRACTION METHOD (IF APPLY):	EPA 5030
INSTRUMENT ID:	CHARLIE
EXTRACTED BY:	JF
DATE EXTRACTED:	11/7/2018
ACCEPTANCE CRITERIA:	70-130%

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	IQ8260B110218A,B and IQ2CEVE102618	100 PPM
Surrogate	IS-SU050818	200 PPM
Internal Standard	IS-SU050818	25 PPM

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
Dichlorodifluoromethane	10	11.0	11.3	9.47	10.8	10.7	7.64	107	0.81
Chloromethane (SPCC)	10	10.2	11.6	10.6	10.4	10.7	5.82	107	0.62
Vinyl Chloride (CCC)	10	10.9	11.8	10.7	11.8	11.3	5.14	113	0.58
Bromomethane	10	11.7	6.78	5.85	9.92	8.56	31.7	85.6	2.71
Chloroethane	10	10.6	10.5	10.9	9.36	10.3	6.39	103	0.66
Trichlorofluoromethane	10	10.5	10.1	8.85	10.4	9.96	7.63	99.6	0.76
Acrolein	50	48.5	46.9	44.6	51.2	47.8	5.78	95.6	2.77
Diethyl Ether	10	9.95	10.3	10.3	10.1	10.2	1.77	102	0.18
1,1-Dichloroethene (CCC)	10	9.82	10.8	9.54	9.85	9.99	5.31	99.9	0.53
Acetone	50	38.4	45.4	45.5	40.4	42.4	8.43	84.8	3.58
Iodomethane	10	8.71	9.59	9.41	9.54	9.31	4.39	93.1	0.41
Carbon Disulfide	10	10.8	11.2	10.1	10.6	10.7	4.09	107	0.44
Allyl Chloride	10	9.82	10.3	9.93	9.64	9.92	2.76	99.2	0.27
Methylene Chloride	10	9.13	11.1	11.1	9.6	10.2	10.1	102	1.03
Acrylonitrile	10	10.0	10.7	10.2	10.3	10.3	2.58	103	0.27
trans-1,2-Dichloroethene	10	10.6	10.6	10.1	10.6	10.5	2.53	105	0.26
MTBE	10	10.1	10.6	10.4	10.3	10.3	1.91	103	0.20
1,1-Dichloroethane (SPCC)	10	10.5	10.9	10.4	10.7	10.6	1.83	106	0.19
2-Butanone (MEK)	50	37.9	53.8	53.8	41.7	46.8	17.6	93.6	8.23
cis-1,2-Dichloroethene	10	10.2	10.6	9.66	10.0	10.1	3.70	101	0.37
2,2-Dichloropropane	10	10.5	11.2	10.0	10.2	10.5	5.14	105	0.54
Propionitrile	10	10.1	10.9	10.4	10.6	10.5	3.23	105	0.34
Methyl Acrylate	10	8.63	9.61	8.98	8.94	9.04	4.55	90.4	0.41
Methacrylonitrile	10	8.59	9.04	8.60	8.99	8.81	2.76	88.1	0.24
Bromochloromethane	10	9.55	9.74	9.80	9.37	9.62	2.03	96.2	0.20
Tetrahydrofuran	10	9.06	9.32	9.32	9.19	9.22	1.35	92.2	0.12
Chloroform (CCC)	10	10.4	10.5	9.89	10.3	10.3	2.64	103	0.27
1,1,1-Trichloroethane	10	10.2	10.3	9.80	9.94	10.1	2.29	101	0.23
1-Chlorobutane	10	10.2	10.5	9.61	9.62	9.98	4.41	99.8	0.44
1,1-Dichloropropene	10	10.3	10.7	9.60	10.4	10.2	4.54	102	0.47
Carbon Tetrachloride	10	10.8	10.4	9.32	9.89	10.1	6.52	101	0.66
1,2-Dichloroethane	10	10.9	11.2	11.01	11.3	11.1	1.74	111	0.19
Benzene	10	10.3	10.9	10.76	10.3	10.6	2.97	106	0.31
Trichloroethene	10	10.0	10.8	10.06	10.4	10.3	3.23	103	0.33
1,2-Dichloropropane (CCC)	10	10.1	10.2	9.92	10.0	10.1	1.31	101	0.13
Methyl Methacrylate	10	8.11	8.13	8.64	8.30	8.30	2.96	83.0	0.25
Dibromomethane	10	9.89	9.41	9.85	9.74	9.72	2.24	97.2	0.22
Bromodichloromethane	10	9.92	10.0	9.98	9.88	9.96	0.70	99.6	0.07
2-Nitropropane	10	9.87	10.3	10.3	9.94	10.1	2.31	101	0.23
2-Chloroethyl Vinyl Ether	50	53.6	56.0	56.9	56.7	55.8	2.67	112	1.49
cis-1,3-Dichloropropene	10	10.0	10.2	9.79	9.90	9.97	1.67	99.7	0.17

4-Methyl-2-Pentanone (...	50	42.2	43.7	42.6	45.0	43.4	2.90	86.7	1.26
Toluene (CCC)	10	10.1	10.8	10.3	10.3	10.4	2.73	104	0.28
trans-1,3-Dichloropropene	10	9.28	9.57	9.35	9.21	9.35	1.67	93.5	0.16
Ethyl Methacrylate	10	9.68	10.64	10.47	10.39	10.30	4.11	103	0.42
1,1,2-Trichloroethane	10	10.2	10.6	10.5	10.2	10.4	1.98	104	0.20
1,3-Dichloropropane	10	9.92	10.2	10.1	10.2	10.1	1.43	101	0.14
2-Hexanone	50	39.7	44.3	41.3	42.6	42.0	4.68	84.0	1.97
Tetrachloroethene	10	10.1	9.95	9.43	9.39	9.72	3.78	97.2	0.37
Dibromochloromethane	10	9.63	9.50	9.54	9.22	9.47	1.87	94.7	0.18
1,2-Dibromoethane (EDB)	10	9.88	10.4	10.5	10.0	10.2	2.67	102	0.27
Chlorobenzene (SPCC)	10	10.0	10.9	10.8	10.1	10.4	4.22	104	0.44
1,1,1,2-Tetrachloroethane	10	9.77	10.2	9.66	9.26	9.72	3.85	97.2	0.37
Ethylbenzene (CCC)	10	10.1	10.7	10.5	9.81	10.3	3.82	103	0.39
m- & -p Xylene	20	20.2	21.4	21.1	20.1	20.7	3.24	104	0.67
o-Xylene	10	10.2	10.6	10.4	9.99	10.3	2.48	103	0.26
Total Xylenes	30	30.3	32.1	31.7	30.1	31.0	3.24	103	1.01
Styrene	10	10.4	11.2	10.9	10.5	10.8	3.65	108	0.39
Isopropylbenzene	10	10.1	11.0	10.3	10.2	10.4	4.13	104	0.43
trans-1,4-Dichloro-2-b...	10	9.19	9.56	9.28	9.49	9.38	1.85	93.8	0.17
1,2,3-Trichloropropane	10	9.19	9.56	9.28	9.49	9.38	1.85	93.8	0.17
Bromobenzene	10	9.92	10.4	10.7	9.82	10.2	3.94	102	0.40
n-Propylbenzene	10	10.1	10.9	10.4	10.2	10.4	3.33	104	0.35
2-Chlorotoluene	10	11.5	11.6	12.0	11.5	11.6	1.85	116	0.22
1,3,5-Trimethylbenzene	10	10.6	11.2	10.8	10.4	10.7	3.47	107	0.37
4-Chlorotoluene	10	10.2	10.3	10.6	10.3	10.3	1.90	103	0.20
tert-Butylbenzene	10	10.2	11.1	10.5	9.9	10.4	4.87	104	0.51
Pentachloroethane	10	7.50	8.98	9.17	8.78	8.61	8.78	86.1	0.76
1,2,4-Trimethylbenzene	10	9.77	10.7	10.6	10.0	10.3	4.32	103	0.44
sec-Butylbenzene	10	10.2	11.2	10.8	10.5	10.7	3.85	107	0.41
p-Isopropyltoluene (p-...	10	10.1	11.0	10.6	10.1	10.5	4.11	105	0.43
1,3-Dichlorobenzene	10	9.91	11.0	11.0	10.4	10.6	5.10	106	0.54
1,4-Dichlorobenzene	10	9.85	10.6	10.6	10.2	10.3	3.54	103	0.37
Bromoform (SPCC)	10	8.52	8.23	7.68	8.03	8.12	4.35	81.2	0.35
1,1,2,2-Tetrachloroethane	10	9.12	9.97	9.86	9.45	9.60	4.07	96.0	0.39
n-Butylbenzene	10	9.42	10.5	9.94	9.91	9.93	4.28	99.3	0.42
1,2-Dichlorobenzene	10	9.50	10.1	10.2	9.79	9.92	3.38	99.2	0.34
Hexachloroethane	10	8.93	8.90	8.68	8.12	8.66	4.33	86.6	0.38
1,2-Dibromo-3-chloropr...	10	8.06	8.10	8.36	9.10	8.41	5.74	84.1	0.48
1,2,4-Trichlorobenzene	10	8.27	9.42	9.66	9.46	9.20	6.85	92.0	0.63
Hexachlorobutadiene	10	8.21	9.75	9.78	8.62	9.09	8.77	90.9	0.80
Naphthalene	10	8.11	9.91	10.6	10.6	9.79	11.9	97.9	1.16
1,2,3-Trichlorobenzene	10	8.11	9.75	10.4	9.77	9.50	10.2	95.0	0.97

Quantitation Report (QT Reviewed)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110703.D
Acq On : 7 Nov 2018 2:34 pm
Operator : JF
Sample : JIDOC 1
isc :
ALS Vial : 3 Sample Multiplier: 1

JF 11 07 18

Quant Time: Nov 07 16:26:19 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	6.086	96	664357	40.00	ug/l		0.00
38) Toluene-d8 (IS)	7.851	98	898050	40.00	ug/l		0.00
81) Chlorobenzene-d5 (IS)	9.761	117	880229	40.00	ug/l	#	0.00
System Monitoring Compounds							
51) 2-Bromo-1-Chloropropan...	8.392	77	57108	4.93	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.60%				
66) 4-Bromofluorobenzene (SS)	11.464	95	75075	5.07	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.40%				
85) 1,2-Dichlorobenzene-d4...	13.807	152	52703	4.84	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.737	85	54941	11.01	ug/l		96
3) Chloromethane (SPCC)	1.937	50	53780	10.15	ug/l		99
4) Vinyl Chloride (CCC)	2.035	62	37074	10.90	ug/l		98
5) Bromomethane	2.388	94	29837	11.67	ug/l		97
6) Chloroethane	2.485	64	18900	10.55	ug/l		93
7) Trichlorofluoromethane	2.698	101	45484	10.53	ug/l		94
8) Acrolein	3.197	56	29707	48.51	ug/l		95
9) Diethyl Ether	2.990	59	54933	9.95	ug/l		90
10) 1,1-Dichloroethene (CCC)	3.227	61	87489	9.82	ug/l	#	85
11) Acetone	3.337	43	30991	38.37	ug/l		91
12) Iodomethane	3.410	142	51042	8.71	ug/l	#	90
13) Carbon Disulfide	3.446	76	200522	10.75	ug/l		99
14) Allyl Chloride	3.598	41	89354	9.82	ug/l	#	83
15) Methylene Chloride	3.744	49	84842	9.13	ug/l	#	77
16) Acrylonitrile	4.042	53	26847	10.04	ug/l		91
18) trans-1,2-Dichloroethene	3.951	61	90823	10.56	ug/l		97
19) MTBE	3.933	73	193261	10.09	ug/l	#	89
20) 1,1-Dichloroethane (SPCC)	4.401	63	118424	10.50	ug/l		95
22) 2-Butanone (MEK)	4.985	43	35950	37.93	ug/l	#	88
23) cis-1,2-Dichloroethene	4.961	61	103008	10.23	ug/l		93
24) 2,2-Dichloropropane	4.937	77	73677	10.47	ug/l	#	95
25) Propionitrile	5.119	54	10703	10.10	ug/l	#	60
26) Methyl Acrylate	5.040	55	59797m	8.63	ug/l		
27) Methacrylonitrile	5.235	41	51986	8.59	ug/l		89
28) Bromochloromethane	5.204	49	59179	9.55	ug/l		94
29) Tetrahydrofuran	5.217	42	22160	9.06	ug/l	#	47
30) Chloroform (CCC)	5.253	83	121103	10.40	ug/l		97
31) 1,1,1-Trichloroethane	5.411	97	92423	10.20	ug/l		95
32) 1-Chlorobutane	5.515	56	125659	10.16	ug/l		84
33) 1,1-Dichloropropene	5.575	75	90380	10.28	ug/l	#	90
34) Carbon Tetrachloride	5.539	117	75720	10.84	ug/l		99
35) 1,2-Dichloroethane	5.880	62	86849	10.87	ug/l		97
36) Benzene	5.788	78	288479	10.26	ug/l		99
37) Trichloroethene	6.458	95	68233	10.04	ug/l		95
39) 1,2-Dichloropropane (CCC)	6.768	63	72425	10.12	ug/l	#	89
40) Methyl Methacrylate	6.823	41	52740	8.11	ug/l		98
41) Dibromomethane	6.902	174	31948	9.89	ug/l	#	56
42) Bromodichloromethane	7.048	83	85812	9.92	ug/l		97
43) 2-Nitropropane	7.394	43	143799	9.87	ug/l	#	14
44) 2-Chloroethyl Vinyl Ether	7.394	63	211060	53.62	ug/l	#	1

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110703.D
Acq On : 7 Nov 2018 2:34 pm
Operator : JF
Sample : JIDOC 1
isc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 07 16:26:19 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

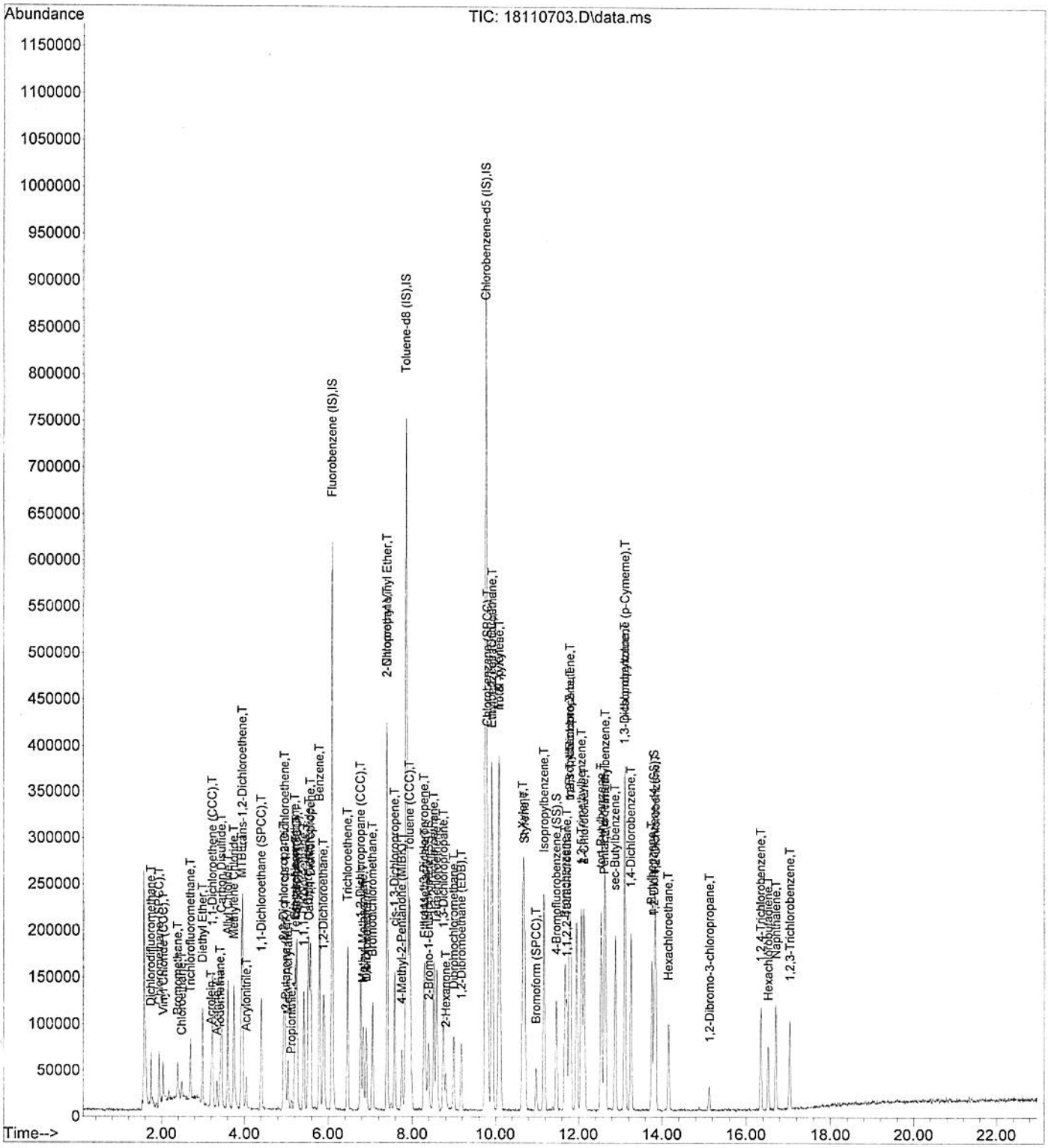
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45)	1,4-Dioxane	6.902	88	175	3.28	ug/l	#	25
46)	cis-1,3-Dichloropropene	7.577	75	105941	10.01	ug/l		96
47)	4-Methyl-2-Pentanone (...	7.747	43	56336	42.16	ug/l	#	92
48)	Toluene (CCC)	7.936	91	296733	10.07	ug/l		95
49)	trans-1,3-Dichloropropene	8.283	75	83742	9.28	ug/l		94
50)	Ethyl Methacrylate	8.301	69	80409	9.68	ug/l	#	67
52)	1,1,2-Trichloroethane	8.514	83	57462	10.20	ug/l		94
53)	1,3-Dichloropropane	8.745	76	114171	9.92	ug/l		93
54)	2-Hexancne	8.806	43	38151	39.67	ug/l	#	88
55)	Tetrachloroethene	8.581	166	57345	10.12	ug/l	#	80
56)	Dibromochloromethane	8.994	129	58613	9.63	ug/l		100
57)	1,2-Dibromoethane (EDB)	9.177	107	64219	9.88	ug/l		96
58)	Chlorobenzene (SPCC)	9.797	112	183649	10.04	ug/l		95
59)	1,1,1,2-Tetrachloroethane	9.913	131	56280	9.77	ug/l		91
60)	Ethylbenzene (CCC)	9.907	91	313282	10.13	ug/l	#	96
61)	m- & -p Xylene	10.083	91	484385	20.20	ug/l		99
62)	o-Xylene	10.655	91	251271	10.15	ug/l		96
63)	Total Xylenes	10.083	91	484385	30.30	ug/l		99
64)	Styrene	10.692	104	195137	10.38	ug/l		100
65)	Isopropylbenzene	11.166	105	274698	10.06	ug/l		100
67)	trans-1,4-Dichloro-2-b...	11.793	75	84249	9.19	ug/l	#	91
68)	1,2,3-Trichloropropane	11.793	75	84249	9.19	ug/l		94
69)	Bromobenzene	11.671	77	124577	9.92	ug/l	#	68
70)	n-Propylbenzene	11.781	91	310873	10.11	ug/l		99
71)	2-Chlorotoluene	12.127	91	222901	11.48	ug/l		94
72)	1,3,5-Trimethylbenzene	12.067	105	215799	10.57	ug/l		98
73)	4-Chlorotoluene	12.127	91	222901	10.21	ug/l		92
74)	tert-Butylbenzene	12.535	119	164950	10.23	ug/l		97
75)	Pentachloroethane	12.614	167	22757	7.50	ug/l	#	34
76)	1,2,4-Trimethylbenzene	12.638	105	200774	9.77	ug/l		100
77)	sec-Butylbenzene	12.876	105	212363	10.22	ug/l		97
78)	p-Isopropyltoluene (p-...	13.107	119	176049	10.11	ug/l		97
79)	1,3-Dichlorobenzene	13.101	146	110369	9.91	ug/l	#	87
80)	1,4-Dichlorobenzene	13.253	146	113942	9.85	ug/l	#	89
82)	Bromoform (SPCC)	10.972	173	24811	8.52	ug/l		89
83)	1,1,2,2-Tetrachloroethane	11.714	83	80095	9.12	ug/l	#	96
84)	n-Butylbenzene	13.752	91	135434	9.42	ug/l		99
86)	1,2-Dichlorobenzene	13.843	146	106586	9.50	ug/l	#	80
87)	Hexachloroethane	14.147	117	26495	8.93	ug/l	#	73
88)	1,2-Dibromo-3-chloropr...	15.127	157	8617	8.06	ug/l		91
89)	1,2,4-Trichlorobenzene	16.343	180	38650	8.27	ug/l	#	88
90)	Hexachlorobutadiene	16.520	225	14586	8.21	ug/l	#	81
91)	Naphthalene	16.702	128	108841	8.11	ug/l		100
92)	1,2,3-Trichlorobenzene	17.037	180	32615	8.11	ug/l		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110703.D
Acq On : 7 Nov 2018 2:34 pm
Operator : JF
Sample : JIDOC 1
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 07 16:26:19 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

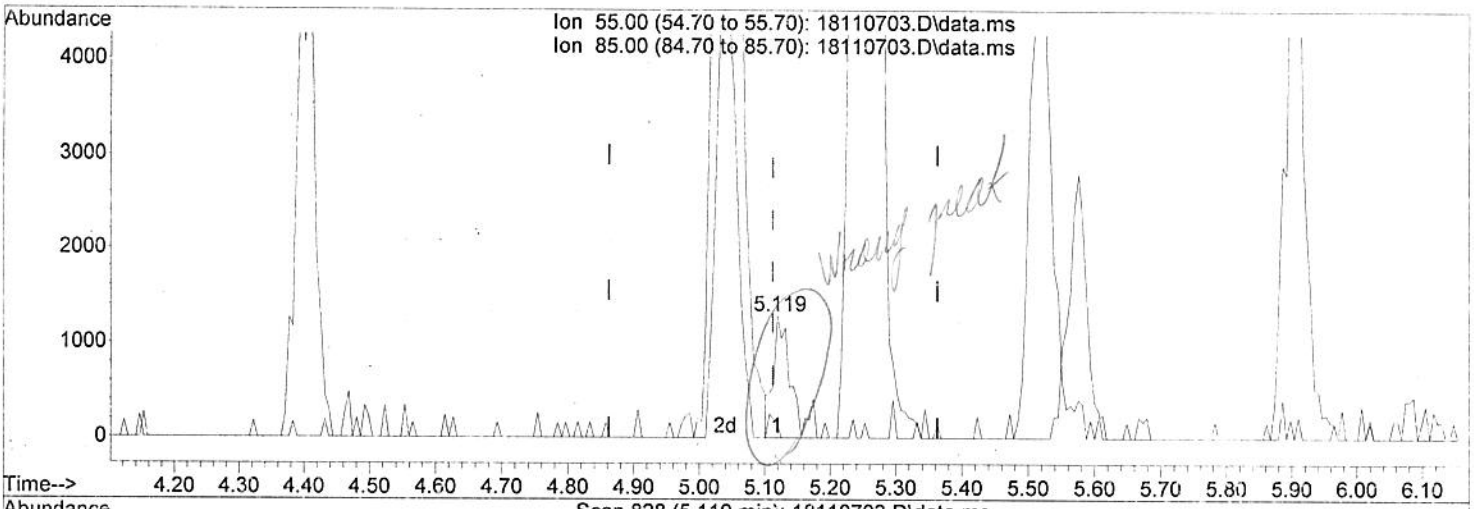


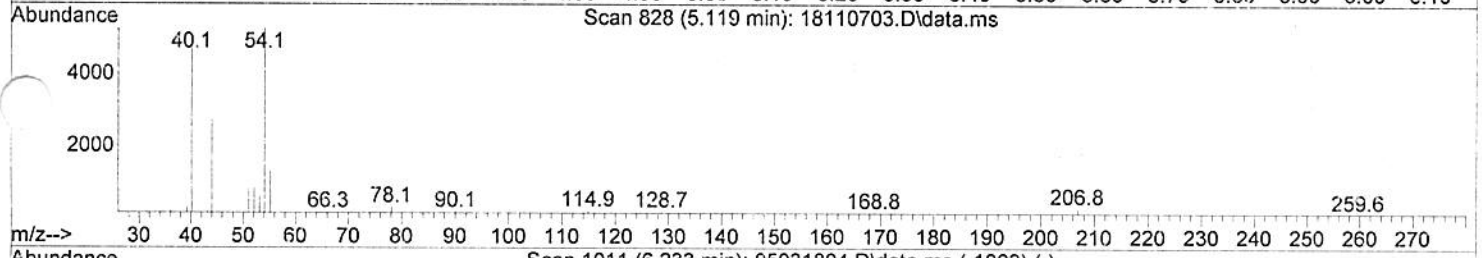
Quantitation Report (Qedit)

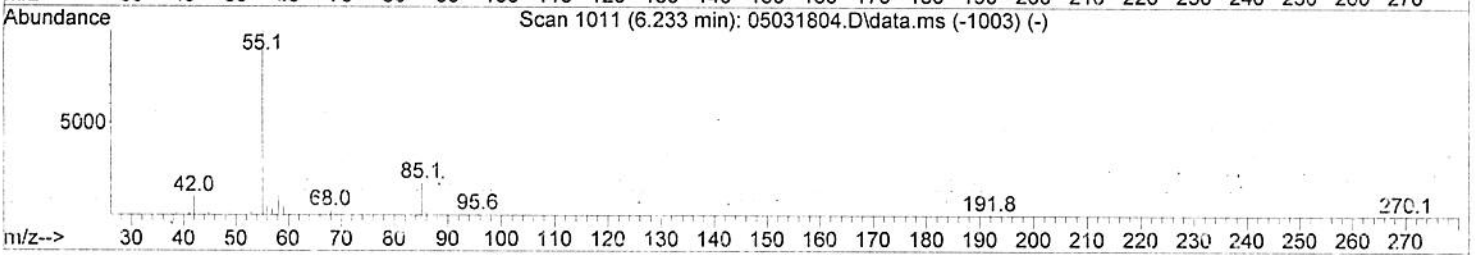
Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110703.D
Acq On : 7 Nov 2018 2:34 pm
Operator : JF
Sample : JIDOC 1
Misc :
ALS Vial : 3 Sample Multiplier: 1

JF 11/07/18

Quant Time: Nov 07 16:25:13 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration







TIC: 18110703.D\data.ms

(26) Methyl Acrylate (T)

5.119min (+ 0.006) 0.32 ug/l

response 2202

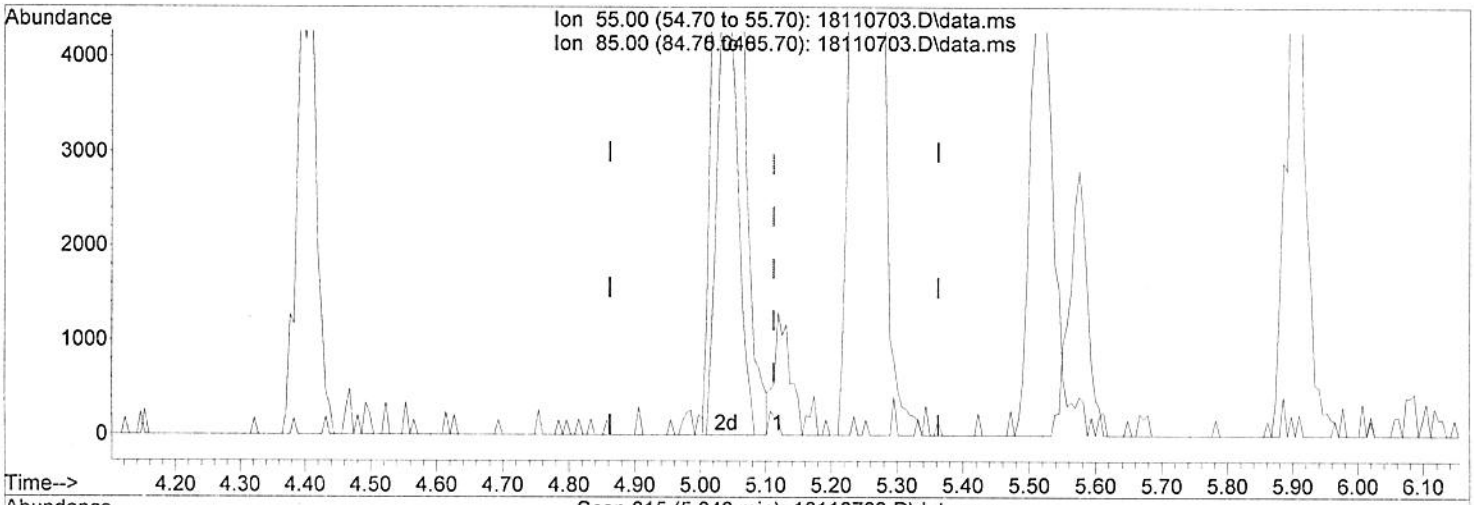
Ion	Exp%	Act%
55.00	100.00	100.00
85.00	16.20	12.40#
0.00	0.00	0.00
0.00	0.00	0.00

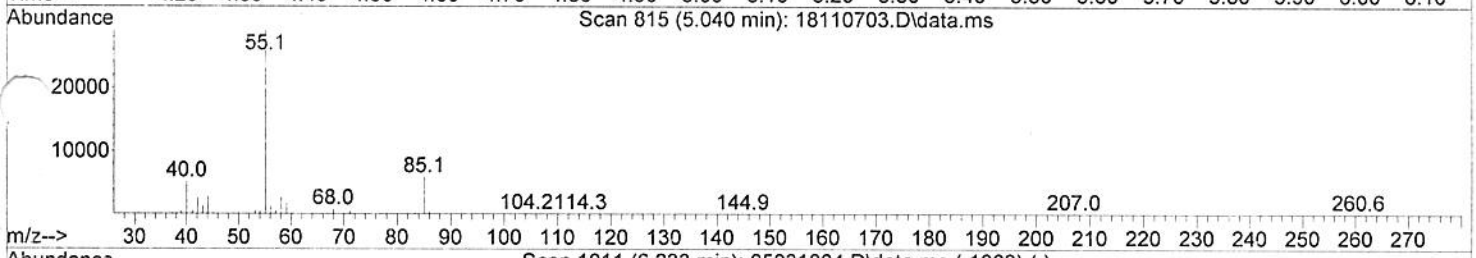
Quantitation Report (Qedit)

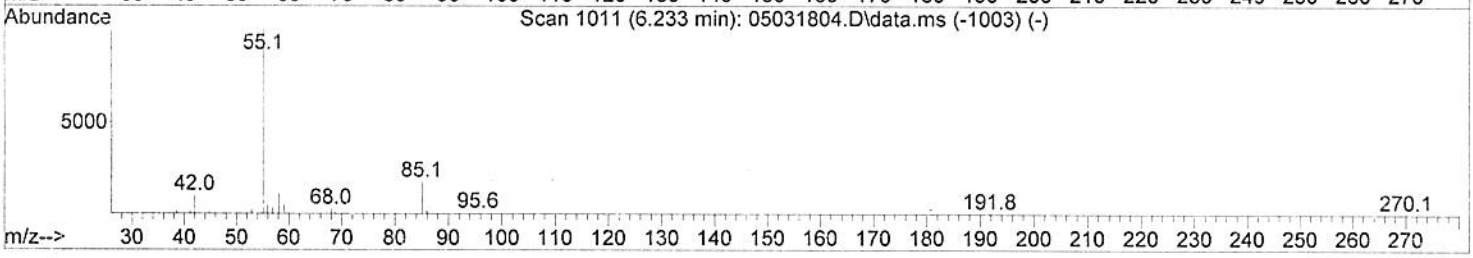
Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110703.D
Acq On : 7 Nov 2018 2:34 pm
Operator : JF
Sample : JIDOC 1
Misc :
ALS Vial : 3 Sample Multiplier: 1

11/07/18

Quant Time: Nov 07 16:25:13 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration







TIC: 18110703.D\data.ms

(26) Methyl Acrylate (T)

5.040min (-0.073) 8.63 ug/l m

response 59797

Ion	Exp%	Act%
55.00	100.00	100.00
85.00	16.20	20.54#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110704.D
Acq On : 7 Nov 2018 3:03 pm
Operator : JF
Sample : JIDOC 2
isc :
ALS Vial : 4 Sample Multiplier: 1

JF 11/07/18

Quant Time: Nov 07 16:30:36 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	6.086	96	670851	40.00	ug/l		0.00
38) Toluene-d8 (IS)	7.851	98	899125	40.00	ug/l		0.00
81) Chlorobenzene-d5 (IS)	9.761	117	903875	40.00	ug/l	#	0.00
System Monitoring Compounds							
51) 2-Bromo-1-Chloropropan...	8.392	77	58346	5.03	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.60%				
66) 4-Bromofluorobenzene (SS)	11.464	95	72992	4.93	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.60%				
85) 1,2-Dichlorobenzene-d4...	13.813	152	55210	4.94	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.737	85	57024	11.31	ug/l		92
3) Chloromethane (SPCC)	1.931	50	61757	11.55	ug/l		95
4) Vinyl Chloride (CCC)	2.035	62	40465	11.78	ug/l		98
5) Bromomethane	2.345	94	18173m	6.78	ug/l		
6) Chloroethane	2.461	64	18968m	10.48	ug/l		
7) Trichlorofluoromethane	2.680	101	43997	10.09	ug/l		99
8) Acrolein	3.191	56	29033	46.89	ug/l	#	83
9) Diethyl Ether	2.984	59	57574	10.33	ug/l		92
10) 1,1-Dichloroethene (CCC)	3.215	61	96840	10.76	ug/l		96
11) Acetone	3.343	43	34097	45.37	ug/l	#	76
12) Iodomethane	3.404	142	57059	9.59	ug/l	#	89
13) Carbon Disulfide	3.440	76	210683	11.19	ug/l		97
14) Allyl Chloride	3.592	41	94521	10.29	ug/l	#	82
15) Methylene Chloride	3.738	49	101319	11.10	ug/l		97
16) Acrylonitrile	4.036	53	28794	10.66	ug/l	#	88
17) Acetonitrile	3.726	41	3497	2.40	ug/l	#	1
18) trans-1,2-Dichloroethene	3.951	61	92177	10.62	ug/l		91
19) MTBE	3.927	73	203831	10.56	ug/l		92
20) 1,1-Dichloroethane (SPCC)	4.401	63	123549	10.85	ug/l		96
22) 2-Butanone (MEK)	4.985	43	47853	53.84	ug/l	#	87
23) cis-1,2-Dichloroethene	4.961	61	107258	10.55	ug/l		97
24) 2,2-Dichloropropane	4.937	77	79782	11.23	ug/l	#	92
25) Propionitrile	5.125	54	11649	10.91	ug/l	#	72
26) Methyl Acrylate	5.040	55	67249	9.61	ug/l		94
27) Methacrylonitrile	5.229	41	55218	9.04	ug/l	#	86
28) Bromochloromethane	5.204	49	60976	9.74	ug/l		94
29) Tetrahydrofuran	5.217	42	22968	9.32	ug/l	#	49
30) Chloroform (CCC)	5.253	83	123585	10.51	ug/l		98
31) 1,1,1-Trichloroethane	5.411	97	94238	10.30	ug/l		94
32) 1-Chlorobutane	5.521	56	131314	10.51	ug/l	#	81
33) 1,1-Dichloropropene	5.569	75	95052	10.71	ug/l		96
34) Carbon Tetrachloride	5.539	117	73528	10.43	ug/l		98
35) 1,2-Dichloroethane	5.880	62	89884	11.15	ug/l	#	90
36) Benzene	5.788	78	309071	10.88	ug/l		99
37) Trichloroethene	6.458	95	73809	10.75	ug/l		93
39) 1,2-Dichloropropane (CCC)	6.762	63	73263	10.22	ug/l	#	92
40) Methyl Methacrylate	6.829	41	52882	8.13	ug/l	#	84
41) Dibromomethane	6.902	174	30428	9.41	ug/l	#	52
42) Bromodichloromethane	7.054	83	86929	10.04	ug/l	#	96
43) 2-Nitropropane	7.394	43	150565	10.32	ug/l	#	13

Quantitation Report (QT Reviewed)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110704.D
Acq On : 7 Nov 2018 3:03 pm
Operator : JF
Sample : JIDOC 2
isc :
ALS Vial : 4 Sample Multiplier: 1

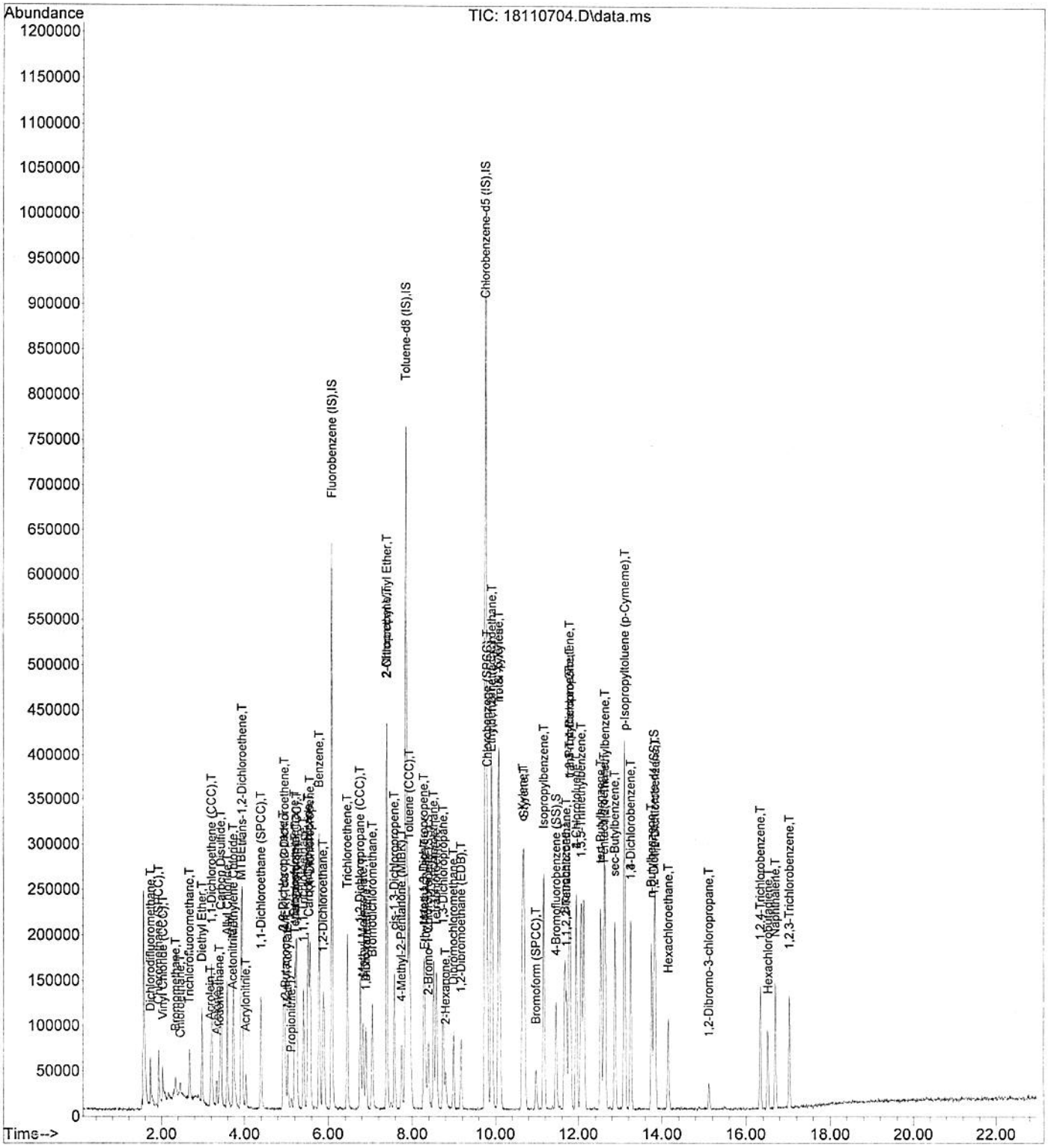
Quant Time: Nov 07 16:30:36 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2-Chloroethyl Vinyl Ether	7.401	63	220658	55.99	ug/l	#	1
45) 1,4-Dioxane	6.896	88	74	2.20	ug/l	#	25
46) cis-1,3-Dichloropropene	7.577	75	107952	10.18	ug/l		97
47) 4-Methyl-2-Pentanone (...	7.747	43	58438	43.68	ug/l		96
48) Toluene (CCC)	7.936	91	317272	10.75	ug/l		95
49) trans-1,3-Dichloropropene	8.283	75	86433	9.57	ug/l		98
50) Ethyl Methacrylate	8.307	69	88436	10.64	ug/l	#	69
52) 1,1,2-Trichloroethane	8.520	83	59664	10.58	ug/l		96
53) 1,3-Dichloropropane	8.745	76	117923	10.24	ug/l		99
54) 2-Hexanone	8.806	43	42662	44.31	ug/l	#	93
55) Tetrachloroethene	8.581	166	56444	9.95	ug/l	#	81
56) Dibromochloromethane	8.994	129	57892	9.50	ug/l		98
57) 1,2-Dibromoethane (EDB)	9.177	107	67438	10.36	ug/l		96
58) Chlorobenzene (SPCC)	9.804	112	198744	10.85	ug/l		96
59) 1,1,1,2-Tetrachloroethane	9.919	131	58685	10.17	ug/l		91
60) Ethylbenzene (CCC)	9.901	91	331243	10.70	ug/l		99
61) m- & -p Xylene	10.083	91	513972	21.41	ug/l		99
62) o-Xylene	10.661	91	262198	10.58	ug/l		96
63) Total Xylenes	10.083	91	513972	32.11	ug/l		99
64) Styrene	10.692	104	211105	11.22	ug/l		97
65) Isopropylbenzene	11.166	105	300805	11.00	ug/l		95
67) trans-1,4-Dichloro-2-b...	11.793	75	87759	9.56	ug/l	#	80
68) 1,2,3-Trichloropropane	11.793	75	87759	9.56	ug/l	#	87
69) Bromobenzene	11.677	77	130717	10.40	ug/l	#	64
70) n-Propylbenzene	11.787	91	335103	10.88	ug/l		98
71) 2-Chlorotoluene	11.951	91	224581	11.55	ug/l		93
72) 1,3,5-Trimethylbenzene	12.067	105	229434	11.22	ug/l		94
73) 4-Chlorotoluene	11.951	91	224581	10.27	ug/l		91
74) tert-Butylbenzene	12.535	119	178858	11.08	ug/l		96
75) Pentachloroethane	12.614	167	27259	8.98	ug/l	#	72
76) 1,2,4-Trimethylbenzene	12.638	105	219551	10.68	ug/l		98
77) sec-Butylbenzene	12.876	105	232331	11.17	ug/l	#	94
78) p-Isopropyltoluene (p-...	13.113	119	192148	11.02	ug/l		98
79) 1,3-Dichlorobenzene	13.259	146	122950	11.03	ug/l		90
80) 1,4-Dichlorobenzene	13.259	146	122950	10.62	ug/l		90
82) Bromoform (SPCC)	10.978	173	24595	8.23	ug/l		89
83) 1,1,2,2-Tetrachloroethane	11.714	83	89891	9.97	ug/l		95
84) n-Butylbenzene	13.752	91	154322	10.46	ug/l		97
86) 1,2-Dichlorobenzene	13.843	146	116850	10.14	ug/l	#	82
87) Hexachloroethane	14.153	117	27125	8.90	ug/l	#	74
88) 1,2-Dibromo-3-chloropr...	15.121	157	8892	8.10	ug/l	#	65
89) 1,2,4-Trichlorobenzene	16.343	180	45211	9.42	ug/l	#	93
90) Hexachlorobutadiene	16.526	225	17793	9.75	ug/l	#	88
91) Naphthalene	16.696	128	136580	9.91	ug/l		100
92) 1,2,3-Trichlorobenzene	17.031	180	40248	9.75	ug/l	#	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110704.D
Acq On : 7 Nov 2018 3:03 pm
Operator : JF
Sample : JIDOC 2
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 07 16:30:36 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

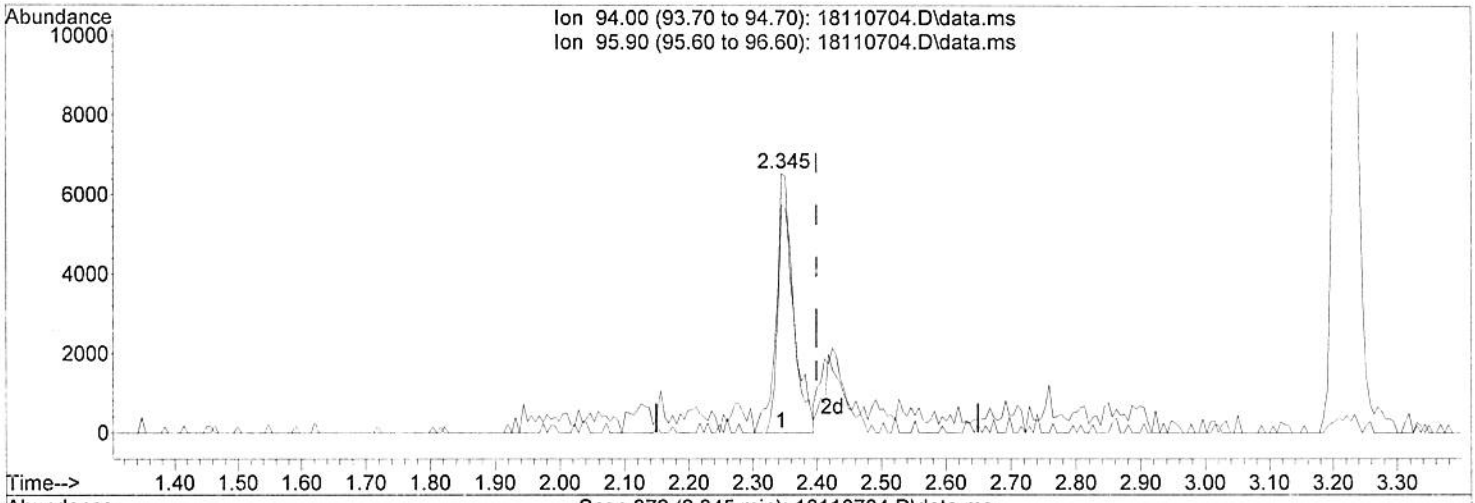


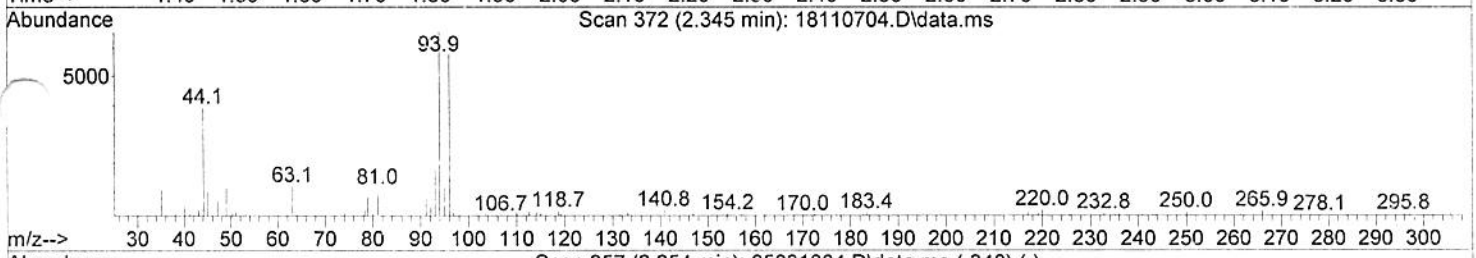
Quantitation Report (Qedit)

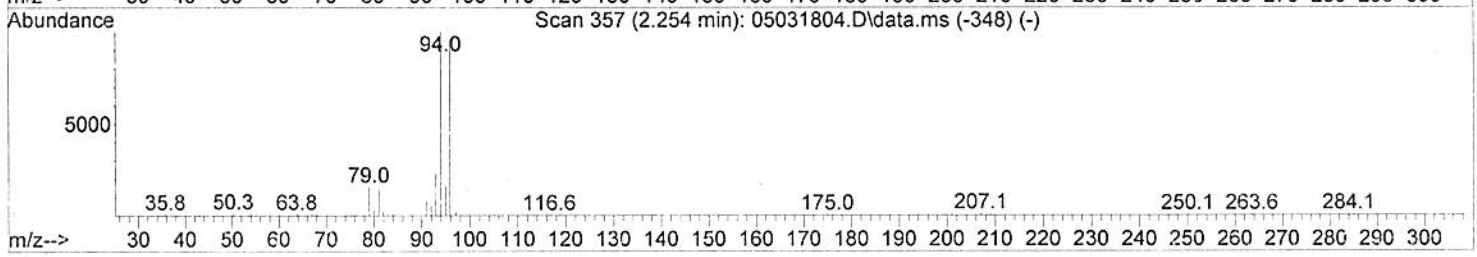
Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110704.D
Acq On : 7 Nov 2018 3:03 pm
Operator : JF
Sample : JIDOC 2
Misc :
ALS Vial : 4 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:29:30 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration







TIC: 18110704.D\data.ms

(5) Bromomethane (T)

2.345min (-0.055) 4.39 ug/l

response 12346

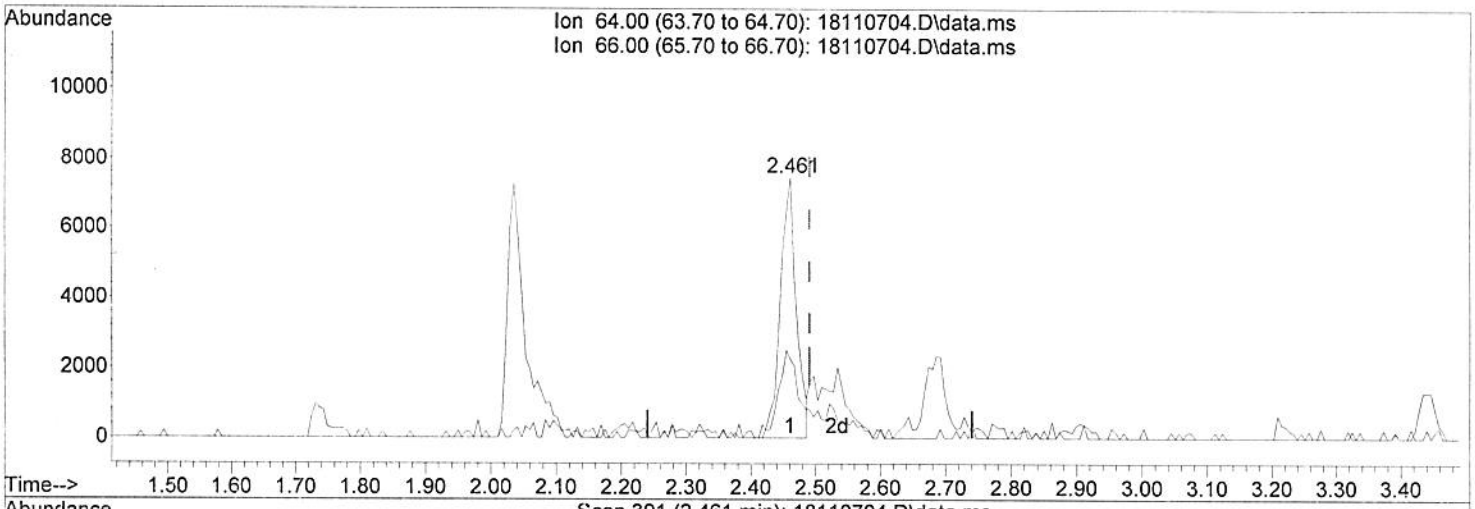
Ion	Exp%	Act%
94.00	100.00	100.00
95.90	92.80	87.91
0.00	0.00	0.00
0.00	0.00	0.00

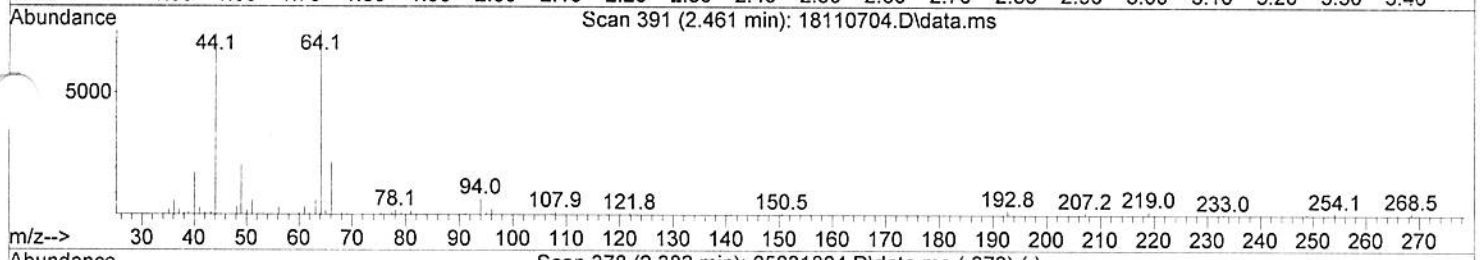
Quantitation Report (Qedit)

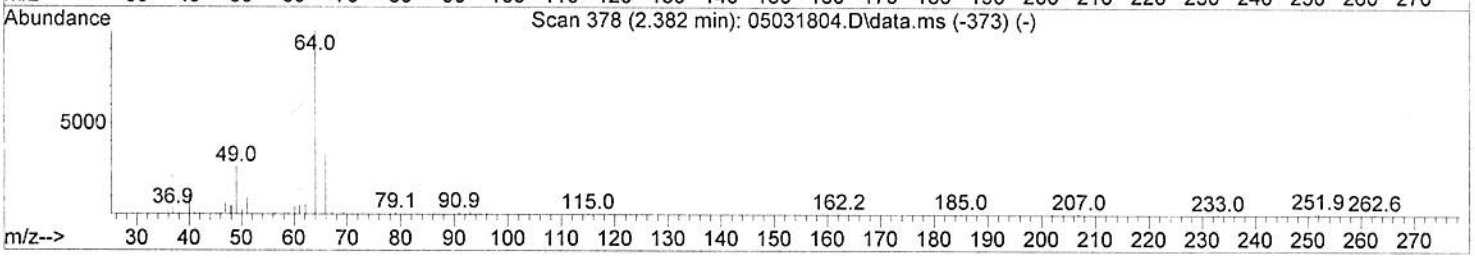
Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110704.D
Acq On : 7 Nov 2018 3:03 pm
Operator : JF
Sample : JIDOC 2
Misc :
ALS Vial : 4 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:30:00 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration







TIC: 18110704.D\data.ms

(6) Chloroethane (T)

2.461min (-0.030) 6.95 ug/l

response 12691

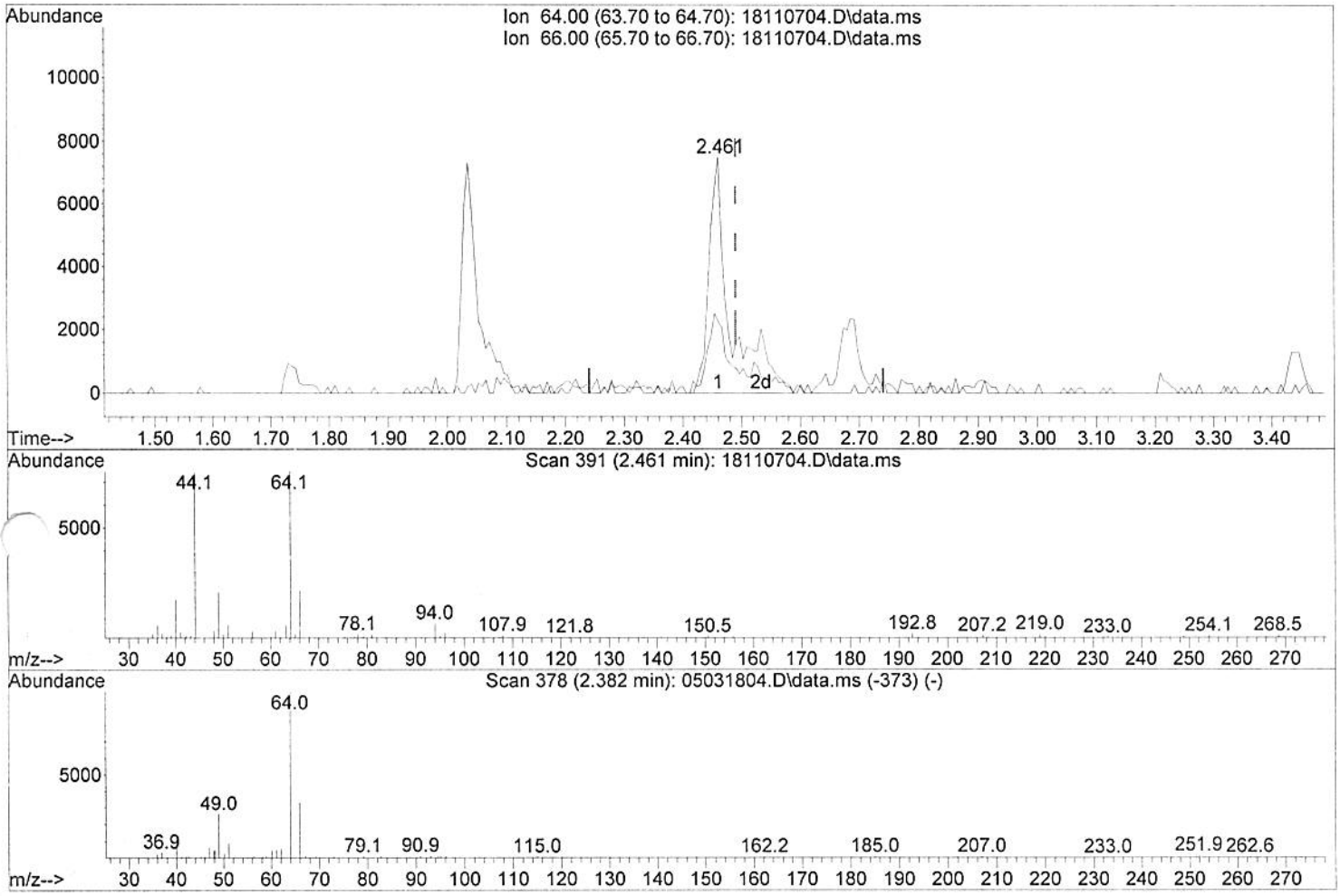
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.50	30.21
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110704.D
Acq On : 7 Nov 2018 3:03 pm
Operator : JF
Sample : JIDOC 2
Misc :
ALS Vial : 4 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:30:00 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration



TIC: 18110704.D\data.ms

(6) Chloroethane (T)

2.461min (-0.030) 10.48 ug/l m

response 18968

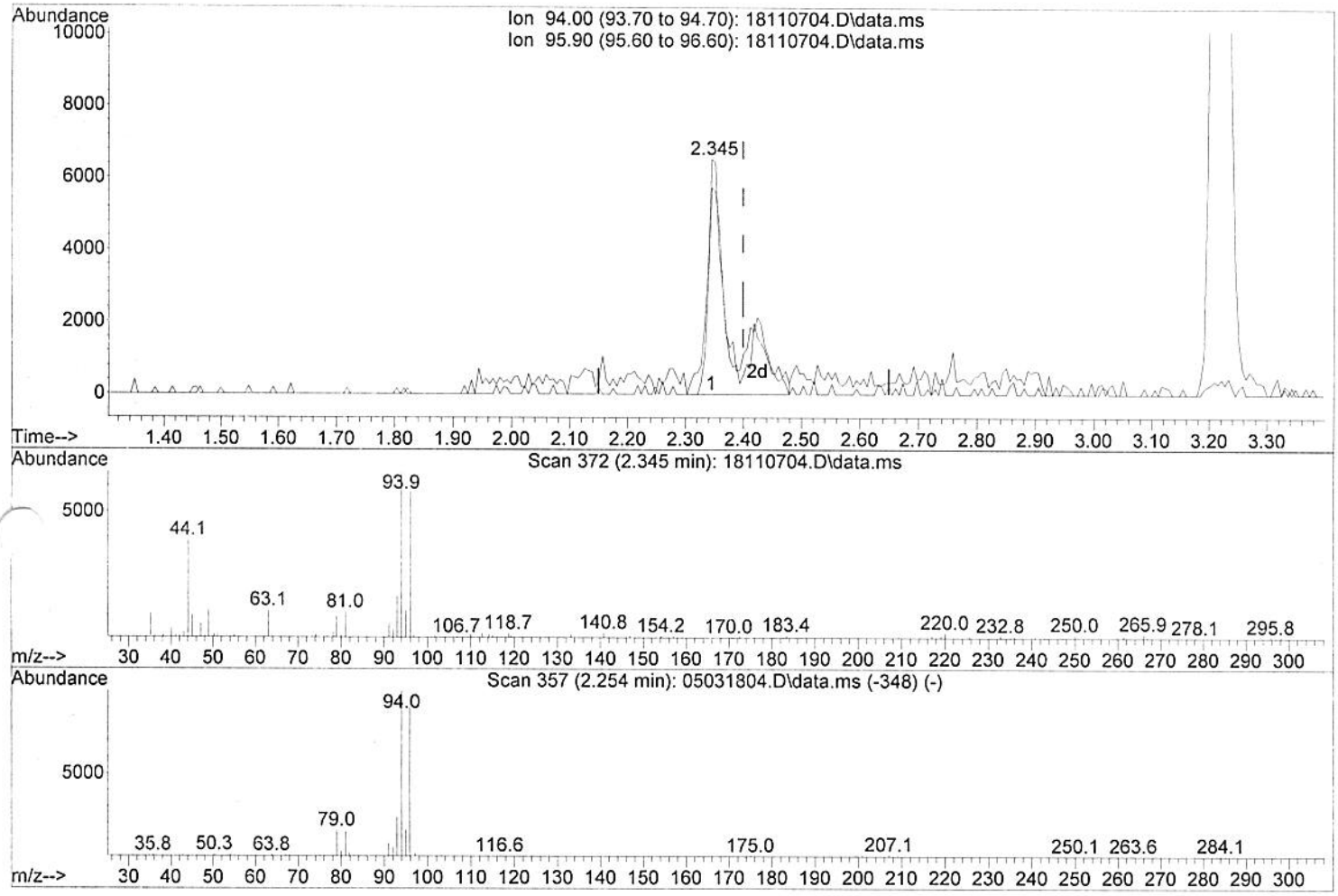
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.50	30.21
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110704.D
Acq On : 7 Nov 2018 3:03 pm
Operator : JF
Sample : JIDOC 2
Misc :
ALS Vial : 4 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:29:30 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration



TIC: 18110704.D\data.ms

(5) Bromomethane (T)

2.345min (-0.055) 6.78 ug/l m

response 18173

Ion	Exp%	Act%
94.00	100.00	100.00
95.90	92.80	87.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:34:28 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	6.087	96	670807	40.00	ug/l		0.00
38) Toluene-d8 (IS)	7.851	98	908992	40.00	ug/l		0.00
81) Chlorobenzene-d5 (IS)	9.761	117	902390	40.00	ug/l	#	0.00
System Monitoring Compounds							
51) 2-Bromo-1-Chloropropan...	8.386	77	57359	4.89	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.80%				
66) 4-Bromofluorobenzene (SS)	11.458	95	73539	4.91	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.20%				
85) 1,2-Dichlorobenzene-d4...	13.813	152	54658	4.89	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.731	85	47504	9.47	ug/l	#	92
3) Chloromethane (SPCC)	1.931	50	56610	10.59	ug/l		98
4) Vinyl Chloride (CCC)	2.035	62	36635	10.67	ug/l		98
5) Bromomethane	2.345	94	15910m	5.85	ug/l		
6) Chloroethane	2.449	64	19658m	10.87	ug/l		
7) Trichlorofluoromethane	2.680	101	38590	8.85	ug/l		89
8) Acrolein	3.191	56	27699	44.64	ug/l		98
9) Diethyl Ether	2.984	59	57544	10.32	ug/l		89
10) 1,1-Dichloroethene (CCC)	3.215	61	85844	9.54	ug/l		91
11) Acetone	3.343	43	34125	45.45	ug/l	#	89
12) Iodomethane	3.404	142	55932	9.41	ug/l		88
13) Carbon Disulfide	3.440	76	191100	10.14	ug/l		98
14) Allyl Chloride	3.592	41	91197	9.93	ug/l	#	80
15) Methylene Chloride	3.738	49	101538	11.13	ug/l	#	90
16) Acrylonitrile	4.036	53	27497	10.18	ug/l		94
17) Acetonitrile	3.744	41	3022m	1.92	ug/l		
18) trans-1,2-Dichloroethene	3.951	61	87397	10.07	ug/l		94
19) MTBE	3.927	73	199834	10.35	ug/l		94
20) 1,1-Dichloroethane (SPCC)	4.395	63	118787	10.43	ug/l		99
22) 2-Butanone (MEK)	4.985	43	47787m	53.75	ug/l		
23) cis-1,2-Dichloroethene	4.961	61	98194	9.66	ug/l		93
24) 2,2-Dichloropropane	4.937	77	71173	10.02	ug/l		96
25) Propionitrile	5.125	54	11128	10.41	ug/l	#	69
26) Methyl Acrylate	5.034	55	62836	8.98	ug/l		99
27) Methacrylonitrile	5.229	41	52534	8.60	ug/l	#	88
28) Bromochloromethane	5.198	49	61307	9.80	ug/l		94
29) Tetrahydrofuran	5.217	42	22972	9.32	ug/l	#	59
30) Chloroform (CCC)	5.253	83	116281	9.89	ug/l		98
31) 1,1,1-Trichloroethane	5.411	97	89674	9.80	ug/l		98
32) 1-Chlorobutane	5.515	56	120063	9.61	ug/l	#	78
33) 1,1-Dichloropropene	5.569	75	85196	9.60	ug/l		98
34) Carbon Tetrachloride	5.539	117	65608	9.32	ug/l		97
35) 1,2-Dichloroethane	5.880	62	88779	11.01	ug/l	#	94
36) Benzene	5.788	78	305651	10.76	ug/l		99
37) Trichloroethene	6.458	95	69034	10.06	ug/l		91
39) 1,2-Dichloropropane (CCC)	6.762	63	71895	9.92	ug/l	#	92
40) Methyl Methacrylate	6.829	41	56822	8.64	ug/l		87
41) Dibromomethane	6.902	174	32184	9.85	ug/l	#	60
42) Bromodichloromethane	7.048	83	87404	9.98	ug/l	#	93
43) 2-Nitropropane	7.395	43	151658	10.29	ug/l	#	14

Quantitation Report (QT Reviewed)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

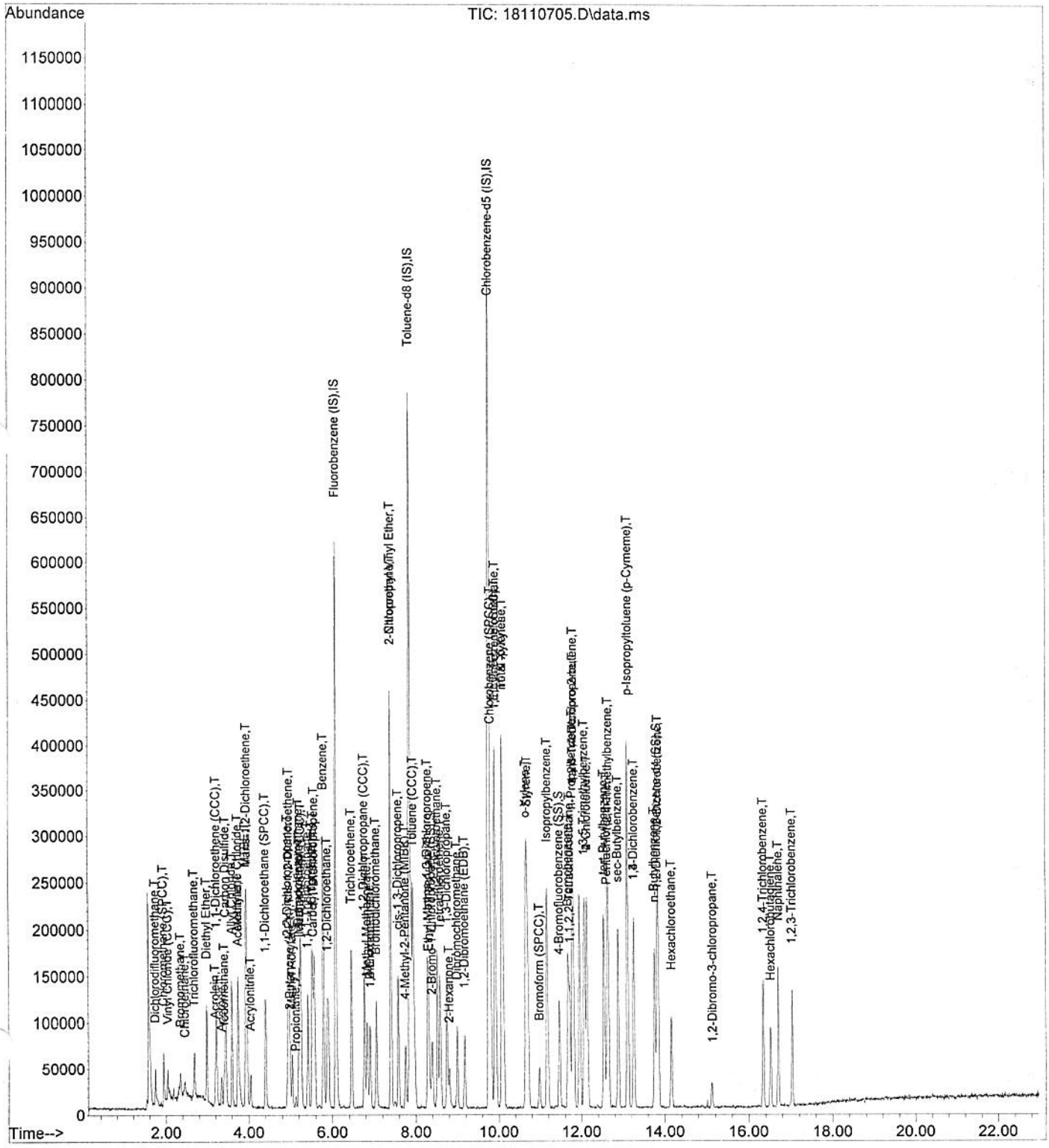
Quant Time: Nov 07 16:34:28 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Chloroethyl Vinyl Ether	7.395	63	226562	56.86 ug/l #	1
45) 1,4-Dioxane	6.908	88	207	3.60 ug/l #	69
46) cis-1,3-Dichloropropene	7.577	75	104940	9.79 ug/l	96
47) 4-Methyl-2-Pentanone (...	7.747	43	57662	42.63 ug/l	98
48) Toluene (CCC)	7.936	91	307797	10.32 ug/l	97
49) trans-1,3-Dichloropropene	8.283	75	85353	9.35 ug/l	92
50) Ethyl Methacrylate	8.307	69	88030	10.47 ug/l #	70
52) 1,1,2-Trichloroethane	8.514	83	59892	10.50 ug/l	92
53) 1,3-Dichloropropane	8.745	76	117707	10.11 ug/l	97
54) 2-Hexanone	8.800	43	40222	41.32 ug/l #	81
55) Tetrachloroethene	8.581	166	54091	9.43 ug/l #	91
56) Dibromochloromethane	8.988	129	58765	9.54 ug/l	93
57) 1,2-Dibromoethane (EDB)	9.171	107	68748	10.45 ug/l	95
58) Chlorobenzene (SPCC)	9.798	112	199723	10.78 ug/l	99
59) 1,1,1,2-Tetrachloroethane	9.913	131	56323	9.66 ug/l	95
60) Ethylbenzene (CCC)	9.907	91	328517	10.49 ug/l #	95
61) m- & -p Xylene	10.083	91	512891	21.13 ug/l	98
62) o-Xylene	10.655	91	259267	10.35 ug/l	98
63) Total Xylenes	10.083	91	512891	31.69 ug/l	98
64) Styrene	10.686	104	207981	10.93 ug/l	99
65) Isopropylbenzene	11.166	105	284231	10.28 ug/l	97
67) trans-1,4-Dichloro-2-b...	11.793	75	86092	9.28 ug/l #	89
68) 1,2,3-Trichloropropane	11.793	75	86092	9.28 ug/l #	86
69) Bromobenzene	11.671	77	135598	10.67 ug/l #	66
70) n-Propylbenzene	11.775	91	322608	10.36 ug/l	99
71) 2-Chlorotoluene	12.128	91	235067	11.95 ug/l	93
72) 1,3,5-Trimethylbenzene	12.061	105	223642	10.82 ug/l	98
73) 4-Chlorotoluene	12.128	91	235067	10.64 ug/l	92
74) tert-Butylbenzene	12.541	119	171772	10.53 ug/l	100
75) Pentachloroethane	12.608	167	28146	9.17 ug/l #	77
76) 1,2,4-Trimethylbenzene	12.639	105	220510	10.61 ug/l	95
77) sec-Butylbenzene	12.876	105	226520	10.77 ug/l #	98
78) p-Isopropyltoluene (p-...	13.107	119	186715	10.59 ug/l	99
79) 1,3-Dichlorobenzene	13.259	146	124021	11.00 ug/l	92
80) 1,4-Dichlorobenzene	13.259	146	124021	10.60 ug/l #	92
82) Bromoform (SPCC)	10.978	173	22929	7.68 ug/l #	95
83) 1,1,2,2-Tetrachloroethane	11.714	83	88762	9.86 ug/l	99
84) n-Butylbenzene	13.752	91	146442	9.94 ug/l	97
86) 1,2-Dichlorobenzene	13.837	146	117688	10.23 ug/l #	84
87) Hexachloroethane	14.153	117	26408	8.68 ug/l #	74
88) 1,2-Dibromo-3-chloropr...	15.133	157	9162	8.36 ug/l #	72
89) 1,2,4-Trichlorobenzene	16.343	180	46258	9.66 ug/l #	88
90) Hexachlorobutadiene	16.520	225	17820	9.78 ug/l #	79
91) Naphthalene	16.702	128	145697	10.59 ug/l	100
92) 1,2,3-Trichlorobenzene	17.025	180	42698	10.36 ug/l	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 07 16:34:28 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

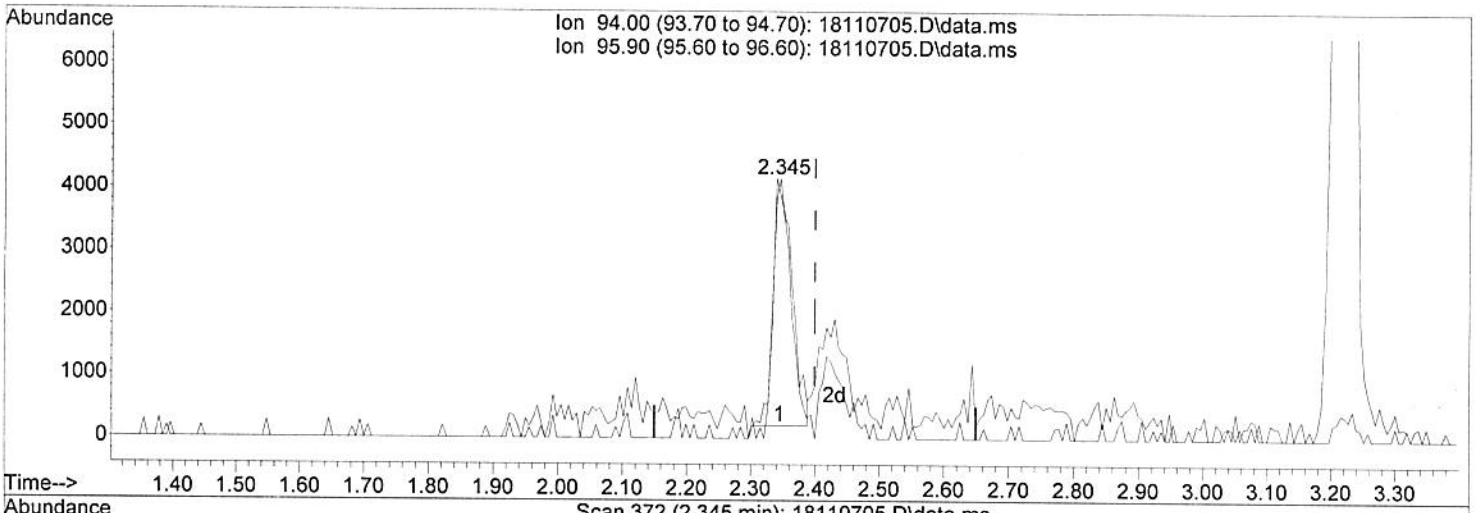


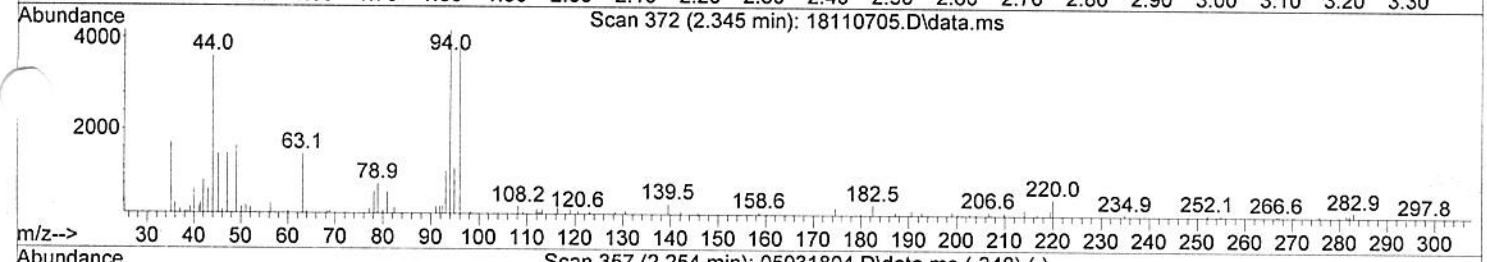
Quantitation Report (Qedit)

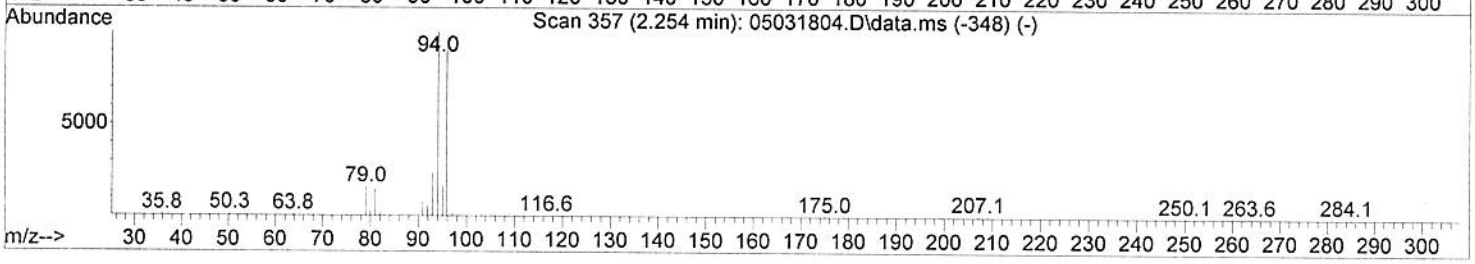
Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:33:11 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration







TIC: 18110705.D\data.ms

(5) Bromomethane (T)

2.345min (-0.055) 2.72 ug/l

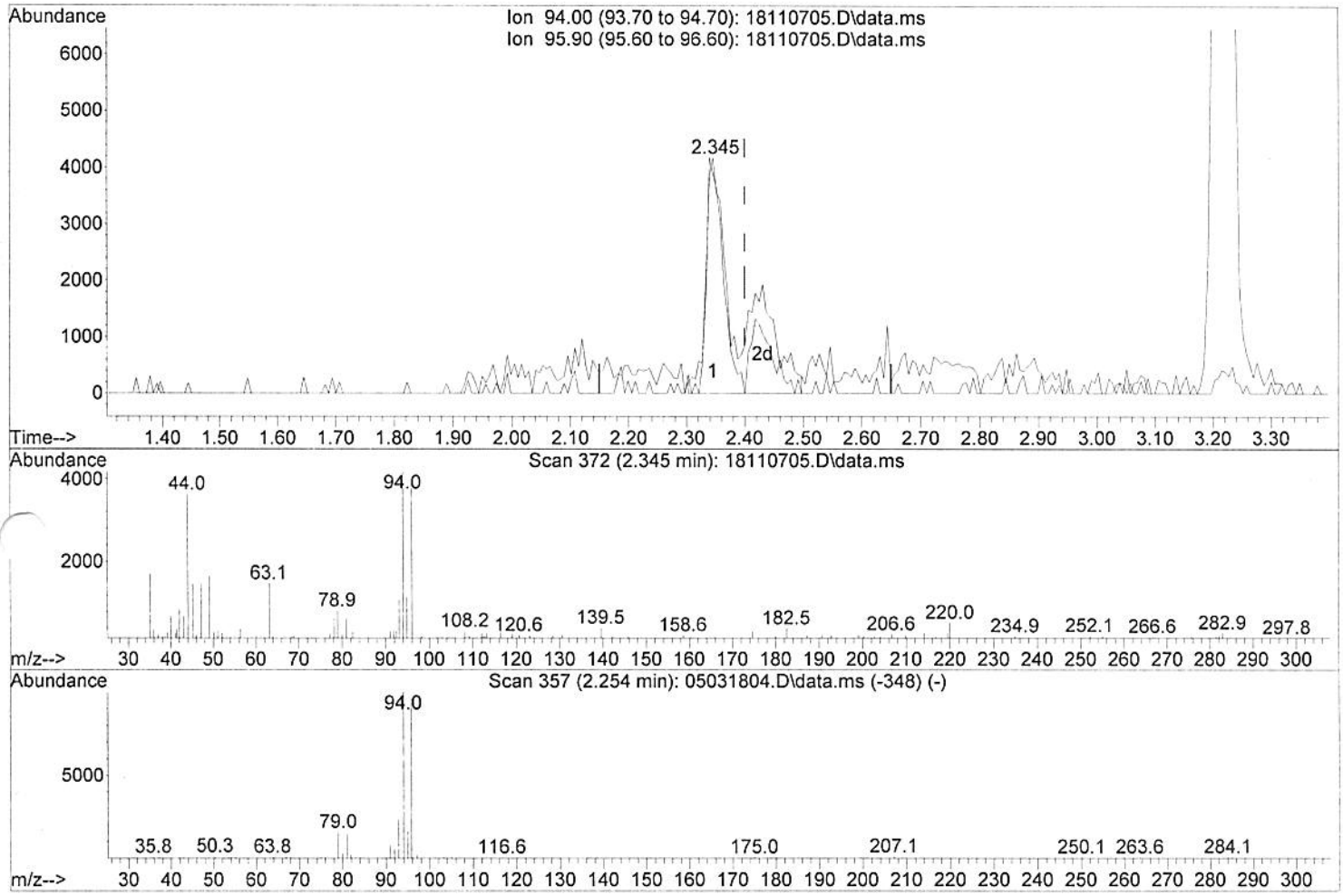
response 8255

Ion	Exp%	Act%
94.00	100.00	100.00
95.90	92.80	93.49
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 07 16:33:11 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration



TIC: 18110705.D\data.ms

(5) Bromomethane (T)

2.345min (-0.055) 5.85 ug/l m

response 15910

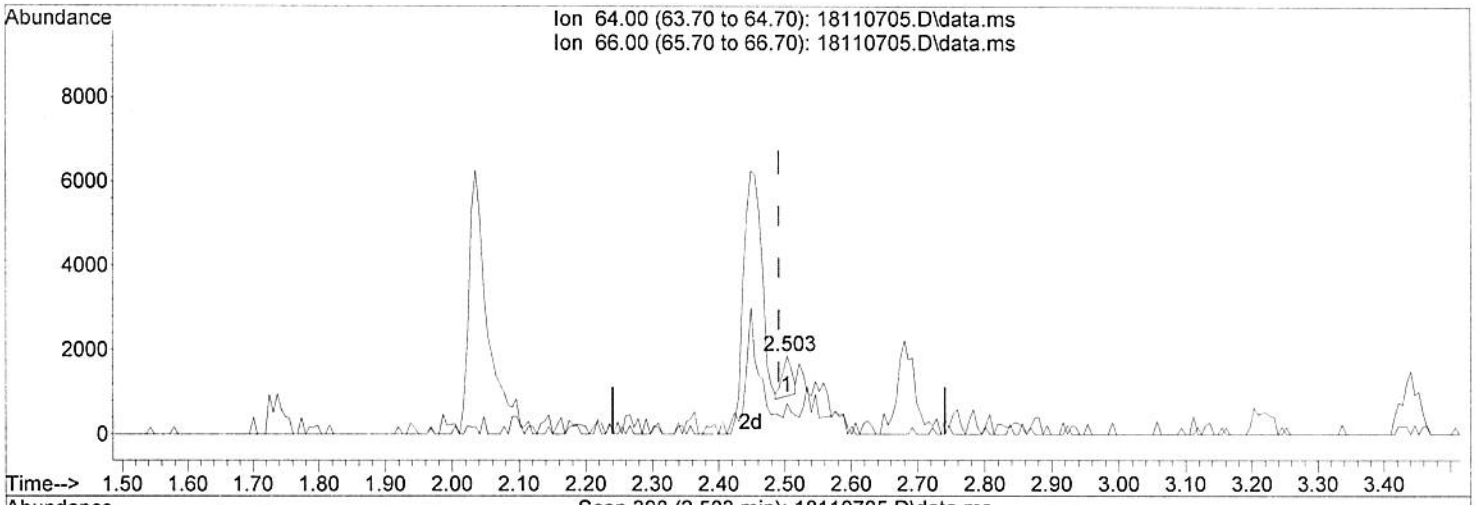
Ion	Exp%	Act%
94.00	100.00	100.00
95.90	92.80	93.49
0.00	0.00	0.00
0.00	0.00	0.00

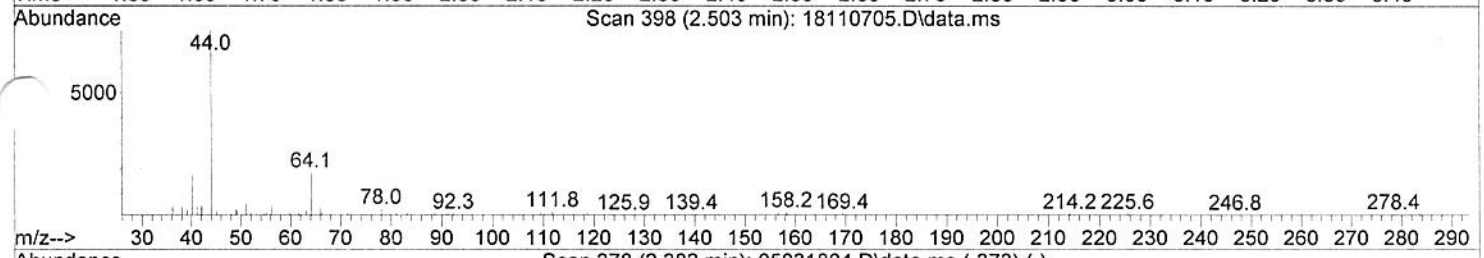
Quantitation Report (Qedit)

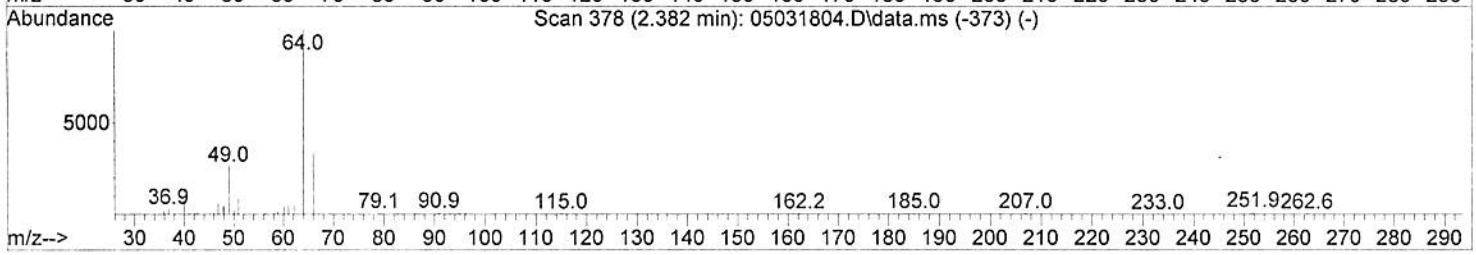
Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:33:11 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration







TIC: 18110705.D\data.ms

(6) Chloroethane (T)

2.503min (+ 0.012) 0.36 ug/l

response 964

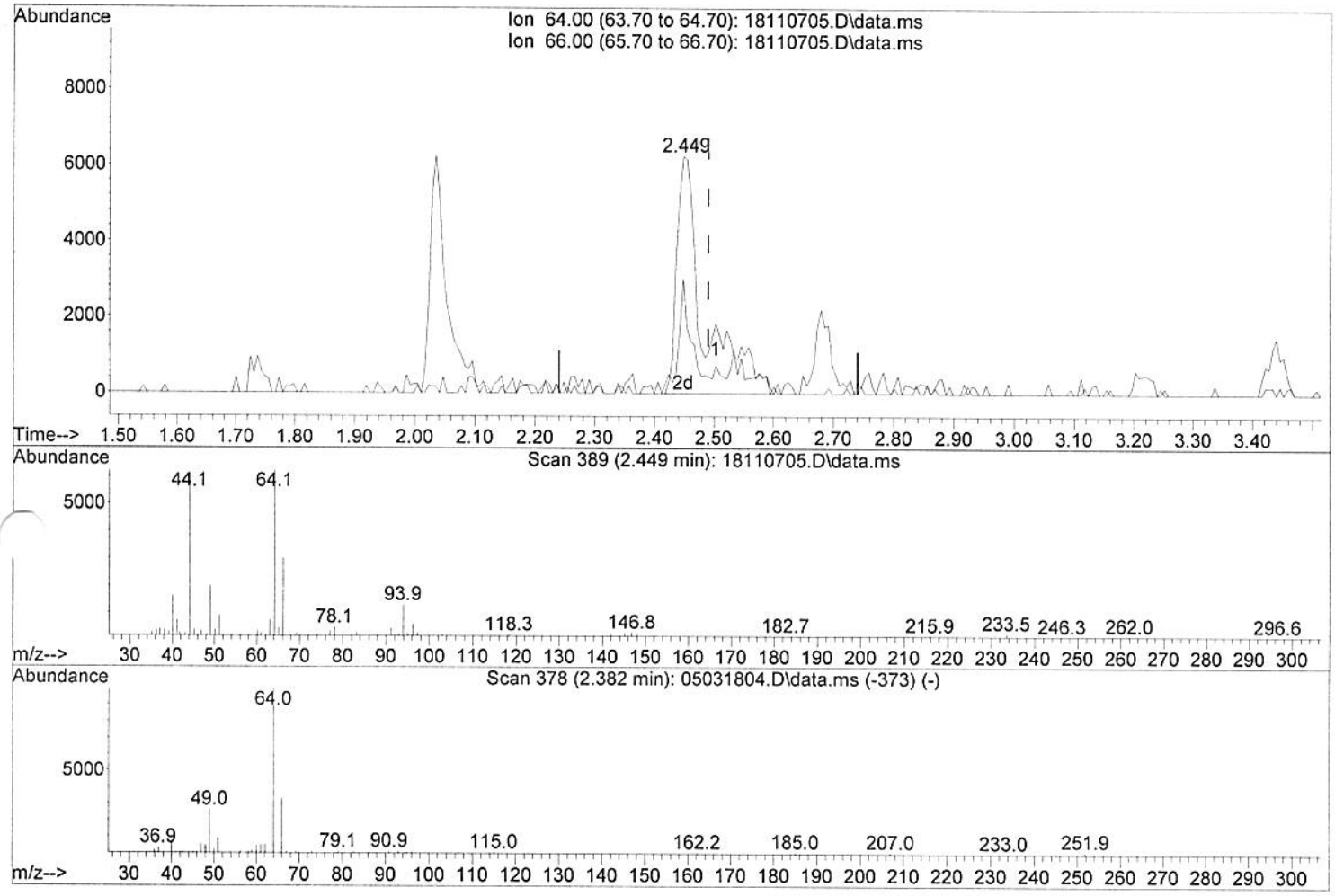
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.50	39.27#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:33:11 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration



TIC: 18110705.D\data.ms

(6) Chloroethane (T)

2.449min (-0.042) 10.87 ug/l m

response 19658

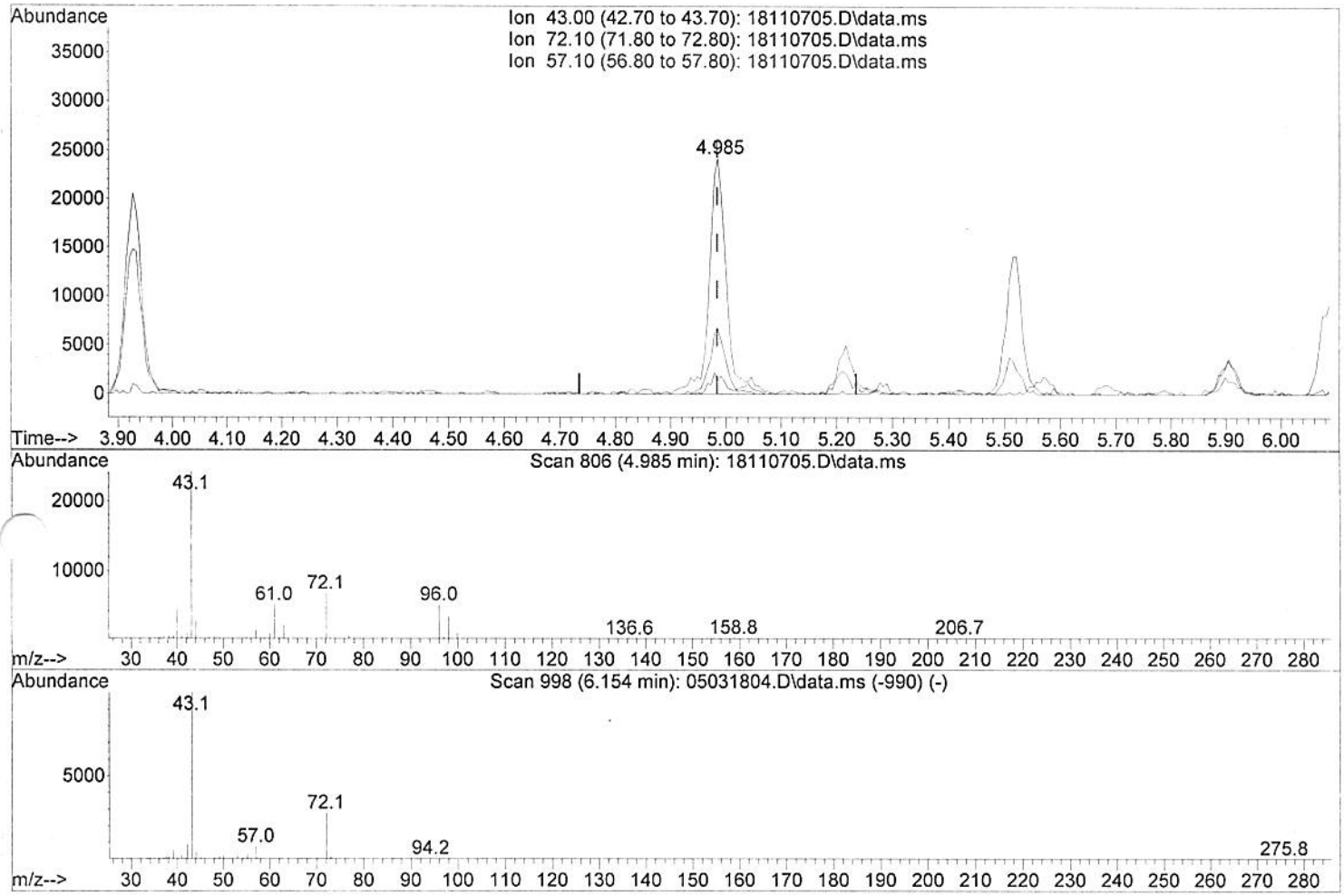
Ion	Exp%	Act%
64.00	100.00	100.00
66.00	31.50	48.09#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:33:11 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration



TIC: 18110705.D\data.ms

(22) 2-Butanone (MEK) (T)

4.985min (+ 0.000) 60.76 ug/l

response 52872

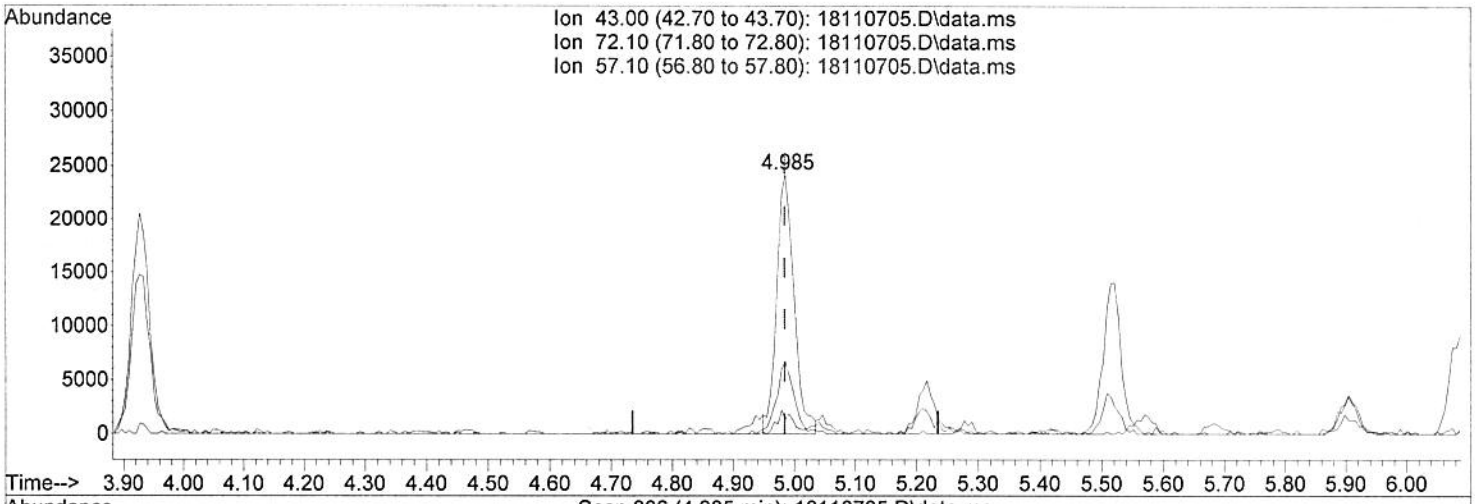
Ion	Exp%	Act%
43.00	100.00	100.00
72.10	21.10	27.46#
57.10	6.70	5.73
0.00	0.00	0.00

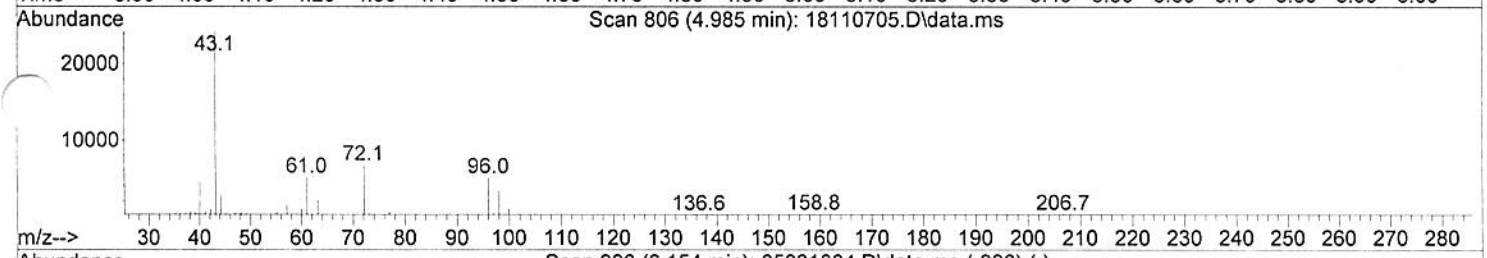
Quantitation Report (Qedit)

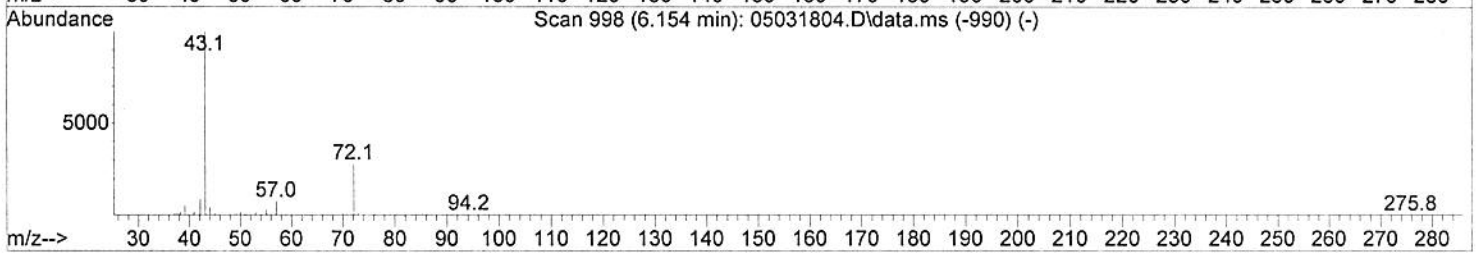
Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110705.D
Acq On : 7 Nov 2018 3:31 pm
Operator : JF
Sample : JIDOC 3
Misc :
ALS Vial : 5 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:33:11 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration







TIC: 18110705.D\data.ms

(22) 2-Butanone (MEK) (T)

4.985min (+ 0.000) 53.75 ug/l m

response 47787

Ion	Exp%	Act%
43.00	100.00	100.00
72.10	21.10	27.46#
57.10	6.70	5.73
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110706.D
Acq On : 7 Nov 2018 4:00 pm
Operator : JF
Sample : JIDOC 4
Misc :
ALS Vial : 6 Sample Multiplier: 1

JF 110718

Quant Time: Nov 07 16:36:23 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	6.093	96	670648	40.00	ug/l		0.00
38) Toluene-d8 (IS)	7.857	98	890686	40.00	ug/l		0.00
81) Chlorobenzene-d5 (IS)	9.761	117	873195	40.00	ug/l	#	0.00
System Monitoring Compounds							
51) 2-Bromo-1-Chloropropan...	8.392	77	58133	5.06	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.20%				
66) 4-Bromofluorobenzene (SS)	11.464	95	71161	4.85	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.00%				
85) 1,2-Dichlorobenzene-d4...	13.807	152	53574	4.96	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.737	85	54489	10.83	ug/l	#	94
3) Chloromethane (SPCC)	1.938	50	55311	10.35	ug/l		95
4) Vinyl Chloride (CCC)	2.035	62	40409	11.77	ug/l		92
5) Bromomethane	2.388	94	25830	9.92	ug/l		99
6) Chloroethane	2.485	64	16967	9.36	ug/l	#	86
7) Trichlorofluoromethane	2.698	101	45187	10.36	ug/l		96
8) Acrolein	3.197	56	31585	51.21	ug/l		92
9) Diethyl Ether	2.990	59	56454	10.13	ug/l		89
10) 1,1-Dichloroethene (CCC)	3.227	61	88561	9.85	ug/l		90
11) Acetone	3.343	43	32096	40.40	ug/l	#	78
12) Iodomethane	3.410	142	56753	9.54	ug/l		90
13) Carbon Disulfide	3.446	76	198939	10.56	ug/l		100
14) Allyl Chloride	3.598	41	88563	9.64	ug/l	#	85
15) Methylene Chloride	3.744	49	89143	9.57	ug/l		93
16) Acrylonitrile	4.043	53	27778	10.29	ug/l		96
18) trans-1,2-Dichloroethene	3.957	61	92109	10.61	ug/l		96
19) MTBE	3.933	73	198038	10.25	ug/l	#	90
20) 1,1-Dichloroethane (SPCC)	4.401	63	122097	10.72	ug/l	#	96
22) 2-Butanone (MEK)	4.992	43	38999	41.66	ug/l	#	91
23) cis-1,2-Dichloroethene	4.967	61	101794	10.01	ug/l		93
24) 2,2-Dichloropropane	4.937	77	72195	10.17	ug/l		97
25) Propionitrile	5.125	54	11319	10.60	ug/l	#	73
26) Methyl Acrylate	5.040	55	62522	8.94	ug/l		93
27) Methacrylonitrile	5.235	41	54908	8.99	ug/l		93
28) Bromochloromethane	5.204	49	58630	9.37	ug/l	#	91
29) Tetrahydrofuran	5.223	42	22668	9.19	ug/l	#	15
30) Chloroform (CCC)	5.253	83	121333	10.32	ug/l		91
31) 1,1,1-Trichloroethane	5.417	97	90912	9.94	ug/l		100
32) 1-Chlorobutane	5.521	56	120164	9.62	ug/l		84
33) 1,1-Dichloropropene	5.576	75	91958	10.37	ug/l		99
34) Carbon Tetrachloride	5.551	117	69636	9.89	ug/l		94
35) 1,2-Dichloroethane	5.880	62	91209	11.32	ug/l	#	94
36) Benzene	5.788	78	292663	10.31	ug/l		98
37) Trichloroethene	6.458	95	71098	10.36	ug/l		90
39) 1,2-Dichloropropane (CCC)	6.774	63	70978	10.00	ug/l		89
40) Methyl Methacrylate	6.829	41	53493	8.30	ug/l	#	83
41) Dibromomethane	6.908	174	31199	9.74	ug/l	#	46
42) Bromodichloromethane	7.054	83	84772	9.88	ug/l		99
43) 2-Nitropropane	7.395	43	143648	9.94	ug/l	#	15
44) 2-Chloroethyl Vinyl Ether	7.401	63	221206	56.66	ug/l	#	1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110706.D
Acq On : 7 Nov 2018 4:00 pm
Operator : JF
Sample : JIDOC 4
Misc :
ALS Vial : 6 Sample Multiplier: 1

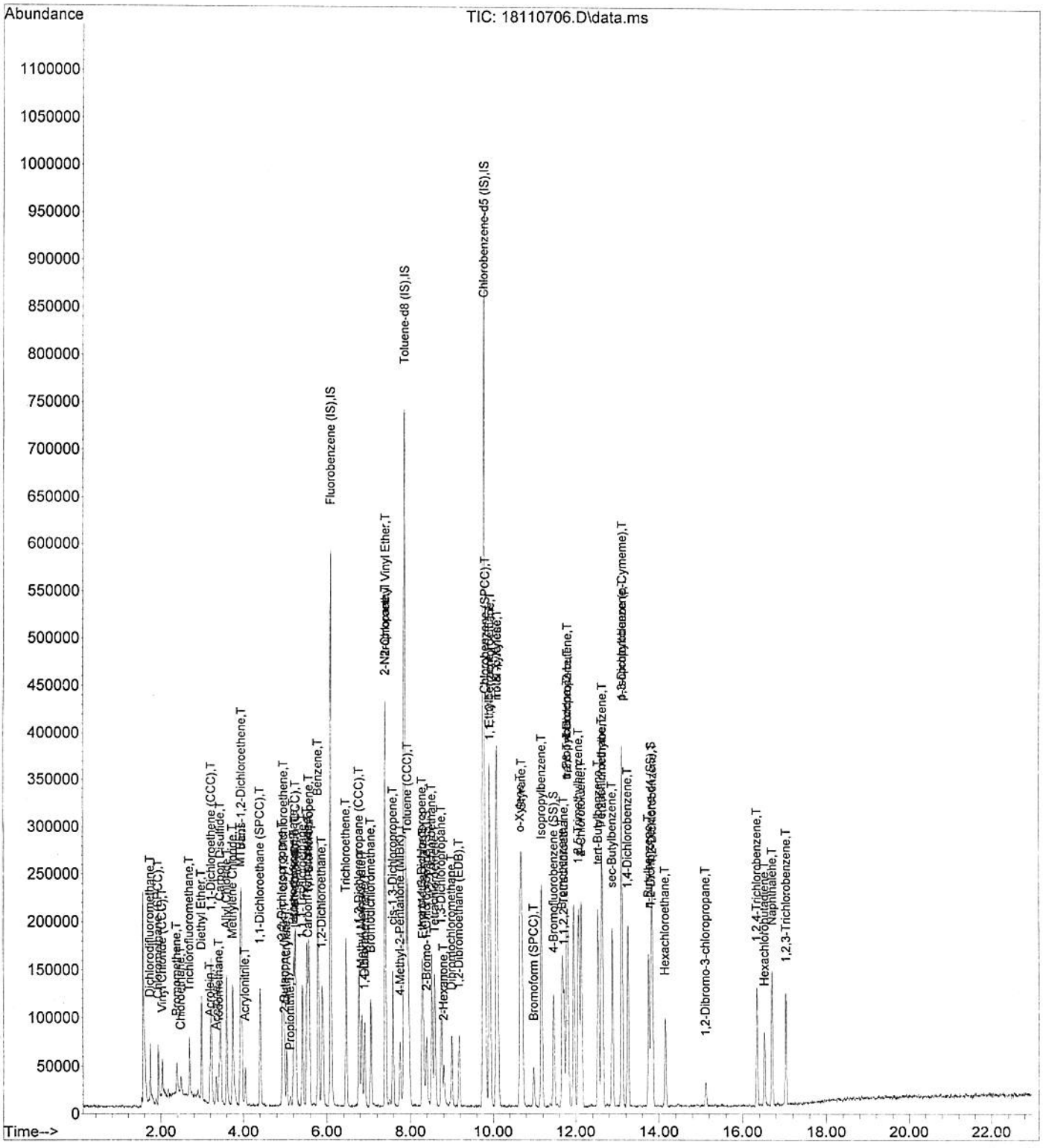
Quant Time: Nov 07 16:36:23 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) 1,4-Dioxane	6.896	88	443	6.21	ug/l	#	33
46) cis-1,3-Dichloropropene	7.583	75	103998	9.90	ug/l		99
47) 4-Methyl-2-Pentanone (...	7.753	43	59636	44.99	ug/l	#	87
48) Toluene (CCC)	7.936	91	301257	10.31	ug/l		99
49) trans-1,3-Dichloropropene	8.283	75	82409	9.21	ug/l		97
50) Ethyl Methacrylate	8.307	69	85552	10.39	ug/l	#	68
52) 1,1,2-Trichloroethane	8.520	83	56876	10.18	ug/l		94
53) 1,3-Dichloropropane	8.745	76	116457	10.21	ug/l		95
54) 2-Hexanone	8.800	43	40641	42.61	ug/l		92
55) Tetrachloroethene	8.587	166	52737	9.39	ug/l	#	86
56) Dibromochloromethane	8.995	129	55629	9.22	ug/l		99
57) 1,2-Dibromoethane (EDB)	9.171	107	64618	10.02	ug/l		97
58) Chlorobenzene (SPCC)	9.798	112	182750	10.07	ug/l		95
59) 1,1,1,2-Tetrachloroethane	9.919	131	52947	9.26	ug/l	#	84
60) Ethylbenzene (CCC)	9.907	91	300863	9.81	ug/l		93
61) m- & -p Xylene	10.084	91	477016	20.06	ug/l		97
62) o-Xylene	10.655	91	245277	9.99	ug/l		96
63) Total Xylenes	10.084	91	477016	30.08	ug/l		97
64) Styrene	10.686	104	195406	10.48	ug/l		98
65) Isopropylbenzene	11.166	105	275013	10.15	ug/l		96
67) trans-1,4-Dichloro-2-b...	11.793	75	86319	9.49	ug/l	#	89
68) 1,2,3-Trichloropropane	11.793	75	86319	9.49	ug/l		92
69) Bromobenzene	11.671	77	122323	9.82	ug/l	#	65
70) n-Propylbenzene	11.781	91	311005	10.19	ug/l		94
71) 2-Chlorotoluene	12.128	91	222367	11.54	ug/l		97
72) 1,3,5-Trimethylbenzene	12.061	105	209398	10.35	ug/l		94
73) 4-Chlorotoluene	12.128	91	222367	10.27	ug/l		95
74) tert-Butylbenzene	12.535	119	157984	9.88	ug/l		96
75) Pentachloroethane	12.620	167	26412	8.78	ug/l	#	69
76) 1,2,4-Trimethylbenzene	12.633	105	204270	10.03	ug/l		94
77) sec-Butylbenzene	12.876	105	215548	10.46	ug/l		96
78) p-Isopropyltoluene (p-...	13.107	119	175181	10.14	ug/l		99
79) 1,3-Dichlorobenzene	13.107	146	114545	10.37	ug/l	#	93
80) 1,4-Dichlorobenzene	13.247	146	117079	10.21	ug/l	#	79
82) Bromoform (SPCC)	10.978	173	23199	8.03	ug/l		92
83) 1,1,2,2-Tetrachloroethane	11.714	83	82257	9.45	ug/l		98
84) n-Butylbenzene	13.752	91	141326	9.91	ug/l		96
86) 1,2-Dichlorobenzene	13.843	146	108969	9.79	ug/l	#	83
87) Hexachloroethane	14.147	117	23887	8.12	ug/l	#	70
88) 1,2-Dibromo-3-chloropr...	15.115	157	9656	9.10	ug/l		96
89) 1,2,4-Trichlorobenzene	16.337	180	43842	9.46	ug/l	#	91
90) Hexachlorobutadiene	16.520	225	15195	8.62	ug/l	#	85
91) Naphthalene	16.702	128	140429	10.55	ug/l		100
92) 1,2,3-Trichlorobenzene	17.037	180	38977	9.77	ug/l		89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDchem\1\DATA\181107\
Data File : 18110706.D
Acq On : 7 Nov 2018 4:00 pm
Operator : JF
Sample : JIDOC 4
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 07 16:36:23 2018
Quant Method : C:\MSDchem\1\METHODS\W8260110618.M
Quant Title : Charlie EPA 8260B
QLast Update : Wed Nov 07 15:09:59 2018
Response via : Initial Calibration



Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
DB	DB	5/1/19.
Method Number	**Matrix**	**SOP Document Control Number or Revision Number**
2540 E	☐ Water ☐ DW	020219-001
Analyte or Class of Analytes	☐ Solid ☐ Other: _____	
Volatile Solids in Waters		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona *Analyst*	David Barahona *Signature*	4/24/19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	4-24-19 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	5/1/19 *Date*

1 Consistent with supporting data.
Is Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIF IMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Water
DATE OF ANALYSIS:	4/24/2019
ANALYZED BY:	David Barahona
METHOD NUMBER:	SM2540E
EXTRACTION METHOD (IF APPLY):	SM 2540E
Oven ID 103-105°C	WET-12
Thermometer ID 103-105°C:	Wet-12 Digital
Dessicator ID:	Dess-3
Balance ID	WET-20
MuffleOven ID	WET-10
EXTRACTED BY:	David Barahona
DATE EXTRACTED:	4/19/2019
ACCEPTANCE CRITERIA:	80-120%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	58-WC-06	304 ppm
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	ppm	ppm	ppm	ppm	ppm	ppm			
Residue Volatile	304	310	295	309	323	309	3.70	102	11.44

TSS AND MLVSS CALCULATION SHEET WHEN USING ASHLESS FILTERS

		TSS, 103°C						VSS, 550°C					
LOG #	VOL, ml	Initial weight, g (filter)	Final weight, g, (filter+sample)	Final weight, g, (filter+sample)	Residue, (0.0025-0.2g)	TSS, mg/L	Final weight, g (filter+sample)	Final weight, g (filter+sample)	Volatile Residue, g	VSS, mg/L	FSS, mg/L	VSS %	% Rec
BLANK										#DIV/0!	#DIV/0!	#DIV/0!	
QC										#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
IDOC-DAB-1	100	0.1190	0.2141	0.2142	0.0952	952.0000	0.1836	0.1832	0.0310	310.0000	642.0	32.5630	102%
IDOC-DAB-2	100	0.1139	0.2109	0.2109	0.0970	970.0000	0.1816	0.1814	0.0295	295.0000	675.0	30.4124	97%
IDOC-DAB-3	100	0.1150	0.2101	0.2101	0.0951	951.0000	0.1794	0.1792	0.0309	309.0000	642.0	32.4921	102%
IDOC-DAB-4	100	0.1191	0.2125	0.2127	0.0936	936.0000	0.1803	0.1804	0.0323	323.0000	613.0	34.5085	106%
QC										#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
BLANK										#DIV/0!	#DIV/0!	#DIV/0!	

Document Control #: 0401216-022
Date: 9/13/16

TS/TVS/A: ogbook

SM2540B, SM2540E, SM2540G

Analyst:	DB
Run #:	
Date/Time:	4/19/19 13:37
Matrix:	L
Balance ID:	WET-20
Mufile(550±50°C) ID:	WET-10
Dessicator ID:	WET CHEM DESS-3
Oven(103-105°C) ID:	WET-12
Thermometer ID:	Digital
Oven(103-105°C) ID:	WET-39
Thermometer ID:	
Filters Lot#:	65-WL-22

%RPD = Sample - Dup / (Sample + Dup /2) *100

%RPD: _____

TS = (H(g) *1000)/C(Liters or kgrams)

TVS =(H-M)(g) * 1000)/C(Liters or kgrams)

ASH = I - N

Wt. Change = F-E*1000(mg) or F-E/E * 100(%)

QC Acceptance Criteria: 80-120%

%RPD≤20%

Dry Residue 2.5-200 mg

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
			Circle One		103-105 °C				Circle One	550 ± 50 °C				Circle One	Circle One
Log #	Sample ID	Dish ID	Mass: g Vol: mL	Dish Weight, g	Final weight, g	Final weight, g	Wt Change (mg or %)	Residue (F-D), g	TS, mg/L or mg/kg	Final weight, g	Final weight, g	Wt Change (mg or %)	Residue (K-D), g	TVS, mg/L or mg/kg	ASH, mg/L or mg/kg
BLANK															
QC															
DB IDOC 1	58-WC-06	MUSS 1	100	0.1190	0.2141	0.2142				0.1836	0.1832				
2		2	100	0.1139	0.2109	0.2109				0.1816	0.1814				
3		3	100	0.1150	0.2101	0.2101				0.1794	0.1792				
4		4	100	0.1191	0.2125	0.2127				0.1803	0.1804				
DUP															
QC															
BLANK															

Cycle	Date In	Time In	Temp. In (°C)*	Analyst	Date Out	Time Out	Temp. Out (°C)*	Analyst
1	4/19/19	13:37	105	DB	4/19/19	15:26	105	DB
2	4/22/19	12:01	105	DB	4/22/19	13:04	105	DB
3	4/23/19	14:23	544	DB	4/23/19	14:44	544	DB
4	4/23/19	16:37	544	DB	4/23/19	16:57	544	DB
5	4/24/19	10:55	544	DB	4/24/19	11:08	544	DB
6								
7								
8								

Comments FUNNEL WC-18

Temperature recorded is the temperature corrected

INITIAL DEMONSTRATION OF CAPABILITIES (SOIL)

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
David Barahona	-	12/20/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM 2540G	☐ Water ☐ DW ☑ Solid ☐ Other: _____	0201216-015
Analyte or Class of Analytes		
% solids		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona	*Analyst*	David Barahona	12/20/18
		Signature	*Date*
Sophia Andre	*Technical Director*	Sophia Andre	12-20-18
		Signature	*Date*
Roxana Llamblas	*Quality Assurance Director*	[signature]	12/20/18
		Signature	*Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capabilit,
__ Continuing Demostration of Capabilities

MATRIX:	SOIL
DATE OF ANALYSIS:	12/20/2018
ANALYZED BY:	David Barahona
METHOD NUMBER:	SM2540G
EXTRACTION METHOD (IF APPLY):	N/A
Instrument ID	WET-9
EXTRACTED BY:	N/A
DATE EXTRACTED:	N/A
ACCEPTANCE CRITERIA:	80-120%

Document Control #: 0401116-002

Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	988-S-GEN-06	30%
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{x}$	% RSD	% Recovery	SD
UNITS:	%	%	%	%	%	%			
% SOLIDS	30.0	29.7	25.7	26.7	26.8	27.2	6.23	90.7	1.695

-MOISTURE DETERMINATION-

METTLER-TOLEDO
Halogen MoistureAnalyzer
Type: HG63
SNR: 1129071790
SW: 2.10

Method: IDOC DB2
01
Switchoff mode F
5 mg / 30 sec
Standard drying
Drying temp. 105 °C
Display 100...0 %DC
Wet weight 1.105 g

Total time 11:34 min
Dry weight 0.284 g
End result 25.70 %DC

----12/20/18---16:0F

-MOISTURE DETERMINATION-

METTLER-TOLEDO
Halogen MoistureAnalyzer
Type: HG63
SNR: 1129071790
SW: IDOCDB1 2.10
Method:
01
Switchoff mode F
5 mg / 30 sec
Standard drying
Drying temp. 105 °C
Display 100...0 %DC
Wet weight 1.076 g

Total time 10:48 min
Dry weight 0.319 g
End result 29.65 %DC

----12/20/18---16:20----

-MOISTURE DETERMINATION-

METTLER-TOLEDO
Halogen MoistureAnalyzer
Type: HG63
SNR: 1129071790
SW: 2.10
Method: IDOC-DB-4
01
Switchoff mode F
5 mg / 30 sec
Standard drying
Drying temp. 105 °C
Display 100...0 %DC
Wet weight 1.037 g

Total time 11:21 min
Dry weight 0.278 g
d result 26.81 %DC

-MOISTURE DETERMINATION-

METTLER-TOLEDO
Halogen MoistureAnalyzer
Type: HG63
SNR: 1129071790
SW: 2.10
Method: IDOC DB3
01
Switchoff mode F
5 mg / 30 sec
Standard drying
Drying temp. 105 °C
Display 100...0 %DC
Wet weight 1.055 g

Total time 10:59 min
Dry weight 0.282 g
End result 26.73 %DC

----12/20/18---15:45----

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Estela Paz Martinez	Estela Paz Martinez	11/6/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 350.1	☑ Water ☑ DW ☑ Solid ☐ Other: _____	0201218-002
Analyte or Class of Analytes		
Ammonia		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Estela Paz Martinez *Analyst*	_____ *Signature*	11.06.18 *Date*
Sophie Andre *Technical Director*	_____ *Signature*	11-6-18 *Date*
Roxana Llambias *Quality Assurance Director*	_____ *Signature*	11/6/18 *Date*

[1] True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	11/6/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 350.1
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	WET-26
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard (s)	1016-S-GEN-08	1.0 mg/L
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Ammonia	1.00	0.984	0.984	0.977	0.981	0.98	0.34	98.2	0.00

Author: Lachat1

Date : 11/7/2018

Original Run Filename: OM_11-6-2018_09-42-54AM.OMN Created: 11/6/2018 9:42:54 AM
Original Run Author's Signature: [Lachat1]
Current Run Filename: OM_11-6-2018_09-42-54AM.omn Last Modified: 11/7/2018 10:19:30 AM
Current Run Author's Signature: [Lachat1]
Description: AMMONIA METHOD 350.1

Sample	Rep.	Cup No.	Channel 4 ammonia (mg N/L)	MDF	
ICB	1	90	0.0103		
		Calibration:	Table/Fig. : 1		
LCS TV=1.0MG/L	1	88	0.956	96%	
ICV=0.5MG/L	1	89	0.502	100%	
LCSD TV=1.0MG/L	1	88	0.988	99%	
18J0895-01A	1	1	3.91	XXX	
18J0895-01A DUP	1	2	3.89	XXX	rerun
18J0895-01A MS TV=1.0MG/L	1	86	4.35	XXX	rerun
18J0895-02A	1	3	2.34	XXX	rerun
18J0895-03A	1	4	1.02		
18J0895-05A	1	5	6.53	XXX	rerun
18J0945-02A	1	6	0.157		
18K0002-01A	1	7	0.0625		
18K0002-02A	1	8	0.0910		
18K0002-03A	1	9	0.0625		
18K0002-04A	1	10	0.0185		
CCV=1.0 MG/L	1	87	1.01	101%	
CCB	1	90	0.0125		
18K0003-01A	1	11	0.0551		
18K0003-01A MS TV=1.0MG/L	1	85	0.949	89%	
18K0003-02A	1	12	0.0124		
18K0003-03A	1	13	0.0204		
18K0003-04A	1	14	0.0190		
18K0056-01E	1	15	4.09	XXX	
18K0075-01A	1	16	0.382		
18J0895-01A	1	1	11.6	5.00	XXX
18J0895-01A	1	1	7.26	5.00	
18J0895-01A DUP	1	2	7.46	5.00	
18J0895-01A MS TV=1.0MG/L	1	86	11.2	5.00	79%
IDOC-EP 1 water	1	17	0.984	98%	
IDOC-EP 2	1	18	0.984	98%	
IDOC-EP 3	1	19	0.977	98%	
IDOC-EP 4	1	20	0.981	98%	
CCV=0.5MG/L	1	89	0.512		
CCB	1	90	0.0174		
SOIL BLK	1	83	0.457	10.00	out of phenolate
LCS TV=10MG/KG	1	82	10.6	10.00	out of phenolate
LCSD TV=10MG/KG	1	82	10.5	10.00	out of phenolate
18K0098-01A	1	21	4.57	10.00	out of phenolate
18K0098-01A DUP	1	22	4.26	10.00	out of phenolate
18K0098-01A MS TV=1.0MG/L	1	84	14.5	10.00	out of phenolate
18J0895-02A	1	3	2.50	2.00	out of phenolate
18J0895-05A	1	5	11.3	10.00	out of phenolate
18K0056-01E	1	15	2.32	5.00	out of phenolate

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	11/6/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 350.1
EXTRACTION METHOD (IF APPLY):	EPA 350.1
EXTRACTED BY:	EP
BALANCE ID:	WET-20
INSTRUMENT ID:	WET-26
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard (s)	1016-S-GEN-08	1mg/L
Surrogate	NA	NA
Internal Standard	NA	NA
Sand ID	SV-367	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg			
Ammonia	10.0	10.4	10.5	10.9	9.79	10.4	4.41	104	0.46

Author: Lachat1

Date : 11/28/2018

Original Run Filename: OM_11-6-2018_04-05-27PM.OMN Created: 11/6/2018 4:05:27 PM
Original Run Author's Signature: [Lachat1]
Current Run Filename: OM_11-6-2018_04-05-27PM.omn Last Modified: 11/28/2018 10:55:19 AM
Current Run Author's Signature: [Lachat1]
Description: AMMONIA RUN, METHOD 350.1

Sample	Rep.	Cup No.	Channel 4 ammonia (mg N/L)	MDF	
ICV=0.5MG/L	1	89	0.481		96.2 %
	Calibration:		Table/Fig. : 1		
CCB	1	90	-0.0339		
LCS TV=10MG/KG	1	82	9.55	10.00	95.5 %
SOIL BLK	1	83	0.525	10.00	
LCSD TV=10MG/KG	1	82	9.80	10.00	98 %
18K0098-01A	1	21	2.33	10.00	
18K0098-01A DUP	1	22	1.89	10.00	
18K0098-01A MS TV=1.0MG/L	1	84	13.7	10.00	
18J0895-02A	1	3	1.56	2.00	
18J0895-05A	1	5	9.32	10.00	
18K0056-01E	1	15	4.04	5.00	
IDOC-EP 1 soil 10 mg/kg	1	23	10.4	10.00	104 %
IDOC-EP 2 10 mg/kg	1	24	10.5	10.00	105 %
IDOC-EP 3 10 mg/kg	1	25	11.1	10.00	111 %
IDOC-EP 4 10 mg/kg	1	26	9.79	10.00	97.9 %
18J0895-02A	1	3	2.56	2.00	
CARRIER	1	81	0.0452		
IDOC-EP 1 soil 10 mg/kg	1	23	10.9	10.00	109 %
IDOC-EP 2 10 mg/kg	1	24	10.9	10.00	109 %
IDOC-EP 3 10 mg/kg	1	25	10.9	10.00	109 %
18J0895-02A	1	3	1.56	2.00	
CARRIER	1	81	0.0486		
IDOC-EP 1 soil 10 mg/kg	1	23	10.9	10.00	109 %
IDOC-EP 2 10 mg/kg	1	24	10.8	10.00	108 %
IDOC-EP 3 10 mg/kg	1	25	11.0	10.00	110 %
CCV=1.0 MG/L	1	87	1.02		102 %
CCB	1	90	-0.0494		
CCV=1.0 MG/L	1	87	1.02		102 %

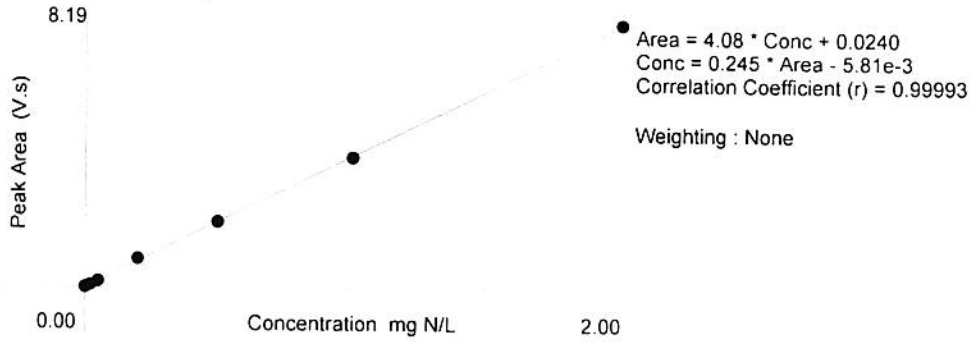
Table : 1 (ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	2.00	1	8.19	0.911	0.0	-0.2	2.00	7/5/2018	1:59:26 PM
2	1.00	1	4.06	0.461	0.0	1.1	0.989	7/5/2018	2:00:33 PM
3	0.500	1	2.05	0.234	0.0	0.6	0.497	7/5/2018	2:01:41 PM
4	0.200	1	0.910	0.104	0.0	-8.4	0.217	7/5/2018	2:07:29 PM
5	0.0500	1	0.209	0.0217	0.0	8.2	0.0455	7/5/2018	2:10:52 PM
6	0.0200	1	0.0939	0.0101	0.0	11.0	0.0172	7/5/2018	2:08:37 PM
7	0.00	1	0.0214	2.29e-3			-5.72e-4	7/5/2018	2:09:45 PM

Author: Lachat1

Date : 11/28/2018

Figure : 1 (ammonia)



Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (if Applicable)	Effective Date
Estela Paz Martinez	Estela Paz Martinez	11/6/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 350.1	☑ Water ☑ DW ☑ Solid ☐ Other: _____	0201218-002
Analyte or Class of Analytes		
Ammonia		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Estela Paz Martinez *Analyst*	_____ *Signature*	11.06.18 *Date*
Sophia Andre *Technical Director*	_____ *Signature*	11-6-18 *Date*
Roxana Llambias *Quality Assurance Director*	_____ *Signature*	11/6/18 *Date*

True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Liquid
DATE OF ANALYSIS:	11/6/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 350.1
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	WET-26
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard (s)	1016-S-GEN-08	1.0 mg/L
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
Ammonia	1.00	0.984	0.984	0.977	0.981	0.98	0.34	98.2	0.00

Author: Lachat1

Date : 11/7/2018

Original Run Filename: OM_11-6-2018_09-42-54AM.OMN Created: 11/6/2018 9:42:54 AM
Original Run Author's Signature: [Lachat1]
Current Run Filename: OM_11-6-2018_09-42-54AM.omn Last Modified: 11/7/2018 10:19:30 AM
Current Run Author's Signature: [Lachat1]
Description: AMMONIA METHOD 350.1

Sample	Rep.	Cup No.	Channel 4 ammonia (mg N/L)	MDF	
ICB	1	90	0.0103		
		Calibration:	Table/Fig. : 1		
LCS TV=1.0MG/L	1	88	0.956	96%	
ICV=0.5MG/L	1	89	0.502	100%	
LCSD TV=1.0MG/L	1	88	0.988	99%	
18J0895-01A	1	1	3.91	XXX	
18J0895-01A DUP	1	2	3.89	XXX	
18J0895-01A MS TV=1.0MG/L	1	86	4.35	XXX	rerun
18J0895-02A	1	3	2.34	XXX	
18J0895-03A	1	4	1.02		
18J0895-05A	1	5	6.53	XXX	rerun
18J0945-02A	1	6	0.157		
18K0002-01A	1	7	0.0625		
18K0002-02A	1	8	0.0910		
18K0002-03A	1	9	0.0625		
18K0002-04A	1	10	0.0185		
CCV=1.0 MG/L	1	87	1.01	101%	
CCB	1	90	0.0125		
18K0003-01A	1	11	0.0551		
18K0003-01A MS TV=1.0MG/L	1	85	0.949	89%	
18K0003-02A	1	12	0.0124		
18K0003-03A	1	13	0.0204		
18K0003-04A	1	14	0.0190		
18K0056-01E	1	15	4.09	XXX	
18K0075-01A	1	16	0.382		
18J0895-01A	1	1	11.6	5.00	XXX
18J0895-01A	1	1	7.26	5.00	
18J0895-01A DUP	1	2	7.46	5.00	
18J0895-01A MS TV=1.0MG/L	1	86	11.2	5.00	79%
IDOC-EP 1 water	1	17	0.984	98%	
IDOC-EP 2	1	18	0.984	98%	
IDOC-EP 3	1	19	0.977	98%	
IDOC-EP 4	1	20	0.981	98%	
CCV=0.5MG/L	1	89	0.512		
CCB	1	90	0.0174		
SOIL BLK	1	83	0.457	10.00	
LCS TV=10MG/KG	1	82	10.6	10.00	
LCSD TV=10MG/KG	1	82	10.5	10.00	
18K0098-01A	1	21	4.57	10.00	out of phenolate
18K0098-01A DUP	1	22	4.26	10.00	
18K0098-01A MS TV=1.0MG/L	1	84	14.5	10.00	
18J0895-02A	1	3	2.50	2.00	
18J0895-05A	1	5	11.3	10.00	
18K0056-01E	1	15	2.32	5.00	

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	11/6/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 350.1
EXTRACTION METHOD (IF APPLY):	EPA 350.1
EXTRACTED BY:	EP
BALANCE ID:	WET-20
INSTRUMENT ID:	WET-26
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard (s)	1016-S-GEN-08	1mg/L
Surrogate	NA	NA
Internal Standard	NA	NA
Sand ID	SV-367	NA

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg			
Ammonia	10.0	10.4	10.5	10.9	9.79	10.4	4.41	104	0.46

Author: Lachat1 Date : 11/28/2018

Original Run Filename: OM_11-6-2018_04-05-27PM.OMN Created: 11/6/2018 4:05:27 PM
Original Run Author's Signature: [Lachat1]
Current Run Filename: OM_11-6-2018_04-05-27PM.omn Last Modified: 11/28/2018 10:55:19 AM
Current Run Author's Signature: [Lachat1]
Description: AMMONIA RUN, METHOD 350.1

Sample	Rep.	Cup No.	Channel 4 ammonia (mg N/L)	MDF	
ICV=0.5MG/L	1	89	0.481		96.2 %
	Calibration:		Table/Fig. : 1		
CCB	1	90	-0.0339		
LCS TV=10MG/KG	1	82	9.55	10.00	95.5 %
SOIL BLK	1	83	0.525	10.00	
LCSD TV=10MG/KG	1	82	9.80	10.00	98 %
18K0098-01A	1	21	2.33	10.00	
18K0098-01A DUP	1	22	1.89	10.00	
18K0098-01A MS TV=1.0MG/L	1	84	13.7	10.00	
18J0895-02A	1	3	1.56	2.00	
18J0895-05A	1	5	9.32	10.00	
18K0056-01E	1	15	4.04	5.00	
IDOC-EP 1 soil 10 mg/kg	1	23	10.4	10.00	104 %
IDOC-EP 2 10 mg/kg	1	24	10.5	10.00	105 %
IDOC-EP 3 10 mg/kg	1	25	11.1	10.00	111 %
IDOC-EP 4 10 mg/kg	1	26	9.79	10.00	97.9 %
18J0895-02A	1	3	2.56	2.00	
CARRIER	1	81	0.0452		
IDOC-EP 1 soil 10 mg/kg	1	23	10.9	10.00	109 %
IDOC-EP 2 10 mg/kg	1	24	10.9	10.00	109 %
IDOC-EP 3 10 mg/kg	1	25	10.9	10.00	109 %
18J0895-02A	1	3	1.56	2.00	
CARRIER	1	81	0.0486		
IDOC-EP 1 soil 10 mg/kg	1	23	10.9	10.00	109 %
IDOC-EP 2 10 mg/kg	1	24	10.8	10.00	108 %
IDOC-EP 3 10 mg/kg	1	25	11.0	10.00	110 %
CCV=1.0 MG/L	1	87	1.02		102 %
CCB	1	90	-0.0494		
CCV=1.0 MG/L	1	87	1.02		102 %

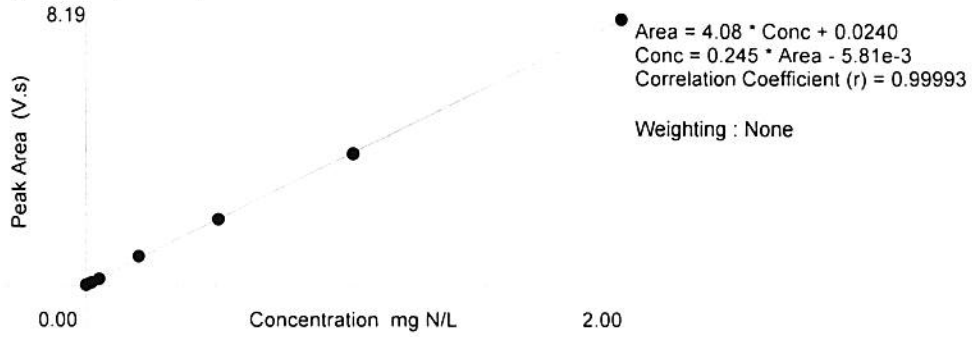
Table : 1 (ammonia)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	2.00	1	8.19	0.911	0.0	-0.2	2.00	7/5/2018	1:59:26 PM
2	1.00	1	4.06	0.461	0.0	1.1	0.989	7/5/2018	2:00:33 PM
3	0.500	1	2.05	0.234	0.0	0.6	0.497	7/5/2018	2:01:41 PM
4	0.200	1	0.910	0.104	0.0	-8.4	0.217	7/5/2018	2:07:29 PM
5	0.0500	1	0.209	0.0217	0.0	8.2	0.0455	7/5/2018	2:10:52 PM
6	0.0200	1	0.0939	0.0101	0.0	11.0	0.0172	7/5/2018	2:08:37 PM
7	0.00	1	0.0214	2.29e-3			-5.72e-4	7/5/2018	2:09:45 PM

Author: Lachat1

Date : 11/28/2018

Figure : 1 (ammonia)



Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (if Applicable)	Effective Date
Oswald R. Chinkoo	Oswald R. Chinkoo	10-19-18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 9056	☐ Water ☐ DW ■ Solid ☐ Other: _____	0201217-005
Analyte or Class of Analytes		
Br, Cl, F, NO_3, NO_2, NOx OPO_4, SO_4		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Oswald R. Chinkoo *Analyst*	*Signature*	10-19-18 *Date*
Sophia Andre *Technical Director*	*Signature*	10-19-18 *Date*
Roxana Llamblas *Quality Assurance Director*	*Signature*	10/19/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Soil
DATE OF ANALYSIS:	10/17/2018
ANALYZED BY:	OC
METHOD NUMBER:	EPA 9056
EXTRACTION METHOD (IF APPLY):	EPA 9056
INSTRUMENT ID:	WET-1 (Jupiter)
BALANCE ID:	WET-42
EXTRACTED BY:	OC
DATE EXTRACTED:	10/16/2018
ACCEPTANCE CRITERIA:	90-110%

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)		
Fluoride	1004-S-GEN-18	2.5 ppm
Chloride		50 ppm
Nitrite		7.5 ppm
Bromide		5 ppm
Nitrate		7.5 ppm
Phosphate		5 ppm
Nitrate-Nitrite		15 ppm
Sulfate		50 ppm
SAND ID:	SV-367	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
Fluoride	25	26.0	26.0	26.1	26.1	26.1	0.22	104	0.06
Chloride	500	506	505	506	505	506	0.11	101	0.58
Nitrite	75	76.0	76.0	76.4	75.8	76.1	0.33	101	0.25
Bromide	50	52.6	52.2	52.9	52.3	52.5	0.60	105	0.32
Nitrate	75	78.5	78.4	78.6	78.3	78.5	0.16	105	0.13
Phosphate	50	53.2	53.3	53.3	52.9	53.2	0.36	106	0.19
Sulfate	500	536	536	535	536	536	0.09	107	0.50
Nitrate-Nitrite	150	154	154	155	154	154	0.32	103	0.50

Florida Spectrum Environmental Services, Inc.

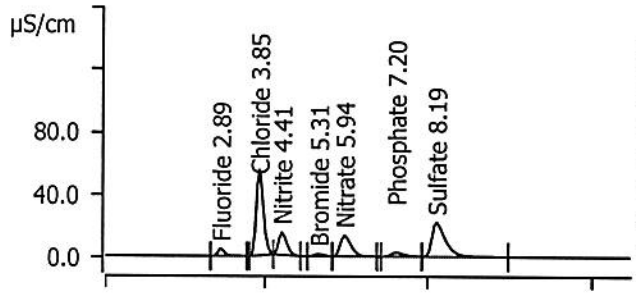
Summary Report

2018-10-19 1:09:52

Sample data

Ident IDOC-OC1 9056 X10
Sample type . . . . . Sample
Determination start 2018-10-17 11:41:05
User . . . . . Douglas G Knapp

Anions



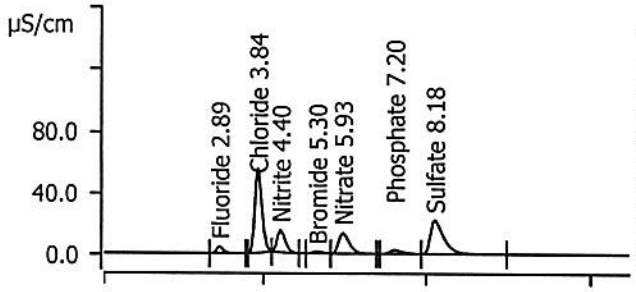
Component	On-Column Conc. mg/L	Final Concentration mg/L	
Fluoride	2.603	26.034	104 %
Chloride	50.564	505.636	101 %
Nitrite	7.595	75.955	101 %
Bromide	5.256	52.563	105 %
Nitrate	7.846	78.458	105 %
Phosphate	5.318	53.177	106 %
Sulfate	53.554	535.545	107 %

Bench DF:10 Dosino DF: 1 Total DF: 10.00 Quant. Method: JUPITER 23-091818

Sample data

Ident . . . . . LCSD /IDOC-OC2 9056 X10
Sample type . . . . . Sample
Determination start 2018-10-17 11:57:08
User . . . . . Douglas G Knapp

Anions



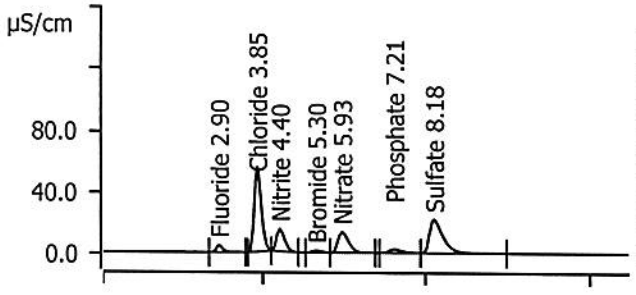
Component	On-Column Conc. mg/L	Final Concentration mg/L	
Fluoride	2.597	25.965	104 %
Chloride	50.484	504.840	101 %
Nitrite	7.596	75.961	101 %
Bromide	5.223	52.234	104 %
Nitrate	7.838	78.385	105 % 105 x
Phosphate	5.334	53.340	107 % 107
Sulfate	53.608	536.080	107 %

Bench DF:10 Dosino DF: 1 Total DF: 10.00 Quant. Method: JUPITER 23-091818

Sample data

Ident IDOC-OC3 9056 X10
Sample type . . . . . Sample
Determination start 2018-10-17 12:13:11
User . . . . . Douglas G Knapp

Anions



Component	On-Column Conc. mg/L	Final Concentration mg/L	
Fluoride	2.608	26.078	104 %
Chloride	50.628	506.275	101 %
Nitrite	7.637	76.365	102 %
Bromide	5.293	52.927	106 %
Nitrate	7.860	78.601	105 %
Phosphate	5.329	53.292	107 %
Sulfate	53.544	535.438	107 %

Bench DF:10 Dosino DF: 1 Total DF: 10.00 Quant. Method: JUPITER 23-091818

Metrohm

+ OC
10/19/18

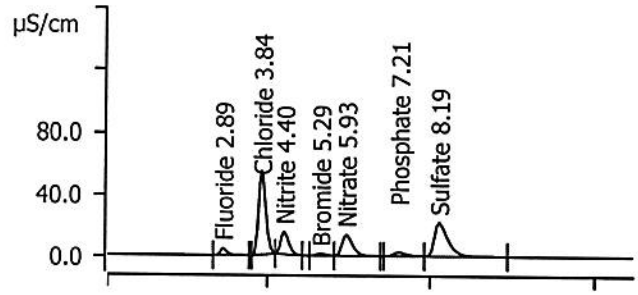
Summary Report

2018-10-19 1:09:52

Sample data

Ident IDOC-OC4 9056 X10
Sample type . . . . . Sample
Determination start 2018-10-17 12:29:14
User . . . . . Douglas G Knapp

Anions



Component	On-Column Conc. mg/L	Final Concentration mg/L	
Fluoride	2.607	26.073	104%
Chloride	50.467	504.672	101%
Nitrite	7.583	75.826	101%
Bromide	5.225	52.248	105%
Nitrate	7.834	78.339	104%
Phosphate	5.294	52.944	106%
Sulfate	53.631	536.305	107%

Bench DF:10 Dosino DF: 1 Total DF: 10.00 Quant. Method: JUPITER 23-091818

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Angel Reyes	Angel Reyes	9/21/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 9045	☐ Water ☐ DW ☐ Solid ☐ Other:_____	0201216-018
Analyte or Class of Analytes		
Corrosivity (pH)		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Angel Reyes *Analyst*	 *Signature*	9/21/18 *Date*
Sophia Andre *Technical Director*	 *Signature*	9/21/18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	9/21/18 *Date*

[1] True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Soil
DATE OF ANALYSIS:	9/20/2018
ANALYZED BY:	Angel Reyes
METHOD NUMBER:	EPA 9045
EXTRACTION METHOD (IF APPLY):	EPA 9045
INSTRUMENT ID:	WET-4
BALANCE ID	WET-20
EXTRACTED BY:	Angel Reyes
DATE EXTRACTED:	9/20/2018
ACCEPTANCE CRITERIA:	97.5-102.5%

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	50-WC-19	4.01 pH units
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	pH Units	pH Units	pH Units	pH Units	pH Units	pH Units			
Corrosivity (pH)	4.01	4.02	3.99	3.99	3.99	4.00	0.38	100	0.01

pH Logbook
SM4500H+B /EPA 9045

Analyst:	JA / AR
Date:	9/20/18
Run #	18I0658
Instrument ID	Wet-4
Balance	* ~~N/A~~ Wet-20
Balance Cal Date	* ~~N/A~~ 9/20/18

Calibration Table		Slope:	98%	Calibration Time:	16:30
Point#	Nominal pH	Measured pH	Buffer Vendor	Lot#	Expiration Date
1	4.00	4.01	BDH	57-WC-24	9/01/19
2	7.00	7.00	BDH	52-WC-21	2/19
3	10.00	10.00	BDH	55-WC-22	10/18

Acceptance Criteria
97.5-102.5%

LCN	Description	Matrix	pH	Temperature Corrected (°C)	Soil Preparation Time	Analysis time	Soil Weight /Volume (g/mL)	Comments
BLANK	DI H2O	L	5.18	24.7		16:30		
LCS	50-WC-19	↓	3.97	24.3		↓		
DUP 18I0172-0	WRBC	S	6.73	25.7	14:00		20g/20ml	
IDOC 1 AR	50-WC-19	↓	4.02	25.2	↓			SAND SV-488
IDOC 2 AR	50-WC-19		3.99	25.6	—			↓
IDOC 3 AR	50-WC-19		3.99	25.7	—			SAND SV-488
IDOC 4 AR	50-WC-19	↓	3.99	25.7	—	↓		
18I0129-0	Margate	S	6.65	23.8	14:00	16:30	20g/20ml	
18I0172-0	WRBC	↓	6.79	23.7	↓	↓	20g/20ml	
18I0658-01B	Composite	S	12.86	24.2	12:00	13:30	15g/15ml	9/21/18
18I0655-01A	Blue Heron	S	7.80	24.8	~~13:39 12:00~~ *	13:30	~~10g/~~ *	9/21/18
BLANK	DI H2O	L	5.13	24.8		16:30	-	
CCV	57-WC-24	↓	3.99	25.3		↓		
BLANK								
CCV								

* AR. 09/21/18

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	Sophia Andre	4/6/2020
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 9012	☐ Water ☐ DW ☑ Solid ☐ Other: _____	0201218-001
Analyte or Class of Analytes		
Cyanide		

We, the undersigned, CERTIFY that:

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3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	4/6/2020 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	4/6/2020 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	4/6/2020 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	4/6/2020
ANALYZED BY:	SA
METHOD NUMBER:	EPA 9012
EXTRACTION METHOD (IF APPLY):	EPA 9012
INSTRUMENT ID:	WET-47
BALANCE ID:	WET-20
DISTILLATION UNIT:	CNBlock Digester 1
EXTRACTED BY:	SA
DATE EXTRACTED:	4/6/2020
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	1230-S-GEN-09	0.2 ppm
Surrogate		
Internal Standard		

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg			
Cyanide	2.40	2.48	2.43	2.45	2.46	2.46	0.85	102	0.0208

CN DISTILLATION LOGBOOK
FLEN EPA 335.4/SM 4500 CN E/SM 4500 CN G/SW 846 9012

Analyst	SA
Date	4-6-20
Releasing Solution ID	1292-R-Cen-12
0.25N NaOH ID	1286-R-Cen-11
Sulfamic Acid ID	–
Cadmium Carbonate ID	–
Ascorbic Acid ID	–
NaOH conc. ID	–
(H2O2) ID	–
Ca(OCl)2 ID	–
Na2S2O3 ID	–

Sand ID	SV-523
pH paper Lot#	63-WC-16
Lead Acetate Lot #	49-WC-05
KI starch paper Lot #	49-WC-04
Distillation Tubes ID	69-WC-23
5 mL pippet ID	005
1 mL pippet ID	D1
Distillation Unit ID (120°C)	CN Block Digester 1
Balance ID	wet-20

Log #	Sample ID	Matrix	pH	Volume/mass used, ml/g	Presence of $S^{=}$	Presence of Cl^{-}	Comments
Std 1	1230-S-Cen-06	L	712	6 mL	–	–	
2	1230-S-Cen-07	↓	↓	↓	–	–	
3	1230-S-Cen-08	↓	↓	↓	–	–	
Blk	DI	↓	↓	↓	–	–	
LCS	1230-S-Cen-09	↓	↓	↓	–	–	
IDOC-SA-1	sand + 1230-S-Cen-09	S	–	0.5011 g	–	–	
IDOC-SA-2	sand + 1230-S-Cen-09	↓	–	0.5025 g	–	–	
IDOC-SA-3	sand + 1230-S-Cen-09	↓	–	0.5019 g	–	–	
IDOC-SA-4	sand + 1230-S-Cen-09	↓	–	0.5017 g	–	–	

Document Control #: 0401218-004
Revision : 1
Date:6/21/18

Author: wetchem

Date : 4/6/2020

Original Run Filename: OM_4-6-2020_04-15-52PM.OMN Created: 4/6/2020 4:15:52 PM
Original Run Author's Signature: [wetchem]
Current Run Filename: OM_4-6-2020_04-15-52PM.omn Last Modified: 4/6/2020 4:51:48 PM
Current Run Author's Signature: [wetchem]
Description: EPA 335.4 SM 4500 CN-E

Sample	Rep.	Cup No.	Channel 1 Cyanide	MDF	
Cal Std TV=0.5MG/L	1	49	0.500		
Cal Std TV=0.25 MG/L	1	57	0.250		
Cal Std TV=0.1 MG/L	1	59	0.100		
Cal Std TV=0.05 MG/L	1	50	0.0500		
Cal Std TV=0.01 MG/L	1	51	0.0100		
Cal Std TV=0.005 MG/L	1	52	5.00e-3		
Cal Std TV=0.0MG/L	1	60	0.00		
Cal Std TV=0.5MG/L	1	49	0.500		
Cal Std TV=0.005 MG/L	1	52	5.00e-3		
Cal Std TV=0.01 MG/L	1	51	0.0100		
Cal Std TV=0.5MG/L	1	49	0.500		
Cal Std TV=0.01 MG/L	1	51	0.0100		
Cal Std TV=0.005 MG/L	1	52	5.00e-3		
Cal Std TV=0.05 MG/L	1	50	0.0500		
CCB	1	60	-6.82e-4		
		Calibration:	Table/Fig. : 1		
ICV/LCS TV=0.20 MG/L	1	58	0.203	102%	
CCV= 0.1MG/L	1	59	0.106	106%	
IDOC-SA-SOIL-1 TV=2.4MG/KG	1	1	2.48	11.97	103%
~~IDOC-SA-SOIL-2 TV=2.4MG/KG~~	~~1~~	~~1~~	~~2.48~~	~~11.94~~	wrong cup, rerun
IDOC-SA-SOIL-2 TV=2.4MG/KG	1	2	2.43	11.94	101%
IDOC-SA-SOIL-3 TV=2.4MG/KG	1	3	2.45	11.95	102%
IDOC-SA-SOIL-4 TV=2.4MG/KG	1	4	2.94	11.96	
CCV 0.25 MG/L	1	57	0.224		clogged sample line.
BLK	1	60	2.16		
IDOC-SA-SOIL-4 TV=2.4MG/KG	1	4	1.70	11.96	
CCV 0.25 MG/L	1	57	0.268		
IDOC-SA-SOIL-4 TV=2.4MG/KG	1	4	2.46	11.96	102%
CCV 0.25 MG/L	1	57	0.261	104%	
BLK	1	60	-6.55e-3		

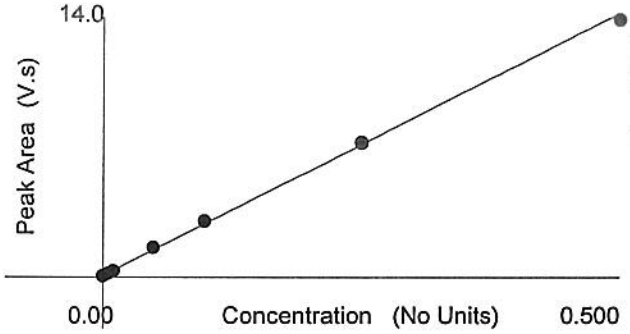
Table : 1 (Cyanide)

	Known Conc. ()	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc ()	Detection Date	Detection Time
1	0.500	1	14.0	0.966	0.0	2.5	0.487	4/6/2020	4:27:44 PM
2	0.250	1	7.33	0.497	0.0	-1.3	0.253	4/6/2020	4:17:53 PM
3	0.100	1	3.09	0.214	0.0	-5.2	0.105	4/6/2020	4:18:50 PM
4	0.0500	1	1.65	0.115	0.0	-9.2	0.0548	4/6/2020	4:30:42 PM
5	0.0100	1	0.347	0.0246	0.0	3.6	9.55e-3	4/6/2020	4:28:43 PM
6	5.00e-3	1	0.210	0.0148	0.0	3.2	4.77e-3	4/6/2020	4:29:43 PM
7	0.00	1	0.0670	5.78e-3			-2.05e-4	4/6/2020	4:22:46 PM

Author: wetchem

Date : 4/6/2020

Figure : 1 (Cyanide)



Area = 28.7 * Conc + 0.0733
Conc = 0.0348 * Area - 2.54e-3
Correlation Coefficient (r) = 0.99993

Weighting : 1/x

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	7/12/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8011	☐ Water ☐ DW ☑ Solid ☐ Other: _____	0201418-011
Analyte or Class of Analytes		
EDB / DBCP		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

---

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet / Estela	Yanet / Estela	7/2/18
Analyst	*Signature*	*Date*
Albert Castellanos	Albert Castellanos	7/2/18
Technical Director	*Signature*	*Date*
Roxana Llambias	Roxana Llambias	7/12/18
Quality Assurance Director	*Signature*	*Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	6/29/2018
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 8011
EXTRACTION METHOD (IF APPLY):	EPA 8011
INSTRUMENT ID:	Claudia GC#5
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	6/29/2018
ACCEPTANCE CRITERIA:	60-140%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
Standard(s)	1800546	20 ppm
Surrogate	1800218	50 ppm
Internal Standard	NA	NA

Compound	TRUE Value	DOC 1 F06292018_09	DOC 2 F06292018_10	DOC 3 F06292018_11	DOC 4 F06292018_12	_ X	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
EDB	0.250	0.234	0.246	0.250	0.247	0.24	2.9	97.7	0.01
DBCP	0.250	0.240	0.248	0.230	0.246	0.24	3.4	96.4	0.01

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06292018\
Data File : F06292018_09.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 29 Jun 2018 5:55 pm
Operator : YE
Sample : ~~8011 S IDOC #1~~
Misc : 8011 SOIL IDOC YANET/ESTELLA
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 02 09:33:50 2018
Quant Method : C:\MSDCHEM\1\METHODS\C801104192018.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Fri Apr 20 14:46:34 2018
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.28	2.91	111.0E6	20915895	0.234m	0.260m
2)	BFB	3.64	4.30	1319.7E6	98642054	83.966	50.295 #
3)	DBCP	6.19	7.77	314.4E6	22221454	0.345m	0.240m#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

EDB. $0.234 \cdot \left(\frac{Vf}{Vi} = \frac{35}{35.03}\right) = 0.2337 = \underline{0.234}$

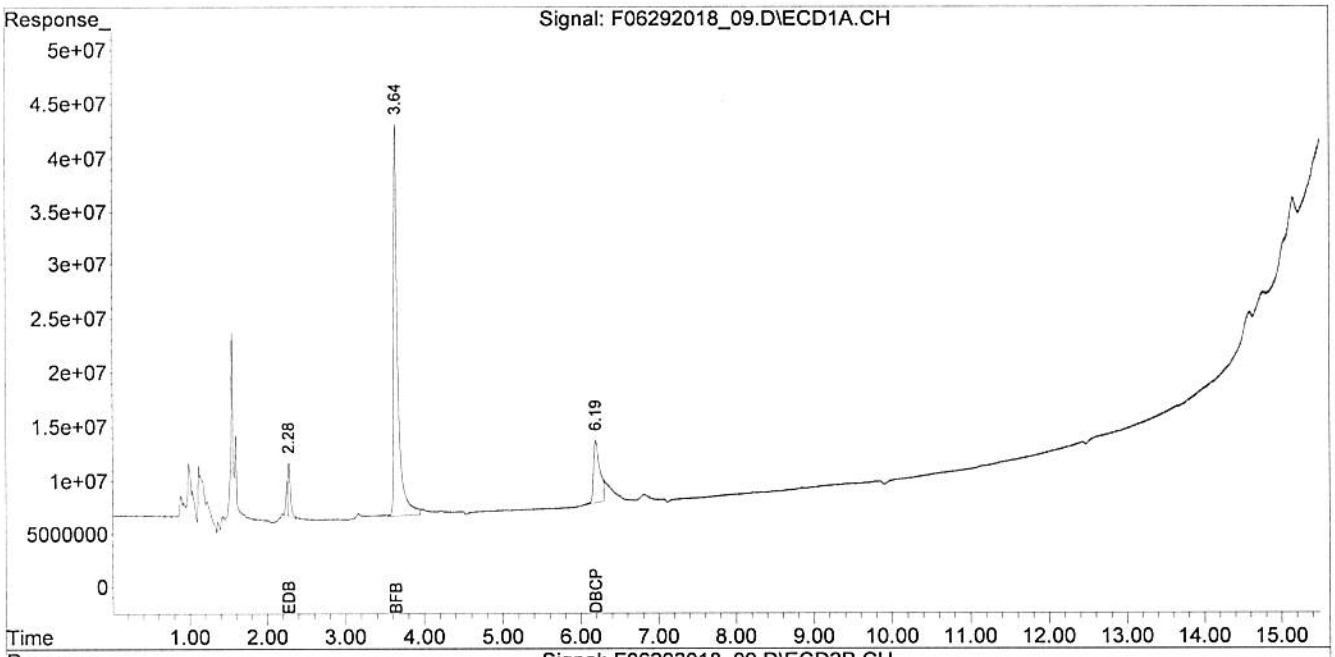
DBCP. $0.240 \cdot \left(\frac{Vf}{Vi} = \frac{35}{35.03}\right) = 0.2398 = \underline{0.240}$

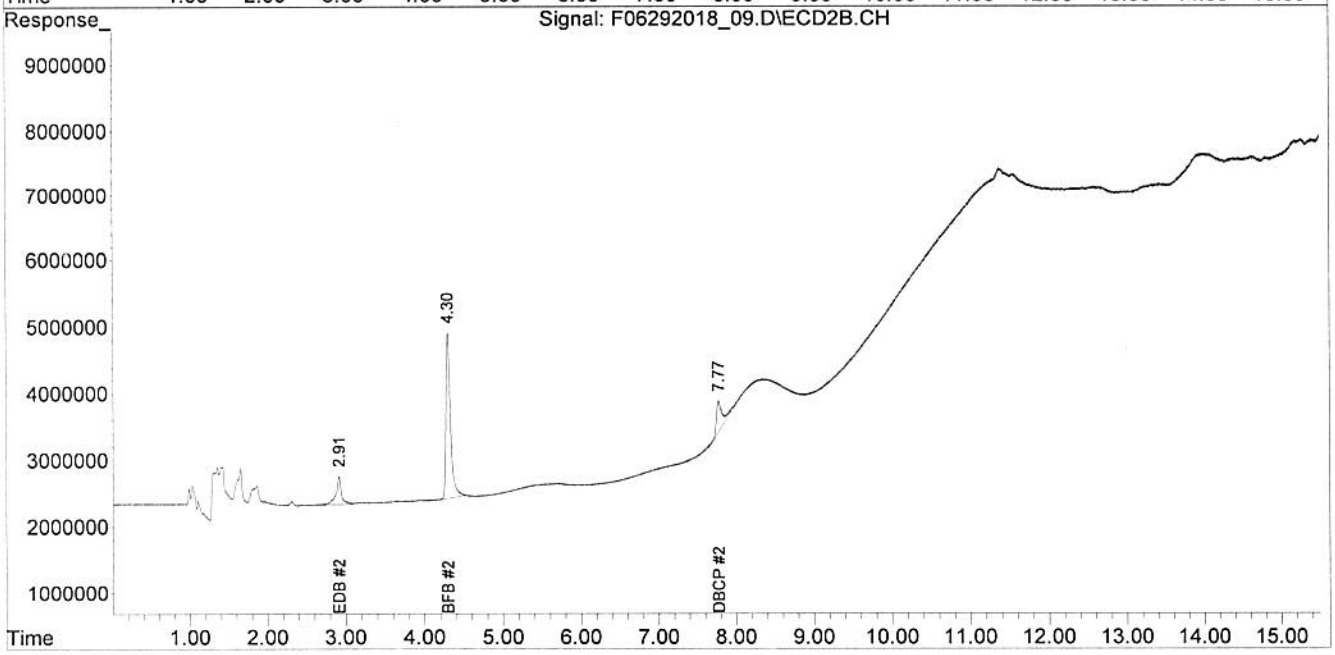
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06292018\
Data File : F06292018_09.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 29 Jun 2018 5:55 pm
Operator : YE
Sample : 8011 S IDOC #1
Misc : 8011 SOIL IDOC YANET/ESTELLA
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 02 09:33:50 2018
Quant Method : C:\MSDCHEM\1\METHODS\C801104192018.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Fri Apr 20 14:46:34 2018
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06292018\
Data File : F06292018_10.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 29 Jun 2018 6:17 pm
Operator : YE
Sample : 8011 S IDOC #2
Misc : 8011 SOIL IDOC YANET/ESTELLA
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 02 09:34:46 2018
Quant Method : C:\MSDCHEM\1\METHODS\C801104192018.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Fri Apr 20 14:46:34 2018
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.28	2.91	95779108	19872434	0.202m	0.246m
2)	BFB	3.64	4.30	1277.4E6	95672672	81.273	48.781 #
3)	DBCP	6.19	7.77	309.1E6	23106655	0.339m	0.248m#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

EDB - $0.246 \cdot \left(\frac{35}{35}\right) = 0.246$

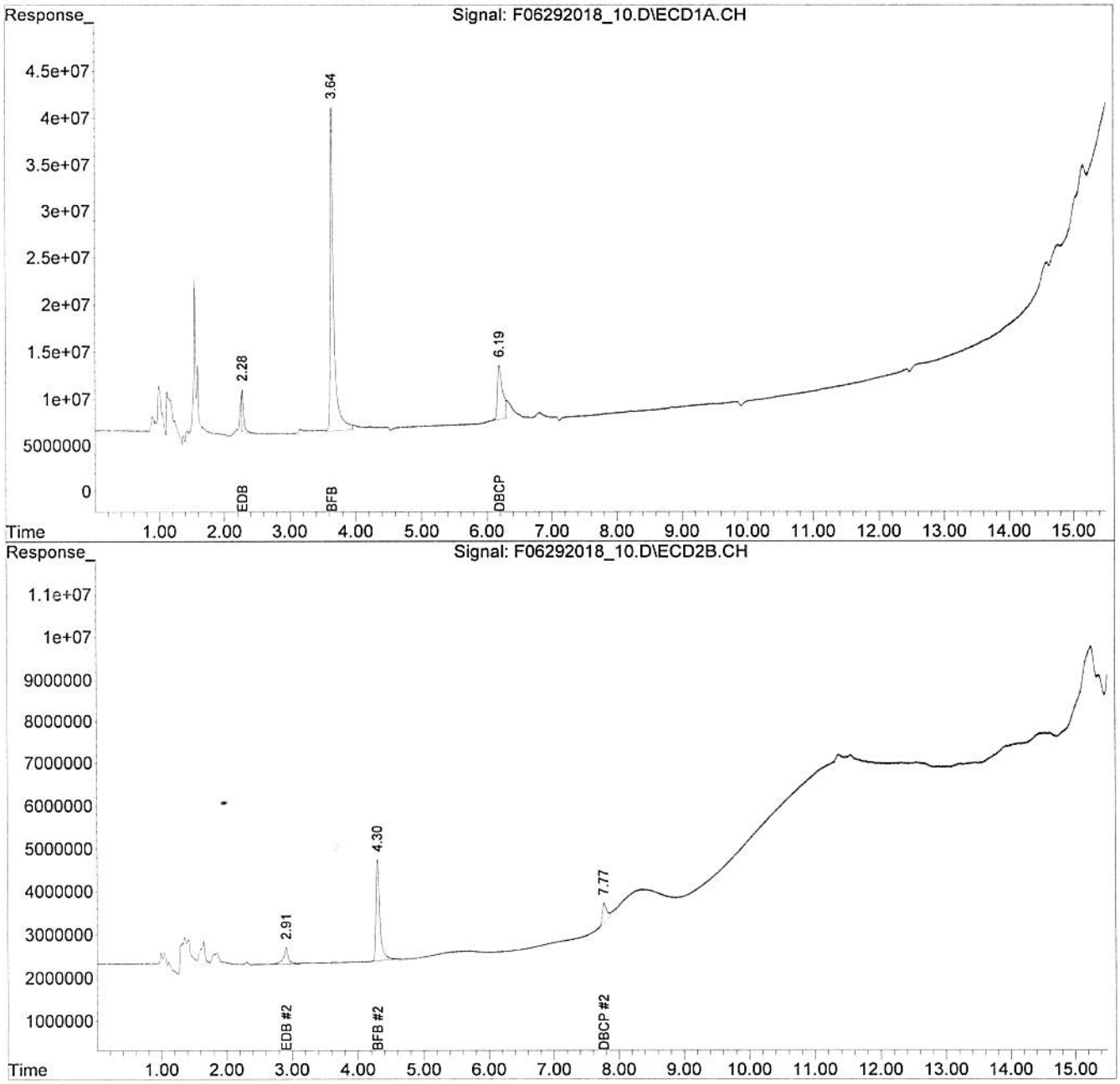
DBCP - $0.248 \cdot \left(\frac{35}{35}\right) = 0.248$

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06292018\
Data File : F06292018_10.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 29 Jun 2018 6:17 pm
Operator : YE
Sample : 8011 S IDOC #2
Misc : 8011 SOIL IDOC YANET/ESTELLA
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 02 09:34:46 2018
Quant Method : C:\MSDCHEM\1\METHODS\C801104192018.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Fri Apr 20 14:46:34 2018
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06292018\
Data File : F06292018_11.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 29 Jun 2018 6:39 pm
Operator : YE
Sample : 8011 S IDOC #3
Misc : 8011 SOIL IDOC YANET/ESTELLA
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 02 09:36:11 2018
Quant Method : C:\MSDCHEM\1\METHODS\C801104192018.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Fri Apr 20 14:46:34 2018
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.27	2.91	115.2E6	20172700	0.243m	0.250m
2)	BFB	3.64	4.30	1287.4E6	94554870	81.912	48.211 #
3)	DBCP	6.19	7.77	287.3E6	21236694	0.315m	0.230m#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

EDB — $0.250 \cdot \left(\frac{Vf}{\frac{35}{34.56}}\right) = 0.253 = \underline{0.250}$

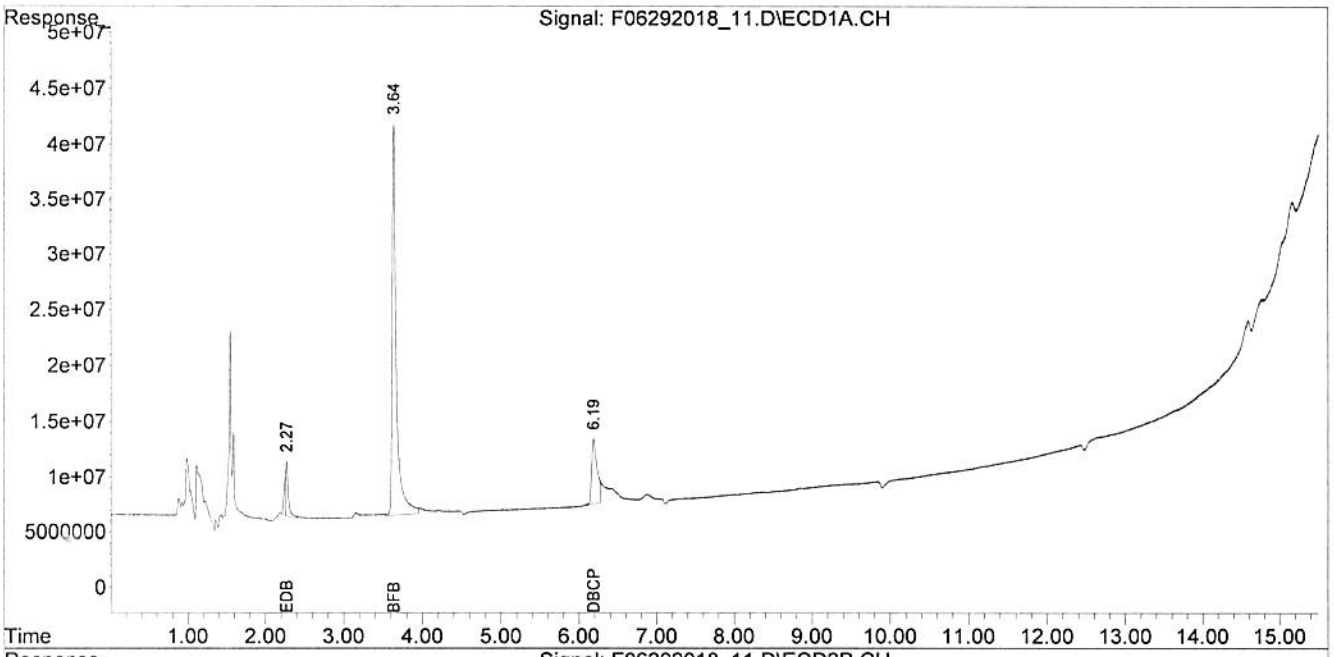
DBCP — $0.230 \cdot \left(\frac{Vf}{\frac{35}{34.16}}\right) = 0.2302 = \underline{0.230}$

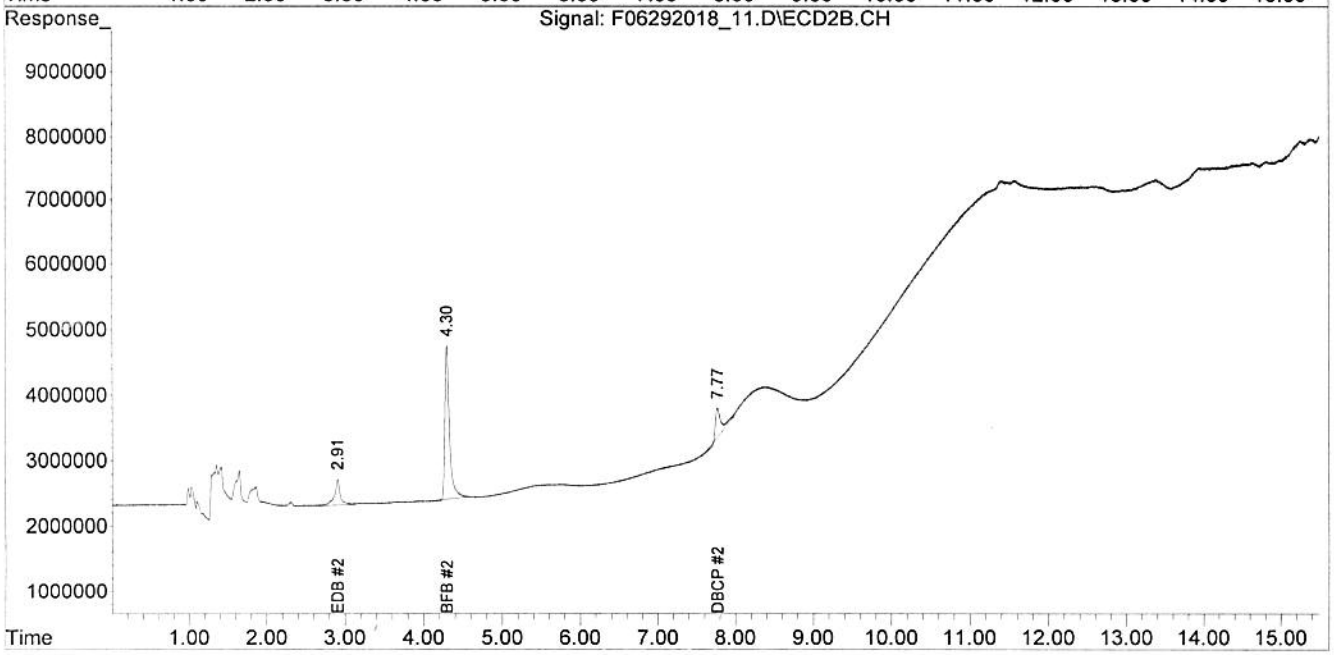
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06292018\
Data File : F06292018_11.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 29 Jun 2018 6:39 pm
Operator : YE
Sample : 8011 S IDOC #3
Misc : 8011 SOIL IDOC YANET/ESTELLA
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 02 09:36:11 2018
Quant Method : C:\MSDCHEM\1\METHODS\C801104192018.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Fri Apr 20 14:46:34 2018
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06292018\
Data File : F06292018_12.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 29 Jun 2018 7:02 pm
Operator : YE
Sample : 8011 S IDOC #4
Misc : 8011 SOIL IDOC YANET/ESTELLA
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 02 09:37:31 2018
Quant Method : C:\MSDCHEM\1\METHODS\C801104192018.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Fri Apr 20 14:46:34 2018
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Target Compounds						
1)	EDB	2.26	2.90	97437098	19989408	0.205m	0.247m
2)	BFB	3.63	4.29	1506.1E6	95878914	95.824	48.886 #
3)	DBCP	6.19	7.77	216.3E6	22902605	0.237m	0.246m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

EDB - $0.247 \cdot \left(\frac{35}{35.01}\right) = 0.2469 = 0.247$

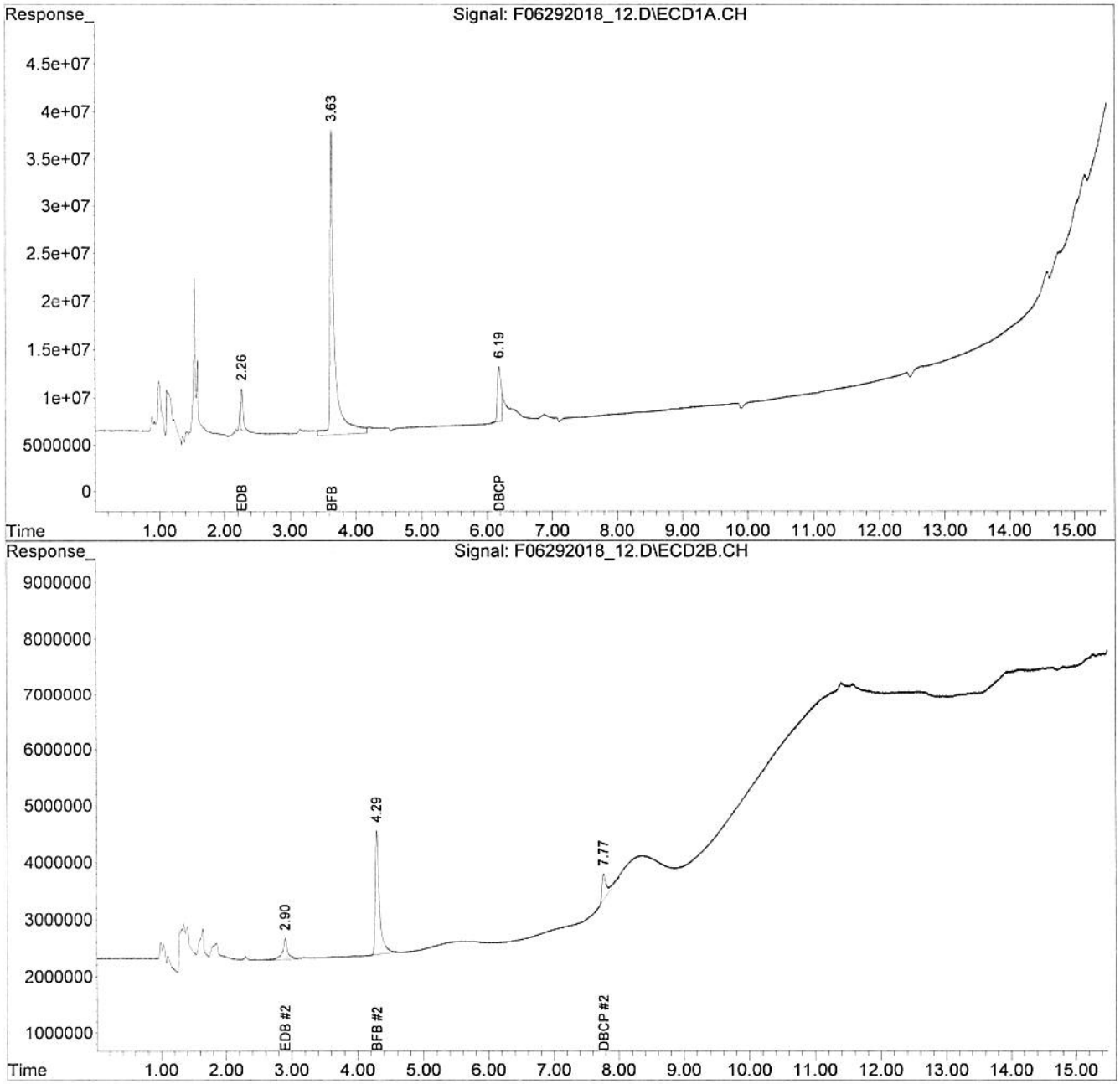
DBCP - $0.246 \cdot \left(\frac{35}{35.01}\right) = 0.2459 = 0.246$

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06292018\
Data File : F06292018_12.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 29 Jun 2018 7:02 pm
Operator : YE
Sample : 8011 S IDOC #4
Misc : 8011 SOIL IDOC YANET/ESTELLA
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Jul 02 09:37:31 2018
Quant Method : C:\MSDCHEM\1\METHODS\C801104192018.M
Quant Title : EPA 8011 BY CLAUDIA GC#5
QLast Update : Fri Apr 20 14:46:34 2018
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Liquid Extraction Log

Method # 504.1 / 8011 -S

	Std. ID	Amt. Added	Initials
Surrogate	1800218	35ul	EP
ICV Spike			
Curve Spike			
Check Std. Spk			

Florida Environmental

Batch#: 18F0888
Analyst: AC + YE
Date: 6-29-18

Init. Solvent: Hexane
Fin. Solvent: Hexane.
Transferred by: EP/AC

Order #	Sample ID	Sample Date	Volume Extracted (ml)	PH I	PH F	Final Vol (ml)	Cl	Weight (g) I	Weight (g) F	Comments
18F0888	MB	6-29-18	34.98	7	7	2	0	63.21	28.23	
18C0006-02A	~~LPC~~ MDL #1	6-29-18	35.00	↓	↓	↓	↓	63.97	28.97	Added 35ul OF 1.50 ML OF Spike (1800222) /100ml (HEXH).
	~~LCS~~									SV06 29 18C)
	~~MS~~									
	~~MSD~~									
	~~ICV~~									
	~~Sample DUP~~									
	IDOC #1	6-29-18	35-03	7	7	2	0	63.72	28.69	Added 35ul OF 1.25mL (1800540) /100ml (HEXH). (SV06 29 18d)
	IDOC #2	6-29-18	35-00	↓	↓	↓	↓	64.18	29.18	
	IDOC #3	6-29-18	34.96	↓	↓	↓	↓	64.01	29.05	
	IDOC #4	6-29-18	35-01	↓	↓	↓	↓	63.42	28.41	↓

Item	SVT#
1.8ml Vials	539
1.8ml Vial Caps	544
Pipette:	520
Hexane	541
NaCl	1660002001
pH Strips	216017
Chlorine Strips	7360202015
Centrifuge	SVT-3
Balance	SV-24
Balance Cal Date	6-29-18
SAnd ID	SV488

I = Initial, F= Final

Document Control #: 0401416-003
Date: 9/14/16

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800218

Description:	SU-504.1/8011-041818	Expires:	4/18/2019
Standard Type:	Surrogate Spike	Prepared:	4/18/2018
Solvent:	MEOH	Prepared By:	Yanet Echevarria 2
Final Volume (mls):	50	Department:	SVOCGC
Vials:	1	Last Edit:	04/18/2018 10:39 by YE
Vendor:	N/A	Lot Number:	VOC-237-02

Analyte	CAS Number	Concentration	Units
4-Bromofluorobenzene	460-00-4	50	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1800217	ISU-504.1-8011-041818	04/18/201	Yanet Echevarria 2	04/18/201	04/18/2018 10:36 by YE	1.25

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800546

Description:	PDS-IQ-504.1/8011-062718	Expires:	4/18/2019
Standard Type:	Analyte Spike	Prepared:	6/27/2018
Solvent:	MEOH	Prepared By:	Yanet Echevarria 2
Final Volume (mls):	50	Department:	SVOCGC
Vials:	1	Last Edit:	07/09/2018 12:53 by YE
Vendor:	N/A	Lot Number:	VOC-237-02

Analyte	CAS Number	Concentration	Units
1,2-Dibromoethane	106-93-4	20	ug/mL
1,2-Dibromo-3-chloropropane	96-12-8	20	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1800219	IQ-504.1/8011-041818	04/18/201	Yanet Echevarria 2	04/18/201	04/18/2018 11:16 by YE	1

Reviewed By _____ Date _____

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	12/15/17
Method Number EPA 8270 EPA 3550	**Matrix** ☐ Water ☐ DW ☑ Solid ☐ Other: _____	**SOP Document Control Number or Revision Number:** 8270 - 0201416-013 3550 - 0201416-005
Analyte or Class of Analytes Extractable Organics		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet / Estela *Analyst*	Yanet / Estela *Signature*	8/10/17 *Date*
Albert Castellanos *Technical Director*	 *Signature*	8/10/17 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	12/15/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

X Initial Demonstration of Capability (**Estela Martinez/Yanet Echevarria**)
___Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	SOLID
DATE OF ANALYSIS:	8/8/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 8270
EXTRACTION METHOD (IF APPLY):	EPA 3550
INSTRUMENT ID:	GC/MS-2 Barbara
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	8/8/2017
ACCEPTANCE CRITERIA:	Various

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	8270 IQ/8270120516	20/50ppm
Surrogate	1700219	25/50ppm
Internal Standard	IS-8270D-012516	2000ppm

Compound	TRUE Value	IDOC 1 8/8/2017	IDOC 2 8/8/2017	IDOC 3 8/8/2017	IDOC 4 8/8/2017	_ X	% RSD	% Recovery	SD	Acceptance Limits
UNITS:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg				%
Pyridine	666.66	358.29	416.12	329.55	334.44	359.60	11.05	53.9	39.72	40-140
n-Nitroso-dimethylamine	666.66	351.37	390.46	332.61	323.57	349.50	8.49	52.4	29.66	40-140
Aniline	666.66	339.05	302.58	361.82	385.95	347.35	10.21	52.1	35.46	40-140
Phenol	666.66	409.80	419.93	372.07	364.90	391.67	6.96	58.8	27.25	40-140
2-Chlorophenol	666.66	452.03	478.33	411.57	403.28	436.30	8.07	65.4	35.19	40-140
Bis (2-Chloroethyl)ether	666.66	488.27	516.41	402.70	430.68	459.51	11.32	68.9	52.03	40-140
1,3-Dichlorobenzene	666.66	429.07	455.55	378.92	382.75	411.57	9.02	61.7	37.13	40-140
1,4-Dichlorobenzene	666.66	428.74	449.92	382.73	377.55	409.74	8.62	61.5	35.32	40-140
Benzyl Alcohol	666.66	447.28	462.05	404.39	390.29	426.01	8.01	63.9	34.13	40-140
1,2-Dichlorobenzene	666.66	443.58	469.10	392.72	386.21	422.90	9.48	63.4	40.08	40-140
bis(2-Chloroisopropyl)ether	666.66	376.79	397.20	343.47	338.83	364.07	7.64	54.6	27.81	40-140
2-Methylphenol (o-Cresol)	666.66	446.20	459.30	409.45	401.63	429.14	6.52	64.4	27.96	40-140
n-nitrosodi-n-propylamine	666.66	425.80	444.59	388.93	383.26	410.64	7.17	61.6	29.46	40-140
Hexachloroethane	666.66	488.55	515.96	428.00	432.45	466.24	9.24	69.9	43.10	40-140
m+p-Cresol	666.66	517.05	530.19	473.99	466.78	497.00	6.31	74.6	31.34	40-140
Nitrobenzene	666.66	423.47	442.94	384.31	375.70	406.60	7.85	61.0	31.92	40-140
Isophorone	666.66	466.40	488.38	430.18	416.50	450.36	7.32	67.6	32.95	40-140
2-Nitrophenol	666.66	520.03	555.39	478.16	473.73	506.83	7.60	76.0	38.52	40-140
2,4-Dimethylphenol	666.66	488.32	515.73	442.52	429.39	468.99	8.55	70.3	40.11	40-140
bis(2-Chloroethoxy)methane	666.66	464.28	492.45	432.30	419.12	452.04	7.29	67.8	32.95	40-140
Benzoic Acid	1666.66	1229.14	1243.38	836.51	1045.25	1088.57	17.52	65.3	190.73	40-140
2,4-Dichlorophenol	666.66	425.42	438.04	383.21	368.02	403.67	8.27	60.6	33.39	40-140
1,2,4-Trichlorobenzene	666.66	471.65	498.51	424.28	413.85	452.07	8.82	67.8	39.89	40-140
Naphthalene	666.66	466.64	496.04	426.83	416.55	451.52	8.13	67.7	36.71	25.3-127
2,6-Dichlorophenol	666.66	424.43	441.85	385.36	375.28	406.73	7.76	61.0	31.58	40-140
4-Chloroaniline	666.66	538.35	554.65	542.89	486.93	530.70	5.65	79.6	29.98	40-140
Hexachlorobutadiene	666.66	470.15	504.39	418.31	416.73	452.40	9.42	67.9	42.64	40-140
4-chloro-3-methylphenol	666.66	438.81	448.34	389.34	389.13	416.40	7.59	62.5	31.62	40-140
2-Methylnaphthalene	666.66	514.64	536.76	467.74	445.16	491.08	8.55	73.7	42.01	17.6-130
1-Methylnaphthalene	666.66	454.32	477.81	410.09	393.51	433.93	8.97	65.1	38.92	21.9-130
Hexachlorocyclopentadiene	666.66	612.26	594.41	553.45	579.10	584.80	4.26	87.7	24.91	40-140
2,4,6-Trichlorophenol	666.66	432.26	449.83	395.32	372.54	412.49	8.49	61.9	35.00	40-140
2,4,5-Trichlorophenol	666.66	431.61	441.48	387.59	375.15	408.96	7.95	61.3	32.51	40-140
Biphenyl	666.66	579.57	597.65	526.37	498.48	550.52	8.36	82.6	46.03	40-140
2-Chloronaphthalene	666.66	487.89	506.19	438.97	423.46	464.13	8.46	69.6	39.25	40-140
2-Nitroaniline	666.66	471.12	480.77	433.60	424.30	452.45	6.12	67.9	27.68	40-140
Dimethylphthalene	666.66	498.72	516.04	462.24	435.03	478.01	7.61	71.7	36.38	40-140
Acenaphthylene	666.66	516.58	538.89	477.07	455.62	497.04	7.57	74.6	37.63	25.1-130
2,6-Dinitrotoluene	666.66	460.42	486.25	425.56	409.63	445.47	7.74	66.8	34.48	40-140
3-Nitroaniline	666.66	471.38	481.43	437.44	423.90	453.54	6.02	68.0	27.29	40-140
Acenaphtene	666.66	492.46	513.26	446.85	427.68	470.06	8.42	70.5	39.59	25-130
Dibenzofuran	666.66	537.22	550.76	488.37	467.72	511.02	7.71	76.7	39.38	40-140
4-Nitrophenol	666.66	426.71	474.20	403.30	397.31	425.38	8.21	63.8	34.93	40-140
2,4-Dinitrotoluene	666.66	438.49	456.78	404.46	391.16	422.72	7.15	63.4	30.21	40-140
2,3,4,6-Tetrachlorophenol	666.66	471.34	485.26	433.67	424.42	453.67	6.45	68.1	29.24	40-140
2,4-Dinitrophenol	1666.66	1838.19	1966.68	1659.15	1773.86	1809.47	7.09	108.6	128.33	40-140
Fluorene	666.66	499.77	511.98	455.05	436.44	475.81	7.54	71.4	35.89	28.8-130

Diethylphthalate	666.66	521.14	532.84	478.44	459.29	497.93	6.99	74.7	34.79	40-140
4-Chlorodiphenylether	666.66	504.39	522.32	462.24	443.46	483.10	7.56	72.5	36.51	40-140
4-Nitroaniline	666.66	324.57	341.71	280.37	327.36	318.50	8.32	47.8	26.51	40-140
n-Nitrosodiphenylamine	666.66	583.26	608.85	547.04	516.36	563.88	7.20	84.6	40.58	40-140
Azobenzene(as 12-DHP)	666.66	523.07	547.05	484.02	455.05	502.30	8.13	75.3	40.83	40-140
,6-Dinitro-2-methylphenol	1666.66	1629.66	1799.84	1542.64	1547.55	1629.92	7.37	97.8	120.11	40-140
4-Bromodiphenylether	666.66	497.23	513.47	453.34	432.24	474.07	7.96	71.1	37.72	40-140
Hexachlorobenzene	666.66	506.63	539.62	473.55	445.95	491.44	8.26	73.7	40.58	40-140
Pentachlorophenol	666.66	527.44	557.08	487.27	482.51	513.58	6.88	77.0	35.32	40-140
Phenanthrene	666.66	505.10	521.39	464.05	443.38	483.48	7.45	72.5	36.01	18.7-130
Anthracene	666.66	523.36	547.76	484.03	460.25	503.85	7.77	75.6	39.17	24.2-130
Carbazole	666.66	593.05	621.08	566.22	578.13	589.62	4.02	88.4	23.67	40-140
Di-n-butyl Phthalate	666.66	525.43	538.40	482.95	459.19	501.49	7.34	75.2	36.83	40-140
Fluoranthene	666.66	516.02	526.36	470.50	454.87	491.94	7.04	73.8	34.63	16.6-130
Benzidine	666.66	256.90	247.67	310.23	277.18	272.99	10.15	40.9	27.71	0-106
Pyrene	666.66	540.43	560.75	490.23	460.06	512.87	8.97	76.9	46.02	29.7-130
Butylbenzylphthalate	666.66	540.67	554.79	493.92	461.39	512.69	8.38	76.9	42.97	40-140
Benzo(a) anthracene	666.66	501.89	510.27	441.90	435.93	472.50	8.25	70.9	39.00	7-130
Chrysene	666.66	548.155	558.40	499.90	478.09	521.13	7.37	78.2	38.40	18.8-130
bis(2-Ethylhexyl)phthalate	666.66	555.508	565.21	509.69	478.80	527.30	7.66	79.1	40.39	40-140
3,3-Dichlorobenzidine	666.66	966.468	983.34	850.31	807.00	901.78	9.60	135.3	86.54	40-140
D-n-octyl phthalate	666.66	562.207	566.89	488.69	452.12	517.48	10.90	77.6	56.40	40-140
Benzo(b)fluoranthene	666.66	563.212	566.08	463.88	458.02	512.80	11.69	76.9	59.93	24-130
Benzo(k)fluoranthene	666.66	556.553	556.69	497.52	445.49	514.06	10.41	77.1	53.54	25.2-130
Benzo(a)pyrene	666.66	491.719	500.63	430.54	405.26	457.03	10.17	68.6	46.50	31.7-130
Indeno(123cd)pyrene	666.66	476.539	482.52	409.83	400.39	442.32	9.77	66.3	43.20	40-140
Dibenzo(ah)anthracene	666.66	462.078	458.40	404.90	392.22	429.40	8.39	64.4	36.02	40-140
Benzo(ghi)perylene	666.66	485.839	486.41	411.27	404.49	447.00	10.13	67.1	45.26	40-130

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_07.D
Acq On : 8 Aug 2017 8:05 pm
Operator : YE
Sample : 8270 S IDOC #1
: :
ALS Vial : 6 Sample Multiplier: 33.333

Quant Time: Aug 09 16:06:29 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.660	150	929650	20.00	ug/l		0.00
19) NAPHTHALENE-D8	11.012	136	2346142	20.00	ug/l		0.00
34) ACENAPHTHENE-D10	12.786	164	1535199	20.00	ug/l		0.00
58) PHENANHTRENE-D10	14.271	188	2560803	20.00	ug/l		0.00
73) CHRYSENE-D12	17.359	240	2458961	20.00	ug/l		0.00
80) PERYLENE-D12	20.040	264	1138398	20.00	ug/l		-0.01
System Monitoring Compounds							
4) 2-Fluorophenol surrogate	8.159	112	1507901	1126.90	ug/l		0.01
Spiked Amount 50.000			Recovery	= 2253.80%			
5) Phenol-d6 surrogate	9.302	99	2078778	1171.27	ug/l		0.00
Spiked Amount 50.000			Recovery	= 2342.54%			
20) NITROBENZENE-D5	10.259	82	796985	585.58	ug/l		0.00
Spiked Amount 25.000			Recovery	= 2342.32%			
40) 2-Fluorobiphenyl (surr...	12.096	172	2322267	609.18	ug/l		0.00
Spiked Amount 25.000			Recovery	= 2436.72%			
61) 2,4,6-Tribromophenol (...	13.582	330	710872	1379.65	ug/l		0.00
Spiked Amount 50.000			Recovery	= 2759.30%			
5) p-Terphenyl (surrogate)	15.922	230	2549957	1090.30	ug/l		-0.01
Spiked Amount 25.000			Recovery	= 4361.20%			
Target Compounds							Qvalue
2) Pyridine	5.900	79	440074m	358.291	ug/l		
3) n-Nitrosodimethylamine	5.878	42	216682m	351.368	ug/l		
6) Aniline	9.302	93	106111	339.046	ug/l	#	17
7) Phenol (ccc)	9.313	94	778424	409.796	ug/l	#	81
8) 2-Chlorophenol	9.447	128	614737	452.031	ug/l		91
9) Bis(2-chloroethyl)ether	9.367	93	658591	488.269	ug/l		96
10) 1,3-Dichlorobenzene	9.596	146	609977	429.073	ug/l		97
11) 1,4-Dichlorobenzene (ccc)	9.676	146	628045	428.742	ug/l		97
12) Benzyl alcohol	9.826	79	416377	447.284	ug/l		91
13) 1,2-Dichlorobenzene	9.847	146	621578	443.581	ug/l		97
14) Bis(2-chloroisopropyl)...	9.960	45	817862	376.790	ug/l		96
15) 2-Methylphenol	9.960	108	595207	446.204	ug/l		96
16) n-Nitrosodi-n-propylam...	10.109	43	402384	425.800	ug/l		91
17) Hexachloroethane	10.211	117	188204	488.551	ug/l		93
18) 4-Methylphenol	10.125	107	756366	517.053	ug/l		86
21) Nitrobenzene	10.280	77	577710	423.465	ug/l		95
22) Isophorone	10.537	82	1210491	466.401	ug/l		93
23) 2-Nitrophenol (ccc)	10.617	139	300186	520.349	ug/l	#	51
24) 2,4-Dimethylphenol	10.670	107	636674	488.319	ug/l		91
25) Bis(2-chloroethoxy)met...	10.745	93	710283	464.276	ug/l		97
26) Benzoic acid	10.868	105	425238	1229.141	ug/l	#	79
27) 2,4-Dichlorophenol (ccc)	10.878	162	563618	425.423	ug/l		92
28) 1,2,4-Trichlorobenzene	10.948	180	554952	471.651	ug/l		97
29) Naphthalene	11.033	128	1865744	466.644	ug/l		99
30) 2,6-Dichlorophenol	11.103	162	562750	424.429	ug/l	#	71
1) 4-Chloroaniline	11.114	127	230197m	538.350	ug/l		
32) Hexachlorobutadfiene (...	11.162	225	304263	470.152	ug/l		98
33) 4-Chloro-3-methylphenol	11.584	107	553323	438.812	ug/l		90
35) 2-Methylnaphthalene	11.733	142	1399982	514.639	ug/l		96

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Acq On : 8 Aug 2017 8:05 pm
Operator : YE
Sample : 8270 S IDOC #1
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ALS Vial : 6 Sample Multiplier: 33.333

Quant Time: Aug 09 16:06:29 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
36) 1-Methylnaphthalene	11.835	142	1362687	454.317	ug/l		96
37) Hexachlorocylopentadie...	11.899	237	55287	612.259	ug/l		92
38) 2,4,6-Trichlorophenol	12.022	196	413601	432.257	ug/l		93
39) 2,4,5-Trichlorophenol	12.075	196	442061	431.610	ug/l		96
41) Biphenyl	12.198	154	2010678	579.565	ug/l		84
42) 2-Chloronaphthalene	12.225	162	1237485	487.893	ug/l		95
43) 2-Nitroaniline	12.337	138	399537	471.123	ug/l		85
44) Dimethylphthalate	12.497	163	1521662	498.718	ug/l		94
45) Acenaphthylene	12.641	152	1973202	516.581	ug/l		96
46) 2,6-Dinitrotoluene	12.561	165	320134	460.419	ug/l	#	50
47) 3-Nitroaniline	12.337	65	303836	471.381	ug/l	#	65
48) Acenaphthene (ccc)	12.818	154	1302659	492.458	ug/l		98
49) Dibenzofuran	12.989	168	2024725	537.224	ug/l		93
50) 4-Nitrophenol (ccc)	12.946	65	136533	426.707	ug/l	#	70
51) 2-4-Dinitrotolene	12.973	165	394322	438.492	ug/l		67
52) 2,3,4,6-Tetrachlorophenol	13.122	232	342232	471.340	ug/l		97
53) 2,4-Dinitrophenol (ccc)	12.860	184	87679	1838.193	ug/l	#	1
54) Fluorene	13.331	166	1621127	499.774	ug/l		99
55) Diethylphthalate	13.192	149	1546113	521.144	ug/l		97
56) 4-Chlorodiphenylether	13.315	204	806641	504.391	ug/l		88
57) 4-Nitroaniline	13.389	65	87509m	324.573	ug/l		
59) n-Nitrosodiphenylamine...	13.432	169	1152368	583.263	ug/l		86
60) Azobenzene	13.475	77	1395508	523.067	ug/l		90
62) 4,6-Dinitro-2-methylph...	13.389	198	260706	1629.658	ug/l	#	43
63) 4-Bromodiphenylether	13.801	248	494457	497.231	ug/l		92
64) Hexachlorobenzene	13.897	284	514367	506.627	ug/l		97
65) Pentachlorophenol (ccc)	14.094	266	180110	527.440	ug/l		98
66) Phenanthrene	14.297	178	2310775	505.099	ug/l		94
67) Anthracene	14.346	178	2345868	523.361	ug/l		95
68) Dinoseb	14.249	211	242231	1480.424	ug/l		86
69) Carbazole	14.500	167	1356383	593.048	ug/l		96
70) Di-n-butyl phthalate	14.800	149	2763182	525.434	ug/l		100
71) Fluoranthene	15.499	202	2515877	516.020	ug/l		94
72) Benzidine	15.670	184	10952m	256.896	ug/l		
74) Pyrene	15.756	202	2517698	540.434	ug/l		92
76) Butylbenzyl phthalate	16.466	149	1111435	540.670	ug/l		92
77) Benzo(a)anthracene	17.332	228	2047097	501.885	ug/l		100
78) Chrysene	17.396	228	1976449	548.155	ug/l		100
79) Bis(2-ethylhexyl)phtha...	17.294	149	1655056	555.508	ug/l		97
81) 3'3-Dichlorobenzidine	17.273	252	874069	966.468	ug/l		99
82) Di-n-octyl phthalate	18.416	149	2535865	562.207	ug/l		99
83) Benzo(b)fluoranthene	19.255	252	1395274	563.212	ug/l		99
84) Benzo(k)fluoranthene	19.308	252	1431864	556.553	ug/l		100
85) Benzo(a)pyrene	19.923	252	1119564	491.719	ug/l		99
86) Indeno(1,2,3-cd)pyrene	22.386	276	775508	476.539	ug/l		98
87) Dibenzo(ah)anthracene	22.423	278	652466	462.078	ug/l		99
88) Benzo(ghi)perylene	22.984	276	575831	485.839	ug/l		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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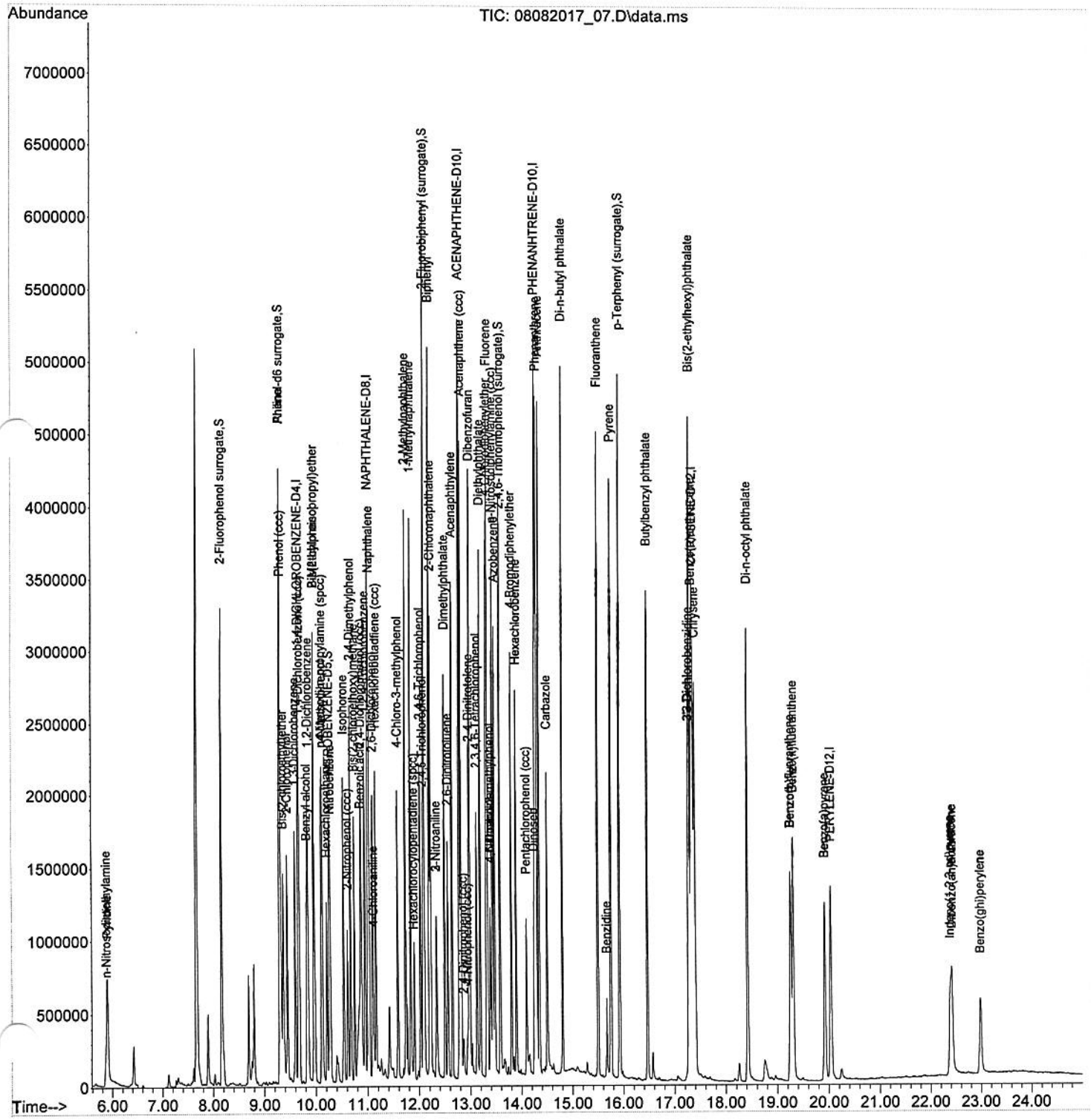
Data File : 08082017_07.D
Acq On : 8 Aug 2017 8:05 pm
Operator : YE
Sample : 8270 S IDOC #1
sc :
ALS Vial : 6 Sample Multiplier: 33.333

Quant Time: Aug 09 16:06:29 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration



Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_07.D
Acq On : 8 Aug 2017 8:05 pm
Operator : YE
Sample : 8270 S IDOC #1
C :
ALS Vial : 6 Sample Multiplier: 33.333

Quant Time: Aug 08 20:25:11 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DICHLOROBENZENE-D4	9.660	150	929650	20.00	ug/l	0.00
19) NAPHTHALENE-D8	11.012	136	2346142	20.00	ug/l	0.00
34) ACENAPHTHENE-D10	12.786	164	1535199	20.00	ug/l	0.00
58) PHENANHTRENE-D10	14.271	188	2560803	20.00	ug/l	0.00
73) CHRYSENE-D12	17.359	240	2458961	20.00	ug/l	0.00
80) PERYLENE-D12	20.040	264	1138398	20.00	ug/l	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol surrogate	8.159	112	1507901	1126.90	ug/l	0.01
Spiked Amount 50.000			Recovery	= 2253.80%		
5) Phenol-d6 surrogate	9.302	99	2078778	1171.27	ug/l	0.00
Spiked Amount 50.000			Recovery	= 2342.54%		
20) NITROBENZENE-D5	10.259	82	796985	585.58	ug/l	0.00
Spiked Amount 25.000			Recovery	= 2342.32%		
40) 2-Fluorobiphenyl (surr...	12.096	172	2322267	609.18	ug/l	0.00
Spiked Amount 25.000			Recovery	= 2436.72%		
61) 2,4,6-Tribromophenol (...	13.582	330	710872	1379.65	ug/l	0.00
Spiked Amount 50.000			Recovery	= 2759.30%		
75) p-Terphenyl (surrogate)	15.922	230	2549957	1090.30	ug/l	-0.01
Spiked Amount 25.000			Recovery	= 4361.20%		
Target Compounds						Qvalue
2) Pyridine	5.900	79	434643	353.870	ug/l #	74
3) n-Nitrosodimethylamine	5.878	42	199899	324.153	ug/l #	63
6) Aniline	9.302	93	106111	339.046	ug/l #	17
7) Phenol (ccc)	9.313	94	778424	409.796	ug/l #	81
8) 2-Chlorophenol	9.447	128	614737	452.031	ug/l	91
9) Bis(2-chloroethyl)ether	9.367	93	658591	488.269	ug/l	96
10) 1,3-Dichlorobenzene	9.596	146	609977	429.073	ug/l	97
11) 1,4-Dichlorobenzene (ccc)	9.676	146	628045	428.742	ug/l	97
12) Benzyl alcohol	9.826	79	416377	447.284	ug/l	91
13) 1,2-Dichlorobenzene	9.847	146	621578	443.581	ug/l	97
14) Bis(2-chloroisopropyl)...	9.960	45	817862	376.790	ug/l	96
15) 2-Methylphenol	9.960	108	595207	446.204	ug/l	96
16) n-Nitrosodi-n-propylam...	10.109	43	402384	425.800	ug/l	91
17) Hexachloroethane	10.211	117	188204	488.551	ug/l	93
18) 4-Methylphenol	10.125	107	756366	517.053	ug/l	86
21) Nitrobenzene	10.280	77	577710	423.465	ug/l	95
22) Isophorone	10.537	82	1210491	466.401	ug/l	93
23) 2-Nitrophenol (ccc)	10.617	139	300186	520.349	ug/l #	51
24) 2,4-Dimethylphenol	10.670	107	636674	488.319	ug/l	91
25) Bis(2-chloroethoxy)met...	10.745	93	710283	464.276	ug/l	97
26) Benzoic acid	10.868	105	425238	1229.141	ug/l #	79
27) 2,4-Dichlorophenol (ccc)	10.878	162	563618	425.423	ug/l	92
28) 1,2,4-Trichlorobenzene	10.948	180	554952	471.651	ug/l	97
29) Naphthalene	11.033	128	1865744	466.644	ug/l	99
30) 2,6-Dichlorophenol	11.103	162	562750	424.429	ug/l #	71
31) 4-Chloroaniline	11.114	127	186052	449.944	ug/l	94
32) Hexachlorobutadfiene (...	11.162	225	304263	470.152	ug/l	98
33) 4-Chloro-3-methylphenol	11.584	107	553323	438.812	ug/l	90
35) 2-Methylnaphthalene	11.733	142	1399982	514.639	ug/l	96

Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_07.D
Acq On : 8 Aug 2017 8:05 pm
Operator : YE
Sample : 8270 S IDOC #1
c :
ALS Vial : 6 Sample Multiplier: 33.333

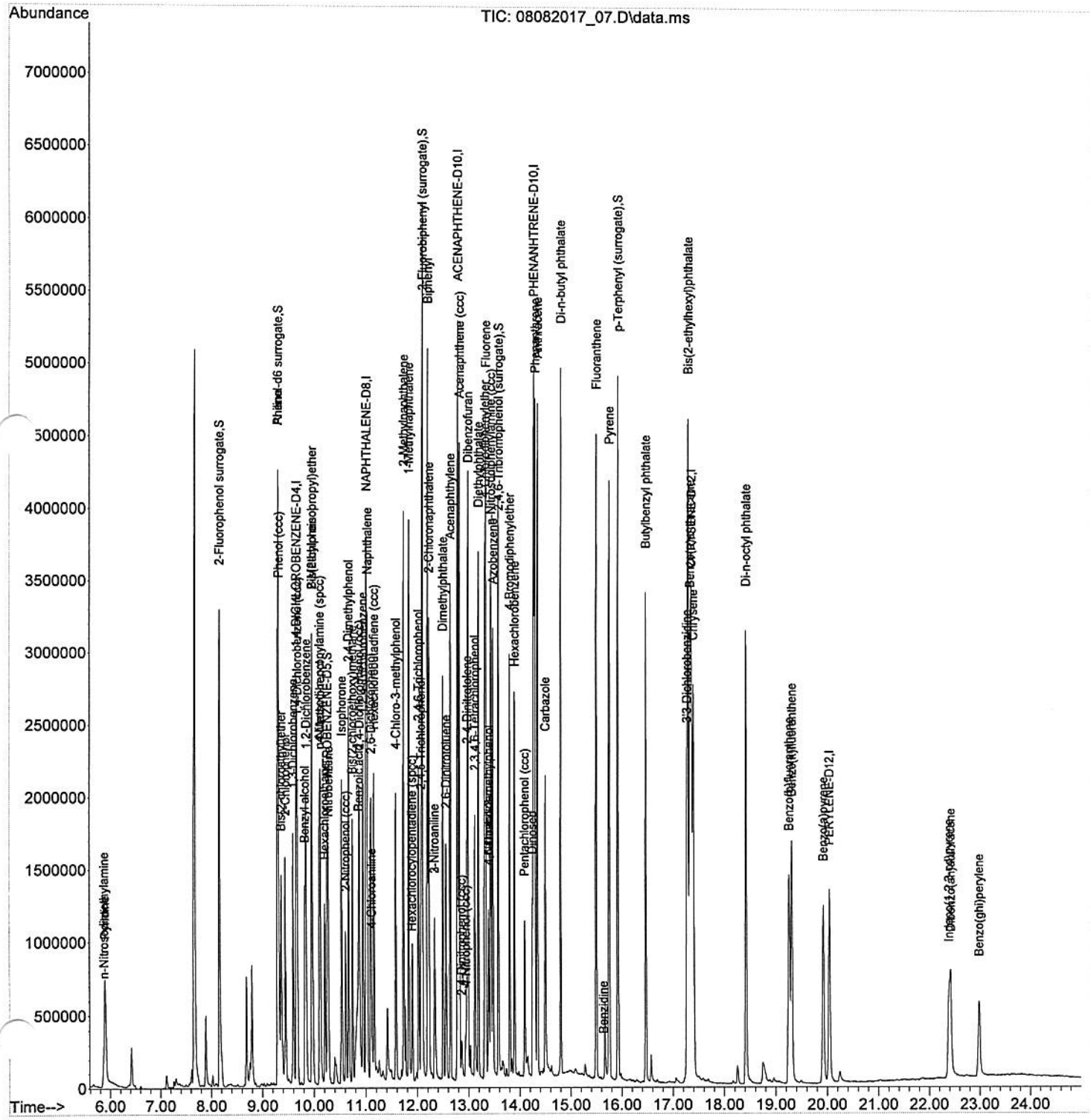
Quant Time: Aug 08 20:25:11 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
36) 1-Methylnaphthalene	11.835	142	1362687	454.317	ug/l		96
37) Hexachlorocylopentadie...	11.899	237	55287	612.259	ug/l		92
38) 2,4,6-Trichlorophenol	12.022	196	413601	432.257	ug/l		93
39) 2,4,5-Trichlorophenol	12.075	196	442061	431.610	ug/l		96
41) Biphenyl	12.198	154	2010678	579.565	ug/l		84
42) 2-Chloronaphthalene	12.225	162	1237485	487.893	ug/l		95
43) 2-Nitroaniline	12.337	138	399537	471.123	ug/l		85
44) Dimethylphthalate	12.497	163	1521662	498.718	ug/l		94
45) Acenaphthylene	12.641	152	1973202	516.581	ug/l		96
46) 2,6-Dinitrotoluene	12.561	165	320134	460.419	ug/l	#	50
47) 3-Nitroaniline	12.337	65	303836	471.381	ug/l	#	65
48) Acenaphthene (ccc)	12.818	154	1302659	492.458	ug/l		98
49) Dibenzofuran	12.989	168	2024725	537.224	ug/l		93
50) 4-Nitrophenol (ccc)	12.946	65	136533	426.707	ug/l	#	70
51) 2-4-Dinitrotolene	12.973	165	394322	438.492	ug/l		67
52) 2,3,4,6-Tetrachlorophenol	13.122	232	342232	471.340	ug/l		97
53) 2,4-Dinitrophenol (ccc)	12.860	184	87679	1838.193	ug/l	#	1
54) Fluorene	13.331	166	1621127	499.774	ug/l		99
55) Diethylphthalate	13.192	149	1546113	521.144	ug/l		97
56) 4-Chlorodiphenylether	13.315	204	806641	504.391	ug/l		88
57) 4-Nitroaniline	13.389	65	83609	315.378	ug/l	#	71
59) n-Nitrosodiphenylamine...	13.432	169	1152368	583.263	ug/l		86
60) Azobenzene	13.475	77	1395508	523.067	ug/l		90
62) 4,6-Dinitro-2-methylph...	13.389	198	260706	1629.658	ug/l	#	43
63) 4-Bromodiphenylether	13.801	248	494457	497.231	ug/l		92
64) Hexachlorobenzene	13.897	284	514367	506.627	ug/l		97
65) Pentachlorophenol (ccc)	14.094	266	180110	527.440	ug/l		98
66) Phenanthrene	14.297	178	2310775	505.099	ug/l		94
67) Anthracene	14.346	178	2345868	523.361	ug/l		95
68) Dinoseb	14.249	211	242231	1480.424	ug/l		86
69) Carbazole	14.500	167	1356383	593.048	ug/l		96
70) Di-n-butyl phthalate	14.800	149	2763182	525.434	ug/l		100
71) Fluoranthene	15.499	202	2515877	516.020	ug/l		94
72) Benzidine	15.638	184	1896	123.044	ug/l	#	22
74) Pyrene	15.756	202	2517698	540.434	ug/l		92
76) Butylbenzyl phthalate	16.466	149	1111435	540.670	ug/l		92
77) Benzo(a)anthracene	17.332	228	2047097	501.885	ug/l		100
78) Chrysene	17.396	228	1976449	548.155	ug/l		100
79) Bis(2-ethylhexyl)phtha...	17.294	149	1655056	555.508	ug/l		97
81) 3'3-Dichlorobenzidine	17.273	252	874069	966.468	ug/l		99
82) Di-n-octyl phthalate	18.416	149	2535865	562.207	ug/l		99
83) Benzo(b)fluoranthene	19.255	252	1395274	563.212	ug/l		99
84) Benzo(k)fluoranthene	19.308	252	1431864	556.553	ug/l		100
85) Benzo(a)pyrene	19.923	252	1119564	491.719	ug/l		99
86) Indeno(1,2,3-cd)pyrene	22.386	276	775508	476.539	ug/l		98
87) Dibenzo(ah)anthracene	22.423	278	652466	462.078	ug/l		99
88) Benzo(ghi)perylene	22.984	276	575831	485.839	ug/l		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_07.D
Acq On : 8 Aug 2017 8:05 pm
Operator : YE
Sample : 8270 S IDOC #1
sc :
ALS Vial : 6 Sample Multiplier: 33.333

Quant Time: Aug 08 20:25:11 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_08.D
Acq On : 8 Aug 2017 8:48 pm
Operator : YE
Sample : 8270 S IDOC #2
C :
ALS Vial : 7 Sample Multiplier: 33.333

Quant Time: Aug 09 16:11:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-DICHLOROBENZENE-D4	9.660	150	930658	20.00 ug/l	0.00
19) NAPHTHALENE-D8	11.012	136	2319812	20.00 ug/l	0.00
34) ACENAPHTHENE-D10	12.780	164	1523332	20.00 ug/l	0.00
58) PHENANHTRENE-D10	14.271	188	2492249	20.00 ug/l	0.00
73) CHRYSENE-D12	17.358	240	2361199	20.00 ug/l	0.00
80) PERYLENE-D12	20.040	264	1097366	20.00 ug/l	-0.01
System Monitoring Compounds					
4) 2-Fluorophenol surrogate	8.164	112	1597686	1192.71 ug/l	0.02
Spiked Amount 50.000			Recovery	= 2385.42%	
5) Phenol-d6 surrogate	9.302	99	2144122	1206.78 ug/l	0.00
Spiked Amount 50.000			Recovery	= 2413.56%	
20) NITROBENZENE-D5	10.259	82	839401	623.75 ug/l	0.00
Spiked Amount 25.000			Recovery	= 2495.00%	
40) 2-Fluorobiphenyl (surr...	12.096	172	2429781	642.34 ug/l	0.00
Spiked Amount 25.000			Recovery	= 2569.36%	
61) 2,4,6-Tribromophenol (...	13.582	330	727176	1450.11 ug/l	0.00
Spiked Amount 50.000			Recovery	= 2900.22%	
75) p-Terphenyl (surrogate)	15.921	230	2534306	1128.47 ug/l	-0.01
Spiked Amount 25.000			Recovery	= 4513.88%	
Target Compounds					Qvalue
2) Pyridine	5.904	79	511661m	416.124 ug/l	
3) n-Nitrosodimethylamine	5.891	42	241048m	390.457 ug/l	
6) Aniline	9.302	93	81648m	302.581 ug/l	
7) Phenol (ccc)	9.318	94	798537	419.929 ug/l #	78
8) 2-Chlorophenol	9.447	128	651202	478.326 ug/l	92
9) Bis(2-chloroethyl)ether	9.366	93	697297	516.406 ug/l	97
10) 1,3-Dichlorobenzene	9.596	146	648312	455.545 ug/l	97
11) 1,4-Dichlorobenzene (ccc)	9.676	146	659787	449.923 ug/l	97
12) Benzyl alcohol	9.826	79	430585m	462.053 ug/l	
13) 1,2-Dichlorobenzene	9.847	146	656798	469.103 ug/l	97
14) Bis(2-chloroisopropyl)...	9.959	45	863097	397.199 ug/l	96
15) 2-Methylphenol	9.959	108	613338	459.298 ug/l	95
16) n-Nitrosodi-n-propylam...	10.109	43	420594	444.588 ug/l	91
17) Hexachloroethane	10.211	117	198979	515.962 ug/l	94
18) 4-Methylphenol	10.125	107	776418	530.186 ug/l	88
21) Nitrobenzene	10.280	77	597495	442.939 ug/l	95
22) Isophorone	10.536	82	1254670	488.382 ug/l	93
23) 2-Nitrophenol (ccc)	10.617	139	316806	555.391 ug/l #	51
24) 2,4-Dimethylphenol	10.670	107	664868	515.731 ug/l	92
25) Bis(2-chloroethoxy)met...	10.745	93	744933	492.451 ug/l	97
26) Benzoic acid	10.862	105	427520m	1243.379 ug/l	
27) 2,4-Dichlorophenol (ccc)	10.878	162	574968	438.044 ug/l	92
28) 1,2,4-Trichlorobenzene	10.948	180	579975	498.513 ug/l	97
29) Naphthalene	11.033	128	1961003	496.036 ug/l	99
30) 2,6-Dichlorophenol	11.103	162	580775	441.852 ug/l #	72
31) 4-Chloroaniline	11.113	127	235866m	554.648 ug/l	
32) Hexachlorobutadfiene (...	11.161	225	322760	504.394 ug/l	98
33) 4-Chloro-3-methylphenol	11.584	107	559592	448.344 ug/l	92
35) 2-Methylnaphthalene	11.733	142	1448877	536.763 ug/l	97

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_08.D
Acq On : 8 Aug 2017 8:48 pm
Operator : YE
Sample : 8270 S IDOC #2
C :
ALS Vial : 7 Sample Multiplier: 33.333

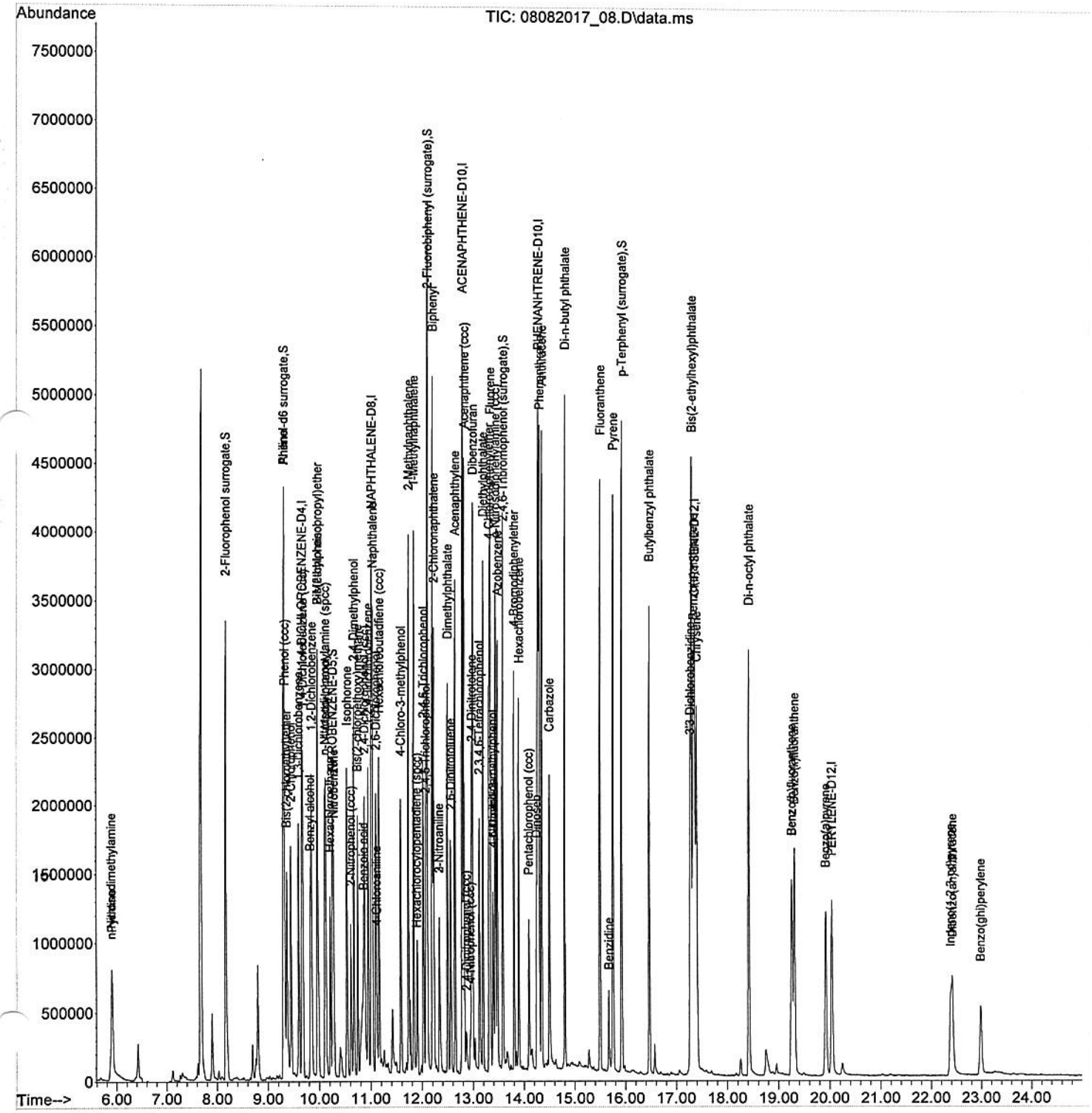
Quant Time: Aug 09 16:11:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
36) 1-Methylnaphthalene	11.835	142	1422071	477.809	ug/l		97
37) Hexachlorocylopentadie...	11.899	237	52143	594.410	ug/l		91
38) 2,4,6-Trichlorophenol	12.022	196	428388	449.825	ug/l		93
39) 2,4,5-Trichlorophenol	12.075	196	449395	441.482	ug/l		96
41) Biphenyl	12.198	154	2057384	597.648	ug/l		84
42) 2-Chloronaphthalene	12.225	162	1273965	506.189	ug/l		95
43) 2-Nitroaniline	12.337	138	405416	480.767	ug/l		84
44) Dimethylphthalate	12.497	163	1562341	516.039	ug/l		94
45) Acenaphthylene	12.641	152	2042521	538.894	ug/l		96
46) 2,6-Dinitrotoluene	12.561	165	336752	486.253	ug/l	#	49
47) 3-Nitroaniline	12.337	65	308540	481.432	ug/l	#	65
48) Acenaphthene (ccc)	12.818	154	1347178	513.255	ug/l		98
49) Dibenzofuran	12.989	168	2059688	550.758	ug/l		93
50) 4-Nitrophenol (ccc)	12.946	65	153995	474.202	ug/l	#	69
51) 2-4-Dinitrotolene	12.972	165	409303	456.779	ug/l		65
52) 2,3,4,6-Tetrachlorophenol	13.122	232	351367	485.258	ug/l		97
53) 2,4-Dinitrophenol (ccc)	12.866	184	98891	1966.681	ug/l	#	1
54) Fluorene	13.330	166	1647880	511.979	ug/l		98
55) Diethylphthalate	13.192	149	1568605	532.844	ug/l		98
6) 4-Chlorodiphenylether	13.309	204	828860	522.322	ug/l		92
57) 4-Nitroaniline	13.389	65	94289	341.707	ug/l	#	71
59) n-Nitrosodiphenylamine...	13.432	169	1170720	608.851	ug/l		87
60) Azobenzene	13.475	77	1420413	547.046	ug/l		90
62) 4,6-Dinitro-2-methylph...	13.389	198	294059	1799.841	ug/l	#	41
63) 4-Bromodiphenylether	13.801	248	496938	513.472	ug/l		92
64) Hexachlorobenzene	13.897	284	533197	539.620	ug/l		97
65) Pentachlorophenol (ccc)	14.094	266	189013	557.083	ug/l		97
66) Phenanthrene	14.297	178	2321441	521.388	ug/l		94
67) Anthracene	14.345	178	2389504	547.759	ug/l		95
68) Dinoseb	14.249	211	275634	1644.517	ug/l		87
69) Carbazole	14.500	167	1418917	621.080	ug/l		96
70) Di-n-butyl phthalate	14.800	149	2755590	538.404	ug/l		100
71) Fluoranthene	15.499	202	2497596	526.362	ug/l		94
72) Benzidine	15.676	184	9947m	247.669	ug/l		
74) Pyrene	15.750	202	2508481	560.749	ug/l		96
76) Butylbenzyl phthalate	16.466	149	1095117	554.789	ug/l		93
77) Benzo(a)anthracene	17.332	228	1998546	510.269	ug/l		100
78) Chrysene	17.396	228	1933334	558.398	ug/l		100
79) Bis(2-ethylhexyl)phtha...	17.294	149	1617001	565.206	ug/l		98
81) 3'3-Dichlorobenzidine	17.273	252	858067	983.342	ug/l		99
82) Di-n-octyl phthalate	18.416	149	2465785	566.889	ug/l		100
83) Benzo(b)fluoranthene	19.255	252	1351834	566.081	ug/l		98
84) Benzo(k)fluoranthene	19.308	252	1380586	556.687	ug/l		100
85) Benzo(a)pyrene	19.917	252	1099759	500.627	ug/l		99
86) Indeno(1,2,3-cd)pyrene	22.386	276	757304m	482.515	ug/l		
87) Dibenzo(ah)anthracene	22.423	278	623699	458.398	ug/l		99
88) Benzo(ghi)perylene	22.984	276	555750	486.411	ug/l		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_08.D
Acq On : 8 Aug 2017 8:48 pm
Operator : YE
Sample : 8270 S IDOC #2
Misc :
ALS Vial : 7 Sample Multiplier: 33.333

Quant Time: Aug 09 16:11:39 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration



Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_08.D
Acq On : 8 Aug 2017 8:48 pm
Operator : YE
Sample : 8270 S IDOC #2
c :
ALS Vial : 7 Sample Multiplier: 33.333

Quant Time: Aug 08 21:07:54 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.660	150	930658	20.00	ug/l		0.00
19) NAPHTHALENE-D8	11.012	136	2319812	20.00	ug/l		0.00
34) ACENAPHTHENE-D10	12.780	164	1523332	20.00	ug/l		0.00
58) PHENANHTRENE-D10	14.271	188	2492249	20.00	ug/l		0.00
73) CHRYSENE-D12	17.358	240	2361199	20.00	ug/l		0.00
80) PERYLENE-D12	20.040	264	1097366	20.00	ug/l		-0.01
System Monitoring Compounds							
4) 2-Fluorophenol surrogate	8.164	112	1597686	1192.71	ug/l		0.02
Spiked Amount 50.000			Recovery	= 2385.42%			
5) Phenol-d6 surrogate	9.302	99	2144122	1206.78	ug/l		0.00
Spiked Amount 50.000			Recovery	= 2413.56%			
20) NITROBENZENE-D5	10.259	82	839401	623.75	ug/l		0.00
Spiked Amount 25.000			Recovery	= 2495.00%			
40) 2-Fluorobiphenyl (surr...	12.096	172	2429781	642.34	ug/l		0.00
Spiked Amount 25.000			Recovery	= 2569.36%			
61) 2,4,6-Tribromophenol (...	13.582	330	727176	1450.11	ug/l		0.00
Spiked Amount 50.000			Recovery	= 2900.22%			
5) p-Terphenyl (surrogate)	15.921	230	2534306	1128.47	ug/l		-0.01
Spiked Amount 25.000			Recovery	= 4513.88%			
Target Compounds							Qvalue
2) Pyridine	5.899	79	173491	141.097	ug/l	#	74
3) n-Nitrosodimethylamine	5.891	42	202135	327.424	ug/l	#	62
6) Aniline	9.302	93	82421	303.800	ug/l	#	1
7) Phenol (ccc)	9.318	94	798537	419.929	ug/l	#	78
8) 2-Chlorophenol	9.447	128	651202	478.326	ug/l		92
9) Bis(2-chloroethyl)ether	9.366	93	697297	516.406	ug/l		97
10) 1,3-Dichlorobenzene	9.596	146	648312	455.545	ug/l		97
11) 1,4-Dichlorobenzene (ccc)	9.676	146	659787	449.923	ug/l		97
12) Benzyl alcohol	9.826	79	429607	461.003	ug/l		92
13) 1,2-Dichlorobenzene	9.847	146	656798	469.103	ug/l		97
14) Bis(2-chloroisopropyl)...	9.959	45	863097	397.199	ug/l		96
15) 2-Methylphenol	9.959	108	613338	459.298	ug/l		95
16) n-Nitrosodi-n-propylam...	10.109	43	420594	444.588	ug/l		91
17) Hexachloroethane	10.211	117	198979	515.962	ug/l		94
18) 4-Methylphenol	10.125	107	776418	530.186	ug/l		88
21) Nitrobenzene	10.280	77	597495	442.939	ug/l		95
22) Isophorone	10.536	82	1254670	488.382	ug/l		93
23) 2-Nitrophenol (ccc)	10.617	139	316806	555.391	ug/l	#	51
24) 2,4-Dimethylphenol	10.670	107	664868	515.731	ug/l		92
25) Bis(2-chloroethoxy)met...	10.745	93	744933	492.451	ug/l		97
26) Benzoic acid	10.862	105	423512	1235.298	ug/l	#	82
27) 2,4-Dichlorophenol (ccc)	10.878	162	574968	438.044	ug/l		92
28) 1,2,4-Trichlorobenzene	10.948	180	579975	498.513	ug/l		97
29) Naphthalene	11.033	128	1961003	496.036	ug/l		99
30) 2,6-Dichlorophenol	11.103	162	580775	441.852	ug/l	#	72
31) 4-Chloroaniline	11.113	127	176926	435.322	ug/l		93
32) Hexachlorobutadfiene (...	11.161	225	322760	504.394	ug/l		98
33) 4-Chloro-3-methylphenol	11.584	107	559592	448.344	ug/l		92
35) 2-Methylnaphthalene	11.733	142	1448877	536.763	ug/l		97

Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_08.D
Acq On : 8 Aug 2017 8:48 pm
Operator : YE
Sample : 8270 S IDOC #2
: :
ALS Vial : 7 Sample Multiplier: 33.333

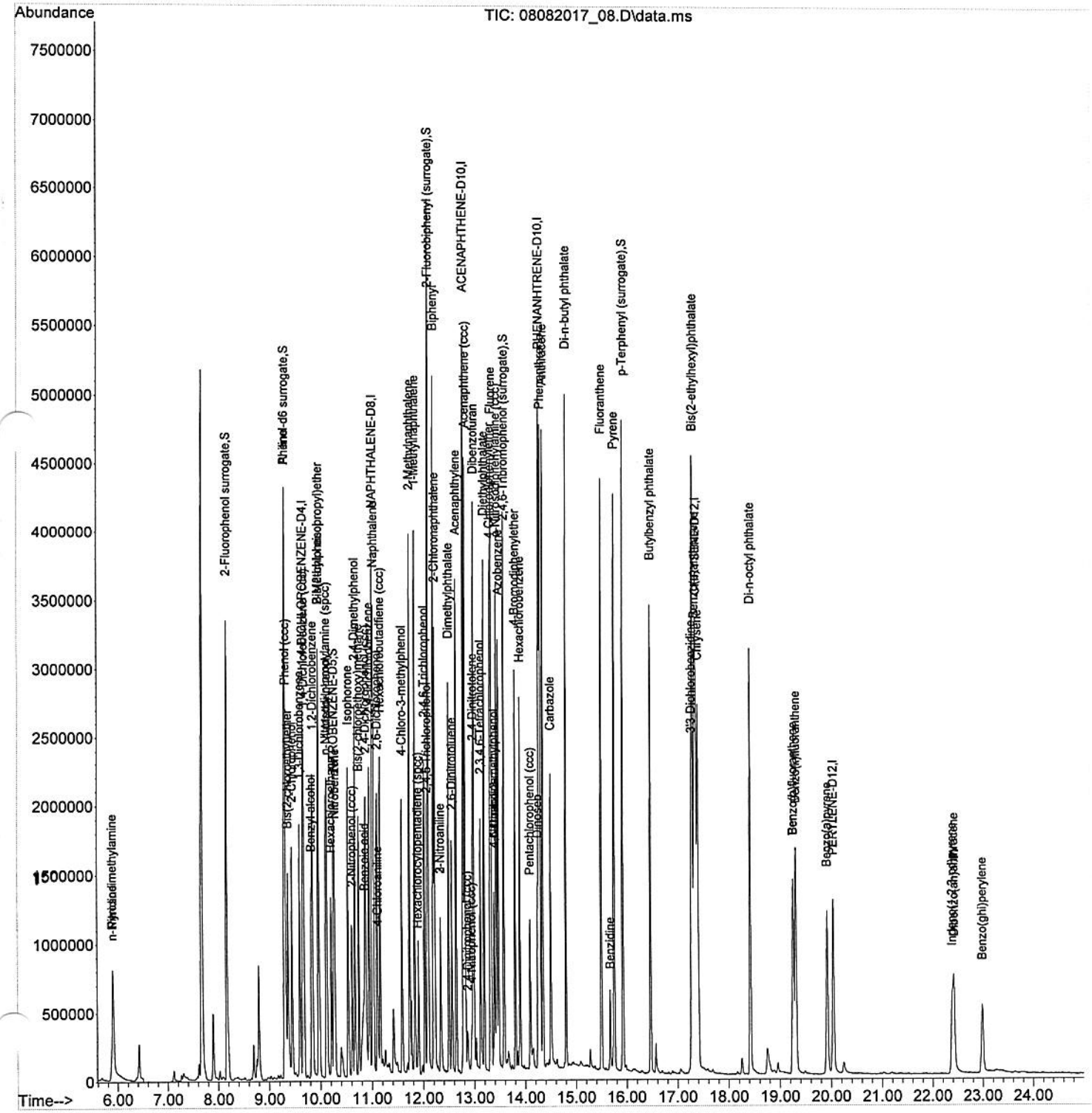
Quant Time: Aug 08 21:07:54 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
36) 1-Methylnaphthalene	11.835	142	1422071	477.809 ug/l	97
37) Hexachlorocylopentadie...	11.899	237	52143	594.410 ug/l	91
38) 2,4,6-Trichlorophenol	12.022	196	428388	449.825 ug/l	93
39) 2,4,5-Trichlorophenol	12.075	196	449395	441.482 ug/l	96
41) Biphenyl	12.198	154	2057384	597.648 ug/l	84
42) 2-Chloronaphthalene	12.225	162	1273965	506.189 ug/l	95
43) 2-Nitroaniline	12.337	138	405416	480.767 ug/l	84
44) Dimethylphthalate	12.497	163	1562341	516.039 ug/l	94
45) Acenaphthylene	12.641	152	2042521	538.894 ug/l	96
46) 2,6-Dinitrotoluene	12.561	165	336752	486.253 ug/l #	49
47) 3-Nitroaniline	12.337	65	308540	481.432 ug/l #	65
48) Acenaphthene (ccc)	12.818	154	1347178	513.255 ug/l	98
49) Dibenzofuran	12.989	168	2059688	550.758 ug/l	93
50) 4-Nitrophenol (ccc)	12.946	65	153995	474.202 ug/l #	69
51) 2-4-Dinitrotolene	12.972	165	409303	456.779 ug/l	65
52) 2,3,4,6-Tetrachlorophenol	13.122	232	351367	485.258 ug/l	97
53) 2,4-Dinitrophenol (ccc)	12.866	184	98891	1966.681 ug/l #	1
54) Fluorene	13.330	166	1647880	511.979 ug/l	98
55) Diethylphthalate	13.192	149	1568605	532.844 ug/l	98
6) 4-Chlorodiphenylether	13.309	204	828860	522.322 ug/l	92
57) 4-Nitroaniline	13.389	65	94289	341.707 ug/l #	71
59) n-Nitrosodiphenylamine...	13.432	169	1170720	608.851 ug/l	87
60) Azobenzene	13.475	77	1420413	547.046 ug/l	90
62) 4,6-Dinitro-2-methylph...	13.389	198	294059	1799.841 ug/l #	41
63) 4-Bromodiphenylether	13.801	248	496938	513.472 ug/l	92
64) Hexachlorobenzene	13.897	284	533197	539.620 ug/l	97
65) Pentachlorophenol (ccc)	14.094	266	189013	557.083 ug/l	97
66) Phenanthrene	14.297	178	2321441	521.388 ug/l	94
67) Anthracene	14.345	178	2389504	547.759 ug/l	95
68) Dinoseb	14.249	211	275634	1644.517 ug/l	87
69) Carbazole	14.500	167	1418917	621.080 ug/l	96
70) Di-n-butyl phthalate	14.800	149	2755590	538.404 ug/l	100
71) Fluoranthene	15.499	202	2497596	526.362 ug/l	94
72) Benzidine	15.676	184	10711	257.564 ug/l	99
74) Pyrene	15.750	202	2508481	560.749 ug/l	96
76) Butylbenzyl phthalate	16.466	149	1095117	554.789 ug/l	93
77) Benzo(a)anthracene	17.332	228	1998546	510.269 ug/l	100
78) Chrysene	17.396	228	1933334	558.398 ug/l	100
79) Bis(2-ethylhexyl)phtha...	17.294	149	1617001	565.206 ug/l	98
81) 3'3-Dichlorobenzidine	17.273	252	858067	983.342 ug/l	99
82) Di-n-octyl phthalate	18.416	149	2465785	566.889 ug/l	100
83) Benzo(b)fluoranthene	19.255	252	1351834	566.081 ug/l	98
84) Benzo(k)fluoranthene	19.308	252	1380586	556.687 ug/l	100
85) Benzo(a)pyrene	19.917	252	1099759	500.627 ug/l	99
86) Indeno(1,2,3-cd)pyrene	22.386	276	753264	480.038 ug/l	96
87) Dibenzo(ah)anthracene	22.423	278	623699	458.398 ug/l	99
88) Benzo(ghi)perylene	22.984	276	555750	486.411 ug/l	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_08.D
Acq On : 8 Aug 2017 8:48 pm
Operator : YE
Sample : 8270 S IDOC #2
SC :
ALS Vial : 7 Sample Multiplier: 33.333

Quant Time: Aug 08 21:07:54 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_09.D
Acq On : 8 Aug 2017 9:31 pm
Operator : YE
Sample : 8270 S IDOC #3
Misc :
ALS Vial : 8 Sample Multiplier: 33.333

Quant Time: Aug 09 16:21:24 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.655	150	991224	20.00	ug/l		0.00
19) NAPHTHALENE-D8	11.007	136	2516659	20.00	ug/l		0.00
34) ACENAPHTHENE-D10	12.780	164	1656594	20.00	ug/l		0.00
58) PHENANHTRENE-D10	14.271	188	2747389	20.00	ug/l		0.00
73) CHRYSENE-D12	17.359	240	2633202	20.00	ug/l		0.00
80) PERYLENE-D12	20.041	264	1288216	20.00	ug/l		-0.01
System Monitoring Compounds							
4) 2-Fluorophenol surrogate	8.154	112	1375883	964.37	ug/l		0.00
Spiked Amount 50.000			Recovery	= 1928.74%			
5) Phenol-d6 surrogate	9.297	99	1968709	1040.35	ug/l		0.00
Spiked Amount 50.000			Recovery	= 2080.70%			
20) NITROBENZENE-D5	10.259	82	697639	477.86	ug/l		0.00
Spiked Amount 25.000			Recovery	= 1911.44%			
40) 2-Fluorobiphenyl (surr...	12.097	172	2212659	537.89	ug/l		0.00
Spiked Amount 25.000			Recovery	= 2151.56%			
61) 2,4,6-Tribromophenol (...	13.576	330	684333	1237.94	ug/l		-0.01
Spiked Amount 50.000			Recovery	= 2475.88%			
75) p-Terphenyl (surrogate)	15.922	230	2511071	1002.63	ug/l		-0.01
Spiked Amount 25.000			Recovery	= 4010.52%			
Target Compounds							Qvalue
2) Pyridine	5.880	79	431582m	329.550	ug/l		
3) n-Nitrosodimethylamine	5.866	42	218702m	332.614	ug/l		
6) Aniline	9.297	93	131095	361.819	ug/l	#	24
7) Phenol (ccc)	9.308	94	753569	372.068	ug/l	#	82
8) 2-Chlorophenol	9.441	128	596776	411.565	ug/l		93
9) Bis(2-chloroethyl)ether	9.367	93	579152	402.702	ug/l		94
10) 1,3-Dichlorobenzene	9.596	146	574350	378.915	ug/l		97
11) 1,4-Dichlorobenzene (ccc)	9.677	146	597772	382.727	ug/l		95
12) Benzyl alcohol	9.821	79	401406	404.397	ug/l		92
13) 1,2-Dichlorobenzene	9.848	146	589418	392.716	ug/l		96
14) Bis(2-chloroisopropyl)...	9.960	45	794922	343.472	ug/l		97
15) 2-Methylphenol	9.960	108	582354	409.449	ug/l		96
16) n-Nitrosodi-n-propylam...	10.104	43	391886	388.931	ug/l		89
17) Hexachloroethane	10.211	117	175800	428.004	ug/l		93
18) 4-Methylphenol	10.120	107	739293	473.988	ug/l		86
21) Nitrobenzene	10.275	77	562394	384.307	ug/l		96
22) Isophorone	10.531	82	1195204	430.180	ug/l		95
23) 2-Nitrophenol (ccc)	10.611	139	295893	478.155	ug/l	#	52
24) 2,4-Dimethylphenol	10.670	107	618894	442.520	ug/l		90
25) Bis(2-chloroethoxy)met...	10.745	93	709429	432.298	ug/l		96
26) Benzoic acid	10.852	105	259938	836.506	ug/l	#	79
27) 2,4-Dichlorophenol (ccc)	10.879	162	540443	383.205	ug/l		92
28) 1,2,4-Trichlorobenzene	10.948	180	535501	424.283	ug/l		97
29) Naphthalene	11.028	128	1830595	426.831	ug/l		99
30) 2,6-Dichlorophenol	11.098	162	544442	385.361	ug/l		73
31) 4-Chloroaniline	11.119	127	249412m	542.885	ug/l		
32) Hexachlorobutadfiene (...	11.162	225	290386	418.307	ug/l		98
33) 4-Chloro-3-methylphenol	11.584	107	523268	389.335	ug/l		90
35) 2-Methylnaphthalene	11.733	142	1373025	467.743	ug/l		96

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_09.D
Acq On : 8 Aug 2017 9:31 pm
Operator : YE
Sample : 8270 S IDOC #3
Misc :
ALS Vial : 8 Sample Multiplier: 33.333

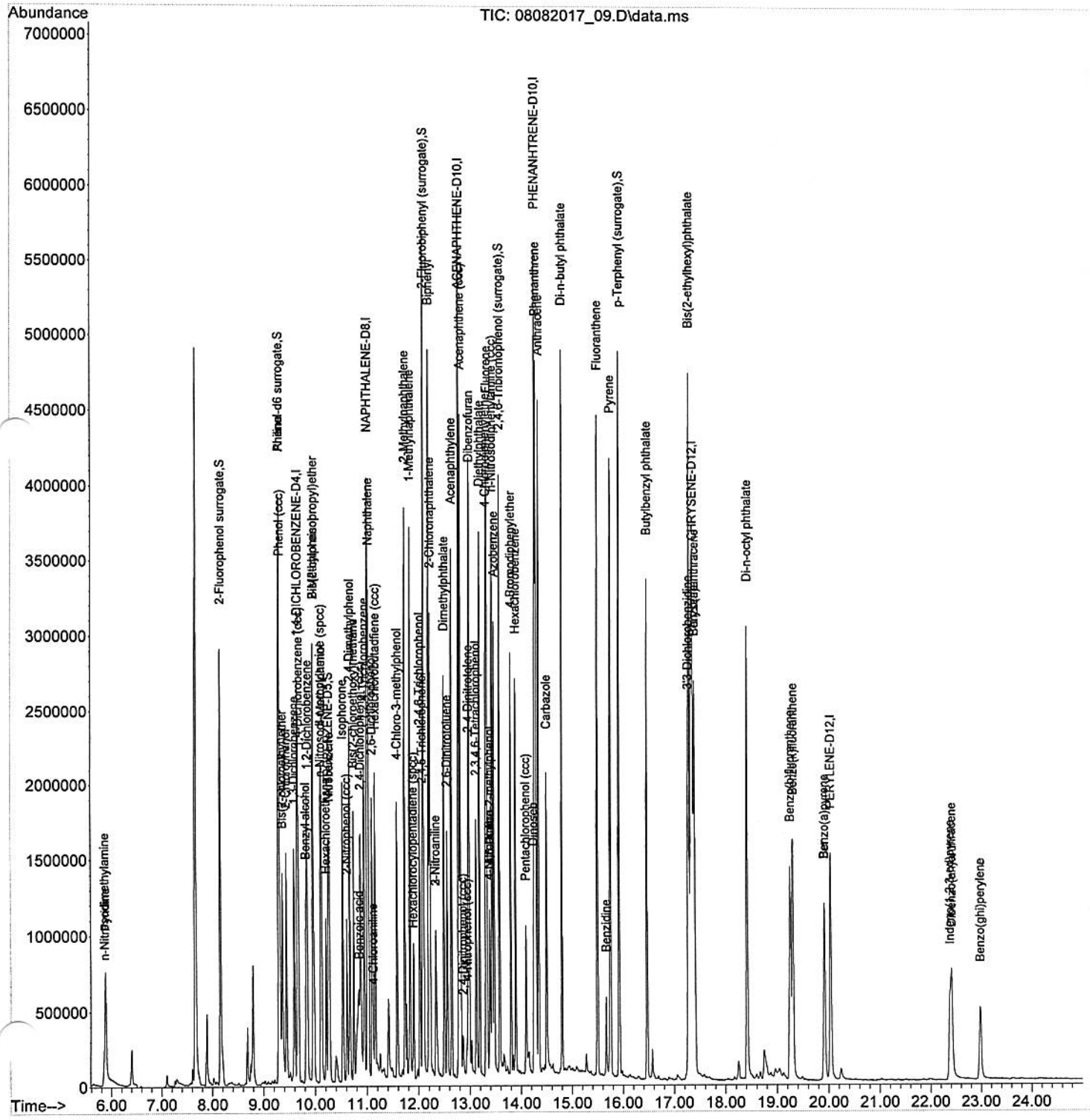
Quant Time: Aug 09 16:21:24 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
36) 1-Methylnaphthalene	11.835	142	1327293	410.089 ug/l	95
37) Hexachlorocylopentadie...	11.899	237	50179	553.450 ug/l	91
38) 2,4,6-Trichlorophenol	12.022	196	405190	395.321 ug/l	93
39) 2,4,5-Trichlorophenol	12.075	196	424885	387.590 ug/l	96
41) Biphenyl	12.198	154	1970540	526.373 ug/l	84
42) 2-Chloronaphthalene	12.225	162	1201437	438.970 ug/l	95
43) 2-Nitroaniline	12.337	138	393188	433.600 ug/l	84
44) Dimethylphthalate	12.497	163	1521876	462.237 ug/l	93
45) Acenaphthylene	12.641	152	1966370	477.068 ug/l	95
46) 2,6-Dinitrotoluene	12.556	165	317431	425.559 ug/l #	52
47) 3-Nitroaniline	12.337	65	301959	437.438 ug/l #	64
48) Acenaphthene (ccc)	12.812	154	1275485	446.851 ug/l	98
49) Dibenzofuran	12.989	168	1986163	488.374 ug/l	94
50) 4-Nitrophenol (ccc)	12.951	65	137628	403.297 ug/l #	75
51) 2-4-Dinitrotolene	12.973	165	389020	404.464 ug/l	65
52) 2,3,4,6-Tetrachlorophenol	13.122	232	335087	433.672 ug/l	97
53) 2,4-Dinitrophenol (ccc)	12.866	184	77798	1659.146 ug/l #	1
54) Fluorene	13.331	166	1592766	455.048 ug/l	99
55) Diethylphthalate	13.192	149	1531667	478.442 ug/l	95
56) 4-Chlorodiphenylether	13.309	204	799407	463.238 ug/l	91
57) 4-Nitroaniline	13.384	65	75109	280.368 ug/l #	61
59) n-Nitrosodiphenylamine...	13.432	169	1159553	547.041 ug/l	86
60) Azobenzene	13.470	77	1385415	484.017 ug/l	96
62) 4,6-Dinitro-2-methylph...	13.389	198	257827	1542.636 ug/l #	43
63) 4-Bromodiphenylether	13.801	248	483659	453.341 ug/l	91
64) Hexachlorobenzene	13.892	284	515820	473.554 ug/l	98
65) Pentachlorophenol (ccc)	14.095	266	173325	487.270 ug/l	97
66) Phenanthrene	14.292	178	2277679	464.053 ug/l	96
67) Anthracene	14.346	178	2327631	484.025 ug/l	95
68) Dinoseb	14.249	211	237489	1393.073 ug/l	86
69) Carbazole	14.501	167	1354621	566.218 ug/l	96
70) Di-n-butyl phthalate	14.800	149	2724830	482.952 ug/l	100
71) Fluoranthene	15.500	202	2461096	470.502 ug/l	95
72) Benzidine	15.671	184	16619m	310.225 ug/l	
74) Pyrene	15.751	202	2445623	490.225 ug/l	96
76) Butylbenzyl phthalate	16.467	149	1087288	493.924 ug/l	92
77) Benzo(a)anthracene	17.396	228	1930167	441.904 ug/l	98
78) Chrysene	17.396	228	1930167	499.897 ug/l	97
79) Bis(2-ethylhexyl)phtha...	17.289	149	1626138	509.686 ug/l	98
81) 3'3-Dichlorobenzidine	17.273	252	863821	850.306 ug/l	98
82) Di-n-octyl phthalate	18.416	149	2476621	488.688 ug/l	99
83) Benzo(b)fluoranthene	19.255	252	1300433	463.880 ug/l	100
84) Benzo(k)fluoranthene	19.309	252	1448435	497.519 ug/l	98
85) Benzo(a)pyrene	19.918	252	1101236	430.536 ug/l	99
86) Indeno(1,2,3-cd)pyrene	22.386	276	749828	409.833 ug/l	96
87) Dibenzo(ah)anthracene	22.418	278	642580	404.898 ug/l	97
88) Benzo(ghi)perylene	22.984	276	548566	411.267 ug/l	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_09.D
Acq On : 8 Aug 2017 9:31 pm
Operator : YE
Sample : 8270 S IDOC #3
sc :
ALS Vial : 8 Sample Multiplier: 33.333

Quant Time: Aug 09 16:21:24 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration



Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_09.D
Acq On : 8 Aug 2017 9:31 pm
Operator : YE
Sample : 8270 S IDOC #3
c :
ALS Vial : 8 Sample Multiplier: 33.333

Quant Time: Aug 08 21:50:49 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DICHLOROBENZENE-D4	9.655	150	991224	20.00	ug/l	0.00
19) NAPHTHALENE-D8	11.007	136	2516659	20.00	ug/l	0.00
34) ACENAPHTHENE-D10	12.780	164	1656594	20.00	ug/l	0.00
58) PHENANHTRENE-D10	14.271	188	2747389	20.00	ug/l	0.00
73) CHRYSENE-D12	17.359	240	2633202	20.00	ug/l	0.00
80) PERYLENE-D12	20.041	264	1288216	20.00	ug/l	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol surrogate	8.154	112	1375883	964.37	ug/l	0.00
Spiked Amount 50.000			Recovery	= 1928.74%		
5) Phenol-d6 surrogate	9.297	99	1968709	1040.35	ug/l	0.00
Spiked Amount 50.000			Recovery	= 2080.70%		
20) NITROBENZENE-D5	10.259	82	697639	477.86	ug/l	0.00
Spiked Amount 25.000			Recovery	= 1911.44%		
40) 2-Fluorobiphenyl (surr...	12.097	172	2212659	537.89	ug/l	0.00
Spiked Amount 25.000			Recovery	= 2151.56%		
61) 2,4,6-Tribromophenol (...	13.576	330	684333	1237.94	ug/l	-0.01
Spiked Amount 50.000			Recovery	= 2475.88%		
5) p-Terphenyl (surrogate)	15.922	230	2511071	1002.63	ug/l	-0.01
Spiked Amount 25.000			Recovery	= 4010.52%		
Target Compounds						Qvalue
2) Pyridine	5.880	79	380529	290.567	ug/l #	74
3) n-Nitrosodimethylamine	5.866	42	183669	279.334	ug/l #	62
6) Aniline	9.297	93	131095	361.819	ug/l #	24
7) Phenol (ccc)	9.308	94	753569	372.068	ug/l #	82
8) 2-Chlorophenol	9.441	128	596776	411.565	ug/l	93
9) Bis(2-chloroethyl)ether	9.367	93	579152	402.702	ug/l	94
10) 1,3-Dichlorobenzene	9.596	146	574350	378.915	ug/l	97
11) 1,4-Dichlorobenzene (ccc)	9.677	146	597772	382.727	ug/l	95
12) Benzyl alcohol	9.821	79	401406	404.397	ug/l	92
13) 1,2-Dichlorobenzene	9.848	146	589418	392.716	ug/l	96
14) Bis(2-chloroisopropyl)...	9.960	45	794922	343.472	ug/l	97
15) 2-Methylphenol	9.960	108	582354	409.449	ug/l	96
16) n-Nitrosodi-n-propylam...	10.104	43	391886	388.931	ug/l	89
17) Hexachloroethane	10.211	117	175800	428.004	ug/l	93
18) 4-Methylphenol	10.120	107	739293	473.988	ug/l	86
21) Nitrobenzene	10.275	77	562394	384.307	ug/l	96
22) Isophorone	10.531	82	1195204	430.180	ug/l	95
23) 2-Nitrophenol (ccc)	10.611	139	295893	478.155	ug/l #	52
24) 2,4-Dimethylphenol	10.670	107	618894	442.520	ug/l	90
25) Bis(2-chloroethoxy)met...	10.745	93	709429	432.298	ug/l	96
26) Benzoic acid	10.852	105	259938	836.506	ug/l #	79
27) 2,4-Dichlorophenol (ccc)	10.879	162	540443	383.205	ug/l	92
28) 1,2,4-Trichlorobenzene	10.948	180	535501	424.283	ug/l	97
29) Naphthalene	11.028	128	1830595	426.831	ug/l	99
30) 2,6-Dichlorophenol	11.098	162	544442	385.361	ug/l	73
1) 4-Chloroaniline	11.119	127	184109	420.215	ug/l	90
32) Hexachlorobutadfiene (...	11.162	225	290386	418.307	ug/l	98
33) 4-Chloro-3-methylphenol	11.584	107	523268	389.335	ug/l	90
35) 2-Methylnaphthalene	11.733	142	1373025	467.743	ug/l	96

Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_09.D
Acq On : 8 Aug 2017 9:31 pm
Operator : YE
Sample : 8270 S IDOC #3
C :
ALS Vial : 8 Sample Multiplier: 33.333

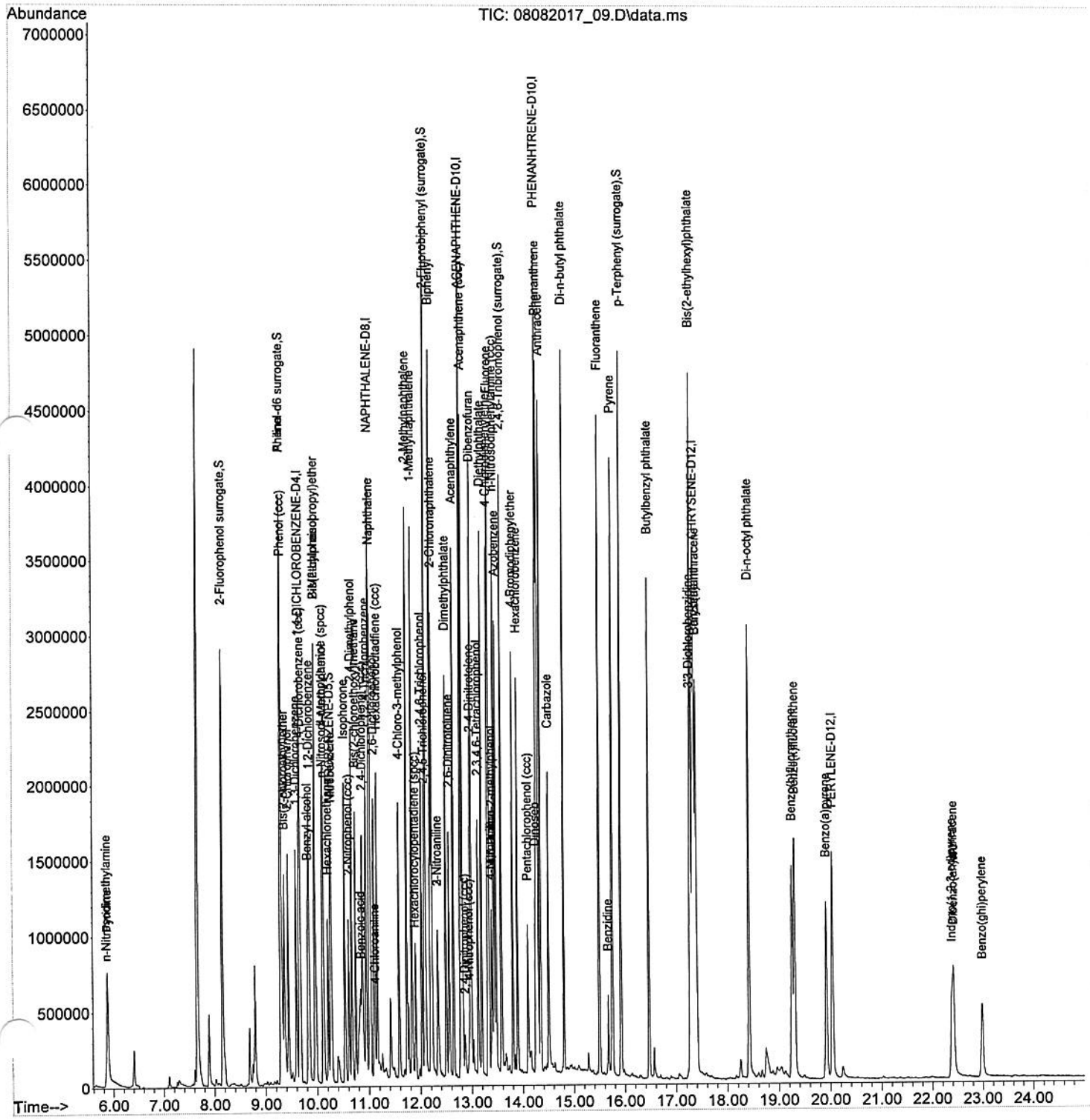
Quant Time: Aug 08 21:50:49 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
36) 1-Methylnaphthalene	11.835	142	1327293	410.089	ug/l		95
37) Hexachlorocylopentadie...	11.899	237	50179	553.450	ug/l		91
38) 2,4,6-Trichlorophenol	12.022	196	405190	395.321	ug/l		93
39) 2,4,5-Trichlorophenol	12.075	196	424885	387.590	ug/l		96
41) Biphenyl	12.198	154	1970540	526.373	ug/l		84
42) 2-Chloronaphthalene	12.225	162	1201437	438.970	ug/l		95
43) 2-Nitroaniline	12.337	138	393188	433.600	ug/l		84
44) Dimethylphthalate	12.497	163	1521876	462.237	ug/l		93
45) Acenaphthylene	12.641	152	1966370	477.068	ug/l		95
46) 2,6-Dinitrotoluene	12.556	165	317431	425.559	ug/l	#	52
47) 3-Nitroaniline	12.337	65	301959	437.438	ug/l	#	64
48) Acenaphthene (ccc)	12.812	154	1275485	446.851	ug/l		98
49) Dibenzofuran	12.989	168	1986163	488.374	ug/l		94
50) 4-Nitrophenol (ccc)	12.951	65	137628	403.297	ug/l	#	75
51) 2-4-Dinitrotolene	12.973	165	389020	404.464	ug/l		65
52) 2,3,4,6-Tetrachlorophenol	13.122	232	335087	433.672	ug/l		97
53) 2,4-Dinitrophenol (ccc)	12.866	184	77798	1659.146	ug/l	#	1
54) Fluorene	13.331	166	1592766	455.048	ug/l		99
55) Diethylphthalate	13.192	149	1531667	478.442	ug/l		95
56) 4-Chlorodiphenylether	13.309	204	799407	463.238	ug/l		91
57) 4-Nitroaniline	13.384	65	75109	280.368	ug/l	#	61
59) n-Nitrosodiphenylamine...	13.432	169	1159553	547.041	ug/l		86
60) Azobenzene	13.470	77	1385415	484.017	ug/l		96
62) 4,6-Dinitro-2-methylph...	13.389	198	257827	1542.636	ug/l	#	43
63) 4-Bromodiphenylether	13.801	248	483659	453.341	ug/l		91
64) Hexachlorobenzene	13.892	284	515820	473.554	ug/l		98
65) Pentachlorophenol (ccc)	14.095	266	173325	487.270	ug/l		97
66) Phenanthrene	14.292	178	2277679	464.053	ug/l		96
67) Anthracene	14.346	178	2327631	484.025	ug/l		95
68) Dinoseb	14.249	211	237489	1393.073	ug/l		86
69) Carbazole	14.501	167	1354621	566.218	ug/l		96
70) Di-n-butyl phthalate	14.800	149	2724830	482.952	ug/l		100
71) Fluoranthene	15.500	202	2461096	470.502	ug/l		95
72) Benzidine	15.671	184	5007	169.598	ug/l		92
74) Pyrene	15.751	202	2445623	490.225	ug/l		96
76) Butylbenzyl phthalate	16.467	149	1087288	493.924	ug/l		92
77) Benzo(a)anthracene	17.396	228	1930167	441.904	ug/l		98
78) Chrysene	17.396	228	1930167	499.897	ug/l		97
79) Bis(2-ethylhexyl)phtha...	17.289	149	1626138	509.686	ug/l		98
81) 3'3-Dichlorobenzidine	17.273	252	863821	850.306	ug/l		98
82) Di-n-octyl phthalate	18.416	149	2476621	488.688	ug/l		99
83) Benzo(b)fluoranthene	19.255	252	1300433	463.880	ug/l		100
84) Benzo(k)fluoranthene	19.309	252	1448435	497.519	ug/l		98
85) Benzo(a)pyrene	19.918	252	1101236	430.536	ug/l		99
86) Indeno(1,2,3-cd)pyrene	22.386	276	749828	409.833	ug/l		96
87) Dibenzo(ah)anthracene	22.418	278	642580	404.898	ug/l		97
88) Benzo(ghi)perylene	22.984	276	548566	411.267	ug/l		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_09.D
Acq On : 8 Aug 2017 9:31 pm
Operator : YE
Sample : 8270 S IDOC #3
sc :
ALS Vial : 8 Sample Multiplier: 33.333

Quant Time: Aug 08 21:50:49 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration



Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_10.D
Acq On : 8 Aug 2017 10:14 pm
Operator : YE
Sample : 8270 S IDOC #4
GC :
ALS Vial : 9 Sample Multiplier: 33.333

Quant Time: Aug 09 17:47:52 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-DICHLOROBENZENE-D4	9.655	150	956077	20.00	ug/l		0.00
19) NAPHTHALENE-D8	11.007	136	2450926	20.00	ug/l		0.00
34) ACENAPHTHENE-D10	12.780	164	1639987	20.00	ug/l		0.00
58) PHENANHTRENE-D10	14.271	188	2758574	20.00	ug/l		0.00
73) CHRYSENE-D12	17.359	240	2728956	20.00	ug/l		0.00
80) PERYLENE-D12	20.040	264	1384286	20.00	ug/l		-0.01
System Monitoring Compounds							
4) 2-Fluorophenol surrogate	8.154	112	1295480	941.39	ug/l		0.00
Spiked Amount 50.000			Recovery	= 1882.78%			
5) Phenol-d6 surrogate	9.297	99	1873459	1026.41	ug/l		0.00
Spiked Amount 50.000			Recovery	= 2052.82%			
20) NITROBENZENE-D5	10.259	82	659513	463.86	ug/l		0.00
Spiked Amount 25.000			Recovery	= 1855.44%			
40) 2-Fluorobiphenyl (surr...	12.096	172	2081335	511.09	ug/l		0.00
Spiked Amount 25.000			Recovery	= 2044.36%			
61) 2,4,6-Tribromophenol (...	13.576	330	666316	1200.46	ug/l		-0.01
Spiked Amount 50.000			Recovery	= 2400.92%			
75) p-Terphenyl (surrogate)	15.921	230	2436481	938.71	ug/l		-0.01
Spiked Amount 25.000			Recovery	= 3754.84%			
Target Compounds							Qvalue
2) Pyridine	5.883	79	422458m	334.442	ug/l		
3) n-Nitrosodimethylamine	5.868	42	205210m	323.568	ug/l		
6) Aniline	9.297	93	146103	385.954	ug/l	#	59
7) Phenol (ccc)	9.308	94	712842	364.898	ug/l	#	82
8) 2-Chlorophenol	9.441	128	564026	403.278	ug/l		92
9) Bis(2-chloroethyl)ether	9.367	93	597424	430.678	ug/l		95
10) 1,3-Dichlorobenzene	9.596	146	559595	382.753	ug/l		96
11) 1,4-Dichlorobenzene (ccc)	9.676	146	568775	377.548	ug/l		97
12) Benzyl alcohol	9.821	79	373677	390.294	ug/l		95
13) 1,2-Dichlorobenzene	9.847	146	559473	386.211	ug/l		96
14) Bis(2-chloroisopropyl)...	9.960	45	756379	338.832	ug/l		97
15) 2-Methylphenol	9.960	108	550972	401.626	ug/l		95
16) n-Nitrosodi-n-propylam...	10.104	43	372478	383.259	ug/l		90
17) Hexachloroethane	10.211	117	171329	432.452	ug/l		93
18) 4-Methylphenol	10.120	107	702229m	466.776	ug/l		
21) Nitrobenzene	10.275	77	535434	375.697	ug/l		96
22) Isophorone	10.531	82	1125989	416.495	ug/l		95
23) 2-Nitrophenol (ccc)	10.611	139	285497	473.729	ug/l	#	54
24) 2,4-Dimethylphenol	10.670	107	584841	429.386	ug/l		93
25) Bis(2-chloroethoxy)met...	10.745	93	669831	419.116	ug/l		96
26) Benzoic acid	10.857	105	351261	1045.247	ug/l	#	83
27) 2,4-Dichlorophenol (ccc)	10.878	162	503861	368.021	ug/l		91
28) 1,2,4-Trichlorobenzene	10.948	180	508686	413.847	ug/l		98
29) Naphthalene	11.028	128	1739853	416.553	ug/l		99
30) 2,6-Dichlorophenol	11.103	162	515347	375.283	ug/l	#	71
31) 4-Chloroaniline	11.113	127	213411m	486.926	ug/l		
32) Hexachlorobutadfiene (...	11.162	225	281735	416.729	ug/l		98
33) 4-Chloro-3-methylphenol	11.584	107	509313	389.127	ug/l		92
35) 2-Methylnaphthalene	11.733	142	1293644	445.164	ug/l		97

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_10.D
Acq On : 8 Aug 2017 10:14 pm
Operator : YE
Sample : 8270 S IDOC #4
sc :
...S Vial : 9 Sample Multiplier: 33.333

Quant Time: Aug 09 17:47:52 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
36) 1-Methylnaphthalene	11.835	142	1260866	393.510	ug/l		95
37) Hexachlorocylopentadie...	11.899	237	53680	579.098	ug/l		89
38) 2,4,6-Trichlorophenol	12.022	196	376026	372.543	ug/l		93
39) 2,4,5-Trichlorophenol	12.075	196	406035	375.145	ug/l		95
41) Biphenyl	12.198	154	1847415	498.481	ug/l		84
42) 2-Chloronaphthalene	12.225	162	1147365	423.458	ug/l		95
43) 2-Nitroaniline	12.337	138	379939	424.302	ug/l		84
44) Dimethylphthalate	12.497	163	1417949	435.032	ug/l		94
45) Acenaphthylene	12.641	152	1859141	455.621	ug/l		95
46) 2,6-Dinitrotoluene	12.556	165	301578	409.634	ug/l	#	53
47) 3-Nitroaniline	12.337	65	288704	423.899	ug/l	#	64
48) Acenaphthene (ccc)	12.812	154	1208513	427.675	ug/l		98
49) Dibenzofuran	12.989	168	1883100	467.721	ug/l		93
50) 4-Nitrophenol (ccc)	12.946	65	133817	397.314	ug/l	#	72
51) 2-4-Dinitrotolene	12.973	165	370995	391.155	ug/l		64
52) 2,3,4,6-Tetrachlorophenol	13.122	232	323509	424.415	ug/l		96
53) 2,4-Dinitrophenol (ccc)	12.866	184	87523	1773.859	ug/l	#	1
54) Fluorene	13.331	166	1512303	436.435	ug/l		100
55) Diethylphthalate	13.192	149	1455613	459.290	ug/l		97
56) 4-Chlorodiphenylether	13.309	204	757606	443.461	ug/l		92
57) 4-Nitroaniline	13.384	65	94766	327.363	ug/l	#	73
59) n-Nitrosodiphenylamine...	13.432	169	1098979	516.362	ug/l		88
60) Azobenzene	13.469	77	1307807	455.051	ug/l		96
62) 4,6-Dinitro-2-methylph...	13.389	198	260101	1547.549	ug/l	#	43
63) 4-Bromodiphenylether	13.801	248	463028	432.244	ug/l		91
64) Hexachlorobenzene	13.897	284	487731	445.951	ug/l		97
65) Pentachlorophenol (ccc)	14.094	266	171708	482.511	ug/l		98
66) Phenanthrene	14.292	178	2185087	443.383	ug/l		97
67) Anthracene	14.346	178	2222306	460.249	ug/l		95
68) Dinoseb	14.244	211	240521	1401.213	ug/l		87
69) Carbazole	14.500	167	1404512	578.125	ug/l		97
70) Di-n-butyl phthalate	14.800	149	2601290	459.187	ug/l		100
71) Fluoranthene	15.499	202	2389010	454.869	ug/l		95
72) Benzidine	15.670	184	13590m	277.180	ug/l		
74) Pyrene	15.751	202	2378580	460.057	ug/l		96
76) Butylbenzyl phthalate	16.466	149	1052602	461.390	ug/l		93
77) Benzo(a)anthracene	17.332	228	1973320	435.931	ug/l		98
78) Chrysene	17.401	228	1913087	478.088	ug/l		99
79) Bis(2-ethylhexyl)phtha...	17.294	149	1583149	478.800	ug/l		98
81) 3'3-Dichlorobenzidine	17.273	252	878056	807.002	ug/l		99
82) Di-n-octyl phthalate	18.416	149	2451273	452.119	ug/l		99
83) Benzo(b)fluoranthene	19.255	252	1379756	458.019	ug/l		99
84) Benzo(k)fluoranthene	19.308	252	1393673	445.486	ug/l		99
85) Benzo(a)pyrene	19.923	252	1109802	405.255	ug/l		100
86) Indeno(1,2,3-cd)pyrene	22.380	276	786323	400.393	ug/l		96
87) Dibenzo(ah)anthracene	22.418	278	667683	392.218	ug/l		95
88) Benzo(ghi)perylene	22.984	276	579404	404.485	ug/l		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_10.D
Acq On : 8 Aug 2017 10:14 pm
Operator : YE
Sample : 8270 S IDOC #4
ALS Vial : 9 Sample Multiplier: 33.333

Quant Time: Aug 09 16:23:57 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-DICHLOROBENZENE-D4	9.655	150	956077	20.00 ug/l	0.00
19) NAPHTHALENE-D8	11.007	136	2450926	20.00 ug/l	0.00
34) ACENAPHTHENE-D10	12.780	164	1639987	20.00 ug/l	0.00
58) PHENANHTRENE-D10	14.271	188	2758574	20.00 ug/l	0.00
73) CHRYSENE-D12	17.359	240	2728956	20.00 ug/l	0.00
80) PERYLENE-D12	20.040	264	1384286	20.00 ug/l	-0.01
System Monitoring Compounds					
4) 2-Fluorophenol surrogate	8.154	112	1295480	941.39 ug/l	0.00
Spiked Amount 50.000			Recovery	= 1882.78%	
5) Phenol-d6 surrogate	9.297	99	1873459	1026.41 ug/l	0.00
Spiked Amount 50.000			Recovery	= 2052.82%	
20) NITROBENZENE-D5	10.259	82	659513	463.86 ug/l	0.00
Spiked Amount 25.000			Recovery	= 1855.44%	
40) 2-Fluorobiphenyl (surr...	12.096	172	2081335	511.09 ug/l	0.00
Spiked Amount 25.000			Recovery	= 2044.36%	
61) 2,4,6-Tribromophenol (...	13.576	330	666316	1200.46 ug/l	-0.01
Spiked Amount 50.000			Recovery	= 2400.92%	
75) p-Terphenyl (surrogate)	15.921	230	2436481	938.71 ug/l	-0.01
Spiked Amount 25.000			Recovery	= 3754.84%	
Target Compounds					Qvalue
2) Pyridine	5.883	79	422458m	334.442 ug/l	
3) n-Nitrosodimethylamine	5.868	42	205210m	323.568 ug/l	
6) Aniline	9.297	93	146103	385.954 ug/l #	59
7) Phenol (ccc)	9.308	94	712842	364.898 ug/l #	82
8) 2-Chlorophenol	9.441	128	564026	403.278 ug/l	92
9) Bis(2-chloroethyl)ether	9.367	93	597424	430.678 ug/l	95
10) 1,3-Dichlorobenzene	9.596	146	559595	382.753 ug/l	96
11) 1,4-Dichlorobenzene (ccc)	9.676	146	568775	377.548 ug/l	97
12) Benzyl alcohol	9.821	79	373677	390.294 ug/l	95
13) 1,2-Dichlorobenzene	9.847	146	559473	386.211 ug/l	96
14) Bis(2-chloroisopropyl)...	9.960	45	756379	338.832 ug/l	97
15) 2-Methylphenol	9.960	108	550972	401.626 ug/l	95
16) n-Nitrosodi-n-propylam...	10.104	43	372478	383.259 ug/l	90
17) Hexachloroethane	10.211	117	171329	432.452 ug/l	93
18) 4-Methylphenol	10.120	107	696224	462.784 ug/l	87
21) Nitrobenzene	10.275	77	535434	375.697 ug/l	96
22) Isophorone	10.531	82	1125989	416.495 ug/l	95
23) 2-Nitrophenol (ccc)	10.611	139	285497	473.729 ug/l #	54
24) 2,4-Dimethylphenol	10.670	107	584841	429.386 ug/l	93
25) Bis(2-chloroethoxy)met...	10.745	93	669831	419.116 ug/l	96
26) Benzoic acid	10.857	105	351261	1045.247 ug/l #	83
27) 2,4-Dichlorophenol (ccc)	10.878	162	503861	368.021 ug/l	91
28) 1,2,4-Trichlorobenzene	10.948	180	508686	413.847 ug/l	98
29) Naphthalene	11.028	128	1739853	416.553 ug/l	99
30) 2,6-Dichlorophenol	11.103	162	515347	375.283 ug/l #	71
31) 4-Chloroaniline	11.113	127	213411m	486.926 ug/l	
32) Hexachlorobutadfiene (...	11.162	225	281735	416.729 ug/l	98
33) 4-Chloro-3-methylphenol	11.584	107	509313	389.127 ug/l	92
35) 2-Methylnaphthalene	11.733	142	1293644	445.164 ug/l	97

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_10.D
Acq On : 8 Aug 2017 10:14 pm
Operator : YE
Sample : 8270 S IDOC #4
: C :
ALS Vial : 9 Sample Multiplier: 33.333

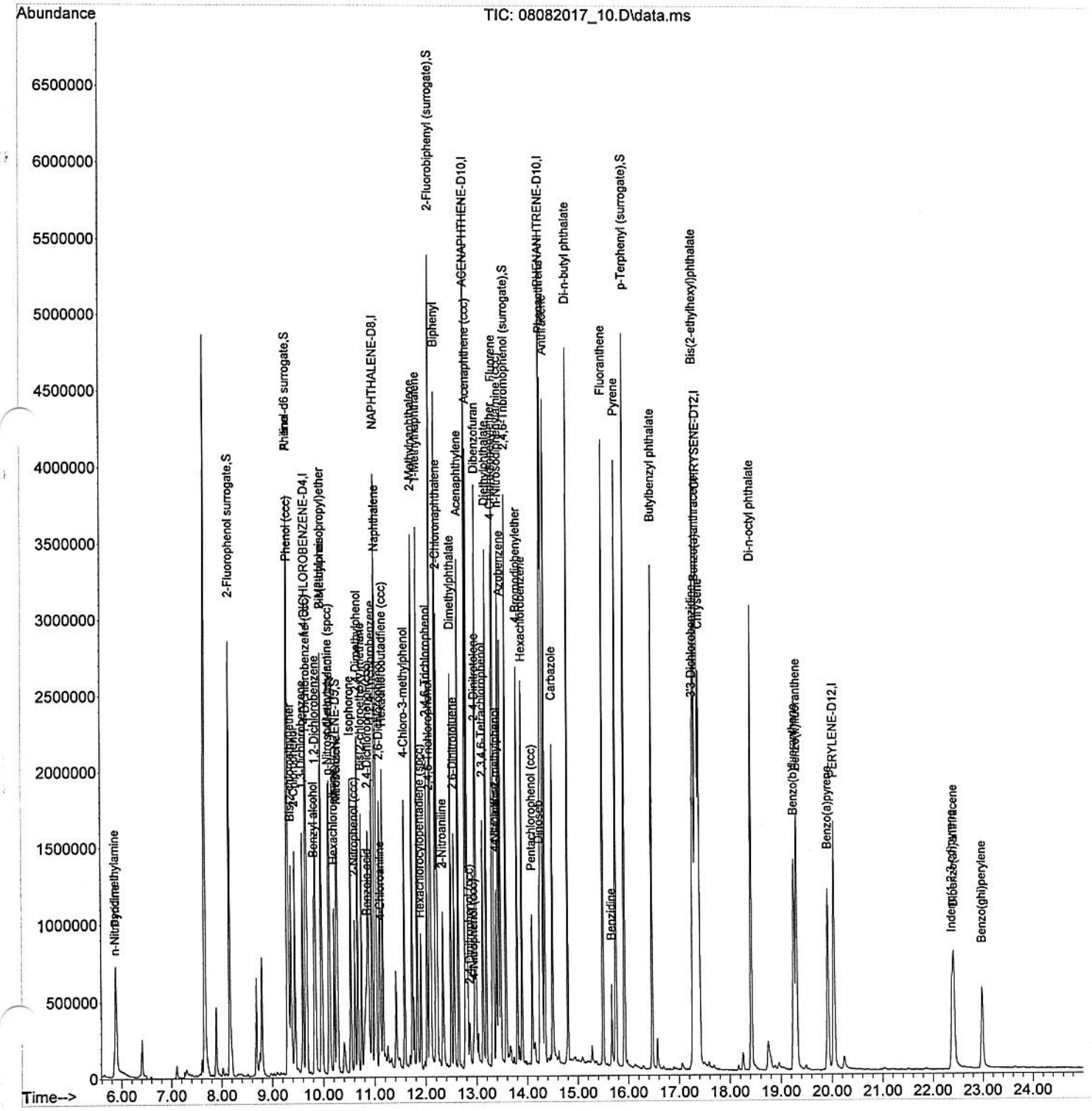
Quant Time: Aug 09 16:23:57 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
36)	1-Methylnaphthalene	11.835	142	1260866	393.510	ug/l		95
37)	Hexachlorocylopentadie...	11.899	237	53680	579.098	ug/l		89
38)	2,4,6-Trichlorophenol	12.022	196	376026	372.543	ug/l		93
39)	2,4,5-Trichlorophenol	12.075	196	406035	375.145	ug/l		95
41)	Biphenyl	12.198	154	1847415	498.481	ug/l		84
42)	2-Chloronaphthalene	12.225	162	1147365	423.458	ug/l		95
43)	2-Nitroaniline	12.337	138	379939	424.302	ug/l		84
44)	Dimethylphthalate	12.497	163	1417949	435.032	ug/l		94
45)	Acenaphthylene	12.641	152	1859141	455.621	ug/l		95
46)	2,6-Dinitrotoluene	12.556	165	301578	409.634	ug/l	#	53
47)	3-Nitroaniline	12.337	65	288704	423.899	ug/l	#	64
48)	Acenaphthene (ccc)	12.812	154	1208513	427.675	ug/l		98
49)	Dibenzofuran	12.989	168	1883100	467.721	ug/l		93
50)	4-Nitrophenol (ccc)	12.946	65	133817	397.314	ug/l	#	72
51)	2-4-Dinitrotolene	12.973	165	370995	391.155	ug/l		64
52)	2,3,4,6-Tetrachlorophenol	13.122	232	323509	424.415	ug/l		96
53)	2,4-Dinitrophenol (ccc)	12.866	184	87523	1773.859	ug/l	#	1
54)	Fluorene	13.331	166	1512303	436.435	ug/l		100
55)	Diethylphthalate	13.192	149	1455613	459.290	ug/l		97
6)	4-Chlorodiphenylether	13.309	204	757606	443.461	ug/l		92
57)	4-Nitroaniline	13.384	65	94766	327.363	ug/l	#	73
59)	n-Nitrosodiphenylamine...	13.432	169	1098979	516.362	ug/l		88
60)	Azobenzene	13.469	77	1307807	455.051	ug/l		96
62)	4,6-Dinitro-2-methylph...	13.389	198	260101	1547.549	ug/l	#	43
63)	4-Bromodiphenylether	13.801	248	463028	432.244	ug/l		91
64)	Hexachlorobenzene	13.897	284	487731	445.951	ug/l		97
65)	Pentachlorophenol (ccc)	14.094	266	171708	482.511	ug/l		98
66)	Phenanthrene	14.292	178	2185087	443.383	ug/l		97
67)	Anthracene	14.346	178	2222306	460.249	ug/l		95
68)	Dinoseb	14.244	211	240521	1401.213	ug/l		87
69)	Carbazole	14.500	167	1404512	578.125	ug/l		97
70)	Di-n-butyl phthalate	14.800	149	2601290	459.187	ug/l		100
71)	Fluoranthene	15.499	202	2389010	454.869	ug/l		95
72)	Benzidine	15.670	184	13590m	277.180	ug/l		
74)	Pyrene	15.751	202	2378580	460.057	ug/l		96
76)	Butylbenzyl phthalate	16.466	149	1052602	461.390	ug/l		93
77)	Benzo(a)anthracene	17.332	228	1973320	435.931	ug/l		98
78)	Chrysene	17.401	228	1913087	478.088	ug/l		99
79)	Bis(2-ethylhexyl)phtha...	17.294	149	1583149	478.800	ug/l		98
81)	3'3-Dichlorobenzidine	17.273	252	878056	807.002	ug/l		99
82)	Di-n-octyl phthalate	18.416	149	2451273	452.119	ug/l		99
83)	Benzo(b)fluoranthene	19.255	252	1379756	458.019	ug/l		99
84)	Benzo(k)fluoranthene	19.308	252	1393673	445.486	ug/l		99
85)	Benzo(a)pyrene	19.923	252	1109802	405.255	ug/l		100
86)	Indeno(1,2,3-cd)pyrene	22.380	276	786323	400.393	ug/l		96
87)	Dibenzo(ah)anthracene	22.418	278	667683	392.218	ug/l		95
88)	Benzo(ghi)perylene	22.984	276	579404	404.485	ug/l		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\08082017\
Data File : 08082017_10.D
Acq On : 8 Aug 2017 10:14 pm
Operator : YE
Sample : 8270 S IDOC #4
Misc :
ALS Vial : 9 Sample Multiplier: 33.333

Quant Time: Aug 09 16:23:57 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration



Data Path : C:\MSDCHEM\1\DATA\08082017\
Data File : 08082017_10.D
Acq On : 8 Aug 2017 10:14 pm
Operator : YE
Sample : 8270 S IDOC #4
: :
ALS Vial : 9 Sample Multiplier: 33.333

Quant Time: Aug 08 22:33:57 2017
Quant Method : C:\MSDCHEM\1\METHODS\C827008032017.M
Quant Title : EPA 8270D BARBARA GC/MS-2 HP5973 MonThu Jul 06 12:Mon Aug 07 11:25:32 2017
QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DICHLOROBENZENE-D4	9.655	150	956077	20.00	ug/l	0.00
19) NAPHTHALENE-D8	11.007	136	2450926	20.00	ug/l	0.00
34) ACENAPHTHENE-D10	12.780	164	1639987	20.00	ug/l	0.00
58) PHENANHTRENE-D10	14.271	188	2758574	20.00	ug/l	0.00
73) CHRYSENE-D12	17.359	240	2728956	20.00	ug/l	0.00
80) PERYLENE-D12	20.040	264	1384286	20.00	ug/l	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol surrogate	8.154	112	1295480	941.39	ug/l	0.00
Spiked Amount 50.000			Recovery	= 1882.78%		
5) Phenol-d6 surrogate	9.297	99	1873459	1026.41	ug/l	0.00
Spiked Amount 50.000			Recovery	= 2052.82%		
20) NITROBENZENE-D5	10.259	82	659513	463.86	ug/l	0.00
Spiked Amount 25.000			Recovery	= 1855.44%		
40) 2-Fluorobiphenyl (surr...	12.096	172	2081335	511.09	ug/l	0.00
Spiked Amount 25.000			Recovery	= 2044.36%		
61) 2,4,6-Tribromophenol (...	13.576	330	666316	1200.46	ug/l	-0.01
Spiked Amount 50.000			Recovery	= 2400.92%		
5) p-Terphenyl (surrogate)	15.921	230	2436481	938.71	ug/l	-0.01
Spiked Amount 25.000			Recovery	= 3754.84%		
Target Compounds						Qvalue
2) Pyridine	5.883	79	386282	305.803	ug/l #	74
3) n-Nitrosodimethylamine	5.868	42	181385	286.001	ug/l #	62
6) Aniline	9.297	93	146103	385.954	ug/l #	59
7) Phenol (ccc)	9.308	94	712842	364.898	ug/l #	82
8) 2-Chlorophenol	9.441	128	564026	403.278	ug/l	92
9) Bis(2-chloroethyl)ether	9.367	93	597424	430.678	ug/l	95
10) 1,3-Dichlorobenzene	9.596	146	559595	382.753	ug/l	96
11) 1,4-Dichlorobenzene (ccc)	9.676	146	568775	377.548	ug/l	97
12) Benzyl alcohol	9.821	79	373677	390.294	ug/l	95
13) 1,2-Dichlorobenzene	9.847	146	559473	386.211	ug/l	96
14) Bis(2-chloroisopropyl)...	9.960	45	756379	338.832	ug/l	97
15) 2-Methylphenol	9.960	108	550972	401.626	ug/l	95
16) n-Nitrosodi-n-propylam...	10.104	43	372478	383.259	ug/l	90
17) Hexachloroethane	10.211	117	171329	432.452	ug/l	93
18) 4-Methylphenol	10.120	107	696224	462.784	ug/l	87
21) Nitrobenzene	10.275	77	535434	375.697	ug/l	96
22) Isophorone	10.531	82	1125989	416.495	ug/l	95
23) 2-Nitrophenol (ccc)	10.611	139	285497	473.729	ug/l #	54
24) 2,4-Dimethylphenol	10.670	107	584841	429.386	ug/l	93
25) Bis(2-chloroethoxy)met...	10.745	93	669831	419.116	ug/l	96
26) Benzoic acid	10.857	105	351261	1045.247	ug/l #	83
27) 2,4-Dichlorophenol (ccc)	10.878	162	503861	368.021	ug/l	91
28) 1,2,4-Trichlorobenzene	10.948	180	508686	413.847	ug/l	98
29) Naphthalene	11.028	128	1739853	416.553	ug/l	99
30) 2,6-Dichlorophenol	11.103	162	515347	375.283	ug/l #	71
1) 4-Chloroaniline	11.113	127	179672	420.954	ug/l	93
32) Hexachlorobutadfiene (...	11.162	225	281735	416.729	ug/l	98
33) 4-Chloro-3-methylphenol	11.584	107	509313	389.127	ug/l	92
35) 2-Methylnaphthalene	11.733	142	1293644	445.164	ug/l	97

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QLast Update : Mon Aug 07 11:25:32 2017
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
36)	1-Methylnaphthalene	11.835	142	1260866	393.510	ug/l		95
37)	Hexachlorocylopentadie...	11.899	237	53680	579.098	ug/l		89
38)	2,4,6-Trichlorophenol	12.022	196	376026	372.543	ug/l		93
39)	2,4,5-Trichlorophenol	12.075	196	406035	375.145	ug/l		95
41)	Biphenyl	12.198	154	1847415	498.481	ug/l		84
42)	2-Chloronaphthalene	12.225	162	1147365	423.458	ug/l		95
43)	2-Nitroaniline	12.337	138	379939	424.302	ug/l		84
44)	Dimethylphthalate	12.497	163	1417949	435.032	ug/l		94
45)	Acenaphthylene	12.641	152	1859141	455.621	ug/l		95
46)	2,6-Dinitrotoluene	12.556	165	301578	409.634	ug/l	#	53
47)	3-Nitroaniline	12.337	65	288704	423.899	ug/l	#	64
48)	Acenaphthene (ccc)	12.812	154	1208513	427.675	ug/l		98
49)	Dibenzofuran	12.989	168	1883100	467.721	ug/l		93
50)	4-Nitrophenol (ccc)	12.946	65	133817	397.314	ug/l	#	72
51)	2-4-Dinitrotolene	12.973	165	370995	391.155	ug/l		64
52)	2,3,4,6-Tetrachlorophenol	13.122	232	323509	424.415	ug/l		96
53)	2,4-Dinitrophenol (ccc)	12.866	184	87523	1773.859	ug/l	#	1
54)	Fluorene	13.331	166	1512303	436.435	ug/l		100
55)	Diethylphthalate	13.192	149	1455613	459.290	ug/l		97
6)	4-Chlorodiphenylether	13.309	204	757606	443.461	ug/l		92
57)	4-Nitroaniline	13.384	65	94766	327.363	ug/l	#	73
59)	n-Nitrosodiphenylamine...	13.432	169	1098979	516.362	ug/l		88
60)	Azobenzene	13.469	77	1307807	455.051	ug/l		96
62)	4,6-Dinitro-2-methylph...	13.389	198	260101	1547.549	ug/l	#	43
63)	4-Bromodiphenylether	13.801	248	463028	432.244	ug/l		91
64)	Hexachlorobenzene	13.897	284	487731	445.951	ug/l		97
65)	Pentachlorophenol (ccc)	14.094	266	171708	482.511	ug/l		98
66)	Phenanthrene	14.292	178	2185087	443.383	ug/l		97
67)	Anthracene	14.346	178	2222306	460.249	ug/l		95
68)	Dinoseb	14.244	211	240521	1401.213	ug/l		87
69)	Carbazole	14.500	167	1404512	578.125	ug/l		97
70)	Di-n-butyl phthalate	14.800	149	2601290	459.187	ug/l		100
71)	Fluoranthene	15.499	202	2389010	454.869	ug/l		95
72)	Benzidine	15.670	184	11326	251.394	ug/l	#	61
74)	Pyrene	15.751	202	2378580	460.057	ug/l		96
76)	Butylbenzyl phthalate	16.466	149	1052602	461.390	ug/l		93
77)	Benzo(a)anthracene	17.332	228	1973320	435.931	ug/l		98
78)	Chrysene	17.401	228	1913087	478.088	ug/l		99
79)	Bis(2-ethylhexyl)phtha...	17.294	149	1583149	478.800	ug/l		98
81)	3'3-Dichlorobenzidine	17.273	252	878056	807.002	ug/l		99
82)	Di-n-octyl phthalate	18.416	149	2451273	452.119	ug/l		99
83)	Benzo(b)fluoranthene	19.255	252	1379756	458.019	ug/l		99
84)	Benzo(k)fluoranthene	19.308	252	1393673	445.486	ug/l		99
85)	Benzo(a)pyrene	19.923	252	1109802	405.255	ug/l		100
86)	Indeno(1,2,3-cd)pyrene	22.380	276	786323	400.393	ug/l		96
87)	Dibenzo(ah)anthracene	22.418	278	667683	392.218	ug/l		95
88)	Benzo(ghi)perylene	22.984	276	579404	404.485	ug/l		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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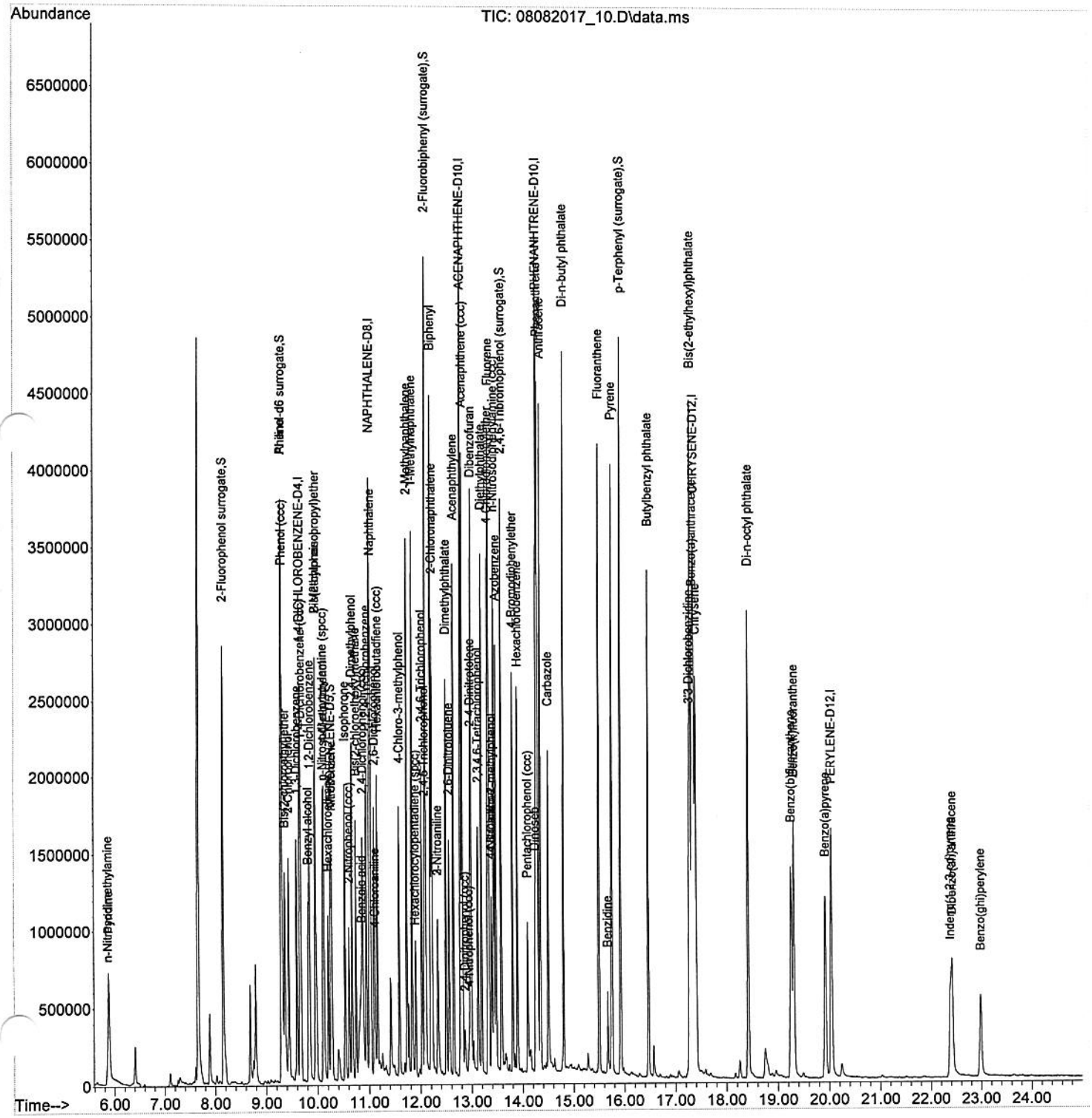


Soil Extraction Log **Method #** 8270D-IDOC **Extraction Method** 3550

	Std. ID	Amt. Added	Initials
Surrogate	1700219	1.0ml	EP
Spike	B270IQ/B270IQX	1.0ml	EP
Internal Std.			

Batch#:
Analyst: AC/YE
Date: 08-08-2017
Transferred to vials by: EP/MR

Initial Solvent: DCM
Final Solvent: DCM

Log #	Sample Description	Sample Date	Weight Extracted (g)	Final Vol	Clean up method	Comments
	MB	08-08-17	30.06	1ml	N/A	
	LCS	–	–			
	MS	–	–			
	MSD	–	–			
	IDOC #1	08-08-17	30.04			B270DIQ 20ug/ml 12-05-16
	#2		30.02			
	#3		30.13			
	#4		30.14			
	IDOC #1	08-08-17	30.07			B270DIQXL 20ug/ml 12-30-16
	#2		30.05			
	#3		30.07			
	#4		30.02			

Balance ID	SV24	Sonicator
Cal. Date	08-08-17	#2

Item	Lot #
Filter Paper:	465
Sodium Sulfate:	466
Sodium Sulfate Acidified:	
Silica Gel:	
Hydrochloric Acid:	
KOH 37%	
Sililic Acid:	
Sulfuric Acid 12N:	
Ethyl Ether	
Blank Sand	367
(specify size) pipette:	
Hexane	
Tongue depressor	471
Pasteur pipette:	442
1.8 ml vials	461
1.8 mL vial caps:	459
20 mL vials:	
MTBE	
Diazomethane:	
Iso-Octane:	
Methanol:	
Hexane/Acetone 1:1:	
DCM/Acetone 1:1:	
Cu:	
DCM:	1450/66

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700219

Description:	SU-8270 11/18/16 625/8270	Expires:	5/12/2019
Standard Type:	Surrogate Spike	Prepared:	5/12/2017
Solvent:	ACETONE SV 411	Prepared By:	Albert Castellanos
Final Volume (mls):	250	Department:	SVOCGCMS
Vials:	1	Last Edit:	09/15/2017 06:00 by MLR
Vendor:	AA	Lot Number:	8270D

Analyte	CAS Number	Concentration	Units
Phenol-d6		50	ug/mL
p-Terphenyl	92-94-4	25	ug/mL
Nitrobenzene-d5	NA	25	ug/mL
2-Fluorophenol	367-12-4	50	ug/mL
2-Fluorobiphenyl	321-60-8	25	ug/mL
2,4,6-Tribromophenol	118-79-6	50	ug/mL

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1600620

Description:	IQ-8270D-120516	Expires:	12/31/2020
Standard Type:	Analyte Spike	Prepared:	12/5/2016
Solvent:	Acetone SV379	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGCMS
Vials:	1	Last Edit:	12/15/2017 11:15 by ROL
Vendor:	AA	Lot Number:	120516

FSV0980 / FSV0981 / FSV0982 / FSV0983 / FSV0792 / FSV0950 / FSV0946 / FSV0947 / FSV0948 / FSV0949 /

Analyte	CAS Number	Concentration	Units
Acenaphthene	83-32-9	20	ug/mL
1,2,4-Trichlorobenzene	120-82-1	20	ug/mL
3-Nitroaniline	99-09-2	19.72	ug/mL
4,6-Dinitro-2-methylphenol	534-52-1	50.09	ug/mL
4-Bromophenyl phenyl ether	101-55-3	19.68	ug/mL
4-Chloro-3-methylphenol	59-50-7	20.03	ug/mL
4-Chloroaniline	106-47-8	20	ug/mL
4-Chlorophenyl phenyl ether	7005-72-3	19.72	ug/mL
2-Nitrophenol	88-75-5	20.08	ug/mL
4-Nitrophenol	100-02-7	19.9	ug/mL
2-Nitroaniline	88-74-4	19.98	ug/mL
Acenaphthylene	208-96-8	19.68	ug/mL
Aniline	62-53-3	19.6	ug/mL
Anthracene	120-12-7	20.04	ug/mL
Benzidine	92-87-5	20	ug/mL
Benzo (a) anthracene	56-55-3	20.08	ug/mL
Benzo (b) fluoranthene	205-99-2	20.02	ug/mL
Benzo (g,h,i) perylene	191-24-2	19.73	ug/mL
4-Nitroaniline	100-01-6	19.92	ug/mL
2,4-Dimethylphenol	105-67-9	20.1	ug/mL
1,2-Dichlorobenzene	95-50-1	19.84	ug/mL
1,2-Diphenylhydrazine as Azobenzene	103-33-3	19.88	ug/mL
1,3-Dichlorobenzene	541-73-1	19.78	ug/mL
1,4-Dichlorobenzene	106-46-7	19.66	ug/mL
1-Methylnaphthalene	90-12-0	20.05	ug/mL
2,3,4,6-Tetrachlorophenol	58-90-2	20	ug/mL
2,4,5-Trichlorophenol	95-95-4	20.17	ug/mL
3,3'-Dichlorobenzidine	91-94-1	19.86	ug/mL
2,4-Dichlorophenol	120-83-2	20.04	ug/mL
Benzoic acid	65-85-0	50.13	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1600620

2,4-Dinitrophenol	51-28-5	50.08	ug/mL
2,4-Dinitrotoluene	121-14-2	20	ug/mL
2,6-Dichlorophenol	87-65-0	20.08	ug/mL
2,6-Dinitrotoluene	606-20-2	20.04	ug/mL
2-Chloronaphthalene	91-58-7	19.6	ug/mL
2-Chlorophenol	95-57-8	19.98	ug/mL
2-Methylnaphthalene	91-57-6	19.71	ug/mL
2,4,6-Trichlorophenol	88-06-2	20.05	ug/mL
Naphthalene	91-20-3	19.7	ug/mL
Hexachlorobutadiene	87-68-3	19.66	ug/mL
Hexachlorocyclopentadiene	77-47-4	19.79	ug/mL
Hexachloroethane	67-72-1	20.09	ug/mL
Indeno(1,2,3-cd)pyrene	193-39-5	20.03	ug/mL
Isophorone	78-59-1	19.7	ug/mL
Methyl Methanesulfonate	66-27-3	20.13	ug/mL
N-Nitrosodi-n-propylamine	621-64-7	19.92	ug/mL
Benzo (k) fluoranthene	207-08-9	20.11	ug/mL
N-Nitrosodiphenylamine	86-30-6	20.01	ug/mL
Fluoranthene	206-44-0	19.72	ug/mL
Nitrobenzene	98-95-3	19.96	ug/mL
o-Cresol	95-48-7	19.95	ug/mL
p-Cresol	106-44-5	20.07	ug/mL
Pentachlorophenol	87-86-5	19.83	ug/mL
Phenanthrene	85-01-8	20.04	ug/mL
Phenol	108-95-2	19.98	ug/mL
Pyrene	129-00-0	19.68	ug/mL
N-Nitrosodimethylamine	62-75-9	20.09	ug/mL
Di-n-butyl phthalate	84-74-2	19.68	ug/mL
Pyridine	110-86-1	19.75	ug/mL
Benzyl alcohol	100-51-6	19.71	ug/mL
Biphenyl	92-52-4	20	ug/mL
Bis(2-chloroethoxy)methane	111-91-1	20.09	ug/mL
Bis(2-chloroethyl)ether	111-44-4	19.85	ug/mL
Bis(2-chloroisopropyl)ether	39638-32-9	20.01	ug/mL
Bis(2-ethylhexyl) phthalate	117-81-7	19.96	ug/mL
Hexachlorobenzene	118-74-1	20.02	ug/mL
Chrysene	218-01-9	19.96	ug/mL
Fluorene	86-73-7	19.7	ug/mL
Di-n-octyl phthalate	117-84-0	19.63	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1600620

Dibenz(a,h)anthracene	53-70-3	19.96	ug/mL
Dibenzofuran	132-64-9	20.01	ug/mL
Diethyl phthalate	84-66-2	20.06	ug/mL
Dimethyl phthalate	131-11-3	19.66	ug/mL
Dinoseb	88-85-7	30.07	ug/mL
Ethyl Methanesulfonate	62-50-0	20.16	ug/mL
Benzo(a)pyrene	50-32-8	20.01	ug/mL
Butyl benzyl phthalate	85-68-7	19.72	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1600549	FSV0946 / 2,4-Dinitrophenol	10/22/201	** Vendor **	10/22/202	12/01/2016 09:03 by JF	3
1600550	FSV0947 / 4,6-Dinitro-2-methylph	10/23/201	** Vendor **	10/23/202	12/01/2016 09:03 by JF	3
1600551	FSV0948 / Dinoseb	12/30/201	** Vendor **	12/30/202	12/01/2016 09:05 by JF	3
1600552	FSV0949 / Benzoic acid	07/12/201	** Vendor **	07/12/202	12/01/2016 09:08 by JF	3
1600553	FSV0950 / 1-Methylnaphthalene	12/21/201	** Vendor **	12/21/202	12/01/2016 09:10 by JF	2
1600583	FSV0980 / B/N Composite MIX	08/29/201	** Vendor **	08/29/201	12/01/2016 11:49 by JF	1
1600584	FSV0981 / Benzidine & 3,3-Dichlc	08/09/201	** Vendor **	08/09/201	12/01/2016 11:52 by JF	1
1600585	FSV0982 / Composite MIX #2	10/24/201	** Vendor **	10/24/201	12/01/2016 11:56 by JF	1
1600586	FSV0983 / Acid Composite MIX	06/07/201	** Vendor **	06/07/201	12/01/2016 12:08 by JF	1
1600621	FSV0792 / Biphenyl	07/09/201	** Vendor **	12/09/201	12/23/2016 08:50 by JF	2

Reviewed By _____ Date _____

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Karina Ramirez	Karina Ramirez	5/1/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
SM9222D	☐ Water ☐ DW ☐ ~~Solid~~ ☐ Other: _____	020616-003
Analyte or Class of Analytes		
Fecal Sludge		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

---

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Karina Ramirez *Analyst*	*Signature*	4/28/18 *Date*
Shaw Mercer *Technical Director*	*Signature*	4/28/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	5/1/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

X Initial Demonstration of Capability

___ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Solid
DATE OF ANALYSIS:	4/27/2018
ANALYZED BY:	Karina Ramirez
METHOD NUMBER:	SM 9222D Sludge
EXTRACTION METHOD (IF APPLY):	Membrane Filtration
INCUBATOR ID:	Micro -25
LAMP ID	Micro-28
THERMOMETER ID:	Micro-25 (digital)
MEDIA:	MFC042318
BUFFER ID:	phosph033018
MEMBRANE FILTERS Lot:	70602202
BACTI BOTTLES Lot:	MN003V
EXTRACTED BY:	Karina Ramirez
DATE EXTRACTED:	4/26/2018
ACCEPTANCE CRITERIA:	81-730 CFU/g

Standards Used:	Std. ID#	Conc.
Biosolids Micro-Class A (18D0622)	Lot #:5291-18	207 CFU/g
Surrogate	na	na
Internal Standard	na	na

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	CFU/g	CFU/g	CFU/g	CFU/g	CFU/g	CFU/g			
Fecal Coliform	207	585	560	620	350	529	23.01	255.43	121.68

SM 9222D Fecal Coliform Membrane Filtration (Sludge)

Incubation	Analysis	Sample #	Sample ID	Incubator (44.5 ± 0.2°C): Micro 126 ROC 6/6/18
Date 04/26/16	Date 04/27/16	% Dry Solids 100%	Media MF/042316	Sludge Classification Class A Class B
Time Start: 12:55	Time 13:00	Run # 16D0753	Buffer ID# PUOSPH033016	Chlorine Check:
Time Stop: 13:00	Analyst: KR/JR	Bacti Bottle# MA00036	Balance: N/A	Incubation Time In: 131.00 Temperature In: 44.5
Analyst: KR/JR		Membrane Filter # 70602202	Scale Calibrated: N/A	Incubation Time Out 131.00 Temperature Out: 44.5
		Chlorine Strips: 542mA	Pipette: BD27	

Class A

Dilution A (0.1g/mL) 10g of sample in 100mL DI water

Dilution B (0.2g/mL) 20g of sample in 100mL DI water

Dilution	Volume Filtered	Colonies Counted
BB	**100 mL**	0
0.1g/mL	1mL of DIL A x2	62, 35
0.2g/mL	1mL DIL B *OR* 2mL DIL A x2	117, 112
EB	**100 mL**	0

Class B

Dilution A (0.01g/mL) 1g of sample in 100mL DI water

Dilution B (0.0001g/mL) 1mL of DIL A in 100mL DI water

Dilution	Volume Filtered	Colonies Counted
BB	**100 mL**	
0.1g/mL	10mL of Dilution A	
0.01g/mL	1mL of Dilution A	
0.001g/mL	10mL of Dilution B	
0.0001g/mL	1mL of Dilution B	
EB	**100 mL**	

Fecal Coliforms/g = $\frac{117, 112}{(0.2)\times(1.000)} = \frac{117, 112}{0.2} = 585,560$

Fecal Coliforms/g = $\frac{62, 35}{(0.1)\times(1.000)} = \frac{62, 35}{0.1} = 620,350$

Fecal Coliforms/g = _____ = _____ = _____

(0.01)x( )

Fecal Coliforms/g = _____ = _____ = _____

(0.001)x( )

Fecal Coliforms/g = _____ = _____ = _____

(0.0001)x( )

Fecal Coliforms/g = $\frac{\text{colonies counted}}{\text{(dilution) x (\% dry solids*)}}$

*expressed in decimal form

Fecal Coliforms/g* = $\frac{585,560, 620,350}{\text{Avg.} = 529}$

*Use the calculation that is based on the least dilute sample volume and colony count within the range of 20 - 60

Reviewed by: _____

Date 04/27/16

Document Control #: 0401616-012

Date: 9/12/16

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
DB	DB	8/22/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
FLEN-SW 846 1010	☐ Water ☐ DW ☐ Solid ☐ Other: Chemical Material	0201218-004
Analyte or Class of Analytes		
Flashpoint		

We, the undersigned, CERTIFY that:

1. The analyst identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona	David Barahona	8/21/19	
Analyst	*Signature*	*Date*	
Sophia Andre	Sophia Andre	8-21-19	
Technical Director	*Signature*	*Date*	
Roxana Llambias		8/22/19	
Quality Assurance Director	*Signature*	*Date*	

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Liquid Solid and Chemical Material
DATE OF ANALYSIS:	8/21/2019
ANALYZED BY:	David Barahona
METHOD NUMBER:	EPA1010
EXTRACTION METHOD (IF APPLY):	NA
INSTRUMENT ID:	WET-48
THERMOMETER ID:	3468
EXTRACTED BY:	NA
DATE EXTRACTED:	NA
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	41-WC-07	87.8 °F
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	°F	°F	°F	°F	°F	°F			
Ignitability	87.8	88.0	88.0	90.0	89.0	88.8	1.08	101	0.957

Note: Only for solid matrices were sample can be stirrer inside the cup.

Ignitability Log Book

SW-846 Method EPA 1010

Florida Environmental

	% Recovery	% RPD
LCS:	411-WC-87	N/A
DUP:		

Acceptance Criteria: 90-110%

Inst. ID: Koehler K16200 (WET-48)
Thermometer ID: 3468
Analyst: DB / SA
Date: ~~8/21/19~~ * 8/21/19
Batch:
Matrix: L

Work Order #	Sample ID	Flashpoint °F	Comments
Method Blank	DI Water	~~>200*~~	* >200°F DB 8/21/19
LCS			
JDOC DB 1	411-WC-07	*~~84~~ 88	* Correct recorded temperature is 88°
2	↓	88	
3		90	
4		89	
LCS			
Blank			
LCS			
Blank			

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Janet Echevarria	Estela Martinez	10/18/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
FCPRO	☐ Water ☐ DW ☑ Solid ☐ Other: _____	020141 6-019
Analyte or Class of Analytes		
TPH		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Janet Echevarria/Estela Martinez	Estela Martinez	10/18/17
Analyst	*Signature*	*Date*
Albert Castellanos		10/18/17
Technical Director	*Signature*	*Date*
Roxana Llambias		10/18/17
Quality Assurance Director	*Signature*	*Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability Estela/Yanet
___ Continuing Demostration of Capabilities

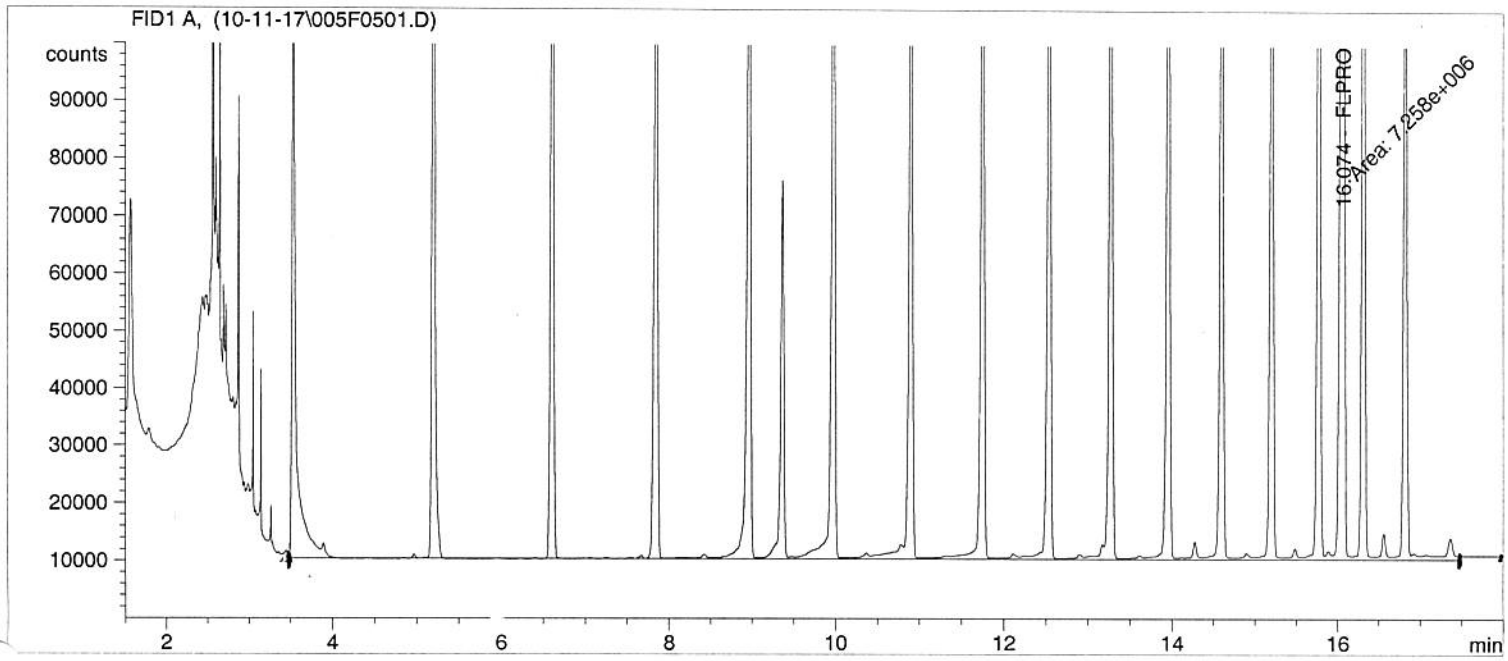
MATRIX:	SOLID
DATE OF ANALYSIS:	10/11/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	FLPRO
EXTRACTION METHOD (IF APPLY):	3550
INSTRUMENT ID:	RAY
EXTRACTED BY:	Estela Martimez
DATE EXTRACTED:	10/11/2017
ACCEPTANCE CRITERIA:	63-153%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	IQC-PRO-060116	2040 ppm
Surrogate	SU-PRO-091217	50/300 ppm
Internal Standard	N/A	N/A

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
FL-PRO	67.9	67.90	66.90	67.06	65.22	66.77	1.68	98.3	1.12

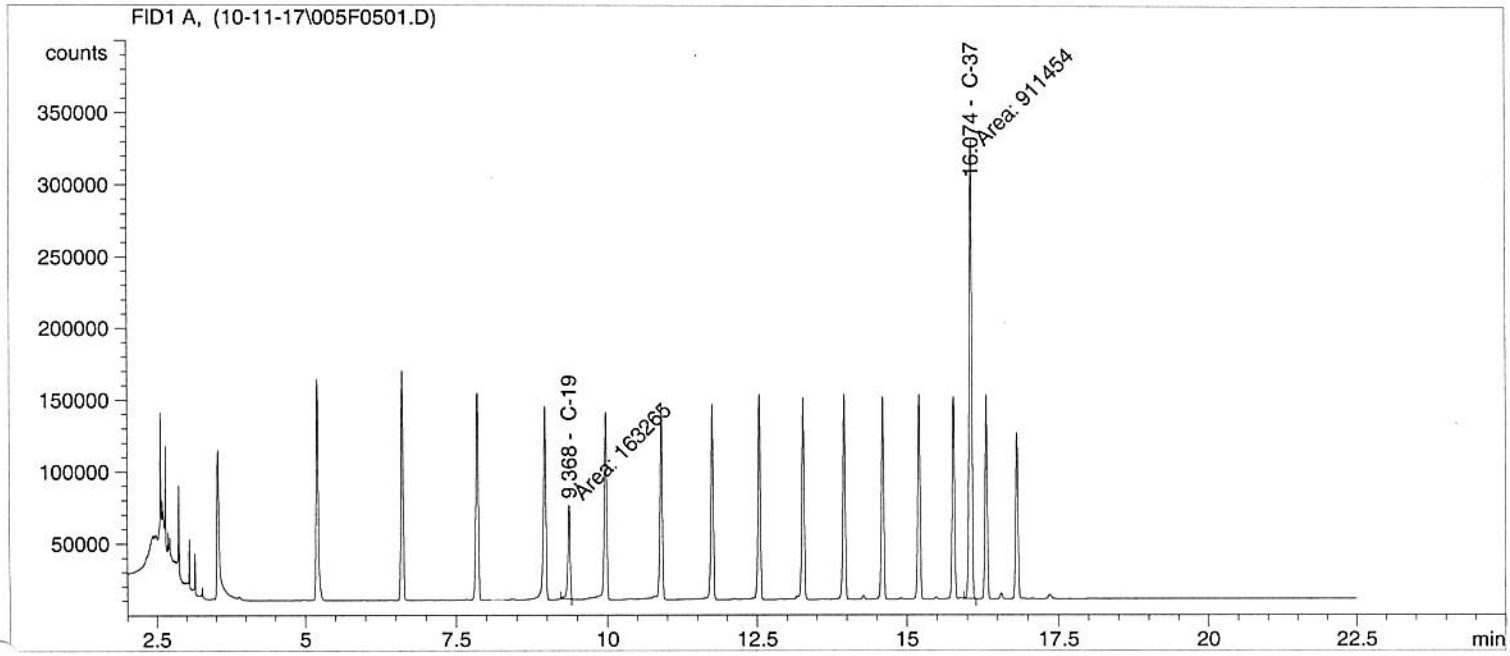
```
==========================================================================
Injection Date  : 10/11/2017 2:24:23 PM          Seq. Line :   5
Sample Name     : IDOC SOIL #1                    Location : Vial 5
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                           Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
 ast changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    6.600e-2
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ng/ul]
-------|------|----------|----------|----------|--|------------------
 16.074 MM     7.25800e6  1.62522e-4   77.85270     FLPRO

Totals :                                77.85270

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

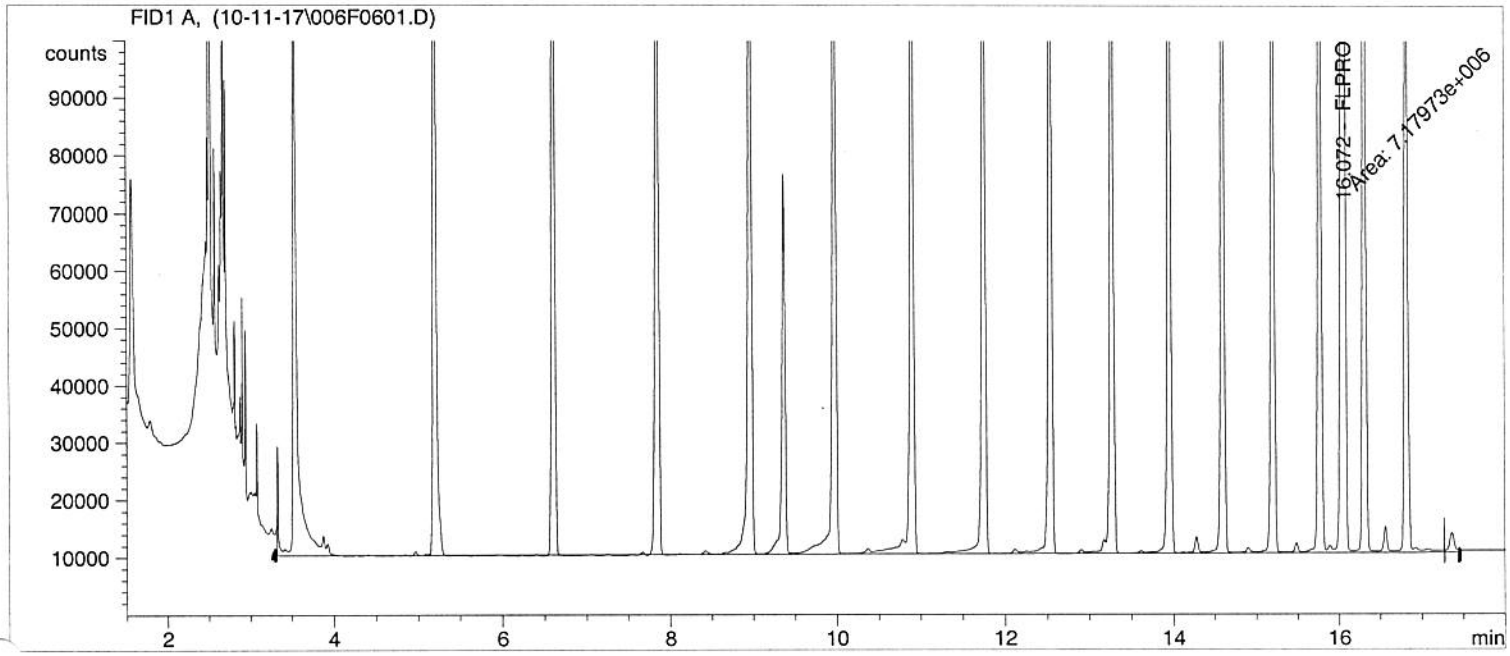
77.9 @ 10/13/17
- 10
67.9

```
==========================================================================
Injection Date  : 10/11/2017 2:24:23 PM          Seq. Line :   5
Sample Name     : IDOC SOIL #1                    Location : Vial 5
Acq. Operator   : AC                                  Inj :   1
Acq. Instrument : RAY                          Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
 ast changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AS100617.M
Last changed    : 10/9/2017 11:16:38 AM by AC
FLPRO SURROGATE BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, October 09, 2017 11:16:01 AM
Multiplier            :    6.600e-2
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ng/ul]
-------|------|----------|----------|----------|--|-----------------
  9.368 MM     1.63265e5  1.37647e-4    1.48321    C-19
 16.074 MM     9.11454e5  1.42090e-4    8.54755    C-37

Totals :                                10.03076

 Results obtained with enhanced integrator!
==========================================================================
                        *** End of Report ***
```

```
Injection Date  : 10/11/2017 3:02:12 PM          Seq. Line :   6
Sample Name     : IDOC SOIL #2                    Location : Vial 6
Acq. Operator   : AC                                  Inj :   1
Acq. Instrument : RAY                         Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
 ast changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    6.600e-2
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ng/ul]	Grp	Name
16.072	MM	7.17973e6	1.62522e-4	77.01307		FLPRO

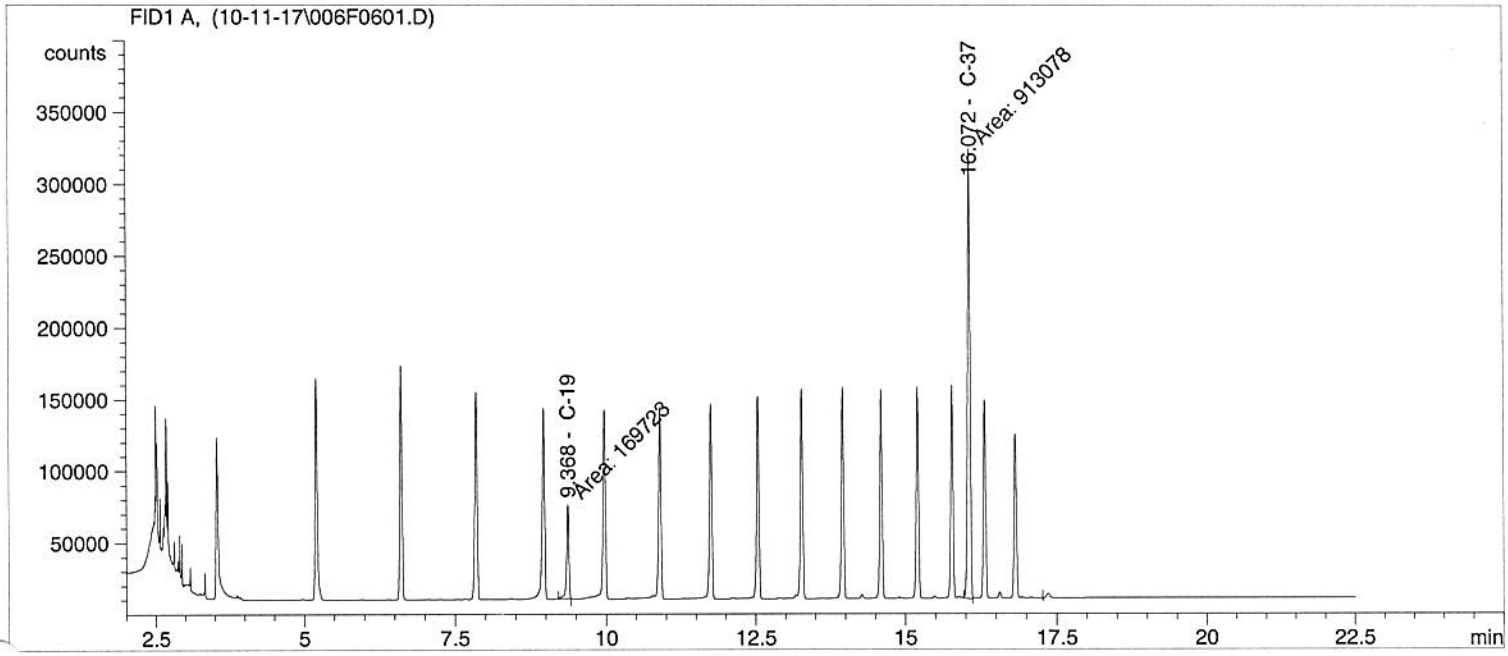
Totals : 77.01307

Results obtained with enhanced integrator!

*** End of Report ***

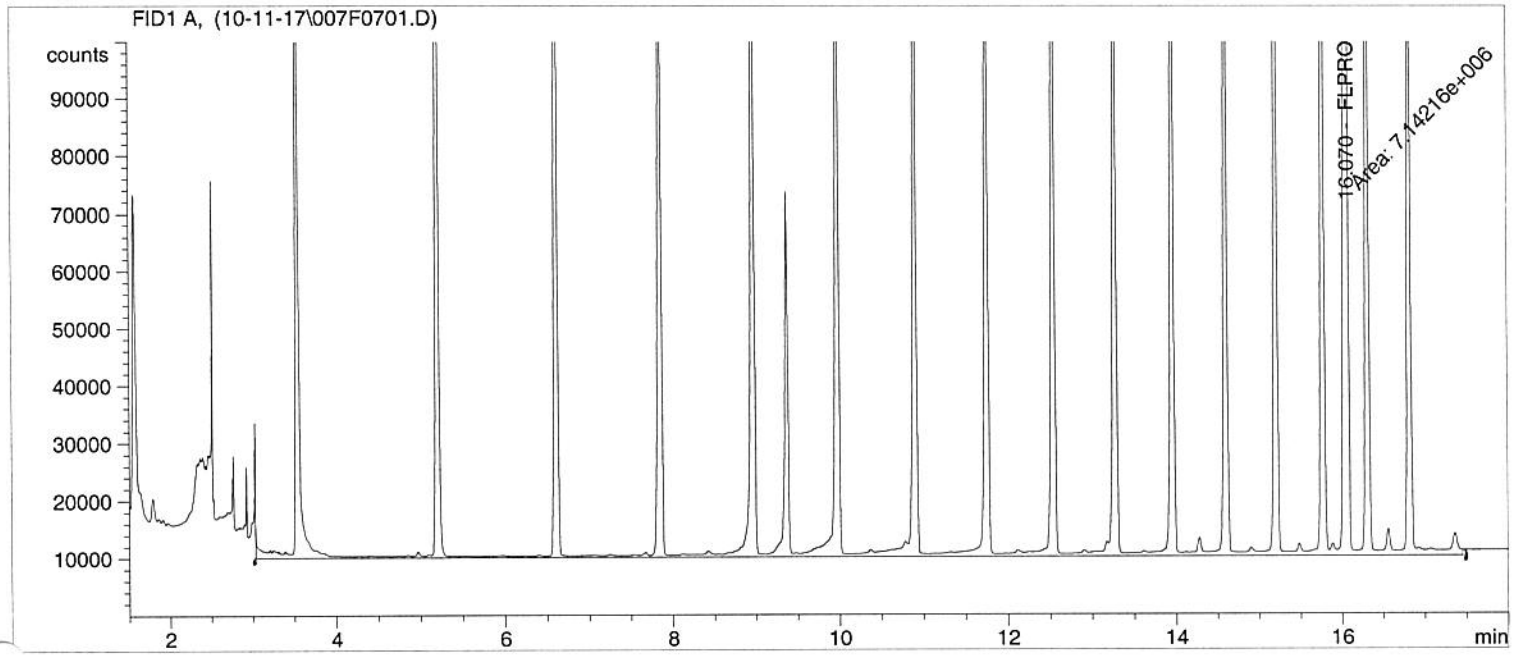
77.01307 / 10.10466 / 100.70841

```
==========================================================================
Injection Date  : 10/11/2017 3:02:12 PM          Seq. Line :   6
Sample Name     : IDOC SOIL #2                    Location : Vial 6
Acq. Operator   : AC                                  Inj :   1
Acq. Instrument : RAY                          Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
 ast changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AS100617.M
Last changed    : 10/9/2017 11:16:38 AM by AC
FLPRO SURROGATE BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, October 09, 2017 11:16:01 AM
Multiplier            :    6.600e-2
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  9.368 MM     1.69723e5  1.37647e-4    1.54188    C-19
 16.072 MM     9.13078e5  1.42090e-4    8.56279    C-37

Totals :                                10.10466

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

```
Injection Date  : 10/11/2017 3:39:31 PM          Seq. Line :   7
Sample Name     : IDOC SOIL #3                   Location : Vial 7
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
 ast changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AP100617.M
Last changed    : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
```



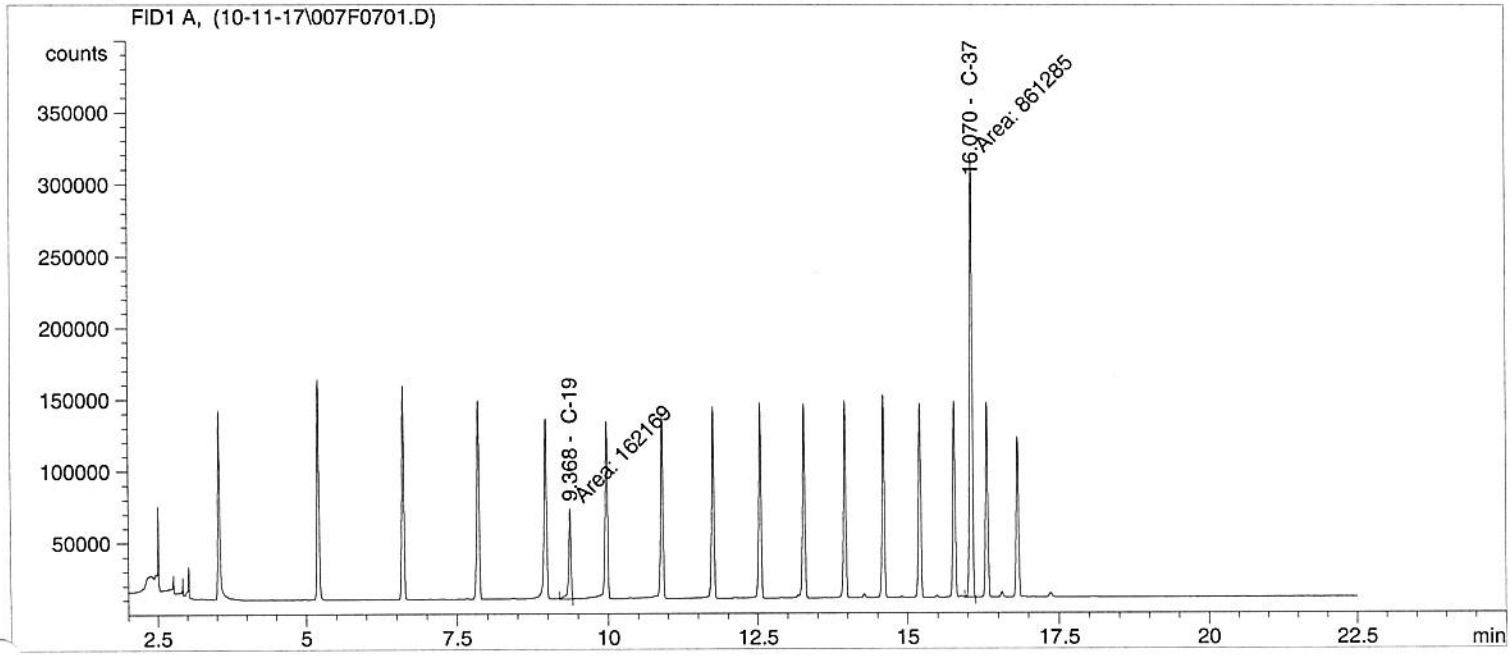
External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    6.600e-2
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
 16.070 MM     7.14216e6  1.62522e-4   76.61011     FLPRO

Totals :                                76.61011

 Results obtained with enhanced integrator!
```

*** End of Report ***

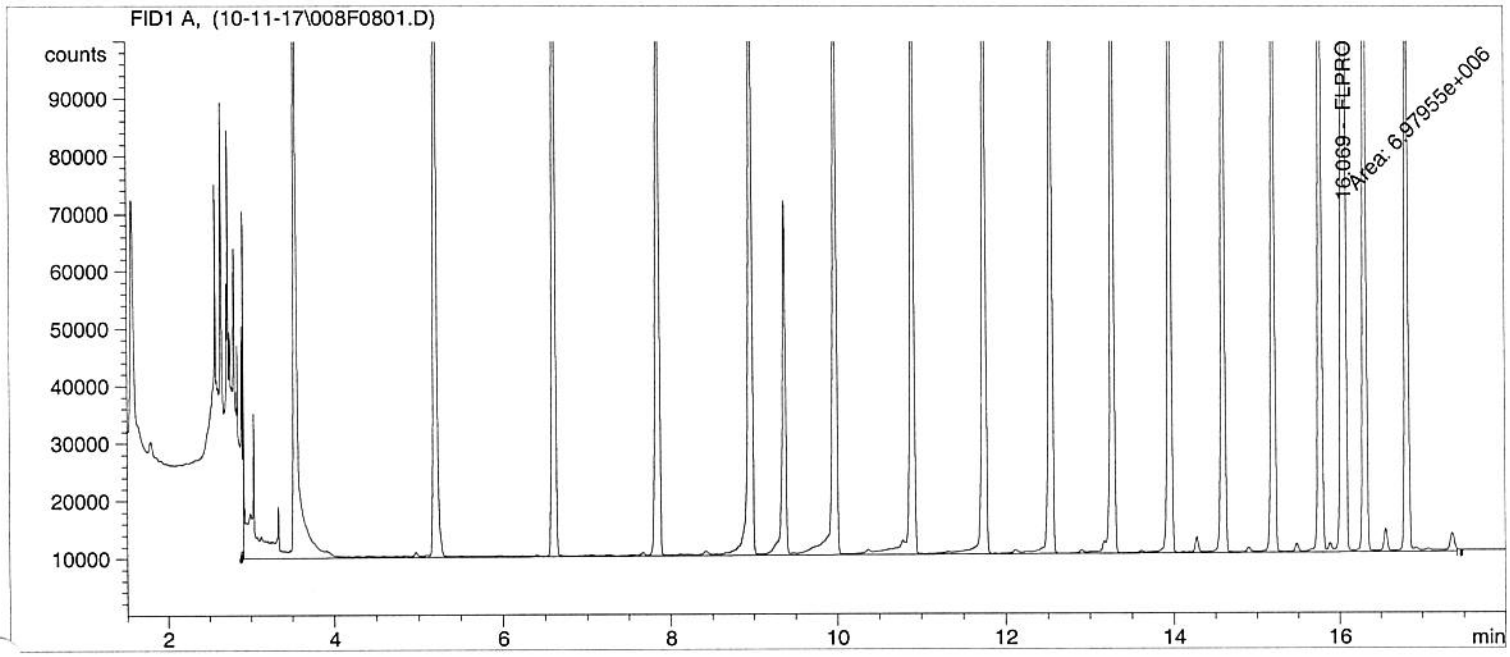
76.61011
5.27551 n/a 4k 101315
± analysis 9.33033.
67.05778.

```
==========================================================================
Injection Date  : 10/11/2017 3:39:31 PM          Seq. Line :   7
Sample Name     : IDOC SOIL #3                    Location : Vial 7
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                           Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
Last changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AS100617.M
Last changed    : 10/9/2017 11:16:38 AM by AC
FLPRO SURROGATE BY RAY GC#3 FID A
==========================================================================
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, October 09, 2017 11:16:01 AM
Multiplier            :    6.600e-2
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ng/ul]
-------|------|----------|----------|----------|--|------------------
  9.368 MM     1.62169e5  1.37647e-4    1.47325    C-19
 16.070 MM     8.61285e5  1.42090e-4    8.07707    C-37

Totals :                                 9.55033

 Results obtained with enhanced integrator!
==========================================================================
                          *** End of Report ***
```

```
Injection Date   : 10/11/2017 4:16:58 PM          Seq. Line :   8
Sample Name      : IDOC SOIL #4                   Location : Vial 8
Acq. Operator    : AC                                 Inj :   1
Acq. Instrument  : RAY                          Inj Volume : 2 µl
Acq. Method      : C:\HPCHEM\1\METHODS\DUAL.M
Last changed     : 12/16/2015 1:59:43 PM by JR
Analysis Method  : C:\HPCHEM\1\METHODS\AP100617.M
Last changed     : 10/9/2017 11:28:05 AM by AC
FLPRO BY RAY GC#3 FID A
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      10/9/2017 11:27:51 AM
Multiplier            :    6.600e-2
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ng/ul]	Grp	Name
16.069	MM	6.97955e6	1.62522e-4	74.86590		FLPRO

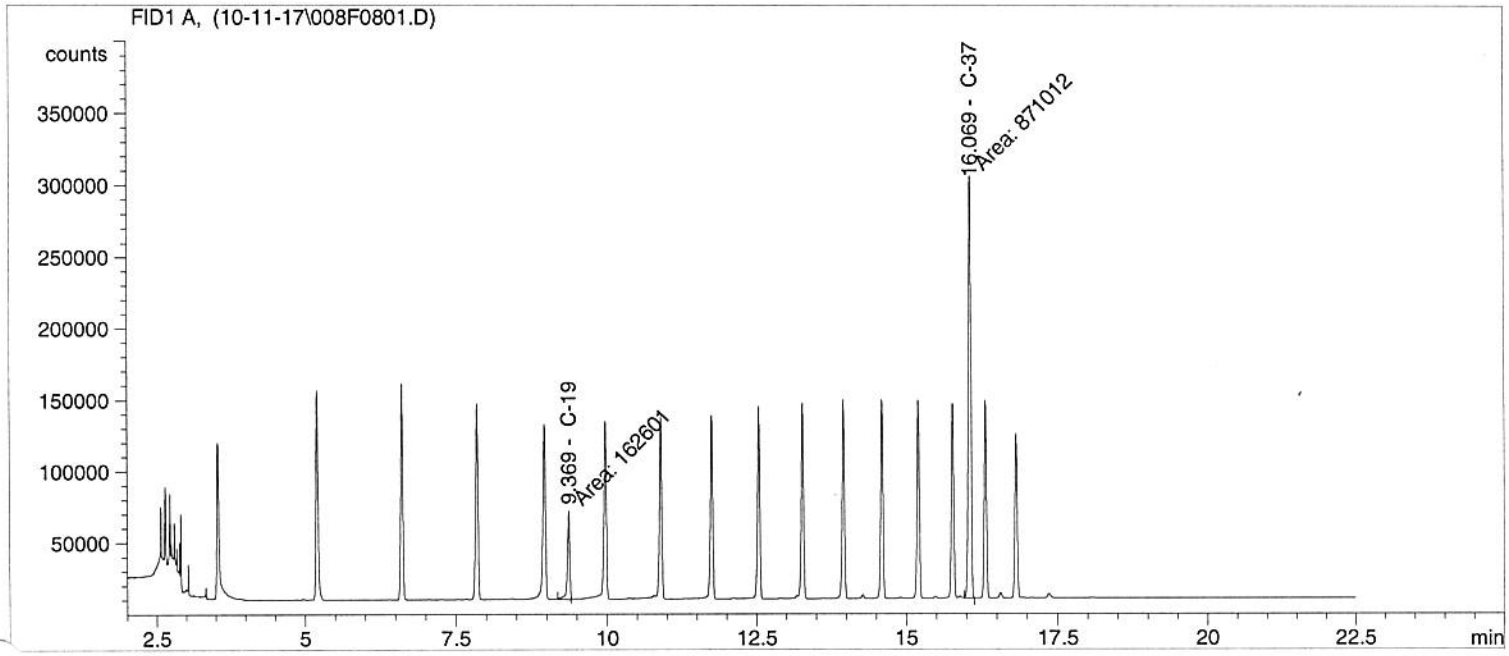
Totals : 74.86590

Results obtained with enhanced integrator!

*** End of Report ***

74.86590 + 29.42274/4.0496 101317 · 4.0496 9.6454 X 65.22043 ·

```
Injection Date  : 10/11/2017 4:16:58 PM          Seq. Line :   8
Sample Name     : IDOC SOIL #4                   Location : Vial 8
Acq. Operator   : AC                                 Inj :   1
Acq. Instrument : RAY                        Inj Volume : 2 µl
Acq. Method     : C:\HPCHEM\1\METHODS\DUAL.M
 ast changed    : 12/16/2015 1:59:43 PM by JR
Analysis Method : C:\HPCHEM\1\METHODS\AS100617.M
Last changed    : 10/9/2017 11:16:38 AM by AC
FLPRO SURROGATE BY RAY GC#3 FID A
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, October 09, 2017 11:16:01 AM
Multiplier            :    6.600e-2
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area counts*s	Amt/Area	Amount [ng/ul]	Grp	Name
9.369	MM	1.62601e5	1.37647e-4	1.47718		C-19
16.069	MM	8.71012e5	1.42090e-4	8.16829		C-37
Totals :				9.64547		

```
 Results obtained with enhanced integrator!
```

*** End of Report ***

Soil Extraction Log

Method # FL-PRO / IDOC

Extraction Method 3550

	Std. ID	Amt. Added	Initials
Surrogate	1700517	1 ml	EP
Spike	IQC-PRO 060116	1 ml	EP
Internal Std.			

Batch#: N/A
Analyst: YE / AC
Date: 10-10-17
Transferred to vials by: EP / MR

Initial Solvent: DCM
Final Solvent: DCM

Log #	Sample Description	Sample Date	Weight Extracted (g)	Final Vol	Clean up method	Comments
	MB	10-10-17	30.05	2 ml	Silica Gel	
	LCS	-	-	-	-	
	MS	-	-	-	-	
	MSD	-	-	-	-	
	IDOC #1	10-10-17	30.00	2 ml	Silica Gel	Conc. 2040 ppm
	IDOC #2	10-10-17	30.00	2ml	Silica Gel	
	IDOC #3	10-10-17	30.00	2ml	Silica Gel	
	IDOC #4	10-10-17	30.00	2 ml	Silica Gel	
			Balance ID	SV24	Sonicator	
			Cal. Date	10-10-17	2	

Item	Lot #
Filter Paper:	465
Sodium Sulfate:	466
Sodium Sulfate Acidified:	
Silica Gel:	071
Hydrochloric Acid:	
KOH 37%	
Sililic Acid:	
Sulfuric Acid 12N:	
Ethyl Ether	
Blank Sand	367
(specify size) pipette:	
Hexane	
Tongue depressor	471
Pasteur pipette:	442
1.8 ml vials	482
1.8 mL vial caps:	480
20 mL vials:	
MTBE	
Diazomethane:	
Iso-Octane:	
Methanol:	
Hexane/Acetone 1:1:	
DCM/Acetone 1:1:	
Cu:	
DCM:	474/11

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	10/18/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8151 / EPA 3550	☐ Water ☐ DW ☒ Solid ☐ Other: _____	8151 - 0201417-002 3550 - 0201416-005
Analyte or Class of Analytes		
Herbicides		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria / ESTELA MARTINEZ		10/18/17
Analyst	*Signature*	*Date*
Albert Castellanos		10/18/17
Technical Director	*Signature*	*Date*
Roxana Llambias		10/18/17
Quality Assurance Director	*Signature*	*Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	9/16/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 8151
EXTRACTION METHOD (IF APPLY):	EPA 3550
INSTRUMENT ID:	Jason GC#2
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	9/13/2017
ACCEPTANCE CRITERIA:	Various

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
Standard(s)	SK-8151-020717	2/200ppm
Surrogate	SU-8151-101516	2ppm
Internal Standard	IS-8151-071415	10ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD	Acceptance Limits	Conversion factor Mol WT acid / Mol WT methyl ester
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg					
Dalapon	33.3	26.21	33.99	39.77	36.03	30.94	16.82	92.91	5.20	40-141	0.91
3,5-DCBA	33.3	39.37	37.01	35.49	36.30	34.45	4.51	103.45	1.55	70-115	0.93
4-Nitrophenol	33.3	33.459	28.746	30.406	28.923	27.65	7.18	83.03	1.98	40-187	0.91
Dicamba	33.3	32.415	28.127	31.575	29.564	28.60	6.38	85.87	1.82	42-117	0.94
Dichlorprop	33.3	32.302	35.339	37.423	30.167	31.78	9.50	95.43	3.02	47-138	0.94
2,4-D	33.3	35.588	32.698	31.218	32.433	31.01	5.61	93.11	1.74	36-126	0.94
Pentachlorophenol	33.3	31.975	28.615	32.319	29.9	29.17	5.71	87.59	1.67	40-163	0.95
2,4,5-TP	33.3	40.104	36.098	40.472	36.241	36.32	6.23	109.06	2.26	58-128	0.95
Chloramben	33.3	29.285	30.692	35.566	34.101	30.14	9.00	90.52	2.71	40-148	0.93
2,4,5-T	33.3	30.003	35.872	31.117	31.709	30.57	7.97	91.79	2.44	42-146	0.95
2,4-DB	33.3	25.054	39.992	16.954	30.685	27.04	34.39	81.21	9.30	40-172	0.96
Bentazon	33.3	26.866	34.967	19.466	27.141	25.48	23.35	76.53	5.95	40-142	0.94
Pichloram	33.3	24.262	24.083	25.045	23.823	22.85	2.17	68.60	0.49	10-110	0.94
Dinoseb	33.3	14.032	13.2	15.156	13.997	13.39	5.71	40.21	0.76	10-131	0.95
DCPA	33.3	5.169	4.824	5.453	4.815	4.81	6.05	14.45	0.29	10-110	0.95
Acifluorfen	33.3	34.71	33.986	34.288	34.91	33.09	1.21	99.38	0.40	40-144	0.96
CPP	3333	3674.6	3477.557	3651.002	3556.104	3338.53	2.53	100.17	84.33	49-145	0.93
CPA	3333	3556.07	3485.639	3486.027	3432.083	3280.56	1.46	98.43	47.79	40-140	0.94

Note: Molecular weight from methyl ester to acid herbicide has been corrected on the average results and the standard deviation multipliying by the conversion factor associated to each compound.

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_16.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 1:46 am
Operator : AC
Sample : 8151-SOIL IDOC #1
Misc :
ALS Vial : 11 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:49:48 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc	Units	
	Internal Standards					
1) I	DBOB	20.89	2563110274	0.025	ug/l	m
22) I	DBOB #2	20.94	651977151	0.025	ug/l	m
	System Monitoring Compounds					
5) S	2,4-DCAA	18.01	1577520337	77.844	ug/l	
Spiked Amount	66.600		Recovery =	116.88%		
27) S	2,4-DCAA #2	18.81	559969394	72.460	ug/l	
Spiked Amount	66.600		Recovery =	108.80%		
	Target Compounds					
2) T	DALAPON	4.60	919054814	26.209	ug/l	
3) T	35-DCBA	16.37	1292653379	39.365	ug/l	
4) T	4-NP	17.75	74195056	33.459	ug/l	
6) T	DICAMBA	18.28	3556001434	32.415	ug/l	
7) T	MCPP	18.67	6408597	3674.595	ug/l	
8) T	MCPA	18.94	4071127	3556.066	ug/l	
9) T	DICHLORPROP	19.58	557625680	32.302	ug/l	
10) T	2,4-D	20.08	410325691	35.588	ug/l	m
11) T	PCP	20.27	13982520237	31.975	ug/l	
12) T	SILVEX	21.51	3159667222	40.104	ug/l	m
13) T	CHLORAMBEN	21.75	1079217530	29.285	ug/l	m
14) T	2,4,5-T	22.10	3513746658	30.003	ug/l	m
15) T	2,4-DB	22.37	100980424	25.054	ug/l	m
16) T	BENTAZON	24.67	120370732	26.866	ug/l	m
17) T	PICLORAM	24.96	228569495	24.262	ug/l	
18) T	DINOSEB	25.06	680238380	14.032	ug/l	m
19) T	DCPA	25.61	938649136	5.169	ug/l	
20) T	ACIFLUORFEN	30.27	3916431858	34.710	ug/l	m
23) T	DALAPON #2	4.71	566385859	36.549	ug/l	
24) T	35-DCBA #2	16.91	397946525	30.229	ug/l	
25) T	4-NP #2	17.90	23543021	14.224	ug/l	m
26) T	DICAMBA #2	19.10	996394555	24.801	ug/l	m
28) T	MCPP #2	19.36	2839297	3125.646	ug/l	
29) T	MCPA #2	19.78	2341867	2876.780	ug/l	
30) T	DICHLORPROP #2	20.40	255491770	32.169	ug/l	
31) T	2,4-D #2	20.97	382836873	25.323	ug/l	m
32) T	PCP #2	21.63	4004569746	26.663	ug/l	
33) T	SILVEX #2	22.59	1391031035	28.990	ug/l	
34) T	CHLORAMBEN #2	24.04	23868008	32.415	ug/l	m
35) T	2,4,5-T #2	23.38	933360460	20.387	ug/l	m
36) T	2,4-DB #2	24.33	132977246	29.901	ug/l	m
37) T	BENTAZON #2	25.94	93360856	17.737	ug/l	m
38) T	PICLORAM #2	27.40f	504314577	10.243	ug/l	m
39) T	DINOSEB #2	24.94	240561400	12.255	ug/l	m
40) T	DCPA #2	26.76	174265553	3.166	ug/l	m

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_16.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 1:46 am
Operator : AC
Sample : 8151-SOIL IDOC #1
Misc :
ALS Vial : 11 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:49:48 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc Units
41) T	ACIFLUORFEN #2	30.61	920029017	29.024 ug/l m

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_16.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 1:46 am
Operator : AC
Sample : 8151-SOIL IDOC #1
Misc :
ALS Vial : 11 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:49:48 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
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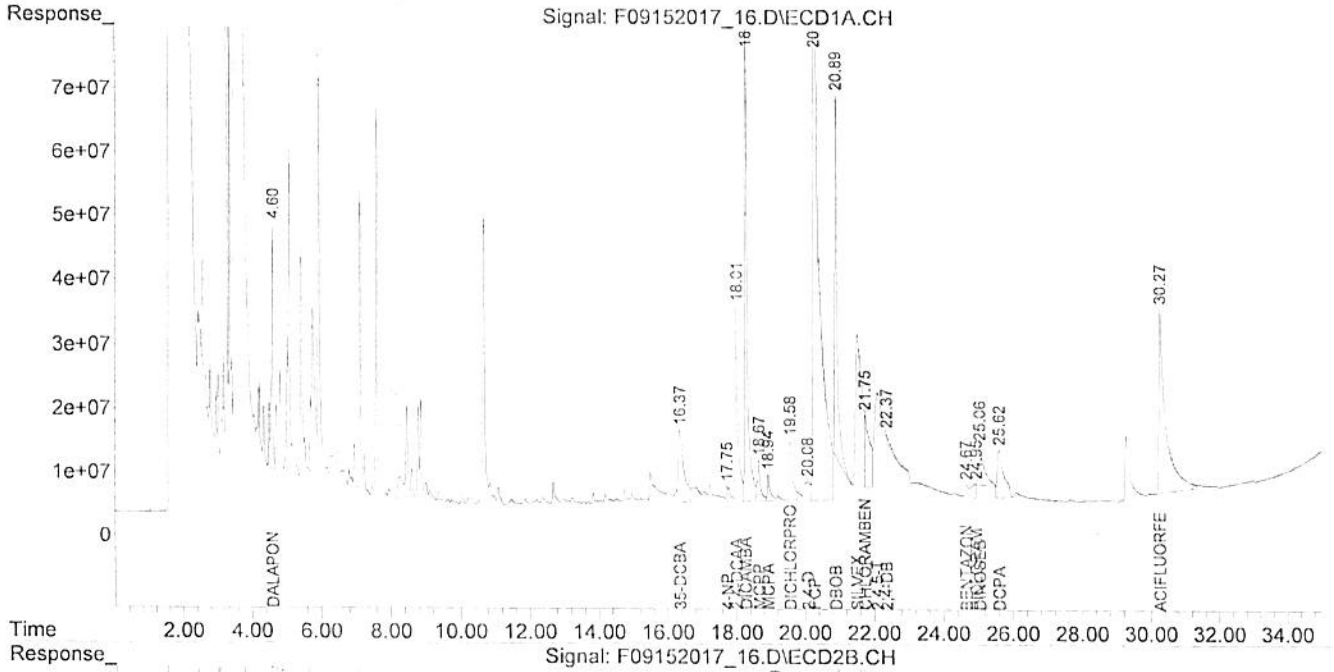
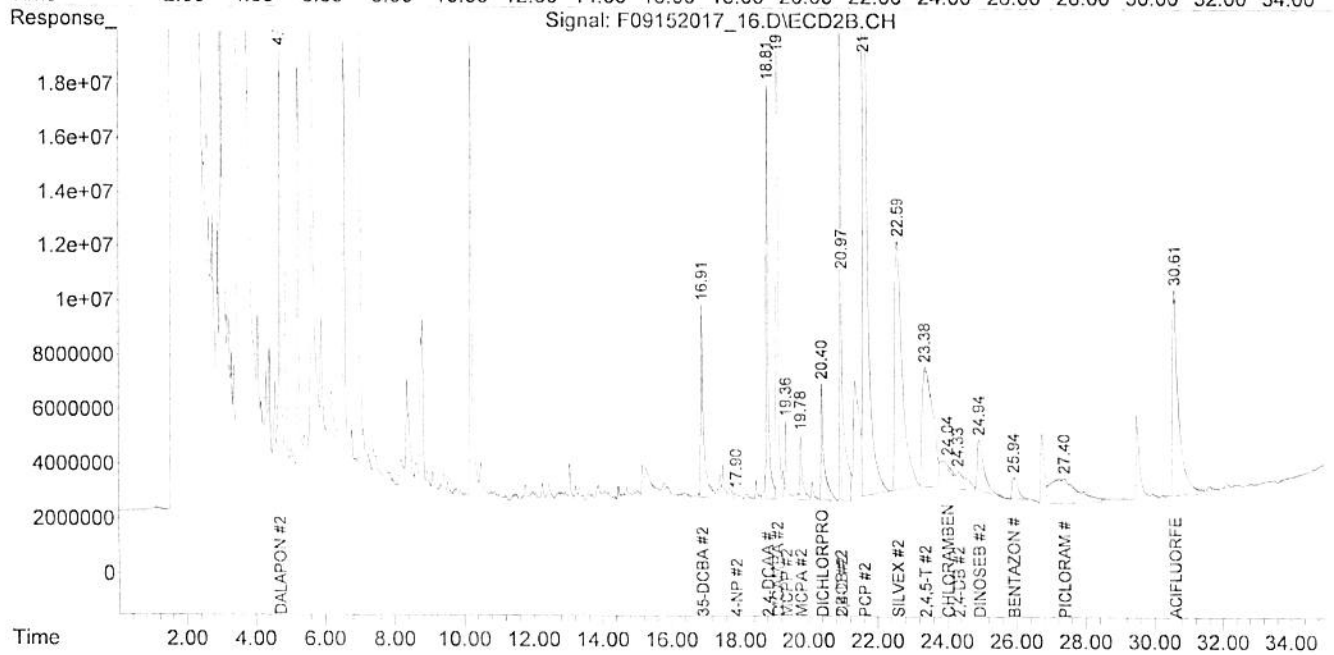
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm





Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_17.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 2:28 am
Operator : AC
Sample : 8151-SOIL IDOC #2
isc :
ALS Vial : 12 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:53:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc	Units	
	Internal Standards					
1) I	DBOB	20.90	2901957762	0.025	ug/l	m
22) I	DBOB #2	20.94	705318423	0.025	ug/l	m
	System Monitoring Compounds					
5) S	2,4-DCAA	18.01	1578670421	68.805	ug/l	
Spiked Amount	66.600		Recovery =	103.31%		
27) S	2,4-DCAA #2	18.81	552277896	66.060	ug/l	
Spiked Amount	66.600		Recovery =	99.19%		
	Target Compounds					
2) T	DALAPON	4.60	1349591011	33.993	ug/l	
3) T	35-DCBA	16.37	1375053347	37.010	ug/l	
4) T	4-NP	17.75	67193209	28.746	ug/l	
6) T	DICAMBA	18.28	3493459934	28.127	ug/l	
7) T	MCPP	18.67	6703923	3477.557	ug/l	
8) T	MCPA	18.94	4458321	3485.639	ug/l	
9) T	DICHLORPROP	19.58	697751570	35.339	ug/l	
10) T	2,4-D	20.09	409848397	32.698	ug/l	m
11) T	PCP	20.27	13961453887	28.615	ug/l	
12) T	SILVEX	21.51	3144932956	36.098	ug/l	m
13) T	CHLORAMBEN	21.74	1322572154	30.692	ug/l	m
14) T	2,4,5-T	22.09	5071159793	35.872	ug/l	
15) T	2,4-DB	22.96f	204179737	39.992	ug/l	m
16) T	BENTAZON	24.67	178776438	34.967	ug/l	
17) T	PICLORAM	24.99	255415475	24.083	ug/l	m
18) T	DINOSEB	25.05	716072195	13.200	ug/l	m
19) T	DCPA	25.61	991851092	4.824	ug/l	
20) T	ACIFLUORFEN	30.28	4303777761	33.986	ug/l	m
23) T	DALAPON #2	4.72	547320904	32.647	ug/l	
24) T	35-DCBA #2	16.91	386511809	27.140	ug/l	
25) T	4-NP #2	17.90	35849158	17.574	ug/l	m
26) T	DICAMBA #2	19.11	978410035	22.162	ug/l	
28) T	MCPP #2	19.36	2706705	2800.619	ug/l	
29) T	MCPA #2	19.79	2306634	2712.662	ug/l	
30) T	DICHLORPROP #2	20.40	249306880	29.016	ug/l	
31) T	2,4-D #2	20.97	459435848	28.091	ug/l	m
32) T	PCP #2	21.63	4112270458	25.310	ug/l	
33) T	SILVEX #2	22.57	1626091705	31.065	ug/l	
34) T	CHLORAMBEN #2	23.92	38270999	38.274	ug/l	m
35) T	2,4,5-T #2	23.38	1001113769	20.279	ug/l	m
36) T	2,4-DB #2	24.35	151297945	31.447	ug/l	
37) T	BENTAZON #2	25.97	97400143	17.211	ug/l	m
38) T	PICLORAM #2	27.20f	619057345	11.023	ug/l	m
39) T	DINOSEB #2	24.94	255760460	12.143	ug/l	m
40) T	DCPA #2	26.76	209047207	3.511	ug/l	m

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F0915201?_17.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 2:28 am
Operator : AC
Sample : 8151-SOIL IDOC #2
isc :
ALS Vial : 12 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:53:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

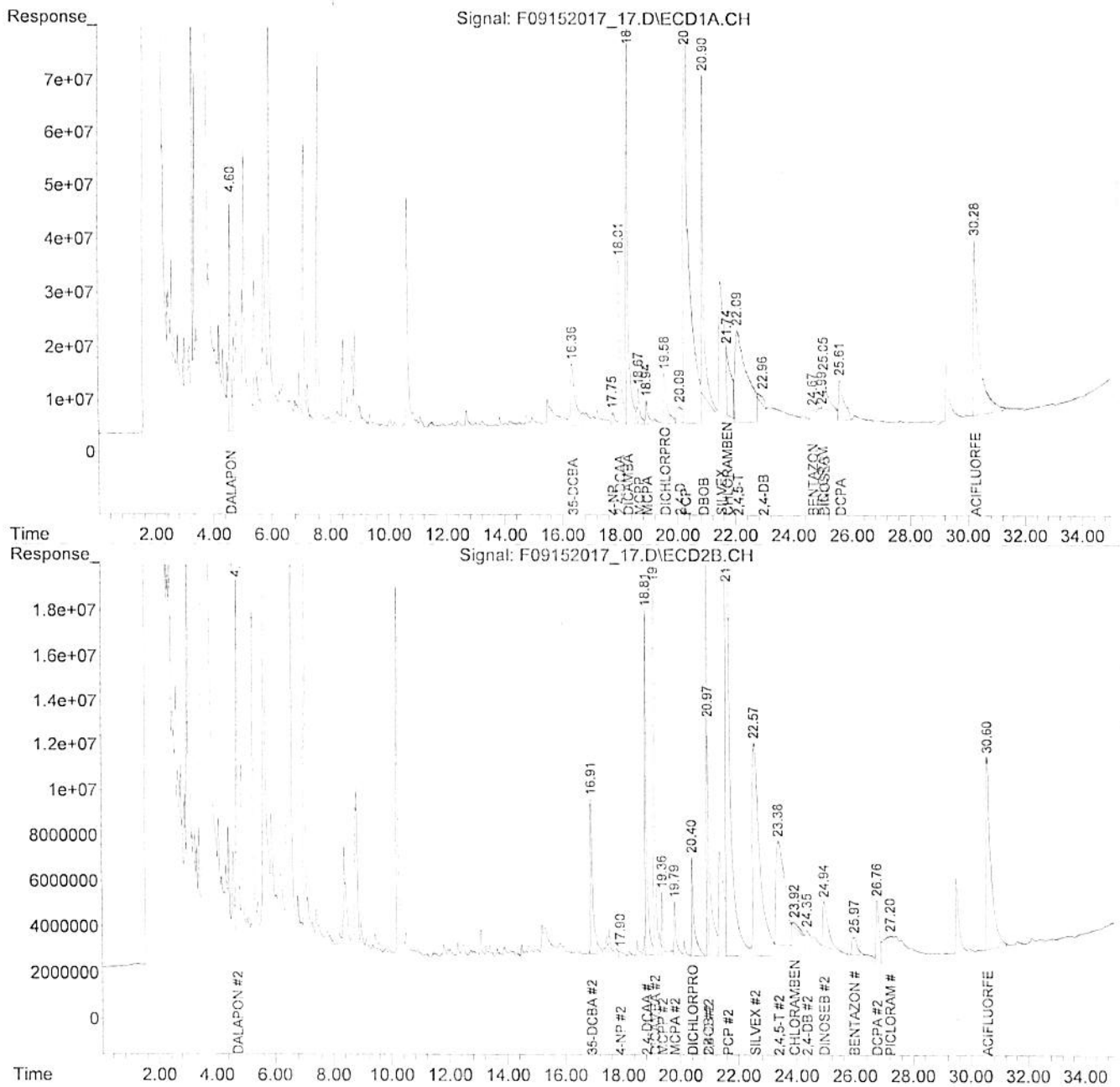
	Compound	R.T.	Response	Conc Units
41) T	ACIFLUORFEN #2	30.58	980024133	28.707 ug/l

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_17.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 2:28 am
Operator : AC
Sample : 8151-SOIL IDOC #2
Misc :
ALS Vial : 12 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:53:08 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm



Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_18.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 3:10 am
Operator : AC
Sample : 8151-SOIL IDOC #3
isc :
ALS Vial : 13 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:56:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc Units	
	Internal Standards				
1) I	DBOB	20.90	2347920117	0.025 ug/l	m
22) I	DBOB #2	20.94	617795478	0.025 ug/l	m
	System Monitoring Compounds				
5) S	2,4-DCAA	18.01	1358707921	73.192 ug/l	
Spiked Amount	66.600		Recovery =	109.90%	
27) S	2,4-DCAA #2	18.81	524067246	71.567 ug/l	
Spiked Amount	66.600		Recovery =	107.46%	
	Target Compounds				
2) T	DALAPON	4.60	1277616317	39.773 ug/l	
3) T	35-DCBA	16.38	1066212787	35.491 ug/l	
4) T	4-NP	17.37	59005283	30.406 ug/l	m
6) T	DICAMBA	18.29	3172979462	31.575 ug/l	
7) T	MCPP	18.68	5817087	3651.002 ug/l	
8) T	MCPA	18.95	3607815	3486.027 ug/l	
9) T	DICHLORPROP	19.58	601417116	37.423 ug/l	
10) T	2,4-D	20.09	308922437	31.218 ug/l	
11) T	PCP	20.28	12963506060	32.319 ug/l	
12) T	SILVEX	21.52	2926938612	40.472 ug/l	m
13) T	CHLORAMBEN	21.70	1352170654	35.566 ug/l	m
14) T	2,4,5-T	22.11	3386640842	31.117 ug/l	m
15) T	2,4-DB	22.79	57151074	16.954 ug/l	m
16) T	BENTAZON	24.68	82232247	19.466 ug/l	m
17) T	PICLORAM	24.95	221536435	25.045 ug/l	m
18) T	DINOSEB	25.07	682768466	15.156 ug/l	m
19) T	DCPA	25.61	907048765	5.453 ug/l	
20) T	ACIFLUORFEN	30.29	3526183975	34.288 ug/l	
23) T	DALAPON #2	4.71	598271231	40.742 ug/l	
24) T	35-DCBA #2	16.91	364561676	29.226 ug/l	
25) T	4-NP #2	17.73	23273074	14.584 ug/l	
26) T	DICAMBA #2	19.11	924448663	24.205 ug/l	
28) T	MCPP #2	19.36	2613928	3047.838 ug/l	
29) T	MCPA #2	19.79	2199952	2860.973 ug/l	
30) T	DICHLORPROP #2	20.40	239683958	31.848 ug/l	
31) T	2,4-D #2	20.96	497949232	34.759 ug/l	m
32) T	PCP #2	21.63	3883236629	27.286 ug/l	
33) T	SILVEX #2	22.58	1542991625	33.382 ug/l	
34) T	CHLORAMBEN #2	24.05	16660894	29.216 ug/l	m
35) T	2,4,5-T #2	23.44	1036242066	22.553 ug/l	m
36) T	2,4-DB #2	24.35	133866021	31.766 ug/l	
37) T	BENTAZON #2	25.99	106755564	20.790 ug/l	m
38) T	PICLORAM #2	27.20f	567682240	11.331 ug/l	m
39) T	DINOSEB #2	24.94	242749920	12.678 ug/l	m
40) T	DCPA #2	26.76	172338133	3.304 ug/l	m

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_18.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 3:10 am
Operator : AC
Sample : 8151-SOIL IDOC #3
Misc :
ALS Vial : 13 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:56:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

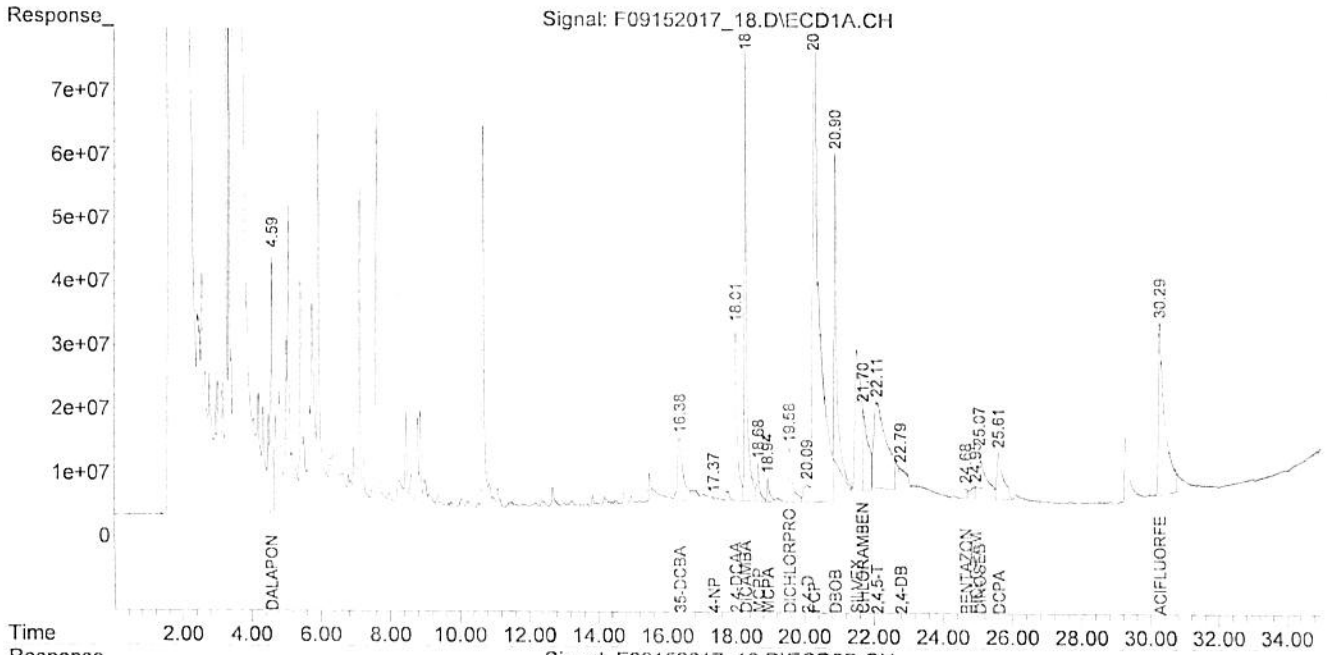
	Compound	R.T.	Response	Conc Units
41) T	ACIFLUORFEN #2	30.61	924596385	30.273 ug/l

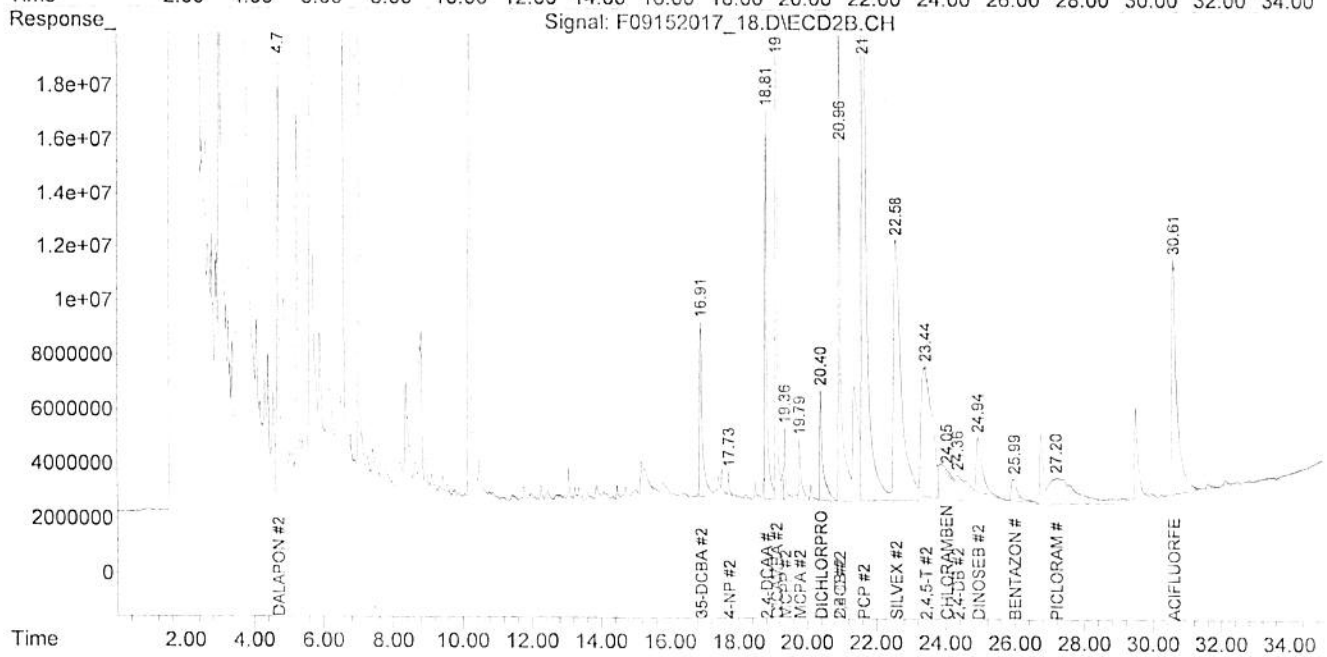
(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_18.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 3:10 am
Operator : AC
Sample : 8151-SOIL IDOC #3
Misc :
ALS Vial : 13 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:56:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm





Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_19.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 3:51 am
Operator : AC
Sample : 8151-SOIL IDOC #4
isc :
ALS Vial : 14 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:59:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	DBOB	20.90	2542235384	0.025 ug/l m
22) I	DBOB #2	20.94	680868960	0.025 ug/l m
	System Monitoring Compounds			
5) S	2,4-DCAA	18.01	1419982631	70.646 ug/l
Spiked Amount	66.600		Recovery =	106.08%
27) S	2,4-DCAA #2	18.81	554182824	68.669 ug/l
Spiked Amount	66.600		Recovery =	103.11%
	Target Compounds			
2) T	DALAPON	4.60	1253100216	36.029 ug/l
3) T	35-DCBA	16.38	1181129876	36.298 ug/l
4) T	4-NP	17.75	59391965	28.923 ug/l
6) T	DICAMBA	18.29	3216742440	29.564 ug/l
7) T	MCPP	18.68	6065653	3556.104 ug/l
8) T	MCPA	18.94	3805745	3432.083 ug/l
9) T	DICHLORPROP	19.58	512168688	30.167 ug/l
10) T	2,4-D	20.09	354636638	32.433 ug/l
11) T	PCP	20.28	12856999920	29.900 ug/l
12) T	SILVEX	21.51	2768444446	36.241 ug/l m
13) T	CHLORAMBEN	21.75	1372270814	34.101 ug/l m
14) T	2,4,5-T	22.10	3763508862	31.709 ug/l
15) T	2,4-DB	23.00f	128589119	30.685 ug/l m
16) T	BENTAZON	24.67	120586608	27.141 ug/l
17) T	PICLORAM	24.96	219490392	23.823 ug/l m
18) T	DINOSEB	25.06	672733516	13.997 ug/l m
19) T	DCPA	25.61	867228003	4.815 ug/l
20) T	ACIFLUORFEN	30.27	3916046114	34.910 ug/l m
23) T	DALAPON #2	4.71	581677220	35.943 ug/l
24) T	35-DCBA #2	16.92	377850737	27.485 ug/l
25) T	4-NP #2	17.91	19576580	12.515 ug/l m
26) T	DICAMBA #2	19.11	939605068	22.028 ug/l
28) T	MCPP #2	19.36	2608504	2796.583 ug/l
29) T	MCPA #2	19.79	2147677	2653.452 ug/l
30) T	DICHLORPROP #2	20.40	238719227	28.782 ug/l
31) T	2,4-D #2	20.96	489899435	31.029 ug/l m
32) T	PCP #2	21.63	3949803683	25.183 ug/l
33) T	SILVEX #2	22.57	1553687177	30.780 ug/l
34) T	CHLORAMBEN #2	23.98	18047954	29.062 ug/l m
35) T	2,4,5-T #2	23.38	1088499135	21.860 ug/l
36) T	2,4-DB #2	24.34	126942440	27.333 ug/l m
37) T	BENTAZON #2	25.94	102665337	18.520 ug/l
8) T	PICLORAM #2	27.41f	582093598	10.852 ug/l m
39) T	DINOSEB #2	24.92	245402375	12.104 ug/l m
40) T	DCPA #2	26.77	165261319	2.875 ug/l m

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_19.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 3:51 am
Operator : AC
Sample : 8151-SOIL IDOC #4
Misc :
ALS Vial : 14 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:59:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm

	Compound	R.T.	Response	Conc Units
41) T	ACIFLUORFEN #2	30.58	918912590	28.125 ug/l

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : C:\MSDCHEM\1\DATA\09152017\
Data File : F09152017_19.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 16 Sep 2017 3:51 am
Operator : AC
Sample : 8151-SOIL IDOC #4
Misc :
ALS Vial : 14 Sample Multiplier: 333.333

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 18 12:59:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\C8151091517.M
Quant Title : EPA 8151 BY JASON GC#2
QLast Update : Mon Sep 18 12:35:08 2017
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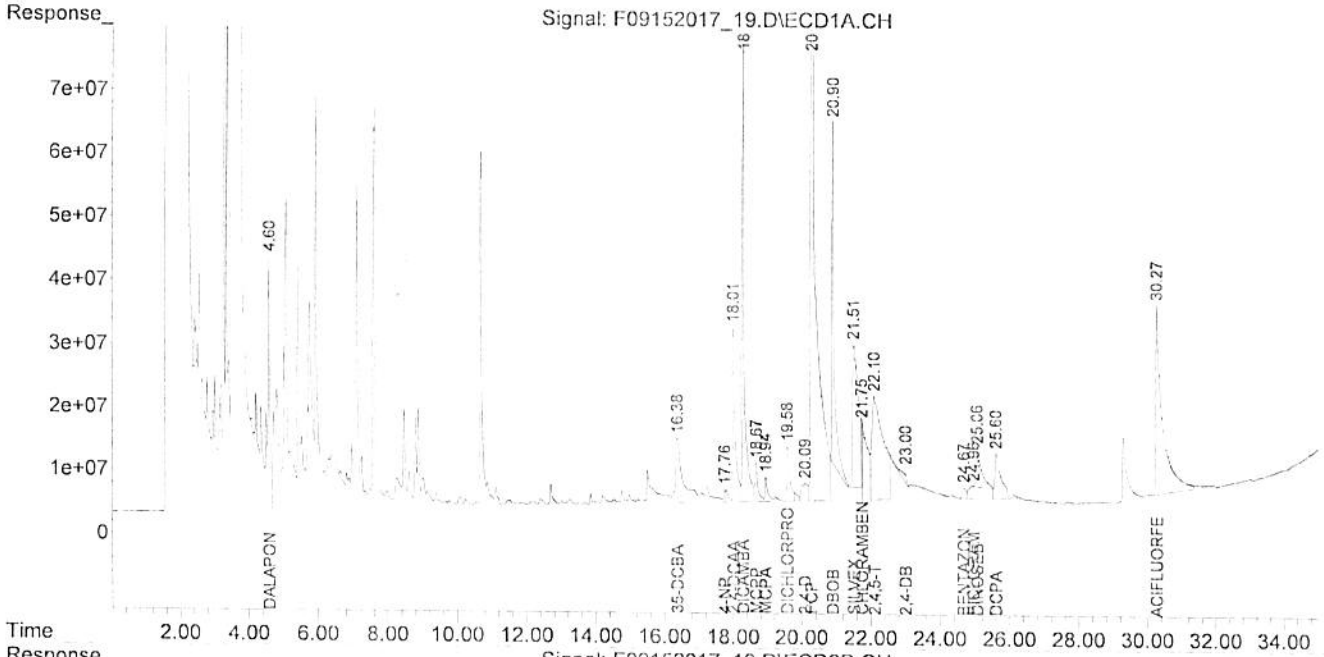
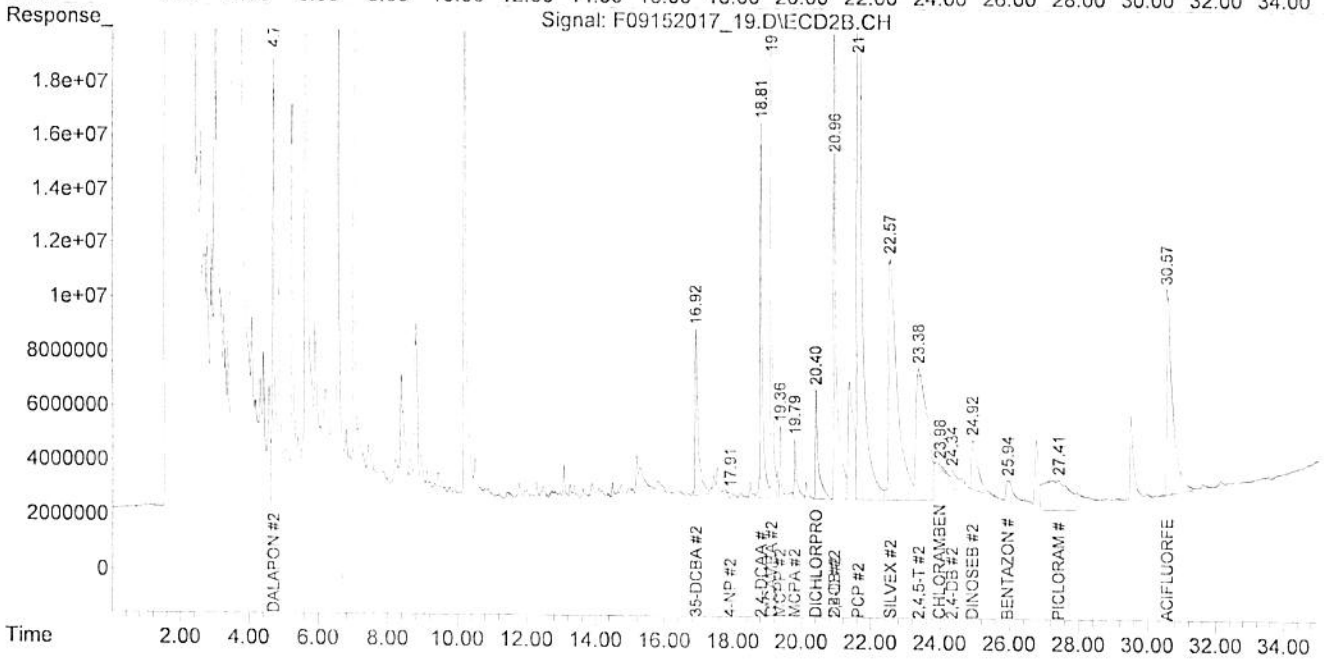
Volume Inj. : 2-ul
Signal #1 Phase : CLP PESTICIDES Signal #2 Phase: CLP PESTICIDES 2
Signal #1 Info : 30m x 0.32mm Signal #2 Info : 30m X 0.32mm





Soil Extraction Log

Method # 8151

Extraction Method_3550

	Std. ID (EP 9/13/17)	Amt. Added	Initials
Surrogate	18600413	1ml	MR
Spike	1700055	0.5ml	MR
Internal Std.			

Batch#: 17ID288
Analyst: AL + YE
Date: 9-13-17
Transferred to vials by: MR + EP.

Initial Solvent: Ether
Final Solvent: Hexane

Log #	Sample Description	Sample Date	Weight Extracted (g)	Final Vol	Clean up method	Comments
17ID288	MB	9-13-17	30.06	10ml	Silical AL	
↓	LCS	9-13-17	30.00	↓	↓	
	MS 17ID135-01A	9-1-17	30.00			
	MSD 17ID135-01A	9-1-17	30.00			
17ID135-01A	1708093-01(SS-1)	9-1-17	30.00			
17ID135-02A	1708093-02(SS-2)	9-1-17	30.05			
17ID135-03A	1708093-03(SS-3)	9-1-17	30.02			
17ID135-04A	1708093-04(SS-4)	9-1-17	30.00	↓	↓	
	IDOC #1	9-13-17	30.00	10ml	Silical AL	SK 1700055
	IDOC #2	9-13-17	30.00	↓	↓	↓
	IDOC #3	9-13-17	30.00			
	IDOC #4	9-13-17	30.00	↓	↓	

Balance ID	SV24	Sonicator
Cal. Date	9-13-17	L.2

Item	Lot #
Filter Paper:	
Sodium Sulfate:	
Sodium Sulfate Acidified:	050417-B
Silica Gel:	
Hydrochloric Acid:	369
KOH 37%	SV 080416
Sililic Acid:	373
Sulfuric Acid 12N:	042117
Ethyl Ether	456
Blank Sand	367
(specify size) pipette:	469 (10ml)
Hexane	457
Tongue depressor	471
Pasteur pipette:	442
1.8 ml vials	461
1.8 mL vial caps:	459
20 mL vials:	458
MTBE	68
Diazomethane:	SV08
Iso-Octane:	338
Methanol:	309
Hexane/Acetone 1:1:	
DCM/Acetone 1:1:	SV07.28.17
Cu:	
DCM:	474/134

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700055

Description:	SK-8151-020717 8151 Spike 2.0 ppm	Expires:	2/2/2019
Standard Type:	Analyte Spike	Prepared:	2/7/2017
Solvent:	ACETONE SV410	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	03/07/2017 15:13 by MLR

Analyte	CAS Number	Concentration	Units
Dalapon	75-99-0	2	ug/mL
2,4,5-TP (Silvex)	93-72-1	2	ug/mL
2,4-D	94-75-7	2	ug/mL
2,4-DB	94-82-6	2	ug/mL
3,5-Dichlorobenzoic acid	51-365-5	2	ug/mL
4-Nitrophenol	100-02-7	2	ug/mL
Acifluorfen	50594-66-6	2	ug/mL
2,4,5-T	93-76-5	2	ug/mL
Chloramben	133-90-4	2	ug/mL
Picloram	1918-02-1	2	ug/mL
DCPA	1861-32-1	2	ug/mL
Dicamba	1918-00-9	2	ug/mL
Dichloroprop	120-36-5	2	ug/mL
Dinoseb	88-85-7	2	ug/mL
MCPA	94-74-6	200	ug/mL
MCPP	7085-19-0	200	ug/mL
Pentachlorophenol	87-86-5	2	ug/mL
Bentazon	25057-89-0	2	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1600413

Description:	SU-8151-101516 8151 SURROGATE 2.0 pp	Expires:	10/15/2017
Standard Type:	Surrogate Spike	Prepared:	10/15/2016
Solvent:	ACETONE SV 410	Prepared By:	Judy Regis
Final Volume (mls):	200	Department:	SVOCGC
Vials:	2	Last Edit:	10/15/2016 02:48 by JR

Analyte	CAS Number	Concentration	Units
2,4-Dichlorophenylacetic acid	Please Add	2	ug/mL

Reviewed By Date

Demonstration of Capability
Certification Statement

Date: 3/23/06
Florida-Spectrum Environmental Services
1460 W. McNab Road
Fort Lauderdale,. FL 33309
Analyst (s): Eugene Nutzu

Matrix: Soil - WP21
Method: 7471
SOP #, Rev. #: EPA 7471
Analyte(s): See attached. Mercury

We, FSES, Inc., CERTIFY that:

1. The analyst identified above, using the cited method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.
2. The test method(s) was performed by the analyst(s) identified on this certification.
3. A copy of the test method(s) and the laboratory specific SOPs are available for all personnel on-site.
4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).
5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

Theresa Nunez	Theresa Nunez	3/23/06
QA/QC Director	Signature	Date
[signature]	IRENA NUTZU	03/23/06
Technical Director	Signature	Date

This certification form must be completed each time a demonstration of capability study is completed.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all-supporting performance testing.
Self-explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

ANALYST : EUGENE NUTZU

IDOC
METHOD 7471
MATRIX : SOIL-WP0021
DATE : 03/23/06
GAIN:10

	1	2	3	4
weight (g)	0.1105	0.1059	0.1027	0.1083
C (ug/l)	7.67962	7.29357	7.17851	7.228202

	TV(mg/Kg)	1	2	3	4	STD.DEV.	%RECOV.
HG	3.34	3.474900	3.443600	3.494900	3.337100	0.070263	102.9%

Analys. Report - Filename: C:\Program Files\Millennium ...lts\7471-032306 IDOC- E.N..rsf

Pos	Runs	Type	Name	ID / Action	Conc	Pk Ht	Pk Area	Baseline	Message	Flag	Slope/ CFm	Intercept	Dilutio Factor	SD	RSD	Cal	Method	Date/Time
11	1	Cal	0.00	New Cal	0.00	0.000000	0.000000	0.000000	----		0.000000	0.000000	----	----	----	D	245.12006	23 Mar 06 10:51
12	1	Cal	0.2		0.2	8.828123	227.649994	0.000000	----		44.140614	0.000000	----	----	----	D	245.12006	23 Mar 06 10:53
13	1	Cal	0.5		0.5	44.515621	1651.775513	0.000000	----		91.393913	-3.543997	----	----	----	D	245.12006	23 Mar 06 10:55
14	1	Cal	1.0		1.0	92.468742	3835.999023	0.000000	----		96.073792	-4.378239	----	----	----	D	245.12006	23 Mar 06 10:58
15	1	Cal	2.0		2.0	160.615631	7260.150879	0.000000	----		82.667183	0.111905	----	----	----	D	245.12006	23 Mar 06 11:00
16	1	Cal	5.0		5.0	551.349976	26126.984375	0.000000	----		110.364647	-17.065718	----	----	----	D	245.12006	23 Mar 06 11:02
17	1	Cal	10.0		10.0	1076.036499	51537.613281	0.760209	----		109.402740	-16.002394	----	----	----	D	245.12006	23 Mar 06 11:05
18	1	Cal	15.0		15.0	1710.841797	83915.882812	2.020700	----		113.741592	-23.554426	----	----	----	D	245.12006	23 Mar 06 11:08
19	1	Sample	Rinse		0.220239	1.495863	-423.911316	3.813228	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:12
20	1	Sample	CCC 5.0 PPB		5.153222	562.581238	27132.261719	0.000000	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:14
21	1	Sample	QCS 5.0 PPB		2.957374	312.821991	14764.870117	1.140547	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:17
22	1	Sample	IDOC 1 SOIL		7.679622	849.937988	45577.601563	1.471294	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:20
23	1	Sample	IDOC 2 SOIL		7.293566	806.027405	43362.597656	4.981905	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:23
24	1	Sample	IDOC 3 SOIL		0.213994	0.785642	-703.587891	6.534358	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:27
25	1	Sample	IDOC 3 SOIL		7.178509	792.940613	36742.820313	0.000000	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:29
26	1	Sample	IDOC 4 SOIL		7.228202	798.592834	43365.269531	2.294618	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:33
27	1	Sample	QCS 5.0 PPB		5.172784	564.806274	27108.578125	5.996840	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:36
28	1	Sample	CCC 5.0 PPB		5.129292	559.859375	26418.535156	0.000000	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:48
29	1	Sample	LRB		0.220463	1.521359	-124.377213	1.088641	----		113.741592	-23.554426	1	----	----	D	245.12006	23 Mar 06 11:50

050136-004

Controlled Copy
Always Appears
Stamped in Red

Demonstration of Capability
Certification Statement

Date: 10.03.13
Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33322
Analyst(s) Name(s): MERCEDES ZALDIVAR
Matrix: SOLID
Method number: 6010

We, the undersigned, CERTIFY that:
1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I Mercedes Zaldivar current employee of FSES have read, understood and agreed to perform the latest version of SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and that the associated information is well organized and available for review by authorized assessors.

IRENA NUTZU _____
Technical Director's Name and Title Signature
Date 10.03.13

CaitlinBrice _____
Quality Assurance Officer's Name Signature
Date 10-3-13

This certification form must be completed each time a demonstration of capability study is completed

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

DATE : 10/01/2013
ANALYST: MERCEDES ZALDIVAR

IDOC
METHOD 6010
MATRIX : SOLID

	T V (PPM)	IDOC-1 (PPM)	IDOC-2 (PPM)	IDOC-3 (PPM)	IDOC-4 (PPM)	Average (PPM)	% Recovery	Std.Dev.
Ag	1.00000	0.975874	0.980037	0.969059	0.973085	0.974514	97.5	0.004624
Al	1.00000	1.02496	1.02792	1.01163	1.01508	1.019898	102.0	0.007779
As	1.00000	1.00557	1.00855	0.999037	1.00599	1.004787	100.5	0.004053
B	1.00000	0.979936	1.00438	0.998963	1.0046	0.99697	99.7	0.011651
Ba	1.00000	0.970735	0.974824	0.963569	0.964292	0.968355	96.8	0.005383
Be	1.00000	0.997022	0.999218	0.988194	0.997278	0.995428	99.5	0.004921
Ca	26.00000	26.1211	26.273	25.9043	26.0945	26.09823	100.4	0.151317
Cd	1.00000	0.998732	1.0045	0.993729	0.995591	0.998138	99.8	0.004717
Co	1.00000	0.973728	0.974956	0.968635	0.969587	0.971727	97.2	0.003086
Cr	1.00000	0.978887	0.984865	0.970904	0.974481	0.977284	97.7	0.006017
Cu	1.00000	0.985408	0.987566	0.977388	0.98219	0.983138	98.3	0.004424
Fe	1.00000	0.971413	0.978615	0.968525	0.972525	0.97277	97.3	0.004246
K	35.00000	34.4388	34.7162	34.2109	34.519	34.47123	98.5	0.209058
Mg	1.00000	1.02529	1.02811	1.01179	1.01878	1.020993	102.1	0.007273
Mn	1.00000	0.947192	0.948166	0.9385	0.940367	0.943556	94.4	0.004838
Mo	1.00000	0.991385	1.01413	1.0096	1.01328	1.007099	100.7	0.010659
Na	25.00000	24.8621	25.1215	24.6334	24.8807	24.87443	99.5	0.199441
Ni	1.00000	0.959175	0.961128	0.952807	0.955589	0.957175	95.7	0.003707
Pb	1.00000	0.950678	0.944829	0.942676	0.940241	0.944606	94.5	0.004461
Se	1.00000	0.994057	1.00467	0.997769	1.00485	1.000337	100.0	0.005328
Si	0.50000	0.499632	0.499387	0.490601	0.492238	0.495465	99.1	0.004719
Sr	1.00000	0.949914	0.957517	0.948824	0.952961	0.952304	95.2	0.003891
Ti	1.00000	0.973617	0.978937	0.968183	0.977151	0.974472	97.4	0.00474
Tl	1.00000	0.960519	0.963598	0.952287	0.954412	0.957704	95.8	0.005255
V	1.00000	0.986244	0.987548	0.97756	0.98004	0.982848	98.3	0.004812
Zn	1.00000	1.064	1.05656	1.04878	1.04406	1.05335	105.3	0.008773

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Method Parameters

METHOD : 200.7 , 6010 , 6010 TCLP
ANALYST : IRENA NUTZU / MERCEDES ZALDIVAR
INSTRUMENT : VARIAN 720-ES-SERIAL#EL06073103
NELAC Traceability Information :
CALIB. STANDARDS : HPS-QCS-26,LOT# 1204112
HPS-Sr-LOT# 1208804
HPS-Ca-LOT # 1207226
HPS-K-LOT # 1131215
HPS-Na-LOT # 1130805

CCV : HPS-QCS-26,LOT# 1204112
HPS-Sr-LOT# 1208804
HPS-Ca-LOT # 1207226
HPS-K-LOT # 1131215
HPS-Na-LOT # 1130805

EXTERNAL SOURCE STD.: QCS-HPS-QCS-26,LOT# 1305106
-HPS-Sr-LOT # 1127324
-HPS-Ca-LOT#1128701
-HPS-K-LOT # 1118723
-HPS-Na-LOT # 1115410

LCS/MS- HPS-QCS-26,LOT# 1305106
-HPS-Sr-LOT # 1127324
-HPS-Ca-LOT#1128701
-HPS-K-LOT # 1118723
-HPS-Na-LOT # 1115410

REAGENTS: HNO3 : Aldrich, LOT# SHBD0895V
HCl : MC-LOT#L04039
H2O2: EMD,LOT#52007229

QA/QC STATISTICS FOR ANALYTICAL RUN :see raw data
QA/QC ACCEPTANCE CRITERIA : CCV : ± 5% (First after calibration) , ± 10% (The rest)
QCS : ± 5% (Second source)
LCS : ± 15% (200.7,6010)
MS/MSD : ± 30% (200.7) , ± 25% (6010)

BATCH# S1736

RUN# 1310012

PARENT SAMPLE SPIKED: 1310806-01B

Blank (Blk) **10/1/2013, 11:25:55 AM** **Rack 0, Tube 1**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	0.000000	mg/L	4.731	152.7	3.09810
Al 308.215	0.000000	mg/L	1.182	0.6	187.100
As 188.980	0.000000	mg/L	0.459	14.8	3.10457
Ca 430.253	0.000000	mg/L	12.368	11.4	108.866
Cd 228.802	0.000000	mg/L	1.539	37.4	4.11805
Co 228.615	0.000000	mg/L	1.104	63.3	1.74268
Cr 206.158	0.000000	mg/L	0.387	49.1	0.787750
Cu 324.754	0.000000	mg/L	7.544	4.1	183.974
Fe 238.204	0.000000	mg/L	2.319	15.2	15.2578
K 766.491	0.000000	mg/L	9.784	5.7	171.835
Mg 279.078	0.000000	mg/L	2.218	31.8	6.98450
Mn 257.610	0.000000	mg/L	0.445	2.2	20.4326
Mo 202.032	0.000000	mg/L	1.950	24.2	8.06522
Na 568.821	0.000000	mg/L	3.702	2.5	145.650
Ni 231.604	0.000000	mg/L	0.859	20.9	4.10638
Pb 220.353	0.000000	mg/L	0.742	24.1	3.07656
Se 196.026	0.000000	mg/L	0.415	18.2	2.27438
Si 212.412	0.000000	mg/L	2.234	9.3	23.9644
Sr 407.771	0.000000	mg/L	4.960	2.7	182.631
Ti 334.941	0.000000	mg/L	8.291	71.3	11.6322
Tl 190.794	0.000000	mg/L	0.464	45.7	1.01510
V 292.401	0.000000	mg/L	1.971	29.4	6.70622
Zn 213.857	0.000000	mg/L	1.338	8.7	15.3970

0.50 ppm (Std) **10/1/2013, 11:30:08 AM** **Rack 0, Tube 2**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	0.500000	mg/L	72.702	0.5	16132.1
Al 308.215	0.500000	mg/L	18.105	0.7	2623.60
As 188.980	0.500000	mg/L	2.770	0.7	372.455
Cd 228.802	0.500000	mg/L	32.624	0.3	11900.9
Co 228.615	0.500000	mg/L	45.426	0.7	6546.30
Cr 206.158	0.500000	mg/L	6.778	0.7	1013.30
Cu 324.754	0.500000	mg/L	131.049	0.4	30638.3
Fe 238.204	0.500000	mg/L	10.714	0.1	15280.9
Mg 279.078	0.500000	mg/L	5.480	0.7	743.642
Mn 257.610	0.500000	mg/L	215.534	0.3	83632.8
Mo 202.032	0.500000	mg/L	63.618	1.9	3331.88
Ni 231.604	0.500000	mg/L	9.812	0.5	2100.49
Pb 220.353	0.500000	mg/L	70.354	8.9	792.548
Se 196.026	0.500000	mg/L	4.919	1.7	292.306
Si 212.412	0.250000	mg/L	1.587	0.3	500.984
Sr 407.771	0.500000	mg/L	4707.898	0.4	1210505
Ti 334.941	0.500000	mg/L	163.167	0.3	61692.6
Tl 190.794	0.500000	mg/L	1.320	0.2	548.841
V 292.401	0.500000	mg/L	74.016	0.4	19020.4
Zn 213.857	0.500000	mg/L	41.092	0.4	9788.83

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2.00 ppm (Std) **10/1/2013, 11:34:22 AM** **Rack 0, Tube 3**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	2.00000	mg/L	225.118	0.4	62583.9
Al 308.215	2.00000	mg/L	41.234	0.4	9611.23
As 188.980	2.00000	mg/L	4.498	0.3	1480.46
Cd 228.802	2.00000	mg/L	118.573	0.3	46721.7
Co 228.615	2.00000	mg/L	112.109	0.4	25312.2
Cr 206.158	2.00000	mg/L	22.785	0.6	3951.86
Cu 324.754	2.00000	mg/L	426.997	0.4	117432
Fe 238.204	2.00000	mg/L	242.027	0.4	60072.3
Mg 279.078	2.00000	mg/L	5.255	0.2	2853.69
Mn 257.610	2.00000	mg/L	783.862	0.2	321503
Mo 202.032	2.00000	mg/L	195.286	1.4	14190.1
Ni 231.604	2.00000	mg/L	27.966	0.3	8031.73
Pb 220.353	2.00000	mg/L	92.462	2.6	3625.83
Se 196.026	2.00000	mg/L	9.177	0.8	1169.73
Si 212.412	1.00000	mg/L	8.636	0.5	1868.90
Sr 407.771	2.00000	mg/L	26079.305	0.6	4180509
Ti 334.941	2.00000	mg/L	403.099	0.2	236824
Tl 190.794	2.00000	mg/L	3.714	0.2	2105.88
V 292.401	2.00000	mg/L	517.793	0.7	74608.9
Zn 213.857	2.00000	mg/L	497.107	1.3	38166.5

50 ppm Minerals (Std) **10/1/2013, 11:38:35 AM** **Rack 0, Tube 4**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ca 430.253	50.0000	mg/L	457.127	0.2	265978
K 766.491	50.0000	mg/L	2493.953	0.1	1907240
Na 568.821	50.0000	mg/L	33.377	0.2	21714.2

100 ppm Minerals (Std) **10/1/2013, 11:42:48 AM** **Rack 0, Tube 5**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ca 430.253	100.000	mg/L	844.495	0.2	527540
K 766.491	100.000	mg/L	4056.182	0.1	3766085
Na 568.821	100.000	mg/L	69.843	0.2	44697.5

Ag 328.068 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999966**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.09810	0.000000	0.000000	-	-
0.50 ppm		16132.1	0.500000	0.509558	0.009558	1.9
2.00 ppm		62583.9	2.00000	1.97709	-0.022910	-1.1

Curve Type: Linear Equation: y = 31653.0 x + 3.1

Al 308.215 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999958**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		187.100	0.000000	0.000000	-	-
0.50 ppm		2623.60	0.500000	0.512789	0.012789	2.6

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
2.00 ppm		9611.23	2.00000	1.98341	-0.016585	-0.8

Curve Type: Linear Equation: y = 4751.5 x + 187.1

As 188.980 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 1.000000

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.10457	0.000000	0.000000	-	-
0.50 ppm		372.455	0.500000	0.500012	0.000012	0.0
2.00 ppm		1480.46	2.00000	1.99999	-0.000008	0.0

Curve Type: Linear Equation: y = 738.7 x + 3.1

B 208.889 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 1.000000

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.64418	0.000000	0.000000	-	-
0.50 ppm		459.524	0.500000	0.499696	-0.000304	-0.1
2.00 ppm		1829.12	2.00000	2.00093	0.000934	0.0

Curve Type: Linear Equation: y = 912.3 x + 3.6

Ba 233.527 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999924

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.29427	0.000000	0.000000	-	-
0.50 ppm		22121.2	0.500000	0.515686	0.015686	3.1
2.00 ppm		84574.7	2.00000	1.97201	-0.027989	-1.4

Curve Type: Linear Equation: y = 42884.4 x + 6.3

Be 234.861 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999994

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.54360	0.000000	0.000000	-	-
0.50 ppm		59733.0	0.500000	0.503491	0.003491	0.7
2.00 ppm		235750	2.00000	1.98718	-0.012822	-0.6

Curve Type: Linear Equation: y = 118634.7 x + 1.5

Ca 430.253 Calibration (mg/L) 10/1/2013, 11:42:48 AM Correlation Coefficient: 0.999989

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		108.866	0.000000	0.000000	-	-
50 ppm Minerals		265978	50.0000	50.2195	0.219463	0.4
100 ppm Mineral		527540	100.000	99.6255	-0.374512	-0.4

Curve Type: Linear Equation: y = 5294.1 x + 108.9

Cd 228.802 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999988**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		4.11805	0.000000	0.000000	-	-
0.50 ppm		11900.9	0.500000	0.505055	0.005055	1.0
2.00 ppm		46721.7	2.00000	1.98331	-0.016693	-0.8

Curve Type: Linear Equation: y = 23555.4 x + 4.1

Co 228.615 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999958**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.74268	0.000000	0.000000	-	-
0.50 ppm		6546.30	0.500000	0.512300	0.012300	2.5
2.00 ppm		25312.2	2.00000	1.98127	-0.018729	-0.9

Curve Type: Linear Equation: y = 12774.9 x + 1.7

Cr 206.158 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999978**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		0.787750	0.000000	0.000000	-	-
0.50 ppm		1013.30	0.500000	0.507266	0.007266	1.5
2.00 ppm		3951.86	2.00000	1.97948	-0.020525	-1.0

Curve Type: Linear Equation: y = 1996.0 x + 0.8

Cu 324.754 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999946**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		183.974	0.000000	0.000000	-	-
0.50 ppm		30638.3	0.500000	0.511535	0.011535	2.3
2.00 ppm		117432	2.00000	1.96938	-0.030616	-1.5

Curve Type: Linear Equation: y = 59535.2 x + 184.0

Fe 238.204 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999990**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		15.2578	0.000000	0.000000	-	-
0.50 ppm		15280.9	0.500000	0.500250	0.000250	0.1
2.00 ppm		60072.3	2.00000	1.96805	-0.031950	-1.6

Curve Type: Linear Equation: y = 30516.0 x + 15.3

K 766.491 Calibration (mg/L) **10/1/2013, 11:42:48 AM** **Correlation Coefficient: 0.999973**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		171.835	0.000000	0.000000	-	-
50 ppm Minerals		1907240	50.0000	50.3834	0.383442	0.8
100 ppm Mineral		3766085	100.000	99.4929	-0.507141	-0.5

Curve Type: Linear Equation: y = 37851.1 x + 171.8

Mg 279.078 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999956**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.98450	0.000000	0.000000	-	-
0.50 ppm		743.642	0.500000	0.516566	0.016566	3.3
2.00 ppm		2853.69	2.00000	1.99619	-0.003808	-0.2

Curve Type: Linear Equation: y = 1426.1 x + 7.0

Mn 257.610 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999942**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		20.4326	0.000000	0.000000	-	-
0.50 ppm		83632.8	0.500000	0.510843	0.010843	2.2
2.00 ppm		321503	2.00000	1.96415	-0.035853	-1.8

Curve Type: Linear Equation: y = 163675.4 x + 20.4

Mo 202.032 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999863**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		8.06522	0.000000	0.000000	-	-
0.50 ppm		3331.88	0.500000	0.479857	-0.020143	-4.0
2.00 ppm		14190.1	2.00000	2.04745	0.047451	2.4

Curve Type: Linear Equation: y = 6926.7 x + 8.1

Na 568.821 Calibration (mg/L) **10/1/2013, 11:42:48 AM** **Correlation Coefficient: 0.999832**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		145.650	0.000000	0.000000	-	-
50 ppm Minerals		21714.2	50.0000	49.2292	-0.770775	-1.5
100 ppm Mineral		44697.5	100.000	101.688	1.68750	1.7

Curve Type: Linear Equation: y = 438.1 x + 145.7

Ni 231.604 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999929**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		4.10638	0.000000	0.000000	-	-
0.50 ppm		2100.49	0.500000	0.514567	0.014567	2.9
2.00 ppm		8031.73	2.00000	1.97042	-0.029580	-1.5

Curve Type: Linear Equation: y = 4074.1 x + 4.1

Pb 220.353 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999427**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.07656	0.000000	0.000000	-	-
0.50 ppm		792.548	0.500000	0.441359	-0.058641	-11.7
2.00 ppm		3625.83	2.00000	2.02532	0.025322	1.3

Curve Type: Linear Equation: y = 1788.7 x + 3.1

Se 196.026 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999999

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		2.27438	0.000000	0.000000	-	-
0.50 ppm		292.306	0.500000	0.497419	-0.002581	-0.5
2.00 ppm		1169.73	2.00000	2.00225	0.002246	0.1

Curve Type: Linear Equation: y = 583.1 x + 2.3

Si 212.412 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999958

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		23.9644	0.000000	0.000000	-	-
0.50 ppm		500.984	0.250000	0.252935	0.002935	1.2
2.00 ppm		1868.90	1.00000	0.978259	-0.021741	-2.2

Curve Type: Linear Equation: y = 1885.9 x + 24.0

Sr 407.771 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999092

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		182.631	0.000000	0.000000	-	-
0.50 ppm		1210505	0.500000	0.524543	0.024543	4.9
2.00 ppm		4180509	2.00000	1.81172	-0.188282	-9.4

Curve Type: Linear Equation: y = 2307382.8 x + 182.6

Ti 334.941 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999937

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		11.6322	0.000000	0.000000	-	-
0.50 ppm		61692.6	0.500000	0.514976	0.014976	3.0
2.00 ppm		236824	2.00000	1.97715	-0.022850	-1.1

Curve Type: Linear Equation: y = 119774.6 x + 11.6

Tl 190.794 Calibration (mg/L) 10/1/2013, 11:34:22 AM Correlation Coefficient: 0.999940

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.01510	0.000000	0.000000	-	-
0.50 ppm		548.841	0.500000	0.513554	0.013554	2.7
2.00 ppm		2105.88	2.00000	1.97318	-0.026817	-1.3

Curve Type: Linear Equation: y = 1066.7 x + 1.0

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V 292.401 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999986**

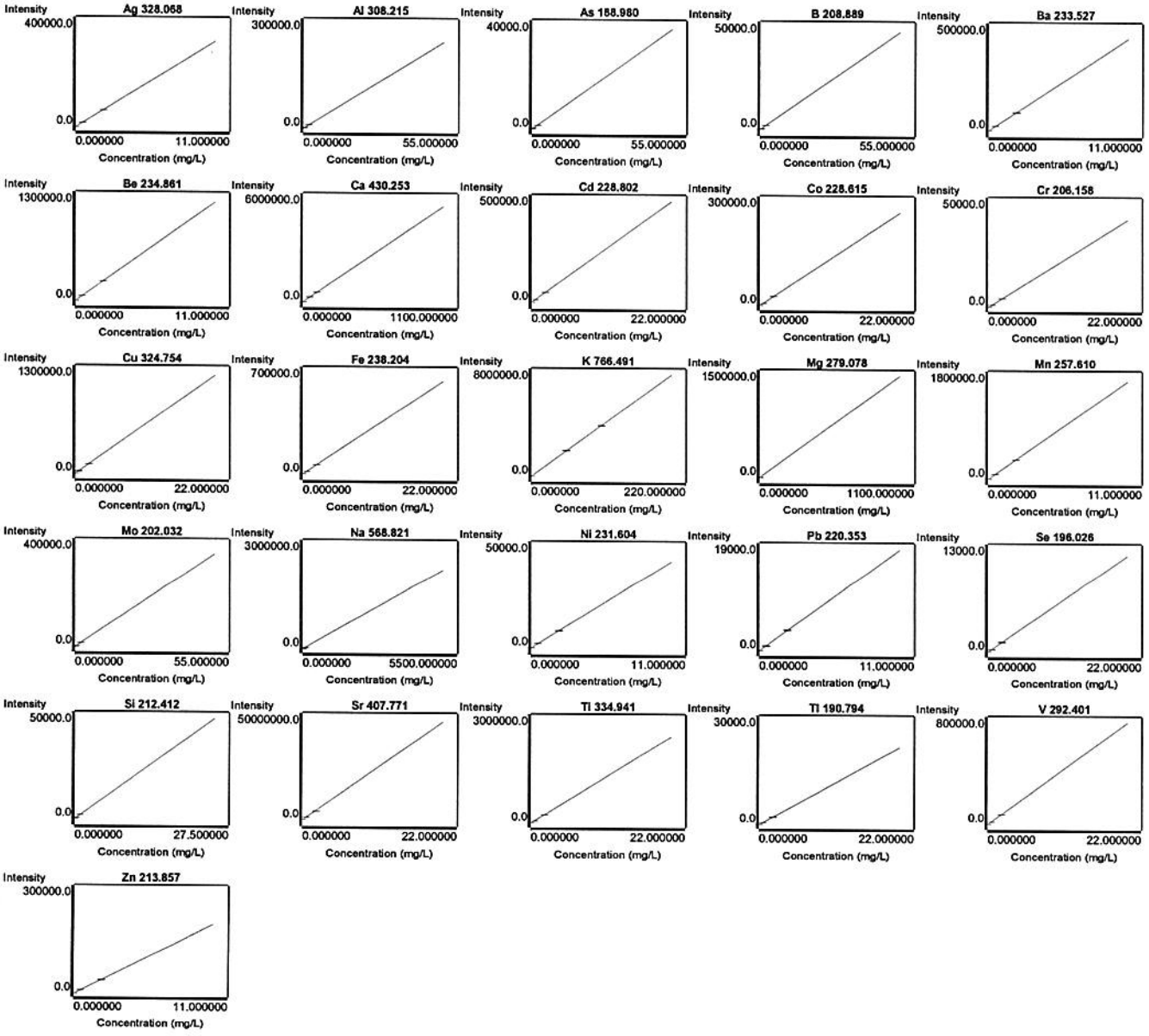
Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.70622	0.000000	0.000000	-	-
0.50 ppm		19020.4	0.500000	0.502364	0.002364	0.5
2.00 ppm		74608.9	2.00000	1.97108	-0.028924	-1.4

Curve Type: Linear Equation: y = 37848.5 x + 6.7

Zn 213.857 Calibration (mg/L) **10/1/2013, 11:34:22 AM** **Correlation Coefficient: 0.999978**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		15.3970	0.000000	0.000000	-	-
0.50 ppm		9788.83	0.500000	0.501191	0.001191	0.2
2.00 ppm		38166.5	2.00000	1.95643	-0.043572	-2.2

Curve Type: Linear Equation: y = 19500.4 x + 15.4



CCV1-1ppm (CCV) **10/1/2013, 11:47:02 AM** **Rack 4, Tube 1**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.01854	mg/L	0.004926	0.5	32243.0	101.85423
Al 308.215	1.03619	mg/L	0.002553	0.2	5110.51	103.61864
As 188.980	1.02281	mg/L	0.003668	0.4	758.639	102.28127
Cd 228.802	1.02072	mg/L	0.001742	0.2	24047.7	102.07229
Co 228.615	1.02164	mg/L	0.002336	0.2	13053.0	102.16385
Cr 206.158	1.02822	mg/L	0.002490	0.2	2053.13	102.82158
Cu 324.754	1.03541	mg/L	0.003706	0.4	61827.5	103.54139
Fe 238.204	1.01479	mg/L	0.004419	0.4	30982.5	101.47860
Mg 279.078	1.03479	mg/L	0.004478	0.4	1482.66	103.47854
Mn 257.610	1.02379	mg/L	0.002549	0.2	167590	102.37895
Mo 202.032	1.03877	mg/L	0.013504	1.3	7203.30	103.87705
Ni 231.604	1.02927	mg/L	0.004556	0.4	4197.41	102.92654
Pb 220.353	1.02616	mg/L	0.040564	4.0	1838.59	102.61559
Se 196.026	1.00770	mg/L	0.018113	1.8	589.836	100.76981
Si 212.412	0.491059	mg/L	0.003836	0.8	950.073	98.21183
Sr 407.771	1.02327	mg/L	0.004697	0.5	2361248	102.32657
Ti 334.941	1.01939	mg/L	0.003641	0.4	122109	101.93920
Tl 190.794	1.02458	mg/L	0.003065	0.3	1093.98	102.45836
V 292.401	1.01864	mg/L	0.003505	0.3	38560.8	101.86440
Zn 213.857	1.00736	mg/L	0.003207	0.3	19659.4	100.73643

CCV2-50ppm (CCV) **10/1/2013, 11:51:16 AM** **Rack 4, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ca 430.253	51.3275	mg/L	0.122156	0.2	271844	102.65505
K 766.491	51.3943	mg/L	0.111854	0.2	1945504	102.78869
Na 568.821	50.4579	mg/L	0.099962	0.2	22252.6	100.91587

QCS1-1ppm (ICV) **10/1/2013, 11:55:30 AM** **Rack 4, Tube 3**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.03362	mg/L	0.003305	0.3	32720.2	103.36188
Al 308.215	1.04655	mg/L	0.001109	0.1	5159.76	104.65516
As 188.980	1.02635	mg/L	0.005370	0.5	761.252	102.63499
Cd 228.802	1.03145	mg/L	0.003107	0.3	24300.3	103.14499
Co 228.615	1.03163	mg/L	0.003985	0.4	13180.6	103.16280
Cr 206.158	1.03213	mg/L	0.003712	0.4	2060.94	103.21310
Cu 324.754	1.03698	mg/L	0.003132	0.3	61920.8	103.69810
Fe 238.204	1.02329	mg/L	0.001515	0.1	31241.9	102.32860
Mg 279.078	1.04103	mg/L	0.007317	0.7	1491.57	104.10339
Mn 257.610	1.01521	mg/L	0.001079	0.1	166185	101.52052
Mo 202.032	1.03303	mg/L	0.012150	1.2	7163.55	103.30316
Ni 231.604	1.02847	mg/L	0.004283	0.4	4194.15	102.84661
Pb 220.353	1.01776	mg/L	0.050601	5.0	1823.57	101.77603
Se 196.026	1.02327	mg/L	0.001900	0.2	598.914	102.32682
Si 212.412	0.516933	mg/L	0.002074	0.4	998.870	103.38665
Sr 407.771	1.01130	mg/L	0.003919	0.4	2333643	101.13017

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ti 334.941	1.01932	mg/L	0.004608	0.5	122100	101.93182
Tl 190.794	1.03094	mg/L	0.002520	0.2	1100.75	103.09370
V 292.401	1.02382	mg/L	0.002261	0.2	38756.6	102.38165
Zn 213.857	1.01518	mg/L	0.002035	0.2	19811.9	101.51842

QCS2-25ppm (ICV) **10/1/2013, 11:59:44 AM** **Rack 4, Tube 4**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ca 430.253	25.8827	mg/L	0.056949	0.2	137135	103.53071
K 766.491	25.7083	mg/L	0.050935	0.2	973260	102.83335
Na 568.821	25.1709	mg/L	0.068135	0.3	11173.7	100.68380

Blank (CCB) **10/1/2013, 12:03:58 PM** **Rack 4, Tube 5**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	0.000066	mg/L	0.000025	38.6	5.18490	0.00007
Al 308.215	0.000816	mg/L	0.000553	67.8	190.976	0.00082
As 188.980	0.000150uv	mg/L	0.001272	847.9	3.21540	0.00015
Ca 430.253	0.000163uv	mg/L	0.002437	1491.7	109.730	0.00016
Cd 228.802	0.000002uv	mg/L	0.000071	3480.0	4.16631	0.00000
Co 228.615	0.000253	mg/L	0.000097	38.3	4.97434	0.00025
Cr 206.158	-0.000076uv	mg/L	0.000155	203.2	0.635212	-0.00008
Cu 324.754	0.000250	mg/L	0.000077	30.8	198.879	0.00025
Fe 238.204	0.001454	mg/L	0.000237	16.3	59.6234	0.00145
K 766.491	0.000987	mg/L	0.000058	5.8	209.196	0.00099
Mg 279.078	-0.002478uv	mg/L	0.000883	35.7	3.45085	-0.00248
Mn 257.610	0.000034	mg/L	0.000016	46.6	26.0399	0.00003
Na 568.821	-0.011256uv	mg/L	0.017902	159.0	140.719	-0.01126
Ni 231.604	-0.000128uv	mg/L	0.000329	257.7	3.58612	-0.00013
Pb 220.353	0.000462uv	mg/L	0.001241	268.4	3.90384	0.00046
Se 196.026	0.000476uv	mg/L	0.002201	462.4	2.55193	0.00048
Si 212.412	0.000832	mg/L	0.000760	91.3	25.5339	0.00083
Sr 407.771	0.000013	mg/L	0.000001	6.5	213.766	0.00001Z
Ti 334.941	0.000854	mg/L	0.000362	42.4	113.875	0.00085
Tl 190.794	0.000178uv	mg/L	0.001142	642.6	1.20467	0.00018
V 292.401	0.000081	mg/L	0.000071	87.0	9.78564	0.00008
Zn 213.857	0.000234	mg/L	0.000050	21.2	19.9613	0.00023

PQL 5 PPB (Samp) **10/1/2013, 12:08:13 PM** **Rack 1, Tube 1**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.004428	mg/L	0.000317	7.2	143.250
Al 308.215	0.005761	mg/L	0.000327	5.7	214.471
As 188.980	0.004608	mg/L	0.002661	57.8	6.50832
Ca 430.253	0.008888	mg/L	0.004769	53.6	155.923
Cd 228.802	0.004913	mg/L	0.000106	2.2	119.842
Co 228.615	0.005191	mg/L	0.000081	1.6	68.0547
Cr 206.158	0.005608	mg/L	0.000397	7.1	11.9811

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Cu 324.754	0.005450	mg/L	0.000062	1.1	508.453
Fe 238.204	0.005837	mg/L	0.000152	2.6	193.382
Mg 279.078	0.006970	mg/L	0.001219	17.5	16.9237
Mn 257.610	0.005280	mg/L	0.000046	0.9	884.644
Mo 202.032	0.007416	mg/L	0.000978	13.2	59.4323
Ni 231.604	0.004618	mg/L	0.000265	5.7	22.9186
Pb 220.353	0.003256	mg/L	0.000771	23.7	8.90030
Se 196.026	0.006284	mg/L	0.001074	17.1	5.93841
Si 212.412	0.003549	mg/L	0.000487	13.7	30.6584
Sr 407.771	0.005582	mg/L	0.000017	0.3	13063.1
Ti 334.941	0.005758	mg/L	0.000261	4.5	701.236
Tl 190.794	0.005653	mg/L	0.000642	11.4	7.04509
V 292.401	0.004976	mg/L	0.000050	1.0	195.049
Zn 213.857	0.005010	mg/L	0.000141	2.8	113.096

LRB#S1736 (Samp) **10/1/2013, 2:47:30 PM** **Rack 1, Tube 31**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.000062	mg/L	0.000051	82.0	5.05082
As 188.980	-0.002014uv	mg/L	0.001338	66.4	1.61653
B 208.889	0.000464uv	mg/L	0.000887	191.1	4.06787
Ba 233.527	0.000044uv	mg/L	0.000065	147.4	8.19502
Be 234.861	0.000011	mg/L	0.000002	21.6	2.82366
Cd 228.802	0.000052uv	mg/L	0.000056	107.5	5.34962
Co 228.615	0.000262	mg/L	0.000066	25.2	5.08563
Cr 206.158	0.000080uv	mg/L	0.000263	330.0	0.946878
Cu 324.754	0.000472	mg/L	0.000103	21.8	212.095
Mn 257.610	0.000869	mg/L	0.000010	1.2	162.649
Mo 202.032	0.000147uv	mg/L	0.000470	319.1	9.08589
Na 568.821	0.002740uv	mg/L	0.037962	1385.4	146.851
Ni 231.604	-0.000162uv	mg/L	0.000240	148.5	3.44676
Pb 220.353	-0.000153uv	mg/L	0.000664	434.8	2.80332
Se 196.026	-0.002195uv	mg/L	0.002368	107.9	0.994776
Sr 407.771	0.000038	mg/L	0.000009	23.1	269.571
Ti 334.941	0.000184	mg/L	0.000109	59.5	33.6508
V 292.401	0.000058uv	mg/L	0.000107	184.5	8.89095

IDOC#1 MAZ (Samp) **10/1/2013, 2:51:45 PM** **Rack 1, Tube 32**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.975874	mg/L	0.004308	0.4	30892.4
Al 308.215	1.02496	mg/L	0.005678	0.6	5057.17
As 188.980	1.00557	mg/L	0.004364	0.4	745.903
B 208.889	0.979936	mg/L	0.013862	1.4	897.653
Ba 233.527	0.970735	mg/L	0.001313	0.1	41635.6
Be 234.861	0.997022	mg/L	0.002174	0.2	118283
Ca 430.253	26.1211	mg/L	0.026051	0.1	138398
Cd 228.802	0.998732	mg/L	0.003049	0.3	23529.7
Co 228.615	0.973728	mg/L	0.002346	0.2	12441.0
Cr 206.158	0.978887	mg/L	0.001084	0.1	1954.66

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Cu 324.754	0.985408	mg/L	0.004527	0.5	58850.4
Fe 238.204	0.971413	mg/L	0.005090	0.5	29658.9
K 766.491	34.4388	mg/L	0.018032	0.1	1303718
Mg 279.078	1.02529	mg/L	0.008693	0.8	1469.12
Mn 257.610	0.947192	mg/L	0.003859	0.4	155052
Mo 202.032	0.991385	mg/L	0.018727	1.9	6875.08
Na 568.821	24.8621	mg/L	0.033640	0.1	11038.4
Ni 231.604	0.959175	mg/L	0.001780	0.2	3911.85
Pb 220.353	0.920678	mg/L	0.066756	7.3	1649.92
Se 196.026	0.994057	mg/L	0.007756	0.8	581.882
Si 212.412	0.499632	mg/L	0.002449	0.5	966.241
Sr 407.771	0.949914	mg/L	0.004284	0.5	2191999
Ti 334.941	0.973617	mg/L	0.001006	0.1	116626
Tl 190.794	0.960519	mg/L	0.002551	0.3	1025.64
V 292.401	0.986244	mg/L	0.003528	0.4	37334.5
Zn 213.857	1.06400	mg/L	0.017762	1.7	20763.9

IDOC#2 MAZ (Samp) **10/1/2013, 2:56:00 PM** **Rack 1, Tube 33**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.980037	mg/L	0.004529	0.5	31024.2
Al 308.215	1.02792	mg/L	0.004926	0.5	5071.22
As 188.980	1.00855	mg/L	0.002929	0.3	748.102
B 208.889	1.00438	mg/L	0.012017	1.2	919.954
Ba 233.527	0.974824	mg/L	0.002513	0.3	41811.0
Be 234.861	0.999218	mg/L	0.002842	0.3	118544
Ca 430.253	26.2730	mg/L	0.101435	0.4	139202
Cd 228.802	1.00450	mg/L	0.001729	0.2	23665.6
Co 228.615	0.974956	mg/L	0.003890	0.4	12456.7
Cr 206.158	0.984865	mg/L	0.005141	0.5	1966.60
Cu 324.754	0.987566	mg/L	0.004011	0.4	58978.9
Fe 238.204	0.978615	mg/L	0.005684	0.6	29878.7
K 766.491	34.7162	mg/L	0.096188	0.3	1314220
Mg 279.078	1.02811	mg/L	0.017586	1.7	1473.15
Mn 257.610	0.948166	mg/L	0.001585	0.2	155212
Mo 202.032	1.01413	mg/L	0.015813	1.6	7032.65
Na 568.821	25.1215	mg/L	0.075996	0.3	11152.0
Ni 231.604	0.961128	mg/L	0.000898	0.1	3919.81
Pb 220.353	0.944829	mg/L	0.049037	5.2	1693.12
Se 196.026	1.00467	mg/L	0.008069	0.8	588.069
Si 212.412	0.499387	mg/L	0.003814	0.8	965.778
Sr 407.771	0.957517	mg/L	0.004362	0.5	2209541
Ti 334.941	0.978937	mg/L	0.004927	0.5	117263
Tl 190.794	0.963598	mg/L	0.001858	0.2	1028.92
V 292.401	0.987548	mg/L	0.003109	0.3	37383.9
Zn 213.857	1.05656	mg/L	0.017068	1.6	20618.8

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IDOC#3 MAZ (Samp) **10/1/2013, 3:00:14 PM** **Rack 1, Tube 34**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.969059	mg/L	0.001633	0.2	30676.7
Al 308.215	1.01163	mg/L	0.003585	0.4	4993.82
As 188.980	0.999037	mg/L	0.001814	0.2	741.076
B 208.889	0.998963	mg/L	0.009746	1.0	915.012
Ba 233.527	0.963569	mg/L	0.000445	0.0	41328.3
Be 234.861	0.988194	mg/L	0.002016	0.2	117236
Ca 430.253	25.9043	mg/L	0.022454	0.1	137250
Cd 228.802	0.993729	mg/L	0.001996	0.2	23411.8
Co 228.615	0.968635	mg/L	0.001683	0.2	12375.9
Cr 206.158	0.970904	mg/L	0.003414	0.4	1938.73
Cu 324.754	0.977388	mg/L	0.002156	0.2	58372.9
Fe 238.204	0.968525	mg/L	0.001837	0.2	29570.8
K 766.491	34.2109	mg/L	0.035953	0.1	1295092
Mg 279.078	1.01179	mg/L	0.015728	1.6	1449.86
Mn 257.610	0.938500	mg/L	0.000541	0.1	153630
Mo 202.032	1.00960	mg/L	0.014508	1.4	7001.22
Na 568.821	24.6334	mg/L	0.062751	0.3	10938.2
Ni 231.604	0.952807	mg/L	0.000521	0.1	3885.91
Pb 220.353	0.942676	mg/L	0.040934	4.3	1689.27
Se 196.026	0.997769	mg/L	0.004761	0.5	584.046
Si 212.412	0.490601	mg/L	0.001821	0.4	949.209
Sr 407.771	0.948824	mg/L	0.003054	0.3	2189482
Ti 334.941	0.968183	mg/L	0.000984	0.1	115975
Tl 190.794	0.952287	mg/L	0.001911	0.2	1016.85
V 292.401	0.977560	mg/L	0.001615	0.2	37005.8
Zn 213.857	1.04878	mg/L	0.017057	1.6	20467.0

IDOC#4 MAZ (Samp) **10/1/2013, 3:04:29 PM** **Rack 1, Tube 35**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.973085	mg/L	0.002706	0.3	30804.2
Al 308.215	1.01508	mg/L	0.004435	0.4	5010.22
As 188.980	1.00599	mg/L	0.007860	0.8	746.214
B 208.889	1.00460	mg/L	0.010816	1.1	920.155
Ba 233.527	0.964292	mg/L	0.002005	0.2	41359.3
Be 234.861	0.997278	mg/L	0.001218	0.1	118313
Ca 430.253	26.0945	mg/L	0.058613	0.2	138257
Cd 228.802	0.995591	mg/L	0.003547	0.4	23455.7
Co 228.615	0.969587	mg/L	0.003487	0.4	12388.1
Cr 206.158	0.974481	mg/L	0.002556	0.3	1945.87
Cu 324.754	0.982190	mg/L	0.004189	0.4	58658.8
Fe 238.204	0.972525	mg/L	0.004887	0.5	29692.8
K 766.491	34.5190	mg/L	0.068577	0.2	1306753
Mg 279.078	1.01878	mg/L	0.012709	1.2	1459.84
Mn 257.610	0.940367	mg/L	0.002440	0.3	153935
Mo 202.032	1.01328	mg/L	0.019401	1.9	7026.74
Na 568.821	24.8807	mg/L	0.061793	0.2	11046.5
Ni 231.604	0.955589	mg/L	0.002106	0.2	3897.24
Pb 220.353	0.940241	mg/L	0.042621	4.5	1684.91

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Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Se 196.026	1.00485	mg/L	0.010086	1.0	588.176
Si 212.412	0.492238	mg/L	0.000493	0.1	952.295
Sr 407.771	0.952961	mg/L	0.003656	0.4	2199028
Ti 334.941	0.977151	mg/L	0.003878	0.4	117049
Tl 190.794	0.954412	mg/L	0.004293	0.4	1019.12
V 292.401	0.980040	mg/L	0.004163	0.4	37099.7
Zn 213.857	1.04406	mg/L	0.017495	1.7	20375.1

LCS (LCS) **10/1/2013, 4:54:09 PM** **Rack 1, Tube 36**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	0.995641	mg/L	0.003117	0.3	31518.1	99.56407
Al 308.215	1.02873	mg/L	0.000788	0.1	5075.06	102.87255
As 188.980	1.02615	mg/L	0.005379	0.5	761.105	102.61520
B 208.889	1.00625	mg/L	0.014457	1.4	921.660	100.62505
Ba 233.527	0.991272	mg/L	0.001622	0.2	42516.4	99.12721
Be 234.861	1.01970	mg/L	0.004438	0.4	120974	101.97040
Ca 430.253	26.7283	mg/L	0.042247	0.2	141612	106.91309
Cd 228.802	1.02097	mg/L	0.003661	0.4	24053.4	102.09660
Co 228.615	0.990718	mg/L	0.002784	0.3	12658.0	99.07184
Cr 206.158	1.00367	mg/L	0.004926	0.5	2004.13	100.36687
Cu 324.754	1.00306	mg/L	0.003775	0.4	59901.3	100.30595
Fe 238.204	0.987213	mg/L	0.002387	0.2	30141.1	98.72133
K 766.491	35.1347	mg/L	0.072276	0.2	1330057	100.38473
Mg 279.078	1.00046	mg/L	0.003793	0.4	1433.70	100.04576
Mn 257.610	0.965412	mg/L	0.001703	0.2	158035	96.54121
Mo 202.032	1.00411	mg/L	0.019730	2.0	6963.24	100.41129
Na 568.821	25.2250	mg/L	0.053003	0.2	11197.3	100.89984
Ni 231.604	0.980265	mg/L	0.001500	0.2	3997.77	98.02648
Pb 220.353	0.935533	mg/L	0.062125	6.6	1676.49	93.55328
Se 196.026	1.01188	mg/L	0.006965	0.7	592.277	101.18845
Si 212.412	0.496903	mg/L	0.001982	0.4	961.094	99.38058
Sr 407.771	0.975637	mg/L	0.001390	0.1	2251352	-
Ti 334.941	0.993962	mg/L	0.003498	0.4	119063	99.39625
Tl 190.794	0.974197	mg/L	0.004838	0.5	1040.23	97.41973
V 292.401	1.00356	mg/L	0.002368	0.2	37989.8	100.35566
Zn 213.857	1.04088	mg/L	0.002572	0.2	20313.0	104.08784

CCV1-1ppm (CCV) **10/1/2013, 3:12:58 PM** **Rack 4, Tube 1**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.01907	mg/L	0.005996	0.6	32259.6	101.90662
Al 308.215	1.05004	mg/L	0.005689	0.5	5176.32	105.00369
As 188.980	1.02446	mg/L	0.002406	0.2	759.858	102.44633
B 208.889	1.03339	mg/L	0.009625	0.9	946.424	103.33939
Ba 233.527	1.02733	mg/L	0.001988	0.2	44062.8	102.73336
Be 234.861	1.00770	mg/L	0.001727	0.2	119550	100.76987
Cd 228.802	1.01588	mg/L	0.004423	0.4	23933.6	101.58821
Co 228.615	1.01589	mg/L	0.002718	0.3	12979.6	101.58873
Cr 206.158	1.02545	mg/L	0.005836	0.6	2047.60	102.54475

Vista PRO.100113.

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Cu 324.754	1.03634	mg/L	0.007065	0.7	61882.7	103.63414
Fe 238.204	1.03998	mg/L	0.009248	0.9	31751.4	103.99829
Mg 279.078	1.06379	mg/L	0.009360	0.9	1524.02	106.37885
Mn 257.610	1.01759	mg/L	0.004216	0.4	166575	101.75878
Mo 202.032	1.09825	mg/L	0.017479	1.6	7615.27	109.82455
Ni 231.604	1.02567	mg/L	0.003074	0.3	4182.74	102.56667
Pb 220.353	1.05029	mg/L	0.027435	2.6	1881.76	105.02892
Se 196.026	1.02258	mg/L	0.010004	1.0	598.511	102.25760
Si 212.412	0.500286	mg/L	0.002169	0.4	967.474	100.05722
Sr 407.771	1.03570	mg/L	0.003317	0.3	2389945	103.57027
Ti 334.941	1.02853	mg/L	0.004017	0.4	123204	102.85349
Tl 190.794	1.02896	mg/L	0.003304	0.3	1098.64	102.89582
V 292.401	1.01413	mg/L	0.002486	0.2	38390.1	101.41343
Zn 213.857	1.04975	mg/L	0.017457	1.7	20485.9	104.97454

CCV2-50ppm (CCV) **10/1/2013, 3:17:13 PM** **Rack 4, Tube 2**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ca 430.253	51.0361	mg/L	0.039263	0.1	270301	102.07227
K 766.491	51.0424	mg/L	0.064779	0.1	1932183	102.08483
Na 568.821	50.3143	mg/L	0.087235	0.2	22189.6	100.62866

3050 SOIL DIGESTION

1310012.

	SAMPLE LCN	Sample Weight (g)	Vspike(ml)	Cspike(mg/l)	Vf(ml)
	LRB	1.0000	-	-	50
	LCS	1.0000	0.50	1.00	50
1	13-I-788-01-A	2.0000	-	-	50
2	13-I-788-02-A	2.0000	-	-	50
3	13-I-788-03-A	2.0000	-	-	50
4	1310806-01B	1.1191	-	-	50
5	1310806-02B	1.1207	-	-	50
6	IDOC#1	1.0000	-	-	50
7	IDOC#2	1.0000	-	-	50
8	IDOC#3	1.0000	-	-	50
9	IDOC#4	1.0000	-	-	50
10	13J0006-01A	N/A	-	-	50
11	13J0006-02A.	N/A.	-	-	50
12			-	-	50
13			-	-	50
14			-	-	50
15			-	-	50
16			-	-	50
17			-	-	50
18			-	-	50
19			-	-	50
20			-	-	50
	MS 1310806-01B	1.0000	0.50	1.00	50
	MSD 1310806-01B	1.0000	0.50	1.00	50

Ca, Cd, Pb, Zn

RCRA 8

DIGESTION # S-1736

HNO3 LOT# SHBD0895V-ALD

HCl LOT # L04039 -MG

H2O2 LOT # 52007229 -EMD

SPIKE STD-1# 1223440-HPS

Conc. STD1: 100/1,000 mg/l

SPIKE STD-2# QC-MET-052013-A

Conc. STD2: 2,500 mg/l

DATE : 10.01.13

TEMPERATURE : 95°C

ANALYST : EN/MAZ

BALANCE : MET-BALANCE-4

HOTBLOCK : MET-HOTBLOCK-2

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Mercedes Valdivar	Mercedes Valdivar	10/14/15
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
6010-SPIP	☐ Water ☐ DW ☒ Solid ☐ Other: _____	FLEN-SPIP-Rev H 2.
Analyte or Class of Analytes		
Metals		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Mercedes Valdivar *Analyst*	Valdivar *Signature*	03.25.15 *Date*
IRENA NUTZU *Technical Director*	*Signature*	03.25.15 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	10/14/15 *Date*

[1] **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

Initial Demonstration of Capability

MATRIX:	SOLID
DATE OF ANALYSIS:	03/258/2015
ANALYZED BY:	M. ZALDIVAR
METHOD NUMBER:	6010 SPLP 1312
EXTRACTION METHOD (IF APPLICABLE):	1312
INSTRUMENT ID:	EL06073103
EXTRACTED BY:	M. ZALDIVAR
DATE EXTRACTED:	3/25/2015
ACCEPTANCE CRITERIA:	±15%

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	1410015-HPS	1ppm
LCS Spike Standard(s) MIN		
Internal Standard		

Compound	TRUE Value	CDOC 1	CDOC 2	CDOC 3	CDOC 4	$\bar{X}$	RSD	% Recovery	SD
UNITS:	ppm	ppm	ppm	ppm	ppm				
Ag	1	0.9908	0.9818	0.9831	0.9677	0.98	0.98	98.09	0.01
As	1	0.9995	0.9952	0.9951	0.974	0.99	1.16	99.10	0.01
Ba	1	0.9512	0.9395	0.938	0.9212	0.94	1.32	93.75	0.01
Cd	1	0.9744	0.9675	0.9638	0.9438	0.96	1.37	96.24	0.01
Cr	1	0.9612	0.9496	0.949	0.9329	0.95	1.23	94.82	0.01
Pb	1	0.9894	0.9789	0.9787	0.9651	0.98	1.02	97.80	0.01
Se	1	0.9906	0.99	0.9967	0.976	0.99	0.89	98.83	0.01

SPLP EXTRACTION # 121

Extraction:

DATE IN	032415
TIME IN	16:00
T(*C)	23
RPM	31
ANALYST	MAZ

DATE OUT	03.25.15
TIME OUT	09:00
T(*C)	23
ANALYST	MAZ

Balance:MET-BALANCE-2

Tumbler:MET-TUMBLER-1

NELAC Traceability :
Standards and Reagents:

Sulfuric Acid :	GFS # C147567
Nitric Acid :	GFS # C362823

FLUID#1: R-MET 1212 14-A
(East of Mississippi River)

FLUID#2:
(West of Mississippi River)

	LCN	Weight of Sample(g)	Vol. Extr. Fluid (ml)	Ext.Fluid pH	Extract Final pH	Pres. HNO
1	CDOC #1-MAZ	100	2000	4.20	4.20	✓
2	CDOC #2-MAZ	100	2000	4.20	4.20	✓
3	CDOC #3-MAZ	100	2000	4.20	4.20	✓
4	CDOC #3-4 MAZ	100	2000	4.20	4.20	✓
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

BATCH# : 2813

DATE : 03.25.15

ANALYST : MAZ

3010 LIQUID DIGESTION

HNO3 : AA#L042014

HCl : ALD# SHBC1944V

Spike : HPS# 1410015
100ppm

QL-MET-053014-B
2500 ppm

1503588.

	LCN#	PH	V init. (ml)	V spike (ml)	C spike (ppm)	V final (ml)	Dil. factor	Comments
	LRB	<2	50	-	-	50		
	LCS	<2	50	0.5	1.0/25.0	50		
1	15C0633-01E	<2	50	-	-	50		Cu As Fe Pb.
2	-02F			-	-			
3	-06F			-	-			
4	15C0633-09F			-	-			
5	15C0636-01C			-	-			Pb. Cr Ag Cd
6	-02C			-	-			
7	15C0636-03C			-	-			
8	15C0639-01A			-	-			Cr - Ni
9	-02A			-	-			
10	-03A	<2	50	-	-	50		
	MS 15C0633-09F	<2	50	0.5	1.0/25.0	50		
	MSD 15C0633-09F	<2	50	0.5	1.0/25.0	50		
11	15C0639-04A	<2	50	-	-	50		
12	CDOC-1 SPIP	<2	50	-	-	50		
13	CDOC-2 SPIP	<2	50	-	-	50		
14	CDOC-3 SPIP	<2	50	-	-	50		
15	CDOC-4 SPIP	<2	50	-	-	50		
16				-	-			
17				-	-			
18				-	-			
19				-	-			
20				-	-			
	MS 15C0639-04A	<2	50	0.5	1.0/25.0	50		
	MSD 15C0639-04A	<2	50	0.5	1.0/25.0	50		

DIG. TUBES :E.E. LOT# 130924

MET-HOTBLOCK-2

T(C) 95.0 -23

Vista PRO 032415

Sample	Label	Calc Conc.	Units	Date/Time
Blank	Ag 328.068	0.00000	mg/L	3/24/2015, 8:08:59 AM
	As 188.980	0.0000	mg/L	
	Ba 233.527	0.0000	mg/L	
	Cd 228.802	0.00000	mg/L	
	Cr 205.560	0.0000	mg/L	
	Pb 220.353	0.0000	mg/L	
	Se 196.026	0.0000	mg/L	
0.500 ppm	Ag 328.068	0.50000	mg/L	3/24/2015, 8:12:23 AM
	As 188.980	0.5000	mg/L	
	Ba 233.527	0.5000	mg/L	
	Cd 228.802	0.50000	mg/L	
	Cr 205.560	0.5000	mg/L	
	Pb 220.353	0.5000	mg/L	
	Se 196.026	0.5000	mg/L	
2.000 ppm	Ag 328.068	2.00000	mg/L	3/24/2015, 8:17:12 AM
	As 188.980	2.0000	mg/L	
	Ba 233.527	2.0000	mg/L	
	Cd 228.802	2.00000	mg/L	
	Cr 205.560	2.0000	mg/L	
	Pb 220.353	2.0000	mg/L	
	Se 196.026	2.0000	mg/L	
CCV	Ag 328.068	1.01163	mg/L	3/24/2015, 8:34:25 AM
	As 188.980	0.9971	mg/L	
	Ba 233.527	1.0152	mg/L	
	Cd 228.802	1.00112	mg/L	
	Cr 205.560	1.0172	mg/L	
	Pb 220.353	1.0090	mg/L	
	Se 196.026	0.9970	mg/L	
QCS	Ag 328.068	1.00467	mg/L	3/24/2015, 8:42:36 AM
	As 188.980	0.9951	mg/L	
	Ba 233.527	1.0040	mg/L	
	Cd 228.802	0.99750	mg/L	
	Cr 205.560	1.0074	mg/L	
	Pb 220.353	0.9937	mg/L	
	Se 196.026	0.9818	mg/L	
Blank	Ag 328.068	-0.00001uv	mg/L	3/24/2015, 8:50:51 AM
	As 188.980	0.0010uv	mg/L	
	Ba 233.527	0.0000uv	mg/L	
	Cd 228.802	0.00005uv	mg/L	
	Cr 205.560	-0.0001uv	mg/L	
	Pb 220.353	0.0010	mg/L	
	Se 196.026	-0.0003uv	mg/L	
LRB 2813	As 188.980	0.0007	mg/L	3/25/2015, 12:46:23 PM
LCS-200.7	Ag 328.068	0.97469	mg/L	3/25/2015, 1:14:20 PM
	As 188.980	0.9865	mg/L	
	Cd 228.802	0.94199	mg/L	

Vista PRO 032415

Sample	Label	Calc Conc.	Units	Date/Time
	Cr 205.560	0.9422	mg/L	
	Pb 220.353	0.9750	mg/L	
	Se 196.026	0.9743	mg/L	
CDOC 1 SPLP MAZ	Ag 328.068	0.99080	mg/L	3/25/2015, 2:35:39 PM
	As 188.980	0.9995	mg/L	
	Ba 233.527	0.9512	mg/L	
	Cd 228.802	0.97444	mg/L	
	Cr 205.560	0.9612	mg/L	
	Pb 220.353	0.9894	mg/L	
	Se 196.026	0.9906	mg/L	
CDOC 2 SPLP MAZ	Ag 328.068	0.98181	mg/L	3/25/2015, 2:40:32 PM
	As 188.980	0.9952	mg/L	
	Ba 233.527	0.9395	mg/L	
	Cd 228.802	0.96754	mg/L	
	Cr 205.560	0.9496	mg/L	
	Pb 220.353	0.9789	mg/L	
	Se 196.026	0.9900	mg/L	
CDOC 3 SPLP MAZ	Ag 328.068	0.98313	mg/L	3/25/2015, 2:45:10 PM
	As 188.980	0.9951	mg/L	
	Ba 233.527	0.9380	mg/L	
	Cd 228.802	0.96385	mg/L	
	Cr 205.560	0.9490	mg/L	
	Pb 220.353	0.9787	mg/L	
	Se 196.026	0.9967	mg/L	
CDOC 4 SPLP MAZ	Ag 328.068	0.96772	mg/L	3/25/2015, 2:49:44 PM
	As 188.980	0.9740	mg/L	
	Ba 233.527	0.9212	mg/L	
	Cd 228.802	0.94382	mg/L	
	Cr 205.560	0.9329	mg/L	
	Pb 220.353	0.9651	mg/L	
	Se 196.026	0.9760	mg/L	
CCV	Ag 328.068	0.97853	mg/L	3/25/2015, 2:54:08 PM
	As 188.980	0.9504	mg/L	
	Ba 233.527	0.9371	mg/L	
	Se 196.026	0.9506	mg/L	
CCB	Ag 328.068	0.00010	mg/L	3/25/2015, 3:02:22 PM
	As 188.980	0.0015	mg/L	
	Ba 233.527	-0.0000uv	mg/L	
	Se 196.026	-0.0007uv	mg/L	
LRB S 2057	Ag 328.068	-0.00002uv	mg/L	3/25/2015, 3:06:26 PM
	Se 196.026	0.0004uv	mg/L	
15C0630-01	Se 196.026	0.0158	mg/L	3/25/2015, 3:09:56 PM
15C0630-02	Se 196.026	0.0099	mg/L	3/25/2015, 3:14:50 PM

050136-005

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Always Appears
Stamped in Red

Demonstration of Capability
Certification Statement

Date: 10.10.13 Page 1 of 10

Laboratory Name: Florida Spectrum Environmental Services
Laboratory Address: 1460 W. McNab Rd., Fort Lauderdale, FL 33309
Analyst(s) Name(s): MERCEDES ZALDIVAR
Matrix: SOLID / LIQUID
Method number: 6010 TCLP

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at this facility for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s) and the laboratory-specific SOPs are available for all personnel on-site. I Mercedes Zaldivar current employee of FSES have read, understood, and agree to perform the latest version of the SOP.

4. The data associated with the demonstration capability are true, accurate, complete and self-explanatory (1).

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained at the facility, and the associated information is well organized and available for review by authorized assessors.

IRENA NUTZU
Technical Director's Name

Signature

Date 10/10/13

Caitlin Brice
Quality Assurance Director's Name

Signature

Date 10/10/13

This certification form must be completed each time a demonstration of capability study is completed.

(1) True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

DATE :10/07/13
ANALYST: MERCEDES ZALDIVAR

IDOC
METHOD:TCLP-1311/6010B
MATRIX : SOLID / Water CEB 10/10/13

	T V (PPM)	IDOC-1 (PPM)	IDOC-2 (PPM)	IDOC-3 (PPM)	IDOC-4 (PPM)	Average (PPM)	% Recovery	Std.Dev.
Ag	1.00000	0.97223	0.977681	0.972048	0.965423	0.971846	97.2	0.005016
As	1.00000	0.979164	0.998567	0.99146	0.977002	0.986548	98.7	0.010234
Ba	1.00000	0.931566	0.9342	0.92979	0.921819	0.929344	92.9	0.005334
Cd	1.00000	0.946769	0.951452	0.945878	0.938573	0.945668	94.6	0.005324
Cr	1.00000	0.95973	0.966354	0.959228	0.950404	0.958929	95.9	0.006546
Pb	1.00000	0.942371	0.968287	0.960632	0.954799	0.956522	95.7	0.010932
Se	1.00000	0.979735	0.983337	0.980518	0.965578	0.977292	97.7	0.007961

Vista PRO.100713.

Method Parameters

METHOD : 200.7 , 6010 , 6010 TCLP
ANALYST : IRENA NUTZU/MERCEDES ZALDIVAR
INSTRUMENT : VARIAN 720-ES-SERIAL#EL06073103
NELAC Traceability Information :
CALIB. STANDARDS : HPS-QCS-26,LOT# 1204112
HPS-Sr-LOT# 1208804
HPS-Ca-LOT # 1207226
HPS-K-LOT # 1131215
HPS-Na-LOT # 1130805

CCV : HPS-QCS-26,LOT# 1204112
HPS-Sr-LOT# 1208804
HPS-Ca-LOT # 1207226
HPS-K-LOT # 1131215
HPS-Na-LOT # 1130805

EXTERNAL SOURCE STD.: QCS-HPS-QCS-26,LOT# 1223440
-HPS-Sr-LOT # 1127324
-HPS-Ca-LOT#1128701
-HPS-K-LOT # 1118723
-HPS-Na-LOT # 1115410

LCS/MS- HPS-QCS-26,LOT# 1305106
-HPS-Sr-LOT # 1127324
-HPS-Ca-LOT#1128701
-HPS-K-LOT # 1118723
-HPS-Na-LOT # 1115410

REAGENTS: HNO3 : Aldrich, LOT# SHBD0895V
HCl : MC-LOT#L04039
H2O2: Aldrich,LOT#MKBK2197V

QA/QC STATISTICS FOR ANALYTICAL RUN :see raw data
QA/QC ACCEPTANCE CRITERIA : CCV : ± 5% (First after calibration) , ± 10% (The rest)
QCS : ± 5% (Second source)
ICSA : ± 20%
ICSAB : ± 20%
LCS : ± 15% (200.7,6010)
MS/MSD : ± 30% (200.7) , ± 25% (6010)

BATCH# 2312

RUN#

PARENT SAMPLE SPIKED:

Blank (Blk) **10/7/2013, 1:38:24 PM** **Rack 0, Tube 1**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	0.000000	mg/L	0.700	17.0	4.11442
As 197.198	0.000000	mg/L	0.327	19.5	1.67487
Ba 233.527	0.000000	mg/L	1.903	30.2	6.30015
Cd 214.439	0.000000	mg/L	0.861	32.4	2.65201
Cr 206.158	0.000000	mg/L	0.384	36.3	1.05717
Pb 182.143	0.000000	mg/L	0.932	42.8	2.17704
Se 196.026	0.000000	mg/L	1.120	52.5	2.13356

0.50 ppm (Std) **10/7/2013, 1:42:37 PM** **Rack 0, Tube 2**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	0.500000	mg/L	45.054	0.3	15033.1
As 197.198	0.500000	mg/L	1.070	0.9	121.235
Ba 233.527	0.500000	mg/L	41.836	0.2	20186.6
Cd 214.439	0.500000	mg/L	29.265	0.4	7252.75
Cr 206.158	0.500000	mg/L	6.264	0.7	942.409
Pb 182.143	0.500000	mg/L	13.291	8.9	148.943
Se 196.026	0.500000	mg/L	2.995	1.1	276.426

2.00 ppm (Std) **10/7/2013, 1:46:52 PM** **Rack 0, Tube 3**

Label	Sol'n Conc.	Units	SD(Int)	%RSD(Int)	Int. (c/s)
Ag 328.068	2.00000	mg/L	31.345	0.1	58793.3
As 197.198	2.00000	mg/L	3.061	0.6	491.600
Ba 233.527	2.00000	mg/L	416.248	0.5	78239.2
Cd 214.439	2.00000	mg/L	104.369	0.4	28262.3
Cr 206.158	2.00000	mg/L	15.728	0.4	3685.76
Pb 182.143	2.00000	mg/L	15.369	2.3	678.086
Se 196.026	2.00000	mg/L	6.362	0.6	1120.64

Ag 328.068 Calibration (mg/L) **10/7/2013, 1:46:52 PM** **Correlation Coefficient: 0.999982**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		4.11442	0.000000	0.000000	-	-
0.50 ppm		15033.1	0.500000	0.510944	0.010944	2.2
2.00 ppm		58793.3	2.00000	1.99868	-0.001324	-0.1

Curve Type: Linear Equation: y = 29414.1 x + 4.1

As 197.198 Calibration (mg/L) **10/7/2013, 1:46:52 PM** **Correlation Coefficient: 0.999980**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.67487	0.000000	0.000000	-	-
0.50 ppm		121.235	0.500000	0.492043	-0.007957	-1.6

Vista PRO.100713.

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
2.00 ppm		491.600	2.00000	2.01627	0.016266	0.8

Curve Type: Linear Equation: y = 243.0 x + 1.7

Ba 233.527 Calibration (mg/L) 10/7/2013, 1:46:52 PM Correlation Coefficient: 0.999964

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		6.30015	0.000000	0.000000	-	-
0.50 ppm		20186.6	0.500000	0.502154	0.002154	0.4
2.00 ppm		78239.2	2.00000	1.94670	-0.053299	-2.7

Curve Type: Linear Equation: y = 40187.4 x + 6.3

Cd 214.439 Calibration (mg/L) 10/7/2013, 1:46:52 PM Correlation Coefficient: 0.999976

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		2.65201	0.000000	0.000000	-	-
0.50 ppm		7252.75	0.500000	0.507218	0.007218	1.4
2.00 ppm		28262.3	2.00000	1.97705	-0.022952	-1.1

Curve Type: Linear Equation: y = 14293.8 x + 2.7

Cr 206.158 Calibration (mg/L) 10/7/2013, 1:46:52 PM Correlation Coefficient: 0.999983

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		1.05717	0.000000	0.000000	-	-
0.50 ppm		942.409	0.500000	0.507807	0.007807	1.6
2.00 ppm		3685.76	2.00000	1.98769	-0.012306	-0.6

Curve Type: Linear Equation: y = 1853.8 x + 1.1

Pb 182.143 Calibration (mg/L) 10/7/2013, 1:46:52 PM Correlation Coefficient: 0.999399

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		2.17704	0.000000	0.000000	-	-
0.50 ppm		148.943	0.500000	0.438724	-0.061276	-12.3
2.00 ppm		678.086	2.00000	2.02048	0.020483	1.0

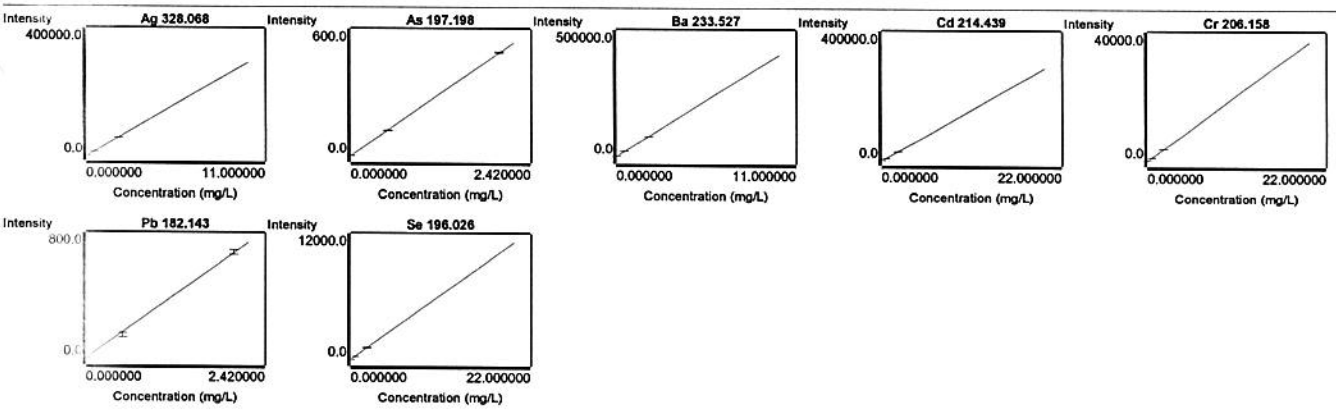
Curve Type: Linear Equation: y = 334.5 x + 2.2

Se 196.026 Calibration (mg/L) 10/7/2013, 1:46:52 PM Correlation Coefficient: 0.999987

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		2.13356	0.000000	0.000000	-	-
0.50 ppm		276.426	0.500000	0.492530	-0.007470	-1.5
2.00 ppm		1120.64	2.00000	2.00843	0.008427	0.4

Curve Type: Linear Equation: y = 556.9 x + 2.1

Vista PRO.100713.



CCV1-1ppm (CCV) **10/7/2013, 1:59:32 PM** **Rack 4, Tube 1**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.01316	mg/L	0.004800	0.5	29805.3	101.31619
As 197.198	1.00004	mg/L	0.008947	0.9	244.672	100.00437
Ba 233.527	0.991798	mg/L	0.002005	0.2	39864.1	99.17983
Cd 214.439	0.989984	mg/L	0.002637	0.3	14153.3	98.99838
Cr 206.158	1.00928	mg/L	0.003353	0.3	1872.02	100.92789
Pb 182.143	1.00170	mg/L	0.044339	4.4	337.274	100.17015
Se 196.026	0.994895	mg/L	0.006008	0.6	556.196	99.48946

QCS1-1ppm (ICV) **10/7/2013, 2:11:58 PM** **Rack 4, Tube 3**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.02872	mg/L	0.002146	0.2	30262.8	102.87155
As 197.198	1.00577	mg/L	0.009127	0.9	246.063	100.57693
Ba 233.527	0.990997	mg/L	0.004440	0.4	39831.9	99.09966
Cd 214.439	1.00105	mg/L	0.002840	0.3	14311.5	100.10497
Cr 206.158	1.01737	mg/L	0.003566	0.4	1887.02	101.73736
Pb 182.143	1.00205	mg/L	0.053384	5.3	337.391	100.20498
Se 196.026	1.01226	mg/L	0.007289	0.7	565.865	101.22570

LRB BATCH#2312 (Samp) **10/7/2013, 2:28:57 PM** **Rack 1, Tube 2**

Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.000056	mg/L	0.000047	83.2	5.77625
As 197.198	0.000514uv	mg/L	0.001093	212.6	1.79985
Ba 233.527	0.000012uv	mg/L	0.000051	436.1	6.77295
Cd 214.439	0.000001uv	mg/L	0.000071	4853.7	2.67286
Cr 206.158	0.000078uv	mg/L	0.000309	396.0	1.20174
Pb 182.143	0.000994uv	mg/L	0.005322	535.6	2.50947
Se 196.026	-0.000105uv	mg/L	0.003843	3644.8	2.07484

IDOC#1 TCLP MAZ (Samp) **10/7/2013, 2:41:39 PM** **Rack 1, Tube 5**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag 328.068	0.972230	mg/L	0.001900	0.2	28601.4
As 197.198	0.979164	mg/L	0.003452	0.4	239.598
Ba 233.527	0.931566	mg/L	0.003883	0.4	37443.5
Cd 214.439	0.946769	mg/L	0.006451	0.7	13535.6
Cr 206.158	0.959730	mg/L	0.004314	0.4	1780.16
Pb [illegible].143	0.942371	mg/L	0.031502	3.3	317.427
Se 19[illegible].026	0.979735	mg/L	0.003810	0.4	547.753

IDOC#2 TCLP MAZ (Samp) **10/7/2013, 2:45:54 PM** **Rack 1, Tube 6**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag [illegible].068	0.977681	mg/L	0.001635	0.2	28761.7
As [illegible].198	0.998567	mg/L	0.012910	1.3	244.313
Ba [illegible].527	0.934200	mg/L	0.001844	0.2	37549.4
Cd [illegible].439	0.951452	mg/L	0.002471	0.3	13602.5
Cr [illegible].158	0.966354	mg/L	0.003270	0.3	1792.44
Pb [illegible].143	0.968287	mg/L	0.021892	2.3	326.096
Se [illegible].026	0.983337	mg/L	0.004352	0.4	549.759

IDOC#3 TCLP MAZ (Samp) **10/7/2013, 2:50:08 PM** **Rack 1, Tube 7**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag [illegible].068	0.972048	mg/L	0.002994	0.3	28596.0
As [illegible].198	0.991460	mg/L	0.008487	0.9	242.586
Ba [illegible].527	0.929790	mg/L	0.001623	0.2	37372.2
Cd [illegible].439	0.945878	mg/L	0.010586	1.1	13522.9
Cr [illegible].158	0.959228	mg/L	0.004233	0.4	1779.23
Pb [illegible].143	0.960632	mg/L	0.018265	1.9	323.535
Se [illegible].026	0.980518	mg/L	0.002178	0.2	548.189

IDOC#4 TCLP MAZ (Samp) **10/7/2013, 2:54:22 PM** **Rack 1, Tube 8**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)
Ag [illegible].068	0.965423	mg/L	0.004419	0.5	28401.2
As [illegible].198	0.977002	mg/L	0.005962	0.6	239.073
Ba [illegible].527	0.921819	mg/L	0.004743	0.5	37051.8
Cd [illegible].439	0.938573	mg/L	0.008768	0.9	13418.5
Cr [illegible].158	0.950404	mg/L	0.003944	0.4	1762.88
Pb [illegible].143	0.954799	mg/L	0.017015	1.8	321.584
Se [illegible].026	0.965578	mg/L	0.006071	0.6	539.869

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LCS (LCS) 10/7/2013, 3:15:32 PM Rack 1, Tube 13
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	0.980571	mg/L	0.003238	0.3	28846.7	98.05705
As 197.198	0.987548	mg/L	0.002889	0.3	241.636	98.75476
Ba 233.527	0.940608	mg/L	0.000573	0.1	37806.9	94.06078
Cd 214.439	0.947632	mg/L	0.002446	0.3	13547.9	94.76316
Cr 206.158	0.970082	mg/L	0.001965	0.2	1799.36	97.00825
Pb 182.143	0.976164	mg/L	0.009322	1.0	328.731	97.61636
Se 196.026	0.956122	mg/L	0.005479	0.6	534.603	95.61221

CCV 1-1ppm (CCV) 10/7/2013, 3:19:47 PM Rack 4, Tube 1
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	1.02924	mg/L	0.004948	0.5	30278.2	102.92371
As 197.198	1.00635	mg/L	0.012744	1.3	246.203	100.63453
Ba 233.527	0.998857	mg/L	0.005140	0.5	40147.8	99.88570
Cd 214.439	0.998453	mg/L	0.001564	0.2	14274.4	99.84530
Cr 206.158	1.01254	mg/L	0.003125	0.3	1878.05	101.25355
Pb 182.143	1.01040	mg/L	0.035566	3.5	340.184	101.03992
Se 196.026	1.00532	mg/L	0.011096	1.1	562.000	100.53166

Blank (CCB) 10/7/2013, 3:28:18 PM Rack 4, Tube 5
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	QC Value
Ag 328.068	-0.000017uv	mg/L	0.000122	717.5	3.61300	-0.00002
As 197.198	-0.000483uv	mg/L	0.004651	962.6	1.55745	-0.00048
Ba 233.527	-0.000031uv	mg/L	0.000049	155.4	5.04395	-0.00003
Cd 214.439	-0.000002uv	mg/L	0.000013	759.0	2.62826	0.00000
Cr 206.158	0.000035uv	mg/L	0.000097	273.8	1.12268	0.00004
Pb 182.143	0.000589uv	mg/L	0.003892	661.0	2.37402	0.00059
Se 196.026	-0.000268uv	mg/L	0.001164	434.7	1.98441	-0.00027

TCLP EXTRACTION # 508

(9)

Determination of Extraction Fluid:

DATE	10.04.13
ANALYST	MAZ

Extraction:

DATE IN	10.09.13
TIME IN	16:00
T(*C)	23
RPM	31
ANALYST	MAZ/EN

DATE OUT	10.05.13
TIME OUT	9:50
T(*C)	23.
ANALYST	MAZ.

NELAC Traceability :

Standards and Reagents:

Acetic Acid :	MLK # V193 KLJH
Sodium Hydroxide :	Ald # MKBZ 8389V
Hydrochloric Acid:	MC # L04039

FLUID#1: RNET 10.01.13 A

FLUID#2:

Balance : MET-BALANCE-2

Tumbler : MET-TUMBLER-1

		Determination of Extraction Fluid					Extraction			
	LCN	Weight of sample	Initial PH	PH-after-HCl	Extraction Fluid#	PH of Extraction Fluid	Weight of Sample	V Extraction Fluid	Final PH Extract	Preserv. HNO3
1	51546-A	5g	4.83		1	4.93	30g	600mL	4.79	✓
2	IDOC#1	"	—	—	1	4.93	100g	2L	4.93	✓
3	IDOC#2	"	—	—	1	4.93	100g	2L	4.93	✓
4	IDOC#3	—	—	—	1	4.93	100g	2L	4.93	✓
5	IDOC#4	—	—	—	1	4.93	100g	2L	4.93	✓
6							"			
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

(10)

BATCH# : 2312

DATE : 10.07.13

ANALYST : MAZ/EN

3010 LIQUID DIGESTION

HNO3 : Ald# SHBD0895V

HCl : MC# L04039

Spike : HPS# 1305106
100ppm

QC-MET-091113-C
2500 ppm

TCLP #10792

#1310126

	LCN#	PH	V init. (ml)	V spike (ml)	C spike (ppm)	V final (ml)	Dil. factor	Comments
	LRB	<2	50	-	-	50		
	LCS	<2	50	0.5	1.0/25.0	50		
1	13J0120-01A	<2		-	-			Cu
2	13J0123-01A	<2		-	-			Fe
3	13J0123-02A	<2		-	-			Fe
4	13J0129-01A	<2		-	-			Cd, Cr, Cu, Pb, Zn, Ni
5	13J0129-02A	<2		-	-			
6	13J0129-03A	<2		-	-			
7	13J0129-04A	<2		-	-			
8	13J0129-05A	<2		-	-			
9	5546A TCLP	<2		-	-			RCRA-7
10	IDOC#1 TCLP MAZ	<2		-	-			
	MS 13J0123-02A	<2	50	0.5	1.0/25.0	50		
	MSD 13J0123-02A	<2	50	0.5	1.0/25.0	50		
11	IDOC#2 TCLP MAZ	<2		-	-			
12	IDOC#3 TCLP MAZ	<2		-	-			
13	IDOC#4 TCLP MAZ	<2	50	-	-	50		
14	13J0155-01A	<2	10	-	-	50	1:5	Ag 6010
15	13J0155-02A	<2	10	-	-	50	1:5	
16	13J0155-03A	<2	10	-	-	50	1:5	
17	13J0155-04A	<2	10	-	-	50	1:5	Ag 6010
18				-	-			
19				-	-			
20				-	-			
	MS 13J0155-04A		50	0.5	1.0/25.0	50		
	MSD 13J0155-04A		50	0.5	1.0/25.0	50		

MET-HOTBLOCK-2
T(C) 95

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	Sophia Andre	9/5/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 9071	☐ Water ☐ DW ☑ Solid ☐ Other: _____	0201217-001
Analyte or Class of Analytes		
Oil and Grease.		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	9/5/18 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	9/5/18 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	9/5/18 *Date*

True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

##

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	9/5/2018
ANALYZED BY:	SA
METHOD NUMBER:	EPA 9071
EXTRACTION METHOD (IF APPLY):	EPA 9071
BALANCE ID:	Prep-3
TURVOVAP ID:	Prep-16
SONICATOR ID:	SV2, SV3, SV4
DESSICATOR ID:	Prep-5
EXTRACTED BY:	SA
DATE EXTRACTED:	9/5/2019
ACCEPTANCE CRITERIA:	83-101% and %RSD≤11

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	946-S-GEN-04	20000 ppm
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
Oil and Grease	3330	3273	3174	3157	3137	3185	1.90	95.7	60.42

Method EPA 9071A SE-OG-TRPH

Oil and Grease / TRPH

Batch #: N/A
Analyst: SA
Date: 9-5-18

	Standard ID	(mL)	Std conc.	Spiked conc
Spike	946-S-Cen-04	5	20,000	100
Matrix Spike	↓	↓	↓	↓

Log No.	Sample ID	Sample Date	Amount Ext (g)	1 Initial Wt (g)	1 Final Wt* (g)	2 Final Wt* (g)	3 Final Wt*(g)	Final Conc (mg/Kg)	Comments
Blk	MB	HEM	30.0115	118.5080	118.5090	118.5090		(1.0)	= 33.3
	LCS								
	LCSD								
	MS								
	MSD								
DOC-SA-1	946-S-Cen-04	1	30.0149	117.4517	117.5500	117.5500		(98.3)	= 3273.4
DOC-SA-2	↓	2	30.0216	106.2910	106.3865	106.3863		(95.3)	= 3173.5
DOC-SA-3	↓	3	30.0227	117.3636	117.4582	117.4584		(94.8)	= 3156.8
DOC-SA-4	↓	4	30.0542	113.3846	113.4791	113.4788		(94.2)	= 3136.9
3CC006-02A	HEM	5	30.0224	116.7799	116.7844	116.7841		(4.2)	= 139.86
Blk	Blk	TRPH	~~30.0149*~~	118.5080	118.5085	118.5088			
DOC-SA-1	946-S-Cen-04	1	~~30.0216*~~	117.4517	117.4955	117.4954		(0.8)	26.64 / 30.0115
DOC-SA-2	↓	2	~~30.0227*~~	106.2910	106.3321	106.3319		(43.7)	1455.2 / 30.0149
DOC-SA-3	↓	3	30.0227	117.3636	117.4041	117.4043		(40.9)	1362 / 30.0216
DOC-SA-4	↓	4	30.0542	113.3846	113.4264	113.4261		(40.7)	1355.3
3CC006-02A	TRPH	5	30.0224	116.7799	116.7822	116.7821		(41.5)	1382
								(2.2)	

HEM ↓

*Weighings must agree within 0.5 mg or 4% whichever is less

Hexane:	61-WC-15
Filter Paper:	60-WC-17
odium Sulfate:	SV-546
Silica Gel:	52-WC-17
Sand	SV-218

Turbovap:	Prep-16
Temp. Corrected (55±2°):	54
Sonicator:	SV2, SV3, SV4
Dessicator:	Preps

Balance Number:	Prep-3
Balance Cal Date:	9-5-18

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	12/18/17
Method Number OPP by 8270 / FSE-OPP/GC-MS 3550	**Matrix** ☐ Water ☐ DW ☑ Solid ☐ Other: _____	**SOP Document Control Number or Revision Number:** OPP - 0201416-012 3550 - 0201416-005
Analyte or Class of Analytes OPP compounds except merphos		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria / Estela Martinez *Analyst*	*Signature*	12/1/17 *Date*
Albert Castellanos *Technical Director*	*Signature*	12/1/17 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	12/18/17 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	11/16/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	OPP by EPA 8270 FSE-OPP/GC-MS
EXTRACTION METHOD (IF APPLY):	EPA 3550
INSTRUMENT ID:	Bravo GC/MS-1
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	11/15/2017
ACCEPTANCE CRITERIA:	Various

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	1700696	See attach
Surrogate	1700620	See attach
Internal Standard	IS-PAH-082417	500PPM

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD	Acceptance limits
UNITS:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg				
Aspon	33.33	30.39	30.42	31.66	24.48	29.24	11.04	87.72	3.23	12-145
Atrazine	33.33	34.16	36.62	37.11	26.33	33.56	14.86	100.68	4.99	10-133
Azinphos-methyl	33.33	22.04	22.05	22.09	18.71	21.22	7.89	63.67	1.68	19-128
Azinphos-ethyl	33.33	31.38	31.99	33.12	26.52	30.75	9.47	92.27	2.91	18-138
Bolstar	33.33	28.14	27.07	29.12	22.12	26.61	11.69	79.85	3.11	10-190
Carbophenothion	33.33	33.36	33.14	33.95	26.47	31.73	11.10	95.20	3.52	14-132
Chlorfenviphos	33.33	20.18	20.37	20.66	17.29	19.63	8.00	58.88	1.57	16-150
Chlorpyrifos	33.33	33.15	34.44	34.61	26.07	32.07	12.63	96.21	4.05	17-149
Chlorpyrifos methyl	33.33	31.32	31.04	33.16	25.21	30.18	11.42	90.56	3.45	18-146
Coumaphos	33.33	45.0342	48.1504	46.9003	36.3641	44.11	12.06	132.35	5.32	23-146
Crotoxyphos	33.33	34.47	34.96	36.59	29.84	33.97	8.52	101.91	2.90	10-190
Demeton-S	22.37	16.66	15.53	18.58	14.24	16.25	11.32	72.65	1.84	10-105
Demeton-O	16.66	20.3993	16.724	23.29	15.0636	18.87	19.58	113.26	3.70	10-114
Diazinon	33.33	32.6	33.59	34.14	25.26	31.40	13.19	94.20	4.14	10-153
Dichlorofenthion	33.33	23.14	23.55	24.41	18.53	22.41	11.78	67.23	2.64	11-143
Dichlorvos	33.33	29.73	31.29	32.48	22.89	29.10	14.74	87.30	4.29	10-166
Dicrotophos	33.33	18.4	19.02	19.18	17.61	18.55	3.84	55.66	0.71	10-142
Dimetoate	33.33	32.91	34.71	34.57	28.44	32.66	8.97	97.98	2.93	36-105
Dioxathion	33.33	14.04	14.1	15.23	11.6	13.74	11.13	41.23	1.53	10-187
Disulfoton	33.33	25.62	23.55	27.98	20.48	24.41	13.04	73.23	3.18	10-124
EPN	33.33	33.36	33.14	33.95	26.47	31.73	11.10	95.20	3.52	26-121
Ethion	33.33	33.77	33.97	35.14	26.86	32.44	11.61	97.31	3.77	26-127
Ethoprop	33.33	31.76	33.93	32.85	24.97	30.88	13.07	92.64	4.04	12-138
Famphur	33.33	34.72	35.64	36.55	28.16	33.77	11.29	101.31	3.81	22-154
Fenitrothion	33.33	30.21	30.96	32.31	26.2	29.92	8.78	89.77	2.63	27-142
Fensulfothion	33.33	41.11	36.9	40.13	29.52	36.92	14.22	110.76	5.25	10-167
Fenthion	33.33	28.02	27.3	29.99	22.25	26.89	12.26	80.68	3.30	10-147
Fonophos	33.33	34.54	35.87	37.37	26.49	33.57	14.47	100.71	4.86	26-106
Hexamethylphosphoramide	33.33	26.49	26.86	27.23	20.84	25.36	11.93	76.07	3.03	10-139
Leptophos	33.33	11.02	11.18	11.59	18.71	13.13	28.43	39.38	3.73	27-143
Malathion	33.33	32.74	32.49	34.78	25.72	31.43	12.55	94.31	3.94	23-143
Merphos	94.49	6.07	6.06	7.96	6.62	6.68	13.39	7.07	0.89	10-174
Mevinphos	33.33	29.99	30.92	32.12	24.83	29.47	10.90	88.40	3.21	27-124
Monocrotophos	33.33	31.07	33.86	33.21	27.89	31.51	8.54	94.53	2.69	10-149
Naled	33.33	14.33	17.79	17.22	12.62	15.49	15.75	46.47	2.44	10-118
Parathion -ethyl	33.33	31.35	33.32	34.57	25.94	31.30	12.17	93.89	3.81	31-120
Parathion-methyl	33.33	30.95	31.23	31.99	25.84	30.00	9.36	90.02	2.81	11-149
Phorate	33.33	29.25	29.25	31.17	23.25	28.23	12.19	84.70	3.44	10-185
Phosmet	33.33	30.86	32.21	33.37	26.64	30.77	9.55	92.32	2.94	10-190
Phosphamidon	33.33	28.05	30.03	29.8	23.31	27.80	11.22	83.40	3.12	10-163
Prinnel	33.33	11.5486	11.6169	12.3591	8.8922	11.10	13.69	33.32	1.52	16-146
Simazine	33.33	42.3259	43.0804	45.2748	34.4009	41.27	11.50	123.82	4.75	10-139
TEPP	166.66	114.43	143.34	144.75	97.17	124.92	18.56	74.96	23.18	40-140
Tetrachlorvinphos (Stirophos)	33.33	50.07	50.17	52.11	41.13	48.37	10.17	145.12	4.92	24-148
Sulfotep	33.33	34.84	36.53	37.66	26.79	33.96	14.48	101.88	4.92	10-135
Terbufos	33.33	28.21	28.78	29.76	21.25	27.00	14.39	81.01	3.89	13-126

Thionazin	33.33	34.0164	36.4392	35.6374	30.1508	34.06	8.21	102.19	2.79	24-113
Tokuthion	33.33	30.15	30.27	30.85	23.4	28.67	12.30	86.01	3.52	16-145
Trichloronate	33.33	34.9	36.74	33.11	27.8	33.14	11.63	99.42	3.85	16-133
Tri-o-cresylphosphate (TOCP)	33.33	27.18	28.17	29.38	21.91	26.66	12.35	79.99	3.29	10-163
EPTC	33.33	31.74	32.79	34.25	23.84	30.66	15.20	91.97	4.66	22-142
Pebulate	33.33	31.32	33.42	33.10	24.67	30.63	13.31	91.89	4.08	25-128
Molinate	33.33	32.51	35.00	35.68	25.45	32.16	14.54	96.49	4.68	39-103

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

Quant Time: Dec 01 09:43:36 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	5936074	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	8615130	5.00	ug/l		0.00
57) Perylene-D12	18.308	264	7036777	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.986	54	1322752	139.31	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2786.20%			
35) 2-Fluorobiphenyl	11.863	172	5609036	141.57	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2831.40%			
58) p-Terphenyl	15.634	230	7526909	133.18	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2663.60%			
Target Compounds							Qvalue
3) Dichlorvos	11.061	109	678828	29.7326	ug/l	#	74
4) Hexamethylphosphoramide	11.376	44	276363	26.4910	ug/l	#	70
5) EPTC	11.746	43	552490	31.7366	ug/l	#	70
6) Butylate	12.147	57	416583	32.3728	ug/l		90
7) Vernolate	12.238	43	696488	33.2650	ug/l	#	72
8) Mevinphos	12.099	127	503379	29.9921	ug/l	#	85
9) Pebulate	12.318	57	503008	31.3212	ug/l	#	73
10) Molinate	12.794	126	458735	32.5149	ug/l	#	86
11) Tebuthiuiron	12.542	156	285113	13.7515	ug/l	#	84
12) TEPP	12.789	161	49372	114.4332	ug/l		93
13) Thionazin	13.045	97	170965m	34.0164	ug/l		
14) Demeton-O	13.072	60	52690m	20.3993	ug/l		
15) Cycloate	13.238	154	358918	30.2654	ug/l	#	87
16) Naled	13.323	109	29415	14.3260	ug/l	#	91
17) Ethoprophos	13.200	97	159297	31.7586	ug/l	#	46
18) Dicrotophos	13.307	127	60656	18.3975	ug/l	#	86
19) Sulfotep	13.355	97	211100	34.8397	ug/l	#	82
20) Monocrotophos	13.366	127	309174	31.0712	ug/l	#	81
21) Phorate	13.495	75	452437	29.2529	ug/l	#	91
22) Demeton-S	13.623	88	183665	16.6611	ug/l	#	20
23) Diphenamid	14.880	72	8225	0.3209	ug/l	#	1
24) Dimethoate	13.660	125	175138	32.9139	ug/l	#	24
25) Simazine	13.698	201	210125m	42.3259	ug/l		
26) Atrazine	13.725	200	341273	34.1627	ug/l		89
27) Dioxathion degradation...	13.831	97	61913	14.0432	ug/l		83
28) Terbufos	13.864	57	432340	28.2065	ug/l	#	83
29) Diazinone	13.869	137	213549	32.5997	ug/l		91
30) Fonofos	13.933	109	676448	34.5421	ug/l	#	68
31) Disulfoton	14.013	61	94666	25.6175	ug/l	#	1
32) Phosphamidon	14.227	127	222854	28.0512	ug/l	#	81
33) Dichlofenthion	14.270	223	248895	23.1364	ug/l		92
36) chlorpyifos methyl	14.340	286	298550	31.3176	ug/l		92
37) Methyl parathion	14.388	109	244256	30.9499	ug/l	#	7
38) Ronnel	14.489	285	359599m	11.5486	ug/l		
39) Malathion	14.612	125	284162	32.7421	ug/l		82
40) Fenitrothion	14.580	125	239015	30.2069	ug/l		97
41) Aspon	14.618	211	499301	30.3899	ug/l		93
42) Chlorpyrifos	14.714	197	210622	33.1476	ug/l		92
43) Fenthion	14.746	278	357356	28.0248	ug/l	#	75
44) Parathion	14.773	97	186316	31.3490	ug/l	#	71

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

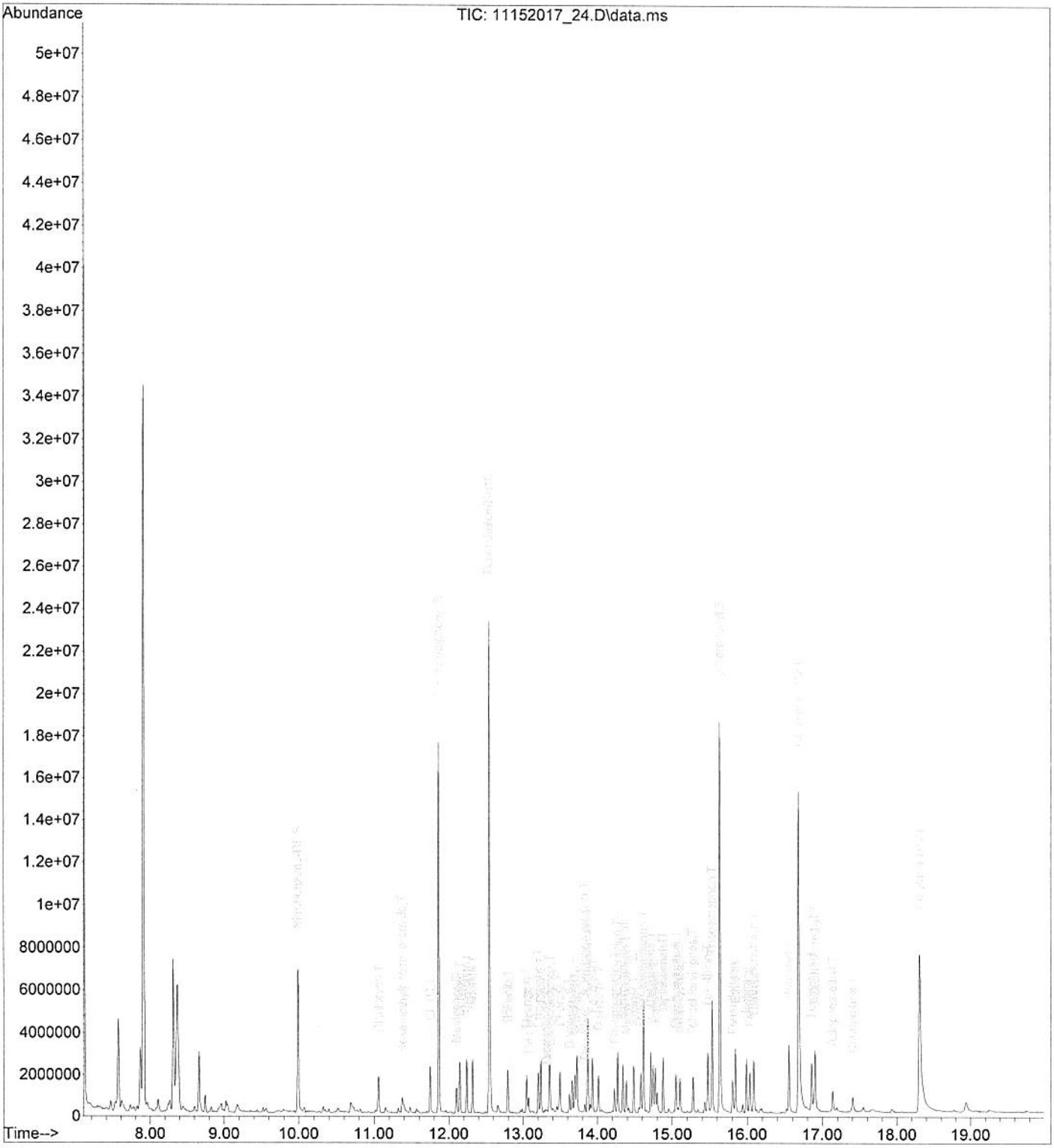
Quant Time: Dec 01 09:43:36 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	7706	6.0744	ug/l	#	74
46) Trichloronate	14.880	109	384283	34.9042	ug/l	#	66
47) Chlorfenvinphos	15.051	267	196175	20.1839	ug/l	#	75
48) Triademephon	15.532	57	648624	184.4282	ug/l	#	72
49) Crotoxyphos	15.104	105	222786	34.4665	ug/l	#	35
50) Tetrachlorvinphos	15.276	109	314956	50.0676	ug/l	#	91
51) Tokuthion	15.474	113	164326	30.1502	ug/l	#	62
52) Fensulfothion	15.805	292	123364	41.1092	ug/l	#	70
53) Ethion	15.843	97	368800	33.7668	ug/l	#	69
54) EPN	16.083	157	342451	33.3591	ug/l	#	16
55) Famphur	16.035	218	544624	34.7183	ug/l	#	81
56) Carbophenothion	16.083	157	342451	33.3591	ug/l		92
59) Phosmet	16.554	160	771337	30.8624	ug/l	#	68
60) Bolstar	15.987	140	242153	28.1361	ug/l	#	73
61) Leptophos	16.853	171	452811	11.0218	ug/l	#	71
62) Azinphos-methyl	16.902	77	266839m	22.0392	ug/l		
63) TOCPP	16.902	165	344091	27.1766	ug/l		93
64) Azinphos-ethyl	17.137	132	214119	31.3834	ug/l		92
65) Coumaphos	17.404	97	82410m	45.0342	ug/l		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

Quant Time: Dec 01 09:43:36 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

Quant Time: Nov 16 14:48:44 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Acenaphthene-d10	12.542	164	5936074	5.00 ug/l	# 0.00
34) Chrysene-D12	16.682	240	8615130	5.00 ug/l	0.00
57) Perylene-D12	18.308	264	7036777	5.00 ug/l	0.00
System Monitoring Compounds					
2) Nitrobenzene-D5	9.986	54	1322752	139.31 ug/l	0.00
Spiked Amount 5.000			Recovery	= 2786.20%	
35) 2-Fluorobiphenyl	11.863	172	5609036	141.57 ug/l	0.00
Spiked Amount 5.000			Recovery	= 2831.40%	
58) p-Terphenyl	15.634	230	7526909	133.18 ug/l	0.00
Spiked Amount 5.000			Recovery	= 2663.60%	
Target Compounds					Qvalue
3) Dichlorvos	11.061	109	678828	29.7326 ug/l #	74
4) Hexamethylphosphoramide	11.376	44	276363	26.4910 ug/l #	70
5) EPTC	11.746	43	552490	31.7366 ug/l #	70
6) Butylate	12.147	57	416583	32.3728 ug/l	90
7) Vernolate	12.238	43	696488	33.2650 ug/l #	72
8) Mevinphos	12.099	127	503379	29.9921 ug/l #	85
9) Pebulate	12.318	57	503008	31.3212 ug/l #	73
10) Molinate	12.794	126	458735	32.5149 ug/l #	86
11) Tebuthiuiron	12.542	156	285113	13.7515 ug/l #	84
12) TEPP	12.789	161	49372	114.4332 ug/l	93
13) Thionazin	13.045	97	203686	39.0930 ug/l #	70
14) Demeton-O	13.072	60	54446	21.0791 ug/l #	1
15) Cycloate	13.238	154	358918	30.2654 ug/l #	87
16) Naled	13.323	109	29415	14.3260 ug/l #	91
17) Ethoprophos	13.200	97	159297	31.7586 ug/l #	46
18) Dicrotophos	13.307	127	60656	18.3975 ug/l #	86
19) Sulfotep	13.355	97	211100	34.8397 ug/l #	82
20) Monocrotophos	13.366	127	309174	31.0712 ug/l #	81
21) Phorate	13.495	75	452437	29.2529 ug/l #	91
22) Demeton-S	13.623	88	183665	16.6611 ug/l #	20
23) Diphenamid	14.880	72	8225	0.3209 ug/l #	1
24) Dimethoate	13.660	125	175138	32.9139 ug/l #	24
25) Simazine	13.698	201	210303m	42.3555 ug/l	
26) Atrazine	13.725	200	341273	34.1627 ug/l	89
27) Dioxathion degradation...	13.831	97	61913	14.0432 ug/l	83
28) Terbufos	13.864	57	432340	28.2065 ug/l #	83
29) Diazinone	13.869	137	213549	32.5997 ug/l	91
30) Fonofos	13.933	109	676448	34.5421 ug/l #	68
31) Disulfoton	14.013	61	94666	25.6175 ug/l #	1
32) Phosphamidon	14.227	127	222854	28.0512 ug/l #	81
33) Dichlofenthion	14.270	223	248895	23.1364 ug/l	92
36) chlorpyifos methyl	14.340	286	298550	31.3176 ug/l	92
37) Methyl parathion	14.388	109	244256	30.9499 ug/l #	7
38) Ronnel	14.489	285	362956	11.6564 ug/l #	78
39) Malathion	14.612	125	284162	32.7421 ug/l	82
40) Fenitrothion	14.580	125	239015	30.2069 ug/l	97
41) Aspon	14.618	211	499301	30.3899 ug/l	93
42) Chlorpyrifos	14.714	197	210622	33.1476 ug/l	92
43) Fenthion	14.746	278	357356	28.0248 ug/l #	75
44) Parathion	14.773	97	186316	31.3490 ug/l #	71

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

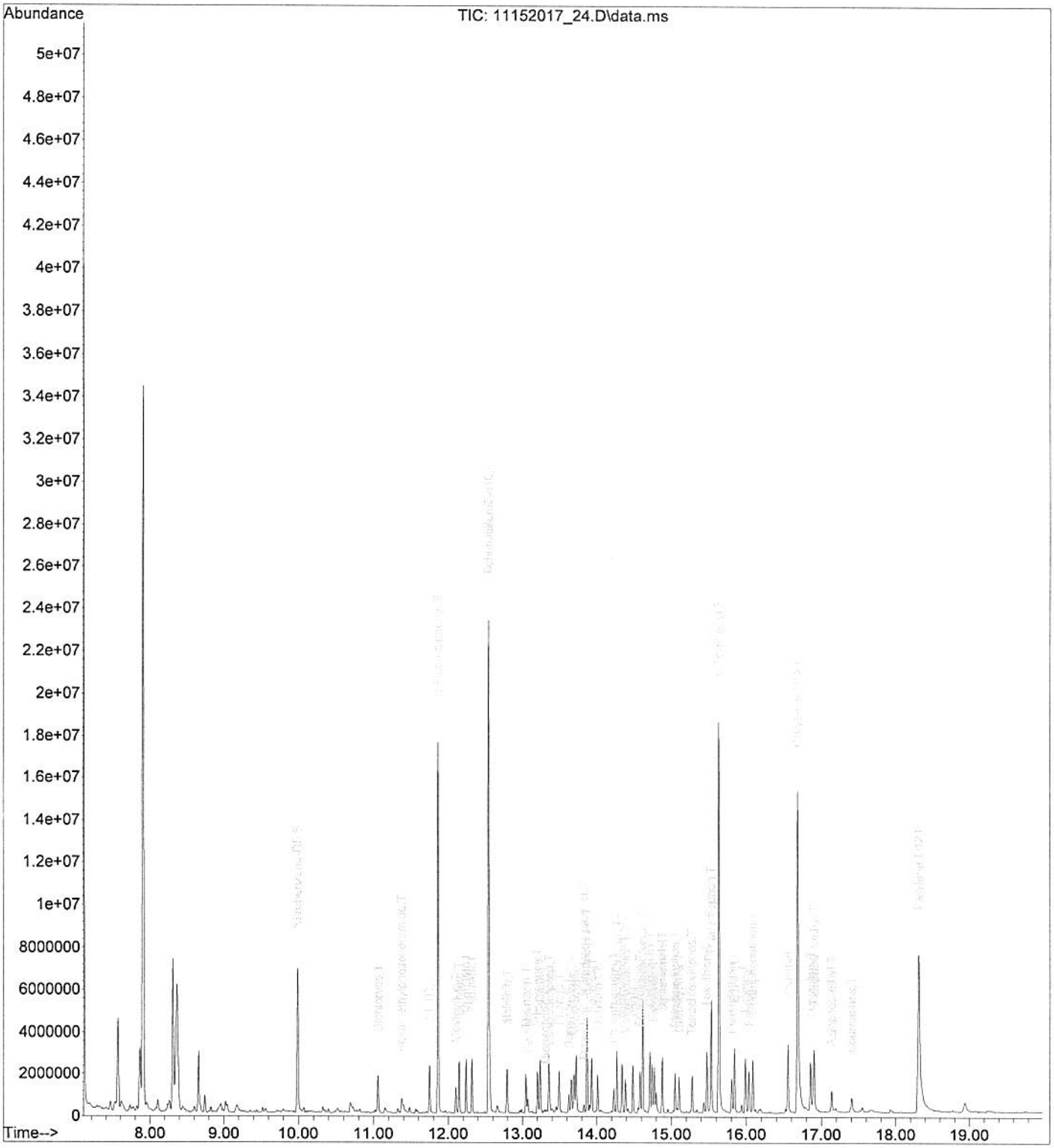
Quant Time: Nov 16 14:48:44 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	7706	6.0744	ug/l	#	74
46) Trichloronate	14.880	109	384283	34.9042	ug/l	#	66
47) Chlorfenvinphos	15.051	267	196175	20.1839	ug/l	#	75
48) Triademephon	15.532	57	648624	184.4282	ug/l	#	72
49) Crotoxyphos	15.104	105	222786	34.4665	ug/l	#	35
50) Tetrachlorvinphos	15.276	109	314956	50.0676	ug/l	#	91
51) Tokuthion	15.474	113	164326	30.1502	ug/l	#	62
52) Fensulfothion	15.805	292	123364	41.1092	ug/l	#	70
53) Ethion	15.843	97	368800	33.7668	ug/l	#	69
54) EPN	16.083	157	342451	33.3591	ug/l	#	16
55) Famphur	16.035	218	544624	34.7183	ug/l	#	81
56) Carbophenothion	16.083	157	342451	33.3591	ug/l		92
59) Phosmet	16.554	160	771337	30.8624	ug/l	#	68
60) Bolstar	15.987	140	242153	28.1361	ug/l	#	73
61) Leptophos	16.853	171	452811	11.0218	ug/l	#	71
62) Azinphos-methyl	16.902	77	266839m	22.0392	ug/l		
63) TOCPP	16.902	165	344091	27.1766	ug/l		93
64) Azinphos-ethyl	17.137	132	214119	31.3834	ug/l		92
65) Coumaphos	17.404	97	83991	45.7308	ug/l	#	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

Quant Time: Nov 16 14:48:44 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

Quant Time: Nov 16 09:44:58 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Acenaphthene-d10	12.542	164	5936074	5.00	ug/l	# 0.00
34) Chrysene-D12	16.682	240	8615130	5.00	ug/l	0.00
57) Perylene-D12	18.308	264	7036777	5.00	ug/l	0.00
System Monitoring Compounds						
2) Nitrobenzene-D5	9.986	54	1322752	139.31	ug/l	0.00
Spiked Amount 5.000			Recovery	= 2786.20%		
35) 2-Fluorobiphenyl	11.863	172	5609036	151.19	ug/l	0.00
Spiked Amount 5.000			Recovery	= 3023.80%		
58) p-Terphenyl	15.634	230	7526909	133.18	ug/l	0.00
Spiked Amount 5.000			Recovery	= 2663.60%		
Target Compounds						Qvalue
3) Dichlorvos	11.061	109	678828	29.7326	ug/l #	74
4) Hexamethylphosphoramide	11.376	44	276363	52.9820	ug/l #	70
5) EPTC	11.746	43	552490	31.7366	ug/l #	70
6) Butylate	12.147	57	416583	32.3728	ug/l	90
7) Vernolate	12.238	43	696488	33.2650	ug/l #	72
8) Mevinphos	12.099	127	503379	29.9921	ug/l #	85
9) Pebulate	12.318	57	503008	31.3212	ug/l #	73
10) Molinate	12.794	126	458735	32.5149	ug/l #	86
11) Tebuthiuiron	12.542	156	285113	13.7515	ug/l #	84
12) TEPP	12.789	161	49372	114.4332	ug/l	93
13) Thionazin	13.045	97	203686	39.0930	ug/l #	70
14) Demeton-O	13.072	60	54446	21.0791	ug/l #	1
15) Cycloate	13.238	154	358918	30.2654	ug/l #	87
16) Naled	13.323	109	29415	14.3260	ug/l #	91
17) Ethoprophos	13.200	97	159297	31.7586	ug/l #	46
18) Dicrotophos	13.307	127	60656	18.3975	ug/l #	86
19) Sulfotep	13.355	97	211100	34.8397	ug/l #	82
20) Monocrotophos	13.366	127	309174	31.0712	ug/l #	81
21) Phorate	13.495	75	452437	29.2529	ug/l #	91
22) Demeton-S	13.623	88	183665	16.6611	ug/l #	20
23) Diphenamid	14.880	72	8225	0.3209	ug/l #	1
24) Dimethoate	13.660	125	175138	32.9139	ug/l #	24
25) Simazine	13.698	201	254923	49.7688	ug/l #	76
26) Atrazine	13.725	200	341273	34.1627	ug/l	89
27) Dioxathion degradation...	13.831	97	61913	14.0432	ug/l	83
28) Terbufos	13.864	57	432340	28.2065	ug/l #	83
29) Diazinone	13.869	137	213549	32.5997	ug/l	91
30) Fonofos	13.933	109	676448	34.5421	ug/l #	68
31) Disulfoton	14.013	61	94666	25.6175	ug/l #	1
32) Phosphamidon	14.227	127	222854	28.0512	ug/l #	81
33) Dichlofenthion	14.270	223	248895	23.1364	ug/l	92
36) chlorpyifos methyl	14.340	286	298550	31.3176	ug/l	92
37) Methyl parathion	14.388	109	244256	14.6641	ug/l #	7
38) Ronnel	14.489	285	362956	11.6564	ug/l #	78
39) Malathion	14.612	125	284162	32.7421	ug/l	82
40) Fenitrothion	14.580	125	239015	30.2069	ug/l	97
41) Aspon	14.618	211	499301	30.3899	ug/l	93
42) Chlorpyrifos	14.714	197	210622	33.1476	ug/l	92
43) Fenthion	14.746	278	357356	28.0248	ug/l #	75
44) Parathion	14.773	97	186316	31.3490	ug/l #	71

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

Quant Time: Nov 16 09:44:58 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

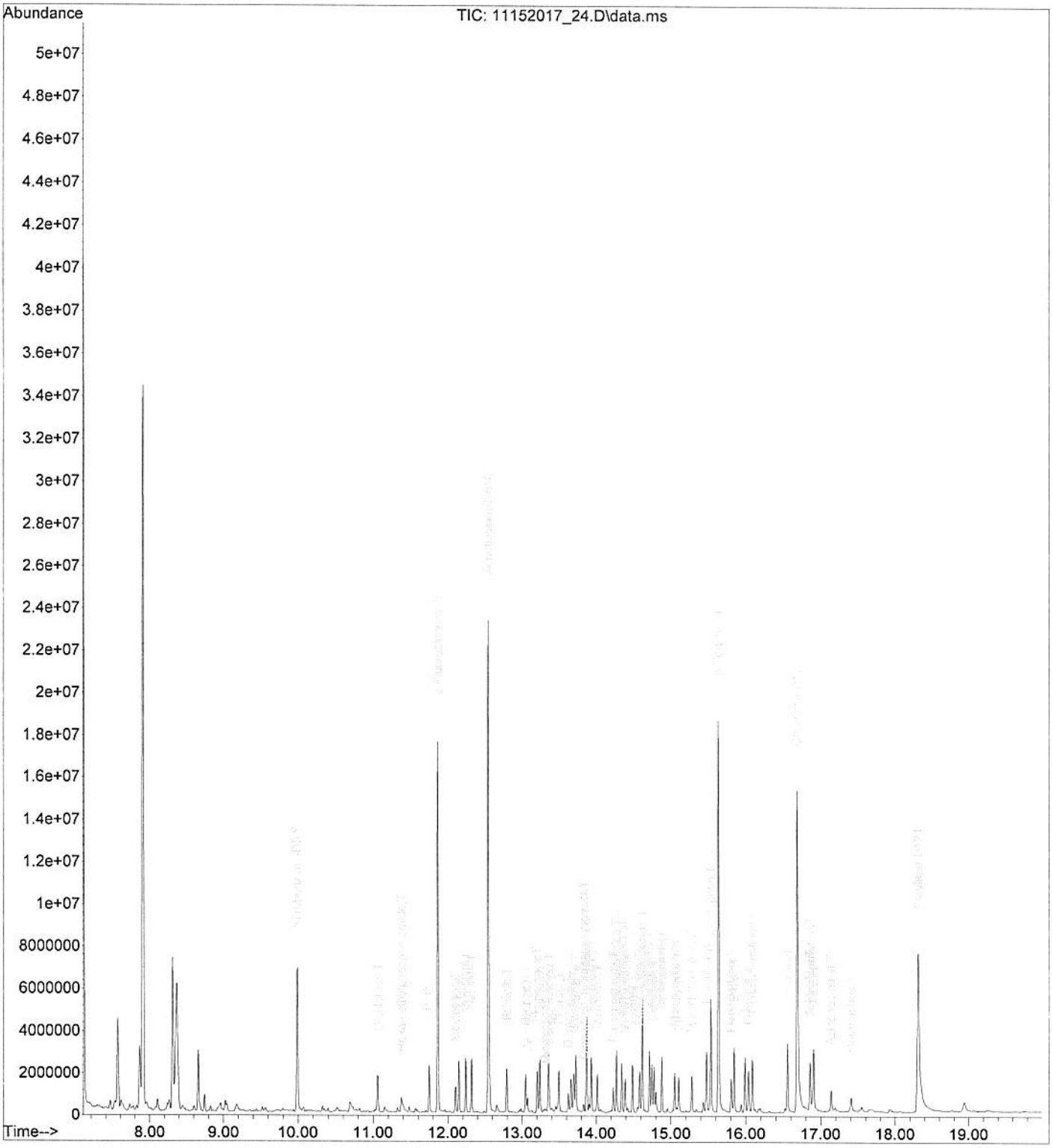
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	7706	6.0744	ug/l	#	74
46) Trichloronate	14.880	109	384283	34.9042	ug/l	#	66
47) Chlorfenvinphos	15.051	267	196175	20.1839	ug/l	#	75
48) Triademephon	15.532	57	648624	184.4282	ug/l	#	72
49) Crotoxyphos	15.104	105	222786	34.4665	ug/l	#	35
50) Tetrachlorvinphos	15.276	109	314956	50.0676	ug/l	#	91
51) Tokuthion	15.474	113	164326	30.1502	ug/l	#	62
52) Fensulfothion	15.805	292	123364	41.1092	ug/l	#	70
53) Ethion	15.843	97	368800	33.7668	ug/l	#	69
54) EPN	16.083	157	342451	33.3591	ug/l	#	16
55) Famphur	16.035	218	544624	34.7183	ug/l	#	81
56) Carbophenothion	16.083	157	342451	33.3591	ug/l		92
59) Phosmet	16.554	160	771337	23.9645	ug/l	#	68
60) Bolstar	15.987	140	242153	28.1361	ug/l	#	73
61) Leptophos	16.853	171	452811	11.0218	ug/l	#	71
62) Azinphos-methyl	16.853	77	145790	15.7584	ug/l	#	84
63) TOCPP	16.902	165	344091	27.1766	ug/l		93
64) Azinphos-ethyl	17.137	132	214119	31.3834	ug/l		92
65) Coumaphos	17.404	97	83991	45.7308	ug/l	#	82

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_24.D
Acq On : 16 Nov 2017 9:31 am
Operator : YE
Sample : OPP IDOCS-01
Misc :
ALS Vial : 19 Sample Multiplier: 33.333

Quant Time: Nov 16 09:44:58 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

Quant Time: Dec 01 09:46:01 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	5835080	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	8873083	5.00	ug/l	#	0.00
57) Perylene-D12	18.308	264	7105411	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.991	54	1340579	143.63	ug/l		0.01
Spiked Amount 5.000			Recovery	= 2872.60%			
35) 2-Fluorobiphenyl	11.863	172	5627218	137.90	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2758.00%			
58) p-Terphenyl	15.634	230	7714810	135.19	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2703.80%			
Target Compounds							Qvalue
3) Dichlorvos	11.056	109	702301	31.2932	ug/l	#	76
4) Hexamethylphosphoramide	11.371	44	275500	26.8654	ug/l	#	73
5) EPTC	11.746	43	561081	32.7880	ug/l	#	71
6) Butylate	12.141	57	421394	33.3134	ug/l		96
7) Vernolate	12.238	43	708725	34.4354	ug/l	#	75
8) Mevinphos	12.099	127	514544	30.9172	ug/l	#	85
9) Pebulate	12.318	57	527618	33.4222	ug/l	#	75
10) Molinate	12.794	126	485400	35.0004	ug/l		90
11) Tebuthiuiron	12.542	156	415127m	20.3688	ug/l		
12) TEPP	12.788	161	60790	143.3362	ug/l		93
13) Thionazin	13.045	97	183407m	36.4392	ug/l		
14) Demeton-O	13.072	60	42462m	16.7240	ug/l		
15) Cycloate	13.238	154	354924	30.4466	ug/l	#	91
16) Naled	13.329	109	34394	17.7935	ug/l	#	73
17) Ethoprophos	13.200	97	169823	33.9340	ug/l	#	45
18) Dicrotophos	13.307	127	68621	19.0165	ug/l	#	84
19) Sulfotep	13.350	97	217594	36.5317	ug/l		80
20) Monocrotophos	13.366	127	347082	33.8618	ug/l	#	79
21) Phorate	13.495	75	444638	29.2474	ug/l	#	90
22) Demeton-S	13.623	88	159150	15.5276	ug/l	#	19
23) Diphenamid	14.874	72	5543	0.2200	ug/l	#	1
24) Dimethoate	13.655	125	184527	34.7152	ug/l	#	15
25) Simazine	13.692	201	211014m	43.0804	ug/l		
26) Atrazine	13.725	200	359628	36.6232	ug/l		92
27) Dioxathion degradation...	13.826	97	61226	14.0973	ug/l		95
28) Terbufos	13.864	57	433591	28.7777	ug/l	#	85
29) Diazinone	13.869	137	216280	33.5880	ug/l		84
30) Fonofos	13.928	109	690580	35.8741	ug/l	#	73
31) Disulfoton	14.008	61	84033	23.5479	ug/l	#	1
32) Phosphamidon	14.227	127	237573	30.0340	ug/l	#	76
33) Dichlofenthion	14.270	223	249913	23.5484	ug/l		93
36) chlorpyifos methyl	14.340	286	304124	31.0421	ug/l		91
37) Methyl parathion	14.388	109	254991	31.2332	ug/l	#	9
38) Ronnel	14.484	285	372557m	11.6169	ug/l		
39) Malathion	14.612	125	290300	32.4944	ug/l	#	72
40) Fenitrothion	14.580	125	255026	30.9602	ug/l		94
41) Aspon	14.618	211	514839	30.4186	ug/l		95
42) Chlorpyrifos	14.714	197	225362	34.4362	ug/l		92
43) Fenthion	14.746	278	356501	27.3051	ug/l	#	73
44) Parathion	14.773	97	208811	33.3258	ug/l	#	75

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

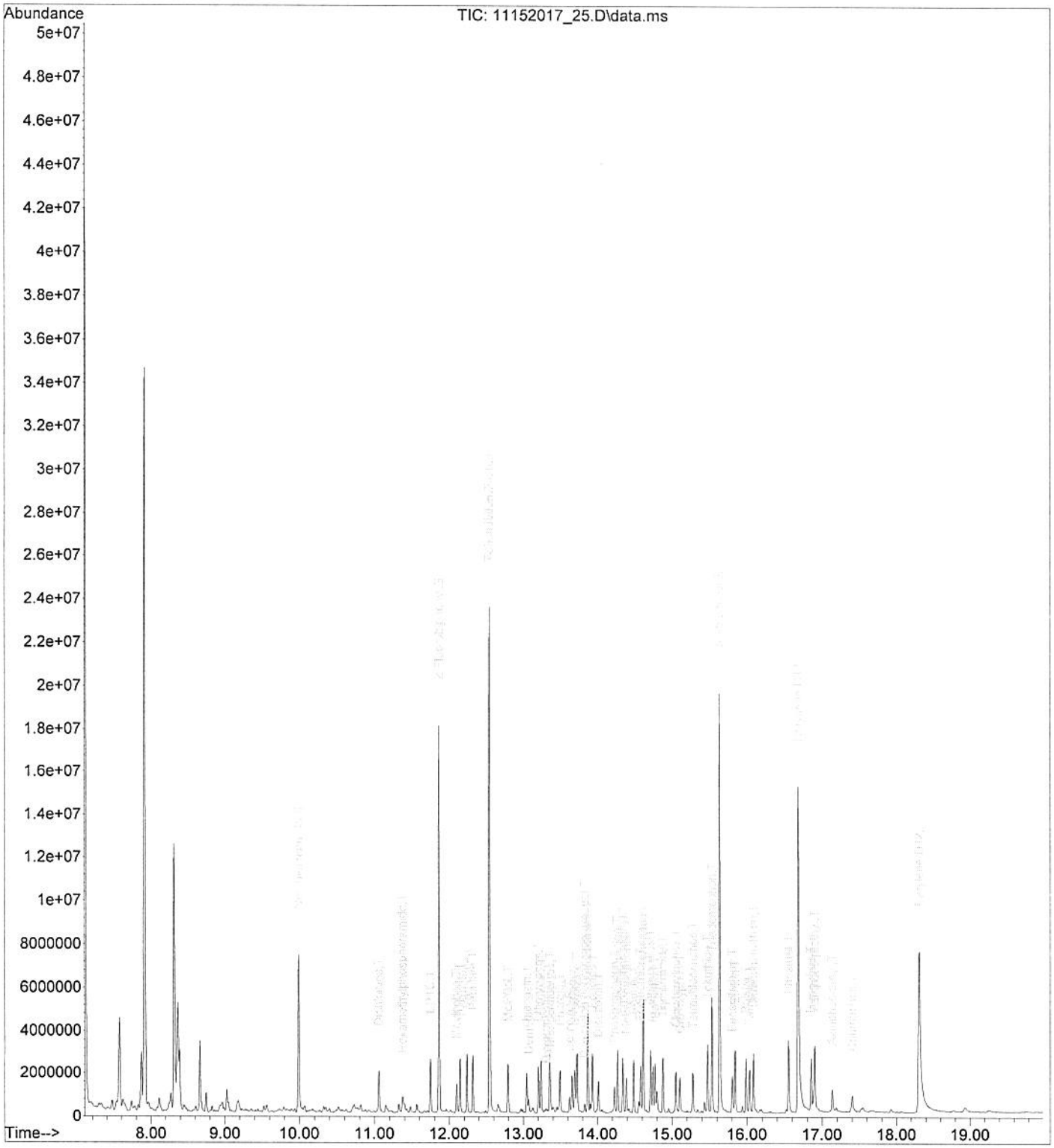
Quant Time: Dec 01 09:46:01 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	7845m	6.0586	ug/l		
46) Trichloronate	14.874	109	416598	36.7393	ug/l	#	81
47) Chlorfenvinphos	15.051	267	205022	20.3672	ug/l	#	79
48) Triademephon	15.532	57	627319	176.5529	ug/l	#	67
49) Crotoxyphos	15.104	105	234510	34.9579	ug/l	#	30
50) Tetrachlorvinphos	15.276	109	325260	50.1747	ug/l	#	83
51) Tokuthion	15.474	113	170040	30.2717	ug/l	#	52
52) Fensulfothion	15.805	292	114770	36.9043	ug/l		69
53) Ethion	15.843	97	382511	33.9682	ug/l	#	65
54) EPN	16.083	157	349890	33.1371	ug/l	#	16
55) Famphur	16.035	218	580119	35.6443	ug/l	#	80
56) Carbophenothion	16.083	157	349890	33.1371	ug/l		93
59) Phosmet	16.554	160	834737	32.2109	ug/l	#	73
60) Bolstar	15.987	140	231876	27.0743	ug/l	#	78
61) Leptophos	16.853	171	463912	11.1829	ug/l	#	74
62) Azinphos-methyl	16.896	77	269584m	22.0466	ug/l		
63) TOCPP	16.902	165	364075	28.1742	ug/l		93
64) Azinphos-ethyl	17.137	132	222973	31.9933	ug/l		91
65) Coumaphos	17.404	97	90398m	48.1504	ug/l		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

Quant Time: Dec 01 09:46:01 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

Quant Time: Nov 16 14:59:51 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	5835080	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	8873083	5.00	ug/l	#	0.00
57) Perylene-D12	18.308	264	7105411	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.991	54	1340579	143.63	ug/l		0.01
Spiked Amount 5.000			Recovery	= 2872.60%			
35) 2-Fluorobiphenyl	11.863	172	5627218	137.90	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2758.00%			
58) p-Terphenyl	15.634	230	7714810	135.19	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2703.80%			
Target Compounds							Qvalue
3) Dichlorvos	11.056	109	702301	31.2932	ug/l	#	76
4) Hexamethylphosphoramide	11.371	44	275500	26.8654	ug/l	#	73
5) EPTC	11.746	43	561081	32.7880	ug/l	#	71
6) Butylate	12.141	57	421394	33.3134	ug/l		96
7) Vernolate	12.238	43	708725	34.4354	ug/l	#	75
8) Mevinphos	12.099	127	514544	30.9172	ug/l	#	85
9) Pebulate	12.318	57	527618	33.4222	ug/l	#	75
10) Molinate	12.794	126	485400	35.0004	ug/l		90
11) Tebuthiuiron	12.542	156	415127m	20.3688	ug/l		
12) TEPP	12.788	161	60790	143.3362	ug/l		93
13) Thionazin	13.045	97	197988	38.7406	ug/l	#	68
14) Demeton-O	13.072	60	45042	17.7401	ug/l	#	6
15) Cycloate	13.238	154	354924	30.4466	ug/l	#	91
16) Naled	13.329	109	34394	17.7935	ug/l	#	73
17) Ethoprophos	13.200	97	169823	33.9340	ug/l	#	45
18) Dicrotophos	13.307	127	68621	19.0165	ug/l	#	84
19) Sulfotep	13.350	97	217594	36.5317	ug/l		80
20) Monocrotophos	13.366	127	347082	33.8618	ug/l	#	79
21) Phorate	13.495	75	444638	29.2474	ug/l	#	90
22) Demeton-S	13.623	88	159150	15.5276	ug/l	#	19
23) Diphenamid	14.874	72	5543	0.2200	ug/l	#	1
24) Dimethoate	13.655	125	184527	34.7152	ug/l	#	15
25) Simazine	13.692	201	211979	43.2435	ug/l		78
26) Atrazine	13.725	200	359628	36.6232	ug/l		92
27) Dioxathion degradation...	13.826	97	61226	14.0973	ug/l		95
28) Terbufos	13.864	57	433591	28.7777	ug/l	#	85
29) Diazinone	13.869	137	216280	33.5880	ug/l		84
30) Fonofos	13.928	109	690580	35.8741	ug/l	#	73
31) Disulfoton	14.008	61	84033	23.5479	ug/l	#	1
32) Phosphamidon	14.227	127	237573	30.0340	ug/l	#	76
33) Dichlofenthion	14.270	223	249913	23.5484	ug/l		93
36) chlorpyifos methyl	14.340	286	304124	31.0421	ug/l		91
37) Methyl parathion	14.388	109	254991	31.2332	ug/l	#	9
38) Ronnel	14.484	285	378072	11.7889	ug/l		90
39) Malathion	14.612	125	290300	32.4944	ug/l	#	72
40) Fenitrothion	14.580	125	255026	30.9602	ug/l		94
41) Aspon	14.618	211	514839	30.4186	ug/l		95
42) Chlorpyrifos	14.714	197	225362	34.4362	ug/l		92
43) Fenthion	14.746	278	356501	27.3051	ug/l	#	73
44) Parathion	14.773	97	208811	33.3258	ug/l	#	75

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

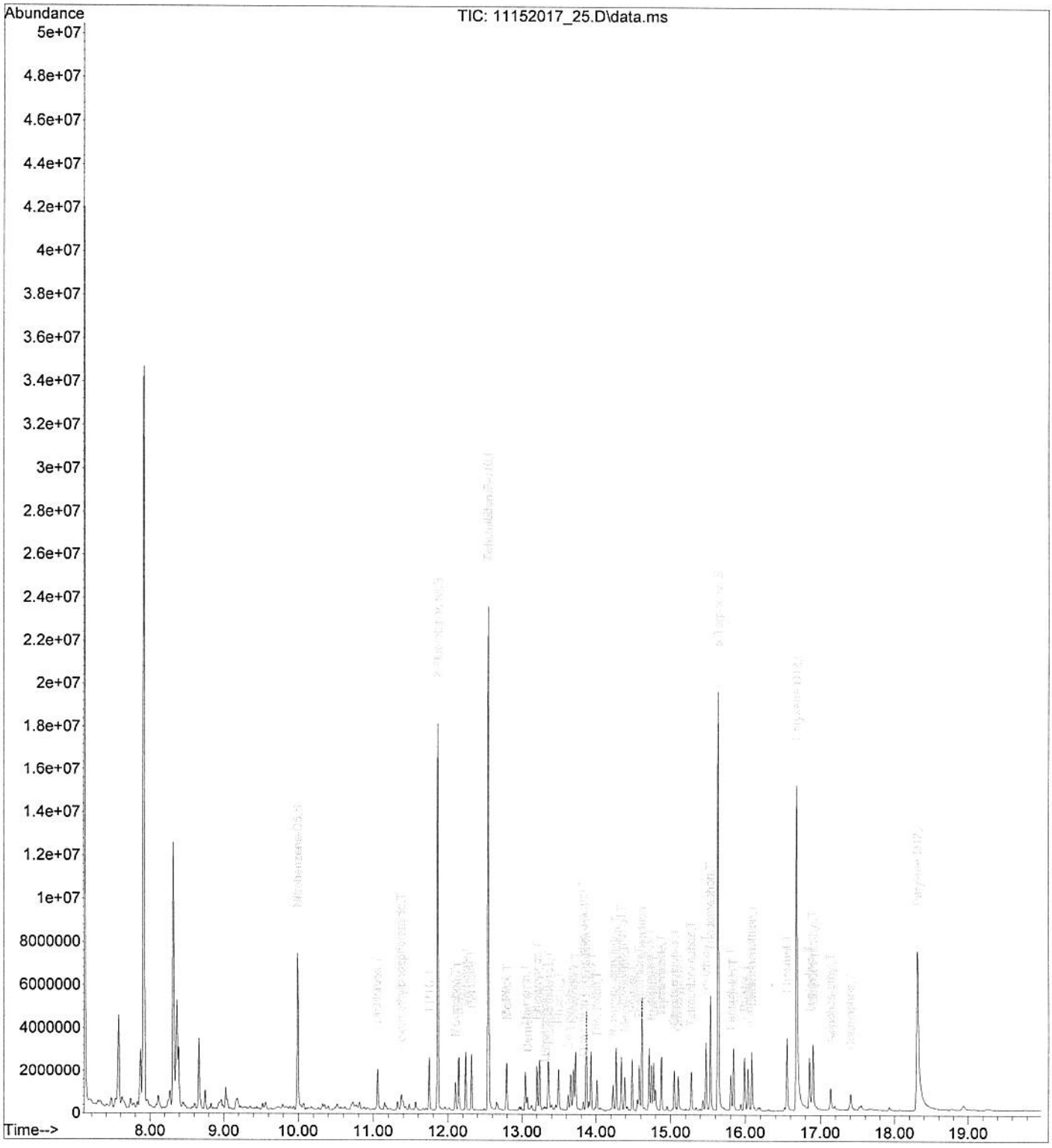
Quant Time: Nov 16 14:59:51 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
45) Merphos	15.051	209	7845m	6.0586 ug/l		
46) Trichloronate	14.874	109	416598	36.7393 ug/l	#	81
47) Chlorfenvinphos	15.051	267	205022	20.3672 ug/l	#	79
48) Triademephon	15.532	57	627319	176.5529 ug/l	#	67
49) Crotoxyphos	15.104	105	234510	34.9579 ug/l	#	30
50) Tetrachlorvinphos	15.276	109	325260	50.1747 ug/l	#	83
51) Tokuthion	15.474	113	170040	30.2717 ug/l	#	52
52) Fensulfothion	15.805	292	114770	36.9043 ug/l		69
53) Ethion	15.843	97	382511	33.9682 ug/l	#	65
54) EPN	16.083	157	349890	33.1371 ug/l	#	16
55) Famphur	16.035	218	580119	35.6443 ug/l	#	80
56) Carbophenothion	16.083	157	349890	33.1371 ug/l		93
59) Phosmet	16.554	160	834737	32.2109 ug/l	#	73
60) Bolstar	15.987	140	231876	27.0743 ug/l	#	78
61) Leptophos	16.853	171	463912	11.1829 ug/l	#	74
62) Azinphos-methyl	16.896	77	269584m	22.0466 ug/l		
63) TOCPP	16.902	165	364075	28.1742 ug/l		93
64) Azinphos-ethyl	17.137	132	222973	31.9933 ug/l		91
65) Coumaphos	17.404	97	94147	49.7581 ug/l	#	76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

Quant Time: Nov 16 14:59:51 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

Quant Time: Nov 16 10:12:30 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	5835080	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	8873083	5.00	ug/l	#	0.00
57) Perylene-D12	18.308	264	7105411	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.991	54	1340579	143.63	ug/l		0.01
Spiked Amount 5.000			Recovery	= 2872.60%			
35) 2-Fluorobiphenyl	11.863	172	5627218	147.27	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2945.40%			
58) p-Terphenyl	15.634	230	7714810	135.19	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2703.80%			
Target Compounds							Qvalue
3) Dichlorvos	11.056	109	702301	31.2932	ug/l	#	76
4) Hexamethylphosphoramide	11.371	44	275500	53.7307	ug/l	#	73
5) EPTC	11.746	43	561081	32.7880	ug/l	#	71
6) Butylate	12.141	57	421394	33.3134	ug/l		96
7) Vernolate	12.238	43	708725	34.4354	ug/l	#	75
8) Mevinphos	12.099	127	514544	30.9172	ug/l	#	85
9) Pebulate	12.318	57	527618	33.4222	ug/l	#	75
10) Molinate	12.794	126	485400	35.0004	ug/l		90
11) Tebuthiuiron	12.542	156	282641	13.8682	ug/l	#	84
12) TEPP	12.788	161	60790	143.3362	ug/l		93
13) Thionazin	13.045	97	197988	38.7406	ug/l	#	68
14) Demeton-O	13.072	60	45042	17.7401	ug/l	#	6
15) Cycloate	13.238	154	354924	30.4466	ug/l	#	91
16) Naled	13.329	109	34394	17.7935	ug/l	#	73
17) Ethoprophos	13.200	97	169823	33.9340	ug/l	#	45
18) Dicrotophos	13.307	127	68621	19.0165	ug/l	#	84
19) Sulfotep	13.350	97	217594	36.5317	ug/l		80
20) Monocrotophos	13.366	127	347082	33.8618	ug/l	#	79
21) Phorate	13.495	75	444638	29.2474	ug/l	#	90
22) Demeton-S	13.623	88	159150	15.5276	ug/l	#	19
23) Diphenamid	14.874	72	5543	0.2200	ug/l	#	1
24) Dimethoate	13.655	125	184527	34.7152	ug/l	#	15
25) Simazine	13.692	201	211979	43.2435	ug/l		78
26) Atrazine	13.725	200	359628	36.6232	ug/l		92
27) Dioxathion degradation...	13.826	97	61226	14.0973	ug/l		95
28) Terbufos	13.864	57	433591	28.7777	ug/l	#	85
29) Diazinone	13.869	137	216280	33.5880	ug/l		84
30) Fonofos	13.928	109	690580	35.8741	ug/l	#	73
31) Disulfoton	14.008	61	84033	23.5479	ug/l	#	1
32) Phosphamidon	14.227	127	237573	30.0340	ug/l	#	76
33) Dichlofenthion	14.270	223	249913	23.5484	ug/l		93
36) chlorpyifos methyl	14.340	286	304124	31.0421	ug/l		91
37) Methyl parathion	14.388	109	254991	14.8061	ug/l	#	9
38) Ronnel	14.484	285	378072	11.7889	ug/l		90
39) Malathion	14.612	125	290300	32.4944	ug/l	#	72
40) Fenitrothion	14.580	125	255026	30.9602	ug/l		94
41) Aspon	14.618	211	514839	30.4186	ug/l		95
42) Chlorpyrifos	14.714	197	225362	34.4362	ug/l		92
43) Fenthion	14.746	278	356501	27.3051	ug/l	#	73
44) Parathion	14.773	97	208811	33.3258	ug/l	#	75

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

Quant Time: Nov 16 10:12:30 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

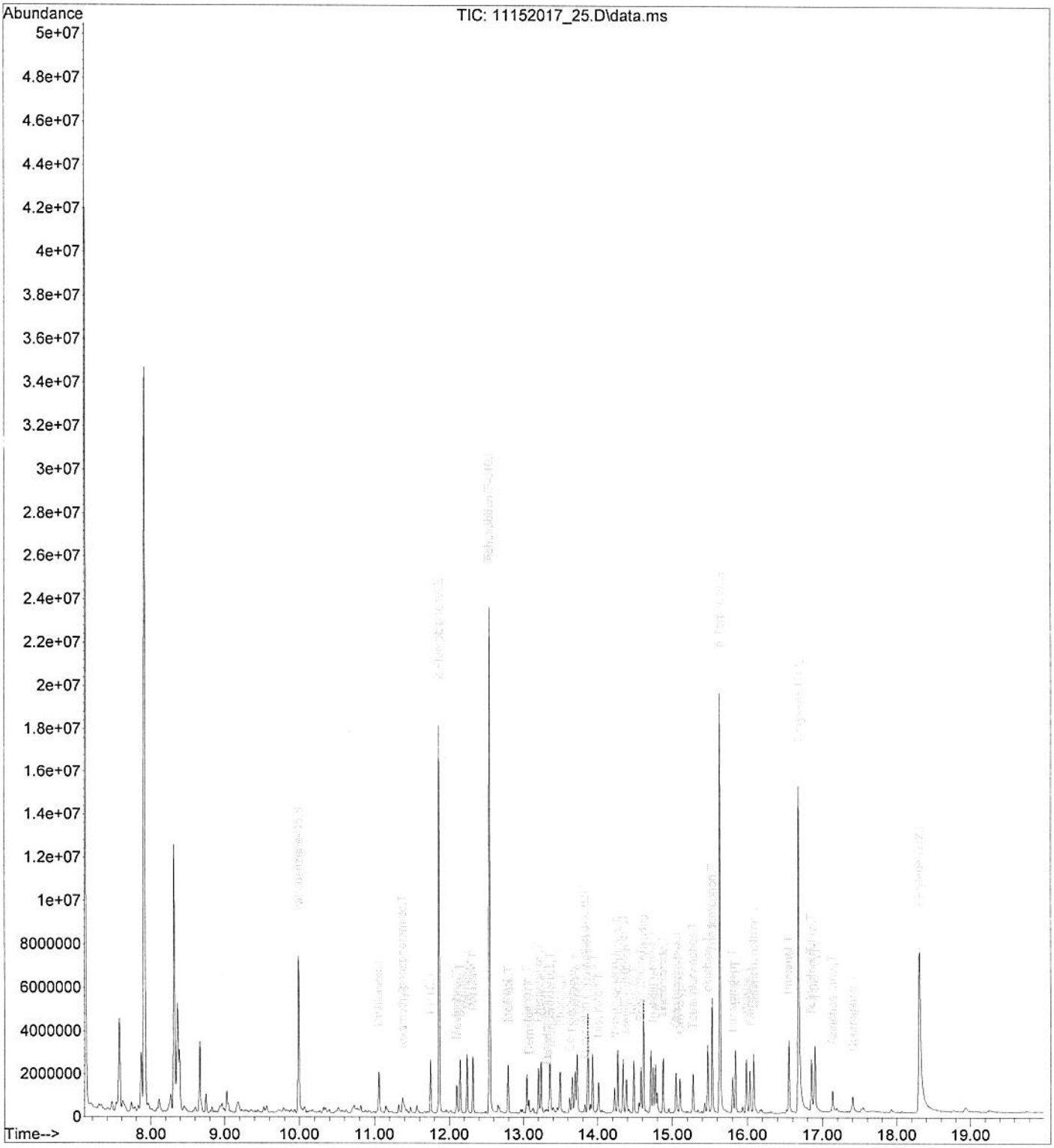
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	6696	5.8613	ug/l	#	60
46) Trichloronate	14.874	109	416598	36.7393	ug/l	#	81
47) Chlorfenvinphos	15.051	267	205022	20.3672	ug/l	#	79
48) Triademephon	15.532	57	627319	176.5529	ug/l	#	67
49) Crotoxyphos	15.104	105	234510	34.9579	ug/l	#	30
50) Tetrachlorvinphos	15.276	109	325260	50.1747	ug/l	#	83
51) Tokuthion	15.474	113	170040	30.2717	ug/l	#	52
52) Fensulfothion	15.805	292	114770	36.9043	ug/l		69
53) Ethion	15.843	97	382511	33.9682	ug/l	#	65
54) EPN	16.083	157	349890	33.1371	ug/l	#	16
55) Famphur	16.035	218	580119	35.6443	ug/l	#	80
56) Carbophenothion	16.083	157	349890	33.1371	ug/l		93
59) Phosmet	16.554	160	834737	25.3524	ug/l	#	73
60) Bolstar	15.987	140	231876	27.0743	ug/l	#	78
61) Leptophos	16.853	171	463912	11.1829	ug/l	#	74
62) Azinphos-methyl	16.853	77	148647	15.8317	ug/l	#	84
63) TOCPP	16.902	165	364075	28.1742	ug/l		93
64) Azinphos-ethyl	17.137	132	222973	31.9933	ug/l		91
65) Coumaphos	17.404	97	94147	49.7581	ug/l	#	76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_25.D
Acq On : 16 Nov 2017 9:59 am
Operator : YE
Sample : OPP IDOCS-02
Misc :
ALS Vial : 20 Sample Multiplier: 33.333

Quant Time: Nov 16 10:12:30 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

Quant Time: Dec 01 09:47:54 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	5599533	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	8394887	5.00	ug/l	#	0.00
57) Perylene-D12	18.308	264	6784428	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.991	54	1330339	148.53	ug/l		0.01
Spiked Amount 5.000			Recovery	= 2970.60%			
35) 2-Fluorobiphenyl	11.863	172	5619865	145.56	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2911.20%			
58) p-Terphenyl	15.634	230	7687138	141.08	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2821.60%			
Target Compounds							Qvalue
3) Dichlorvos	11.056	109	699494	32.4792	ug/l	#	73
4) Hexamethylphosphoramide	11.376	44	268014	27.2348	ug/l	#	65
5) EPTC	11.746	43	562427	34.2492	ug/l	#	69
6) Butylate	12.141	57	430435	35.4596	ug/l		92
7) Vernolate	12.238	43	701403	35.5132	ug/l	#	74
8) Mevinphos	12.099	127	518352	32.1182	ug/l	#	84
9) Pebulate	12.318	57	501421	33.0989	ug/l	#	76
10) Molinate	12.794	126	474829	35.6784	ug/l	#	92
11) Tebuthiuiron	12.542	156	399863m	20.4451	ug/l		
12) TEPP	12.789	161	58913	144.7538	ug/l		92
13) Thionazin	13.045	97	171128m	35.6374	ug/l		
14) Demeton-O	13.072	60	56746m	23.2900	ug/l		
15) Cycloate	13.238	154	364593	32.5917	ug/l	#	89
16) Naled	13.329	109	32115	17.2248	ug/l	#	81
17) Ethoprophos	13.200	97	156628	32.8483	ug/l	#	46
18) Dicrotophos	13.307	127	68162	19.1822	ug/l	#	84
19) Sulfotep	13.355	97	215280	37.6627	ug/l	#	71
20) Monocrotophos	13.366	127	323397	33.2101	ug/l	#	80
21) Phorate	13.495	75	460696	31.1675	ug/l	#	91
22) Demeton-S	13.623	88	208059	18.5831	ug/l	#	18
23) Diphenamid	14.874	72	6840	0.2829	ug/l	#	1
24) Dimethoate	13.660	125	176128	34.5711	ug/l	#	17
25) Simazine	13.692	201	214955m	45.2748	ug/l		
26) Atrazine	13.725	200	349718	37.1122	ug/l		93
27) Dioxathion degradation...	13.826	97	66151	15.2373	ug/l		81
28) Terbufos	13.864	57	430256	29.7576	ug/l	#	80
29) Diazinone	13.869	137	210949	34.1382	ug/l		89
30) Fonofos	13.928	109	690359	37.3712	ug/l	#	71
31) Disulfoton	14.008	61	99169	27.9768	ug/l	#	1
32) Phosphamidon	14.227	127	225887	29.8001	ug/l	#	77
33) Dichlofenthion	14.270	223	250417	24.4141	ug/l		94
36) chlorpyifos methyl	14.340	286	312245	33.1630	ug/l		91
37) Methyl parathion	14.388	109	249922	31.9922	ug/l	#	11
38) Ronnel	14.484	285	374999m	12.3591	ug/l		
39) Malathion	14.612	125	291708	34.3778	ug/l	#	78
40) Fenitrothion	14.580	125	256295	32.3102	ug/l		98
41) Aspon	14.618	211	511168	31.6614	ug/l		93
42) Chlorpyrifos	14.714	197	214314	34.6135	ug/l		94
43) Fenthion	14.746	278	378067	29.9897	ug/l	#	73
44) Parathion	14.773	97	207676	34.5755	ug/l	#	70

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

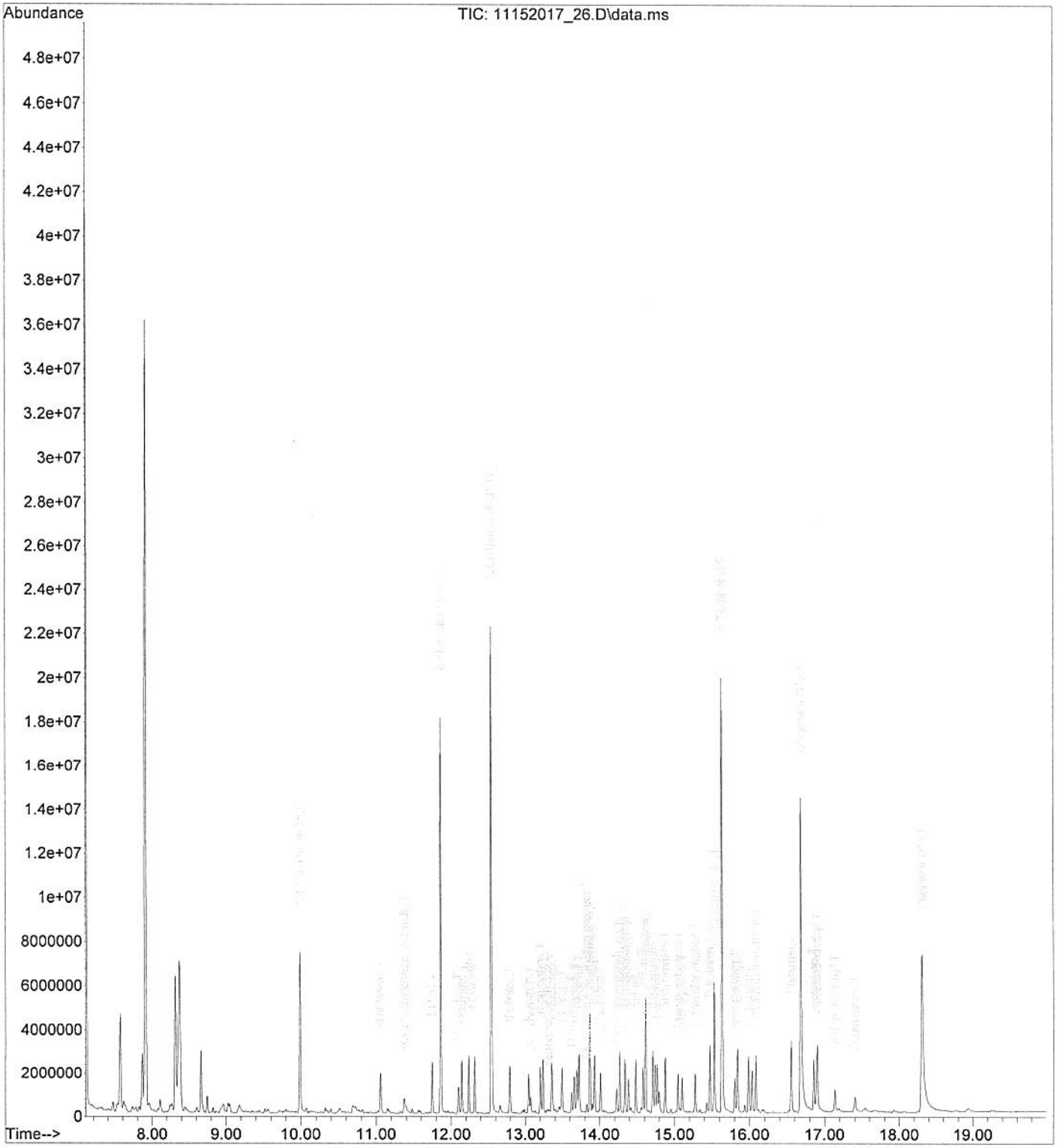
Quant Time: Dec 01 09:47:54 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	17922m	7.9642	ug/l		
46) Trichloronate	14.880	109	408831	38.1081	ug/l	#	64
47) Chlorfenvinphos	15.051	267	198427	20.6573	ug/l	#	82
48) Triademephon	15.532	57	735251	204.5656	ug/l	#	68
49) Crotoxyphos	15.104	105	237749	36.5896	ug/l	#	29
50) Tetrachlorvinphos	15.276	109	322644	52.1071	ug/l	#	77
51) Tokuthion	15.474	113	164427	30.8460	ug/l	#	60
52) Fensulfothion	15.805	292	117522	40.1316	ug/l	#	78
53) Ethion	15.843	97	376633	35.1436	ug/l	#	64
54) EPN	16.083	157	340847	33.9550	ug/l	#	16
55) Famphur	16.035	218	566576	36.5482	ug/l	#	80
56) Carbophenothion	16.083	157	340847	33.9550	ug/l		90
59) Phosmet	16.554	160	842805	33.3680	ug/l	#	72
60) Bolstar	15.987	140	244701	29.1242	ug/l	#	77
61) Leptophos	16.853	171	458955	11.5868	ug/l	#	75
62) Azinphos-methyl	16.896	77	258240m	22.0918	ug/l		
63) TOCPP	16.902	165	366770	29.3771	ug/l		92
64) Azinphos-ethyl	17.137	132	224871	33.1234	ug/l	#	87
65) Coumaphos	17.404	97	83550m	46.9003	ug/l		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

Quant Time: Dec 01 09:47:54 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

Quant Time: Nov 16 15:01:16 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	5599533	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	8394887	5.00	ug/l	#	0.00
57) Perylene-D12	18.308	264	6784428	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.991	54	1330339	148.53	ug/l		0.01
Spiked Amount 5.000			Recovery	= 2970.60%			
35) 2-Fluorobiphenyl	11.863	172	5619865	145.56	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2911.20%			
58) p-Terphenyl	15.634	230	7687138	141.08	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2821.60%			
Target Compounds							Qvalue
3) Dichlorvos	11.056	109	699494	32.4792	ug/l	#	73
4) Hexamethylphosphoramide	11.376	44	268014	27.2348	ug/l	#	65
5) EPTC	11.746	43	562427	34.2492	ug/l	#	69
6) Butylate	12.141	57	430435	35.4596	ug/l		92
7) Vernolate	12.238	43	701403	35.5132	ug/l	#	74
8) Mevinphos	12.099	127	518352	32.1182	ug/l	#	84
9) Pebulate	12.318	57	501421	33.0989	ug/l	#	76
10) Molinate	12.794	126	474829	35.6784	ug/l	#	92
11) Tebuthiuiron	12.542	156	399863m	20.4451	ug/l		
12) TEPP	12.789	161	58913	144.7538	ug/l		92
13) Thionazin	13.045	97	201724	40.6696	ug/l	#	71
14) Demeton-O	13.072	60	60744	24.9308	ug/l	#	1
15) Cycloate	13.238	154	364593	32.5917	ug/l	#	89
16) Naled	13.329	109	32115	17.2248	ug/l	#	81
17) Ethoprophos	13.200	97	156628	32.8483	ug/l	#	46
18) Dicrotophos	13.307	127	68162	19.1822	ug/l	#	84
19) Sulfotep	13.355	97	215280	37.6627	ug/l	#	71
20) Monocrotophos	13.366	127	323397	33.2101	ug/l	#	80
21) Phorate	13.495	75	460696	31.1675	ug/l	#	91
22) Demeton-S	13.623	88	208059	18.5831	ug/l	#	18
23) Diphenamid	14.874	72	6840	0.2829	ug/l	#	1
24) Dimethoate	13.660	125	176128	34.5711	ug/l	#	17
25) Simazine	13.692	201	214955	45.2748	ug/l		81
26) Atrazine	13.725	200	349718	37.1122	ug/l		93
27) Dioxathion degradation...	13.826	97	66151	15.2373	ug/l		81
28) Terbufos	13.864	57	430256	29.7576	ug/l	#	80
29) Diazinone	13.869	137	210949	34.1382	ug/l		89
30) Fonofos	13.928	109	690359	37.3712	ug/l	#	71
31) Disulfoton	14.008	61	99169	27.9768	ug/l	#	1
32) Phosphamidon	14.227	127	225887	29.8001	ug/l	#	77
33) Dichlofenthion	14.270	223	250417	24.4141	ug/l		94
36) chlorpyifos methyl	14.340	286	312245	33.1630	ug/l		91
37) Methyl parathion	14.388	109	249922	31.9922	ug/l	#	11
38) Ronnel	14.484	285	379938	12.5219	ug/l		85
39) Malathion	14.612	125	291708	34.3778	ug/l	#	78
40) Fenitrothion	14.580	125	256295	32.3102	ug/l		98
41) Aspon	14.618	211	511168	31.6614	ug/l		93
42) Chlorpyrifos	14.714	197	214314	34.6135	ug/l		94
43) Fenthion	14.746	278	378067	29.9897	ug/l	#	73
44) Parathion	14.773	97	207676	34.5755	ug/l	#	70

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

Quant Time: Nov 16 15:01:16 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

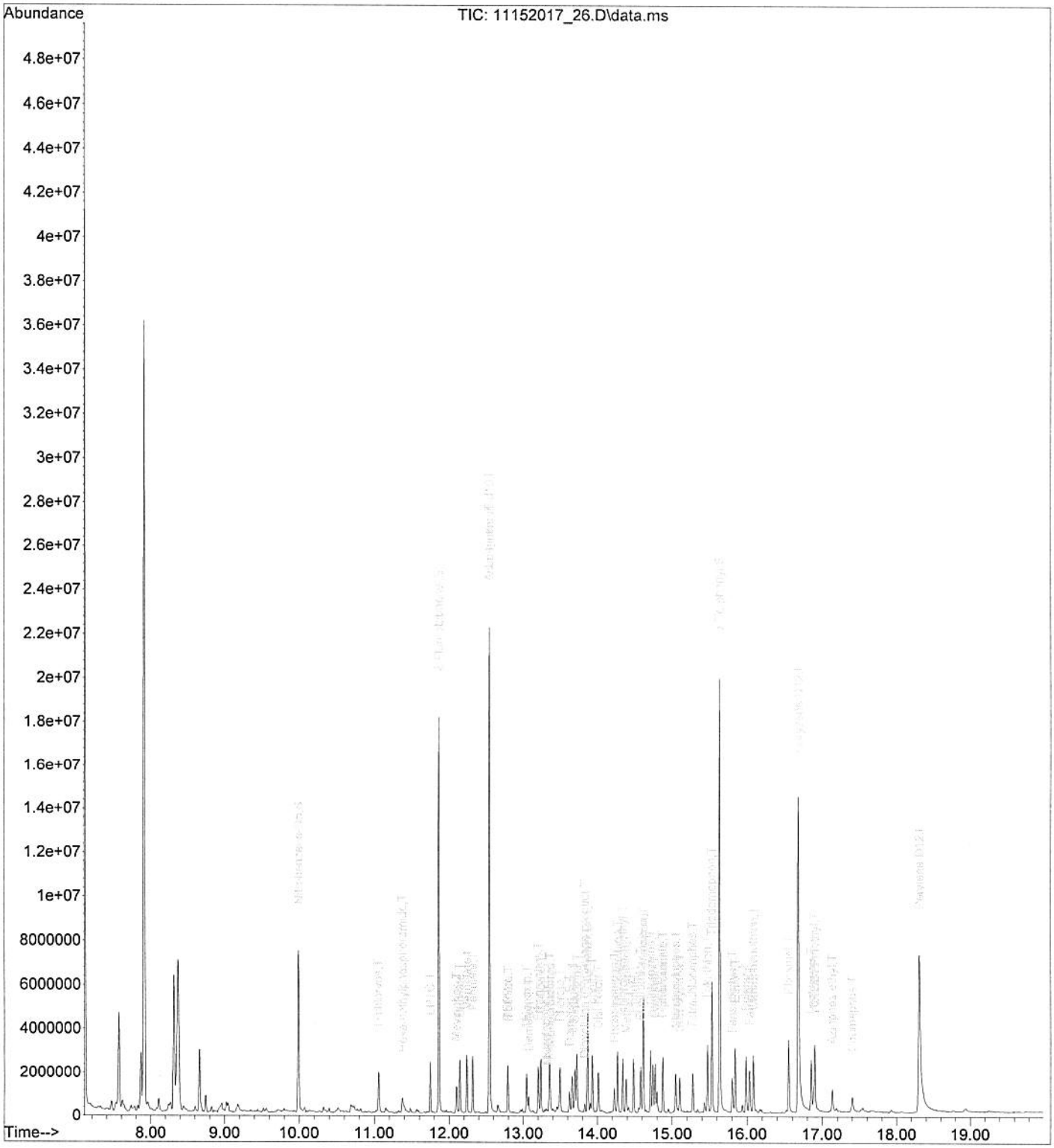
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
45) Merphos	15.051	209	17922m	7.9642 ug/l	
46) Trichloronate	14.880	109	408831	38.1081 ug/l #	64
47) Chlorfenvinphos	15.051	267	198427	20.6573 ug/l #	82
48) Triademephon	15.532	57	735251	204.5656 ug/l #	68
49) Crotoxyphos	15.104	105	237749	36.5896 ug/l #	29
50) Tetrachlorvinphos	15.276	109	322644	52.1071 ug/l #	77
51) Tokuthion	15.474	113	164427	30.8460 ug/l #	60
52) Fensulfothion	15.805	292	117522	40.1316 ug/l #	78
53) Ethion	15.843	97	376633	35.1436 ug/l #	64
54) EPN	16.083	157	340847	33.9550 ug/l #	16
55) Famphur	16.035	218	566576	36.5482 ug/l #	80
56) Carbophenothion	16.083	157	340847	33.9550 ug/l	90
59) Phosmet	16.554	160	842805	33.3680 ug/l #	72
60) Bolstar	15.987	140	244701	29.1242 ug/l #	77
61) Leptophos	16.853	171	458955	11.5868 ug/l #	75
62) Azinphos-methyl	16.896	77	258240m	22.0918 ug/l	
63) TOCPP	16.902	165	366770	29.3771 ug/l	92
64) Azinphos-ethyl	17.137	132	224871	33.1234 ug/l #	87
65) Coumaphos	17.404	97	93906	51.5453 ug/l #	76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

Quant Time: Nov 16 15:01:16 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

Quant Time: Nov 16 10:40:09 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.542	164	5599533	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	8394887	5.00	ug/l	#	0.00
57) Perylene-D12	18.308	264	6784428	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.991	54	1330339	148.53	ug/l		0.01
Spiked Amount 5.000			Recovery	= 2970.60%			
35) 2-Fluorobiphenyl	11.863	172	5619865	155.46	ug/l		0.00
Spiked Amount 5.000			Recovery	= 3109.20%			
58) p-Terphenyl	15.634	230	7687138	141.08	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2821.60%			
Target Compounds							Qvalue
3) Dichlorvos	11.056	109	699494	32.4792	ug/l	#	73
4) Hexamethylphosphoramide	11.376	44	268014	54.4695	ug/l	#	65
5) EPTC	11.746	43	562427	34.2492	ug/l	#	69
6) Butylate	12.141	57	430435	35.4596	ug/l		92
7) Vernolate	12.238	43	701403	35.5132	ug/l	#	74
8) Mevinphos	12.099	127	518352	32.1182	ug/l	#	84
9) Pebulate	12.318	57	501421	33.0989	ug/l	#	76
10) Molinate	12.794	126	474829	35.6784	ug/l	#	92
11) Tebuthiuiron	12.542	156	266821	13.6427	ug/l	#	84
12) TEPP	12.789	161	58913	144.7538	ug/l		92
13) Thionazin	13.045	97	201724	40.6696	ug/l	#	71
14) Demeton-O	13.072	60	60744	24.9308	ug/l	#	1
15) Cycloate	13.238	154	364593	32.5917	ug/l	#	89
16) Naled	13.329	109	32115	17.2248	ug/l	#	81
17) Ethoprophos	13.200	97	156628	32.8483	ug/l	#	46
18) Dicrotophos	13.307	127	68162	19.1822	ug/l	#	84
19) Sulfotep	13.355	97	215280	37.6627	ug/l	#	71
20) Monocrotophos	13.366	127	323397	33.2101	ug/l	#	80
21) Phorate	13.495	75	460696	31.1675	ug/l	#	91
22) Demeton-S	13.623	88	208059	18.5831	ug/l	#	18
23) Diphenamid	14.874	72	6840	0.2829	ug/l	#	1
24) Dimethoate	13.660	125	176128	34.5711	ug/l	#	17
25) Simazine	13.692	201	214955	45.2748	ug/l		81
26) Atrazine	13.725	200	349718	37.1122	ug/l		93
27) Dioxathion degradation...	13.826	97	66151	15.2373	ug/l		81
28) Terbufos	13.864	57	430256	29.7576	ug/l	#	80
29) Diazinone	13.869	137	210949	34.1382	ug/l		89
30) Fonofos	13.928	109	690359	37.3712	ug/l	#	71
31) Disulfoton	14.008	61	99169	27.9768	ug/l	#	1
32) Phosphamidon	14.227	127	225887	29.8001	ug/l	#	77
33) Dichlofenthion	14.270	223	250417	24.4141	ug/l		94
36) chlorpyifos methyl	14.340	286	312245	33.1630	ug/l		91
37) Methyl parathion	14.388	109	249922	15.1870	ug/l	#	11
38) Ronnel	14.484	285	379938	12.5219	ug/l		85
39) Malathion	14.612	125	291708	34.3778	ug/l	#	78
40) Fenitrothion	14.580	125	256295	32.3102	ug/l		98
41) Aspon	14.618	211	511168	31.6614	ug/l		93
42) Chlorpyrifos	14.714	197	214314	34.6135	ug/l		94
43) Fenthion	14.746	278	378067	29.9897	ug/l	#	73
44) Parathion	14.773	97	207676	34.5755	ug/l	#	70

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

Quant Time: Nov 16 10:40:09 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

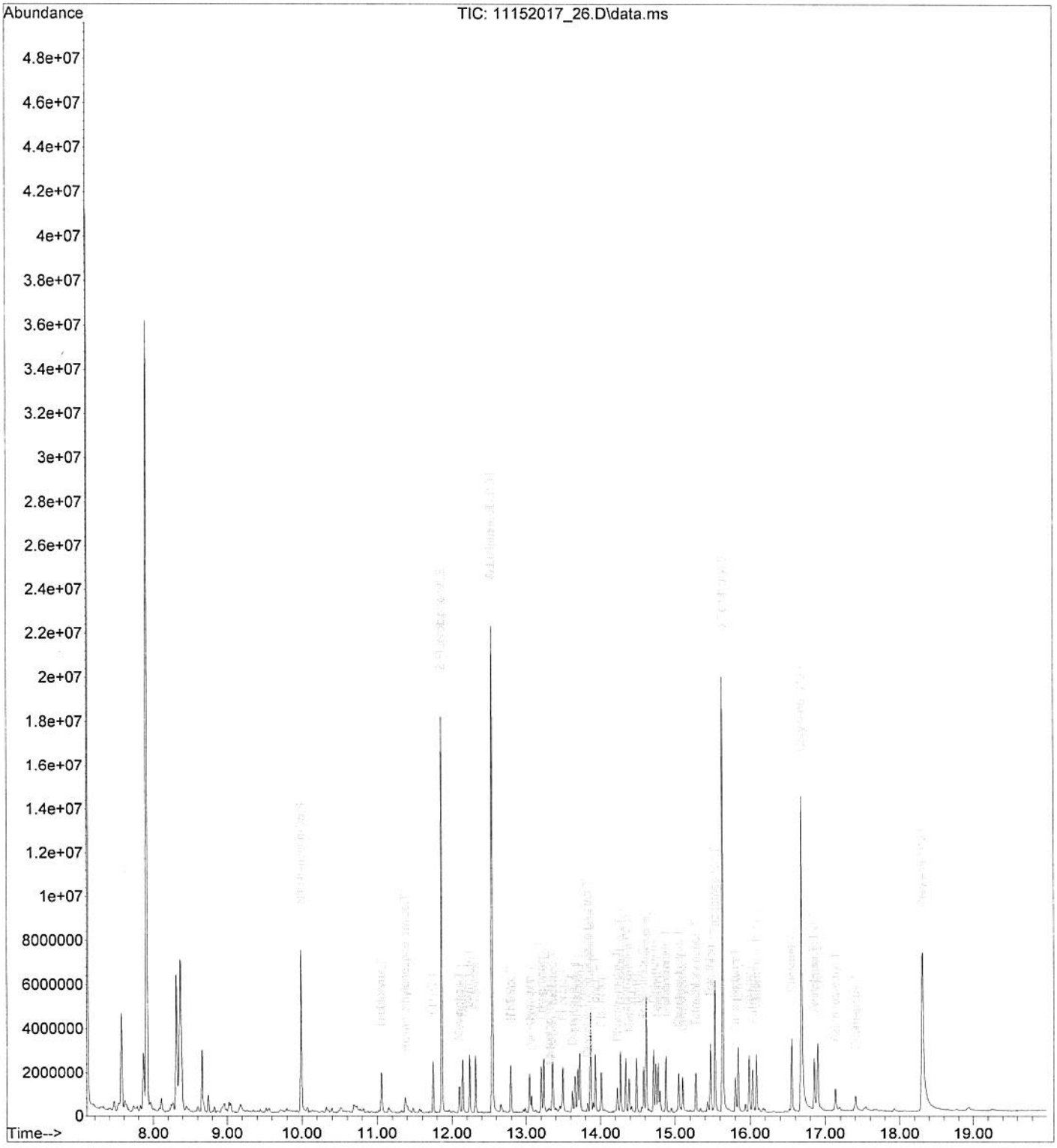
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	8083	6.1785	ug/l	#	90
46) Trichloronate	14.880	109	408831	38.1081	ug/l	#	64
47) Chlorfenvinphos	15.051	267	198427	20.6573	ug/l	#	82
48) Triademephon	15.532	57	735251	204.5656	ug/l	#	68
49) Crotoxyphos	15.104	105	237749	36.5896	ug/l	#	29
50) Tetrachlorvinphos	15.276	109	322644	52.1071	ug/l	#	77
51) Tokuthion	15.474	113	164427	30.8460	ug/l	#	60
52) Fensulfothion	15.805	292	117522	40.1316	ug/l	#	78
53) Ethion	15.843	97	376633	35.1436	ug/l	#	64
54) EPN	16.083	157	340847	33.9550	ug/l	#	16
55) Famphur	16.035	218	566576	36.5482	ug/l	#	80
56) Carbophenothion	16.083	157	340847	33.9550	ug/l		90
59) Phosmet	16.554	160	842805	26.5431	ug/l	#	72
60) Bolstar	15.987	140	244701	29.1242	ug/l	#	77
61) Leptophos	16.853	171	458955	11.5868	ug/l	#	75
62) Azinphos-methyl	16.853	77	143768	15.9298	ug/l	#	86
63) TOCPP	16.902	165	366770	29.3771	ug/l		92
64) Azinphos-ethyl	17.137	132	224871	33.1234	ug/l	#	87
65) Coumaphos	17.404	97	93906	51.5453	ug/l	#	76

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_26.D
Acq On : 16 Nov 2017 10:26 am
Operator : YE
Sample : OPP IDOCS-03
Misc :
ALS Vial : 21 Sample Multiplier: 33.333

Quant Time: Nov 16 10:40:09 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
Misc :
ALS Vial : 22 Sample Multiplier: 33.333

Quant Time: Dec 01 09:50:21 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.543	164	7497060	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	10995161	5.00	ug/l	#	0.00
57) Perylene-D12	18.308	264	9301645	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.991	54	1198099	99.91	ug/l		0.01
Spiked Amount 5.000			Recovery	= 1998.20%			
35) 2-Fluorobiphenyl	11.863	172	5324710	105.30	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2106.00%			
58) p-Terphenyl	15.634	230	7323031	98.02	ug/l		0.00
Spiked Amount 5.000			Recovery	= 1960.40%			
Target Compounds							Qvalue
3) Dichlorvos	11.056	109	659999	22.8889	ug/l	#	74
4) Hexamethylphosphoramide	11.377	44	274535	20.8365	ug/l	#	66
5) EPTC	11.746	43	519722	23.6383	ug/l	#	72
6) Butylate	12.141	57	405952	24.9782	ug/l		93
7) Vernolate	12.238	43	657858	24.8780	ug/l	#	72
8) Mevinphos	12.104	127	494420	24.8341	ug/l	#	82
9) Pebulate	12.318	57	500310	24.6667	ug/l	#	74
10) Molinate	12.794	126	453548	25.4538	ug/l	#	89
11) Tebuthiuiron	12.543	156	506720m	19.3512	ug/l		
12) TEPP	12.789	161	52947	97.1675	ug/l		91
13) Thionazin	13.045	97	184456m	30.1508	ug/l		
14) Demeton-O	13.072	60	49140m	15.0636	ug/l		
15) Cycloate	13.238	154	348001	23.2348	ug/l	#	86
16) Naled	13.329	109	33895	12.6237	ug/l	#	96
17) Ethoprophos	13.200	97	148108	24.9689	ug/l	#	47
18) Dicrotophos	13.307	127	61904	17.6101	ug/l	#	81
19) Sulfotep	13.350	97	204998	26.7946	ug/l		80
20) Monocrotophos	13.366	127	327323	27.8936	ug/l	#	84
21) Phorate	13.495	75	428986	23.2465	ug/l	#	92
22) Demeton-S	13.623	88	173373	14.2447	ug/l	#	20
23) Diphenamid	14.880	72	5245	0.1620	ug/l	#	1
24) Dimethoate	13.655	125	181800	28.4486	ug/l	#	12
25) Simazine	13.693	201	205137m	34.4009	ug/l		
26) Atrazine	13.725	200	332174	26.3284	ug/l		93
27) Dioxathion degradation...	13.826	97	57008	11.6043	ug/l		95
28) Terbufos	13.864	57	411340	21.2487	ug/l	#	81
29) Diazinone	13.869	137	208981	25.2599	ug/l		92
30) Fonofos	13.928	109	655168	26.4896	ug/l	#	70
31) Disulfoton	14.008	61	90775	20.4783	ug/l	#	1
32) Phosphamidon	14.227	127	224609	23.3115	ug/l	#	75
33) Dichlofenthion	14.270	223	238925	18.5323	ug/l		92
36) chlorpyifos methyl	14.340	286	288639	25.2139	ug/l		96
37) Methyl parathion	14.383	109	235254	25.8399	ug/l	#	7
38) Ronnel	14.484	285	353379m	8.8922	ug/l		
39) Malathion	14.612	125	279449	25.7248	ug/l	#	80
40) Fenitrothion	14.580	125	246648	26.1977	ug/l		94
41) Aspon	14.618	211	487275	24.4794	ug/l		94
42) Chlorpyrifos	14.714	197	211314	26.0577	ug/l		91
43) Fenthion	14.746	278	341261	22.2536	ug/l	#	71
44) Parathion	14.773	97	180414	25.9385	ug/l	#	70

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
Misc :
ALS Vial : 22 Sample Multiplier: 33.333

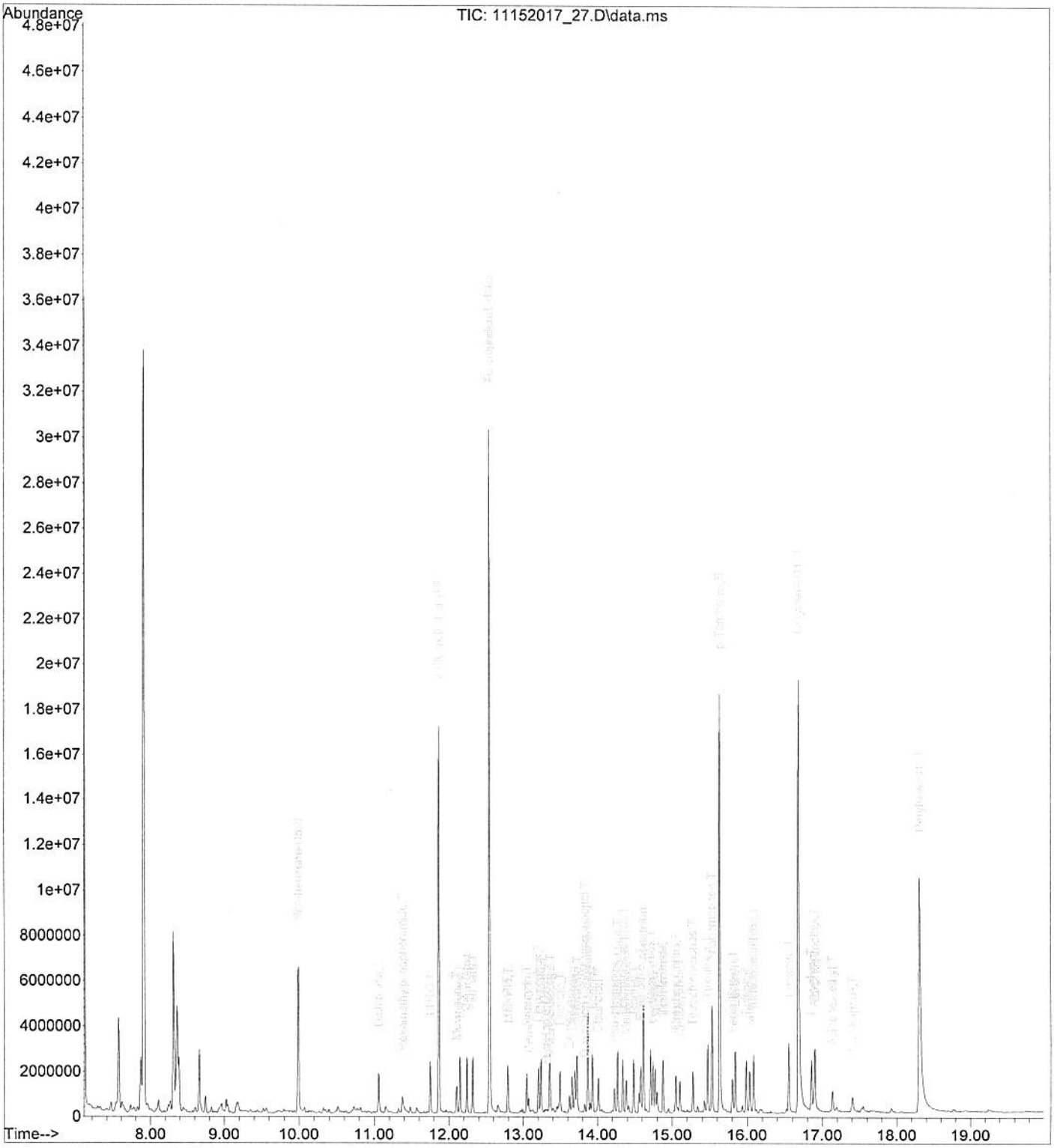
Quant Time: Dec 01 09:50:21 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	13796m	6.6233	ug/l		
46) Trichloronate	14.875	109	390648	27.8018	ug/l	#	82
47) Chlorfenvinphos	15.051	267	192220	17.2921	ug/l	#	80
48) Triademephon	15.532	57	597621	146.5806	ug/l	#	64
49) Crotoxyphos	15.099	105	225318	29.8357	ug/l	#	43
50) Tetrachlorvinphos	15.276	109	311598	41.1271	ug/l	#	80
51) Tokuthion	15.474	113	155102	23.4048	ug/l	#	49
52) Fensulfothion	15.805	292	114971	29.5215	ug/l	#	76
53) Ethion	15.837	97	357278	26.8603	ug/l		80
54) EPN	16.083	157	328742	26.4667	ug/l	#	16
55) Famphur	16.035	218	526787	28.1645	ug/l	#	79
56) Carbophenothion	16.083	157	328742	26.4667	ug/l		93
59) Phosmet	16.554	160	790510	26.6390	ug/l	#	75
60) Bolstar	15.987	140	226415	22.1248	ug/l	#	79
61) Leptophos	16.854	171	427442	7.8709	ug/l	#	75
62) Azinphos-methyl	16.896	77	268257m	18.7128	ug/l		
63) TOCPP	16.902	165	340021	21.9140	ug/l		94
64) Azinphos-ethyl	17.137	132	212356	26.5163	ug/l		89
65) Coumaphos	17.404	97	83521	36.3641	ug/l	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
Misc :
ALS Vial : 22 Sample Multiplier: 33.333

Quant Time: Dec 01 09:50:21 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
Misc :
ALS Vial : 22 Sample Multiplier: 33.333

Quant Time: Nov 16 15:02:10 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Acenaphthene-d10	12.543	164	7497060	5.00 ug/l	# 0.00
34) Chrysene-D12	16.682	240	10995161	5.00 ug/l	# 0.00
57) Perylene-D12	18.308	264	9301645	5.00 ug/l	0.00
System Monitoring Compounds					
2) Nitrobenzene-D5	9.991	54	1198099	99.91 ug/l	0.01
Spiked Amount 5.000				Recovery = 1998.20%	
35) 2-Fluorobiphenyl	11.863	172	5324710	105.30 ug/l	0.00
Spiked Amount 5.000				Recovery = 2106.00%	
58) p-Terphenyl	15.634	230	7323031	98.02 ug/l	0.00
Spiked Amount 5.000				Recovery = 1960.40%	
Target Compounds					Qvalue
3) Dichlorvos	11.056	109	659999	22.8889 ug/l #	74
4) Hexamethylphosphoramide	11.377	44	274535	20.8365 ug/l #	66
5) EPTC	11.746	43	519722	23.6383 ug/l #	72
6) Butylate	12.141	57	405952	24.9782 ug/l	93
7) Vernolate	12.238	43	657858	24.8780 ug/l #	72
8) Mevinphos	12.104	127	494420	24.8341 ug/l #	82
9) Pebulate	12.318	57	500310	24.6667 ug/l #	74
10) Molinate	12.794	126	453548	25.4538 ug/l #	89
11) Tebuthiuiron	12.543	156	506720m	19.3512 ug/l	
12) TEPP	12.789	161	52947	97.1675 ug/l	91
13) Thionazin	13.045	97	192496	31.1385 ug/l #	72
14) Demeton-O	13.072	60	52614	16.1286 ug/l #	1
15) Cycloate	13.238	154	348001	23.2348 ug/l #	86
16) Naled	13.329	109	33895	12.6237 ug/l #	96
17) Ethoprophos	13.200	97	148108	24.9689 ug/l #	47
18) Dicrotophos	13.307	127	61904	17.6101 ug/l #	81
19) Sulfotep	13.350	97	204998	26.7946 ug/l	80
20) Monocrotophos	13.366	127	327323	27.8936 ug/l #	84
21) Phorate	13.495	75	428986	23.2465 ug/l #	92
22) Demeton-S	13.623	88	173373	14.2447 ug/l #	20
23) Diphenamid	14.880	72	5245	0.1620 ug/l #	1
24) Dimethoate	13.655	125	181800	28.4486 ug/l #	12
25) Simazine	13.693	201	244323	39.5558 ug/l	79
26) Atrazine	13.725	200	332174	26.3284 ug/l	93
27) Dioxathion degradation...	13.826	97	57008	11.6043 ug/l	95
28) Terbufos	13.864	57	411340	21.2487 ug/l #	81
29) Diazinone	13.869	137	208981	25.2599 ug/l	92
30) Fonofos	13.928	109	655168	26.4896 ug/l #	70
31) Disulfoton	14.008	61	90775	20.4783 ug/l #	1
32) Phosphamidon	14.227	127	224609	23.3115 ug/l #	75
33) Dichlofenthion	14.270	223	238925	18.5323 ug/l	92
36) chlorpyifos methyl	14.340	286	288639	25.2139 ug/l	96
37) Methyl parathion	14.383	109	235254	25.8399 ug/l #	7
38) Ronnel	14.484	285	359467	9.0454 ug/l	84
39) Malathion	14.612	125	279449	25.7248 ug/l #	80
40) Fenitrothion	14.580	125	246648	26.1977 ug/l	94
41) Aspon	14.618	211	487275	24.4794 ug/l	94
42) Chlorpyrifos	14.714	197	211314	26.0577 ug/l	91
43) Fenthion	14.746	278	341261	22.2536 ug/l #	71
44) Parathion	14.773	97	180414	25.9385 ug/l #	70

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
Misc :
ALS Vial : 22 Sample Multiplier: 33.333

Quant Time: Nov 16 15:02:10 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

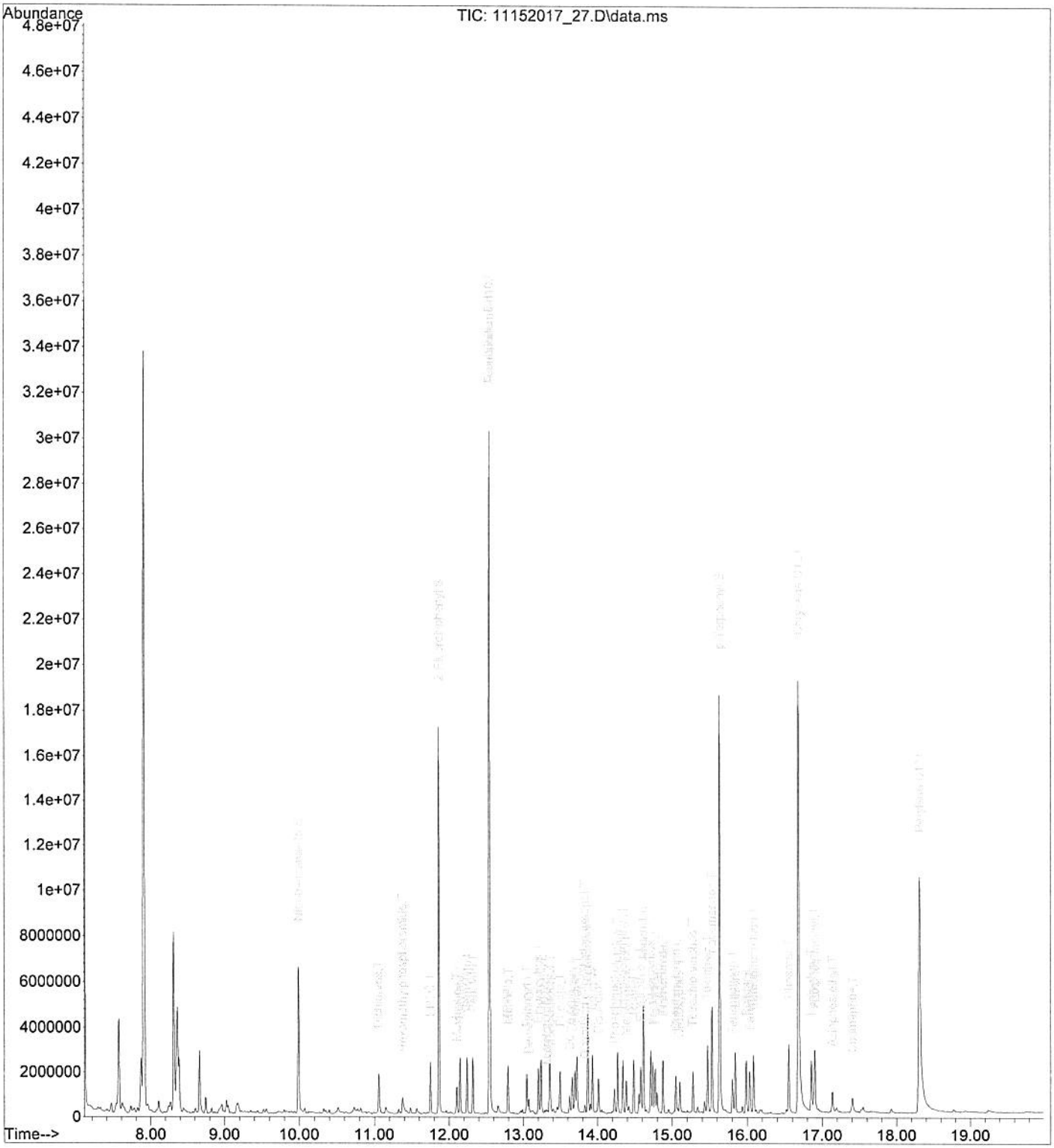
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	13796m	6.6233	ug/l		
46) Trichloronate	14.875	109	390648	27.8018	ug/l	#	82
47) Chlorfenvinphos	15.051	267	192220	17.2921	ug/l	#	80
48) Triademephon	15.532	57	597621	146.5806	ug/l	#	64
49) Crotoxyphos	15.099	105	225318	29.8357	ug/l	#	43
50) Tetrachlorvinphos	15.276	109	311598	41.1271	ug/l	#	80
51) Tokuthion	15.474	113	155102	23.4048	ug/l	#	49
52) Fensulfothion	15.805	292	114971	29.5215	ug/l	#	76
53) Ethion	15.837	97	357278	26.8603	ug/l		80
54) EPN	16.083	157	328742	26.4667	ug/l	#	16
55) Famphur	16.035	218	526787	28.1645	ug/l	#	79
56) Carbophenothion	16.083	157	328742	26.4667	ug/l		93
59) Phosmet	16.554	160	790510	26.6390	ug/l	#	75
60) Bolstar	15.987	140	226415	22.1248	ug/l	#	79
61) Leptophos	16.854	171	427442	7.8709	ug/l	#	75
62) Azinphos-methyl	16.896	77	268257m	18.7128	ug/l		
63) TOCPP	16.902	165	340021	21.9140	ug/l		94
64) Azinphos-ethyl	17.137	132	212356	26.5163	ug/l		89
65) Coumaphos	17.404	97	83521	36.3641	ug/l	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
Misc :
ALS Vial : 22 Sample Multiplier: 33.333

Quant Time: Nov 16 15:02:10 2017
Quant Method : C:\msdchem\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
isc :
ALS Vial : 22 Sample Multiplier: 33.333

Quant Time: Nov 16 11:07:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Acenaphthene-d10	12.543	164	7497060	5.00	ug/l	#	0.00
34) Chrysene-D12	16.682	240	10995161	5.00	ug/l	#	0.00
57) Perylene-D12	18.308	264	9301645	5.00	ug/l		0.00
System Monitoring Compounds							
2) Nitrobenzene-D5	9.991	54	1198099	99.91	ug/l		0.01
Spiked Amount 5.000			Recovery	= 1998.20%			
35) 2-Fluorobiphenyl	11.863	172	5324710	112.46	ug/l		0.00
Spiked Amount 5.000			Recovery	= 2249.20%			
58) p-Terphenyl	15.634	230	7323031	98.02	ug/l		0.00
Spiked Amount 5.000			Recovery	= 1960.40%			
Target Compounds							Qvalue
3) Dichlorvos	11.056	109	659999	22.8889	ug/l	#	74
4) Hexamethylphosphoramide	11.377	44	274535	41.6730	ug/l	#	66
5) EPTC	11.746	43	519722	23.6383	ug/l	#	72
6) Butylate	12.141	57	405952	24.9782	ug/l		93
7) Vernolate	12.238	43	657858	24.8780	ug/l	#	72
8) Mevinphos	12.104	127	494420	24.8341	ug/l	#	82
9) Pebulate	12.318	57	500310	24.6667	ug/l	#	74
10) Molinate	12.794	126	453548	25.4538	ug/l	#	89
11) Tebuthiuiron	12.543	156	371144	14.1737	ug/l	#	84
12) TEPP	12.789	161	52947	97.1675	ug/l		91
13) Thionazin	13.045	97	192496	31.1385	ug/l	#	72
14) Demeton-O	13.072	60	52614	16.1286	ug/l	#	1
15) Cycloate	13.238	154	348001	23.2348	ug/l	#	86
16) Naled	13.329	109	33895	12.6237	ug/l	#	96
17) Ethoprophos	13.200	97	148108	24.9689	ug/l	#	47
18) Dicrotophos	13.307	127	61904	17.6101	ug/l	#	81
19) Sulfotep	13.350	97	204998	26.7946	ug/l		80
20) Monocrotophos	13.366	127	327323	27.8936	ug/l	#	84
21) Phorate	13.495	75	428986	23.2465	ug/l	#	92
22) Demeton-S	13.623	88	173373	14.2447	ug/l	#	20
23) Diphenamid	14.880	72	5245	0.1620	ug/l	#	1
24) Dimethoate	13.655	125	181800	28.4486	ug/l	#	12
25) Simazine	13.693	201	244323	39.5558	ug/l		79
26) Atrazine	13.725	200	332174	26.3284	ug/l		93
27) Dioxathion degradation...	13.826	97	57008	11.6043	ug/l		95
28) Terbufos	13.864	57	411340	21.2487	ug/l	#	81
29) Diazinone	13.869	137	208981	25.2599	ug/l		92
30) Fonofos	13.928	109	655168	26.4896	ug/l	#	70
31) Disulfoton	14.008	61	90775	20.4783	ug/l	#	1
32) Phosphamidon	14.227	127	224609	23.3115	ug/l	#	75
33) Dichlofenthion	14.270	223	238925	18.5323	ug/l		92
36) chlorpyifos methyl	14.340	286	288639	25.2139	ug/l		96
37) Methyl parathion	14.383	109	235254	12.1131	ug/l	#	7
38) Ronnel	14.484	285	359467	9.0454	ug/l		84
39) Malathion	14.612	125	279449	25.7248	ug/l	#	80
40) Fenitrothion	14.580	125	246648	26.1977	ug/l		94
41) Aspon	14.618	211	487275	24.4794	ug/l		94
42) Chlorpyrifos	14.714	197	211314	26.0577	ug/l		91
43) Fenthion	14.746	278	341261	22.2536	ug/l	#	71
44) Parathion	14.773	97	180414	25.9385	ug/l	#	70

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
Misc :
ALS Vial : 22 Sample Multiplier: 33.333

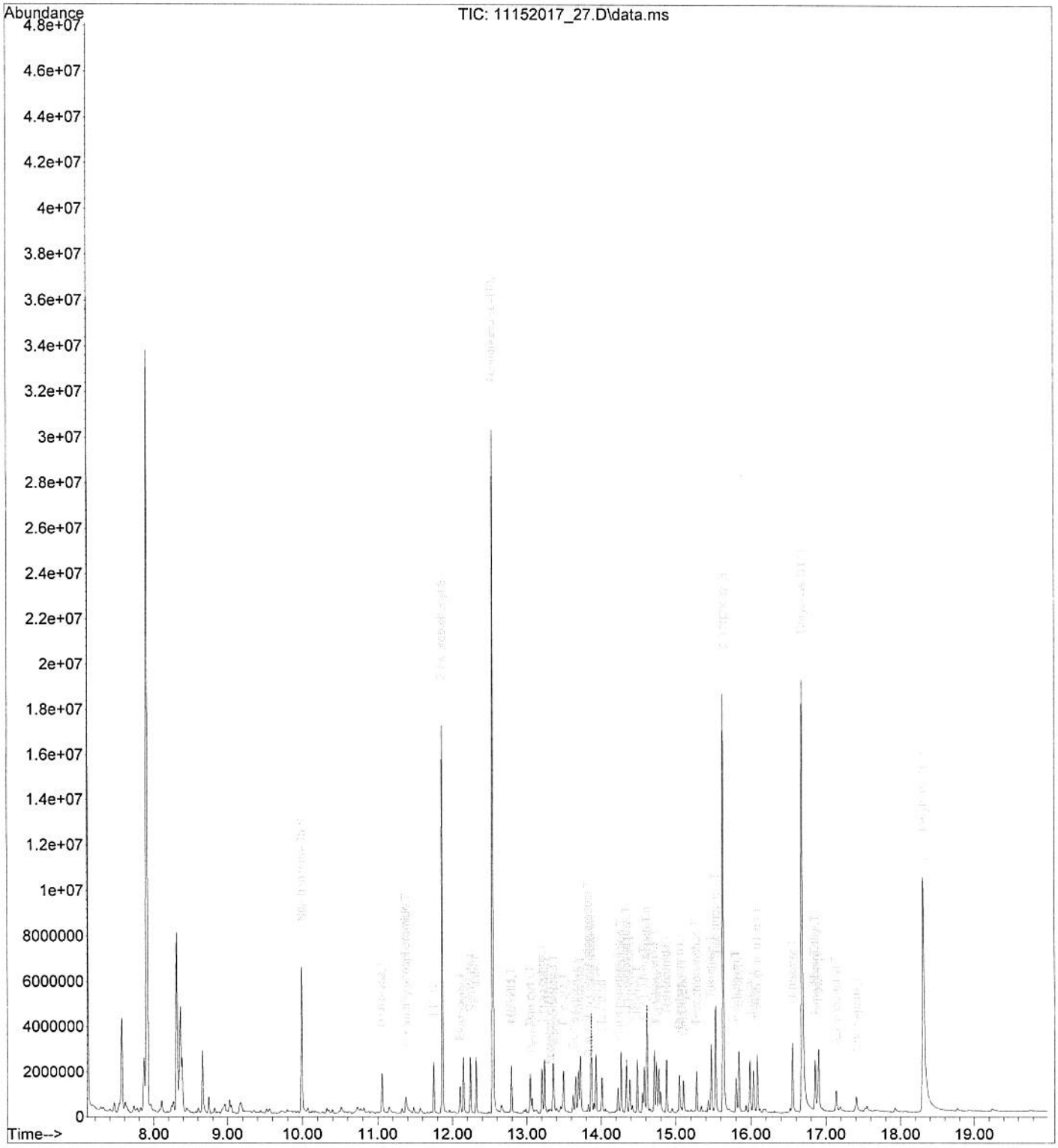
Quant Time: Nov 16 11:07:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
45) Merphos	15.051	209	6622	5.6292	ug/l	#	61
46) Trichloronate	14.875	109	390648	27.8018	ug/l	#	82
47) Chlorfenvinphos	15.051	267	192220	17.2921	ug/l	#	80
48) Triademephon	15.532	57	597621	146.5806	ug/l	#	64
49) Crotoxyphos	15.099	105	225318	29.8357	ug/l	#	43
50) Tetrachlorvinphos	15.276	109	311598	41.1271	ug/l	#	80
51) Tokuthion	15.474	113	155102	23.4048	ug/l	#	49
52) Fensulfothion	15.805	292	114971	29.5215	ug/l	#	76
53) Ethion	15.837	97	357278	26.8603	ug/l		80
54) EPN	16.083	157	328742	26.4667	ug/l	#	16
55) Famphur	16.035	218	526787	28.1645	ug/l	#	79
56) Carbophenothion	16.083	157	328742	26.4667	ug/l		93
59) Phosmet	16.554	160	790510	19.6180	ug/l	#	75
60) Bolstar	15.987	140	226415	22.1248	ug/l	#	79
61) Leptophos	16.854	171	427442	7.8709	ug/l	#	75
62) Azinphos-methyl	16.854	77	144117	13.8680	ug/l	#	86
63) TOCPP	16.902	165	340021	21.9140	ug/l		94
64) Azinphos-ethyl	17.137	132	212356	26.5163	ug/l		89
65) Coumaphos	17.404	97	83521	36.3641	ug/l	#	77

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\MSDCHEM\1\DATA\11152017\
Data File : 11152017_27.D
Acq On : 16 Nov 2017 10:54 am
Operator : YE
Sample : OPP IDOCS-04
Misc :
ALS Vial : 22 Sample Multiplier: 33.333

Quant Time: Nov 16 11:07:43 2017
Quant Method : C:\MSDCHEM\1\METHODS\COPP11132017.M
Quant Title : OPP BY GC/MS(8270D) BRAVO GC/MS-1
QLast Update : Tue Nov 14 16:16:02 2017
Response via : Initial Calibration



Soil Extraction Log

Method # OPP 1827D

Extraction Method_ 3550

	Std. ID	Amt. Added	Initials
Surrogate	1700620	1ml	EP.
Spike	1700696	0.5ml	EP
Internal Std.			

Batch#: N/A
Analyst: AC + YE
Date: 11-15-17
Transferred to vials by: EP / MR.

Initial Solvent: DCM
Final Solvent: DCM

Log #	Sample Description	Sample Date	Weight Extracted (g)	Final Vol	Clean up method	Comments
	MB	11-15-17	30.00.			
	LCS -	"	"			
	MS -	"	"			
	MSD -	"	"			
IDOC #1	IQ-Opp-060116	11-15-17	30.00.			
IDOC #2	IQ-OPP-060116	11-15-17	30.00			
IDOC #3	IQ-OPP-060116	11-15-17	30.00			
IDOC #4	IQ-OPP-060116	11-15-17	30.00			
CDOC #1	IQ-OPP-060116	11-15-17	30.00			
CDOC #2	IQ-OPP-060116	11-15-17	30.00			
CDOC #3	IQ-OPP-060116	11-15-17	30.00			
CDOC #4	IQ-OPP-060116	11-15-17	30.00			
MDL 1	SK IQOPP-060116.(200ul)	11-16-17	30.00			Prepared 11-16-17 (1700696-SK)
MDL 2	SK IQOPP-060116(200ul)	11-16-17	30.00			
MDL 3	SK IQOPP-060116(200ul)	11-16-17	30.00			
MDL 4		11-16-17	30.00			
MDL 5		11-16-17	30.00			
MDL 6		11-16-17	30.00			
MDL 7		11-16-17	30.00			
MDL 8		11-16-17	30.00			

Balance ID	SV24	Sonicator
Cal. Date	11-15-17 11-16-17	1,2

Item	Lot #
Filter Paper:	465
Sodium Sulfate:	466
Sodium Sulfate Acidified:	
Silica Gel:	
Hydrochloric Acid:	
KOH 37%	
Sililic Acid:	
Sulfuric Acid 12N:	
Ethyl Ether	
Blank Sand	488
(specify size) pipette:	
Hexane	
Tongue depressor	471
Pasteur pipette:	442.
1.8 ml vials	492
1.8 mL vial caps:	480.
20 mL vials:	
MTBE	
Diazomethane:	
Iso-Octane:	
Methanol:	
Hexane/Acetone 1:1:	
DCM/Acetone 1:1:	
Cu:	
DCM:	475/62

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700620

Description:	SU-PAH-101817	Expires:	10/17/2020
Standard Type:	Surrogate Spike	Prepared:	10/18/2017
Solvent:	ACETONE/SV485	Prepared By:	Albert Castellanos
Final Volume (mls):	250	Department:	SVOCGCMS
Vials:	1	Last Edit:	10/18/2017 13:58 by MLR
Vendor:	FSES	Lot Number:	NA

Analyte	CAS Number	Concentration	Units
p-Terphenyl	92-94-4	5	ug/mL
Nitrobenzene-d5	NA	5	ug/mL
2-Fluorobiphenyl	321-60-8	5	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700619	ISU-PAH-101817	10/18/201	Albert Castellanos	10/17/202	10/18/2017 10:52 by AC	2.5

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700696

Description:	IQ-OPP-060116-M	Expires:	2/28/2019
Standard Type:	Analyte Spike	Prepared:	6/1/2016
Solvent:	ACETONE/SV-329	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGCMS
Vials:	1	Last Edit:	12/14/2017 15:49 by ROL
Vendor:	FSES	Lot Number:	NA

Analyte	CAS Number	Concentration	Units
Demeton-O	298-03-3	1	ug/mL
Aspon	3244-90-4	2	ug/mL
Famphur	52-85-7	2	ug/mL
Ethoprop	13194-48-4	2	ug/mL
Ethion	563-12-2	2	ug/mL
EPTC	759-94-4	2	ug/mL
EPN	2104-64-5	2	ug/mL
Disulfoton	298-04-4	2	ug/mL
Dioxathion	78-34-2	2	ug/mL
Dimethoate	60-51-5	2	ug/mL
Dicrotophos	141-66-2	2	ug/mL
Dichlorvos	62-73-7	2	ug/mL
Dichlorofenthion	97-17-6	2	ug/mL
Fensulfothion	115-90-2	2	ug/mL
Demeton-S	126-75-0	1.34	ug/mL
Fenthion	55-38-9	2	ug/mL
Cycloate	NA	2	ug/mL
Crotoxyphos	7700-17-6	2	ug/mL
Coumaphos	56-72-4	2	ug/mL
Chlorpyrifos methyl	5598-13-0	2	ug/mL
Chlorpyrifos	2921-88-2	2	ug/mL
Chlorfenvinphos	470-90-6	2	ug/mL
Carbophenothion	786-19-6	2	ug/mL
Butylate	NA	2	ug/mL
Bolstar	35400-43-2	2	ug/mL
Azinphos-Ethyl	2642-71-9	2	ug/mL
Azinphos methyl	86-50-0	2	ug/mL
Atrazine	1912-24-9	2	ug/mL
Diazinon	333-41-5	2	ug/mL
Phorate	298-02-2	2	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700696

Trichloronate	327-98-0	2	ug/mL
Triademefon	43121-43-3	1	ug/mL
Tri-o-cresylphosphate	78-30-8	2	ug/mL
Tokuthion (Prothiofos)	34643-46-4	2	ug/mL
Thionazin	297-97-2	2	ug/mL
Terbufos	13071-79-9	2	ug/mL
TEPP	107-49-3	10	ug/mL
Tebuthiuron	34014-18-1	1	ug/mL
Sulfotep	3689-24-5	2	ug/mL
Stirophos	961-11-5	2	ug/mL
Simazine	122-34-9	2	ug/mL
Ronnel	299-84-3	2	ug/mL
Fenitrothion	122-14-5	2	ug/mL
Phosmet	732-11-6	2	ug/mL
Vernolate	1929-77-7	2	ug/mL
Pebulate	1114-71-2	2	ug/mL
Parathion-methyl	298-00-0	2	ug/mL
Parathion-ethyl	56-38-2	2	ug/mL
Naled	300-76-5	2	ug/mL
Monocrotophos	6923-22-4	2	ug/mL
Molinate	2212-67-1	2	ug/mL
Mevinphos	7786-34-7	2	ug/mL
Merphos	150-50-5	5.67	ug/mL
Malathion	121-75-5	2	ug/mL
Leptophos	21609-90-5	2	ug/mL
Hexamethylphosphoramide	680-31-9	2	ug/mL
Fonophos	944-22-9	2	ug/mL
Phosphamidon	13171-21-6	2	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700696

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700685	8140 OPP MIX	06/01/201	Albert Castellanos	11/01/201	11/14/2017 11:58 by AC	1
1700687	8141 OPP MIX	06/01/201	Albert Castellanos	08/01/201	11/14/2017 12:01 by AC	1
1700688	8141A OPP MIC-A	06/01/201	Albert Castellanos	05/01/201	11/14/2017 12:05 by AC	1
1700689	8141A OPP MIX-B	06/01/201	Albert Castellanos	11/01/201	11/14/2017 12:08 by AC	1
1700690	INDUSTRIAL CHEM-MIX	06/01/201	Albert Castellanos	11/01/201	11/14/2017 12:11 by AC	1
1700691	8141A TRIAZINE-MIX	06/01/201	Albert Castellanos	11/01/201	11/14/2017 12:15 by AC	1
1700692	TRIADIMEFON SOLUTION	06/01/201	Albert Castellanos	10/31/201	11/14/2017 12:19 by AC	1
1700693	DEMETON-O SOLUTION	06/30/201	Albert Castellanos	12/31/201	11/14/2017 12:21 by AC	0.34
1700694	TEBUTHIURON SOLUTION	06/01/201	Albert Castellanos	02/28/201	11/14/2017 12:24 by AC	1
1700695	THIOCARBAMATE PEST MIX-5	06/01/201	Albert Castellanos	12/31/201	11/14/2017 12:29 by AC	0.2
1700699	OPP XTRA	06/01/201	Albert Castellanos	06/01/201	12/14/2017 15:49 by ROL	0.2

Reviewed By Date

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	Estela Martinez	11/10/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8082 / 3550	☐ Water ☐ DW ☒ ~~Solid~~ ☐ Other: _____	8082 - 0201416-018 3550 - 0201416-005
Analyte or Class of Analytes		
PCBs		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet / ESTELA *Analyst*	*Signature*	11/8/17 *Date*
Albert Castellanos *Technical Director*	*Signature*	11/8/17 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	11/10/17 *Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	10/7/2017
ANALYZED BY:	Yanet Echevarria
METHOD NUMBER:	EPA 8082
EXTRACTION METHOD (IF APPLY):	EPA 3550
INSTRUMENT ID:	Monica GC#1
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	10/5/2017
ACCEPTANCE CRITERIA:	Various

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
Standard(s)	SK-8082-080717	10 ppm
Surrogate	SU-Pesticides-092017	1 ppm
Internal Standard	IS-PEST-051217	10 ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD	Acceptance Criteria (%)
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg				
Arochlor-1016	166.66	150.22	185.91	158.28	149.05	160.86	10.69	96.52	17.19	13-139
Arochlor-1221	166.66	158.39	203.00	199.00	148.00	177.10	15.79	106.26	27.97	13-177
Arochlor-1232	166.66	158.36	233.18	234.00	180.00	201.38	18.98	120.84	38.22	10-148
Arochlor-1242	166.66	150.22	185.91	158.28	167.66	165.52	9.27	99.31	15.35	18-114
Arochlor-1248	166.66	110.00	187.01	204.00	163.00	166.00	24.67	99.61	40.95	25-130
Arochlor-1254	166.66	138.30	145.13	118.93	156.07	139.61	11.18	83.77	15.61	55-145
Arochlor-1260	166.66	171.72	173.10	147.76	160.96	163.39	7.19	98.04	11.75	20-119

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061754.D\ECD1A.CH Vial: 53
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061754.D\ECD2B.CH
Acq On : 7 Oct 2017 4:57 pm Operator: YE
Sample : 8082S IDOC-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 11:34:09 2017 Quant Results File: 8082092517.RES

Quant Method : F:\MSDCHEM\2\METHODS\8082092517.M (Chemstation Integrator)
Title : EPA 8082 BY MONICA GC# 1
Last Update : Wed Sep 27 12:25:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.12	14044073	6674181	0.100m	0.100m
	System Monitoring Compounds						
2) s	TMX SURR	9.76	9.92	17095226	9047816	23.391	20.101
	Spiked Amount 0.200			Recovery	=	11695.50%	10050.50%
15) S	DCB-surr	22.92	23.67	6449518	3720530	13.895	13.482
	Spiked Amount 0.200			Recovery	=	6947.50%	6741.00%
	Target Compounds						
3)	16/21/32/42-A	10.90	11.43	2146639	1383717	208.210m	158.388m
4)	16/21/32/42-B	11.89	12.55	4877593	3209159	123.874m	134.305m
5)	16/32/42/48-C	13.18	13.77	8227779	6011181	150.927m	157.958m
6)	16/42/48-D	13.54	14.12	4907762	2342871	312.853m	153.643m#
7)	16/42/48-E	13.68	14.39	3273072	1766202	216.993m	159.416m#
8)	16/42/48/54-F	14.00	14.65	5110566	1399386	110.450m	49.872m#
9)	54/60-A	15.52	16.37	2395697	1589487	-131.504m	130.250m
10)	54/60-B	16.19	16.86	2827724	1397416	^145.098m	118.971m
11)	54/60-C	17.60	18.51	6547558	3955798	154.042m	143.629m
12)	54/60-D	18.32	19.12	11455713	4014691	161.304m	144.070m
13)	54/60-E	20.62	21.26	13750078	5257604	179.310m	145.301m
14)	1260-F	21.16	21.89	12852030	5150400	174.546m	151.899m

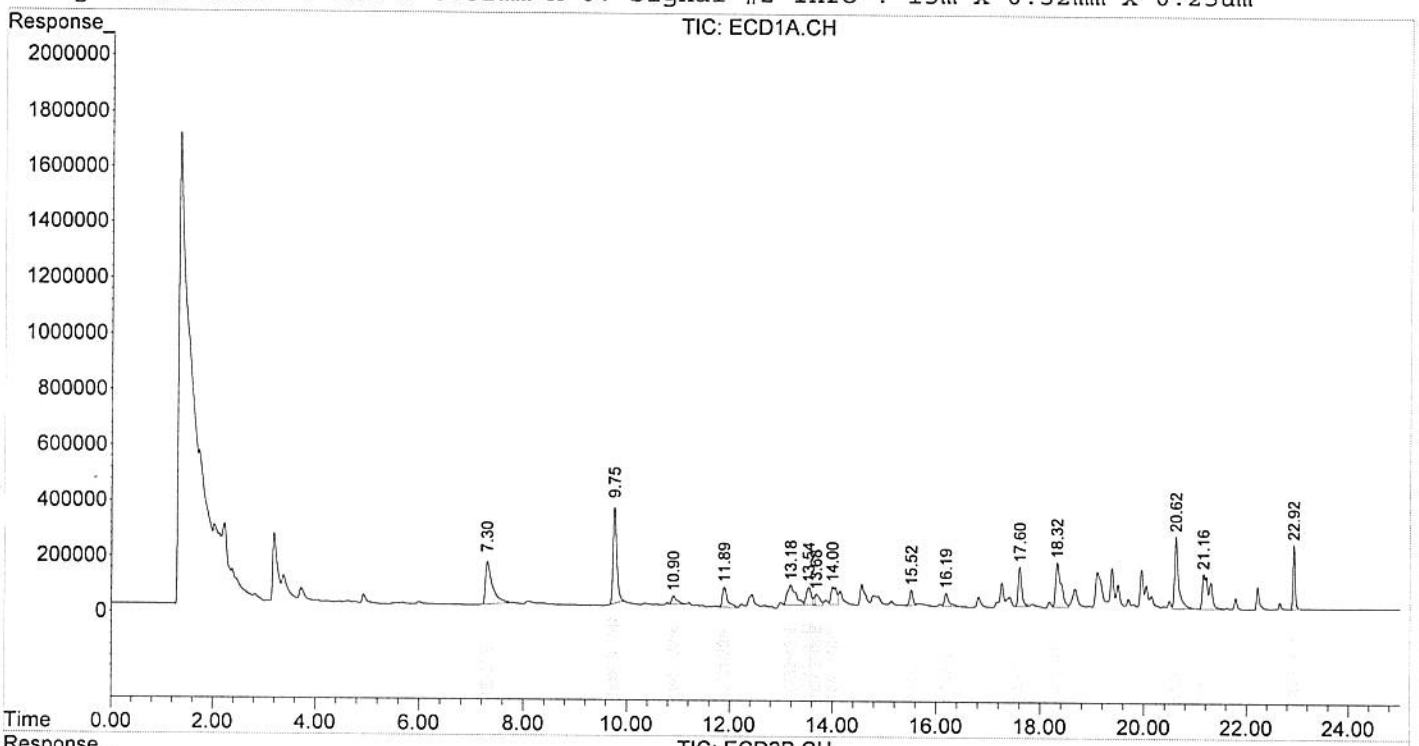
1016 → Average — 158.388 / 134.305 / 157.958 + ÷ 3 = 150.217.
1232 → 158.388
1221 → 158.388
1242 → Average — 158.388 / 134.305 / 157.958 ÷ 3 = 150.217
1248 → 110.
1254 → Average 9+10 = 131.504 / 145.098 + ÷ 2 = 138.301
1260 → Average 12/13/14 — 161.304 / 179.310 / 174.546 + ÷ 3 = 171.72
Total — 1037.231.

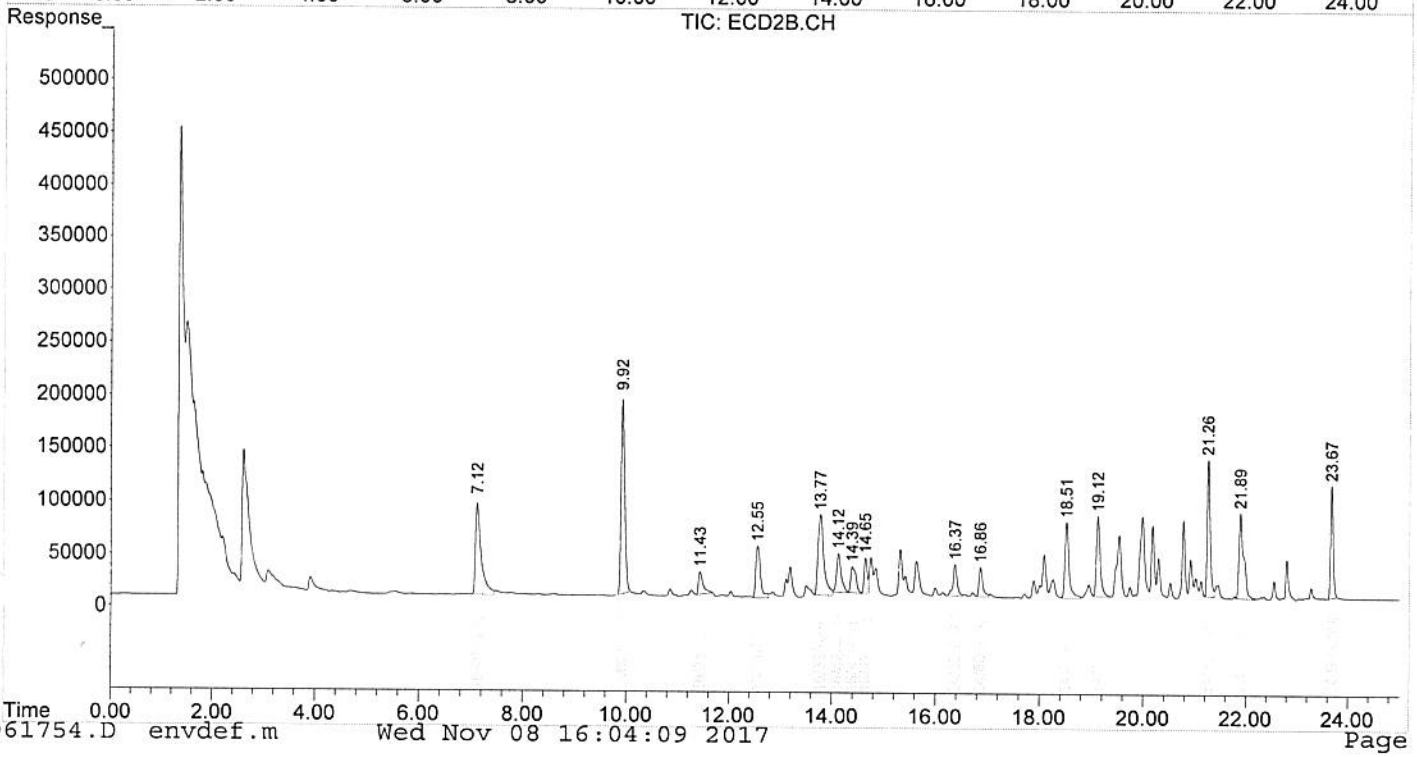
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
10061754.D envdef.m Wed Nov 08 16:04:09 2017

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061754.D\ECD1A.CH Vial: 53
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061754.D\ECD2B.CH
Acq On : 7 Oct 2017 4:57 pm Operator: YE
Sample : 8082S IDOC-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:36 2017 Quant Results File: 8082092517.RES

Quant Method : F:\MSDCHEM\2\METHODS\8082092517.M (Chemstation Integrator)
Title : EPA 8082 BY MONICA GC# 1
Last Update : Wed Sep 27 12:25:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061755.D\ECD1A.CH Vial: 54
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061755.D\ECD2B.CH
Acq On : 7 Oct 2017 5:27 pm Operator: YE
Sample : 8082S IDOC-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 11:37:41 2017 Quant Results File: 8082092517.RES

Quant Method : F:\MSDCHEM\2\METHODS\8082092517.M (Chemstation Integrator)
Title : EPA 8082 BY MONICA GC# 1
Last Update : Wed Sep 27 12:25:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.12	14354361	6285169	0.100m	0.100m
	System Monitoring Compounds						
2) s	TMX SURR	9.76	9.92	17819472	9391237	23.855	22.155
	Spiked Amount 0.200			Recovery	= 11927.50%		11077.50%
15) S	DCB-surr	22.93	23.68	6504025	3798989	13.710	14.619
	Spiked Amount 0.200			Recovery	= 6855.00%		7309.50%
	Target Compounds						
3)	16/21/32/42-A	10.90	11.43	2133891	1918367	202.678m	233.178m
4)	16/21/32/42-B	11.89	12.55	5120685	3251582	127.236m	144.503m
5)	16/32/42/48-C	13.18	13.78	8321619	6452425	149.349m	180.047m
6)	16/42/48-D	13.54	14.12	3327876	2407337	207.555m	167.641m
7	16/42/48-E	13.68	14.39	3355942	1865805	217.678m	178.830m
8)	16/42/48/54-F	14.00	14.75	8844194	4280087	187.010m	161.978m
9)	54/60-A	15.52	16.37	2424096	1509859	130.187m	131.383m
10)	54/60-B	16.19	16.86	3188424	1522901	160.069m	137.679m
11)	54/60-C	17.60	18.51	7165725	4071721	164.942m	156.988m
12)	54/60-D	18.32	19.12	13080432	4527855	180.200m	172.542m
13)	54/60-E	20.62	21.26	13270455	5332456	169.315m	156.491m
14)	1260-F	21.16	21.89	12778376	5117537	169.794m	160.271m

1016 – Average 3,4,5 — 233.178 / 144.503 / 180.047 ÷ 3 = 185.91.

1201 – 203

1232 – 233.178.

1242 – Average 3,4,5 — 233.178 / 144.503 / 180.047 ÷ 3 = 185.91

1248 – 187.010.

1254 – Average 9 & 10. 130.187 / 160.069 ÷ 2 = 145.13.

1260 – Average 9,10,11 — 130.200 / 169.315 / 169.794 ÷ 3 = 173.103.

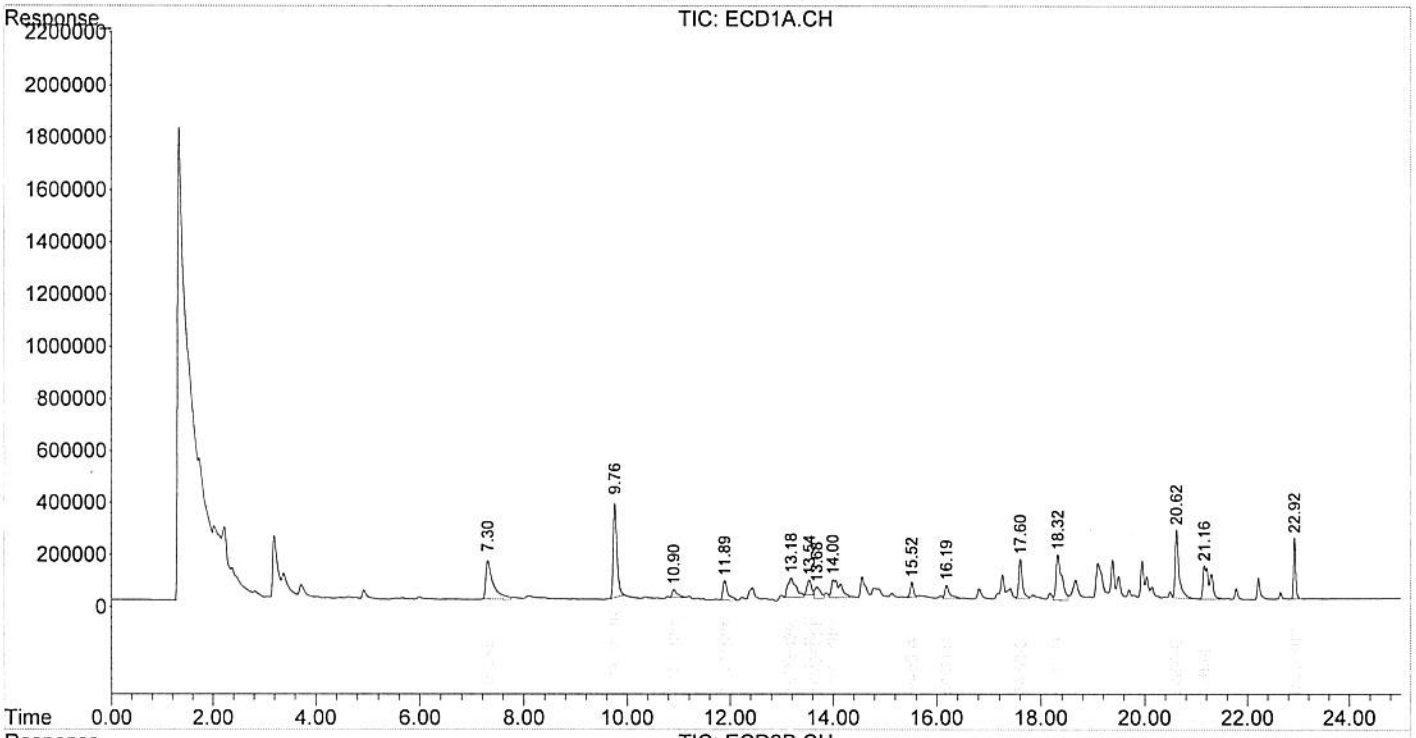
total = 1182.241.

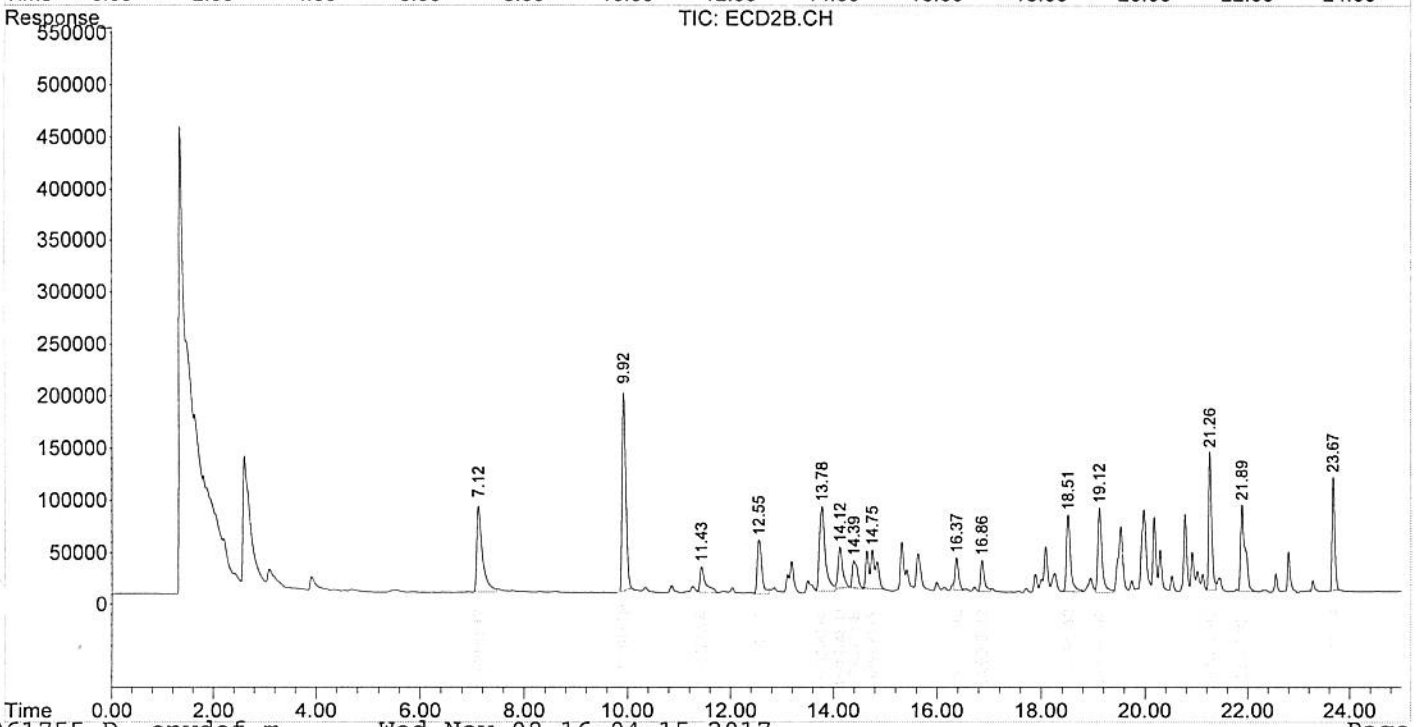
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
10061755.D envdef.m Wed Nov 08 16:04:15 2017 Page 1

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061755.D\ECD1A.CH Vial: 54
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061755.D\ECD2B.CH
Acq On : 7 Oct 2017 5:27 pm Operator: YE
Sample : 8082S IDOC-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:39 2017 Quant Results File: 8082092517.RES

Quant Method : F:\MSDCHEM\2\METHODS\8082092517.M (Chemstation Integrator)
Title : EPA 8082 BY MONICA GC# 1
Last Update : Wed Sep 27 12:25:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061756.D\ECD1A.CH Vial: 55
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061756.D\ECD2B.CH
Acq On : 7 Oct 2017 5:56 pm Operator: YE
Sample : 8082S IDOC-03 Inst : Monica
Misc Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 11:40:08 2017 Quant Results File: 8082092517.RES

Quant Method : F:\MSDCHEM\2\METHODS\8082092517.M (Chemstation Integrator)
Title : EPA 8082 BY MONICA GC# 1
Last Update : Wed Sep 27 12:25:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.12	16307210	7022159	0.100m	0.100m
	System Monitoring Compounds						
2) s	TMX SURR	9.76	9.92	16667621	8887964	19.641	18.767
	Spiked Amount 0.200			Recovery	= 9820.50%		9383.50%
15) S	DCB-surr	22.92	23.67	6096548	4020361	11.312	13.847m
	Spiked Amount 0.200			Recovery	= 5656.00%		6923.50%
	Target Compounds						
3)	16/21/32/42-A	10.90	11.43	2806934	1827295	233.652m	198.798m
4)	16/21/32/42-B	11.89	12.55	5119059	3089311	111.964m	122.883m
5)	16/32/42/48-C	13.19	13.78	8206292	6132272	129.642m	153.155m
6)	16/42/48-D	13.54	14.12	4388255	2723474	240.914m	169.751m#
7)	16/42/48-E	13.68	14.39	3458989	2033635	197.493m	174.459m
8)	16/42/48/54-F	13.99	14.75	10948240	4755375	203.777m	161.077m
9)	54/60-A	15.52	16.37	2465402	1472437	116.549m	114.679m
10)	54/60-B	16.19	16.86	2462169	1522286	108.806m	123.180m
11)	54/60-C	17.60	18.51	6892716	4038871	139.658m	139.379m
12)	54/60-D	18.33	19.12	11848629	4281004	143.683m	146.014m
13)	54/60-E	20.61	21.26	13692751	5339422	153.781m	140.250m
14)	1260-F	21.16	21.89	12468167	4829918	145.832m	135.388m

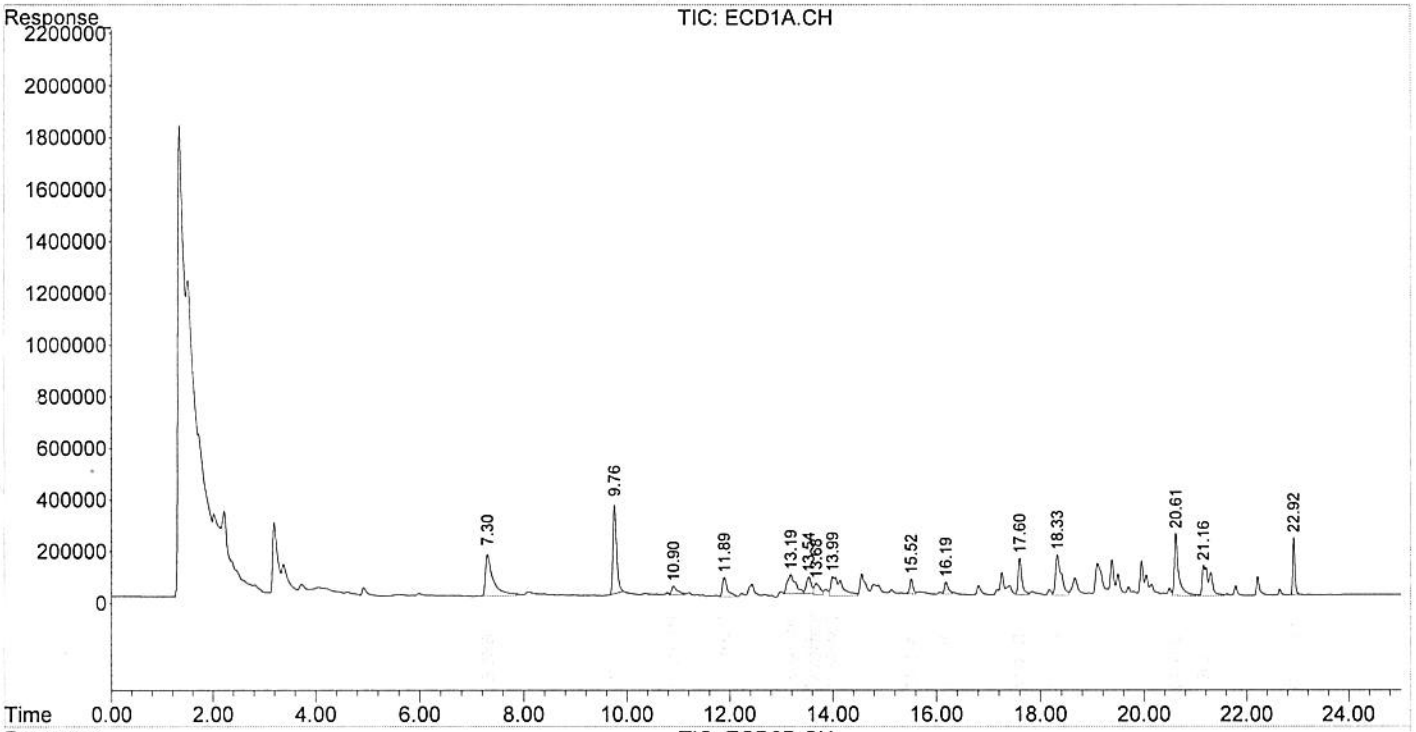
1016 _ Average. 345 158.798 / 153.155 ÷3 = 158.28
1221 - 198.798 ≈ 199
1232 _ 233.652 ≈ 234
1242 - Average 345 - 158.798 / 153.155 ÷3 = 153.28
1248 - 203.777 ≈ 204
1254 _ Average 9,10 114.679 / 123.180 ÷2 = 118.93.
1260 — Average 7,10,11 & 12,13,14 143.683 / 153.781 / 145.832 ÷3 = 147.76.
total = 1220.25.

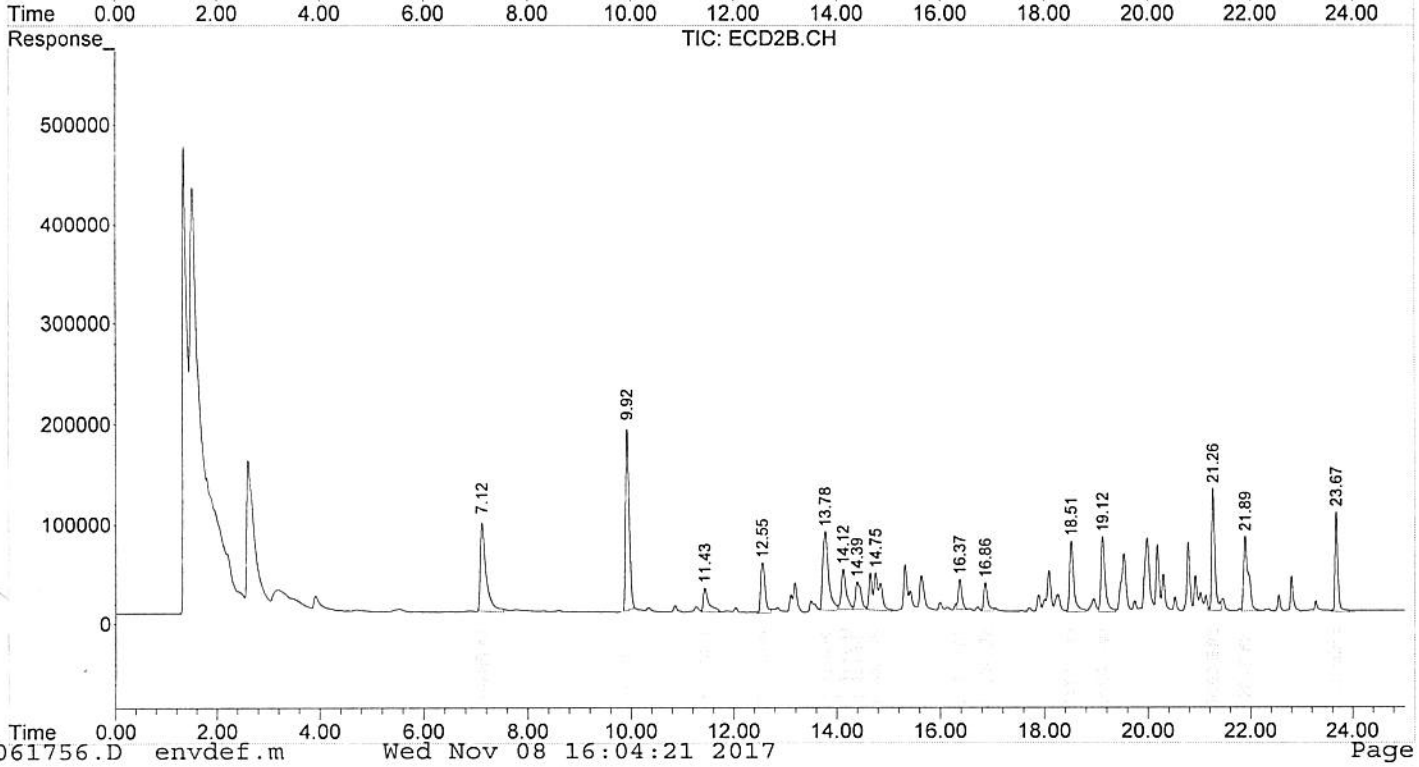
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
10061756.D envdef.m Wed Nov 08 16:04:20 2017

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061756.D\ECD1A.CH Vial: 55
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061756.D\ECD2B.CH
Acq On : 7 Oct 2017 5:56 pm Operator: YE
Sample : 8082S IDOC-03 Inst : Monica
Misc Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:41 2017 Quant Results File: 8082092517.RES

Quant Method : F:\MSDCHEM\2\METHODS\8082092517.M (Chemstation Integrator)
Title : EPA 8082 BY MONICA GC# 1
Last Update : Wed Sep 27 12:25:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061757.D\ECD1A.CH Vial: 56
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061757.D\ECD2B.CH
Acq On : 7 Oct 2017 6:26 pm Operator: YE
Sample : 8082S IDOC-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 11:42:20 2017 Quant Results File: 8082092517.RES

Quant Method : F:\MSDCHEM\2\METHODS\8082092517.M (Chemstation Integrator)
Title : EPA 8082 BY MONICA GC# 1
Last Update : Wed Sep 27 12:25:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.12	15319112	6788768	0.100m	0.100m
	System Monitoring Compounds						
2) s	TMX SURR	9.76	9.92	17380351	9224900	21.802	20.148
	Spiked Amount 0.200			Recovery	=	10901.00%	10074.00%
15) S	DCB-surr	22.93	23.68	6415285	3700393	12.671	13.183
	Spiked Amount 0.200			Recovery	=	6335.50%	6591.50%
	Target Compounds						
3)	16/21/32/42-A	10.90	11.43	2013298	1319231	179.934m	148.458m
4)	16/21/32/42-B	11.89	12.55	5142059	3190215	119.721m	131.259m
5)	16/32/42/48-C	13.18	13.78	8276346	6480941	139.182m	167.428m
6)	16/42/48-D	13.54	14.12	4556220	2732295	266.269m	176.156m#
7	16/42/48-E	13.68	14.39	2927128	1952694	177.906m	173.274m
8)	16/42/48/54-F	14.00	14.75	8220828	4382862	162.882m	153.563m
9)	54/60-A	15.52	16.37	2729975	1584415	137.381m	127.643m
10)	54/60-B	16.19	16.86	3714918	1517045	174.756m	126.976m#
11)	54/60-C	17.60	18.51	7916629	4259054	170.750m	152.030m
12)	54/60-D	18.32	19.12	13346573	4265435	172.287m	150.484m
13)	54/60-E	20.62	21.26	13654476	5609787	163.243m	152.417m
14)	1260-F	21.16	21.89	12790800	5063062	159.256m	146.803m

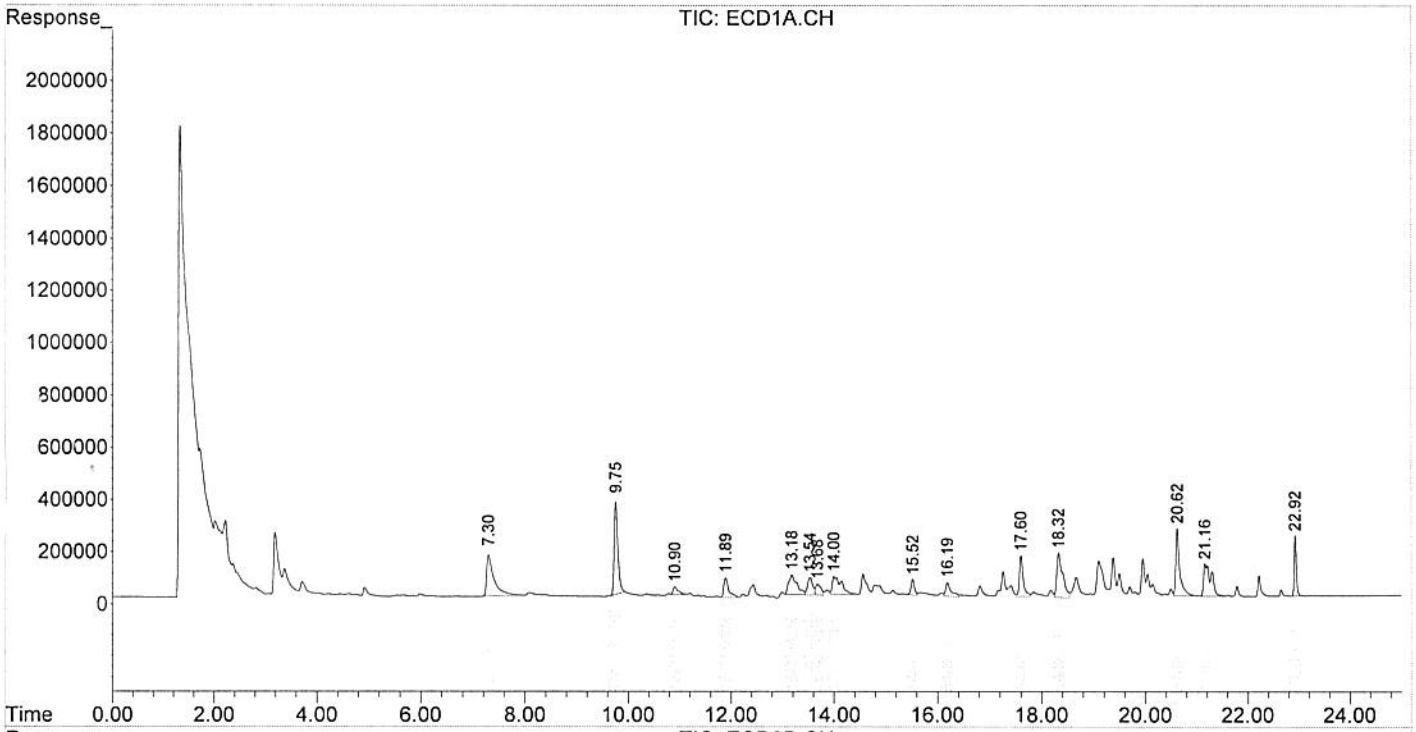
1016 — Average 3,4,5 148.458 / 131.259 / 167.428 +÷3 = 149.05
1021 — 148.458 ≈ 148
1032 — 179.933 ≈ 180
1242 — Average 345 or 678 176.156 / 173.274 / 153.563 +÷3 = 167.664 ≈ 166.
1248 — 162.883 ≈ 163.
1254 — Average 9+10 = 137.381 / 174.756 +÷2 = 156.07.
1260 — Average 9,10,11 — 137.381 / 174.756 / 170.750 +÷3 = 160.96.
total 989.08.

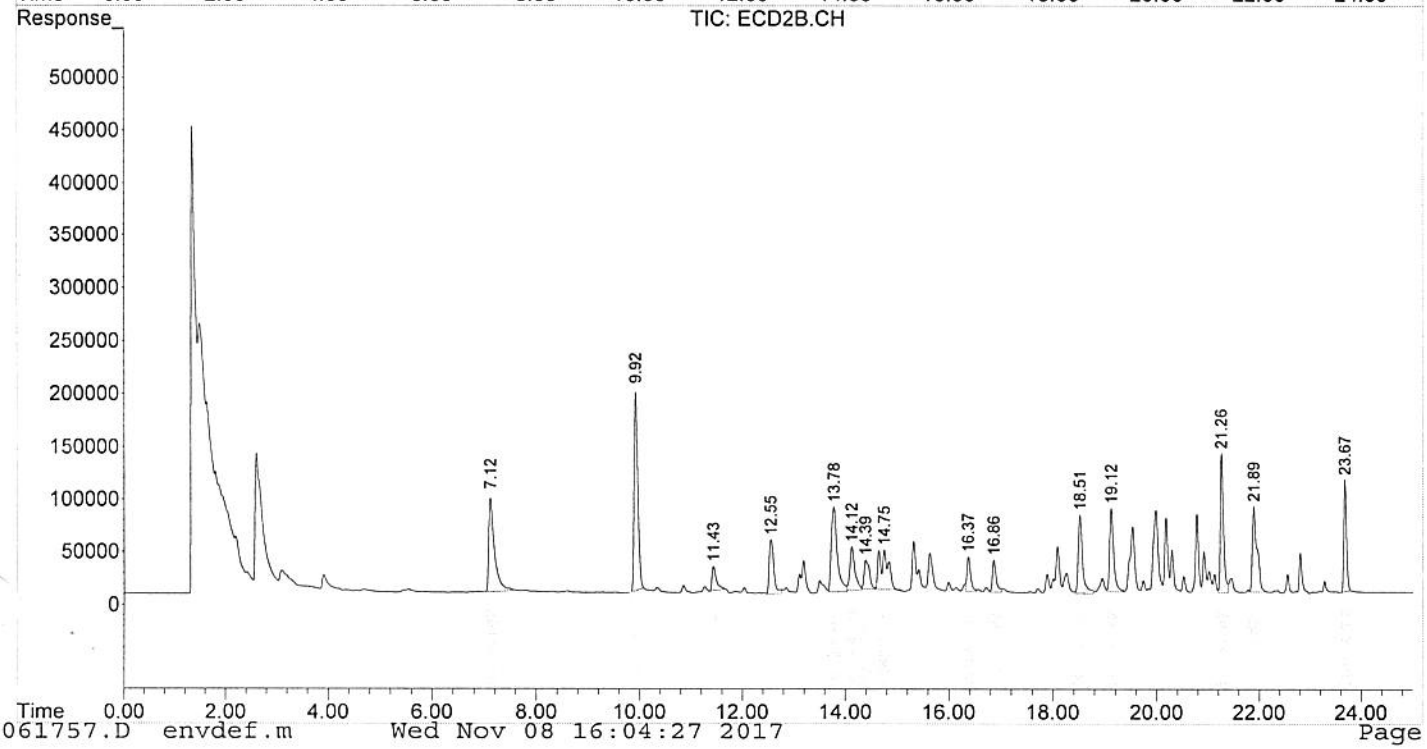
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
10061757.D envdef.m Wed Nov 08 16:04:27 2017 Page 1

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061757.D\ECD1A.CH Vial: 56
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061757.D\ECD2B.CH
Acq On : 7 Oct 2017 6:26 pm Operator: YE
Sample : 8082S IDOC-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:46 2017 Quant Results File: 8082092517.RES

Quant Method : F:\MSDCHEM\2\METHODS\8082092517.M (Chemstation Integrator)
Title : EPA 8082 BY MONICA GC# 1
Last Update : Wed Sep 27 12:25:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Soil E[illegible]action Log **Method #** 8082-PCBs/IDOC **Extraction Metho[illegible]3550**

	Std. ID	Amt. Added	Initials
Surrogate	1700532	1ml	EP
Spike	1700379	1ml	EP
Internal Std.			

Batch#: 17J0185
Analyst: AL + YE
Date: 10-05-17
Transferred to vials by: EP/MR

Initial Solvent: Hex/Acetone (1:1)
Final Solvent: Hexane

Log #	Sample Description	Sample Date	Weight Extracted (g)	Final Vol	Clean up method	Comments
17J0185	MB	10-05-17	30.02	5mL	Cu	
	LCS	10-05-17	30.03			
	MS 17J0146-01A	10-02-17	30.01			
	MSD	10-02-17	30.01			
17J0146-01A	17J0021-01	10-02-17	30.01			
	IDOC-1	10-05-17	30.03			
	IDOC-2	10-05-17	30.03			
	IDOC-3	10-05-17	30.03			
	IDOC-4	10-05-17	30.03			

Balance ID	SV24	Sonicator	
Cal. Date	10-05-17	Z	

Item	Lot #
Filter Paper:	465
Sodium Sulfate:	466
Sodium Sulfate Acidified:	
Silica Gel:	
Hydrochloric Acid:	
KOH 37%	
Sililic Acid:	
Sulfuric Acid 12N:	
Ethyl Ether	
Blank Sand	488
(specify size) pipette:	
Hexane	457
Tongue depressor	471
Pasteur pipette:	442
1.8 ml vials	482
1.8 mL vial caps:	463
20 mL vials:	458
MTBE	
Diazomethane:	
Iso-Octane:	
Methanol:	
Hexane/Acetone 1:1:	SV 9-18-17B
DCM/Acetone 1:1:	
Cu:	289
DCM:	

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700379

Description:	SK-8082-080717	Expires:	10/31/2020
Standard Type:	Analyte Spike	Prepared:	8/8/2017
Solvent:	ACETONE/MKBX4896V	Prepared By:	Albert Castellanos
Final Volume (mls):	100	Department:	SVOCGC
Vials:	1	Last Edit:	09/07/2017 11:52 by AC
Vendor:	FSES	Lot Number:	NA

Analyte	CAS Number	Concentration	Units
PCB-1260	11096-82-5	10.02	ug/mL
PCB-1016	12674-11-2	10.11	ug/mL
Aroclor-1260	11096-82-5	10.02	ug/mL
Aroclor-1016	12674-11-2	10.11	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700378	IQ-8082-072517	07/25/201	Albert Castellanos	10/31/202	09/07/2017 11:52 by AC	20

Reviewed By _____ Date _____

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1700532

Description:	SU-PESTICIDES-092017	Expires:	9/15/2018
Standard Type:	Surrogate Spike	Prepared:	9/20/2017
Solvent:	ACETONE/MXBK4896V	Prepared By:	Albert Castellanos
Final Volume (mls):	250	Department:	SVOCGC
Vials:	1	Last Edit:	12/19/2017 11:12 by MLR
Vendor:	FSES	Lot Number:	NA

Analyte	CAS Number	Concentration	Units
Decachlorobiphenyl	2051-24-3	1	ug/mL
2,4,5,6 Tetrachloro-m-xylene		1	ug/mL

Parent Standards used in this standard

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1700531	ISU-PEST-092017	09/20/201	Albert Castellanos	09/19/202	09/20/2017 14:34 by AC	2.5

Reviewed By _____ Date _____

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Yanet Echevarria	ESTELA Martinez	10/13/17
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8081 / 3550	☐ Water ☐ DW ☑ Solid ☐ Other: _____	8081 - 0201416-017 3550 - 0201416-005
Analyte or Class of Analytes		
Pesticides		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Yanet Echevarria / ESTELA MARTINEZ	Yanet / Estela	10/13/17
Analyst	*Signature*	*Date*
Albert Castellanos	Albert Castellanos	10/13/17
Technical Director	*Signature*	*Date*
Roxana Llambias		10/13/17
Quality Assurance Director	*Signature*	*Date*

1 **True:** Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	10/6/2017
'ALYZED BY:	Yanet Echevarria
:THOD NUMBER:	EPA 8081
EXTRACTION METHOD (IF APPLY):	EPA 3550
INSTRUMENT ID:	Monica GC#1
EXTRACTED BY:	Estela Martinez
DATE EXTRACTED:	10/5/2017
ACCEPTANCE CRITERIA:	Various

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
Standard(s)	SK-PEST-100417 SK-TOX-100417 SK-CHLOR-100417 SK-PESTXLA-100417 SK-PESTXLB-100417	0.5 ppm 10 ppm 1 ppm 1 ppm 1 ppm
Surrogate	SU-Pesticides-092017	1 ppm
Internal Standard	IS-PEST-051217	10 ppm

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	_ X	% RSD	% Recovery	SD	Acceptance limits
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg				
Chlordane	33.33	19.814	18.321	18.871	20.533	19.38	5.07	58.16	0.98	40-160
Toxaphene	333.33	168.653	179.630	185.292	166.698	175.07	5.07	52.52	8.88	40-160
4,4-DDD	16.66	10.533	11.158	11.374	10.170	10.81	5.14	64.88	0.56	15-152
4,4-DDE	16.66	8.404	8.145	8.987	8.597	8.53	4.16	51.22	0.35	22-136
4,4-DDT	16.66	6.634	7.476	8.754	8.923	7.95	13.69	47.70	1.09	10-168
Aldrin	16.66	8.158	9.515	8.648	8.236	8.64	7.20	51.86	0.62	35-126
alpha-BHC	16.66	9.823	10.649	10.461	9.513	10.11	5.27	60.69	0.53	11-122
beta-BHC	16.66	8.775	9.419	9.327	11.869	9.85	13.99	59.11	1.38	37-124
delta-BHC	16.66	12.636	12.061	12.806	11.755	12.31	3.98	73.92	0.49	13-150
Dieldrin	16.66	8.000	8.668	8.615	8.079	8.34	4.19	50.06	0.35	29-148
:dosulfan I	16.66	11.023	12.656	12.485	11.040	11.80	7.55	70.83	0.89	38-128
_ndosulfan II	16.66	14.322	16.939	17.713	15.014	16.00	9.95	96.02	1.59	22-136
Endosulfan sulfate	16.66	10.331	11.911	12.001	10.450	11.17	8.11	67.07	0.91	10-144
Endrin	16.66	7.811	8.995	8.954	8.453	8.55	6.46	51.34	0.55	33-143
Endrin Aldehyde	16.66	15.437	17.361	18.103	15.937	16.71	7.40	100.30	1.24	10-190
Endrin Ketone	16.66	8.133	9.369	10.674	9.324	9.38	11.07	56.27	1.04	10-190
gamma-BHC (Lindane)	16.66	8.949	9.307	9.838	9.152	9.31	4.09	55.89	0.38	28-120
Heptachlor	16.66	9.227	9.656	9.959	9.437	9.57	3.27	57.44	0.31	19-151
Hepthachlor Epoxide	16.66	7.991	8.676	8.908	8.586	8.54	4.57	51.26	0.39	40-130
Methoxychlor	16.66	14.478	16.006	17.267	14.785	15.63	8.14	93.84	1.27	10-170
Isodrin	33.33	23.535	20.224	23.094	22.155	22.25	6.60	66.76	1.47	40-140
Dicofol	33.33	15.643	13.686	16.17	12.878	14.59	10.73	43.79	1.57	40-140
Kepone	33.33	27.552	19.588	17.976	16.848	20.49	23.62	61.48	4.84	40-140
Chloropropylate	33.33	30.848	29.37	32.342	30.797	30.84	3.94	92.53	1.21	40-140
Diallate	33.33	27.884	16.699	19.775	21.646	21.50	21.95	64.51	4.72	40-140

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061739.D\ECD1A.CH Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061739.D\ECD2B.CH
Acq On : 7 Oct 2017 9:36 am Operator: YE
Sample : CHLORS IDOC-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:32:28 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

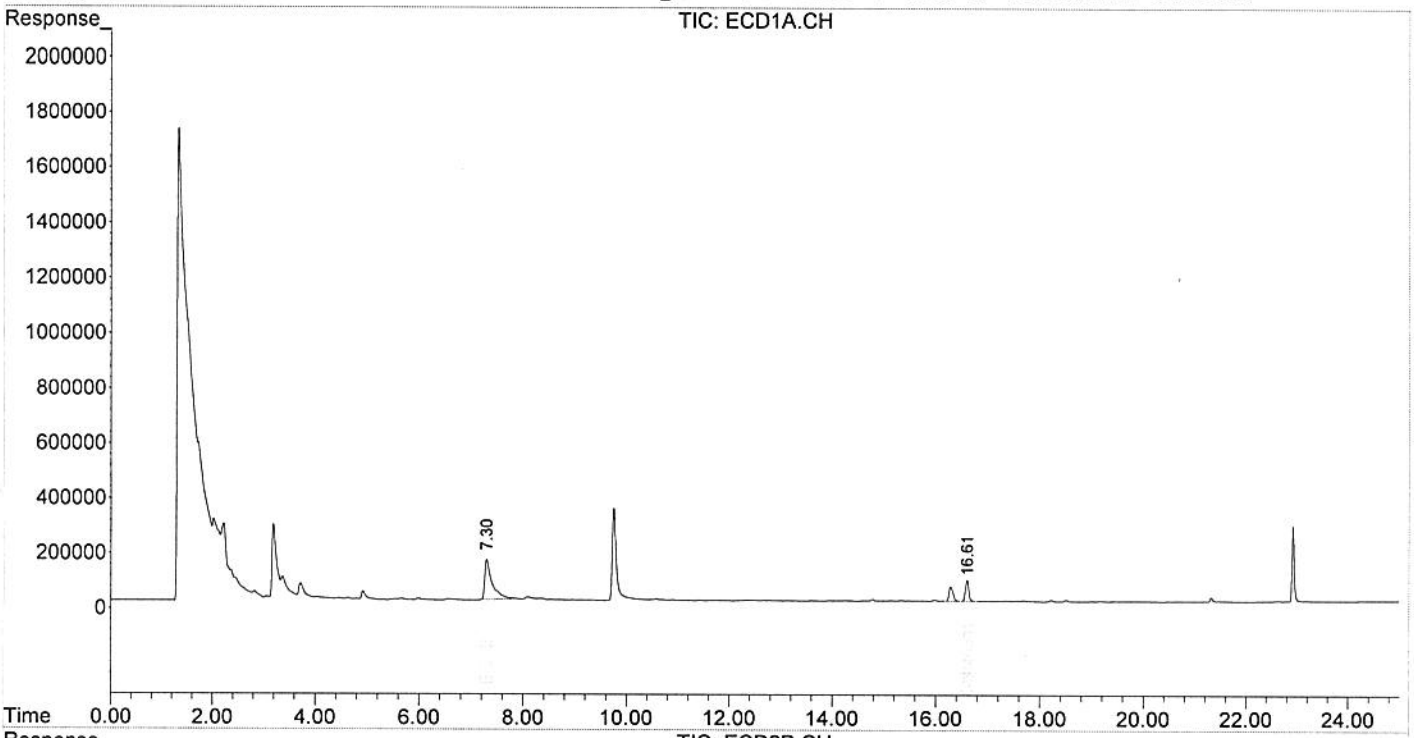
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30f	7.11f	14100564	5998090	0.100m	0.100m
	Target Compounds						
2)	Chlordane	16.61	17.15	6294075	2406693	19.814m	17.732m

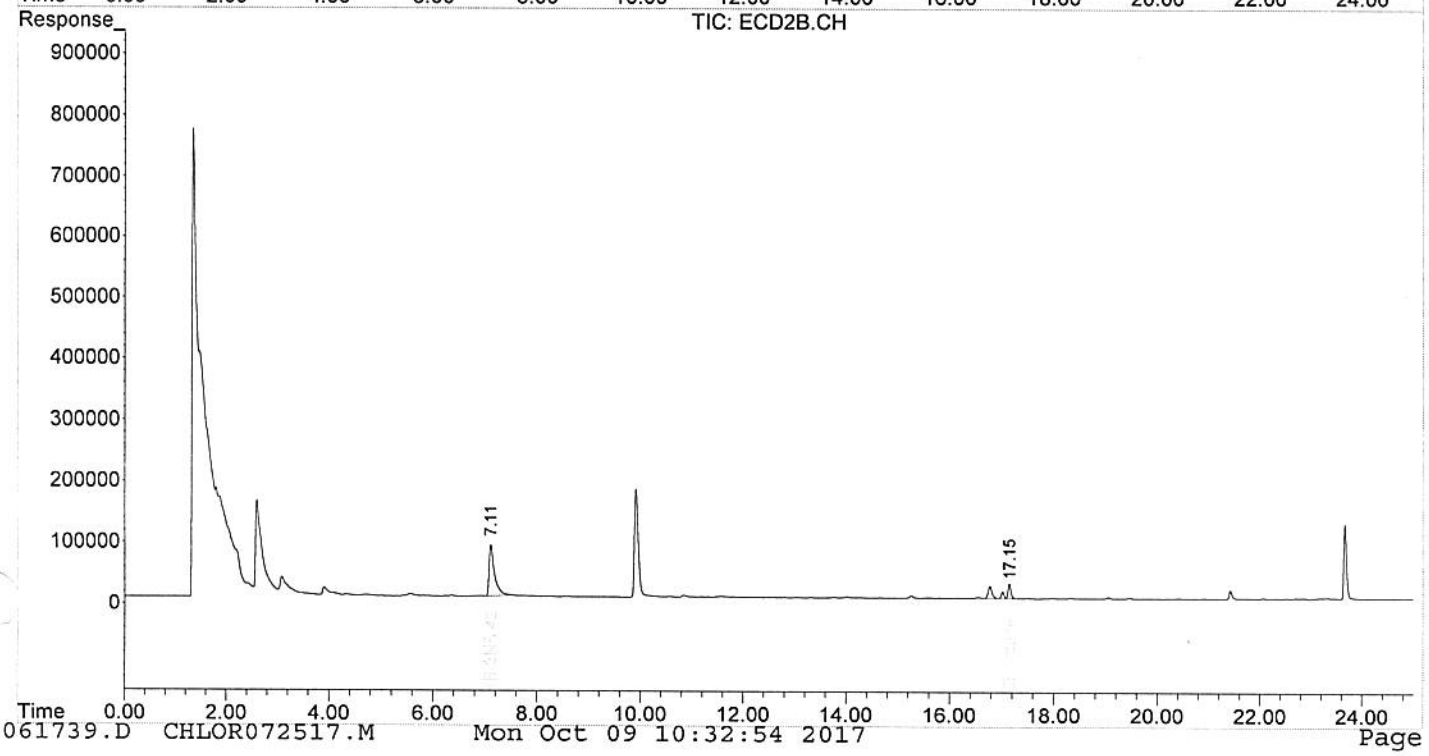
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061739.D\ECD1A.CH Vial: 38
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061739.D\ECD2B.CH
Acq On : 7 Oct 2017 9:36 am Operator: YE
Sample : CHLORS IDOC-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:32 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061740.D\ECD1A.CH Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061740.D\ECD2B.CH
Acq On : 7 Oct 2017 10:05 am Operator: YE
Sample : CHLORS IDOC-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:33:28 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

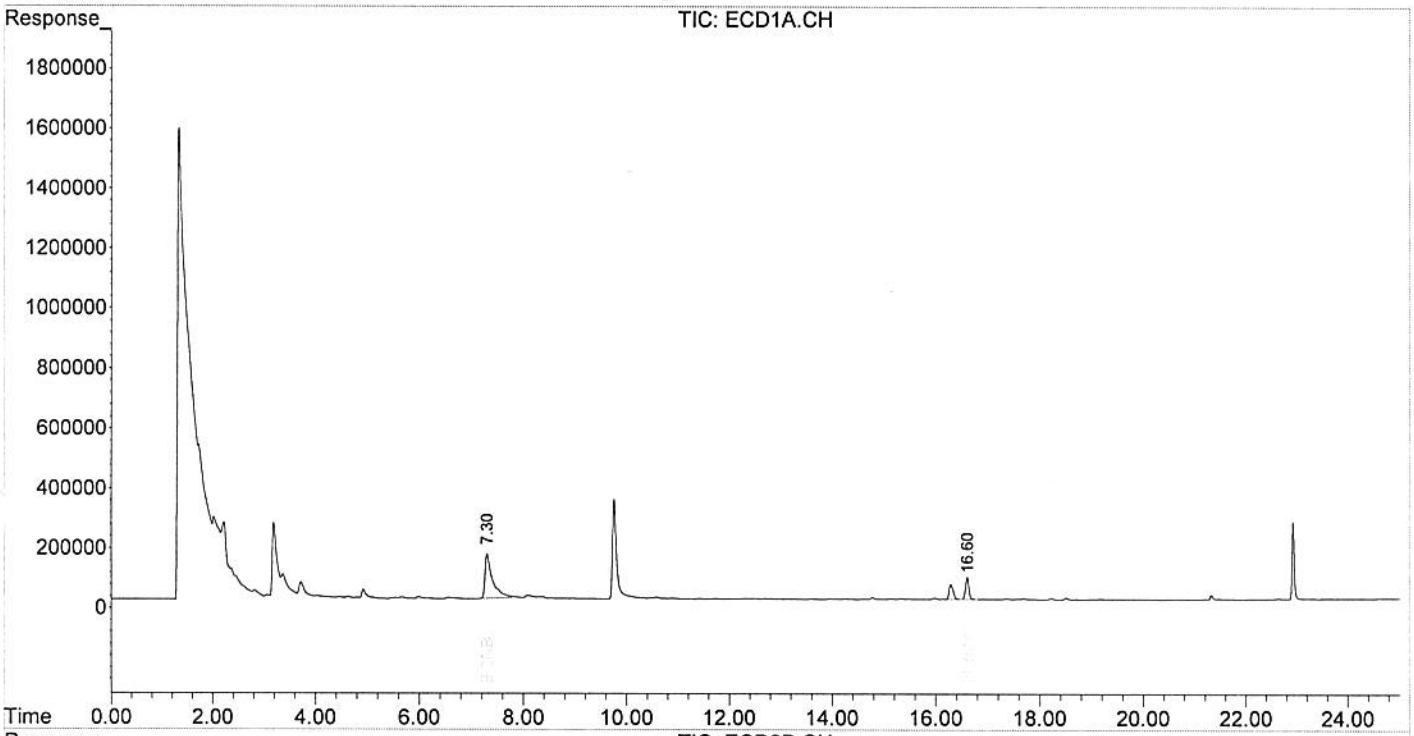
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30f	7.11f	14723178	6364806	0.100m	0.100m
	Target Compounds						
2)	Chlordane	16.60	17.15	6076658	2237363	18.321m	15.534m

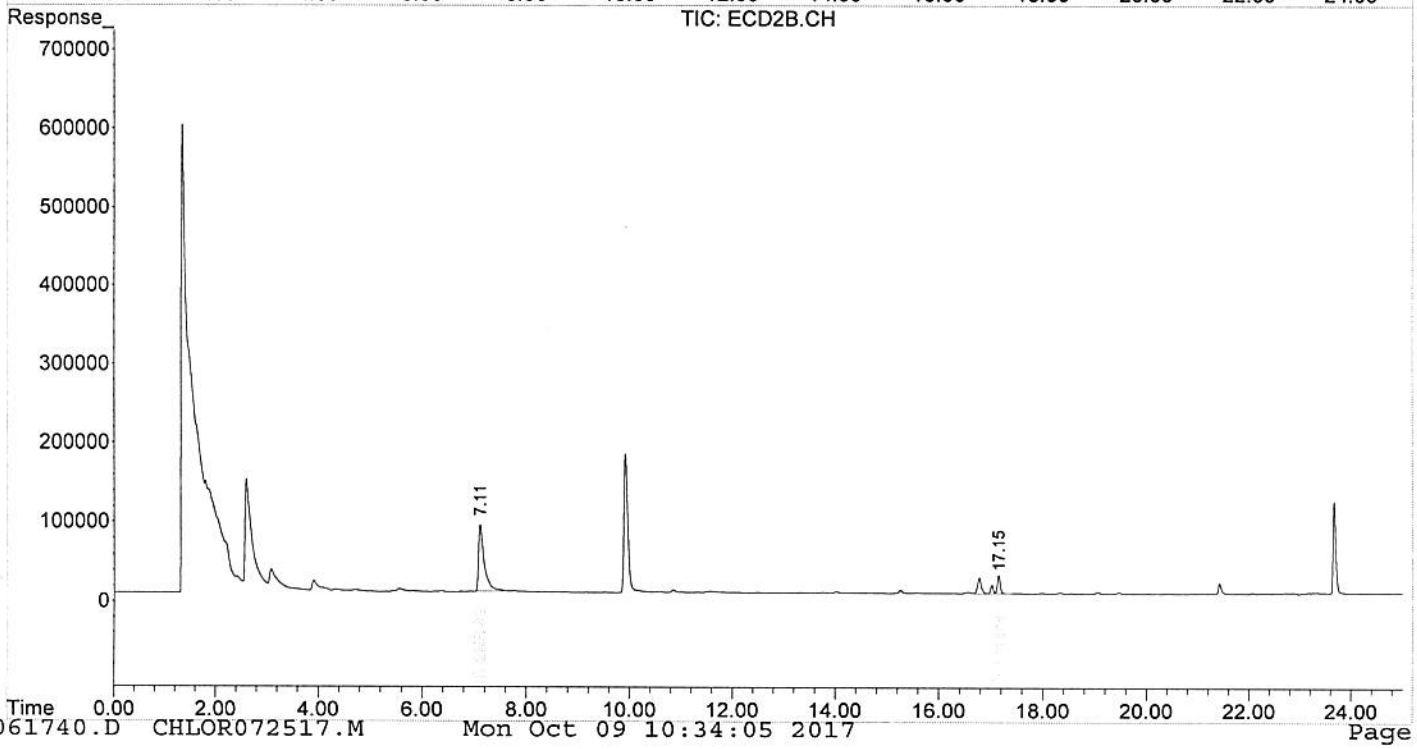
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061740.D\ECD1A.CH Vial: 39
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061740.D\ECD2B.CH
Acq On : 7 Oct 2017 10:05 am Operator: YE
Sample : CHLORS IDOC-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:33 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061741.D\ECD1A.CH Vial: 40
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061741.D\ECD2B.CH
Acq On : 7 Oct 2017 10:35 am Operator: YE
Sample : CHLORS IDOC-03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:34:13 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

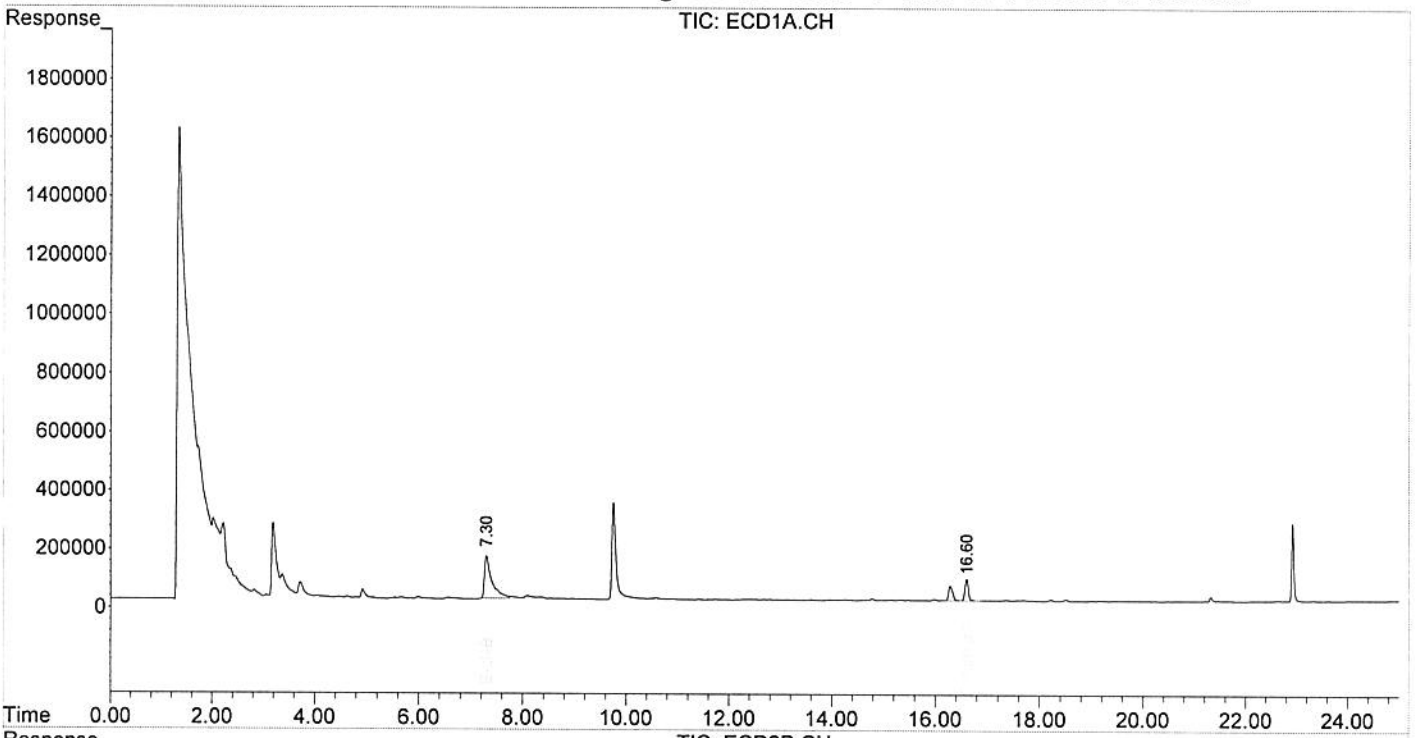
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.30f	7.11f	14098876	6181136	0.100m	0.100m
		Target Compounds						
2)		Chlordane	16.60	17.15	5993753	2267819	18.871m	16.214m

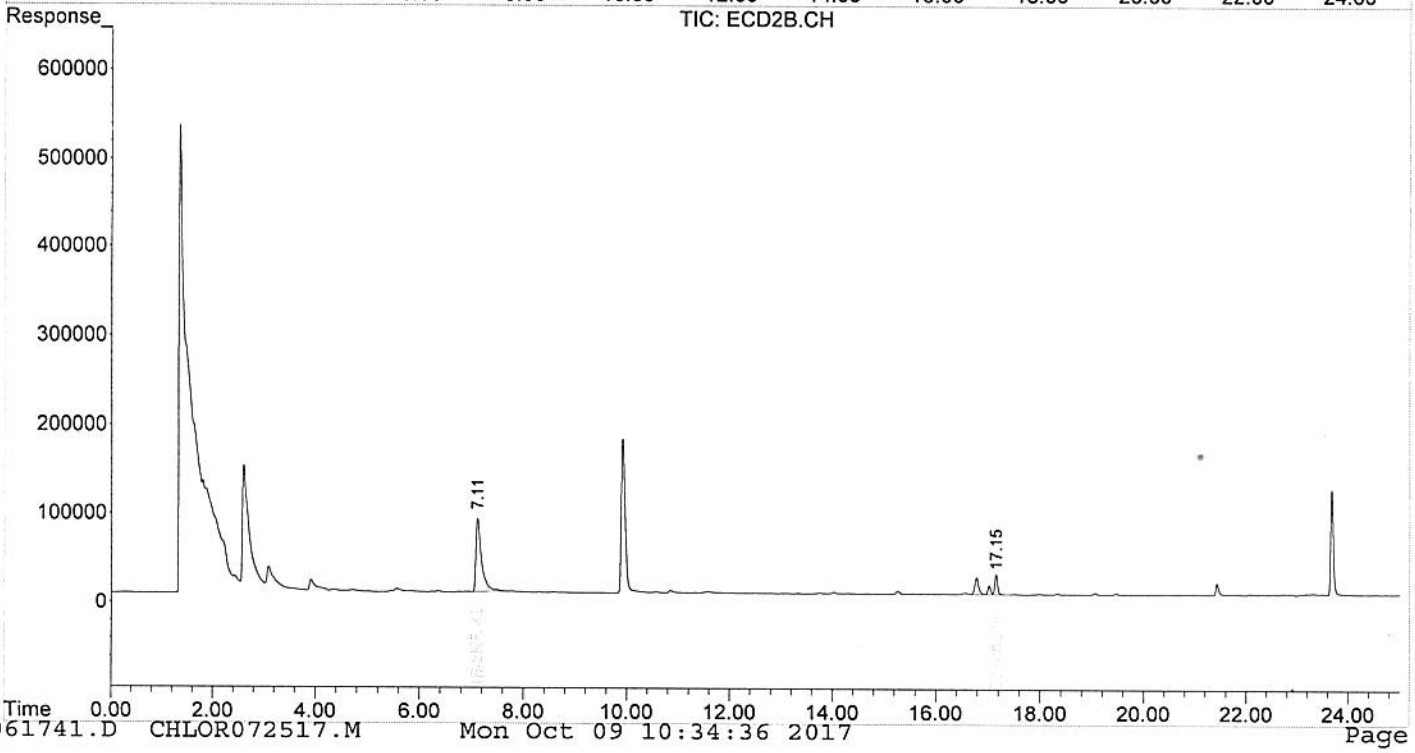
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061741.D\ECD1A.CH Vial: 40
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061741.D\ECD2B.CH
Acq On : 7 Oct 2017 10:35 am Operator: YE
Sample : CHLORS IDOC-03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:34 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061742.D\ECD1A.CH Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061742.D\ECD2B.CH
Acq On : 7 Oct 2017 11:04 am Operator: YE
Sample : CHLORS IDOC-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:34:58 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

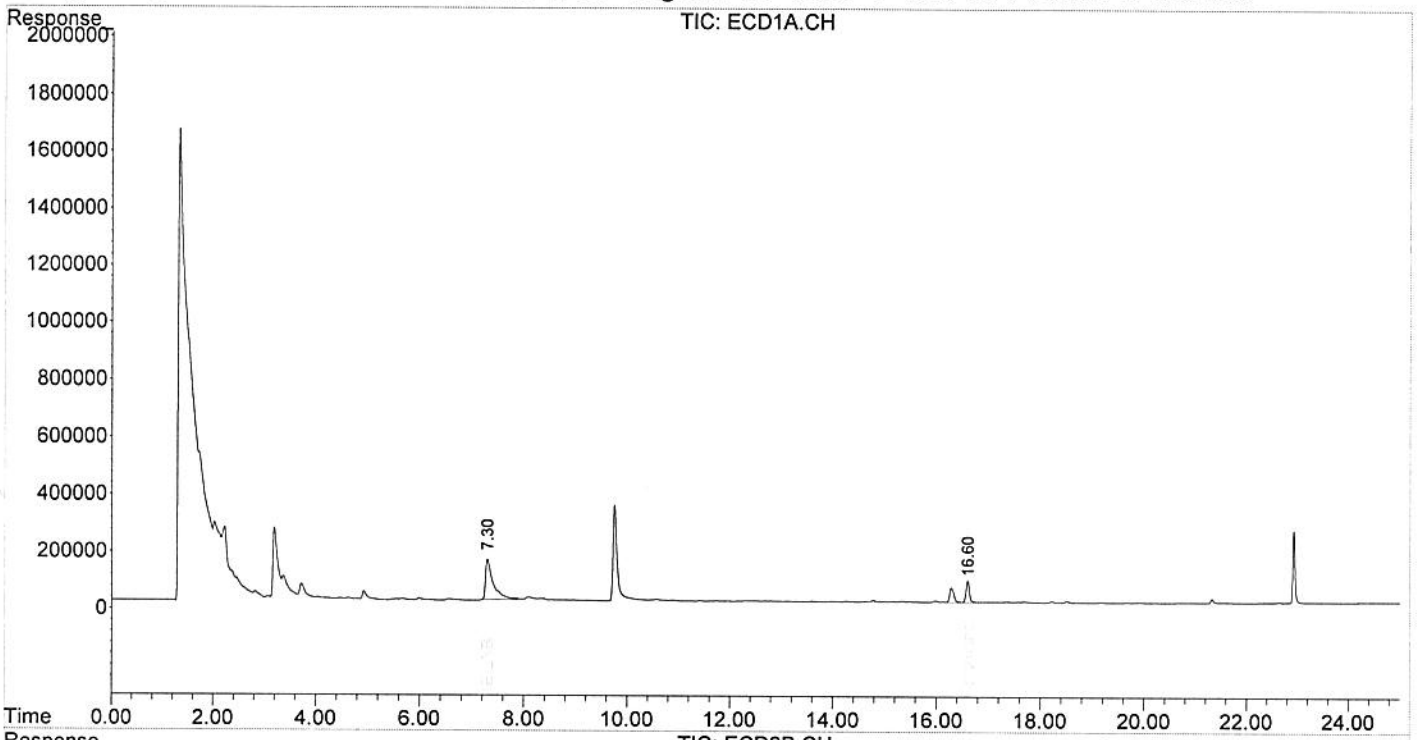
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30f	7.11f	14018324	6246426	0.100m	0.100m
	Target Compounds						
2)	Chlordane	16.60	17.15	6484374	2329680	20.533m	16.482m

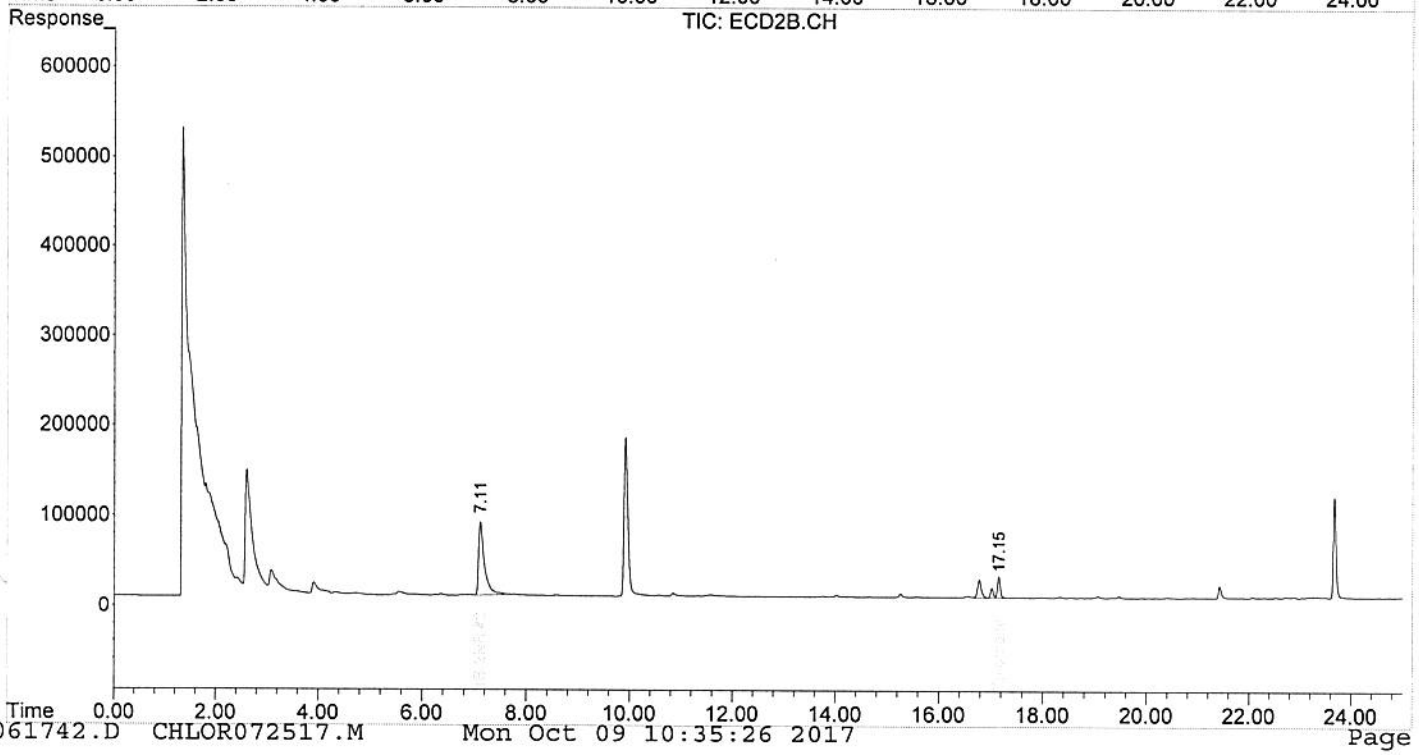
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061742.D\ECD1A.CH Vial: 41
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061742.D\ECD2B.CH
Acq On : 7 Oct 2017 11:04 am Operator: YE
Sample : CHLORS IDOC-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:35 2017 Quant Results File: CHLOR072517.RES

Quant Method : F:\MSDCHEM\2...\CHLOR072517.M (Chemstation Integrator)
Title : 508/608/8081 CHLORDANE MONICA GC# 1
Last Update : Thu Sep 07 09:59:00 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061747.D\ECD1A.CH Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061747.D\ECD2B.CH
Acq On : 7 Oct 2017 1:31 pm Operator: YE
Sample : TOXS IDOC-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:38:29 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

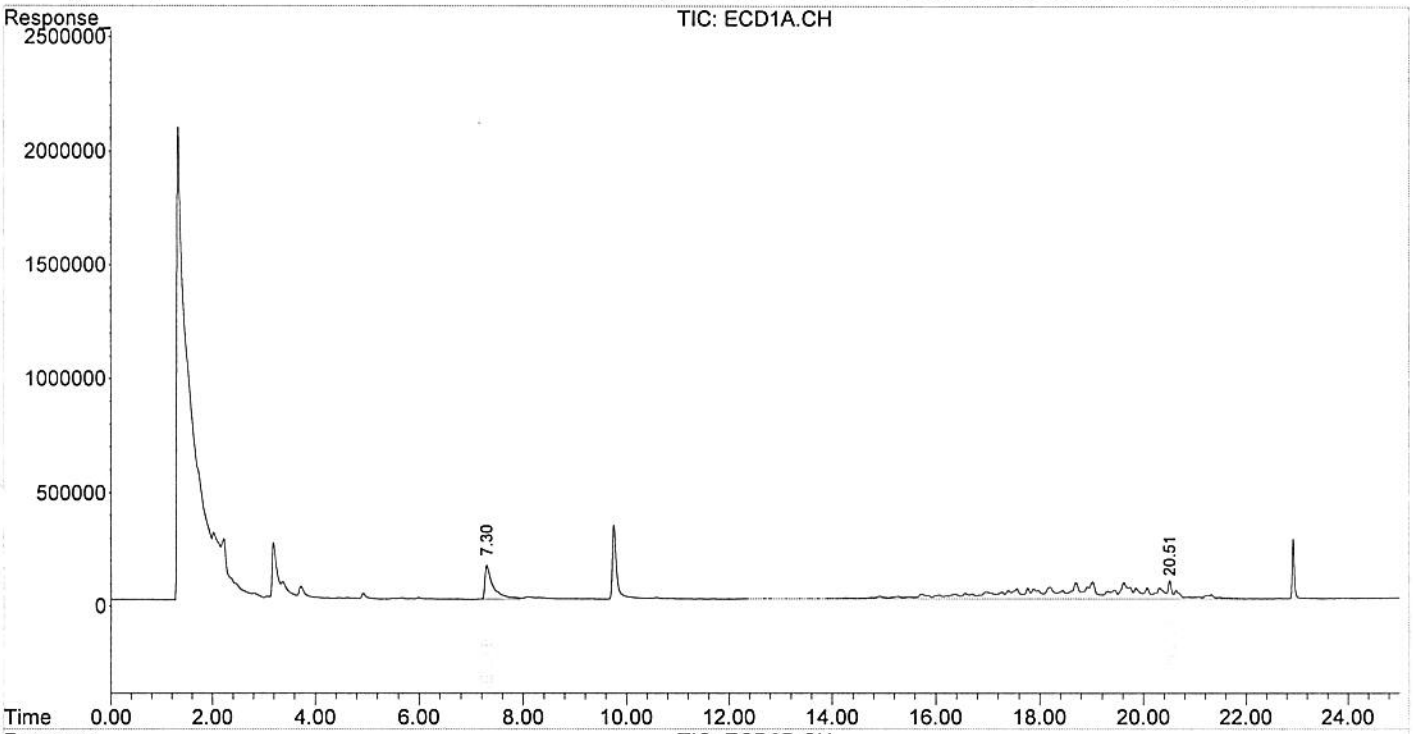
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.30	7.12	16174779	6519440	0.100m	0.100m
		Target Compounds						
2)		Toxaphene	20.51	19.59	102.2E6	38610014	165.902m	168.653m

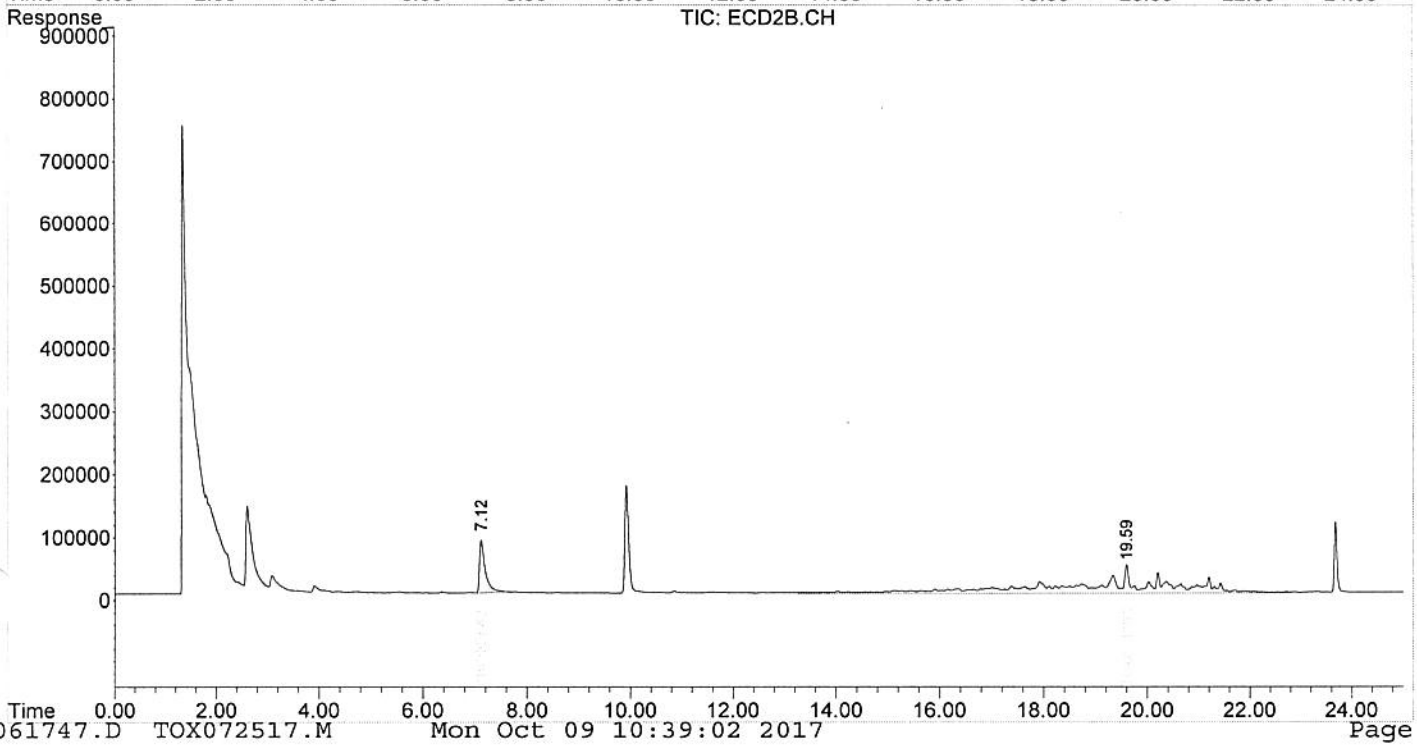
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061747.D\ECD1A.CH Vial: 46
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061747.D\ECD2B.CH
Acq On : 7 Oct 2017 1:31 pm Operator: YE
Sample : TOXS IDOC-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:38 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061748.D\ECD1A.CH Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061748.D\ECD2B.CH
Acq On : 7 Oct 2017 2:01 pm Operator: YE
Sample : TOXS IDOC-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:39:30 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

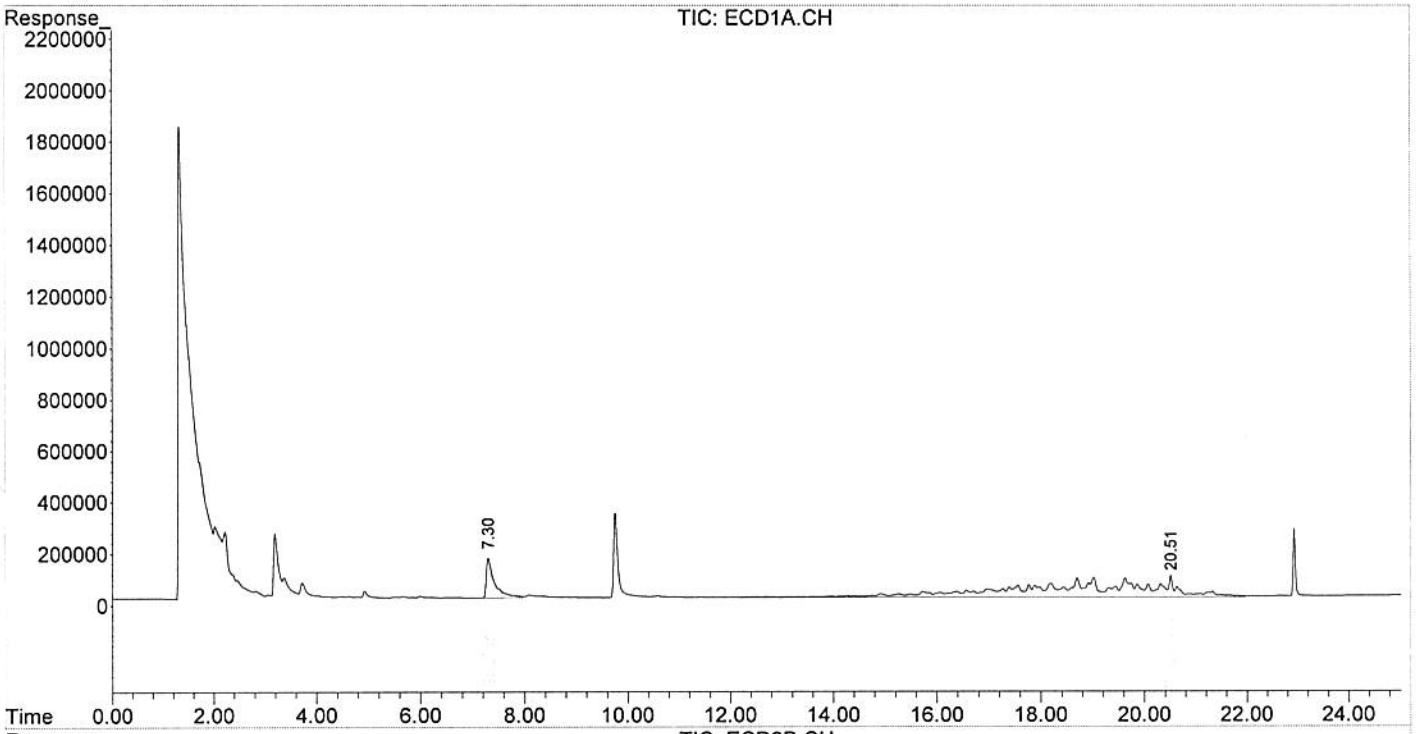
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30	7.12	16480747	7066290	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	20.51	19.59	112.8E6	38401917	179.630m	154.763m

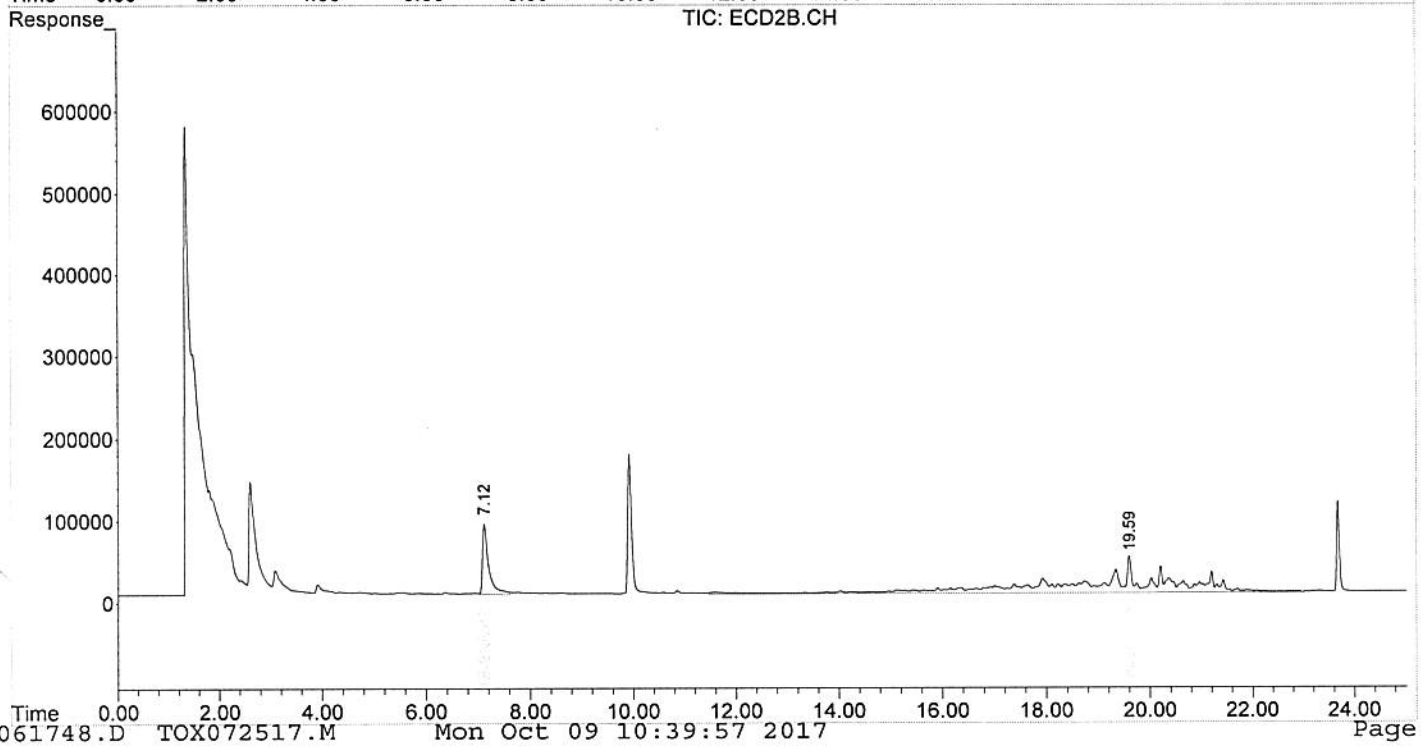
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061748.D\ECD1A.CH Vial: 47
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061748.D\ECD2B.CH
Acq On : 7 Oct 2017 2:01 pm Operator: YE
Sample : TOXS IDOC-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:39 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061749.D\ECD1A.CH Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061749.D\ECD2B.CH
Acq On : 7 Oct 2017 2:30 pm Operator: YE
Sample : TOXS IDOC-03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:40:26 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

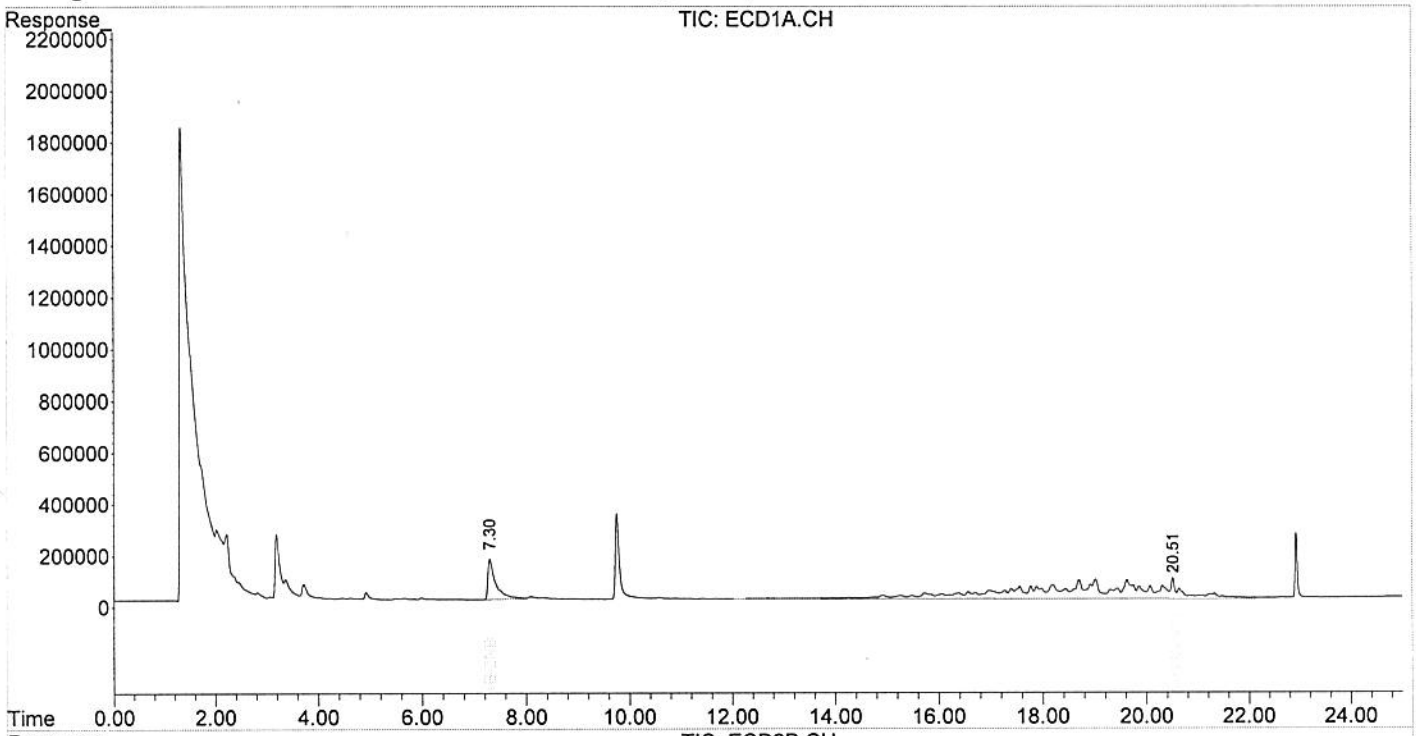
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B-2NB	7.30	7.12	16152311	7090086	0.100m	0.100m
	Target Compounds						
2)	Toxaphene	20.51	19.59	114.0E6	44214279	185.292m	177.589m

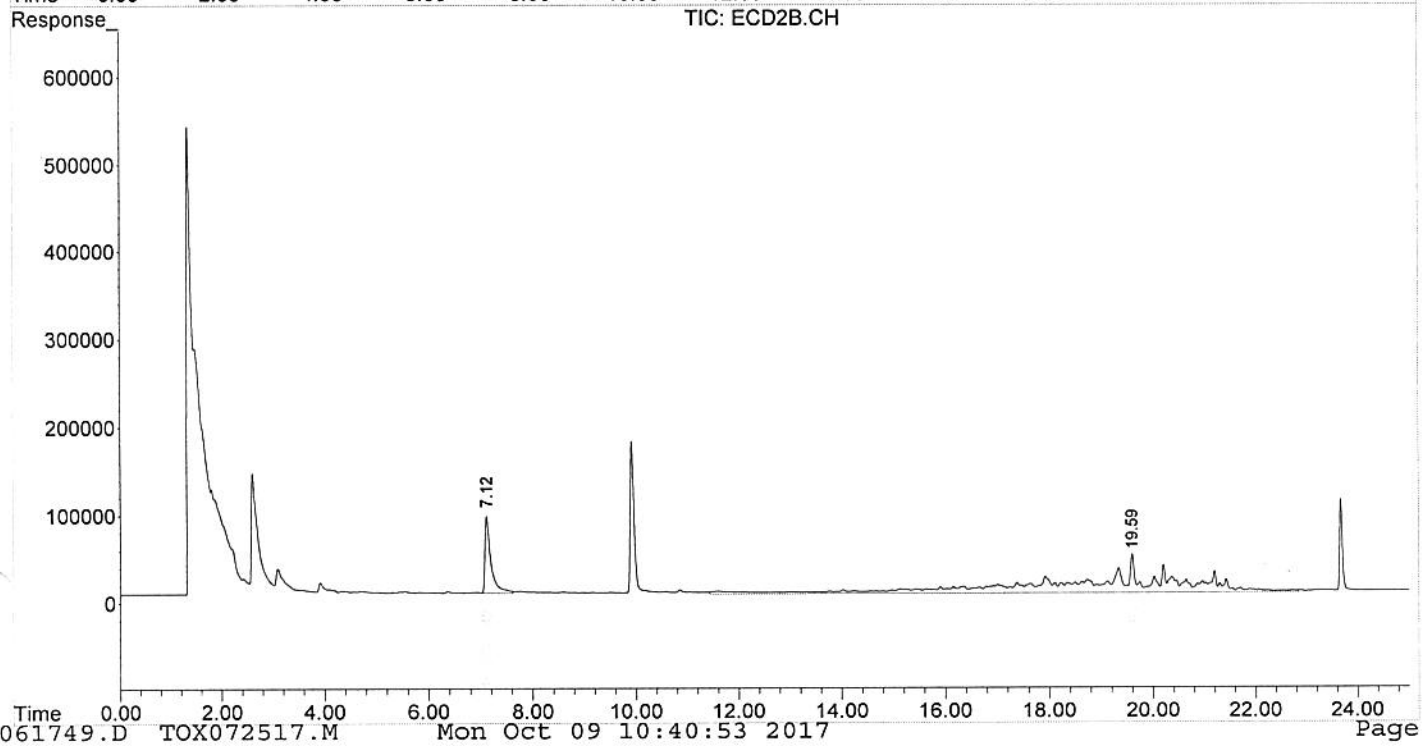
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061749.D\ECD1A.CH Vial: 48
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061749.D\ECD2B.CH
Acq On : 7 Oct 2017 2:30 pm Operator: YE
Sample : TOXS IDOC-03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:40 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061750.D\ECD1A.CH Vial: 49
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061750.D\ECD2B.CH
Acq On : 7 Oct 2017 2:59 pm Operator: YE
Sample : TOXS IDOC-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:41:09 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

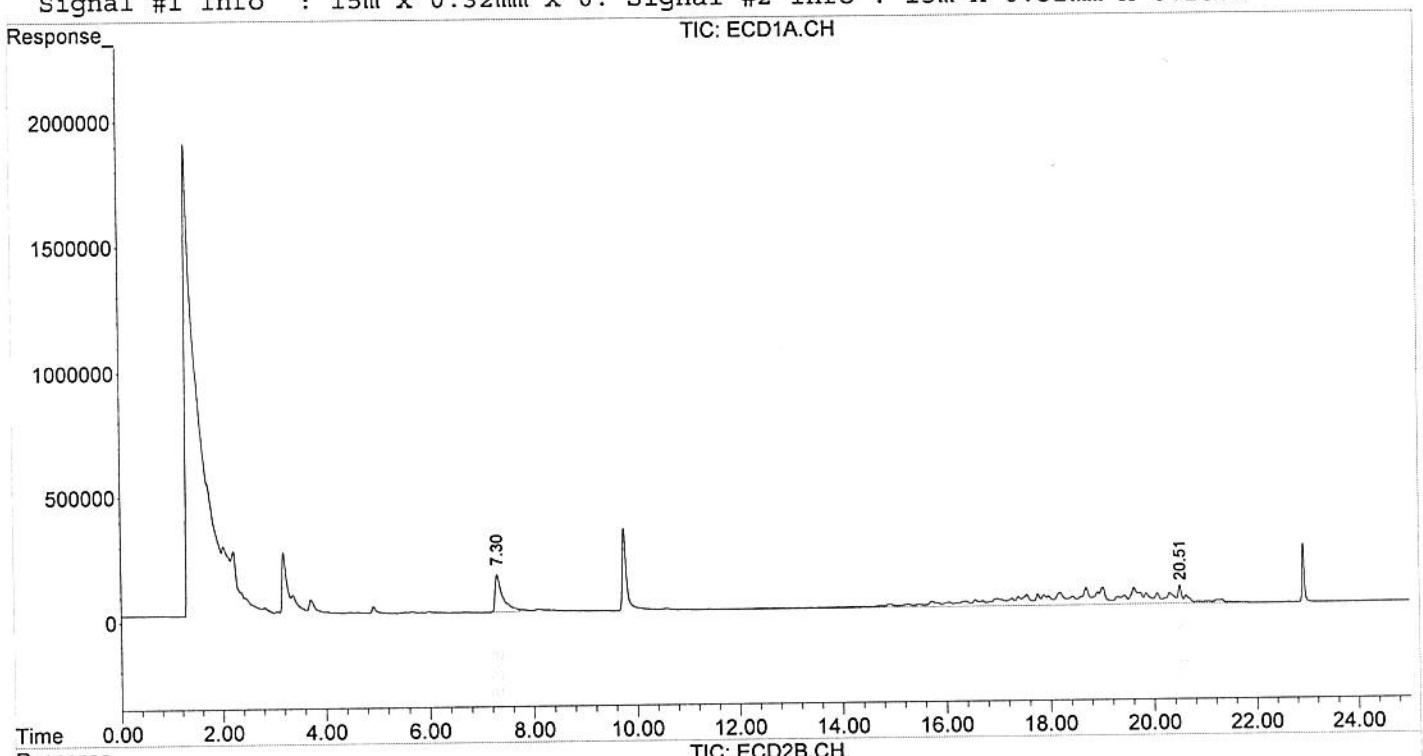
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B-2NB	7.30	7.12	15042193	6223060	0.100m	0.100m
		Target Compounds						
2)		Toxaphene	20.51	19.59	95535866	35636467	166.698m	163.078m

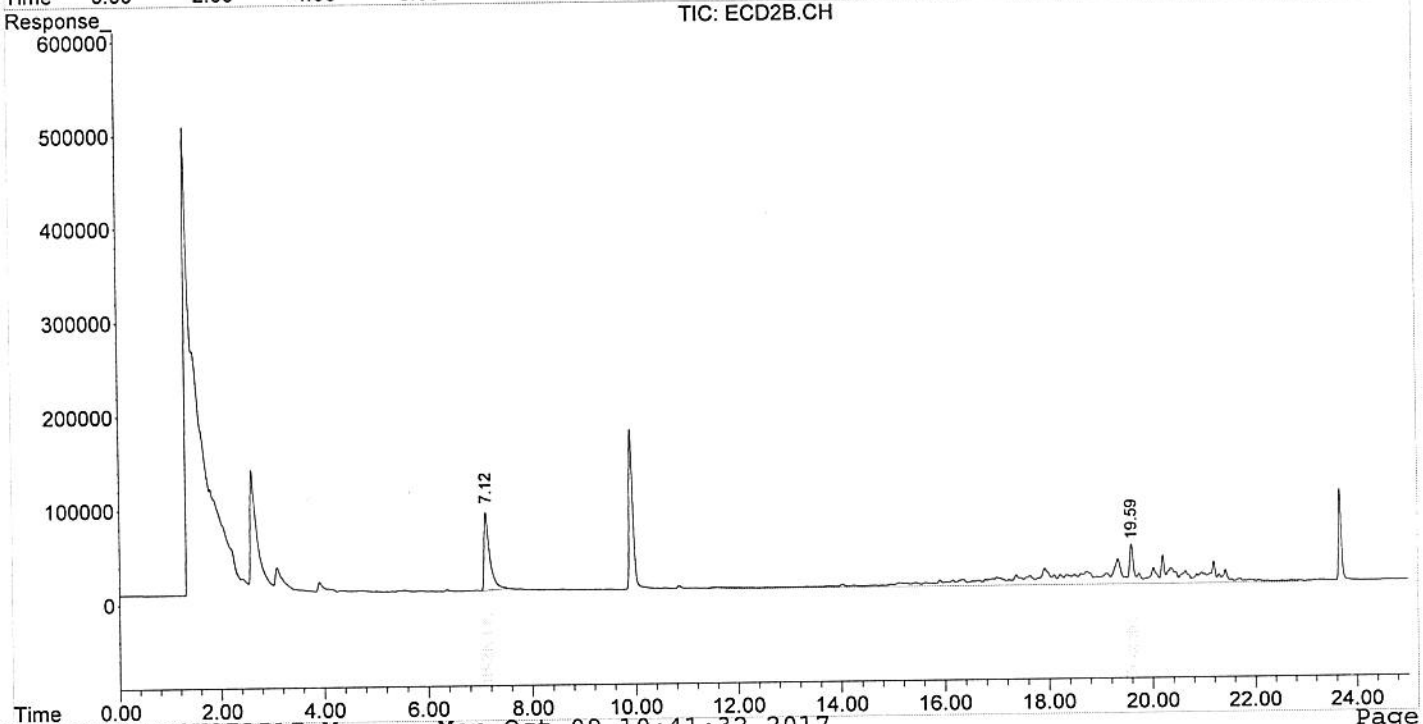
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061750.D\ECD1A.CH Vial: 49
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061750.D\ECD2B.CH
Acq On : 7 Oct 2017 2:59 pm Operator: YE
Sample : TOXS IDOC-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:41 2017 Quant Results File: TOX072517.RES

Quant Method : F:\MSDCHEM\2\METHODS\TOX072517.M (Chemstation Integrator)
Title : 508/608/8081 TOXAPHENE MONICA GC# 1
Last Update : Wed Jul 26 11:50:36 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061723.D\ECD1A.CH Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061723.D\ECD2B.CH
Acq On : 7 Oct 2017 1:45 am Operator: YE
Sample : 8081 IDOCXLA-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:10:19 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

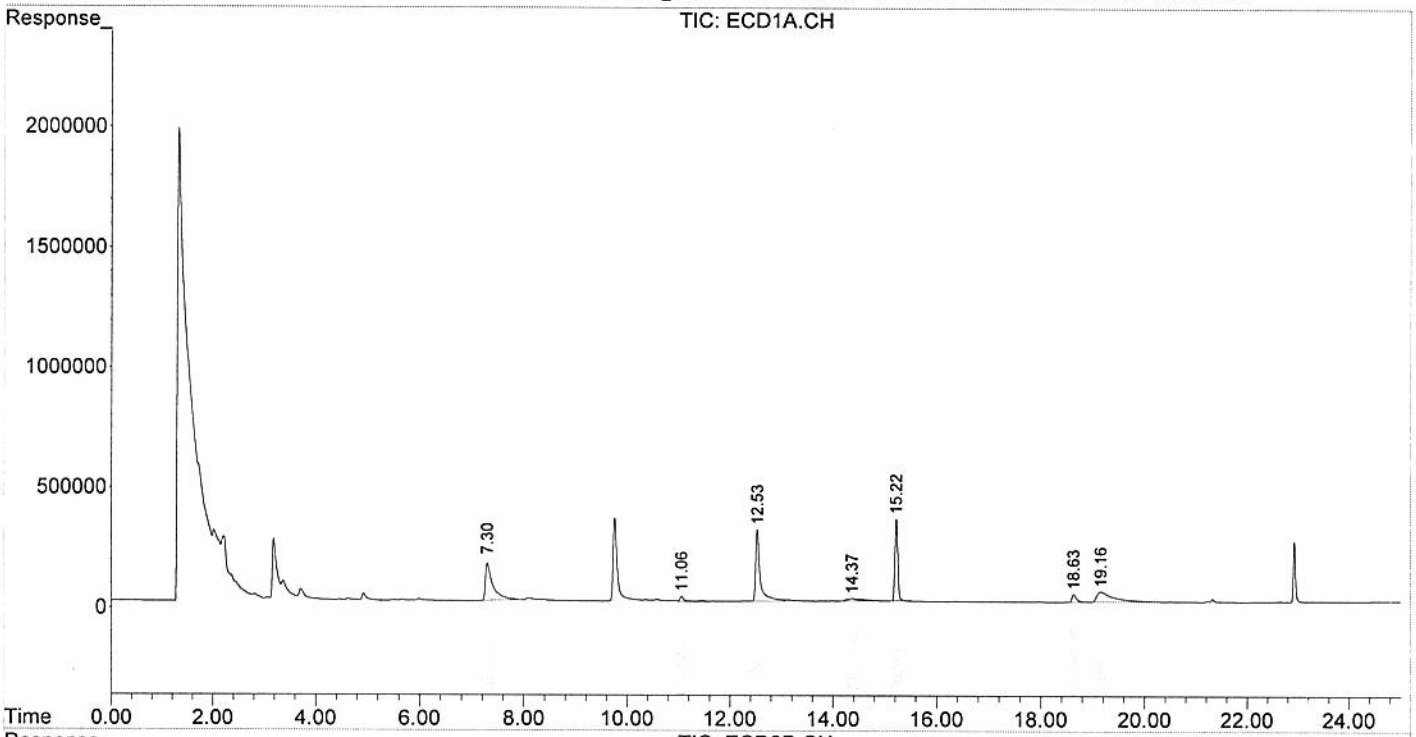
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	14954238	6571788	0.100m	0.100m
		Target Compounds						
2)		Diallate	11.06	11.25	1925352	1522892	11.256m	27.884m#
3)		PCNB	12.53	12.73	17917460	8416952	22.192m	20.851m
4)		Dichlone	14.37f	14.77f	1879923	2006260	23.883m	27.140m
5)		Isodrin	15.23	15.80	13083967	6107485	23.535	20.054
6)		Chloropropylate	18.63	18.85	2097100	1064406	30.848m	30.439m
7)		Nitrofen	19.16	19.24	9679066	3845791	23.253m	20.656m

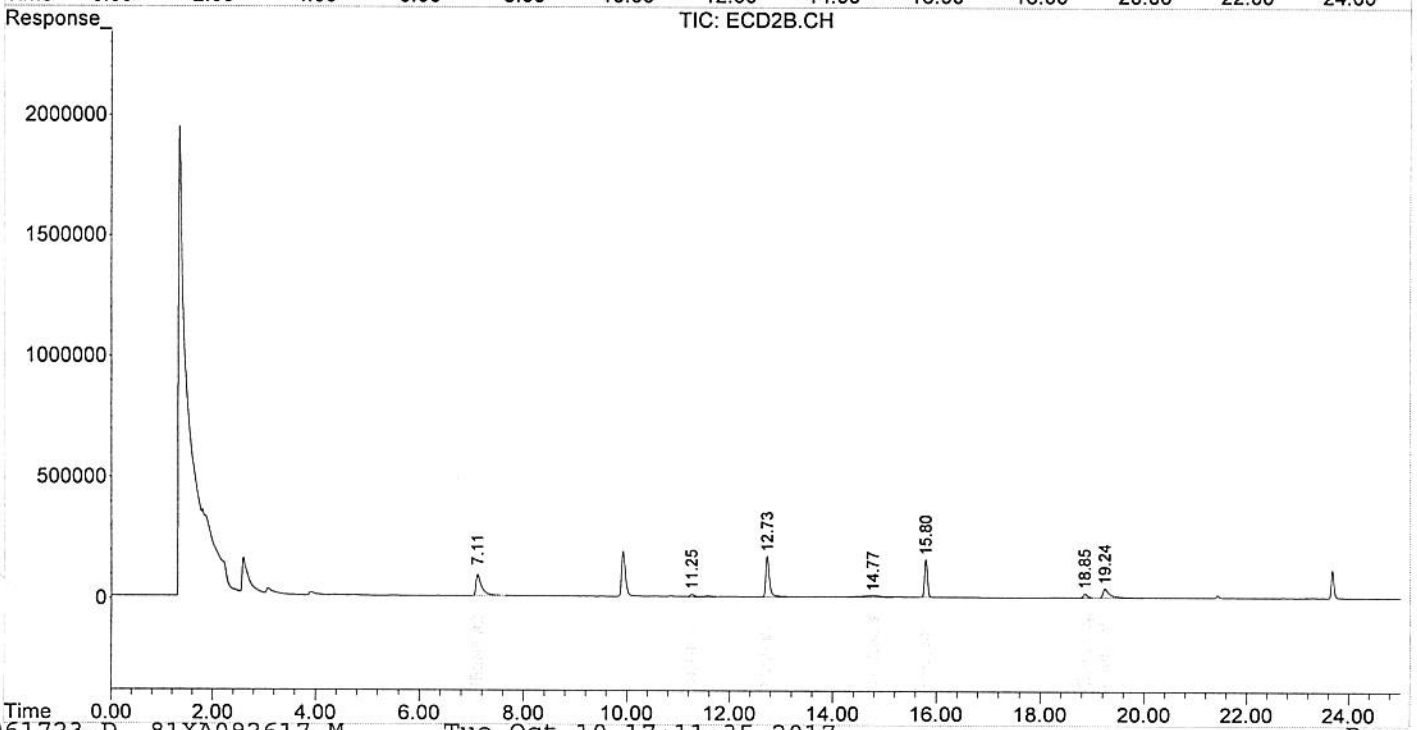
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061723.D\ECD1A.CH Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061723.D\ECD2B.CH
Acq On : 7 Oct 2017 1:45 am Operator: YE
Sample : 8081 IDOCXLA-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:11 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061724.D\ECD1A.CH Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061724.D\ECD2B.CH
Acq On : 7 Oct 2017 2:14 am Operator: YE
Sample : 8081 IDOCXLA-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:25:10 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

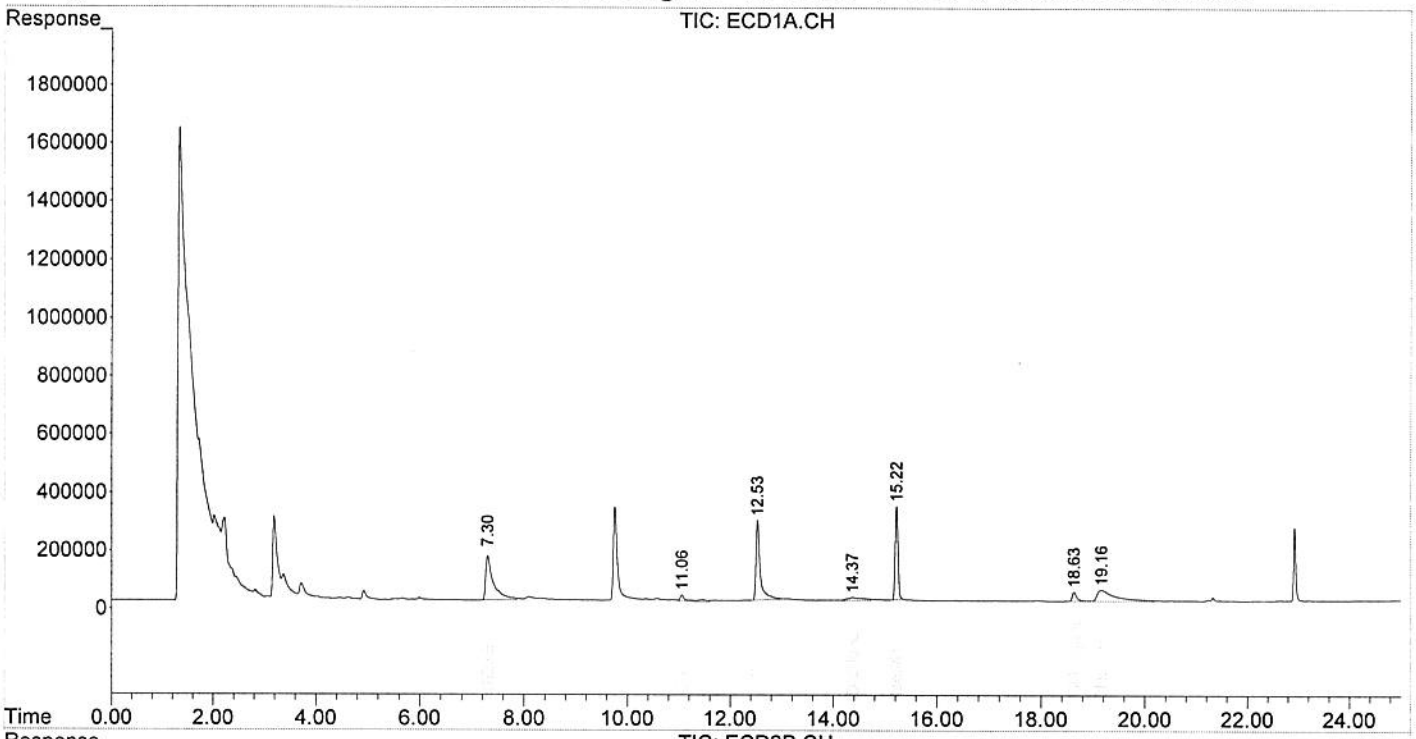
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	15495791	6464572	0.100m	0.100m
		Target Compounds						
2)		Diallate	11.06	11.25	2365226	1144966	16.699m	14.871m
3)		PCNB	12.53	12.72	15681191	7338670	17.335m	17.627m
4)		Dichlone	14.37f	14.77f	2293903	1370065	26.346m	21.869m
5)		Isodrin	15.22	15.79	12238808	5696935	20.224	19.016
6)		Chloropropylate	18.63	18.85	2027442	1010260	28.781m	29.370m
7)		Nitrofen	19.16	19.23	9372019	3229882	21.729m	17.636m

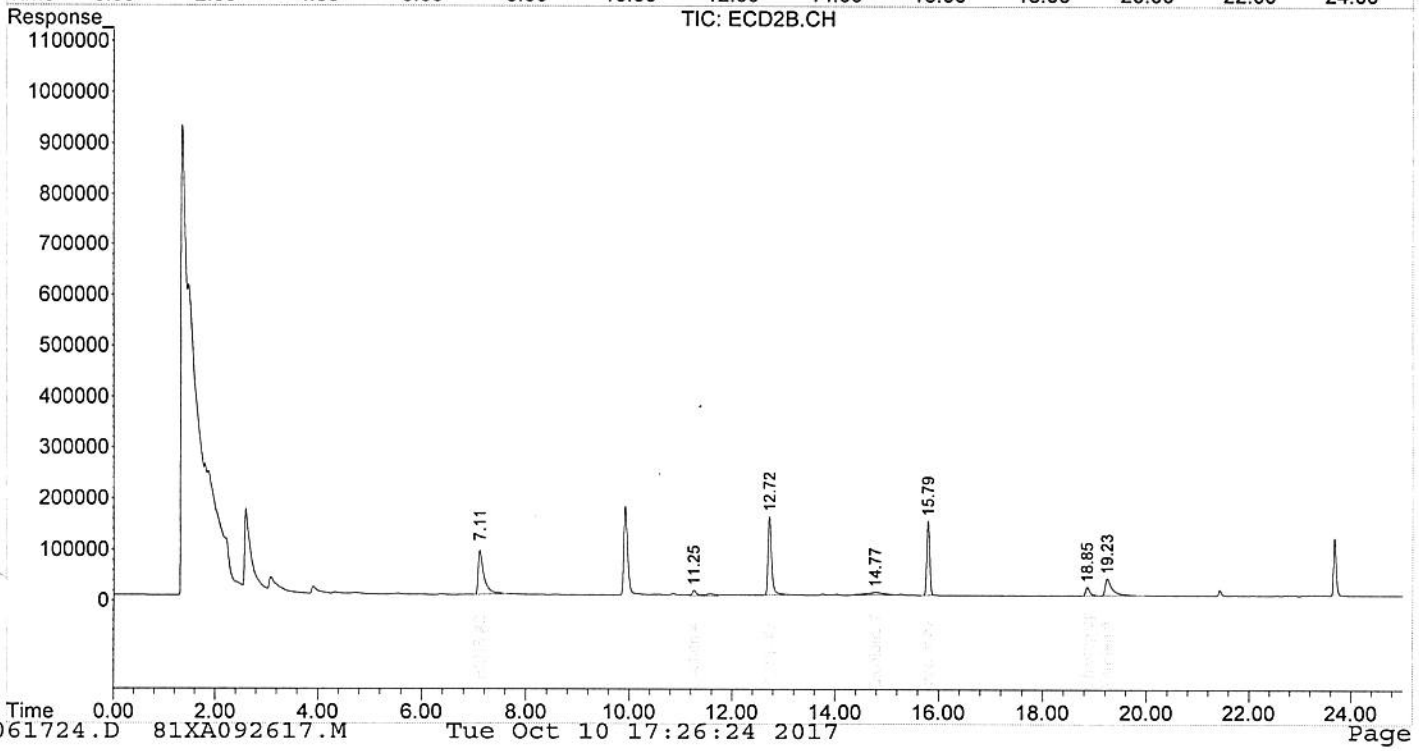
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061724.D\ECD1A.CH Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061724.D\ECD2B.CH
Acq On : 7 Oct 2017 2:14 am Operator: YE
Sample : 8081 IDOCXLA-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:26 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061725.D\ECD1A.CH Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061725.D\ECD2B.CH
Acq On : 7 Oct 2017 2:44 am Operator: YE
Sample : 8081 IDOCXLA-03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:26:30 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

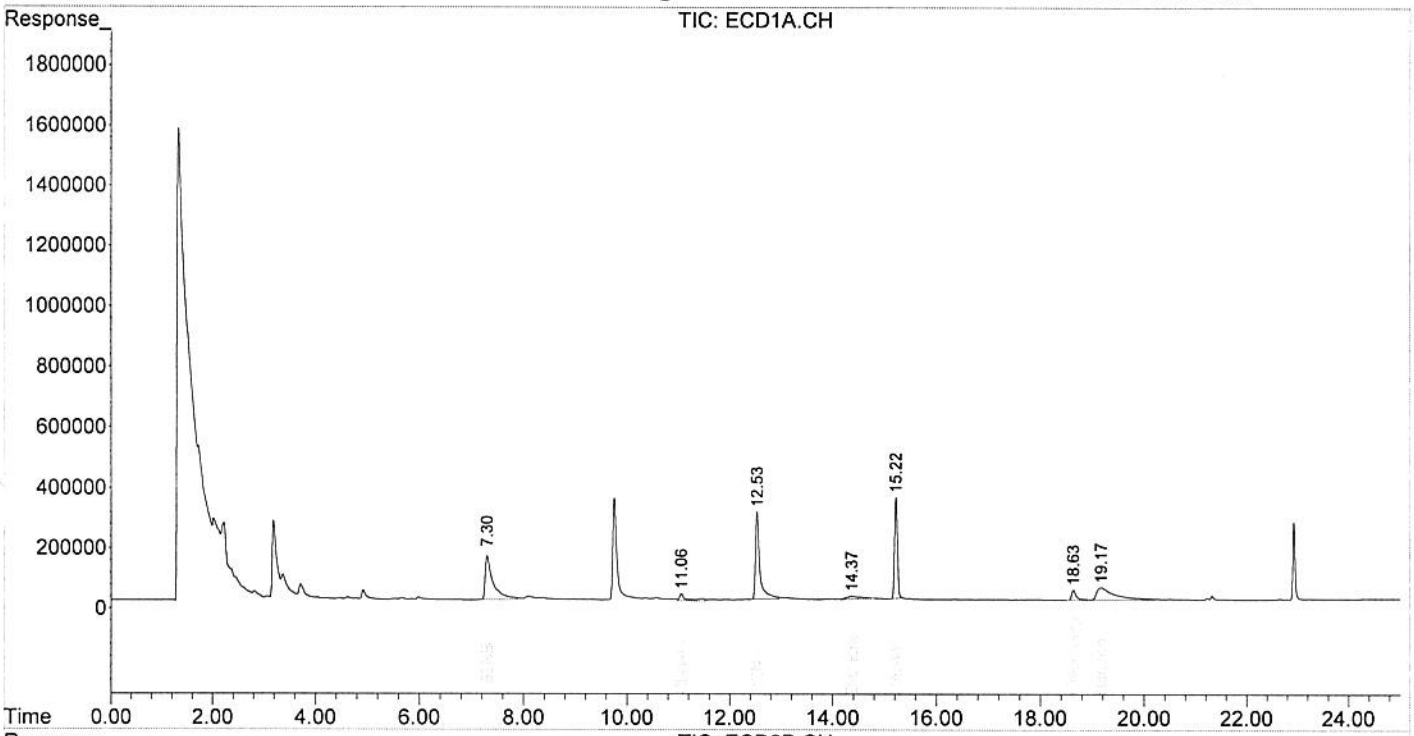
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	14960082	6172809	0.100m	0.100m
		Target Compounds						
2)		Diallate	11.06	11.25	2435109	1220350	19.149m	19.775m
3)		PCNB	12.53	12.72	16735137	8168594	20.118m	21.793m
4)		Dichlone	14.37f	14.77f	1866709	1959065	23.779m	27.822m
5)		Isodrin	15.22	15.80	12919697	6024627	23.094	21.060
6)		Chloropropylate	18.63	18.85	2157250	1062286	31.720m	32.342m
7)		Nitrofen	19.17	19.24	9841986	3466145	23.636m	19.820m

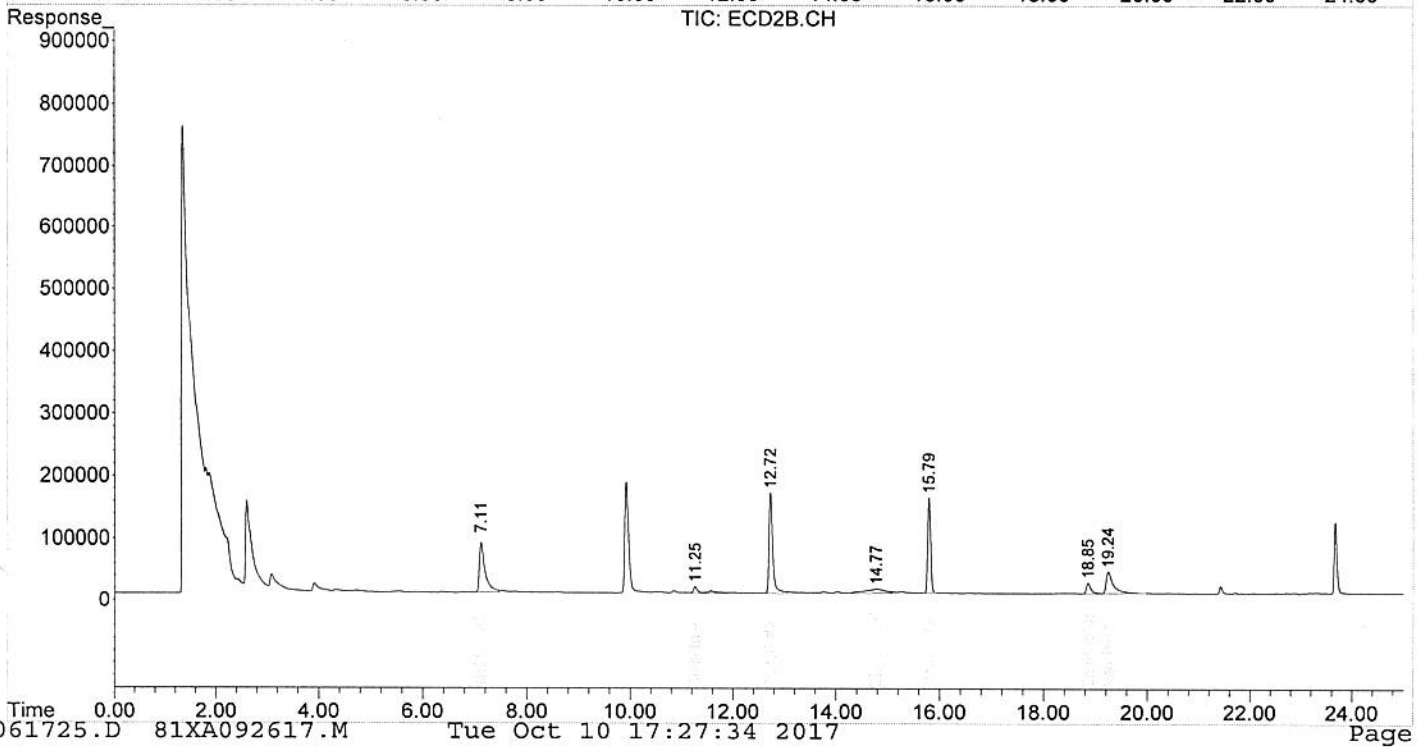
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061725.D\ECD1A.CH Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061725.D\ECD2B.CH
Acq On : 7 Oct 2017 2:44 am Operator: YE
Sample : 8081 IDOCXLA-03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:27 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061726.D\ECD1A.CH Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061726.D\ECD2B.CH
Acq On : 7 Oct 2017 3:13 am Operator: YE
Sample : 8081 IDOCXLA-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:27:46 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

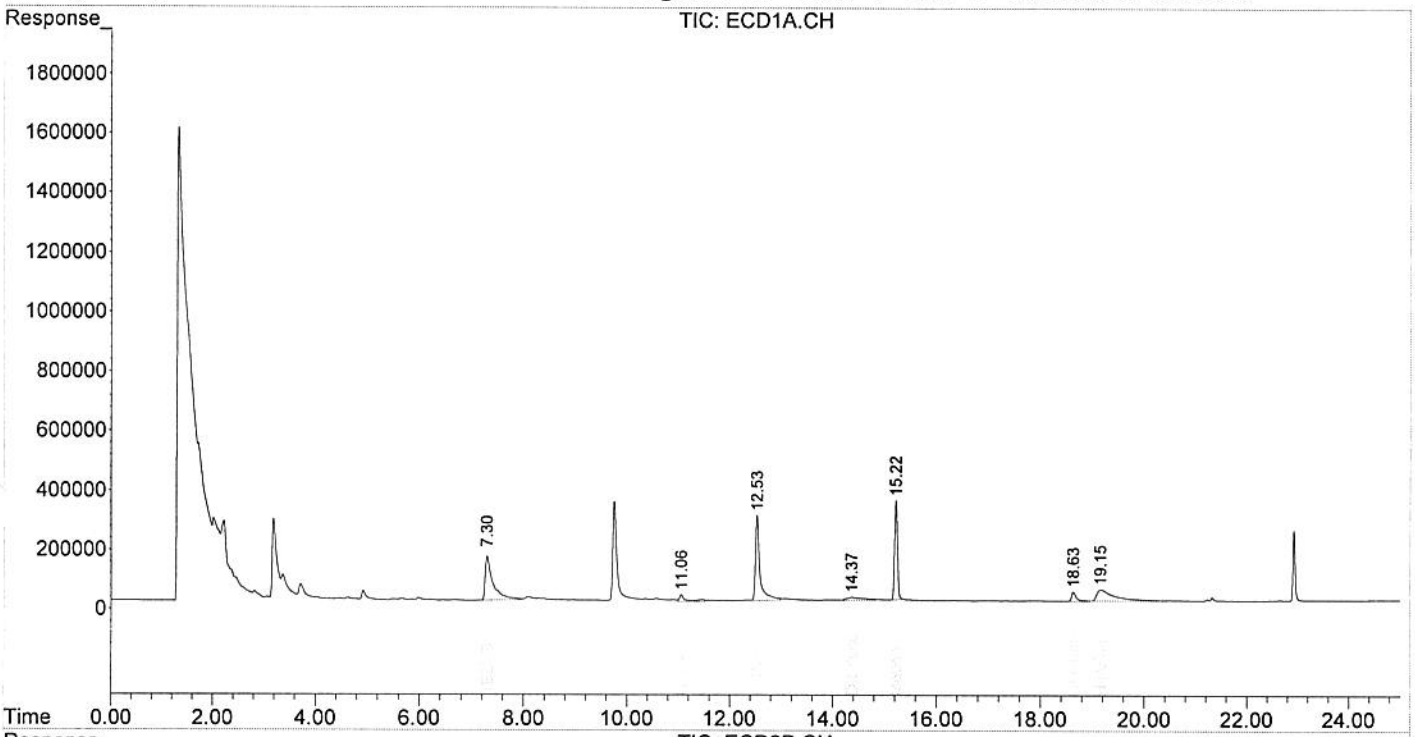
Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

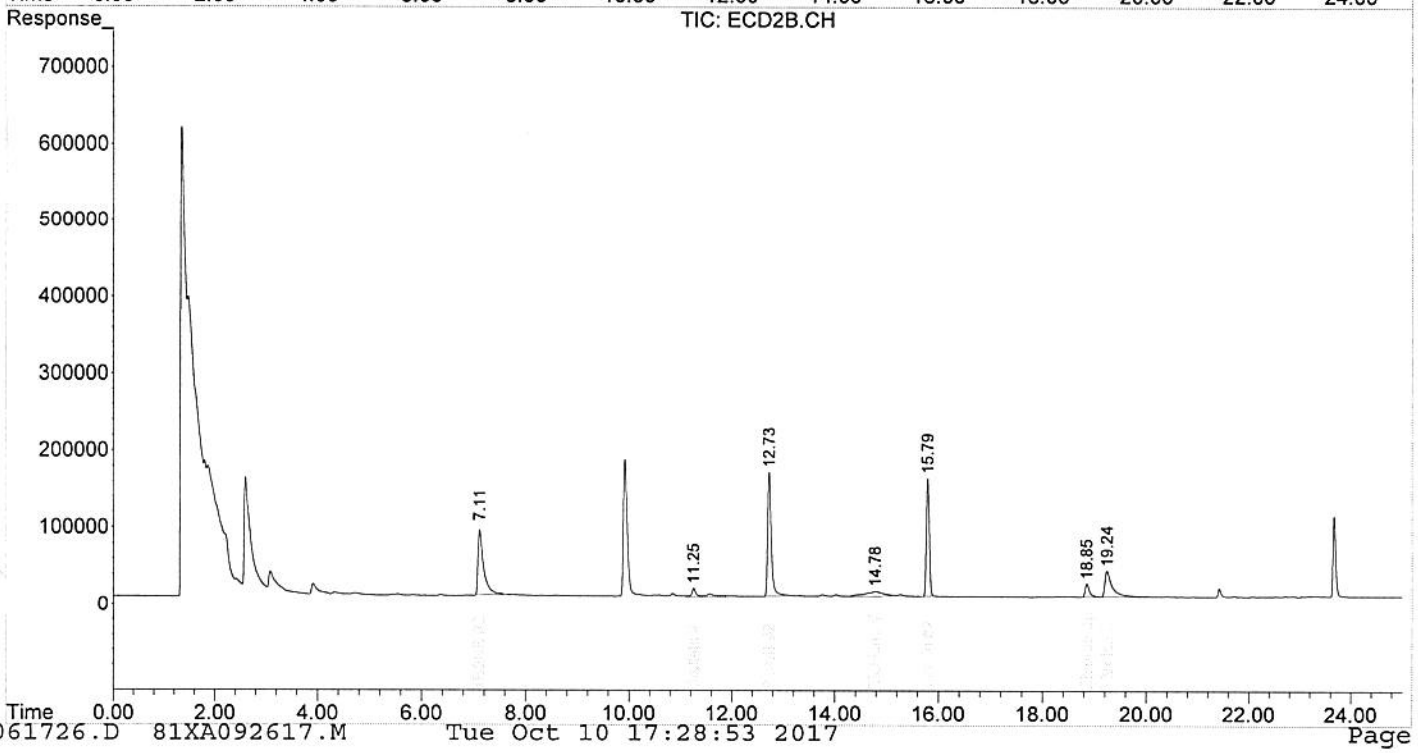
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B2NB	7.30	7.11	15305530	6240950	0.100m	0.100m
	Target Compounds						
2)	Diallate	11.06	11.25	2147751	1282819	13.840m	21.646m#
3)	PCNB	12.53	12.73	17280778	7775531	20.390m	20.078m
4)	Dichlone	14.37f	14.78f	2362857	1616961	27.037m	24.532m
5)	Isodrin	15.22	15.80	12848433	5952855	22.155	20.582
6)	Chloropropylate	18.63	18.85	1967813	1022704	28.282m	30.797m
7)	Nitrofen	19.15	19.24	9644032	3442230	22.637m	19.468m

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061726.D\ECD1A.CH Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061726.D\ECD2B.CH
Acq On : 7 Oct 2017 3:13 am Operator: YE
Sample : 8081 IDOCXLA-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:28 2017 Quant Results File: 81XA092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XA092617.M (Chemstation Integrator)
Title : 8081 XTENDED LIST A
Last Update : Tue Oct 10 16:54:24 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061731.D\ECD1A.CH Vial: 30
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061731.D\ECD2B.CH
Acq On : 7 Oct 2017 5:40 am Operator: YE
Sample : 8081S IDOCXLB-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:12:39 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

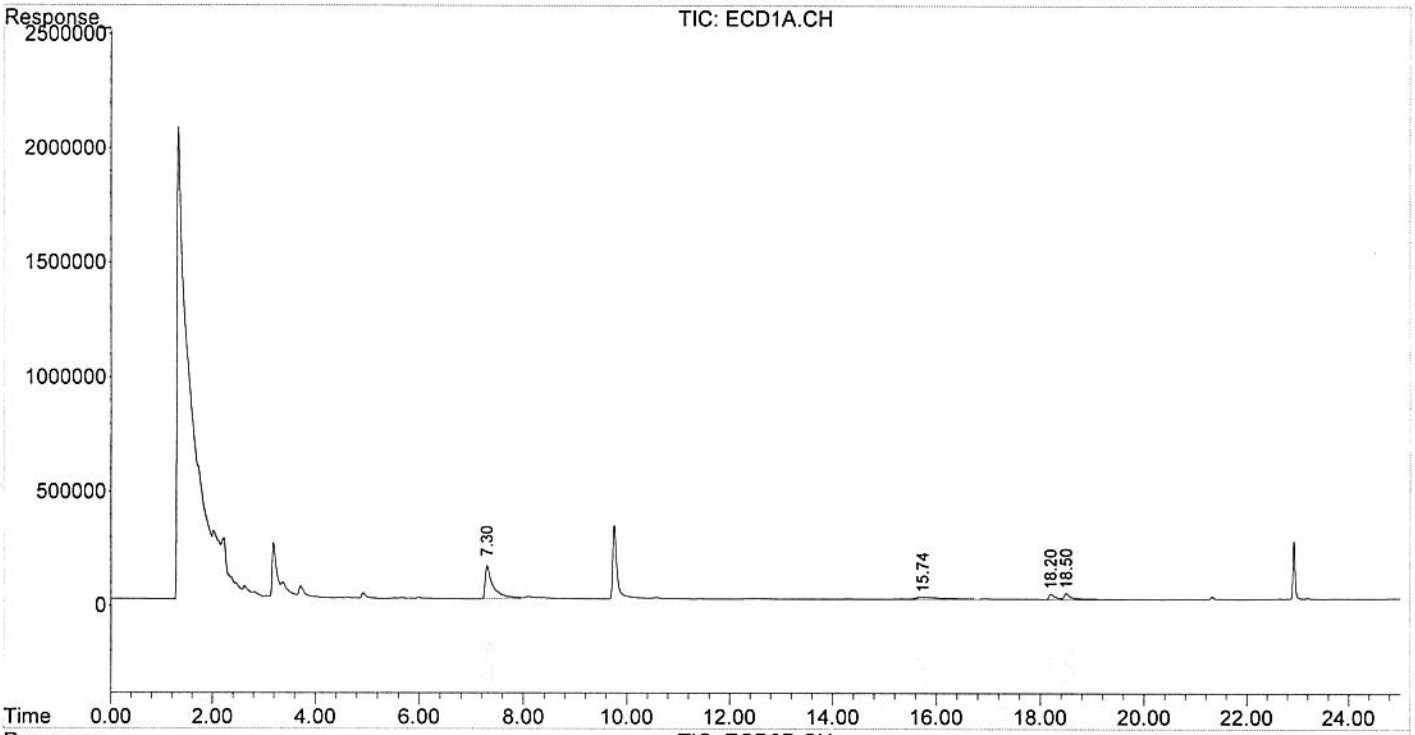
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B2NB	7.30	7.11	14928745	6470479	0.100m	0.100m
	Target Compounds						
2)	Dicofol	15.74	15.90	3664117	1524217	15.643m	13.930m
3)	Chlorobenzilate	18.20	18.95	2025831	867191	27.225m	22.379m
4)	Kepone	18.50	19.04	3490442	1106268	27.552m	19.059m#

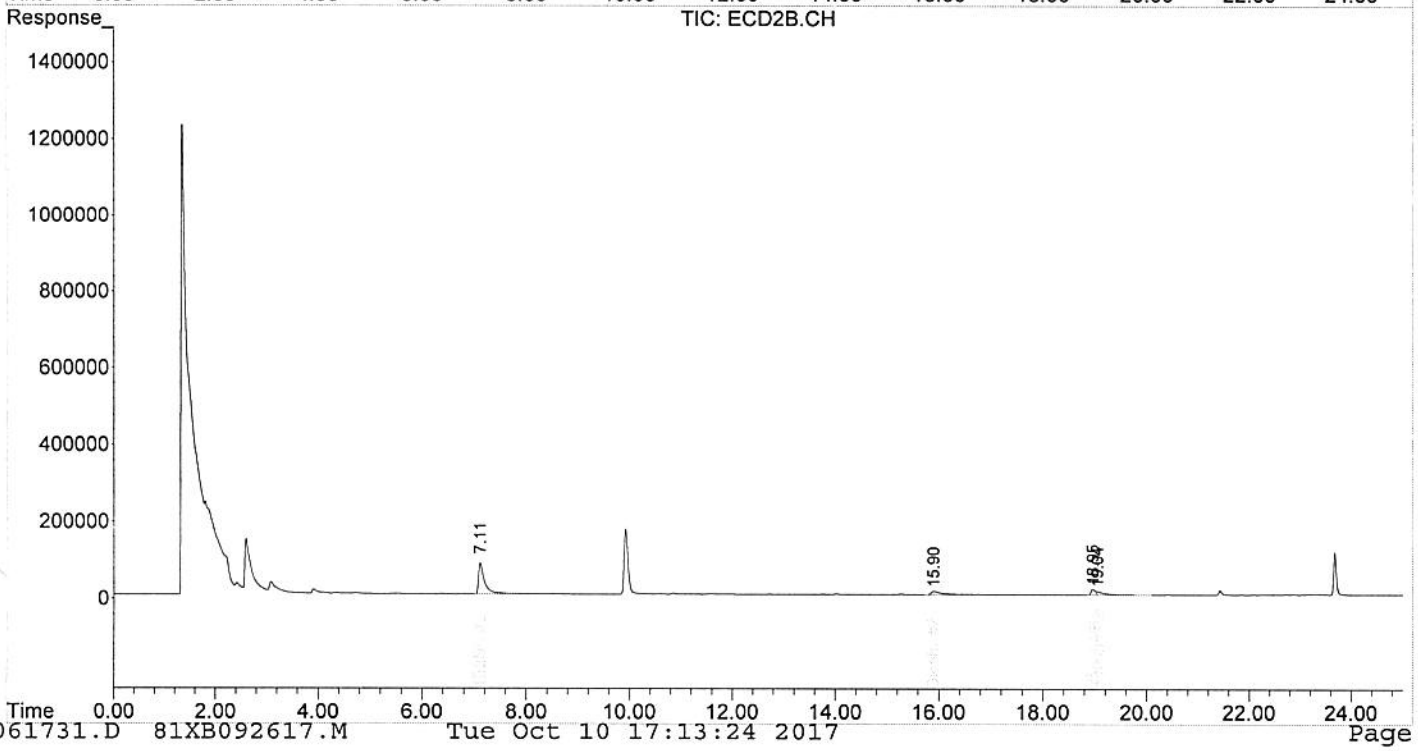
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061731.D\ECD1A.CH Vial: 30
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061731.D\ECD2B.CH
Acq On : 7 Oct 2017 5:40 am Operator: YE
Sample : 8081S IDOCXLB-01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:13 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061732.D\ECD1A.CH Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061732.D\ECD2B.CH
Acq On : 7 Oct 2017 6:10 am Operator: YE
Sample : 8081S IDOCXLB-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:31:53 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

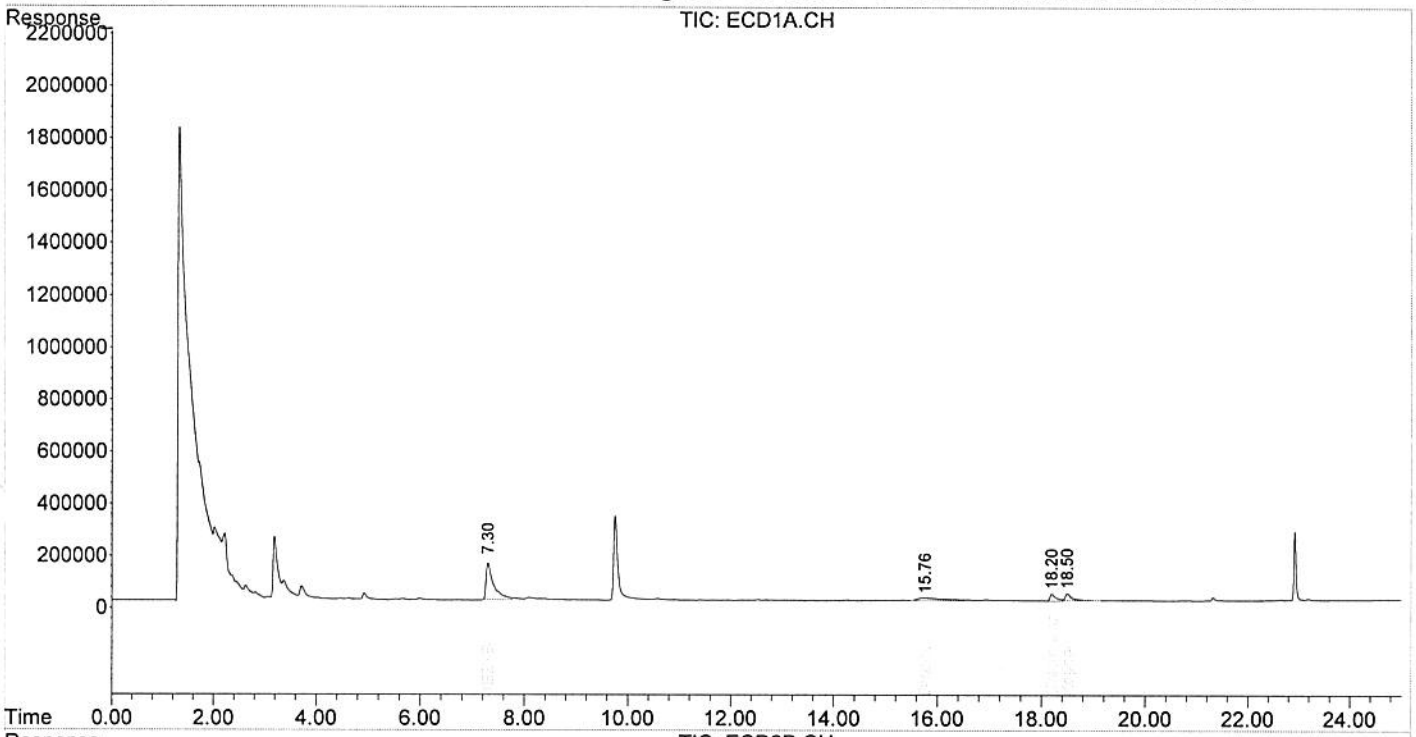
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	Internal Standards						
1) I	1B2NB	7.30	7.11	13963713	6240195	0.100m	0.100m
	Target Compounds						
2)	Dicofol	15.76	15.90	3181369	1458398	13.573m	13.686m
3)	Chlorobenzilate	18.20	18.95	2144305	806167	29.766m	21.597m#
4)	Kepone	18.50	19.04	2291806	1096524	18.762m	19.588m

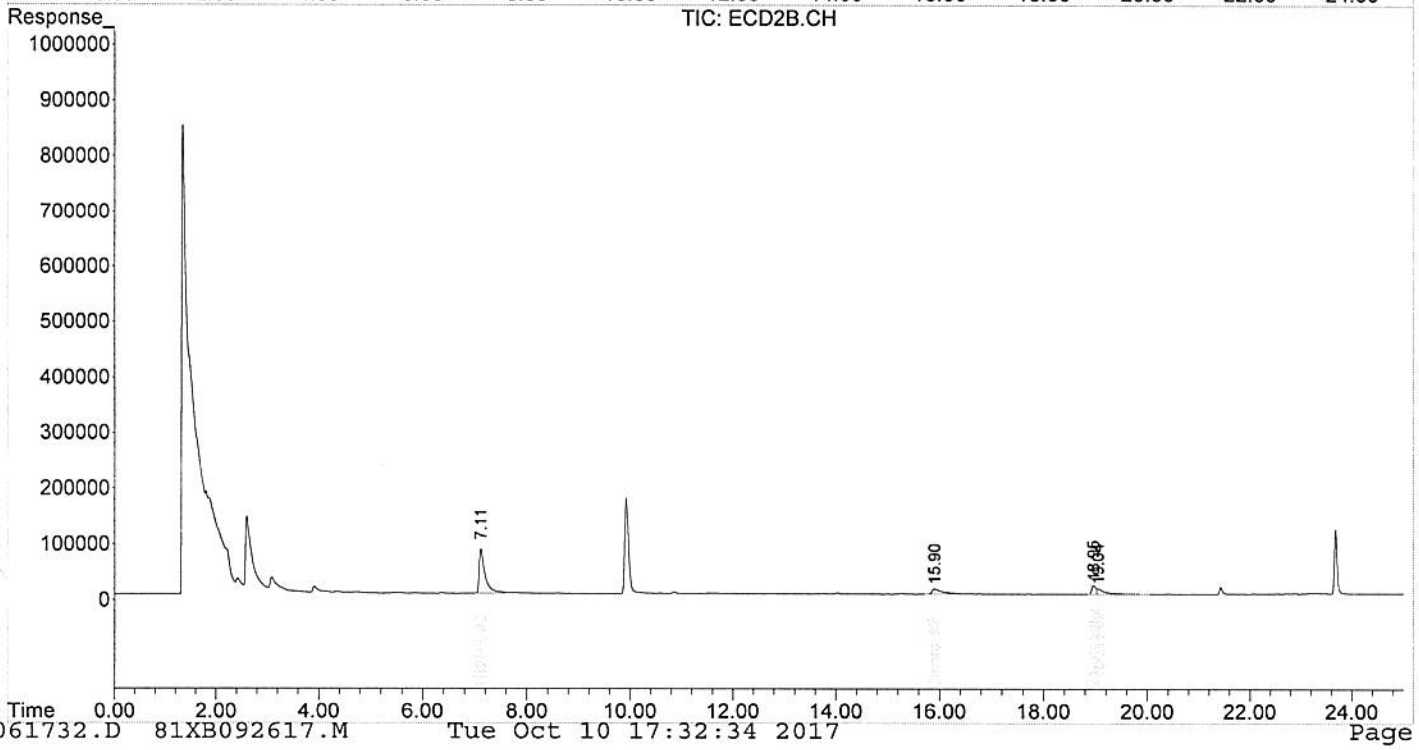
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061732.D\ECD1A.CH Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061732.D\ECD2B.CH
Acq On : 7 Oct 2017 6:10 am Operator: YE
Sample : 8081S IDOCXLB-02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:32 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061733.D\ECD1A.CH Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061733.D\ECD2B.CH
Acq On : 7 Oct 2017 6:39 am Operator: YE
Sample : 8081S IDOCXLB-03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:32:39 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

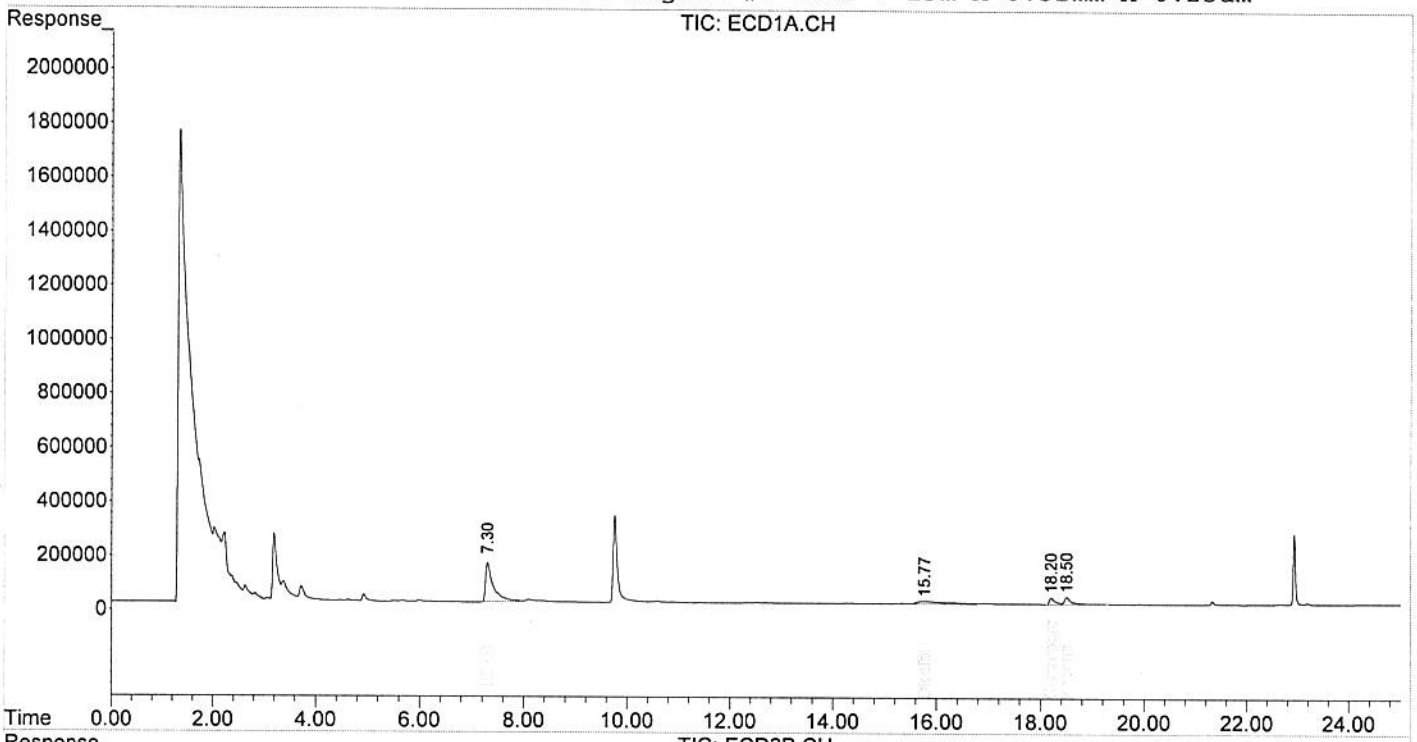
Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

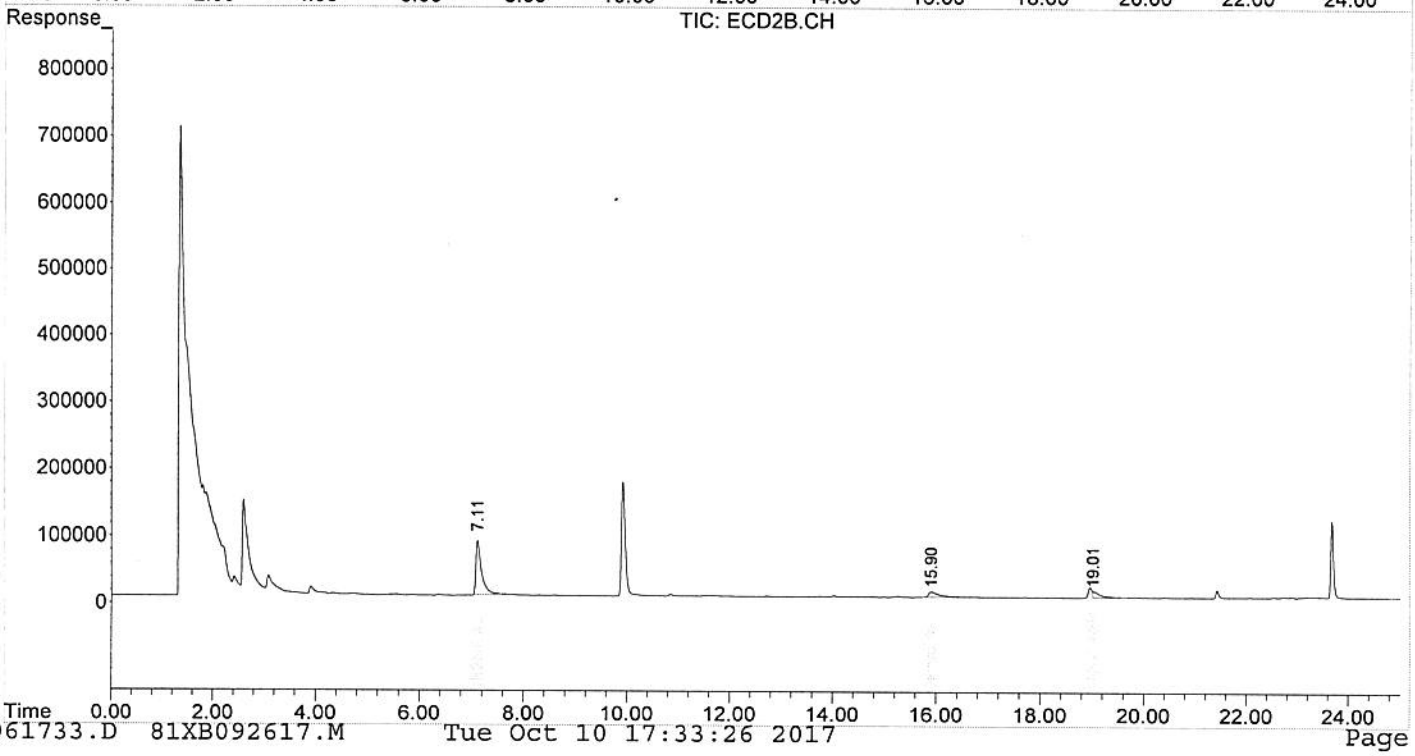
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	14696735	5947864	0.100m	0.100m
		Target Compounds						
2)		Dicofol	15.77	15.90	3673085	1359951	16.170m	13.020m
3)		Chlorobenzilate	18.20	18.96	2013087	929391	27.407m	25.974m
4)		Kepone	18.50	19.01	2318166	929857	17.976m	17.427m

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061733.D\ECD1A.CH Vial: 32
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061733.D\ECD2B.CH
Acq On : 7 Oct 2017 6:39 am Operator: YE
Sample : 8081S IDOCXLB-03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:33 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061734.D\ECD1A.CH Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061734.D\ECD2B.CH
Acq On : 7 Oct 2017 7:09 am Operator: YE
Sample : 8081S IDOCXLB-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:33:36 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

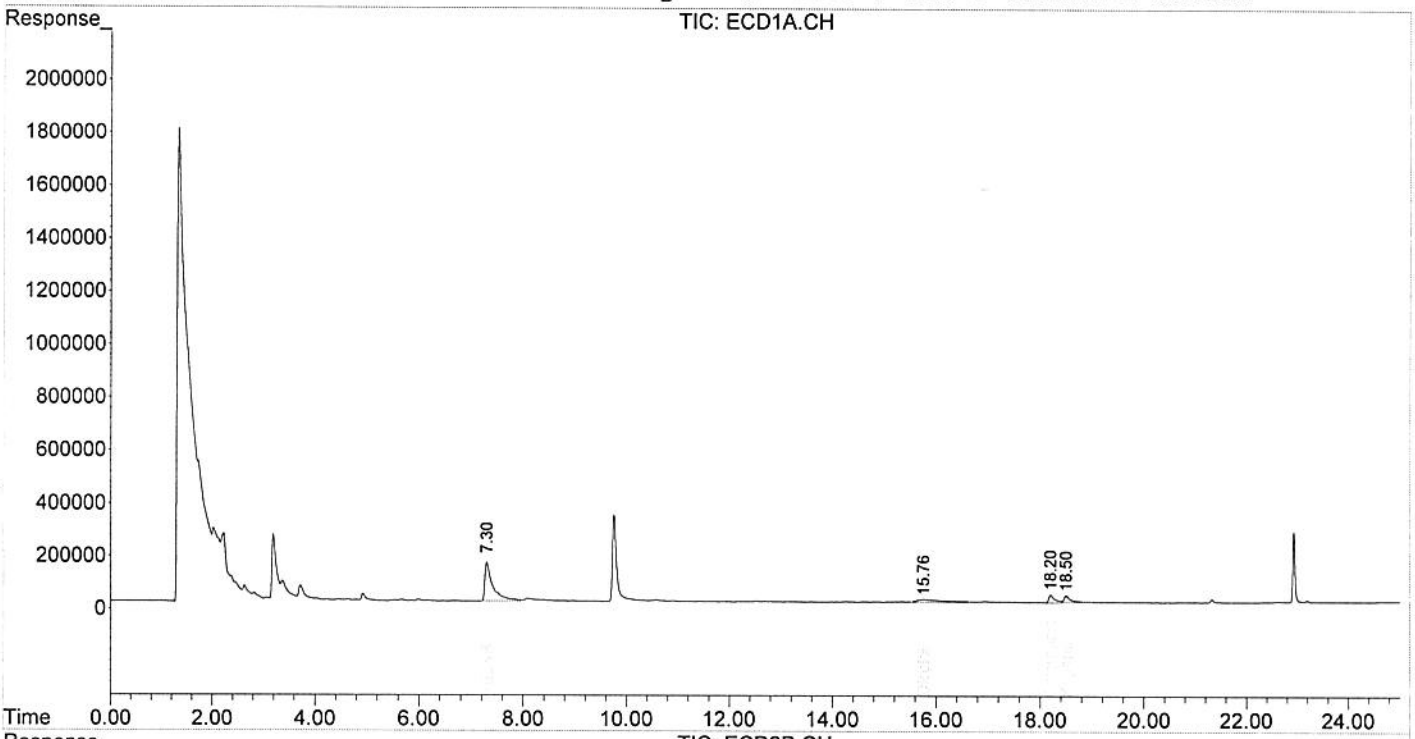
		Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
		Internal Standards						
1)	I	1B2NB	7.30	7.11	15333931	6504229	0.100m	0.100m
		Target Compounds						
2)		Dicofol	15.76	15.90	3116324	1480135	10.682m	12.878m
3)		Chlorobenzilate	18.20	18.96	2300035	851182	29.259m	21.868m#
4)		Kepone	18.50	19.05	2021163	983072	14.819m	16.848m

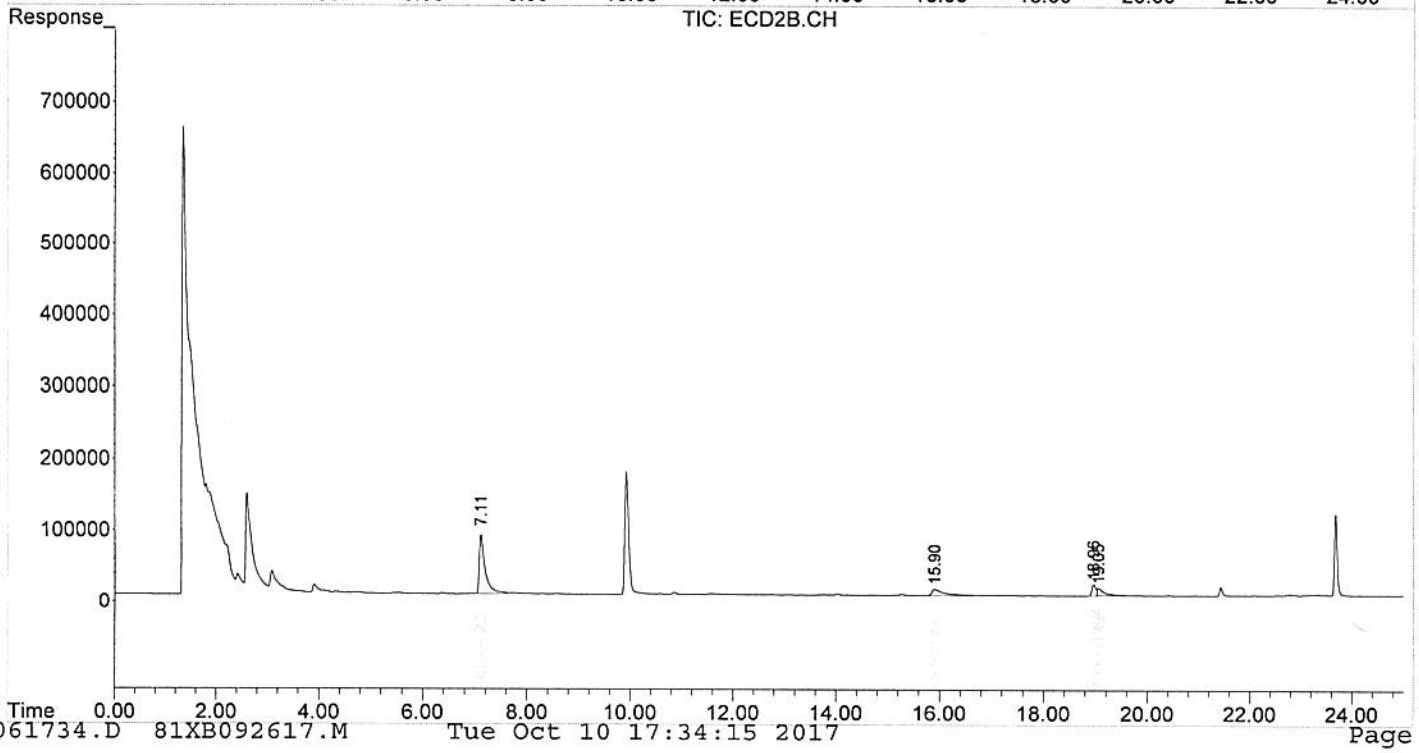
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061734.D\ECD1A.CH Vial: 33
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061734.D\ECD2B.CH
Acq On : 7 Oct 2017 7:09 am Operator: YE
Sample : 8081S IDOCXLB-04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 10 17:34 2017 Quant Results File: 81XB092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\81XB092617.M (Chemstation Integrator)
Title : 8081 EXTENDED LIST B
Last Update : Tue Oct 10 17:06:58 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061715.D\ECD1A.CH Vial: 14
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061715.D\ECD2B.CH
Acq On : 6 Oct 2017 9:49 pm Operator: YE
Sample : 8081 IDOC_01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:01:44 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

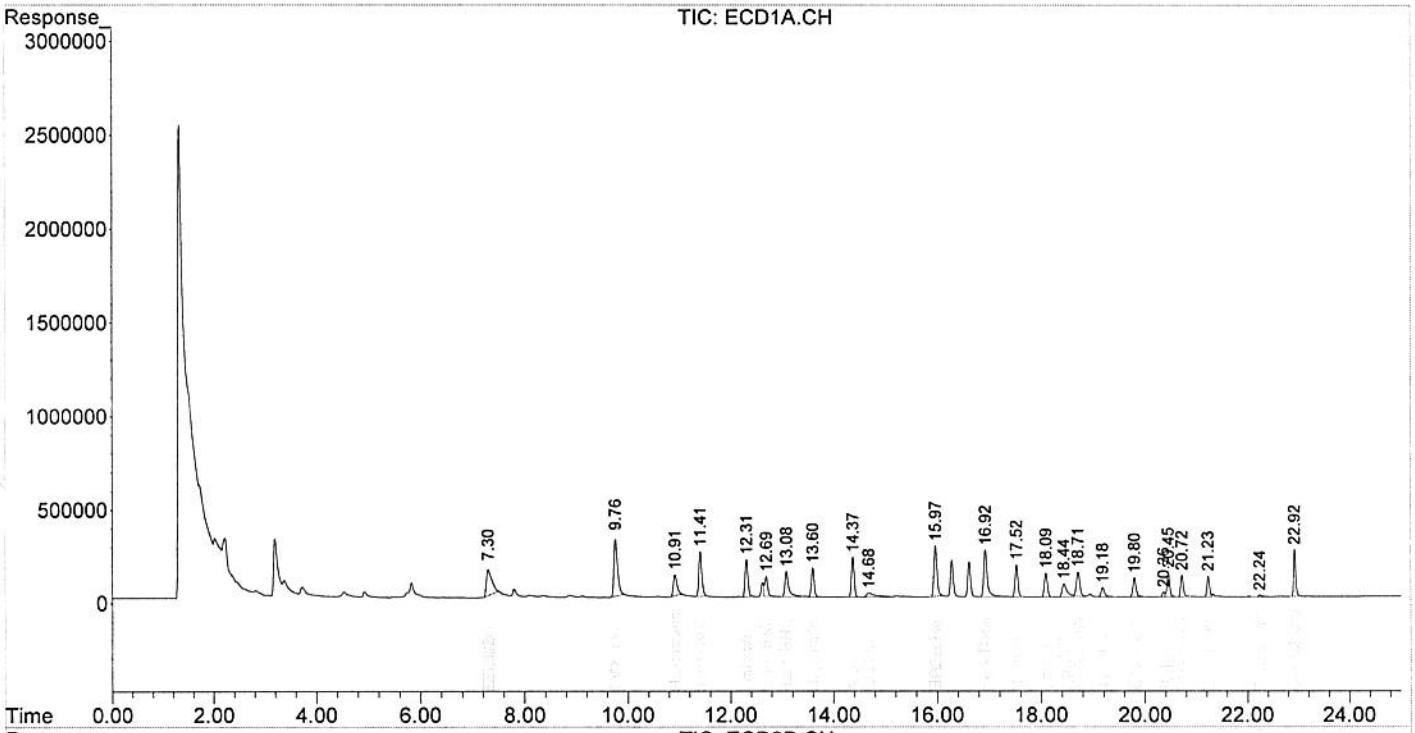
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.11	15060075	6722152	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.76	9.92	15232281	8391887	20.385	21.271
	Spiked Amount 1.000			Recovery	= 2038.50%		2127.10%
31) s	Decachlorobiphen	22.93	23.67	7132755	3869529	15.903	15.996
	Spiked Amount 1.000			Recovery	= 1590.30%		1599.60%
	Target Compounds						
2)	HCCPA	0.00	0.00	0	0	N.D.	N.D.
3)	Etridiazole	7.30f	0.00	10215863	0	37.716	N.D. #
4)	Chlorneb	0.00	0.00	0	0	N.D.	N.D.
6)	Propachlor	10.91	0.00	5695868	0	5.628	N.D. #
7)	Hexaclbenzene	10.91	11.79f	5695868	4232488	5.351	9.898 #
8)	alpha-BHC	11.41	11.79	9793748	4232488	9.519	9.823
9)	Lindane	12.31	12.81	7736128	3418456	8.531	8.949m
10)	Trifluralin	12.31f	0.00	7736128	0	24.166	N.D. #
11)	beta-BHC	12.69	13.15	4453748	1818074	8.775m	8.472m
12)	delta-BHC	13.08	13.93	7035014	4992711	12.636m	9.342m#
13)	Heptachlor	13.60	13.93	5947812	5001619	6.757m	9.227m#
14)	Aldrin	14.37	14.78	7784438	3455263	7.876	8.158m
15)	Chlorothalonil	14.68	14.47	2772638	826367	7.202m	5.601m
16)	DCPA	15.97	0.00	11217385	0	7.497	N.D. #
17)	Heptachlor epoxi	15.97	16.30	11217385	2904379	7.487	7.991m
18)	p'p-DDE	16.92	17.69	11929681	2647594	8.404m	6.842m
19)	Endosulfan I	16.92	17.26	11870461	2813482	8.551m	11.023m#
20)	Dieldrin	17.53	17.95	6488420	2360196	8.000	7.398m
21)	Endrin	18.09	18.77	5219410	2046470	7.556	7.811m
22)	p'p-DDD	18.44	19.27	4849810	1634335	10.533m	9.379m
23)	Endosulfan II	18.71	19.38	6309430	3119884	12.907m	14.322m
24)	p'p-DDT	19.18	19.99	2267980	695915	6.634m	6.343m
25)	Endrin aldehyde	19.80	20.19	4134714	1647527	15.419m	15.437m
26)	Methoxychlor	20.36	21.41	819998	718727	5.922m	14.478m#
27)	Endosulfan sulfa	20.72	20.76	4162175	1929130	10.331m	10.294m
28)	Mirex	20.45	21.58	4926074	1924155	7.190m	6.902m
29)	Endrin ketone	21.23	21.71	3747316	1546104	8.133m	7.636m
30)	Permethrins	22.24	22.88	564147	378995	11.377m	9.766m

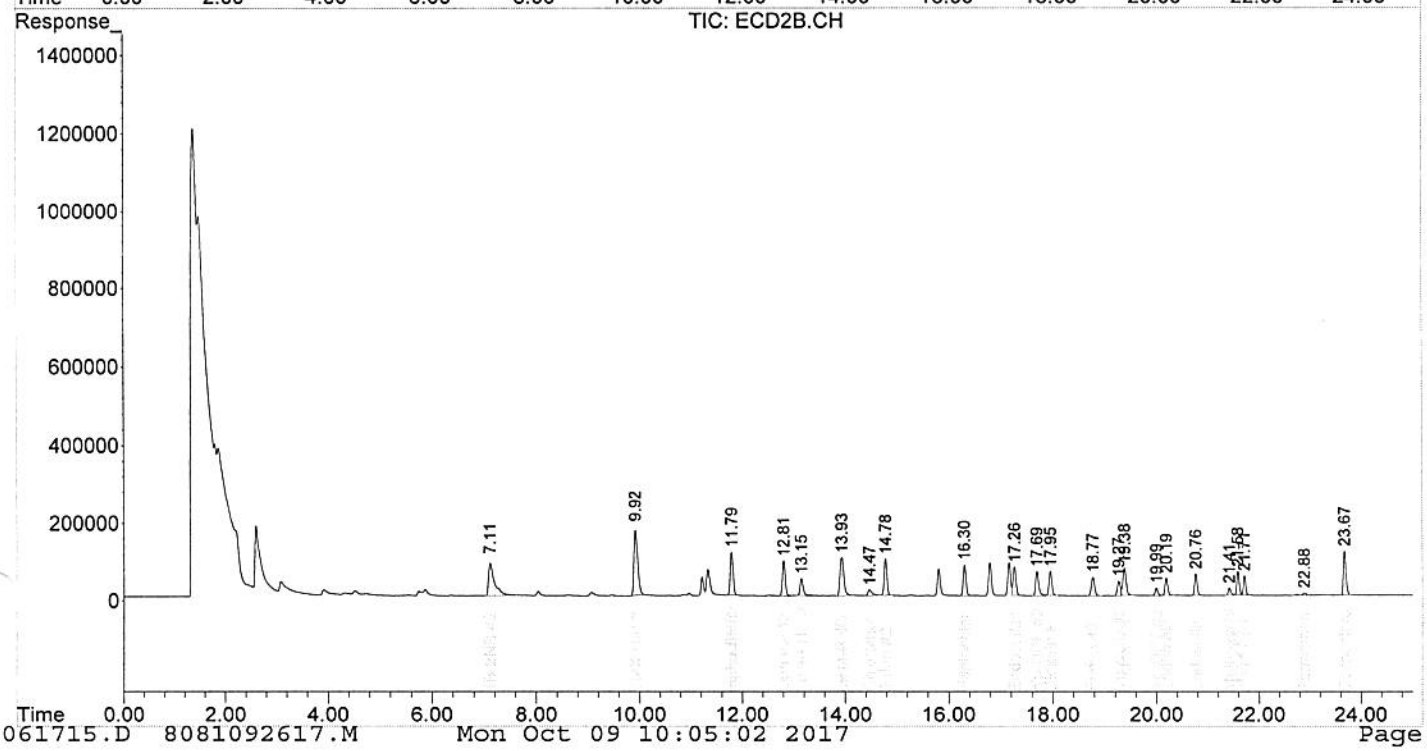
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061715.D\ECD1A.CH Vial: 14
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061715.D\ECD2B.CH
Acq On : 6 Oct 2017 9:49 pm Operator: YE
Sample : 8081 IDOC_01 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:04 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061716.D\ECD1A.CH Vial: 15
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061716.D\ECD2B.CH
Acq On : 6 Oct 2017 10:19 pm Operator: YE
Sample : 8081 IDOC_02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:05:09 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

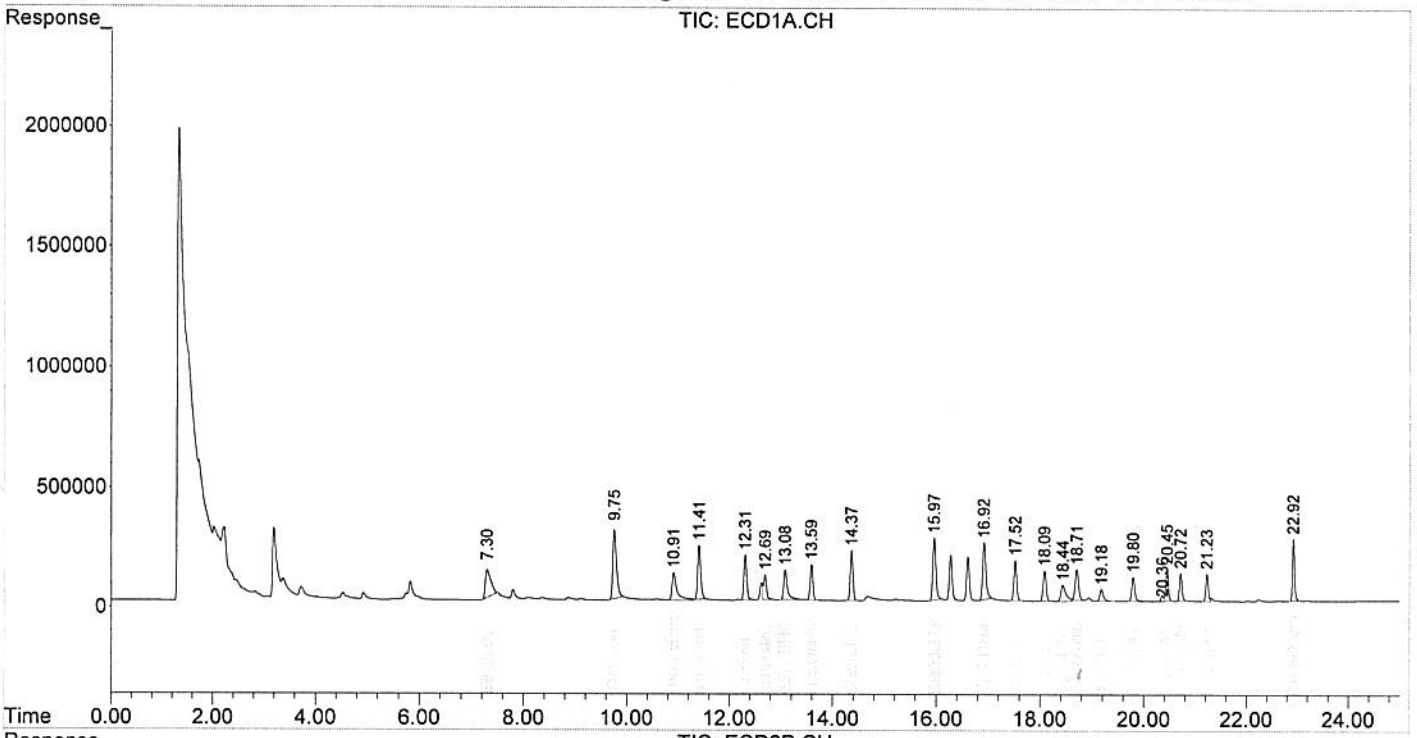
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.11	13549305	5846760	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.76	9.92	14432369	7923500	21.468	23.090
	Spiked Amount 1.000			Recovery	= 2146.80%		2309.00%
31) s	Decachlorobiphen	22.93	23.67	7316227	3972402	18.131	18.879
	Spiked Amount 1.000			Recovery	= 1813.10%		1887.90%
	Target Compounds						
2)	HCCPA	0.00	0.00	0	0	N.D.	N.D.
3)	Etridiazole	7.30f	0.00	8549850	0	34.974	N.D. #
4)	Chlorneb	0.00	0.00	0	0	N.D.	N.D.
6)	Propachlor	10.91	10.96	5195047	223022	5.705	8.103m#
7)	Hexaclbenzene	10.91	11.33	7701277	3174967	8.042m	8.536m
8)	alpha-BHC	11.41	11.79	9114307	3991033	9.846	10.649m
9)	Lindane	12.31	12.80	7196609	3092530	8.821	9.307m
10)	Trifluralin	12.69	0.00	6202779	0	21.537	N.D. #
11)	beta-BHC	12.69	13.15	4233578	1715365	9.419m	9.190m
12)	delta-BHC	13.08	13.93	6041128	4621703	12.061m	9.943m
13)	Heptachlor	13.59	13.93	5269164	4552568	6.653	9.656m#
14)	Aldrin	14.37	14.78	7444709	3505110	8.372	9.515m
15)	Chlorothalonil	14.37f	0.00	7444709	0	21.495	N.D. #
16)	DCPA	15.97	0.00	10648460	0	8.002	N.D. #
17)	Heptachlor epoxi	15.97	16.30	10648460	2742874	7.994	8.676m
18)	p'p-DDE	16.93	17.69	10402151	2544420	8.145	7.560m
19)	Endosulfan I	16.93	17.26	10402151	2809624	8.328	12.656m#
20)	Dieldrin	17.52	17.95	6288980	2405225	8.619	8.668m
21)	Endrin	18.09	18.77	5130366	2049963	8.255	8.995m
22)	p'p-DDD	18.44	19.27	4622361	1490788	11.158m	9.836m
23)	Endosulfan II	18.71	19.38	6079290	3209322	13.823m	16.939m
24)	p'p-DDT	19.18	19.99	2338611	711060	7.476m	7.192m
25)	Endrin aldehyde	19.80	20.18	4188587	1572051	17.361m	16.935m
26)	Methoxychlor	20.36	21.41	866265	692787	6.954m	16.006m#
27)	Endosulfan sulfa	20.72	20.76	3914744	1941414	10.800	11.911m
28)	Mirex	20.45	0.00	5544451	0	9.333	N.D. #
29)	Endrin ketone	21.23	21.71	3883975	1593520	9.369m	9.049m
30)	Permethrins	0.00	0.00	0	0	N.D.	N.D.

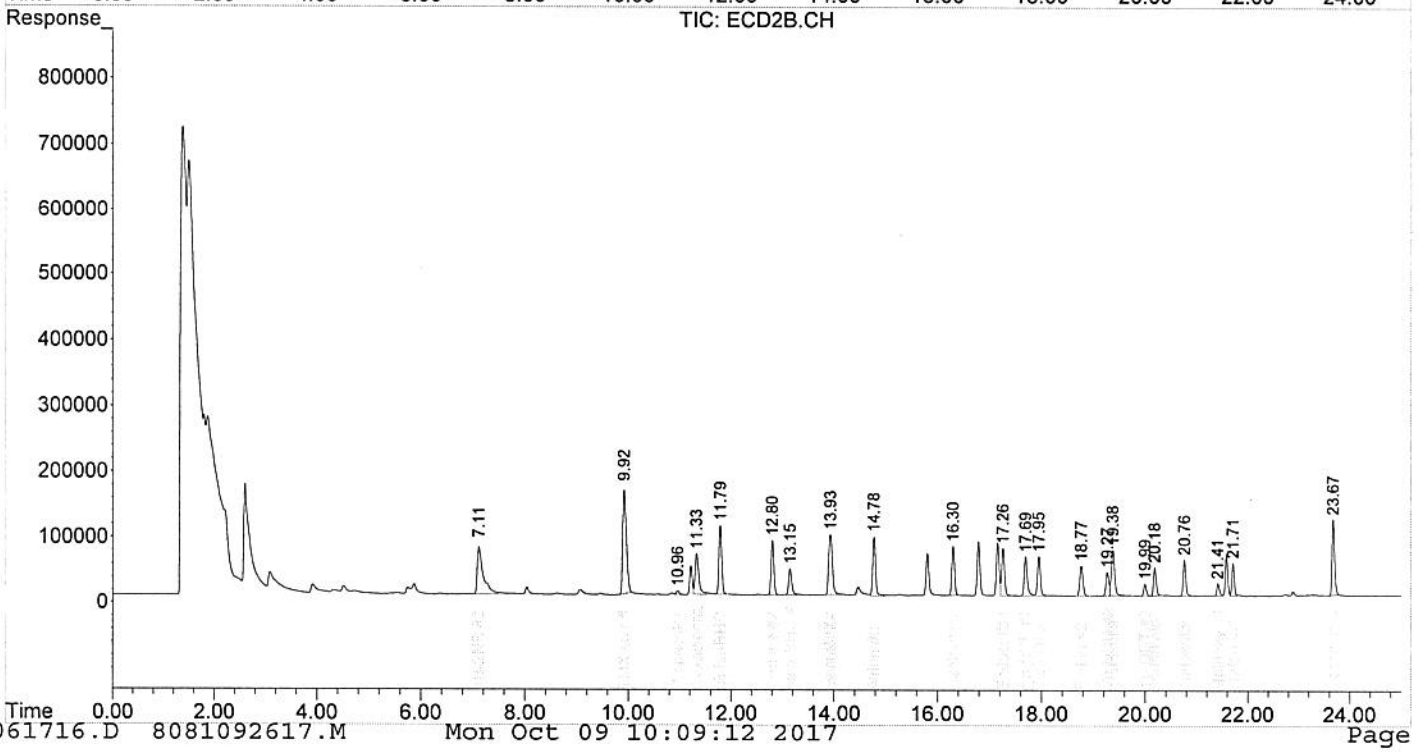
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061716.D\ECD1A.CH Vial: 15
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061716.D\ECD2B.CH
Acq On : 6 Oct 2017 10:19 pm Operator: YE
Sample : 8081 IDOC_02 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:08 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061717.D\ECD1A.CH Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061717.D\ECD2B.CH
Acq On : 6 Oct 2017 10:48 pm Operator: YE
Sample : 8081 IDOC_03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:09:18 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

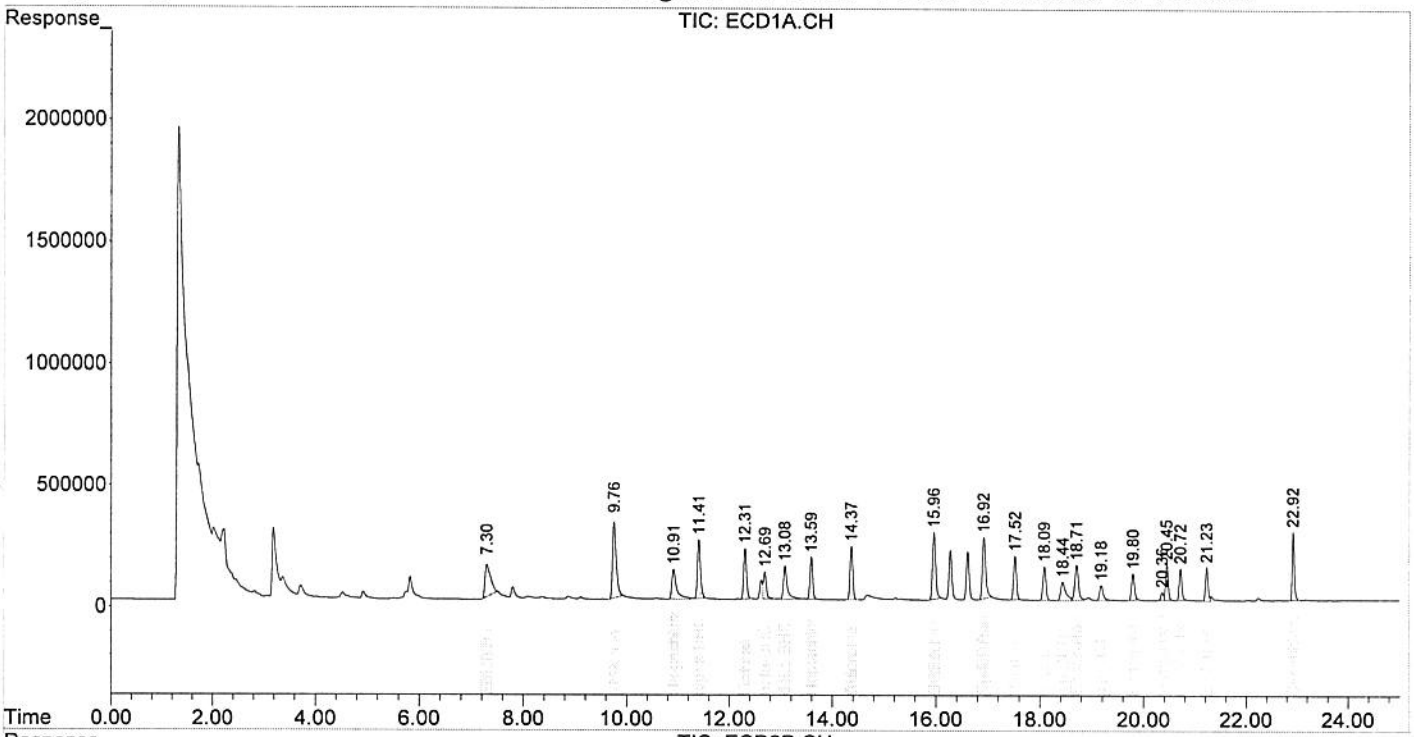
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.11	14640545	6355727	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.76	9.92	15452894	8463716	21.273	22.690
	Spiked Amount 1.000			Recovery	= 2127.30%		2269.00%
31) s	Decachlorobiphen	22.93	23.67	7862519	4457748	18.032	19.490
	Spiked Amount 1.000			Recovery	= 1803.20%		1949.00%
	Target Compounds						
2)	HCCPA	0.00	0.00	0	0	N.D.	N.D.
3)	Etridiazole	7.30f	0.00	9756170	0	37.023	N.D. #
4)	Chlorneb	0.00	0.00	0	0	N.D.	N.D.
6)	Propachlor	10.91	10.96	5664350	354387	5.757	11.914m#
7)	Hexaclbenzene	10.91	11.33	8020162	3464975	7.751m	8.570m
8)	alpha-BHC	11.41	11.79	9847645	4261599	9.845	10.461
9)	Lindane	12.31	12.80	8034555	3553538	9.114	9.838m
10)	Trifluralin	12.31f	0.00	8034555	0	25.818	N.D. #
11)	beta-BHC	12.69	13.15	4254062	1892465	8.579m	9.327m
12)	delta-BHC	13.08	13.93	6930814	5160940	12.806m	10.214m
13)	Heptachlor	13.60	13.93	6159913	5104070	7.198	9.959m#
14)	Aldrin	14.37	14.78	8040883	3463009	8.368	8.648m
15)	Chlorothalonil	14.37f	0.00	8040883	0	21.486	N.D. #
16)	DCPA	15.97	0.00	11405159	0	7.917	N.D. #
17)	Heptachlor epoxi	15.97	16.30	11405159	3061345	7.908	8.908m
18)	p'p-DDE	16.92	17.69	12401738	2755107	8.987m	7.530m
19)	Endosulfan I	16.93	17.26	11230000	3013116	8.321	12.485m#
20)	Dieldrin	17.52	17.95	6792451	2597053	8.615	8.610m
21)	Endrin	18.09	18.77	5527998	2218172	8.232	8.954m
22)	p'p-DDD	18.44	19.27	5091271	1700307	11.374m	10.320m
23)	Endosulfan II	18.71	19.37	7056526	3648108	14.849m	17.713m
24)	p'p-DDT	19.18	19.99	3015232	889049	8.754m	8.050m
25)	Endrin aldehyde	19.80	20.18	4118087	1826664	15.797	18.103m
26)	Methoxychlor	20.36	21.41	1221691	813819	9.076m	17.267m#
27)	Endosulfan sulfa	20.72	20.76	4404446	2126400	11.245	12.001m
28)	Mirex	20.45	0.00	5254135	0	8.007	N.D. #
29)	Endrin ketone	21.23	21.71	4781372	1878935	10.674m	9.815m
30)	Permethrins	0.00	0.00	0	0	N.D.	N.D.

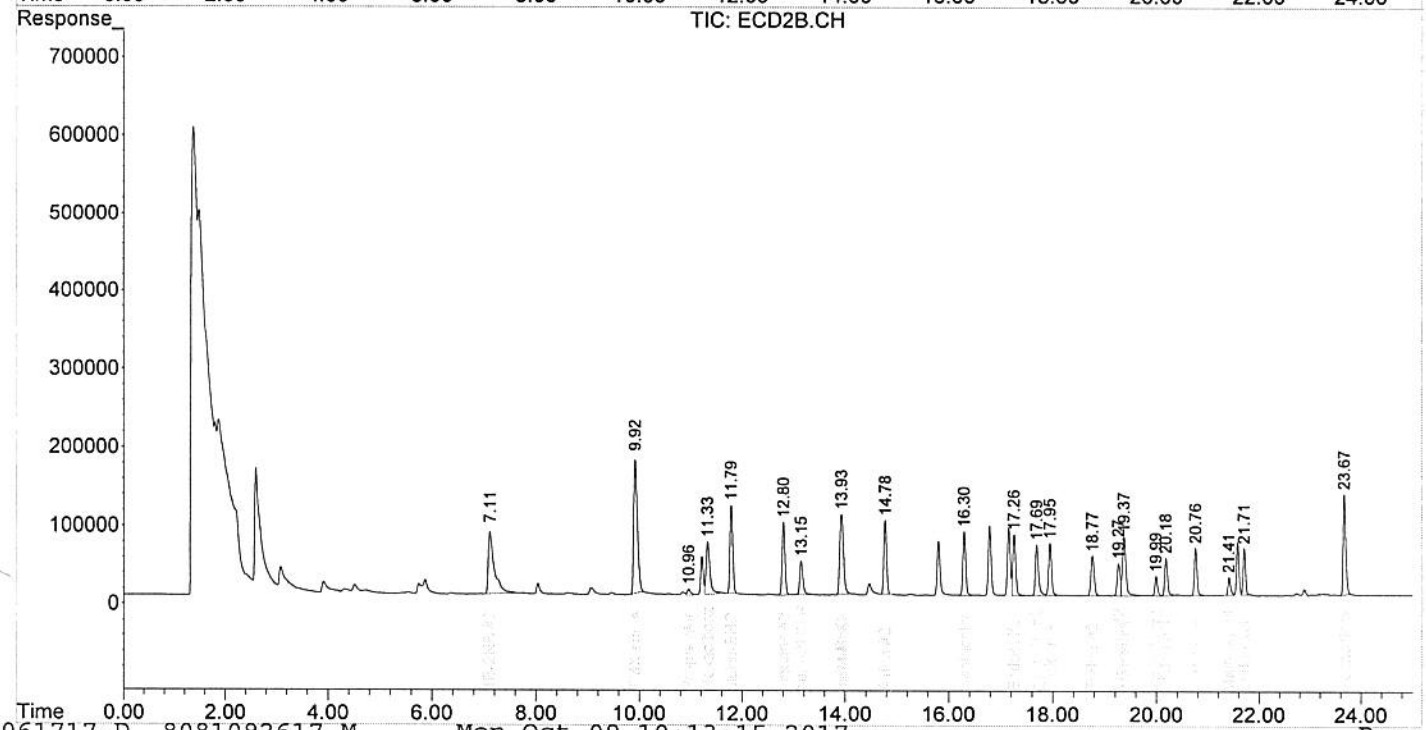
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061717.D\ECD1A.CH Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061717.D\ECD2B.CH
Acq On : 6 Oct 2017 10:48 pm Operator: YE
Sample : 8081 IDOC_03 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:13 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Signal #1 : C:\HPCHEM\1\DATA\10062017\10061718.D\ECD1A.CH Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061718.D\ECD2B.CH
Acq On : 6 Oct 2017 11:17 pm Operator: YE
Sample : 8081 IDOC_04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 09 10:13:26 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Initial Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um

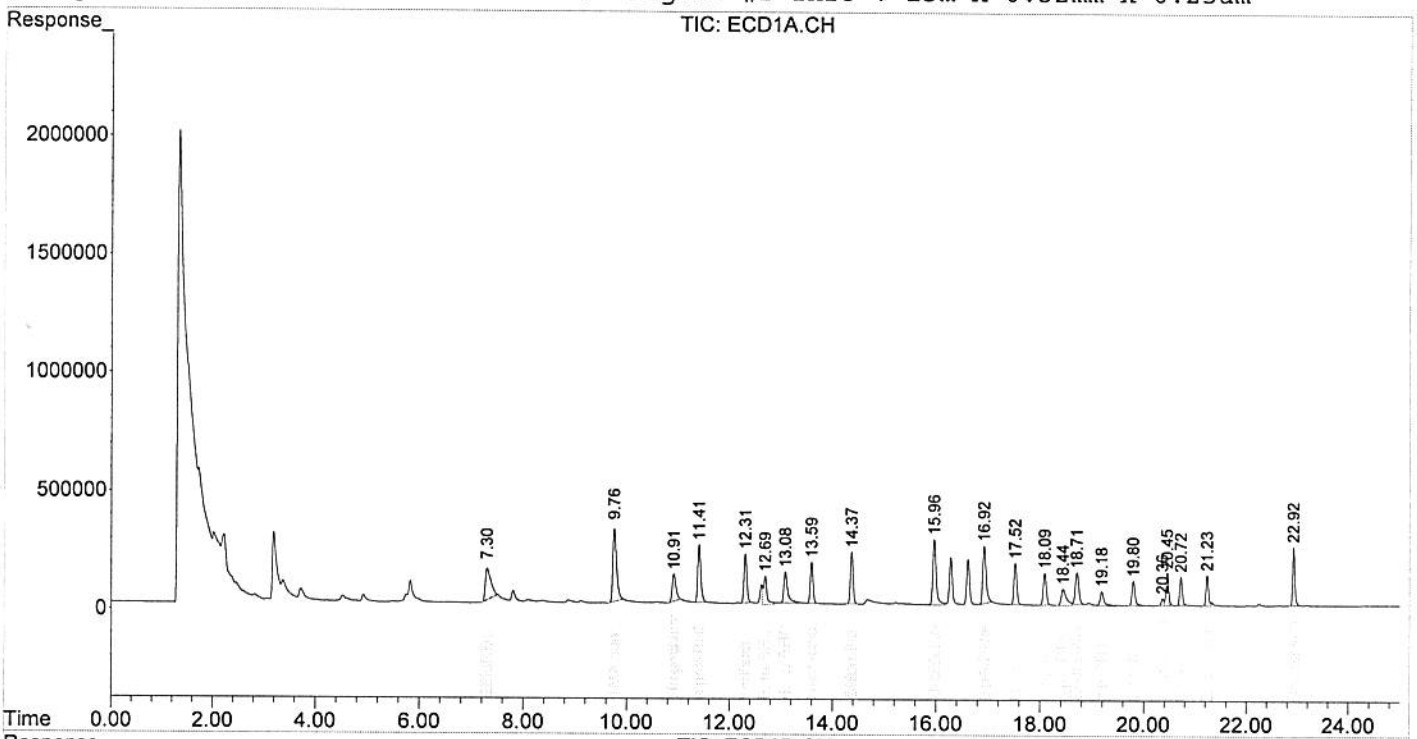
	Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2
	Internal Standards						
1) I	1B-2NB	7.30	7.11	15132914	6655583	0.100m	0.100m
	System Monitoring Compounds						
5) s	TMX surr	9.76	9.92	15390620	8417677	20.498	21.550
	Spiked Amount 1.000			Recovery	= 2049.80%		2155.00%
31) s	Decachlorobiphen	22.93	23.67	7061804	3849521	15.669	16.072
	Spiked Amount 1.000			Recovery	= 1566.90%		1607.20%
	Target Compounds						
2)	HCCPA	0.00	0.00	0	0	N.D.	N.D.
3)	Etridiazole	7.30f	0.00	9824406	0	36.028	N.D. #
4)	Chlorneb	0.00	0.00	0	0	N.D.	N.D.
6)	Propachlor	10.91	0.00	5621126	0	5.527	N.D. #
7)	Hexaclbenzene	10.91	11.79f	5621126	4241919	5.256	10.019 #
8)	alpha-BHC	11.41	11.79	9835594	4241919	9.513	9.943
9)	Lindane	12.31	12.80	8059561	3461662	8.845	9.152m
10)	Trifluralin	12.31f	0.00	8059561	0	25.056	N.D. #
11)	beta-BHC	12.69	13.15	5638105	1810171	11.869m	8.520m#
12)	delta-BHC	13.08	13.93	6576213	5231212	11.755m	9.886m
13)	Heptachlor	13.59	13.93	6262761	5064415	7.080	9.437m#
14)	Aldrin	14.37	14.78	7990543	3453528	8.045	8.236m
15)	Chlorothalonil	14.37f	0.00	7990543	0	20.656	N.D. #
16)	DCPA	15.97	0.00	11321232	0	7.537	N.D. #
17)	Heptachlor epoxi	15.96	16.30	12605757	2957128	8.586m	8.217m
18)	p'p-DDE	16.92	17.69	12261823	2652485	8.597m	6.923m
19)	Endosulfan I	16.93	17.26	10826595	2790023	7.761	11.040m#
20)	Dieldrin	17.52	17.95	6584364	2458063	8.079	7.782m
21)	Endrin	18.09	18.77	5383214	2192703	7.756	8.453m
22)	p'p-DDD	18.44	19.27	4705490	1644430	10.170m	9.531m
23)	Endosulfan II	18.71	19.38	6215590	3238176	12.654m	15.014m
24)	p'p-DDT	19.18	19.99	3183525	790787	8.923m	7.061m
25)	Endrin aldehyde	19.80	20.18	4276573	1684020	15.871m	15.937m
26)	Methoxychlor	20.36	21.41	984542	727074	7.077m	14.785m#
27)	Endosulfan sulfa	20.72	20.76	4101235	1938903	10.130	10.450m
28)	Mirex	20.45	21.58	4803328	1971574	6.945	7.143m
29)	Endrin ketone	21.23	21.71	4316883	1715176	9.324m	8.556m
30)	Permethrins	0.00	0.00	0	0	N.D.	N.D.

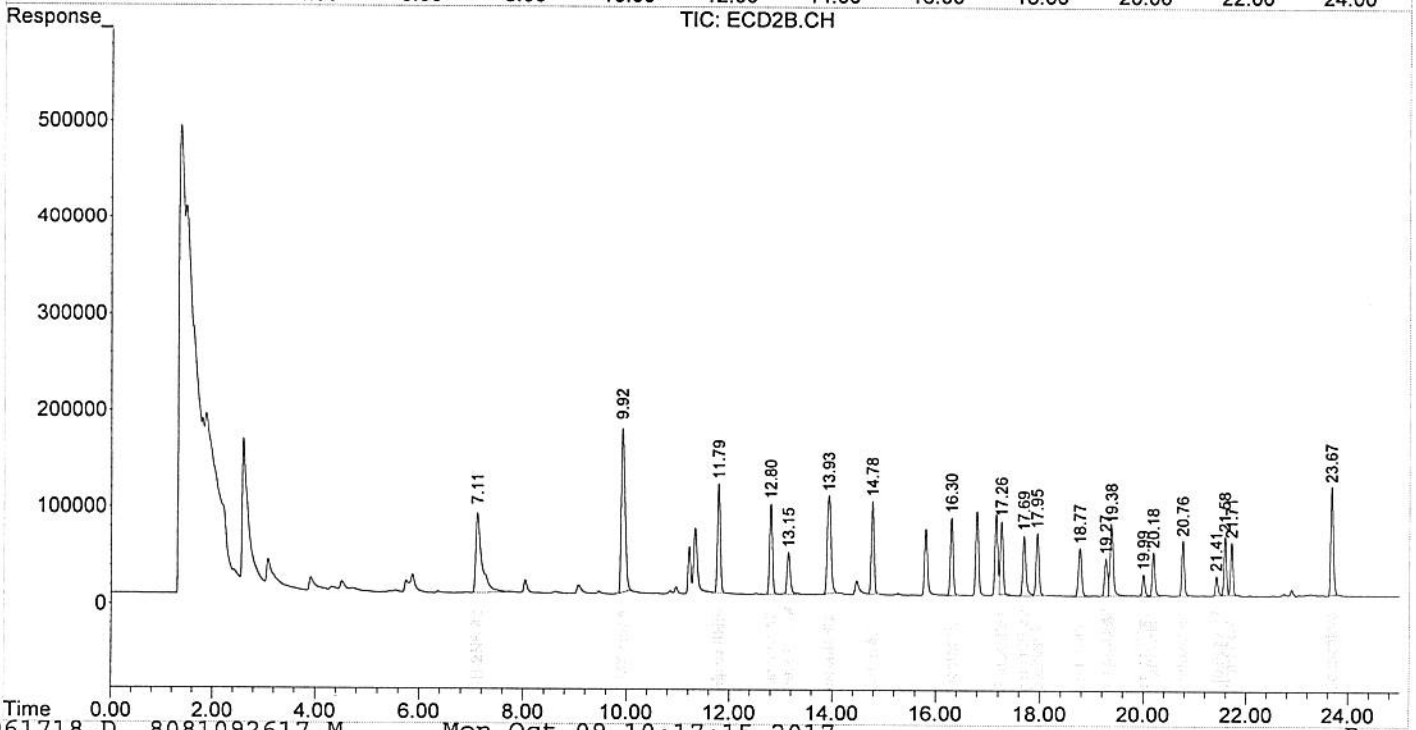
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Signal #1 : C:\HPCHEM\1\DATA\10062017\10061718.D\ECD1A.CH Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\10062017\10061718.D\ECD2B.CH
Acq On : 6 Oct 2017 11:17 pm Operator: YE
Sample : 8081 IDOC_04 Inst : Monica
Misc : Multiplr: 166.66
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E
Quant Time: Oct 9 10:17 2017 Quant Results File: 8081092617.RES

Quant Method : F:\MSDCHEM\2\METHODS\8081092617.M (Chemstation Integrator)
Title : EPA 8081 BY MONICA GC #1
Last Update : Mon Oct 09 08:39:13 2017
Response via : Multiple Level Calibration
DataAcq Meth : HP8081.M

Volume Inj. : 2-ul
Signal #1 Phase : Stx-CLPesticides Signal #2 Phase: Stx-CLPesticides2
Signal #1 Info : 15m x 0.32mm x 0. Signal #2 Info : 15m x 0.32mm x 0.25um





Soil Extraction Log — **Method:** 8081-IDOC — **Extraction Method_3550**

	Std. ID	Amt. Added	Initials
Surrogate	1700532	1ml	EP
Spike		1ml	EP
Internal Std.			

Batch#: N/A
Analyst: YE / AC
Date: 10-5-17
Transferred to vials by: EP / HR.

Initial Solvent: Hexane/Acetone (
Final Solvent: Hexane

Log #	Sample Description	Sample Date	Weight Extracted (g)	Final Vol	Clean up method	Comments
	MB EP	~~10-5-17~~	30.02	5ml	Cu	10-5-17
	LCS	–	–			
	MS	–	–			
	MSD	–	–			
8081 IDOC-1	SK Pest 100417-0.5ppm	10-5-17	30.00			
8081 IDOC-2	↓	10-5-17	30.00			
8081 IDOC-3	↓	10-5-17	30.00			
8081 IDOC-4	↓	10-5-17	30.00			
8081 XL-A IDOC-1	SK Pest XL-A 100417-1ppm	10-5-17	30.00			
8081 XL-A IDOC-2	↓	10-5-17	30.00			
8081 XL-A IDOC-3	↓	10-5-17	30.00			
8081 XL-A IDOC-4	↓	10-5-17	30.00			
8081 XL-B IDOC-1	SK Pest XL-B 100417-1ppm	10-5-17	30.00			
8081 XL-B IDOC-2	↓	10-5-17	30.00			
8081 XL-B IDOC-3	↓	10-5-17	30.00			
8081 XL-B IDOC-4	↓	10-5-17	30.00			
8081 Toxaphene IDOC-1	SK Toxaphene 100417-10ppm	10-5-17	30.00			
8081 Toxaphene IDOC-2	↓	10-5-17	30.00			
8081 Toxaphene IDOC-3	↓	10-5-17	30.00			
8081 Toxaphene IDOC-4	↓	10-5-17	30.00			
8081 Chlordane IDOC-1	SK Chlordane 100417-1ppm	10-5-17	30.00			
8081 Chlordane IDOC-2	↓	10-5-17	30.00			
8081 Chlordane IDOC-3	↓	10-5-17	30.00			
8081 Chlordane IDOC-4	↓	10-5-17	30.00	↓	↓	
			Balance ID	SV24	Sonicator	
			Cal. Date	10-5-17	1, 2	

Item	Lot #
Filter Paper:	465
Sodium Sulfate:	466
Sodium Sulfate Acidified:	
Silica Gel:	
Hydrochloric Acid:	
KOH 37%	
Sililic Acid:	
Sulfuric Acid 12N:	
Ethyl Ether	
Blank Sand	488
(specify size) pipette:	
Hexane	457
Tongue depressor	471
Pasteur pipette:	442
1.8 ml vials	482
1.8 mL vial caps:	480
20 mL vials:	
MTBE	
Diazomethane:	
Iso-Octane:	
Methanol:	
Hexane/Acetone 1:1:	SV 9-18-17 B
DCM/Acetone 1:1:	
Cu:	289
DCM:	

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	Sophia Andre	2-19-16
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 9066	☐ Water ☐ DW ☑ Solid ☐ Other: _____	020216-001
Analyte or Class of Analytes		
Phenol		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	2-19-16 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	2-19-16 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	2/19/16 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

12 690

Author: Lenovo

Date : 2/21/2016

Original Run Filename: OM_2-19-2016_05-32-31PM.OMN Created: 2/19/2016 5:32:31 PM
Original Run Author's Signature: [Lenovo]
Current Run Filename: OM_2-19-2016_05-32-31PM.OMN Last Modified: 2/21/2016 4:31:59 PM
Current Run Author's Signature: [Lenovo]
Description: PHENOL METHOD EPA 420.4/9066
10-210-00-1X

Sample	Rep.	Cup No.	Channel 2 PHENOL (MG/L)	MDF	
CAL STD TV=1.0 MG/L	1	1	1.00		
CAL STD TV=0.5 MG/L	1	2	0.500		
CAL STD TV=0.25 MG/L	1	3	0.250		
CAL STD TV=0.10 MG/L	1	4	0.100		
CAL STD TV=0.05 MG/L	1	5	0.0500		
CAL STD TV=0.01 MG/L	1	6	0.0100		
CAL STD TV=0.00 MG/L	1	7	0.00		
ICV TV=0.25 MG/L	1	59	0.264		106%
Calibration:			Table/Fig. : 1		
ICB	1	60	0.00240		
LCS TV=0.5 MG/L	1	58	0.496		99%
LCSD TV=0.5 MG/L	1	58	0.498		100%
IDOC-3	1	58	0.496		99%
IDOC-4	1	58	0.498		100%
16A0294-16A	1	1	1.08		
16A0294-16A DUP	1	2	1.08		
16A0294-16A	1	1	1.08		
16A0294-16A MS TV=0.5MG/L	1	56	1.59		
15G0252-16A	1	3	0.400		
15G0252-16A MS	1	4	0.982		
16A0294-16A	1	1	1.11	2.00	
16A0294-16A DUP	1	2	1.11	2.00	
16A0294-16A MS TV=0.5MG/L	1	56	1.61	2.00	
16A0294-16A MSD TV=0.5MG/L	1	56	0.806		
CCV TV=0.50 MG/L	1	57	0.514		103%
CCB	1	60	0.00754		
BLK S	1	8	-0.0572	12.00	
LCS S TV=6.0 MG/KG	1	9	5.99	12.00	100%
LCSD S TV=6.0 MG/KG	1	9	6.01	12.00	100%
IDOC-3	1	9	6.05	12.00	101%
IDOC-4	1	9	5.99	12.00	100%
16B0403-01A	1	10	0.146	12.00	
16B0403-01A ~~DUP~~ MS	1	11	5.45	12.00	88%
116B 403-01A MS TV=6.0MG/KG	1	12	5.46	12.00	89%
16B0403-01A DUP	1	13	0.132	12.00	
16A0294-16A MS TV=0.5MG/L	1	56	1.61	2.00	
16B0403-01A DUP	1	13	0.148	12.00	
LOD WATER 0.01	1	14	0.00736		
LOD SOIL	1	15	0.00519		
CCV TV=0.50 MG/L	1	57	0.512		102%
CCB	1	60	-0.00291		

Table : 1 (PHENOL)

	Known Conc. (MG/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (MG/L)	Detection Date	Detection Time
1	1.00	1	1.10	0.0846	0.0	1.0	0.989	2/19/2016	5:33:53 PM
2	0.500	1	0.576	0.0482	0.0	-2.5	0.513	2/19/2016	5:34:48 PM
3	0.250	1	0.307	0.0240	0.0	-6.7	0.268	2/19/2016	5:35:41 PM
4	0.100	1	0.116	0.00902	0.0	6.2	0.0932	2/19/2016	5:36:35 PM
5	0.0500	1	0.0667	0.00503	0.0	3.8	0.0478	2/19/2016	5:37:30 PM
6	0.0100	1	0.0180	0.00131	0.0	29.5	0.00335	2/19/2016	5:38:23 PM
7	0.00	1	0.0100	0.00111			-0.00400	2/19/2016	5:39:17 PM

IDC:

Matrix: Water (Soil) Air

Date of Analysis: 021916

Method Number: EPA 9066

Method Description: TOTAL PHENOLICS

Instrument Used: Lachat Quick Chem 8500 (wet 47)

☑	Raw Data Given to QA?
☐	All Crossouts Initialed, Dated and Explained?
☐	Calculations Referenced or Shown in Raw Data?

Standard Used:

Std ID #:	Conc:
Phenol Standard	6.0 mg/kg
476-S-GEN-09	

Comments:

Analyst Name: Sophia Andre

Yes / No

Units:

FILL IN COLORED CELLS ONLY

Page 1

COMPOUND	REPL 1	REPL 2	REPL3	REPL4	AVE	ACT'L CONC	% Recovery	%RSD
6.0 mg/kg STD	5.990	6.010	6.050	5.990	6.025	6.000	100.4	0.47%

Acceptance Criteria: 90-110%

Analyst Signature: Sophia Andre

Date: 2-19-16

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Estela Paz Martinez	EP.	12/6/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 351.2/EPA 365.4	☐ Water	0201217-002 TKN
Analyte or Class of Analytes	☐ DW	0201217-003 TP.
TKN/TP	☒ Solid	
	☐ Other: _____	

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Estela Paz *Analyst*	Estela *Signature*	12.5.18 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	12-5-18 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	12/6/18 *Date*

[1] True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

Document Control #: 0401116-002
Date:8/29/16

MATRIX:	Soil
DATE OF ANALYSIS:	11/30/2018
ANALYZED BY:	EP
METHOD NUMBER:	EPA 351.2 (TKN) EPA 365.4 (TP)
EXTRACTION METHOD (IF APPLY):	EPA 351.2 (TKN) EPA 365.4 (TP)
BALANCE ID	WET-20
INSTRUMENT ID:	WET-26
BLOCK DIGESTION ID:	WET-7
EXTRACTED BY:	EP
DATE EXTRACTED:	11/30/2018
ACCEPTANCE CRITERIA:	90-110%

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1026-S-GEN-07	5 ppm (TKN) 2.5 ppm (TP)
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg			
TKN	100	94.7	95.6	95.1	96.9	95.6	1.00	96	0.96
Total Phosphorus	50.0	52.9	49.3	52.4	52.1	51.7	3.13	103	1.62

Author: Lachat1

Date : 11/30/2018

Original Run Filename: OM_11-30-2018_02-49-02PM.OMN Created: 11/30/2018 2:49:02 PM
Original Run Author's Signature: [Lachat1]
Current Run Filename: OM_11-30-2018_02-49-02PM.OMN Last Modified: 11/30/2018 4:30:03 PM
Current Run Author's Signature: [Lachat1]
Description: TKN/TP METHOD 351.2/365.4

Sample	Rep.	Cup No.	Channel 1 TKN (mg N/L)	Channel 2 TP (mg P/L)	MDF	
ICB	1	90	0.0325	-0.0313		
		Calibration:		Table/Fig. : 1		
CCV TV=5.0/1.0	1	89	4.71	1.02		(94.2/102)%
		Calibration:	Table/Fig. : 2			
LCS TV=5.0/2.5 MG/L	1	88	4.60	2.64		(92/105.6)%
LCSD TV=5.0/2.5 MG/L	1	88	4.59	2.65		(91.8/106)%
~~RINSE~~	~~1~~	~~61~~	~~1.66e-3~~	~~-0.163~~		
18K0913-01A	1	1	1.45	0.521		
18K0913-01A DUP	1	2	1.43	0.526		
18K0913-01A MS TV=5.0/2.5MG/L	1	86	6.16	3.06		
18K0914-01A	1	3	57.4	45.6	10.00	5.74/4.56
18K0809-01B	1	4	1.31	0.618		
18K0809-02B	1	5	1.34	0.602		
18K0815-01B	1	6	0.0308	0.0950		
18K0815-02B	1	7	-0.0253	0.0542		
18K0815-03B	1	8	0.743	-0.0325		
18K0815-04B	1	9	1.08	0.217		
18K0815-05B	1	10	0.939	0.0710		
CCV TV=7.5/2.5 MG/L	1	87	6.86	2.66		(91.5/106.4)%
CCB	1	90	0.0350	-0.0297		
~~RINSE~~	~~1~~	~~61~~	~~-0.0123~~	~~-0.164~~		
18K0815-06B	1	11	1.03	0.115		
18K0815-07B	1	12	1.32	-0.0514		
18K0815-08B	1	13	1.27	-0.0174		
18K0815-09B	1	14	1.08	0.127		
18K0827-01B	1	15	0.264	0.119		
18K0827-01B MS TV=5.0/2.5MG/L	1	85	5.02	2.60		
18K0827-02A	1	16	0.321	-0.0265		
18K0830-01D	1	17	0.0622	-0.0428		
18K0830-04D	1	18	0.657	0.0654		
18K0840-02C	1	19	0.883	1.46		
18K0851-01B	1	20	-0.0248	-0.0517		
CCV TV=5.0/1.0	1	89	4.69	1.05		(93.8/105)%
ICB	1	90	0.0317	-0.0307		
LCS TV=5.0/2.5 MG/L	1	88	4.54	2.68		(90.8/107.2)%
LCSD TV=5.0/2.5 MG/L	1	88	4.56	2.68		(91.2/107.2)%
RINSE	1	61	-0.0116	-0.156		
18K0851-02B	1	21	-0.0198	-0.0139		
18K0851-03B	1	22	0.740	0.0764		
18K0851-03B DUP	1	23	0.744	0.0824		
18K0851-03B MS TV=5.0/2.5MG/L	1	84	5.70	2.68		
18K0851-04B	1	24	0.534	0.123		
18K0851-05B	1	25	1.02	0.159		
18K0882-01B	1	26	-0.0369	0.0925		
18K0882-02B	1	27	-0.0413	0.0379		
18K0882-03B	1	28	0.990	0.0892		
18K0882-04B	1	29	0.670	-0.0165		
18K0882-05B	1	30	0.980	0.0627		
CCV TV=7.5/2.5 MG/L	1	87	7.08	2.67		(94.4/106.8)%
ICB	1	90	1.44	-0.0233		
~~RINSE~~	~~1~~	~~61~~	~~-7.86e-3~~	~~-0.154~~		
ICB	1	90	0.166	0.0728		
18K0815-01B	1	6	0.0351	0.0822		
18K0882-01B	1	26	-0.0427	0.0493		
~~RINSE~~	~~1~~	~~61~~	~~-0.0156~~	~~-0.152~~		
CCV TV=5.0/1.0	1	89	4.64	1.04	42	(92.8/104)%
ICB	1	90	-2.66e-3	-0.172		
SOIL BLK	1	78	-0.877	0.453	20.00	
LCS TV=100.0/50 MG/KG	1	77	96.6	52.6	20.00	(96.6/105.2)%
LCSD TV=100/50 MG/KG	1	77	97.0	52.7	20.00	(97.0/105.4)%
~~RINSE~~	~~1~~	~~61~~	~~-8.32e-3~~	~~-0.147~~		

Author: Lachat1

Date : 11/30/2018

18K0822-01A	1	76	1.67e+3	1.04e+3	80.00	out of the range
18K0822-01A DUP	1	75	1.67e+3	1.02e+3	80.00	
18K0822-01A MS TV=400/200MG/KG	1	74	2.00e+3	1.17e+3	80.00	
IDOC-EP1	1	73	98.7	56.2	20.00	98.7/112.4 - rerun.
~~RINSE~~	~~1~~	~~61~~	~~0.0278~~	~~-0.135~~		
IDOC-EP2	1	72	95.6	49.3	20.00	(45.6/98.6)%
IDOC-EP3	1	71	95.1	52.4	20.00	95.1
~~IDOC-EP4~~	~~1~~	~~70~~	~~32.4~~	~~13.0~~	~~20.00~~	empty cup
IDOC-EP4	1	70	96.9	52.1	20.00	(96.9%/104.2)%
18K0822-01A	1	76	1.14e+3	322	~~400.00~~ 800	2272/643.2
18K0822-01A DUP	1	75	1.13e+3	295	~~400.00~~ 800	8264/589.6
18K0822-01A MS TV=400/200MG/KG	1	74	1.48e+3	367	~~400.00~~ 800	2968/733.6
~~RINSE~~	~~1~~	~~61~~	~~1.32~~	~~0.470~~		
IDOC-EP1	1	73	94.7	52.9	20.00	(94.7/105.8)%
~~RINSE~~	~~1~~	~~61~~	~~0.893~~	~~0.269~~		
CCV TV=7.5/2.5 MG/L	1	87	6.79	2.70		(90.5/108)%
CCB	1	90	0.0190	-0.130		

Table : 1 (TP)

	Known Conc. (mg P/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg P/L)	Detection Date	Detection Time
1	5.00	1	23.7	1.88	0.0	0.0	5.00	7/31/2018	12:24:26 PM
2	2.50	1	11.8	0.909	0.0	0.4	2.49	7/31/2018	12:33:18 PM
3	1.00	1	4.75	0.352	0.0	-0.3	1.00	7/31/2018	12:26:39 PM
4	0.500	1	2.46	0.172	0.0	-4.3	0.521	7/31/2018	12:28:11 PM
5	0.250	1	1.18	0.0777	0.0	-0.2	0.251	7/31/2018	12:28:52 PM
6	(0.100)	(1)	(0.0229)	(2.11e-3)					
7	0.0500	1	0.224	0.0120	0.0	1.7	0.0492	7/31/2018	12:38:04 PM
8	0.00	1	-0.0864	-0.0115			-0.0162	7/31/2018	12:42:08 PM

Figure : 1 (TP)

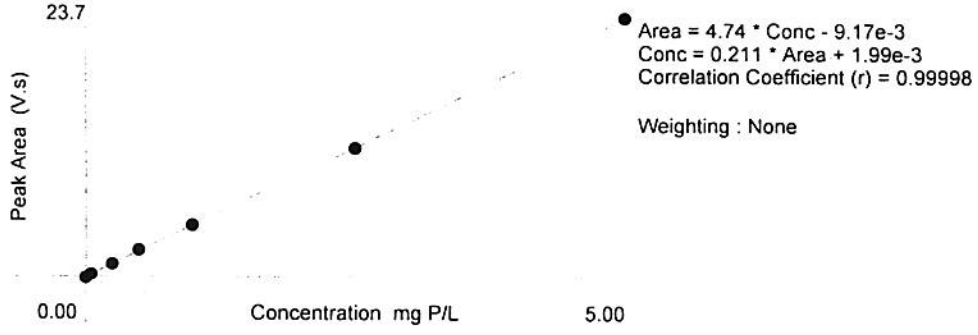


Table : 2 (TKN)

	Known Conc. (mg N/L)	Rep.	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc (mg N/L)	Detection Date	Detection Time
1	15.0	1	31.4	2.02	0.0	-0.3	15.0	10/10/2018	11:11:32 AM
2	7.50	1	15.7	1.02	0.0	0.4	7.47	10/10/2018	11:12:39 AM
3	5.00	1	10.2	0.662	0.0	3.2	4.83	10/10/2018	11:13:46 AM
4	2.50	1	5.70	0.369	0.0	-5.8	2.65	10/10/2018	11:43:42 AM
5	1.00	1	2.31	0.150	0.0	-0.9	1.01	10/10/2018	11:15:57 AM
6	0.500	1	1.19	0.0776	0.0	5.2	0.470	10/10/2018	11:17:03 AM
7	0.200	1	0.582	0.0365	0.0	7.7	0.178	10/10/2018	11:18:11 AM
8	0.00	1	0.305	0.0203			0.0436	10/10/2018	11:48:52 AM

TKN/TKP DIGESTION LOGBOOK
FLEN EPA 351.2/365.4

Batch	N/A
Analyst	EP
Date/Time	11-30-18 / 11:03am
Digestion solution ID	1013-R-605-04
Block Digester ID	WET-41
Block Digester ID	WET-7
Balance	Wet-20
Balance Cal Date	11-30-18
pH Strips	58-WC-08
Boiling Chips	59-WC-06
Pipette	001

ID	Concentration
	15/5.0
	7.5/2.5
	5.0/1.0
	2.5/0.5
	1.0/0.25
	0.5/0.10
	0.1/0.025
	0.0/0.0

Log #	Sample ID	Matrix	DF	pH	Volume used (mL)	Comments mg/kg
ICV						TV=
Blank Sand SV-367	SV 488	S	20	N/A	1.0g/20mL	
LCS	1025-S-Ecs-17					TV= 100/50 mg/kg. SAND SV-367
LCSD	↓					TV= ↓
IDOC-EP 1	IDOC #1					
IDOC-EP 2	IDOC #2					
IDOC-EP 3	IDOC #3					
IDOC-EP 4	IDOC #4	↓	↓	↓	↓	
CCV						TV=
CCB						
						EP 11/30/18
CCV						TV=
CCB						
MS1						TV=
MS2						TV=

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Sophia Andre	Sophia Andre	12/31/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
FSE-TOX/TITR	☐ Water ☐ DW ☑ Solid ☑ Other: Chemical Materials	020l219-02l
Analyte or Class of Analytes		
Total Halogens		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	12-31-19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	12-31-19 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	12/31/19 *Date*

[1] True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIR MENTAL SERVICES

__X_ Initial Demonstration of Capability
_ __ Continuing Demonstration of Capabilities

MATRIX:	SOIL
DATE OF ANALYSIS:	12/31/2019
ANALYZED BY:	SA
METHOD NUMBER:	FSE-TOX/TITR
EXTRACTION METHOD (IF APPLY):	FSE-TOX/TITR
BALANCE ID:	WET-20
PARR BOMB ID:	WET-51
EXTRACTED BY:	SA
DATE EXTRACTED:	12/31/2019
ACCEPTANCE CRITERIA:	90-110%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	50-WC-18	315000mg/Kg
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg			
TOTAL HALOGENS	2500	2500	2650	2550	2350	2513	4.98	101	125

Halogens FSE-TOX/TITR

Batch #: -
Analyst: SA
Date: 12-31-19
Matrix: S-TH-TOX
Balance: wet-20
Balance Cal Date: 12-31-19
Parr Bomb Ignition ID: Wet-51
pH Strips: 63-WC-16

H or CL (mg/L or mg/kg) = (Fvol-Ivol) * N * 35450 / Sample Amount

TOX = H-CL
CL= Choride
N= Titrant Normality
H= Total Halogens

AgNO3 (0.0141N): 1131-S-Gen-05*
NaCL (0.0141N): 935-S-Gen-10
K2CrO4: 852-R-Gen-07
Mineral Oil: 39-WC-05
Sand: A20130327
NaOH 1N: -
H2SO4 6N: -

H2O2: -
AL(OH)3: -
C6H5Cl: 50-WC-18

Acceptance Criteria: LCS/MS/MSD 90-110%
%RPD ≤10%

* standardized w/ 935-S-Gen-10 ; 10 mL / 10 mL = 0.0141 N

Log No.	Sample ID	Sample Amount (g or mL)	DF	pH Adjust (7-10)	Initial Volume (Ivol)	Final Volume (Fvol)	Blank Adj.	Change	H or CL (mg/kg or mg/L)	TOX x DF (mg/kg or mg/L)	Comments
Bek	Blank	1.002g	50	✓7.0	0.0	0.5	-	0.5	-		
	LCS										
	MS										
	MSD										
IDOC-SA-1	50-WC-18	0.00794mL	50	✓7.0	0.0	5.5	0.5	5.0	50.0	2500	1.0214g of blank sand
IDOC-SA-2	50-WC-18	0.00794mL	50	✓7.0	0.0	5.8	0.5	5.3	53.0	2650	1.0157g of blank sand
IDOC-SA-3	50-WC-18	0.00794mL	50	✓7.0	0.0	5.6	0.5	5.1	51.0	2550	1.0124g of blank sand
IDOC-SA-4	50-WC-18	0.00794mL	50	✓7.0	0.0	5.2	0.5	4.7	47.0	2350	1.0119g of blank sand
	DUP										
	LCS										
	Blank										
	DUP										
	LCS										
	Blank										

Note: If sample is colored add 3 mL Al(OH)3 suspension, let settle and filter. If sulfide, sulfite, thiosulfate are present add 1 mL H2O2; stir for 1 min.Then adjust pH if needed.

Date: 1/09/2015

Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
David Barahona	DB	1/18/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
2540 G	☐ Water ☐ DW ☒ Solid ☐ Other: _____	0201216-015
Analyte or Class of Analytes		
Total Solids		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona *Analyst*	David Barahona *Signature*	1/4/19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	1-4-19 *Date*
Roxana Llambias *Quality Assurance Director*	_____ *Signature*	1/18/19 *Date*

1. True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	1/4/2019
ANALYZED BY:	David Barahona
METHOD NUMBER:	SM2540G
EXTRACTION METHOD (IF APPLY):	SM 2540G
Oven ID 103-105°C	WET-12
Thermometer ID 103-105°C:	Wet-12 Digital
Dessicator ID:	Dess-3
Balance ID	WET-20
Pan Dishes	61-WC-24
EXTRACTED BY:	David Barahona
DATE EXTRACTED:	1/3/2019
ACCEPTANCE CRITERIA:	80-120%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	1007-S-GEN-18	5%
Surrogate	na	na
Internal Standard	na	na

Compound / **UNITS:**	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	**_ X**	**% RSD**	**% Recovery**	**SD**
	%	%	%	%	%	%			
Total Solids	5.00	4.90	4.90	4.90	4.80	4.88	1.03	97.5	0.05

		% SOLIDS		Date:		
Sample #	Pan	Sample weight	Total Dry +dish	Total Dry +dish	Residue	solid
	Mass (g)	+mass (g)	mass (g)	mass (g)	mass (g)	%
BLANK	1.3016	7.4415	7.4398	7.4398	6.1382	100.0%
CHECK STD	1.3008	5.3579	1.4987	1.4986	0.1978	4.9%
19A0047-01A	1.3001	4.3841	1.373	1.3729	0.0728	2.4%
IDOC DB 1	1.3082	5.0621	1.491	1.4909	0.1827	4.9%
IDOC DB 2	1.3057	5.1378	1.4918	1.4919	0.1862	4.9%
IDOC DB 3	1.3125	5.0873	1.4959	1.4957	0.1832	4.9%
IDOC DB 4	1.3076	5.1003	1.4916	1.4913	0.1837	4.8%
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
DUP 19A0047-01A	1.3021	4.2019	1.3729	1.373	0.0709	2.4%
CHECK STD	1.3009	7.2800	7.2789	7.2788	5.9779	100.0%
BLANK	1.3084	5.1113	1.4933	1.4932	0.1848	4.9%
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
					0.0000	#DIV/0!
SAMPLE DUP					0.0000	#DIV/0!
CHECK STD					0.0000	#DIV/0!
BLANK					0.0000	#DIV/0!

Document Control #:0401216-017
Date: 9/13/16

Total Solids logbook

SM 2540G/SM2540B

Analyst:	SA/DB
Date/Time	1-3-19 13:55
Run #	19A6209
Matrix	solid

Balance ID	WET-20	
Oven ID (103-105°C)	WET-12	WET-39
Thermometer ID	WET-12 Digital	76 MM IMM
Dessicator ID:	Dess-3	
Pan Dishes Lot:	61-WC-24	

Pipette 5 mL:	—
Grad. Cylinder 25mL:	WC-1 / WC-8
Grad. Cylinder 50 mL:	WC-10
Grad. Cylinder 100 mL:	WC-13 / WC-14

Acceptance Criteria: 80-120%

Dried Residue: 2.5-200 mg

* OK Dish+sample SA 1-4-19

Dish ID	Log #	Sample ID	Samp. Vol, mL	~~Dish weight~~, g	~~Final weight~~ g	Final weight, g	Final weight, g	Wt. Change (<0.5mg)	Dry Residue (0.0025-0.2), g	Total Solids, mg/L	Comments
1	BLANK	sand	—	1.3016	7.4415	7.4398	7.4398				
2	CHECK STD	1007-S Tier 18	—	1.3008	5.3579	1.4957	1.4986				
3	19A0047-01A	Blue Heron	—	1.3001	4.3841	1.3730	1.3729				
4	TDOC DB 1	1007-S Tier-18	—	1.3082	5.0621	1.4910	1.4909				
5	2	↓	—	1.3057	5.1378	1.4918	1.4919				
6	3		—	1.3125	5.0893	1.4959	1.4957				
7	4	↓	—	1.3096	5.1003	1.4916	1.4913				
13	DUP 19A0047-01A	Blue Heron	—	1.3021	4.3019	1.3729	1.3730				
14	BLANK	sand	—	1.3089	7.2800	7.2759	7.2758				
15	CHECK STD	1007-S Tier-18	—	1.3084	5.1113	1.4933	1.4932				
	DUP										
	BLANK										
	CHECK STD										

Cycle	Date In	Time In	Temp. (°C)	Analyst	Date Out	Time Out	Temp. (°C)	Analyst
1	1/3/19	13:55	105	DB	1/4/19	10:15	105	DB
2	1/4/19	11:35	105	DB	1/4/19	13:00	105	DB
3								
4								
5								

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (if Applicable)	Effective Date
Sophia Andre	Sophia Andre.	9/5/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
FSE-06-TRPH/6020A	☐ Water ☐ DW ☑ Solid ☐ Other: _____	020217-001
Analyte or Class of Analytes		
TRPH		

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2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Sophia Andre *Analyst*	Sophia Andre *Signature*	9/5/18 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	9/5/18 *Date*
Roxana Llambias *Quality Assurance Director*	 *Signature*	9/5/18 *Date*

[1] True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	Soil
DATE OF ANALYSIS:	9/5/2018
ANALYZED BY:	SA
METHOD NUMBER:	FSE-OG-TRPH/GRAV
EXTRACTION METHOD (IF APPLY):	FSE-OG-TRPH/GRAV
BALANCE ID:	Prep-3
TURVOVAP ID:	Prep-16
SONICATOR ID:	SV2, SV3, SV4
DESSICATOR ID:	Prep-5
EXTRACTED BY:	SA
DATE EXTRACTED:	9/5/2019
ACCEPTANCE CRITERIA:	83-116% and %RSD≤28

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	**Std. ID#**	**Conc.**
LCS Spike Standard(s)	946-S-GEN-04	20000 ppm
Surrogate	NA	NA
Internal Standard	NA	NA

Compound	**TRUE Value**	**DOC 1**	**DOC 2**	**DOC 3**	**DOC 4**	$\bar{X}$	% RSD	% Recovery	SD
UNITS:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
TRPH	1665	1455	1362	1355	1382	1389	3.30	83.4	45.81

Method EPA 9071A SE-OG-TRPH

Oil and Grease / TRPH

Batch #: N/A
Analyst: SA
Date: 9-5-18

	Standard ID	(mL)	Std conc.	Spiked conc
Spike	946-J-Gen-04	5	20,000	100
Matrix Spike	↓	↓	↓	↓

Log No.	Sample ID	Sample Date	Amount Ext (g)	1 Initial Wt (g)	1 Final Wt* (g)	2 Final Wt* (g)	3 Final Wt*(g)	Final Conc (mg/Kg)	Comments
Blk	MB	HEM	30.0115	118.5080	118.5090	118.5090		(1.0)	= 33.3
	LCS								
	LCSD								
	MS								
	MSD								
IDOC-SA-1	946-J-Gen-04	1	30.0149	117.4517	117.5500	117.5500			
IDOC-SA-2	↓	2	30.0216	106.2910	106.3865	106.3863		(98.3)	= 3273.4
IDOC-SA-3	↓	3	30.0227	117.3636	117.4582	117.4584		(95.3)	= 3173.5
IDOC-SA-4	↓	4	30.0542	113.3846	113.4791	113.4788		(94.8)	= 3156.8
18CC0006-02A	HEM	5	30.0224	116.7799	116.7844	116.7841		(94.2)	= 3136.9
								(4.2)	= 139.86
Blk	Blk	TRPH	~~30.0149*~~	118.5080	118.5085	118.5088			
IDOC-SA-1	946-J-Gen-04	1	~~30.0115*~~	117.4517	117.4955	117.4954		(0.8)	26.64 / 30.0115
IDOC-SA-2	↓	2	~~30.0227*~~	106.2910	106.3321	106.3319		(43.1)	1455.2 / 30.0149
IDOC-SA-3	↓	3	30.0227	117.3636	117.4041	117.4043		(40.9)	1362 / 30.0216
IDOC-SA-4	↓	4	30.0542	113.3846	113.4264	113.4261		(40.7)	1355.3
18CC0006-02A	TRPH	5	30.0224	116.7799	116.7822	116.7821		(41.5)	1382
								(2.2)	

HEM ↓

*Weighings must agree within 0.5 mg or 4% whichever is less

Hexane:	61-WC-15
Filter Paper:	60-WC-17
Sodium Sulfate:	SV-546
Silica Gel:	52-WC-17
Sand	SV-218

Turbovap:	Prep-16
Temp. Corrected (55±2°):	54
Sonicator:	SV2, SV3, SV4
Dessicator:	Prep5

Balance Number:	Prep-3
Balance Cal Date:	9-5-18

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Irena Nutzu	Irena Nutzu	10/7/15
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 6010	☐ Water ☐ DW ☑ Solid ☐ Other: _____	0201314-007
Analyte or Class of Analytes		
Uranium		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

IRENA NUTZU *Analyst*	*Signature*	10/7/15 *Date*
IRENA NUTZU *Technical Director*	*Signature*	10/7/15 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	11/13/15 *Date*

True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

DATE : 10.07.2015
ANALYST : Irena Nutzu

IDOC
METHOD : 6010
MATRIX : SOLID
ANALYTE : U

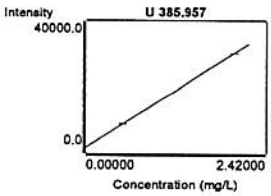
	C(X) ppm	IDOC-1- (ppm)	IDOC-2- (ppm)	IDOC-3- (ppm)	IDOC-4- (ppm)	Average (ppm)	% Recovery	Std.Dev.
U ~~Li~~	1.0000	0.99344	0.99403	0.99421	0.99173	0.993353	99.3	0.001131

ROC 11/13/15

U 385.957 Calibration (mg/L) **10/7/2015, 1:20:05 PM** **Correlation Coefficient: 0.999997**

Label	Flags	Int. (c/s)	Std Conc.	Calc Conc.	Error	%Error
Blank		3.7024	0.00000	0.00000	-	-
0.5 ppm		7406.2	0.50000	0.50151	0.00151	0.3
2.0 ppm		29354	2.0000	1.9884	-0.01157	-0.6

Curve Type: Linear Equation: y = 14760.6 x + 3.7



QCS-1ppm (ICV) **10/7/2015, 1:25:35 PM** **Rack 4, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
U 385.957	0.99594	mg/L	0.00228	0.2	14704	0.99594 mg/L	99.59418

CCB (CCB) **10/7/2015, 1:36:09 PM** **Rack 4, Tube 3**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
U 385.957	0.00054uv	mg/L	0.00049	91.0	11.682	0.00054 mg/L	0.00054Z

RINSE (Samp) **10/7/2015, 1:33:06 PM** **Rack 1, Tube 1**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00071uv	mg/L	0.00096	135.7	14.120	0.00071 mg/L

PQL 5ppb (Samp) **10/7/2015, 1:39:34 PM** **Rack 1, Tube 2**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00570	mg/L	0.00037	6.4	87.889	0.00570 mg/L

LRB DIG#S2183 (Samp) **10/7/2015, 1:49:54 PM** **Rack 1, Tube 3**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00094uv	mg/L	0.00080	85.1	17.510	0.00094 mg/L

MDL#1 5ppb (Samp) 10/7/2015, 1:52:39 PM Rack 1, Tube 4
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00596	mg/L	0.00067	11.2	91.682	0.00596 mg/L

MDL#2 5ppb (Samp) 10/7/2015, 1:55:25 PM Rack 1, Tube 5
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00598	mg/L	0.00103	17.3	92.006	0.00598 mg/L

MDL#3 5ppb (Samp) 10/7/2015, 1:58:10 PM Rack 1, Tube 6
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00615	mg/L	0.00020	3.3	94.496	0.00615 mg/L

MDL#4 5ppb (Samp) 10/7/2015, 2:00:55 PM Rack 1, Tube 7
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00567	mg/L	0.00026	4.6	87.365	0.00567 mg/L

MDL#5 5ppb (Samp) 10/7/2015, 2:03:40 PM Rack 1, Tube 8
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00521	mg/L	0.00099	19.0	80.595	0.00521 mg/L

MDL#6 5ppb (Samp) 10/7/2015, 2:06:25 PM Rack 1, Tube 9
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00530	mg/L	0.00047	8.9	81.875	0.00530 mg/L

MDL#7 5ppb (Samp) 10/7/2015, 2:09:09 PM Rack 1, Tube 10
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00586	mg/L	0.00096	16.4	90.190	0.00586 mg/L

LCS-6010 (LCS) 10/7/2015, 2:11:54 PM Rack 1, Tube 11
Weight: 1 Volume: 1 Dilution: 1

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
U 385.957	1.0022	mg/L	0.00410	0.4	14797	1.0022 mg/L	100.22465

IDOC#1-1ppm (Samp) **10/7/2015, 2:14:38 PM** **Rack 1, Tube 12**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.99344	mg/L	0.00215	0.2	14667	0.99344 mg/L

IDOC#2-1ppm (Samp) **10/7/2015, 2:17:22 PM** **Rack 1, Tube 13**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.99403	mg/L	0.00331	0.3	14676	0.99403 mg/L

IDOC#3-1ppm (Samp) **10/7/2015, 2:20:08 PM** **Rack 1, Tube 14**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.99421	mg/L	0.00404	0.4	14679	0.99421 mg/L

IDOC#4-1ppm (Samp) **10/7/2015, 2:22:53 PM** **Rack 1, Tube 15**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.99173	mg/L	0.00338	0.3	14642	0.99173 mg/L

CCV-1ppm (CCV) **10/7/2015, 2:25:38 PM** **Rack 4, Tube 1**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.	QC Value
U 385.957	0.99702	mg/L	0.00250	0.3	14720	0.99702 mg/L	99.70154

RINSE (Samp) **10/7/2015, 2:28:23 PM** **Rack 1, Tube 16**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00108	mg/L	0.00042	39.1	19.573	0.00108 mg/L

CCB (Samp) **10/7/2015, 2:47:12 PM** **Rack 4, Tube 3**
Weight: 1 **Volume: 1** **Dilution: 1**

Label	Sol'n Conc.	Units	SD	%RSD	Int. (c/s)	Calc Conc.
U 385.957	0.00098	mg/L	0.00052	53.5	18.149	0.00098 mg/L

3050 SOIL DIGESTION

	SAMPLE LCN	Sample Weight (g)	Vspike(ml)	Cspike(mg/l)	Vf(ml)
	LRB	1.0000	-	-	50
	LCS	1.0000	0.50	1.00	50
1	MDL#1	1.0000	-	-	50
2	MDL#2	1.0000	-	-	50
3	MDL#3	1.0000	-	-	50
4	MDL#4	1.0000	-	-	50
5	MDL#5	1.0000	-	-	50
6	MDL#6	1.0000	-	-	50
7	MDL#7	1.0000	-	-	50
8	IDOC#1 1ppm	1.0000	-	-	50
9	IDOC#2 1ppm	1.0000	-	-	50
10	IDOC#3 1ppm	1.0000	-	-	50
11	IDOC#4 1ppm	1.0000	-	-	50
12			-	-	50
13			-	-	50
14			-	-	50
15			-	-	50
16			-	-	50
17			-	-	50
18			-	-	50
19			-	-	50
20			-	-	50
	MS		0.50	1.00	50
	MSD		0.50	1.00	50

DIGESTION # S2183

HNO3 LOT# X15A027-AA

HCl LOT # SHBC1944V-ACS

H2O2 LOT # 54044415-EMS

SPIKE STD-1# 1410723-HPS -U

Conc. STD1: 100/1,000 mg/l

SPIKE STD-2#

Conc. STD2: 2,500 mg/l

MDL & IDOC - Uranium

DATE: 10.07.15

TEMPERATURE : 95.0 °C -26

ANALYST : IN

BALANCE : MET-BALANCE- 4

HOTBLOCK : MET-HOTBLOCK-2

DIG. TUBES: EE # 1501179

Cal. Std HPS# 1430308-U

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Jose Fernández	Jose Fernández	10/17/18
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8260	☐ Water ☐ DW ☑ Solid ☐ Other: _____	020518-002
Analyte or Class of Analytes		
Volatiles		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability.**

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Jose Fernández *Analyst*	*Signature*	10/16/18 *Date*
Brenda Lyps *Technical Director*	*Signature*	10/16/18 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	10/17/18 *Date*

1 True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_x_ Initial Demonstration of Capability
__ Continuing Demostration of Capability

MATRIX:	SOIL
DATE OF ANALYSIS:	10/5/2018
ANALYZED BY:	JF
METHOD NUMBER:	EPA 8260B
EXTRACTION METHOD (IF APPLY):	EPA 5035
INSTRUMENT ID:	CHARLIE (GCMS#3)
BALANCE ID:	VOL-6
EXTRACTED BY:	JF
DATE EXTRACTED:	10/5/2018
ACCEPTANCE CRITERIA:	Various

Document Control #: 0401116-002
Date: 8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	1800845	10/500 ppm
LCS (1,4-Dioxane)	1800847	500 ppm
Surrogate	IS-SU092418	25 ppm
Internal Standard	IS-SU092418	200 ppm
Sand	VOC155	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD	Acceptance Criteria (%)
UNITS:	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg				
Dichlorodifluoromethane	20	19.89	18.76	19.67	21.05	19.84	4.75	99.2	0.94	70-130
Chloromethane	20	20.37	19.97	21.13	19.80	20.32	2.91	102	0.59	32-169
Vinyl Chloride	20	19.65	19.05	20.92	20.31	19.98	4.05	99.9	0.81	38-149
Bromomethane	20	20.53	19.97	20.73	19.31	20.14	3.16	101	0.64	70-130
Chloroethane	20	19.46	19.41	21.44	19.54	19.96	4.94	99.8	0.99	47-155
Trichlorofluoromethane	20	20.88	20.88	22.14	21.46	21.34	2.81	107	0.60	54-125
Acrolein	100	108.98	108.75	118.44	112.86	112.26	4.04	112	4.53	26-126
1,1-Dichloroethene	20	20.28	20.49	21.64	20.80	20.80	2.87	104	0.60	69-138
Iodomethane	20	14.38	18.36	19.94	19.68	18.09	14.20	90.5	2.57	70-130
Carbon Disulfide	20	19.61	19.56	20.70	19.96	19.96	2.64	99.8	0.53	70-130
Acetone	100	96.54	100.80	112.24	99.80	102.35	6.69	102	6.84	17-176
Methylene Chloride	20	20.79	21.52	21.60	21.18	21.27	1.74	106	0.37	70-130
trans-1,2-Dichloroethene	20	19.85	20.38	21.20	20.39	20.46	2.72	102	0.56	10-190
MTBE	20	18.07	19.19	19.79	18.83	18.97	3.79	94.9	0.72	49-164
Acrylonitrile	20	20.35	20.94	22.30	20.56	21.04	4.17	105	0.88	65-130
1,1-Dichloroethane	20	19.54	20.08	21.06	20.13	20.20	3.12	101	0.63	53-131
Vinyl Acetate	20	17.48	17.79	19.77	17.97	18.25	5.65	91.3	1.03	66-138
2,2-Dichloropropane	20	20.13	19.93	20.76	20.45	20.32	1.79	102	0.36	58-151
cis-1,2-Dichloroethene	20	19.78	20.25	21.40	20.29	20.43	3.36	102	0.69	67-134
2-Butanone (MEK)	100	95.99	99.74	109.48	99.66	101.22	5.71	101	5.78	36-138
Propionitrile	20	18.92	19.28	20.68	19.71	19.65	3.87	98.2	0.76	70-130
Bromochloromethane	20	19.72	20.12	20.52	19.98	20.09	1.66	100	0.33	68-124
Chloroform	20	18.44	19.11	19.85	18.56	18.99	3.39	95.0	0.64	57-153
Methacrylonitrile	20	19.06	20.13	21.52	19.27	20.00	5.59	100	1.12	70-130
1,1,1-Trichloroethane	20	19.99	20.74	21.26	20.37	20.59	2.63	103	0.54	56-148
Carbon Tetrachloride	20	20.00	20.09	21.33	20.97	20.60	3.18	103	0.66	57-151
1,1-Dichloropropene	20	20.53	20.80	21.67	21.45	21.11	2.54	106	0.54	61-148
Benzene	20	19.81	20.37	21.56	20.14	20.47	3.72	102	0.76	72-125
1,2-Dichloroethane	20	19.50	20.20	21.09	19.96	20.19	3.31	101	0.67	60-138
Trichloroethene	20	19.71	19.97	20.76	19.83	20.07	2.36	100	0.47	62-139
1,2-Dichloropropane	20	19.50	20.31	20.69	20.39	20.22	2.52	101	0.51	70-130
Dibromomethane	20	19.55	20.36	21.13	20.48	20.38	3.18	102	0.65	65-137
1,4-Dioxane	100	89.28	92.09	95.13	95.22	92.93	3.05	92.9	2.84	70-130
Methyl Methacrylate	20	18.88	18.67	20.12	19.12	19.20	3.34	96.0	0.64	70-130
Bromodichloromethane	20	19.15	20.25	20.64	20.28	20.08	3.21	100	0.64	56-153
2-Chloroethyl Vinyl Ether	100	119.57	120.25	128.08	115.74	120.91	4.28	121	5.18	70-130
cis-1,3-Dichloropropene	20	19.34	21.03	20.87	19.73	20.24	4.12	101	0.83	59-131
4-Methyl-2-pentanone(MIBK)	100	96.49	98.89	106.67	98.34	100.10	4.50	100	4.50	70-130
Toluene	20	19.40	19.86	20.12	19.51	19.72	1.67	98.6	0.33	62-128
trans-1,3-Dichloropropene	20	19.39	20.84	20.73	20.18	20.29	3.27	101	0.66	62-134
Ethyl methacrylate	20	20.21	20.53	21.53	19.98	20.56	3.32	103	0.68	70-130
1,1,2-Trichloroethane	20	19.12	20.13	20.06	19.84	19.79	2.33	98.9	0.46	66-129

Tetrachloroethene	20	19.90	19.47	20.15	20.27	19.95	1.77	99.7	0.35	62-142
1,3-Dichloropropane	20	19.66	19.98	20.46	19.82	19.98	1.73	99.9	0.35	68-129
2-Hexanone	100	92.11	98.08	103.84	98.60	98.16	4.89	98.2	4.80	42-153
Dibromochloromethane	20	19.61	20.69	21.15	20.61	20.52	3.16	103	0.65	62-128
1,2-Dibromoethane (EDB)	20	19.22	20.19	20.54	20.02	19.99	2.79	100	0.56	71-125
Chlorobenzene	20	19.44	19.71	20.13	19.84	19.78	1.45	98.9	0.29	70-130
1,1,1,2-Tetrachloroethane	20	19.75	19.62	20.54	20.01	19.98	2.04	99.9	0.41	61-133
Ethylbenzene	20	19.79	20.08	20.50	20.04	20.10	1.46	101	0.29	61-137
m- & -p Xylene	40	40.60	40.56	41.98	40.58	40.93	1.71	102	0.70	58-139
o-Xylene	20	20.79	20.85	21.33	21.19	21.04	1.24	105	0.26	51-145
Total Xylenes	60	60.89	60.84	62.97	60.87	61.39	1.71	102	1.05	70-130
Styrene	20	19.91	19.97	20.36	19.96	20.05	1.04	100	0.21	54-135
Isopropylbenzene	20	20.19	20.33	21.05	20.62	20.55	1.85	103	0.38	45-148
Bromobenzene	20	19.30	19.97	19.94	20.01	19.81	1.71	99.0	0.34	58-129
n-Propylbenzene	20	20.36	20.14	20.73	20.19	20.36	1.31	102	0.27	35-165
1,2,3-Trichloropropane	20	20.38	21.50	21.57	21.08	21.13	2.59	106	0.55	44-147
trans-1,4-Dichloro-2-buten	20	23.53	24.82	23.84	23.74	23.98	2.39	120	0.57	70-130
2-Chlorotoluene	20	19.54	19.67	20.47	19.81	19.87	2.08	99.4	0.41	47-150
1,3,5-Trimethylbenzene	20	20.23	20.26	20.85	21.03	20.59	1.98	103	0.41	37-151
4-Chlorotoluene	20	21.62	21.58	21.60	21.28	21.52	0.75	108	0.16	45-158
tert-Butylbenzene	20	21.15	21.59	22.03	21.53	21.58	1.67	108	0.36	35-163
1,2,4-Trimethylbenzene	20	19.98	20.04	20.13	19.53	19.92	1.34	99.6	0.27	36-150
Pentachloroethane	20	20.50	19.99	21.22	20.28	20.50	2.56	102	0.53	70-130
sec-Butylbenzene	20	19.86	20.42	20.73	20.56	20.39	1.85	102	0.38	29-169
1,3-Dichlorobenzene	20	19.86	19.60	19.94	20.07	19.87	1.00	99.3	0.20	47-155
p-Isopropyltoluene	20	20.41	20.02	20.97	20.65	20.51	1.95	103	0.40	29-168
1,4-Dichlorobenzene	20	19.54	19.13	19.68	19.50	19.46	1.21	97.3	0.23	46-145
1,1,2,2 Tetrachloroethane	20	19.95	19.47	21.02	19.65	20.02	3.47	100	0.69	51-139
Bromoform	20	19.92	20.46	21.41	20.54	20.58	3.00	103	0.62	64-126
n-Butylbenzene	20	19.43	19.44	20.21	19.56	19.66	1.89	98.3	0.37	23-175
1,2-Dichlorobenzene	20	19.46	19.25	20.17	19.10	19.50	2.43	97.5	0.47	59-150
Hexachloroethane	20	20.37	19.81	20.83	20.38	20.35	2.05	102	0.42	50-136
1,2-Dibromo-3-chloropropane	20	19.51	20.37	20.85	20.31	20.26	2.74	101	0.56	49-151
1,2,4-Trichlorobenzene	20	18.94	17.93	18.59	18.35	18.45	2.30	92.3	0.42	33-171
Hexachlorobutadiene	20	20.18	19.90	20.54	20.48	20.28	1.46	101	0.30	38-154
Napthalene	20	17.42	17.25	19.03	19.28	18.25	5.80	91.2	1.06	34-163

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100518\10051816.D
Acq On : 5 Oct 2018 4:09 pm
Sample : IDOC J 1
Misc : IS-SU092418,VOC293-03
MS Integration Params: rteint.p
Quant Time: Oct 16 15:32 2018

Vial: 16
Operator: RS
Inst : CHARLIE
Multiplr: 1.00

Quant Results File: SO100318.RES

Quant Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration
DataAcq Meth : ZZVOLA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	7.17	96	503016	40.00	ug/L		0.00
37) Toluene-d8 (IS)	9.29	98	470641	40.00	ug/L		0.00
80) Chlorobenzene-d5 (IS)	11.24	117	278867	40.00	ug/L		0.00
System Monitoring Compounds							
50) 2-Bromo-1-Chloropropane (S	9.69	77	29032	5.10	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.00%				
65) 4-Bromofluorobenzene (SS)	12.94	95	25645	5.15	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.00%				
85) 1,2-Dichlorobenzene-d4 (SS	15.14	152	14774	5.20	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.00%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	2.02	85	32664	19.89	ug/L		93
3) Chloromethane (SPCC)	2.20	50	76058	20.37	ug/L		97
4) Vinyl Chloride (CCC)	2.30	62	56036	19.65	ug/L		100
5) Bromomethane	2.66	94	50352	20.53	ug/L		95
6) Chloroethane	2.76	64	36120	19.46	ug/L		98
7) Trichlorofluoromethane	3.14	101	68418	20.88	ug/L		96
8) Diethyl Ether	3.43	59	45303	19.99	ug/L	#	84
9) Acrolein	3.28	56	29716	108.98	ug/L		90
10) 1,1-Dichloroethene (CCC)	3.72	61	73024	20.28	ug/L		89
11) Iodomethane	3.90	142	23198	14.38	ug/L		98
12) Carbon Disulfide	4.17	76	153863	19.61	ug/L		99
13) Acetone	3.35	43	110502	96.54	ug/L		98
14) Allyl Chloride	4.03	41	124938	18.98	ug/L		94
15) Methylene Chloride	4.07	49	126614	20.79	ug/L	#	86
16) trans-1,2-Dichloroethene	4.61	61	82499	19.85	ug/L		96
17) MTBE	4.58	73	137150	18.07	ug/L		94
18) Acrylonitrile	3.95	53	22720	20.35	ug/L		96
19) 1,1-Dichloroethane (SPCC)	4.93	63	106129	19.54	ug/L	#	99
20) Vinyl Acetate	4.95	43	114035	17.48	ug/L	#	82
21) 2,2-Dichloropropane	5.71	77	74404	20.13	ug/L		99
22) cis-1,2-Dichloroethene	5.59	61	81839	19.78	ug/L		94
23) 2-Butanone (MEK)	5.31	43	175160	95.99	ug/L		97
24) Methyl Acrylate	5.72	55	55120	19.93	ug/L	#	92
25) Propionitrile	5.06	54	8547	18.92	ug/L		100
26) Bromochloromethane	5.88	49	70976	19.72	ug/L	#	86
27) Tetrahydrofuran	6.07	42	22149	18.98	ug/L	#	92
28) Chloroform (CCC)	5.85	83	96110	18.44	ug/L		97
29) Methacrylonitrile	5.48	41	46462	19.06	ug/L	#	57
30) 1,1,1-Trichloroethane	6.45	97	70963	19.99	ug/L		93
31) Carbon Tetrachloride	6.84	117	47207	20.00	ug/L		96
32) 1-Chlorobutane	6.53	56	113867	19.23	ug/L		88
33) 1,1-Dichloropropene	6.70	75	71015	20.53	ug/L	#	90
34) Benzene	6.87	78	212250	19.81	ug/L		98
35) 1,2-Dichloroethane	6.67	62	71571	19.50	ug/L		99
36) Trichloroethene	7.76	95	50229	19.71	ug/L	#	65
38) 1,2-Dichloropropane (CCC)	7.82	63	57588	19.50	ug/L		93
39) Dibromomethane	7.96	174	28548	19.55	ug/L	#	83
40) 1,4-Dioxane	8.01	88	2932	89.28	ug/L	#	91
41) Methyl Methacrylate	7.97	41	65289	18.88	ug/L	#	1
42) Bromodichloromethane	8.04	83	66916	19.15	ug/L		93
43) 2-Nitropropane	7.89	43	14915	16.91	ug/L	#	1

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\100518\10051816.D Vial: 16
Acq On : 5 Oct 2018 4:09 pm Operator: RS
Sample : IDOC J 1 Inst : CHARLIE
Misc : IS-SU092418,VOC293-03 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 16 15:32 2018 Quant Results File: SO100318.RES

Quant Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration
DataAcq Meth : ZZVOLA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Chloroethyl Vinyl Ether	8.48	63	37992	119.57	ug/L		92
45)	cis-1,3-Dichloropropene	8.75	75	82466	19.34	ug/L	#	95
46)	4-Methyl-2-pentanone(MIBK)	8.66	43	402280	96.49	ug/L	#	97
47)	Toluene (CCC)	9.38	91	204575	19.40	ug/L		99
48)	trans-1,3-Dichloropropene	9.37	75	74601	19.39	ug/L	#	93
49)	Ethyl methacrylate	9.64	69	62588	20.21	ug/L	#	83
51)	1,1,2-Trichloroethane	9.58	97	42559	19.12	ug/L		97
52)	Tetrachloroethene	10.37	166	41888	19.90	ug/L	#	85
53)	1,3-Dichloropropane	9.87	76	81488	19.66	ug/L		94
54)	2-Hexanone	9.79	43	259946	92.11	ug/L	#	96
55)	Dibromochloromethane	10.21	127	23451	19.61	ug/L		96
56)	1,2-Dibromoethane (EDB)	10.51	107	40532	19.22	ug/L		97
57)	Chlorobenzene (SPCC)	11.28	112	111785	19.44	ug/L	#	87
58)	1,1,1,2-Tetrachloroethane	11.34	131	29112	19.75	ug/L		91
59)	Ethylbenzene (CCC)	11.50	91	214931	19.79	ug/L		93
60)	m- & -p Xylene	11.68	91	323981	40.60	ug/L		91
61)	o-Xylene	12.22	91	178698	20.79	ug/L		91
62)	Total Xylenes	11.68	91	323981	60.89	ug/L		91
63)	Styrene	12.18	104	109168	19.91	ug/L		95
64)	Isopropylbenzene	12.79	105	181707	20.19	ug/L		92
66)	Bromobenzene	13.15	77	83619	19.30	ug/L		86
67)	n-Propylbenzene	13.38	91	219207	20.36	ug/L		92
68)	1,2,3-Trichloropropane	12.85	75	49344	20.38	ug/L		91
69)	trans-1,4-Dichloro-2-buten	12.90	75	24134	23.53	ug/L	#	81
70)	2-Chlorotoluene	13.49	91	136195	19.54	ug/L	#	81
71)	1,3,5-Trimethylbenzene	13.65	105	118583	20.23	ug/L		88
72)	4-Chlorotoluene	13.58	91	148487	21.62	ug/L	#	81
73)	tert-Butylbenzene	14.13	91	92590	21.15	ug/L	#	74
74)	1,2,4-Trimethylbenzene	14.18	105	108991	19.98	ug/L	#	84
75)	Pentachloroethane	14.02	167	23038	20.50	ug/L		90
76)	sec-Butylbenzene	14.47	105	153232	19.86	ug/L	#	91
77)	1,3-Dichlorobenzene	14.58	146	58361	19.86	ug/L	#	92
78)	p-Isopropyltoluene (p-Cyme	14.68	119	96520	20.41	ug/L	#	89
79)	1,4-Dichlorobenzene	14.72	146	57082	19.54	ug/L	#	94
81)	1,1,2,2 Tetrachloroethane	12.67	83	60903	19.95	ug/L	#	97
82)	Bromoform (SPCC)	12.29	173	23521	19.92	ug/L		93
83)	n-Butylbenzene	15.27	91	102085	19.43	ug/L	#	95
84)	1,2-Dichlorobenzene	15.17	146	54627	19.46	ug/L	#	90
86)	Hexachloroethane	15.88	117	26621	20.37	ug/L	#	91
87)	1,2-Dibromo-3-chloropropan	16.13	157	7326	19.51	ug/L	#	69
88)	Nitrobenzene	16.21	77	852	13.96	ug/L	#	54
89)	1,2,4-Trichlorobenzene	17.70	180	28546	18.94	ug/L	#	95
90)	Hexachlorobutadiene	18.15	225	17888	20.18	ug/L		97
91)	Napthalene	17.92	128	52452	17.42	ug/L		98
92)	1,2,3-Trichlorobenzene	18.34	180	28544	19.53	ug/L	#	92

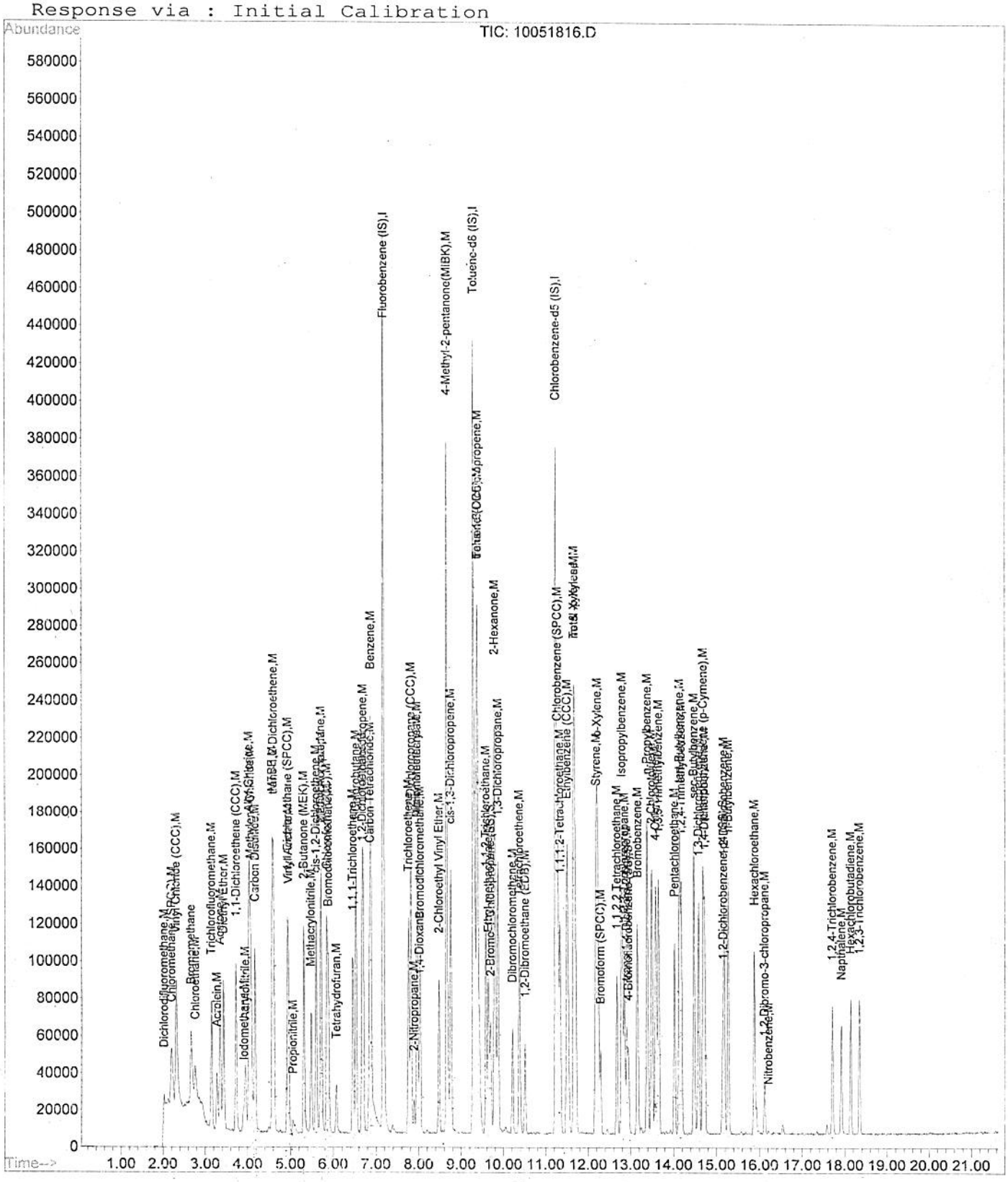
(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\100518\10051816.D
Acq On : 5 Oct 2018 4:09 pm
Sample : IDOC J 1
Misc : IS-SU092418,VOC293-03
MS Integration Params: rteint.p
Quant Time: Oct 16 15:32 2018

Vial: 16
Operator: RS
Inst : CHARLIE
Multiplr: 1.00

Quant Results File: SO100318.RES

Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\100518\10051817.D Vial: 17
Acq On : 5 Oct 2018 4:40 pm Operator: RS
Sample : IDOC J 2 Inst : CHARLIE
Misc : IS-SU092418,VOC293-03 Multiplr: 1.00
IS Integration Params: rteint.p
Quant Time: Oct 16 15:36 2018 Quant Results File: SO100318.RES

YF 10/06/18

Quant Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration
DataAcq Meth : ZZVOLA

5.02 g VOC155

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	7.17	96	513524	40.00	ug/L		0.00
37) Toluene-d8 (IS)	9.29	98	478090	40.00	ug/L		0.00
80) Chlorobenzene-d5 (IS)	11.23	117	284438	40.00	ug/L		0.00
System Monitoring Compounds							
50) 2-Bromo-1-Chloropropane (S	9.70	77	29068	5.02	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.40%				
65) 4-Bromofluorobenzene (SS)	12.94	95	25640	5.07	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 101.40%				
85) 1,2-Dichlorobenzene-d4 (SS	15.14	152	14366	4.96	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	2.02	85	31448	18.76	ug/L	#	89
3) Chloromethane (SPCC)	2.20	50	76179	19.97	ug/L		99
4) Vinyl Chloride (CCC)	2.31	62	55475	19.05	ug/L		98
5) Bromomethane	2.66	94	50006	19.97	ug/l		98
6) Chloroethane	2.77	64	36795	19.41	ug/L		97
7) Trichlorofluoromethane	3.15	101	69831	20.88	ug/L		98
8) Diethyl Ether	3.44	59	48540	20.98	ug/L	#	81
9) Acrolein	3.28	56	30273	108.75	ug/L		99
10) 1,1-Dichloroethene (CCC)	3.72	61	75307	20.49	ug/L	#	90
11) Iodomethane	3.90	142	31023	18.36	ug/L		95
12) Carbon Disulfide	4.17	76	156714	19.56	ug/L		97
13) Acetone	3.35	43	117277	100.80	ug/L		97
14) Allyl Chloride	4.03	41	125240	18.64	ug/L	#	91
15) Methylene Chloride	4.07	49	132860	21.52	ug/L	#	91
16) trans-1,2-Dichloroethene	4.61	61	86451	20.38	ug/L		96
17) MTBE	4.58	73	148662	19.19	ug/L		93
18) Acrylonitrile	3.95	53	23860	20.94	ug/L		97
19) 1,1-Dichloroethane (SPCC)	4.93	63	111354	20.08	ug/L	#	99
20) Vinyl Acetate	4.95	43	118466	17.79	ug/L	#	82
21) 2,2-Dichloropropane	5.71	77	75191	19.93	ug/L		97
22) cis-1,2-Dichloroethene	5.60	61	85520	20.25	ug/L		93
23) 2-Butanone (MEK)	5.31	43	185622	99.74	ug/L		97
24) Methyl Acrylate	5.72	55	56741	20.09	ug/L	#	91
25) Propionitrile	5.06	54	8890	19.28	ug/L		100
26) Bromochloromethane	5.88	49	73933	20.12	ug/L	#	84
27) Tetrahydrofuran	6.08	42	24341	20.48	ug/L	#	89
28) Chloroform (CCC)	5.85	83	101725	19.11	ug/L		95
29) Methacrylonitrile	5.49	41	50100	20.13	ug/L	#	57
30) 1,1,1-Trichloroethane	6.46	97	75149	20.74	ug/L		94
31) Carbon Tetrachloride	6.84	117	48418	20.09	ug/L		95
32) 1-Chlorobutane	6.53	56	120540	19.94	ug/L		90
33) 1,1-Dichloropropene	6.70	75	73466	20.80	ug/L	#	88
34) Benzene	6.87	78	222765	20.37	ug/L		99
35) 1,2-Dichloroethane	6.67	62	75705	20.20	ug/L		97
36) Trichloroethene	7.76	95	51953	19.97	ug/L	#	63
38) 1,2-Dichloropropane (CCC)	7.82	63	60932	20.31	ug/L		93
39) Dibromomethane	7.97	174	30211	20.36	ug/L		92
40) 1,4-Dioxane	8.01	88	3072	92.09	ug/l	#	83
41) Methyl Methacrylate	7.97	41	65601	18.67	ug/L	#	1
42) Bromodichloromethane	8.04	83	71875	20.25	ug/L		95
43) 2-Nitropropane	7.89	43	16792	18.74	ug/L	#	1

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\100518\10051817.D
Acq On : 5 Oct 2018 4:40 pm
Sample : IDOC J 2
Misc : IS-SU092418,VOC293-03
MS Integration Params: rteint.p
Quant Time: Oct 16 15:36 2018

Vial: 17
Operator: RS
Inst : CHARLIE
Multiplr: 1.00

Quant Results File: SO100318.RES

Quant Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration
DataAcq Meth : ZZVOLA

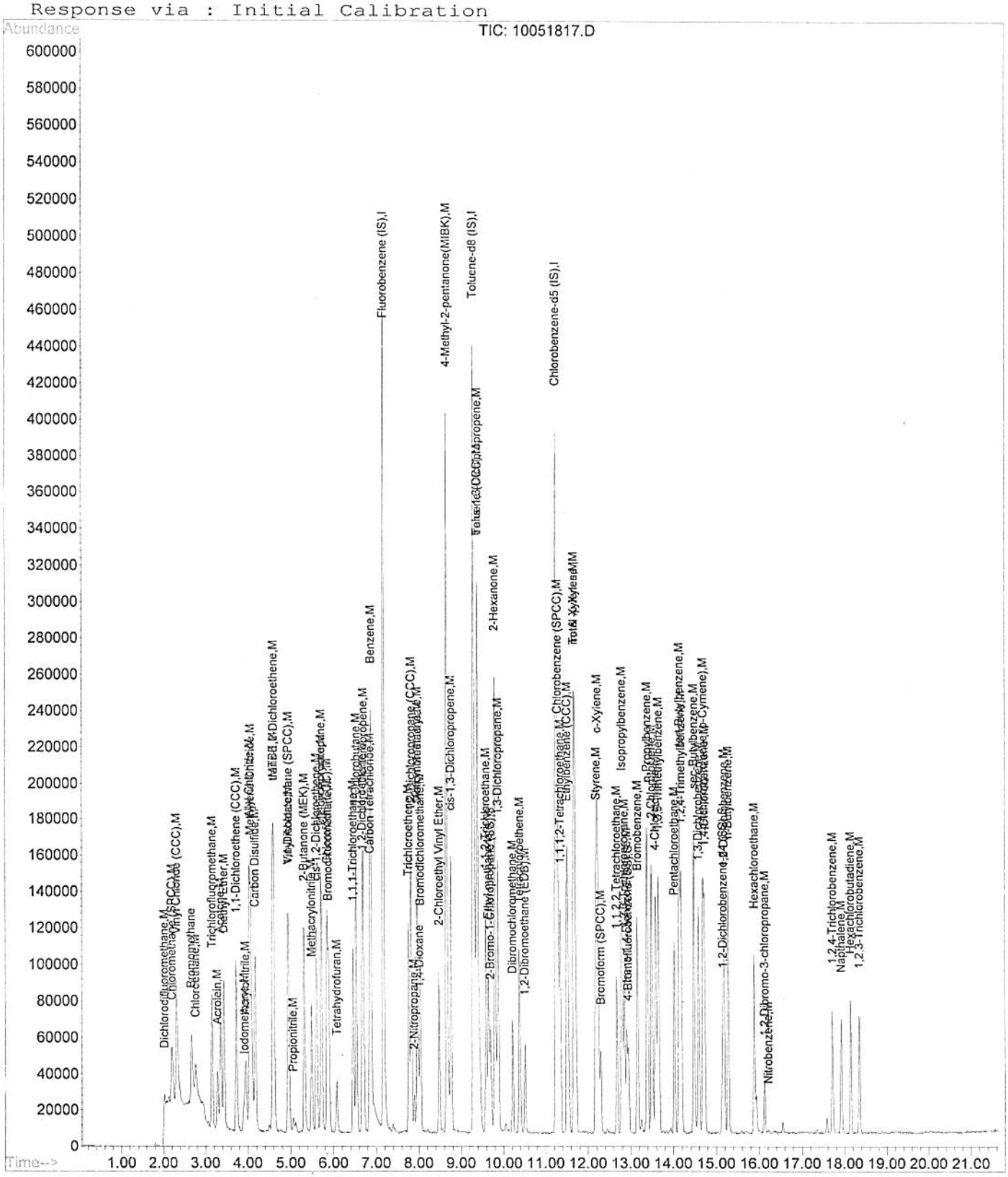
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Chloroethyl Vinyl Ether	8.48	63	38813	120.25	ug/L		90
45)	cis-1,3-Dichloropropene	8.75	75	91052	21.03	ug/L	#	93
46)	4-Methyl-2-pentanone(MIBK)	8.66	43	418776	98.89	ug/L		97
47)	Toluene (CCC)	9.38	91	212731	19.86	ug/L		97
48)	trans-1,3-Dichloropropene	9.38	75	81464	20.84	ug/L		97
49)	Ethyl methacrylate	9.64	69	64585	20.53	ug/L		90
51)	1,1,2-Trichloroethane	9.58	97	45526	20.13	ug/L		97
52)	Tetrachloroethene	10.38	166	41633	19.47	ug/L	#	82
53)	1,3-Dichloropropane	9.87	76	84123	19.98	ug/L		96
54)	2-Hexanone	9.79	43	281179	98.08	ug/L	#	97
55)	Dibromochloromethane	10.21	127	25135	20.69	ug/L		98
56)	1,2-Dibromoethane (EDB)	10.51	107	43262	20.19	ug/L		97
57)	Chlorobenzene (SPCC)	11.28	112	115090	19.71	ug/L	#	85
58)	1,1,1,2-Tetrachloroethane	11.34	131	29374	19.62	ug/L		93
59)	Ethylbenzene (CCC)	11.50	91	221502	20.08	ug/L		91
60)	m- & -p Xylene	11.67	91	328812	40.56	ug/L		92
61)	o-Xylene	12.22	91	182022	20.85	ug/L		93
62)	Total Xylenes	11.67	91	328812	60.84	ug/L		92
63)	Styrene	12.18	104	111260	19.97	ug/L		93
64)	Isopropylbenzene	12.79	105	185815	20.33	ug/L		93
66)	Bromobenzene	13.15	77	87874	19.97	ug/L	#	82
67)	n-Propylbenzene	13.38	91	220290	20.14	ug/L	#	91
68)	1,2,3-Trichloropropane	12.85	75	52856	21.50	ug/L		93
69)	trans-1,4-Dichloro-2-buten	12.91	75	25868	24.82	ug/L	#	88
70)	2-Chlorotoluene	13.49	91	139275	19.67	ug/L	#	81
71)	1,3,5-Trimethylbenzene	13.65	105	120656	20.26	ug/L		88
72)	4-Chlorotoluene	13.59	91	150570	21.58	ug/L	#	80
73)	tert-Butylbenzene	14.14	91	96042	21.59	ug/L	#	79
74)	1,2,4-Trimethylbenzene	14.18	105	111066	20.04	ug/L		90
75)	Pentachloroethane	14.02	167	22819	19.99	ug/L		91
76)	sec-Butylbenzene	14.47	105	159995	20.42	ug/L	#	92
77)	1,3-Dichlorobenzene	14.59	146	58527	19.60	ug/L	#	92
78)	p-Isopropyltoluene (p-Cyme	14.69	119	96206	20.02	ug/L	#	89
79)	1,4-Dichlorobenzene	14.72	146	56768	19.13	ug/L	#	92
81)	1,1,2,2 Tetrachloroethane	12.67	83	60632	19.47	ug/L	#	98
82)	Bromoform (SPCC)	12.30	173	24633	20.46	ug/L		97
83)	n-Butylbenzene	15.27	91	104184	19.44	ug/L	#	97
84)	1,2-Dichlorobenzene	15.18	146	55112	19.25	ug/L		93
86)	Hexachloroethane	15.88	117	26403	19.81	ug/L		91
87)	1,2-Dibromo-3-chloropropan	16.13	157	7800	20.37	ug/L	#	69
88)	Nitrobenzene	16.21	77	948	15.23	ug/L	#	38
89)	1,2,4-Trichlorobenzene	17.71	180	27558	17.93	ug/L	#	95
90)	Hexachlorobutadiene	18.15	225	17993	19.90	ug/L		97
91)	Napthalene	17.92	128	52996	17.25	ug/L		97
92)	1,2,3-Trichlorobenzene	18.34	180	26058	17.48	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\100518\10051817.D Vial: 17
Acq On : 5 Oct 2018 4:40 pm Operator: RS
Sample : IDOC J 2 Inst : CHARLIE
Misc : IS-SU092418,VOC293-03 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 16 15:36 2018 Quant Results File: SO100318.RES

Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\100518\10051818.D Vial: 18
Acq On : 5 Oct 2018 5:11 pm Operator: RS
Sample : IDOC J 3 Inst : CHARLIE
Misc : IS-SU092418,VOC293-03 Multiplr: 1.00
IS Integration Params: rteint.p
Quant Time: Oct 16 15:39 2018 Quant Results File: SO100318.RES

Quant Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration
DataAcq Meth : ZZVOLA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	7.17	96	495406	40.00	ug/L		0.00
37) Toluene-d8 (IS)	9.29	98	470053	40.00	ug/L		0.00
80) Chlorobenzene-d5 (IS)	11.24	117	277200	40.00	ug/L		0.00
System Monitoring Compounds							
50) 2-Bromo-1-Chloropropane (S	9.70	77	28620	5.03	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.60%				
65) 4-Bromofluorobenzene (SS)	12.94	95	25505	5.13	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.60%				
85) 1,2-Dichlorobenzene-d4 (SS	15.14	152	14843	5.26	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 105.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	2.02	85	31799	19.67	ug/L		95
3) Chloromethane (SPCC)	2.20	50	77615	21.13	ug/L		99
4) Vinyl Chloride (CCC)	2.30	62	58754	20.92	ug/L		99
5) Bromomethane	2.67	94	50063	20.73	ug/l		96
6) Chloroethane	2.76	64	39202	21.44	ug/L		98
7) Trichlorofluoromethane	3.15	101	71421	22.14	ug/L		93
8) Diethyl Ether	3.43	59	48645	21.79	ug/L	#	84
9) Acrolein	3.27	56	31807	118.44	ug/L		98
10) 1,1-Dichloroethene (CCC)	3.72	61	76743	21.64	ug/L		90
11) Iodomethane	3.89	142	32755	19.94	ug/L		95
12) Carbon Disulfide	4.17	76	159965	20.70	ug/L		97
13) Acetone	3.35	43	124716	112.24	ug/L		97
14) Allyl Chloride	4.03	41	131269	20.25	ug/L	#	93
15) Methylene Chloride	4.06	49	128548	21.60	ug/L		94
16) trans-1,2-Dichloroethene	4.61	61	86784	21.20	ug/L		95
17) MTBE	4.58	73	147945	19.79	ug/L		94
18) Acrylonitrile	3.95	53	24517	22.30	ug/L		95
19) 1,1-Dichloroethane (SPCC)	4.94	63	112650	21.06	ug/L	#	99
20) Vinyl Acetate	4.95	43	127025	19.77	ug/L	#	81
21) 2,2-Dichloropropane	5.71	77	75555	20.76	ug/L		97
22) cis-1,2-Dichloroethene	5.59	61	87196	21.40	ug/L		95
23) 2-Butanone (MEK)	5.31	43	196118	109.48	ug/L		97
24) Methyl Acrylate	5.72	55	59579	21.87	ug/L	#	89
25) Propionitrile	5.06	54	9200	20.68	ug/L		100
26) Bromochloromethane	5.88	49	72741	20.52	ug/L	#	86
27) Tetrahydrofuran	6.07	42	24283	21.19	ug/L		94
28) Chloroform (CCC)	5.85	83	101916	19.85	ug/L		96
29) Methacrylonitrile	5.48	41	51663	21.52	ug/L	#	59
30) 1,1,1-Trichloroethane	6.46	97	74328	21.26	ug/L		93
31) Carbon Tetrachloride	6.85	117	49596	21.33	ug/L		97
32) 1-Chlorobutane	6.53	56	123917	21.25	ug/L		94
33) 1,1-Dichloropropene	6.70	75	73821	21.67	ug/L	#	91
34) Benzene	6.87	78	227450	21.56	ug/L		99
35) 1,2-Dichloroethane	6.67	62	76256	21.09	ug/L		98
36) Trichloroethene	7.76	95	52123	20.76	ug/L	#	62
38) 1,2-Dichloropropane (CCC)	7.82	63	61031	20.69	ug/L		94
39) Dibromomethane	7.96	174	30818	21.13	ug/L	#	84
40) 1,4-Dioxane	8.00	88	3120	95.13	ug/l	#	71
41) Methyl Methacrylate	7.97	41	69502	20.12	ug/L	#	1
42) Bromodichloromethane	8.04	83	72039	20.64	ug/L		93
43) 2-Nitropropane	7.89	43	17135	19.45	ug/L	#	1

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\100518\10051818.D
Acq On : 5 Oct 2018 5:11 pm
Sample : IDOC J 3
Misc : IS-SU092418,VOC293-03
IS Integration Params: rteint.p
Quant Time: Oct 16 15:39 2018

Vial: 18
Operator: RS
Inst : CHARLIE
Multiplr: 1.00

Quant Results File: SO100318.RES

Quant Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration
DataAcq Meth : ZZVOLA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Chloroethyl Vinyl Ether	8.48	63	40644	128.08	ug/L	#	84
45)	cis-1,3-Dichloropropene	8.75	75	88837	20.87	ug/L	#	95
46)	4-Methyl-2-pentanone(MIBK)	8.66	43	444145	106.67	ug/L		97
47)	Toluene (CCC)	9.38	91	211899	20.12	ug/L		99
48)	trans-1,3-Dichloropropene	9.38	75	79665	20.73	ug/L	#	95
49)	Ethyl methacrylate	9.64	69	66585	21.53	ug/L		85
51)	1,1,2-Trichloroethane	9.58	97	44607	20.06	ug/L		97
52)	Tetrachloroethene	10.37	166	42364	20.15	ug/L	#	86
53)	1,3-Dichloropropane	9.87	76	84685	20.46	ug/L		94
54)	2-Hexanone	9.79	43	292678	103.84	ug/L	#	96
55)	Dibromochloromethane	10.21	127	25263	21.15	ug/L		99
56)	1,2-Dibromoethane (EDB)	10.51	107	43268	20.54	ug/L		94
57)	Chlorobenzene (SPCC)	11.28	112	115586	20.13	ug/L	#	83
58)	1,1,1,2-Tetrachloroethane	11.34	131	30234	20.54	ug/L		94
59)	Ethylbenzene (CCC)	11.50	91	222268	20.50	ug/L		92
60)	m- & -p Xylene	11.68	91	334617	41.98	ug/L		92
61)	o-Xylene	12.22	91	183063	21.33	ug/L		92
62)	Total Xylenes	11.68	91	334617	62.97	ug/L		92
63)	Styrene	12.18	104	111494	20.36	ug/L		94
64)	Isopropylbenzene	12.79	105	189132	21.05	ug/L	#	89
66)	Bromobenzene	13.16	77	86274	19.94	ug/L	#	83
67)	n-Propylbenzene	13.38	91	222888	20.73	ug/L		92
68)	1,2,3-Trichloropropane	12.85	75	52155	21.57	ug/L		92
69)	trans-1,4-Dichloro-2-buten	12.90	75	24421	23.84	ug/L		91
70)	2-Chlorotoluene	13.49	91	142508	20.47	ug/L	#	81
71)	1,3,5-Trimethylbenzene	13.65	105	122071	20.85	ug/L		90
72)	4-Chlorotoluene	13.59	91	148165	21.60	ug/L	#	83
73)	tert-Butylbenzene	14.13	91	96326	22.03	ug/L	#	74
74)	1,2,4-Trimethylbenzene	14.18	105	109656	20.13	ug/L		88
75)	Pentachloroethane	14.02	167	23820	21.22	ug/L		91
76)	sec-Butylbenzene	14.47	105	159694	20.73	ug/L	#	93
77)	1,3-Dichlorobenzene	14.58	146	58545	19.94	ug/L	#	92
78)	p-Isopropyltoluene (p-Cyme	14.68	119	99061	20.97	ug/L	#	87
79)	1,4-Dichlorobenzene	14.72	146	57428	19.68	ug/L	#	93
81)	1,1,2,2 Tetrachloroethane	12.67	83	63771	21.02	ug/L	#	97
82)	Bromoform (SPCC)	12.29	173	25123	21.41	ug/L		100
83)	n-Butylbenzene	15.27	91	105588	20.21	ug/L	#	95
84)	1,2-Dichlorobenzene	15.17	146	56288	20.17	ug/L	#	89
86)	Hexachloroethane	15.88	117	27060	20.83	ug/L	#	88
87)	1,2-Dibromo-3-chloropropan	16.13	157	7781	20.85	ug/L	#	67
88)	Nitrobenzene	16.21	77	1280	21.10	ug/L	#	52
89)	1,2,4-Trichlorobenzene	17.71	180	27842	18.59	ug/L	#	95
90)	Hexachlorobutadiene	18.14	225	18093	20.54	ug/L		97
91)	Napthalene	17.92	128	56855	19.03	ug/L		97
92)	1,2,3-Trichlorobenzene	18.34	180	27312	18.80	ug/L	#	97

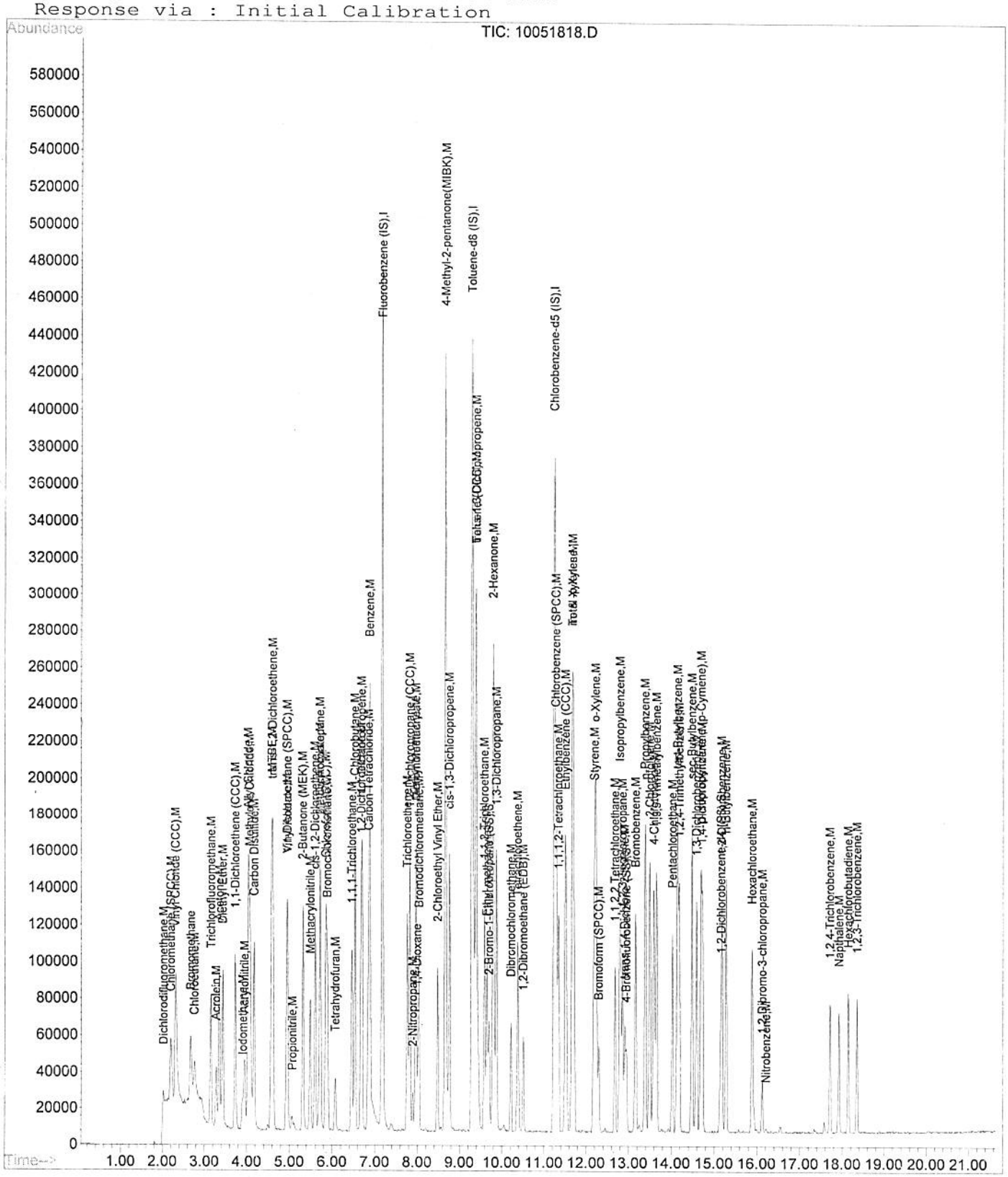
(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\100518\10051818.D
Acq On : 5 Oct 2018 5:11 pm
Sample : IDOC J 3
Misc : IS-SU092418,VOC293-03
MS Integration Params: rteint.p
Quant Time: Oct 16 15:39 2018

Vial: 18
Operator: RS
Inst : CHARLIE
Multiplr: 1.00

Quant Results File: SO100318.RES

Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\100518\10051819.D Vial: 19
Acq On : 5 Oct 2018 5:41 pm Operator: RS
Sample : IDOC J 4 Inst : CHARLIE
Misc : IS-SU092418,VOC293-03 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 16 15:41 2018 Quant Results File: SO100318.RES

JP 10/06/18

Quant Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration
DataAcq Meth : ZZVOLA

5.13g VOC155

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	7.17	96	493552	40.00	ug/L		0.00
37) Toluene-d8 (IS)	9.29	98	459508	40.00	ug/L		0.00
80) Chlorobenzene-d5 (IS)	11.24	117	275863	40.00	ug/L		0.00
System Monitoring Compounds							
50) 2-Bromo-1-Chloropropane (S	9.69	77	28755	5.17	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.40%				
65) 4-Bromofluorobenzene (SS)	12.94	95	25347	5.22	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.40%				
85) 1,2-Dichlorobenzene-d4 (SS	15.14	152	14351	5.11	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	2.00	85	33914	21.05	ug/L		94
3) Chloromethane (SPCC)	2.20	50	72638	19.80	ug/L		98
4) Vinyl Chloride (CCC)	2.30	62	56846	20.31	ug/L		97
5) Bromomethane	2.66	94	46464	19.31	ug/l		94
6) Chloroethane	2.76	64	35591	19.54	ug/L		90
7) Trichlorofluoromethane	3.14	101	68985	21.46	ug/L		94
8) Diethyl Ether	3.43	59	47869	21.52	ug/L	#	83
9) Acrolein	3.27	56	30196	112.86	ug/L		93
10) 1,1-Dichloroethene (CCC)	3.72	61	73471	20.80	ug/L	#	88
11) Iodomethane	3.89	142	32170	19.68	ug/L		92
12) Carbon Disulfide	4.17	76	153687	19.96	ug/L		99
13) Acetone	3.35	43	111707	99.80	ug/L		98
14) Allyl Chloride	4.03	41	126612	19.61	ug/L	#	94
15) Methylene Chloride	4.06	49	126080	21.18	ug/L		92
16) trans-1,2-Dichloroethene	4.61	61	83140	20.39	ug/L		94
17) MTBE	4.58	73	140192	18.83	ug/L		93
18) Acrylonitrile	3.95	53	22513	20.56	ug/L		95
19) 1,1-Dichloroethane (SPCC)	4.93	63	107291	20.13	ug/L	#	98
20) Vinyl Acetate	4.95	43	115034	17.97	ug/L	#	83
21) 2,2-Dichloropropane	5.71	77	74157	20.45	ug/L		96
22) cis-1,2-Dichloroethene	5.59	61	82376	20.29	ug/L		96
23) 2-Butanone (MEK)	5.31	43	178266	99.66	ug/L		97
24) Methyl Acrylate	5.72	55	55851	20.58	ug/L	#	89
25) Propionitrile	5.06	54	8737	19.71	ug/L		100
26) Bromochloromethane	5.88	49	70578	19.98	ug/L	#	86
27) Tetrahydrofuran	6.07	42	23477	20.55	ug/L	#	93
28) Chloroform (CCC)	5.85	83	94921	18.56	ug/L		99
29) Methacrylonitrile	5.48	41	46092	19.27	ug/L	#	55
30) 1,1,1-Trichloroethane	6.46	97	70959	20.37	ug/L		93
31) Carbon Tetrachloride	6.84	117	48574	20.97	ug/L		93
32) 1-Chlorobutane	6.53	56	118705	20.43	ug/L		91
33) 1,1-Dichloropropene	6.70	75	72798	21.45	ug/L	#	90
34) Benzene	6.87	78	211745	20.14	ug/L		98
35) 1,2-Dichloroethane	6.67	62	71891	19.96	ug/L		100
36) Trichloroethene	7.76	95	49588	19.83	ug/L	#	67
38) 1,2-Dichloropropane (CCC)	7.82	63	58808	20.39	ug/L		91
39) Dibromomethane	7.96	174	29202	20.48	ug/L		86
40) 1,4-Dioxane	8.01	88	3053	95.22	ug/l	#	87
41) Methyl Methacrylate	7.97	41	64572	19.12	ug/L	#	1
42) Bromodichloromethane	8.04	83	69179	20.28	ug/L		96
43) 2-Nitropropane	7.89	43	16529	19.20	ug/L	#	1

(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\100518\10051819.D Vial: 19
Acq On : 5 Oct 2018 5:41 pm Operator: RS
Sample : IDOC J 4 Inst : CHARLIE
Misc : IS-SU092418,VOC293-03 Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Oct 16 15:41 2018 Quant Results File: SO100318.RES

Quant Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration
DataAcq Meth : ZZVOLA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Chloroethyl Vinyl Ether	8.48	63	35904	115.74	ug/L		89
45)	cis-1,3-Dichloropropene	8.75	75	82134	19.73	ug/L	#	95
46)	4-Methyl-2-pentanone(MIBK)	8.66	43	400266	98.34	ug/L	#	97
47)	Toluene (CCC)	9.38	91	200886	19.51	ug/L		99
48)	trans-1,3-Dichloropropene	9.37	75	75797	20.18	ug/L		97
49)	Ethyl methacrylate	9.64	69	60419	19.98	ug/L	#	81
51)	1,1,2-Trichloroethane	9.58	97	43120	19.84	ug/L		98
52)	Tetrachloroethene	10.37	166	41660	20.27	ug/L	#	86
53)	1,3-Dichloropropane	9.87	76	80227	19.82	ug/L		96
54)	2-Hexanone	9.79	43	271682	98.60	ug/L	#	96
55)	Dibromochloromethane	10.21	127	24064	20.61	ug/L		97
56)	1,2-Dibromoethane (EDB)	10.51	107	41225	20.02	ug/L		95
57)	Chlorobenzene (SPCC)	11.28	112	111381	19.84	ug/L	#	83
58)	1,1,1,2-Tetrachloroethane	11.34	131	28799	20.01	ug/L		95
59)	Ethylbenzene (CCC)	11.50	91	212497	20.04	ug/L		93
60)	m- & -p Xylene	11.67	91	316175	40.58	ug/L		91
61)	o-Xylene	12.22	91	177841	21.19	ug/L		92
62)	Total Xylenes	11.67	91	316175	60.87	ug/L		91
63)	Styrene	12.18	104	106878	19.96	ug/L		92
64)	Isopropylbenzene	12.79	105	181127	20.62	ug/L		92
66)	Bromobenzene	13.16	77	84619	20.01	ug/L		86
67)	n-Propylbenzene	13.38	91	212168	20.19	ug/L	#	91
68)	1,2,3-Trichloropropane	12.85	75	49810	21.08	ug/L	#	90
69)	trans-1,4-Dichloro-2-buten	12.90	75	23773	23.74	ug/L	#	86
70)	2-Chlorotoluene	13.49	91	134807	19.81	ug/L	#	82
71)	1,3,5-Trimethylbenzene	13.65	105	120374	21.03	ug/L		89
72)	4-Chlorotoluene	13.59	91	142681	21.28	ug/L	#	84
73)	tert-Butylbenzene	14.13	91	92026	21.53	ug/L	#	73
74)	1,2,4-Trimethylbenzene	14.18	105	104009	19.53	ug/L	#	86
75)	Pentachloroethane	14.02	167	22252	20.28	ug/L		89
76)	sec-Butylbenzene	14.47	105	154870	20.56	ug/L	#	92
77)	1,3-Dichlorobenzene	14.58	146	57589	20.07	ug/L	#	92
78)	p-Isopropyltoluene (p-Cyme	14.68	119	95374	20.65	ug/L	#	88
79)	1,4-Dichlorobenzene	14.72	146	55641	19.50	ug/L	#	93
81)	1,1,2,2 Tetrachloroethane	12.67	83	59340	19.65	ug/L	#	97
82)	Bromoform (SPCC)	12.29	173	23986	20.54	ug/L		99
83)	n-Butylbenzene	15.27	91	101656	19.56	ug/L	#	94
84)	1,2-Dichlorobenzene	15.17	146	53033	19.10	ug/L	#	91
86)	Hexachloroethane	15.88	117	26344	20.38	ug/L	#	90
87)	1,2-Dibromo-3-chloropropan	16.12	157	7543	20.31	ug/L	#	59
88)	Nitrobenzene	16.21	77	1144	18.95	ug/L	#	76
89)	1,2,4-Trichlorobenzene	17.70	180	27360	18.35	ug/L	#	96
90)	Hexachlorobutadiene	18.14	225	17956	20.48	ug/L		99
91)	Napthalene	17.92	128	57283	19.28	ug/L		98
92)	1,2,3-Trichlorobenzene	18.34	180	27439	18.98	ug/L		97

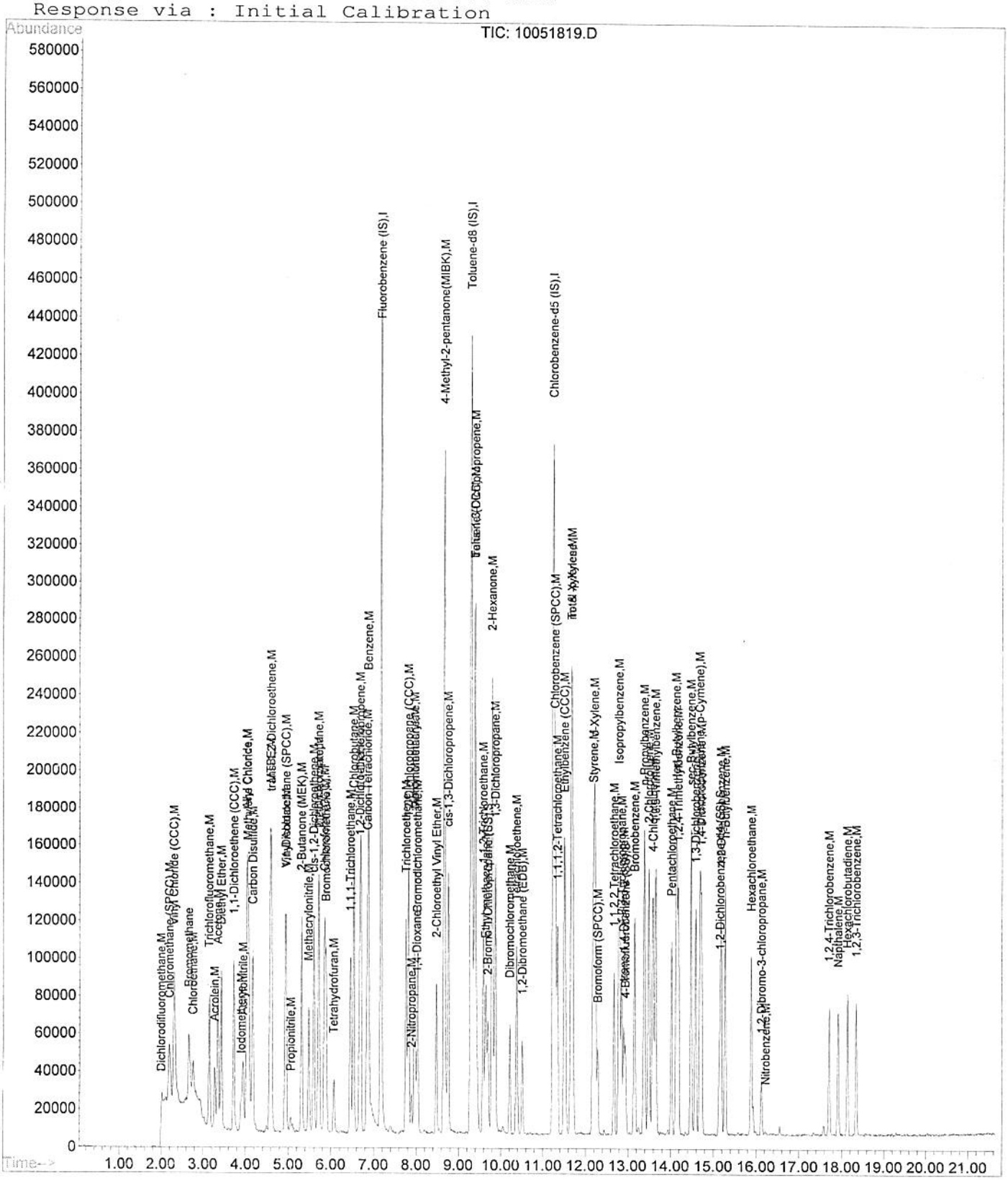
(#) = qualifier out of range (m) = manual integration

Data File : C:\HPCHEM\1\DATA\100518\10051819.D
Acq On : 5 Oct 2018 5:41 pm
Sample : IDOC J 4
Misc : IS-SU092418,VOC293-03
MS Integration Params: rteint.p
Quant Time: Oct 16 15:41 2018

Vial: 19
Operator: RS
Inst : CHARLIE
Multiplr: 1.00

Quant Results File: SO100318.RES

Method : C:\DATABASE\METHODS\SO100318.M (RTE Integrator)
Title : CHARLEY (GCMS#3) 8260B SOIL (ARCHON/5972)
Last Update : Fri Oct 05 11:05:04 2018
Response via : Initial Calibration



Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800847

Description:	1,4-DIOXANE	Expires:	9/30/2019
Standard Type:	Analyte Spike	Prepared:	10/3/2018
Solvent:	VOC 286-02	Prepared By:	Brenda Lips
Final Volume (mls):	1	Department:	VOCGCMS
Vials:	1	Last Edit:	10/05/2018 12:10 by BBL
Vendor:	Absolute	Lot Number:	IQ-100318

1,4-DIOXANE

Analyte	CAS Number	Concentration	Units
1,4-Dioxane	123-91-1	500	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

. 1800845

Description:	Volatiles ALT Spiking mix 8260/624/524	Expires:	10/16/2018
Standard Type:	Analyte Spike	Prepared:	10/2/2018
Solvent:	MEOH/VOC286-02	Prepared By:	Ronald Sieber
Final Volume (mls):	1	Department:	VOCGCMS
Vials:	1	Last Edit:	10/05/2018 09:27 by RS
Vendor:	spectrum	Lot Number:	SPEC

ALT Spiking mix for use in methodS 8260B / 624 / 524.2

Analyte	CAS Number	Concentration	Units
Acrolein	107-02-8	500	ug/mL
2-Butanone (Methyl Ethyl Ketone)	78-93-3	500	ug/mL
2-Chloroethyl vinyl ether	110-75-8	500	ug/mL
2-Chloroethylvinyl ether	110-75-8	500	ug/mL
2-Chlorotoluene	95-49-8	100	ug/mL
2-Hexanone	591-78-6	500	ug/mL
2-Nitropropane	79-46-9	100	ug/mL
4-Chlorotoluene	106-43-4	100	ug/mL
4-Isopropyltoluene	99-87-6	100	ug/mL
4-Methyl-2-pentanone	108-10-1	500	ug/mL
1,1,1,2-Tetrachloroethane	630-20-6	100	ug/mL
Acetonitrile	75-05-8	100	ug/mL
1,4-Dichlorobenzene	106-46-7	100	ug/mL
Acrylonitrile	107-13-1	100	ug/mL
Allyl chloride	107-05-1	100	ug/mL
Benzene	71-43-2	100	ug/mL
Bromobenzene	108-86-1	100	ug/mL
Bromochloromethane	74-97-5	100	ug/mL
Bromodichloromethane	75-27-4	100	ug/mL
Bromoform	75-25-2	100	ug/mL
Bromomethane	74-83-9	100	ug/mL
Carbon disulfide	75-15-0	100	ug/mL
Acetone	67-64-1	500	ug/mL
1,2,4-Trimethylbenzene	95-63-6	100	ug/mL
1,1,1-Trichloroethane	71-55-6	100	ug/mL
1,1,2,2-Tetrachloroethane	79-34-5	100	ug/mL
1,1,2-Trichloroethane	79-00-5	100	ug/mL
1,1-Dichloro-2-propanone	513-88-2	100	ug/mL
1,1-Dichloroethane	75-34-3	100	ug/mL
1,1-Dichloroethene	75-35-4	100	ug/mL

Reviewed By _____ Date _____

1,1-Dichloroethylene	75-35-4	100	ug/mL
1,1-Dichloropropene	563-58-6	100	ug/mL
1,2,3-Trichlorobenzene	87-61-6	100	ug/mL
2,2-Dichloropropane	590-20-7	100	ug/mL
1,2,4-Trichlorobenzene	120-82-1	100	ug/mL
1-Chlorobutane	109-69-3	100	ug/mL
1,2-Dibromo-3-chloropropane	96-12-8	100	ug/mL
1,2-Dibromoethane	106-93-4	100	ug/mL
1,2-Dibromoethane (EDB)	106-93-4	100	ug/mL
1,2-Dichlorobenzene	95-50-1	100	ug/mL
1,2-Dichloroethane	107-06-2	100	ug/mL
1,2-Dichloropropane	78-87-5	100	ug/mL
1,3,5-Trimethylbenzene	108-67-8	100	ug/mL
1,3-Dichlorobenzene	541-73-1	100	ug/mL
1,3-Dichloropropane	142-28-9	100	ug/mL
Chlorobenzene	108-90-7	100	ug/mL
1,2,3-Trichloropropane	96-18-4	100	ug/mL
tert-Butylbenzene	98-06-6	100	ug/mL
Carbon Tetrachloride	56-23-5	100	ug/mL
n-Butyl Benzene	104-51-8	100	ug/mL
Nitrobenzene	98-95-3	100	ug/mL
n-Propyl Benzene	103-65-1	100	ug/mL
n-Propylbenzene	103-65-1	100	ug/mL
o-Xylene	95-47-6	100	ug/mL
Pentachloroethane	76-01-7	100	ug/mL
p-Isopropyltoluene	99-87-6	100	ug/mL
Propionitrile	107-12-0	100	ug/mL
Methyl-tert-butyl ether	1634-04-4	100	ug/mL
Styrene	100-42-5	100	ug/mL
Methylene Chloride	75-09-2	100	ug/mL
Tetrachloroethene	127-18-4	100	ug/mL
Tetrahydrofuran	109-99-9	100	ug/mL
Toluene	108-88-3	100	ug/mL
trans-1,2-Dichloroethene	156-60-5	100	ug/mL
trans-1,3-Dichloropropene	10061-02-6	100	ug/mL
trans-1,4-Dichloro-2-butene	110-57-6	100	ug/mL
Trichloroethene	79-01-6	100	ug/mL
Trichlorofluoromethane	75-69-4	100	ug/mL
Vinyl acetate	108-05-4	100	ug/mL

Reviewed By Date

Analytical Standard Record

Florida-Spectrum Environmental Services, Inc

1800845

Vinyl chloride	75-01-4	100	ug/mL
sec-Butyl Benzene	135-98-8	100	ug/mL
Ethyl Methacrylate	97-63-2	100	ug/mL
Xylenes, total	1330-20-7	300	ug/mL
Chloroethane	75-00-3	100	ug/mL
Chloroform	67-66-3	100	ug/mL
Chloromethane	74-87-3	100	ug/mL
cis-1,2-Dichloroethene	156-59-4	100	ug/mL
cis-1,3-Dichloropropene	10061-01-5	100	ug/mL
Dibromochloromethane	124-48-1	100	ug/mL
Dibromomethane	74-95-3	100	ug/mL
Dichlorodifluoromethane	75-71-8	100	ug/mL
Naphthalene	91-20-3	100	ug/mL
Ethyl Benzene	100-41-4	100	ug/mL
Chloroacetonitrile	107-14-2	100	ug/mL
Ethylbenzene	100-41-4	100	ug/mL
Hexachlorobutadiene	87-68-3	100	ug/mL
Hexachloroethane	67-72-1	100	ug/mL
Iodomethane	74-88-4	100	ug/mL
Isopropylbenzene	98-82-8	100	ug/mL
m,p-Xylene	108-38-3/106-42-3	200	ug/mL
Methacrylonitrile	126-98-7	100	ug/mL
Methyl Acrylate	96-33-3	100	ug/mL
Methyl Methacrylate	80-62-6	100	ug/mL
Methyl tert-Butyl Ether	1634-04-4	100	ug/mL
Diethyl ether	60-29-7	100	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1800835	IQ8260B100218A	10/02/201	Ronald Sieber	11/02/201	10/05/2018 09:15 by RS	1
1800839	IQ8260B100218B	10/02/201	Ronald Sieber	10/16/201	10/05/2018 09:21 by RS	1
1800841	IQ8260B100218C	10/02/201	Ronald Sieber	11/02/201	10/05/2018 09:23 by RS	1
1800843	IQ2CEVE100218	10/02/201	Ronald Sieber	10/16/201	10/05/2018 09:24 by RS	1

Reviewed By _____ Date _____

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
DB	DB	8/1/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
2540G	☐ Water ☐ DW ☑ Solid ☐ Other: _____	0201219-002
Analyte or Class of Analytes		
Volatile & Fixed Solids Total Solids		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual*.

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

David Barahona *Analyst*	David Barahona *Signature*	8/1/19 *Date*
Sophia Andre *Technical Director*	Sophia Andre *Signature*	8-1-19 *Date*
Roxana Llambias *Quality Assurance Director*	[signature] *Signature*	8/1/19 *Date*

1. True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIR MENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	SOLIDS
DATE OF ANALYSIS:	7/31/2019
ANALYZED BY:	David Barahona
METHOD NUMBER:	SM 2540G
EXTRACTION METHOD (IF APPLY):	SM 2540G
BALANCE ID:	WET-20
MUFFLE ID (550±50°C)	WET-10
DESSICATOR ID	WET CHEM DESS-3
OVEN ID (103-105°C)	WET-12
THERMOMETER ID (103-105°C)	Digital
EXTRACTED BY:	David Barahona
DATE EXTRACTED:	7/26/2019
ACCEPTANCE CRITERIA:	80-120%

Document Control #: 0401116-002
Date:8/29/16

Standards Used:	Std. ID#	Conc.
SOLIDS, FIXED	66-WC-06	95.2 W%
VOLATILE SOLIDS TOTAL		4.77 W%
TOTAL SOLIDS		97.8 W%
Internal Standard	NA	NA
Surrogate	NA	NA

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS: WT%	WT%	WT%	WT%	WT%	WT%	WT%			
Volatile Solids	4.77	5.00	5.00	5.00	5.00	5.00	0.00	105	0.00
Fixed Solids	95.2	93.0	93.0	93.0	93.0	93.0	0.00	97.7	0.00
Total Solids	97.8	98.0	98.0	98.0	98.0	98.0	0.00	100	0.00

SAMPLE	DISH WEIGHT (g)	DISH + SAMPLE WEIGHT (g)	FINAL WEIGHT (g)	FINAL WEIGHT (g)	RESIDUE	TOTAL SOLIDS	% RECOVERY	FINAL WEIGHT ASH (g)	FINAL WEIGHT ASH (g)	RESIDUE	VOLATILE SOLIDS	% RECOVERY	FIXED SOLIDS	% RECOVERY
BLANK	72.3411	78.3667	78.3646	78.3645	6.0234	100%		78.3551	78.3547	6.0136	0%		100%	
DB IDOC 1	43.8326	44.8431	44.8226	44.8225	0.9899	98%	101%	44.7719	44.7714	0.9388	5%	106%	93%	98%
DB IDOC 2	45.0334	46.0601	46.0399	46.0395	1.0061	98%	101%	45.9886	45.9882	0.9548	5%	105%	93%	98%
DB IDOC 3	41.6624	42.7383	42.7173	42.7169	1.0545	98%	101%	42.6655	42.665	1.0026	5%	101%	93%	98%
DB IDOC 4	51.5014	52.5452	52.5244	52.5249	1.0235	98%	101%	52.4748	52.4747	0.9733	5%	101%	93%	98%

TS/TVS/ASH Logbook

SM2540B, SM2540C, SM2540G

Analyst:	DB
Run #:	
Date/Time:	7/26/19 16:29
Matrix:	S
Balance ID:	WET-20
Muffle(550±50°C) ID:	WET-10
Dessicator ID:	WET CHEM DESS-3
Oven(103-105°C)):	WET-12 — Thermometer ID: Digital
Oven(103-105°C)):	WET-39 — Thermometer ID:
Filters Lot#:	

%RPD = Sample - Dup / (Sample + Dup /2) *100

%RPD: _____

TS = (H(g) *1000)/C(Liters or kgrams)

TVS = (H-M)(g) * 1000)/C(Liters or kgrams)

ASH = I - N

Wt. Change = F-E*1000(mg) or F-E/E * 100(%)

QC Acceptance Criteria: 80-120%

%RPD≤20%

~~*Dry Residue 2.5-200 mg*~~

7/30/19 14:27

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
			Circle One ~~Mass~~ Vol: mL	~~Dry~~ Weight	7/29/19 10:27	12:42	103-105 °C		Circle One	12:34	~~15:~~	550 ± 50 °C		Circle One	Circle One
Log #	Sample ID	Dish ID	~~Mass: g~~ Vol: mL	Dish +sample Weight, g	Final weight, g	Final weight, g	Wt Change (mg or %)	Residue (F-D), g	TS, mg/L or mg/kg	Final weight, g	Final weight, g	Wt Change (mg or %)	Residue (K-D), g	TVS, mg/L or mg/kg	ASH, mg/L or mg/kg
BLANK	Sand		72.3411	78.3667	78.3660	78.3646				78.3551	78.3597				
LCS															
DB IDOC 1	166-WE 06		43.8326	44.8431	44.8226	44.8225				44.7726	44.7754				
2			45.0334	46.0601	46.0399	46.0395				45.9938	45.9976				
3			41.6624	42.7383	42.7173	42.7169				42.6690	42.6683				
4			51.5019	52.5452	52.5253	52.5244				52.4788	52.4776				
DUP															
LCS															
BLANK															

Cycle	Date In	Time In	Temp. In (°C)*	Analyst	Date Out	Time Out	Temp. Out (°C)*	Analyst
1	7/26/19	16:24	105	DB	7/29/19	9:06	105	DB
2	7/29/19	10:26	105	DB	7/29/19	11:39	105	DB
3	7/29/19	12:17	105	DB	7/29/19	14:53	105	DB
4	7/30/19	10:10	548	DB	7/30/19	11:11	543	DB
5	7/30/19	12:56	547	DB	7/30/19	~~10:26~~ *	540	DB
6	7/30/19	14:33	546	DB	7/30/19	15:03	538	DB
7	7/31/19	10:10	545	DB	7/31/19	10:40	540	DB
8	7/31/19	12:52	550	DB	7/31/19	~~13:22~~	538	DB
9	7/31/19	14:33	548	DB	7/31/19	15:03	552	DB

Time in 13:26

Time in 13:22

Comments	ASH 7/31/19	
Third UNwashed 7/29/19 15:53	WS 14:22	W6 7/31/19 16:15
Blank – 78.3646	DB IDOC 1 – 44.7719	44.7714
DB IDOC 4 – 52.5249	2 – 45.9586	45.9582
	3 – 42.6655	42.6650
	4 – 52.4748	52.4747

Temperature recorded is the temperature corrected

± 7/31/19 DB

Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
Anna Ulianova	Anna Ulianova	8/9/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 1312 by EPA 8260	☐ Water ☐ DW ☑ Solid ☐ Other: _____	DOC: 0201517-002 8260: 0201519-004
Analyte or Class of Analytes		
Volatiles		

We, the undersigned, CERTIFY that:

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2. The test method(s) was performed by the analyst(s) identified on this certification.

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4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

Anna Ulianova *Analyst*	*Signature*	8/9/2019 *Date*
Jose Fernandez *Technical Director*	*Signature*	8/9/19 *Date*
Roxana Llambias *Quality Assurance Director*	*Signature*	8/9/19 *Date*

True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

Document Control #: 0401116-002

Date: 8/29/16

MATRIX:	SOIL
DATE OF ANALYSIS:	7/26/19 (DCM Only) 8/6/2019
ANALYZED BY:	AU
METHOD NUMBER:	EPA 8260
EXTRACTION METHOD (IF APPLY):	EPA 1312
INSTRUMENT ID:	ALPHA / DELTA
BALANCE ID:	VOL-6
TUMBLER ID:	VOL-10 Organic Tumbler-1
EXTRACTED BY:	AU
DATE EXTRACTED:	7/25/19 8/5/2019
ACCEPTANCE CRITERIA:	70-130%

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	IQ8260D190717A,B IQ8260D190731A, B	100 ppm
Surrogate	SU190404 SU190708	25 ppm 12.5 ppm
Internal Standard	IS190404 IS190708	200 ppm 100 ppm

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD	
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L				
Vinyl Chloride	10	11.9	10.4	8.81	9.78	10.2	12.8	102	1.30	
Trichlorofluoromethane	10	14.5	11.0	9.34	10.2	11.3	20.1	113	2.26	
1,1-Dichloroethene	10	11.0	9.24	9.26	9.55	9.75	8.38	97.5	0.817	
Acetone	50	48.9	40.5	40.9	46.4	44.2	9.37	88.4	4.14	
Carbon Disulfide	10	10.4	8.83	8.78	8.94	9.24	8.42	92.4	0.778	
Methylene Chloride	10	12.3	11.5	9.52	8.38	10.4	17.2	104	1.80	7/26/2019
2-Butanone (MEK)	50	41.6	34.7	37.4	40.4	38.5	8.05	77.0	3.10	
Chloroform	10	10.5	8.51	8.34	8.77	9.03	11.0	90.3	1.00	
1,1,1-Trichloroethane	10	11.9	9.29	9.30	9.53	10.0	12.7	100	1.27	
Carbon Tetrachloride	10	12.3	9.49	9.46	9.70	10.2	13.7	102	1.40	
1,2-Dichloroethane	10	10.4	8.08	8.13	8.61	8.80	12.3	88.0	1.08	
Benzene	10	10.5	8.12	8.42	8.55	8.90	12.2	89.0	1.09	
Trichloroethene	10	10.4	8.54	8.71	8.60	9.06	9.71	90.6	0.879	
4-Methyl-2-Pentanone (MIBK)	50	48.0	37.4	31.9	37.9	38.8	17.3	77.7	6.71	
Toluene	10	11.3	8.56	8.67	9.07	9.40	13.6	94.0	1.28	
Tetrachloroethene	10	13.5	10.2	10.5	12.2	11.6	13.4	116	1.55	
Chlorobenzene	10	10.8	8.38	8.80	9.31	9.33	11.5	93.3	1.07	
Ethylbenzene	10	11.3	8.35	8.76	9.17	9.40	14.0	94.0	1.31	
m/p- Xylene	20	23.3	17.6	18.4	19.1	19.6	13.0	97.9	2.55	
o-Xylene	10	10.7	7.55	7.91	8.34	8.64	16.7	86.4	1.44	
Total Xylenes	30	34.0	25.2	26.3	27.4	28.2	14.0	94.1	3.95	
1,4-Dichlorobenzene	10	10.7	8.10	8.03	9.02	8.95	13.7	89.5	1.22	

Note: DCM failed on the analysis performed on 8/6/19 and data reported from the analysis made on 7/26/19 on ALPHA

SPLP EPA 1312 Extraction

Extraction

Date In: 8/5/2019
Time In: 14:00
Analyst: AV / SY
RPM (30±2rpm): 30
Temp (23±2°C) Min: 22.4
Max: 24.5

Date Out: 8/6/2019
Time Out: 9:00
Analyst: AV / SY
Batch #: —

Tumbler: Vol-10 OrganicTumbler-1
Thermometer: Min/Max 75487
Balance: Vol-6
pH Meter: Mettler Toledo Wet-4 (WET CHEM LAB)

Reagents Traceability

Extraction Fluid: D.I. WATER
Sand ID: VOC 319-01 8/5/2019 SY
Filter Paper: 324-01 31
Spike ID for DOC: I8260D150717 A,B,C & 2CEVE

ZHE #	LCN	Sample Matrix		Extraction					
		Solid	Water	Weight Extracted Sample (g) (Soil)	Volume Filtered Sample (mL) (Water)	Volume Extraction Fluid (mL)	Initial Pressure (psi)	Final Pressure (psi)	Was the ZHE Checked for Leak (Y/N)?
	BLANK								
A	AV IDOC-1	V		25.25		500	50	50	Y
C	AV IDOC-2	V		24.87		↓	↓	↓	↓
D	AV IDOC-3	V		24.41					
E	AV IDOC-4	V		23.58					

Comments:

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080630.D
Acq On : 6 Aug 2019 11:53 pm
Operator : JF
Sample : IDOC SPLP AU1 1
Misc : IS-SU190708
ALS Vial : 18 Sample Multiplier: 1

AU

Quant Time: Aug 07 11:06:57 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B 10
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration

8/7/2019

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	5.350	96	1691003	40.00	ug/l		0.00
37) Toluene-d8 (IS)	6.999	98	1691833	40.00	ug/l		0.00
78) Chlorobenzene-d5 (IS)	8.587	117	1356780	40.00	ug/l	#	0.00
System Monitoring Compounds							
48) 2-Bromo-1-Chloropropan...	7.474	79	31889	5.32	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.40%				
63) 4-Bromofluorobenzene (SS)	9.858	95	67604	4.70	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 94.00%				
82) 1,2-Dichlorobenzene-d4...	11.446	152	122860	6.47	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 129.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.299	85	105433	14.93	ug/l	#	92
3) Chloromethane (SPCC)	1.451	50	25536	10.22	ug/l		92
4) Vinyl Chloride (CCC)	1.518	62	48119	11.92	ug/l		93
5) Bromomethane	1.773	94	32208	10.95	ug/l		96
6) Chloroethane	1.852	64	28635	11.63	ug/l		95
7) Trichlorofluoromethane	2.023	101	148448	14.53	ug/l		96
8) Acrolein	2.461	56	12174	51.85	ug/l		91
9) Diethyl Ether	2.266	59	26119	10.06	ug/l	#	66
10) 1,1-Dichloroethene (CCC)	2.479	61	55544	10.96	ug/l	#	67
11) Acetone	2.607	43	42524	48.92	ug/l	#	74
12) Iodomethane	2.643	142	53036	11.74	ug/l		91
13) Carbon Disulfide	2.674	76	108070	10.43	ug/l		99
14) Allyl Chloride	2.844	41	21010	9.01	ug/l	#	38
15) Methylene Chloride	2.990	49	33374	5.09	ug/l	#	12
16) Acrylonitrile	3.306	53	8500	9.41	ug/l		97
17) Acetonitrile	2.947	41	1131	2.72	ug/l	#	73
18) trans-1,2-Dichloroethene	3.197	61	53955	10.41	ug/l	#	64
19) MTBE	3.179	73	113864	10.40	ug/l	#	79
20) 1,1-Dichloroethane (SPCC)	3.647	63	75362	10.45	ug/l	#	97
21) Vinyl Acetate	3.690	43	23451	7.65	ug/l	#	67
22) 2-Butanone (MEK)	4.286	43	36338	41.58	ug/l	#	34
23) cis-1,2-Dichloroethene	4.231	96	60509	10.37	ug/l		91
24) 2,2-Dichloropropane	4.188	77	68098	9.56	ug/l	#	74
25) Methyl Acrylate	4.340	55	22905	9.51	ug/l	#	56
26) Methacrylonitrile	4.529	67	15250	10.05	ug/l	#	52
27) Bromochloromethane	4.474	130	53902	11.02	ug/l	#	45
28) Tetrahydrofuran	4.480	42	4449	8.99	ug/l	#	52
29) Chloroform (CCC)	4.547	83	119585	10.50	ug/l		100
30) 1,1,1-Trichloroethane	4.669	97	118183	11.91	ug/l		93
31) 1-Chlorobutane	4.791	56	48999	10.57	ug/l	#	65
32) 1,1-Dichloropropene	4.833	75	66312	11.73	ug/l	#	90
33) Carbon Tetrachloride	4.791	117	120388	12.34	ug/l		96
34) 1,2-Dichloroethane	5.156	62	87940	10.39	ug/l		99
35) Benzene	5.040	78	183958	10.51	ug/l		99
36) Trichloroethene	5.709	95	41829	10.37	ug/l		95
38) 1,2-Dichloropropane (CCC)	6.007	63	33199	8.84	ug/l	#	83
39) Methyl Methacrylate	6.117	41	7059	8.52	ug/l	#	1
40) Dibromomethane	6.135	174	53602	12.65	ug/l		89
41) Bromodichloromethane	6.293	83	91406	11.11	ug/l		99
42) 2-Chloroethyl Vinyl Ether	6.640	63	113105	47.72	ug/l	#	1

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080630.D
Acq On : 6 Aug 2019 11:53 pm
Operator : JF
Sample : IDOC SPLP AU1
Misc : IS-SU190708
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 07 11:06:57 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B/D
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration

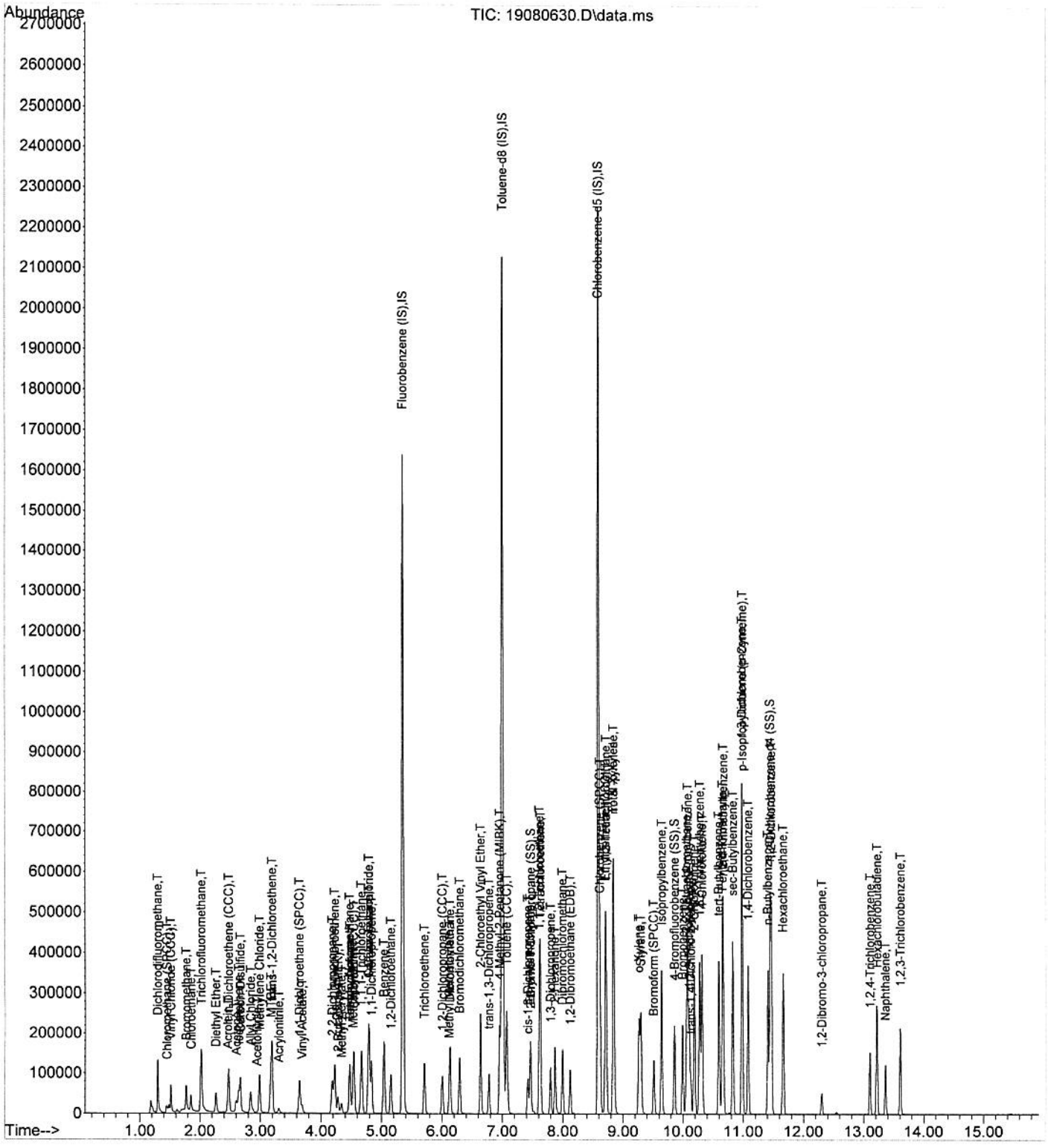
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43)	trans-1,3-Dichloropropene	6.780	75	63647	9.90	ug/l		98
44)	4-Methyl-2-Pentanone (...	6.956	43	91364	48.04	ug/l	#	26
45)	Toluene (CCC)	7.072	91	207664	11.28	ug/l		98
46)	cis-1,3-Dichloropropene	7.425	75	57044	10.04	ug/l		100
47)	Ethyl Methacrylate	7.461	69	43791	10.01	ug/l	#	75
49)	1,1,2-Trichloroethane	7.613	83	53431	10.99	ug/l		99
50)	1,3-Dichloropropane	7.802	76	77796	10.74	ug/l		95
51)	2-Hexanone	7.869	43	61213	43.35	ug/l	#	25
52)	Tetrachloroethene	7.632	166	95800	13.51	ug/l	#	91
53)	Dibromochloromethane	7.997	129	84634	11.27	ug/l		96
54)	1,2-Dibromoethane (EDB)	8.124	107	62398	9.88	ug/l		97
55)	Chlorobenzene (SPCC)	8.617	112	177380	10.84	ug/l		99
56)	1,1,1,2-Tetrachloroethane	8.721	131	82353	11.43	ug/l		94
57)	Ethylbenzene (CCC)	8.708	91	231418	11.30	ug/l		98
58)	m- & -p Xylene	8.842	91	422952	23.30	ug/l		95
59)	o-Xylene	9.268	91	157537	10.74	ug/l		96
60)	Total Xylenes	8.842	91	422952	34.95	ug/l		95
61)	Styrene	9.299	104	137143	11.56	ug/l		90
62)	Isopropylbenzene	9.645	105	214127	10.83	ug/l		99
64)	trans-1,4-Dichloro-2-b...	10.132	53	12100	46.24	ug/l	#	77
65)	1,2,3-Trichloropropane	10.108	110	32315	11.52	ug/l		95
66)	Bromobenzene	9.992	77	95041	10.61	ug/l		98
67)	n-Propylbenzene	10.077	91	315572	11.48	ug/l		97
68)	2-Chlorotoluene	10.187	91	206374	11.51	ug/l		98
69)	1,3,5-Trimethylbenzene	10.278	105	229552	11.81	ug/l		94
70)	4-Chlorotoluene	10.315	91	270329	12.86	ug/l		97
71)	tert-Butylbenzene	10.594	119	174027	11.37	ug/l		92
72)	Pentachloroethane	10.655	167	43056	9.41	ug/l	#	85
73)	1,2,4-Trimethylbenzene	10.667	105	228814	11.71	ug/l		97
74)	sec-Butylbenzene	10.826	105	264736	11.37	ug/l		99
75)	p-Isopropyltoluene (p-...	10.984	119	226879	11.29	ug/l		95
76)	1,3-Dichlorobenzene	10.978	146	179071	11.36	ug/l		96
77)	1,4-Dichlorobenzene	11.081	146	160015	10.66	ug/l		98
79)	Bromoform (SPCC)	9.512	173	59867	12.66	ug/l	#	98
80)	1,1,2,2-Tetrachloroethane	10.059	83	94311	12.36	ug/l		99
81)	n-Butylbenzene	11.410	91	168567	9.28	ug/l		96
83)	1,2-Dichlorobenzene	11.464	146	174263	12.41	ug/l		95
84)	Hexachloroethane	11.659	117	68174	13.10	ug/l	#	88
85)	1,2-Dibromo-3-chloropr...	12.304	157	14215	11.39	ug/l	#	80
86)	1,2,4-Trichlorobenzene	13.107	180	48102	10.49	ug/l		98
87)	Hexachlorobutadiene	13.223	225	54637	12.16	ug/l		96
88)	Naphthalene	13.362	128	89417	9.60	ug/l		100
89)	1,2,3-Trichlorobenzene	13.612	180	65456	10.91	ug/l		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080630.D
Acq On : 6 Aug 2019 11:53 pm
Operator : JF
Sample : IDOC SPLP AU1
Misc : IS-SU190708
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Aug 07 11:06:57 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080631.D
Acq On : 7 Aug 2019 12:22 am
Operator : JF
Sample : IDOC SPLP AU2 2
Misc : IS-SU190708
ALS Vial : 19 Sample Multiplier: 1

AU
8/7/2019

Quant Time: Aug 07 11:07:01 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	5.350	96	1710458	40.00	ug/l		0.00
37) Toluene-d8 (IS)	6.999	98	1762570	40.00	ug/l		0.00
78) Chlorobenzene-d5 (IS)	8.593	117	1413882	40.00	ug/l	#	0.00
System Monitoring Compounds							
48) 2-Bromo-1-Chloropropan...	7.468	79	30963	4.96	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 99.20%				
63) 4-Bromofluorobenzene (SS)	9.858	95	70894	4.73	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 94.60%				
82) 1,2-Dichlorobenzene-d4...	11.446	152	123569	6.25	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 125.00%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.305	85	84772	11.87	ug/l	#	93
3) Chloromethane (SPCC)	1.451	50	22707	8.95	ug/l	#	83
4) Vinyl Chloride (CCC)	1.518	62	42368	10.38	ug/l		100
5) Bromomethane	1.779	94	28432	9.30	ug/l		92
6) Chloroethane	1.852	64	23301	9.12	ug/l		97
7) Trichlorofluoromethane	2.023	101	113522	10.98	ug/l		97
8) Acrolein	2.461	56	10782	45.40	ug/l		95
9) Diethyl Ether	2.272	59	22880	8.72	ug/l	#	62
10) 1,1-Dichloroethene (CCC)	2.479	61	47370	9.24	ug/l	#	71
11) Acetone	2.607	43	36377	40.51	ug/l	#	72
12) Iodomethane	2.643	142	53654	11.74	ug/l		92
13) Carbon Disulfide	2.674	76	92557	8.83	ug/l		98
14) Allyl Chloride	2.844	41	18445	7.82	ug/l	#	56
15) Methylene Chloride	2.990	49	30258	4.27	ug/l		14
16) Acrylonitrile	3.306	53	8202	8.97	ug/l		95
17) Acetonitrile	2.941	41	1590	4.08	ug/l	#	87
18) trans-1,2-Dichloroethene	3.197	61	46743	8.92	ug/l	#	69
19) MTBE	3.179	73	95424	8.62	ug/l	#	78
20) 1,1-Dichloroethane (SPCC)	3.653	63	63400	8.69	ug/l	#	92
21) Vinyl Acetate	3.690	43	20244	6.52	ug/l	#	74
22) 2-Butanone (MEK)	4.286	43	30734	34.69	ug/l	#	26
23) cis-1,2-Dichloroethene	4.231	96	51324	8.70	ug/l		90
24) 2,2-Dichloropropane	4.195	77	55627	7.72	ug/l	#	73
25) Methyl Acrylate	4.341	55	18561	7.62	ug/l	#	64
26) Methacrylonitrile	4.529	67	12611	8.21	ug/l	#	52
27) Bromochloromethane	4.474	130	44918	9.08	ug/l	#	44
28) Tetrahydrofuran	4.493	42	3057	6.16	ug/l	#	7
29) Chloroform (CCC)	4.541	83	98080	8.51	ug/l		98
30) 1,1,1-Trichloroethane	4.669	97	93253	9.29	ug/l	#	92
31) 1-Chlorobutane	4.791	56	37159	7.93	ug/l	#	63
32) 1,1-Dichloropropene	4.833	75	50470	8.82	ug/l	#	92
33) Carbon Tetrachloride	4.791	117	93575	9.49	ug/l		96
34) 1,2-Dichloroethane	5.156	62	69188	8.08	ug/l		99
35) Benzene	5.046	78	143752	8.12	ug/l		97
36) Trichloroethene	5.715	95	34236	8.54	ug/l		98
38) 1,2-Dichloropropane (CCC)	6.008	63	27410	7.06	ug/l	#	82
39) Methyl Methacrylate	6.123	41	5329	6.51	ug/l	#	1
40) Dibromomethane	6.135	174	41647	9.44	ug/l		90
41) Bromodichloromethane	6.293	83	73768	8.61	ug/l		98
42) 2-Chloroethyl Vinyl Ether	6.640	63	111862	45.44	ug/l	#	1

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080631.D
Acq On : 7 Aug 2019 12:22 am
Operator : JF
Sample : IDOC SPLP AU2
Misc : IS-SU190708
ALS Vial : 19 Sample Multiplier: 1

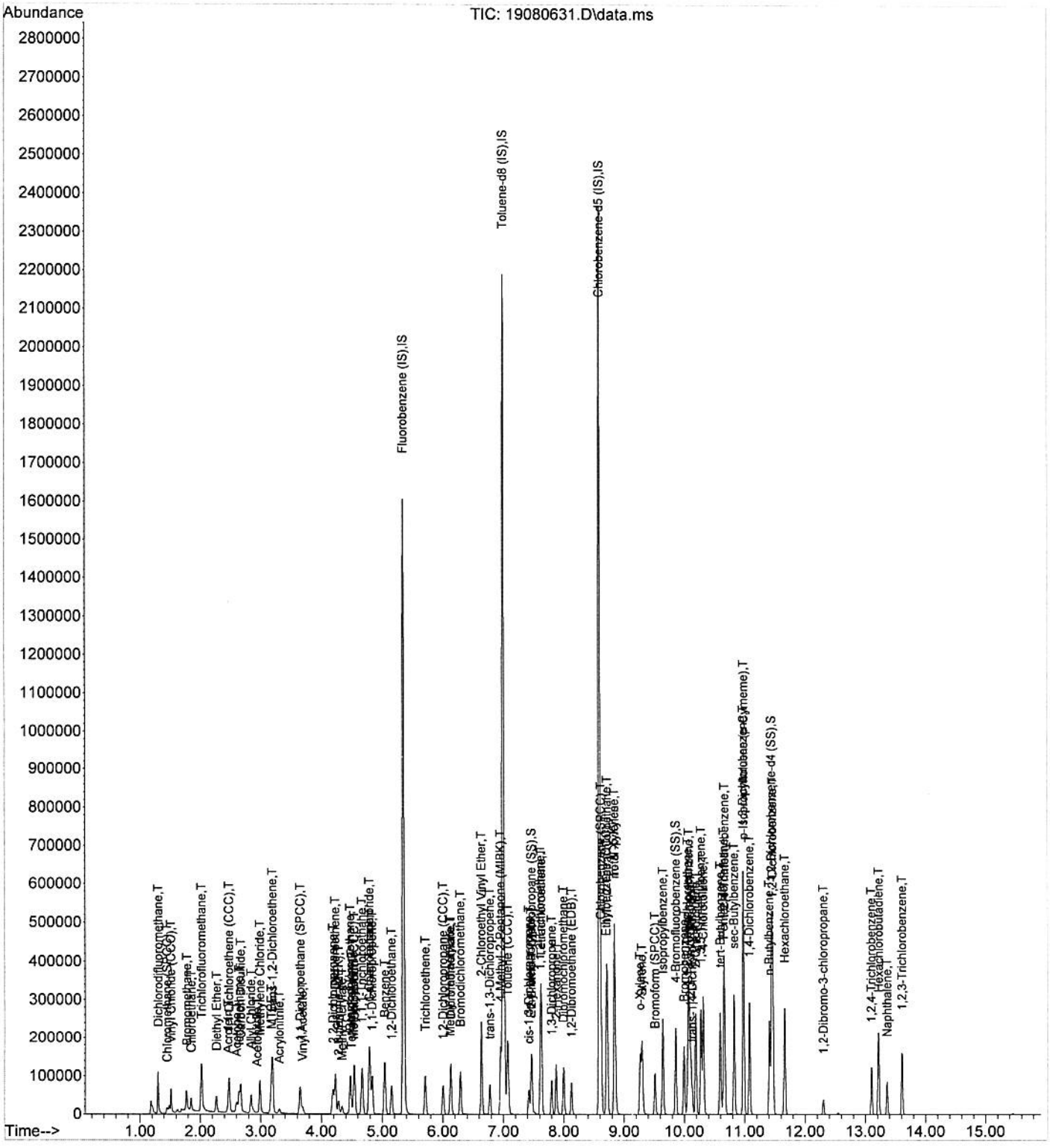
Quant Time: Aug 07 11:07:01 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) trans-1,3-Dichloropropene	6.780	75	50549	7.74	ug/l		97
44) 4-Methyl-2-Pentanone (...	6.957	43	72347	37.36	ug/l	#	32
45) Toluene (CCC)	7.072	91	164299	8.56	ug/l		97
46) cis-1,3-Dichloropropene	7.425	75	41553	7.34	ug/l		96
47) Ethyl Methacrylate	7.461	69	30307	7.01	ug/l	#	93
49) 1,1,2-Trichloroethane	7.614	83	41548	8.20	ug/l		97
50) 1,3-Dichloropropane	7.802	76	58422	7.90	ug/l		99
51) 2-Hexanone	7.875	43	47766	32.97	ug/l	#	23
52) Tetrachloroethene	7.632	166	73580	10.19	ug/l		91
53) Dibromochloromethane	7.997	129	67346	8.61	ug/l		98
54) 1,2-Dibromoethane (EDB)	8.131	107	47702	7.30	ug/l		98
55) Chlorobenzene (SPCC)	8.617	112	142925	8.38	ug/l		99
56) 1,1,1,2-Tetrachloroethane	8.721	131	66792	8.90	ug/l		91
57) Ethylbenzene (CCC)	8.709	91	173551	8.35	ug/l	#	98
58) m- & -p Xylene	8.842	91	324804	17.56	ug/l		95
59) o-Xylene	9.268	91	108918	7.55	ug/l		97
60) Total Xylenes	8.842	91	324804	26.34	ug/l		95
61) Styrene	9.299	104	103011	8.60	ug/l		92
62) Isopropylbenzene	9.645	105	157677	8.00	ug/l		99
64) trans-1,4-Dichloro-2-b...	10.132	53	9386	35.16	ug/l	#	84
65) 1,2,3-Trichloropropane	10.108	110	25918	8.91	ug/l		97
66) Bromobenzene	9.998	77	77029	8.39	ug/l		92
67) n-Propylbenzene	10.077	91	239509	8.57	ug/l		98
68) 2-Chlorotoluene	10.193	91	156848	8.57	ug/l		98
69) 1,3,5-Trimethylbenzene	10.278	105	166734	8.52	ug/l		93
70) 4-Chlorotoluene	10.315	91	209143	9.65	ug/l		96
71) tert-Butylbenzene	10.601	119	123924	8.16	ug/l		94
72) Pentachloroethane	10.655	167	35244	7.39	ug/l	#	88
73) 1,2,4-Trimethylbenzene	10.668	105	175365	8.85	ug/l		96
74) sec-Butylbenzene	10.826	105	195866	8.35	ug/l		99
75) p-Isopropyltoluene (p-...	10.984	119	170998	8.43	ug/l		95
76) 1,3-Dichlorobenzene	10.978	146	143697	8.82	ug/l		96
77) 1,4-Dichlorobenzene	11.081	146	125424	8.10	ug/l		97
79) Bromoform (SPCC)	9.518	173	47866	9.72	ug/l	#	98
80) 1,1,2,2-Tetrachloroethane	10.059	83	76644	9.64	ug/l		98
81) n-Butylbenzene	11.410	91	121375	6.55	ug/l		94
83) 1,2-Dichlorobenzene	11.464	146	141552	9.71	ug/l		95
84) Hexachloroethane	11.665	117	53692	9.90	ug/l		92
85) 1,2-Dibromo-3-chloropr...	12.304	157	10753	8.54	ug/l	#	87
86) 1,2,4-Trichlorobenzene	13.101	180	39661	8.66	ug/l		97
87) Hexachlorobutadiene	13.223	225	43539	9.41	ug/l		98
88) Naphthalene	13.363	128	64908	7.18	ug/l		100
89) 1,2,3-Trichlorobenzene	13.612	180	51327	8.52	ug/l		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\190806\
Data File : 19080631.D
Acq On : 7 Aug 2019 12:22 am
Operator : JF
Sample : IDOC SPLP AU2
Misc : IS-SU190708
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Aug 07 11:07:01 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B D
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080632.D
Acq On : 7 Aug 2019 12:50 am
Operator : JF
Sample : IDOC SPLP AU3 3
Misc : IS-SU190708
ALS Vial : 20 Sample Multiplier: 1

AU
8/7/2019

Quant Time: Aug 07 11:07:04 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	5.351	96	1800331	40.00	ug/l		0.00
37) Toluene-d8 (IS)	6.999	98	1828018	40.00	ug/l		0.00
78) Chlorobenzene-d5 (IS)	8.593	117	1489992	40.00	ug/l	#	0.00
System Monitoring Compounds							
48) 2-Bromo-1-Chloropropan...	7.474	79	32435	5.01	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.20%				
63) 4-Bromofluorobenzene (SS)	9.858	95	71839	4.62	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 92.40%				
82) 1,2-Dichlorobenzene-d4...	11.446	152	122380	5.87	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 117.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.299	85	73217	9.74	ug/l	#	92
3) Chloromethane (SPCC)	1.445	50	22446	8.39	ug/l		100
4) Vinyl Chloride (CCC)	1.518	62	37847	8.81	ug/l		97
5) Bromomethane	1.773	94	28126	8.64	ug/l		94
6) Chloroethane	1.852	64	20996	7.68	ug/l		90
7) Trichlorofluoromethane	2.023	101	101654	9.34	ug/l		93
8) Acrolein	2.461	56	10926	43.71	ug/l		84
9) Diethyl Ether	2.272	59	23231	8.41	ug/l	#	71
10) 1,1-Dichloroethene (CCC)	2.479	61	49985	9.26	ug/l	#	71
11) Acetone	2.607	43	38639	40.93	ug/l	#	73
12) Iodomethane	2.643	142	55117	11.49	ug/l		95
13) Carbon Disulfide	2.674	76	96854	8.78	ug/l		100
14) Allyl Chloride	2.844	41	20139	8.12	ug/l	#	49
15) Methylene Chloride	2.990	49	30653	4.01	ug/l	#	6
16) Acrylonitrile	3.306	53	8043	8.36	ug/l		96
17) Acetonitrile	2.941	41	1090	2.40	ug/l	#	79
18) trans-1,2-Dichloroethene	3.197	61	49679	9.01	ug/l	#	73
19) MTBE	3.179	73	98216	8.43	ug/l	#	79
20) 1,1-Dichloroethane (SPCC)	3.653	63	66460	8.66	ug/l	#	96
21) Vinyl Acetate	3.690	43	22246	6.81	ug/l	#	73
22) 2-Butanone (MEK)	4.286	43	34833	37.39	ug/l	#	40
23) cis-1,2-Dichloroethene	4.231	96	53204	8.57	ug/l		88
24) 2,2-Dichloropropane	4.189	77	56162	7.41	ug/l	#	74
25) Methyl Acrylate	4.341	55	19247	7.51	ug/l	#	62
26) Methacrylonitrile	4.523	67	13453	8.32	ug/l	#	51
27) Bromochloromethane	4.474	130	45988	8.83	ug/l	#	41
28) Tetrahydrofuran	4.481	42	3873	7.38	ug/l	#	53
29) Chloroform (CCC)	4.547	83	101206	8.34	ug/l		96
30) 1,1,1-Trichloroethane	4.669	97	98251	9.30	ug/l	#	92
31) 1-Chlorobutane	4.791	56	41540	8.42	ug/l	#	68
32) 1,1-Dichloropropene	4.833	75	53219	8.84	ug/l	#	88
33) Carbon Tetrachloride	4.791	117	98184	9.46	ug/l		96
34) 1,2-Dichloroethane	5.156	62	73201	8.13	ug/l		98
35) Benzene	5.046	78	156947	8.42	ug/l		98
36) Trichloroethene	5.716	95	36833	8.71	ug/l		97
38) 1,2-Dichloropropane (CCC)	6.008	63	27679	6.88	ug/l	#	82
39) Methyl Methacrylate	6.117	41	5158	6.14	ug/l	#	1
40) Dibromomethane	6.135	174	46943	10.26	ug/l		93
41) Bromodichloromethane	6.293	83	77095	8.67	ug/l		98
42) 2-Chloroethyl Vinyl Ether	6.640	63	110102	43.27	ug/l	#	1

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080632.D
Acq On : 7 Aug 2019 12:50 am
Operator : JF
Sample : IDOC SPLP AU3
Misc : IS-SU190708
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 07 11:07:04 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B D
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration

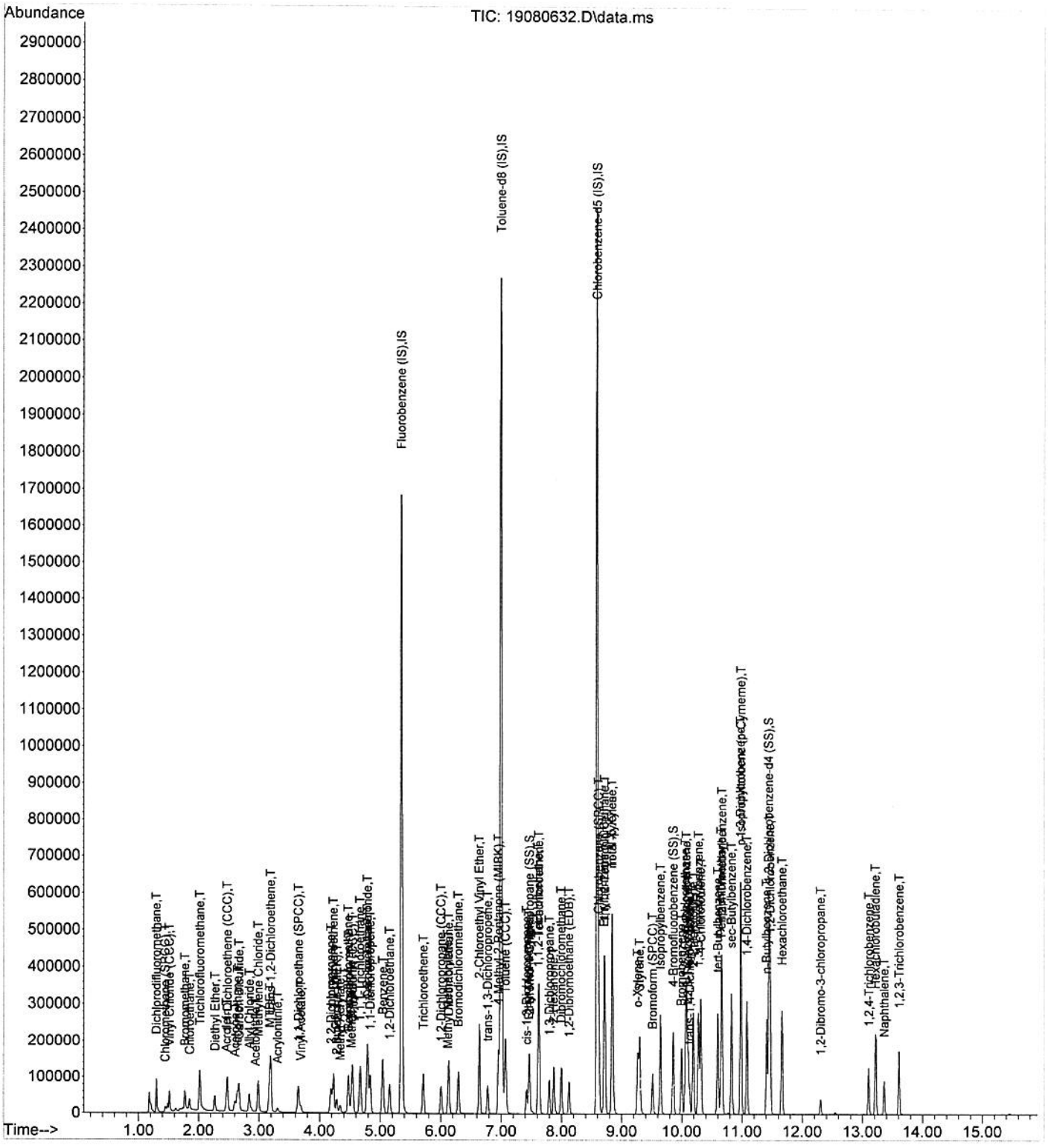
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) trans-1,3-Dichloropropene	6.780	75	51469	7.61	ug/l		96
44) 4-Methyl-2-Pentanone (...	6.957	43	63079	31.94	ug/l	#	23
45) Toluene (CCC)	7.072	91	172480	8.67	ug/l		97
46) cis-1,3-Dichloropropene	7.425	75	41929	7.16	ug/l		98
47) Ethyl Methacrylate	7.462	69	31979	7.12	ug/l	#	88
49) 1,1,2-Trichloroethane	7.614	83	44736	8.52	ug/l		99
50) 1,3-Dichloropropane	7.802	76	60973	7.95	ug/l		97
51) 2-Hexanone	7.869	43	47601	31.75	ug/l	#	32
52) Tetrachloroethene	7.626	166	78718	10.49	ug/l		91
53) Dibromochloromethane	7.997	129	72130	8.89	ug/l		98
54) 1,2-Dibromoethane (EDB)	8.125	107	50747	7.48	ug/l		98
55) Chlorobenzene (SPCC)	8.617	112	155632	8.80	ug/l		96
56) 1,1,1,2-Tetrachloroethane	8.721	131	72038	9.25	ug/l		93
57) Ethylbenzene (CCC)	8.709	91	189450	8.76	ug/l	#	99
58) m- & -p Xylene	8.842	91	353915	18.38	ug/l		96
59) o-Xylene	9.268	91	119196	7.91	ug/l		98
60) Total Xylenes	8.842	91	353915	27.57	ug/l		96
61) Styrene	9.299	104	111325	8.93	ug/l	#	86
62) Isopropylbenzene	9.646	105	163298	7.99	ug/l		98
64) trans-1,4-Dichloro-2-b...	10.132	53	9205	33.40	ug/l	#	72
65) 1,2,3-Trichloropropane	10.108	110	25855	8.57	ug/l		95
66) Bromobenzene	9.992	77	77860	8.19	ug/l		97
67) n-Propylbenzene	10.077	91	249567	8.60	ug/l		97
68) 2-Chlorotoluene	10.193	91	164073	8.64	ug/l		98
69) 1,3,5-Trimethylbenzene	10.278	105	174657	8.60	ug/l		96
70) 4-Chlorotoluene	10.315	91	215292	9.58	ug/l		97
71) tert-Butylbenzene	10.601	119	130705	8.28	ug/l		93
72) Pentachloroethane	10.655	167	38792	7.84	ug/l	#	90
73) 1,2,4-Trimethylbenzene	10.668	105	180874	8.81	ug/l		96
74) sec-Butylbenzene	10.826	105	205387	8.43	ug/l		98
75) p-Isopropyltoluene (p-...	10.984	119	179706	8.53	ug/l		96
76) 1,3-Dichlorobenzene	10.978	146	144668	8.57	ug/l		96
77) 1,4-Dichlorobenzene	11.081	146	128983	8.03	ug/l		97
79) Bromoform (SPCC)	9.518	173	48981	9.44	ug/l	#	98
80) 1,1,2,2-Tetrachloroethane	10.059	83	77887	9.30	ug/l		99
81) n-Butylbenzene	11.410	91	125063	6.42	ug/l		97
83) 1,2-Dichlorobenzene	11.471	146	143879	9.37	ug/l		97
84) Hexachloroethane	11.665	117	54502	9.54	ug/l		91
85) 1,2-Dibromo-3-chloropr...	12.304	157	10781	8.16	ug/l	#	69
86) 1,2,4-Trichlorobenzene	13.107	180	40128	8.37	ug/l		99
87) Hexachlorobutadiene	13.217	225	45035	9.24	ug/l		97
88) Naphthalene	13.363	128	70106	7.32	ug/l		100
89) 1,2,3-Trichlorobenzene	13.612	180	52043	8.24	ug/l		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080632.D
Acq On : 7 Aug 2019 12:50 am
Operator : JF
Sample : IDOC SPLP AU3
Misc : IS-SU190708
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Aug 07 11:07:04 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B/D
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080635.D
Acq On : 7 Aug 2019 2:16 am
Operator : JF
Sample : IDOC SPLP AU4 4
Misc : IS-SU190708
ALS Vial : 23 Sample Multiplier: 1

AV
8/7/2019

Quant Time: Aug 07 11:07:13 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B 10
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	5.351	96	1778927	40.00	ug/l		0.00
37) Toluene-d8 (IS)	6.999	98	1771211	40.00	ug/l		0.00
78) Chlorobenzene-d5 (IS)	8.593	117	1473028	40.00	ug/l	#	0.00
System Monitoring Compounds							
48) 2-Bromo-1-Chloropropan...	7.468	79	32675	5.21	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.20%				
63) 4-Bromofluorobenzene (SS)	9.859	95	70830	4.70	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 94.00%				
82) 1,2-Dichlorobenzene-d4...	11.446	152	131299	6.37	ug/l		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 127.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.305	85	75670	10.18	ug/l	#	92
3) Chloromethane (SPCC)	1.451	50	23892	9.06	ug/l		93
4) Vinyl Chloride (CCC)	1.524	62	41539	9.78	ug/l		97
5) Bromomethane	1.780	94	29040	9.10	ug/l		96
6) Chloroethane	1.859	64	23900	8.98	ug/l		96
7) Trichlorofluoromethane	2.029	101	109595	10.20	ug/l		99
8) Acrolein	2.461	56	11091	44.90	ug/l	#	82
9) Diethyl Ether	2.272	59	24666	9.03	ug/l	#	64
10) 1,1-Dichloroethene (CCC)	2.479	61	50938	9.55	ug/l	#	77
11) Acetone	2.607	43	42670	46.41	ug/l	#	75
12) Iodomethane	2.643	142	61197	12.76	ug/l		92
13) Carbon Disulfide	2.674	76	97416	8.94	ug/l		97
14) Allyl Chloride	2.844	41	20034	8.17	ug/l	#	49
15) Methylene Chloride	2.990	49	31486	4.28	ug/l	#	27
16) Acrylonitrile	3.307	53	7750	8.15	ug/l		94
17) Acetonitrile	2.942	41	963	2.07	ug/l	#	94
18) trans-1,2-Dichloroethene	3.197	61	49107	9.01	ug/l	#	70
19) MTBE	3.179	73	100452	8.72	ug/l	#	79
20) 1,1-Dichloroethane (SPCC)	3.653	63	68332	9.01	ug/l	#	92
21) Vinyl Acetate	3.696	43	21051	6.52	ug/l	#	72
22) 2-Butanone (MEK)	4.286	43	37146	40.39	ug/l	#	40
23) cis-1,2-Dichloroethene	4.231	96	53841	8.78	ug/l		92
24) 2,2-Dichloropropane	4.195	77	53880	7.19	ug/l	#	77
25) Methyl Acrylate	4.341	55	19971	7.89	ug/l	#	62
26) Methacrylonitrile	4.529	67	13787	8.63	ug/l	#	53
27) Bromochloromethane	4.481	130	46975	9.13	ug/l	#	42
28) Tetrahydrofuran	4.493	42	3698	7.14	ug/l	#	35
29) Chloroform (CCC)	4.548	83	105144	8.77	ug/l		96
30) 1,1,1-Trichloroethane	4.675	97	99458	9.53	ug/l	#	93
31) 1-Chlorobutane	4.797	56	42452	8.71	ug/l	#	63
32) 1,1-Dichloropropene	4.840	75	53308	8.96	ug/l	#	87
33) Carbon Tetrachloride	4.791	117	99478	9.70	ug/l		96
34) 1,2-Dichloroethane	5.156	62	76626	8.61	ug/l		100
35) Benzene	5.046	78	157487	8.55	ug/l		99
36) Trichloroethene	5.716	95	35873	8.60	ug/l		98
38) 1,2-Dichloropropane (CCC)	6.008	63	28301	7.25	ug/l	#	85
39) Methyl Methacrylate	6.123	41	5157	6.31	ug/l	#	1
40) Dibromomethane	6.135	174	47756	10.77	ug/l		88
41) Bromodichloromethane	6.294	83	79473	9.23	ug/l		97
42) 2-Chloroethyl Vinyl Ether	6.640	63	103296	41.98	ug/l	#	1

Data Path : C:\msdchem\1\data\190806\
Data File : 19080635.D
Acq On : 7 Aug 2019 2:16 am
Operator : JF
Sample : IDOC SPLP AU4
Misc : IS-SU190708
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 07 11:07:13 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B D
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration

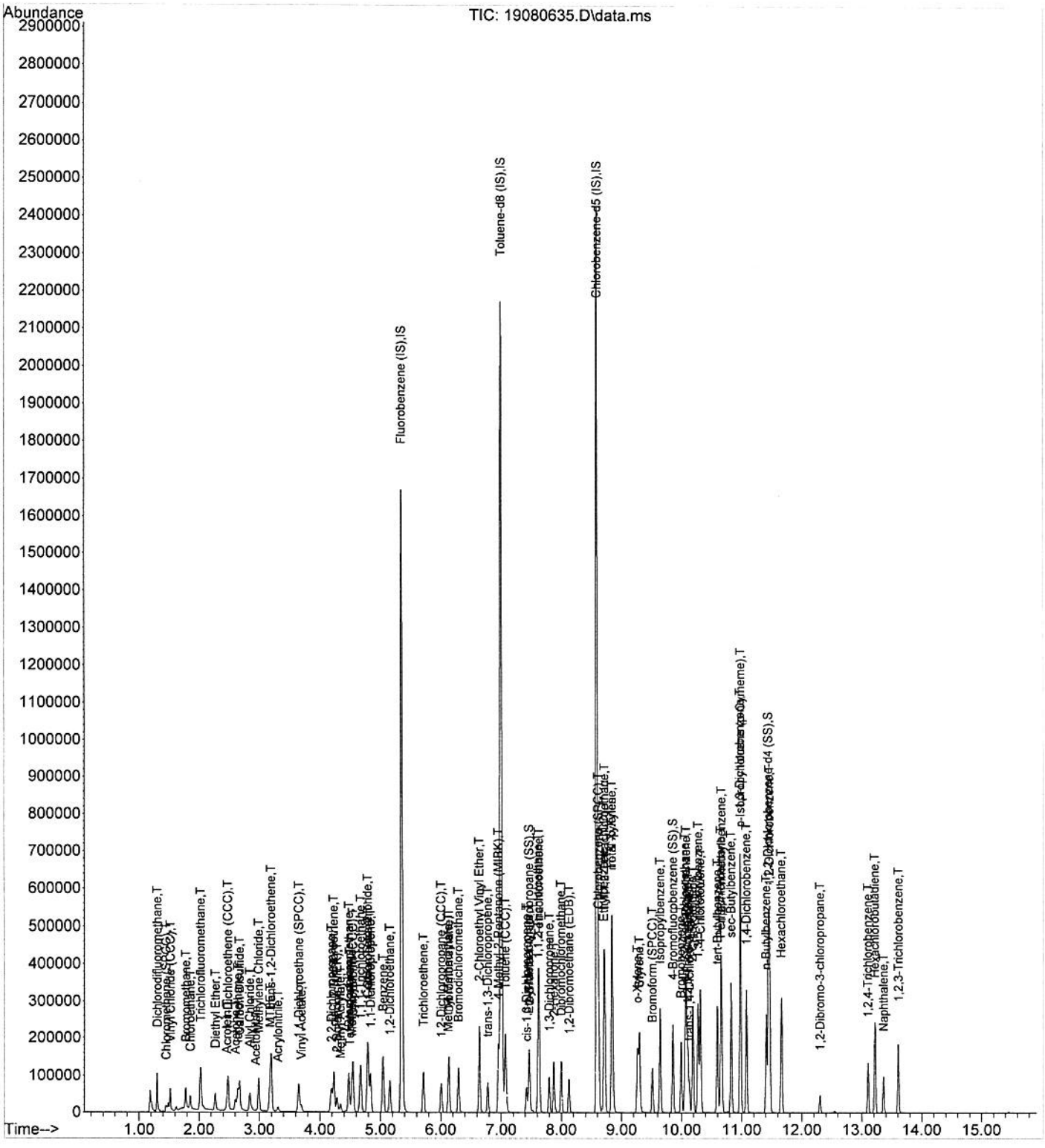
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43)	trans-1,3-Dichloropropene	6.780	75	53325	8.09	ug/l		99
44)	4-Methyl-2-Pentanone (...	6.957	43	73935	37.93	ug/l	#	24
45)	Toluene (CCC)	7.072	91	174816	9.07	ug/l		98
46)	cis-1,3-Dichloropropene	7.425	75	43897	7.67	ug/l		96
47)	Ethyl Methacrylate	7.462	69	33822	7.68	ug/l	#	88
49)	1,1,2-Trichloroethane	7.614	83	45863	9.01	ug/l		93
50)	1,3-Dichloropropane	7.802	76	64758	8.66	ug/l		98
51)	2-Hexanone	7.875	43	49048	33.64	ug/l	#	24
52)	Tetrachloroethene	7.632	166	89537	12.17	ug/l		95
53)	Dibromochloromethane	7.997	129	76990	9.80	ug/l		98
54)	1,2-Dibromoethane (EDB)	8.131	107	53295	8.09	ug/l		98
55)	Chlorobenzene (SPCC)	8.617	112	159527	9.31	ug/l		99
56)	1,1,1,2-Tetrachloroethane	8.721	131	75513	10.01	ug/l		94
57)	Ethylbenzene (CCC)	8.709	91	193033	9.17	ug/l		99
58)	m- & -p Xylene	8.843	91	357591	19.11	ug/l		96
59)	o-Xylene	9.268	91	122874	8.34	ug/l		96
60)	Total Xylenes	8.843	91	357591	28.66	ug/l		96
61)	Styrene	9.299	104	117278	9.63	ug/l		93
62)	Isopropylbenzene	9.646	105	168922	8.46	ug/l		99
64)	trans-1,4-Dichloro-2-b...	10.132	53	9467	35.28	ug/l	#	79
65)	1,2,3-Trichloropropane	10.108	110	28094	9.59	ug/l		93
66)	Bromobenzene	9.992	77	81338	8.79	ug/l		95
67)	n-Propylbenzene	10.078	91	253803	9.00	ug/l		99
68)	2-Chlorotoluene	10.187	91	170007	9.20	ug/l		100
69)	1,3,5-Trimethylbenzene	10.278	105	184546	9.30	ug/l		96
70)	4-Chlorotoluene	10.315	91	224400	10.28	ug/l		98
71)	tert-Butylbenzene	10.601	119	135496	8.78	ug/l		95
72)	Pentachloroethane	10.655	167	34701	7.24	ug/l	#	89
73)	1,2,4-Trimethylbenzene	10.668	105	186602	9.33	ug/l		99
74)	sec-Butylbenzene	10.826	105	216179	9.09	ug/l		100
75)	p-Isopropyltoluene (p-...	10.984	119	188884	9.18	ug/l		96
76)	1,3-Dichlorobenzene	10.978	146	159284	9.70	ug/l		98
77)	1,4-Dichlorobenzene	11.081	146	141073	9.02	ug/l		96
79)	Bromoform (SPCC)	9.518	173	53386	10.40	ug/l		98
80)	1,1,2,2-Tetrachloroethane	10.059	83	77078	9.31	ug/l	#	98
81)	n-Butylbenzene	11.410	91	129683	6.71	ug/l		96
83)	1,2-Dichlorobenzene	11.465	146	158025	10.39	ug/l		98
84)	Hexachloroethane	11.659	117	59684	10.56	ug/l	#	90
85)	1,2-Dibromo-3-chloropr...	12.304	157	12215	9.23	ug/l	#	80
86)	1,2,4-Trichlorobenzene	13.101	180	43928	9.11	ug/l		98
87)	Hexachlorobutadiene	13.217	225	50150	10.36	ug/l		97
88)	Naphthalene	13.363	128	75037	7.81	ug/l		100
89)	1,2,3-Trichlorobenzene	13.612	180	58677	9.24	ug/l		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\190806\
Data File : 19080635.D
Acq On : 7 Aug 2019 2:16 am
Operator : JF
Sample : IDOC SPLP AU4
Misc : IS-SU190708
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Aug 07 11:07:13 2019
Quant Method : C:\msdchem\1\methods\W8260190731.M
Quant Title : DELTA EPA 8260B
QLast Update : Tue Aug 06 09:29:24 2019
Response via : Initial Calibration



SPLP EPA 1312 Extraction

Extraction
Date In: 7/25/2019
Time In: 14:00
Analyst: SY/AV
RPM (30±2rpm): 31
Temp (23±2°C) Min: 21.8
Max: 24.2

Date Out: 7/26/19
Time Out: 8:00
Analyst: SY/AV
Batch #: 1960885

Tumbler: Vol-10 OrganicTumbler-1
Thermometer: Min/Max 75487
Balance: Vol-6
pH Meter: Mettler Toledo Wet-4 (WET CHEM LAB)

Reagents Traceability

Extraction Fluid: D.I. WATER
Sand ID: VOC 319-01
Filter Paper: 324-01
Spike ID for DOC: I8260D1907I7-A,B,C.82CSVE

ZHE #	LCN	Sample Matrix: Solid	Sample Matrix: Water	Extraction: Weight Extracted Sample (g) (Soil)	Extraction: Volume Filtered Sample (mL) (Water)	Extraction: Volume Extraction Fluid (mL)	Extraction: Initial Pressure (psi)	Extraction: Final Pressure (psi)	Extraction: Was the ZHE Checked for Leak (Y/N)?
H	BLANK			12,05		~~500~~	50	50	Y
E	1960828 – 07E			12,59		↓	↓	↓	Y
B	1960828 – 08E			12,31					Y
C	1960828 – 09E			11,56					Y
A	1960828 – 10E			12,69					Y
F	AV IDOC-1			25,15		500	50	50	Y
D	AV IDOC-2			24,12		↓	↓	↓	Y
G	AV IDOC-3			25,56					Y
I	AV IDOC-4			24,98		↓	↓	↓	Y

Comments:

280 ml extraction fluid AV 7.25.2019
used tumbler vol-13 organic tumbler for IDOC
AV 7.25/2019

Quantitation Report (QT Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072614.D
Acq On : 26 Jul 2019 4:32 pm
Operator : SY
Sample : AU SPLP IDOC 1 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 14 Sample Multiplier: 1

AU
8/9/2019

Quant Time: Aug 09 09:51:37 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B/D
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene (IS)	5.403	96	890209	40.00	ug/L	0.00
37) Toluene-d8 (IS)	7.060	98	1022804	40.00	ug/L	# 0.00
79) Chlorobenzene-d5 (IS)	8.650	117	1343415	40.00	ug/L	# 0.00
System Monitoring Compounds						
49) 2-Bromo-1-Chloropropan...	7.518	77	48781	5.34	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.80%			
64) 4-Bromofluorobenzene {SS}	9.917	174	92528	4.88	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.60%			
84) 1,2-Dichlorobenzene-d4...	11.512	152	113832	4.79	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 95.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.284	85	75745	10.08	ug/L	95
3) Chloromethane (SPCC)	1.454	50	62042	9.04	ug/L #	79
4) Vinyl Chloride (CCC)	1.505	62	59922	10.05	ug/L	96
5) Bromomethane	1.777	94	40765	8.79	ug/L	88
6) Chloroethane	1.844	64	21906	7.42	ug/L	90
7) Trichlorofluoromethane	2.025	101	94949	11.40	ug/L #	82
8) Ethyl Ether	2.280	59	39764	12.42	ug/L #	80
9) Acrolein	2.467	56	29602	82.90	ug/L	88
10) 1,1-Dichloroethene (CCC)	2.489	61	98402	14.48	ug/L #	70
11) Iodomethane	2.659	142	103842	14.58	ug/L #	61
12) Carbon Disulfide	2.693	76	153116	12.22	ug/L	98
13) Acetone	2.608	43	135706	77.30	ug/L #	82
14) Allyl Chloride	2.857	41	89855	12.60	ug/L #	82
15) Methylene Chloride	3.015	49	151119m	12.25	ug/L	
16) trans-1,2-Dichloroethene	3.219	61	107338	13.92	ug/L #	82
17) MTBE	3.208	73	139730	12.58	ug/L #	86
18) Acrylonitrile	3.321	53	25655	10.49	ug/L #	82
19) 1,1-Dichloroethane (SPCC)	3.683	63	132444	13.19	ug/L #	94
20) Vinyl Acetate	3.717	43	23421	2.64	ug/L #	73
21) 2,2-Dichloropropane	4.232	77	62500	11.87	ug/L #	89
22) cis-1,2-Dichloroethene	4.266	61	118754	12.59	ug/L	94
23) 2-Butanone (MEK)	4.305	43	165866	58.13	ug/L #	86
24) Methyl Acrylate	4.367	55	70863	12.19	ug/L	99
Propionitrile	4.447	54	11113	13.33	ug/L	100
26) Bromochloromethane	4.509	49	79159	12.29	ug/L #	11
27) Tetrahydrofuran	4.520	42	18170	10.69	ug/L #	72
28) Chloroform (CCC)	4.582	83	159528	13.81	ug/L	96

Data Path : E:\msdchem\1\data\190726\
Data File : 19072614.D
Acq On : 26 Jul 2019 4:32 pm
Operator : SY
Sample : AU SPLP IDOC 1 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 09 09:51:37 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B b
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
29) Methacrylonitrile	4.554	41	51035	11.43	ug/L	97
30) 1,1,1-Trichloroethane	4.712	97	132095	13.02	ug/L #	87
31) Carbon Tetrachloride	4.848	117	135424	14.81	ug/L	96
32) 1-Chlorobutane	4.843	56	119820	12.45	ug/L	92
33) 1,1-Dichloropropene	4.888	75	77269	12.99	ug/L #	65
34) Benzene	5.091	78	243815	13.35	ug/L	94
35) 1,2-Dichloroethane	5.193	62	121760	14.32	ug/L #	86
36) Trichloroethene	5.759	95	107330	15.71	ug/L #	56
38) 1,2-Dichloropropane (CCC)	6.047	63	67012	11.87	ug/L #	74
39) Dibromomethane	6.178	174	100081	11.07	ug/L #	84
40) Methyl Methacrylate	6.161	41	57992	11.46	ug/L #	81
Bromodichloromethane	6.342	83	110035	12.80	ug/L	96
2-Nitropropane	6.998	43	362652	11.66	ug/L #	35
43) 2-Chloroethyl Vinyl Ether	6.687	63	187348	60.61	ug/L #	1
44) cis-1,3-Dichloropropene	6.828	75	103724	12.23	ug/L #	75
45) 4-Methyl-2-pentanone(M...	6.998	43	362652	53.43	ug/L	95
46) Toluene (CCC)	7.134	91	323163	12.23	ug/L #	95
47) trans-1,3-Dichloropropene	7.467	75	87628	12.25	ug/L #	81
48) Ethyl methacrylate	7.507	69	60817	11.01	ug/L #	84
50) 1,1,2-Trichloroethane	7.660	97	95649	12.31	ug/L	92
51) Tetrachloroethene	7.694	166	235281	18.70	ug/L	96
52) 1,3-Dichloropropane	7.846	76	100791	11.96	ug/L	86
53) 2-Hexanone	6.998	43	362652	52.27	ug/L #	88
54) Dibromochloromethane	8.044	127	103623	11.21	ug/L	98
55) 1,2-Dibromoethane (EDB)	8.180	107	114062	11.86	ug/L	98
56) Chlorobenzene (SPCC)	8.678	112	302453	11.96	ug/L #	61
57) 1,1,1,2-Tetrachloroethane	8.780	131	118719	11.35	ug/L	92
58) Ethylbenzene (CCC)	8.768	91	337518	11.71	ug/L	90
59) M&P Xylenes	8.910	91	549532	23.99	ug/L #	82
60) O-Xylene	9.334	91	274551	11.78	ug/L #	86
61) Total Xylenes	8.910	91	549532	35.98	ug/L #	82
62) Styrene	9.362	104	221515	11.86	ug/L #	77
63) Isopropylbenzene (cumene)	9.707	105	342818	11.95	ug/L #	90
65) Bromobenzene	10.053	77	102374	11.84	ug/L #	1
66) n-Propylbenzene	10.149	91	347574	12.13	ug/L #	84
67) 1,2,3-Trichloropropane	10.160	75	87627	13.00	ug/L #	82
trans-1,4-Dichloro-2-b...	10.160	75	87627	12.56	ug/L #	77
2-Chlorotoluene	10.251	91	243331	12.61	ug/L #	53
70) 1,3,5-Trimethylbenzene	10.341	105	274553	12.57	ug/L	95
71) 4-Chlorotoluene	10.381	91	281820	12.29	ug/L #	52
72) tert-Butylbenzene	10.658	91	121990	12.18	ug/L #	62

Data Path : E:\msdchem\1\data\190726\
Data File : 19072614.D
Acq On : 26 Jul 2019 4:32 pm
Operator : SY
Sample : AU SPLP IDOC 1 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 09 09:51:37 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B D
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

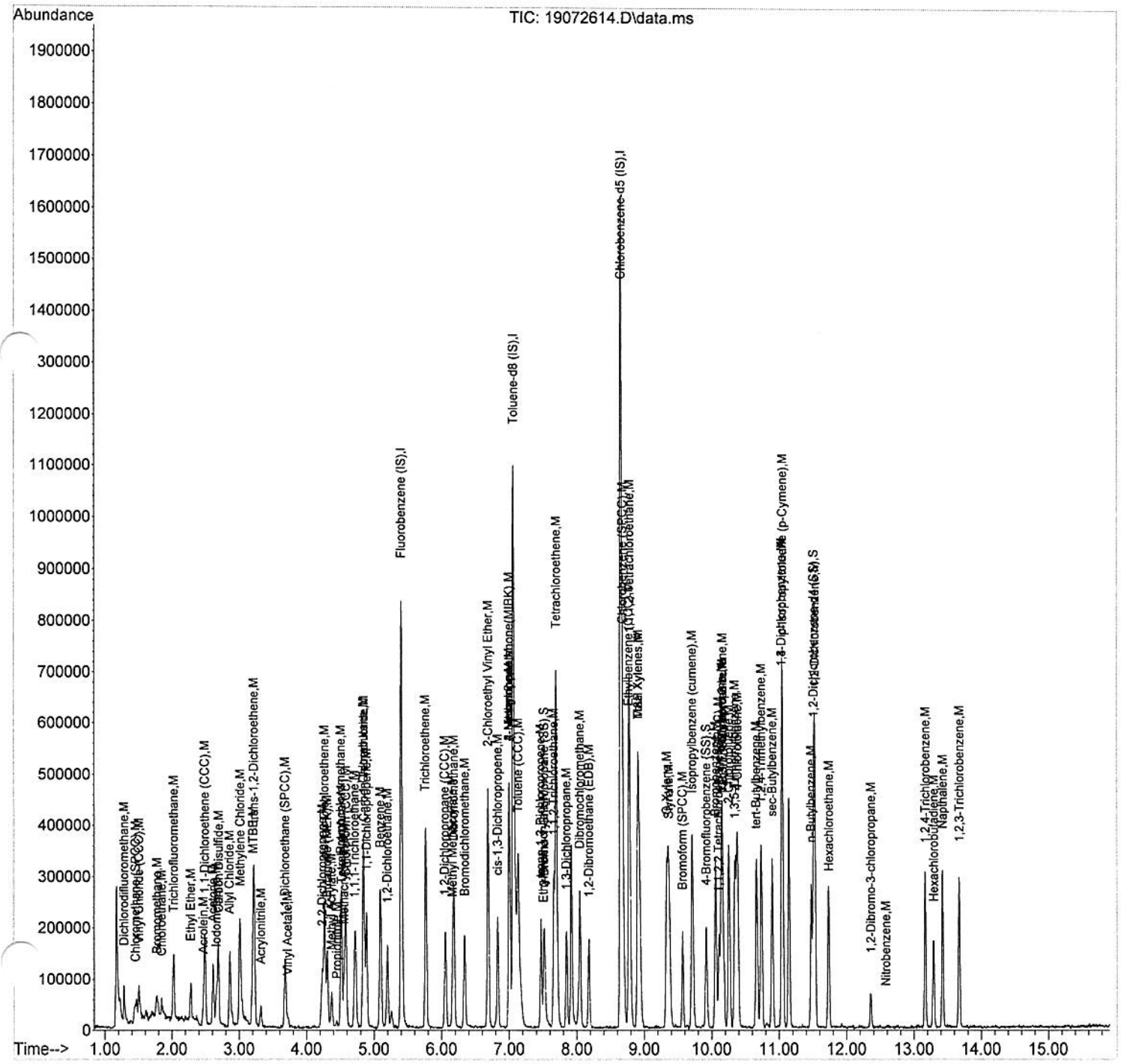
Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
73) 1,2,4-Trimethylbenzene	10.731	105	269742	12.94	ug/L	100
75) sec-Butylbenzene	10.895	105	262625	11.56	ug/L #	85
76) 1,3-Dichlorobenzene	11.037	146	245121	11.12	ug/L #	94
77) p-Isopropyltoluene (p-...	11.048	119	248220	12.58	ug/L #	81
78) 1,4-Dichlorobenzene	11.037	146	245121	10.82	ug/L	94
80) 1,1,2,2 Tetrachloroeth...	10.103	83	77312	9.36	ug/L #	93
81) Bromoform (SPCC)	9.566	173	83874	12.08	ug/L	90
82) n-Butylbenzene	11.472	91	160126	13.12	ug/L #	89
83) 1,2-Dichlorobenzene	11.529	146	259095	12.41	ug/L #	88
85) Hexachloroethane	11.738	117	46216	11.55	ug/L #	79
86) 1,2-Dibromo-3-chloropr...	12.361	157	22926	8.71	ug/L #	43
87) Nitrobenzene	12.581	77	462	5.72	ug/L #	28
88) 1,2,4-Trichlorobenzene	13.170	180	103629	10.85	ug/L	98
89) Hexachlorobutadiene	13.294	225	33888	12.68	ug/L	99
90) Napthalene	13.424	128	257959	11.61	ug/L	96
91) 1,2,3-Trichlorobenzene	13.673	180	101649	11.30	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072614.D
Acq On : 26 Jul 2019 4:32 pm
Operator : SY
Sample : AU SPLP IDOC 1 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 09 09:51:37 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

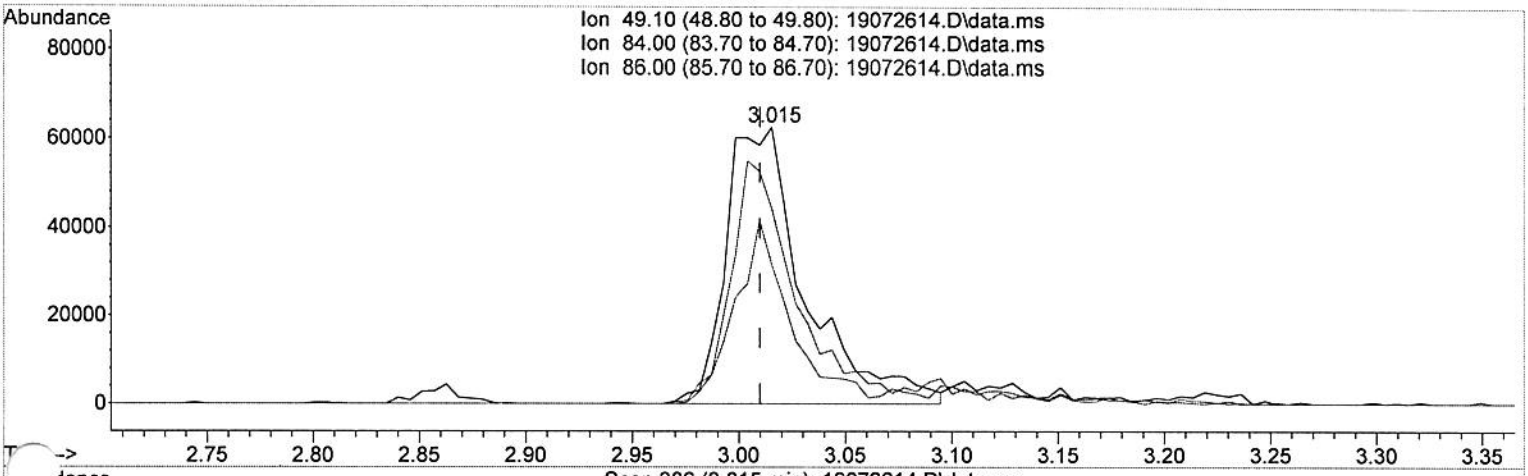


Quantitation Report (Qedit)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072614.D
Acq On : 26 Jul 2019 4:32 pm
Operator : SY
Sample : AU SPLP IDOC 1 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 09 09:49:16 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

selected wrong "tale"
8/13/2019



TIC: 19072614.D\data.ms

(15) Methylene Chloride (M)

3.015min (+ 0.005) 13.03 ug/L

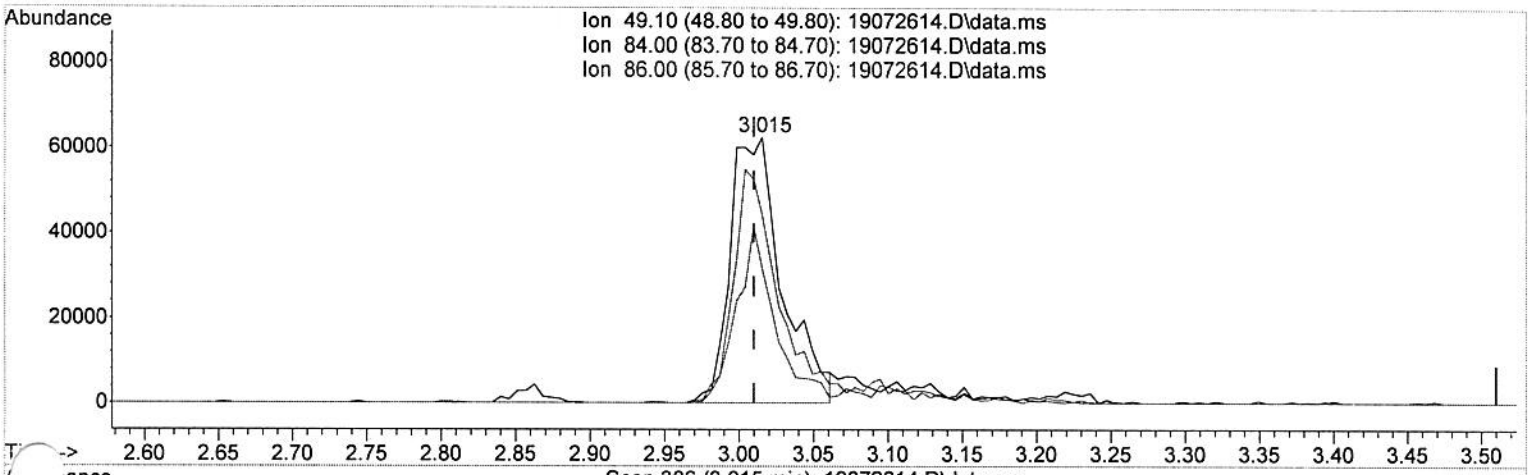
response 160765

Ion	Exp%	Act%
49.10	100.00	100.00
84.00	68.60	70.96
86.00	46.60	51.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072614.D
Acq On : 26 Jul 2019 4:32 pm
Operator : SY
Sample : AU SPLP IDOC 1 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Aug 09 09:49:35 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration



TIC: 19072614.D\data.ms

(15) Methylene Chloride (M)

3.015min (+ 0.005) 12.25 ug/L m

response 151119

Ion	Exp%	Act%
49.10	100.00	100.00
84.00	68.60	70.96
86.00	46.60	50.60
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072615.D
Acq On : 26 Jul 2019 4:59 pm
Operator : SY
Sample : AU SPLP IDOC 2 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 09 09:48:45 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

8/9/2019

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene (IS)	5.402	96	833365	40.00	ug/L	0.00
37) Toluene-d8 (IS)	7.060	98	1009637	40.00	ug/L	# 0.00
79) Chlorobenzene-d5 (IS)	8.650	117	1271206	40.00	ug/L	# 0.00
System Monitoring Compounds						
49) 2-Bromo-1-Chloropropan...	7.524	77	50501	5.61	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 112.20%			
64) 4-Bromofluorobenzene {SS}	9.922	174	90724	4.85	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.00%			
84) 1,2-Dichlorobenzene-d4...	11.512	152	115570	5.14	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.279	85	59868	8.48	ug/L	# 87
3) Chloromethane (SPCC)	1.460	50	56518	8.79	ug/L	# 88
4) Vinyl Chloride (CCC)	1.505	62	52913	9.48	ug/L	# 81
5) Bromomethane	1.771	94	38908	8.99	ug/L	82
6) Chloroethane	1.850	64	23836	8.71	ug/L	92
7) Trichlorofluoromethane	2.020	101	77447	9.93	ug/L	93
8) Ethyl Ether	2.280	59	31452	10.49	ug/L	87
9) Acrolein	2.467	56	24583	73.40	ug/L	87
10) 1,1-Dichloroethene (CCC)	2.489	61	75016	11.79	ug/L	# 56
11) Iodomethane	2.659	142	97555	14.62	ug/L	# 63
12) Carbon Disulfide	2.687	76	134021	11.43	ug/L	97
13) Acetone	2.608	43	126652	77.06	ug/L	# 87
14) Allyl Chloride	2.863	41	69573	10.38	ug/L	# 85
15) Methylene Chloride	3.010	49	132171m	11.45	ug/L	
16) trans-1,2-Dichloroethene	3.225	61	91655	12.69	ug/L	# 80
17) MTBE	3.202	73	130869	12.58	ug/L	# 92
18) Acrylonitrile	3.326	53	25395	11.10	ug/L	# 89
19) 1,1-Dichloroethane (SPCC)	3.683	63	110878	11.79	ug/L	# 89
20) Vinyl Acetate	3.728	43	18423	2.22	ug/L	# 66
21) 2,2-Dichloropropane	4.232	77	55758	11.32	ug/L	95
22) cis-1,2-Dichloroethene	4.271	61	109322	12.38	ug/L	95
23) 2-Butanone (MEK)	4.305	43	148996	55.78	ug/L	97
24) Methyl Acrylate	4.367	55	62536	11.48	ug/L	# 88
25) Propionitrile	4.441	54	8365	10.77	ug/L	100
26) Bromochloromethane	4.514	49	67729	11.23	ug/L	# 34
27) Tetrahydrofuran	4.526	42	14717	9.25	ug/L	95
28) Chloroform (CCC)	4.582	83	131545	12.17	ug/L	93

Quantitation Report (QT Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072615.D
Acq On : 26 Jul 2019 4:59 pm
Operator : SY
Sample : AU SPLP IDOC 2 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 09 09:48:45 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B D
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

Compound	R.T.	Qlon	Response	Conc Units	Dev(Min)
29) Methacrylonitrile	4.554	41	46706	11.17 ug/L #	91
30) 1,1,1-Trichloroethane	4.718	97	113123	11.91 ug/L #	91
31) Carbon Tetrachloride	4.848	117	109559	12.80 ug/L #	79
32) 1-Chlorobutane	4.837	56	106863	11.86 ug/L	91
33) 1,1-Dichloropropene	4.882	75	67653	12.15 ug/L #	65
34) Benzene	5.091	78	213270	12.47 ug/L #	92
35) 1,2-Dichloroethane	5.193	62	103299	12.98 ug/L #	96
36) Trichloroethene	5.765	95	93296	14.58 ug/L #	60
38) 1,2-Dichloropropane (CCC)	6.053	63	63279	11.35 ug/L #	81
39) Dibromomethane	6.183	174	90618	10.16 ug/L #	80
40) Methyl Methacrylate	6.161	41	48127	9.66 ug/L #	91
41) Bromodichloromethane	6.336	83	94460	11.13 ug/L #	84
42) 2-Nitropropane	6.998	43	293316	9.66 ug/L #	37
43) 2-Chloroethyl Vinyl Ether	6.687	63	190732	62.51 ug/L #	1
44) cis-1,3-Dichloropropene	6.828	75	86315	10.31 ug/L #	72
45) 4-Methyl-2-pentanone(M...	6.998	43	293316	43.78 ug/L	93
46) Toluene (CCC)	7.133	91	261573	10.01 ug/L #	95
47) trans-1,3-Dichloropropene	7.467	75	77194	10.93 ug/L #	83
48) Ethyl methacrylate	7.518	69	53185	9.79 ug/L #	57
50) 1,1,2-Trichloroethane	7.660	97	86874	11.32 ug/L	91
51) Tetrachloroethene	7.694	166	207487	16.71 ug/L	93
52) 1,3-Dichloropropane	7.846	76	91175	10.96 ug/L	93
53) 2-Hexanone	6.998	43	293316	42.83 ug/L #	87
54) Dibromochloromethane	8.044	127	89956	9.87 ug/L	96
55) 1,2-Dibromoethane (EDB)	8.174	107	104044	10.96 ug/L	98
56) Chlorobenzene (SPCC)	8.678	112	262168	10.49 ug/L #	58
57) 1,1,1,2-Tetrachloroethane	8.785	131	108060	10.47 ug/L	92
58) Ethylbenzene (CCC)	8.768	91	293925	10.32 ug/L	91
59) M&P Xylenes	8.904	91	466471	20.63 ug/L #	82
60) O-Xylene	9.334	91	237460	10.32 ug/L #	78
61) Total Xylenes	8.904	91	466471	30.94 ug/L #	82
62) Styrene	9.357	104	190270	10.32 ug/L #	75
63) Isopropylbenzene (cumene)	9.707	105	284579	10.05 ug/L #	88
65) Bromobenzene	10.052	77	90746	10.63 ug/L #	1
66) n-Propylbenzene	10.143	91	301454	10.66 ug/L #	77
67) 1,2,3-Trichloropropane	10.154	75	67157	10.10 ug/L #	76
68) trans-1,4-Dichloro-2-b...	10.154	75	67157	9.45 ug/L #	76
69) 2-Chlorotoluene	10.250	91	215399	11.30 ug/L #	69
70) 1,3,5-Trimethylbenzene	10.341	105	216076	10.02 ug/L	89
71) 4-Chlorotoluene	10.381	91	229345	10.14 ug/L #	42
72) tert-Butylbenzene	10.663	91	109131	11.04 ug/L #	58

Data Path : E:\msdchem\1\data\190726\
Data File : 19072615.D
Acq On : 26 Jul 2019 4:59 pm
Operator : SY
Sample : AU SPLP IDOC 2 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 09 09:48:45 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

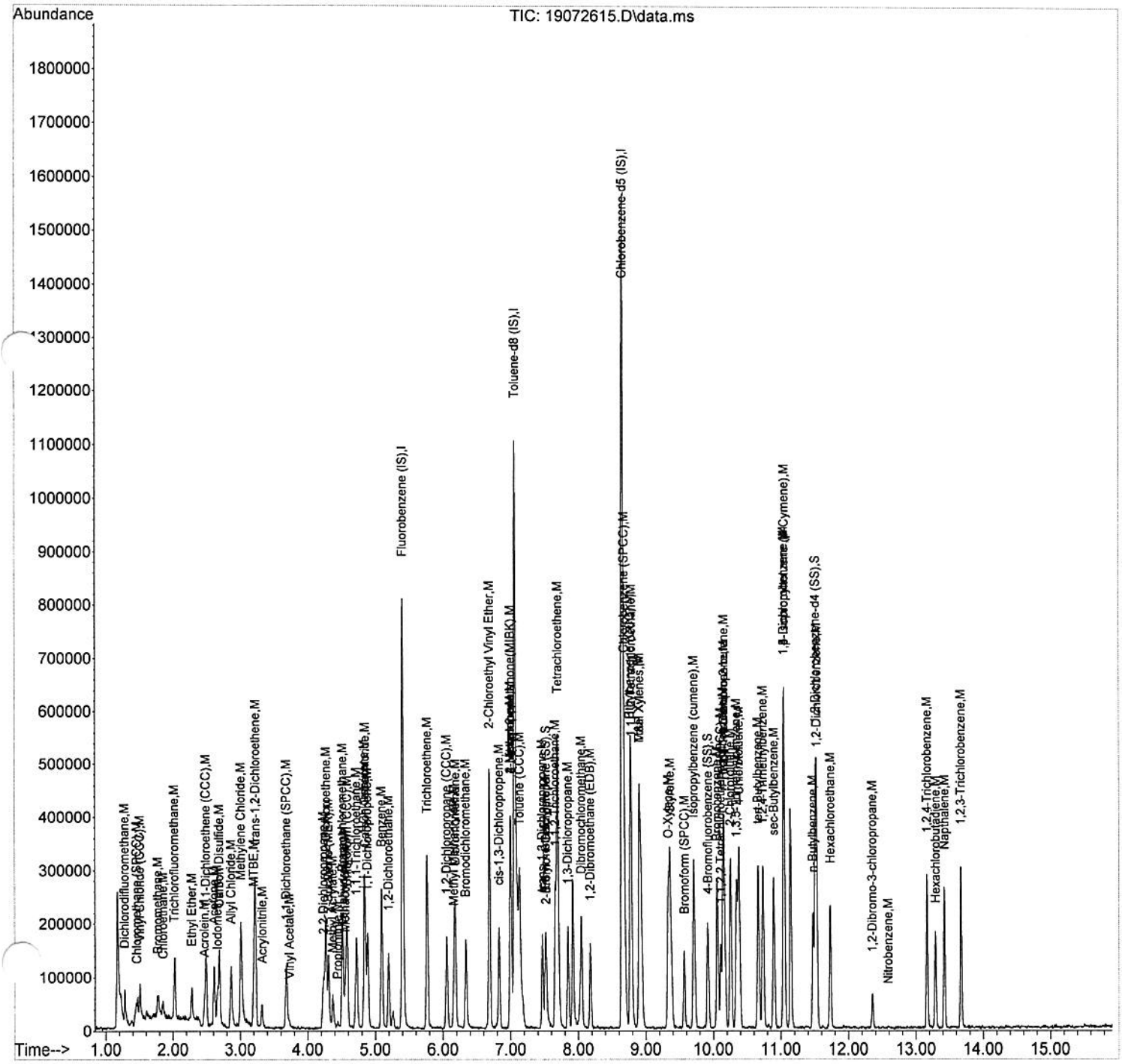
Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
73) 1,2,4-Trimethylbenzene	10.731	105	232349	11.29	ug/L	90
75) sec-Butylbenzene	10.895	105	235899	10.52	ug/L #	89
76) 1,3-Dichlorobenzene	11.042	146	219539	10.09	ug/L #	92
77) p-Isopropyltoluene (p-...	11.048	119	216674	11.13	ug/L #	76
78) 1,4-Dichlorobenzene	11.042	146	219539	9.82	ug/L	92
80) 1,1,2,2 Tetrachloroeth...	10.109	83	68990	8.82	ug/L #	74
81) Bromoform (SPCC)	9.572	173	73714	11.22	ug/L	92
82) n-Butylbenzene	11.472	91	123077	10.66	ug/L #	96
83) 1,2-Dichlorobenzene	11.529	146	200572	10.13	ug/L	88
85) Hexachloroethane	11.733	117	38758	10.24	ug/L #	79
86) 1,2-Dibromo-3-chloropr...	12.355	157	23562	9.44	ug/L #	34
87) Nitrobenzene	12.587	77	477	6.35	ug/L #	43
88) 1,2,4-Trichlorobenzene	13.164	180	102100	11.30	ug/L	98
89) Hexachlorobutadiene	13.294	225	31298	12.37	ug/L #	79
90) Napthalene	13.424	128	228177	10.85	ug/L	96
91) 1,2,3-Trichlorobenzene	13.667	180	99177	11.65	ug/L	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072615.D
Acq On : 26 Jul 2019 4:59 pm
Operator : SY
Sample : AU SPLP IDOC 2 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 09 09:48:45 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B D
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

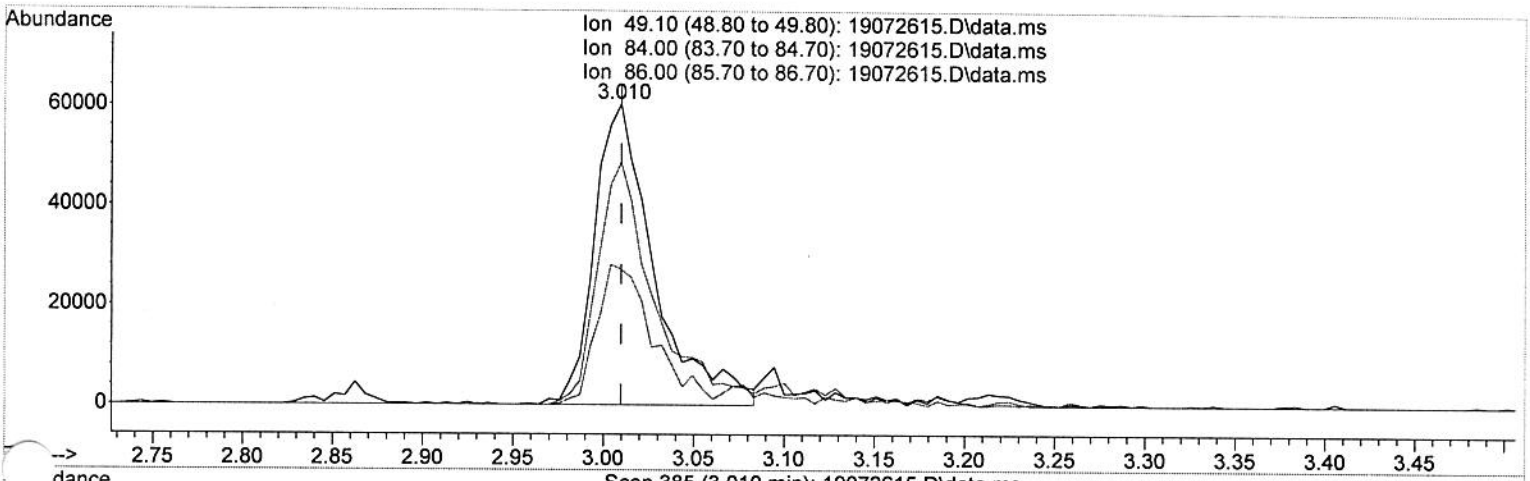


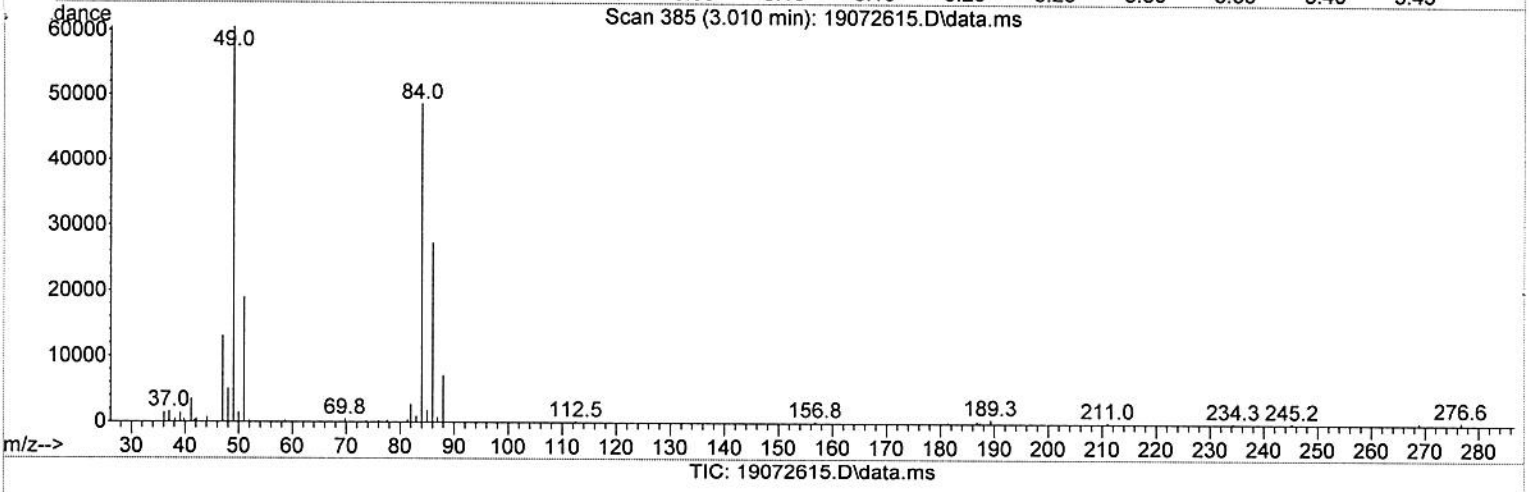
Quantitation Report (Qedit)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072615.D
Acq On : 26 Jul 2019 4:59 pm
Operator : SY
Sample : AU SPLP IDOC 2 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 09 09:47:36 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

selected wrong "date"
8/9/2019





TIC: 19072615.D\data.ms

(15) Methylene Chloride (M)

3.010min (-0.000) 12.03 ug/L

response 138881

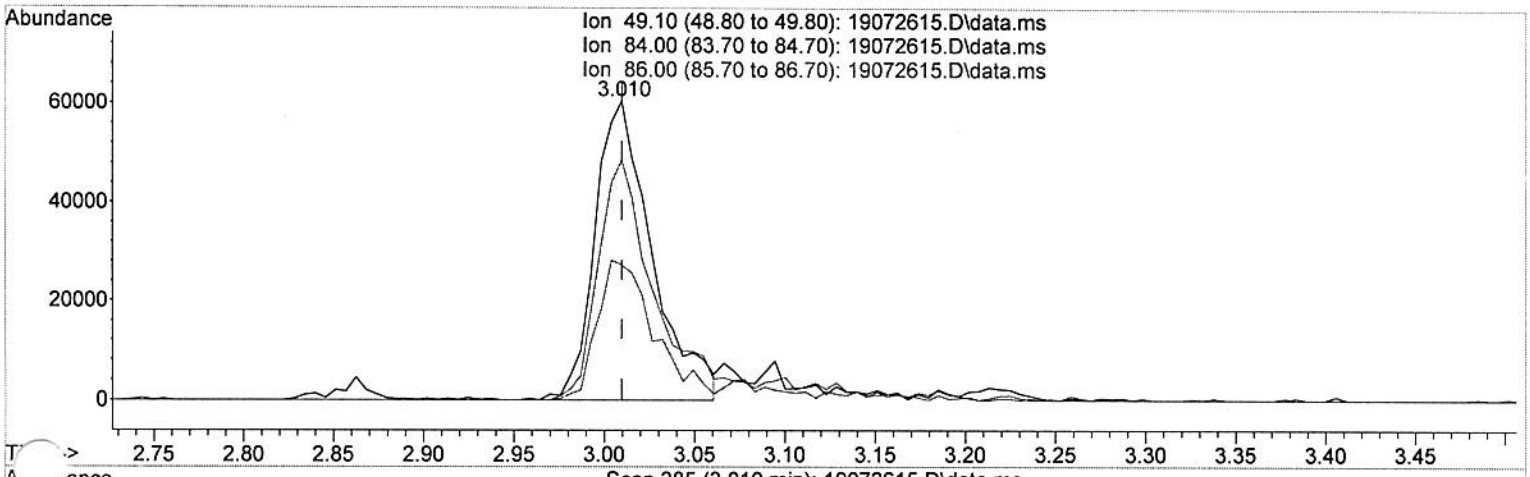
Ion	Exp%	Act%
49.10	100.00	100.00
84.00	68.60	80.49
86.00	46.60	45.16
0.00	0.00	0.00

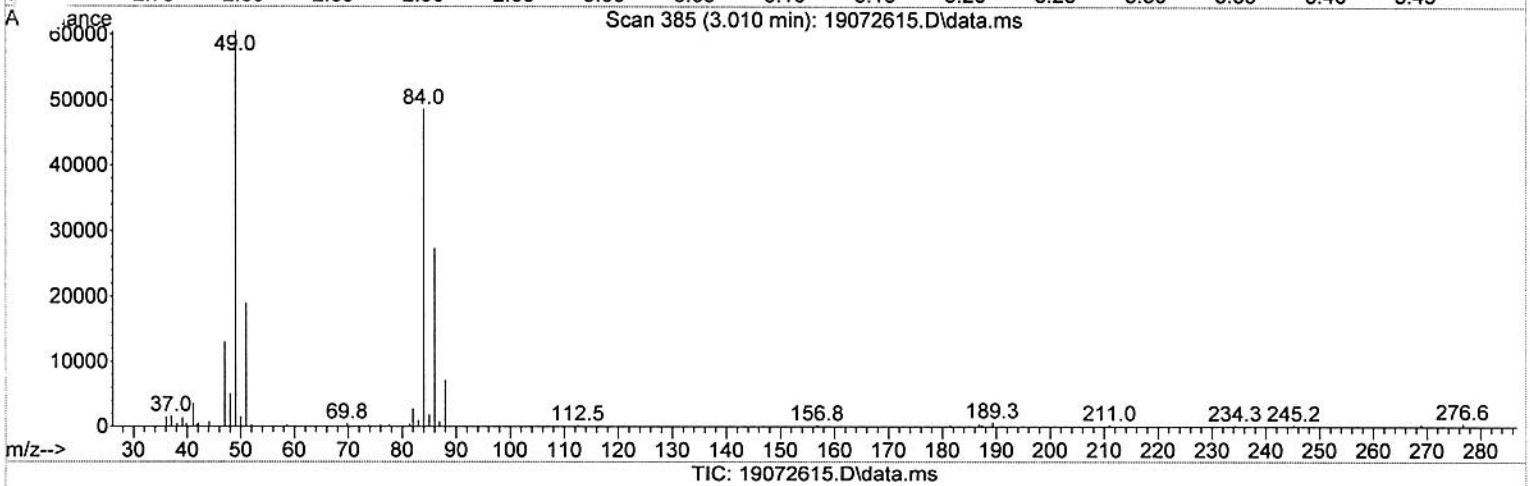
Quantitation Report (Qedit)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072615.D
Acq On : 26 Jul 2019 4:59 pm
Operator : SY
Sample : AU SPLP IDOC 2 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Aug 09 09:47:36 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:46:48 2019
Response via : Initial Calibration

8/9/2019





TIC: 19072615.D\data.ms

(15) Methylene Chloride (M)

3.010min (-0.000) 11.45 ug/L m

response 132171

Ion	Exp%	Act%
49.10	100.00	100.00
84.00	68.60	80.49
86.00	46.60	45.16
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072603.D
[illegible] On : 26 Jul 2019 11:35 am
[illegible]erator : SY
Sample : AU SPLP IDOC 3 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 09 09:40:51 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B D
QLast Update : Fri Aug 09 09:40:22 2019
Response via : Initial Calibration

8/9/2019

Compound	R.T.	Qlon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene (IS)	5.402	96	962646	40.00	ug/L	0.00
37) Toluene-d8 (IS)	7.060	98	1059766	40.00	ug/L	# 0.00
79) Chlorobenzene-d5 (IS)	8.655	117	1366691	40.00	ug/L	# 0.00
System Monitoring Compounds						
49) 2-Bromo-1-Chloropropan...	7.524	77	44821	4.74	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 94.80%			
64) 4-Bromofluorobenzene {SS}	9.917	174	96323	4.91	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 98.20%			
84) 1,2-Dichlorobenzene-d4...	11.512	152	131491	5.43	ug/L	0.00
[illegible]piked Amount 5.000	Range 70 - 130		Recovery = 108.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.284	85	56803	6.96	ug/L	89
3) Chloromethane (SPCC)	1.454	50	60100	8.07	ug/L	98
4) Vinyl Chloride (CCC)	1.505	62	50928	7.90	ug/L #	84
5) Bromomethane	1.776	94	37552	7.29	ug/L	92
6) Chloroethane	1.855	64	17809	5.49	ug/L #	84
7) Trichlorofluoromethane	2.020	101	77756	8.63	ug/L	94
8) Ethyl Ether	2.280	59	33110	9.56	ug/L #	79
9) Acrolein	2.472	56	27703	71.58	ug/L	95
10) 1,1-Dichloroethene (CCC)	2.489	61	89821	12.22	ug/L #	58
11) Iodomethane	2.664	142	55810	7.97	ug/L #	55
12) Carbon Disulfide	2.693	76	153113	11.30	ug/L	95
13) Acetone	2.608	43	111235	58.23	ug/L #	79
14) Allyl Chloride	2.862	41	87362	11.30	ug/L	93
15) Methylene Chloride	3.010	49	96947	9.52	ug/L #	88
16) trans-1,2-Dichloroethene	3.224	61	110232	13.21	ug/L #	87
17) MTBE	3.208	73	154793	12.89	ug/L #	87
18) Acrylonitrile	3.315	53	28633	10.83	ug/L #	87
19) 1,1-Dichloroethane (SPCC)	3.683	63	138724	12.77	ug/L	98
20) Vinyl Acetate	3.722	43	99341	10.36	ug/L #	63
21) 2,2-Dichloropropane	4.226	77	80166	14.09	ug/L	99
22) cis-1,2-Dichloroethene	4.265	61	123559	12.11	ug/L	96
23) 2-Butanone (MEK)	4.311	43	151579	49.12	ug/L #	95
[illegible]4) Methyl Acrylate	4.373	55	69895	11.11	ug/L #	85
[illegible]5) Propionitrile	4.446	54	10573	11.76	ug/L	100
26) Bromochloromethane	4.509	49	75602	10.85	ug/L #	38
27) Tetrahydrofuran	4.514	42	18851	10.26	ug/L #	71
28) Chloroform (CCC)	4.582	83	160096	12.82	ug/L	96

Quantitation Report (Not Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072603.D
Acq On : 26 Jul 2019 11:35 am
Operator : SY
Sample : AU SPLP IDOC 3 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 09 09:40:51 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:40:22 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
29) Methacrylonitrile	4.554	41	55391	11.47 ug/L	96
30) 1,1,1-Trichloroethane	4.724	97	141448	12.89 ug/L	91
31) Carbon Tetrachloride	4.842	117	129547	13.10 ug/L	95
32) 1-Chlorobutane	4.842	56	125152	12.03 ug/L	85
33) 1,1-Dichloropropene	4.888	75	88166	13.71 ug/L #	74
34) Benzene	5.091	78	246272	12.47 ug/L #	90
35) 1,2-Dichloroethane	5.193	62	116731	12.70 ug/L #	87
36) Trichloroethene	5.764	95	94100	12.73 ug/L #	51
38) 1,2-Dichloropropane (CGC)	6.053	63	71478	12.22 ug/L #	78
39) Dibromomethane	6.183	174	100748	10.76 ug/L	89
40) Methyl Methacrylate	6.160	41	57238	10.92 ug/L #	74
41) Bromodichloromethane	6.341	83	108826	12.22 ug/L #	80
42) 2-Nitropropane	6.998	43	355193	11.06 ug/L #	34
43) 2-Chloroethyl Vinyl Ether	6.687	63	208028	64.95 ug/L #	1
44) cis-1,3-Dichloropropene	6.834	75	109266	12.43 ug/L #	76
45) 4-Methyl-2-pentanone(M...	6.998	43	355193	50.50 ug/L #	92
46) Toluene (CGC)	7.133	91	337034	12.31 ug/L #	93
47) trans-1,3-Dichloropropene	7.473	75	101915	13.75 ug/L #	68
48) Ethyl methacrylate	7.518	69	65335	11.40 ug/L #	64
50) 1,1,2-Trichloroethane	7.665	97	92573	11.50 ug/L #	89
51) Tetrachloroethene	7.693	166	138741	10.64 ug/L	92
52) 1,3-Dichloropropane	7.852	76	102317	11.72 ug/L	96
53) 2-Hexanone	6.998	43	355193	49.41 ug/L #	85
54) Dibromochloromethane	8.044	127	99572	10.40 ug/L	91
55) 1,2-Dibromoethane (EDB)	8.180	107	125584	12.60 ug/L	91
56) Chlorobenzene (SPCC)	8.678	112	306988	11.72 ug/L #	58
57) 1,1,1,2-Tetrachloroethane	8.780	131	124259	11.47 ug/L	96
58) Ethylbenzene (CCC)	8.774	91	372701	12.48 ug/L #	86
59) M&P Xylenes	8.910	91	586618	24.71 ug/L	92
60) O-Xylene	9.334	91	274318	11.36 ug/L #	82
61) Total Xylenes	8.910	91	586618	37.07 ug/L	92
62) Styrene	9.368	104	221346	11.44 ug/L #	68
63) Isopropylbenzene (cumene)	9.707	105	356869	12.01 ug/L #	86
65) Bromobenzene	10.058	77	112950	12.61 ug/L #	1
66) n-Propylbenzene	10.149	91	381411	12.85 ug/L #	76
67) 1,2,3-Trichloropropane	10.160	75	93280	13.36 ug/L #	85
68) trans-1,4-Dichloro-2-b...	10.160	75	93280	12.93 ug/L #	74
69) 2-Chlorotoluene	10.256	91	256383	12.82 ug/L #	54
70) 1,3,5-Trimethylbenzene	10.341	105	266426	11.77 ug/L #	72
71) 4-Chlorotoluene	10.386	91	288099	12.13 ug/L #	50
72) tert-Butylbenzene	10.663	91	132389	12.76 ug/L #	51

Data Path : E:\msdchem\1\data\190726\
Data File : 19072603.D
Acq On : 26 Jul 2019 11:35 am
Operator : SY
Sample : AU SPLP IDOC 3 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 09 09:40:51 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:40:22 2019
Response via : Initial Calibration

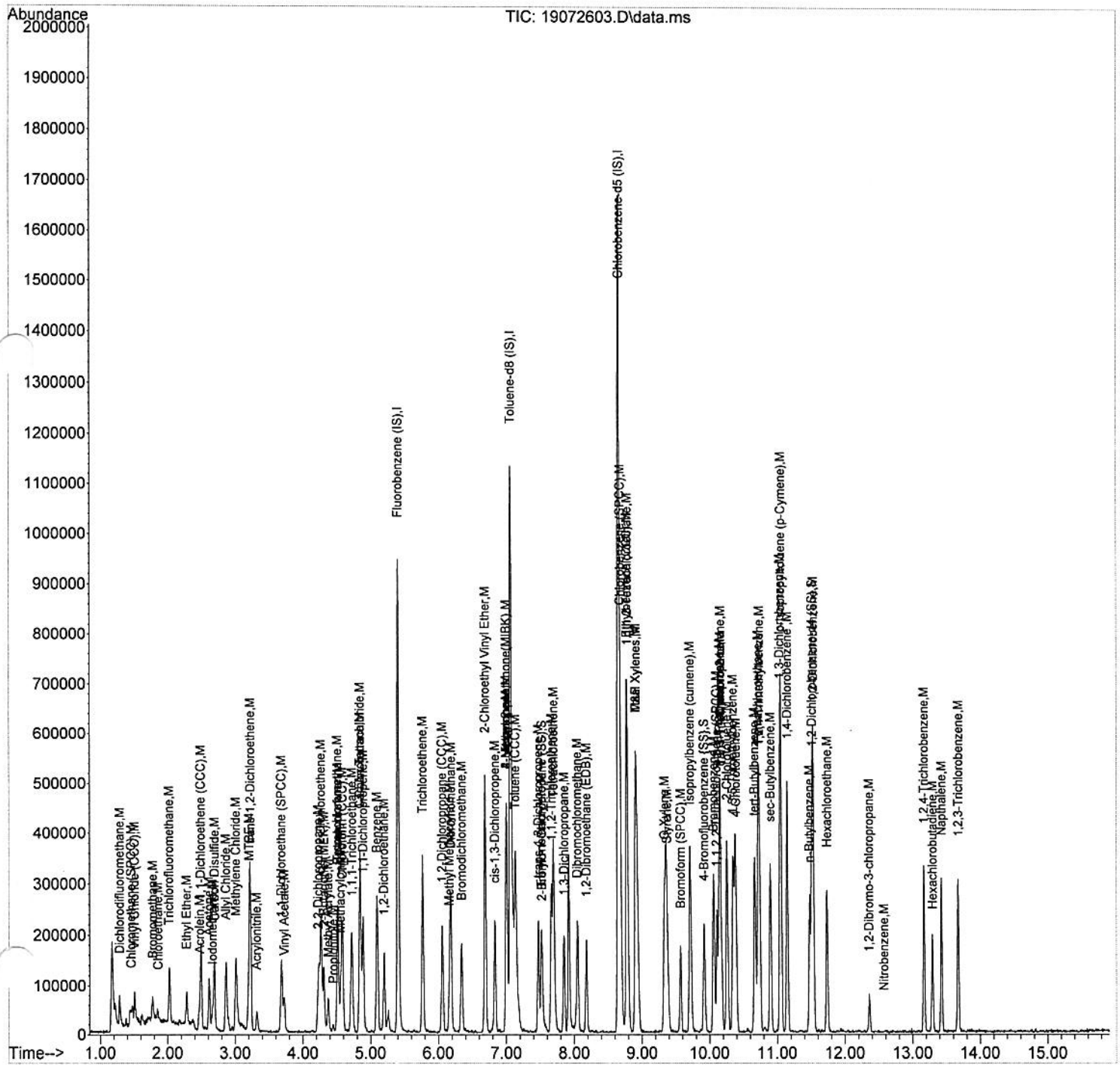
Compound	R.T.	Qlon	Response	Conc Units	Dev(Min)
73) 1,2,4-Trimethylbenzene	10.731	105	281118	13.02 ug/L	92
74) Pentachloroethane	10.714	167	78514	11.93 ug/L #	83
75) sec-Butylbenzene	10.895	105	288818	12.27 ug/L	92
76) 1,3-Dichlorobenzene	11.037	146	246226	10.78 ug/L	95
77) p-Isopropyltoluene (p-...	11.048	119	264039	12.92 ug/L #	84
78) 1,4-Dichlorobenzene	11.144	146	261564	11.14 ug/L	97
80) 1,1,2,2 Tetrachloroeth...	10.103	83	110637	13.16 ug/L	94
81) Bromoform (SPCC)	9.572	173	85138	12.05 ug/L	92
82) n-Butylbenzene	11.472	91	162839	13.12 ug/L #	94
83) 1,2-Dichlorobenzene	11.529	146	247076	11.63 ug/L	94
85) Hexachloroethane	11.732	117	46796	11.50 ug/L #	69
86) 1,2-Dibromo-3-chloropr...	12.355	157	22982	8.59 ug/L #	60
) Nitrobenzene	12.575	77	249	2.56 ug/L #	1
88) 1,2,4-Trichlorobenzene	13.164	180	111618	11.49 ug/L #	82
89) Hexachlorobutadiene	13.294	225	33670	12.38 ug/L #	83
90) Napthalene	13.424	128	241715	10.69 ug/L #	92
91) 1,2,3-Trichlorobenzene	13.673	180	102454	11.19 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072603.D
Acq On : 26 Jul 2019 11:35 am
Operator : SY
Sample : AU SPLP IDOC 3 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 09 09:40:51 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B D
QLast Update : Fri Aug 09 09:40:22 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072604.D
Acq On : 26 Jul 2019 12:02 pm
Operator : SY
Sample : AU SPLP IDOC 4 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 4 Sample Multiplier: 1

SV
8/5/2019

Quant Time: Aug 09 09:42:31 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B D
QLast Update : Fri Aug 09 09:42:28 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Fluorobenzene (IS)	5.408	96	940666	40.00	ug/L	0.00
37) Toluene-d8 (IS)	7.060	98	1083278	40.00	ug/L	# 0.00
79) Chlorobenzene-d5 (IS)	8.650	117	1438319	40.00	ug/L	# 0.00
System Monitoring Compounds						
49) 2-Bromo-1-Chloropropan...	7.524	77	48357	5.00	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 100.00%			
64) 4-Bromofluorobenzene {SS}	9.917	174	93628	4.67	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.40%			
84) 1,2-Dichlorobenzene-d4...	11.512	152	130515	5.13	ug/L	0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 102.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.284	85	74854	9.41	ug/L	# 78
3) Chloromethane (~~SPCC~~)	1.443	50	65951	9.10	ug/L	# 72
4) Vinyl Chloride (~~CCC~~)	1.505	62	52022	8.26	ug/L	95
5) Bromomethane	1.776	94	38998	7.82	ug/L	84
6) Chloroethane	1.850	64	22008	7.03	ug/L	# 80
7) Trichlorofluoromethane	2.025	101	82361	9.36	ug/L	85
8) Ethyl Ether	2.280	59	32473	9.60	ug/L	# 79
9) Acrolein	2.467	56	29772	78.85	ug/L	95
10) 1,1-Dichloroethene (~~CCC~~)	2.489	61	109284	15.21	ug/L	# 41
11) Iodomethane	2.665	142	86627	11.91	ug/L	# 64
12) Carbon Disulfide	2.687	76	174251	13.16	ug/L	99
13) Acetone	2.608	43	106624	57.09	ug/L	# 85
14) Allyl Chloride	2.863	41	91204	12.09	ug/L	86
15) Methylene Chloride	3.010	49	109212	8.38	ug/L	93
16) trans-1,2-Dichloroethene	3.219	61	116853	14.34	ug/L	# 85
17) MTBE	3.202	73	157626	13.43	ug/L	# 85
18) Acrylonitrile	3.321	53	28580	11.07	ug/L	# 86
19) 1,1-Dichloroethane (~~SPCC~~)	3.683	63	140421	13.23	ug/L	96
20) Vinyl Acetate	3.722	43	88453	9.44	ug/L	# 64
21) 2,2-Dichloropropane	4.237	77	89586	16.11	ug/L	# 87
22) cis-1,2-Dichloroethene	4.265	61	134252	13.47	ug/L	# 91
23) 2-Butanone (MEK)	4.299	43	159304	52.83	ug/L	# 85
24) Methyl Acrylate	4.367	55	70699	11.50	ug/L	# 92
25) Propionitrile	4.452	54	11357	12.90	ug/L	100
26) Bromochloromethane	4.509	49	75558	11.10	ug/L	# 30
27) Tetrahydrofuran	4.520	42	17368	9.67	ug/L	# 85
28) Chloroform (~~CCC~~)	4.582	83	158380	12.98	ug/L	96

Quantitation Report (Not Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072604.D
Acq On : 26 Jul 2019 12:02 pm
Operator : SY
Sample : AU SPLP IDOC 4 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 09 09:42:31 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:42:28 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
29) Methacrylonitrile	4.554	41	54041	11.45 ug/L	99
30) 1,1,1-Trichloroethane	4.724	97	148680	13.86 ug/L #	87
31) Carbon Tetrachloride	4.848	117	146684	15.18 ug/L	91
32) 1-Chlorobutane	4.842	56	132003	12.98 ug/L	98
33) 1,1-Dichloropropene	4.882	75	89753	14.28 ug/L #	61
34) Benzene	5.091	78	256770	13.31 ug/L	96
35) 1,2-Dichloroethane	5.199	62	123157	13.71 ug/L #	93
36) Trichloroethene	5.770	95	100338	13.90 ug/L #	54
38) 1,2-Dichloropropane (CCC)	6.059	63	75062	12.56 ug/L #	70
39) Dibromomethane	6.183	174	94025	9.82 ug/L #	77
40) Methyl Methacrylate	6.161	41	53460	9.99 ug/L #	83
41) Bromodichloromethane	6.336	83	112928	12.41 ug/L	92
42) 2-Nitropropane	7.003	43	371295	11.29 ug/L #	31
43) 2-Chloroethyl Vinyl Ether	6.687	63	202400	61.83 ug/L #	1
44) cis-1,3-Dichloropropene	6.828	75	113584	12.64 ug/L #	81
45) 4-Methyl-2-pentanone(M...	7.003	43	371295	51.65 ug/L	97
46) Toluene (CCC)	7.134	91	330466	11.81 ug/L #	88
47) trans-1,3-Dichloropropene	7.467	75	93941	12.40 ug/L #	85
48) Ethyl methacrylate	7.518	69	54995	9.45 ug/L #	49
50) 1,1,2-Trichloroethane	7.660	97	98242	11.94 ug/L #	90
51) Tetrachloroethene	7.694	166	143781	10.79 ug/L	95
52) 1,3-Dichloropropane	7.846	76	106467	11.93 ug/L	87
53) 2-Hexanone	7.003	43	371295	50.53 ug/L #	85
54) Dibromochloromethane	8.050	127	107513	10.98 ug/L #	96
55) 1,2-Dibromoethane (EDB)	8.174	107	120862	11.87 ug/L	97
56) Chlorobenzene (SPCC)	8.678	112	316223	11.81 ug/L #	62
57) 1,1,1,2-Tetrachloroethane	8.785	131	128483	11.60 ug/L	92
58) Ethylbenzene (CCC)	8.768	91	366860	12.02 ug/L #	87
59) M&P Xylenes	8.904	91	567410	23.39 ug/L #	85
60) O-Xylene	9.334	91	288477	11.69 ug/L #	75
61) Total Xylenes	8.904	91	567410	35.08 ug/L #	85
62) Styrene	9.357	104	240951	12.18 ug/L #	73
63) Isopropylbenzene (cumene)	9.707	105	361657	11.91 ug/L #	79
65) Bromobenzene	10.058	77	107340	11.73 ug/L #	1
66) n-Propylbenzene	10.143	91	384454	12.67 ug/L #	86
67) 1,2,3-Trichloropropane	10.154	75	88924	12.46 ug/L #	87
68) trans-1,4-Dichloro-2-b...	10.154	75	88924	11.99 ug/L #	78
69) 2-Chlorotoluene	10.256	91	244557	11.96 ug/L #	50
70) 1,3,5-Trimethylbenzene	10.352	105	269420	11.64 ug/L #	78
71) 4-Chlorotoluene	10.381	91	302824	12.47 ug/L #	49
72) tert-Butylbenzene	10.658	91	133408	12.58 ug/L #	75

Data Path : E:\msdchem\1\data\190726\
Data File : 19072604.D
Acq On : 26 Jul 2019 12:02 pm
Operator : SY
Sample : AU SPLP IDOC 4 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 09 09:42:31 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B
QLast Update : Fri Aug 09 09:42:28 2019
Response via : Initial Calibration

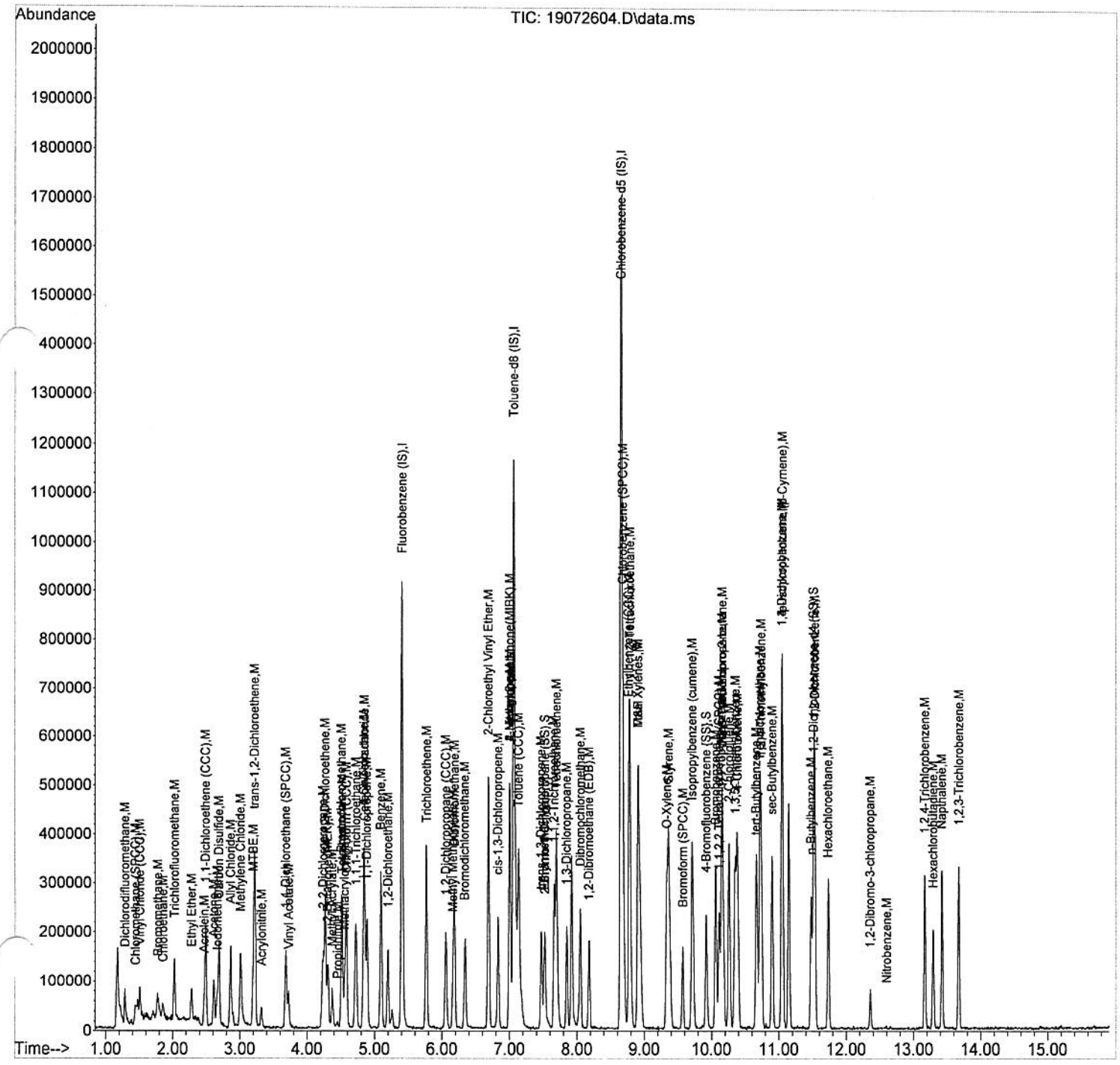
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
73) 1,2,4-Trimethylbenzene	10.731	105	262527	11.89	ug/L #	77
74) Pentachloroethane	10.714	167	75231	11.19	ug/L #	87
75) sec-Butylbenzene	10.895	105	299090	12.43	ug/L #	82
76) 1,3-Dichlorobenzene	11.042	146	255755	10.96	ug/L	95
77) p-Isopropyltoluene (p-...	11.048	119	263630	12.62	ug/L #	85
78) 1,4-Dichlorobenzene	11.042	146	255755	10.66	ug/L	96
80) 1,1,2,2 Tetrachloroeth...	10.109	83	107740	12.18	ug/L #	93
81) Bromoform (SPCC)	9.572	173	83770	11.27	ug/L	89
82) n-Butylbenzene	11.478	91	154106	11.80	ug/L #	92
83) 1,2-Dichlorobenzene	11.529	146	254292	11.37	ug/L #	90
85) Hexachloroethane	11.727	117	51162	11.94	ug/L #	74
87) 1,2-Dibromo-3-chloropr...	12.355	157	24261	8.62	ug/L #	48
88) Nitrobenzene	12.598	77	1467	19.79	ug/L #	77
88) 1,2,4-Trichlorobenzene	13.164	180	107028	10.46	ug/L	99
89) Hexachlorobutadiene	13.288	225	38580	13.48	ug/L #	78
90) Napthalene	13.418	128	270996	11.39	ug/L	94
91) 1,2,3-Trichlorobenzene	13.673	180	111139	11.54	ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Data Path : E:\msdchem\1\data\190726\
Data File : 19072604.D
Acq On : 26 Jul 2019 12:02 pm
Operator : SY
Sample : AU SPLP IDOC 4 METHYLENE CHLORIDE
Misc : IS-SU190404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 09 09:42:31 2019
Quant Method : E:\msdchem\1\methods\W8260190722.M
Quant Title : ALPHA WATERS 8260B D
QLast Update : Fri Aug 09 09:42:28 2019
Response via : Initial Calibration



Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	Extraction Analyst (If Applicable)	Effective Date
ANNA ULIANOVA	Anna Ulianova	7/22/19
Method Number	**Matrix**	**SOP Document Control Number or Revision Number:**
EPA 8260 TCLP	☐ Water ☐ DW ☑ Solid ☐ Other: _____	020517-002
Analyte or Class of Analytes		
Volatiles TCLP		

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the Initial Demonstration of Capability.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

ANNA ULIANOVA *Analyst*	_____ *Signature*	7/15/19 *Date*
JOSE FERNANDEZ *Technical Director*	_____ *Signature*	7/15/19 *Date*
Roxana Llambias *Quality Assurance Director*	_____ *Signature*	7/22/19 *Date*

True: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
Complete: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

FLORIDA SPECTRUM ENVIRONMENTAL SERVICES

_X_ Initial Demonstration of Capability
__ Continuing Demonstration of Capabilities

MATRIX:	SOLID
DATE OF ANALYSIS:	7/12/2019
ANALYZED BY:	AU
METHOD NUMBER:	EPA 8260 TCLP
EXTRACTION METHOD (IF APPLY):	TCLP EPA 1311
INSTRUMENT ID:	ALPHA
EXTRACTED BY:	AU
DATE EXTRACTED:	7/11/2019
ACCEPTANCE CRITERIA:	70-130%

Document Control #: 0401116-002
Date: 8/29/16

Standards Used:	Std. ID#	Conc.
LCS Spike Standard(s)	IQ8260D190702A,B	100 PPM
Surrogate	SU190404	25 PPM
Internal Standard	IS190404	200 PPM

Compound	TRUE Value	DOC 1	DOC 2	DOC 3	DOC 4	_ X	% RSD	% Recovery	SD
UNITS:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L			
4)Vinyl Chloride	10	9.33	8.26	9.38	7.87	8.71	8.75	87.1	0.76
10)1,1-Dichloroethene	10	8.01	7.63	8.89	8.00	8.13	6.58	81.3	0.54
22) 2-Butanone (MEK)	50	38.7	37.7	38.4	38.7	38.4	1.20	76.8	0.46
30) Chloroform	10	7.53	7.22	7.48	7.52	7.44	1.97	74.4	0.15
34) Carbon Tetrachloride	10	8.41	8.39	7.56	7.86	8.06	5.18	80.6	0.42
35) 1,2-Dichloroethane	10	8.22	8.47	8.09	8.12	8.23	2.10	82.3	0.17
36) Benzene	10	7.58	7.61	7.23	8.10	7.63	4.69	76.3	0.36
37) Trichloroethene	10	7.53	7.44	7.16	7.12	7.31	2.78	73.1	0.20
55) Tetrachloroethene	10	8.69	9.01	8.48	8.18	8.59	4.07	85.9	0.35
58) Chlorobenzene	10	9.17	9.09	8.45	8.35	8.77	4.85	87.7	0.42
80) 1,4-Dichlorobenzene	10	8.21	7.83	7.82	7.80	7.92	2.49	79.2	0.20

Data Path : C:\msdchem\1\data\190711\
Data File : 19071133.D
Acq On : 12 Jul 2019 2:56 pm
Operator : JF
Sample : TCLP AU 1
Misc : IS-SU050818,VOC326
LS Vial : 33 Sample Multiplier: 1

A.V. 7/15/2019

Quant Time: Jul 19 12:10:24 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	4.225	96	1100445	40.00	ug/L		0.00
37) Toluene-d8 (IS)	5.581	98	1118032	40.00	ug/L		0.00
80) Chlorobenzene-d5 (IS)	6.847	117	1000281	40.00	ug/L	#	0.00
System Monitoring Compounds							
50) 2-Bromo-1-Chloropropan...	5.849	77	56391	5.17	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 103.40%				
65) 4-Bromofluorobenzene {SS}	7.972	174	47738	5.73	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 114.60%				
85) 1,2-Dichlorobenzene-d4...	9.426	152	63632	4.86	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.207	85	88706	7.86	ug/L		91
3) Chloromethane (SPCC)	1.329	50	74265	8.01	ug/L	#	80
4) Vinyl Chloride (CCC)	1.365	62	68182	9.33	ug/L		100
5) Bromomethane	1.554	94	49793	7.68	ug/L		86
6) Chloroethane	1.609	64	34355	8.14	ug/L		98
7) Trichlorofluoromethane	1.803	101	126414	7.94	ug/L		91
8) Ethyl Ether	1.961	59	34275	7.50	ug/L		91
9) Acrolein	1.876	56	18301	29.74	ug/L		91
10) 1,1-Dichloroethene (CCC)	2.126	61	68478	8.01	ug/L	#	59
11) Iodomethane	2.223	142	77686	8.73	ug/L	#	76
12) Carbon Disulfide	2.381	76	114788	6.99	ug/L	#	95
13) Acetone	1.925	43	92909	46.35	ug/L		100
14) Allyl Chloride	2.302	41	48158	6.70	ug/L		91
15) Methylene Chloride	2.326	49	123355	5.49	ug/L	#	76
16) trans-1,2-Dichloroethene	2.643	61	73030	8.10	ug/L	#	74
17) MTBE	2.631	73	70498	7.23	ug/L	#	81
18) Acrylonitrile	2.266	53	15145	6.74	ug/L		92
19) 1,1-Dichloroethane (SPCC)	2.837	63	91338	7.63	ug/L	#	98
20) Vinyl Acetate	3.081	43	84635	7.74	ug/L	#	57
21) 2,2-Dichloropropane	3.312	77	27212	3.42	ug/L		96
22) cis-1,2-Dichloroethene	3.245	61	71249	7.83	ug/L	#	85
23) 2-Butanone (MEK)	3.081	43	84635	38.69	ug/L		97
24) Methyl Acrylate	3.330	55	35523	7.59	ug/L	#	91
25) Propionitrile	2.929	54	7976	8.50	ug/L		100
26) Bromochloromethane	3.415	49	52031	8.44	ug/L	#	40
27) Tetrahydrofuran	3.537	42	9964	7.87	ug/L	#	73
28) Chloroform (CCC)	3.397	83	119877	7.53	ug/L		96
29) Methacrylonitrile	3.178	41	22861	7.63	ug/L		90
30) 1,1,1-Trichloroethane	3.774	97	93366	7.86	ug/L		96
31) Carbon Tetrachloride	4.012	117	84582	8.41	ug/L		96
32) 1-Chlorobutane	3.823	56	75418	8.17	ug/L		97
33) 1,1-Dichloropropene	3.920	75	70970	7.90	ug/L	#	86
34) Benzene	4.036	78	218217	7.58	ug/L	#	91
35) 1,2-Dichloroethane	3.914	62	94315	8.22	ug/L	#	96
36) Trichloroethene	4.602	95	67751	7.53	ug/L	#	73
38) 1,2-Dichloropropane (CCC)	4.638	63	48117	6.89	ug/L		89
39) Dibromomethane	4.729	174	44492	7.10	ug/L		92
40) Methyl Methacrylate	4.754	41	33356	7.34	ug/L	#	87
41) Bromodichloromethane	4.778	83	74403	6.54	ug/L		96
42) 2-Nitropropane	4.699	43	10681	6.77	ug/L		93

Data Path : C:\msdchem\1\data\190711\
Data File : 19071133.D
Acq On : 12 Jul 2019 2:56 pm
Operator : JF
Sample : TCLP AU 1
Misc : IS-SU050818,VOC326
LS Vial : 33 Sample Multiplier: 1

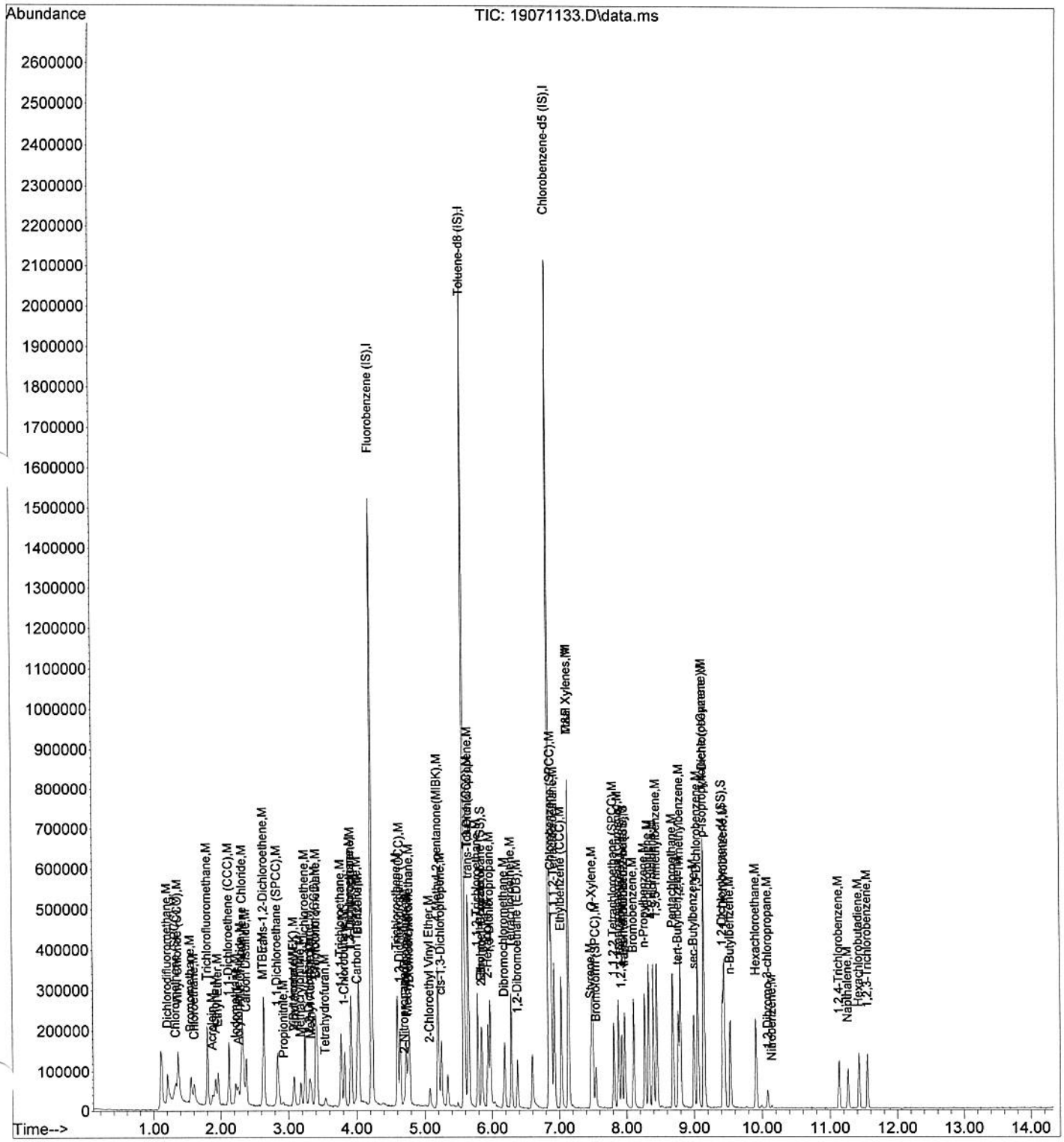
Quant Time: Jul 19 12:10:24 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) 2-Chloroethyl Vinyl Ether	5.076	63	14416	16.55	ug/L	#	39
45) cis-1,3-Dichloropropene	5.247	75	63165	6.05	ug/L	#	93
46) 4-Methyl-2-pentanone(M...	5.198	43	185424	36.23	ug/L		94
47) Toluene (CCC)	5.648	91	250620	8.22	ug/L	#	93
48) trans-1,3-Dichloropropene	5.654	75	60870	6.39	ug/L	#	91
49) Ethyl methacrylate	5.843	69	33493	7.69	ug/L	#	13
51) 1,1,2-Trichloroethane	5.788	97	70846	7.88	ug/L		95
52) Tetrachloroethene	6.287	166	60920	8.69	ug/L	#	85
53) 1,3-Dichloropropane	5.971	76	104840	8.96	ug/L	#	82
54) 2-Hexanone	5.940	43	121250	33.77	ug/L	#	96
55) Dibromochloromethane	6.183	127	52440	7.98	ug/L		97
56) 1,2-Dibromoethane (EDB)	6.378	107	61258	8.09	ug/L		89
57) Chlorobenzene (SPCC)	6.883	112	210301	9.17	ug/L	#	79
58) 1,1,1,2-Tetrachloroethane	6.926	131	77204	8.60	ug/L	#	92
59) Ethylbenzene (CCC)	7.029	91	189029	6.93	ug/L		94
60) M&P Xylenes	7.139	91	382168	15.80	ug/L	#	86
61) O-Xylene	7.498	91	187016	7.10	ug/L	#	86
62) Total Xylenes	7.139	91	382168	23.70	ug/L	#	86
63) Styrene	7.473	104	75127	6.63	ug/L	#	80
64) Isopropylbenzene (cumene)	7.881	105	133660	6.41	ug/L		96
66) Bromobenzene	8.106	77	94935	7.47	ug/L	#	86
67) n-Propylbenzene	8.270	91	168032	5.95	ug/L		96
68) 1,2,3-Trichloropropane	7.929	75	67150	8.53	ug/L	#	90
69) trans-1,4-Dichloro-2-b...	7.972	53	8959	5.71	ug/L	#	47
70) 2-Chlorotoluene	8.331	91	169591	7.66	ug/L	#	81
71) 1,3,5-Trimethylbenzene	8.453	105	167966	7.25	ug/L		89
72) 4-Chlorotoluene	8.398	91	168438	7.33	ug/L	#	73
73) tert-Butylbenzene	8.769	91	86432	6.74	ug/L		87
74) 1,2,4-Trimethylbenzene	8.799	105	175214	7.16	ug/L		89
75) Pentachloroethane	8.690	167	48548	8.36	ug/L		92
76) sec-Butylbenzene	9.000	105	129192	5.97	ug/L		97
77) 1,3-Dichlorobenzene	9.055	146	150189	8.54	ug/L		98
78) p-Isopropyltoluene (p-...	9.140	119	120863	6.00	ug/L	#	90
79) 1,4-Dichlorobenzene	9.146	146	164090	8.21	ug/L		96
81) 1,1,2,2 Tetrachloroeth...	7.814	83	81084	6.63	ug/L	#	94
82) Bromoform (SPCC)	7.546	173	39931	6.41	ug/L	#	92
83) n-Butylbenzene	9.536	91	100245	4.99	ug/L	#	87
84) 1,2-Dichlorobenzene	9.450	146	127987	6.22	ug/L		92
86) Hexachloroethane	9.913	117	38930	6.37	ug/L	#	75
87) 1,2-Dibromo-3-chloropr...	10.089	157	9321	5.73	ug/L	#	74
88) Nitrobenzene	10.144	77	2250	6.44	ug/L	#	25
89) 1,2,4-Trichlorobenzene	11.135	180	30561	5.95	ug/L		85
90) Hexachlorobutadiene	11.428	225	21143	5.37	ug/L		94
91) Napthalene	11.263	128	71845	4.96	ug/L		99
92) 1,2,3-Trichlorobenzene	11.555	180	34282	5.36	ug/L	#	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\190711\
Data File : 19071133.D
Acq On : 12 Jul 2019 2:56 pm
Operator : JF
Sample : TCLP AU 1
Misc : IS-SU050818,VOC326
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 19 12:10:24 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\190711\
Data File : 19071134.D
Acq On : 12 Jul 2019 3:24 pm
Operator : JF
Sample : TCLP AU 2
Misc : IS-SU050818,VOC326
LS Vial : 34 Sample Multiplier: 1

AN
7/15/2019

Quant Time: Jul 19 12:10:38 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	4.225	96	1245933	40.00	ug/L		0.00
37) Toluene-d8 (IS)	5.581	98	1146432	40.00	ug/L		0.00
80) Chlorobenzene-d5 (IS)	6.853	117	1016922	40.00	ug/L	#	0.00
System Monitoring Compounds							
50) 2-Bromo-1-Chloropropan...	5.849	77	58468	5.23	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.60%				
65) 4-Bromofluorobenzene {SS}	7.972	174	51593	6.04	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 120.80%				
85) 1,2-Dichlorobenzene-d4...	9.426	152	64366	4.84	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 96.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.207	85	87618	6.88	ug/L		90
3) Chloromethane (SPCC)	1.323	50	70865	6.72	ug/L		95
4) Vinyl Chloride (CCC)	1.365	62	68379	8.26	ug/L	✓	95
5) Bromomethane	1.554	94	54945	7.47	ug/L		99
6) Chloroethane	1.603	64	34375	7.17	ug/L		92
7) Trichlorofluoromethane	1.803	101	129233	7.17	ug/L		97
8) Ethyl Ether	1.961	59	38931	7.52	ug/L		94
9) Acrolein	1.882	56	19978	28.67	ug/L		98
10) 1,1-Dichloroethene (CCC)	2.126	61	73861	7.63	ug/L	# ✓	57
11) Iodomethane	2.223	142	91792	9.10	ug/L	#	77
12) Carbon Disulfide	2.375	76	134875	7.25	ug/L		96
13) Acetone	1.925	43	103376	45.46	ug/L		91
14) Allyl Chloride	2.302	41	52737	6.48	ug/L		94
15) Methylene Chloride	2.326	49	135573	5.07	ug/L	#	68
16) trans-1,2-Dichloroethene	2.643	61	85207	8.34	ug/L	#	79
17) MTBE	2.631	73	84670	7.67	ug/L	#	84
18) Acrylonitrile	2.266	53	18592	7.31	ug/L	#	91
19) 1,1-Dichloroethane (SPCC)	2.837	63	114321	8.44	ug/L		93
20) Vinyl Acetate	3.081	43	93445	7.55	ug/L	#	58
21) 2,2-Dichloropropane	3.312	77	30970	3.44	ug/L		98
22) cis-1,2-Dichloroethene	3.245	61	89321	8.67	ug/L	#	80
23) 2-Butanone (MEK)	3.081	43	93445	37.73	ug/L	# ✓	97
24) Methyl Acrylate	3.330	55	40607	7.67	ug/L	#	76
25) Propionitrile	2.929	54	8818	8.28	ug/L		100
26) Bromochloromethane	3.415	49	52297	7.49	ug/L	#	31
27) Tetrahydrofuran	3.592	42	502	0.19	ug/L	✓	89
28) Chloroform (CCC)	3.397	83	130141	7.22	ug/L	✓	91
29) Methacrylonitrile	3.184	41	28201	8.31	ug/L	#	72
30) 1,1,1-Trichloroethane	3.774	97	101841	7.57	ug/L		97
31) Carbon Tetrachloride	4.012	117	95536	8.39	ug/L	✓	91
32) 1-Chlorobutane	3.823	56	82528	7.90	ug/L		92
33) 1,1-Dichloropropene	3.920	75	84984	8.36	ug/L	#	85
34) Benzene	4.036	78	248307	7.61	ug/L	# ✓	92
35) 1,2-Dichloroethane	3.914	62	109993	8.47	ug/L	# ✓	88
36) Trichloroethene	4.602	95	75848	7.44	ug/L	# ✓	76
38) 1,2-Dichloropropane (CCC)	4.638	63	57374	8.01	ug/L	#	84
39) Dibromomethane	4.729	174	44946	7.00	ug/L		93
40) Methyl Methacrylate	4.754	41	33397	7.16	ug/L	#	70
41) Bromodichloromethane	4.778	83	72298	6.20	ug/L		99
42) 2-Nitropropane	4.699	43	11378	7.03	ug/L		93

Data Path : C:\msdchem\1\data\190711\
Data File : 19071134.D
Acq On : 12 Jul 2019 3:24 pm
Operator : JF
Sample : TCLP AU 2
Misc : IS-SU050818,VOC326
LS Vial : 34 Sample Multiplier: 1

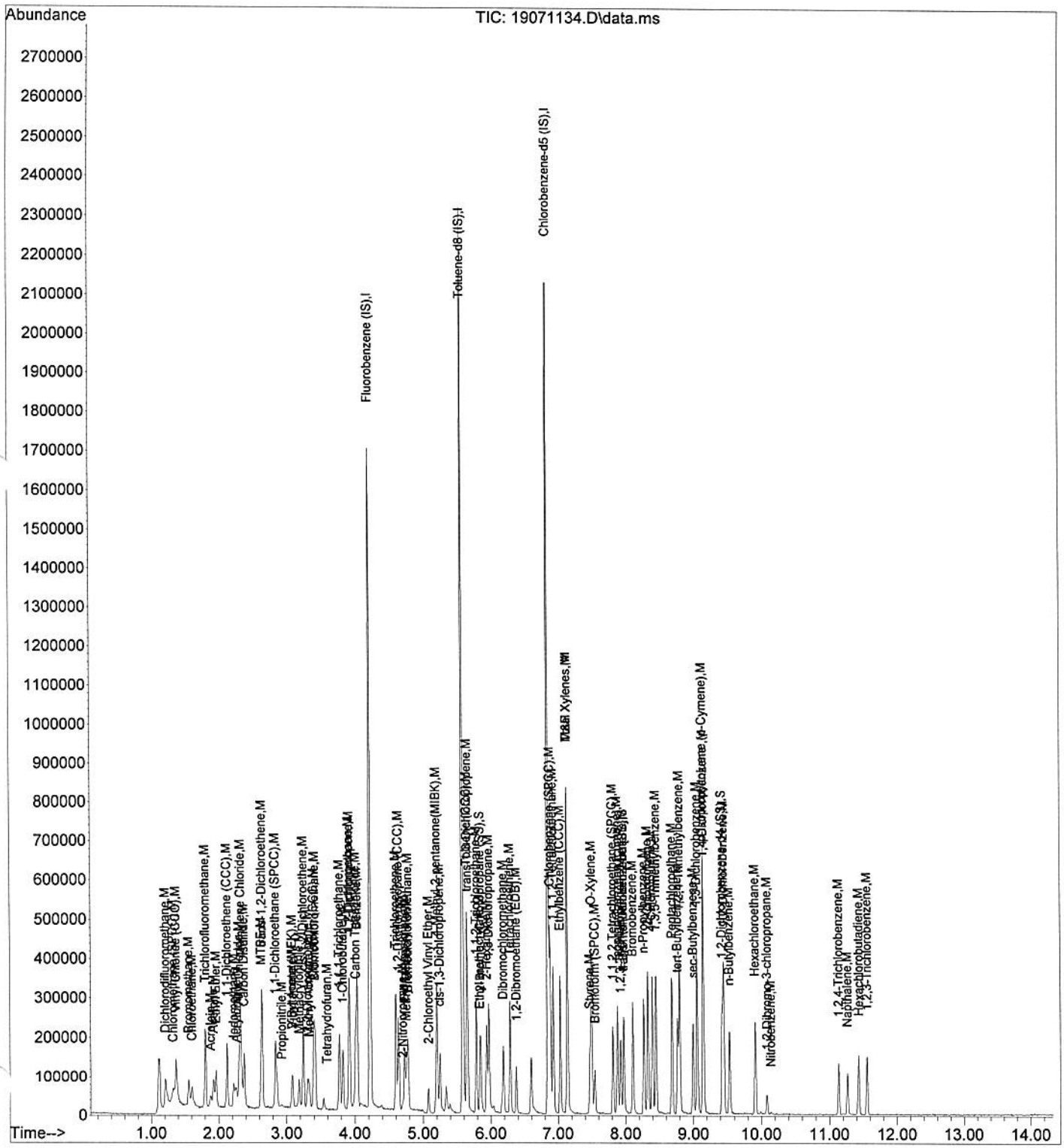
Quant Time: Jul 19 12:10:38 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43)	2-Chloroethyl Vinyl Ether	5.082	63	20982	21.03	ug/L	#	30
45)	cis-1,3-Dichloropropene	5.247	75	57750	5.43	ug/L	#	92
46)	4-Methyl-2-pentanone(M...	5.198	43	188574	35.93	ug/L	#	94
47)	Toluene (CCC)	5.648	91	253424	8.11	ug/L	#	96
48)	trans-1,3-Dichloropropene	5.654	75	59342	6.10	ug/L	#	81
49)	Ethyl methacrylate	5.837	69	34752	7.77	ug/L	#	64
51)	1,1,2-Trichloroethane	5.788	97	72659	7.88	ug/L		95
52)	Tetrachloroethene	6.287	166	64997	9.01	ug/L	#	84
53)	1,3-Dichloropropane	5.971	76	111199	9.27	ug/L	#	83
54)	2-Hexanone	5.940	43	127509	34.56	ug/L	#	92
55)	Dibromochloromethane	6.183	127	56293	8.36	ug/L		97
56)	1,2-Dibromoethane (EDB)	6.378	107	63812	8.22	ug/L		96
57)	Chlorobenzene (SPCC)	6.883	112	213653	9.09	ug/L	#	76
58)	1,1,1,2-Tetrachloroethane	6.926	131	80856	8.78	ug/L	#	87
59)	Ethylbenzene (CCC)	7.029	91	194987	6.97	ug/L	#	89
60)	M&P Xylenes	7.139	91	389006	15.69	ug/L	#	90
61)	O-Xylene	7.497	91	198834	7.33	ug/L		93
62)	Total Xylenes	7.139	91	389006	23.54	ug/L	#	90
63)	Styrene	7.467	104	78773	6.76	ug/L	#	77
64)	Isopropylbenzene (cumene)	7.881	105	140553	6.55	ug/L		97
66)	Bromobenzene	8.106	77	98955	7.59	ug/L	#	80
67)	n-Propylbenzene	8.270	91	174329	6.01	ug/L		99
68)	1,2,3-Trichloropropane	7.929	75	69395	8.59	ug/L	#	89
69)	trans-1,4-Dichloro-2-b...	7.972	53	8968	5.59	ug/L	#	42
70)	2-Chlorotoluene	8.331	91	172454	7.60	ug/L	#	84
71)	1,3,5-Trimethylbenzene	8.453	105	171708	7.23	ug/L		94
72)	4-Chlorotoluene	8.392	91	175779	7.44	ug/L	#	80
73)	tert-Butylbenzene	8.769	91	88683	6.74	ug/L	#	79
74)	1,2,4-Trimethylbenzene	8.799	105	182017	7.24	ug/L		89
75)	Pentachloroethane	8.690	167	46139	7.74	ug/L	#	84
76)	sec-Butylbenzene	9.000	105	127521	5.77	ug/L		99
77)	1,3-Dichlorobenzene	9.055	146	156773	8.68	ug/L		94
78)	p-Isopropyltoluene (p-...	9.140	119	121744	5.90	ug/L		92
79)	1,4-Dichlorobenzene	9.152	146	160006	7.83	ug/L		97
81)	1,1,2,2 Tetrachloroeth...	7.814	83	84047	6.76	ug/L		92
82)	Bromoform (SPCC)	7.546	173	42066	6.64	ug/L		91
83)	n-Butylbenzene	9.529	91	99566	4.90	ug/L	#	84
84)	1,2-Dichlorobenzene	9.450	146	137473	6.55	ug/L	#	91
86)	Hexachloroethane	9.907	117	41675	6.71	ug/L	#	76
87)	1,2-Dibromo-3-chloropr...	10.083	157	10664	6.40	ug/L	#	81
88)	Nitrobenzene	10.138	77	2114	5.99	ug/L	#	33
89)	1,2,4-Trichlorobenzene	11.135	180	32432	6.18	ug/L	#	93
90)	Hexachlorobutadiene	11.434	225	24055	5.98	ug/L		88
91)	Napthalene	11.263	128	74987	5.06	ug/L		97
92)	1,2,3-Trichlorobenzene	11.555	180	38553	5.86	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\190711\
Data File : 19071134.D
Acq On : 12 Jul 2019 3:24 pm
Operator : JF
Sample : TCLP AU 2
Misc : IS-SU050818,VOC326
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Jul 19 12:10:38 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\190711\
Data File : 19071135.D
Acq On : 12 Jul 2019 3:51 pm
Operator : JF
Sample : TCLP AU 3
Misc : IS-SU050818,VOC326
LS Vial : 35 Sample Multiplier: 1

7/15/2019

Quant Time: Jul 15 15:05:08 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	4.225	96	1121990	40.00	ug/L		0.00
37) Toluene-d8 (IS)	5.581	98	1168245	40.00	ug/L		0.00
80) Chlorobenzene-d5 (IS)	6.853	117	1043213	40.00	ug/L	#	0.00
System Monitoring Compounds							
50) 2-Bromo-1-Chloropropan...	5.849	77	59596	5.23	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 104.60%				
65) 4-Bromofluorobenzene {SS}	7.972	174	47211	5.42	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 108.40%				
85) 1,2-Dichlorobenzene-d4...	9.426	152	63958	4.69	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 93.80%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.207	85	83723	7.29	ug/L		99
3) Chloromethane (SPCC)	1.329	50	72774	7.69	ug/L		95
4) Vinyl Chloride (CCC)	1.365	62	69951	9.38	ug/L		99
5) Bromomethane	1.554	94	60350	9.19	ug/L		97
6) Chloroethane	1.603	64	36604	8.52	ug/L		97
7) Trichlorofluoromethane	1.803	101	139482	8.60	ug/L		95
8) Ethyl Ether	1.962	59	42751	9.17	ug/L		94
9) Acrolein	1.876	56	22585	35.99	ug/L		92
10) 1,1-Dichloroethene (CCC)	2.126	61	77520	8.89	ug/L	#	48
11) Iodomethane	2.223	142	99840	10.90	ug/L	#	70
12) Carbon Disulfide	2.381	76	126660	7.56	ug/L		97
13) Acetone	1.925	43	97556	47.88	ug/L		97
14) Allyl Chloride	2.302	41	52753	7.20	ug/L	#	88
15) Methylene Chloride	2.327	49	147622	7.94	ug/L	#	64
16) trans-1,2-Dichloroethene	2.643	61	74268	8.08	ug/L	#	76
17) MTBE	2.631	73	74668	7.51	ug/L	#	76
18) Acrylonitrile	2.266	53	19377	8.46	ug/L	#	71
19) 1,1-Dichloroethane (SPCC)	2.838	63	95897	7.86	ug/L		98
20) Vinyl Acetate	3.081	43	85562	7.67	ug/L	#	59
21) 2,2-Dichloropropane	3.312	77	26874	3.32	ug/L		99
22) cis-1,2-Dichloroethene	3.245	61	75536	8.14	ug/L	#	92
23) 2-Butanone (MEK)	3.081	43	85562	38.36	ug/L	#	97
24) Methyl Acrylate	3.330	55	36650	7.68	ug/L	#	88
25) Propionitrile	2.929	54	6999	7.17	ug/L		100
26) Bromochloromethane	3.416	49	52148	8.29	ug/L	#	41
27) Tetrahydrofuran	3.610	42	684	0.37	ug/L		94
28) Chloroform (CCC)	3.403	83	121355	7.48	ug/L		98
29) Methacrylonitrile	3.184	41	25377	8.30	ug/L	#	77
30) 1,1,1-Trichloroethane	3.774	97	90550	7.47	ug/L		95
31) Carbon Tetrachloride	4.012	117	77507	7.56	ug/L		94
32) 1-Chlorobutane	3.823	56	73989	7.87	ug/L		93
33) 1,1-Dichloropropene	3.920	75	66840	7.30	ug/L	#	88
34) Benzene	4.036	78	212255	7.23	ug/L	#	89
35) 1,2-Dichloroethane	3.908	62	94609	8.09	ug/L	#	92
36) Trichloroethene	4.596	95	65691	7.16	ug/L	#	83
38) 1,2-Dichloropropane (CCC)	4.638	63	46384	6.36	ug/L	#	86
39) Dibromomethane	4.730	174	43100	6.58	ug/L		89
40) Methyl Methacrylate	4.754	41	33442	7.04	ug/L	#	73
41) Bromodichloromethane	4.778	83	75979	6.39	ug/L		92
42) 2-Nitropropane	4.699	43	12526	7.59	ug/L		85

Data Path : C:\msdchem\1\data\190711\
Data File : 19071135.D
Acq On : 12 Jul 2019 3:51 pm
Operator : JF
Sample : TCLP AU 3
Misc : IS-SU050818,VOC326
LS Vial : 35 Sample Multiplier: 1

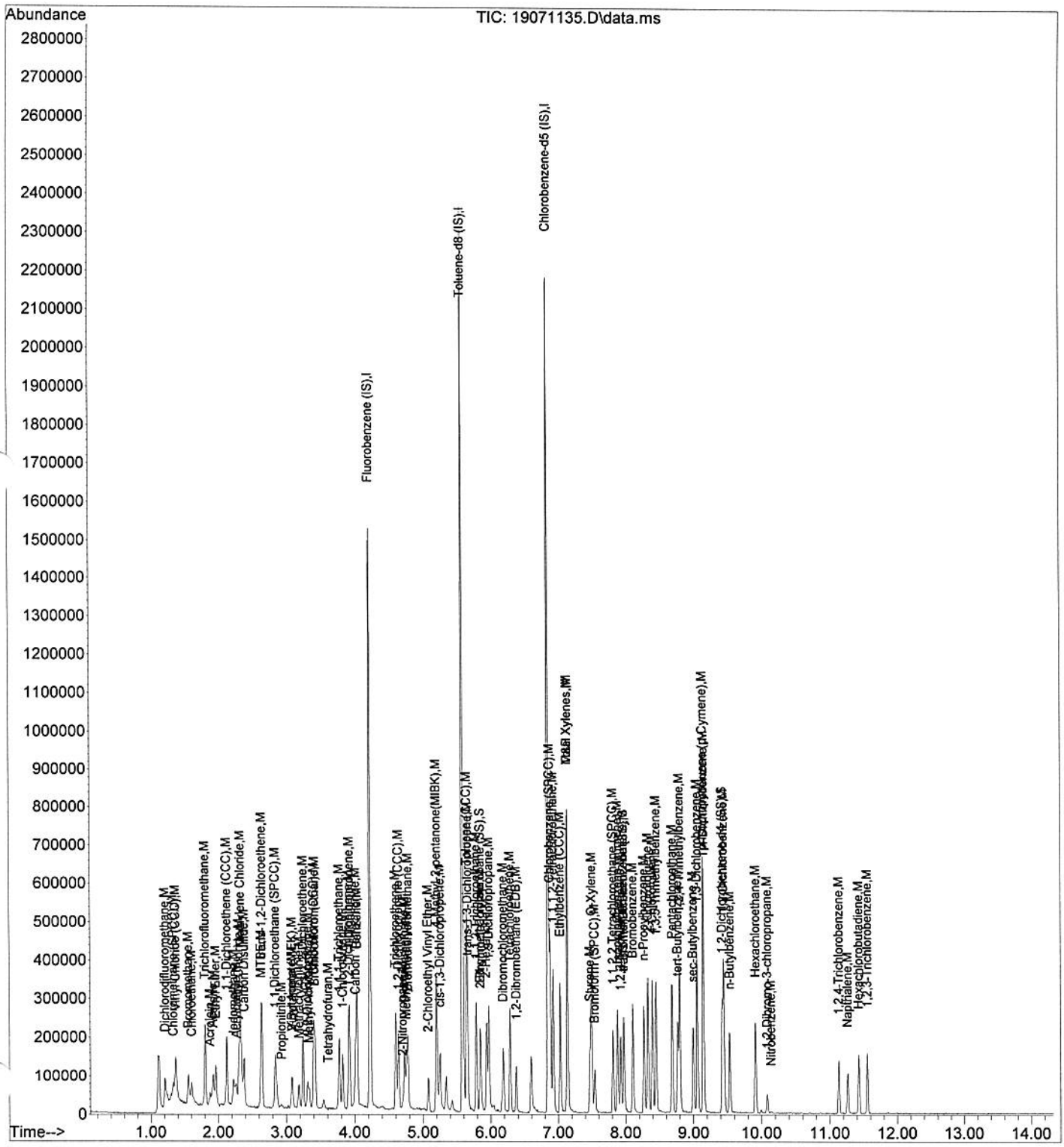
Quant Time: Jul 15 15:05:08 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) 2-Chloroethyl Vinyl Ether	5.076	63	29337	26.72	ug/L	#	25
45) cis-1,3-Dichloropropene	5.253	75	61400	5.65	ug/L	#	95
46) 4-Methyl-2-pentanone(M...	5.198	43	187430	35.05	ug/L		95
47) Toluene (CCC)	5.648	91	254055	7.98	ug/L	#	94
48) trans-1,3-Dichloropropene	5.660	75	61054	6.15	ug/L	#	89
49) Ethyl methacrylate	5.843	69	35885	7.85	ug/L	#	30
51) 1,1,2-Trichloroethane	5.782	97	72323	7.70	ug/L		96
52) Tetrachloroethene	6.287	166	62075	8.48	ug/L	#	89
53) 1,3-Dichloropropane	5.971	76	109841	8.99	ug/L	#	85
54) 2-Hexanone	5.934	43	130947	34.80	ug/L	#	96
55) Dibromochloromethane	6.184	127	55152	8.04	ug/L		96
56) 1,2-Dibromoethane (EDB)	6.378	107	63595	8.04	ug/L		100
57) Chlorobenzene (SPCC)	6.877	112	202420	8.45	ug/L	#	79
58) 1,1,1,2-Tetrachloroethane	6.926	131	80419	8.57	ug/L	#	88
59) Ethylbenzene (CCC)	7.029	91	181398	6.41	ug/L		95
60) M&P Xylenes	7.139	91	376377	14.94	ug/L	#	88
61) O-Xylene	7.498	91	188401	6.88	ug/L		90
62) Total Xylenes	7.139	91	376377	22.41	ug/L	#	88
63) Styrene	7.473	104	80988	6.81	ug/L	#	82
64) Isopropylbenzene (cumene)	7.881	105	133348	6.16	ug/L		92
66) Bromobenzene	8.106	77	101242	7.62	ug/L	#	84
67) n-Propylbenzene	8.270	91	166703	5.68	ug/L		100
68) 1,2,3-Trichloropropane	7.930	75	68418	8.32	ug/L	#	91
69) trans-1,4-Dichloro-2-b...	7.972	53	8555	5.27	ug/L	#	21
70) 2-Chlorotoluene	8.331	91	167992	7.29	ug/L	#	72
71) 1,3,5-Trimethylbenzene	8.453	105	163547	6.80	ug/L	#	84
72) 4-Chlorotoluene	8.398	91	173700	7.24	ug/L	#	79
73) tert-Butylbenzene	8.769	91	85094	6.40	ug/L	#	69
74) 1,2,4-Trimethylbenzene	8.799	105	177938	6.99	ug/L	#	85
75) Pentachloroethane	8.690	167	46397	7.64	ug/L		91
76) sec-Butylbenzene	8.994	105	127473	5.67	ug/L		96
77) 1,3-Dichlorobenzene	9.055	146	152690	8.32	ug/L		98
78) p-Isopropyltoluene (p-...	9.140	119	122566	5.84	ug/L		93
79) 1,4-Dichlorobenzene	9.152	146	162796	7.82	ug/L		97
81) 1,1,2,2 Tetrachloroeth...	7.814	83	83236	6.52	ug/L	#	94
82) Bromoform (SPCC)	7.540	173	42275	6.51	ug/L		95
83) n-Butylbenzene	9.536	91	95641	4.66	ug/L	#	93
84) 1,2-Dichlorobenzene	9.444	146	133751	6.23	ug/L		91
86) Hexachloroethane	9.913	117	40906	6.42	ug/L	#	73
87) 1,2-Dibromo-3-chloropr...	10.083	157	10777	6.31	ug/L	#	83
88) Nitrobenzene	10.138	77	2423	6.64	ug/L	#	83
89) 1,2,4-Trichlorobenzene	11.136	180	32258	6.01	ug/L		94
90) Hexachlorobutadiene	11.428	225	22561	5.49	ug/L		96
91) Napthalene	11.263	128	75078	4.96	ug/L		95
92) 1,2,3-Trichlorobenzene	11.555	180	37919	5.64	ug/L	#	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\190711\
Data File : 19071135.D
Acq On : 12 Jul 2019 3:51 pm
Operator : JF
Sample : TCLP AU 3
Misc : IS-SU050818,VOC326
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jul 15 15:05:08 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\190711\
Data File : 19071136.D
Acq On : 12 Jul 2019 4:19 pm
Operator : JF
Sample : TCLP AU 4
Misc : IS-SU050818,VOC326
LS Vial : 36 Sample Multiplier: 1

JN 7/15/2019

Quant Time: Jul 15 15:11:12 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Fluorobenzene (IS)	4.225	96	1221721	40.00	ug/L		0.00
37) Toluene-d8 (IS)	5.581	98	1173704	40.00	ug/L		0.00
80) Chlorobenzene-d5 (IS)	6.853	117	1016295	40.00	ug/L	#	0.00
System Monitoring Compounds							
50) 2-Bromo-1-Chloropropan...	5.849	77	60678	5.30	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 106.00%				
65) 4-Bromofluorobenzene {SS}	7.972	174	47805	5.47	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 109.40%				
85) 1,2-Dichlorobenzene-d4...	9.426	152	64924	4.88	ug/L		0.00
Spiked Amount 5.000	Range 70 - 130		Recovery = 97.60%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.207	85	91007	7.27	ug/L		99
3) Chloromethane (SPCC)	1.323	50	70983	6.87	ug/L		94
4) Vinyl Chloride (CCC)	1.365	62	63882	7.87	ug/L		94
5) Bromomethane	1.554	94	56359	7.83	ug/L		97
6) Chloroethane	1.603	64	34837	7.42	ug/L	#	88
7) Trichlorofluoromethane	1.803	101	135404	7.66	ug/L		93
8) Ethyl Ether	1.961	59	42661	8.41	ug/L		97
9) Acrolein	1.882	56	21767	31.86	ug/L		99
10) 1,1-Dichloroethene (CCC)	2.126	61	75974	8.00	ug/L	#	50
11) Iodomethane	2.223	142	97972	9.86	ug/L	#	71
12) Carbon Disulfide	2.381	76	140185	7.69	ug/L		97
13) Acetone	1.925	43	92509	41.06	ug/L	#	87
14) Allyl Chloride	2.302	41	56697	7.11	ug/L	#	93
15) Methylene Chloride	2.326	49	153605	7.20	ug/L	#	68
16) trans-1,2-Dichloroethene	2.643	61	79457	7.93	ug/L	#	74
17) MTBE	2.631	73	82508	7.62	ug/L	#	79
18) Acrylonitrile	2.266	53	20062	8.04	ug/L		90
19) 1,1-Dichloroethane (SPCC)	2.838	63	106649	8.03	ug/L		98
20) Vinyl Acetate	3.087	43	94038	7.74	ug/L	#	57
21) 2,2-Dichloropropane	3.312	77	28076	3.18	ug/L	#	87
22) cis-1,2-Dichloroethene	3.245	61	85405	8.45	ug/L	#	84
23) 2-Butanone (MEK)	3.087	43	94038	38.72	ug/L		94
24) Methyl Acrylate	3.336	55	38513	7.42	ug/L	#	81
25) Propionitrile	2.923	54	8345	7.95	ug/L		100
26) Bromochloromethane	3.422	49	54051	7.89	ug/L	#	18
27) Tetrahydrofuran	3.549	42	9989	7.09	ug/L	#	76
28) Chloroform (CCC)	3.397	83	132771	7.52	ug/L		98
29) Methacrylonitrile	3.184	41	26041	7.83	ug/L	#	81
30) 1,1,1-Trichloroethane	3.774	97	104687	7.93	ug/L		97
31) Carbon Tetrachloride	4.012	117	87712	7.86	ug/L		94
32) 1-Chlorobutane	3.823	56	85967	8.39	ug/L		96
33) 1,1-Dichloropropene	3.920	75	73575	7.38	ug/L	#	85
34) Benzene	4.036	78	259198	8.10	ug/L	#	90
35) 1,2-Dichloroethane	3.908	62	103338	8.12	ug/L	#	89
36) Trichloroethene	4.602	95	71147	7.12	ug/L	#	81
38) 1,2-Dichloropropane (CCC)	4.638	63	54486	7.43	ug/L	#	84
39) Dibromomethane	4.729	174	50229	7.64	ug/L		93
40) Methyl Methacrylate	4.748	41	40201	8.42	ug/L	#	79
41) Bromodichloromethane	4.778	83	86294	7.23	ug/L		90
42) 2-Nitropropane	4.699	43	11785	7.11	ug/L	#	58

Data Path : C:\msdchem\1\data\190711\
Data File : 19071136.D
Acq On : 12 Jul 2019 4:19 pm
Operator : JF
Sample : TCLP AU 4
Misc : IS-SU050818,VOC326
LS Vial : 36 Sample Multiplier: 1

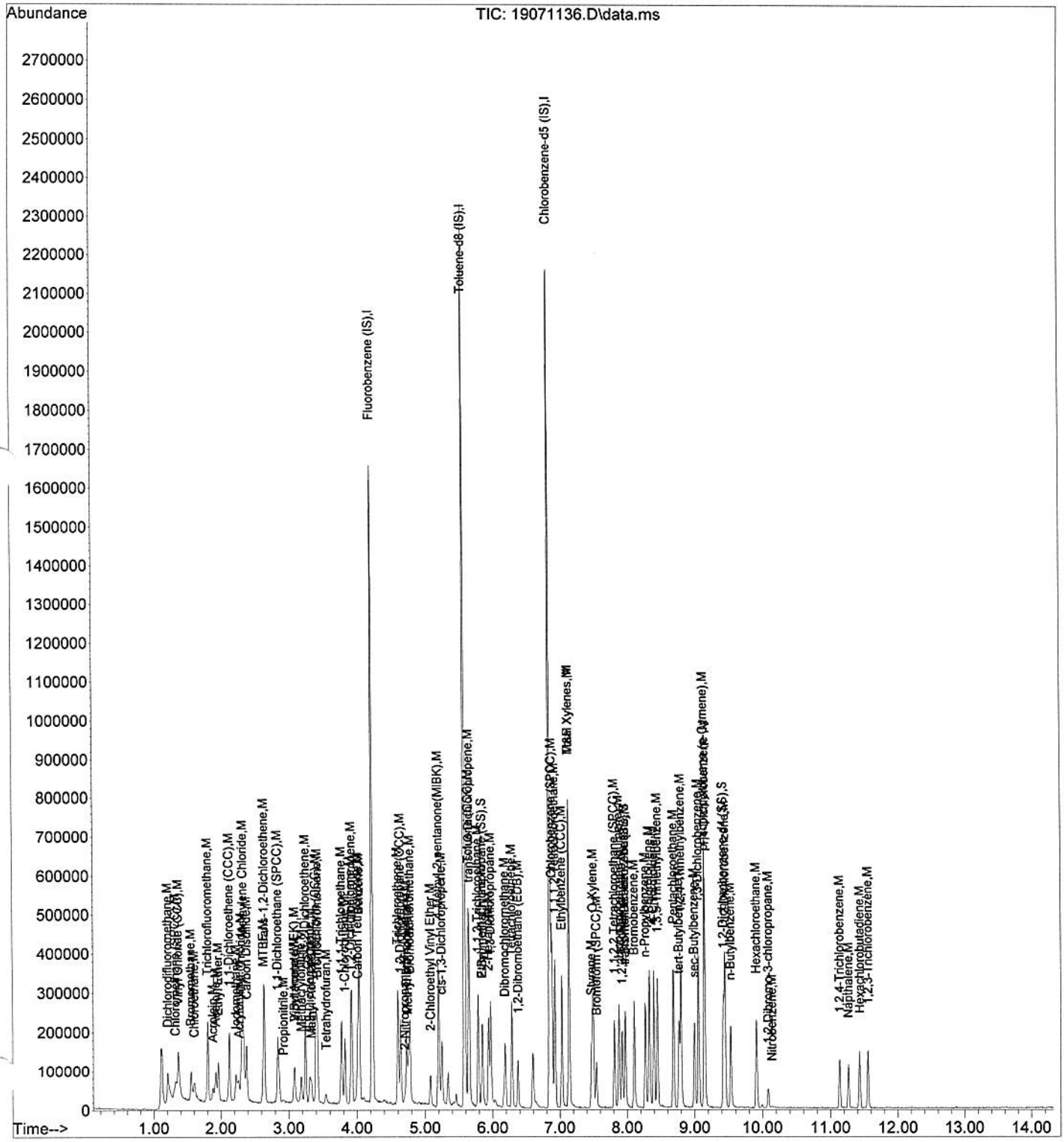
Quant Time: Jul 15 15:11:12 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) 2-Chloroethyl Vinyl Ether	5.082	63	23383	22.38	ug/L	#	36
45) cis-1,3-Dichloropropene	5.247	75	62402	5.71	ug/L	#	94
46) 4-Methyl-2-pentanone(M...	5.198	43	199366	37.11	ug/L		94
47) Toluene (CCC)	5.648	91	249779	7.81	ug/L	#	95
48) trans-1,3-Dichloropropene	5.654	75	60105	6.04	ug/L	#	92
49) Ethyl methacrylate	5.843	69	35203	7.70	ug/L	#	14
51) 1,1,2-Trichloroethane	5.782	97	71571	7.59	ug/L		97
52) Tetrachloroethene	6.287	166	60008	8.18	ug/L		91
53) 1,3-Dichloropropane	5.971	76	107303	8.74	ug/L	#	83
54) 2-Hexanone	5.940	43	134002	35.40	ug/L	#	95
55) Dibromochloromethane	6.183	127	56875	8.25	ug/L		90
56) 1,2-Dibromoethane (EDB)	6.378	107	63877	8.04	ug/L		99
57) Chlorobenzene (SPCC)	6.883	112	201050	8.35	ug/L	#	80
58) 1,1,1,2-Tetrachloroethane	6.926	131	75832	8.04	ug/L	#	87
59) Ethylbenzene (CCC)	7.029	91	181026	6.37	ug/L		96
60) M&P Xylenes	7.139	91	373747	14.78	ug/L		90
61) O-Xylene	7.498	91	185538	6.77	ug/L	#	87
62) Total Xylenes	7.139	91	373747	22.17	ug/L		90
63) Styrene	7.473	104	78925	6.63	ug/L	#	83
64) Isopropylbenzene (cumene)	7.881	105	138234	6.33	ug/L		96
66) Bromobenzene	8.106	77	98335	7.38	ug/L	#	79
67) n-Propylbenzene	8.270	91	161695	5.51	ug/L		96
68) 1,2,3-Trichloropropane	7.929	75	67557	8.18	ug/L		98
69) trans-1,4-Dichloro-2-b...	7.972	53	8179	5.04	ug/L	#	61
70) 2-Chlorotoluene	8.331	91	168806	7.29	ug/L	#	80
71) 1,3,5-Trimethylbenzene	8.453	105	161012	6.67	ug/L	#	85
72) 4-Chlorotoluene	8.398	91	171176	7.11	ug/L	#	78
73) tert-Butylbenzene	8.769	91	83195	6.25	ug/L	#	80
74) 1,2,4-Trimethylbenzene	8.799	105	171814	6.75	ug/L		87
75) Pentachloroethane	8.690	167	48037	7.87	ug/L	#	91
76) sec-Butylbenzene	8.994	105	125331	5.57	ug/L		98
77) 1,3-Dichlorobenzene	9.055	146	147977	8.04	ug/L		98
78) p-Isopropyltoluene (p-...	9.140	119	119167	5.68	ug/L	#	88
79) 1,4-Dichlorobenzene	9.152	146	163179	7.80	ug/L		95
81) 1,1,2,2 Tetrachloroeth...	7.814	83	85331	6.86	ug/L		94
82) Bromoform (SPCC)	7.546	173	41461	6.55	ug/L		96
83) n-Butylbenzene	9.529	91	96464	4.79	ug/L	#	85
84) 1,2-Dichlorobenzene	9.450	146	136251	6.49	ug/L		92
86) Hexachloroethane	9.907	117	38048	6.13	ug/L	#	76
87) 1,2-Dibromo-3-chloropr...	10.083	157	10019	6.04	ug/L		96
88) Nitrobenzene	10.138	77	2114	5.99	ug/L	#	72
89) 1,2,4-Trichlorobenzene	11.136	180	32701	6.23	ug/L	#	96
90) Hexachlorobutadiene	11.434	225	22342	5.58	ug/L		88
91) Napthalene	11.263	128	74643	5.05	ug/L		100
92) 1,2,3-Trichlorobenzene	11.555	180	36680	5.61	ug/L	#	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\data\190711\
Data File : 19071136.D
Acq On : 12 Jul 2019 4:19 pm
Operator : JF
Sample : TCLP AU 4
Misc : IS-SU050818,VOC326
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jul 15 15:11:12 2019
Quant Method : C:\msdchem\1\methods\W8260190711M.M
Quant Title : ALPHA 8260B
QLast Update : Mon Jul 15 14:52:41 2019
Response via : Initial Calibration



TCLP EPA 1311 Extraction

Extraction
Date In: 7/11/2019
Time In: 2:00 p.m.
Analyst: AO
RPM (30±2rpm): 31
Temp (23±2°C) Min: 22.2
Max: 24.3

Date Out: 7/12/2019
Time Out: 9:00 a.m.
Analyst: AO
Batch #: NA

Tumbler: Vol-10 OrganicTumbler-1
Thermometer: Min/Max 75487
Balance: Vol-6
pH Meter: Vol-12

Reagents Traceability

FLUID #1: TCLP F1 - 190612
Sand ID: VOC 319-01
Filter Paper: 324-01
Spike ID for DOC: IQ 8260D 190702 A,B,C, 2CCVE

ZHE #	LCN	Sample Matrix: Solid	Sample Matrix: Water	Extraction: pH-of Extraction Fluid (4.93 ± 0.05)	Extraction: Weight Extracted Sample (g) (Soil)	Extraction: Volume Filtered Sample (mL) (Water)	Extraction: Volume Extraction Fluid (mL)	Extraction: Initial Pressure (psi)	Extraction: Final Pressure (psi)	Extraction: Was the ZHE Checked for Leak (Y/N)?
	BLANK									
	AUIDOC-1	✓		4,94	25,05		500	50	50	Y
	AUIDOC-2	✓		↓	26,33		↓	↓	↓	↓
	AUIDOC-3	✓		↓	24,97		↓	↓	↓	↓
	AUIDOC-4	✓		↓	25,20		↓	↓	↓	↓

Comments:

LOCATED WITHIN A 200 MILE RADIUS MAP

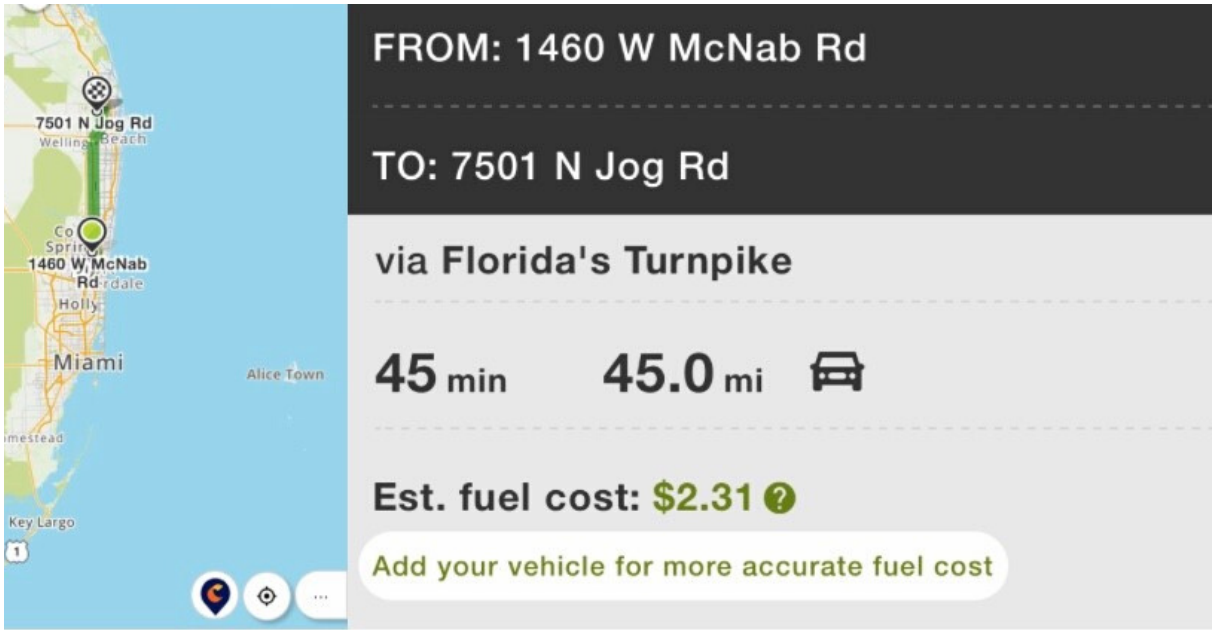
FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

LOCATED WITHIN A 200 MILE RADIUS

Florida-Spectrum Environmental Services, Inc. is located within a 200-mile radius of the Palm Beach County Solid Waste Authority.

- Our Ft. Lauderdale Facility will be servicing the Palm beach County Solid Waste Authority to accomodatethe short holds, analysis of samples, pickups, delivery of bottles and field sampling. Our Ft. Lauderdale laboratory is forty-five (45) minutes (45.0 miles) from the Palm beach County Solid Waste Authority.
- Should an emergency arise, our staff can be dispatched and be onsite in the event of an emergency that would require special sampling.
- Our sample custody and field services department's hours are Monday - Friday 8:00 a.m. to 6:00 p.m. and Sample Custody is open on Saturday - 8:00 a.m. - 2:00 p.m.

Map



OUR LOCATION

FT. LAUDERDALE, FLORIDA
Florida-Spectrum Environmental Services, Inc.
1460 W. McNab Road
Ft. Lauderdale, FL 33309

CONDUCT 75% OF THE ANALYSIS WITHIN THE 200 MILE RADIUS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

CONDUCT 75% OF THE ANALYSIS WITHIN THE 200 MILE RADIUS

Florida-Spectrum Environmental Services, Inc. is located within a 200-mile radius of the Palm Beach County Solid Waste Authority and will conduct at least 75% of the analysis within the 200-mile radius of the Authority and 95% within the State of Florida. Please see Florida-Spectrum's NELAP Certification and Analyte Sheet and proposed list of subcontract laboratories.

SATELITE OFFICE ~ FT. MEADE, FLORIDA
Florida-Spectrum Environmental Services, Inc.
Pembroke Laboratories
528 Gooch Road
Ft. Meade, FL 33841
PH: 863.285.8145
FAX: 863.285.7030
153 Miles from the Authority
Analyses: Chlorophyll A

ABILITY TO PERFORM DETERMINATIONS IN-HOUSE PER QUARTER

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

ABILITY TO PERFORM DETERMINATIONS IN-HOUSE PER QUARTER

Confirmation of Florida-Spectrum Environmental Services, Inc. adequate staff and ability to perform 20,000 determinations for SCOPE A and up to 6,000 determinations for SCOPE B (SBE only) in house, per quarter for 811 sample points in SCOPE A and 402 sample points in SCOPE B (SBE only).

Florida-Spectrum's ability to perform determinations (analysis) are tracked by our Laboratory Information Management System (LIMS): Element. It allows its user to track work count by Analysis, Samples, Work Order, Department, etc. Element can be used as a tool to demonstrate performance ability based on the number of determinations (analysis) within a specific time range (per Quarter for the Authority).

Florida-Spectrum Environmental Services, Inc. Number of Samples per/quarter:

2020 First Quarter Results = 8,668

2019 Fourth Quarter Results = 9,304

2019 Third Quarter Results = 10, 296

2019 Second Quarter Results = 8,912

Florida-Spectrum Environmental Services, Inc. Number of Tests per/quarter:

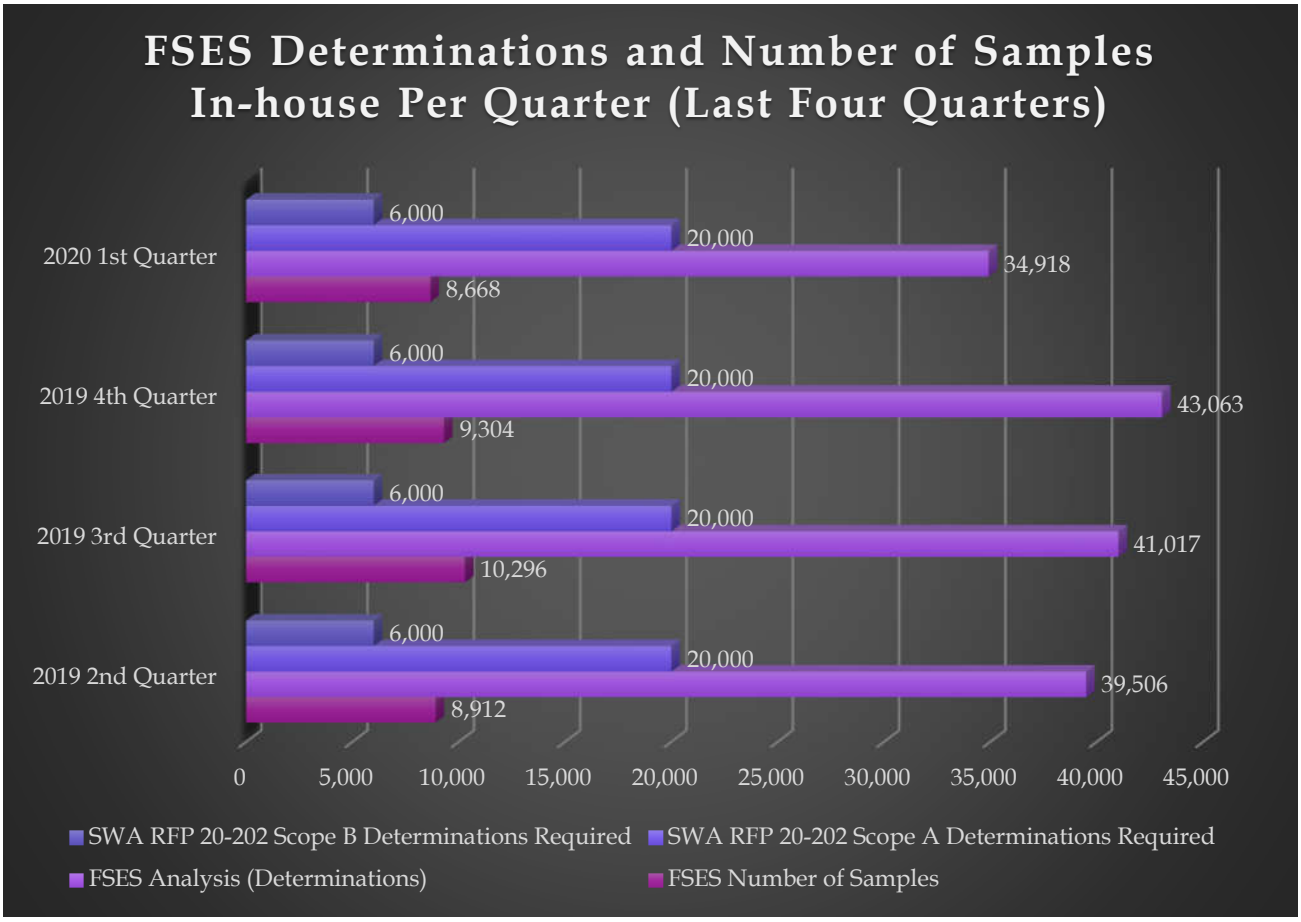
2020 First Quarter Results = 34,918

2019 Fourth Quarter Results = 43,063

2019 Third Quarter Results = 41,017

2019 Second Quarter Results = 39,506

FSES DETERMINATIONS AND NUMBER OF SAMPLES IN-HOUSE PER QUARTER (LAST FOUR QUARTERS)



Please note: Florida-Spectrum currently exceeds all the performance specified requirements of this bid proposal. We perform approximately 40,000 determinations per Quarter and have a 60 % of available capacity for all of our Departments. Utilizing the above numbers, Florida-Spectrum Environmental Services, Inc. is currently at 40% capacity. This is for one shift.

TRANSMIT FINAL WRITTEN REPORT

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

TRANSMIT FINAL WRITTEN REPORT

Florida – Spectrum Environmental Services, Inc. can provide the **Solid Waste Authority of Palm Beach County** reports by facsimile, via e-mail (pdf file), electronic formats, along with the original hard copies to follow by mail.

Florida-Spectrum Environmental Services, Inc. will transmit to the AUTHORITY a final written report, electronic ADaPT report, invoice, and Quality Assurance Data within twenty-one (21) calendar days of receipt of the sample.

All reports will be submitted in hard copy and electronic format. All hard copy reports will be accompanied with its respective chain of custody, field sheets, invoice and quality assurance data. All electronic data will be submitted in ADaPT format.

A copy of the analysis reports will be executed per the requested turnaround time; (Florida-Spectrums standard turnaround is 5-7 business days) and (Subcontracted analyses will have a turnaround of 3-4 weeks). **Florida – Spectrum Environmental Services, Inc.** will ensure the AUTHORITY'S permit requirements are met.

Please find below a report example.

****PLEASE NOTE: All subcontracted analysis will be incorporated into one report for the Solid Waste Authority of Palm Beach County.**

REPORT EXAMPLE

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

NELAP Certificate No. E86006

1460 West McNab Road
Fort Lauderdale, FL 33309
1-800-ANALYTE Phone
(954) 978-6400 Phone
(954) 978-2233 Fax

05 March 2019
Lab Work Order (COC): 19A0294

Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood, FL 33021

RE: **Hollywood Yard Trash (Miller Tract) WASC#53349**

Project Location: **Westlake Village, 1200 Lemonwood St., Hollywood FL**

Dear Beverly Walker:

This report details the analytical results of samples collected at the above-referenced project location as well as the results of any associated quality control samples. These samples were received by Florida Spectrum Environmental Services at **01/10/2019 16:30**.

All Analyses were performed according to the TNI/NELAP standard unless indicated by a "~" on the report.

Your samples will be retained by Florida Spectrum Environmental for a period of at least 30 days following sample receipt or until the longest of the preparation and/or analytical hold times expires, whichever is shorter. After that time, they will be properly disposed without further notice, unless there exists an explicit contractual agreement to the contrary. We reserve the right to return any unused samples, extracts, or related materials or solutions to you if we consider it necessary. Examples might include those samples identified as hazardous wastes, submissions where the sample sizes significantly exceed those required for analysis, samples containing controlled substances, etc.

We thank you for selecting Florida Spectrum Environmental to serve your analytical needs. Should you have any questions or require additional information regarding any of the information in this report, please feel free to contact us at any time. We appreciate the opportunity to be of service.

Florida Spectrum Environmental Inc.

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349

Westlake Village, 1200 Lemonwood St., Hollywood FL

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
MW-1	19A0294-01	Water	Specific Conductance (fie	2226	uS/cm @ 25°C	1/10/2019	13:35
MW-1	19A0294-01	Water	Temperature (field)	25.7	°C	1/10/2019	13:35
MW-1	19A0294-01	Water	Ammonia as N	1.13	mg/L	1/10/2019	13:35
MW-1	19A0294-01	Water	Chloride	353	mg/L	1/10/2019	13:35
MW-1	19A0294-01	Water	Dissolved Oxygen	0.350	mg/L	1/10/2019	13:35
MW-1	19A0294-01	Water	pH (Field) at 25°C	6.75	pH Units	1/10/2019	13:35
MW-1	19A0294-01	Water	Depth to Water (from TO	5.20	Feet	1/10/2019	13:35
MW-1	19A0294-01	Water	Turbidity	12.0	NTU	1/10/2019	13:35
MW-1	19A0294-01	Water	Total Dissolved Solids	1020	mg/L	1/10/2019	13:35
MW-1	19A0294-01	Water	Sodium	185	mg/L	1/10/2019	13:35
MW-1	19A0294-01	Water	Iron	6660	ug/L	1/10/2019	13:35
MW-1	19A0294-01	Water	Arsenic	10.5	ug/L	1/10/2019	13:35
MW-1	19A0294-01	Water	Color (Field)	Clear	.	1/10/2019	13:35
MW-2R	19A0294-02	Water	Iron	3920	ug/L	1/10/2019	13:40
MW-2R	19A0294-02	Water	Sodium	152	mg/L	1/10/2019	13:40
MW-2R	19A0294-02	Water	Ammonia as N	9.08	mg/L	1/10/2019	13:40
MW-2R	19A0294-02	Water	Temperature (field)	25.4	°C	1/10/2019	13:40
MW-2R	19A0294-02	Water	Chloride	292	mg/L	1/10/2019	13:40
MW-2R	19A0294-02	Water	pH (Field) at 25°C	7.65	pH Units	1/10/2019	13:40
MW-2R	19A0294-02	Water	Specific Conductance (fie	2047	uS/cm @ 25°C	1/10/2019	13:40
MW-2R	19A0294-02	Water	Arsenic	2.70	ug/L	1/10/2019	13:40
MW-2R	19A0294-02	Water	Dissolved Oxygen	0.390	mg/L	1/10/2019	13:40
MW-2R	19A0294-02	Water	Color (Field)	Clear	.	1/10/2019	13:40
MW-2R	19A0294-02	Water	Turbidity	8.00	NTU	1/10/2019	13:40

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349

Westlake Village, 1200 Lemonwood St., Hollywood FL

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
MW-2R	19A0294-02	Water	Total Dissolved Solids	1080	mg/L	1/10/2019	13:40
MW-2R	19A0294-02	Water	Depth to Water (from TO	7.65	Feet	1/10/2019	13:40
MW-3RA	19A0294-03	Water	Temperature (field)	24.2	°C	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Sodium	131	mg/L	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Color (Field)	Clear	.	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Iron	192	ug/L	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Turbidity	2.00	NTU	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Dissolved Oxygen	0.490	mg/L	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Total Dissolved Solids	1020	mg/L	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Depth to Water (from TO	3.35	Feet	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Ammonia as N	0.566	mg/L	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Specific Conductance (fie	1696	uS/cm @ 25°C	1/10/2019	14:02
MW-3RA	19A0294-03	Water	Chloride	246	mg/L	1/10/2019	14:02
MW-3RA	19A0294-03	Water	pH (Field) at 25°C	6.62	pH Units	1/10/2019	14:02
MW-4	19A0294-04	Water	pH (Field) at 25°C	7.19	pH Units	1/10/2019	14:50
MW-4	19A0294-04	Water	Dissolved Oxygen	0.460	mg/L	1/10/2019	14:50
MW-4	19A0294-04	Water	Depth to Water (from TO	2.87	Feet	1/10/2019	14:50
MW-4	19A0294-04	Water	Sodium	9.11	mg/L	1/10/2019	14:50
MW-4	19A0294-04	Water	Temperature (field)	24.5	°C	1/10/2019	14:50
MW-4	19A0294-04	Water	Turbidity	9.00	NTU	1/10/2019	14:50
MW-4	19A0294-04	Water	Ammonia as N	0.186	mg/L	1/10/2019	14:50
MW-4	19A0294-04	Water	Total Dissolved Solids	202	mg/L	1/10/2019	14:50
MW-4	19A0294-04	Water	Color (Field)	Clear	.	1/10/2019	14:50
MW-4	19A0294-04	Water	Iron	1700	ug/L	1/10/2019	14:50

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349

Westlake Village, 1200 Lemonwood St., Hollywood FL

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
MW-4	19A0294-04	Water	Chloride	15.8	mg/L	1/10/2019	14:50
MW-4	19A0294-04	Water	Specific Conductance (fie	360	uS/cm @ 25°C	1/10/2019	14:50
MW-5	19A0294-05	Water	Total Dissolved Solids	426	mg/L	1/10/2019	14:31
MW-5	19A0294-05	Water	Turbidity	6.00	NTU	1/10/2019	14:31
MW-5	19A0294-05	Water	Temperature (field)	24.1	°C	1/10/2019	14:31
MW-5	19A0294-05	Water	Color (Field)	Clear	.	1/10/2019	14:31
MW-5	19A0294-05	Water	Dissolved Oxygen	0.230	mg/L	1/10/2019	14:31
MW-5	19A0294-05	Water	Ammonia as N	2.03	mg/L	1/10/2019	14:31
MW-5	19A0294-05	Water	Depth to Water (from TO(	3.85	Feet	1/10/2019	14:31
MW-5	19A0294-05	Water	Chloride	27.8	mg/L	1/10/2019	14:31
MW-5	19A0294-05	Water	Specific Conductance (fie	787	uS/cm @ 25°C	1/10/2019	14:31
MW-5	19A0294-05	Water	Sodium	20.7	mg/L	1/10/2019	14:31
MW-5	19A0294-05	Water	pH (Field) at 25°C	6.82	pH Units	1/10/2019	14:31
MW-5	19A0294-05	Water	Iron	1940	ug/L	1/10/2019	14:31
MW-6	19A0294-06	Water	Total Dissolved Solids	3420	mg/L	1/10/2019	13:55
MW-6	19A0294-06	Water	Iron	303	ug/L	1/10/2019	13:55
MW-6	19A0294-06	Water	Sodium	535	mg/L	1/10/2019	13:55
MW-6	19A0294-06	Water	Color (Field)	Clear	.	1/10/2019	13:55
MW-6	19A0294-06	Water	Arsenic	3.70	ug/L	1/10/2019	13:55
MW-6	19A0294-06	Water	Dissolved Oxygen	0.300	mg/L	1/10/2019	13:55
MW-6	19A0294-06	Water	Turbidity	11.0	NTU	1/10/2019	13:55
MW-6	19A0294-06	Water	Ammonia as N	67.1	mg/L	1/10/2019	13:55
MW-6	19A0294-06	Water	Specific Conductance (fie	6753	uS/cm @ 25°C	1/10/2019	13:55
MW-6	19A0294-06	Water	Chloride	808	mg/L	1/10/2019	13:55

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349

Westlake Village, 1200 Lemonwood St., Hollywood FL

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
MW-6	19A0294-06	Water	Depth to Water (from TO	5.60	Feet	1/10/2019	13:55
MW-6	19A0294-06	Water	pH (Field) at 25°C	6.91	pH Units	1/10/2019	13:55
MW-6	19A0294-06	Water	Temperature (field)	26.1	°C	1/10/2019	13:55
MW-7	19A0294-07	Water	Ammonia as N	2.04	mg/L	1/10/2019	14:45
MW-7	19A0294-07	Water	Total Dissolved Solids	3410	mg/L	1/10/2019	14:45
MW-7	19A0294-07	Water	Temperature (field)	25.3	°C	1/10/2019	14:45
MW-7	19A0294-07	Water	pH (Field) at 25°C	6.87	pH Units	1/10/2019	14:45
MW-7	19A0294-07	Water	Turbidity	12.0	NTU	1/10/2019	14:45
MW-7	19A0294-07	Water	Chloride	1920	mg/L	1/10/2019	14:45
MW-7	19A0294-07	Water	Color (Field)	Clear	.	1/10/2019	14:45
MW-7	19A0294-07	Water	Dissolved Oxygen	0.400	mg/L	1/10/2019	14:45
MW-7	19A0294-07	Water	Iron	29.4	ug/L	1/10/2019	14:45
MW-7	19A0294-07	Water	Sodium	999	mg/L	1/10/2019	14:45
MW-7	19A0294-07	Water	Specific Conductance (fie	7349	uS/cm @ 25°C	1/10/2019	14:45
MW-7	19A0294-07	Water	Depth to Water (from TO	5.80	Feet	1/10/2019	14:45
SW-1	19A0294-08	Water	Specific Conductance (fie	48816	uS/cm @ 25°C	1/10/2019	13:40
SW-1	19A0294-08	Water	Iron	2030	ug/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Total Organic Carbon	1.44	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Total Suspended Solids	520	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Total Dissolved Solids	37300	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Chlorophyll-a	10.6	mg/m³	1/10/2019	13:40
SW-1	19A0294-08	Water	Chemical Oxygen Deman	729	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Phosphorus-Total	0.477	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Chloride	21400	mg/L	1/10/2019	13:40

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349

Westlake Village, 1200 Lemonwood St., Hollywood FL

DETECTED ANALYTE SUMMARY

Client Sample ID	Laboratory ID	Matrix	Analyte	Result	Units	Collection Date	Collection Time
SW-1	19A0294-08	Water	Biochemical Oxygen Den	3.06	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Sodium	8340	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Temperature (field)	24.2	°C	1/10/2019	13:40
SW-1	19A0294-08	Water	Arsenic	5.30	ug/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Total Nitrogen	4.76	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Fecal Coliforms	1100	CFU/100 ml	1/10/2019	13:40
SW-1	19A0294-08	Water	Color (Field)	Clear	.	1/10/2019	13:40
SW-1	19A0294-08	Water	pH (Field) at 25°C	6.53	pH Units	1/10/2019	13:40
SW-1	19A0294-08	Water	Total Depth	2.2	Feet	1/10/2019	13:40
SW-1	19A0294-08	Water	Dissolved Oxygen	0.340	mg/L	1/10/2019	13:40
SW-1	19A0294-08	Water	Turbidity	13.0	NTU	1/10/2019	13:40
SW-1	19A0294-08	Water	Total Hardness	5540	mg/L	1/10/2019	13:40

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St., Hollywood FL

Lab ID: 19A0294-01
Client Sample ID: MW-1
Matrix: Water

Collection Date: 01/10/19 13:35
Received Date: 01/10/19 16:30
Collected By: M. Grant

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Field Parameter (s)										
Color (Field)	Clear		.	1			Direct Measuremen	01/10 13:35	01/10 13:35	MG
Specific Conductance (field)	2226		uS/cm @ 25°C	1	1	3	EPA 120.1	01/10 13:35	01/10 13:35	MG
Depth to Water (from TOC)	5.20		Feet	1	0.01	0.01	FDEP SOP	01/10 13:35	01/10 13:35	MG
Dissolved Oxygen	0.350		mg/L	1	0.0100	0.0300	EPA 360.1	01/10 13:35	01/10 13:35	MG
pH (Field) at 25°C	6.75		pH Units	1	0.100	0.300	SM4500-H+-B	01/10 13:35	01/10 13:35	MG
Temperature (field)	25.7		°C	1	1.00	1.00	EPA 170.1	01/10 13:35	01/10 13:35	MG
Turbidity~	12.0		NTU	1	0.0500	0.150	EPA 180.1	01/10 13:35	01/10 13:35	MG
Wet Chemistry										
Ammonia as N	1.13		mg/L	1	0.0140	0.0420	EPA 350.1	01/14 14:36	01/14 14:36	EP
Chloride	353		mg/L	10	6.08	18.2	EPA 300.0	01/10 18:00	01/11 07:09	OC
Total Dissolved Solids	1020		mg/L	1	40.0	120	SM 2540C	01/11 17:15	01/14 16:00	DAB
Total Recoverable Metals by EPA 200 Series Methods										
Arsenic	10.5		ug/L	1	1.49	5.00	EPA 200.7	01/11 08:30	01/11 11:13	MAZ
Iron	6660		ug/L	10	20.0	100	EPA 200.7	01/11 08:30	01/11 12:33	MAZ
Sodium	185		mg/L	10	3.90	20.0	EPA 200.7	01/11 08:30	01/11 12:33	MAZ

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.
Hollywood FL

Lab ID: 19A0294-02
Client Sample ID: MW-2R
Matrix: Water

Collection Date: 01/10/19 13:40
Received Date: 01/10/19 16:30
Collected By: F. Galvis

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Field Parameter (s)										
Color (Field)	Clear		.	1			Direct Measuremen	01/10 13:40	01/10 13:40	FG
Specific Conductance (field)	2047		uS/cm @ 25°C	1	1	3	EPA 120.1	01/10 13:40	01/10 13:40	FG
Depth to Water (from TOC)	7.65		Feet	1	0.01	0.01	FDEP SOP	01/10 13:40	01/10 13:40	FG
Dissolved Oxygen	0.390		mg/L	1	0.0100	0.0300	EPA 360.1	01/10 13:40	01/10 13:40	FG
pH (Field) at 25°C	7.65		pH Units	1	0.100	0.300	SM4500-H+-B	01/10 13:40	01/10 13:40	FG
Temperature (field)	25.4		°C	1	1.00	1.00	EPA 170.1	01/10 13:40	01/10 13:40	FG
Turbidity~	8.00		NTU	1	0.0500	0.150	EPA 180.1	01/10 13:40	01/10 13:40	FG
Wet Chemistry										
Ammonia as N	9.08		mg/L	5	0.0700	0.210	EPA 350.1	01/14 14:36	01/14 14:36	EP
Chloride	292		mg/L	10	6.08	18.2	EPA 300.0	01/11 17:50	01/12 00:39	OC
Total Dissolved Solids	1080		mg/L	1	40.0	120	SM 2540C	01/11 17:15	01/14 16:00	DAB
Total Recoverable Metals by EPA 200 Series Methods										
Arsenic	2.70	I	ug/L	1	1.49	5.00	EPA 200.7	01/11 08:30	01/11 11:16	MAZ
Iron	3920		ug/L	10	20.0	100	EPA 200.7	01/11 08:30	01/11 12:36	MAZ
Sodium	152		mg/L	10	3.90	20.0	EPA 200.7	01/11 08:30	01/11 12:36	MAZ

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.
Hollywood FL

Lab ID: 19A0294-03
Client Sample ID: MW-3RA
Matrix: Water

Collection Date: 01/10/19 14:02
Received Date: 01/10/19 16:30
Collected By: F. Galvis

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Field Parameter (s)										
Color (Field)	Clear		.	1			Direct Measuremen	01/10 14:02	01/10 14:02	FG
Specific Conductance (field)	1696		uS/cm @ 25°C	1	1	3	EPA 120.1	01/10 14:02	01/10 14:02	FG
Depth to Water (from TOC)	3.35		Feet	1	0.01	0.01	FDEP SOP	01/10 14:02	01/10 14:02	FG
Dissolved Oxygen	0.490		mg/L	1	0.0100	0.0300	EPA 360.1	01/10 14:02	01/10 14:02	FG
pH (Field) at 25°C	6.62		pH Units	1	0.100	0.300	SM4500-H+-B	01/10 14:02	01/10 14:02	FG
Temperature (field)	24.2		°C	1	1.00	1.00	EPA 170.1	01/10 14:02	01/10 14:02	FG
Turbidity~	2.00		NTU	1	0.0500	0.150	EPA 180.1	01/10 14:02	01/10 14:02	FG
Wet Chemistry										
Ammonia as N	0.566		mg/L	1	0.0140	0.0420	EPA 350.1	01/14 14:36	01/14 14:36	EP
Chloride	246		mg/L	5	3.04	9.12	EPA 300.0	01/11 17:50	01/12 00:56	OC
Total Dissolved Solids	1020		mg/L	1	40.0	120	SM 2540C	01/11 17:15	01/14 16:00	DAB
Total Recoverable Metals by EPA 200 Series Methods										
Arsenic	ND	U	ug/L	1	1.49	5.00	EPA 200.7	01/11 08:30	01/11 11:18	MAZ
Iron	192		ug/L	1	2.00	10.0	EPA 200.7	01/11 08:30	01/11 11:18	MAZ
Sodium	131		mg/L	10	3.90	20.0	EPA 200.7	01/11 08:30	01/11 12:39	MAZ

Report To:
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City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349

Westlake Village, 1200 Lemonwood St.
Hollywood FL

Lab ID: 19A0294-04
Client Sample ID: MW-4
Matrix: Water

Collection Date: 01/10/19 14:50
Received Date: 01/10/19 16:30
Collected By: F. Galvis

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Field Parameter (s)										
Color (Field)	Clear		.	1			Direct Measuremen	01/10 14:50	01/10 14:50	FG
Specific Conductance (field)	360		uS/cm @ 25°C	1	1	3	EPA 120.1	01/10 14:50	01/10 14:50	FG
Depth to Water (from TOC)	2.87		Feet	1	0.01	0.01	FDEP SOP	01/10 14:50	01/10 14:50	FG
Dissolved Oxygen	0.460		mg/L	1	0.0100	0.0300	EPA 360.1	01/10 14:50	01/10 14:50	FG
pH (Field) at 25°C	7.19		pH Units	1	0.100	0.300	SM4500-H+-B	01/10 14:50	01/10 14:50	FG
Temperature (field)	24.5		°C	1	1.00	1.00	EPA 170.1	01/10 14:50	01/10 14:50	FG
Turbidity~	9.00		NTU	1	0.0500	0.150	EPA 180.1	01/10 14:50	01/10 14:50	FG
Wet Chemistry										
Ammonia as N	0.186		mg/L	1	0.0140	0.0420	EPA 350.1	01/14 14:36	01/14 14:36	EP
Chloride	15.8		mg/L	1	0.608	1.82	EPA 300.0	01/11 17:50	01/12 01:13	OC
Total Dissolved Solids	202		mg/L	1	20.0	60.0	SM 2540C	01/11 17:15	01/14 16:00	DAB
Total Recoverable Metals by EPA 200 Series Methods										
Arsenic	ND	U	ug/L	1	1.49	5.00	EPA 200.7	01/11 08:30	01/11 11:21	MAZ
Iron	1700		ug/L	1	2.00	10.0	EPA 200.7	01/11 08:30	01/11 11:21	MAZ
Sodium	9.11		mg/L	1	0.390	2.00	EPA 200.7	01/11 08:30	01/11 11:21	MAZ

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1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.
Hollywood FL

Lab ID: 19A0294-05
Client Sample ID: MW-5
Matrix: Water

Collection Date: 01/10/19 14:31
Received Date: 01/10/19 16:30
Collected By: F. Galvis

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Field Parameter (s)										
Color (Field)	Clear		.	1			Direct Measuremen	01/10 14:31	01/10 14:31	FG
Specific Conductance (field)	787		uS/cm @ 25°C	1	1	3	EPA 120.1	01/10 14:31	01/10 14:31	FG
Depth to Water (from TOC)	3.85		Feet	1	0.01	0.01	FDEP SOP	01/10 14:31	01/10 14:31	FG
Dissolved Oxygen	0.230		mg/L	1	0.0100	0.0300	EPA 360.1	01/10 14:31	01/10 14:31	FG
pH (Field) at 25°C	6.82		pH Units	1	0.100	0.300	SM4500-H+-B	01/10 14:31	01/10 14:31	FG
Temperature (field)	24.1		°C	1	1.00	1.00	EPA 170.1	01/10 14:31	01/10 14:31	FG
Turbidity~	6.00		NTU	1	0.0500	0.150	EPA 180.1	01/10 14:31	01/10 14:31	FG
Wet Chemistry										
Ammonia as N	2.03	J3	mg/L	1	0.0140	0.0420	EPA 350.1	01/14 14:36	01/14 14:36	EP
Chloride	27.8		mg/L	2	1.22	3.65	EPA 300.0	01/11 17:50	01/12 01:47	OC
Total Dissolved Solids	426		mg/L	1	20.0	60.0	SM 2540C	01/11 17:15	01/14 16:00	DAB
Total Recoverable Metals by EPA 200 Series Methods										
Arsenic	ND	U	ug/L	1	1.49	5.00	EPA 200.7	01/11 08:30	01/11 11:24	MAZ
Iron	1940		ug/L	1	2.00	10.0	EPA 200.7	01/11 08:30	01/11 11:24	MAZ
Sodium	20.7		mg/L	1	0.390	2.00	EPA 200.7	01/11 08:30	01/11 11:24	MAZ

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Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.
Hollywood FL

Lab ID: 19A0294-06
Client Sample ID: MW-6
Matrix: Water

Collection Date: 01/10/19 13:55
Received Date: 01/10/19 16:30
Collected By: M. Grant

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Field Parameter (s)										
Color (Field)	Clear		.	1			Direct Measuremen	01/10 13:55	01/10 13:55	MG
Specific Conductance (field)	6753		uS/cm @ 25°C	1	1	3	EPA 120.1	01/10 13:55	01/10 13:55	MG
Depth to Water (from TOC)	5.60		Feet	1	0.01	0.01	FDEP SOP	01/10 13:55	01/10 13:55	MG
Dissolved Oxygen	0.300		mg/L	1	0.0100	0.0300	EPA 360.1	01/10 13:55	01/10 13:55	MG
pH (Field) at 25°C	6.91		pH Units	1	0.100	0.300	SM4500-H+-B	01/10 13:55	01/10 13:55	MG
Temperature (field)	26.1		°C	1	1.00	1.00	EPA 170.1	01/10 13:55	01/10 13:55	MG
Turbidity~	11.0		NTU	1	0.0500	0.150	EPA 180.1	01/10 13:55	01/10 13:55	MG
Wet Chemistry										
Ammonia as N	67.1	Q	mg/L	50	0.700	2.10	EPA 350.1	03/04 10:25	03/04 10:25	EP
Chloride	808		mg/L	20	12.2	36.5	EPA 300.0	01/11 17:50	01/12 02:04	OC
Total Dissolved Solids	3420		mg/L	1	20.0	60.0	SM 2540C	01/11 17:15	01/14 16:00	DAB
Total Recoverable Metals by EPA 200 Series Methods										
Arsenic	3.70	I	ug/L	1	1.49	5.00	EPA 200.7	01/11 08:30	01/11 11:27	MAZ
Iron	303		ug/L	1	2.00	10.0	EPA 200.7	01/11 08:30	01/11 11:27	MAZ
Sodium	535		mg/L	20	7.80	40.0	EPA 200.7	01/11 08:30	01/11 12:42	MAZ

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Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.
Hollywood FL

Lab ID: 19A0294-07
Client Sample ID: MW-7
Matrix: Water

Collection Date: 01/10/19 14:45
Received Date: 01/10/19 16:30
Collected By: M. Grant

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Field Parameter (s)										
Color (Field)	Clear		.	1			Direct Measuremen	01/10 14:45	01/10 14:45	MG
Specific Conductance (field)	7349		uS/cm @ 25°C	1	1	3	EPA 120.1	01/10 14:45	01/10 14:45	MG
Depth to Water (from TOC)	5.80		Feet	1	0.01	0.01	FDEP SOP	01/10 14:45	01/10 14:45	MG
Dissolved Oxygen	0.400		mg/L	1	0.0100	0.0300	EPA 360.1	01/10 14:45	01/10 14:45	MG
pH (Field) at 25°C	6.87		pH Units	1	0.100	0.300	SM4500-H+-B	01/10 14:45	01/10 14:45	MG
Temperature (field)	25.3		°C	1	1.00	1.00	EPA 170.1	01/10 14:45	01/10 14:45	MG
Turbidity~	12.0		NTU	1	0.0500	0.150	EPA 180.1	01/10 14:45	01/10 14:45	MG
Wet Chemistry										
Ammonia as N	2.04		mg/L	1	0.0140	0.0420	EPA 350.1	01/14 14:36	01/14 14:36	EP
Chloride	1920		mg/L	20	12.2	36.5	EPA 300.0	01/11 17:50	01/12 02:21	OC
Total Dissolved Solids	3410		mg/L	1	40.0	120	SM 2540C	01/11 17:15	01/14 16:00	DAB
Total Recoverable Metals by EPA 200 Series Methods										
Arsenic	ND	U	ug/L	1	1.49	5.00	EPA 200.7	01/11 08:30	01/11 11:30	MAZ
Iron	29.4		ug/L	1	2.00	10.0	EPA 200.7	01/11 08:30	01/11 11:30	MAZ
Sodium	999		mg/L	100	39.0	200	EPA 200.7	01/11 08:30	01/11 12:44	MAZ

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City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.
Hollywood FL

Lab ID: 19A0294-08
Client Sample ID: SW-1
Matrix: Water

Collection Date: 01/10/19 13:40
Received Date: 01/10/19 16:30
Collected By: F. Galvis/M. Grant

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Field Parameter (s)										
Color (Field)	Clear		.	1			Direct Measuremen	01/10 13:40	01/10 13:40	FG/MG
Specific Conductance (field)	48816		uS/cm @ 25°C	1	1	3	EPA 120.1	01/10 13:40	01/10 13:40	FG/MG
Dissolved Oxygen	0.340		mg/L	1	0.0100	0.0300	EPA 360.1	01/10 13:40	01/10 13:40	FG/MG
pH (Field) at 25°C	6.53		pH Units	1	0.100	0.300	SM4500-H+-B	01/10 13:40	01/10 13:40	FG/MG
Temperature (field)	24.2		°C	1	1.00	1.00	EPA 170.1	01/10 13:40	01/10 13:40	FG/MG
Total Depth	2.2		Feet	1	1.0	1.0	FDEP SOP	01/10 13:40	01/10 13:40	FG/MG
Turbidity~	13.0		NTU	1	0.0500	0.150	EPA 180.1	01/10 13:40	01/10 13:40	FG/MG
Wet Chemistry										
Ammonia-Unionized	ND		mg/L	1			FDEP SOP	01/14 14:36	01/14 14:36	EP
Chloride	21400		mg/L	200	122	365	EPA 300.0	01/11 17:50	01/12 02:38	OC
Chlorophyll-a	10.6		mg/m³	1	1.00	3.00	SM 10200-H	01/11 15:25	01/29 10:30	SUB
Chemical Oxygen Demand	729		mg/L	1	6.14	18.4	EPA 410.4	01/18 11:30	01/18 15:00	OC
Total Nitrogen	4.76		mg/L	1	0.0190	0.0570	TKN + NOX	01/16 16:00	01/16 16:00	EP
Phosphorus-Total	0.477		mg/L	1	0.0640	0.192	EPA 365.4	01/14 11:00	01/16 12:22	EP
Total Dissolved Solids	37300		mg/L	1	333	1000	SM 2540C	01/11 17:15	01/14 16:00	DAB
Total Organic Carbon	1.44		mg/L	1	0.168	0.504	SM 5310C	01/14 14:09	01/14 15:53	SA
Total Suspended Solids	520		mg/L	1	20.0	60.0	SM 2540D	01/11 11:40	01/14 15:30	DAB
Total Recoverable Metals by EPA 200 Series Methods										
Arsenic	5.30		ug/L	1	1.49	5.00	EPA 200.7	01/11 08:30	01/11 11:33	MAZ
Total Hardness	5540		mg/L	1			EPA 200.7 Calc	01/11 08:30	01/11 12:47	MAZ

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.
Hollywood FL

Lab ID: 19A0294-08
Client Sample ID: SW-1
Matrix: Water

Collection Date: 01/10/19 13:40
Received Date: 01/10/19 16:30
Collected By: F. Galvis/M. Grant

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Total Recoverable Metals by EPA 200 Series Methods										
Iron	2030		ug/L	1	2.00	10.0	EPA 200.7	01/11 08:30	01/11 11:33	MAZ
Sodium	8340		mg/L	1000	390	2000	EPA 200.7	01/11 08:30	01/11 12:47	MAZ
Microbiology										
Biochemical Oxygen Demand	3.06	I	mg/L	1	2.00	6.00	BOD SM5210B	01/11 16:00	01/16 16:10	BRM
Fecal Coliforms	1100		CFU/100 ml	20	20	20	SM 9222D	01/10 17:50	01/11 18:00	KR

Report To:
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Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.,
Hollywood FL

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 19A0342 - Default Prep GenChem										
Blank (19A0342-BLK1)				Prepared: 01/10/2019 Analyzed: 01/11/2019						
Chloride	ND	1.82	mg/L							U
LCS (19A0342-BS1)				Prepared: 01/10/2019 Analyzed: 01/11/2019						
Chloride	50.3	1.82	mg/L	50.00		101	90-110			
Duplicate (19A0342-DUP1)		**Source: 19A0281-02**		Prepared: 01/10/2019 Analyzed: 01/11/2019						
Chloride	67.3	1.82	mg/L		67.4			0.148	20	
Matrix Spike (19A0342-MS1)		**Source: 19A0281-02**		Prepared: 01/10/2019 Analyzed: 01/11/2019						
Chloride	112	1.82	mg/L	50.00	67.4	89.2	90-110			J3
Batch 19A0347 - Default Prep GenChem										
Blank (19A0347-BLK1)				Prepared: 01/17/2019 Analyzed: 01/21/2019						
Total Suspended Solids	ND	3.00	mg/L							U
LCS (19A0347-BS1)				Prepared: 01/11/2019 Analyzed: 01/14/2019						
Total Suspended Solids	107	30.0	mg/L	100.0		107	80-120			
Duplicate (19A0347-DUP1)		**Source: 19A0294-08**		Prepared: 01/11/2019 Analyzed: 01/14/2019						
Total Suspended Solids	770	60.0	mg/L		520			38.8	20	
Batch 19A0363 - Default Prep GenChem										
Blank (19A0363-BLK1)				Prepared & Analyzed: 01/11/2019						
Chloride	ND	1.82	mg/L							U

Report To:
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Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St., Hollywood FL

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 19A0363 - Default Prep GenChem										
LCS (19A0363-BS1)				Prepared & Analyzed: 01/11/2019						
Chloride	50.0	1.82	mg/L	50.00		100	90-110			
Duplicate (19A0363-DUP1)		Source: 19A0301-02		Prepared & Analyzed: 01/11/2019						
Chloride	36.9	1.82	mg/L		37.0			0.271	20	
Matrix Spike (19A0363-MS1)		Source: 19A0301-02		Prepared & Analyzed: 01/11/2019						
Chloride	84.5	1.82	mg/L	50.00	37.0	95.0	90-110			
Matrix Spike (19A0363-MS2)		Source: 19A0294-04		Prepared: 01/11/2019 Analyzed: 01/12/2019						
Chloride	65.3	1.82	mg/L	50.00	15.8	99.0	90-110			
Batch 19A0367 - Default Prep GenChem										
Blank (19A0367-BLK1)				Prepared & Analyzed: 01/14/2019						
Total Organic Carbon	ND	0.504	mg/L							U
LCS (19A0367-BS1)				Prepared & Analyzed: 01/14/2019						
Total Organic Carbon	10.1	0.504	mg/L	10.00		101	85-115			
Duplicate (19A0367-DUP1)		Source: 19A0294-08		Prepared & Analyzed: 01/14/2019						
Total Organic Carbon	1.21	0.504	mg/L		1.44			17.4	20	
Matrix Spike (19A0367-MS1)		Source: 19A0294-08		Prepared & Analyzed: 01/14/2019						
Total Organic Carbon	9.19	0.504	mg/L	10.00	1.44	77.5	85-115			
Matrix Spike Dup (19A0367-MSD1)		Source: 19A0294-08		Prepared & Analyzed: 01/14/2019						
Total Organic Carbon	10.7	0.504	mg/L	10.00	1.44	92.8	85-115	18.0	20	

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Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.,
Hollywood FL

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 19A0371 - Default Prep GenChem										
Blank (19A0371-BLK1)				Prepared: 01/11/2019 Analyzed: 01/14/2019						
Total Dissolved Solids	ND	30.0	mg/L							U
LCS (19A0371-BS1)				Prepared: 01/11/2019 Analyzed: 01/14/2019						
Total Dissolved Solids	500	120	mg/L	500.0		100	80-120			
Duplicate (19A0371-DUP1)		**Source: 19A0287-03**		Prepared: 01/11/2019 Analyzed: 01/14/2019						
Total Dissolved Solids	156	60.0	mg/L		152			2.60	20	
Duplicate (19A0371-DUP2)		**Source: 19A0294-04**		Prepared: 01/11/2019 Analyzed: 01/14/2019						
Total Dissolved Solids	207	60.0	mg/L		202			2.35	20	
Batch 19A0400 - Default Prep GenChem										
Blank (19A0400-BLK1)				Prepared & Analyzed: 01/14/2019						
Ammonia as N	ND	0.0420	mg/L							U
LCS (19A0400-BS1)				Prepared & Analyzed: 01/14/2019						
Ammonia as N	1.01	0.0420	mg/L	1.000		101	90-110			
Duplicate (19A0400-DUP1)		**Source: 19A0272-01**		Prepared & Analyzed: 01/14/2019						
Ammonia as N	ND	0.0420	mg/L		ND				20	U
Matrix Spike (19A0400-MS1)		**Source: 19A0272-01**		Prepared & Analyzed: 01/14/2019						
Ammonia as N	0.701	0.0420	mg/L	1.000	ND	70.1	90-110			J3
Matrix Spike (19A0400-MS2)		**Source: 19A0213-01**		Prepared & Analyzed: 01/14/2019						
Ammonia as N	0.598	0.0420	mg/L	1.000	ND	59.8	90-110			J3

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.,
Hollywood FL

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 19A0453 - Default Prep GenChem										
Blank (19A0453-BLK1)				Prepared & Analyzed: 01/14/2019						
Ammonia as N	ND	0.0420	mg/L							U
LCS (19A0453-BS1)				Prepared & Analyzed: 01/14/2019						
Ammonia as N	1.03	0.0420	mg/L	1.000		103	90-110			
Duplicate (19A0453-DUP1)		**Source: 19A0294-05**		Prepared & Analyzed: 01/14/2019						
Ammonia as N	1.92	0.0420	mg/L		2.03			5.57	20	
Matrix Spike (19A0453-MS1)		**Source: 19A0294-05**		Prepared & Analyzed: 01/14/2019						
Ammonia as N	2.73	0.0840	mg/L	1.000	2.03	70.0	90-110			J3
Batch 19A0497 - Default Prep GenChem										
Blank (19A0497-BLK1)				Prepared: 01/14/2019 Analyzed: 01/16/2019						
Phosphorus-Total	ND	0.192	mg/L							U
LCS (19A0497-BS1)				Prepared: 01/14/2019 Analyzed: 01/16/2019						
Phosphorus-Total	2.32	0.192	mg/L	2.500		92.8	90-110			
Duplicate (19A0497-DUP1)		**Source: 19A0352-04**		Prepared: 01/14/2019 Analyzed: 01/16/2019						
Phosphorus-Total	ND	0.192	mg/L		ND				20	U
Matrix Spike (19A0497-MS1)		**Source: 19A0280-02**		Prepared: 01/14/2019 Analyzed: 01/16/2019						
Phosphorus-Total	2.54	0.192	mg/L	2.500	0.372	86.7	90-110			J3
Matrix Spike (19A0497-MS2)		**Source: 19A0352-04**		Prepared: 01/14/2019 Analyzed: 01/16/2019						
Phosphorus-Total	2.44	0.192	mg/L	2.500	ND	97.6	90-110			

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019
Work Order # 19A0294
Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St., Hollywood FL

Wet Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 19A0570 - Default Prep GenChem										
Blank (19A0570-BLK1)				Prepared & Analyzed: 01/18/2019						
Chemical Oxygen Demand	ND	18.4	mg/L							U
LCS (19A0570-BS1)				Prepared & Analyzed: 01/18/2019						
Chemical Oxygen Demand	548	18.4	mg/L	500.0		110	90-110			
Duplicate (19A0570-DUP1)		**Source: 19A0479-02**		Prepared & Analyzed: 01/18/2019						
Chemical Oxygen Demand	591	18.4	mg/L		593			0.388	20	
Matrix Spike (19A0570-MS1)		**Source: 19A0479-02**		Prepared & Analyzed: 01/18/2019						
Chemical Oxygen Demand	1090	18.4	mg/L	500.0	593	99.7	90-110			
Batch 19C0143 - Default Prep GenChem										
Blank (19C0143-BLK1)				Prepared & Analyzed: 03/04/2019						
Ammonia as N	ND	0.0420	mg/L							U
LCS (19C0143-BS1)				Prepared & Analyzed: 03/04/2019						
Ammonia as N	0.960	0.0420	mg/L	1.000		96.0	90-110			
Duplicate (19C0143-DUP1)		**Source: 19C0003-01**		Prepared & Analyzed: 03/04/2019						
Ammonia as N	ND	0.0420	mg/L		ND				20	U
Matrix Spike (19C0143-MS1)		**Source: 19C0003-01**		Prepared & Analyzed: 03/04/2019						
Ammonia as N	0.869	0.0420	mg/L	1.000	ND	86.9	90-110			J3

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.,
Hollywood FL

Total Recoverable Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 19A0021 - EPA 3010A										
Blank (19A0021-BLK1)				Prepared & Analyzed: 01/11/2019						
Iron	ND	10.0	ug/L							U
Arsenic	ND	5.00	"							U
Sodium	ND	2.00	mg/L							U
LCS (19A0021-BS1)				Prepared & Analyzed: 01/11/2019						
Arsenic	523	5.00	ug/L	500.0		105	85-115			
Iron	497.2	10.0	"	500.0		99.4	85-115			
Sodium	24.1	2.00	mg/L	25.50		94.5	85-115			
Matrix Spike (19A0021-MS1)	**Source: 19A0286-01**			Prepared & Analyzed: 01/11/2019						
Sodium	69.2	2.00	mg/L	25.50	43.8	99.9	70-130			
Arsenic	519	5.00	ug/L	500.0	ND	104	70-130			
Iron	507.4	10.0	"	500.0	7.100	100	70-130			
Matrix Spike Dup (19A0021-MSD1)	**Source: 19A0286-01**			Prepared & Analyzed: 01/11/2019						
Arsenic	520	5.00	ug/L	500.0	ND	104	70-130	0.173	20	
Iron	508.5	10.0	"	500.0	7.100	100	70-130	0.217	20	
Sodium	70.2	2.00	mg/L	25.50	43.8	104	70-130	3.72	20	

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.,
Hollywood FL

Microbiology - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 19A0332 - Membrane Filtration										
Blank (19A0332-BLK1)				Prepared: 01/10/2019 Analyzed: 01/11/2019						
Fecal Coliforms	ND	1	CFU/100 ml							U
Batch 19A0653 - BOD Prep										
Blank (19A0653-BLK1)				Prepared: 01/11/2019 Analyzed: 01/16/2019						
Biochemical Oxygen Demand	ND	6.00	mg/L							U
LCS (19A0653-BS1)				Prepared: 01/11/2019 Analyzed: 01/16/2019						
Biochemical Oxygen Demand	184	6.00	mg/L	198.0		92.9	84.6-115.4			

Report To:
Beverly Walker
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood FL, 33021

Report Printed: 3/5/2019

Work Order # 19A0294

Project: Hollywood Yard Trash (Miller Tract)
WASC#53349
Westlake Village, 1200 Lemonwood St.,
Hollywood FL

Notes and Definitions

U	Indicated that the compound was analyzed for but not detected. This shall be used to indicate that the specific component was not detected. The value associated with the qualifier shall be the laboratory method detection limit.
Q	Sample held beyond accepted holding time.
J3	The matrix spike recovery outside method acceptance limits indicating matrix interference.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
V	Indicated that the analyte was detected in both the sample and the associated method blank.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
Z	Too many colonies were present for accurate counting.

QC=Qualifier Codes as defined by DEP 62-160
Unless indicated, soil results are reported on actual (wet) weight basis.
Work performed by outside (subcontracted) labs denoted by SUB in Analyst Field.

Results relate only to this sample.

Enrique Ochoa - CSM

Authorized CSM Signature (954) 978-6400
Florida-Spectrum Environmental Services,Inc.
Certification# E86006

All NELAP certified analysis are performed in accordance with Chapter 64E-1 Florida Administrative code, which has been determined to be equivalent to NELAC standards. Analysis certified by programs other than NELAP are designated with a "~".

SUBMISSION # 1940294

Logged into LIMS by: BL

CHAIN OF CUSTODY RECORD

Florida Spectrum Environmental Services

☐	1460 W McNab Road Ft Lauderdale FL 33309	Tel: (954) 978-6400	Fax: (954) 978-2233
☐	940 Alt. 27 South Babson Park, FL 33827	Tel: (863) 638-3255	Fax: (863) 638-3637
☐	630 Indian Street Savannah, GA 31401	Tel: (912) 238-5050	Fax (912) 234-4815
☐	528 Gooch Road Fort Meade FL 33841	Tel: (863) 285-8145	Fax (863) 285-7030

DUE DATE Requested

RUSH RESERVATION #

Rush Surcharges apply

Original-Return w/report **Yellow- Lab File Copy** **Pink- Sampler Copy**

Report to: City of Hollywood Environment al Services Division / AM Environmental

Report to Address: PO BOX 970833 -Boca Raton, FL 33497

Invoice to: City of Hollywood Environment al Services Division

Purchase Order #

Invoice to Address: 1 North University Dr, 2nd Floor, Plantation, FL 33324

Project Name and/or Number : RESAMPLE SW- ANNUALY Hollywood yard Trash LAndfill

Site Location: Westlake Village 1200 Lemonwood St, Hollywood, FL 33019

Project Mgr: Beverly Walker / Charles Lassiter Dan Alford AM Enviro

Phone: 954-967-4264 / AM- 561-779-6394

Fax:

Email: bwalker@hollywoodfl.org classiter@hollywoodfl.org dalford@amenvironmental.com

Sampler Name: (printed) Frankly / Mike

Sampler Signature

ORDER # Lab Control Number / Shaded Areas For Laboratory Use Only		Sample ID	Date Sampled	Time Sampled	Matrix (DW SW GW SED S EFF HW BIO SA OIL X)	Bottle & Pres. Combo Codes	Number of Containers Received & NELAC Letter Suffixes # A-?	Analysis Required: TDS	Chlorides	Ammonia as N	Arsenic, Iron, Sodium	TSS TOC COD BOD5 Unionized Ammonia	Fecal Coliform Hardness Chlorophyll A	Phosphate, Nitrogen	Field Tests: PH	TEMP -C	COND	DO	TURB	DTW
1	01	MW-1	1-10-19	13:35	GW	TU US TH	3	X	X	X	X				6.75	25.7	2226	0.35	12	5.2
2	02	MW-2R		13:40	GW	TU US TH	3	X	X	X	X				7.65	25.4	2047	0.39	8	7.65
3	03	MW-3RA		14:02	GW	TU US TH	3	X	X	X	X				6.62	24.2	1696	0.49	2	3.35
4	04	MW-4		14:50	GW	TU US TH	3	X	X	X	X				7.19	24.5	360	0.46	9	2.87
5	05	MW-5		14:31	GW	TU US TH	3	X	X	X	X				6.82	24.1	787	0.23	C	3.85
6	06	MW-6		13:55	GW	TU US TH	3	X	X	X	X				6.91	26.1	6753	0.30	11	5.6
7	07	MW-7		14:45	GW	TU US TH	3	X	X	X	X				6.87	25.3	7349	0.40	12	5.8
8	08	SW-1		13:40	SW	MS/MSD TU US TH 2VS 35	8	X	X		X	X	X	X	6.53	24.2	48,816	0.34	13	
9															STAFF GAUGE	2.2	COLOR	clear		

Special Comments: ADAPT is required for this Project

"I waive NELAC protocol" (sign here) >

Total

Deliverables: QA/QC Report Needed? Yes No *(additional charge)*

SAMPLE CUSTODY AND TRANSFER SIGNATURES **DATE / TIME**

1	Relinquished by: FG	1-9-19 16:30
1	Received by: BL	1/10/19 1630
2	Relinquished by:	
2	Received by:	
3	Relinquished by:	
3	Received by:	

Sample Custody & Field Comments

Temp as received 10 32 C

Custody Seals? Y (N)

Sample Field Time 8 hrs

Misc Charges

Bottle Type

A-liter amber
B-Bacteria bag/bottle
F-500 ml
L-liter bottle
S-soil jar
T-250 ml
V-40 ml vial
W-wide mouth
X-other

Preservatives

A-ascorbic acid
C-HCL
Cu-$CuSO_4$
H-HNO_3
M-MCAB
N-NaOH
NH_4-NH_4CL
P-H_3PO_4
S-H_2SO_4
T-$Na_2S_2O_3$-H_2O
U-Unpreserved
P-H_3PO_4
Z-zinc acetate

www.flenviro.com COC Page 1 of 11

Pembroke Laboratory
A Florida Spectrum Company

NELAP ACCREDITED TNI LABORATORY

Report To:
Enrique Ochoa
Florida Spectrum Env. Svcs.
1460 West McNab Road
Ft. Lauderdale FL, 33309-1122

Report Printed: 2/5/2019
Work Order # P19A064
Project:
Chlorophyll a TEST

[none]

Lab ID: P19A064-01
Client Sample ID: 19A0294-01
Matrix: Water

Collection Date: 01/10/19 13:40
Received Date: 01/22/19 14:40
Collected By: Client

Laboratory Analysis Report

Parameter	Result	QC	Units	Dil	MDL	PQL	Method	Date Ext.	Date Analy.	Analyst
Wet Chemistry										
Chlorophyll-a	10.6		mg/m³	1	1.00	3.00	SM 10200-H	01/11 15:25	01/29 10:30	BEH

Pembroke Laboratory
A Florida-Spectrum Company

NELAP ACCREDITED TNI LABORATORY

Report To:
Enrique Ochoa
Florida Spectrum Env. Svcs.
1460 West McNab Road
Ft. Lauderdale FL, 33309-1122

Report Printed: 2/5/2019
Work Order # P19A064
Project:
Chlorophyll a TEST

[none]

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the detection limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
V	Indicated that the analyte was detected in both the sample and the associated method blank.
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
Z	Too many colonies were present for accurate counting.

QC=Qualifier Codes as defined by DEP 62-160
Unless indicated, soil results are reported on actual (wet) weight basis.
Work performed by outside (subcontracted) labs denoted by SUB in Analyst Field.

Results relate only to this sample.

Kenya Russell - Manager

Authorized CSM Signature (863) 285-8145
Pembroke Labortories, Inc.
Certification# E84088

All NELAP certified analysis are performed in accordance with Chapter 64E-1 Florida Administrative code, which has been determined to be equivalent to NELAC standards. Analysis certified by programs other than NELAP are designated with a "~".

SUBCONTRACT ORDER

Florida-Spectrum Environmental Services, Inc

19A0294

P19A0294C

SENDING LABORATORY:	RECEIVING LABORATORY:
Florida-Spectrum Environmental Services, Inc	Pembroke Laboratories
1460 W. McNab Road	528 Gooch Road
Fort Lauderdale, FL 33309	Ft. Meade, FL 33841-9634
Phone: 954.978.6400	Phone :(863) 285-8345
Fax: 954.978.2237	Fax: (863) 285-7930
Project Manager: Enrique Ochoa	

Analysis	Expires	Laboratory ID	Comments
Sample ID: 19A0294-08 Water Sampled:01/10/2019 13:40		01	
Chlorophyll-A	01/12/2019 14:00		
Containers Supplied			

Thermometer
Infrared

Released By: B [illegible] 1/21/19	Date	Received By:	Date
Released By	Date	Received By: Pembroke	Date: 1/22/19 0900

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: City of Hollywood ES/ AM Environmental	SITE LOCATION: Westlake Village 1200 Lemonwood St, Hollywood, FL 33019	
WELL NO: 1	SAMPLE ID: MW1	DATE: 01-10-19

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 5.27	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (13.87 feet – 5.27 feet) X 0.16 gallons/foot = 1.37 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 6	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6	PURGING INITIATED AT: 13:29	PURGING ENDED AT: 13:35	TOTAL VOLUME PURGED (gallons): 3.50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:29	1.5	1.5	0.25	5.27	6.75	25.7	2227	0.35	12	clear	none
13:32	1.0	2.5	0.25	5.27	6.75	25.7	2227	0.35	12	clear	none
13:35	1.0	3.5	0.25	5.27	6.75	25.7	2226	0.35	12	clear	none

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: FSES Michael Grant	SAMPLER(S) SIGNATURE(S): M Grant	SAMPLING INITIATED AT: 13:35	SAMPLING ENDED AT: 13:36
PUMP OR TUBING DEPTH IN WELL (feet): 6.0	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW1	1	PE	250	UNP	250	6.75	TDS	APP	500
MW1	1	PE	125	H2SO4	125	1.5	Ammonia	APP	500
MW1	1	PE	250	HNO3	250	1.5	Arsenic, Iron, Sodium	APP	500

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: City of Hollywood ES ATI Enviro	SITE LOCATION: 1200 Lemonwood Hollywood
WELL NO: MW 2R	SAMPLE ID: MW 2R	DATE: 1-10-19

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: N/A feet to feet	STATIC DEPTH TO WATER (feet): 7.65	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (15.50 feet – 7.65 feet) X 0.16 gallons/foot = 1.28 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 8.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 8.0	PURGING INITIATED AT: 13:30	PURGING ENDED AT: 2.50	TOTAL VOLUME PURGED (gallons): 2.50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:36	1.50	1.50	0.25	7.69	6.61	25.4	2044	0.44	11	clear	None
13:38	0.50	2.00	0.25	7.71	6.63	25.3	2047	0.42	10	clear	None
13:40	0.50	2.50	0.25	7.73	6.62	25.4	2047	0.39	8	clear	None

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: FSC Franklyn Edw	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 13:40	SAMPLING ENDED AT: 13:43
PUMP OR TUBING DEPTH IN WELL (feet): 8.0	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
2R	1	PE	250	N/A	-	-	TDS Cl	APP	500
2R	1	PE	120	H_2SO_4	-	1.5	Amonia	APP	500
2R	1	PE	120	HNO_3	-	1.5	Metals	APP	500

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	City of Hollywood ES / ATEnviro	SITE LOCATION:	1200 Lemonwood Hollywood
WELL NO:	MW3AA	SAMPLE ID:	MW 3AA
DATE:	1-10-19		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	3/8	N/A feet to feet	3.35	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (15.00 feet – 3.35 feet) X 0.16 gallons/foot = 1.86 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
4.0	4.0	13:50	14:02	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:58	2.00	2.00	0.25	3.56	6.59	24.1	1693	0.56	3	clear	none
14:00	0.50	2.50	0.25	3.68	6.61	24.3	1695	0.51	3	clear	none
14:02	0.50	3.00	0.25	3.73	6.62	24.2	1696	0.49	2	clear	none

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
FJCS Franklyn Galvez		14:02	14:05

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
4.0	PE		

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
3RA	1	PE	250	N/A	-	-	TDS Cl	APP	500
3RA	1	PE	120	H2SO4	-	1.5	Ammonia	APP	500
3RA	1	PE	250	HNO3	-	1.5	Metals	APP	500

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	City of Hollywood	SITE LOCATION:	1200 Lemonwood Hollywood
WELL NO:	MW4	SAMPLE ID: MW4	DATE: 1-10-19

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	3/8		2.87	

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (9.90 feet – 2.87 feet) X 0.16 gallons/foot = 1.12 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
4.0	4.0	14:40	14:50	2.50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
14:46	1.50	1.50	0.25	2.90	7.16	24.6	362	0.51	14	clear	None
14:48	0.50	2.00	0.25	2.94	7.16	24.5	360	0.49	10	clear	None
14:50	0.50	2.50	0.25	2.96	7.19	24.5	360	0.46	9	clear	None

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: FSG Franklyn Galvis	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT: 14:50	SAMPLING ENDED AT: 14:53
PUMP OR TUBING DEPTH IN WELL (feet): 4.0	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
4	1	PE	250	N/a	-	-	TDS Cl	APP	500
4	1	PE	120	H_2SO_4	-	1.5	Ammonic	APP	500
4	1	PE	250	HNO_3	-	1.5	Metals	APP	500

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	City of Hollywood E.J / AMEnviro	SITE LOCATION:	1200 Lemon Wood Hollywood
WELL NO:	MW 5	SAMPLE ID:	MW 5
DATE:	1-10-19		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	3/8	N/A feet to feet	3.85	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

= (19.50 feet – 3.85 feet) X 0.16 gallons/foot = 2.50 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
5.0	5.0	14:15	14:31	4.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
14:25	2.50	2.50	0.25	3.86	680	24.3	786	0.27	8	clear	none
14:28	0.75	3.25	0.25	3.87	6.82	24.1	787	0.25	7	clear	none
14:31	0.75	4.00	0.25	3.89	6.82	24.1	787	0.23	6	clear	none

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
FSCS Franklyn Salw		14:31	14:34

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
5.0	PE		

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW5	1	PE	250	N/A	-	-	TDS Cl	APP	500
MW5	1	PE	120	H_2SO_4	-	1.5	Ammonia	APP	500
MW5	1	PE	250	HNO_3	-	1.5	HNO_3	APP	500

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: City of Hollywood ES/ AM Environmental	SITE LOCATION: Westlake Village 1200 Lemonwood St, Hollywood, FL 33019	
WELL NO: 6	SAMPLE ID: MW-6	DATE: 01-10-19

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 5.63	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (20.86 feet – 5.63 feet) X 0.16 gallons/foot = 2.43 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 6	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6	PURGING INITIATED AT: 13:49	PURGING ENDED AT: 13:55	TOTAL VOLUME PURGED (gallons): 4.50

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
13:49	2.5	2.5	0.25	5.63	6.91	26.1	6753	0.30	11	clear	none
13:52	1.0	3.5	0.25	5.63	6.91	26.1	6753	0.30	11	clear	none
13:55	1.0	4.5	0.25	5.63	6.91	~~26.2~~ 26.1	6753	0.30	~~12~~ 11	clear	none

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: FSES Michael Grant	SAMPLER(S) SIGNATURE(S): M. Grant	SAMPLING INITIATED AT: 13:55	SAMPLING ENDED AT: 13:56
PUMP OR TUBING DEPTH IN WELL (feet): 6	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW6	1	PE	250	UNP	250	6.91	TDS	APP	500
MW6	1	PE	125	H2SO4	125	1.5	Ammonia	APP	500
MW6	1	PE	250	HNO3	250	1.5	Arsenic, Iron, Sodium	APP	500

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: City of Hollywood ES/ AM Environmental	SITE LOCATION: Westlake Village 1200 Lemonwood St, Hollywood, FL 33019	
WELL NO: 7	SAMPLE ID: MW7	DATE: 01-10-19

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet): 5.83	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (19.57 feet – 5.83 feet) X 0.16 gallons/foot = 2.19 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 6.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6.0	PURGING INITIATED AT:	PURGING ENDED AT: 14:45	TOTAL VOLUME PURGED (gallons): 4.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
14:39	2.5	2.5	0.25	5.83	6.87	25.4	7349	0.40	12	clear	none
14:42	1.0	3.5	0.25	5.83	6.87	25.3	7349	0.40	12	clear	none
14:45	1.0	4.5	0.25	5.83	6.87	25.3	7349	0.40	12	clear	none

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: FSES Michael Grant	SAMPLER(S) SIGNATURE(S): M. Grant	SAMPLING INITIATED AT: 14:45	SAMPLING ENDED AT: 14:46
PUMP OR TUBING DEPTH IN WELL (feet): 6.0	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N) (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW7	1	PE	250	UNP	250	6.87	TDS	APP	500
MW7	1	PE	125	H2SO4	125	1.5	Ammonia	APP	500
MW7	1	PE	250	HNO3	250	1.5	Arsenic, Iron, Sodium	APP	500

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Remit To:Accounts Receivable
Florida-Spectrum Environmental Services, Inc
1460 W. McNab Road
Fort Lauderdale, FL 33309
Tel: 954.978.6400
Fax: 954.978.2233

INVOICE

9030110
03/06/2019

PO Number: ORD5000092

Invoice To:
COHUTIL
Denise Yoezle
City of Hollywood Env Svcs Div
1600 South Park Road
Hollywood, FL 33021

Work Order: 19A0294
Report To: Beverly Walker
City of Hollywood Env Svcs Div
Received: 01/10/2019
Project Manager: Enrique Ochoa
Bid: Hollywood Yard Trash Landfill-2

Project Location:
Hollywood Yard Trash (Miller Tract)
~~WASC#53349~~

Project Number:
Westlake Village, 1200 Lemonwood St.

Quantity	Analysis/Description	Matrix	Unit Price	Extended Price
Florida-Spectrum Environmental Services, Inc				
1	Hardness, Total	Water	$14.00	$14.00
1	Ammonia, Unionized	Water	$19.00	$19.00
8	Arsenic Total EPA 200.7	Water	$14.00	$112.00
1	BOD SM5210B	Water	$31.00	$31.00
8	Chloride EPA 300	Water	$14.00	$112.00
1	Chlorophyll A Filtration Procedure	Water	$0.00	$0.00
1	COD 410.4	Water	$17.00	$17.00
8	Color (Field)	Water	$0.00	$0.00
7	Ammonia by 350.1	Water	$19.00	$133.00
8	Field Test profile	Water	$20.00	$160.00
8	Iron Total EPA 200.7	Water	$14.00	$112.00
1	Nitrogen, Total	Water	$34.00	$34.00
1	Phosphorus (Total) 365.4	Water	$25.50	$25.50
8	Sodium Total EPA 200.7	Water	$14.00	$112.00
8	TDS SM 2540C	Water	$17.50	$140.00
1	TOC SM 5310C	Water	$22.00	$22.00
1	TSS SM 2540D	Water	$17.50	$17.50
1	Fecal Coliform SM9222D (Environmental)	Water	$25.00	$25.00
Pembroke Laboratories				
1	Chlorophyll-A	Water	$46.50	$46.50

Customer agrees to provide written notification of any objections to this invoice within ten (10) days of invoice date. Customer agrees that payment will constitute full acceptance of the invoice as rendered and waiver any future claims pursuant to the provisions of Section 2-207 of the Uniforms Commercial Code. In the event this account must be placed for collection the client will be responsible for any and all collections fees, attorney fees, interest and court costs associated with recovery of the amount due.

We accept all major credit cards.

A 1.5% finance charge will be assessed on all invoices on which receipt of payment does not occur within 30 days.

Florida-Spectrum Environmental Services, Inc
1460 W. McNab Road
Fort Lauderdale, FL 33309
Tel: 954.978.6400
Fax: 954.978.2233

INVOICE

9030110
03/06/2019

PO Number: ORD5000092

Additional Items

1	Monitoring Report by AM Environmental	$3,050.00	$3,050.00
8	Sampling Labor Rate (per hr)	$75.00	$600.00
1	Special EDD Deliverable Report File01	$113.25	$113.25

Payment Due 04/05/2019 **Total Amount Due: $4,895.75**

Customer agrees to provide written notification of any objections to this invoice within ten (10) days of invoice date. Customer agrees that payment will constitute full acceptance of the invoice as rendered and waiver any future claims pursuant to the provisions of Section 2-207 of the Uniforms Commercial Code. In the event this account must be placed for collection the client will be responsible for any and all collections fees, attorney fees, interest and court costs associated with recovery of the amount due.

We accept all major credit cards.

A 1.5% finance charge will be assessed on all invoices on which receipt of payment does not occur within 30 days.

LIST OF PERSONNEL AND COMPUTER SYSTEMS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

LIST OF PERSONNEL AND COMPUTER SYSTEMS

Florida-Spectrum Environmental Services, Inc. list of personnel and computer systems to provide electronic data reporting utilizing the ADaPT Format. **Florida-Spectrum Environmental Services, Inc.** will also provide confirmation that it can provide the hard copy format requirements in EXHIBIT "A" and Florida ADaPT Solid Waste Data Deliverables Specifications provided in EXHIBIT "B".

FSES is staffed by 45 employees in Florida and 5 employees in Garden City, GA. Automated analytical systems run 24 hours a day, seven days a week. Facilities are supported by continued investment in automated data and information management systems. **Florida-Spectrum** attributes its success to the professionalism and technical expertise of its people. Regulatory compliance and legal defensibility of data deliverables is ensured by recruiting and retaining highly qualified professionals in the fields of analytical chemistry, environmental science, biology, microbiology, and computer sciences. Our staff is well trained in the environmental regulations and methodologies to provide the support necessary to complete a project with success. In fact, they have gained much of their technical expertise through real world environmental analytical laboratory experience during their careers in the industry. The employees of **Florida-Spectrum** hold themselves accountable to the highest standard of ethics, trust, and quality. The majority of our technical staff have a bachelor's degree or higher in Chemistry, Biology, Environmental Science or another related field. **Solid Waste Authority of Palm Beach County** will have the combined expertise of our Ft. Lauderdale staff. Key members of our staff at these facilities are as follows:

KEY PERSONNEL

Lyle Johnson, President/Laboratory Director
Mr. Johnson has been the lab supervisor of Spectrum Laboratories, Inc. since 1974. He is responsible for overall operation of analytical activities in the Ft. Lauderdale, FL, Fort Meade, FL, Okeechobee, FL and Garden City, GA facilities. He is also President of Florida-Spectrum Environmental Services, Inc., which is the main analytical laboratory. Mr. Johnson responsibilities include technical oversight and administration of all laboratory and field operations and client services. Mr. Johnson, having worked in the environmental laboratory field for over 44 years, has extensive experience in analysis of multiple matrices for organic analytes. He has been instrumental in increasing the efficiency of his departments while retaining the highest level of quality. He holds a Bachelor of Science - Chemistry, from Florida Atlantic University.

Roxana Llambias, QA Director
Ms. Llambias is responsible for the Quality Assurance program at Florida-Spectrum Environmental Services, Inc. She is experienced in the development, implementation and maintenance of quality assurance programs in environmental sampling and analysis operations for both government and private concerns. Ms. Llambias closely monitors all departments to ensure compliance with quality control protocols and laboratory methodologies. She conducts periodic internal audits and investigations, documents protocol deviations and initiates corrective action. Ms. Llambias is also responsible for all data management activities including system updates, archiving and modification. She is very knowledgeable in the analysis of multiple matrices for microbiology, inorganics, metals, organics, and solid parameters. She holds a Bachelor of Science in Biochemistry from the University of Havana.

Maria Castellanos, Client Services Manager/Lab Manager
Ms. Castellanos acts as a liaison between the client and the laboratory personnel in the Ft. Lauderdale facility. She has worked in the environmental laboratory field over 32 years. At Florida-Spectrum Environmental Services, Inc. Ms. Castellanos serves as Lab Manager and Director of Project Management where she is directly responsible for managing the Technical Data Management department. Her current role with Florida-Spectrum Environmental Services, Inc. includes coordinating field service activities; ensuring that the analytical staff has the regulatory and background information necessary to complete projects in an accurate and timely manner; responsibility for communicating technical information to the client and provide other customer support services. She holds a Bachelor of Biology and Chemistry from Florida International University (FIU).

Bobby Supan, Client Services Manager
At Florida-Spectrum Environmental Services, Inc. Mr. Supan serves as a Customer Service Manager where he acts as a liaison between pepthe client and the laboratory personnel in the Ft. Lauderdale facility. He is directly responsible for managing projects, scheduling and prioritization of projects, technical review of data, generation of analytical reports, coordinating field service activities and providing technical support to clients. His role in reviewing and validating laboratory data including Analysis, QAQC, Sample Custody and Field Service data. Generating, reviewing and validating environmental reports. Creating projects. Customer Service including analysis suggestions, report, regulation, scheduling, bottle kit, preservative, holding time, TAT, sampling, quality control and customer complaints in general. Preparing drinking water reports (62-550 & 62-555 F.A.C) and UCMR reports. Performing quantitative analysis of scientific data.

Irena Nutzu, Technical Director Metals Department
Ms. Nutzu is responsible for the management of the Metals Department. With over 26 years of laboratory experience, Ms. Nutzu is very knowledgeable in the analysis of multiple matrices for metals analytes. Her responsibilities include overseeing the operations of the metals department to include scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Chemistry, from the University of Bucharest, Romania.

Sophia Andre, Technical Director General Chemistry/ Department
Ms. Andre is responsible for the management of the General Chemistry Department. Ms. Andre is very knowledgeable in the analysis of multiple matrices for inorganic parameters to include metals and general chemistry analytes. Her responsibilities include overseeing the operations of the general chemistry department to include scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Chemistry, from the Florida Atlantic University.

Albert Castellanos, Technical Director Organics Department
Mr. Castellanos is responsible for the management of the Organics Department and its three subdivisions: volatiles, extractions and semi-volatiles. Mr. Castellanos, having worked in the environmental laboratory field for 23 years and has extensive experience in analysis of multiple matrices for organic analytes. He has been instrumental in increasing the efficiency of his departments while retaining the highest level of quality. His responsibilities include successful accomplishment of all project deadlines; review and validation of outgoing data; development of new methods and analytical procedures. He holds a Bachelor of Geology from the University of Miami.

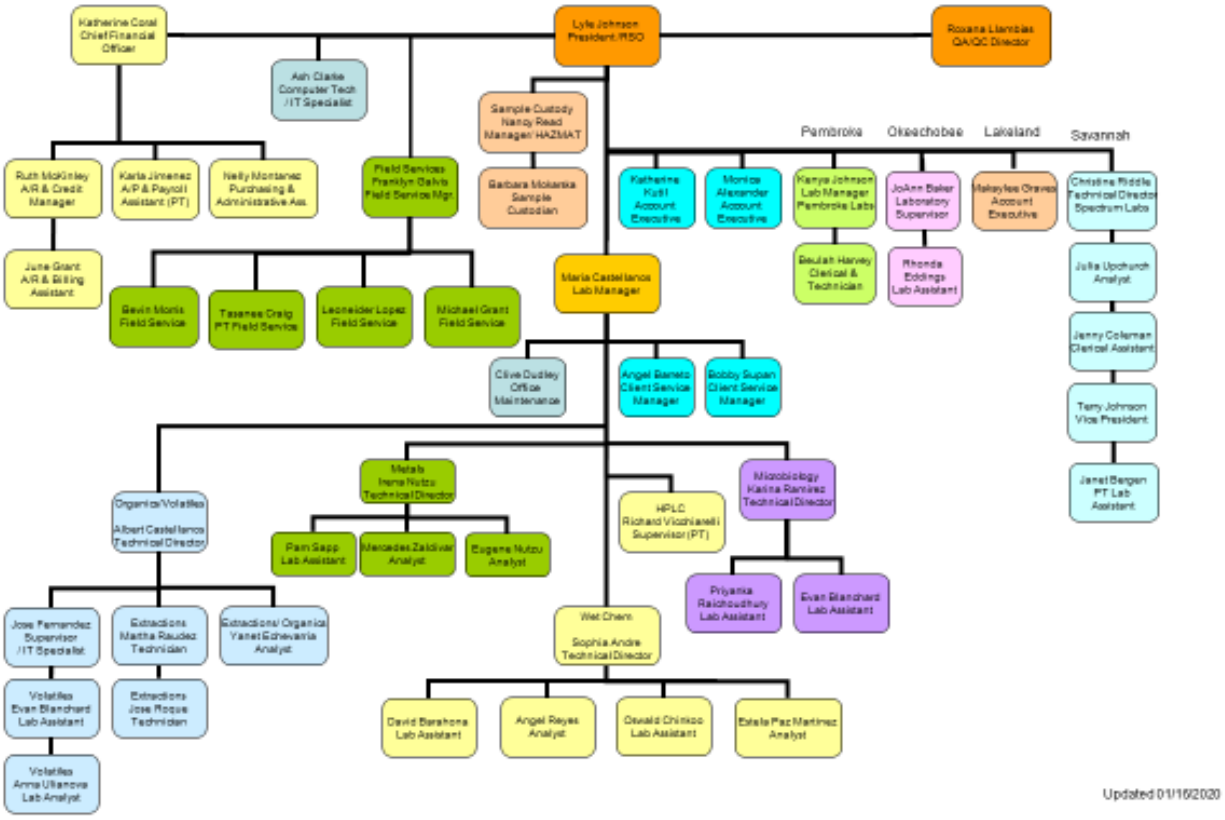
Karina Ramirez, Technical Director Microbiology Department
Ms. Ramirez is responsible for the management of the Microbiology Department. Ms. Ramirez is very knowledgeable in the microbiological samples stemming from environmental matrices including water and soil. Her responsibilities include overseeing the operations of the microbiology department to include scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Biology, from the Florida Atlantic University.

Florida-Spectrum's Staffing & Organizational Diagram

Staff Member	Educational Background	Position/Responsibilities
Lyle A. Johnson	B.S. Chemistry	President RSO
Mike Spitzer Katherine Coral	B.S. Chemistry B.S., Finance	Laboratory Director CFO
Roxana Llambias	B.S. BioChemistry	QA Director
Maria Castellanos Angel Barretto Bobby Supan	B.S. Biology/Chemistry Minor B.S. Chemistry H.S./Vocational	Laboratory Manager/ CSM Manager CSM CSM
Albert Castellanos Anna Ulianova Summer Sayne Martha Raudez Jose Roque Yanet Eshevarria	B.S. Geology/Chemistry Minor B.S. Chemistry B.S. Chemistry B.S. Chemistry B.S. Chemistry B.S. Chemistry	Technical Director Organics/Volatiles Volatiles Analyst Lab Assistant Extractions Tech Extractions Tech Extractions Analyst
Irena Nutzu Eugene Nutzu Mercedes Zaldivar	B.S. Chemistry A.A. Medical Field B.S. Chemistry	Technical Director Metals Metals Analyst Metals Analyst
Sophia Andre David Barahona Angel Reyes Estela Paz Martinez Oswald Chinkoo	B.A. Chemistry/M.S. Chemistry B.S. Chemistry B.S. Chemistry B.S. Chemistry B.S. Chemistry	Technical Director WetChem/HPLC Lab Assistant Inorganic Analyst Inorganic Analyst Lab Assistant
Richard Vicchiarelli	B.S. Chemistry	HPLC Supervisor
Karina Ramirez Karim Dawkins Priyanka Raichoudhury	B.S. Microbiology B.S. Microbiology B.S. Microbiology	Technical Director Microbiology Analyst Analyst
Franklin Galvis Bevin Morris Michael Grant	H.S./DEP Certified Agriculture Voc./DEP Cert. H.S/DEP Certified	Field Services Manager Field Technician Field Technician
Nancy Read Barbara Mokarska	Computer Programming H.S. / 22 college credits B.S. Chemistry	Sample Custody Manager Sample Custody
Ash Clarke Jose Fernandez	B.S./IT Specialist B.S./IT Specialist	IT Supervisor IT Specialist
Katharine Kutil Monica Alexander	B.S. Marine Safety & Environmental Protection B.S. Chemistry	Director of Sales & Marketing Account Executive
Nellie Montanez	H.S./24 College Credits	Purchasing/Admin.

Ruth McKinley Karla Jimenez June Grant	H.S. BSEE B.A. Finance B.A. Finance	A/R & Credit Manager A/P & Payroll Asst. A/R & Billing Assistant
Clive Dudley		Office Maintenance
Kenya Johnson Beulah Harvey		Pembroke Labs ~ Ft. Meade Lab Manager Clerical/Tech./Ft. Meade
JoAnn Baker Rhonda Eddings		Big Lake Labs ~ Okeechobee Lab Supervisor Analyst/Okeechobee
Makaylee Graves Harris Ray		Lakeland Labs ~ Lakeland Sales/Service Rep. Sales/Service Rep.
Christine Riddle Julia Upchurch Jenny Coleman Terry Johnson Janet Bergen	B.S. Biology B.S. Science	Spectrum Labs ~ Garden City Lab Manager Analyst/Garden City Clerical Assistant Vice President Lab Assistant

FSES -Organizational Chart



LABORATORY MANAGEMENT SYSTEMS (LIMS)

Our ability to manage long term, large quantity contracts is greatly enhanced by the automation and tools of our LIMS Systems. This system is used to generate quotes, client specific lists and requirements, log in samples, generate analytical and QC batches, monitor status and capacity, generate reports – analytical and quality assurance, and generate custom developed electronic deliverables. As a tool for the customer service manager, it can instantly relay information concerning the progress of a sample through the laboratory and ensure proper methodologies and required detection limits, through the use of client specific lists. As a tool for the analyst, the LIMS will monitor hold times, generate analytical and quality assurance batches, perform calculations and final validation of data. For the client, it will generate custom reports and electronic deliverables directly from the system. Our LIMS system will give us a distinct advantage in the management of the **Solid Waste Authority of Palm Beach County's** contract.

Florida-Spectrum Environmental Services, Inc. has outfitted the laboratory with state-of–the-art instrumentation, equipment, and data processing software and computer systems. The laboratory is equipped with a sophisticated Windows network, TRENDnet Gigabit switches, Cisco firewall, Multi-core-based workstations, and centralized data reduction is performed on a Windows server operating system with an SQL Server database Laboratory Information Management System (LIMS).

CERTIFICATE OF INSURANCE

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

FLORSPE-01 MYOUNG

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 2/14/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Corporate Insurance Advisors, LLC 1401 E. Broward Blvd. Suite 103 Fort Lauderdale, FL 33301	CONTACT NAME: by 2 PHONE (A/C, No, Ext): (954) 315-5000 FAX (A/C, No): (954) 315-5050 E-MAIL ADDRESS: service@ciafl.net
INSURED Florida Spectrum Environmental Services, Inc. 1460 W. McNab Road Ft Lauderdale, FL 33309	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Colony Insurance Co. — 39993 INSURER B : FCCI Insurance Company — 10178 INSURER C : FCCI Insurance Group — 10178 INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X Pollution GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC X OTHER: 1,000,000			PACEP4245077	2/24/2020	2/24/2021	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG PROFESSIONAL LI	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $ 1,000,000
	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY SCHEDULED AUTOS HIRED AUTOS ONLY NON-OWNED AUTOS ONLY						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		001-WC19A-72881	11/1/2019	11/1/2020	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 500,000 $ 500,000 $ 500,000
C	Worker's Comp			001-WC19A-72882	11/1/2019	11/1/2020	GA location	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Workers Compensation GA location Policy # 001WC18A72882 11/01/19-11/01/20
Limits $100,000/$500,000/$100,000

CERTIFICATE HOLDER

Florida Spectrum Environmental Services, Inc.
1460 W. McNab Road
Ft. lauderdale, FL 33309

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Mark Schwartz

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 01/10/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Grace Swaby-Smith Insurance Agency 3007 W Commercial Blvd, Suite 205 Ft. Lauderdale, FL 33309-8510	CONTACT NAME: Grace Swaby-Smith PHONE (A/C, No, Ext): 954-739-9339 FAX (A/C, No): 954-735-9986 E-MAIL ADDRESS:
INSURED Florida Spectrum Environmental Services, Inc 1460 W. McNab Road Fort Lauderdale, FL 33309-1122	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : State Farm Mutual Automobile Insurance Company 2517 — 25178 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY COMMERCIAL GENERAL LIABILITY CLAIMS-MADE OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC						EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ $ $ $ $ $
A	AUTOMOBILE LIABILITY ANY AUTO X ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	Y	Y	C55 5313-A03-59N 429 8711-A01-59U D31 8310-A26-59G D15 0783-A03-59J	01/03/2020 01/01/2020 01/26/2020 01/03/2020	07/03/2020 07/01/2020 07/26/2020 07/03/2020	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $
A		Y	Y	894 7039-A01-59L	01/01/2020	07/01/2020		

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER

Florida Spectrum Environmental Services
1460 West McNab Road
Ft. Lauderdale, FL 33309

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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CERTIFICATE OF LIABILITY INSURANCE

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IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Grace Swaby-Smith Insurance Agency 3007 W Commercial Blvd, Suite 205 Ft. Lauderdale, FL 33309-8510	CONTACT NAME: Grace Swaby-Smith PHONE (A/C, No, Ext): 954-739-9339 FAX (A/C, No): 954-735-9986 E-MAIL ADDRESS:
INSURED Florida Spectrum Environmental Services, Inc 1460 W. McNab Road Fort Lauderdale, FL 33309-1122	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : State Farm Mutual Automobile Insurance Company 2517 — 25178 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	$
	COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	CLAIMS-MADE OCCUR						MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$
								$
A	AUTOMOBILE LIABILITY	Y	Y	960 6801-A01-59O	01/01/2020	07/01/2020	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	ANY AUTO						BODILY INJURY (Per person)	$
	X ALL OWNED AUTOS / SCHEDULED AUTOS			982 0134-A03-59L	01/03/2020	07/03/2020	BODILY INJURY (Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS			989 7798-A01-59K	01/01/2020	07/01/2020	PROPERTY DAMAGE (Per accident)	$
				E10 0549-A01-59J	01/01/2020	07/01/2020		$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						WC STATU-TORY LIMITS OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICE/MEMBER EXCLUDED? Y / N (Mandatory in NH)	N / A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER

Florida Spectrum Environmental Services
1460 West McNab Road
Ft. Lauderdale, FL 33309

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Grace Swaby-Smith

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3.2.5

EXPERIENCE AND QUALIFICATIONS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

Florida-Spectrum Environmental Services, Inc.

HISTORY & QUALIFICATIONS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
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EMAIL: KKUTIL@FLENVIRO.COM

HISTORY AND QUALIFICATIONS

In 1973 Forrest Stannard and Don McCorquodale formed a company called Water Management Inc. This company supplied aeration equipment to Coral Ridge Properties Inc. for use in the canals in Coral Springs, Florida. It soon became apparent that a chemical monitoring program for the health of the canals was needed. Since neither Forrest nor Don were chemists, they began to look for a graduate chemist to hire to perform the necessary testing. In 1974 they hired Lyle Johnson, a chemist about to graduate from Florida Atlantic University. A small laboratory was set up in the Cove Shopping Center in Deerfield Beach, Florida and monitoring of the water quality in Coral Springs began. In 1975, they moved the lab to 4550 N. Dixie Highway in Fort Lauderdale. On December 12, 1975 they changed the name to Spectrum Laboratories Inc. On October 1, 1978, Don and Lyle bought out Forrest Stannard's interest in the company for $25,000.00. Over the years, the lab grew, more instrumentation and employees were added, and Spectrum became the first certified lab in South Florida. (E86006, the 006 suffix denotes the 6th lab to be certified in the state).

Spectrum Laboratories, Inc., the parent company of **Florida-Spectrum Environmental Services, Inc. (FSES),** was incorporated in the State of Florida on April 6, 1973. In forty-six (46) years of service, ***FSES*** has evolved into a full-service laboratory network characterized by high quality control and high client satisfaction. **Florida – Spectrum Environmental Services, Inc.** gross annual sales of the laboratory are 3.8 million and we operate four certified laboratories and a service center in Florida and Georgia. This geographical arrangement gives FSES the unique capability to collect short hold, urgent and emergency samples from anywhere in the area within a short transport distance of its facilities. Thus, FSES is uniquely capable of processing these types of samples in a timely manner. Facilities in Ft. Lauderdale, Ft. Meade, Okeechobee, Lakeland, FL and Garden City, GA house over 30,000 ft^2 of laboratories and offices designed for continued growth and expansion of analytical services.

Florida-Spectrum provides field sampling and laboratory testing services for numerous municipal facilities around the state. Field sampling and Analytical Services for the **Solid Waste Authority of Palm Beach County** will be serviced from the Ft. Lauderdale laboratory located approximately 45 miles from the Authority's pickup location at 7501 North Jog Road West Palm Beach, FL 33412. The pickup location would be simply added to the courier routes currently in place.

With a history spanning over four decades, **Florida-Spectrum Environmental Services, Inc.** has participated in an array of environmental testing projects that have touched virtually every facet of the Environmental Industry. A client service management team that has a combined experience of greater than 30 years in the environmental testing field. Extensive experience working with all entities in the environmental sector including FDEP, County and City Government, Water Control Districts, and numerous industries and private consulting firms. This experience benefits our clients' by assuring that data deliverables will be accurate, precise, and legally defensible regardless of sample matrix or the analytical requirement. Our Quality Assurance program follows the procedures dictated under National Environmental Laboratory Accreditation Program (NELAP) and is recognized nationally as meeting and exceeding guidelines for the generation of accurate, legally defensible data.

Florida – Spectrum Environmental Services, Inc. is a provider of quality analytical services to the Engineering, Consulting, Chemical, Petroleum and Waste Management industry segments. We provide analytical and sampling services to both the private and public sectors. A full spectrum of testing capabilities includes chemical and biological analyses of a variety of matrices, including aqueous, solid, sediment, sludge, drinking water, wastewater, air and saline/estuarine samples. We provide sample bottle kits, on-site sampling services and sample courier services. In the last five (5) years, Florida-Spectrum has provided similar services that is requested in the RFP to the following clients, such as the City of Hollywood, Wheelabrator Environmental Systems Inc. and the Waste Management, Inc.

SUBCONTRACTORS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
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SUBCONTRACT

Florida – Spectrum Environmental Services, Inc. maintains strict procedures in the subcontract process. All samples that require subcontract are assigned our log number prior to subcontract. A Subcontract Log Book, maintained in the Sample Receiving Department, denotes log numbers and the parameters subcontracted to the lab. A subcontract Chain of Custody is sent with the samples and returned to Florida – Spectrum Environmental Services, Inc. Client Service Manager with the final report. Said documentation is maintained with the project paperwork. In addition to final reports, Florida – Spectrum Environmental Services, Inc. requires a quality assurance report from all subcontract laboratories.

SUBCONTRACT LABORATORIES

ALS Laboratory Group Environmental **10450 Stancliff Road, Suite 115** **Houston, TX 77099** **FL DOH Lab ID E87611** **Dioxin (1613)** **ALS Laboratory Group Environmental** **9143 Philips Highway, Suite 200** **Jacksonville, FL 32256** **FL DOH Lab ID E82502** **TOC Soil (SM 9060)** **Eurofins TestAmerica Denver** **4955 Yarrow Street** **Arvada, CO 80002** **FL DOH Lab ID: E87667** **App II - Diphenylamine & 1,4-Phenylenediamine via EPA 8270** **Eurofins TestAmerica Savannah** **5102 LaRoche Avenue** **Savannah, GA 31404** **FL DOH Lab ID: E87052** **Total Organic Halogens via EPA 9020B, Sulfate (9056)**	**Flowers Chemical Laboratories, Inc.** **481 Newburyport Avenue** **Altamonte Springs, Florida 32701** **FL DOH Lab ID E83018** **Nitrate (353.2), Nitrite (353.2), Calcium Hardness (SM 2340B), Corrosivity (Langlier Index) (SM 2330B), Total Hardness (SM2340B), Total Coliform (SM 9223 B QuantiTray), Fluoride (SM4500)** **Florida Radiochemistry Services, Inc.** **5456 Hoffner Road; Suite 201** **Orlando, FL 32812** **FL DOH Lab ID E83033** **Radium 226 & 228** **Pace Analytical (Pompano)** **3610 Park Central Blvd North** **Pompano Beach, FL 33064** **FL DOH Lab ID: E86240** **Fecal Coliform (SM 9221E)** **The Water Spigot** **5806 East Highway 22** **Panama City, FL 32404** **FL DOH Lab ID: E81105** **Metals (200.9)**

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E87611

ALS LABORATORY GROUP, ENVIRONMENTAL
10450 STANCLIFF RD. SUITE 115
HOUSTON, TX 77099

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - DIOXIN, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS, BIOLOGICAL TISSUE - EXTRACTABLE ORGANICS, AIR AND EMISSIONS - EXTRACTABLE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87611-28-07/01/2019
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E87611-28, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87611 EPA Lab Code: TX02693 (281) 530-5656

E87611
ALS Laboratory Group, Environmental
10450 Stancliff Rd. Suite 115
Houston, TX 77099

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 1613	Dioxin	NELAP	6/25/2019

Laboratory Scope of Accreditation

Attachment to Certificate #: E87611-28, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87611 EPA Lab Code: TX02693 (281) 530-5656

E87611
ALS Laboratory Group, Environmental
10450 Stancliff Rd. Suite 115
Houston, TX 77099

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,6,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,6,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8,9-Hxcdd	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8,9-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8,9-Hxcdf	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8,9-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8-Pecdd	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8-Pecdd	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
2,3,4,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	7/1/2006
2,3,4,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
2,3,4,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	7/1/2006
2,3,4,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
2,3,7,8-TCDD	EPA 1613	Extractable Organics	NELAP	7/1/2006
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 8290	Extractable Organics	NELAP	7/1/2006

Laboratory Scope of Accreditation

Attachment to Certificate #: E87611-28, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87611 EPA Lab Code: TX02693 (281) 530-5656

E87611
ALS Laboratory Group, Environmental
10450 Stancliff Rd. Suite 115
Houston, TX 77099

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,7,8-TCDF	EPA 1613	Extractable Organics	NELAP	7/1/2006
2,3,7,8-TCDF	EPA 8290	Extractable Organics	NELAP	7/1/2006
Diesel range organics (DRO)	MADEP-EPH (MA-EPH)	Extractable Organics	NELAP	8/10/2018
EPH Aliphatic C9-C18	MADEP-EPH (MA-EPH)	Extractable Organics	NELAP	8/10/2018
EPH Aromatic C11-C22	MADEP-EPH (MA-EPH)	Extractable Organics	NELAP	8/10/2018
Gasoline range organics (GRO)	MADEP-VPH (MA-VPH)	Volatile Organics	NELAP	8/10/2018
Total Heptachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	7/1/2006
Total Heptachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Heptachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	7/1/2006
Total Heptachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Hexachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	7/1/2006
Total Hexachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Hexachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	7/1/2006
Total Hexachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Pentachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	7/1/2006
Total Pentachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Pentachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	7/1/2006
Total Pentachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Tetrachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	7/1/2006
Total Tetrachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Tetrachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	7/1/2006
Total Tetrachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/1/2006
VPH Aromatic C9-C10	MADEP-VPH (MA-VPH)	Volatile Organics	NELAP	8/10/2018

Laboratory Scope of Accreditation

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State Laboratory ID: E87611 EPA Lab Code: TX02693 (281) 530-5656

E87611
ALS Laboratory Group, Environmental
10450 Stancliff Rd. Suite 115
Houston, TX 77099

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,4,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,6,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8,9-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8,9-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8-Pecdd	EPA 8290	Extractable Organics	NELAP	7/1/2006
1,2,3,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
2,3,4,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
2,3,4,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	7/1/2006
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 8290	Extractable Organics	NELAP	7/1/2006
2,3,7,8-TCDF	EPA 8290	Extractable Organics	NELAP	7/1/2006
Diesel range organics (DRO)	MADEP-EPH (MA-EPH)	Extractable Organics	NELAP	8/10/2018
EPH Aliphatic C9-C18	MADEP-EPH (MA-EPH)	Extractable Organics	NELAP	8/10/2018
EPH Aromatic C11-C22	MADEP-EPH (MA-EPH)	Extractable Organics	NELAP	8/10/2018
Gasoline range organics (GRO)	MADEP-VPH (MA-VPH)	Extractable Organics	NELAP	8/10/2018
Total Heptachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Heptachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Hexachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Hexachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Pentachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Pentachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Tetrachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/1/2006
Total Tetrachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/1/2006
VPH Aliphatic C5-C8	MADEP-VPH (MA-VPH)	Volatile Organics	NELAP	8/10/2018
VPH Aliphatic C9-C12	MADEP-VPH (MA-VPH)	Volatile Organics	NELAP	8/10/2018

Laboratory Scope of Accreditation

Attachment to Certificate #: E87611-28, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87611 EPA Lab Code: TX02693 (281) 530-5656

E87611
ALS Laboratory Group, Environmental
10450 Stancliff Rd. Suite 115
Houston, TX 77099

Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,4,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,4,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,4,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,4,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,6,7,8-Hxcdd	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,6,7,8-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,7,8,9-Hxcdd	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,7,8,9-Hxcdd	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,7,8,9-Hxcdf	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,7,8,9-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,7,8-Pecdd	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,7,8-Pecdd	EPA 8290	Extractable Organics	NELAP	7/1/2003
1,2,3,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	8/22/2013
1,2,3,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	7/1/2003
2,3,4,6,7,8-Hxcdf	EPA 1613	Extractable Organics	NELAP	8/22/2013
2,3,4,6,7,8-Hxcdf	EPA 8290	Extractable Organics	NELAP	7/1/2003
2,3,4,7,8-Pecdf	EPA 1613	Extractable Organics	NELAP	8/22/2013
2,3,4,7,8-Pecdf	EPA 8290	Extractable Organics	NELAP	7/1/2003
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 1613	Extractable Organics	NELAP	8/22/2013
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA 8290	Extractable Organics	NELAP	7/1/2003

Laboratory Scope of Accreditation

Attachment to Certificate #: E87611-28, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87611 EPA Lab Code: TX02693 (281) 530-5656

E87611
ALS Laboratory Group, Environmental
10450 Stancliff Rd. Suite 115
Houston, TX 77099

Matrix: Biological Tissue

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,3,7,8-TCDF	EPA 1613	Extractable Organics	NELAP	8/22/2013
2,3,7,8-TCDF	EPA 8290	Extractable Organics	NELAP	7/1/2003
Total Heptachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	8/22/2013
Total Heptachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/14/2004
Total Heptachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	8/22/2013
Total Heptachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/14/2004
Total Hexachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	8/22/2013
Total Hexachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/14/2004
Total Hexachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	8/22/2013
Total Hexachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/14/2004
Total Pentachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	8/22/2013
Total Pentachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/14/2004
Total Pentachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	8/22/2013
Total Pentachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/14/2004
Total Tetrachlorodibenzofuran	EPA 1613	Extractable Organics	NELAP	8/22/2013
Total Tetrachlorodibenzofuran	EPA 8290	Extractable Organics	NELAP	7/14/2004
Total Tetrachlorodibenzo-p-dioxin	EPA 1613	Extractable Organics	NELAP	8/22/2013
Total Tetrachlorodibenzo-p-dioxin	EPA 8290	Extractable Organics	NELAP	7/14/2004

Laboratory Scope of Accreditation

Attachment to Certificate #: E87611-28, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87611 EPA Lab Code: TX02693 (281) 530-5656

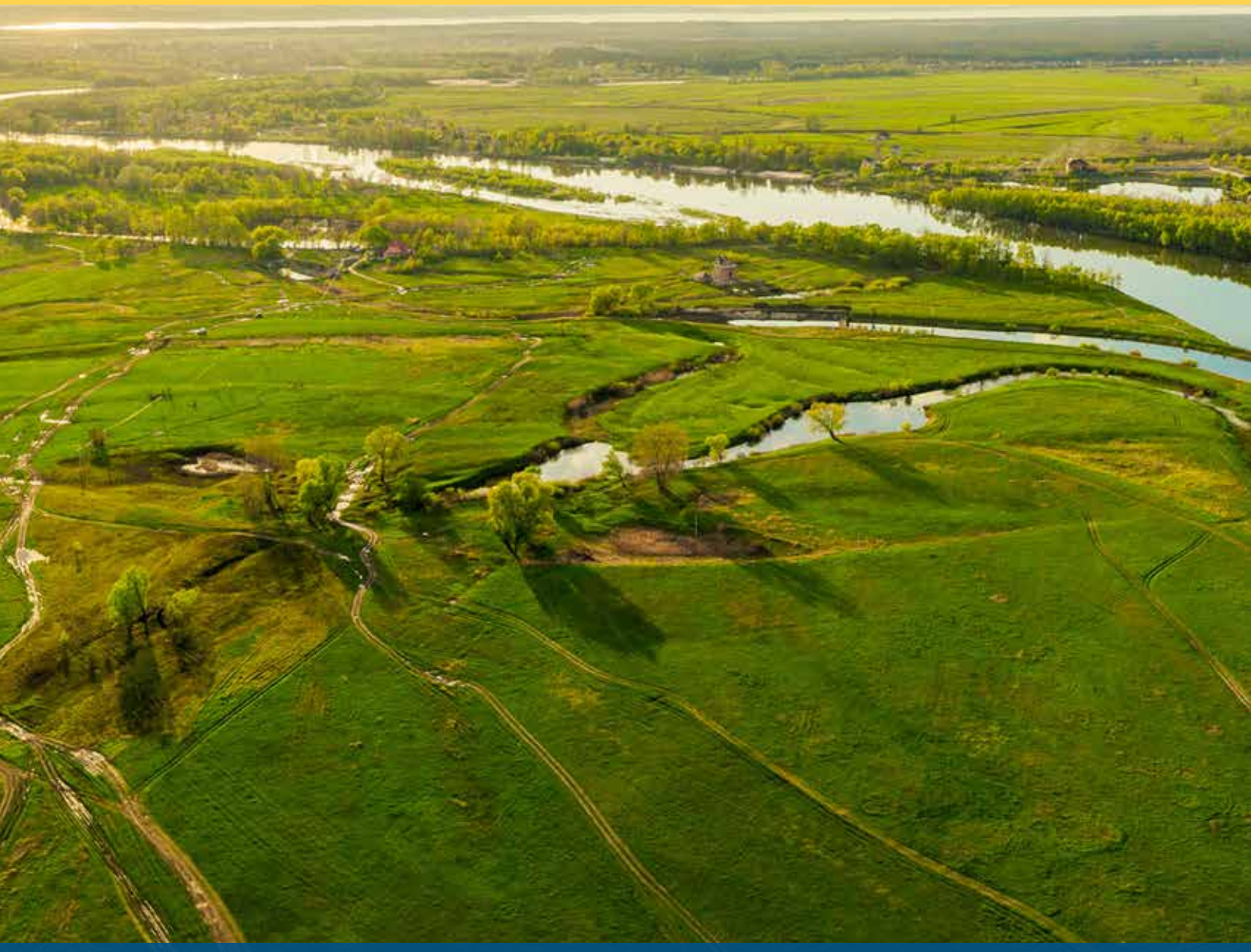
E87611
ALS Laboratory Group, Environmental
10450 Stancliff Rd. Suite 115
Houston, TX 77099

Matrix: Air and Emissions

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-hpcdf)	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-hpcdd)	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-hpcdf)	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,4,7,8-Hxcdd	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,4,7,8-Hxcdf	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,6,7,8-Hxcdd	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,6,7,8-Hxcdf	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,7,8,9-Hxcdd	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,7,8,9-Hxcdf	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,7,8-Pecdd	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
1,2,3,7,8-Pecdf	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
2,3,4,6,7,8-Hxcdf	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
2,3,4,7,8-Pecdf	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
2,3,7,8-TCDD (Dioxin, 2,3,7,8-Tetrachlorodibenzo-p-dioxin)	EPA TO-9A	Extractable Organics	NELAP	10/7/2008
2,3,7,8-TCDF	EPA TO-9A	Extractable Organics	NELAP	10/7/2008

STATEMENT OF QUALIFICATIONS

Environmental Testing • United States



Right Solutions • Right Partner

www.alsglobal.com

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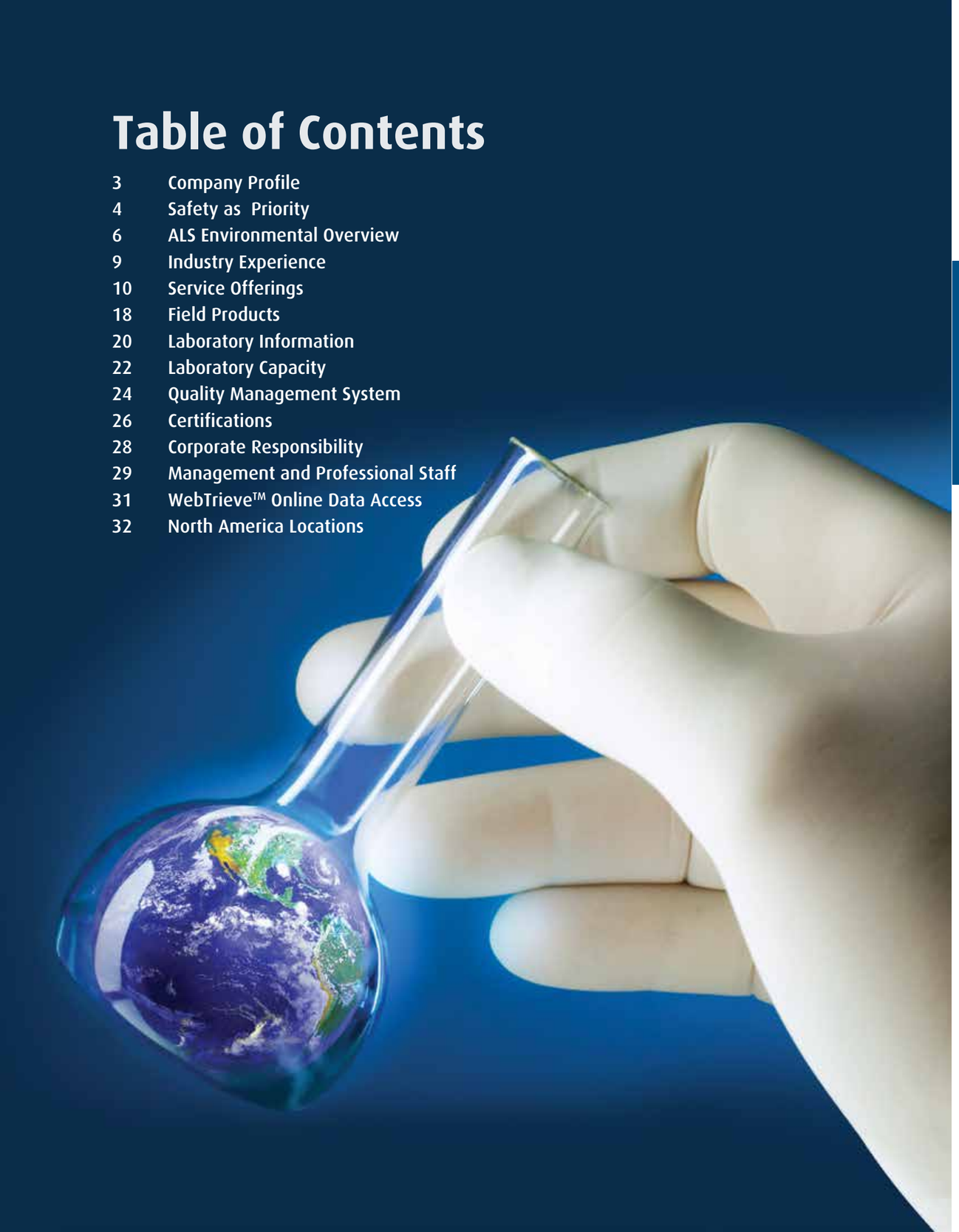


ALS IS THE GLOBAL BENCHMARK FOR QUALITY AND INTEGRITY

By the numbers

13,000
Experienced and dedicated staff globally

350+
Laboratories and offices across the world

55
Countries covered by the ALS global network

Corporate Profile

As one of the world's largest and most diverse testing services providers, ALS is strategically located around the world to provide accurate and timely services. We operate in more than 350 locations in 55 countries across six continents. Our teams of experts around the world are available to provide specialized business solutions that align with client needs.

ALS Limited's international testing services are focused on delivering superior services through four main divisions and 13 business groups. These include: Minerals (Geochemistry, Metallurgy, Mine Site, Inspection); Life Sciences (Environmental, Food, Animal Health, Consumer Products, and Electronics); Energy (Coal, Oil & Gas); and Industrial (Asset Care, Tribology). Through these groups, we are able to offer a broad range of technical services to our clients – unrivaled in the industry.

ALS is the global benchmark for quality and integrity, and we have built our reputation on these two principles along with client service, innovation, and technical excellence. Our commitment to systemization and standardization allows our people to focus on what is important.

ALS Core Values

- Honesty and Integrity
- Exceeding Client Expectations
- Belief in our Ability
- Hard Work and Continuous Improvement
- Doing it Better
- Celebrating Success
- Safety as a Priority

Life Sciences Division

ALS Life Sciences is comprised of five primary analytical testing areas: Environmental, Food, Electronics, Consumer Products, and Animal Health. With our expansive worldwide footprint, ALS Life Sciences is the leader in global, comprehensive analytical testing services. We are experts in microbiological, physical and chemical testing services. Our industry-leading technical expertise, performance excellence and dedication to customer service make us the most reliable and trusted analytical service in the world.

At ALS Life Sciences, we work closely with you to understand your current analytical testing and service requirements, as well as those of the future. Our philosophy is to provide you with more than just reliable test results. We offer our clients all the advantages that an integrated laboratory network provides: regulatory compliance across six continents, excessive capacity, redundant certifications, and program management flexibility not possible with other laboratories.

SAFETY AS A PRIORITY

"OUR GLOBAL MINIMUM STANDARD ASSISTS IN MANAGING HEALTH, SAFETY, AND ENVIRONMENTAL ISSUES."

ALS is committed to a safe work culture. Our global minimum standard assists in managing health, safety and environmental issues. On a national basis, policy and procedures are designed to comply with the requirements of relevant legislation. ALS employs a team of Health and Safety professionals at both a regional and corporate level to support continual improvement and best practice.

ALS believes that meeting its safety and environmental obligations is essential to its long-term success. ALS imparts its safety and environmental values from the first day the employee commences work with the company and throughout their term as a valued employee.

We do this by:

- Comprehensive safety training upon hire
- Ongoing training, including formal training on core topics and personalized training based on risk assessments
- Integration with our day-to-day operations through our "Safety First" program and quality management system
- Auditing, reporting and review at all levels of the organization

ALS has a core value of "Safety as a Priority". Being an employee of ALS is about putting safety first. This approach is identical for staff working across the globe.

As part of this global approach, the minimum standard is driven by an ethic to deliver a consistently friendly and safe approach to work, regardless of differences in local laws.

The ALS HSE Minimum Standard requires each business to manage risks by adopting the following:

- Ensuring health, safety and environmental resources are available
- Ensuring managers are aware of their responsibilities
- Implementing a plan for managing injuries and site emergencies
- Ensuring contractors work safely
- Ensuring that key safety information is available for all staff to view
- Providing training on key safety risks
- Ensuring that all staff have an opportunity to provide feedback
- Ensuring that work areas are designed and maintained in a safe manner
- Ensuring that all incidents are reported so we can learn from our experiences
- Completing a review of health and safety issues on a regular basis
- Ensuring that a monthly site audit of Safety issues is conducted

Fixed schedules are in place for auditing, reporting and review of the HSE management system by staff, supervisors and management.

THE **LEADER IN** COMPREHENSIVE ANALYTICAL **TESTING SERVICES**

North America Headquarters: 10450 Stancliff Rd, Ste 210 • Houston, Texas 77099 USA • +1 877 793 5656

AIR WATER WASTEWATER SOIL SLUDGE
SOLIDS WASTE OIL HAZARDOUS WASTE
SOLVENTS SEDIMENTS TISSUES

The World's Largest Environmental Laboratory Network

ALS provides a full range of environmental analytical testing services, specializing in the analysis of air, water (raw, waste, drinking, catchment, recycled, saline, and product), soil, sludge, solids, waste oil, solvents, hazardous waste, sediments and tissues. Analytical laboratory testing services for these matrices includes routine, trace and ultra-trace level organics (volatile and semi volatile, herbicides, pesticides, PCBs and disinfection byproducts), metals and nutrients, inorganic non-metallics, microbiological, biological, toxicological parameters, particle sizing and radionuclides. We have expertise in many specialty testing areas in addition to the routine services.

As the largest and most diverse global environmental laboratory network, ALS has the experience, resources, and expertise needed to ensure we exceed expectations for all your environmental projects.

Benefits of Using ALS Environmental

ALS, through the depth of technical and management expertise, consistently provides high-level service. Our commitment to good science and personal service is backed by a sound quality program. Each laboratory within the ALS network maintains accreditations to satisfy target market demands. To obtain copies of Scopes of Accreditation, visit alsglobal.com, refer to the accrediting bodies, or contact the local ALS laboratory location. When working with ALS, clients can expect:

- Rapid turnaround to keep projects on schedule
- Project mobilization assistance to cover the scope of services required
- Technical resources to help solve problems
- Extensive experience working with a wide range of clients and programs
- Customized EDD formats with direct database uploads
- Interaction with trained professionals and problem solvers
- Regular participation in Proficiency Test evaluations to ensure that the accuracy of results is continuously monitored and improved

EXPERIENCE AND EXPERTISE WITH MANY INDUSTRIES

"ALS HELPED US WITH A NON-STANDARD, TIME-SENSITIVE PROJECT AND DELIVERED! THEY ARE EXPERTS IN THEIR FIELDS, AND CAN DEVELOP AND MODIFY ANALYTICAL PROTOCOLS TO SUIT OUR NEEDS. ALS WENT ABOVE AND BEYOND."

NATIONAL ENGINEERING FIRM

Our staff consists of more than 800 employees, including chemists, biologists, computer scientists, technicians and support personnel. The diverse educational backgrounds and experience of our employees provide ALS the comprehensive skills required by a modern analytical laboratory network. We take pride in our experience and professional dedication and are committed to providing the necessary resources to maintain and further develop our expertise to meet our customers' needs. ALS provides analytical services to many different industries, including:

- Aerospace
- Agriculture
- Automotive
- Chemical
- Commercial/Solid Waste
- Construction
- Electronics
- Environmental & Construction Engineering
- Federal Government Agencies (DoD, EPA, NOAA)
- Forest Products
- Health & Safety
- Industrial
- Manufacturers
- Microelectronics, Semiconductor
- Mining
- Municipalities
- Nutraceutical
- Petrochemical
- Petroleum, Oil, Gas, Coal
- Pharmaceutical
- Ports and Harbors
- Pulp and Paper
- Transportation
- Utilities
- Waste Management
- Water Industries
- Water Treatment

COMPREHENSIVE RANGE OF **CAPABILITIES** AND **SERVICES**

"ALS IS INCREDIBLY HELPFUL WITH TECHNICAL AND BASIC QUESTIONS. I FEEL THEY REALLY GO OUT OF THEIR WAY TO MAKE MY FIELD SAMPLING ACTIVITIES A SUCCESS BY PROVIDING SOUND ADVICE. THEY PROVIDE FAST AND ACCURATE SERVICE."

STATE GOVERNMENT AGENCY

Organic Capabilities

- Air Testing (ambient)
- CAL LUFT, CAL WET
- Chemical Agent Breakdown Products by LC/MS
- Dioxins/Furans
- Endocrine Disruptors
- Ethene, Ethane, Methane
- Explosives by LC/UV and LC/MS/MS
- Formaldehyde
- GC Semi-VOAs-PCBs
- GC Semi-VOAs-Pesticides and Herbicides
- GC Volatiles-BTEX
- GC/MS VOAs, Semi-VOAs, PAHs
- GC/MS/MS Pesticides
- GC/MS/SIM/LVI (various applications)
- GRO/DRO/ORO
- Incremental Sampling
- LC/MS and LC/MS/MS (various applications)
- NDMA
- Nitrocellulose
- Nitroglycerine, PETN
- Nitroguanidine,
- Oxyanions and Perchlorate
- PCB Congeners
- Petroleum Biomarkers
- Pharmaceutical and Personal Care Products (PPCP)
- Polybrominated Diphenyl Ethers by GC/MS/LVI/SIM
- Sediment/Tissue Chemistry
- Speciated Hydrocarbons
- TCLP/SPLP Organics
- TPH
- Vapor Intrusion
- White Phosphorus (7580)

Inorganic Capabilities

- Chemical Separations
- Chemistry
- Clean Room Chemistry
- Clean Sampling Equipment
- Elutriations - SET, EET, DRET, etc.
- General Wet
- Hydride Techniques
- ICP/MS Metals
- Low-level Mercury
- Mercury by CV
- Metals Speciation
- Organometallics
- Physical Tests (Grain Size, Atterberg, etc.)
- Sediment/Tissue Chemistry
- Selective Sequential Extractions
- TCLP/SPLP Metals
- Ultra-trace Metals

COMPREHENSIVE RANGE OF **CAPABILITIES** AND **SERVICES**

"ALS IS EASY TO WORK WITH AND ALTHOUGH THEY HAVE THE FULL EXPERIENCE AND SUPPORT OF A GREAT BIG NATIONWIDE LAB, IT'S NICE TO FEEL LIKE YOU ARE DEALING WITH YOUR LOCAL LAB."

ECOTOXICOLOGY COMPANY

Air Quality and Industrial Hygiene

- Air Toxics Methods
- Aldehydes and Amines
- Amines
- Antineoplastic / Chemo Drugs
- Beryllium
- Carboxylic Acids
- Diacetyl/Acetoin
- Diesel Particulates
- Dietary Supplements
- Fixed/Permanent Gases
- Formaldehyde/Aldehydes
- GC/MS Screens
- LEEDs Testing
- Loaner Pumps and Media
- Metals
- Methamphetamine
- NIOSH 0600 Respirable Dust
- NIOSH 0500 Total Dust
- Organics
- Passive Sampling for VOCs
- Pesticides and Herbicides
- PM-10/PM-2.5 (47 mm ptfe)
- Radiochemistry
- Silica
- Siloxanes
- Source & Stack Testing
- TO-9 and M23 for Dioxins/PCBs
- TO-14, 15 , 17
- TSP/PM10 (8x10 filters) on glass fiber/quartz filters
- Wet Chemistry

COMPREHENSIVE RANGE OF **CAPABILITIES** AND **SERVICES**

"I NEEDED ANALYTICS WITH A SHORT DEADLINE MEET. ALS TOOK EXCELLENT AND PROMPT CARE OF MY REQUIREMENTS WITH CHEERFUL AND PROFESSIONAL SERVICE."

FEDERAL GOVERNMENT AGENCY

Asbestos/Microscopy Capabilities

At ALS Environmental, our Microscopy department utilizes PCM, PLM, and TEM to identify fibers (primarily asbestos) in air, bulk, dust, and water samples.

Our wide range of prep methods, instrumentation, and expertise, allow us to customize analyses such as fiber and particle characterization and identification to individual client needs.

- Low Level Radioactively Contaminated Asbestos analysis
- Nanoparticles
- Other Fiber Identification
- Particle Sizing & Identification
- Soil (OH VAP Certified)
- Vermiculite

PCM Analysis
- Airborne Fibers by PCM
- Particle Characterization by PCM
- Airborne Fibers by PCM - Mines and Quarries
- Vitreous Fibers by PCM

PLM Analysis
- Asbestos by PLM
- Asbestos by PLM in soil
- Asbestos Point Count by PLM
- Asbestos in Vermiculite by PLM
- Friable Material by PLM
- Nonfriable Organic Binder by PLM
- Particle Characterization by PLM
- Refractory Ceramic Fibers by PLM

TEM Analysis
- Asbestos in Settled Dust via Ghost Wipe by TEM
- Asbestos in Settled Dust via MicroVac by TEM
- Airborne Asbestos (>0.5 µm) by TEM
- Airborne Asbestos (>5 µm) by TEM
- Asbestos in Friable Bulk by TEM
- Asbestos in Nonfriable Bulk by TEM
- Asbestos in Soil by TEM
- Asbestos in Vermiculite by TEM
- Asbestos in Water by TEM
- Particle Characterization by TEM

COMPREHENSIVE RANGE OF **CAPABILITIES** AND **SERVICES**

"THE PEOPLE AT ALS ARE ALWAYS VERY FRIENDLY AND ACCOMMODATING. THEY ARE QUICK TO RESPOND, THEY HAVE REASONABLE PRICING, AND QUICK TURNAROUND. ALS IS JUST ALL AROUND A GREAT COMPANY TO DEAL WITH!"

NATIONAL ENGINEERING FIRM

Dietary Supplements

- Fish Oil for High-Resolution Dioxins/PCBs
- Heavy Metals
- Minerals Analysis
- Pesticides Screens
- Vitamin Analysis

Microbiology/Mycology

- Coliforms and E. coli 0157:H7
- Endotoxins/Mycotoxins
- Microbial Identification
- Non-Viable Fungal Spore Analysis
- Viable Fungal and Bacterial Analysis

Radiochemical Capabilities

- Alpha Isotopics
- Alpha Scintillation Methods
- Carbon-14
- Gamma Scans
- Gas Flow Proportional Counting
- Gross Alpha Beta
- Iodine-129
- Iron-55
- Lead-210
- Liquid Scintillation
- Nickel-63
- Plutonium-241
- Radium-226 and Radium-228
- Radon-222
- Strontium-89/90
- Technetium-99
- Tritium

COMPREHENSIVE RANGE OF **CAPABILITIES** AND **SERVICES**

"ALS HAS ALWAYS PROVIDED EXCELLENT CUSTOMER SERVICE. THEY GO OUT OF THEIR WAY, AFTER WORKING HOURS, TO SHIP SAMPLE CONTAINERS OVERNIGHT TO MY OFFICE."

NATIONAL ENVIRONMENTAL CONSULTING FIRM

Field Products

Passive Diffusion Bag (PDB) Samplers for the Collection of Groundwater Samples for Volatile Organics Analysis

ALS has been granted a license to manufacture, use and provide the bags by the US Geological Survey (USGS) and The General Electric Company (GE), both co-patent holders on the product (US #5,804,743). The downhole passive water sampler and method of sampling was invented by Don Vroblesky (USGS) and Thomas Hyde (GE).

PDB Samplers are made of low-density polyethylene (LDPE), which acts as a semipermeable membrane. Volatile Organic Compounds (VOCs), excluding certain ketones, ethers and alcohols diffuse readily through the membrane. Equilibrium is established between the VOCs in the bag and those in the groundwater. The PDB Sampler, in the shape of a long cylindrical tube, is filled with analyte-free water. It is available in both field-ready and field-filled versions. It is simple to deploy, eliminates the collection and disposal of purged water and significantly reduces the cost of sampling. Upon retrieval, usually 14 days after deployment, bags are opened to fill vials and returned to the laboratory for analysis.

Rigid Porous Polyethylene Samplers (RPPs) for the Collection of Groundwater Samples for Water Soluble Analyte Analysis

ALS also manufactures another passive sampler based on the design and research of Don Vroblesky of the USGS. The Rigid Porous Polyethylene sampler (RPPs) is made of thin sheets of foam-like porous polyethylene with pore sizes of 6-20 microns. When completely filled with water the pores allow a water-water interface, facilitating the equilibrium of water-soluble analytes in the aquifer adjacent to the well screen with the deionized water of the RPP.

Primary sampling applications for the RPPS are for all water soluble analytes, like inorganic anions and cations, metals, MEE parameters, 1,4-dioxane, MTBE, hexavalent chromium, explosives, perchlorate and dissolved gases. They are also very useful in deep wells where submersible pumps may not function or be economically feasible.

Like the PDB, the RPP is simple to deploy, eliminates the collection and disposal of purged water and significantly reduces the cost of sampling.

A **NETWORK** OF LABORATORIES TO MEET **ALL PROJECT NEEDS**

Cincinnati, Ohio

Facility size: 13,824 sq ft
The Cincinnati laboratory is an Ohio EPA Voluntary Action Program (VAP) accredited laboratory providing environmental and AIHA accredited industrial hygiene analyses of air and other matrices to government and private clientele across the country. This facility also provides asbestos analysis of soils, settled dust and radioactively contaminated samples.

Everett, Washington

Facility size: 6,500 sq ft
The facility in Everett, Washington is designed to analyze air, water, wastewater, soil, sludge, solids, waste oil, solvents, and hazardous waste samples associated with a variety of chemical and toxic contaminants. ALS Everett is accredited by the Washington State Department of Ecology, and routinely participates in EPA and other agency programs.

Fort Collins, Colorado

Facility size: 26,000 sq ft
The laboratory in Fort Collins is a premier radiochemistry and environmental laboratory that has extensive experience serving the Department of Energy (DOE) and Department of Defense (DoD). In addition to a full range of organic and inorganic analyses, they also offer both Alpha and Gamma Spectroscopy, Liquid Scintillation, Gas-Flow Proportional and Alpha Scintillation methods and radiochemical analyses.

Holland, Michigan

Facility size: 18,500 sq ft
The facility in Holland is a NELAP accredited laboratory, offering a comprehensive range of analytical services and providing clients with access to a global network of capabilities. In addition to their analytical services, the laboratory offers sample collection and courier services, with convenient service centers in Chicago, Cleveland, Detroit, and Northwest Indiana.

Houston, Texas

Full-Service Laboratory
Facility size: 49,603 sq ft
The laboratory in Houston is a NELAC accredited laboratory with a comprehensive range of environmental testing and technical support services. The Houston facility is a high-capacity, quick-turnaround laboratory with highly experienced staff. This facility is on the same site as the corporate offices for ALS Environmental in North America.

High-Resolution Laboratory
Facility size: 8,800 sq ft
The Houston High-Resolution laboratory specializes in the analysis of Dioxins, Furans and PCB Congeners by high-resolution gas chromatography/mass spectrometry (HRGC/HRMS). The laboratory performs these analyses on a variety of sample matrices, everything from marine and animal tissue to household dust and food products. Rush services are available upon request.

Jacksonville, Florida

Facility size: 17,637 sq ft
The Jacksonville laboratory has the instrumentation and staffing to handle large projects for various matrices. This is a NELAC accredited facility with project managers averaging more than 15 years of experience in the environmental laboratory field. This laboratory is well versed in product and process testing, as well as the requirements of the pulp and paper industry. They also offer the more routine testing required of many industries and government clients.

A **NETWORK** OF LABORATORIES TO MEET **ALL PROJECT NEEDS**

Kelso, Washington

Facility size: 57,500 sq ft
The network's largest laboratory routinely processes complex projects requiring the analysis of large numbers of samples, difficult matrices, and low levels of detection. The team at this facility specializes in analyses requiring a high degree of technical expertise, such as those that allow the ultra-trace determinations of various constituents. Much of the chemistry performed here is in direct support of risk-based studies where routine environmental procedures are insufficient to meet project objectives.

Middletown, Pennsylvania

Facility size: 23,800 sq ft
The Middletown laboratory is a full-service, NELAC accredited facility with a full range of testing capabilities. With multiple service centers and a full fleet of vehicles, this laboratory can also offer a wide range of field and sampling services. The staff in Middletown handles programs such as RCRA, Superfund, Clean Water, Clean Air and Drinking Water.

Rochester, New York

Facility size: 23,564 sq ft
The facility in Rochester is a full-service environmental laboratory with NELAC certifications in most eastern and southeastern states, as well as approvals from many industry audit programs. In addition to routine analyses required by all regulatory programs in the Eastern US and those under federal auspices, Rochester also performs various specialized tests including those for all 5 fatty acids (MNA monitoring parameters), RSK-175 and air analyses. In addition, the Rochester laboratory also manages all groundwater passive sampling supplies, including Passive Diffusion Bags (PDBs) and Rigid Porous Polyethylene Samplers (RPPs).

Salt Lake City, Utah

Facility size: 28,000 sq ft
The laboratory in Salt Lake City is a premier provider of environmental and extensive industrial hygiene analytical services. This location is accredited by the American Industrial Hygiene Association (AIHA) and NELAC, and has been the primary contract laboratory for the National Institute for Occupational Safety and Health (NIOSH) for over 30 years. Salt Lake provides a full range of capabilities, including specialty analytical services such as mycological, microscopy, dietary supplement testing and the testing of air samples.

Simi Valley, California

Facility size: 22,000 sq ft
The Simi Valley facility is a nationally recognized, 22,000 square foot air testing laboratory specializing in the analysis of ambient and indoor air pollution, stationary source emissions, process gas, and industrial hygiene samples. They are accredited by the American Industrial Hygiene Association (AIHA), as well as NELAC. This laboratory maintains an inventory of over 4,000 pre-cleaned, passivated steel canisters of various sizes, low-volume flow controllers and critical orifice assemblies, analog vacuum gauges, and many other solid sampling media.

Tucson, AZ

Facility size: 9,331 sq ft
The specialty laboratory in Tucson offers a variety of testing services, including micro-elemental testing, fuel testing for power generation, environmental testing of water and soils, analyses of soil and waste-rock for acid generation potential, agronomic analyses, and leaching/attenuation studies for the mining industry.

HIGH-TECH **INSTRUMENTATION** WITH **CAPACITY** FOR LARGE PROJECTS

Instrument quantity at each ALS laboratory:	Cincinnati, OH	Everett, WA	Fort Collins, CO	Holland, MI	Houston, TX	Houston, TX (Hi-Res)	Jacksonville, FL	Kelso, WA	Middletown, PA	Rochester, NY	Salt Lake City, UT	Simi Valley, CA	South Charleston, WV	Tucson, AZ
Instrument														
Metals Testing														
CVAFS / CVAAS	1	1	2	2	3			1	1	1	2		1	
GFAAS / DFAAS								2	0					
Gold Trap Hydra Hg Analyzer				1				1	1	1				
ICPMS		1	1	2	4			3	3	1	2		1	
ICPOES	3		2	1				2	2	3	7		2	1
Thermal Decomposition Gold Trap Hg Analyzer														1
Non-Metallic Inorganics														
Amperometric Analyzer (Available CN-)				1						1				
Auto-Titrators			1	1				1	1	1				
BOD Analyzer									1					
Combustion Analyzers			1	1	1			2	2	1	2			2
Colourimetric Autoanalyzers			1	2	2			3	2		3			
Ion Chromatographs	2	1	2	2	3			4	6	6	4	2	1	1
Organics Testing														
GC-ECD	2	1	4	3	4		3	11	6	2	10	1		
GC-PID					3		1							
Automated Soxhlet Extractors							2	102		4				
Automated TKN Analyzer									1					
Combustion Analyzers														2
GC-ECD/ECD										3		1	2	
GC-ELCD/PID										2				
GC-FID	3	3	3	4	10		4	5	7	7	9	6	2	
GC-FID/ECD	2											3		
GC-FID/FID												2		
GC-FID/TCD	1							1				3		
GC-FID/TCD/TCA												1		
GC-FPD								2			2			
GC-HRMS						4								
GC-NPD				1				1	1					
GC-NPD/FID	1			1								2		
GC-PFPD												1		
GC-PID/FID	1	2	1	1						2				
GC-SCD												3		
GC/MS/MS triple quads								1						
GCMS - Air Analysis / IH	1								2	1	2	8		
GCMS - ECD												1		
GCMS - SVOC	3	2	3	4	5		4	14	7	5	6	5	1	
GCMS - TD (thermal desorption TO-17)												3		

Instrument quantity at each ALS laboratory:	Cincinnati, OH	Everett, WA	Fort Collins, CO	Holland, MI	Houston, TX	Houston, TX (Hi-Res)	Jacksonville, FL	Kelso, WA	Middletown, PA	Rochester, NY	Salt Lake City, UT	Simi Valley, CA	South Charleston, WV	Tucson, AZ
Instrument														
GCMS - VOC	2	2	4	5	8		3	10	8	6	6		1	
GPC			1		1			3	1	1	4			
HPLC - UV	1			1	3			5	2	3	9			
HPLC-UV/Fl	1									1				
Infrared	1													
LC/MS										1	4	1		
LC/MS/MS triple quads								3			3			
Microwave Digestion	1		1				1		2		2			1
Oxygen Analyzer														1
Soxtec - Accelerated Soxhlet				6	4									
TOC			1	2	1			3	2	2			1	1
Radiochemistry Testing														
Alpha Spec			10											
Gamma Spec			16											
Gas Flow Proportional Counter			5											
Liquid Scintillation			4											
Miscellaneous Testing														
Balance (6 place)	1													2
Carbon Analyzer											2			
Conductivity Meter														1
EDXRF														1
Ion Selective Electrode														3
Coulometric Titrator														1
GC/PHID											1			
GC/SCD											2			
PCM											2			
PCM (Fiber count)	1													
pH Meter										4		2		
PLM											2			
PLM (Asbestos testing)	2													
Semi-automated Isoperibolic Calorimeter														1
Semi-automated Thermogravimetric Analyzer														1
TEM (Asbestos testing)	1													
X-Ray Diffraction											1			

QUALITY ASSURANCE PROGRAM BUILT FOR **CLIENT NEEDS**

"IF I EVER HAVE QUESTIONS ABOUT SAMPLING OR ANALYSIS, I GO DIRECTLY TO ALS ENVIRONMENTAL. THE ALS STAFF IS EXTREMELY KNOWLEDGEABLE AND HELPFUL."

MINING COMPANY

Quality Management System

The ALS Quality Management System (QMS) is structured to include the needs of clients and ALS corporate policies, as well as accreditation, licensing, and certification requirements. Our exemplary QMS focuses on the generation of high-quality data that is delivered on time, and meets client and regulatory requirements. The ALS QMS documented in the Quality Assurance Manual (QAM) is designed to meet federal, state and local regulatory guidelines, as well as all available quality standards. Extensive training and monitoring at all facilities by quality assurance staff ensures effective implementation.

ALS policy:

- Generate scientifically sound and legally defensible data
- Comply with requirements of NELAC and other accrediting bodies
- Provide high quality testing services in compliance with all federal, state and agency regulatory requirements

All analytical methods used at ALS undergo validation prior to their approval for use in the laboratory. The approved methods contain criteria for quality control and performance criteria that provides information on each preparation and analytical stage of analysis. Data generated are compared to data quality objectives.

Scheduled internal audits are performed on all quality management system elements. System audits are qualitative evaluations of all components of the laboratory systems. They determine if the measurement systems are being used appropriately. Such audits typically involve a comparison of the activities given in the QA Manual with those actually scheduled or performed and are conducted by a Quality Assurance Manager at each facility. Audit findings are used by ALS to improve process performance. Accreditation, certification, and licensing bodies also perform audits to ensure conformity to the applicable standards or regulations. In addition, clients may wish to perform audits to verify compliance with their project requirements. Each ALS facility participates in the Performance Testing programs semiannually for each certified area of testing. Proficiency Testing programs are used to monitor testing activities. Results are reported to accreditation bodies when applicable and are used to measure performance while meeting accreditation and license requirements.

QUALITY ASSURANCE PROGRAM BUILT FOR CLIENT NEEDS

"ALS STAFF ARE VERY PATIENT AND RESPONSIVE WITH OUR INITIAL QUESTIONS. WE WILL CERTAINLY USE ALS WHEN WE NEED MORE TESTING. THEY ARE A VERY EFFICIENT TEAM AND HAVE GOOD TURNAROUND TIME."

MEDICAL TECHNOLOGY MANUFACTURER

Accreditations, Recognitions and Licenses

ALS Environmental is committed to utilizing performance testing samples to ensure that all analyses are compliant with industry standards. ALS laboratories are routinely involved with various performance programs over the past several years.

These programs include, but are not limited to:

- American Water Works Association (AWWA)
- American Industrial Hygiene Association (AIHA)
- American Public Health Association (APHA)
- BC Ministry of Environment EDQA
- BC Provincial Health Officer EWQA
- Canadian Association for Laboratory Accreditation Inc. (CALA)
- EPA and OECD Good Laboratory Practices (GLP)
- Health Canada Good Manufacturing Practices
- National Environmental Laboratory Accreditation Program (NELAP)
- Ontario Ministry of the Environment Drinking Water License
- Standards Council of Canada (SCC)
- US Environmental Protection Agency (USEPA)
- US Army Corps of Engineers (USACE)
- US Department of Defense (DoD)
- US Department of Energy Mixed-Analyte Performance Evaluation Program (MAPEP)
- National Oceanic and Atmospheric Administration (NOAA)
- North American Proficiency Testing Program (NAPT)
- National Voluntary Laboratory Accreditation Program (NVLAP)

Quality Commitment

It is important to reiterate that ALS is committed to supporting accreditation programs by active participation in state specific environmental programs and The NELAC Institute (TNI). All feedback and non-conformance issues from clients are documented, tracked, resolved, and used as part of the company's continuous improvement plan. Monitoring of improvements provides clients with assurance that ALS has addressed their concerns and implemented corrective action procedures that meet client expectations.

The ALS management team routinely reviews all activities to ensure the continued suitability of the Quality Management System to meet expectations. The reviews are used to set measurable goals and timelines for future performance and growth. ALS management invites clients to visit the nearest laboratory for a tour and review of management systems.

List of Accreditations

	Available state programs	Cincinnati, OH	Everett, WA	Fort Collins, CO	Holland, MI	Houston, TX	Houston, Texas (High-Res)	Jacksonville, FL	Kelso, WA	Middletown, PA	Rochester, NY	Salt Lake City, UT	Simi Valley, CA	S. Charleston, WV	Tucson, AZ	Valparaiso, IN
Alabama	D	**	**	**	**	**	**	**	**	**	**	**	**	**		
Alaska	D, W, S, U			D[1], R, U[1]					U, W, S							
Arizona	D, W, S, A			D[1], W, S, R			D, S		D, W[1], S[1]				A			
Arkansas	D, W, S					W, S	Z[1]		Z[1]							
California*	D, W, S			D[1], W, S, R		W, S	D, W, S		D, W, S							
Colorado	D	**	**	D[1], R	**	**	**	**	**	**	**	**	**	**		
Connecticut	D, W, S			D[1], W, S, R						D, W, S	D, W, S					
Delaware	D, S	**	**	**	**	**	**	**	**	D	H	**	**	**		
Florida*	D, W, S, A, T			W, S, U, R	W[1], S		D, A, W, S, T	D, W, S, A[1]	D, W, S, T	D, W, S	W, S		A			W
Georgia	D		**	**	**	**	**	D		**	**	**	**	**		
Hawaii	D	**	**	**	**	**	D	**	D	**	**	**	**	**		
Idaho	D	D[1]	**	D[1], R	**	**	**	**		**	**	**	**	**		
Illinois*	D, W, S				W, S	W, S	D, W, S									
Indiana	D		**	**	D	**	**	**		**	**	**	**	**		
Iowa	D, W, S, U				W, S, U							S				
Kansas*	D, W, S	D[1]		D[1], W, S, R	W, S	W, S	D, W, S					W[1], S[1]				
Kentucky	D, W, U	U		D[1], R	W, U	U		U						W[1]		
Louisiana*	D, W, S, U, A, T	D[1], W, S, A		W, S, R, A		W, S	D, W, S, A, T	W, S	W, S, T							
Maine	D, W, S						D, W	W[1]	Z		D, W, S		A[1]			
Maryland	D	**	**	D[1], R	**	**	D	**	**	D	**	**	**	**		
Massachusetts	D, W									Z	W					
Michigan	D	D[1]	**	**	D	**	D	**		**	**	**	**	**		
Minnesota*	D, W, S, U, A				W, S, U		S		W, S, U				A			
Mississippi	D	**	**	**	**	**	**	**	**	**	**	**	**	**		
Missouri	D	**	**	D[1], R	**	**	**	**	**	**	**	**	**	**		
Montana	D, U	D[1]	**	**	**	**	**	**	D	**	**	**	**	**		
Nebraska	D	D[1]	**	D, R	**	**	D	**		**	**	**	**	**		
Nevada	D, W, S			D[1], W, S, U, R			D, W, S		W, S			D, W[1], S[1], U				
New Hampshire*	D, W, S										D, W, S					
New Jersey*	D, W, S, A, T						W, S, T, A		W, S, T	D, W, S, A	D[1], W, S		A			
New Mexico	D	D[1]	**	**	**	**	D	**		**	**	**	**	**		
New York*	D, W, S, A	D[1], W, S, A		W, S, R			D, W, S, A		Z	D, W, S, A	D, W, S, A		A			
North Carolina	D, W	D[1]				W		W[2], S	W[2]		W[2]					
North Dakota	D, W, S			D[1], W, S, U, R	W, S	W, S										
Ohio	D	D[1], W, S, A			W, S											
Oklahoma	D, W, S			W, R		W, S	D, W, S		W, S			W, S				
Oregon*	D, W, S, A, T						D, W, S, T, A		D, W, S, T				A			
Pennsylvania*	D, W, S			D[1], W, S, U, R	W, S		D, W, S	W, S		D, W, S	W, S		**			
Rhode Island	D, W										D, W					
South Carolina	D, W, S	D[1]						D, W, S	W[1], S[1]							
South Dakota	D	D[1]	**	**	**	**	**	**	**	**	**	**	**	**		
Tennessee	D, U	D[1]	**	D[1], R	**	**	D	**	**	**	**	**	**	**		
Texas*	D, W, S, A, T	A		W, S, U, R	W, S	W, S, U	D, W, S	W, S	W, S, T			A	A			
Utah*	D, W, S, A, T	D[1]		D[1], W, S, U, R			D, W, S		Z			D[1], W, S, U, A	A			
Vermont	D	**	**	**	**	**	**	**	**	**	**	**	**	**		
Virginia*	D, W, S, A, T							D, W, S		D, W, S, A	D, W, S					
Washington	D, W, S, A	D[1]	W, S, U	D[1], W, S, R			D, W, S		D, W, S	D[1]			A		Z	
West Virginia	D, W, S, A				W, S		W, S			D, W, S				W[1]		
Wisconsin	D, W, S				W, S											
Wyoming	D	D[1]							D							
Dept. of Defense				✓		✓	✓	✓	✓	✓	✓	✓	✓			
Dept. of Energy				✓, A								A				
AIHA-LAP, LLC		✓										✓				
ISO17025		✓		✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	

Revised: October 2016

LEGEND

D = Drinking Water (SDWA)
W = Waste Water (CWA)
S = Solid/Hazardous Waste (RCRA)
U = Underground Storage Tank (UST)
A = Air
Z = Specific Analytes
R = Radio Chemistry
T = Tissue
H = HSCA (Delaware)

1 = Limited scope of accreditation. Contact laboratory for details.
2 = Also certified for some groundwater methods. Contact laboratory for details.

* = NELAP State
** = Able to perform analyses in this state for all parameters that do not fall under specific state certification programs

PERFORMING **EFFICIENTLY** AND **ETHICALLY** AT ALL TIMES

"THE CUSTOMER SERVICE IS ABOVE EXCEPTIONAL, THEY GO OUT OF THEIR WAY TO GET YOU WHAT YOU NEED WHEN YOU NEED IT WITHOUT ANY PROBLEMS. THE BEST AND MOST PROFESSIONAL BUSINESS I WORK WITH!"

ENVIRONMENTAL CONSULTING FIRM

ALS is committed at all times to performing duties in efficient and ethical ways, while meeting and often exceeding standards that govern the operations of the company and complying with the all applicable laws.

Compliance

ALS believes that meeting compliance obligations is a responsibility essential to its long-term success. The company is committed to adhering to all legislation relating to ALS operations.

All ALS employees are responsible for complying with policies and procedures established to ensure that ALS fulfills requisite legislative requirements. Every employee, contractor, or agent of the company is held accountable to conform to the law and act ethically at all times.

Health and Safety

ALS is committed to achieving the highest levels of occupational health and safety performance in all of its laboratories through the reduction of risk of workplace injuries and illness. The company has a comprehensive health and safety program that protects staff, contractors, visitors, property, and the public. Compliance with health and safety legislation, development of safe operating procedures, employee training programs, regular site inspections, and annual audits ensure that employees at every level are responsible and accountable for the company's health and safety performance.

Environment

ALS is committed to minimizing its environmental footprint. To support this goal, each laboratory adheres to relevant legislation in their jurisdiction for waste storage and disposal. Samples and wastes are recycled or disposed in an environmentally responsible manner. Containers and packaging are recycled wherever possible.

Confidentiality

ALS employees understand the importance of confidentiality and have implemented policies that ensure the protection of client information. Employees are required to sign and follow ethics, conflict of interest, and confidentiality policies. These agreements are required to ensure that all employees are aware of the following items:

- Laboratory policy regarding ethics and the standards of integrity that are expected of them
- The notion that they are free from any undue pressures that might affect the quality of their work

Client confidentiality ensures that procedures for sending test results by mail, facsimile, email, or electronically meet client requirements. Requests for records made by a third party must be accompanied by written consent from the client. All employees assure clients that confidentiality is observed at all times when presenting records.

System Integrity

- Secure, virus-free system, including a firewall to protect data
- Back-up of all data
- Redundancy of major equipment and services
- Professionally managed and maintained

DEDICATED MANAGEMENT AND **TECHNICAL** STAFF

"THE CERTIFICATES OF ANALYSIS ARE ALWAYS CLEAR AND PRECISE. THE TIME FRAMES TO GET PRICE QUOTES AND SAMPLES ANALYZED ARE EXCELLENT."

NATIONAL CHEMICAL COMPANY

Management and Professional Staff

ALS employs the most dedicated management and technical staff in the business. A focus on staff retention and career development has always been a priority. This loyalty translates into a technical resource with a very high level of expertise and experience.

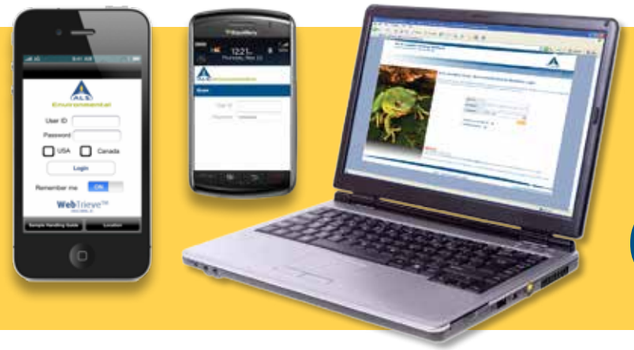
ALS is managed within a regional structure with the autonomy to deliver services that meet local needs. Since the majority of staff, including senior management, are chemists, testing requirements of clients are well known. The resume of key technical professionals are available upon request. Key positions include:

- **Managers** - responsible for resource management and efficient delivery of services
- **Technical Specialists** - responsible for maintaining the leadership at ALS in the analytical testing market. Technical specialists are knowledgeable about emerging technologies, and are often consulted by industry and regulatory bodies to provide expert assistance on a wide range of unique projects
- **Account/Project Managers** - provide the routine interaction between the laboratory and the client as it relates to the analytical project requirements for which ALS is renowned. Each client is assigned a Project/Account Manager that develops an understanding of service requirements
- **Chemists and Technical Staff** - are highly skilled professionals trained in modern analytical procedures
- **Support Staff** – ensure that services are available to provide clients with timely and secure data delivery

What This Means to Our Clients

The depth of technical and management expertise of ALS allows the company to deliver a consistently high level of service to clients. A commitment to having the highest level of technical expertise and knowledge provides the assurance that data are supported by a quality program using only modern instrumentation and procedures. The personal and comprehensive service delivered by ALS professionals translates to peace of mind and successful partnerships.

WEBTRIEVE™ ONLINE DATA ACCESS AND WEBTRIEVE™ MOBILE APPS



OFFICE AT HOME ON-THE-GO

Real-Time Results to Save You Time and Money

WebTrieve™ is a secure, internet-based application that provides real-time access to your laboratory data with the following convenient features:

- Internet access to view validated results
- Exclusive, complimentary service to our clients
- Export results to MS-Excel
- Security protection against unauthorized users
- Reports emailed directly to your address
- Multiple levels of access available
- Compare results to guidelines
- Data access 24 hrs/day, 7 days/wk, 365 days/yr
- Online request for quotes and bottle orders
- Online communication with ALS

Exceptional Service in the Palm of Your Hand

Do you need access to your data on-the-go? Use your WebTrieve™ login on our mobile application and mobile website to access:

- Work order status
- ALS contact information
- Sample handling guide
- Real-time analytical results

Search "ALS Enviro" in the Apple App Store and download the FREE iPhone application.

No iPhone? No problem. Most smart phone users can still access WebTrieve™ Mobile at: **mobile.alsenviro.com.**

Available on the iPhone App Store

Apple and iPhone are marks of Apple, Inc.

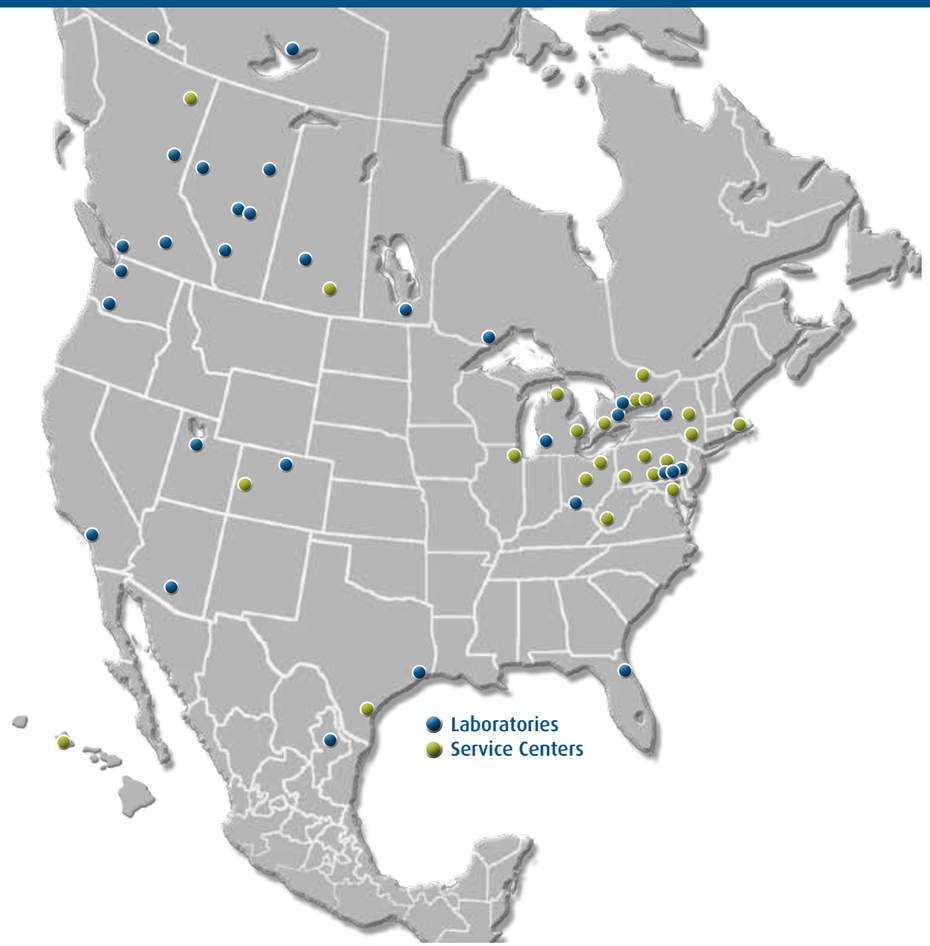
CONVENIENT LOCATIONS THROUGHOUT **NORTH AMERICA**

North America Headquarters: 10450 Stancliff Rd, Ste 210 • Houston, Texas 77099 USA • +1 877 793 5656

1,000+
Experienced and dedicated staff in USA

40+
Laboratories and offices in North America

20+
Laboratories and offices across the USA



USA

Arizona
Tucson, AZ

California
Simi Valley, CA

Colorado
Fort Collins, CO
Parachute, CO

Florida
Jacksonville, FL

Hawaii
Kapolei, HI

Illinois
Chicago, IL

Maryland
Columbia, MD

Massachusetts
Boston, MA

Michigan
Detroit, MI
Holland, MI
Traverse City, MI

New York
Albany, NY
Hopewell Junction, NY
Rochester, NY

Ohio
Cincinnati, OH
Cleveland, OH
Columbus

Pennsylvania
Chambersburg, PA
Middletown, PA
Pittsburgh, PA
Spring City, PA
York, PA

Texas
Corpus Christi, TX
Houston, TX

Utah
Salt Lake City, UT

Washington
Everett, WA
Kelso, WA

West Virginia
South Charleston, WV

KELSO, WA

MIDDLETOWN, PA

HOUSTON, TX

HOLLAND, MI

SIMI VALLEY, CA

FORT COLLINS, CO

EVERETT, WA

SALT LAKE CITY, UT

ROCHESTER, NY

www.alsglobal.com

USA Laboratories

Cincinnati, OH	+1 513 733 5336
Everett, WA	+1 425 356 2600
Fort Collins, CO	+1 970 490 1511
Holland, MI	+1 616 399 6070
Houston, TX	+1 281 530 5656
Houston, TX (High-Res)	+1 281 530 5656
Jacksonville, FL	+1 904 739 2277
Kelso, WA	+1 360 577 7222
Middletown, PA	+1 717 944 5541
Rochester, NY	+1 585 288 5380
Salt Lake City, UT	+1 801 266 7700
Simi Valley, CA	+1 805 526 7161
Tucson, AZ	+1 520 573 1061

USA Service Centers

Albany, NY	+1 518 313 7688
Boston, MA	+1 857 310 7098
Chambersburg, PA	+1 717 263 8800
Chicago, IL	+1 773 857 1580
Cleveland, OH	+1 216 674 4600
Columbia, MD	+1 410 290 8884
Corpus Christi, TX	+1 361 254 3347
Hopewell Junction, NY	+1 585 288 5380
Kapolei, HI	+1 808 682 1564
Parachute, CO	+1 970 285 5783
South Charleston, WV	+1 304 356 3168
Spring City, PA	+1 610 948 4903
Traverse City, MI	+1 231 421 3204
Washington, PA	+1 724 503 4786
Williamsport, PA	+1 717 395 2530
York, PA	+1 717 505 5280

Right Solutions • Right Partner

ALS Group USA, Corp.
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Houston, TX 77099
T +1 281 530 5656 F +1 281 530 5887

Corey M. Grandits

Project Manager, 2016 - Present
Houston Laboratory

Responsible for technical project management, ensuring overall data quality and compliance with customer requirements. Provide technical support to clients regarding laboratory application to projects. Additionally, acts as a consultant to clients regarding industrial/environmental compliance issues; serving as liaison between clients and regulatory agencies. Responsible for direct technical project management annually providing technical and regulatory interpretation assistance, as well as project organization of work received and reported by the laboratory.

PREVIOUS EXPERIENCE

Client Services Representative, 2014-2016
ALS Environmental
Houston, TX

Primary responsibilities include providing service to the customer during sample receipt, maintaining sample custody, and entering sample information into LIMS. Communication with Project Managers ensured that correct services were being provided to customers. Additional responsibilities include preparing bottle kits and providing courier services to customers.

Client Services Representative, 2012-2014
Xenco Laboratories
Houston, TX

Primary responsibilities include providing service to the customer during sample receipt, maintaining sample custody, and entering sample information into LIMS. Communication with Project Managers ensured that correct services were being provided to customers.

EDUCATION

University of Texas State
Course Work
2008-2012

ALS Group USA, Corp.
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Erica H. Marinez

Quality Assurance Manager August 2018 to Current
Houston

Responsible for the overall implementation of the laboratory Quality Assurance (QA)/Quality Control (QC) program. Oversees implementation of Quality management systems including: Quality Assurance Manual, Certifications, SOP Control, Proficiency Testing (PT), Non-Conformity, Preventative Actions, Internal Auditing, Control Charting, Documentation of Training, and Metrology. Conducts employee QA training including orientations, SOP, and ethics. Maintains state, agency and program certifications/accreditations. Acts as primary point of contact during laboratory audits coordinates audit responses and corrective actions.

PREVIOUS EXPERIENCE

Quality Assurance Generalist 2017-2018
ALS Group USA, Corp.
Houston

Assists with various tasks related to Quality control, as designated by the Quality Assurance Manager. Shared responsibilities include writing Standard Operating Procedures, Audit responses, approving QC data, method development, and quality troubleshooting.

Project Manager, Service Center Manager 2014-2017
ALS Group USA, Corp.
Houston (remotely from Corpus Christi)

Responsibilities include managing clients and scheduling workflow from sample receiving to report delivery. Maintains client contact throughout a project's duration to ensure that the clients are delighted by the laboratories level of service. In addition, she performs duties of service center manager.

Project Manager and Technical Director of Microbiology 2006-2014
TestAmerica Laboratories
Corpus Christi

Responsibilities include managing clients and scheduling workflow from sample receiving to report delivery. Additional responsibilities include providing technical and operational support for microbiology analyses. Responsible for training staff, reviewing, validating data, and providing technical assistance to the lab and clients.

EDUCATION

Texas A&M University – Corpus Christi, TX
BS in Biology
2002

ALS Group USA, Corp.
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Houston, TX 77099
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Kristin M. Neir

HRGC HRMS Manager 2016-Present
Houston

Primary responsibilities include supervision and oversight of the High Resolution Mass Spectrometry departments including extractions, HRGC/HRMS, LCMSMS departments. This includes new method development, staff training and development, workload management, and instrument maintenance/troubleshooting. Duties include departmental compliance with QA/QC and Safety policies. Responsible for overseeing extraction, analysis, interpretation and report generation for all high resolution mass spectrometry analyses performed by the laboratory.

PREVIOUS EXPERIENCE

Organics Manager, '14 – '16
ALS Group USA, Corp
Houston, TX

Primary responsibilities include supervision and oversight of the organics departments including Volatiles, and Semivolatile GC and GC/MS departments. This includes new method development, staff training and development, workload management, and instrument maintenance/troubleshooting. Duties include departmental compliance with QA/QC and Safety policies. Responsible for analysis, interpretation and report generation for all organic analyses performed by the laboratory.

Project Manager, '13-'14
ALS Group USA, Corp
Houston, TX

Responsible for technical project management, ensuring overall data quality and compliance with customer requirements. Provide technical support to clients regarding laboratory application to projects. Additionally, acts as a consultant to clients regarding industrial/environmental compliance issues; serving as liaison between clients and regulatory agencies. Responsible for direct technical project management annually providing technical and regulatory interpretation assistance, as well as project organization of work received and reported by the laboratory

SVOC-GC Manager, '08-'13
ALS Group USA, Corp
Houston, TX

Primary responsibilities include supervision and oversight of semi-volatile GC department. This includes new method development, staff training, workload management, and instrument maintenance/troubleshooting. Duties include departmental compliance with QA/QC and Safety policies. Responsible for analysis, interpretation and report generation for semivolatile GC analyses performed by the laboratory.

GC/MS Analyst, '07 – '08
Xenco Laboratories
Houston, TX

Responsible for various GC/MS analyses, standard preparation, instrument calibration and troubleshooting, data generation and review. Ensure that all relevant QA/QC procedures and standard operating procedures are followed.

GC/FID Analyst, '06 – '07
Xenco Laboratories
Houston, TX

Responsible for various GC/MS analyses instrument calibration and troubleshooting, data generation and review. Ensure that all relevant QA/QC procedures and standard operating procedures are followed.

EDUCATION

Baylor University –
Waco, TX
B.S. BIOLOGY
2005

ALS Group USA, Corp.
10450 Stancliff Road, Suite 210
Houston, TX 77099
T +1 281 530 5656 F +1 281 530 5887

Hoai Van

Laboratory Director, 2015-Present
Houston Laboratory

Primary responsibilities include management of all laboratory departments, scheduling, productivity, reporting and evaluation of analytical methodologies, project planning, budgeting, and Quality Assurance/Quality Control protocol oversight. Other responsibilities include conducting facility compliance reviews; providing departmental support for equipment purchases; resolving personnel issues; determining resource allocation; and providing supervision, training, and leadership to key laboratory staff.

PREVIOUS EXPERIENCE

Technical Director, 2007-2015
ALS Group USA, Corp.
USA

Performed a variety of technical and management tasks throughout the nation. Monitored nation-wide laboratory efficiency, productivity, and work-load capacity. Ensured the efficient operations of all laboratory instrumentation by providing the departmental supervisors technical guidance with relation to method compliance and method development. Provided technical assistance to clients seeking additional information on method applicability and data interpretation.

Technical Director, 1999-2007
e-Lab
Houston, TX

As a member of the original team of partners, was responsible for the development of all technical aspects of the laboratory since its foundation. Monitored laboratory efficiency, productivity, and work-load capacity. Evaluated and maintained adequate analytical staff levels to support operational needs. Ensured the efficient operations of all laboratory instrumentation by providing the departmental supervisors technical guidance with relation to method compliance and method development. Provided technical assistance to clients seeking additional information on method applicability and data interpretation.

Various Positions, 1991-1999
Core Laboratories
Houston, TX

Served in various roles, including GC/MS analyst, Wet Chemistry Supervisor, GC Lead analyst, Senior Project Chemist and finally as Volatile Department Manager.

EDUCATION

Rensselaer Polytechnic Institute – Troy, NY
MS Mechanical Engineering
1987

Rensselaer Polytechnic Institute – Troy, NY
BS Chemical Engineering
1985

PROFESSIONAL CERTIFICATIONS

New York Environmental Laws and Regulations, Government Institution

Quality Assurance Basic Training – Society of Quality Assurance

ADDITIONAL EXPERIENCE

Project Scientist
1988-1991
Malcom Pirnie, Inc.

Chemical Analyst
1987-1988
Pace Laboratories

Instrument List - HRMS (Dioxins) Department

ALS Environmental - Houston
04/14/2020

Department	Instrument Type	Instrument Make	Manufactured	Serial ID	Unique ID
Instrumentation	HRGC/HRMS (E-HRMS-07)	Agilent 7890B GC	2015	CN15173084	P5
		CTC PAL GC-XT Autosamplers	2015	337920	P5
		Waters Autospect Premier HRMS	2015	P866T	P5
	HRGC/HRMS (E-HRMS-08)	Agilent 7890B GC	2015	CN15253019	P6
		CTC PAL GC-XT Autosamplers	2015	345872	P6
		Waters Autospect Premier HRMS	2015	P881	P6
Service Contract	Waters	Expires: 06-30-2022			

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E82502

ALS ENVIRONMENTAL - JACKSONVILLE
9143 PHILIPS HIGHWAY SUITE 200
JACKSONVILLE, FL 32256

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: January 13, 2020 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E82502-66-01/13/2020
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Alkalinity as CaCO3	SM 2320 B	Primary Inorganic Contaminants	NELAP	3/3/2016
Aluminum	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/19/2002
Aluminum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	2/19/2002
Antimony	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Arsenic	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Barium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/19/2002
Barium	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Beryllium	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/26/2018
Beryllium	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Cadmium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/19/2002
Cadmium	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Calcium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/19/2002
Chloride	EPA 300.0	Secondary Inorganic Contaminants	NELAP	2/19/2002
Chlorine	SM 4500-Cl G	Primary Inorganic Contaminants	NELAP	3/20/2017
Chromium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/19/2002
Chromium	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	7/17/2014
Conductivity	SM 2510 B	Primary Inorganic Contaminants	NELAP	8/30/2002
Copper	EPA 200.7	Secondary Inorganic Contaminants,Primary Inorganic Contaminants	NELAP	2/19/2002
Copper	EPA 200.8	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	2/19/2002
Cyanide	SM 4500CN-E	Primary Inorganic Contaminants	NELAP	2/19/2002
Escherichia coli	COLISURE	Microbiology	NELAP	8/24/2010
Escherichia coli	SM 9223 B	Microbiology	NELAP	3/20/2017
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	3/20/2017
Fluoride	EPA 300.0	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	2/19/2002
Heterotrophic plate count	SM 9215 B	Microbiology	NELAP	9/22/2004
Iron	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/19/2002
Lead	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Magnesium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/19/2002
Manganese	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/19/2002
Manganese	EPA 200.8	Secondary Inorganic Contaminants	NELAP	2/19/2002

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Mercury	EPA 245.1	Primary Inorganic Contaminants	NELAP	2/19/2002
Nickel	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/19/2002
Nickel	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Nitrate	EPA 300.0	Primary Inorganic Contaminants	NELAP	2/19/2002
Nitrate as N	EPA 353.2	Primary Inorganic Contaminants	NELAP	7/25/2005
Nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	2/19/2002
Nitrite as N	EPA 353.2	Primary Inorganic Contaminants	NELAP	7/25/2005
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	5/13/2010
Orthophosphate as P	EPA 300.0	Primary Inorganic Contaminants	NELAP	9/26/2018
Orthophosphate as P	EPA 365.1	Primary Inorganic Contaminants	NELAP	9/26/2018
pH	SM 4500-H+-B	Secondary Inorganic Contaminants	NELAP	7/17/2014
Selenium	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Silver	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/19/2002
Silver	EPA 200.8	Secondary Inorganic Contaminants	NELAP	2/19/2002
Sodium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/19/2002
Sulfate	EPA 300.0	Secondary Inorganic Contaminants,Primary Inorganic Contaminants	NELAP	2/19/2002
Surfactants - MBAS	SM 5540 C	Secondary Inorganic Contaminants	NELAP	3/20/2017
Thallium	EPA 200.8	Primary Inorganic Contaminants	NELAP	2/19/2002
Total coliforms	COLISURE	Microbiology	NELAP	8/24/2010
Total coliforms	SM 9223 B	Microbiology	NELAP	3/20/2017
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	3/20/2017
Total cyanide	EPA 335.4	Primary Inorganic Contaminants	NELAP	7/25/2005
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	7/17/2014
Total nitrate-nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	2/19/2002
Total nitrate-nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	7/25/2005
Total organic carbon	SM 5310 B	Primary Inorganic Contaminants	NELAP	3/20/2017
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	2/19/2002
Turbidity	SM 2130 B	Secondary Inorganic Contaminants	NELAP	3/20/2017
Zinc	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/19/2002
Zinc	EPA 200.8	Secondary Inorganic Contaminants	NELAP	2/19/2002

Laboratory Scope of Accreditation

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State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 624.1	Volatile Organics	NELAP	9/26/2018
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,1-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2,2-Tetrachloroethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	Volatile Organics	NELAP	7/17/2014
1,1,2-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/25/2005
1,2,3-Trichloropropane	EPA 624.1	Volatile Organics	NELAP	9/26/2018
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,4,5-Tetrachlorobenzene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1,2,4,5-Tetrachlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2,4-Trichlorobenzene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2,4-Trimethylbenzene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/25/2005
1,2-Dibromo-3-chloropropane (DBCP)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	7/1/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	7/1/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichloropropane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dinitrobenzene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1,2-Dinitrobenzene	EPA 8270	Extractable Organics	NELAP	3/20/2017
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2-Diphenylhydrazine (as Azobenzene)	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1,3,5-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	3/20/2017
1,3,5-Trimethylbenzene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/25/2005
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8270	Extractable Organics	NELAP	1/12/2010
1,3-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,3-Dichloropropane	EPA 624.1	Volatile Organics	NELAP	9/26/2018
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dinitrobenzene (1,3-DNB)	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	Extractable Organics	NELAP	5/12/2009
1,4-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,4-Dinitrobenzene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1,4-Dinitrobenzene	EPA 8270	Extractable Organics	NELAP	3/20/2017
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270	Extractable Organics	NELAP	3/20/2017
1,4-Dioxane (1,4-Diethyleneoxide) (with SIM)	SVM-8270DSIM/GC-MS	Extractable Organics	NELAP	3/21/2017
1,4-Naphthoquinone	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1,4-Naphthoquinone	EPA 8270	Extractable Organics	NELAP	1/9/2012
1,4-Phenylenediamine	EPA 8270	Extractable Organics	NELAP	1/9/2012
1-Chlorohexane	EPA 8260	Volatile Organics	NELAP	7/25/2005
1-Chloronaphthalene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	1/9/2012
1-Naphthylamine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
1-Naphthylamine	EPA 8270	Extractable Organics	NELAP	1/9/2012

Laboratory Scope of Accreditation

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State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2-Dichloropropane	EPA 624.1	Volatile Organics	NELAP	9/26/2018
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,3,4,6-Tetrachlorophenol	EPA 625.1	Extractable Organics	NELAP	9/26/2018
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,3,5,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	9/26/2018
2,4,5-Trichlorophenol	EPA 625.1	Extractable Organics	NELAP	9/26/2018
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4,6-Trichlorophenol	EPA 625.1	Extractable Organics	NELAP	3/2/2018
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dichlorophenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dimethylphenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dinitrophenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dinitrotoluene (2,4-DNT)	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,6-Dichlorophenol	EPA 625.1	Extractable Organics	NELAP	9/26/2018
2,6-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,6-Dinitrotoluene (2,6-DNT)	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Acetylaminofluorene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
2-Acetylaminofluorene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Butanone (Methyl ethyl ketone, MEK)	EPA 624.1	Volatile Organics	NELAP	3/1/2018
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Butanone (Methyl ethyl ketone, MEK)	NCASI 99.01	Volatile Organics	NELAP	4/9/2003
2-Chloroethyl vinyl ether	EPA 624.1	Volatile Organics	NELAP	3/1/2018
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Chloronaphthalene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Chlorophenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Chlorotoluene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003

Laboratory Scope of Accreditation

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State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2-Ethoxyethanol (Ethyl cellosolve)	EPA 8015	Volatile Organics	NELAP	8/22/2012
2-Hexanone	EPA 624.1	Volatile Organics	NELAP	9/26/2018
2-Hexanone	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Methyl-4,6-dinitrophenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Methylnaphthalene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Naphthylamine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
2-Naphthylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Nitroaniline	EPA 625.1	Extractable Organics	NELAP	9/26/2018
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Nitropropane	EPA 8260	Volatile Organics	NELAP	7/25/2005
2-Picoline (2-Methylpyridine)	EPA 8270	Extractable Organics	NELAP	1/9/2012
3,3'-Dichlorobenzidine	EPA 625.1	Extractable Organics	NELAP	3/1/2018
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
3,3-Dimethyl-1-butanol	EPA 8260	Volatile Organics	NELAP	3/20/2017
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	7/17/2014
3-Methylcholanthrene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
3-Methylcholanthrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
3-Nitroaniline	EPA 625.1	Extractable Organics	NELAP	9/26/2018
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4,4'-DDD	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4,4'-DDE	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4,4'-DDT	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4-Aminobiphenyl	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Bromophenyl phenyl ether	EPA 625.1	Extractable Organics	NELAP	3/1/2018
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chloro-3-methylphenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	7/1/2003

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
4-Chloroaniline	EPA 625.1	Extractable Organics	NELAP	9/26/2018
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chlorophenyl phenylether	EPA 625.1	Extractable Organics	NELAP	3/1/2018
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chlorotoluene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Dimethyl aminoazobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Isopropyltoluene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
4-Methyl-2-pentanone (MIBK)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Methylphenol (p-Cresol)	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Nitroaniline	EPA 625.1	Extractable Organics	NELAP	9/26/2018
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Nitroquinoline 1-oxide	EPA 625.1	Extractable Organics	NELAP	9/26/2018
5-Nitro-o-toluidine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
5-Nitro-o-toluidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
7,12-Dimethylbenz(a) anthracene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
7,12-Dimethylbenz(a) anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
a,a-Dimethylphenethylamine	EPA 8270	Extractable Organics	NELAP	1/9/2012
Acenaphthene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Acenaphthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acenaphthylene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acetaldehyde	NCASI 99.01	Volatile Organics	NELAP	4/9/2003
Acetone	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Acetone	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acetonitrile	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Acetonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acetophenone	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Acetophenone	EPA 8270	Extractable Organics	NELAP	3/18/2010
Acidity	SM 2310 B-2011	General Chemistry	NELAP	4/4/2019
Acrolein (Propenal)	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	7/1/2003

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Acrylonitrile	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Aldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Alkalinity as CaCO3	SM 2320 B-2011	General Chemistry	NELAP	4/4/2019
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
alpha-Terpineol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Aluminum	EPA 200.7	Metals	NELAP	2/19/2002
Aluminum	EPA 200.8	Metals	NELAP	2/19/2002
Aluminum	EPA 6010	Metals	NELAP	7/1/2003
Aluminum	EPA 6020	Metals	NELAP	7/1/2003
Amenable cyanide	EPA 9012	General Chemistry	NELAP	9/22/2004
Amenable cyanide	SM 4500-CN^- DO NOT USE	General Chemistry	NELAP	4/4/2019
Ammonia as N	EPA 350.1	General Chemistry	NELAP	8/30/2002
Aniline	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Aniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
Anthracene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Antimony	EPA 200.7	Metals	NELAP	2/19/2002
Antimony	EPA 200.8	Metals	NELAP	2/19/2002
Antimony	EPA 6010	Metals	NELAP	7/1/2003
Antimony	EPA 6020	Metals	NELAP	7/1/2003
a-Pinene	EPA 8260	Volatile Organics	NELAP	1/9/2012
Aramite	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Aramite	EPA 8270	Extractable Organics	NELAP	7/1/2003
Aroclor-1016 (PCB-1016)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1221 (PCB-1221)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1232 (PCB-1232)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1242 (PCB-1242)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1248 (PCB-1248)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1254 (PCB-1254)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1260 (PCB-1260)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1262 (PCB-1262)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/9/2012
Aroclor-1268 (PCB-1268)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	9/26/2018
Aroclor-1268 (PCB-1268)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/9/2012
Arsenic	EPA 200.7	Metals	NELAP	2/19/2002
Arsenic	EPA 200.8	Metals	NELAP	2/19/2002
Arsenic	EPA 6010	Metals	NELAP	2/19/2002
Arsenic	EPA 6020	Metals	NELAP	2/19/2002
Atrazine	EPA 625.1	Pesticides-Herbicides-PCB's	NELAP	9/26/2018
Atrazine	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	3/20/2017
Barium	EPA 200.7	Metals	NELAP	2/19/2002
Barium	EPA 200.8	Metals	NELAP	2/19/2002
Barium	EPA 6010	Metals	NELAP	7/1/2003
Barium	EPA 6020	Metals	NELAP	7/1/2003
Benzaldehyde	EPA 8270	Extractable Organics	NELAP	3/20/2017
Benzene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Benzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Benzidine	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Benzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(a)anthracene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(a)pyrene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(b)fluoranthene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(g,h,i)perylene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(k)fluoranthene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003

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E82502
ALS Environmental - Jacksonville
9143 Philips Highway
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Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Benzoic acid	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzyl alcohol	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Beryllium	EPA 200.7	Metals	NELAP	2/19/2002
Beryllium	EPA 200.8	Metals	NELAP	2/19/2002
Beryllium	EPA 6010	Metals	NELAP	7/1/2003
Beryllium	EPA 6020	Metals	NELAP	7/1/2003
beta-BHC (beta-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Biochemical oxygen demand	SM 5210 B-2011	General Chemistry	NELAP	4/4/2019
Biphenyl	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Biphenyl	EPA 8270	Extractable Organics	NELAP	3/20/2017
bis(2-Chloroethoxy)methane	EPA 625.1	Extractable Organics	NELAP	3/1/2018
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	7/1/2003
bis(2-Chloroethyl) ether	EPA 625.1	Extractable Organics	NELAP	3/1/2018
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
bis(2-Chloroisopropyl) ether (2,2'-Oxybis(1-chloropropane))	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Boron	EPA 200.7	Metals	NELAP	2/19/2002
Boron	EPA 200.8	Metals	NELAP	9/26/2018
Boron	EPA 6010	Metals	NELAP	7/1/2003
Boron	EPA 6020	Metals	NELAP	9/26/2018
Bromide	EPA 300.0	General Chemistry	NELAP	6/11/2012
Bromide	EPA 9056	General Chemistry	NELAP	6/11/2012
Bromobenzene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Bromobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromochloromethane	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromodichloromethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromoform	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Bromoform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Butyl benzyl phthalate	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Cadmium	EPA 200.7	Metals	NELAP	2/19/2002
Cadmium	EPA 200.8	Metals	NELAP	2/19/2002

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E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Cadmium	EPA 6010	Metals	NELAP	2/19/2002
Cadmium	EPA 6020	Metals	NELAP	2/19/2002
Calcium	EPA 200.7	Metals	NELAP	2/19/2002
Calcium	EPA 200.8	Metals	NELAP	9/26/2018
Calcium	EPA 6010	Metals	NELAP	7/1/2003
Calcium	EPA 6020	Metals	NELAP	9/26/2018
Caprolactam	EPA 8270	Extractable Organics	NELAP	3/20/2017
Carbazole	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Carbazole	EPA 8270	Extractable Organics	NELAP	7/17/2014
Carbon disulfide	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbon tetrachloride	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbonaceous BOD (CBOD)	SM 5210 B-2011	General Chemistry	NELAP	4/4/2019
Chemical oxygen demand	SM 5220-D-2011	General Chemistry	NELAP	4/4/2019
Chlordane (tech.)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chloride	EPA 300.0	General Chemistry	NELAP	2/19/2002
Chloride	EPA 9056	General Chemistry	NELAP	7/1/2003
Chlorine	SM 4500-Cl G-2011	General Chemistry	NELAP	4/4/2019
Chlorobenzene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chlorobenzilate	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Chlorobenzilate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chloroethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Chloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chloroform	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Chloroform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chlorophylls	SM 10200 H - 2011	General Chemistry	NELAP	4/4/2019
Chloroprene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Chloroprene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chromium	EPA 200.7	Metals	NELAP	2/19/2002
Chromium	EPA 200.8	Metals	NELAP	2/19/2002
Chromium	EPA 6010	Metals	NELAP	7/1/2003
Chromium	EPA 6020	Metals	NELAP	7/1/2003

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Chromium VI	EPA 7196	General Chemistry	NELAP	7/1/2003
Chromium VI	SM 3500-Cr B-2011	General Chemistry	NELAP	4/4/2019
Chrysene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Chrysene	EPA 8270	Extractable Organics	NELAP	7/1/2003
cis-1,2-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
cis-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Cobalt	EPA 200.7	Metals	NELAP	2/19/2002
Cobalt	EPA 200.8	Metals	NELAP	2/19/2002
Cobalt	EPA 6010	Metals	NELAP	7/1/2003
Cobalt	EPA 6020	Metals	NELAP	7/1/2003
Color	SM 2120 B-2011	General Chemistry	NELAP	4/4/2019
Conductivity	EPA 120.1	General Chemistry	NELAP	2/19/2002
Conductivity	EPA 9050	General Chemistry	NELAP	9/26/2018
Conductivity	SM 2510 B-2011	General Chemistry	NELAP	4/4/2019
Copper	EPA 200.7	Metals	NELAP	2/19/2002
Copper	EPA 200.8	Metals	NELAP	2/19/2002
Copper	EPA 6010	Metals	NELAP	2/19/2002
Copper	EPA 6020	Metals	NELAP	2/19/2002
Cyclohexane	EPA 8260	Volatile Organics	NELAP	7/17/2014
Cyclohexanone	EPA 8260	Volatile Organics	NELAP	7/17/2014
delta-BHC	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Di(2-ethylhexyl) phthalate (DEHP)	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di(2-ethylhexyl)adipate	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Di(2-ethylhexyl)adipate	EPA 8270	Extractable Organics	NELAP	3/20/2017
Diallate	EPA 625.1	Pesticides-Herbicides-PCB's	NELAP	9/26/2018
Diallate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dibenz(a,h)anthracene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dibenz(a,j)acridine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Dibenz(a,j)acridine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dibenzofuran	EPA 625.1	Extractable Organics	NELAP	9/26/2018

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dibromochloromethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dibromomethane	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Dibromomethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dichlorodifluoromethane	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dieldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	7/17/2014
Diethyl ether	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Diethyl ether	EPA 8260	Volatile Organics	NELAP	7/25/2005
Diethyl phthalate	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dimethoate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dimethyl phthalate	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-n-butyl phthalate	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-n-octyl phthalate	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Diphenyl ether	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Diphenyl ether	EPA 8270	Extractable Organics	NELAP	3/20/2017
Disulfoton	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/17/2011
D-Limonene	EPA 8260	Volatile Organics	NELAP	1/9/2012
Endosulfan I	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan II	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan sulfate	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin aldehyde	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Endrin ketone	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/2/2007
Enterococci	ASTM D6503-99	Microbiology	NELAP	3/18/2010
Escherichia coli	SM 9223 B (Colilert Quanti-Tray)-2004	Microbiology	NELAP	4/4/2019
Ethanol	EPA 8015	Volatile Organics	NELAP	8/22/2012
Ethanol	EPA 8260	Volatile Organics	NELAP	3/20/2017
Ethyl acetate	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	8/22/2012
Ethyl methacrylate	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Ethyl methacrylate	EPA 8270	Extractable Organics	NELAP	3/20/2017
Ethyl methanesulfonate	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Ethyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Ethylbenzene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Ethyl-t-butylether (ETBE)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Ethyl-t-butylether (ETBE)	EPA 8260	Volatile Organics	NELAP	7/17/2014
Famphur	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Fecal coliforms	SM 9222 D-2006	Microbiology	NELAP	4/4/2019
Fluoranthene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Fluorene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Fluorene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Fluoride	EPA 300.0	General Chemistry	NELAP	2/19/2002
Fluoride	EPA 9056	General Chemistry	NELAP	7/1/2003
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Hardness	SM 2340 B-2011	General Chemistry	NELAP	4/4/2019
Heptachlor	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Heptachlor epoxide	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Hexachlorobenzene	EPA 625.1	Extractable Organics	NELAP	3/1/2018

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorobutadiene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Hexachlorobutadiene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorocyclopentadiene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachloroethane	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorophene	EPA 8270	Extractable Organics	NELAP	1/9/2012
Hexachloropropene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Hexachloropropene	EPA 8270	Extractable Organics	NELAP	3/18/2010
Ignitability	EPA 1020	General Chemistry	NELAP	7/1/2003
Indeno(1,2,3-cd)pyrene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	3/21/2011
Inorganic nitrogen	CASF GEN-TN	General Chemistry	NELAP	8/24/2010
Iodomethane (Methyl iodide)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Iron	EPA 200.7	Metals	NELAP	2/19/2002
Iron	EPA 200.8	Metals	NELAP	9/26/2018
Iron	EPA 6010	Metals	NELAP	7/1/2003
Iron	EPA 6020	Metals	NELAP	9/26/2018
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8015	Volatile Organics	NELAP	8/22/2012
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Isodrin	EPA 625.1	Pesticides-Herbicides-PCB's	NELAP	9/26/2018
Isodrin	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Isophorone	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Isophorone	EPA 8270	Extractable Organics	NELAP	7/1/2003
Isopropyl alcohol (2-Propanol)	EPA 8015	Volatile Organics	NELAP	8/22/2012
Isopropyl ether	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Isopropyl ether	EPA 8260	Volatile Organics	NELAP	7/17/2014
Isopropylbenzene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Isosafrole	EPA 625.1	Extractable Organics	NELAP	9/26/2018

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Isosafrole	EPA 8270	Extractable Organics	NELAP	7/1/2003
Kepone	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	3/18/2010
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	8/30/2002
Lead	EPA 200.7	Metals	NELAP	2/19/2002
Lead	EPA 200.8	Metals	NELAP	2/19/2002
Lead	EPA 6010	Metals	NELAP	2/19/2002
Lead	EPA 6020	Metals	NELAP	2/19/2002
Lithium	EPA 6010	Metals	NELAP	7/17/2014
m/p-Xylenes	EPA 8260	Extractable Organics	NELAP	1/9/2012
m+p-Xylenes	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Magnesium	EPA 200.7	Metals	NELAP	2/19/2002
Magnesium	EPA 200.8	Metals	NELAP	9/26/2018
Magnesium	EPA 6010	Metals	NELAP	7/1/2003
Magnesium	EPA 6020	Metals	NELAP	9/26/2018
Manganese	EPA 200.7	Metals	NELAP	2/19/2002
Manganese	EPA 200.8	Metals	NELAP	2/19/2002
Manganese	EPA 6010	Metals	NELAP	7/1/2003
Manganese	EPA 6020	Metals	NELAP	7/1/2003
Mercury	EPA 245.1	Metals	NELAP	2/19/2002
Mercury	EPA 6020	Metals	NELAP	9/26/2018
Mercury	EPA 7470	Metals	NELAP	2/19/2002
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methanol	EPA 8015	Volatile Organics	NELAP	8/22/2012
Methanol	NCASI 99.01	Volatile Organics	NELAP	4/9/2003
Methanol	NCASI DI/MEOH-94.03	Volatile Organics	NELAP	4/9/2003
Methapyrilene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Methapyrilene	EPA 8270	Extractable Organics	NELAP	3/20/2017
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Methyl acetate	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Methyl acetate	EPA 8260	Volatile Organics	NELAP	7/17/2014
Methyl bromide (Bromomethane)	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl chloride (Chloromethane)	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	7/1/2003

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State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
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Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methyl methanesulfonate	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Methyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Methyl parathion (Parathion, methyl)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Methyl tert-butyl ether (MTBE)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methylcyclohexane	EPA 8260	Volatile Organics	NELAP	7/17/2014
Methylene chloride	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Methylene chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Molybdenum	EPA 200.7	Metals	NELAP	2/19/2002
Molybdenum	EPA 200.8	Metals	NELAP	2/19/2002
Molybdenum	EPA 6010	Metals	NELAP	2/19/2002
Molybdenum	EPA 6020	Metals	NELAP	7/25/2005
Naphthalene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Naphthalene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Naphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Naphthalene (without SIM)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
n-Butyl alcohol	EPA 8015	Volatile Organics	NELAP	8/22/2012
n-Butylbenzene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
n-Decane	EPA 8270	Extractable Organics	NELAP	3/20/2017
Nickel	EPA 200.7	Metals	NELAP	2/19/2002
Nickel	EPA 200.8	Metals	NELAP	2/19/2002
Nickel	EPA 6010	Metals	NELAP	2/19/2002
Nickel	EPA 6020	Metals	NELAP	2/19/2002
Nitrate	EPA 9056	General Chemistry	NELAP	7/1/2003
Nitrate as N	EPA 300.0	General Chemistry	NELAP	2/19/2002
Nitrate as N	EPA 353.2	General Chemistry	NELAP	8/30/2002
Nitrate-nitrite	EPA 300.0	General Chemistry	NELAP	2/19/2002
Nitrite	EPA 9056	General Chemistry	NELAP	7/1/2003
Nitrite as N	EPA 300.0	General Chemistry	NELAP	2/19/2002
Nitrite as N	EPA 353.2	General Chemistry	NELAP	8/30/2002
Nitrobenzene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Nitroquinoline-1-oxide	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodiethylamine	EPA 625.1	Extractable Organics	NELAP	9/26/2018

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E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
n-Nitrosodiethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodimethylamine	EPA 625.1	Extractable Organics	NELAP	3/1/2018
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitroso-di-n-butylamine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
n-Nitroso-di-n-butylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodi-n-propylamine	EPA 625.1	Extractable Organics	NELAP	3/1/2018
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodiphenylamine	EPA 625.1	Extractable Organics	NELAP	3/1/2018
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosomethylethylamine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
n-Nitrosomethylethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosomorpholine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosopiperidine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	3/18/2010
n-Nitrosopyrrolidine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Octadecane	EPA 8270	Extractable Organics	NELAP	3/20/2017
n-Propanol	EPA 8015	Volatile Organics	NELAP	8/22/2012
n-Propylbenzene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	7/25/2005
o,o,o-Triethyl phosphorothioate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Oil & Grease	EPA 1664A	General Chemistry	NELAP	2/19/2002
Oil & Grease	EPA 1664B	General Chemistry	NELAP	3/20/2017
Organic nitrogen	EPA 351.2 - EPA 350.1	General Chemistry	NELAP	7/25/2005
Orthophosphate as P	EPA 300.0	General Chemistry	NELAP	3/18/2010
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	8/30/2002
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	3/18/2010
o-Toluidine	EPA 625.1	Extractable Organics	NELAP	9/26/2018
o-Toluidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Oxygen, dissolved	ASTM D888-09C	General Chemistry	NELAP	9/26/2018
Oxygen, dissolved	SM 4500-O G-2011	General Chemistry	NELAP	4/4/2019
o-Xylene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
o-Xylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/12/2010
p-Dioxane	EPA 8260	Volatile Organics	NELAP	7/1/2003

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E82502
ALS Environmental - Jacksonville
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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Pentachlorobenzene	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Pentachloroethane	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Pentachloroethane	EPA 8270	Extractable Organics	NELAP	3/20/2017
Pentachloronitrobenzene (Quintozene)	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Pentachloronitrobenzene (Quintozene)	EPA 8270	Extractable Organics	NELAP	7/1/2003
Pentachlorophenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
pH	EPA 9040	General Chemistry	NELAP	7/17/2014
pH	SM 4500-H+ B-2011	General Chemistry	NELAP	4/4/2019
Phenacetin	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Phenacetin	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phenanthrene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Phenanthrene	EPA 8270	Extractable Organics	NELAP	3/21/2011
Phenol	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Phenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phorate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Phosphorus, total	EPA 365.1	General Chemistry	NELAP	8/30/2002
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	7/25/2005
Potassium	EPA 200.7	Metals	NELAP	2/19/2002
Potassium	EPA 200.8	Metals	NELAP	9/26/2018
Potassium	EPA 6010	Metals	NELAP	2/19/2002
Potassium	EPA 6020	Metals	NELAP	9/26/2018
Pronamide (Kerb)	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	7/1/2003
Propionaldehyde	NCASI 99.01	Volatile Organics	NELAP	4/9/2003
Propionitrile (Ethyl cyanide)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Pyrene	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Pyridine	EPA 625.1	Extractable Organics	NELAP	3/1/2018
Pyridine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Residue-filterable (TDS)	SM 2540 C-2011	General Chemistry	NELAP	4/4/2019
Residue-nonfilterable (TSS)	SM 2540 D-2011	General Chemistry	NELAP	4/4/2019
Residue-settleable	SM 2540 F-2011	General Chemistry	NELAP	4/4/2019

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Residue-total	SM 2540 B-2011	General Chemistry	NELAP	4/4/2019
Residue-volatile	EPA 160.4	General Chemistry	NELAP	2/19/2002
Residue-volatile	SM 2540 E-2011	General Chemistry	NELAP	4/4/2019
Safrole	EPA 625.1	Extractable Organics	NELAP	9/26/2018
Safrole	EPA 8270	Extractable Organics	NELAP	7/1/2003
sec-Butylbenzene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Selenium	EPA 200.7	Metals	NELAP	2/19/2002
Selenium	EPA 200.8	Metals	NELAP	2/19/2002
Selenium	EPA 6010	Metals	NELAP	2/19/2002
Selenium	EPA 6020	Metals	NELAP	7/25/2005
Silica-dissolved	SM 4500-SiO2 F-2011	General Chemistry	NELAP	4/4/2019
Silver	EPA 200.7	Metals	NELAP	2/19/2002
Silver	EPA 200.8	Metals	NELAP	2/19/2002
Silver	EPA 6010	Metals	NELAP	7/1/2003
Silver	EPA 6020	Metals	NELAP	7/1/2003
Sodium	EPA 200.7	Metals	NELAP	2/19/2002
Sodium	EPA 200.8	Metals	NELAP	9/26/2018
Sodium	EPA 6010	Metals	NELAP	7/1/2003
Sodium	EPA 6020	Metals	NELAP	9/26/2018
Strontium	EPA 200.7	Metals	NELAP	3/18/2010
Strontium	EPA 200.8	Metals	NELAP	3/18/2010
Strontium	EPA 6010	Metals	NELAP	3/20/2017
Strontium	EPA 6020	Metals	NELAP	1/2/2007
Styrene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Styrene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Sulfate	EPA 300.0	General Chemistry	NELAP	2/19/2002
Sulfate	EPA 9056	General Chemistry	NELAP	7/1/2003
Sulfide	SM 4500-$S2^{-}$ F-2011	General Chemistry	NELAP	4/4/2019
Sulfotepp	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/25/2005
Surfactants - MBAS	SM 5540 C-2011	General Chemistry	NELAP	4/4/2019
T-amylmethylether (TAME)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	7/17/2014
Tannin & Lignin	SM 5550 B	General Chemistry	NELAP	2/19/2002
tert-Amyl alcohol (2-methyl-2-butanol)	EPA 8260	Volatile Organics	NELAP	3/20/2017

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 624.1	Volatile Organics	NELAP	9/26/2018
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	7/1/2003
tert-Butyl formate	EPA 8260	Volatile Organics	NELAP	3/20/2017
tert-Butylbenzene	EPA 624.1	Volatile Organics	NELAP	9/26/2018
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Tetrachloroethylene (Perchloroethylene)	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Tetrahydrofuran (THF)	EPA 8260	Volatile Organics	NELAP	3/20/2017
Thallium	EPA 200.7	Metals	NELAP	2/19/2002
Thallium	EPA 200.8	Metals	NELAP	2/19/2002
Thallium	EPA 6010	Metals	NELAP	7/1/2003
Thallium	EPA 6020	Metals	NELAP	7/1/2003
Thionazin (Zinophos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Tin	EPA 200.7	Metals	NELAP	8/30/2002
Tin	EPA 200.8	Metals	NELAP	3/18/2010
Tin	EPA 6010	Metals	NELAP	7/1/2003
Tin	EPA 6020	Metals	NELAP	1/2/2007
Titanium	EPA 200.7	Metals	NELAP	3/18/2010
Titanium	EPA 200.8	Metals	NELAP	3/18/2010
Titanium	EPA 6010	Metals	NELAP	3/18/2010
Titanium	EPA 6020	Metals	NELAP	7/25/2005
Toluene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Toluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Total coliforms	SM 9222 B-2006	Microbiology	NELAP	4/4/2019
Total coliforms	SM 9223 B (Colilert Quanti-Tray)-2004	Microbiology	NELAP	4/4/2019
Total cyanide	EPA 335.4	General Chemistry	NELAP	7/25/2005
Total cyanide	EPA 9012	General Chemistry	NELAP	9/22/2004
Total cyanide	SM 4500-CN^- E-2011	General Chemistry	NELAP	4/4/2019
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	8/30/2002
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	7/1/2003
Total organic carbon	EPA 9060	General Chemistry	NELAP	7/1/2003
Total organic carbon	SM 5310 B-2011	General Chemistry	NELAP	4/4/2019
Total Petroleum Hydrocarbons (TPH)	EPA 1664A	General Chemistry	NELAP	11/17/2016
Total Petroleum Hydrocarbons (TPH)	EPA 1664B	General Chemistry	NELAP	9/26/2018
Total Petroleum Hydrocarbons (TPH)	FL-PRO	Extractable Organics	NELAP	7/1/2003

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Total phenolics	EPA 420.4	General Chemistry	NELAP	1/9/2012
Total phenolics	EPA 9066	General Chemistry	NELAP	3/20/2017
Total sulfur	ALS GEN-Ion Chrom	General Chemistry	NELAP	7/17/2014
Toxaphene (Chlorinated camphene)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	3/1/2018
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
trans-1,2-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	3/1/2018
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichloroethene (Trichloroethylene)	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichlorofluoromethane	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Turbidity	EPA 180.1	General Chemistry	NELAP	2/19/2002
Turbidity	SM 2130 B-2011	General Chemistry	NELAP	4/4/2019
Uranium	EPA 200.8	Metals	NELAP	3/20/2017
Uranium	EPA 6020	Metals	NELAP	3/20/2017
Vanadium	EPA 200.7	Metals	NELAP	2/19/2002
Vanadium	EPA 200.8	Metals	NELAP	2/19/2002
Vanadium	EPA 6010	Metals	NELAP	7/1/2003
Vanadium	EPA 6020	Metals	NELAP	7/25/2005
Vinyl acetate	EPA 624.1	Volatile Organics	NELAP	9/26/2018
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Vinyl chloride	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Xylene (total)	EPA 624.1	Volatile Organics	NELAP	3/1/2018
Xylene (total)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Zinc	EPA 200.7	Metals	NELAP	2/19/2002
Zinc	EPA 200.8	Metals	NELAP	2/19/2002
Zinc	EPA 6010	Metals	NELAP	2/19/2002
Zinc	EPA 6020	Metals	NELAP	2/19/2002

Laboratory Scope of Accreditation

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State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	Volatile Organics	NELAP	7/17/2014
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/17/2014
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,2,4,5-Tetrachlorobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/17/2014
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,2-Dinitrobenzene	EPA 8270	Extractable Organics	NELAP	3/20/2017
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	2/19/2002
1,3,5-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	3/20/2017
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/17/2014
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8270	Extractable Organics	NELAP	1/12/2010
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	Extractable Organics	NELAP	5/12/2009
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
1,4-Dinitrobenzene	EPA 8270	Extractable Organics	NELAP	3/20/2017
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270	Extractable Organics	NELAP	3/20/2017
1,4-Naphthoquinone	EPA 8270	Extractable Organics	NELAP	1/9/2012
1,4-Phenylenediamine	EPA 8270	Extractable Organics	NELAP	1/9/2012

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State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	2/19/2002
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	7/17/2014
1-Naphthylamine	EPA 8270	Extractable Organics	NELAP	1/9/2012
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	2/19/2002
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,3,5,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	9/26/2018
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,6-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	2/19/2002
2-Acetylaminofluorene	EPA 8270	Extractable Organics	NELAP	2/19/2002
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	2/19/2002
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	2/19/2002
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	2/19/2002
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	2/19/2002
2-Hexanone	EPA 8260	Volatile Organics	NELAP	2/19/2002
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	2/19/2002
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	2/19/2002
2-Naphthylamine	EPA 8270	Extractable Organics	NELAP	1/9/2012
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/19/2002
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	5/7/2003
2-Picoline (2-Methylpyridine)	EPA 8270	Extractable Organics	NELAP	2/19/2002
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	2/19/2002
3,3'-Dimethylbenzidine	EPA 8270	Extractable Organics	NELAP	1/9/2012
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	7/17/2014
3-Methylcholanthrene	EPA 8270	Extractable Organics	NELAP	2/19/2002
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/19/2002
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002

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State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
4-Aminobiphenyl	EPA 8270	Extractable Organics	NELAP	1/9/2012
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	2/19/2002
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	2/19/2002
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	2/19/2002
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	2/19/2002
4-Dimethyl aminoazobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	2/19/2002
4-Methylphenol (p-Cresol)	EPA 8270	Extractable Organics	NELAP	2/19/2002
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/19/2002
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
7,12-Dimethylbenz(a) anthracene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Acenaphthene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Acetone	EPA 8260	Volatile Organics	NELAP	2/19/2002
Acetonitrile	EPA 8260	Volatile Organics	NELAP	2/19/2002
Acetophenone	EPA 8270	Extractable Organics	NELAP	3/18/2010
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	2/19/2002
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	2/19/2002
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	2/19/2002
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	8/30/2002
Aluminum	EPA 6010	Metals	NELAP	2/19/2002
Aluminum	EPA 6020	Metals	NELAP	2/19/2002
Amenable cyanide	EPA 9012	General Chemistry	NELAP	9/22/2004
Aniline	EPA 8270	Extractable Organics	NELAP	2/19/2002
Anthracene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Antimony	EPA 6010	Metals	NELAP	1/19/2010
Antimony	EPA 6020	Metals	NELAP	2/19/2002
a-Pinene	EPA 8260	Volatile Organics	NELAP	1/9/2012
Aramite	EPA 8270	Extractable Organics	NELAP	2/19/2002
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/19/2002

Laboratory Scope of Accreditation

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E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Aroclor-1262 (PCB-1262)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/9/2012
Aroclor-1268 (PCB-1268)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	1/9/2012
Arsenic	EPA 6010	Metals	NELAP	2/19/2002
Arsenic	EPA 6020	Metals	NELAP	2/19/2002
Atrazine	EPA 8270	Extractable Organics	NELAP	3/20/2017
Barium	EPA 6010	Metals	NELAP	2/19/2002
Barium	EPA 6020	Metals	NELAP	2/19/2002
Benzaldehyde	EPA 8270	Extractable Organics	NELAP	3/20/2017
Benzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Benzidine	EPA 8270	Extractable Organics	NELAP	8/30/2002
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Benzoic acid	EPA 8270	Extractable Organics	NELAP	2/19/2002
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	2/19/2002
Beryllium	EPA 6010	Metals	NELAP	2/19/2002
Beryllium	EPA 6020	Metals	NELAP	2/19/2002
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Biphenyl	EPA 8270	Extractable Organics	NELAP	3/20/2017
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	2/19/2002
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	2/19/2002
Boron	EPA 6010	Metals	NELAP	2/19/2002
Boron	EPA 6020	Metals	NELAP	9/26/2018
Bromide	EPA 9056	General Chemistry	NELAP	2/19/2002
Bromobenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	2/19/2002

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E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Bromoform	EPA 8260	Volatile Organics	NELAP	2/19/2002
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	2/19/2002
Cadmium	EPA 6010	Metals	NELAP	2/19/2002
Cadmium	EPA 6020	Metals	NELAP	2/19/2002
Calcium	EPA 6010	Metals	NELAP	2/19/2002
Calcium	EPA 6020	Metals	NELAP	9/26/2018
Caprolactam	EPA 8270	Extractable Organics	NELAP	3/20/2017
Carbazole	EPA 8270	Extractable Organics	NELAP	7/17/2014
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	2/19/2002
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	2/19/2002
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Chloride	EPA 9056	General Chemistry	NELAP	2/19/2002
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Chlorobenzilate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Chloroethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
Chloroform	EPA 8260	Volatile Organics	NELAP	2/19/2002
Chloroprene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Chromium	EPA 6010	Metals	NELAP	2/19/2002
Chromium	EPA 6020	Metals	NELAP	2/19/2002
Chromium VI	EPA 7196	General Chemistry	NELAP	2/19/2002
Chrysene	EPA 8270	Extractable Organics	NELAP	2/19/2002
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	2/19/2002
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Cobalt	EPA 6010	Metals	NELAP	2/19/2002
Cobalt	EPA 6020	Metals	NELAP	2/19/2002
Conductivity	EPA 9050	General Chemistry	NELAP	9/26/2018
Copper	EPA 6010	Metals	NELAP	2/19/2002
Copper	EPA 6020	Metals	NELAP	2/19/2002
Cyclohexane	EPA 8260	Volatile Organics	NELAP	7/17/2014
Cyclohexanone	EPA 8260	Volatile Organics	NELAP	7/17/2014
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	2/19/2002
Di(2-ethylhexyl)adipate	EPA 8270	Extractable Organics	NELAP	3/20/2017
Diallate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	2/19/2002

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E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Dibenz(a,j)acridine	EPA 8270	Extractable Organics	NELAP	2/19/2002
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	2/19/2002
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
Dibromomethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	2/19/2002
Diethyl ether	EPA 8260	Volatile Organics	NELAP	7/17/2014
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	2/19/2002
Dimethoate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	2/19/2002
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	2/19/2002
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	2/19/2002
Diphenyl ether	EPA 8270	Extractable Organics	NELAP	3/20/2017
D-Limonene	EPA 8260	Volatile Organics	NELAP	1/9/2012
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	1/2/2007
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	7/17/2014
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	2/19/2002
Ethyl methacrylate	EPA 8270	Extractable Organics	NELAP	3/20/2017
Ethyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	2/19/2002
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Ethyl-t-butylether (ETBE)	EPA 8260	Volatile Organics	NELAP	7/17/2014
Famphur	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Fluoranthene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Fluorene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Fluoride	EPA 9056	General Chemistry	NELAP	2/19/2002
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/7/2015
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	6/25/2012
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	2/19/2002
Hexachloropropene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Ignitability	EPA 1020	General Chemistry	NELAP	2/19/2002
Ignitability	EPA 1030	General Chemistry	NELAP	1/2/2007
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	2/19/2002
Iron	EPA 6010	Metals	NELAP	2/19/2002
Iron	EPA 6020	Metals	NELAP	9/26/2018
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	2/19/2002
Isodrin	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Isophorone	EPA 8270	Extractable Organics	NELAP	2/19/2002
Isopropyl ether	EPA 8260	Volatile Organics	NELAP	7/17/2014
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Isosafrole	EPA 8270	Extractable Organics	NELAP	2/19/2002
Kepone	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	3/18/2010
Lead	EPA 6010	Metals	NELAP	2/19/2002
Lead	EPA 6020	Metals	NELAP	2/19/2002
Lithium	EPA 6010	Metals	NELAP	7/17/2014
m/p-Xylenes	EPA 8260	Volatile Organics	NELAP	1/9/2012
Magnesium	EPA 6010	Metals	NELAP	2/19/2002
Magnesium	EPA 6020	Metals	NELAP	9/26/2018
Manganese	EPA 6010	Metals	NELAP	2/19/2002
Manganese	EPA 6020	Metals	NELAP	2/19/2002
Mercury	EPA 6020	Metals	NELAP	9/26/2018
Mercury	EPA 7471	Metals	NELAP	2/19/2002
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	2/19/2002
Methapyrilene	EPA 8270	Extractable Organics	NELAP	3/20/2017
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Methyl acetate	EPA 8260	Volatile Organics	NELAP	7/17/2014
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	2/19/2002
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	2/19/2002

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	2/19/2002
Methyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	2/19/2002
Methyl parathion (Parathion, methyl)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/12/2010
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	8/30/2002
Methylcyclohexane	EPA 8260	Volatile Organics	NELAP	7/17/2014
Methylene chloride	EPA 8260	Volatile Organics	NELAP	2/19/2002
Molybdenum	EPA 6010	Metals	NELAP	2/19/2002
Molybdenum	EPA 6020	Metals	NELAP	7/25/2005
Naphthalene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Naphthalene	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
n-Decane	EPA 8270	Extractable Organics	NELAP	3/20/2017
Nickel	EPA 6010	Metals	NELAP	2/19/2002
Nickel	EPA 6020	Metals	NELAP	2/19/2002
Nitrate	EPA 9056	General Chemistry	NELAP	2/19/2002
Nitrite	EPA 9056	General Chemistry	NELAP	2/19/2002
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Nitroquinoline-1-oxide	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Nitrosodiethylamine	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Nitroso-di-n-butylamine	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Nitrosomethylethylamine	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Nitrosomorpholine	EPA 8270	Extractable Organics	NELAP	8/30/2002
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	1/9/2012
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	2/19/2002
n-Octadecane	EPA 8270	Extractable Organics	NELAP	3/20/2017
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	7/17/2014
o,o,o-Triethyl phosphorothioate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Oil & Grease	EPA 9071	General Chemistry	NELAP	8/22/2012
o-Toluidine	EPA 8270	Extractable Organics	NELAP	2/19/2002
o-Xylene	EPA 8260	Volatile Organics	NELAP	8/30/2002
Paint Filter Liquids Test	EPA 9095	General Chemistry	NELAP	7/17/2014
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/12/2009

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
p-Dioxane	EPA 8260	Volatile Organics	NELAP	2/19/2002
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Pentachloroethane	EPA 8270	Extractable Organics	NELAP	3/20/2017
Pentachloronitrobenzene (Quintozene)	EPA 8270	Extractable Organics	NELAP	2/19/2002
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
pH	EPA 9040	General Chemistry	NELAP	7/17/2014
pH	EPA 9045	General Chemistry	NELAP	2/19/2002
Phenacetin	EPA 8270	Extractable Organics	NELAP	2/19/2002
Phenanthrene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Phenol	EPA 8270	Extractable Organics	NELAP	2/19/2002
Phorate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	1/12/2010
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	9/26/2018
Potassium	EPA 6010	Metals	NELAP	2/19/2002
Potassium	EPA 6020	Metals	NELAP	9/26/2018
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	2/19/2002
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	2/19/2002
Pyrene	EPA 8270	Extractable Organics	NELAP	2/19/2002
Pyridine	EPA 8270	Extractable Organics	NELAP	2/19/2002
Residue-volatile	SM 2540 G	General Chemistry	NELAP	3/20/2017
Safrole	EPA 8270	Extractable Organics	NELAP	2/19/2002
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Selenium	EPA 6010	Metals	NELAP	2/19/2002
Selenium	EPA 6020	Metals	NELAP	7/25/2005
Silver	EPA 6010	Metals	NELAP	2/19/2002
Silver	EPA 6020	Metals	NELAP	2/19/2002
Sodium	EPA 6010	Metals	NELAP	2/19/2002
Sodium	EPA 6020	Metals	NELAP	9/26/2018
Strontium	EPA 6010	Metals	NELAP	3/18/2010
Strontium	EPA 6020	Metals	NELAP	1/2/2007
Styrene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Sulfate	EPA 9056	General Chemistry	NELAP	2/19/2002
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	2/19/2002
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	7/17/2014
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	2/19/2002

Laboratory Scope of Accreditation

Attachment to Certificate #: E82502-66, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82502 EPA Lab Code: FL01294 (904) 739-2277

E82502
ALS Environmental - Jacksonville
9143 Philips Highway
Suite 200
Jacksonville, FL 32256

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Tetrahydrofuran (THF)	EPA 8260	Volatile Organics	NELAP	3/20/2017
Thallium	EPA 6010	Metals	NELAP	2/19/2002
Thallium	EPA 6020	Metals	NELAP	2/19/2002
Thionazin (Zinophos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/19/2002
Tin	EPA 6010	Metals	NELAP	8/30/2002
Tin	EPA 6020	Metals	NELAP	1/2/2007
Titanium	EPA 6010	Metals	NELAP	3/18/2010
Titanium	EPA 6020	Metals	NELAP	1/2/2007
Toluene	EPA 8260	Volatile Organics	NELAP	2/19/2002
Total cyanide	EPA 9012	General Chemistry	NELAP	9/22/2004
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	2/19/2002
Total organic carbon	EPA 9060	General Chemistry	NELAP	8/30/2002
Total Petroleum Hydrocarbons (TPH)	FL-PRO	Extractable Organics	NELAP	2/19/2002
Total sulfur	ALS GEN-Ion Chrom	General Chemistry	NELAP	7/17/2014
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	4/26/2018
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	2/19/2002
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	2/19/2002
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	2/19/2002
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	8/30/2002
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	2/19/2002
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	2/19/2002
Vanadium	EPA 6010	Metals	NELAP	2/19/2002
Vanadium	EPA 6020	Metals	NELAP	7/25/2005
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	2/19/2002
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	2/19/2002
Xylene (total)	EPA 8260	Volatile Organics	NELAP	2/19/2002
Zinc	EPA 6010	Metals	NELAP	2/19/2002
Zinc	EPA 6020	Metals	NELAP	2/19/2002

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- Petroleum Contaminated Sites and Spills (RCRA/UST)
- CWA Associated Samples (NPDES, 503 Sludge Rule)
- CERCLA Remediation Projects
- Microbiology
- Method Development**

Capabilities

- CERCLA
- CWA (NPDES)
- EPA Level 4 Deliverables
- Landfills
- Site Investigation/Remediation
- RCRA/Hazardous Waste
- RCRA/UST
- 503 Sludge Rule
- TTO List (Priority Pollutants)
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- SDWA
- CPSC
- ANSI
- FDA

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Connect with us!

Halee Hernandez

9143 Philips Highway, Suite 200 | Jacksonville, FL 32256 | +1 904 739 2277

Education

Georgia State University - Atlanta, Georgia
B.S., Chemistry, 2015

Inorganics Team Lead

October 2018 – Present

Responsible for ensuring efficient operation of the Metals and General Chemistry/Microbiology departments. Primary duties include analytical data review, training staff, and directing daily activities of staff to meet deadlines. Ensures all duties within the section are conducted in accordance with company procedures in order to maintain data quality and employee safety. Additional duties include ordering supplies and inventory management, housekeeping, investigating client concerns, and delegating tasks in order to meet long-term department goals. Assists with instrument maintenance and troubleshooting, method development, and process improvements. Also a certified First-Aider and the Secondary Hazardous Waste Coordinator. Additional duties include participation in the Safety Committee and Spill Response Team.

Previous Experience

Analyst I **May 2016 – Oct 2018**

Responsible for sample preparation and analysis within the Inorganic Section using EPA and Standard Method methodologies. Primary responsibilities include sample preparation and analysis of BOD/CBOD, UBOD, TOC, COD, Cyanide, Phenol, Silica, and various general chemistry tests such as Residual Chlorine, Odor, and Turbidity.

Tatum Schumann

9143 Philips Highway, Suite 200 | Jacksonville, FL 32256 | +1 904 739 2277

Laboratory Technician I

August 2018 – Present

Responsible for sample preparation and analysis within the Inorganic Section using EPA and Standard Method methodologies. Primary responsibilities include sample preparation and analysis of BOD/CBOD, UBOD, TOC, COD, pH, Residual Chlorine, Color and Turbidity.

Previous Experience

None

Education

University of North Florida -
Jacksonville, Fl

B.S., Chemistry, 2018

ATTACHMENT RE: [EXTERNAL] - ALS-JAX - Bid info required - TOC in soils

Eric Smith <Eric.Smith@alsglobal.com>
Thu 4/16/2020 3:09 PM

To: Monica Alexander <m.alexander@flenviro.com>
Cc: Katharine Kutil <kkutil@flenviro.com>; Mandy Sullivan <Mandy.Sullivan@alsglobal.com>; Valerie Spears <Valerie.Spears@alsglobal.com>

4 attachments (915 KB)
Capabilities Jacksonville Laboratory.pdf; Jacksonville Equipment List 2.24.20.pdf; HERNANDEZ H.pdf; SCHUMANN T.pdf;

****
This attachment might contain a virus or improper link, use caution when opening.
If not sure, please forward to support@pcxperts.us for verification.
****

Hi Monica –

Please see attached. Resumes (including referenced TOC experience) are provided for lab personnel who are currently qualified to perform TOC analysis. We do not have an external maintenance agreement for our TOC instrumentation. It is repaired as needed by laboratory staff.

Eric Smith
QA Manager/HSE Manager, Environmental
Jacksonville, FL /North America

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F +1 904 739 2011
eric.smith@alsglobal.com
9143 Philips Highway, Suite 200
Jacksonville, FL 32256

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From: Monica Alexander [mailto:m.alexander@flenviro.com]
Sent: Thursday, April 16, 2020 1:17 PM
To: Mandy Sullivan <Mandy.Sullivan@alsglobal.com>; Eric Smith <Eric.Smith@alsglobal.com>
Cc: Katharine Kutil <kkutil@flenviro.com>
Subject: [EXTERNAL] - ALS-JAX - Bid info required - TOC in soils
Importance: High

CAUTION: This email originated from outside of ALS. Do not click links or open attachments unless you recognize the sender and are sure content is relevant to you.

Hi Mandy & Eric,

I hope you are well and healthy!

Katharine Kutil and I are putting together a bid proposal and would like to have ALS-JAX as one of our subcontractors for TOC analysis in 10 soils via SM9060. Could you please provide the required items listed below:

NELAP certificate & scope of accreditation - (We have it already)
Statement of Qualifications
Resumes of PROPOSER'S sub-consultants' personnel and their experience with current analytical equipment.
Provide PROPOSER'S inventory of instrumentation, age, and maintenance agreements.

I apologize for the short notice, but we will need this information by tomorrow. Let me know if you have any questions, and thank you for time and attention.

Stay Healthy!
COVID 19 Update, now on our website: www.flenviro.com

Regards,

Monica B. Alexander, Accounts Executive
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Fort Lauderdale, FL 33309
(O) 954-978-6400; (M) 305-733-0824
(F) 954-978-2233
Email: m.alexander@flenviro.com
Instagram: @monica_at_fl_spectrum
www.flenviro.com

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Equipment	Manufacturer	Model	Year Purchased	Location	Condition*
GC	Agilent	HP 5890 II			
MS (MS51)	Agilent	HP 5971A	1999	Volatiles	Good
Autosampler	Dynatherm	Thermal Desorption Unit			
GC	Agilent	HP 6890			
MS (MS54)	Agilent	HP 5972	1999	Volatiles	Good
Concentrator	OI	4560 Sample Concentrator			
Autosampler	EST	Centurion			
GC	Agilent	HP 7890B			
MS (MS55)	Agilent	HP 5977A	2014	Volatiles	New
Concentrator/Autosampler	Tekmar	Atomx			
GC	Agilent	HP 7890B			
MS (MS56)	Agilent	HP 5977B	2018	Volatiles	New
Concentrator/Autosampler	Tekmar	Atomx			
GC (GC52)	Agilent	HP 5890 II			
Detector	Agilent	Dual FIDs	2004	Volatiles	Good
Autosampler	Agilent	HP 6890 Autosampler			
GC (GC53)	Agilent	HP 5890 II	1996	Volatiles	Good
Detector	Agilent	FID/PID			
Concentrator	Tekmar	14-8900 Sample Concentrator			
Autosampler	EST	Centurion			
Balance (J-BAL-5)	Sartorius	AC210S	2010	Volatiles	Good
Drying Oven	Fisher Scientific	Fisher Isotemp 500	N/A	Volatiles	Good
Sonicator	Fisher Scientific	FS21H	N/A	Volatiles	Good
High Temp Oil Bath	Fisher Scientific	160A	N/A	Volatiles	Good
ICP-AES (ICPAES-01)	Perkin Elmer	Optima 5300 DV	2005	Metals	Good
Autosampler	Perkin Elmer	AS 93plus	2005		
ICP-MS (ICPMS-02)	Agilent	7900 ICPMS w/ISIS Pump	2015	Metals	New
Autosampler	Agilent	SPS 4	2019		
Mercury Analyzer (CVAA-02)	Teledyne/Cetac	M7600	2015	Metals	New
Autosampler	Teledyne/Cetac	ASX-520			
Digestion Blocks (-4, -6)	Environmental Express	(2) SC154	2016	Metals	New
Digestion Blocks (-8, -9)	ALS Global	(2) ALS ENV HB	2017	Metals	New
Balance (J-BAL-11)	Sartorius	Secura 3102-1S	2018	Metals	New
Balance (J-BAL-10)	Sartorius	Secura 3102-1S	2018	TCLP	New
Tumbler (J-Tumbler-1)	Associated Design	3740-12-BRE	2002	TCLP	Good
Tumbler (J-Tumbler-3)	Associated Design	3740-12-BRE-11	2013	TCLP	Good
Tumbler (J-Tumbler-4)	Associated Design	3740-12-BRE-11	2013	TCLP	Good
GC (GC05)	Agilent	HP 6890N			
Detectors	Agilent	Dual FIDs	2010	Semi Volatiles	Good
Autosampler	Agilent	HP 7683 Autosampler			
GC (GC06)	Agilent	7890 B			
Detectors	Agilent	Dual FIDs	2017	Semi Volatiles	New
Autosampler	Agilent	7693 Autosampler			
GC (GC07)	Agilent	7890 B			
Detectors	Agilent	Dual ECDs	2017	Semi Volatiles	New
Autosampler	Agilent	7693 Autosampler			
GC	Agilent	HP 6890			
MS (MS02)	Agilent	HP 5973	1999	Semi Volatiles	Good
Autosampler	CTC Analytics	LEAP Autosampler			
GC	Agilent	HP 7890A			
MS (MS04)	Agilent	HP 5975C	2010	Semi Volatiles	Good
Autosampler	Agilent	HP 7683 Autosampler			
GC	Agilent	HP 7890A			
MS (MS05)	Agilent	HP 5975C	2010	Semi Volatiles	Good
Autosampler	Agilent	HP 7693 Autosampler			
GC	Agilent	HP 7890B			
MS (MS06)	Agilent	HP 5977B	2018	Semi Volatiles	New
Autosampler	Agilent	HP 7693 Autosampler			
Ultrasonic Disrupter	Branson	Sonifier Model 450	1992	Semi Volatiles	Good
Soxtherm	Gerhardt	(2) SE-416	2011	Semi Volatiles	Good
Microwave	CEM	Mars 6	2012	Semi Volatiles	New
Concentrators	Caliper Life Sciences	(2) Turbovap II	2010	Semi Volatiles	Good
Concentrators	Biotage	(2) Turbovap II	2014	Semi Volatiles	New
Shaker Table	Eberbach	6010	N/A	Semi Volatiles	Good

	Equipment	Manufacturer	Model	Year Purchased	Location	Condition*
	Drying Ovens	Binder	(2) Binder ED 240-UL	2008	Semi Volatiles	Good
	Drying Oven	VWR	VWR 1305U	N/A	Semi Volatiles	Good
	Drying Oven	Fisher Scientific	Fischer Isotemp	NA	Semi Volatiles	Good
	Centrifuge	IEC	IEC Clinical Centrifuge	N/A	Semi Volatiles	Good
	Balance (J-BAL-9)	Mettler Toledo	MS204S	2012	Semi Volatiles	New
	Balance (J-BAL-2)	Sartorius	LC620P	N/A	Semi Volatiles	Good
	Hotplate / Stirrer	Thermo Scientific	(3) Cimarec	N/A	Semi Volatiles	Good
	Multi-magnestir	LabLine	1278	N/A	Semi Volatiles	Good
	Rotator (Rotator-1)	N/A	N/A	N/A	Semi Volatiles	Good
	Shaker	Glas-Col	099A VS55012	N/A	Semi Volatiles	Good
	Scoop		Scoop for 8011/504.1 (J-Scoop-1)	N/A	Semi Volatiles	Good
	Ion Chromatograph	Thermo Scientific	Dionex ICS-2100		General Chemistry	
	Autosampler	Thermo Scientific	Dionex AS-AP	2015		New
	External Pump	Thermo Scientific	Dionex AXP			
	Flow Injection Analyzer	Lachat	Lachat Quick Chem 8500	2009	General Chemistry	Good
	TOC	Shimadzu	TOC-VCPH with Autosampler	2009	General Chemistry	Good
	UV/Vis Spectrophotometer	Thermo	Aquamate 8000	2015	General Chemistry	New
	Autotitrator	Mantech	Mantech with Autosampler	2010	General Chemistry	New
	pH probe (J-Probe-1)	Thermo	Orion pH/ISE probe (PS1-19132)	2010	General Chemistry	New
	Conductivity probe (J-Probe-4)	Jenway	Autotitrator Conductivity probe (F10)	2010	General Chemistry	New
	Conductivity probe (J-Probe-5)	Jenway	Autotitrator Conductivity probe (B15)	2010	General Chemistry	New
	Digestion Block	Environmental Express	(1) CAL3300	NA	General Chemistry	Good
	Distiller (CN)	Andrews	(1) Labcrest Midi-Vap	2010	General Chemistry	Good
	Distiller (Phenols)	Lachat	(2) Micro Dist	2010	General Chemistry	Good
	Digestion System Block (TKN)	SEAL	BD "s" Digestion Block	2005	General Chemistry	Good
	Turbidimeter (-01)	HACH	2300 N	2017	General Chemistry	New
	pH meter (J-PH-02)	Thermo	Orion pH/ISE meter 710A (27961)	1994	General Chemistry	Good
	pH probe (J-Probe-7)	Thermo	Orion pH/ISE probe (UR1-13876)	2017	General Chemistry	New
	pH meter (J-PH-04)	VWR	VWR Symphony SB70P (1142000)	1994	General Chemistry	Good
	pH probe (J-Probe-3)	Thermo	Orion pH/ISE probe (PV1-30232)	N/A	General Chemistry	Good
	pH probe (J-Probe-18)	Thermo	Ross Ultra pH/ISE probe (VW1-18738)	2017	General Chemistry	Good
	pH probe (J-Probe-19)	Thermo	Orion pH/ISE probe (VP1-11800)	2017	General Chemistry	New
	Temperature Probe (J-Probe-14)	VWR	Symphony (G0111941)	N/A	General Chemistry	Good
	Temperature Probe (J-Probe-15)	VWR	Symphony (JS116365)	N/A	General Chemistry	Good
	Dissolved Oxygen Meter (J-DOMeter-01)	Thermo	Thermo Orion 3 Star (011274)	2006	General Chemistry	Good
	Dissolved Oxygen Probe (J-Probe-8)	Thermo	DO/BOD Autostir Electrode (NZ1002)	2006	General Chemistry	Good
	Dissolved Oxygen Probe (J-Probe-9)	Thermo	DO/BOD Autostir Electrode (009341)	2006	General Chemistry	Good
	Dissolved Oxygen Meter (J-DOmeter-02)	YSI	Pro ODO Handheld (14H103340)	2014	General Chemistry	New
	Dissolved Oxygen Probe (J-Probe-16)	YSI	Pro OBOD probe (14H103219)	2014	General Chemistry	New

Equipment	Manufacturer	Model	Year Purchased	Location	Condition*
Conductivity Meter (-02)	YSI	3200	N/A	General Chemistry	Good
Conductivity Probe (J-Probe-17)	YSI	3252 (16J100621)	2017	General Chemistry	New
Conductivity Probe (J-Probe-11)	YSI	3254 (6897)	N/A	General Chemistry	New
Conductivity Probe (J-Probe-12)	YSI	3254 (7824)	N/A	General Chemistry	Good
Conductivity Probe (J-Probe-13)	YSI	3254 (6898)	N/A	General Chemistry	Good
Colorimeter	HACH	HACH pocket colorimeter for chlorine	1995	General Chemistry	Good
Block Digestor (COD)	Environmental Express	B3000	2016	General Chemistry	New
Balance (J-BAL-12)	Sartorius	Secura 224-1S	2018	General Chemistry	New
Balance (J-BAL-3)	Denver	A250	N/A	General Chemistry	Good
Flashpoint	ERDCO	ERDCO Setaflash Tester	2018	General Chemistry	New
Halogens	Parr Bomb	(4) Parr Bomb 2901 EB	N/A	General Chemistry	Good
BOD incubator	Shel Lab	LI20P	2013	General Chemistry	New
Drying Ovens	Shel Lab	FX28-2	2013	General Chemistry	New
Drying Ovens	VWR	VWR 1305FM	N/A	General Chemistry	Good
Drying Ovens	Fisher Scientific	Fisher Isotemp	1994	General Chemistry	Good
Drying Ovens	Binder	Binder ED 240-UL	2008	General Chemistry	Good
Desiccators	Boekel	(2) 1340	N/A	General Chemistry	Good
Desiccators	Boekel	1344	2014	General Chemistry	New
Micro Mill Grinder	SPEX	SPEX 6850 Freezer/Mill	2005	General Chemistry	Good
Mini vortexer	Thermolyne	M63215	N/A	General Chemistry	Good
Hot Block	LabLine	3520	N/A	General Chemistry	Good
Hot plate / Stirrer	Thermolyne	(2) Cimarec1	N/A	General Chemistry	Good
Hot plate / Stirrer	Corning	6795-220	N/A	General Chemistry	Good
Vortex	Corning	LSE Vortex Mixer 6775 (S5060966)	2014	General Chemistry	New
Colony Counter	Leica	Quebec Darkfield	N/A	Microbiology	Good
Autoclave		Market Forge Sterilmatic	N/A	Microbiology	Good
Waterbath	Fisher Scientific	Fisher Isotemp	N/A	Microbiology	Good
Drybath (JAX-037)	Fisher Scientific	110011	N/A	Microbiology	Good
Incubator (Incubator-02)	Blue-M	Blue-M Dry type Incubator	1994	Microbiology	Good
Incubator (Incubator-04)	ShelLab	SMI2	2015	Microbiology	New
Quantitray Sealer	IDEXX	Quantitray Sealer 2X (15-105-08720)	2015	Microbiology	Used
UV light		BLAK-RAY UVL-56	N/A	Microbiology	Good
Hot plate / Stirrer	Corning	6795-220	N/A	Microbiology	Good
Sample Compositor (Field)	Sigma	Sigma	N/A	SMO	Good
Sample Compositor (Field)	ISCO	(2) ISCO	N/A	SMO	Good
pH meter (Field)	YSI	Model 63	N/A	SMO	Good
pH meter (Field)	YSI	Model 60	2014	SMO	New
N/A = Information not available					
* Condition at time of purchase. Options for equipment brought online are "New" or "Used". Older equipment where condition at time of purchase is not known is classified as "Good".					

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E87667

TESTAMERICA DENVER
4955 YARROW STREET
ARVADA, CO 80002

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87667-57-07/01/2019
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E87667-57, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Ammonium perfluorooctanoate	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorobutane sulfonate (PFBS, perfluorobutane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorobutanoate (PFBA, perfluorobutyric acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorodecane sulfonate (PFDS, perfluorodecane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorodecanoate (PFDA, perfluorodecanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorododecanoate (PFDoA, perfluorododecanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluoroheptanoate (PFHpA, perfluoroheptanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorohexane sulfonate (PFHxS, perfluorohexane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorohexanoate (PFHxA, perfluorohexanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorononanoate (PFNA, perfluorononanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorooctane sulfonamide (PFOSA)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorooctane sulfonate (PFOS, perfluorooctane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorooctanoate (PFOA, perfluorooctanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluoropentanoate (PFPeA, perfluoropentanoic acid))	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorotetradecanoate (PFTeDA, perfluorotetradecanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluorotridecanoate (PFTriA, perfluorotridecanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014
Perfluoroundecanoate (PFUnA, perfluoroundecanoic acid)	DV-LC-0012/HPLC-MS-MS	Group I Unregulated Contaminants	NELAP	5/22/2014

Laboratory Scope of Accreditation

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State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,1-Trichloro-2,2,2-trifluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,1-Trichloroethane	EPA 624	Volatile Organics	NELAP	5/22/2014
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,2,2-Tetrachloroethane	EPA 624	Volatile Organics	NELAP	5/22/2014
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,2-Trichloroethane	EPA 624	Volatile Organics	NELAP	5/22/2014
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dichloro-1-fluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dichloroethane	EPA 624	Volatile Organics	NELAP	5/22/2014
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dichloroethylene	EPA 624	Volatile Organics	NELAP	5/22/2014
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dimethyl hydrazine (UDMH)	DV-WC-0077/IC-ELEC	General Chemistry	NELAP	5/22/2014
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2,3-Trichloropropane	EPA 8011	Volatile Organics	NELAP	5/22/2014
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2,3-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2,4,5-Tetrachlorobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
1,2,4,5-Tetrachlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,2,4-Trichlorobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	5/22/2014
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	5/22/2014
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dichloro-1,1,2-trifluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dichlorobenzene	EPA 602	Volatile Organics	NELAP	5/22/2014
1,2-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	5/22/2014
1,2-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
1,2-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014

Laboratory Scope of Accreditation

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E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,2-Dichloroethane	EPA 624	Volatile Organics	NELAP	5/22/2014
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dichloropropane	EPA 624	Volatile Organics	NELAP	5/22/2014
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Diphenylhydrazine	EPA 625	Extractable Organics	NELAP	5/22/2014
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,3,5-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8321	Extractable Organics	NELAP	5/22/2014
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8330	Extractable Organics	NELAP	5/22/2014
1,3-Dichlorobenzene	EPA 602	Volatile Organics	NELAP	5/22/2014
1,3-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	5/22/2014
1,3-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
1,3-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,3-Dinitrobenzene (1,3-DNB)	EPA 8321	Extractable Organics	NELAP	5/22/2014
1,3-Dinitrobenzene (1,3-DNB)	EPA 8330	Extractable Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 602	Volatile Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 624	Volatile Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,4-Dinitrobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 625	Extractable Organics	NELAP	5/22/2014
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,4-Naphthoquinone	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,4-Phenylenediamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
1-Chloro-1,1-difluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1-Chlorohexane	EPA 8260	Volatile Organics	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1-Methylnaphthalene	EPA 610	Extractable Organics	NELAP	5/22/2014
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1-Methylnaphthalene	EPA 8310	Extractable Organics	NELAP	5/22/2014
1-Naphthylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	EPA 8260	Volatile Organics	NELAP	5/22/2014
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 625	Extractable Organics	NELAP	5/22/2014
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,3-Dinitrotoluene	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4,5-T	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4,5-Trichlorophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4,6-Trichlorophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4,6-Trinitrotoluene (2,4,6-TNT)	EPA 8321	Extractable Organics	NELAP	5/22/2014
2,4,6-Trinitrotoluene (2,4,6-TNT)	EPA 8330	Extractable Organics	NELAP	5/22/2014
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4-D	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4-DB	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4-Diamino-6-nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
2,4-Diaminotoluene	EPA 625	Extractable Organics	NELAP	5/22/2014
2,4-Dichlorophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4-Dimethylphenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrotoluene (2,4-DNT)	EPA 625	Extractable Organics	NELAP	5/22/2014

Laboratory Scope of Accreditation

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E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrotoluene (2,4-DNT)	EPA 8321	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrotoluene (2,4-DNT)	EPA 8330	Extractable Organics	NELAP	5/22/2014
2,6-Diamino-4-nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
2,6-Diaminotoluene	EPA 625	Extractable Organics	NELAP	5/22/2014
2,6-Dichlorophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2,6-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,6-Dinitrotoluene (2,6-DNT)	EPA 625	Extractable Organics	NELAP	5/22/2014
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,6-Dinitrotoluene (2,6-DNT)	EPA 8321	Extractable Organics	NELAP	5/22/2014
2,6-Dinitrotoluene (2,6-DNT)	EPA 8330	Extractable Organics	NELAP	5/22/2014
2-Acetylaminofluorene	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Amino-4,6-dinitrotoluene (2-am-dnt)	EPA 8321	Extractable Organics	NELAP	5/22/2014
2-Amino-4,6-dinitrotoluene (2-am-dnt)	EPA 8330	Extractable Organics	NELAP	5/22/2014
2-Butanol (sec-butanol)	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Butanone (Methyl ethyl ketone, MEK)	EPA 624	Volatile Organics	NELAP	5/25/2016
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Butoxyethanol (Butyl cellosolve)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Chloro-1,1,1-trifluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Chloroethyl vinyl ether	EPA 624	Volatile Organics	NELAP	5/22/2014
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Chloronaphthalene	EPA 625	Extractable Organics	NELAP	5/22/2014
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Chlorophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Ethoxyethanol (Ethyl cellosolve)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Hexanone	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Methyl-4,6-dinitrophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Methylnaphthalene	EPA 610	Extractable Organics	NELAP	5/22/2014
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Methylnaphthalene	EPA 8310	Extractable Organics	NELAP	5/22/2014
2-Methylphenol (o-Cresol)	EPA 625	Extractable Organics	NELAP	5/22/2014
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Naphthylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014

Laboratory Scope of Accreditation

Attachment to Certificate #: E87667-57, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Nitrophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Nitropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Nitrotoluene	EPA 8321	Extractable Organics	NELAP	5/22/2014
2-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
2-Pentanone	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Picoline (2-Methylpyridine)	EPA 8270	Extractable Organics	NELAP	5/22/2014
3,3'-Dichlorobenzidine	EPA 625	Extractable Organics	NELAP	5/22/2014
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
3,3'-Dimethylbenzidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
3,5-Dinitroaniline	EPA 8330	Extractable Organics	NELAP	5/22/2014
3/4-Methylphenols (m/p-Cresols)	EPA 625	Extractable Organics	NELAP	5/22/2014
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	5/22/2014
3-Methylcholanthrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
3-Methylphenol (m-Cresol)	EPA 8270	Extractable Organics	NELAP	5/22/2014
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
3-Nitrotoluene	EPA 8321	Extractable Organics	NELAP	5/22/2014
3-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
4,4'-DDD	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-DDE	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-DDT	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-Methylenebis(2-chloroaniline)	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Amino-2,6-dinitrotoluene (4-am-dnt)	EPA 8321	Extractable Organics	NELAP	5/22/2014
4-Amino-2,6-dinitrotoluene (4-am-dnt)	EPA 8330	Extractable Organics	NELAP	5/22/2014
4-Aminobiphenyl	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Bromophenyl phenyl ether	EPA 625	Extractable Organics	NELAP	5/22/2014
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Chloro-3-methylphenol	EPA 625	Extractable Organics	NELAP	5/22/2014
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Chlorophenyl phenylether	EPA 625	Extractable Organics	NELAP	5/22/2014
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	5/22/2014

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E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	5/22/2014
4-Dimethyl aminoazobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	5/22/2014
4-Methylphenol (p-Cresol)	EPA 625	Extractable Organics	NELAP	5/22/2014
4-Methylphenol (p-Cresol)	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Nitrophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Nitrotoluene	EPA 8321	Extractable Organics	NELAP	5/22/2014
4-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
5-Nitro-o-toluidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
7,12-Dimethylbenz(a) anthracene	EPA 8270	Extractable Organics	NELAP	5/22/2014
a,a-Dimethylphenethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acenaphthene	EPA 610	Extractable Organics	NELAP	5/22/2014
Acenaphthene	EPA 625	Extractable Organics	NELAP	5/22/2014
Acenaphthene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acenaphthene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Acenaphthylene	EPA 610	Extractable Organics	NELAP	5/22/2014
Acenaphthylene	EPA 625	Extractable Organics	NELAP	5/22/2014
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acenaphthylene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Acetone	EPA 624	Volatile Organics	NELAP	5/25/2016
Acetone	EPA 8260	Volatile Organics	NELAP	5/22/2014
Acetonitrile	EPA 8260	Volatile Organics	NELAP	5/22/2014
Acetophenone	EPA 625	Extractable Organics	NELAP	5/22/2014
Acetophenone	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acetylene	RSK-175	Volatile Organics	NELAP	5/22/2014
Acidity, as CaCO3	SM 2310 B	General Chemistry	NELAP	5/22/2014
Acrolein (Propenal)	EPA 624	Volatile Organics	NELAP	5/22/2014
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Acrylamide	EPA 625	Extractable Organics	NELAP	5/22/2014
Acrylonitrile	EPA 624	Volatile Organics	NELAP	5/22/2014
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	5/22/2014
Aldicarb (Temik)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aldrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Alkalinity as CaCO3	SM 2320 B	General Chemistry	NELAP	5/22/2014
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	5/22/2014
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
alpha-Chlordane	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/25/2016
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
alpha-Terpineol	EPA 625	Extractable Organics	NELAP	5/22/2014
Aluminum	EPA 200.7	Metals	NELAP	5/22/2014
Aluminum	EPA 6010	Metals	NELAP	5/22/2014
Amenable cyanide	EPA 335.1	General Chemistry	NELAP	5/22/2014
Amenable cyanide	EPA 9012	General Chemistry	NELAP	5/22/2014
Amenable cyanide	SM 4500-CN- G	General Chemistry	NELAP	5/22/2014
Aminocarb	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Ammonia as N	EPA 350.1	General Chemistry	NELAP	5/22/2014
Ammonium perfluorooctanoate	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Ammonium picrate	EPA 8330	Extractable Organics	NELAP	5/22/2014
Anilazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aniline	EPA 625	Extractable Organics	NELAP	5/22/2014
Aniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
Anthracene	EPA 610	Extractable Organics	NELAP	5/22/2014
Anthracene	EPA 625	Extractable Organics	NELAP	5/22/2014
Anthracene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Anthracene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Antimony	EPA 200.7	Metals	NELAP	5/22/2014
Antimony	EPA 200.8	Metals	NELAP	5/22/2014
Antimony	EPA 6010	Metals	NELAP	5/22/2014
Antimony	EPA 6020	Metals	NELAP	5/22/2014
Aramite	EPA 8270	Extractable Organics	NELAP	5/22/2014
Aroclor-1016 (PCB-1016)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1221 (PCB-1221)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1232 (PCB-1232)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1242 (PCB-1242)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aroclor-1248 (PCB-1248)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1254 (PCB-1254)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1260 (PCB-1260)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1262 (PCB-1262)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1268 (PCB-1268)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Arsenic	EPA 200.7	Metals	NELAP	5/22/2014
Arsenic	EPA 200.8	Metals	NELAP	5/22/2014
Arsenic	EPA 6010	Metals	NELAP	5/22/2014
Arsenic	EPA 6020	Metals	NELAP	5/22/2014
Atrazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Atrazine	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Azinphos-ethyl (Ethyl guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Azinphos-methyl (Guthion)	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Azinphos-methyl (Guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Azobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
Azobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Barium	EPA 200.7	Metals	NELAP	5/22/2014
Barium	EPA 200.8	Metals	NELAP	5/22/2014
Barium	EPA 6010	Metals	NELAP	5/22/2014
Barium	EPA 6020	Metals	NELAP	5/22/2014
Benzaldehyde	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzene	EPA 602	Volatile Organics	NELAP	5/22/2014
Benzene	EPA 624	Volatile Organics	NELAP	5/22/2014
Benzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Benzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Benzidine	EPA 625	Extractable Organics	NELAP	5/22/2014
Benzidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(a)anthracene	EPA 610	Extractable Organics	NELAP	5/22/2014
Benzo(a)anthracene	EPA 625	Extractable Organics	NELAP	5/22/2014
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(a)anthracene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzo(a)pyrene	EPA 610	Extractable Organics	NELAP	5/22/2014
Benzo(a)pyrene	EPA 625	Extractable Organics	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(a)pyrene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzo(b)fluoranthene	EPA 610	Extractable Organics	NELAP	5/22/2014
Benzo(b)fluoranthene	EPA 625	Extractable Organics	NELAP	5/22/2014
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(b)fluoranthene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzo(e)pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(g,h,i)perylene	EPA 610	Extractable Organics	NELAP	5/22/2014
Benzo(g,h,i)perylene	EPA 625	Extractable Organics	NELAP	5/22/2014
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(g,h,i)perylene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzo(k)fluoranthene	EPA 610	Extractable Organics	NELAP	5/22/2014
Benzo(k)fluoranthene	EPA 625	Extractable Organics	NELAP	5/22/2014
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(k)fluoranthene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzoic acid	EPA 625	Extractable Organics	NELAP	5/22/2014
Benzoic acid	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	5/22/2014
Beryllium	EPA 200.7	Metals	NELAP	5/22/2014
Beryllium	EPA 200.8	Metals	NELAP	5/22/2014
Beryllium	EPA 6010	Metals	NELAP	5/22/2014
Beryllium	EPA 6020	Metals	NELAP	5/22/2014
beta-BHC (beta-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	5/22/2014
Biphenyl	EPA 8270	Extractable Organics	NELAP	5/22/2014
bis(2-Chloroethoxy)methane	EPA 625	Extractable Organics	NELAP	5/22/2014
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	5/22/2014
bis(2-Chloroethyl) ether	EPA 625	Extractable Organics	NELAP	5/22/2014
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	5/22/2014
Bolstar (Sulprofos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Boron	EPA 200.7	Metals	NELAP	5/22/2014
Boron	EPA 6010	Metals	NELAP	5/22/2014
Bromide	EPA 300.0	General Chemistry	NELAP	5/22/2014
Bromide	EPA 9056	General Chemistry	NELAP	5/22/2014
Bromobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014

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TestAmerica Denver
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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Bromodichloromethane	EPA 624	Volatile Organics	NELAP	5/22/2014
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Bromoform	EPA 624	Volatile Organics	NELAP	5/22/2014
Bromoform	EPA 8260	Volatile Organics	NELAP	5/22/2014
Butyl benzyl phthalate	EPA 625	Extractable Organics	NELAP	5/22/2014
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Cadmium	EPA 200.7	Metals	NELAP	5/22/2014
Cadmium	EPA 200.8	Metals	NELAP	5/22/2014
Cadmium	EPA 6010	Metals	NELAP	5/22/2014
Cadmium	EPA 6020	Metals	NELAP	5/22/2014
Calcium	EPA 200.7	Metals	NELAP	5/22/2014
Calcium	EPA 6010	Metals	NELAP	5/22/2014
Caprolactam	EPA 8270	Extractable Organics	NELAP	5/22/2014
Carbaryl (Sevin)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Carbazole	EPA 625	Extractable Organics	NELAP	5/22/2014
Carbazole	EPA 8270	Extractable Organics	NELAP	5/22/2014
Carbofuran (Furadan)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Carbofuran phenol	EPA 625	Extractable Organics	NELAP	5/22/2014
Carbofuran phenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	5/22/2014
Carbon tetrachloride	EPA 624	Volatile Organics	NELAP	5/22/2014
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	5/22/2014
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	5/22/2014
Carbophenothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chemical oxygen demand	EPA 410.4	General Chemistry	NELAP	5/22/2014
Chlordane (tech.)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chloride	EPA 300.0	General Chemistry	NELAP	5/22/2014
Chloride	EPA 9056	General Chemistry	NELAP	5/22/2014
Chlorobenzene	EPA 602	Volatile Organics	NELAP	5/22/2014
Chlorobenzene	EPA 624	Volatile Organics	NELAP	5/22/2014
Chlorobenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chlorobenzilate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chlorobenzilate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

Laboratory Scope of Accreditation

Attachment to Certificate #: E87667-57, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chlorodifluoromethane (Freon-22)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chloroethane	EPA 624	Volatile Organics	NELAP	5/22/2014
Chloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chloroform	EPA 624	Volatile Organics	NELAP	5/22/2014
Chloroform	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chloropentafluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chloroprene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chlorotrifluoroethene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chlorpropham	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chlorpyrifos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chromium	EPA 200.7	Metals	NELAP	5/22/2014
Chromium	EPA 200.8	Metals	NELAP	5/22/2014
Chromium	EPA 6010	Metals	NELAP	5/22/2014
Chromium	EPA 6020	Metals	NELAP	5/22/2014
Chromium VI	EPA 7196	General Chemistry	NELAP	5/22/2014
Chromium VI	SM 3500-Cr B (20th/21st/22nd Ed.)/UV-VIS	General Chemistry	NELAP	5/22/2014
Chromium VI	SM 3500-Cr D (18th/19th Ed.)/UV-VIS	General Chemistry	NELAP	5/22/2014
Chrysene	EPA 610	Extractable Organics	NELAP	5/22/2014
Chrysene	EPA 625	Extractable Organics	NELAP	5/22/2014
Chrysene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Chrysene	EPA 8310	Extractable Organics	NELAP	5/22/2014
cis-1,2-Dichloroethylene	EPA 624	Volatile Organics	NELAP	5/25/2016
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
cis-1,3-Dichloropropene	EPA 624	Volatile Organics	NELAP	5/22/2014
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	5/22/2014
cis-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Clorofluoromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Cobalt	EPA 200.7	Metals	NELAP	5/22/2014
Cobalt	EPA 200.8	Metals	NELAP	5/22/2014
Cobalt	EPA 6010	Metals	NELAP	5/22/2014
Cobalt	EPA 6020	Metals	NELAP	5/22/2014
Color	SM 2120 B	General Chemistry	NELAP	5/22/2014
Conductivity	EPA 9050	General Chemistry	NELAP	5/22/2014
Conductivity	SM 2510 B	General Chemistry	NELAP	5/22/2014
Copper	EPA 200.7	Metals	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Copper	EPA 200.8	Metals	NELAP	5/22/2014
Copper	EPA 6010	Metals	NELAP	5/22/2014
Copper	EPA 6020	Metals	NELAP	5/22/2014
Coumaphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Cyclohexane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Cyclohexanone	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dalapon	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
delta-BHC	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Demeton	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Demeton-o	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Demeton-o	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Demeton-s	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Demeton-s	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Di(2-ethylhexyl) phthalate (DEHP)	EPA 625	Extractable Organics	NELAP	5/22/2014
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	5/22/2014
Diallate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diallate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diazinon	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diazinon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dibenz(a,h)acridine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibenz(a,h)anthracene	EPA 610	Extractable Organics	NELAP	5/22/2014
Dibenz(a,h)anthracene	EPA 625	Extractable Organics	NELAP	5/22/2014
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibenz(a,h)anthracene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Dibenz(a,j)acridine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibenzo(a,e)pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibromochloromethane	EPA 624	Volatile Organics	NELAP	5/22/2014
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dibromomethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dicamba	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dichlorodifluoromethane	EPA 624	Volatile Organics	NELAP	5/25/2016
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Dichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dichloroprop (Dichlorprop)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dichlorovos (DDVP, Dichlorvos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dicofol	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dieldrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	5/22/2014
Diethyl ether	EPA 8260	Volatile Organics	NELAP	5/22/2014
Diethyl phthalate	EPA 625	Extractable Organics	NELAP	5/22/2014
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Di-isopropylether (DIPE)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dimethoate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dimethoate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dimethyl phthalate	EPA 625	Extractable Organics	NELAP	5/22/2014
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Di-n-butyl phthalate	EPA 625	Extractable Organics	NELAP	5/22/2014
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Di-n-octyl phthalate	EPA 625	Extractable Organics	NELAP	5/22/2014
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diphenylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Disodium iminodiacetate	DV-LC-0020/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Disulfoton	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Disulfoton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Disulfoton	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan I	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan II	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan sulfate	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endrin	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endrin aldehyde	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endrin ketone	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/25/2016
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
EPN	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Ethane	RSK-175	Volatile Organics	NELAP	5/22/2014
Ethanol	EPA 8260	Volatile Organics	NELAP	5/22/2014
Ethoprop	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Ethyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Ethylbenzene	EPA 602	Volatile Organics	NELAP	5/22/2014
Ethylbenzene	EPA 624	Volatile Organics	NELAP	5/22/2014
Ethylbenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Ethylene	RSK-175	Volatile Organics	NELAP	5/22/2014
Ethylene oxide	EPA 8260	Volatile Organics	NELAP	5/22/2014
Famphur	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Famphur	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fensulfothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fenthion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fenuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fluometuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fluoranthene	EPA 610	Extractable Organics	NELAP	5/22/2014
Fluoranthene	EPA 625	Extractable Organics	NELAP	5/22/2014
Fluoranthene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Fluoranthene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Fluorene	EPA 610	Extractable Organics	NELAP	5/22/2014
Fluorene	EPA 625	Extractable Organics	NELAP	5/22/2014
Fluorene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Fluorene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Fluoride	EPA 300.0	General Chemistry	NELAP	5/22/2014
Fluoride	EPA 9056	General Chemistry	NELAP	5/22/2014
Fluoromethane (Freon 41)	EPA 8260	Volatile Organics	NELAP	5/22/2014
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
gamma-Chlordane	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/25/2016
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Gasoline range organics (GRO)	EPA 8015	Volatile Organics	NELAP	5/22/2014
Hardness	SM 2340 B	General Chemistry	NELAP	5/22/2014
Hardness	SM 2340 C	General Chemistry	NELAP	5/22/2014
Hardness (calc.)	EPA 200.7	Metals	NELAP	5/22/2014
Heptachlor	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Heptachlor epoxide	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Hexachlorobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
Hexachlorobenzene	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hexachlorobutadiene	EPA 625	Extractable Organics	NELAP	5/22/2014
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hexachlorocyclopentadiene	EPA 625	Extractable Organics	NELAP	5/22/2014
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hexachloroethane	EPA 625	Extractable Organics	NELAP	5/22/2014
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hexachloropropene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hydrazine	DV-WC-0077/IC-ELEC	General Chemistry	NELAP	5/22/2014
Ignitability	EPA 1010	General Chemistry	NELAP	5/22/2014
Indene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Indeno(1,2,3-cd)pyrene	EPA 610	Extractable Organics	NELAP	5/22/2014
Indeno(1,2,3-cd)pyrene	EPA 625	Extractable Organics	NELAP	5/22/2014
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Indeno(1,2,3-cd)pyrene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Iron	EPA 200.7	Metals	NELAP	5/22/2014
Iron	EPA 6010	Metals	NELAP	5/22/2014
Iron	SM 3500-Fe B (20th/21st Ed.)/UV-VIS	General Chemistry	NELAP	5/22/2014
Iron	SM 3500-Fe D (18th/19th Ed.)/UV-VIS	General Chemistry	NELAP	5/22/2014
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	5/22/2014

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Isobutylene (2-Methyl-1-propene)	RSK-175	Volatile Organics	NELAP	5/22/2014
Isodrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Isodrin	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Isophorone	EPA 625	Extractable Organics	NELAP	5/22/2014
Isophorone	EPA 8270	Extractable Organics	NELAP	5/22/2014
Isopropyl alcohol (2-Propanol)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Isosafrole	EPA 8270	Extractable Organics	NELAP	5/22/2014
Jet fuel	EPA 8015	Extractable Organics	NELAP	5/22/2014
Kepone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	5/22/2014
Lead	EPA 200.7	Metals	NELAP	5/22/2014
Lead	EPA 200.8	Metals	NELAP	5/22/2014
Lead	EPA 6010	Metals	NELAP	5/22/2014
Lead	EPA 6020	Metals	NELAP	5/22/2014
Linuron (Lorox)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Lithium	EPA 200.7	Metals	NELAP	5/22/2014
Lithium	EPA 6010	Metals	NELAP	5/22/2014
m+p-Xylenes	EPA 602	Volatile Organics	NELAP	5/22/2014
m+p-Xylenes	EPA 8021	Volatile Organics	NELAP	5/22/2014
m+p-Xylenes	EPA 8260	General Chemistry	NELAP	5/22/2014
Magnesium	EPA 200.7	Metals	NELAP	5/22/2014
Magnesium	EPA 6010	Metals	NELAP	5/22/2014
Malathion	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Malathion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Manganese	EPA 200.7	Metals	NELAP	5/22/2014
Manganese	EPA 200.8	Metals	NELAP	5/22/2014
Manganese	EPA 6010	Metals	NELAP	5/22/2014
Manganese	EPA 6020	Metals	NELAP	5/22/2014
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
MCPA	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
MCPP	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Mercury	EPA 245.1	Metals	NELAP	5/22/2014
Mercury	EPA 7470	Metals	NELAP	5/22/2014
Merphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methane	RSK-175	Volatile Organics	NELAP	5/22/2014
Methapyrilene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Methiocarb (Mesurol)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methomyl (Lannate)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methoxychlor	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methyl acetate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methyl bromide (Bromomethane)	EPA 624	Volatile Organics	NELAP	5/22/2014
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methyl chloride (Chloromethane)	EPA 624	Volatile Organics	NELAP	5/22/2014
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methyl hydrazine	DV-WC-0077/IC-ELEC	General Chemistry	NELAP	5/22/2014
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Methyl parathion (Parathion, methyl)	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methyl parathion (Parathion, methyl)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methyl parathion (Parathion, methyl)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methyl tert-butyl ether (MTBE)	EPA 602	Volatile Organics	NELAP	5/22/2014
Methyl tert-butyl ether (MTBE)	EPA 8021	Volatile Organics	NELAP	5/22/2014
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methylcyclohexane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methylene chloride	EPA 624	Volatile Organics	NELAP	5/22/2014
Methylene chloride	EPA 8260	Volatile Organics	NELAP	5/22/2014
Mevinphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Mexacarbate	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Mirex	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Molybdenum	EPA 200.7	Metals	NELAP	5/22/2014
Molybdenum	EPA 200.8	Metals	NELAP	5/22/2014
Molybdenum	EPA 6010	Metals	NELAP	5/22/2014
Molybdenum	EPA 6020	Metals	NELAP	5/22/2014
Monuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Motor oil	EPA 8015	Extractable Organics	NELAP	5/22/2014
m-Xylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
N,N-Dimethylformamide	EPA 8270	Extractable Organics	NELAP	5/22/2014
Naled	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

Laboratory Scope of Accreditation

Attachment to Certificate #: E87667-57, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Naphthalene	EPA 610	Extractable Organics	NELAP	5/22/2014
Naphthalene	EPA 625	Extractable Organics	NELAP	5/22/2014
Naphthalene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Naphthalene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Naphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Naphthalene	EPA 8310	Extractable Organics	NELAP	5/22/2014
n-Butane	RSK-175	Volatile Organics	NELAP	5/22/2014
n-Butyl alcohol	EPA 8260	Volatile Organics	NELAP	5/22/2014
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
n-Decane	EPA 625	Extractable Organics	NELAP	5/22/2014
Neburon	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
n-Hexane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Nickel	EPA 200.7	Metals	NELAP	5/22/2014
Nickel	EPA 200.8	Metals	NELAP	5/22/2014
Nickel	EPA 6010	Metals	NELAP	5/22/2014
Nickel	EPA 6020	Metals	NELAP	5/22/2014
Nitrate	EPA 9056	General Chemistry	NELAP	5/22/2014
Nitrate as N	EPA 300.0	General Chemistry	NELAP	5/22/2014
Nitrate as N	EPA 353.2	General Chemistry	NELAP	5/22/2014
Nitrate-nitrite	EPA 300.0	General Chemistry	NELAP	5/22/2014
Nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	5/22/2014
Nitrite	EPA 9056	General Chemistry	NELAP	5/22/2014
Nitrite as N	EPA 300.0	General Chemistry	NELAP	5/22/2014
Nitrite as N	SM 4500-NO2-B	General Chemistry	NELAP	5/22/2014
Nitrobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Nitrobenzene	EPA 8321	Extractable Organics	NELAP	5/22/2014
Nitrobenzene	EPA 8330	Extractable Organics	NELAP	5/22/2014
Nitroglycerin	EPA 8321	Extractable Organics	NELAP	5/22/2014
Nitroglycerin	EPA 8330	Extractable Organics	NELAP	5/22/2014
n-Nitrosodiethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosodimethylamine	EPA 625	Extractable Organics	NELAP	5/22/2014
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitroso-di-n-butylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosodi-n-propylamine	EPA 625	Extractable Organics	NELAP	5/22/2014
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014

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E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
n-Nitrosodiphenylamine	EPA 625	Extractable Organics	NELAP	5/22/2014
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosomethylethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosomorpholine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Octadecane	EPA 625	Extractable Organics	NELAP	5/22/2014
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
o,o,o-Triethyl phosphorothioate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
o,o,o-Triethyl phosphorothioate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	EPA 8321	Extractable Organics	NELAP	5/22/2014
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	EPA 8330	Extractable Organics	NELAP	5/22/2014
Oil & Grease	EPA 1664A	General Chemistry	NELAP	5/22/2014
Oil & Grease	EPA 1664B	General Chemistry	NELAP	5/25/2016
Orthophosphate as P	EPA 300.0	General Chemistry	NELAP	5/22/2014
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	5/22/2014
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	5/22/2014
o-Toluidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
o-Xylene	EPA 602	Volatile Organics	NELAP	5/22/2014
o-Xylene	EPA 8021	Volatile Organics	NELAP	5/22/2014
o-Xylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Parathion, ethyl	EPA 614	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Parathion, ethyl	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Pentachlorobenzene	EPA 625	Extractable Organics	NELAP	5/22/2014
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Pentachloroethane	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pentachloronitrobenzene (Quintozene)	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pentachlorophenol	EPA 625	Extractable Organics	NELAP	5/22/2014
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pentachlorophenol	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Pentaerythritoltetranitrate (PETN)	EPA 8321	Extractable Organics	NELAP	5/22/2014
Pentaerythritoltetranitrate (PETN)	EPA 8330	Extractable Organics	NELAP	5/22/2014
Pentane	RSK-175	Volatile Organics	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Perchlorate	EPA 6860	General Chemistry	NELAP	5/22/2014
Perfluorobutane sulfonate (PFBS, perfluorobutane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorobutanoate (PFBA, perfluorobutyric acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorodecane sulfonate (PFDS, perfluorodecane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorodecanoate (PFDA, perfluorodecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorododecanoate (PFDoA, perfluorododecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluoroheptanoate (PFHpA, perfluoroheptanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorohexane sulfonate (PFHxS, perfluorohexane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorohexanoate (PFHxA, perfluorohexanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorononanoate (PFNA, perfluorononanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorooctane sulfonamide (PFOSA)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorooctane sulfonate (PFOS, perfluorooctane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorooctanoate (PFOA, perfluorooctanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluoropentanoate (PFPeA, perfluoropentanoic acid))	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorotetradecanoate (PFTeDA, perfluorotetradecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorotridecanoate (PFTriA, perfluorotridecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluoroundecanoate (PFUnA, perfluoroundecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
pH	EPA 9040	General Chemistry	NELAP	5/22/2014
pH	SM 4500-H+-B	General Chemistry	NELAP	5/22/2014
Phenacetin	EPA 8270	Extractable Organics	NELAP	5/22/2014
Phenanthrene	EPA 610	Extractable Organics	NELAP	5/22/2014
Phenanthrene	EPA 625	Extractable Organics	NELAP	5/22/2014
Phenanthrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Phenanthrene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Phenol	EPA 625	Extractable Organics	NELAP	5/22/2014
Phenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Phorate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Phosmet (Imidan)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Phosphorus, total	EPA 200.7	Metals	NELAP	5/22/2014
Phosphorus, total	EPA 365.1	General Chemistry	NELAP	5/22/2014
Phosphorus, total	EPA 6010	Metals	NELAP	5/22/2014
Phthalic anhydride	EPA 625	Extractable Organics	NELAP	5/22/2014
Phthalic anhydride	EPA 8270	Extractable Organics	NELAP	5/22/2014
Picloram	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Picric acid	EPA 8330	Extractable Organics	NELAP	5/22/2014
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Potassium	EPA 200.7	Metals	NELAP	5/22/2014
Potassium	EPA 6010	Metals	NELAP	5/22/2014
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	5/22/2014
Propane	RSK-175	Volatile Organics	NELAP	5/22/2014
Propazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Propham	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Propoxur (Baygon)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Propylene oxide	EPA 8260	Volatile Organics	NELAP	5/22/2014
p-Xylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Pyrene	EPA 610	Extractable Organics	NELAP	5/22/2014
Pyrene	EPA 625	Extractable Organics	NELAP	5/22/2014
Pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pyrene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Pyridine	EPA 625	Extractable Organics	NELAP	5/22/2014
Pyridine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Quinoline	EPA 8270	Extractable Organics	NELAP	5/22/2014
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	EPA 8321	Extractable Organics	NELAP	5/22/2014
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	EPA 8330	Extractable Organics	NELAP	5/22/2014
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	5/22/2014
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	5/22/2014
Residue-settleable	SM 2540 F	General Chemistry	NELAP	5/22/2014
Residue-total	SM 2540 B	General Chemistry	NELAP	5/22/2014
Residue-volatile	EPA 160.4	General Chemistry	NELAP	5/22/2014
Ronnel	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Safrole	EPA 8270	Extractable Organics	NELAP	5/22/2014
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Selenium	EPA 200.7	Metals	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Selenium	EPA 200.8	Metals	NELAP	5/22/2014
Selenium	EPA 6010	Metals	NELAP	5/22/2014
Selenium	EPA 6020	Metals	NELAP	5/22/2014
Siduron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Silica as SiO2	EPA 200.7	Metals	NELAP	5/22/2014
Silica as SiO2	EPA 6010	Metals	NELAP	5/22/2014
Silicon	EPA 200.7	Metals	NELAP	5/22/2014
Silicon	EPA 6010	Metals	NELAP	5/22/2014
Silver	EPA 200.7	Metals	NELAP	5/22/2014
Silver	EPA 200.8	Metals	NELAP	5/22/2014
Silver	EPA 6010	Metals	NELAP	5/22/2014
Silver	EPA 6020	Metals	NELAP	5/22/2014
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Silvex (2,4,5-TP)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Simazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Sodium	EPA 200.7	Metals	NELAP	5/22/2014
Sodium	EPA 6010	Metals	NELAP	5/22/2014
Specific gravity	ASTM D1429-08	General Chemistry	NELAP	5/22/2014
Specific gravity	ASTM D5057-10	General Chemistry	NELAP	5/22/2014
Stirofos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/25/2016
Strontium	EPA 200.7	Metals	NELAP	5/22/2014
Strontium	EPA 6010	Metals	NELAP	5/22/2014
Styrene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Sulfate	EPA 300.0	General Chemistry	NELAP	5/22/2014
Sulfate	EPA 9056	General Chemistry	NELAP	5/22/2014
Sulfide	EPA 9030/9034	General Chemistry	NELAP	5/22/2014
Sulfide	SM 4500-S D/UV-VIS	General Chemistry	NELAP	5/22/2014
Sulfide	SM 4500-S F	General Chemistry	NELAP	5/22/2014
Sulfite-SO3	SM 4500-SO3 B	General Chemistry	NELAP	5/22/2014
Sulfotepp	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Sulfotepp	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Sulfur	EPA 200.7	Metals	NELAP	5/22/2014
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	5/22/2014
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	5/22/2014
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Tetrachloroethylene (Perchloroethylene)	EPA 624	Volatile Organics	NELAP	5/22/2014

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Tetrahydrofuran (THF)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Tetrahydrothiophene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Tetryl (methyl-2,4,6-trinitrophenylnitramine)	EPA 8321	Extractable Organics	NELAP	5/22/2014
Tetryl (methyl-2,4,6-trinitrophenylnitramine)	EPA 8330	Extractable Organics	NELAP	5/22/2014
Thallium	EPA 200.7	Metals	NELAP	5/22/2014
Thallium	EPA 200.8	Metals	NELAP	5/22/2014
Thallium	EPA 6010	Metals	NELAP	5/22/2014
Thallium	EPA 6020	Metals	NELAP	5/22/2014
Thionazin (Zinophos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Thionazin (Zinophos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Tin	EPA 200.7	Metals	NELAP	5/22/2014
Tin	EPA 200.8	Metals	NELAP	5/22/2014
Tin	EPA 6010	Metals	NELAP	5/22/2014
Tin	EPA 6020	Metals	NELAP	5/22/2014
Titanium	EPA 200.7	Metals	NELAP	5/22/2014
Titanium	EPA 6010	Metals	NELAP	5/22/2014
Tokuthion (Prothiophos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Toluene	EPA 602	Volatile Organics	NELAP	5/22/2014
Toluene	EPA 624	Volatile Organics	NELAP	5/22/2014
Toluene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Toluene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Total BTEX	EPA 8260	Volatile Organics	NELAP	5/22/2014
Total Cresols	EPA 8270	Extractable Organics	NELAP	5/22/2014
Total cyanide	EPA 335.4	General Chemistry	NELAP	5/22/2014
Total cyanide	EPA 9012	General Chemistry	NELAP	5/22/2014
Total cyanide	SM 4500CN-E	General Chemistry	NELAP	5/22/2014
Total demeton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	5/22/2014
Total organic carbon	EPA 9060	General Chemistry	NELAP	5/22/2014
Total organic carbon	SM 5310 B	General Chemistry	NELAP	5/22/2014
Total organic halides (TOX)	EPA 9020	General Chemistry	NELAP	5/22/2014
Total Petroleum Hydrocarbons (TPH)	EPA 1664A	General Chemistry	NELAP	5/22/2014
Total Petroleum Hydrocarbons (TPH)	EPA 1664B	General Chemistry	NELAP	5/25/2016
Total phenolics	EPA 420.1	General Chemistry	NELAP	5/22/2014
Total phenolics	EPA 420.4	General Chemistry	NELAP	5/22/2014

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Total phenolics	EPA 9066	General Chemistry	NELAP	5/22/2014
Total trihalomethanes	EPA 8260	Volatile Organics	NELAP	5/22/2014
Toxaphene (Chlorinated camphene)	EPA 608	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
trans-1,2-Dichloroethylene	EPA 624	Volatile Organics	NELAP	5/22/2014
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
trans-1,3-Dichloropropene	EPA 624	Volatile Organics	NELAP	5/22/2014
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	5/22/2014
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Trichloroethene (Trichloroethylene)	EPA 624	Volatile Organics	NELAP	5/22/2014
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Trichlorofluoromethane	EPA 624	Volatile Organics	NELAP	5/22/2014
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Trichloronate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Triethylamine	EPA 625	Extractable Organics	NELAP	5/22/2014
Triethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
tris-(2,3-Dibromopropyl) phosphate (tris-BP)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Turbidity	EPA 180.1	General Chemistry	NELAP	5/22/2014
Un-ionized Ammonia	DEP SOP 02/12/01	General Chemistry	NELAP	2/20/2019
Uranium	EPA 200.8	Metals	NELAP	5/22/2014
Uranium	EPA 6020	Metals	NELAP	5/22/2014
Vanadium	EPA 200.7	Metals	NELAP	5/22/2014
Vanadium	EPA 200.8	Metals	NELAP	5/22/2014
Vanadium	EPA 6010	Metals	NELAP	5/22/2014
Vanadium	EPA 6020	Metals	NELAP	5/22/2014
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Vinyl chloride	EPA 624	Volatile Organics	NELAP	5/22/2014
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	5/22/2014
Vinyl fluoride	EPA 8260	Volatile Organics	NELAP	5/22/2014
Weak acid dissociable cyanide	SM 4500 CN-I	General Chemistry	NELAP	5/22/2014
Xylene (total)	EPA 602	Volatile Organics	NELAP	5/22/2014
Xylene (total)	EPA 624	Volatile Organics	NELAP	5/22/2014
Xylene (total)	EPA 8021	Volatile Organics	NELAP	5/22/2014
Xylene (total)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Zinc	EPA 200.7	Metals	NELAP	5/22/2014
Zinc	EPA 200.8	Metals	NELAP	5/22/2014

Laboratory Scope of Accreditation

Attachment to Certificate #: E87667-57, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Zinc	EPA 6010	Metals	NELAP	5/22/2014
Zinc	EPA 6020	Metals	NELAP	5/22/2014

Laboratory Scope of Accreditation

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State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,1-Trichloro-2,2,2-trifluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dichloro-1-fluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,1-Dimethyl hydrazine (UDMH)	DV-WC-0077/IC-ELEC	General Chemistry	NELAP	5/22/2014
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2,3-Trichloropropane	EPA 8011	Volatile Organics	NELAP	5/22/2014
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2,3-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2,4,5-Tetrachlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	5/22/2014
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	5/22/2014
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dichloro-1,1,2-trifluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,3,5-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8321	Extractable Organics	NELAP	5/22/2014
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8330	Extractable Organics	NELAP	5/22/2014
1,3-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014

Laboratory Scope of Accreditation

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State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,3-Dinitrobenzene (1,3-DNB)	EPA 8321	Extractable Organics	NELAP	5/22/2014
1,3-Dinitrobenzene (1,3-DNB)	EPA 8330	Extractable Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,4-Dinitrobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8260	Volatile Organics	NELAP	5/22/2014
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,4-Naphthoquinone	EPA 8270	Extractable Organics	NELAP	5/22/2014
1,4-Phenylenediamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
1-Chloro-1,1-difluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1-Chlorohexane	EPA 8260	Volatile Organics	NELAP	5/22/2014
1-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
1-Methylnaphthalene	EPA 8310	Extractable Organics	NELAP	5/22/2014
1-Naphthylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	EPA 8260	Volatile Organics	NELAP	5/22/2014
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,3-Dinitrotoluene	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4,5-T	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4,6-Trinitrotoluene (2,4,6-TNT)	EPA 8321	Extractable Organics	NELAP	5/22/2014
2,4,6-Trinitrotoluene (2,4,6-TNT)	EPA 8330	Extractable Organics	NELAP	5/22/2014
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4-D	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4-DB	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

Laboratory Scope of Accreditation

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State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
2,4-Diamino-6-nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrotoluene (2,4-DNT)	EPA 8321	Extractable Organics	NELAP	5/22/2014
2,4-Dinitrotoluene (2,4-DNT)	EPA 8330	Extractable Organics	NELAP	5/22/2014
2,6-Diamino-4-nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
2,6-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2,6-Dinitrotoluene (2,6-DNT)	EPA 8321	Extractable Organics	NELAP	5/22/2014
2,6-Dinitrotoluene (2,6-DNT)	EPA 8330	Extractable Organics	NELAP	5/22/2014
2-Acetylaminofluorene	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Amino-4,6-dinitrotoluene (2-am-dnt)	EPA 8321	Extractable Organics	NELAP	5/22/2014
2-Amino-4,6-dinitrotoluene (2-am-dnt)	EPA 8330	Extractable Organics	NELAP	5/22/2014
2-Butanol (sec-butanol)	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Butoxyethanol (Butyl cellosolve)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Chloro-1,1,1-trifluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Ethoxyethanol (Ethyl cellosolve)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Hexanone	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Methylnaphthalene	EPA 8310	Extractable Organics	NELAP	5/22/2014
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Naphthylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
2-Nitropropane	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Nitrotoluene	EPA 8321	Extractable Organics	NELAP	5/22/2014

Laboratory Scope of Accreditation

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State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
2-Pentanone	EPA 8260	Volatile Organics	NELAP	5/22/2014
2-Picoline (2-Methylpyridine)	EPA 8270	Extractable Organics	NELAP	5/22/2014
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
3,3'-Dimethylbenzidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
3,5-Dinitroaniline	EPA 8330	Extractable Organics	NELAP	5/22/2014
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	5/22/2014
3-Methylcholanthrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
3-Methylphenol (m-Cresol)	EPA 8270	Extractable Organics	NELAP	5/22/2014
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
3-Nitrotoluene	EPA 8321	Extractable Organics	NELAP	5/22/2014
3-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
4,4'-Methylenebis(2-chloroaniline)	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Amino-2,6-dinitrotoluene (4-am-dnt)	EPA 8321	Extractable Organics	NELAP	5/22/2014
4-Amino-2,6-dinitrotoluene (4-am-dnt)	EPA 8330	Extractable Organics	NELAP	5/22/2014
4-Aminobiphenyl	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	5/22/2014
4-Dimethyl aminoazobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	5/22/2014
4-Methylphenol (p-Cresol)	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
4-Nitrotoluene	EPA 8321	Extractable Organics	NELAP	5/22/2014
4-Nitrotoluene	EPA 8330	Extractable Organics	NELAP	5/22/2014
5-Nitro-o-toluidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
7,12-Dimethylbenz(a) anthracene	EPA 8270	Extractable Organics	NELAP	5/22/2014
a,a-Dimethylphenethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acenaphthene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acenaphthene	EPA 8310	Extractable Organics	NELAP	5/22/2014

Laboratory Scope of Accreditation

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E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acenaphthylene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Acetone	EPA 8260	Volatile Organics	NELAP	5/22/2014
Acetonitrile	EPA 8260	Volatile Organics	NELAP	5/22/2014
Acetophenone	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Acrylamide	EPA 8270	Extractable Organics	NELAP	5/22/2014
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	5/22/2014
Alachlor	EPA 8270	Extractable Organics	NELAP	5/22/2014
Aldicarb (Temik)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Alkalinity as CaCO3	SM 2320 B	General Chemistry	NELAP	5/22/2014
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	5/22/2014
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aluminum	EPA 6010	Metals	NELAP	5/22/2014
Aminocarb	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Ammonia as N	EPA 350.1	General Chemistry	NELAP	5/22/2014
Ammonium perfluorooctanoate	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Ammonium picrate	EPA 8330	Extractable Organics	NELAP	5/22/2014
Anilazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aniline	EPA 8270	Extractable Organics	NELAP	5/22/2014
Anthracene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Anthracene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Antimony	EPA 6010	Metals	NELAP	5/22/2014
Antimony	EPA 6020	Metals	NELAP	5/22/2014
Aramite	EPA 8270	Extractable Organics	NELAP	5/22/2014
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1262 (PCB-1262)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Aroclor-1268 (PCB-1268)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Arsenic	EPA 6010	Metals	NELAP	5/22/2014
Arsenic	EPA 6020	Metals	NELAP	5/22/2014
Atrazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Atrazine	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Azinphos-ethyl (Ethyl guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Azinphos-methyl (Guthion)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Azobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Barium	EPA 6010	Metals	NELAP	5/22/2014
Barium	EPA 6020	Metals	NELAP	5/22/2014
Benzaldehyde	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Benzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Benzidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(a)anthracene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(a)pyrene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(b)fluoranthene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzo(e)pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(g,h,i)perylene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzo(k)fluoranthene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Benzoic acid	EPA 8270	Extractable Organics	NELAP	5/22/2014
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	5/22/2014
Beryllium	EPA 6010	Metals	NELAP	5/22/2014
Beryllium	EPA 6020	Metals	NELAP	5/22/2014
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Biphenyl	EPA 8270	Extractable Organics	NELAP	5/22/2014
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	5/22/2014
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	5/22/2014
Bolstar (Sulprofos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Boron	EPA 6010	Metals	NELAP	5/22/2014
Bromide	EPA 9056	General Chemistry	NELAP	5/22/2014
Bromobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014

Laboratory Scope of Accreditation

Attachment to Certificate #: E87667-57, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Bromoform	EPA 8260	Volatile Organics	NELAP	5/22/2014
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Cadmium	EPA 6010	Metals	NELAP	5/22/2014
Cadmium	EPA 6020	Metals	NELAP	5/22/2014
Calcium	EPA 6010	Metals	NELAP	5/22/2014
Caprolactam	EPA 8270	Extractable Organics	NELAP	5/22/2014
Carbaryl (Sevin)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Carbazole	EPA 8270	Extractable Organics	NELAP	5/22/2014
Carbofuran (Furadan)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Carbofuran phenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	5/22/2014
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	5/22/2014
Carbophenothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chloride	EPA 9056	General Chemistry	NELAP	5/22/2014
Chlorobenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chlorobenzilate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chlorobenzilate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chlorodifluoromethane (Freon-22)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chloroform	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chloropentafluoroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chloroprene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chlorotrifluoroethene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Chlorpropham	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chlorpyrifos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Chromium	EPA 6010	Metals	NELAP	5/22/2014
Chromium	EPA 6020	Metals	NELAP	5/22/2014
Chrysene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Chrysene	EPA 8310	Extractable Organics	NELAP	5/22/2014
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	5/22/2014
cis-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	5/22/2014

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Clorofluoromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Cobalt	EPA 6010	Metals	NELAP	5/22/2014
Cobalt	EPA 6020	Metals	NELAP	5/22/2014
Conductivity	EPA 9050	General Chemistry	NELAP	5/22/2014
Copper	EPA 6010	Metals	NELAP	5/22/2014
Copper	EPA 6020	Metals	NELAP	5/22/2014
Coumaphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Cyclohexane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Cyclohexanone	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dalapon	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Demeton-o	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Demeton-s	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	5/22/2014
Diallate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diallate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diazinon	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dibenz(a,h)acridine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibenz(a,h)anthracene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Dibenz(a,j)acridine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibenzo(a,e)pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dibromomethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dicamba	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dichloroprop (Dichlorprop)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dichlorovos (DDVP, Dichlorvos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	5/22/2014
Diethyl ether	EPA 8260	Volatile Organics	NELAP	5/22/2014

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Di-isopropylether (DIPE)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Dimethoate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dimethoate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8270	Extractable Organics	NELAP	5/22/2014
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diphenylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Disodium iminodiacetate	DV-LC-0020/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Disulfoton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Disulfoton	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Diuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
EPN	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Ethanol	EPA 8260	Volatile Organics	NELAP	5/22/2014
Ethoprop	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Ethyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Ethylbenzene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Ethylene oxide	EPA 8260	Volatile Organics	NELAP	5/22/2014
Famphur	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Famphur	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fensulfothion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fenthion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fenuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fluometuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Fluoranthene	EPA 8270	Extractable Organics	NELAP	5/22/2014

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TestAmerica Denver
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Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Fluoranthene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Fluorene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Fluorene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Fluoride	EPA 9056	General Chemistry	NELAP	5/22/2014
Fluoromethane (Freon 41)	EPA 8260	Volatile Organics	NELAP	5/22/2014
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Gasoline range organics (GRO)	EPA 8015	Extractable Organics	NELAP	5/22/2014
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Hexachlorobenzene	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hexachloropropene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Hydrazine	DV-WC-0077/IC-ELEC	General Chemistry	NELAP	5/22/2014
Ignitability	EPA 1010	General Chemistry	NELAP	5/22/2014
Indene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Indeno(1,2,3-cd)pyrene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Iron	EPA 6010	Metals	NELAP	5/22/2014
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Isodrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Isodrin	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Isophorone	EPA 8270	Extractable Organics	NELAP	5/22/2014
Isopropyl alcohol (2-Propanol)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Isosafrole	EPA 8270	Extractable Organics	NELAP	5/22/2014
Kepone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	5/22/2014
Lead	EPA 6010	Metals	NELAP	5/22/2014
Lead	EPA 6020	Metals	NELAP	5/22/2014
Linuron (Lorox)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Lithium	EPA 6010	Metals	NELAP	5/22/2014
m/p-Xylenes	EPA 8021	Volatile Organics	NELAP	5/22/2014
m+p-Xylenes	EPA 8260	Volatile Organics	NELAP	5/22/2014
Magnesium	EPA 6010	Metals	NELAP	5/22/2014
Malathion	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Manganese	EPA 6010	Metals	NELAP	5/22/2014
Manganese	EPA 6020	Metals	NELAP	5/22/2014
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
MCPA	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
MCPP	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Mercury	EPA 7471	Metals	NELAP	5/22/2014
Merphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methapyrilene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Methiocarb (Mesurol)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methomyl (Lannate)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methyl acetate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methyl hydrazine	DV-WC-0077/IC-ELEC	General Chemistry	NELAP	5/22/2014
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	5/22/2014
Methyl parathion (Parathion, methyl)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methyl parathion (Parathion, methyl)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Methyl tert-butyl ether (MTBE)	EPA 8021	Volatile Organics	NELAP	5/22/2014
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methylcyclohexane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Methylene chloride	EPA 8260	Volatile Organics	NELAP	5/22/2014
Mevinphos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Mexacarbate	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Mirex	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Molybdenum	EPA 6010	Metals	NELAP	5/22/2014
Molybdenum	EPA 6020	Metals	NELAP	5/22/2014
Monuron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Motor oil	EPA 8015	Extractable Organics	NELAP	5/22/2014
N,N-Dimethylformamide	EPA 8270	Extractable Organics	NELAP	5/22/2014
Naled	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Naphthalene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Naphthalene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Naphthalene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Naphthalene	EPA 8310	Extractable Organics	NELAP	5/22/2014
n-Butyl alcohol	EPA 8260	Volatile Organics	NELAP	5/22/2014
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Neburon	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
n-Hexane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Nickel	EPA 6010	Metals	NELAP	5/22/2014
Nickel	EPA 6020	Metals	NELAP	5/22/2014
Nitrate	EPA 9056	General Chemistry	NELAP	5/22/2014
Nitrite	EPA 9056	General Chemistry	NELAP	5/22/2014
Nitrite	SM 4500-NO2-B	General Chemistry	NELAP	5/22/2014
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Nitrobenzene	EPA 8321	Extractable Organics	NELAP	5/22/2014
Nitrobenzene	EPA 8330	Extractable Organics	NELAP	5/22/2014
Nitroglycerin	EPA 8321	Extractable Organics	NELAP	5/22/2014
Nitroglycerin	EPA 8330	Extractable Organics	NELAP	5/22/2014
n-Nitrosodiethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitroso-di-n-butylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosomethylethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosomorpholine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
o,o,o-Triethyl phosphorothioate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
o,o,o-Triethyl phosphorothioate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	EPA 8321	Extractable Organics	NELAP	5/22/2014
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	EPA 8330	Extractable Organics	NELAP	5/22/2014

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Oil & Grease	EPA 9071	General Chemistry	NELAP	5/22/2014
Orthophosphate as P	EPA 9056	General Chemistry	NELAP	5/22/2014
o-Toluidine	EPA 8270	Extractable Organics	NELAP	5/22/2014
o-Xylene	EPA 8021	Volatile Organics	NELAP	5/22/2014
o-Xylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Paint Filter Liquids Test	EPA 9095	General Chemistry	NELAP	5/22/2014
Parathion, ethyl	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Pentachloroethane	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pentachloronitrobenzene (Quintozene)	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pentachlorophenol	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Pentaerythritoltetranitrate (PETN)	EPA 8321	Extractable Organics	NELAP	5/22/2014
Pentaerythritoltetranitrate (PETN)	EPA 8330	Extractable Organics	NELAP	5/22/2014
Percent (%) moisture	ASTM D2216-10	General Chemistry	NELAP	5/22/2014
Perchlorate	EPA 6860	General Chemistry	NELAP	5/22/2014
Perfluorobutane sulfonate (PFBS, perfluorobutane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorobutanoate (PFBA, perfluorobutyric acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorodecane sulfonate (PFDS, perfluorodecane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorodecanoate (PFDA, perfluorodecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorododecanoate (PFDoA, perfluorododecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluoroheptanoate (PFHpA, perfluoroheptanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorohexane sulfonate (PFHxS, perfluorohexane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorohexanoate (PFHxA, perfluorohexanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorononanoate (PFNA, perfluorononanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorooctane sulfonamide (PFOSA)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorooctane sulfonate (PFOS, perfluorooctane sulfonic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorooctanoate (PFOA, perfluorooctanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014

Laboratory Scope of Accreditation

Attachment to Certificate #: E87667-57, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87667 EPA Lab Code: CO00026 (303) 736-0100

E87667
TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Perfluoropentanoate (PFPeA, perfluoropentanoic acid))	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorotetradecanoate (PFTeDA, perfluorotetradecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluorotridecanoate (PFTriA, perfluorotridecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perfluoroundecanoate (PFUnA, perfluoroundecanoic acid)	DV-LC-0012/HPLC-MS-MS	Extractable Organics	NELAP	5/22/2014
Perylene	EPA 8270	Extractable Organics	NELAP	5/22/2014
pH	EPA 9045	General Chemistry	NELAP	5/22/2014
Phenacetin	EPA 8270	Extractable Organics	NELAP	5/22/2014
Phenanthrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Phenanthrene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Phenol	EPA 8270	Extractable Organics	NELAP	5/22/2014
Phorate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Phorate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Phosmet (Imidan)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Phosphorus, total	EPA 6010	Metals	NELAP	5/22/2014
Phthalic anhydride	EPA 8270	Extractable Organics	NELAP	5/22/2014
Picloram	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Picric acid	EPA 8330	Extractable Organics	NELAP	5/22/2014
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Potassium	EPA 6010	Metals	NELAP	5/22/2014
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	5/22/2014
Propazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Propham	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Propoxur (Baygon)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Propylene oxide	EPA 8260	Volatile Organics	NELAP	5/22/2014
Pyrene	EPA 8270	Extractable Organics	NELAP	5/22/2014
Pyrene	EPA 8310	Extractable Organics	NELAP	5/22/2014
Pyridine	EPA 8270	Extractable Organics	NELAP	5/22/2014
Quinoline	EPA 8270	Extractable Organics	NELAP	5/22/2014
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	EPA 8321	Extractable Organics	NELAP	5/22/2014
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	EPA 8330	Extractable Organics	NELAP	5/22/2014
Ronnel	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Safrole	EPA 8270	Extractable Organics	NELAP	5/22/2014
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Selenium	EPA 6010	Metals	NELAP	5/22/2014
Selenium	EPA 6020	Metals	NELAP	5/22/2014
Siduron	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Silica as SiO2	EPA 6010	Metals	NELAP	5/22/2014
Silicon	EPA 6010	Metals	NELAP	5/22/2014
Silver	EPA 6010	Metals	NELAP	5/22/2014
Silver	EPA 6020	Metals	NELAP	5/22/2014
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Silvex (2,4,5-TP)	EPA 8321	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Simazine	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Sodium	EPA 6010	Metals	NELAP	5/22/2014
Stirofos	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Strontium	EPA 6010	Metals	NELAP	5/22/2014
Styrene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Sulfate	EPA 9056	General Chemistry	NELAP	5/22/2014
Sulfide	EPA 9030/9034	General Chemistry	NELAP	5/22/2014
Sulfotepp	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Sulfotepp	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Sulfur	EPA 6010	Metals	NELAP	5/22/2014
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	5/22/2014
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	5/22/2014
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	5/22/2014
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Tetrahydrofuran (THF)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Tetrahydrothiophene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Tetryl (methyl-2,4,6-trinitrophenylnitramine)	EPA 8321	Extractable Organics	NELAP	5/22/2014
Tetryl (methyl-2,4,6-trinitrophenylnitramine)	EPA 8330	Extractable Organics	NELAP	5/22/2014
Thallium	EPA 6010	Metals	NELAP	5/22/2014
Thallium	EPA 6020	Metals	NELAP	5/22/2014
Thionazin (Zinophos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Thionazin (Zinophos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Tin	EPA 6010	Metals	NELAP	5/22/2014
Tin	EPA 6020	Metals	NELAP	5/22/2014
Titanium	EPA 6010	Metals	NELAP	5/22/2014
Tokuthion (Prothiophos)	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Toluene	EPA 8021	Volatile Organics	NELAP	5/22/2014
Toluene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Total BTEX	EPA 8260	Volatile Organics	NELAP	5/22/2014
Total Cresols	EPA 8270	Extractable Organics	NELAP	5/22/2014
Total cyanide	EPA 335.4	General Chemistry	NELAP	5/22/2014
Total cyanide	EPA 9012	General Chemistry	NELAP	5/22/2014
Total cyanide	SM 4500CN-E	General Chemistry	NELAP	5/22/2014
Total demeton	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	5/22/2014
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	5/22/2014
Total organic carbon	EPA 9060	General Chemistry	NELAP	5/22/2014
Total trihalomethanes	EPA 8260	Volatile Organics	NELAP	5/22/2014
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	5/22/2014
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	5/22/2014
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	5/22/2014
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	5/22/2014
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	5/22/2014
Trichloronate	EPA 8141	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Triethylamine	EPA 8270	Extractable Organics	NELAP	5/22/2014
tris-(2,3-Dibromopropyl) phosphate (tris-BP)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
tris-(2,3-Dibromopropyl) phosphate (tris-BP)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	5/22/2014
Uranium	EPA 6020	Metals	NELAP	5/22/2014
Vanadium	EPA 6010	Metals	NELAP	5/22/2014
Vanadium	EPA 6020	Metals	NELAP	5/22/2014
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	5/22/2014
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	5/22/2014
Vinyl fluoride	EPA 8260	Volatile Organics	NELAP	5/22/2014
Xylene (total)	EPA 8021	Volatile Organics	NELAP	5/22/2014
Xylene (total)	EPA 8260	Volatile Organics	NELAP	5/22/2014
Zinc	EPA 6010	Metals	NELAP	5/22/2014
Zinc	EPA 6020	Metals	NELAP	5/22/2014

eurofins | Environment Testing TestAmerica

Denver

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Arvada, CO 80002
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STATEMENT OF QUALIFICATIONS

August 2018

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SECTION 1

COMPANY OVERVIEW

1.1 EUROFINS TESTAMERICA OVERVIEW

With a nationwide network of over 80 locations, Eurofins TestAmerica. provides our clients innovative technical expertise and comprehensive analytical testing services. Our specialty analyses include source and ambient air, aquatic toxicity, explosives, specialty organics, dioxins, sediments and tissues, emerging contaminants, radiochemistry and mixed waste, and drinking water testing.

Eurofins TestAmerica affiliate companies include EMLab P&K, the leader in analytical microscopy and indoor air quality and TestAmerica Air Emissions Corp. (METCO Environmental), specializing in air emissions testing. Eurofins TestAmerica currently employs nearly 2,000 professionals dedicated to exceptional service and solutions for our clients' environmental testing needs.

Our network of analytical laboratories and dozens of service centers across the United States provide local customer service with access to our overall national capabilities, specialty offerings, and back-up support. Customers benefit from "one-stop shop" convenience and unsurpassed value-added services. Locally, we offer large sample capacities and provide our customers with a comprehensive product portfolio. Through our network of laboratories we realize significant operating efficiencies by optimizing capacity utilization. These efficiencies, along with centralized purchasing and administrative functions, allow us to incur lower operating costs, which translate to savings that we can pass on to our customers.

Denver – Customer Assistance

Richard Clinkscales Laboratory Director	(303)736-0123 – richard.clinkscales@testamericainc.com
Joy Chang Client Relations Manager	(303)736-0100 – joy.chang@testamericainc.com
Bernadine Siemens Federal Account Executive	(918)671-2922 – bernadine.siemens@testamericainc.com
Melissa Nelson Regional Account Manager	(303)710-4228 – melissa.nelson@testamericainc.com

1.2 DENVER LABORATORY

Eurofins TestAmerica's Denver laboratory has been one of the premier environmental labs in the country for over 30 years, and continues to rank today as one of the top labs in the United States in terms of size, instrumentation, staff, and experience. We combine many talented, experienced professionals and the most advanced computerized analytical equipment to assure environmental data quality. The Denver laboratory maintains a comprehensive and well-documented quality assurance program. Our foundation is built on quality and compliance. Customer satisfaction is the cornerstone to our business. Each and every employee is responsible for ensuring that their actions help achieve project and regulatory goals.

Eurofins TestAmerica, Denver provides services and deliverables with the qualities of responsiveness, trust worthiness, resourcefulness, timeliness, economy, accuracy, and professionalism. The laboratory is primary NELAP certified in the state of Oregon, holds certifications in many states, and has been approved for work under DoD ELAP.

Eurofins TestAmerica Denver	Size (ft^2)	Full Time Staff	Major Equipment Summary						
			GC	GC/ MS	HPLC/ IC	ICP	ICP/ MS	LC/MS/ MS	CI/MS/ MS
4955 Yarrow Street Arvada, CO 80002 Tel. (303)736-0100 Fax. (303)431-7171	54,000	110	10	22	5	2	2	3	1

1.3 CAPABILITIES

Eurofins TestAmerica, Denver delivers comprehensive analytical services that include chemical and specialty analyses. The facility is equipped with only the latest models of instrumentation, and only the most recently approved methodologies are used to meet QA requirements. Our goal is to provide our customers with analytical services that exceed expectations:

- On-Time Delivery of Results
- Compliant Data
- Technical Expertise
- Experienced Project Management Staff
- Conformance to Project-Specific Requirements

Eurofins TestAmerica, Denver provides full-service environmental analyses including organic, inorganic, metals, and wet chemistry in a variety of matrices including water, soil, waste, and sludge.

In addition to traditional, full-service environmental analyses, we offer:

- Propellants and Known Impurities at Trace Levels: Perchlorate, NDMA, 1-4-Dioxane, and Hydrazine/UDMH/MMH
- Explosives by HPLC and LC/MS
- PFAS by HPLC/MS/MS
- Tandem Mass Spectrometry Capabilities
- Polychlorinated Terphenyls (PCTs)
- Low-Level Phthalates by GC/MS Selected Ion Monitoring (SIM)
- Dinitrotoluenes by 8321 LC/MS

- Dinitroxylenes (DNX) by Method 8270C
- Method 8330B/Multi-Incremental Sampling (MIS)
- Selenium Speciation: Selenite, Selenate, and Selenocyanate

Eurofins TestAmerica, Denver is licensed to process and handle low level mixed waste samples (Radioactive Materials License CO 486-03). We are one of the largest providers of analytical services in support of DOD and DOE environmental programs. A list of the regulatory programs Eurofins TestAmerica, Denver routinely supports is below.

- Resource Conservation and Recovery Act (RCRA)
- Underground Storage Tank (UST)
- CWA – National Pollution Discharge Elimination System (NPDES) & Industrial Pre-treatment Support
- Safe Drinking Water Act (SDWA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- State Voluntary Clean-up Programs
- Public Owned Treatment Works (POTW)
- Utilities and Manufactured Gas Plants (MGP)
- Landfills
- Unexploded Ordnance – Range Sustainment
- Comprehensive State Brownfield Programs
- DOD QSM Version 4.2
- DOD QSM Version 5.0 and 5.1

Eurofins TestAmerica does not publish a unit price list for laboratory services, due to unique requirements of providing analytical laboratory support (i.e., various sample types, parameter lists, QC, deliverables, turnaround times). Each opportunity is quoted with attention to specific project requirements.

1.4 CAPACITY

Eurofins TestAmerica, Denver constantly monitors commitments made by our laboratory using a forecasting database. We can reserve capacity by balancing production resources within the network. We can ensure that the personnel necessary to perform the scope of work will be available. The following table provides estimated weekly and monthly sample capacity for routine analyses performed at Eurofins TestAmerica, Denver.

Functional Area	Test	Weekly Capacity	Monthly Capacity
Metals	ICP (6010B/C /200.7)	600	2,400
	ICPMS (6020/A /200.8)	600	2,400
	CVAA-Mercury (245.1/7470A/7471A/B)	750	3,000
	GFAA-Organic Lead (939M) (aqueous)	30	120
	GFAA-Organic Lead (939M) (solid)	45	180
HPLC/ICP-MS	Arsenic Speciation	20	80
HPLC/ICP-MS	Selenium Speciation	20	80

Functional Area	Test	Weekly Capacity	Monthly Capacity
Gas Chromatography	TPH-GRO (8015B/C)	188	750
	TPH-DRO (8015B/C-Extractable Hydrocarbons)	138	550
	Pesticides/PCBs (8081A/8082/608)	600	2,400
	Herbicides (8151A)	250	1,000
	OPP (8141A)	135	700
	BTEX (8021B)	200	800
Mass Spectroscopy	VOCs (8260B)	1,000	4,000
	SVOCs (8270C/D)	400	1,600
	NDMA by GC/MS-SIM - Isotope Dilution 8270D	100	400
Liquid Chromatography	Explosives (8330A/B)	250	1,000
Liquid Chromatography/ Mass Spectroscopy	Explosives (8321A/B)	200	800
	Herbicides (8321A/B)	100	400
HPLC/Liquid Chromatography/Mass Spectroscopy	Perfluoroalkylated Substances (PFAS)	40	400
Liquid Chromatography/ Mass Spectroscopy/ Mass Spectroscopy	Ethyl Thiourea (ETUs)	75	300
Ion Chromatography/ Mass Spectrometry	Perchlorate (6860)	300	1,200
Wet Chemistry	Oil & Grease - Aqueous	50	200
	Oil & Grease - Solid	25	100
	Titration: Alkalinity, Chloride, Hardness	200	800
	Sulfides	100	400
	Manual Colorimetric Methods: Nitrite, Hex Chrome (aqueous), COD	200	800
	Automated Colorimetric Methods: Nitrate, CN, Phosphorus, TKN	200	800
	Phenolics	100	400
	pH, Fluoride (ISE), Conductivity	250	1,000
	TOC, Waters	250	1,000
	TOC, Solids	50	200
	TOX, Waters	25	100
	Ion Chromatography – Aqueous	500	2,000
	Ion Chromatography – Solid	100	400
	Gravimetric: TDS, TSS, TS, VSS, Settable Solids, Moisture, Specific Gravity	300	1,200

SECTION 2

SERVICE

2.1 PROJECT MANAGEMENT

It is our standard practice to assign a single point of contact (i.e., Project Manager) to each of our clients. The Project Manager is supported by a team of experienced laboratory managers to plan, coordinate, integrate, and monitor project activities. Efficient and effective project management is of prime importance to the successful execution of any contract and building lasting client relationships. Our Project Managers are involved from project start to finish: from the time of initial client contact; in dialogue with the client during the entire project; and available to answer questions or provide additional information after project completion.

The Project Manager is the principal client contact and has open access to all technical and management positions to obtain technical expertise and/or resolve resource management and scheduling issues on behalf of the client. The Project Manager will:

- Respond to the client in a timely manner to all requests.
- Provide pricing and technical information.
- Interface with project personnel to plan and schedule sample shipments to the laboratory.
- Organize, schedule, and attend project meetings with the client as necessary or helpful.
- Serve as consultant for field efforts to optimize batch sizes, arrange sample shipment/receipt, and provide bottles and associated materials.
- Document the client's technical requirements to the laboratory staff.
- Monitor conformance of analytical protocols, quality assurance, and data reporting with contract and technical requirements.
- Monitor costs and schedule requirements.
- Secure additional laboratory capacity from other Eurofins TestAmerica facilities as necessary.

When samples are received at Eurofins TestAmerica, Denver, strict chain of custody procedures are followed and documented. Any inconsistencies are immediately brought to the attention of the Project Manager for resolution with the client. The resolution is documented in the Sample Confirmation which is sent via E-Mail.

Eurofins TestAmerica Project Managers and laboratory Section Managers have a commitment to maintain project schedules with a goal of 100% on-time delivery of quality data packages. If at any time, a delay in the required project turnaround time is anticipated, the Project Manager will immediately contact the client and inform them of the nature of the problem, the corrective action taken, and a revised delivery date for the analytical data report.

Normal office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday. Sample receipt and laboratory working hours are flexible. Eurofins TestAmerica, Denver accepts sample shipments Monday through Friday between 8:00 a.m. and 5:00 p.m., Saturday between 8:00 a.m. and noon, and on Sundays as needed. Eurofins TestAmerica realizes that field sampling constraints

may dictate a project schedule and are adept at adjusting our schedule to meet the client's needs. Advance notice for weekend receipt is requested to ensure that the appropriate laboratory personnel are available. Should a project require after-hours contact, telephone numbers for the appropriate Eurofins TestAmerica personnel can be provided.

Courier service can be provided to pick up samples or drop off supplies during business hours, within a 30 mile radius of the facility. Courier services must be arranged, at a minimum, 24 hours in advance. Please contact your Project Manager to inquire about availability and cost.

2.2 DATA MANAGEMENT

Eurofins TestAmerica's facilities have extensive experience in producing data deliverables that are compliant with the respective federal, state, and project requirements. Eurofins TestAmerica can provide various types of data reporting based upon a project's needs.

A standard report typically includes a Case Narrative, Executive Summary, Method Number, Chain of Custody and Sample Summary, Analytical results by sample and a QC section with results for the Method Blank, LCS and any site specific Matrix Spike / Spike Duplicates if submitted. A Level IV or expanded report includes the items listed for a standard report as well as the shipping documents, raw data including instrument printouts, and chromatograms.

Electronic Data Deliverables (EDDs) are provided to numerous government and commercial clients. EDDs can be provided in Eurofins TestAmerica's standard format or can be customized to meet client requirements. EDDs can be transferred on diskette, CD, via e-mail, or across the web through our TotalAccess system. We currently provide EDDs in hundreds of different formats that include Excel spreadsheets as well as various ASCII and DBF file formats.

While we offer a standard format, dozens of complex formats are available in our LIMS system. Eurofins TestAmerica's EDD and report generation personnel ensure that electronic data provided to our clients is accurate and formatted to meet their requirements. Our technical personnel are always available for consultation on producing the specific EDD for your program.

2.3 QUALITY ASSURANCE PROJECT PLAN ASSISTANCE

For projects scoped to implement the UFP QAPP based upon DoD QSM Version 5.0 or Version 5.1, Eurofins TestAmerica, Denver requests a copy of the project-specific QAPP so that we may review the document prior to sample receipt. Eurofins TestAmerica, Denver will gladly submit comments and/or variance requests, if needed. Eurofins TestAmerica, Denver will help complete the appropriate UFP QAPP worksheets at no additional cost.

2.4 TotalAccess – VIEW YOUR DATA OVER THE INTERNET

Dedicated to leading the environmental testing industry forward, Eurofins TestAmerica is constantly striving to develop more efficient methods of information gathering and distribution. Investments in information technology have enabled Eurofins TestAmerica to quickly and efficiently gather, process, and deliver sample results.

TotalAccess is Eurofins TestAmerica's online data delivery solution that saves you valuable time and money. TotalAccess allows you to track all aspects of your environmental data program, rapidly – day or night, at work or on the road – through your own familiar web browser. TotalAccess can be used to organize your entire environmental data program. This online resource makes your job easier, your workflow faster, and your desktop cleaner.

TotalAccess features include:

- Real time access to your sample status and result data in our Laboratory Information Management System (LIMS).
- 24/7 availability to download your Electronic Data Deliverable (EDD) files.
- Convenient organization of all your program information in one place, categorized the way you want it.
- Instant archiving of all documents for secure storage and fast retrieval.
- Dynamic interactive capabilities, enabling you to query and trend data.
- Access to analytical capabilities and methodologies to help you select the best procedures for performing your work.
- Access to lists of Certification programs detailing which Eurofins TestAmerica laboratories perform work under these programs.
- Online access to your invoices and quotes.
- Ability to compare data results to the regulatory limits.

SECTION 3

DEDICATION

3.1 KEY PERSONNEL

Eurofins TestAmerica, Denver prides itself on the quality of its personnel. Our dedicated staff of experienced professional chemists and technicians is the key element in the laboratory's position as a leader in environmental analytical chemistry. The majority of staff have a Bachelor's Degree or higher in Chemistry, Biology, Environmental Science, or another related field. The section immediately below describes the qualifications and experience of our key management personnel. An Organization Chart is also provided below.

Denver Resume Summary

Laboratory Director, Richard Clinkscales

Mr. Clinkscales has a long history of operational excellence, bringing 32 years of environmental laboratory experience to the position. Over his career, Richard has served in many capacities including Chemist, Senior Environmental Scientist, Operations Manager, LIMS Implementation Specialist, and most recently serving as Operations Executive for the organization. In addition to his relevant experience, Mr. Clinkscales holds a BS in Chemistry and English from Houston Baptist University and is a certified Project Management Professional. Mr. Clinkscales' responsibilities include the technical and administrative management of analytical laboratory and support staff. The laboratory employs approximately 100 chemists, scientists, and support personnel.

Quality Assurance Manager, Roxanne Sullivan

Ms. Sullivan has over 30 years of experience in the environmental testing industry. She recently served as the Operations Manager and is familiar with the various labs within Eurofins TestAmerica, Denver. She was responsible for efficient production methods as well as personnel, training, and implementation of SOPs and QA standards and practices for all lab groups. As the QA Manager, Ms. Sullivan has responsibility for the implementation of quality assurance policies at the Denver laboratory. She supervises the QA staff, and works with the Laboratory Manager and Eurofins TestAmerica, Denver's Quality Assurance Director to meet QA goals consistent with client, regulatory, and company requirements.

Operations Manager, Jonathan Waldorf

Mr. Waldorf obtained a B.S. in Biology from Georgia Southern University. He has over 19 years of experience in the environmental laboratory industry, which includes management and laboratory operations. His background includes volatile and semivolatile analysis by GC and GC/MS, general chemistry, and metals analyses. Mr. Waldorf possesses a comprehensive knowledge of environmental laboratory operation and analysis. Mr. Waldorf is responsible for all aspects of the various labs within Eurofins TestAmerica, Denver. As such, he is responsible for efficient production methods as well as personnel, training, and implementation of SOPs and QA standards and practices for all lab groups. His duties include oversight of data reporting, turnaround time management, personnel issues, maintenance of instrumentation, SOPs, and approval of purchase of laboratory supplies. In 2018, Mr. Waldorf assumed daily supervision of 12 to 14 chemists in the GC and GC/MS Volatiles group. This includes training, goal setting, and the performance evaluation of the individuals in this department. In addition, he is responsible for process and technology improvements as well as instrument troubleshooting.

Technology Manager, Andrew Allen

Mr. Allen obtained a B.S. in Environmental Science in 2009. He has over 12 years of experience in analytical chemistry in commercial settings. Mr. Allen has a thorough knowledge of wet chemistry analyses including instrument repair, methodologies, data reporting, as well as staff management and training. He is well versed in analytical software and equipment. He is committed to ensuring continuous improvement in quality and productivity of all analyses supported by the laboratory. As Technology Manager, Mr. Allen's primary responsibilities include, but are not be limited to, management of short-term technical projects, evaluation of technologies and methods related to expertise, assistance to operations with instruments and understanding methods. He supports the laboratory with troubleshooting and performance of difficult non routine analyses. Additionally, he prepares scientific presentations and publications, assists with corporate SOPs, and is involved in client communications.

Manager, Project Management, Patrick McEntee

Mr. McEntee has over 30 years of laboratory experience. He has a B.A. in Geology from the University of Colorado, Boulder, Colorado. He has a strong background in the environmental field, working as a chemist, a laboratory supervisor, and a laboratory manager as well as positions in project management. As Manager of the PM group, Mr. McEntee is responsible for interviewing and hiring, training, and managing PM staff of 18 to 20 project managers and assistants. This group is charged with coordinating all aspects of project management for assigned clients including project set up, communication with the laboratory staff, preparation of analytical reports, invoicing, client follow-up, and customer service.

Organic Prep Supervisor, Amelia Byl

In 2008, Ms. Byl earned a B.A. in Biochemistry at University of Colorado, Boulder, CO. She assisted in the instruction of college chemistry students. She has a thorough understanding of chemistry principles that she applies in her work in the lab. Her excellent academic performance and lab experience provide a foundation for her consistent adherence to the highest standards. Ms. Byl's background includes organic extractions operations and five years of experience working as an analyst in the GC/HPLC Semivolatile department. She possesses leadership and organizational abilities that she employs in her managerial position. Ms. Byl supervises the activities of the organic preparation department.

Semivolatiles Department Supervisor, Tegan Moore

Ms. Moore began her career in environmental science in 2005 after acquiring her degree in Biology from Luther College, Decorah, IA. Her experience has been in organic extractions, Semivolatiles groups. She is responsible for the day-to-day analytical, data production, and review activities of the Semivolatiles groups. These groups produce timely and accurate analysis of environmental samples and production of data. She is accountable for achieving quality and productivity goals for these groups in a compliant and cost-effective manner. Ms. Moore's duties also include managing a staff of 10 chemists in training, goal setting, SOP updates, and the performance evaluation of the individuals in these departments. In addition, she is responsible for process and technology improvements as well as instrument troubleshooting and evaluations.

Metals Supervisor and Environmental Health & Safety Coordinator, Doug Gomer

Mr. Gomer has over 26 years of experience in the environmental testing field. His experience is concentrated primarily in metals analysis. Mr. Gomer obtained a B.S. in Applied Mathematics with Chemistry Minor from Metropolitan State College of Denver, Denver, Colorado. He has an extensive knowledge of current analytical techniques used in environmental analysis as well as

familiarity with many regulatory programs. Mr. Gomer has achieved increasingly responsible positions in his career and now supervises a group of 8 analysts. Mr. Gomer is responsible for all aspects of the Metals department including analysis, data reporting, turnaround time management, and personnel issues. As EH&S Coordinator, Mr. Gomer is responsible for administering the EH&S program. He monitors all areas for unsafe conditions, acts, and potential hazards. He enforces environmental, health, and safety policies and procedures as defined by the corporation as well as ensuring compliance with local, state, and federal laws.

Wet Chemistry Supervisor, Connie Jewell

Ms. Jewel earned her BS in Chemistry, with a minor in Environmental Science, from the Colorado School of Mines in 1999. She has worked in the environmental analytical industry her entire career. She is a senior analyst with expertise in numerous methods and wet chemistry procedures. Ms. Jewel's primary responsibilities include coordination of the analysis of environmental samples for wet chemistry parameters by a variety of instrumentation. She is accountable for the productivity and quality of analytical data generated in this department. Ms. Jewel supervises and trains a staff of 15 analysts. She is responsible for the maintenance of analytical instruments and performs data review. She also orders lab supplies to maintain a consistent inventory.

Sample Control Supervisor, Alyssa Gomez

Ms. Gomez's experience in the environmental laboratory field began in 2017. Ms. Gomez is responsible for all aspects of the sample control area. She provides laboratory management with daily assessments of sample receipts, weekly turnaround reports, and retrieval of samples for ongoing analysis. Ms. Gomez manages QA and EH&S issues for the department, and is responsible for supervising the employees in the group. She oversees the receipt and log in of samples, and monitors the preparation and shipment of bottle kits to clients.

Radiation Safety Officer, Andrew Meyer

Mr. Meyer has been in the environmental laboratory field for 31 years. He obtained a B.S. in Business Administration with Psychology Minor from Regis University, Denver, Colorado. Mr. Meyer has been a laboratory shift supervisor and safety officer in addition to his laboratory experience with radioactive materials. While continuing his position as an LC/MS/MS chemist, Mr. Meyer is also the RSO for the facility. As RSO, Mr. Meyer is responsible for managing all radioactive materials and the radiation safety program for the facility. His chemist duties include preparing and analyzing environmental samples according to scientific and EPA methodology.

Project Manager – Darlene Bandy

Ms. Bandy has worked in the environmental laboratory industry since 1986. She earned her AS in Science in 1999. She has a varied background in laboratory procedures including supervisory positions where she was responsible for waste management, safety, and analytical testing. Ms. Bandy's responsibilities include understanding technical and contractual documents in addition to interacting with clients on the initiation and set-up of projects. She ensures the analyses and expectations being placed on the laboratory can be done in compliance with clients' and regulatory agencies' requirements. Ms. Bandy serves as a conduit for information flow between the client and the entire laboratory operation as well as receiving staff. She monitors projects to assure that all contractual, quality control, scheduling, and cost objectives are met. In addition, she reviews and approves project data packages, and reviews and verifies client invoices for accuracy.

Project Manager, Donna Rydberg

Ms. Rydberg has over 32 years of experience in the analytical testing field. She obtained an A.A. in Applied Science in 1980. She maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. Ms. Rydberg monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. In addition, she works towards achieving goals for revenue, profit, and KRI's through the effective utilization of laboratory capacity and definition of customer requirements. In addition, she prepares and approves reports and data packages, and reviews and verifies client invoices for accuracy.

Project Manager, Elizabeth Sara

Ms. Sara has over 24 years of experience in the analytical laboratory field. She obtained a B.S. in Ecology, Ethology, Evolution (Life Sciences) from the University of Illinois in 1997. Ms. Sara coordinates and manages customers' projects through all phases of laboratory operations, ensuring fulfillment of Eurofins TestAmerica commitments to client requirements, error-free work, and on-time delivery. She maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. She monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications.

Project Manager, Michelle Johnston

Ms. Johnston has 15 years laboratory experience in Project Management and Client Services. She obtained a B.S. in Biology from the University of Nebraska, Kearney, Nebraska in 2000. Ms. Johnston coordinates and manages customer projects through all phases of laboratory operations, ensuring fulfillment of Eurofins TestAmerica's commitments to client requirements, error-free work, and on-time delivery. Ms. Johnston works closely with business unit personnel and sales to handle quotations and change orders for existing work. She monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. She is very familiar with all versions of the DoD QSM. She works toward achieving goals for revenue, profit, and customer service through effective utilization of laboratory capacity and definition of customer requirements.

Project Manager, DiLea Bindel

Ms. Bindel has 16 years of varied education and experience in the environmental laboratory field, as well as the biological sciences. She obtained a B.S. in Biology with Chemistry Minor from Metropolitan State College of Denver, Denver, Colorado in 2002. Ms. Bindel is responsible for the management of client projects from inception to completion including timely delivery of analytical data. She serves as a liaison between the laboratory, sales, and the client to ensure that all requirements are fulfilled. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. Ms. Bindel monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. In addition, she works towards achieving goals for revenue, profit, and KRIs through the effective utilization of laboratory capacity and definition of customer requirements.

Project Manager, Danielle Harrington

Ms. Harrington has over 15 years laboratory experience in the Wet Chemistry and Project Management areas. She obtained a B.S. in Biology with Chemistry Minor from Virginia Polytechnic Institute and State University, Blacksburg, Virginia in 2002. Ms. Harrington's background is in organic and inorganic chemistry. As Project Manager she coordinates and manages customer projects through all phases of laboratory operations, ensuring fulfillment of Eurofins TestAmerica's commitments to client requirements, error-free work, and on-time delivery. Ms. Harrington works closely with customer service personnel to handle quotations and change orders for existing work. She monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications.

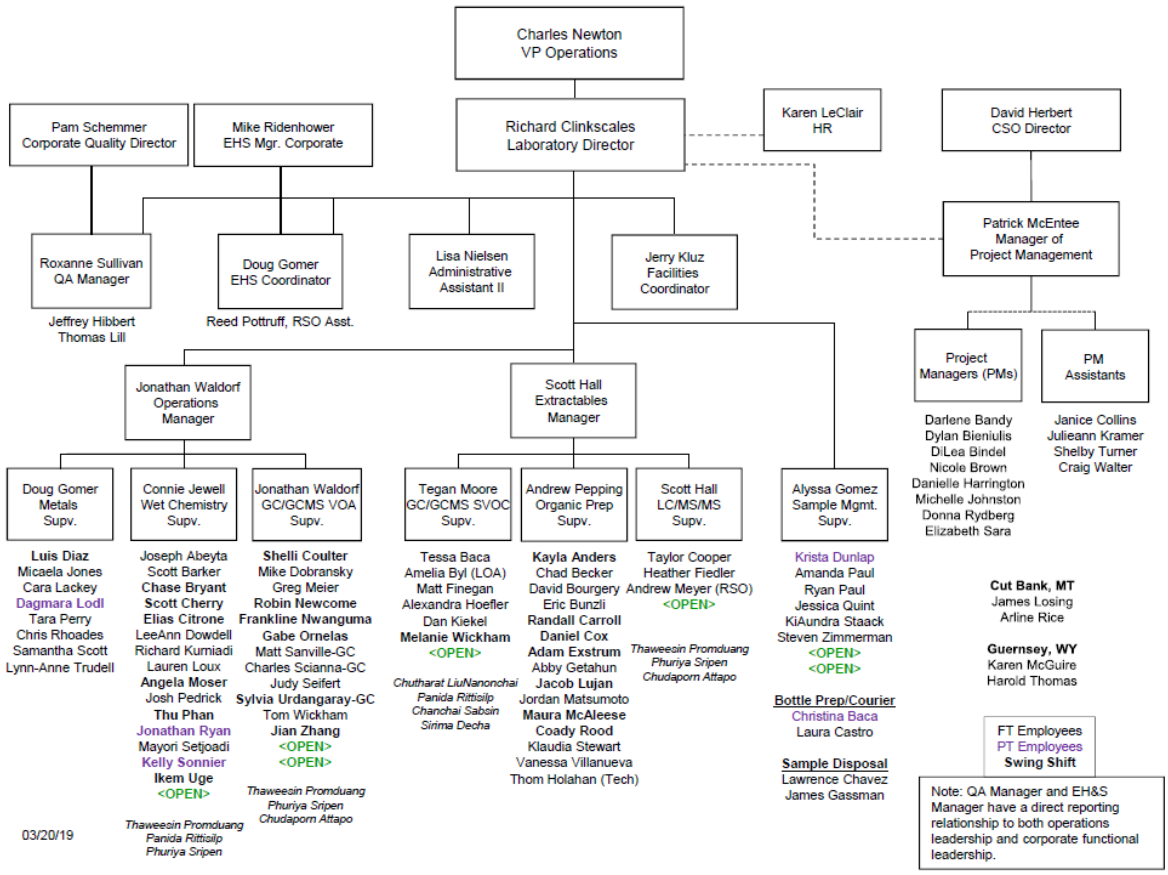
Project Manager, Jamie Ide

Ms. Ide has over seven years of experience in the environmental laboratory field. She received her B.S. in Biology from the University of Colorado at Denver in 2011. Ms. Ide is responsible for the management of client projects from inception to completion including timely delivery of analytical data. She serves as a liaison between the laboratory, account executives, and the client to ensure that all requirements are fulfilled. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. Ms. Ide monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. In addition, she works towards achieving goals for revenue, profit, and KPIs through the effective utilization of laboratory capacity and definition of customer requirements.

Project Manager, Stephanie Rothmeyer

Ms. Rothmeyer has nine years of varied education and experience in the environmental laboratory field. She received a B.A. in Ecology and Evolutionary Biology from the University of Colorado in 2011. Her prior experience was as a Chemist, analyzing soil, groundwater, drinking water, waste water, air, and oil. Ms. Rothmeyer is responsible for the management of client projects from inception to completion including timely delivery of analytical data. She serves as a liaison between the laboratory, account executives, and the client to ensure that all requirements are fulfilled. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. Ms. Rothmeyer monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. In addition, she works towards achieving goals for revenue, profit, and KRIs through the effective utilization of laboratory capacity and definition of customer requirements.

TestAmerica Denver Laboratory Organization



3.2 HEALTH AND SAFETY

Eurofins TestAmerica's management is committed to providing a work environment that is free of recognized environment safety and health hazards. It is Eurofins TestAmerica's policy, and is fundamental to our management principles, that all work will be conducted in a manner that is safe to the employee, the community, and the environment. By empowering each Eurofins TestAmerica employee with the right, the responsibility, and the resources to make safe decisions, we ensure the success of our health and safety programs.

Eurofins TestAmerica recognizes that health and safety is a team effort. Safety originates at the highest level of management. However, every employee, regardless of position is expected to assume responsibility for their actions and the actions of others around them. Adherence to Environment Health and Safety procedures is mandatory for every Eurofins TestAmerica employee and is considered an integral part of each employee's performance.

The Corporate Safety Manual is the primary component of the Hazard Communication/Waste Management Plan for Eurofins TestAmerica. For regulatory purposes, this document serves as the Chemical Hygiene Plan for laboratory activities and the Hazard Communication Program for non-laboratory activities. This document incorporates responsibilities, procedures, protective equipment, as well as facility requirements for our operations.

3.3 DISASTER RECOVERY PLAN SUMMARY

In case of a major natural catastrophe, client approved Eurofins TestAmerica laboratory facilities would be available to provide project continuity and to meet sample holding time or critical project schedule requirements. In the event of instrument failure, portions of the sample load may be diverted to duplicate instrumentation within the facility. In some instances, an alternate approved technique such as manual colorimetric determination in lieu of an automated determination can be accommodated. At the client's direction or approval, samples can also be shipped to another properly certified and approved Eurofins TestAmerica location for analysis. Detailed procedures for emergency circumstances and a description of emergency systems are located in the Eurofins TestAmerica Corporate Safety Manual.

SECTION 4

QUALITY

4.1 QA/QC OVERVIEW

An integral part of Eurofins TestAmerica's successful experience with its clients is the corporate and local commitment to provide quality services. This attitude towards Quality Assurance/Quality Control (QA/QC) is maintained through all of the divisions and departments at Eurofins TestAmerica. The Denver laboratory maintains a quality assurance program that is outlined in the laboratory's Quality Assurance Manual and managed by Margaret Sleevi.

The Quality Assurance department at Eurofins TestAmerica, Denver is comprised of professionals experienced in analytical laboratory techniques and quality assurance objectives. This department initiates and oversees audits and corrective action procedures, performs data review, maintains documentation of internal laboratory training, reviews Quality Assurance Plans for consistency with laboratory operations and program requirements, tracks and monitors performance evaluation samples, manages the document control process, and tracks and approves Method Detection Limits (MDLs). In addition, the preparation of operating practices and quality assurance documentation for the laboratory is coordinated through QA personnel.

4.2 STANDARD OPERATING PROCEDURES

Eurofins TestAmerica, Denver maintains extensive documentation of Standard Operating Procedures (SOPs). We understand the need for SOP compliance and perform internal audits to assure that the laboratory staff adheres to the written SOPs, complies with accreditation/certification requirements, and meets project objectives. The audit types and frequency are outlined in the Quality Assurance Manual and are scheduled by the QA/QC department.

4.3 CLIENT CONFIDENTIALITY AND PROPRIETARY RIGHTS

Data and sample materials provided by the client or at the client's request, and the results obtained by Eurofins TestAmerica, are held in confidence subject to any disclosure required by law or legal process. Eurofins TestAmerica's reports and the data and information provided therein, are for the exclusive use and benefit of the client, and are not released to a third party without written consent from the client.

4.4 RECORDS RETENTION AND ARCHIVAL

Eurofins TestAmerica, Denver has developed a formal records retention policy that is outlined in the Laboratory's Quality Assurance Manual and in the corporate Record Retention Policy. These documents outline the period of time various record types must be archived. Archives are indexed such that records are accessible on either a project or temporal basis. Archives are protected against fire, theft, loss, deterioration, and vermin. Electronic records are protected from deterioration caused by magnetic fields and/or electronic deterioration. Access to archives is controlled and documented.

4.5 LABORATORY QUALITY ASSURANCE MANUAL (QAM)

Eurofins TestAmerica, Denver's Quality Assurance Manual (QAM) is a document prepared to define the overall policies, organization objectives, and functional responsibilities for achieving Eurofins TestAmerica's data quality goals. Each Eurofins TestAmerica laboratory maintains a local perspective in its scope of services and client relations and maintains a national perspective in terms of quality.

The QAM has been prepared to assure compliance with the 2009 National Environmental Laboratory Accreditation Conference (NELAC) standards and International ANS/ISO/IEC Standard 17025:2005. In addition, the policies and procedures outlined in this manual are compliant with Eurofins TestAmerica's Corporate Quality Management Plan (CQMP) and the various accreditation and certification programs. The CQMP provides a summary of Eurofins TestAmerica's quality and data integrity system. It contains requirements and general guidelines under which all Eurofins TestAmerica facilities shall conduct their operations.

4.6 AUDIT AND PERFORMANCE PROGRAMS

Eurofins TestAmerica, Denver participates in numerous federal, state, and industrial audit and performance sample programs for organic and inorganic analyses, including regular participation in the following performance studies:

- WS/WP/SW - Samples From a NIST-Approved PT Provider (Semiannually)
- Mixed Analyte Performance Evaluation Program (MAPEP) (Annually)

4.7 STATE CERTIFICATIONS AND AGENCY APPROVALS

Eurofins TestAmerica, Denver has 31 state certifications including primary NELAC Certification (OR) and secondary NELAC Certifications with FL, IL, KS, LA, MN, NH, NJ, NY, PA, TX, and UT. Eurofins TestAmerica, Denver is approved by the DOD ELAP, DOECAP, USDA, and is ISO 17025 certified. Eurofins TestAmerica, Denver's list of current state certifications, registrations, and agency approvals is provided below.

Agency	ID No.
Alaska	UST-30
Arizona	AZ0713
Arkansas	88-0687
California	2513
Connecticut	PH-0686
DoD ELAP A2LA/ISO 17025	2907.01
Florida	E87667
Georgia	962
Illinois	200017
Iowa	370
Kansas	E-10166
Louisiana	2096
Maine	CO0002
Minnesota	008-999-405
Nevada	CO0026
New Hampshire	2053

Agency	ID No.
New Jersey	CO004
New York	11964
North Carolina	358
North Dakota	R-034
Oklahoma	8614
Oregon	CO200001
Pennsylvania	68-00664
South Carolina	72002
Texas	T104704183-09-1
USDA	S-60617
Utah	QUAN5
Virginia	1743
Washington	C1284
West Virginia	354[4-8-11]
Wisconsin	999615430
Wyoming	2907.01

The certificates and parameter lists (which may differ) for each organization may be found on Eurofins TestAmerica's website www.testamericainc.com and on TotalAccess.

SECTION 5

EXPERIENCE

5.1 PROJECT EXPERIENCE

The Denver laboratory has provided environmental chemical analyses since 1980. The management staff works together as a team, creating an organization with in-depth experience, extensive knowledge of the environmental field, and a high level of internal cooperation. Developing productive, ongoing relationships with our clients is the cornerstone of our success. Eurofins TestAmerica's client base is widely varied. Some of the types of clients and projects we serve are listed below.

Government Project Experience

Client	Date	Project Description
FPM Remediation Inc. Griffiss AFB Rome, NY **Regulatory Oversight:** AFCEE, DoD, and State of New York	Per Subcontract 2011 to 2015	Eurofins TestAmerica, Denver provides full-service laboratory support to this DoD site by supplying analysis of water, sediment, air, and fish tissue samples for the following methods: 8260B, 8270D, 8081B, 8082A, metals, miscellaneous wet chemistry parameters, % Lipids, and Air (TO-15). Eurofins TestAmerica, Burlington performs the Air and Fish Tissue analyses. QSM Version 4.2 compliance is required. Level 4 report and ERPIMS 5 EDD are provided.
Summit Technical Resources, Inc. Fort Carson and Pueblo Chemical Depot **Regulatory Oversight:** DoD and State of Colorado	2008 to Present	Fort Carson - Eurofins TestAmerica provides analytical services on soil and water samples for methods 8260B, 8270C, 8270C SIM-PAH, 8015B GRO, 8015B DRO, RSK-175,8141B, 8151A, 8081A, 8082, metals, and various wet chemistry parameters. QSM 4.2 compliance is required. A Level 4 report and SEDD 2A EDD are provided. Pueblo Chemical Depot - Eurofins TestAmerica provides analytical services on water samples for methods 8260B, 8270C, 8270C SIM-PAH, 8015B GRO, 8015B DRO, 8151A, 8081A, 8082, and metals. Analytical services on soil samples for methods 8081A, 8270C SIM-PAH, 8260B, metals, 8015B GRO, and 8015B DRO. QSM Version 3.0 compliance is required. Level 4 report and ERPIMS 4 EDD are provided.

Client	Date	Project Description
EA Engineering Hill AFB Base wide Monitoring **Regulatory Oversight:** DoD and State of Utah	2011 to Present	Eurofins TestAmerica currently provides analytical services on water samples at Hill AFB Base-Wide Monitoring for the following methods: 8260B, 8270D, RSK-175, 8081B, 8082A, GRO, DRO, metals, and miscellaneous wet chemistry parameters. Eurofins TestAmerica, Denver is following QSM Version 4.2 compliance, as well as the Hill AFB Basewide, Utah, Project-Specific Work Plan In Support of Basewide Monitoring and Operations and Maintenance, 27 APR 2011, and any updates as they become available for this Dynamic document. The deliverables are provided in a fully validated Level 4 report, as well as three EDDs (ERPIMS 5 [ErpToolX], ERPIMS 4, and ADR). These deliverables are provided via CD ROM and TotalAccess. One of the nuances of the project is the multiple 8260B volatile organic compounds target analyte lists that are reported. There are two separate target analyte lists reported, depending on the sampling location; a long list that consists of 54 analytes, and a short list that consists of 26 analytes. Another is the various metals lists reported. Seven different lists of metals are required that vary depending on the sampling location. With these methods requiring various target analytes, it is important to log the samples correctly so the client receives the lists that are requested. As a result, attention to detail is vital to the success of the project. Eurofins TestAmerica, Denver has been providing support for the EA Engineering – Hill AFB project for over two years, and the laboratory has become familiar with all the special requirements of the project. This allows for a smooth flow through the laboratory from sample login to the end product, the analytical report, and EDDs.

Client	Date	Project Description
URS Group, Inc. Denver Federal Center **Regulatory Oversight:** GSA and State of Colorado	2003 to Present	Analyses performed at the Denver Federal Center site are for the GSA General Services Administration, Multiple Award Schedule Program (MAS). Analyses on soil and water: 8260B, 8270C, 8270C-SIM, 8081A, 8082, 8141A, 8151A, 8330, TVPH 8015B, TEPH 8015B, 6010B, 6020, 7471A/7470A, multiple Wet Chemistry methods. Specialty analyses include: 8321A Strychnine, Rotenone, Herbicides/ Pentachlorophenol, and Carbamates. Subcontract specialty analyses supported by Eurofins TestAmerica network labs include: Tributyl Tin - Eurofins TestAmerica, Burlington; Dioxins/Furans - Eurofins TestAmerica, Knoxville, Radiological - Eurofins TestAmerica, St. Louis, Glycols - Eurofins TestAmerica, Austin. Coordination within Eurofins TestAmerica's network provides the client with a single point of contact and ease of reporting the data in hardcopy and electronic formats. Eurofins TestAmerica developed Best Practice approach to achieve lower RL for 1,4-Dioxane 8270C analysis. Eurofins TestAmerica developed an extraction and analytical procedure using LC/MS/MS for the analysis of strychnine. Eurofins TestAmerica worked in conjunction with the governing agency (State of Colorado) to improve the recovery of antimony in soils. The laboratory provides personnel to assist in the field with COCs, bottles, labeling, packing, and shipping. Eurofins TestAmerica provides courier service to deliver bottle kits (containers, coolers, etc.) to the site, and to pick up samples daily. Eurofins TestAmerica provides a fully validatable data package (summary forms, CLP-like forms, and raw data). A custom electronic deliverable is provided.
AECOM Environmental Restoration Services Contract for Fort Carson and Pueblo Chemical Depot **Regulatory Oversight:** USACE Omaha District	December 2005 to Present	Eurofins TestAmerica provides analytical services in support of the monitoring efforts at Fort Carson and the Pueblo Chemical Depot. The laboratory performs a variety of EPA and SW-846 methods for organic and inorganic parameters. Matrices include: groundwater, surface and subsurface soil, surface water and sediment, source water, discharge water, decontamination water, drum contents, compost, soil gas, influent or effluent gas, sludge, ambient and indoor air, wipes or filters, material from demolition of buildings, structures, and roads; and biota. DoD QSM protocols are followed. All deliverables are provided as full raw data packages in both hard copy and CD ROM formats with CLP-like forms. EDDs are submitted in AECOM's format as specified in the SOW.
AECOM Pueblo Chemical Depot – Explosives Regulatory Oversight: USACE Omaha District and State of Colorado	April 2005 to Present	Eurofins TestAmerica provides analytical services to the Long Term Monitoring efforts at the Pueblo Chemical Depot. DoD QSM protocols are followed. The samples are analyzed for explosives using Method 8321A by LC/MS. All deliverables are provided as full raw data packages in both hard copy and CD ROM formats with CLP-like forms. EDD are submitted in AFCEE's ERPIMS 4.0 and 5.0 formats.

Client	Date	Project Description
Summit Technical Resources, Inc. Former Tyson Valley Powder Farm Eureka, Missouri Annual Sampling **Regulatory Oversight:** USACE Kansas City District	2008 to Present	Eurofins TestAmerica performs analyses according to the DoD QSM Version 3.0 and a site-specific QAPP. We provide CLP-like forms, a full raw data package, and a SEDD 2A EDD. Soil and aqueous samples are analyzed for 8260B volatiles, 8270C/8270C-SIM semivolatiles, 8081A pesticides, 8082 PCBs, metals by SW6020/6010B/747XA, perchlorate by SW6860, 8290 Dioxins/Furans, 353.2 Nitrocellulose, a variety of wet chemistry tests, and explosive residues by SW8330A.
Fairbanks Environmental Services, Inc. Former Fire Training Pit Fort Wainwright, Alaska **Regulatory Oversight:** State of Alaska & U.S. Army Corps of Engineers, Alaska District	October 2013 to Present	Eurofins TestAmerica provides full-service laboratory support to this DoD site by supplying analyses by various methods for soil and water matrices. Samples are analyzed by Methods 6020A - Total RCRA Metals, 7471B - Total Mercury, 8081B - Organochlorine Pesticides, 8082A - PCB Aroclors, 8260B/DoD - Volatile Organic Compounds, 8270D/DoD - Semivolatile Organic Compounds, AK101 - Gasoline Range Organics, AK102 & 103 - Diesel Range Organics & Residual Range Organics, 504.1 - 1,2-Dibromoethane (EDB), 8290A – Dioxins/Furans, and DV-LC-0012 - Perfluorocarbons by LC/MS/MS. The laboratory follows DoD QSM Version 4.2 requirements. Data deliverables include long-form raw data (Level IV reports) and two EDDs: EDF 1.2i in Corps of Engineer format and SEDD 2A. Samples are picked up from Denver International Airport.
Bay West Eareckson AS, Fort Yukon LRRS, Galena AS, and Kotzebue LRRS Clear AFB AFS Removal Clear AFB CSE Phase II Elmendorf AFB & King Salmon AS CSE Phase II **Regulatory Oversight:** State of Alaska & U.S. Army Corps of Engineers, Omaha District	July 2008 to Present	Eurofins TestAmerica provides full-service laboratory support to these DoD sites by supplying analyses of Methods 6860, 8330A, 8330B, 8270D SIM, Total 6010C, AK 101, AK 102/103, and TCLP Lead in soil and water samples using DoD QSM Version 3.0 and 4.2 protocols. Data deliverables included long-form raw data (Level IV reports) and ERPIMS 4.0 Lab + Std QUA08 electronic deliverables.
Washington Closure Hanford Richland, WA **Regulatory Oversight:** Federal DOE, State of Washington	January 2008 to Present	Eurofins TestAmerica provides full-service laboratory support to this DOE site by supplying analyses of volatiles, semivolatiles, PAHs, herbicides, PCBs, pesticides, Northwest volatile and semivolatile petroleum products, TCLP waste characterization, and a variety of metals and inorganic parameters in primarily soil and some water samples using SW-846 methods. Data deliverables include Level 1 and Level 2 certificate reports and Fead Version 7 EDD. Eurofins TestAmerica supplies various analyses on a quick turnaround basis.

Client	Date	Project Description
Fluor-B&W Portsmouth LLC Piketon, OH **Regulatory Oversight:** Federal DOE, State of OH	1998 to Present	Eurofins TestAmerica provides full-service laboratory support to this DOE site by supplying analyses of volatiles, semivolatiles, PAHs, herbicides, PCBs, pesticides, TCLP waste characterization, a variety of metals, and an extensive list of miscellaneous general inorganic parameters in soil and water samples using SW-846 methods. Data deliverables include a Level II certificate report and a Level IV data package. We provide a Portsmouth-specific EDD, Amsed (UDS), which is uploaded to the PEMS tracker web site. Eurofins TestAmerica supplies various analyses on a quick turnaround basis.

Commercial Project Experience

Client	Date	Project Highlights
Waste Management, Inc. 210 sites in 27 states **Regulatory Oversight:** Various states	October 1998 to present	Eurofins TestAmerica, Denver's primary responsibility is to provide analytical results in support of groundwater monitoring, surface water, and leachate analyses. Other supported analyses include waste, soil and other environmental analytical services as requested to help WM accomplish its environmental risk management objectives at its various facilities. Analyses include VOLATILES, metals, wet chemistry, SVOLATILES, Pesticides, PCBs, Herbicides, Carbamates, Dioxins/Furans, Radiochemistry, TCLP/RCRA testing, other GC analyses. Multiple reporting formats are provided, including hard copy, multiple EDDs, and state forms.
Clean Harbors Environmental Services, Inc. Sites located in Utah, Louisiana, Missouri, Colorado, Texas, Oklahoma, and Kansas **Regulatory Oversight:** Various states	1999 to Present	The Clean Harbors project was awarded to Eurofins TestAmerica in June 1999. The contract with Clean Harbors renews every three years. Eurofins TestAmerica, Denver is responsible for providing analytical services as requested to support Clean Harbors' landfill sites under RCRA Subtitle C&D, NPDES and groundwater monitoring projects under the CWA, and hazardous waste site investigations under RCRA and CERCLA. Analyses provided on a regular basis include Volatile Organics, Semivolatile Organics, Pesticides, PCBs, Herbicides, Metals, and various General Chemistry parameters. Eurofins TestAmerica, Denver provides both certificate and expanded report deliverables, depending on the specific Clean Harbors' site and state regulation requirements. Electronic deliverables (EDDs) are also provided for the majority of Clean Harbors' clients. In addition, Clean Harbors can access results and project information via our Internet site, TotalAccess. TotalAccess allows Clean Harbors secure 24/7 access to sample results, data reports, EDDs, invoices, and other project information. Under the current Clean Harbors contract, all Eurofins TestAmerica laboratories are eligible to support Clean Harbors. Our laboratories and service centers provide Clean Harbors convenience, location, and logistical support where needed.

Client	Date	Project Highlights
Republic Services Inc. Republic Services sites supported by Eurofins TestAmerica are located in Colorado, Michigan, Minnesota, Missouri, Nevada, Oregon, and Utah **Regulatory Oversight:** The US EPA and various states	February 2007 to Present	Eurofins TestAmerica, Denver provides analytical services as requested to support Republic Service landfill sites under RCRA Subtitle C&D, NPDES and groundwater monitoring projects under the CWA, and hazardous waste site investigations under RCRA and CERCLA. Analyses provided on a regular basis on soil and groundwater matrices include Volatile Organics, Semivolatile Organics, Pesticides, PCBs, Herbicides, Metals, and various General Chemistry parameters. Eurofins TestAmerica also supports air and fixed gas analyses by various methods. Eurofins TestAmerica, Denver provides both certificate and expanded report deliverables, depending on the specific Republic Services' site and state regulation requirements. Electronic deliverables (EDDs) are also provided for the majority of Republic Services' clients. In addition, Republic Services can access results and project information via our Internet site, TotalAccess. TotalAccess allows Republic Services secure 24/7 access to sample results, data reports, EDDs, invoices, and other project information. Under the current Republic Services contract, all Eurofins TestAmerica laboratories are eligible to support Republic Services. Our network laboratories and service centers provide Republic Services convenience, location, and logistical support where needed.
MWH Americas, Inc. Boeing SSFL RFI – Quarterly Groundwater Monitoring **Regulatory Oversight:** State of California	January 2008 to Present	Eurofins TestAmerica started performing analytical work at the SSFL site in support of the Groundwater Program during the first quarter of 2008 as the QC split lab. Eurofins TestAmerica, Denver became the primary lab in the fourth quarter of 2009 and currently serves in that capacity. This project involves a number of analyses that are analyzed through every department in the laboratory as well as several subcontract laboratories (Irvine, Knoxville, and North Canton). TestAmerica performs an extensive list of EPA and SW-846 methods for organic, inorganic, and radiological analyses. Specialty analyses performed by TestAmerica include NDMA, hydrazine, dioxins, and formaldehyde. All deliverables are provided as full raw data packages in both hard copy and CD ROM formats with CLP-like forms. EDDs are submitted in Boeing's specific format. This project involves a number of analyses that are analyzed through every department in the laboratory as well as several subcontract laboratories (Irvine, Knoxville, and North Canton).

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Eurofins TestAmerica Denver – Resume Summaries

Laboratory Director- interim, Scott Hall
Mr. Hall's responsibilities include the technical and administrative management of analytical laboratory and support staff. The laboratory employs approximately 100 chemists, scientists, and support personnel.

Quality Assurance Manager, Roxanne Sullivan
Ms. Sullivan has over 30 years of experience in the environmental testing industry. She recently served as the Operations Manager and is familiar with the various labs within TestAmerica Denver. She was responsible for efficient production methods as well as personnel, training, and implementation of SOPs and QA standards and practices for all lab groups. As the QA Manager, Ms. Sullivan has responsibility for the implementation of quality assurance policies at the Denver laboratory. She supervises the QA staff, and works with the Laboratory Manager and TestAmerica Denver's Quality Assurance Director to meet QA goals consistent with client, regulatory, and company requirements.

Technology Manager, Andrew Allen
Mr. Allen obtained a B.S. in Environmental Science in 2009. He has over 12 years of experience in analytical chemistry in commercial settings. Mr. Allen has a thorough knowledge of wet chemistry analyses including instrument repair, methodologies, data reporting, as well as staff management and training. He is well versed in analytical software and equipment. He is committed to ensuring continuous improvement in quality and productivity of all analyses supported by the laboratory. As Technology Manager, Mr. Allen's primary responsibilities include, but are not be limited to, management of short-term technical projects, evaluation of technologies and methods related to expertise, assistance to operations with instruments and understanding methods. He supports the laboratory with troubleshooting and performance of difficult non routine analyses. Additionally, he prepares scientific presentations and publications, assists with corporate SOPs, and is involved in client communications.

Manager, Project Management, Patrick McEntee
Mr. McEntee has over 30 years of laboratory experience. He has a B.A. in Geology from the University of Colorado, Boulder, Colorado. He has a strong background in the environmental field, working as a chemist, a laboratory supervisor, and a laboratory manager as well as positions in project management. As Manager of the PM group, Mr. McEntee is responsible for interviewing and hiring, training, and managing PM staff of 18 to 20 project managers and assistants. This group is charged with coordinating all aspects of project management for assigned clients including project set up, communication with the laboratory staff, preparation of analytical reports, invoicing, client follow-up, and customer service.

Organic Prep Supervisor, Amelia Byl
In 2008, Ms. Byl earned a B.A. in Biochemistry at University of Colorado, Boulder, CO. She assisted in the instruction of college chemistry students. She has a thorough understanding of chemistry principles that she applies in her work in the lab. Her excellent academic performance and lab experience provide a foundation for her consistent adherence to the highest standards. Ms. Byl's background includes organic extractions operations and five years of experience working as an analyst in the GC/HPLC Semivolatile department. She possesses leadership and

organizational abilities that she employs in her managerial position. Ms. Byl supervises the activities of the organic preparation department.

Semivolatiles Department Supervisor, Tegan Moore
Ms. Moore began her career in environmental science in 2005 after acquiring her degree in Biology from Luther College, Decorah, IA. Her experience has been in organic extractions, Semivolatiles groups. She is responsible for the day-to-day analytical, data production, and review activities of the Semivolatiles groups. These groups produce timely and accurate analysis of environmental samples and production of data. She is accountable for achieving quality and productivity goals for these groups in a compliant and cost-effective manner. Ms. Moore's duties also include managing a staff of 10 chemists in training, goal setting, SOP updates, and the performance evaluation of the individuals in these departments. In addition, she is responsible for process and technology improvements as well as instrument troubleshooting and evaluations.

Metals Supervisor and Environmental Health & Safety Coordinator, Doug Gomer
Mr. Gomer has over 26 years of experience in the environmental testing field. His experience is concentrated primarily in metals analysis. Mr. Gomer obtained a B.S. in Applied Mathematics with Chemistry Minor from Metropolitan State College of Denver, Denver, Colorado. He has an extensive knowledge of current analytical techniques used in environmental analysis as well as familiarity with many regulatory programs. Mr. Gomer has achieved increasingly responsible positions in his career and now supervises a group of 8 analysts. Mr. Gomer is responsible for all aspects of the Metals department including analysis, data reporting, turnaround time management, and personnel issues. As EH&S Coordinator, Mr. Gomer is responsible for administering the EH&S program. He monitors all areas for unsafe conditions, acts, and potential hazards. He enforces environmental, health, and safety policies and procedures as defined by the corporation as well as ensuring compliance with local, state, and federal laws.

Wet Chemistry Supervisor, Connie Jewell
Ms. Jewel earned her BS in Chemistry, with a minor in Environmental Science, from the Colorado School of Mines in 1999. She has worked in the environmental analytical industry her entire career. She is a senior analyst with expertise in numerous methods and wet chemistry procedures. Ms. Jewel's primary responsibilities include coordination of the analysis of environmental samples for wet chemistry parameters by a variety of instrumentation. She is accountable for the productivity and quality of analytical data generated in this department. Ms. Jewel trains and supervises a staff of 15 analysts. She is responsible for the maintenance of analytical instruments and performs data review. She also orders lab supplies to maintain a consistent inventory.

Radiation Safety Officer, Andrew Meyer
Mr. Meyer has been in the environmental laboratory field for 31 years. He obtained a B.S. in Business Administration with Psychology Minor from Regis University, Denver, Colorado. Mr. Meyer has been a laboratory shift supervisor and safety officer in addition to his laboratory experience with radioactive materials. While continuing his position as an LC/MS/MS chemist, Mr. Meyer is also the RSO for the facility. As RSO, Mr. Meyer is responsible for managing all

radioactive materials and the radiation safety program for the facility. His chemist duties include preparing and analyzing environmental samples according to scientific and EPA methodology.

Project Manager – Darlene Bandy
Ms. Bandy has worked in the environmental laboratory industry since 1986. She earned her AS in Science in 1999. She has a varied background in laboratory procedures including supervisory positions where she was responsible for waste management, safety, and analytical testing. Ms. Bandy's responsibilities include understanding technical and contractual documents in addition to interacting with clients on the initiation and set-up of projects. She ensures the analyses and expectations being placed on the laboratory can be done in compliance with clients' and regulatory agencies' requirements. Ms. Bandy serves as a conduit for information flow between the client and the entire laboratory operation as well as receiving staff. She monitors projects to assure that all contractual, quality control, scheduling, and cost objectives are met. In addition, she reviews and approves project data packages, and reviews and verifies client invoices for accuracy.

Project Manager, Donna Rydberg
Ms. Rydberg has over 32 years of experience in the analytical testing field. She obtained an A.A. in Applied Science in 1980. She maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. Ms. Rydberg monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. In addition, she works towards achieving goals for revenue, profit, and KRI's through the effective utilization of laboratory capacity and definition of customer requirements. In addition, she prepares and approves reports and data packages, and reviews and verifies client invoices for accuracy.

Project Manager, Elizabeth Sara
Ms. Sara has over 24 years of experience in the analytical laboratory field. She obtained a B.S. in Ecology, Ethology, Evolution (Life Sciences) from the University of Illinois in 1997. Ms. Sara coordinates and manages customers' projects through all phases of laboratory operations, ensuring fulfillment of TestAmerica commitments to client requirements, error-free work, and on-time delivery. She maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. She monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications.

Project Manager, Michelle Johnston
Ms. Johnston has 15 years laboratory experience in Project Management and Client Services. She obtained a B.S. in Biology from the University of Nebraska, Kearney, Nebraska in 2000. Ms. Johnston coordinates and manages customer projects through all phases of laboratory operations, ensuring fulfillment of TestAmerica's commitments to client requirements, error-free work, and on-time delivery. Ms. Johnston works closely with business unit personnel and sales to handle quotations and change orders for existing work. She monitors compliance with

industry regulations, contractual agreements, program management processes, and program specifications. She is very familiar with all versions of the DoD QSM. She works toward achieving goals for revenue, profit, and customer service through effective utilization of laboratory capacity and definition of customer requirements.

Project Manager, DiLea Bindel
Ms. Bindel has 16 years of varied education and experience in the environmental laboratory field, as well as the biological sciences. She obtained a B.S. in Biology with Chemistry Minor from Metropolitan State College of Denver, Denver, Colorado in 2002. Ms. Bindel is responsible for the management of client projects from inception to completion including timely delivery of analytical data. She serves as a liaison between the laboratory, sales, and the client to ensure that all requirements are fulfilled. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. Ms. Bindel monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. In addition, she works towards achieving goals for revenue, profit, and KRIs through the effective utilization of laboratory capacity and definition of customer requirements.

Project Manager, Danielle Harrington
Ms. Harrington has over 15 years laboratory experience in the Wet Chemistry and Project Management areas. She obtained a B.S. in Biology with Chemistry Minor from Virginia Polytechnic Institute and State University, Blacksburg, Virginia in 2002. Ms. Harrington's background is in organic and inorganic chemistry. As Project Manager she coordinates and manages customer projects through all phases of laboratory operations, ensuring fulfillment of TestAmerica's commitments to client requirements, error-free work, and on-time delivery. Ms. Harrington works closely with customer service personnel to handle quotations and change orders for existing work. She monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications.

Project Manager, Jamie Ide
Ms. Ide has over seven years of experience in the environmental laboratory field. She received her B.S. in Biology from the University of Colorado at Denver in 2011. Ms. Ide is responsible for the management of client projects from inception to completion including timely delivery of analytical data. She serves as a liaison between the laboratory, account executives, and the client to ensure that all requirements are fulfilled. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. Ms. Ide monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. In addition, she works towards achieving goals for revenue, profit, and KPIs through the effective utilization of laboratory capacity and definition of customer requirements.

Project Manager, Stephanie Rothmeyer
Ms. Rothmeyer has nine years of varied education and experience in the environmental laboratory field. She received a B.A. in Ecology and Evolutionary Biology from the University of Colorado in 2011. Her prior experience was as a Chemist, analyzing soil, groundwater, drinking

water, waste water, air, and oil. Ms. Rothmeyer is responsible for the management of client projects from inception to completion including timely delivery of analytical data. She serves as a liaison between the laboratory, account executives, and the client to ensure that all requirements are fulfilled. She also works closely with business unit personnel to manage quotations and change orders for existing scopes of work. Ms. Rothmeyer monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. In addition, she works towards achieving goals for revenue, profit, and KRIs through the effective utilization of laboratory capacity and definition of customer requirements.

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Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
ICP	Thermo Fischer (025)	ICP 6500 S/N 20090307	2009	New
HPLC/ICP/MS	Agilent HPLC (Q) Agilent ICP-MS (024)	UV Multiple wavelength detector 1365B S/N DE11101025 Quarternary Pump G1311A S/N DE11114412 7500 Series S/N JP51201530	2006	New
ICP/MS	Agilent ICP-MS (077)	7700 Series S/N JP09320047	2009	New
ICP/MS	Agilent ICP-MS (078)	7700 Series S/N JP12422099	2014	Used
Mercury Analyzer	Cetac CVAA (033)	M-7500 S/N 08092QTA	2009	New
Mercury Analyzer	Cetac CVAA (034)	M-7500 S/N 0021105QTA	2011	New
GFAA	Perkin Elmer	AAnalyst 600 S/N 601S2030105	2013	Used
Ion Chromatograph	Dionex (IC6)	ICS 2000 S/N 03100162/14047098	2003	New
Ion Chromatograph	Dionex (IC7)	ICS 2000 S/N 03100161/03100188	2003	New
Ion Chromatograph	Dionex (IC8)	ICS 2000 RFIC S/N 08020954/08020762	2008	New
Ion Chromatograph	Dionex (IC9)	ICS 3000 S/N 08020679	2008	New
Ion Chromatograph	Metrohm (IC10)	881 Compact IC S/N 1881000124128	2012	New
Ion Chromatograph	Dionex (IC11)	ICS-1100 S/N 09100167	2013	New
TOC	LECO (LEC)	C632 (Solid) S/N 3097	2007	New
TOC	Shimadzu (SHI3)	TOC-VCPN S/N H51404335027	2005	New
TOC	Shimadzu (SHI2)	TOC-VCSH S/N 414445340	2008	New
TOX	Thermo Euroglass (Thermo 3)	ECS 1200 S/N 993752/ 2008.283	2008	New

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Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
TOX	Trace Elemental Instruments (TOX1)	Xplorer Combustion Analyzer S/N 2016.073	2016	New
UV/VIS	Alpkem (Alp1)	A002393 S/N 917893398/ 912850458	1997	New
UV/VIS	Alpkem (Alp2)	Flow Solution IV S/N 908893427/ 906850834	1997	New
UV/VIS	Alpkem (Alp3)	Flow Solution 3000 S/N 632-1010-49/60092	2010	New
UV/VIS	Konelab	Model 20 S/N P0518697	2003	New
UV/VIS	Astoria Pacific Analyzer	Astoria 2 S/N 200052	2005	New
Autotitrator (pH, Alkalinity, Conductance)	Man-Tech (AT2)	PC – Titrate PC-1000	2000	New
Autotitrator (pH, Alkalinity, Conductance)	Man-Tech (AT3)	PC – Titrate PC-1000	2011	New
pH Meter	ThermoScientific	Orion 5 Star S/N: B27854	2012	New
pH Meter	Thermo Orion	Thermo Star S/N: X19036	2005	New
Conductivity Meter	Thermo Scientific	Orion Star A112 S/N: J05436	2013	New
Dissolved Oxygen Meter	YSI	5100 S/N 02G0238	2008	New
Turbidimeter	HF Scientific (TB2)	Micro 100 S/N: 104008	2001	New
Flashpoint	Herzog Pensky Martens	Model MP-329 S/N 043291648	2003	New
Spectrophotometer	HACH	DR/2010 S/N 990200012321	2007	New
Spectrophotometer	Genesys	Genysys 20 SN: 3SGP171002	2011	New
GC/MS Semivolatiles	Hewlett-Packard (D)	6890 – GC S/N US00007319 5973 – MSD S/N US70820578	1996	New
GC/MS Semivolatiles	Agilent Technologies (F)	6890 – GC S/N US00036181 5973N – MSD S/N US02480180	1996	New

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
GC/MS Semivolatiles	Agilent Technologies (K)	6890N – GC S/N CN10332028 5973 – MSD S/N US33266011	2003	New
GC/MS Semivolatiles	Agilent Technologies (G6)	7890A – GC S/N CN10933128 5975C inert XL w/ triple Axis Detector S/N US92033627	2010	New
GC/MS Semivolatiles	Agilent Technologies (G4)	6890N – GC S/N CN10438087 5973 Inert – MSD S/N US43120937	2004	New
GC/MS Semivolatiles	Agilent Technologies (X4)	6890N – GC S/N CN10438076 5973 inert – MSD S/N US43120927	2004	New
GC/MS Semivolatiles	Hewlett-Packard (Y)	6890 – GC S/N US00007291 5973 – MSD S/N US70820572	1996	New
GC/MS Semivolatiles	Hewlett-Packard (B2)	6890 – GC S/N US00010475 5973 – MSD S/N US70820578	2013	New
GC/MS Semivolatiles	Agilent Technologies (G5)	6890N – GC S/N CN10605078 5975 – MSD S/N US60532282	2006	New
GC/MS Volatiles	Agilent Technologies (C) O·I Analytical	6890N – GC S/N US00007315 5973 – MSD S/N US70820571 4552 - Purge & Trap S/N 14049 4660 Concentrator S/N A344466379E	2002	New

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
GC/MS Volatiles	Agilent Technologies (E) O·I Analytical	6890 – GC S/N-US00029543 5973 – MSD S/N –US93122910 4552 - Purge & Trap S/N - 13442 4660 – Concentrator S/N – G116466985P	2011	New
GC/MS Volatiles	Hewlett-Packard (H) O·I Analytical	5890II – GC S/N 3336A60700 5972 – MSD S/N 3524A03013 4552 – Purge & Trap S/N 14052 4660 – Concentrator S/N A3444663771	1994	New
GC/MS Volatiles	Hewlett Packard (P) O·I Analytical	6890 - GC S/N US00007321 5973 – MSD S/N US70820566 4552 – Purge & Trap S/N 14377 4660 - Concentrator S/N C509466078P	1997	New
GC/MS Volatiles	Hewlett-Packard (G) Varian OI Analytical	5890 Series II - GC S/N 3336A56276 5972 – MSD S/N 3435A01850 Archon Purge & Trap S/N 12751 O·I 4560 - Concentrator S/N 1913460964	1996	New
GC/MS Volatiles	Hewlett-Packard (J) Varian OI Analytical	5890II – GC S/N 3336A60701 5972 – MSD S/N 3524A03016 Archon Purge & Trap S/N 12726 O·I 4560 – Concentrator S/N D308367	1994	New

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
GC/MS Volatiles	Agilent Technologies (R1) O·I Analytical	6890N - GC S/N CN10524033 5973 Inert – MSD S/N US52420237 4552 – Purge & Trap S/N 14043 4660 – Concentrator S/N A344466372B	1994	New
GC/MS Volatiles	Hewlett-Packard (Z) O·I Analytical	5890II – GC S/N 3336A60013 5972 – MSD S/N 352AA02693 Archon Purge & Trap S/N C429411174 O·I 4660 –Concentrator S/N G109466777	1996	New
GC/MS Volatiles	Agilent Technologies (GCMS1) O·I Analytical	6890N – GC S/N CN10420009 5973 – MSD S/N US35120257 4552 – Purge & Trap S/N 14593 4660 – Concentrator S/N C509466077P	2004	New
GC/MS Volatiles	Agilent Technologies (G2) Varian	6890N – GC S/N CN10421078 5973 – MSD S/N GS36120303 Archon Purge & Trap S/N MS0902W012 O·I 4660 – Concentrator S/N 19374669269	2004	New
GC/MS Volatiles	Hewlett-Packard (Q) Varian OI Analytical	6890 – GC S/N US0000021949 5973 – MSD S/N US72810801 Archon Purge & Trap S/N 12750 O·I Eclipse 4660 – Concentrator S/N H216466454P	2001	New

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
GC/MS Volatiles	Hewlett-Packard (GSCMS8) O·I Analytical	6890 - GC S/N US00006567 5973 – MSD S/N US63810338 OI 4552 S/N 11958-696A O·I 4560 –Concentrator S/N M934460860	2013	New
GC/MS Volatiles	Agilent Technologies (GCMS9) OI Analytical	6890N – GC S/N US10229109 5975B – MSD S/N US60522608 Archon 4552 S/N 14052 Eclipse 4660 S/N C509466077E	2012	New
GC/MS Volatiles	Hewlett-Packard (I) Tekmar Dohrmann	5890 – GC S/N 2643A11361 7000 – Headspace Autosampler S/N US03038002	2003	New
GC/MS Volatiles	Hewlett-Packard (T) Tekmar Dohrmann	5890 Series II – GC S/N 2750A14928 7000HT Headspace Autosampler S/N US01198005	2001	New
GC Semivolatiles	Hewlett-Packard (A)	5890 Dual FID S/N 2750A16891	1987	New
GC Semivolatiles	Hewlett-Packard (C)	6890 Dual ECD S/N US00029514	1999	New
GC Semivolatiles	Hewlett-Packard (D)	6890 Dual NPD S/N DE00020818	1997	New
GC Semivolatiles	Agilent Technologies (D2)	6890N Dual NPD S/N US10521035	2004	New
GC Semivolatiles	Hewlett-Packard (E)	5890II Dual ECD S/N 3121A35858	1992	New
GC Semivolatiles	Hewlett-Packard (M)	6890 Dual ECD S/N US00024143	1999	New
GC Semivolatiles	Agilent Technologies (P1)	6890N Dual ECD S/N US10418019	2004	New
GC Semivolatiles	Agilent Technologies (P2)	6890N Dual ECD S/N US10418024	2004	New
GC Semivolatiles	Agilent Technologies (P3)	6890N Dual ECD S/N US10418023	2004	New

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
GC Semivolatiles	Hewlett-Packard (R)	5890II Dual ECD S/N 3336A55030	1994	New
GC Semivolatiles	Hewlett-Packard (U)	5890II Single FID S/N US00063217	1999	New
GC Semivolatiles	Agilent (U2)	7890A Dual FID S/N CN10942072	11/11/09	New
GC Semivolatiles	Hewlett-Packard (V)	5890 Dual ECD S/N 2631A08686	1990	New
GC Semivolatiles	Hewlett-Packard (W)	5890II Dual ECD S/N 3126A36250	1990	New
GC Semivolatiles	Hewlett-Packard (Z2)	5890II Dual FID S/N 3336A51924	1990	New
GC Volatiles	Hewlett-Packard (J) Tekmar Dohrmann	6890 Dual FID S/N US00026194 HS Autosampler 7000 HT S/N US02296004	1997	New
GC Volatiles	Hewlett-Packard (L) Tekmar	5890A FID S/N 2336A00164 LSC 2000 Concentrator S/N 89283001 ALS 2016 Purge & Trap S/N 90121028 ALS 2032 Purge & Trap S/N 94300004	1988	New
GC Volatiles	Agilent Technologies (S-1) O I Analytical	6890 Dual PID/ Dual ELCD S/N US10341120 4552 – Purge & Trap S/N 14046 4660 – Concentrator S/N 343466333P	2003	New
GC Volatiles	Hewlett-Packard (Y) Tekmar	5890A PID/FID S/N 2843A19484 LSC 3000 Concentrator S/N 93132006 ALS 2016 Purge & Trap S/N 91112002 ALS 2032 Purge & Trap S/N 88145006	1988	New
GC Volatiles	Agilent (Q) OI Corporation	7890A Dual PID Dual FID S/N CN12161119 4660 Concentrator S/N H216466450P 4552 Autosampler S/N US12090001	2012	New

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
HPLC	Hewlett-Packard (G)	Multiple wavelength UV Detector G1365A S/N DE91600240 Fluorescence detector G1321A S/N DE92001251 Quarternary Pump G1311A S/N DE91606289	1999	New
HPLC	Agilent Technologies (G2)	UV Diode Array Detector G1315B S/N DE11112694 Fluorescence detector G1321A S/N DE40506039 Binary Pump G1312A S/N US83105106	2011	New
HPLC	Agilent Technologies (X3)	UV Diode Array Detector G1365B S/N DE23917239 Fluorescence detector G1321A S/N DE33205520 Quarternary Pump G1311A S/N DE33224364	2004	New
HPLC	Agilent Technologies (X4)	UV Multiple wavelength detector 1365B S/N DE22601691 Quarternary Pump G1311A S/N DE14918799	2010	New
HPLC/MS/MS or IC/MS/MS	Waters (LCMS2)	Quattro Ultima MS/MS S/N VB304 Metrohm Ion Chromatograph (IC) System Model 850 S/N 185000004123	2001 (IC: 2016)	New

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer (Lab ID)	Model Number/ Serial Number	Year Put into Service	Condition When Received
HPLC/MS/MS	Waters (LCMS3)	Quattro Premier XE MS/MS S/N VAB661 Waters Sample Manager Acquity S/N M04UPS473M Waters Binary Solvent Manager Acquity S/N M04UPB504M	2005	New
HPLC/MS/MS	Waters (LCMS4)	Quattro Micromass MS/MS S/N QAA632 HPLC Inlet Acquity S/N K035M4028M Waters Ion Sabre Control Unit Ion Sabre S/N 29005	2006	New
HPLC/MS/MS	Agilent Technologies (LCMS5)	G6460A MS/MS S/N US95270371 Agilent Binary Pump G1312B S/N DE63061753	2010	New
HPLC/MS/MS	Waters (LCMS6)	Quattro Premier XE S/N VAB 461 Acquity UPLC S/N H07UPA UPLC Binary Solvent Manager S/N HO7 UPB	2016	Used
HPLC/MS/MS	Waters (LCMS7)	Xevo TQ S/N VAB 453 Acquity UPLC S/N C06UPS 056m UPLC Binary Solvent Manager S/N C06UPB 008m	2016	Used

Eurofins TestAmerica Denver – Instrument List

TestAmerica Denver Support Equipment

Instrument Type	Manufacturer	Model	Quantity	Location
Centrifuge	Sorvall Legend T	Sorvall Legend T	1	Metals
Hot Block	Environmental Express	SC100 SC151 SC154	11 2 4	Metals
Shaker Table	Barnstead/Thermolyne	M49235	1	Metals
Sonic Bath	Fischer Scientific	FS60D	1	Metals
Water Purifier	Barnstead/Thermolyne	E-Pure D4641	1	Metals
Centrifuge	Beckman	Beckman G- D-G	1	Wet Chemistry
COD Digestor	HACH	DRB 200	2	Wet Chemistry
Cool Flow 25 NES Lab Kontes w/Midi Vap 2000	Scientific Glassware Instruments	Scientific Glassware Instruments	1	Wet Chemistry
Cyanide Digestor	Westco Scientific Instruments, Inc.	Westco Scientific Instruments, Inc.	2	Wet Chemistry
Digestion System w/ Controller	A I Scientific	AIM 500/AIM 600	2	Wet Chemistry
Incubator	Fisher Scientific	Low Temperature Incubator	2	Wet Chemistry
Incubator	Thermo Electron Corporation	Thermo Electron Corporation	1	Wet Chemistry
Oil & grease Machine w/ SPE-DEX 3000 Controller/ Speed VAP II 9000 Solvent Evaporation System VAC Generator	Horizon Technology	3000 XL	1	Wet Chemistry
Oven (A)	Yamato	Mechanical Convection Oven DKN 810	1	Wet Chemistry
Oven (D)	VWR	1370 GD	1	Wet Chemistry
Oven (E)	Fisher Scientific	750F	1	Wet Chemistry
Oven (F)	Fisher Scientific	6925	1	Wet Chemistry
Solvent Evaporator w/Digital Temperature Control System	UA-SYS	UA-SYS Heating System S-EVAP KD	1	Wet Chemistry
TOX Sample Preparation	Microcoulometric Titration System	Microcoulometric Titration System	5	Wet Chemistry
Water Bath	Fisher Scientific	Isotemp 2150	1	Wet Chemistry
Water Purifier	ELGA	Pure Lab Ultra	2	Wet Chemistry/ Bottle Prep
Centrifuge	IEC Clinical	IEC Clinical	1	Mass Spectrometry

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer	Model	Quantity	Location
Centrifuge	Beckman-Coulter	Allegra X-22	1	Explosives Prep
Grinder	Humboldt	H-4199	2	Explosives Prep
Grinder	Cutler-Hammer	Ring in Puck	1	Explosives Prep
Grinder	US Stoneware	Ball mill	1	Explosives Prep
Shaker	New Brunswick Scientific	Innova 2100	1	Explosives Prep
Sieve Shaker	Humbolt	---	1	Explosives Prep
Chiller	Remcor	CA550A	1	Explosives Prep
Sonicator Bath	Branson	5510	2	Explosives Prep
Centrifuge	International Equipment Company	Model K	1	North Prep
Centrifuge	International Equipment Company	UV	1	North Prep
Drying Oven	Blue M	Temp-O-Loy Amecling Oven	1	North Prep
Microwave Extraction	CEM Corporation	MARSXpress Xtraction	1	North Prep
Chiller	Neslab	CFT-75	2	North Prep
Chiller	Brinkman	WK/WL 4600 Lauda	4	North Prep South Prep
N-Evap	Organomation Associates, Inc.	N-Evap II Nitrogen Evaporator	2	North Prep
Oven	Fisher Scientific	Isotemp Muffle Furnace	1	North Prep
Oven	Blue M	Temp O Lay – TLG-36-1G-2	1	North Prep
Sonicator	Fisher Scientific	550 Sonic Dismembrator	3	North Prep
Sonicator	Heat Systems	Sonicator Ultrasonic Processor XΔ	1	North Prep
Sonicator	Misonix	Sonicator 3000	2	North Prep
Sonicator	Heat Systems	W-385	3	North Prep
Turbo Vap	Caliper Life Science	Turbo Vap II	2	North Prep
Turbo Vap	Zymark	Turbo Vap II	1	North Prep
Water Bath	Waterlow	Waterlow	2	North Prep
Separatory Funnel Rotators	Ap & R Machine Tool	Ap & R Machine Tool	5	North Prep South Prep
Water Purifier	ELGA	Pure lab Classic	2	North Prep South Prep
Hotblock	CPI	Modblock	1	South Prep
Incubated Shaker Table	Lab Line Industries, Inc.	3527	1	South Prep
Muffle Furnance	Lindberg	Lindberg	1	South Prep

Eurofins TestAmerica Denver – Instrument List

Instrument Type	Manufacturer	Model	Quantity	Location
N-Evap	Organomation Associates, Inc.	N-Evap II Nitrogen Evaporator	1	South Prep
Oven	VWR	1320	1	South Prep
Vacuum Manifold	Waters	Vacuum Manifold	2	South Prep
Centrifuge	International Equipment Company	Model K	1	TCLP
Oven	Labline	L-C Oven	1	TCLP
Oven	Fischer Scientific	Isotemp	1	TCLP
Oven	VWR	1310	1	TCLP
Rotary Agitation Apparatus	Associated Manufacturing	--	3	TCLP Prep
Oven	Precision	--	1	GC VOA
Dessicators 1-6	Fisher Scientific	--	6	WC

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E87052

EUROFINS TESTAMERICA SAVANNAH
5102 LAROCHE AVENUE
SAVANNAH, GA 31404

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP III UNREGULATED CONTAMINANTS, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: October 22, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E87052-56-10/22/2019
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E87052-56, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
1,1,1-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
1,1,2,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
1,1,2-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
1,1-Dichloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
1,1-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
1,1-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
1,2,3-Trichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	4/16/2018
1,2,3-Trichloropropane	EPA 504.1	Group II Unregulated Contaminants	NELAP	4/18/2011
1,2,3-Trichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	8/24/2018
1,2,4-Trichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	3/19/2012
1,2,4-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	Synthetic Organic Contaminants	NELAP	2/6/2002
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	Synthetic Organic Contaminants	NELAP	2/6/2002
1,2-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
1,2-Dichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
1,2-Dichloropropane	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
1,3,5-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/27/2004
1,3-Dichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
1,3-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
1,4-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
2,2',3,3',4,4',6-Heptachlorobiphenyl	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
2,2',3,3',4,5',6,6'-Octachlorobiphenyl (BZ 201)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
2,2',3',4,6-Pentachlorobiphenyl (525.2 typo for 2,2',3,4',6-Pentachlorobiphenyl)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
2,2',4,4'-Tetrachlorobiphenyl (BZ 47)	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/30/2007
2,2-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
2,4,5-T	EPA 515.1	Group I Unregulated Contaminants	NELAP	12/2/2005
2,4',5-Trichlorobiphenyl (BZ 31)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
2,4-D	EPA 515.1	Synthetic Organic Contaminants	NELAP	2/6/2002
2,4-DB	EPA 515.1	Group I Unregulated Contaminants	NELAP	2/6/2002
2,4-Dinitrotoluene (2,4-DNT)	EPA 525.2	Group III Unregulated Contaminants	NELAP	10/17/2003
2,6-Dinitrotoluene (2,6-DNT)	EPA 525.2	Group III Unregulated Contaminants	NELAP	10/17/2003
2-Butanone (Methyl ethyl ketone, MEK)	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/2/2005
2-Chlorobiphenyl (BZ 1)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
2-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
2-Hexanone	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/2/2005

Laboratory Scope of Accreditation

Attachment to Certificate #: E87052-56, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
3-Hydroxycarbofuran	EPA 531.1	Group I Unregulated Contaminants	NELAP	6/24/2003
4,4'-DDD	EPA 508	Group I Unregulated Contaminants	NELAP	7/30/2007
4,4'-DDD	EPA 525.2	Group I Unregulated Contaminants	NELAP	10/17/2003
4,4'-DDE	EPA 508	Group I Unregulated Contaminants	NELAP	7/30/2007
4,4'-DDE	EPA 525.2	Group I Unregulated Contaminants	NELAP	10/17/2003
4,4'-DDT	EPA 508	Group I Unregulated Contaminants	NELAP	7/30/2007
4,4'-DDT	EPA 525.2	Group I Unregulated Contaminants	NELAP	10/17/2003
4-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
4-Isopropyltoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
4-Methyl-2-pentanone (MIBK)	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/2/2005
Acenaphthylene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Acetochlor	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Acetone	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/2/2005
Alachlor	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Aldicarb (Temik)	EPA 531.1	Group I Unregulated Contaminants	NELAP	9/5/2002
Aldicarb sulfone	EPA 531.1	Group I Unregulated Contaminants	NELAP	9/5/2002
Aldicarb sulfoxide	EPA 531.1	Group I Unregulated Contaminants	NELAP	6/24/2003
Aldrin	EPA 508	Group I Unregulated Contaminants	NELAP	2/6/2002
Aldrin	EPA 525.2	Group I Unregulated Contaminants	NELAP	9/5/2002
Alkalinity as CaCO3	SM 2320 B	Primary Inorganic Contaminants	NELAP	4/5/2013
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 508	Group I Unregulated Contaminants	NELAP	12/2/2005
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
alpha-Chlordane	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Aluminum	EPA 200.7	Secondary Inorganic Contaminants	NELAP	6/17/2003
Aluminum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/17/2003
Amenable cyanide	SM 4500-CN- G	Primary Inorganic Contaminants	NELAP	2/6/2002
Anthracene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Antimony	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Arsenic	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Atrazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Barium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/6/2002
Barium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Bentazon	EPA 515.1	Group I Unregulated Contaminants	NELAP	11/18/2008
Benzene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Benzo(a)anthracene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Benzo(a)pyrene	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002

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E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Benzo(b)fluoranthene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Benzo(g,h,i)perylene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Benzo(k)fluoranthene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Beryllium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/6/2002
Beryllium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
beta-BHC (beta-Hexachlorocyclohexane)	EPA 508	Group I Unregulated Contaminants	NELAP	12/2/2005
beta-BHC (beta-Hexachlorocyclohexane)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Boron	EPA 200.7	Secondary Inorganic Contaminants	NELAP	12/2/2010
Bromacil	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Bromate	EPA 300.1	Primary Inorganic Contaminants	NELAP	9/5/2002
Bromide	EPA 300.1	Primary Inorganic Contaminants	NELAP	10/17/2003
Bromoacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	9/5/2002
Bromobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Bromochloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
Bromodichloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Bromoform	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Butachlor	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/12/2003
Butyl benzyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	10/17/2003
Butylate	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Cadmium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/6/2002
Cadmium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Calcium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/6/2002
Carbaryl (Sevin)	EPA 531.1	Group I Unregulated Contaminants	NELAP	6/24/2003
Carbofuran (Furadan)	EPA 531.1	Synthetic Organic Contaminants	NELAP	9/5/2002
Carbon tetrachloride	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Chlorate	EPA 300.1	Secondary Inorganic Contaminants	NELAP	7/30/2007
Chlordane (tech.)	EPA 508	Synthetic Organic Contaminants	NELAP	2/6/2002
Chloride	EPA 300.0	Secondary Inorganic Contaminants	NELAP	2/6/2002
Chloride	EPA 325.2	Secondary Inorganic Contaminants	NELAP	2/6/2002
Chloride	SM 4500-Cl^- E	Secondary Inorganic Contaminants	NELAP	7/30/2007
Chlorite	EPA 300.1	Primary Inorganic Contaminants	NELAP	12/2/2005
Chloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	9/5/2002
Chlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Chlorobenzilate	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Chloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Chloroform	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002

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5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chloroneb	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Chlorothalonil	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/30/2007
Chlorpropham	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Chlorpyrifos	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Chromium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/6/2002
Chromium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Chrysene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
cis-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
cis-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
cis-Permethrin	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Color	EPA 110.2	Secondary Inorganic Contaminants	NELAP	2/6/2002
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	2/6/2002
Conductivity	SM 2510 B	Primary Inorganic Contaminants	NELAP	2/6/2002
Copper	EPA 200.7	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	2/6/2002
Copper	EPA 200.8	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	6/24/2003
Corrosivity (langlier index)	SM 2330 B	Secondary Inorganic Contaminants	NELAP	2/6/2002
Cyanide	EPA 335.4	Primary Inorganic Contaminants	NELAP	2/6/2002
Cyanide	SM 4500CN-E	Primary Inorganic Contaminants	NELAP	2/6/2002
Cycloate	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Dalapon	EPA 515.1	Synthetic Organic Contaminants	NELAP	2/6/2002
DCPA di acid degradate	EPA 515.1	Group I Unregulated Contaminants	NELAP	12/2/2005
delta-BHC	EPA 508	Group I Unregulated Contaminants	NELAP	2/6/2002
delta-BHC	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Di(2-ethylhexyl) phthalate (DEHP)	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Di(2-ethylhexyl)adipate	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Dibenz(a,h)anthracene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Dibromoacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	9/5/2002
Dibromochloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Dibromomethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Dicamba	EPA 515.1	Group I Unregulated Contaminants	NELAP	2/6/2002
Dichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	9/5/2002
Dichlorodifluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Dichloromethane (DCM, Methylene chloride)	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Dichloroprop (Dichlorprop)	EPA 515.1	Group I Unregulated Contaminants	NELAP	12/2/2005

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State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Dichlorovos (DDVP, Dichlorvos)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Dieldrin	EPA 508	Group I Unregulated Contaminants	NELAP	2/6/2002
Dieldrin	EPA 525.2	Group I Unregulated Contaminants	NELAP	6/11/2003
Diethyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	10/17/2003
Dimethyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	10/17/2003
Di-n-butyl phthalate	EPA 525.2	Group III Unregulated Contaminants	NELAP	10/17/2003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 515.1	Synthetic Organic Contaminants	NELAP	2/6/2002
Diphenamid	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Diquat	EPA 549.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Dissolved organic carbon (DOC)	SM 5310 B	Primary Inorganic Contaminants	NELAP	12/2/2005
Endosulfan I	EPA 508	Group I Unregulated Contaminants	NELAP	2/6/2002
Endosulfan I	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/30/2007
Endosulfan II	EPA 508	Group I Unregulated Contaminants	NELAP	2/6/2002
Endosulfan II	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/30/2007
Endosulfan sulfate	EPA 508	Group I Unregulated Contaminants	NELAP	2/6/2002
Endosulfan sulfate	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/30/2007
Endothall	EPA 548.1	Synthetic Organic Contaminants	NELAP	9/5/2002
Endrin	EPA 508	Synthetic Organic Contaminants	NELAP	2/6/2002
Endrin	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Endrin aldehyde	EPA 508	Group I Unregulated Contaminants	NELAP	2/6/2002
Endrin aldehyde	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/30/2007
EPTC (Eptam, s-ethyl-dipropyl thio carbamate)	EPA 525.2	Group I Unregulated Contaminants	NELAP	10/17/2003
Ethoprop	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/30/2007
Ethylbenzene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Etridiazole	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Fenarimol	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Fluorene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Fluoride	EPA 300.0	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	2/6/2002
Fluridone	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 508	Synthetic Organic Contaminants	NELAP	2/6/2002
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
gamma-Chlordane	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Glyphosate	EPA 547	Synthetic Organic Contaminants	NELAP	9/5/2002
Hardness	EPA 130.2	Secondary Inorganic Contaminants	NELAP	11/18/2008

Laboratory Scope of Accreditation

Attachment to Certificate #: E87052-56, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Hardness	SM 2340 B	Secondary Inorganic Contaminants	NELAP	12/2/2005
Hardness	SM 2340 C	Secondary Inorganic Contaminants	NELAP	11/18/2008
Heptachlor	EPA 508	Synthetic Organic Contaminants	NELAP	2/6/2002
Heptachlor	EPA 525.2	Synthetic Organic Contaminants	NELAP	6/2/2003
Heptachlor epoxide	EPA 508	Synthetic Organic Contaminants	NELAP	2/6/2002
Heptachlor epoxide	EPA 525.2	Synthetic Organic Contaminants	NELAP	6/2/2003
Hexachlorobenzene	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Hexachlorobutadiene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
Hexachlorocyclopentadiene	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Hexazinone (Velpar)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Indeno(1,2,3-cd)pyrene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Iron	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/6/2002
Isophorone	EPA 525.2	Group III Unregulated Contaminants	NELAP	10/17/2003
Isopropylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
Lead	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
m+p-Xylenes	EPA 524.2	Group II Unregulated Contaminants	NELAP	11/18/2008
Magnesium	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/6/2002
Manganese	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/6/2002
Manganese	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/24/2003
Mercury	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Mercury	EPA 245.1	Primary Inorganic Contaminants	NELAP	6/24/2003
Methiocarb (Mesurol)	EPA 531.1	Group I Unregulated Contaminants	NELAP	7/30/2007
Methomyl (Lannate)	EPA 531.1	Group I Unregulated Contaminants	NELAP	6/24/2003
Methoxychlor	EPA 508	Synthetic Organic Contaminants	NELAP	2/6/2002
Methoxychlor	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Methyl bromide (Bromomethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/2/2005
Methyl chloride (Chloromethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Methyl paraoxon	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Methyl tert-butyl ether (MTBE)	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Metolachlor	EPA 525.2	Group I Unregulated Contaminants	NELAP	6/24/2003
Metribuzin	EPA 525.2	Group I Unregulated Contaminants	NELAP	6/24/2003
Mevinphos	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
MGK-264	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Molinate	EPA 525.2	Group I Unregulated Contaminants	NELAP	10/17/2003
Molybdenum	EPA 200.7	Secondary Inorganic Contaminants	NELAP	12/2/2005
Molybdenum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/23/2010

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E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Naphthalene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/27/2004
Napropamide	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
n-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
Nickel	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/6/2002
Nickel	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Nitrate	EPA 300.0	Primary Inorganic Contaminants	NELAP	2/6/2002
Nitrate	EPA 353.2	Primary Inorganic Contaminants	NELAP	2/6/2002
Nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	2/6/2002
Nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	2/6/2002
Norflurazon	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
n-Propylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
Odor	EPA 140.1	Secondary Inorganic Contaminants	NELAP	2/6/2002
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	11/18/2008
Orthophosphate as P	EPA 365.1	Primary Inorganic Contaminants	NELAP	12/2/2005
Orthophosphate as P	SM 4500-P F	Primary Inorganic Contaminants	NELAP	11/18/2008
Oxamyl	EPA 531.1	Synthetic Organic Contaminants	NELAP	9/5/2002
o-Xylene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/2/2005
PCBs	EPA 508	Synthetic Organic Contaminants	NELAP	2/6/2002
Pebulate	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Pentachlorophenol	EPA 515.1	Synthetic Organic Contaminants	NELAP	2/6/2002
pH	EPA 150.1	Secondary Inorganic Contaminants,Primary Inorganic Contaminants	NELAP	2/6/2002
pH	SM 4500-H+-B	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	7/30/2007
Phenanthrene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
Picloram	EPA 515.1	Synthetic Organic Contaminants	NELAP	3/20/2013
Potassium	EPA 200.7	Secondary Inorganic Contaminants	NELAP	3/25/2003
Pronamide (Kerb)	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Propachlor (Ramrod)	EPA 525.2	Group I Unregulated Contaminants	NELAP	9/5/2002
Propazine	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Propoxur (Baygon)	EPA 531.1	Group I Unregulated Contaminants	NELAP	7/30/2007
Pyrene	EPA 525.2	Group III Unregulated Contaminants	NELAP	12/2/2005
sec-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
Selenium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Silica as SiO2	EPA 200.7	Primary Inorganic Contaminants	NELAP	12/2/2005
Silver	EPA 200.7	Secondary Inorganic Contaminants	NELAP	2/6/2002

Laboratory Scope of Accreditation

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State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Silver	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/24/2003
Silvex (2,4,5-TP)	EPA 515.1	Synthetic Organic Contaminants	NELAP	2/6/2002
Simazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	9/5/2002
Sodium	EPA 200.7	Primary Inorganic Contaminants	NELAP	2/6/2002
Styrene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Sulfate	EPA 300.0	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	2/6/2002
Sulfate	EPA 375.4	Secondary Inorganic Contaminants	NELAP	2/6/2002
Terbacil	EPA 525.2	Group I Unregulated Contaminants	NELAP	10/17/2003
tert-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/12/2003
Tetrachloroethylene (Perchloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Thallium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/24/2003
Toluene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Total dissolved solids	EPA 160.1	Secondary Inorganic Contaminants	NELAP	2/6/2002
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	2/6/2002
Total haloacetic acids (HAA5)	EPA 552.2	Synthetic Organic Contaminants	NELAP	12/2/2005
Total nitrate-nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	2/6/2002
Total nitrate-nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	2/6/2002
Total organic carbon	SM 5310 B	Primary Inorganic Contaminants	NELAP	12/2/2005
Total trihalomethanes	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Toxaphene (Chlorinated camphene)	EPA 508	Synthetic Organic Contaminants	NELAP	2/6/2002
trans-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
trans-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
trans-Nonachlor	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
trans-Permethrin	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Triadimefon	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Trichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	9/5/2002
Trichloroethene (Trichloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Trichlorofluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	2/6/2002
Tricyclazole	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Trifluralin (Treflan)	EPA 525.2	Group I Unregulated Contaminants	NELAP	7/30/2007
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	2/6/2002
Turbidity	SM 2130 B	Secondary Inorganic Contaminants	NELAP	2/6/2002
UV 254	SM 5910 B	Primary Inorganic Contaminants	NELAP	12/2/2005
Vanadium	EPA 200.7	Secondary Inorganic Contaminants	NELAP	12/2/2005
Vanadium	EPA 200.8	Secondary Inorganic Contaminants	NELAP	3/19/2012

Laboratory Scope of Accreditation

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State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Vernolate	EPA 525.2	Group I Unregulated Contaminants	NELAP	12/2/2005
Vinyl chloride	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Xylene (total)	EPA 524.2	Other Regulated Contaminants	NELAP	2/6/2002
Zinc	EPA 200.7	Secondary Inorganic Contaminants	NELAP	12/2/2010
Zinc	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/24/2003

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State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,1-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2,2-Tetrachloroethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	3/28/2014
1,2,4,5-Tetrachlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2,4-Trichlorobenzene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	7/1/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	7/1/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichloropropane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,3,5-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	3/28/2014
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,3-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	4/4/2018

Laboratory Scope of Accreditation

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State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,4-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8260	Volatile Organics	NELAP	4/18/2011
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8270	Volatile Organics	NELAP	9/20/2017
1,4-Naphthoquinone	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,4-Phenylenediamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
1-Chlorohexane	EPA 8260	Volatile Organics	NELAP	7/30/2007
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	7/30/2007
1-Naphthylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4,5-T	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4,6-Trichlorophenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-D	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4-DB	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4-Dichlorophenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dimethylphenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dinitrophenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dinitrotoluene (2,4-DNT)	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	7/1/2003

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E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,6-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,6-Dinitrotoluene (2,6-DNT)	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Acetylaminofluorene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Chloroethyl vinyl ether	EPA 624.1	Volatile Organics	NELAP	4/4/2018
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Chloronaphthalene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Chlorophenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Hexanone	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Methyl-4,6-dinitrophenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Methylnaphthalene	EPA 8260	Volatile Organics	NELAP	3/28/2014
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Naphthylamine	EPA 8270	Extractable Organics	NELAP	7/30/2007
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Nitropropane	EPA 8260	Volatile Organics	NELAP	3/28/2014
2-Pentanone	EPA 8015	Volatile Organics	NELAP	7/30/2007
2-Picoline (2-Methylpyridine)	EPA 8270	Extractable Organics	NELAP	7/1/2003
3,3'-Dichlorobenzidine	EPA 625.1	Extractable Organics	NELAP	4/4/2018
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
3,3'-Dimethylbenzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
3,5-Dichlorobenzoic acid	EPA 8151	Extractable Organics	NELAP	7/30/2007
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	11/18/2008
3-Methylcholanthrene	EPA 8270	Extractable Organics	NELAP	7/30/2007
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4,4'-DDD	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4,4'-DDE	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003

Laboratory Scope of Accreditation

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State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
4,4'-DDT	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4-Aminobiphenyl	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Bromophenyl phenyl ether	EPA 625.1	Extractable Organics	NELAP	4/4/2018
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chloro-3-methylphenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chlorophenyl phenylether	EPA 625.1	Extractable Organics	NELAP	4/4/2018
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Dimethyl aminoazobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
5-Nitro-o-toluidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
7,12-Dimethylbenz(a) anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
a,a-Dimethylphenethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acenaphthene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Acenaphthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acenaphthylene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acetaldehyde	EPA 8315	Extractable Organics	NELAP	10/22/2019
Acetone	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acetonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acetophenone	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acifluorfen	EPA 8151	Extractable Organics	NELAP	7/30/2007
Acrolein (Propenal)	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acrylamide	EPA 8316	Volatile Organics	NELAP	9/20/2017
Acrylic acid	SOP SA-LC-074	Volatile Organics	NELAP	9/20/2017
Acrylonitrile	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Adsorbable organic halogens (AOX)	EPA 1650	General Chemistry	NELAP	2/6/2002
Aldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018

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Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Alkalinity as CaCO3	EPA 310.1	General Chemistry	NELAP	2/6/2002
Alkalinity as CaCO3	SM 2320 B	General Chemistry	NELAP	2/6/2002
Allyl alcohol	EPA 8015	Volatile Organics	NELAP	7/30/2007
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aluminum	EPA 200.7	Metals	NELAP	2/6/2002
Aluminum	EPA 200.8	Metals	NELAP	10/17/2003
Aluminum	EPA 6010	Metals	NELAP	7/1/2003
Aluminum	EPA 6020	Metals	NELAP	10/17/2003
Amenable cyanide	EPA 335.1	General Chemistry	NELAP	2/6/2002
Amenable cyanide	EPA 9012	General Chemistry	NELAP	7/1/2003
Amenable cyanide	SM 4500-CN- G	General Chemistry	NELAP	2/6/2002
a-Methylstyrene	EPA 8260	Volatile Organics	NELAP	3/28/2014
Ammonia as N	EPA 350.1	General Chemistry	NELAP	2/6/2002
Aniline	EPA 8270	Extractable Organics	NELAP	7/1/2003
Anthracene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Antimony	EPA 200.7	Metals	NELAP	2/6/2002
Antimony	EPA 200.8	Metals	NELAP	10/17/2003
Antimony	EPA 6010	Metals	NELAP	7/1/2003
Antimony	EPA 6020	Metals	NELAP	10/17/2003
Aramite	EPA 8270	Extractable Organics	NELAP	7/1/2003
Aroclor-1016 (PCB-1016)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1221 (PCB-1221)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1232 (PCB-1232)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1242 (PCB-1242)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1248 (PCB-1248)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1254 (PCB-1254)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018

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5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1260 (PCB-1260)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Arsenic	EPA 200.7	Metals	NELAP	2/6/2002
Arsenic	EPA 200.8	Metals	NELAP	10/17/2003
Arsenic	EPA 6010	Metals	NELAP	7/1/2003
Arsenic	EPA 6020	Metals	NELAP	10/17/2003
Barium	EPA 200.7	Metals	NELAP	2/6/2002
Barium	EPA 200.8	Metals	NELAP	10/17/2003
Barium	EPA 6010	Metals	NELAP	7/1/2003
Barium	EPA 6020	Metals	NELAP	10/17/2003
Bentazon	EPA 8151	Extractable Organics	NELAP	7/30/2007
Benzene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Benzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Benzidine	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Benzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(a)anthracene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(a)pyrene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(b)fluoranthene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(g,h,i)perylene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(k)fluoranthene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzoic acid	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzyl chloride	EPA 8260	Volatile Organics	NELAP	3/28/2014
Beryllium	EPA 200.7	Metals	NELAP	2/6/2002
Beryllium	EPA 200.8	Metals	NELAP	10/17/2003
Beryllium	EPA 6010	Metals	NELAP	7/1/2003
Beryllium	EPA 6020	Metals	NELAP	10/17/2003
beta-BHC (beta-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Biochemical oxygen demand	EPA 405.1	General Chemistry	NELAP	2/6/2002

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Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	2/6/2002
bis(2-Chloroethoxy)methane	EPA 625.1	Extractable Organics	NELAP	4/4/2018
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	7/1/2003
bis(2-Chloroethyl) ether	EPA 625.1	Extractable Organics	NELAP	4/4/2018
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
Boron	EPA 200.7	Metals	NELAP	2/6/2002
Boron	EPA 6010	Metals	NELAP	7/1/2003
Bromate	EPA 300.0	General Chemistry	NELAP	3/22/2013
Bromate	EPA 300.1	General Chemistry	NELAP	7/30/2007
Bromide	EPA 300.0	General Chemistry	NELAP	2/6/2002
Bromide	EPA 300.1	General Chemistry	NELAP	7/30/2007
Bromide	EPA 9056	General Chemistry	NELAP	7/1/2003
Bromobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromodichloromethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromoform	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Bromoform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Butyl acrylate	EPA 8260	Volatile Organics	NELAP	3/28/2014
Butyl benzyl phthalate	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Cadmium	EPA 200.7	Metals	NELAP	2/6/2002
Cadmium	EPA 200.8	Metals	NELAP	10/17/2003
Cadmium	EPA 6010	Metals	NELAP	7/1/2003
Cadmium	EPA 6020	Metals	NELAP	10/17/2003
Calcium	EPA 200.7	Metals	NELAP	2/6/2002
Calcium	EPA 6010	Metals	NELAP	7/1/2003
Calcium	EPA 6020	Metals	NELAP	10/17/2003
Carbazole	EPA 8270	Extractable Organics	NELAP	7/1/2003
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbon tetrachloride	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	2/6/2002
Chemical oxygen demand	EPA 410.4	General Chemistry	NELAP	2/6/2002
Chemical oxygen demand	SM 5220 D	General Chemistry	NELAP	7/30/2007
Chloramben	EPA 8151	Extractable Organics	NELAP	7/30/2007

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E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chlorate	EPA 300.1	General Chemistry	NELAP	7/30/2007
Chlordane (tech.)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chloride	EPA 300.0	General Chemistry	NELAP	2/6/2002
Chloride	EPA 325.2	General Chemistry	NELAP	2/6/2002
Chloride	EPA 9056	General Chemistry	NELAP	7/1/2003
Chloride	EPA 9251	General Chemistry	NELAP	7/1/2003
Chloride	SM 4500-Cl^- E	General Chemistry	NELAP	7/30/2007
Chlorite	EPA 300.1	General Chemistry	NELAP	7/30/2007
Chlorobenzene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chlorobenzilate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chloroethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Chloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chloroform	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Chloroform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chloroprene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chromium	EPA 200.7	Metals	NELAP	2/6/2002
Chromium	EPA 200.8	Metals	NELAP	10/17/2003
Chromium	EPA 6010	Metals	NELAP	7/1/2003
Chromium	EPA 6020	Metals	NELAP	10/17/2003
Chromium VI	EPA 7196	Metals	NELAP	7/30/2007
Chromium VI	SM 3500-Cr B (20th/21st/22nd Ed.)/UV-VIS	General Chemistry	NELAP	4/18/2011
Chromium VI	SM 3500-Cr D (18th/19th Ed.)/UV-VIS	General Chemistry	NELAP	2/6/2002
Chrysene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Chrysene	EPA 8270	Extractable Organics	NELAP	7/1/2003
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
cis-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Cobalt	EPA 200.7	Metals	NELAP	2/6/2002
Cobalt	EPA 200.8	Metals	NELAP	10/17/2003
Cobalt	EPA 6010	Metals	NELAP	7/1/2003
Cobalt	EPA 6020	Metals	NELAP	10/17/2003
Color	EPA 110.2	General Chemistry	NELAP	2/6/2002
Color	SM 2120 B	General Chemistry	NELAP	7/30/2007

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Conductivity	EPA 120.1	General Chemistry	NELAP	2/6/2002
Conductivity	EPA 9050	General Chemistry	NELAP	7/30/2007
Conductivity	SM 2510 B	General Chemistry	NELAP	7/30/2007
Copper	EPA 200.7	Metals	NELAP	2/6/2002
Copper	EPA 200.8	Metals	NELAP	10/17/2003
Copper	EPA 6010	Metals	NELAP	7/1/2003
Copper	EPA 6020	Metals	NELAP	10/17/2003
Corrosivity (langlier index)	SM 2330 B	General Chemistry	NELAP	2/6/2002
Cyanide	EPA 335.4	General Chemistry	NELAP	2/6/2002
Cyanide	SM 4500CN-E	General Chemistry	NELAP	2/6/2002
Dacthal (DCPA)	EPA 8151	Extractable Organics	NELAP	7/30/2007
Dalapon	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Decachlorobiphenyl	EPA 680	Pesticides-Herbicides-PCB's	NELAP	12/2/2005
delta-BHC	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Di(2-ethylhexyl) phthalate (DEHP)	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	7/1/2003
Diallate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dibenz(a,h)anthracene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dibromochloromethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dibromomethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dicamba	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dichlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dichloroprop (Dichlorprop)	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dieldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	7/1/2003
Diethyl ether	EPA 8260	Volatile Organics	NELAP	7/1/2003
Diethyl phthalate	EPA 625.1	Extractable Organics	NELAP	4/4/2018

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dimethoate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dimethyl phthalate	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-n-butyl phthalate	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-n-octyl phthalate	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Disulfoton	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan I	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan II	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan sulfate	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin aldehyde	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Ethane	RSK-175	Volatile Organics	NELAP	12/2/2005
Ethanol	EPA 8015	Volatile Organics	NELAP	7/1/2003
Ethanol	EPA 8260	Volatile Organics	NELAP	4/18/2011
Ethyl acetate	EPA 1666	Volatile Organics	NELAP	7/30/2007
Ethyl acetate	EPA 8015	Volatile Organics	NELAP	7/1/2003
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	3/28/2014
Ethyl acrylate	EPA 8260	Volatile Organics	NELAP	3/28/2014
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Ethyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Ethylbenzene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Ethylene	RSK-175	Volatile Organics	NELAP	12/2/2005
Ethylene glycol	EPA 8015	Volatile Organics	NELAP	7/30/2007

Laboratory Scope of Accreditation

Attachment to Certificate #: E87052-56, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Ethyl-t-butylether (ETBE)	EPA 8260	Volatile Organics	NELAP	3/28/2014
Famphur	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Fluoranthene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Fluorene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Fluorene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Fluoride	EPA 300.0	General Chemistry	NELAP	2/6/2002
Fluoride	EPA 9056	General Chemistry	NELAP	7/1/2003
Formaldehyde	EPA 8315	Extractable Organics	NELAP	10/22/2019
Furan	EPA 8260	Volatile Organics	NELAP	3/28/2014
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Gasoline range organics (GRO)	EPA 8015	Extractable Organics	NELAP	7/1/2003
Hardness	EPA 130.2	General Chemistry	NELAP	11/18/2008
Hardness	SM 2340 B	General Chemistry	NELAP	2/6/2002
Hardness	SM 2340 C	General Chemistry	NELAP	11/18/2008
Hardness (calc.)	EPA 200.7	Metals	NELAP	7/30/2007
Heptachlor	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Heptachlor epoxide	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Heptachlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Hexachlorobenzene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Hexachlorobenzene	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Hexachlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Hexachlorobutadiene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorocyclopentadiene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachloroethane	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorophene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachloropropene	EPA 8270	Extractable Organics	NELAP	7/1/2003

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Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Indeno(1,2,3-cd)pyrene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Iron	EPA 200.7	Metals	NELAP	2/6/2002
Iron	EPA 6010	Metals	NELAP	7/1/2003
Iron	EPA 6020	Metals	NELAP	10/17/2003
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8015	Volatile Organics	NELAP	7/30/2007
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Isodrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Isophorone	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Isophorone	EPA 8270	Extractable Organics	NELAP	7/1/2003
Isopropyl acetate	EPA 1666	Volatile Organics	NELAP	7/30/2007
Isopropyl alcohol (2-Propanol)	EPA 8015	Volatile Organics	NELAP	7/30/2007
Isopropyl ether	EPA 8260	Volatile Organics	NELAP	3/28/2014
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Isosafrole	EPA 8270	Extractable Organics	NELAP	7/1/2003
Kepone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	2/6/2002
Lead	EPA 200.7	Metals	NELAP	2/6/2002
Lead	EPA 200.8	Metals	NELAP	10/17/2003
Lead	EPA 6010	Metals	NELAP	7/1/2003
Lead	EPA 6020	Metals	NELAP	10/17/2003
m+p-Xylenes	EPA 8260	Volatile Organics	NELAP	7/30/2007
Magnesium	EPA 200.7	Metals	NELAP	2/6/2002
Magnesium	EPA 6010	Metals	NELAP	7/1/2003
Magnesium	EPA 6020	Metals	NELAP	10/17/2003
Manganese	EPA 200.7	Metals	NELAP	2/6/2002
Manganese	EPA 200.8	Metals	NELAP	10/17/2003
Manganese	EPA 6010	Metals	NELAP	7/1/2003
Manganese	EPA 6020	Metals	NELAP	10/17/2003
MCPA	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
MCPP	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Mercury	EPA 200.8	Metals	NELAP	10/17/2003
Mercury	EPA 245.1	Metals	NELAP	2/6/2002

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Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Mercury	EPA 6020	Metals	NELAP	10/17/2003
Mercury	EPA 7470	Metals	NELAP	7/1/2003
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methane	RSK-175	Volatile Organics	NELAP	12/2/2005
Methanol	EPA 8015	Volatile Organics	NELAP	7/30/2007
Methanol	NCASI DI/MEOH-94.03	Volatile Organics	NELAP	9/20/2017
Methapyrilene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Methyl bromide (Bromomethane)	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl chloride (Chloromethane)	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Methyl parathion (Parathion, methyl)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methylene chloride	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Methylene chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Mirex	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Molybdenum	EPA 200.7	Metals	NELAP	2/6/2002
Molybdenum	EPA 200.8	Metals	NELAP	10/17/2003
Molybdenum	EPA 6010	Metals	NELAP	7/1/2003
Molybdenum	EPA 6020	Metals	NELAP	7/30/2007
Monochlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
n-Amyl acetate	EPA 1666	Volatile Organics	NELAP	7/30/2007
Naphthalene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Naphthalene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Naphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Butyl acetate	EPA 1666	Volatile Organics	NELAP	7/30/2007
n-Butyl alcohol	EPA 8015	Volatile Organics	NELAP	7/30/2007
n-Butyl alcohol	EPA 8260	Volatile Organics	NELAP	3/28/2014
n-Butyl-acetate	EPA 8260	Volatile Organics	NELAP	3/28/2014
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Nickel	EPA 200.7	Metals	NELAP	2/6/2002
Nickel	EPA 200.8	Metals	NELAP	10/17/2003
Nickel	EPA 6010	Metals	NELAP	7/1/2003

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Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Nickel	EPA 6020	Metals	NELAP	10/17/2003
Nitrate	EPA 9056	General Chemistry	NELAP	7/1/2003
Nitrate as N	EPA 300.0	General Chemistry	NELAP	2/6/2002
Nitrate as N	EPA 353.2	General Chemistry	NELAP	2/6/2002
Nitrate-nitrite	EPA 300.0	General Chemistry	NELAP	2/6/2002
Nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	2/6/2002
Nitrite	EPA 9056	General Chemistry	NELAP	7/1/2003
Nitrite as N	EPA 300.0	General Chemistry	NELAP	2/6/2002
Nitrite as N	EPA 353.2	General Chemistry	NELAP	2/6/2002
Nitrobenzene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Nitroquinoline-1-oxide	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodiethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodimethylamine	EPA 625.1	Extractable Organics	NELAP	4/4/2018
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitroso-di-n-butylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodi-n-propylamine	EPA 625.1	Extractable Organics	NELAP	4/4/2018
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodiphenylamine	EPA 625.1	Extractable Organics	NELAP	4/4/2018
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosomethylethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosomorpholine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Nonachlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
n-Propanol	EPA 8015	Volatile Organics	NELAP	7/30/2007
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
o,o,o-Triethyl phosphorothioate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Octachlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Oil & Grease	EPA 1664A	General Chemistry	NELAP	12/2/2015
Organic nitrogen	TKN minus AMMONIA	General Chemistry	NELAP	7/30/2007
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	11/18/2008
Orthophosphate as P	SM 4500-P F	General Chemistry	NELAP	11/18/2008
o-Toluidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
o-Xylene	EPA 8260	Volatile Organics	NELAP	7/30/2007
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003

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E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Pentachlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Pentachloronitrobenzene (Quintozene)	EPA 8270	Extractable Organics	NELAP	7/1/2003
Pentachlorophenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Pentachlorophenol	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
pH	EPA 150.1	General Chemistry	NELAP	2/6/2002
pH	EPA 9040	General Chemistry	NELAP	7/1/2003
pH	SM 4500-H+-B	General Chemistry	NELAP	7/30/2007
Phenacetin	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phenanthrene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Phenanthrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phenol	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Phenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phorate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Phosphorus, total	EPA 365.4	General Chemistry	NELAP	2/6/2002
Picloram	EPA 8151	Extractable Organics	NELAP	7/30/2007
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Potassium	EPA 200.7	Metals	NELAP	2/6/2002
Potassium	EPA 6010	Metals	NELAP	7/1/2003
Potassium	EPA 6020	Metals	NELAP	10/17/2003
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	7/1/2003
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Pyrene	EPA 625.1	Extractable Organics	NELAP	4/4/2018
Pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Pyridine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Residual free chlorine	EPA 330.3	General Chemistry	NELAP	2/6/2002
Residue-filterable (TDS)	EPA 160.1	General Chemistry	NELAP	2/6/2002
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	7/30/2007
Residue-nonfilterable (TSS)	EPA 160.2	General Chemistry	NELAP	2/6/2002
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	7/30/2007
Residue-settleable	EPA 160.5	General Chemistry	NELAP	2/6/2002
Residue-settleable	SM 2540 F	General Chemistry	NELAP	11/18/2008
Residue-total	EPA 160.3	General Chemistry	NELAP	2/6/2002
Residue-total	SM 2540 B	General Chemistry	NELAP	7/30/2007

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Residue-volatile	EPA 160.4	General Chemistry	NELAP	2/6/2002
Residue-volatile	SM 2540 E	General Chemistry	NELAP	2/6/2002
Safrole	EPA 8270	Extractable Organics	NELAP	7/1/2003
Salinity	SM 2520 B	General Chemistry	NELAP	2/6/2002
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Selenium	EPA 200.7	Metals	NELAP	2/6/2002
Selenium	EPA 200.8	Metals	NELAP	10/17/2003
Selenium	EPA 6010	Metals	NELAP	7/1/2003
Selenium	EPA 6020	Metals	NELAP	10/17/2003
Silica as SiO2	EPA 200.7	Metals	NELAP	7/30/2007
Silicon	EPA 200.7	Metals	NELAP	2/6/2002
Silicon	EPA 6010	General Chemistry	NELAP	7/30/2007
Silver	EPA 200.7	Metals	NELAP	2/6/2002
Silver	EPA 200.8	Metals	NELAP	10/17/2003
Silver	EPA 6010	Metals	NELAP	7/1/2003
Silver	EPA 6020	Metals	NELAP	10/17/2003
Silvex (2,4,5-TP)	EPA 615	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Sodium	EPA 200.7	Metals	NELAP	2/6/2002
Sodium	EPA 6010	Metals	NELAP	7/1/2003
Sodium	EPA 6020	Metals	NELAP	10/17/2003
Strontium	EPA 200.7	Metals	NELAP	2/6/2002
Strontium	EPA 6010	Metals	NELAP	7/1/2003
Styrene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Sulfate	EPA 300.0	General Chemistry	NELAP	2/6/2002
Sulfate	EPA 375.4	General Chemistry	NELAP	2/6/2002
Sulfate	EPA 9038	General Chemistry	NELAP	7/1/2003
Sulfate	EPA 9056	General Chemistry	NELAP	7/1/2003
Sulfide	EPA 376.1	General Chemistry	NELAP	7/30/2007
Sulfide	EPA 9030	General Chemistry	NELAP	7/1/2003
Sulfide	EPA 9034	General Chemistry	NELAP	7/1/2003
Sulfide	SM 4500-S F (19th/20th/21st Ed.)/TITR	General Chemistry	NELAP	7/30/2007
Sulfotepp	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Surfactants - MBAS	EPA 425.1	General Chemistry	NELAP	2/6/2002
Surfactants - MBAS	SM 5540 C	General Chemistry	NELAP	2/6/2002
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	3/28/2014

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8015	Volatile Organics	NELAP	7/30/2007
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	7/30/2007
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Tetrachlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Tetrachloroethylene (Perchloroethylene)	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Thallium	EPA 200.7	Metals	NELAP	2/6/2002
Thallium	EPA 200.8	Metals	NELAP	10/17/2003
Thallium	EPA 6010	Metals	NELAP	7/1/2003
Thallium	EPA 6020	Metals	NELAP	10/17/2003
Thionazin (Zinophos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Tin	EPA 200.7	Metals	NELAP	2/6/2002
Tin	EPA 6010	Metals	NELAP	7/1/2003
Titanium	EPA 200.7	Metals	NELAP	2/6/2002
Titanium	EPA 6010	General Chemistry	NELAP	7/30/2007
Toluene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Toluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Total cyanide	EPA 9012	General Chemistry	NELAP	7/1/2003
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	7/1/2003
Total organic carbon	EPA 415.1	General Chemistry	NELAP	2/6/2002
Total organic carbon	EPA 9060	General Chemistry	NELAP	7/1/2003
Total organic carbon	SM 5310 B	General Chemistry	NELAP	7/30/2007
Total organic halides (TOX)	EPA 9020	General Chemistry	NELAP	7/1/2003
Total Petroleum Hydrocarbons (TPH)	EPA 1664A	General Chemistry	NELAP	2/6/2002
Total phenolics	EPA 420.1	General Chemistry	NELAP	2/6/2002
Total phenolics	EPA 9065	General Chemistry	NELAP	7/1/2003
Total residual chlorine	SM 4500 Cl B	General Chemistry	NELAP	11/18/2008
Toxaphene (Chlorinated camphene)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	4/4/2018
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
trans-1,2-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	4/4/2018
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	7/30/2007
Trichlorobiphenyls	EPA 680	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Trichloroethene (Trichloroethylene)	EPA 624.1	Volatile Organics	NELAP	4/4/2018

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Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichlorofluoromethane	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Turbidity	EPA 180.1	General Chemistry	NELAP	2/6/2002
Turbidity	SM 2130 B	General Chemistry	NELAP	7/30/2007
Un-ionized Ammonia	DEP SOP 10/03/83	General Chemistry	NELAP	7/30/2007
Vanadium	EPA 200.7	Metals	NELAP	2/6/2002
Vanadium	EPA 200.8	Metals	NELAP	10/17/2003
Vanadium	EPA 6010	Metals	NELAP	7/1/2003
Vanadium	EPA 6020	Metals	NELAP	10/17/2003
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Vinyl chloride	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Xylene (total)	EPA 624.1	Volatile Organics	NELAP	4/4/2018
Xylene (total)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Zinc	EPA 200.7	Metals	NELAP	2/6/2002
Zinc	EPA 200.8	Metals	NELAP	10/17/2003
Zinc	EPA 6010	Metals	NELAP	7/1/2003
Zinc	EPA 6020	Metals	NELAP	10/17/2003

Laboratory Scope of Accreditation

Attachment to Certificate #: E87052-56, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2,3-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	3/28/2014
1,2,4,5-Tetrachlorobenzene	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,2-Diphenylhydrazine	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,3,5-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	3/28/2014
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,3,5-Trinitrobenzene (1,3,5-TNB)	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,3-Dinitrobenzene (1,3-DNB)	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,4-Dioxane (1,4-Diethyleneoxide)	EPA 8260	Volatile Organics	NELAP	4/18/2011
1,4-Naphthoquinone	EPA 8270	Extractable Organics	NELAP	2/6/2002
1,4-Phenylenediamine	EPA 8270	Extractable Organics	NELAP	2/6/2002
1-Chlorohexane	EPA 8260	Volatile Organics	NELAP	7/30/2007
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	7/30/2007
1-Naphthylamine	EPA 8270	Extractable Organics	NELAP	2/6/2002

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Eurofins TestAmerica Savannah
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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	2/6/2002
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,3,4,6-Tetrachlorophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,6-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Acetylaminofluorene	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	2/6/2002
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	2/6/2002
2-Hexanone	EPA 8260	Volatile Organics	NELAP	2/6/2002
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Methylnaphthalene	EPA 8260	Volatile Organics	NELAP	3/28/2014
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Naphthylamine	EPA 8270	Extractable Organics	NELAP	7/30/2007
2-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
2-Nitropropane	EPA 8260	Volatile Organics	NELAP	3/28/2014
2-Picoline (2-Methylpyridine)	EPA 8270	Extractable Organics	NELAP	2/6/2002
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	2/6/2002
3,3'-Dimethylbenzidine	EPA 8270	Extractable Organics	NELAP	2/6/2002
3,5-Dichlorobenzoic acid	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	11/18/2008
3-Methylcholanthrene	EPA 8270	Extractable Organics	NELAP	7/30/2007
3-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/6/2002
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002

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5102 LaRoche Avenue
Savannah, GA 31404

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Analyte	Method/Tech	Category	Certification Type	Effective Date
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
4-Aminobiphenyl	EPA 8270	Extractable Organics	NELAP	2/6/2002
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	2/6/2002
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
4-Chloroaniline	EPA 8270	Extractable Organics	NELAP	2/6/2002
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	2/6/2002
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	2/6/2002
4-Dimethyl aminoazobenzene	EPA 8270	Extractable Organics	NELAP	2/6/2002
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	2/6/2002
4-Nitroaniline	EPA 8270	Extractable Organics	NELAP	2/6/2002
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
5-Nitro-o-toluidine	EPA 8270	Extractable Organics	NELAP	2/6/2002
7,12-Dimethylbenz(a) anthracene	EPA 8270	Extractable Organics	NELAP	2/6/2002
a,a-Dimethylphenethylamine	EPA 8270	Extractable Organics	NELAP	2/6/2002
Acenaphthene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Acetone	EPA 8260	Volatile Organics	NELAP	2/6/2002
Acetonitrile	EPA 8260	Volatile Organics	NELAP	2/6/2002
Acetophenone	EPA 8270	Extractable Organics	NELAP	2/6/2002
Acifluorfen	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	2/6/2002
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Allyl chloride (3-Chloropropene)	EPA 8260	Volatile Organics	NELAP	2/6/2002
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
alpha-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
alpha-Methylstyrene	EPA 8260	Volatile Organics	NELAP	3/28/2014
Aluminum	EPA 6010	Metals	NELAP	3/23/2012
Aluminum	EPA 6020	Metals	NELAP	10/17/2003
Amenable cyanide	EPA 9012	General Chemistry	NELAP	2/6/2002
Ammonia as N	EPA 350.1	General Chemistry	NELAP	7/30/2007
Aniline	EPA 8270	Extractable Organics	NELAP	2/6/2002
Anthracene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Antimony	EPA 6010	Metals	NELAP	2/6/2002
Antimony	EPA 6020	Metals	NELAP	10/17/2003

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aramite	EPA 8270	Extractable Organics	NELAP	2/6/2002
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Arsenic	EPA 6010	Metals	NELAP	2/6/2002
Arsenic	EPA 6020	Metals	NELAP	10/17/2003
Barium	EPA 6010	Metals	NELAP	2/6/2002
Barium	EPA 6020	Metals	NELAP	10/17/2003
Bentazon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Benzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Benzidine	EPA 8270	Extractable Organics	NELAP	2/6/2002
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Benzoic acid	EPA 8270	Extractable Organics	NELAP	2/6/2002
Benzyl alcohol	EPA 8270	Extractable Organics	NELAP	2/6/2002
Benzyl chloride	EPA 8260	Volatile Organics	NELAP	3/28/2014
Beryllium	EPA 6010	Metals	NELAP	2/6/2002
Beryllium	EPA 6020	Metals	NELAP	10/17/2003
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	2/6/2002
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	2/6/2002
Boron	EPA 6010	Metals	NELAP	2/6/2002
Bromide	EPA 300.0	General Chemistry	NELAP	7/30/2007
Bromide	EPA 9056	General Chemistry	NELAP	2/6/2002
Bromobenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
Bromoform	EPA 8260	Volatile Organics	NELAP	2/6/2002
Butyl acrylate	EPA 8260	Volatile Organics	NELAP	3/28/2014

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Savannah, GA 31404

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	2/6/2002
Cadmium	EPA 6010	Metals	NELAP	2/6/2002
Cadmium	EPA 6020	Metals	NELAP	10/17/2003
Calcium	EPA 6010	Metals	NELAP	2/6/2002
Calcium	EPA 6020	Metals	NELAP	10/17/2003
Carbazole	EPA 8270	Extractable Organics	NELAP	2/6/2002
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	2/6/2002
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	2/6/2002
Chloramben	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Chloride	EPA 300.0	General Chemistry	NELAP	7/30/2007
Chloride	EPA 9056	General Chemistry	NELAP	2/6/2002
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Chlorobenzilate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Chloroethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
Chloroform	EPA 8260	Volatile Organics	NELAP	2/6/2002
Chloroprene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Chromium	EPA 6010	Metals	NELAP	2/6/2002
Chromium	EPA 6020	Metals	NELAP	10/17/2003
Chrysene	EPA 8270	Extractable Organics	NELAP	2/6/2002
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	2/6/2002
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Cobalt	EPA 6010	Metals	NELAP	2/6/2002
Cobalt	EPA 6020	Metals	NELAP	10/17/2003
Copper	EPA 6010	Metals	NELAP	2/6/2002
Copper	EPA 6020	Metals	NELAP	10/17/2003
Dacthal (DCPA)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	2/6/2002
Diallate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Dibenzofuran	EPA 8270	Extractable Organics	NELAP	2/6/2002
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
Dibromomethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002

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Analyte	Method/Tech	Category	Certification Type	Effective Date
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Diesel range organics (DRO)	EPA 8015	Extractable Organics	NELAP	2/6/2002
Diethyl ether	EPA 8260	Volatile Organics	NELAP	2/6/2002
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	2/6/2002
Dimethoate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	2/6/2002
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	2/6/2002
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	2/6/2002
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Disulfoton	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Ethanol	EPA 8015	Volatile Organics	NELAP	2/6/2002
Ethanol	EPA 8260	Volatile Organics	NELAP	3/28/2014
Ethyl acetate	EPA 8015	Volatile Organics	NELAP	2/6/2002
Ethyl acetate	EPA 8260	Volatile Organics	NELAP	3/28/2014
Ethyl acrylate	EPA 8260	Volatile Organics	NELAP	3/28/2014
Ethyl methacrylate	EPA 8260	Volatile Organics	NELAP	2/6/2002
Ethyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	2/6/2002
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Ethylene glycol	EPA 8015	Volatile Organics	NELAP	7/30/2007
Ethyl-t-butylether (ETBE)	EPA 8260	Volatile Organics	NELAP	3/28/2014
Famphur	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Fluoranthene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Fluorene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Fluoride	EPA 300.0	General Chemistry	NELAP	7/30/2007
Fluoride	EPA 9056	General Chemistry	NELAP	2/6/2002
Furan	EPA 8260	Volatile Organics	NELAP	3/28/2014
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002

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Analyte	Method/Tech	Category	Certification Type	Effective Date
gamma-Chlordane	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Gasoline range organics (GRO)	EPA 8015	Extractable Organics	NELAP	2/6/2002
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Hexachlorobenzene	EPA 8270	Pesticides-Herbicides-PCB's,Extractable Organics	NELAP	2/6/2002
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	2/6/2002
Hexachlorophene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Hexachloropropene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Ignitability	EPA 1030	General Chemistry	NELAP	7/30/2007
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Iron	EPA 6010	Metals	NELAP	2/6/2002
Iron	EPA 6020	Metals	NELAP	10/17/2003
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8015	Volatile Organics	NELAP	7/30/2007
Isobutyl alcohol (2-Methyl-1-propanol)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Isodrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Isophorone	EPA 8270	Extractable Organics	NELAP	2/6/2002
Isopropyl alcohol (2-Propanol)	EPA 8015	Volatile Organics	NELAP	7/30/2007
Isopropyl alcohol (2-Propanol)	EPA 8260	Volatile Organics	NELAP	3/28/2014
Isopropyl ether	EPA 8260	Volatile Organics	NELAP	3/28/2014
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Isosafrole	EPA 8270	Extractable Organics	NELAP	2/6/2002
Kepone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	12/2/2005
Lead	EPA 6010	Metals	NELAP	2/6/2002
Lead	EPA 6020	Metals	NELAP	10/17/2003
m+p-Xylenes	EPA 8260	Volatile Organics	NELAP	7/30/2007
Magnesium	EPA 6010	Metals	NELAP	2/6/2002
Magnesium	EPA 6020	Metals	NELAP	10/17/2003
Manganese	EPA 6010	Metals	NELAP	2/6/2002
Manganese	EPA 6020	Metals	NELAP	10/17/2003
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002

Laboratory Scope of Accreditation

Attachment to Certificate #: E87052-56, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Mercury	EPA 6020	Metals	NELAP	7/30/2007
Mercury	EPA 7471	Metals	NELAP	2/6/2002
Methacrylonitrile	EPA 8260	Volatile Organics	NELAP	2/6/2002
Methanol	EPA 8015	Volatile Organics	NELAP	7/30/2007
Methapyrilene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Methyl methacrylate	EPA 8260	Volatile Organics	NELAP	2/6/2002
Methyl methanesulfonate	EPA 8270	Extractable Organics	NELAP	2/6/2002
Methyl parathion (Parathion, methyl)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Methylene chloride	EPA 8260	Volatile Organics	NELAP	2/6/2002
Mirex	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
Molybdenum	EPA 6010	Metals	NELAP	2/6/2002
Molybdenum	EPA 6020	Metals	NELAP	7/30/2007
Naphthalene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Naphthalene	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Butyl alcohol	EPA 8015	Volatile Organics	NELAP	7/30/2007
n-Butyl alcohol	EPA 8260	Volatile Organics	NELAP	3/28/2014
n-Butyl-acetate	EPA 8260	Volatile Organics	NELAP	3/28/2014
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Nickel	EPA 6010	Metals	NELAP	2/6/2002
Nickel	EPA 6020	Metals	NELAP	10/17/2003
Nitrate	EPA 9056	General Chemistry	NELAP	2/6/2002
Nitrate as N	EPA 300.0	General Chemistry	NELAP	7/30/2007
Nitrate as N	EPA 353.2	General Chemistry	NELAP	12/2/2005
Nitrite	EPA 9056	General Chemistry	NELAP	2/6/2002
Nitrite as N	EPA 300.0	General Chemistry	NELAP	7/30/2007
Nitrite as N	EPA 353.2	General Chemistry	NELAP	12/2/2005
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Nitrosodiethylamine	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Nitroso-di-n-butylamine	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	2/6/2002

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State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
n-Nitrosomethylethylamine	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Nitrosomorpholine	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Nitrosopiperidine	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Nitrosopyrrolidine	EPA 8270	Extractable Organics	NELAP	2/6/2002
n-Propanol	EPA 8015	Volatile Organics	NELAP	7/30/2007
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
o,o,o-Triethyl phosphorothioate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Oil & Grease	EPA 9071	General Chemistry	NELAP	2/6/2002
Organic nitrogen	TKN minus AMMONIA	General Chemistry	NELAP	7/30/2007
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	11/18/2008
o-Xylene	EPA 8260	Volatile Organics	NELAP	7/30/2007
Paint Filter Liquids Test	EPA 9095	General Chemistry	NELAP	7/30/2007
Parathion, ethyl	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Pentachlorobenzene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Pentachloroethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
Pentachloronitrobenzene (Quintozene)	EPA 8270	Extractable Organics	NELAP	2/6/2002
Pentachlorophenol	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
pH	EPA 9045	General Chemistry	NELAP	2/6/2002
Phenacetin	EPA 8270	Extractable Organics	NELAP	2/6/2002
Phenanthrene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Phenol	EPA 8270	Extractable Organics	NELAP	2/6/2002
Phorate	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Phosphorus, total	EPA 365.4	General Chemistry	NELAP	12/2/2005
Picloram	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/30/2007
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Potassium	EPA 6010	Metals	NELAP	2/6/2002
Potassium	EPA 6020	Metals	NELAP	10/17/2003
Pronamide (Kerb)	EPA 8270	Extractable Organics	NELAP	2/6/2002
Propionitrile (Ethyl cyanide)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Pyrene	EPA 8270	Extractable Organics	NELAP	2/6/2002
Pyridine	EPA 8270	Extractable Organics	NELAP	2/6/2002
Safrole	EPA 8270	Extractable Organics	NELAP	2/6/2002
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Selenium	EPA 6010	Metals	NELAP	2/6/2002
Selenium	EPA 6020	Metals	NELAP	10/17/2003

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E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Silver	EPA 6010	Metals	NELAP	2/6/2002
Silver	EPA 6020	Metals	NELAP	10/17/2003
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Sodium	EPA 6010	Metals	NELAP	2/6/2002
Sodium	EPA 6020	Metals	NELAP	10/17/2003
Strontium	EPA 6010	Metals	NELAP	2/6/2002
Styrene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Sulfate	EPA 300.0	General Chemistry	NELAP	7/30/2007
Sulfate	EPA 9038	General Chemistry	NELAP	2/6/2002
Sulfate	EPA 9056	General Chemistry	NELAP	2/6/2002
Sulfide	EPA 9030	General Chemistry	NELAP	2/6/2002
Sulfide	EPA 9034	General Chemistry	NELAP	2/6/2002
Sulfotepp	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	2/6/2002
T-amylmethylether (TAME)	EPA 8260	Volatile Organics	NELAP	3/28/2014
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8015	Volatile Organics	NELAP	7/30/2007
tert-Butyl alcohol (2-Methyl-2-propanol)	EPA 8260	Volatile Organics	NELAP	7/30/2007
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Thallium	EPA 6010	Metals	NELAP	2/6/2002
Thallium	EPA 6020	Metals	NELAP	10/17/2003
Thionazin (Zinophos)	EPA 8270	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Tin	EPA 6010	Metals	NELAP	2/6/2002
Titanium	EPA 6010	Metals	NELAP	7/30/2007
Toluene	EPA 8260	Volatile Organics	NELAP	2/6/2002
Total cyanide	EPA 9012	General Chemistry	NELAP	2/6/2002
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	12/2/2005
Total nitrate-nitrite	EPA 9056	General Chemistry	NELAP	2/6/2002
Total nitrogen	TKN + Total nitrate-nitrite	General Chemistry	NELAP	7/30/2007
Total phenolics	EPA 9065	General Chemistry	NELAP	2/6/2002
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	2/6/2002
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	2/6/2002
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	2/6/2002
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	2/6/2002
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	7/30/2007
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	2/6/2002

Laboratory Scope of Accreditation

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State Laboratory ID: E87052 EPA Lab Code: GA00006 (912) 354-7858

E87052
Eurofins TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	2/6/2002
Vanadium	EPA 6010	Metals	NELAP	2/6/2002
Vanadium	EPA 6020	Metals	NELAP	10/17/2003
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	2/6/2002
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	2/6/2002
Xylene (total)	EPA 8260	Volatile Organics	NELAP	2/6/2002
Zinc	EPA 6010	Metals	NELAP	2/6/2002
Zinc	EPA 6020	Metals	NELAP	10/17/2003

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Savannah

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Savannah, GA 31404
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STATEMENT OF QUALIFICATIONS

July 2019

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SECTION 1

COMPANY OVERVIEW

1.1 Eurofins TestAmerica Overview

Eurofins TestAmerica is the leading environmental testing firm in the United States, including over 80 facilities. Eurofins TestAmerica provides innovative technical expertise and comprehensive analytical testing services. Specialty analyses include source, ambient and indoor air, water quality and aquatic toxicity, compliance, desalination, shale gas, specialty organics, emergency response, industrial hygiene, dioxins, drinking water, sediments and tissues, PPCPs and emerging contaminants, explosives, Federal/DoD, and radiochemistry and mixed waste testing.

Eurofins TestAmerica affiliate companies include EMLab P&K, the leader in analytical microscopy and indoor air quality; QED Environmental Systems, Inc., the leading supplier of groundwater sampling equipment and remediation pumping systems; and Air Emissions Corp. (METCO Environmental), specializing in air emissions testing. Eurofins TestAmerica currently employs nearly 2,000 professionals dedicated to exceptional service and solutions for our clients' environmental testing needs.

Customer Assistance

Kathy Smith, Manager of Project Management	Telephone: 912-354-7858 Facsimile: 912-352-0165
Sheila Hoffman, Project Manager	
Jerry Lanier, Project Manager	
Eddie Barnett, Project Manager	
Keaton Conner, Project Manager	
Jon Lawhon, Project Manager	

1.2 SAVANNAH LABORATORY

The Savannah facility was founded in 1975 as Savannah Laboratories and Environmental Services, Inc. to provide quality environmental analytical support for public and private sector clients.

It is our objective to be acknowledged as an organization that provides services and deliverables with the qualities of responsiveness, trust worthiness, resourcefulness, timeliness, economy, accuracy and professionalism. The laboratory is NELAP certified through the state of Florida, holds certifications in many states and has been approved for work under the Federal DoD program.

Eurofins TestAmerica, Savannah	Size (ft^2)	Full Time Employees	Major Equipment Summary						
			GC	GC/MS	HPLC	CVAA	IC	ICP	ICP/MS
5102 LaRoche Ave Savannah, GA 31404	55,000	67	14	21	5	1	5	2	3

1.3 CAPABILITIES

Savannah's testing capabilities include chemical and physical analyses of a variety of matrices, including aqueous, solid, wastewater, waste, tissue, and saline/estuarine samples. Specialty capabilities include pulp and paper environmental analytical and process improvement services, method development studies, specialty pesticides and herbicides, and biota preparation and analysis.

Savannah maintains that scientifically sound, legally defensible analytical data is one of the most critical elements for the success of an environmental project. To ensure a project's data quality objectives are met, Savannah provides a superior standard of service using the latest technological advances and a commitment to quality and customer service. Savannah maintains in-house capabilities to perform all commonly required analyses in support of the following programs:

- EPA Clean Water Act (CWA)
- Safe Drinking Water Act (SDWA)
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- National Pollutant Discharge Elimination System (NPDES)
- Cluster Rule for the Pulp & Paper Industry
- Resource Conservation and Recovery Act (RCRA)

Savannah performs analyses under various regulatory programs using both published and laboratory developed and validated test methods. Written SOPs have been prepared, methods have been validated, and Method Detection Limit (MDL) studies determined for each analytical method as outlined in the Savannah Quality Assurance Manual (QAM).

Occasionally, client needs may extend beyond the scope of routine methods. Savannah is often requested to assist our clients in achieving defensible low-level reporting limits or to perform method validations for non-routine target compounds. The Laboratory Director, Laboratory Operations Managers, and Project Managers assist clients in the design, validation, and implementation of new technologies as required to achieve these goals.

In addition to the implementation of client driven methodologies, the laboratory management staff actively pursues implementation of cutting edge technology and methods to ensure the most current protocols are utilized to maximize cost containment for Eurofins TestAmerica, Savannah clients. In support of these activities, Savannah is certified or approved by many state and/or federal agencies, including Puerto Rico and Guam.

1.4 CAPACITY

Eurofins TestAmerica, Savannah constantly monitors commitments made by our laboratory using a sophisticated forecasting database. We can reserve capacity by shifting other work to other Eurofins TestAmerica laboratories or by shifting the work focus of cross-trained staff. We can ensure that the personnel necessary to perform the scope of work will be available. The

following table provides estimated monthly capacity for a variety of analyses performed at Eurofins TestAmerica, Savannah.

Routine Analyses

Functional Area	Test	Weekly Capacity	Monthly Capacity
Metals	ICP (EPA 6010 & EPA 200.7)	800	3200
	ICP/MS (EPA 6020 & EPA 200.8)	1000	4000
	CVAA - Hg (EPA 245.1, EPA 7470/7471)	350	1400
Wet Chemistry	Ion Chromatography – Anions (EPA 300.0 & EPA 300.1)	800 (EPA 300.0) 100 (EPA 300.1)	3200 (EPA 300.0) 400 (EPA 300.1)
	Konelab	500	2000
	BOD	125	500
	COD	200	800
	AOX	100	400
	Residues	375	1500
	Cyanide / Sulfide	250	1000
	Total Recoverable Phenolics	150	600
	NO3 / NO2 TOC	400 250	1600 1000
Gas Chromatography (VOCs)	TPH-GRO (EPA 8015)	80	320
	Dissolved Gases (RSK-175)	150	600
Gas Chromatography (SVOCs)	TPH-DRO (EPA 8015)	200	800
	DW SOCs (EPA 504.1 & EPA 552.2)	504.1-150 and 552.2-100	504.1-600 and 552.2-400
	Pesticides/PCBs (EPA 8081, EPA 8082, EPA 608, & EPA 508)	300	1200
	Herbicides (EPA 8151)	150	600
Mass Spectroscopy	VOCs (EPA 8260, EPA 624, EPA 524.2)	650	2600
	SVOCs (EPA 625/8270, EPA 525.2, & EPA 548.1)	250	1000
	PCB Homologues (EPA 680)	150	600
Liquid Chromatography	SOCs (EPA 531.1, 547, 549.2)	100 (EPA 531.1) 200 (EPA 547) 100 (EPA 549.2)	400 (EPA 531.1) 800 (EPA 547) 400 (EPA 549.2)

SECTION 2

SERVICE

2.1 PROJECT MANAGEMENT

It is our standard practice to assign a single point of contact (i.e. Project Manager) to each of our clients. The Project Manager is supported by a team of experienced laboratory managers to plan, coordinate, integrate and monitor project activities. Efficient and effective project management is of prime importance to the successful execution of any contract and building lasting client relationships. Our Project Managers are involved from project start to finish: from the time of initial client contact; in dialogue with the client during the entire project; and available to answer questions or provide additional information after project completion.

The Project Manager is the principal client contact and has open access to all technical and management positions to obtain technical expertise and/or resolve resource management and scheduling issues on behalf of the client. The Project Manager will:

- Respond to the client in a timely manner to all requests
- Provide pricing and technical information
- Interface with project personnel to plan and schedule sample shipments to the laboratory
- Organize, schedule and attend project meetings with the client as necessary or helpful
- Serve as consultant for field efforts to optimize batch sizes, arrange sample shipment/receipt, provide bottles and associated materials
- Document the client's technical requirements to the laboratory staff
- Monitor conformance of analytical protocols, quality assurance, and data reporting with contract and technical requirements
- Monitor costs and schedule requirements
- Secure additional laboratory capacity from other Eurofins TestAmerica facilities as necessary.

When samples are received at Eurofins TestAmerica, Savannah, strict chain of custody procedures are followed and documented. Any inconsistencies are immediately brought to the attention of the Project Manager for resolution with the client.

Project Managers and laboratory Supervisors have a commitment to maintain project schedules with a goal of 100% on-time delivery of quality data packages. If, at any time, a delay in the required project turnaround time is anticipated, the Project Manager will immediately contact the client and inform them of the nature of the problem, the corrective action taken, and a revised delivery date for the analytical data report.

Normal office hours are 8:00 am to 5:00 pm, Monday through Friday. Sample receipt and laboratory working hours are flexible. Eurofins TestAmerica, Savannah accepts sample shipments Monday through Saturday, and on Sundays as needed. Eurofins TestAmerica realizes that field sampling constraints may dictate a project schedule and is adept at adjusting

our schedule to meet the client's needs. Advance notice for weekend receipt is requested to ensure that the appropriate laboratory personnel are available. Should a project require after-hours contact, telephone numbers for the appropriate Eurofins TestAmerica personnel can be provided.

2.2 DATA MANAGEMENT

Eurofins TestAmerica's facilities have extensive experience in producing data deliverables that are compliant with the respective federal, state, and project requirements. Eurofins TestAmerica can provide various types of data reporting based upon a project's needs.

A Standard report typically includes a Case Narrative, Executive Summary, Method Number, Chain of Custody and Sample Summary, analytical results by sample and a QC section with results for the Method Blank, LCS, and any site-specific Matrix Spike / Spike Duplicates if submitted. A Level IV or Expanded report includes the items listed for a Standard report as well as the shipping documents, and raw data including instrument printouts and chromatograms.

Electronic Data Deliverables (EDDs) are provided to numerous government and commercial clients. EDDs can be provided in Eurofins TestAmerica's standard format, or can be customized to meet client requirements. EDDs can be transferred on diskette, CD, via e-mail or across the web through our TotalAccess system. We currently provide EDDs in dozens of different formats that include Excel spreadsheets as well as various ASCII and DBF file formats.

While we offer a standard format, we have dozens of complex formats that are available in our LIMS system for clients to choose from. Eurofins TestAmerica ensures that electronic data provided to the client is accurate and formatted to meet the clients' requirements. Our technical personnel are always available for consultation on producing the specific EDD for your program.

2.3 QUALITY ASSURANCE PROJECT PLAN ASSISTANCE

Eurofins TestAmerica offers assistance to clients in preparing project specific Quality Assurance Plans. Our staff has written and/or assisted in writing numerous Project Specific Quality Assurance Plans for work the laboratory has performed under U.S. EPA oversight. We are knowledgeable regarding the fundamental requirements and have experience with the EPA approval process.

2.4 TotalAccess – VIEW YOUR DATA OVER THE INTERNET

Dedicated to leading the environment testing industry forward, Eurofins TestAmerica is constantly striving to develop more efficient methods of information gathering and distribution. Investments in information technology have enabled TestAmerica to quickly and efficiently gather, process, and deliver sample results. This saves valuable time and money for our clients through our TotalAccess e-solutions offering.

TotalAccess allows you to track all aspects of your environment data program, rapidly – day or night, at work or on the road – through your own familiar web browser.

TotalAccess can get your whole environment data program organized. It's an online resource that will make your job easier, your workflow faster, and your desktop cleaner.

TotalAccess features include:

- Real time access to your sample status and result data in our Laboratory Information Management System (LIMS).
- 24/7 availability to download your Electronic Data Deliverable (EDD) files.
- Convenient organization of all your program information in one place, categorized the way you want it.
- Instant archiving of all documents for secure storage and fast retrieval.
- Dynamic interactive capabilities, enabling you to query and trend data.
- Access to analytical capabilities and methodologies to help you select the best procedures for performing your work.
- Access to lists of Certification programs detailing which Eurofins TestAmerica laboratories perform work under these programs.
- Online access to your invoices and quotes.
- Ability to compare data results to the regulatory limits.

SECTION 3

DEDICATION

3.1 KEY PERSONNEL

Eurofins TestAmerica, Savannah prides itself on the quality of its personnel. The dedicated staff of experienced professional chemists and technicians is the key element in the laboratory's position as a leader in environmental analytical chemistry. The majority of staff have a Bachelors Degree or higher in Chemistry, Biology, Environmental Science, or another related field. The section immediately below describes the qualifications and experience of our key management personnel. An Organization Chart is also provided below.

Laboratory Director, Bernard Kirkland
Mr. Kirkland has a B.S. degree in Chemistry from Savannah State College and has been in the environmental laboratory industry since 1991, which includes work as an extraction chemist and a mass spectral chemist. He possesses an extensive background of environmental testing, environmental methods, and program knowledge to include RCRA, CWA, and SDWA. Mr. Kirkland's responsibilities include the technical and administrative management of TestAmerica Savannah's full service analytical laboratory which includes approximately 80 chemists, scientists, and administrative personnel. His other responsibilities include adherence to budget, quality assurance and quality control, scheduling, client support/liaison, strategic growth of the Savannah facility, as well as profit and loss for the laboratory. Prior to his current posting, Mr. Kirkland has served as department manager to both Extractions and Semivolatile Organics, as a technical manager, a project manager, director of project management, and manager of project management.

Quality Assurance Manager/Technical Director/EH&S Coordinator, Kimberly Chamberlain
Ms. Chamberlain has a B.S. in Microbiology from the University of Georgia; Athens, GA. Ms. Chamberlain has been in the environmental laboratory industry since 1993. Her experience includes operations management, Environmental Health and Safety Coordinator and Technical Director for the Savannah laboratory. She is responsible for efficient production methods as well as personnel, training, and implementation of SOPs and QA standards and practices for the groups. Her duties include oversight of data reporting, turnaround time management, personnel issues, maintenance of instrumentation, SOPs, and approval of purchase of laboratory supplies. Ms. Chamberlain has previously served as the organics operations manager, technical manager of extractions, semi-volatile mass spec, and volatiles, and department manager of semi-volatile mass spectrometry.

Quality Assurance Specialist, Norma Tyler
Mrs. Tyler has been in the environmental laboratory industry since 2001 with an emphasis on data package generation and assembly. She possesses strong organizational skills, and excellent multi-tasking ability. Mrs. Tyler has worked in several areas including data package production, project management and QA. She has good overall knowledge of laboratory operations.

Manager of Project Management, Kathryn Smith
Ms. Smith has been in the environmental laboratory industry since 1999, which includes experience in project and laboratory management, as well as bench chemistry. She has a B.S. in Environmental Science. As manager of the PM group she is responsible for interviewing and hiring, training and managing PM staff of project managers and assistants. This group is

charged with coordinating all aspects of project management for assigned clients including project set up, communication with the laboratory staff, preparation of analytical reports, invoicing, client follow-up and customer service. Ms. Smith makes the client and project assignments, monitors PM productivity and performance and provides guidance to the PM staff. She utilizes her wide range of experience to assist clients in meeting their data quality and program objectives.

Project Manager, Sheila Hoffman

Ms. Hoffman has a B.S. degree in Business from Georgia Southern University, Statesboro, GA. She has been in the environmental laboratory industry since 1983, which includes positions in project management and sample custody. She has a B.S. in Business. Ms. Hoffman currently coordinates and manages customer projects through all phases of laboratory operations. She maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. She works closely with business unit personnel to manage quotations and change orders for existing scopes of work. In addition, Ms. Wolfe monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. She also works towards achieving goals for revenue, profit, and timely data reporting through the effective utilization of laboratory capacity and definition of customer requirements. Ms. Hoffman was previously a custody and data manager with Savannah Laboratories.

Project Manager, Jerry Lanier

Mr. Lanier has a B.S. degree in Chemistry from Armstrong Atlantic State University; Savannah, GA. Mr. Lanier has been in the environmental laboratory industry since 1996, with an emphasis on inorganics methodologies. He coordinates and manages customer projects through all phases of laboratory operations. He maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. He works closely with business unit personnel to manage quotations and change orders for existing scopes of work. In addition, Mr. Lanier monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. He also works towards achieving goals for revenue, profit, and timely data reporting through the effective utilization of laboratory capacity and definition of customer requirements. Mr. Lanier was previously the department manager for general chemistry.

Project Manager, Eddie Barnett

Mr. Barnett has a B.S. degree in Biology from Armstrong Atlantic State University, Savannah, GA. He began his career in the environmental laboratory industry in 2010. Mr. Barnett coordinates and manages customer projects through all phases of laboratory operations, ensuring fulfillment of TestAmerica commitments to client requirements, error-free work, and on-time delivery. He maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. He works closely with business unit personnel to manage quotations and change orders for existing scopes of work. In addition, Mr. Barnett monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. He also works towards achieving goals for revenue, profit, and timely data reporting through the effective utilization of laboratory capacity and definition of customer requirements.

Project Manager, Keaton Conner
Mr. Conner has been in the environmental laboratory industry since 2000. He has a B.A. in English. He coordinates and manages customer projects through all phases of laboratory operations. He maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. He works closely with business unit personnel to manage quotations and change orders for existing scopes of work. In addition, Mr. Conner monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. He also works towards achieving goals for revenue, profit, and timely data reporting through the effective utilization of laboratory capacity and definition of customer requirements. Mr. Conner was previously the supervisor for Savannah's Shipping and Receiving department.

Project Manager, Jon Lawhon
Mr. Lawhon has been in the environmental laboratory industry since 1988, with an emphasis on inorganics methodologies. Mr. Lawhon coordinates and manages customer projects through all phases of laboratory operations, ensuring fulfillment of TestAmerica commitments to client requirements, error-free work, and on-time delivery. He maintains communications with clients and Account Executives and serves as a liaison between clients and laboratory operations to meet client's needs. He works closely with business unit personnel to manage quotations and change orders for existing scopes of work. In addition, Mr. Lawhon monitors compliance with industry regulations, contractual agreements, program management processes, and program specifications. He also works towards achieving goals for revenue, profit, and timely data reporting through the effective utilization of laboratory capacity and definition of customer requirements.

Metals Department Manager, Sarah Nordeck
Ms. Sarah Nordeck has a B.S. in Biology from Fairmont State University, Fairmont, WV. and has been in the analytical laboratory industry since 2010. Ms. Nordeck is responsible for efficient production methods as well as personnel, training, and implementation of SOPs and QA standards and practices. Her duties include oversight of data reporting, turnaround time management, personnel issues, maintenance of instrumentation, SOPs, and approval of purchase of laboratory supplies. In addition, she is responsible for process and technology improvements. Daily operations include client satisfaction, financial management, human resources, health and safety program compliance, and quality assurance plan compliance.

Volatile Organics & HPLC/IC Department Manager, Steven Proctor
Mr. Proctor has a B.S. in Chemistry from Centre College and has been in the environmental laboratory industry since 2011. Mr. Proctor's responsibilities include coordinating with project managers to appropriately meet client requirements, determining client-specific requirements and testing methodology, and communicating special requirements to analysts. He oversees supervisors to maximize productivity and ensure appropriate testing procedures are used in compliance with QA and SOP requirements. Mr. Proctor also prepares and analyzes samples for analysis based on method requirements, reviews and authorizes data release, troubleshoots sophisticated analysis instrumentation and communicates department issues and status reports to Laboratory Director and Projects Managers.

Semi-Volatile GC & GC/MS Department Manager, Brad Mullis
Mr. Mullis has B.S. in Biology from the University of Georgia. He has been in the environmental laboratory industry since 2006, with three years as a Quality Assurance manager. He is responsible for the overall operations of a Semi-Volatile Organics department. These

responsibilities include but are not limited to meeting client satisfaction goals, managing the human resources within the department, and ensuring health and safety and quality assurance plan compliance. He also serves as a technical resource to department employees, as well as Project Managers, sales personnel, and clients and makes recommendations to laboratory management in regard to process improvements.

Wet Chemistry Supervisor, Jon Ross

Mr. Ross has been in the environmental laboratory industry since 1996. He is a skilled analytical chemist with experience in wet chemistry methods in the environmental, industrial, and waste treatment fields. Mr. Ross has a B.S. in Chemistry from the University of North Florida.

Semivolatile GC Supervisor, Josh Kellar

Mr. Kellar has been in the environmental laboratory industry since 2002, with experience in Semivolatile GC analyses including PCB characterization and drinking water, clean water, and soil analyses for Semi-Volatile GC. Mr. Kellar's responsibilities include prioritizing and scheduling work to ensure holding times and deadlines are met, reporting results and communicating project status to Production Managers and providing assistance with employee training and evaluation. He ensures instrument maintenance duties are performed, routinely reviews raw data for compliance with TestAmerica and method quality control requirements, and assists in the implementation of new methods and documentation of general quality control procedures Mr. Kellar has a B.S. in Chemistry from Marshall University located in Huntington, WV.

Metals Supervisor, Bryan Bland

Mr. Bland has been working in the environmental laboratory industry since 2002. He received his B.S in Wildlife Management from the University of Georgia. He currently serves as a liaison between project managers and chemists within the group and is responsible for the logistics of batches for each project based on method, due date, and the level of the deliverables provided. He is knowledgeable of department sample log in, prep, analysis, data review and reporting, data package production, storage, and disposal of samples and is responsible for the operation and maintenance of an ICP Varian 730ES for analysis of metals.

HPLC/IC Supervisor, Kim Blackshear

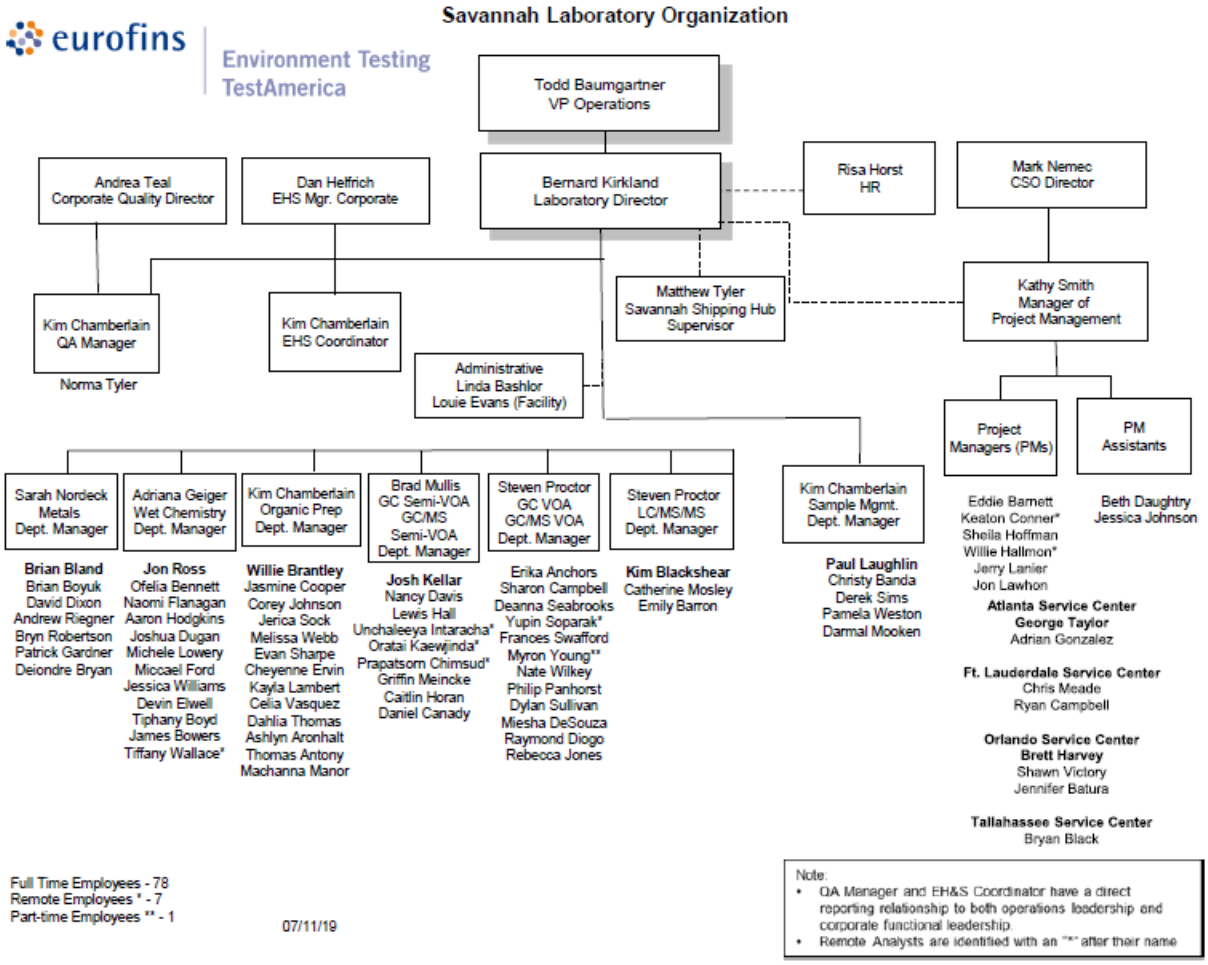
Ms. Blackshear has been in the environmental laboratory industry since 1993. She received her B.S. in biology from Savannah State University. She has extensive knowledge of wet chemistry laboratory techniques, HPLC and IC methodologies including EPA 531.1, 547, 549.2, 300.0 and 300.1B methods. Ms. Blackshear also possesses knowledge of standard preparation, instrument operation, maintenance, and trouble shooting. She serves as liaison between project managers and analysts for the group, has knowledge of the flow of samples from receipt to data archival and is responsible for data review, approval, and data package generation.

Extractions Supervisor, Willie Brantley

Mr. Brantley received his B.S. in Biology from Savannah State College and has been in the environmental laboratory industry since 1995. He has extensive knowledge of all methods related to Organic and Biological Tissue preparation. Mr. Brantley also possesses knowledge of MBAS (5540C/425) and Oil/Grease (1664A/B/9071) analysis and prep. He prioritizes and schedules work to ensure holding times and deadlines are met provides assistance with employee training and evaluation, and reviews raw data for compliance with TestAmerica and method quality control requirements. Mr. Brantley also oversees the Waste Disposal Program for TestAmerica Savannah.

Volatiles Supervisor, Jenna Kitchings

Ms. Kitchings has been in the environmental laboratory industry since 2011. She received her B.S. in Biology, from Georgia Southern University. Ms. Kitchings has extensive knowledge of a variety of both inorganic and organic environmental analysis methods, with a main expertise in gas chromatography and mass spectrometry methods and instrumentation.



3.2 HEALTH AND SAFETY

Eurofins TestAmerica's management is committed to providing a work environment that is free of recognized environment safety and health hazards. It is Eurofins TestAmerica's policy, and is fundamental to our management principles, that all work will be conducted in a manner that is safe to the employee, the community, and the environment. By empowering each Eurofins TestAmerica employee with the right, the responsibility, and the resources to make safe decisions, we ensure the success of our health and safety programs.

Eurofins TestAmerica recognizes that health and safety is a team effort. Safety originates at the highest level of management; however, every employee, regardless of position is expected to assume responsibility for their actions and the actions of others around them. Adherence to Environment Health and Safety procedures is mandatory for every employee and is considered an integral part of each employee's performance.

The Corporate Environmental Health and Safety Manual is the primary component of the Hazard Communication/Waste Management Plan for Eurofins TestAmerica. For regulatory purposes this document serves as the Chemical Hygiene Plan for laboratory activities and the Hazard Communication Program for non-laboratory activities. This document incorporates responsibilities, procedures, protective equipment as well as facility requirements for our operations.

3.3 DISASTER RECOVERY PLAN SUMMARY

In case of a major natural catastrophe, client approved Eurofins TestAmerica laboratory facilities would be available to provide project continuity and to meet sample holding time or critical project schedule requirements. In the event of instrument failure, portions of the sample load may be diverted to duplicate instrumentation within the facility. In some instances, an alternate approved technique such as manual colorimetric determination in lieu of an automated determination can be accommodated. At the client's direction or approval, samples can also be shipped to another properly certified and approved Eurofins TestAmerica location for analysis. Detailed procedures for emergency circumstances and a description of emergency systems are located in the Eurofins TestAmerica Environmental Health and Safety Manual.

SECTION 4
QUALITY

4.1 QA/QC OVERVIEW

An integral part of Eurofins TestAmerica's successful experience with its clients is the corporate and local commitment to provide quality services. This attitude towards Quality Assurance/Quality Control (QA/QC) is maintained through all of the divisions and departments at Eurofins TestAmerica. The Savannah laboratory maintains a quality assurance program that is outlined in the laboratory's Quality Assurance Manual and managed by the Quality Assurance Manager.

Eurofins TestAmerica, Savannah is approved through Florida for the National Environmental Laboratory Accreditation Program (NELAP). Eurofins TestAmerica's Corporate QA staff work to ensure consistency and uniformity of compliance to the NELAC standard for all our laboratories. Eurofins TestAmerica, Savannah has also been accessed by A2LA and meets the requirements of the ELAP DoD.

The Quality Assurance Department at Eurofins TestAmerica, Savannah is comprised of professionals experienced in analytical laboratory techniques and quality assurance objectives. This department initiates and oversees audits and corrective action procedures; performs data reviews; maintains documentation of internal laboratory training; reviews Quality Assurance Plans for consistency with laboratory operations; and tracks and monitors performance evaluation samples, document control, and Method Detection Limits (MDLs). In addition, the preparation of operating practices and quality assurance documentation for the laboratory is coordinated through QA personnel.

4.2 STANDARD OPERATING PROCEDURES

Eurofins TestAmerica, Savannah maintains extensive documentation of Standard Operating Procedures (SOPs). We understand the need for SOP compliance and perform internal audits to assure that the laboratory staff adheres to the written SOPs, complies with accreditation/certification requirements and meets project objectives. The audit types and frequency are outlined in the Quality Assurance Manual and are scheduled by the QA Department.

4.3 CLIENT CONFIDENTIALITY & PROPRIETARY RIGHTS

Data and sample materials provided by the client or at the client's request, and the results obtained by Eurofins TestAmerica, are held in confidence subject to any disclosure required by law or legal process. Eurofins TestAmerica's reports, and the data and information provided therein, are for the exclusive use and benefit of the client and are not released to a third party without written consent from the client.

4.4 RECORD RETENTION & ARCHIVAL

Eurofins TestAmerica, Savannah has developed a formal record retention policy that is outlined in the Laboratory's Quality Assurance Manual and in the corporate Record Retention Policy. These documents outline the period of time various record types must be archived. Archives are indexed such that records are accessible on either a project or temporal basis. Archives are protected against fire, theft, loss, deterioration and vermin. Electronic records are protected from deterioration caused by magnetic fields and/or electronic deterioration. Access to archives is controlled and documented.

4.5 LABORATORY QAM

Eurofins TestAmerica, Savannah's Quality Assurance Manual (QAM) is a document prepared to define the overall policies, organization objectives and functional responsibilities for achieving Eurofins TestAmerica's data quality goals. Each Eurofins TestAmerica laboratory maintains a local perspective in its scope of services and client relations and maintains a national perspective in terms of quality.

The QAM has been prepared to assure compliance with the 2003 National Environmental Laboratory Accreditation Conference (NELAC) standards and International ANS/ISO/IEC Standard 17025:2005. In addition, the policies and procedures outlined in this manual are compliant with Eurofins TestAmerica's Corporate Quality Management Plan (CQMP) and the various accreditation and certification programs. The CQMP provides a summary of Eurofins TestAmerica's quality and data integrity system. It contains requirements and general guidelines under which all Eurofins TestAmerica facilities shall conduct their operations.

4.6 AUDIT AND PERFORMANCE PROGRAMS

Eurofins TestAmerica, Savannah participates in numerous federal, state, and industrial audit and performance sample programs for organic and inorganic analyses, including regular participation in the following performance studies:

- Water Supply (2x/year)
- Water Pollution (2x/year)
- SOIL / RCRA (2x year)
- DMR-QA
- Various Client Specific Programs

4.7 STATE CERTIFICATIONS AND AGENCY APPROVALS

Eurofins TestAmerica, Savannah's list of current state certifications, registrations and agency approvals is provided below.

Authority	Certification Number or Laboratory ID Number
Alabama	41450
Alaska	UST-104
Alaska	GA00006
Arizona	AZ0808
Arkansas	88-0692
California	2939
Colorado	N/A
Connecticut	PH-0161
Florida	E87052
Georgia EPD	803
Guam	09-005r
Hawaii	N/A
Illinois	200022
Indiana	N/A
Iowa	353
Kentucky DW	90084
Kentucky UST	18
Kentucky Wastewater	90084

Authority	Certification Number or Laboratory ID Number
Michigan	9925
Mississippi	N/A
Nebraska	TestAmerica-Savannah
New Jersey	GA769
New Mexico	N/A
New York	10842
North Carolina DEQ	269
North Carolina DHHS	13701
Oklahoma	9984
Pennsylvania	68-00474
Puerto Rico	GA00006
South Carolina	98001
Tennessee	TN02961
Texas	T104704185-08-TX
USDA	SAV 3-04
Virginia	460161
Washington	C805
West Virginia DEP	94

Authority	Certification Number or Laboratory ID Number
L-A-B	L2463
L-A-B	L2463.01
Louisiana	30690
Louisiana	LA170016
Maine	GA00006
Maryland	250
Massachusetts	M-GA006

Authority	Certification Number or Laboratory ID Number
West Virginia DHHR (DW)	9950C
Wisconsin	999819810
Wyoming	8TMS-L

The certificates and parameter lists (which may differ) for each organization may be found on Eurofins TestAmerica's website www.testamericainc.com and on TotalAccess.

SECTION 5

EXPERIENCE

5.1 PROJECT EXPERIENCE

Savannah has provided environmental chemical analyses for over 30 years. The management staff has worked together as a team to create an organization with in-depth experience, extensive knowledge of the environmental field, and a high level of internal cooperation. Developing productive, on-going relationships with our clients is the cornerstone of our success. Eurofins TestAmerica's client base is widely varied; some of the types of clients and projects we serve are listed below.

Client	Date	Project Highlights
Genesis Project	1996 to present	Eurofins TestAmerica, Savannah has worked in conjunction with state and federal agencies to provide ongoing method development and analytical support services for the evaluation of PCBs in water, sediment and biota matrices on behalf of a major chemical company. Several hundred samples of varied matrices were characterized for PCB Aroclor and Homologous mixtures employing GC-ECD and GC/MS-SIM methodology. Eurofins TestAmerica, Savannah staff worked in close association with regulators and company representatives to develop techniques to provide method comparison studies contrasting EPA SW846 Method 8082 and a modified GC/MS Method 680 SIM technique for PCB quantification. Several hundred fish fillet composites of various fresh water species were evaluated employing both techniques during a two-year lake study.
Major Transportation Company	1987 to present	Eurofins TestAmerica, Savannah has provided ongoing environmental testing services for a major transportation company since 1982 with sites located throughout the eastern US. A variety of matrices have been evaluated for environmental compliance which include water, soil, waste, complex organic matrices, and air. Routine analytical services include the testing of various matrices for volatile organics, semivolatile organics, metals and wet chemistry parameters for groundwater and surface water monitoring, and waste evaluation programs. Special methodology has been developed to meet regulatory compliance concerns to ensure that minimum reporting levels are achieved despite complex matrix interferences, which are routinely encountered. Data deliverables are structured to meet regulatory concerns and have been formatted to produce consistent submittal of data. Electronic data deliverables have been customized to meet client and regulatory needs and have been supplied through both modem transfer and diskette deliverables. Appendix IX, TCL/TAL, Priority Pollutant, and other regulatory parameter lists have been routinely performed and reported for numerous sites.

Client	Date	Project Highlights
Michael Baker Jr., Inc.	1998 to present	Eurofins TestAmerica, Savannah has provided analytical support for CH2M HILL/BAKER under the Navy Clean II Prime Contract for the Roosevelt Roads Naval Station located in Puerto Rico since 1998. Surface water analyses performed were Appendix IX Metals (Total and Dissolved), Appendix IX Dioxins/Furans (8280), GRO (8015 Mod.), and DRO (8015 Mod.). Sediment sample analyses performed were Appendix IX Metals, Appendix IX Dioxins/Furans (8280), GRO (8015 Mod.), DRO (8015 Mod.), and Pesticides/PCBs (8081A/8082).
North Wind, Inc.	2011 to present	Eurofins TestAmerica, Savannah has provided on-going analytical support for Northwind, Inc for the Fort Gillem remediation since 2011 under USACE contract. Water and soil analyses performed included Appendix IX Metals, Appendix IX Dioxins/Furans (8280), Appendix IX VOC(8260), Appendix IX SVOC(8270), and Pesticided/PCB.
Terraine, Inc.	2012 - Present	Eurofins TestAmerica, Savannah serves as the lead network lab in support of the semiannual groundwater testing at the base. Groundwater samples were collected at various locations on the base. Testing included herbicides, pesticides, volatile organic compounds, semi volatile organic compounds, metals, and chloride utilizing drinking water methods. These tests were performed at the Eurofins TestAmerica, Savannah location. The project also included analyses of perchlorate and explosives. The explosive testing was done by the Eurofins TestAmerica Denver facility, and the perchlorate testing was done by the Eurofins TestAmerica Burlington facility. Sample handling support was provided on site by the Eurofins TestAmerica Charlotte Service Center. The project was coordinated and reported out of the Eurofins TestAmerica, Savannah facility.
U.S. ARMY ENGINEER DISTRICT, SAVANNAH	2009 - Present	Eurofins TestAmerica, Savannah provides ongoing support of Groundwater monitoring at landfills and other areas of the military installations. This testing included testing for pesticides, herbicides, volatile organics, semi volatile organics, explosives, and metals located at each facility. The laboratory also provides non-routine requests that may arise at these locations as well. This may include logistic support as well as locating facilities that have specialty capabilities.

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Personnel Resume

Willie Brantley
Extractions Supervisor

Qualifications Summary

Mr. Brantley received his B.S. in biology from Savannah State College and has been working in the environmental laboratory industry since 1995. He has extensive knowledge of all methods related to Organic and Biological Tissue preparation. Mr. Brantley also possesses knowledge of MBAS (5540C/425) and Oil/Grease (1664A/B/9071) analysis and prep.

Professional Experience

Extractions Supervisor – Eurofins TestAmerica – 2007 to present
His responsibilities include prioritizing and scheduling work to ensure holding times and deadlines are met, provides assistance with employee training and evaluation, reviews raw data for compliance with method quality control requirements, and oversees the Waste Disposal Program.

Analyst, Extractions – 2000-2007

Analyst, Wet Chemistry – 1997-2000

Analyst, Semi-Volatile MS – 1995-1997

Education

- B.S. Biology – Savannah State College (now Savannah State University)

Professional Training

- Ethics
- Leadership Training 2005
- Hazardous Waste Training
- Agilent MS Training

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Personnel Resume

Jon E. Ross
Wet Chemistry Supervisor

Qualifications Summary

Mr. Ross has been in the environmental laboratory industry since 1996. He is a skilled analytical chemist with experience in wet chemistry methods in the environmental, industrial, and waste treatment fields. Mr. Ross has a B.S. in Chemistry from the University of North Florida.

Professional Experience

Wet Chemistry Supervisor – Eurofins TestAmerica - 2003 to Present
As an analyst and supervisor, Mr. Ross is responsible for analyzing client samples by various wet chemistry and instrumental methods in accordance with established procedures. He assisted in instrument set-up, new method development, and the writing of standard operating procedures.

Laboratory Technician - Industrial Water Services, Jacksonville, Florida 1994-2003.
Responsible for screening and characterizing incoming loads of hazardous and non-hazardous industrial wastewater. Involved in the research and setup of new wastewater treatment plants in Mobile, Alabama and Chicago, Illinois.

Quality Control Laboratory Supervisor - Sunnyland Refining Company, Birmingham, Alabama 1996-1997
Supervised several technicians in the performance of QC sampling and testing of raw ingredients, batch mixtures and finished product. Also assisted in the start-up of a new in-house microbiology laboratory.

Military
Served as an Engineering Laboratory Technician aboard the nuclear submarine USS Pennsylvania, Kings Bay, Georgia, 1989-1993. I was responsible for maintaining power plant water chemistry and for monitoring radiation exposure.

Education

- B.S. Chemistry, University of North Florida, Jacksonville, Florida (2003)

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Personnel Resume

Adriana Geiger
Generals Department Manager

Qualifications Summary

Ms. Geiger has been in the laboratory testing industry since 2015. She has a MA in Agriculture from Auburn University and a B.S. in Environmental Science from University of Phoenix. As Manager of the Generals department she is responsible for efficient production methods, process and technology improvements as well as client satisfaction, health and safety program compliance and quality assurance plan compliance.

Professional Experience

General Department Manager – Eurofins TestAmerica – 2019 to present
Ensure departmental compliance with SOPs and the QA Manual, adherence to applicable safety guidelines, maintaining supplies, and meeting performance objectives and deadlines. Manage staff by overseeing their hiring, training, performance, etc. Serve as a resource for analysts in regards to troubleshooting, career development, scheduling needs, etc. Develop and implement practices to maximize efficiency and cost controls.

General Department Supervisor – TestAmerica – 2018 to 2019
Ensure departmental compliance with SOPs and the QA Manual, adherence to applicable safety guidelines, maintaining supplies, and meeting performance objectives and deadlines. Manage staff by overseeing their hiring, training, performance, etc. Serve as a resource for analysts in regards to troubleshooting, career development, scheduling needs, etc. Develop and implement practices to maximize efficiency and cost controls.

Analyst – TestAmerica – 2015 to 2018
Performed environmental testing, using EPA approved methods. Worked in the Extractions department with Oil & Grease (1664A) then moved to General's department. Methods certified to run and analyze, Colormetric (2120B, 110.2), Phosphorus (365.4), Odor (SM 2150B), Oxygen Bomb (5050), BTU, Ammonia (350.1, SM4500), Total Kjeldahl Nitrogen (351.2), Distilled Ammonia (351.2), Chloride (325.2, SM4500 CI E), Sulfate (9038) & Phenolics (420.1).

Preschool Teacher, The Sanctuary Child Learning & Development Center – 2013 to 2015
Supervised children, created and followed lesson plans and completed daily reports.

Education

- Master Agriculture – Auburn University - 2019
- B.S. Science – University of Phoenix – 2015
- Associates Early Childhood Development – University of Phoenix - 2013

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Personnel Resume

Brian Bland
Metals Supervisor

Qualifications Summary

Mr. Bland has been in the environmental laboratory industry since 2002. He received his Bachelor of Science degree in wildlife management, from the University of Georgia. Mr. Bland has extensive knowledge of the ICP, ICP-MS, and Cold Vapor (LEEMAN) methodologies including EPA 6010, 6020, 200.7, 200.7 CWA, 200.8, 200.8 CWA, 7470, 7471, 245.1 and CLP methods. Additionally, Mr. Bland possesses extensive knowledge of standard prep, calibration, operation, maintenance and trouble shooting.

Professional Experience

Metals Supervisor – Eurofins TestAmerica - 2014 to present
Serves as a liaison between project managers and chemists within the group. His responsibilities include the logistics of batches for each project based on method, due date, and the level of the deliverables provided. Knowledge of the flow of samples from receipt to data archival, this includes, but is not limited to; department sample log in, prep, analysis, review, report, data package production, storage, and disposal of samples and data. He is responsible for the operation and maintenance of an ICP Varian 730ES for analysis of metals.

Analyst – 2002 to 2014
Knowledge of the flow of samples from receipt to data archival. This includes, but not limited to; department sample log in, prep, analysis, review, report, data package production, storage, and disposal of samples and data. Responsible for the operation and maintenance of an ICP Varian 730ES for analysis of metals.

Education

- B.S. Wildlife Management – University of Georgia – Athens, GA – 2000

Professional Training

- Ethics Training
- Leadership Training

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Eurofins TestAmerica Savannah Instrument List

Equipment/ Instrument	Manufacturer	Model Number	Serial Number	Year Put into Service	Condition When Received
ICP	Varian (ICP E)	730-ES	IP0712M054	2008	New
ICP	Varian (ICP F)	730-ES	1P0803M118	2012	Used
Liquid Chromatography	Hewlett-Packard (CLC N)	1100	DE91607527	2008	Used
General Chemistry	Lachat (2)	QC 8500 Series 2	100200001169	2010	New
General Chemistry	PCTitrate	Version 3.0	270G6XB370	2006	New
General Chemistry	Mitsubishi	TOX-300	HOAA0748	2019	New
General Chemistry	Mitsubishi	TOX-300	HOAA0507	2019	Used
General Chemistry	Mitsubishi	TOX-300	HOAA024	2019	Used
General Chemistry	Mitsubishi	TOX-300	HOAA047	2019	Used

FLOWERS CHEMICAL LABORATORIES INC.

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571 NW Mercantile Pl. Suite 111, Port St. Lucie FL 34986 — Phone: 772-343-8006 / Fax: 772-343-8089 — E86562 (South Lab)
PO Box 1200, Madison FL 32341 — Phone: 850-973-6878 / Fax: 850-973-6878 — E82405 (North Lab)
3980 Overseas Hwy Suite 103, Marathon FL 33050 — Phone: 305-743-8598 / Fax: 305-743-8598 — E35834 (Keys Lab)

Statement Of Qualifications

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Jefferson S. Flowers
President/Technical Director

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- Analytical Instrumentation and Equipment

ATTACHMENTS

- Organizational Chart
- Key Personnel Resumes
- Accreditation and Certification Documents
- Insurance Certificate
- Standard Operation Procedure List/Technical and Administrative
- Facility Floor Plan
- Analytical Instrumentation and Equipment

SECTION 1
INTRODUCTION

The Right Choice

Flowers Chemical Laboratories, Inc., (FCL) appreciates the opportunity to present this Statement of Qualification for your review. FCL is recognized nationally as a certified, full-service, testing laboratory. FCL is committed to providing the highest quality laboratory services to meet our clients' satisfaction. Our commitment to excellence and experience since 1957 has enabled us to provide you with the resources and expertise to perform a wide variety of environmental testing and sampling projects. You will find that FCL is the right choice for all your analytical and environmental needs by offering the following;

- 63 years of regional, national and international experience in testing and sampling services;
- Diverse professional staff with extensive experience in environmental testing and sampling services;
- State-of-the-art physical plant and computer technologies, with instrumentation to perform sample analysis of more than 6,000 chemical determinations on a wide variety of sample matrices;
- Three other laboratory locations in Port St. Lucie, Madison and Marathon, Florida to better serve our North, South and Florida Key's clients;
- High quality product and extensive industry knowledge;
- Responsive staff, committed to your needs and concerns;
- Ability to customize and meet or exceed your requirements;
- Ability to provide the highest quality service in a timely, cost-effective manner.

Company Profile

Flowers Chemical Laboratories, Inc., is a nationally certified, full-service testing laboratory which provides analytical and environmental laboratory services to governmental, municipalities, utilities, commercial, industrial and residential clients on a continuous basis since 1957. FCL's technological capabilities include a full spectrum of advanced scientific instrumentation, equipment, and computer systems. FCL has been certified by the State of Florida's Department of Environmental Regulation and the Department of Health for more than three decades. FCL was the first laboratory in the State of Florida to design, implement, and obtain approval for its Comprehensive QA/QC Plan (COMQAP # 860008). FCL was also among the first group of labs to be accredited by the National Environmental Laboratory Accreditation Conference (NELAC). Our primary accrediting body is the Florida Department of Health.

FCL was the first environmental analytical laboratory in the state of Florida to achieve national accreditation through the American Association for Laboratory Accreditation (A2LA). FCL is certified in the Florida DOH Drinking Water, Non-Potable Water and Solid & Chemical Materials categories for a large scope of analyses. Additionally, FCL is qualified to offer services in twenty other states, the Caribbean Basin and Central America.

FCL's clients have come to rely on the scientific expertise, analytical skills, and dedication of FCL's team of professionals. These professionals include: consultants, chemists, analysts, environmental specialists, and programmers. FCL enables their clients to produce accurate, practical, timely, and cost effective analytical environmental testing and sampling services that will meet or exceed the requirements of their projects. FCL is committed to developing innovative, scientific, and analytical solutions to client challenges. This is accomplished by providing responsive services tailored to the specific and individual needs of its clients. FCL's commitment to excellent service is embodied in our philosophy of:

- Meet, or exceed client expectations through developing a concise understanding of our clients needs for each project, and maintaining proactive communication with the client;

- Provide the highest level of attention and quality professional services to assure our clients satisfaction and success in each project;

- Provide the most accurate and responsive analytical results; and continuously strive to provide the most cost-effective approach to all of our clients' environmental needs.

Company Profile

FCL provides technically valid and legally defensible analyses that meet or exceed the required site specific data quality objectives. FCL demonstrates experience in: quality assurance, project management, environmental regulations, method development, analytical techniques, instrumental analyses, and information management through our electronic data delivery system.

FCL's Laboratory Information Management System (LIMS) automates the laboratory production and reporting process beginning with kit production and ending with reporting results. The LIMS enables auto-email and web access of data in place of or in addition to hard-copy mailing of the final technical report.

Visit our website at www.flowerslabs.com

Click on "**Clients Only**" and type "**visit@flowerslabs.com**", password "**visitor**"

The Adobe Acrobat, NELAC approved report, invoice and electronic data deliverable (EDD) are available for each project. In addition, the Florida DEP drinking water forms are electronically generated for compliance reporting.

Consider our website your archive!

Scope of Services

Flowers Chemical Laboratories, Inc., (FCL) is a certified full-service testing laboratory that provides environmental consultation and analytical laboratory testing and sampling services in:

- Primary and Secondary Drinking Water Analyses
- Reclaimed Effluent Grab and Composite
- Ground Water Monitoring
- Surface Water Monitoring
- Soil and Sediment Analyses
- Sludge Analyses
- Solid Waste Analyses
- Wastewater Analyses
- Microbiological Analyses
- Contamination Assessment
- Environmental Compliance
- Hazardous Waste Characterizations

FCL provides in-house courier services from each of our four facilities. FCL currently maintains a fleet of twelve (12) field and courier vehicles. By operating our own vehicles, we can provide customized sample delivery and pick up services to our clients seven (7) days per week. FCL's courier vehicles can be on site to provide immediate response when emergency conditions are identified by our client(s).

Field sampling services are conducted by trained FCL Field Technicians. Collection procedures are in accordance with the State of Florida, Bureau of Laboratories, Standard Operating Procedures defined by Florida DEP-SOP-001/01 and other specific FDEP SOPs. FDEP Rule 62-160, FDEP Rule 625 or other local, State or Federal regulations may apply.

If our literature or experience does not highlight your current needs, just ask us!

Clientele

FCL has been involved in a variety of laboratory testing and sampling projects and has served nearly four thousand national, international and regional clients. Below is a selective listing of clients for whom such services have been provided:

National and International

- Unocal Oil Corporation
- Amoco/BP Corporation
- Star Enterprise (Texaco)
- Shell Oil Company
- URS Corp.
- Burns & McDonnell
- ABB Power T&D
- Zurn Industries
- Dow Jones/Wall Street Journal
- U.S. Department of Navy
- Army Corp. of Engineers
- Panama Canal Commission, Panama
- SafetyKleen Envirosystems/Puerto Rico
- CH2M
- CDM
- U.S. Filter
- State of New Mexico, NM
- Siemens-Westinghouse
- SGS Canada, Inc.
- Geneva Pharmaceuticals, Inc.
- Colgate
- SpaceX
- MACTEC, Inc.
- RETEC Group, Inc.
- Solvay Group
- Northrup-Grumman

Regional

City of Apopka, FL
City of Clermont, FL
City of Maitland, FL
City of Cocoa, FL
City of Port St. Lucie, FL
City of Kissimmee, FL
City of Lake Mary, FL
City of Key West, FL
City of Oviedo, FL
City of Melbourne, FL
City of Palm Bay, FL
City of Ft. Pierce, FL
Palm Beach County, FL
City of Marathon, FL
City of Lake Wales, FL
Lee County, FL
Osceola County, FL
Seminole County, FL
Andreyev Engineering, FL
CH2M-Jacobs, FL
TOHO Water Authority
Coca-Cola Foods, FL
Universal Studios, FL
Environmental Risk Management Inc.
Florida Gas Transmission, FL
Florida Food Products, FL
Duke /Progress Energy
HSA Engineers and Scientists, FL
US Water, FL
Sea World of Florida, FL
Stillwater Technologies, FL
Polk County, FL
Florida Keys Aqueduct Authority
Lockheed Martin Corp., FL
Arcadis, FL
City of Key West Port Operations

Project Profile

For over 60 years, FCL has performed thousands of projects and served over four thousand national and international clients. The following is a selective list of projects that we have handled in the recent past:

Andreyev Engineering, FL
2006 - present
Groundwater monitoring of several construction and debris landfills for Appendix I & II parameters. Field record data entry includes ADaPT electronic reporting to FDEP. Other projects include WWTP monitoring wells for CWA analyses.

BP Amoco Oil Corporation
1993 - 2002
UST, Refinery, and Terminal Remediation for sites in southeast, mid-atlantic, northeast, and mid-western United States. Various inorganics, organics, metals, and hazardous waste characterization analyses of air, water, hazardous wastes, soil, and sludge samples.

Florida Gas Transmission
1990 - present
Analyses of various inorganics, organics, metals, and hazardous waste related to water, hazardous wastes, soil, and sludge samples of gas plants throughout the Southeast.

Space X
2014 - present
Cape Canaveral, FL – Priority water analyses of trench water for trace metals, organics, and inorganics.

Hardee, Polk, and Lee Counties
2004 – present
Appendix I & II groundwater and surface water monitoring. Starting in 2007, FCL's Field Services conduct landfill sampling and field analyses from monitoring wells. These projects include ADaPT electronic reporting to FDEP.

Duke Energy – Crystal River, Suwannee - Live Oak
1990-present
Statewide sampling and analyses of related water, soil, hazardous waste, oil, fly ash, and sludge samples for inorganics, metals, and organics including PCBs.

State of New Mexico, Environmental Department
2004-2010
Through a contract laboratory in Albuquerque NM, analytical testing of potable, non-potable, soil and surface water samples. Electronic reporting to SDWIS EPA Region VI database.

(TOHO) Water Authority
1999 - present
Drinking water, wastewater and sludge analyses of 4 water processing facilities.

Walt Disney Company, FL
2009 – present
Seawater analysis for chemical monitoring of pools for aquatic life.

Georgia Aquarium, GA
2005 – present
Seawater analysis for chemical monitoring of pools for aquatic life.

Accreditation and Certifications

FCL has been certified by the State of Florida's Department of Environmental Regulation and the Department of Health for more than two decades and was the first laboratory in the state of Florida to design, implement, and obtain approval for its Comprehensive QA/QC Plan (COMQAP # 860008). The FDEP COMQAP program no longer requires these documents to be submitted for laboratory approval. DEP now accepts the Quality System defined according to the FDOH NELAP accreditation program for laboratory approval. FCL was included in the first group of laboratories to become NELAC accredited.

In addition, FCL was the first environmental analytical laboratory in the State of Florida to achieve national accreditation with the American Association for Laboratory Accreditation (A2LA). FCL no longer requires the additional accreditation with A2LA since NELAC-TNI standards are recognized as conforming to ISO. FCL is TNI accredited by FL DOH and participates in the following certification/accreditation programs:

- Florida Drinking Water
- Florida Non-Potable Water
- Florida Solid and Chemical Waste Materials

FCL may obtain secondary accreditation in each state that offers a National Environmental Laboratory Accreditation Program (NELAP). The State of Florida is FCL's primary NELAC Accreditation Body.

Certification and accreditation documents are presented in Section 3.

Financial Condition and Insurance

Flowers Chemical Laboratories, Inc. is a privately held corporation and has established a reputation of scientific excellence, possesses an unblemished record of performance, integrity, and business ethics. This commitment to excellence has enabled FCL to achieve financial independence and stability that has lasted more than 58 years. Therefore, FCL has the ability to expand our organization and physical plants to meet our clients' needs and requirements. Copies of FCL financial statements are available upon request.

FCL provides $1,000,000 occurrence form-general liability insurance, and professional liability insurance from an ™A rated U.S. based insurance carrier. Copies of Workmen's Compensation insurance, and general and professional liability insurances are provided.

State of Florida
Department of State

I certify from the records of this office that FLOWERS CHEMICAL LABORATORIES, INC. is a corporation organized under the laws of the State of Florida, filed on June 2, 1986, effective May 30, 1986.

The document number of this corporation is J22208.

I further certify that said corporation has paid all fees due this office through December 31, 2019, that its most recent annual report/uniform business report was filed on February 7, 2019, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Eleventh day of July, 2019

Secretary of State

Tracking Number: 4021768182CU

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

SECTION 2
ORGANIZATION AND CAPABILITIES

Quality Commitment and Operation Processes

To ensure client satisfaction; FCL is committed to providing the highest level of attention and quality laboratory services available, while at the same time fulfilling all regulatory requirements in the FDEP Rule 62-160. FCL's Quality Management Plan (QMP) defines our Quality System. This document and the NELAC standards replace the previously required Comprehensive Quality Assurance/Quality Control Plan (QA/QC Plan) in the State of Florida regulations.

The QMP provides organizational structure and guidelines for FCL, to ensure quality work processes and services. The principals and practices described in the QMP assist FCL employees toward fulfilling their responsibilities and their commitment to quality customer care. The QMP also defines the controls at the organizational level and regulates activities that support common or standardized functions such as: employee qualifications and training, document control and material procurement.

Some examples of QA/QC procedures are:

- Calibrating analytical instruments on a daily basis per-run
- Subjecting data to stringent methodology review before the release of results
- Establishing SOPs to ensure consistency in the operation and measurement process
- Establishing formal chain of custody documentation
- Maintaining updated sample handling through the LIMS
- Maintaining a LIMS which automates the process of laboratory analysis, data verification and reporting

Standard Operating Procedures (SOPs) are used as tools to describe how requirements are executed. SOPs are required for all analytical and administration activities ranging from the receipt of samples in the laboratory through analysis, reporting and subsequent sample disposition. Standard practices for FCL operations including training, health and safety procedures, method procedures, instrument, document controls, data validation and equipment calibrations are detailed in SOPs. Standard SOP formats for all activities related to the generation and reporting data including the QA Report in each general analysis report are also specified in the SOP. Samples of our reports are available upon request.

Sample collection procedures are conducted in accordance with the most recent version of the State of Florida, DEP-SOP-001/01 and other specific FDEP SOPs.

A list of FCL administrative and technical SOPs are presented in Section 3.

Organization

FCL is incorporated in the State of Florida with corporate headquarters located at 481 Newburyport Avenue in Altamonte Springs, Florida. The organizational structure for FCL is presented at the end of this section.

In January 2001, FCL acquired Brown Water Laboratory in Port St. Lucie, FL, to better serve clients with quick turnaround for microbiology and wet chemistry tests. "FCL-South" also serves as a drop-off station for clients to take advantage of daily courier service to the main lab. In 2007 FCL-S was relocated to a custom designed facility adjacent to I-95.

In February 2006, FCL acquired Chemsultants in Madison, FL, to better serve clients in the Northern region and State of Georgia. "FCL-North" also serves as a drop-off station for clients to take advantage of daily courier service to the main lab.

In December 2008, FCL acquired a lab in Marathon, FL, to better serve clients in the Florida Keys. "FCL-Keys" also serves as a drop-off station for clients to take advantage of daily courier service to the main lab.

FCL's principals possess extensive experience in: quality assurance, method development, analytical techniques, instrumental operation, maintenance and analyses, contract negotiation, environmental regulations, as well as information management systems. FCL personnel stay abreast of the latest analytical methods, environmental rules, regulations and accreditation requirements at both the state and federal levels.

On various projects, our staff have been consulted to develop, enhance analytical procedures, and to improve the accuracy and performance of the analyses. They have also been consulted to develop and perform non-EPA and various draft methods, in order to detect specific organic compounds/groups as required by company clients. FCL therefore, could meet or exceed any environmental analytical needs or requirements of a client in a timely and cost-effective manner. The responsibilities and authorities are described in the resume of enclosed FCL key personnel.

In addition, our broad-based knowledge of information technology has enabled us to develop a state-of-the-art laboratory, which manages information from logging in of samples to printing of analytical reports for our clients. FCL also has an automated data validation system and computerized sample tracking system to ensure accuracy in our analysis and protect our samples from being tampered with by others.

In keeping with FCL's philosophy regarding effective project management and execution, FCL organizes each client with a project manager according to the requirements and specific needs of our clients.

Facility

FCL owns and occupies a two-story complex of approximately 36,000 square feet in Altamonte Springs, Florida. The first floor consists of 18,500 square feet of laboratory space and 5,500 square feet of administrative space. The second floor consists of an archival vault and record storage space of 12,000 square feet.

The floor plan of FCL with use designations is provided. As shown, FCL's administration and laboratory areas are separated by a locking door to provide access control for health, QC and safety purposes. Visitors are not allowed in the lab unescorted and are required to register before entering the laboratory facilities.

The design of the laboratory maintains a one-cycle throughput of the sample flow, maximizing its utility for the tasks needed by connecting design with work activity. As shown in the floor plan, the receiving area leads to the sample storage area. The sample storage area and sample wash area can be easily accessed from the wet chemistry work area, the main laboratory, and the organic instrument areas. The wash area is located next to the bottle storage and kit assembly area, which is directly connected to the kit shipping area. The separate sample reception area is located at the back entrance of the laboratory. It is connected to a limited access walk-in refrigerator with a total capacity of 2,400 cubic feet.

The laboratory space has 2,418 linear feet of chemical resistant bench space and 13 laminar flow exhaust hoods with a combined 177 square feet of bench area. Each hood (3,000 cubic-foot) are held at negative relative pressure to minimize cross contamination into the main laboratory air space with separate makeup air supplies. The main extraction hood room exchanges (with fresh makeup air) six times the amount of total air content each minute. An isolated 4-sink area is used to process glassware and sample containers.

All of FCL's analytical standards are kept under separate refrigeration while chemical storage is in a separate room vented to the outside of the facility. The walk-in refrigerator provides direct-access to the seven instrumentation laboratories thus eliminating any possibility of airborne cross contamination.

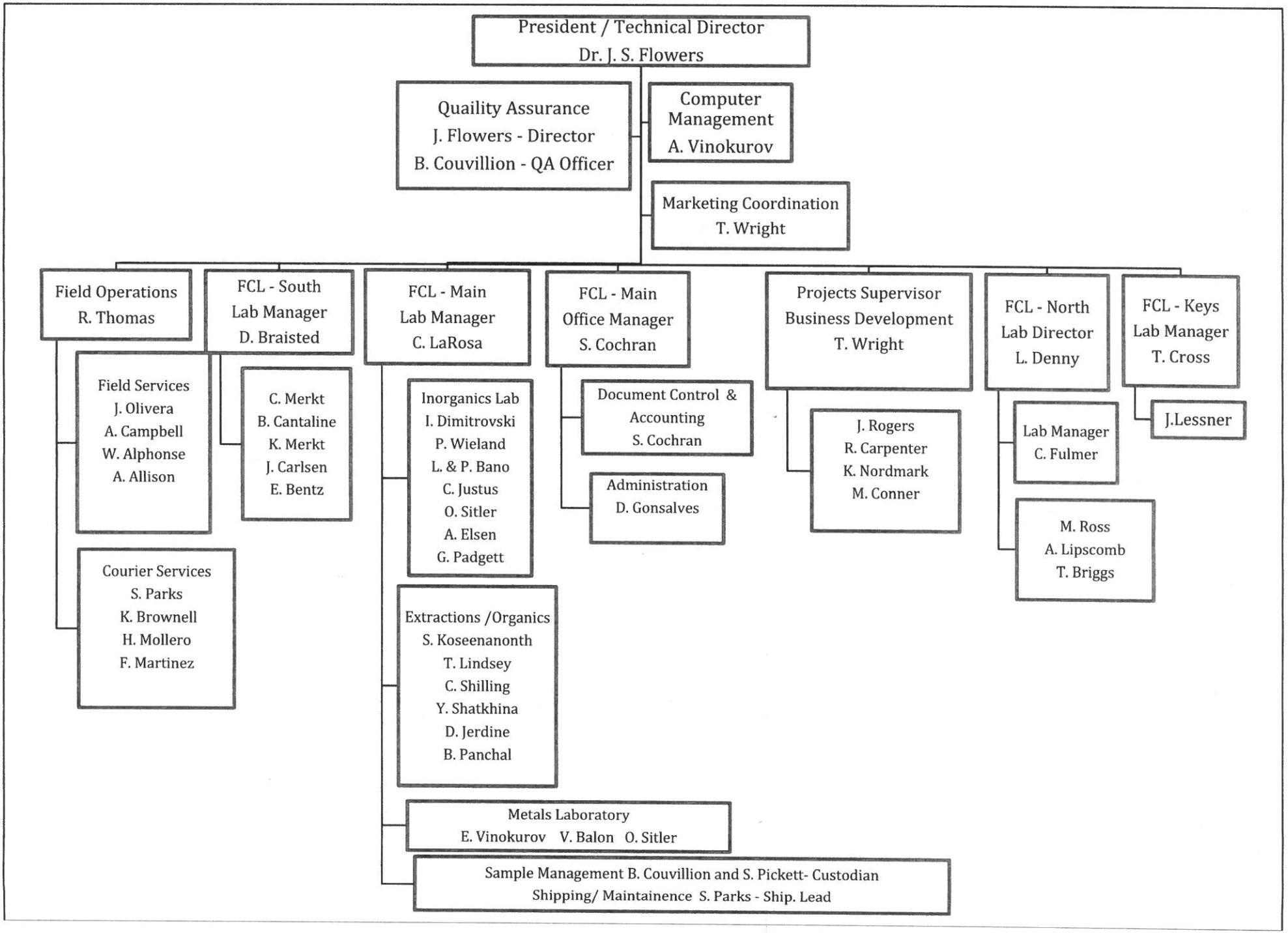
The seven separate instrumentation laboratories, namely, GC, GC/MS, HPLC, Inorganics, Metals, Wet Chemistry and Extractions are separated from the main laboratory space. Each instrumentation laboratory has a separate air supply that is independent from the rest of the building. The air supply is filtered through a 10-micron HEPA filter with positive air pressure to ensure no cross contamination and no airborne contaminants are released into the air-locked laboratories from other areas.

The administrative section of the building consists of offices for the executives, project management staff, quality assurance, accounting personnel and other administrative staff. The main reception area is also located in this section.

SECTION 3
ATTACHMENTS

Organizational Chart

Flowers Chemical Laboratories, Inc. 2020 Figure 6-1 QMP



Personnel Resumes

Dr. Jefferson S. Flowers

Position	President / Technical Director Flowers Chemical Laboratories, Inc.
Education	Ph.D. Chemistry, Univ. of California, Davis, CA B.S. Chemistry (Radiochemistry), B.A. Mathematics (Statistics/computer science), Certification in Industrial Hygiene and Health Physics, Cal State University, San Jose, CA Certification in Industrial Toxicology, University of North Carolina, Chapel Hill, NC

Professional and Business History

Flowers Chemical Laboratories, Inc. 1976 - Present

Professional Experience

Dr. Flowers has experience in directing a wide variety of environmental projects involving water, wastewater and hazardous waste analysis as well as industrial hygiene monitoring. With his extensive background in method development, analytical techniques, instrumental analyses and information management systems, he directs all contracted projects, both administratively and technically, to deliver an accurate analysis of the highest quality on time and within budget. Dr. Flowers keeps abreast of all the latest changes in computerized instrumentation and analytical techniques related to the analysis of various types of environmental samples. He has developed and implemented new analytical techniques to improve the accuracy and efficiency of laboratory work, and has designed and developed a state-of-the-art LIMS for FCL. In addition, he oversees the Quality System and Health and Safety Program to assure that health and safety practices are maintained in each of the 4 laboratory facilities.

Dr. Flowers has broad-based experience in data collection, reduction and analyses in the chemical and microbiological laboratory field. He is experienced with the various analytical methodologies for determining workplace hazards as well as the sampling strategies required to make these determinations. He has been an environmental consultant in the fields of environmental science, industrial hygiene and safety, and has testified as an expert witness in various federal, state, and county courts on environmental issues, industrial hygiene, and safety. He has advised and designed strategies for management of environmental recovery processes and hazardous waste recovery schemes. He has been consulted on various international environmental projects in West Germany, Mexico, Caribbean, Panama, and Peoples Republic of China. He has also been involved in the development of the first comprehensive Lake Management Plan in the State of Florida for the City of Maitland. Also knowledgeable in matters concerning contract administration and contract reporting requirements, Dr. Flowers has managed environmental and hazardous waste studies for various government agencies. In addition, Dr. Flowers was intimately involved in the process of formulating the rules and regulations governing the accreditation of the chemical laboratories at both the state and federal levels as a member of the National Environmental Laboratory Accreditation Conference, Accreditation Authority Standing Committee, the Coordination Ad Hoc Committee and the Data Base Committee. He was also appointed by the Florida Department of Health as facilitator for the technical advisory group that played an integral part of revising the Environmental Regulation Code.

Dr. Flowers is an approved Technical Director for Chemical and Microbiological EPA methodologies performed since the inception of NELAC in 2000.

Presentations and Publications
"STS Hazardous Waste Disposal Recycling-Calcination Process"
Co-authored with Dr. J. L. Flowers and published in NASA Tech Briefs in March 1983.

"New monitoring in the 1993 Drinking Water Regulatory Requirements"
Presented at Florida Rural Water Association Annual Conference in November 1993

"Understanding Quality Assurance Data from Environmental Laboratories"
Course Instructor for Florida Engineering Society Short Course in February 1994

"An Update on Regulatory Changes in Drinking Water Requirements"
Presented at Florida Rural Water Association Annual Conference in October 1994

" A Partnership at Work ± National Environmental Laboratory Accreditation Conference"
Presented at Southeast ± USA Section of the American Organization of Applied Quality Chemistry International Conference -10th Annual Meeting in February 1996

Professional Affiliations
National
Member of IATEL National Committee on National Laboratory Accreditation
National Environmental Laboratory Accreditation Conference (NELAC)
Member of the (NELAC) Transition Ad Hoc Committee
Member of the (NELAC) National Database Ad Hoc Committee
Former Member of the (NELAC) Accreditation Authority Standing Committee
Former Member of the (NELAC) Coordination Standing Committee of
Member of American Chemical Society
Member of the American Society for the Advancement of Science

State
Former President of the Florida Laboratory Association (Founding Chairman)
Facilitator for the Technical Advisory Board of the Florida Department of Environmental Regulation
President, American Environmental Laboratory Association

Local
Councilman and Vice Mayor of the City of Maitland, Florida
Former Chairman of the Lake Advisory Committee to the City of Maitland, Florida

Flowers Chemical Laboratories, Inc. **Statement of Qualifications**

Cynthia LaRosa

Position Laboratory Manager, Technical Director

Education B.S. Biology 1986, Norwich University, Northfield, VT

Professional and Business History

Flowers Chemical Laboratories, Inc.	
Laboratory Manager, Technical Director	2018 - Present
Quality Assurance Manager	2005 - 2018
Test America	
Chemistry Supervisor/Chemist/Microbiologist	2001 – 2005
Tri-Tech Analytical	
Chemistry Supervisor/Chemist	1999 – 2001
Top Banana	
Owner/Operator	1995 – 1999
GEOS Laboratory	
Chemistry Supervisor/Chemist	1992 - 1995
Thornton Laboratories	
Chemist	1990 - 1992

Professional Experience

Ms. LaRosa has extensive years of experience working in analytical laboratories, both on the bench and in management. She has widespread experience developing new analytical procedures, preparing SOPs, documenting demonstration of capability and training lab staff. Ms. LaRosa has broad experience in the analyses of trace metals, all of the routine wet chemistry tests as well as microbiology analyses. This experience includes compliance to EPA methodologies and NELAC / TNI standards.

Ms. LaRosa manages the day-to-day operations of all FCL laboratory departments, including shipping, receiving, handling and analysis of drinking water, environmental and hazardous waste samples.

Her responsibilities include enforcement of the FCL Quality Management Plan to achieve excellence in customer service and operational improvements. She conducts in-house training for technical laboratory staff, and is responsible for purchasing all equipment, laboratory reagents, and supplies for the company. Furthermore, she oversees all shipments to and from the laboratory facility to ensure the samples are properly documented and handled according to the Quality System, regulations, and contract requirements. Ms. LaRosa assists in the data review of all lab department's data, including HPLC, GC and GC/MS.

Professional Affiliations
Florida Society of Environmental Analysts

June S. Flowers

Position	Quality Systems Director
Education	B.S. Biology, State University of New York, Cortland (22 Chemistry credits) A.S. Biology, State University of New York, Morrisville TapRoot Incident Investigation & Root Cause Analysis Course Basic Gas Chromatography Training School, Finnigan FrontLine Leadership, Supervisor Training, Zenger Miller Quality Improvement Process, Philip Crosby program

Professional and Business History

Flowers Chemical Laboratories, Inc.,		
	Quality Systems Director	2000 - Present
Del Mar Analytical, Phoenix, AZ		
	Quality Assurance Manager	1998 - 2000
ATI / AEN, Phoenix, AZ		
	Inorganics Manager	1998 - 1998
	Quality Assurance Manager	1995 - 1998
Northeastern Analytical Corp., Marlton, NJ		
	Quality Assurance Manager	1990 - 1995
Environmental Testing and Certification Corp., Edison, NJ		
	Data Review / QA Manager	1983 - 1990
LMS Engineers, West Nyack NY	Wet Chemistry Analyst	1982 - 1983
Pedneault Associates, Bohemia, NY	Wet Chemistry Analyst	1980 - 1982

Professional Experience

Ms. Flowers has over 25 years of operations and management experience in the environmental commercial laboratory. She has extensive experience in quality assurance, including the preparation and management of QA Project Plans, auditing lab operations, writing SOP's, evaluating data collection, reduction and reporting. She has broad experience in project evaluations and environmental rules and regulations for SDWA, CWA, RCRA and CERCLA projects. Ms. Flowers is a seasoned liaison and is the primary representative between FCL and government agencies to assure that all accreditation and certification requirements are adhered to.

Ms. Flowers has been active in the National Environmental Laboratory Accreditation Conference, (NELAC). She was on the Accreditation Body committee for the Institute of National Environmental Laboratory Accreditation (INELA) and for 3 years was chair of the Laboratory Accreditation System Executive Committee for The-NELAC-Institute (TNI).

Ms. Flowers is an active member of the Florida Society of Environmental analysts (FSEA).
As QS Director, Ms. Flowers is responsible for the supervision, evaluation and review of all aspects of the Quality System. She is responsible for conducting ethics and data integrity training for all employees at each of the FCL laboratory facilities. She is a valuable resource to clients and project management because of her extensive background in the analysis, interpretation and reporting of environmental data for compliance to state and federal regulations.

Flowers Chemical Laboratories, Inc. **Statement of Qualifications**

Travis Wright

Position	Business Development Manager/Projects Supervisor
Education	B.S. Chemistry, Florida Atlantic University, Boca Raton TREEO FDEP Sampling Training

Professional and Business History

Flowers Chemical Laboratories, Inc.	October 2016 - Present
Southern Analytical Laboratories	2004 – 2016
Business Development Manager	
Field Sampling Manager	
AZI LLC, Computrac Division	2001 – 2003
National Account Representative	

Professional Experience

Mr. Wright brings to FCL a wealth of experience in developing relationships with clients and delivering what is expected for compliance to FDEP, County and Municipality specific requirements. He has broad experience in project evaluations and enforcement of environmental rules and regulations on contamination assessments, drinking water and environmental projects. He is familiar with all aspects of field operations in accordance to FDEP current SOP's.

Prior to AZI Mr. Wright worked at Mettler-Toledo as their Gulf Coast area Sales Representative. Other professional experience includes District manager at ADP and Formulations Chemist at Bausch & Lomb.

Samantha Cochran

Position	Document Control Officer/Office Manager
Education	B.S in Nursing TBD, Seminole State College

Professional and Business History

Flowers Chemical Laboratories, Inc.	May 2017 - Present
Document Control Office/Office Manager	
Radio Shack Store Manager	2010 – 2017
Olive Garden Server Trainer	2005 - 2009

Professional Experience

Ms. Cochron operates and maintains the business office. She has extensive experience in managing all aspects of employee relations and employee records, payroll, insurance administration, handling of financial and banking transactions, and customer relations including customer service, accounting, billing, and collections.

As Document Control Officer /Office Manager, Ms. Cochron is responsible for the operation and maintenance of FCL's Business Office, and Document Control Program. Ms. Cochron distributes, controls, stores and maintains all documents issued by FCL, both externally and internally, including accounting records, employee communications, log books, inventory records, instrument logs, sample logs, analysis logs, bench sheets and SOPs.

Ms. Cochron implements and controls the document control system which records and tracks all formal communication between FCL management and its employees. She is presently responsible for collections, payroll, insurance administrations and maintaining employee records. She handles all financial and banking transactions and prepares summary banking statement for top management's review. She trains, supervises and schedules all office personnel. She also provides secretarial support to the President and budgets for office supplies.

Flowers Chemical Laboratories, Inc. **Statement of Qualifications**

Charles L. Schilling

Position GC/MS Chemist

Education
M.S. Chemistry (Organic Chemistry), FSU
B. S. Chemistry, Stetson University
Completed course work in GCMS Target Software
Completed FCLs in-house management training

Professional and Business History

Flowers Chemical Laboratories, Inc.		
	GC, GC/MS Chemist	1994 - Present
	Organic Chemist	1989 - 1994
	Inorganic Chemist	1988 - 1989
Florida State University		
	Research Assistant	1985 - 1988
	Teaching Assistant	1984 - 1985
Georgia Institute of Technology		
	Research Assistant	Summer, 1983

Professional Experience
Mr. Schilling has more than 19 years of experience in the operation and supervision of the GC/MS and organics department of a chemical laboratory. He has extensive experience in all phases of GC/MS analysis from sample extraction/preparation to mass spectral interpretation. He is skilled in the operation of all the GC and GC/MS instrumentation at FCL and has completed training classes in MS interpretation. He is experienced in semi-volatile, volatile, herbicide and pesticide determinations in hazardous waste, soils, sludge, water and air samples. Mr. Schilling also has broad experience in wet chemistry using titrimetric, gravimetric, and spectrophotometric methods to analyze water, air and soil samples. He is knowledgeable in nutrient analysis, bacteriological analysis, and various digestion and analytical procedures for Atomic Absorption, ICP and ICP/MS determinations of metals. He has been involved in picosecond time-resolved absorption studies using laser systems, and has done research projects using organic compounds as probes in detecting single electron transfer reaction mechanisms.

As the GC/MS Technical Supervisor/Organic Laboratory Manager, Mr. Schilling is responsible for the operation, maintenance, and budget of the department. He has directed and conducted all GC/MS testing and interpretation of the MS results to ensure that the analyses have met EPA and NELAC standards.

Publications

"Dependence of the Lifetime of the Twisted Excited Singlet State of Tetraphenylethylene on Solvent Polarity," C. L. Schilling and E. F. Hilinski, Journal of American Chemical Society, 1988.

"An Unusual Photochemical Rearrangement of 3'-Phenylspiro-[9H-fluorene-9, 2'oxirane]," C. L. Shilling and E. F. Hilinski, Journal of American Chemical Society, 1988.

Professional Affilations
Member of American Chemical Society

W. Judson Rogers III

Position: Project Manager

Education:
B.A. Chemistry, The Citadel, Charleston, South Carolina, 1972
Completed Flowers in-house management training courses
Course work in mass spectral interpretation, Hewlett Packard
Completed EPA course work inAsbestos Analysis
CCU in Laboratory Safety/Industrial Hygiene

Professional and Business History

Flowers Chemical Laboratories, Inc.

Project Manager	2015 - Present
Quality Assurance Officer	1991 - 2010
Purchasing Officer	1991 - 1995
GC,GC/MS Laboratory Manager	1984 - 1991
Chief Organic Chemist	1983 - 1991
Laboratory Chemist	1982 – 1983

Professional Experience

Mr. Rogers has over 24 years of experience in analytical QC, statistical process control, analytical analyses, and research and development in the chemical laboratory sector. He has a thorough understanding and training in QA/QC principles and practices used in an analytical laboratory and with regulatory requirements of different states. Mr. Rogers has extensive experience analyzing water, soil and product samples pertaining to the contamination of petrochemical products. Mr. Rogers has experience in all phases of organic analysis, from sample extraction to interpretation of GC, GC/MS, microscopic and infrared techniques. In addition, Mr. Rogers has a thorough understanding and training in OSHA rules and regulations governing the safety and health of employees in a laboratory.

Brian Couvillion

Position: QA Officer/Sample Custodian

Education: Univ. of Central Florida, B.S. Biology

Professional and Business History

Flowers Chemical Laboratories, Inc Sample Custodian	2017 - Present
FCL Extractions Chemist	2012 - 2017

Professional Experience

Mr. Couvillion possesses a strong background in scheduling and laboratory procedures. At FCL Mr. Couvillion is responsible for receiving, log-in and labeling of all laboratory samples. He initiates the internal chain-of-custody system and is responsible for the sample storage, transfer and final disposal of containers. His previous experience extracting organic pesticide, herbicide, acid/base and petroleum samples for GC, GCMS and HPLC tests gives him the knowledge of urgency and correctness.

Elena Vinokurov

Position Chemist

Education Kharkov State University, M.S. Chemical Engineering, 1991

FCL Employment 1992 to Present

Professional Experience

At FCL, Ms. Vinokurov has been responsible for Inorganic, Wet Bench Chemistries and Volatile Organic preparation and analyses employing a variety of EPA test methods, utilizing GC instrumentation. She also has experience interpretating and reporting of the GC charts and data. Ms. Vinokurov is currently responsible for the preparation and analysis of trace metals by ICP, ICP/MS, including mercury by cold vapor.

Previous to FCL Ms. Vinokurov was employed as Chemical Engineer at Scientific Technical Complex, Institute of Simple Crystals, Kharkov, Ukraine (former Soviet Union). While employed at the Institute she performed chemical analyses of water, air, and soil samples, synthesis of organic dye substances, and synthesis of optically active substances & investigation of their physical and chemical properties

Ms. Vinokurov is fluent in Ukranian and Russian language as well as technical literature translation into English.

Yana Shatkhina

Position Chemist

Education Tashkent State University, B.S. Biology/Chemistry, 1991

Professional and Business History

Flowers Chemical Laboratories, Inc Chemist 1997 to Present

Professional Experience:

Following her degree, Ms Shatkhina performed various testing regimes at the Gyneocological Institute and the Institute of Biochemistry in Tashkent, Uzbekistan. At FCL Ms. Shatkhina is responsible for the analysis of inorganic parameters, microbiological tests and HPLC analysis employing EPA and Standard Methods protocols.

Peter Wieland

Position	Inorganic Chemist
Education	B.S. Chemistry, Niagara University, 1988

Professional and Business History

Flowers Chemical Laboratories, Inc	Chemist	2002 - Present
Ferro Electronics	QA Chemist	1988 2001
Niacet Corporation	Laboratory Technician	1986 1988

Professional Experience

At FCL Mr. Wieland is responsible for the analysis of several inorganic parameters running the Lachat for nutrients and Traacs autoanalyzers, and TOC analyzer. He employs EPA and Standard Methods protocols in accordance with FCL SOPs.

Darryl L. Jerdine

Position	Semi-Volatiles Chemist
Education	B.A. Major Business - Minor Chemistry Baldwin Wallace College

Professional and Business History

Flowers Chemical Laboratories, Inc.	Chemist	2004 - Present
Test America, Inc.	Extraction Supervisor .	2001-2003

Professional Experience

Mr. Jerdine has numerous years of experience in both the analytical field and the operational procedures of an environmental laboratory.

As a GC Chemist, he is responsible for the scheduling, analysis, interpretation and reporting of all SV methods performed, including PCBs, pesticides, herbicides and petroleum methodologies. Matrices and methodologies include drinking water, wastewater, soils and wastes. He also has experience extracting the various matrices for these organic tests.

Donald Braisted

Position Laboratory Manager, Port St. Lucie

Education B.S. Environmental Technology,
Florida Institute of Technology, 1985

Professional and Business History

FCL-South	Lab Manager	November 2002 - Present

Professional Experience

As Lab Manager, Mr. Braisted is responsible for the day to day operations, including shipping and receiving, sample log-in, scheduling and analysis of drinking water and wastewater samples. He supervises a courier and analysts and is trained in accordance to NELAC standards for the following tests: Total and Fecal Coliform, Enterococci, Heterotropic Plate Count, Total Suspended Solids, Carbonaceous Biochemical Oxygen Demand.

Thomas D. Cross

Position Laboratory Manager, FCL-Keys, Marathon Lab

Education UCF, Orlando, FL 8/1997 – 5/2000

Professional and Business History

FCL-Keys Lab Manager	August, 2014 – Present
FCL Lead Field Technician	February, 2008 – August, 2014
Handlebar Grille, Manager	April 2001 – February 2008
Oviedo Bowling Alley, Mechanic	March 1999 – November 2001

Professional Experience

As Lab Manager, Mr. Cross is responsible for the day to day operations, including shipping and receiving, sample log-in, scheduling and analysis of drinking water and wastewater samples. He supervises a courier and is trained in accordance to NELAC standards for the following tests: Total and Fecal Coliform, Enterococci, Total Suspended Solids, Carbonaceous Biochemical Oxygen Demand.

Insurance Certificate

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 1/23/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Lykes Insurance Inc
400 N Tampa St Ste 1900
Tampa FL 33602-4776

CONTACT NAME: Nancy Kelly Crapo
PHONE (A/C, No, Ext): 813-470-5025 FAX (A/C, No): 813-221-1857
E-MAIL ADDRESS: ncrapo@lykesinsurance.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Indian Harbor	36940
INSURER B : Sentinel Insurance Company Ltd	11000
INSURER C : The Zenith Insurance Co.	13269
INSURER D :	
INSURER E :	
INSURER F :	

INSURED FLOWCHE-01
Flowers Chemical Laboratories Inc
Dr Jeff Flowers
PO Box 150597
Altamonte Springs FL 32715-0597

COVERAGES **CERTIFICATE NUMBER:** 1705511167 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	**GENERAL LIABILITY**			GEC001104815	1/31/2017	1/31/2018	EACH OCCURRENCE	$1,000,000
	X COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$100,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$5,000
							PERSONAL & ADV INJURY	$1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$2,000,000
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$2,000,000
								$
B	**AUTOMOBILE LIABILITY**			21UECPP0303	6/15/2016	6/15/2017	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
A	X **UMBRELLA LIAB** X OCCUR			UEC001353215	1/31/2017	1/31/2018	EACH OCCURRENCE	$1,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$1,000,000
	DED X RETENTION $ 10,000							$
C	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y/N			Z067939111	1/1/2017	1/1/2018	X WC STATU-TORY LIMITS OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? **(Mandatory in NH)**		N/A				E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
A	Pollution Liability			PEC000386916	1/31/2017	1/31/2018	Professional Liab Mitigation Loss Liab Contractors Poll Liab	1,000,000 1,000,000 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER
Flowers Chemical Laboratories,
481 Newburyport Avenue
Altamonte Springs FL 32715

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
William P. Faulkner II

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Standard Operating Procedure List
Technical and Administrative

FCL Administrative SOPs

Section:	Title	Revised Date	Status	Next Review Date
FCL	Quality Management Plan (QMP)	07-26-19 Rev 18	Current	07-31-20
6.00	Chemical Hygiene Plan and Safety Manual	01-21-08 Rev 6	Current	12-01-21
6.10	Fume Hood Verification	01-31-20 Rev 1	Current	12-01-21
6.20	FCL Fleet Safety Program	06-14-18 Rev 1	Current	12-01-21
6.30	Scheduled Safety Inspections	01-31-20 Rev 2	Current	12-01-21
6.40	Employee Safety Training and Verification	10-31-13 Rev 4	Current	12-01-21
6.50	Elevator Safety Inspection	01-31-20 Rev 2	Current	12-01-21
5.01	Document Control	05-05-15 Rev 8	Current	12-01-21
5.02	Maintenance of Computer Data Security	02-14-17 Rev 2	Current	12-01-21
5.03	Computer Data Capture	02-14-17 Rev 2	Current	12-01-21
5.04	Controlling Field Data	02-25-10 Rev 0	Current	12-01-21
5.05	Calibration Technical Requirements	04-01-19 Rev 0	Current	12-01-21
5.06	Preventative Maintenance	10-26-12 Rev 3	Current	12-01-21
5.07	Subcontracting	10-08-19 Rev 4	Current	12-01-21
5.08	Purchasing/Storage of Consumables	01-25-19 Rev 3	Current	12-01-21
5.11	MDL and LOQ Verification	10-31-19 Rev 6	Current	12-01-21
5.12	Prep, Control & Revision of Lab SOPs	12-22-14 Rev 4	Current	12-01-21
5.13	Sample Receiving, Storage, Disposal	08-16-19 Rev 8	Current	12-01-21
5.15	Corrective Action Process	12-02-19 Rev 0	Current	12-01-21
5.19	Login Procedures	07-28-17 Rev 7	Current	12-01-21
5.24	Audits and Quality System Review	08-16-19 Rev 6	Current	12-01-21
5.30	Records Archival	03-05-14 Rev 2	Current	12-01-21
5.31	Client Confidentiality	04-25-14 Rev 2	Current	12-01-21
5.34	Temperature Calibration, Use and Recording	01-25-19 Rev 5	Current	12-01-21
5.35	Autoclave Verification Recording	01-25-19 Rev 3	Current	12-01-21
5.36	Logger and Data Review	12-22-14 Rev 7	Current	12-01-21
5.38	Balance Verification Recording	04-04-17 Rev 3	Current	12-01-21
5.39	Pipette Calibration	06-26-14 Rev 2	Current	12-01-21
5.40	Use and Verification of COC	07-28-17 Rev 3	Current	12-01-21
5.41	Glassware Washing	07-01-09 Rev 2	Current	12-01-21
5.43	Annual Management Review of the Quality System	02-18-10 Rev 4	Current	12-01-21
5.44	New Client Procedure	04-25-14 Rev 4	Current	12-01-21
5.45	Traceability, Labeling & Recording Standards	01-15-15 Rev 2	Current	12-01-21
5.50	Orientation, Training & DOC	08-16-19 Rev 5	Current	12-01-21
5.60	Sample Packing and Kit Request	02-05-10 Rev 1	Current	12-01-21
5.61	Weekend Analysis Samples	12-13-13 Rev 2	Current	12-01-21
5.65	Waste Management & Haz-Waste Sample Disposal	06-20-06 Rev 3	Current	12-01-21
5.66	Laboratory Disciplinary Procedures	06-20-11 Rev 2	Current	12-01-21
5.71	Laboratory Logbooks	07-09-13 Rev 3	Current	12-01-21
5.81	Manual Re-Integration of Chromatographic Peaks	12-22-14 Rev 1	Current	12-01-21
5.82	SOP for Report Production	02-06-15 Rev 3	Current	12-01-21
5.84	Review of Requests, Tenders and Contracts	01-31-19 Rev 2	Current	12-01-21

Flowers Chemical Laboratories, Inc., Technical SOPs

Section	Method	Title	Revised Date	Rev.#	Status	Next Review Date	Reviewed By
1.0		**Inorganics**					
1.01	SM2120B	Color 110.2 and SM2120B	01-30-19	Rev 9	Current	12-01-20	CLL
1.03	SM2340C	Total Hardness	01-30-19	Rev 9	Current	12-01-20	CLL
1.04	Calculations	Langlier Index, H2S, TN, ON, UnNH3, Ca+Mg	09-21-12	Rev 5	Current	12-01-20	CLL
1.05	SM2150B	Odor, SM2150B	01-31-19	Rev 11	Current	12-01-20	CLL
1.07	EPA9045	pH in Sludge, Soil, Wastes	02-14-17	Rev 6	Current	12-01-20	CLL
1.08	SM2540C	Total Dissolved Solids SM2540C	06-29-18	Rev 10	Current	12-01-20	CLL
1.09	SM2540D	Total Suspended Solids SM2540D	06-08-18	Rev 10	Current	12-01-20	CLL
1.10	SM2540B	Total Solids / Moisture SM2540B / (SM2540G	01-31-19	Rev 8	Current	12-01-20	CLL
1.11	EPA 160.4	Volatile Solids EPA160.4	09-29-10	Rev 6	Current	12-01-20	CLL
1.12	EPA 180.1	Turbidity	12-01-15	Rev 7	Current	12-01-20	CLL
1.13	EPA 300.0	Anions by IC	12-01-16	Rev 8	Current	12-01-20	CLL
1.14	FM-871	% Calcium Carbonate Equivalency (non-nelac)	11-15-12	Rev 0	Current	12-01-20	CLL
1.15	EPA 300.1	Anions by IC (Disinfection By-Products)	12-01-16	Rev 1	Current	12-01-20	CLL
1.17	SM4500Cl-E	Chloride, Automated	06-29-18	Rev 13	Current	12-01-20	CLL
1.20	SM4500CNE	Cyanide Micro-distillation and Flow Injection	11-01-12	Rev 1	Current	12-01-20	CLL
1.24	EPA 350.1	Ammonia as N	01-31-19	Rev 9	Current	12-01-20	CLL
1.25	EPA 351.2/365.4	Total Kjeldahl Nitrogen (TKN)/ Total Phosphorus (TP)	01-31-18	Rev 12	Current	12-01-20	CLL
1.27	EPA 353.2	Nitrate+Nitrite, NO2, NO3 Cadmium Reduction	01-31-19	Rev 5	Current	12-01-20	CLL
1.30	EPA 365.1	Ortho Phosphate and Total Phosphorus	01-31-19	Rev 9	Current	12-01-20	CLL
1.33	SM4500S	Sulfide by SM4500S-F and H	03-28-18	Rev 8	Current	12-01-20	CLL
1.34	SM5210B	BOD/CBOD, SM5210B	06-08-18	Rev 21	Current	12-01-20	CLL
1.35	EPA 410.4	Chemical Oxygen Demand by EPA410.4	01-31-19	Rev 9	Current	12-01-20	CLL
1.36	SM5310C	TOC by SM5310C	01-31-19	Rev 11	Current	12-01-20	CLL
1.37	EPA 420.4	Total Phenols	11-01-12	Rev 8	Current	12-01-20	CLL
1.38	SM5540C	Methylene Blue Active Substances, SM5540C	01-31-19	Rev 10	Current	12-01-20	CLL
1.39	EPA 1010	Flashpoint / Ignitability	01-31-19	Rev 8	Current	12-01-20	CLL
1.40	ManTech	Alkalinity, Conductivity, Fluoride, pH	07-20-18	Rev 1	Current	12-01-20	CLL
1.41	EPA 375.2	Sulfate, Automated	01-31-19	Rev3	Current	12-01-20	CLL
1.42	EPA 1664A	HEM & SGT-HEM	05-01-19	Rev 7	Current	12-01-20	CLL
1.58	SW 846 9095	Paint Filter Test (non-nelac)	11-29-19	Rev 1	Current	12-01-20	JSF

Flowers Chemical Laboratories, Inc., Technical SOPs

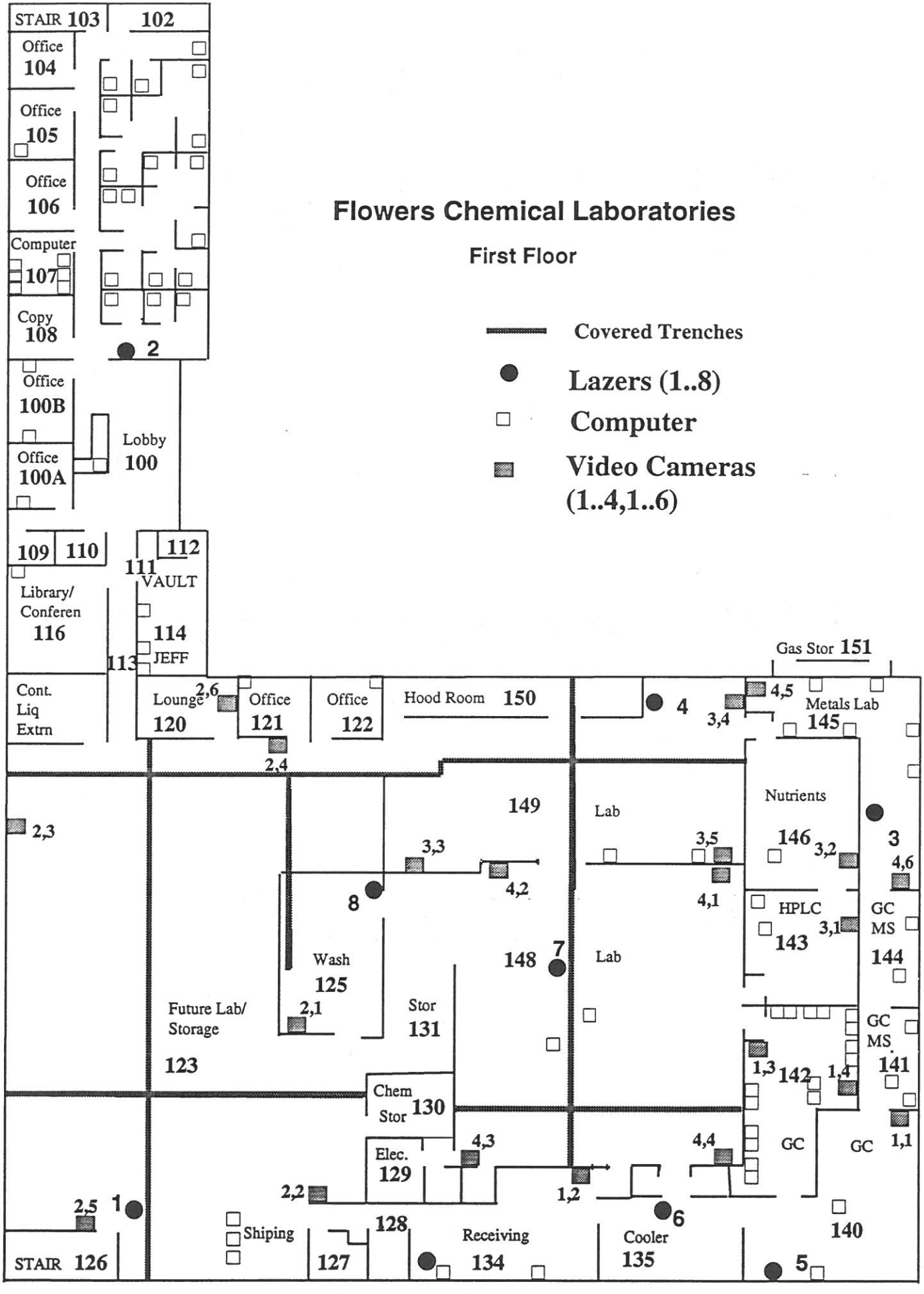
Section	Method	Title	Revised Date	Rev.#	Status	Next Review Date	Reviewed By
1.64	SM 10200H	Chlorophyll A	03-28-18	Rev 7	Current	06-01-19	CLL
1.66	SM 2710 F	Specific Gravity (non-nelac)	06-08-18	Rev 3	Current	06-01-19	CLL
1.72	SM 5550B	Tannins (non-nelac)	01-31-18	Rev 4	Current	12-01-20	CLL
1.73	SM 9223B	Total Coliform & E. Coli by Colilert-18	06-08-18	Rev 3	Current	06-01-19	CLL
1.74	SM 9215B	Heterotropic Plate Count	07-01-19	Rev 9	Current	12-01-20	CLL
1.78	SM 9222D	Fecal Coliform (FCL-S lab only)	09-01-14	Rev 10	Retiring	12-01-20	CLL
1.79	SM 9020B	Microbiological QC	07-17-19	Rev 2	Current	12-01-20	CLL
1.80	SM 9221E	Fecal Coliform, Most Probable Number	08-05-08	Rev 7	Current	12-01-20	CLL
1.83	SM 5910B	UV254 (non-nelac)	12-13-13	Rev 1	Current	12-01-20	JSF
1.85	IDEXX	Legiolert-Elite	01-12-18	Rev 0	Current	01-12-18	CLL
1.86	SM 5560C	Volatile Acids (non-nelac)	01-21-08	Rev 0	Current	12-01-20	CLL
1.89	IDEXX	Enterolert-Quanti Tray	06-08-18	Rev 1	Current	12-01-20	CLL
1.90	IDEXX	Colilert-18-Quanti Tray (Total, Fecal, E.coli)	06-08-18	Rev 1	Current	06-01-19	CLL

Section	Method	Title	Revised Date	Rev.#	Status	Next Review Date	Reviewed By
2.0		**Organics**					
2.01	EPA 504/8011	EDB, DBCP & 123TCP	11-26-14	Rev 8	Current	12-01-20	JSF
2.02	EPA 505	Microextraction Pesticides & PCB's	05-17-19	Rev 10	Current	12-01-20	JSF
2.06	515.4/8151	Microextraction Chlorinated Herbicides GC/ECD	05-01-19	Rev 12	Current	12-01-20	JSF
2.07	EPA524.2	Volatile Organics GC/MS Capillary Column	05-01-19	Rev 12	Current	12-01-20	JSF
2.08	EPA525.2	Semi-Volatile Organics GC/MS Cap Column	05-01-19	Rev 9	Current	12-01-20	JSF
2.09	EPA 531.1	N- Methyl Carbamates	07-17-19	Rev 8	Current	12-01-20	JSF
2.10	EPA 547	Glyphosate	07-17-19	Rev 9	Current	12-01-20	JSF
2.11	EPA 548.1	Endothal by GC/MS	12-22-14	Rev 4	Current	12-01-20	JSF
2.12	EPA 549.2	Diquat	05-01-19	Rev 9	Current	12-01-20	JSF
2.13	EPA 552.3	Haloacetic Acids	05-17-19	Rev 2	Current	12-01-20	JSF
2.20	SM5710B	THM and HAA Potential	07-20-18	Rev 1	Current	12-01-20	JSF
2.48	EPA 608.3/8182	Organochlorine Pesticides & PCBs 608.3/8081B/8082A	06-29-18	Rev 5	Current	12-01-20	JSF
2.53	EPA 8260/624.1	VOCs GC/MS Capillary Column 624.1/8260B	05-01-19	Rev 10	Current	12-01-20	JSF
2.54	EPA 625.1/8270	BNA's & Semi Volatile Organics GC/MS 625.1/8270D	07-20-18	Rev 11	Current	12-01-20	JSF
2.62	FL-PRO	Petroleum Range Organics	01-21-19	Rev 4	In Review	12-01-20	JSF
2.85	EPA1666A	Pharmaceutical VOC's by GC/MS	04-15-15	Rev 3	Current	12-01-20	JSF

Flowers Chemical Laboratories, Inc., Technical SOPs

Section	Method	Title	Revised Date	Rev.#	Status	Next Review Date	Reviewed By
3.0		**Metals**					
3.08	200.7/6010	Metals by ICP 200.7 and 6010D	07-20-18	Rev 11	Current	12-01-20	CLL
3.10	200.8/6020	Metals by ICP-MS 200.8 and 6020B	07-20-18	Rev 8	Current	12-01-20	CLL
3.12	EPA 245.1	Mercury 245.1 and 7470A	11-21-12	Rev 8	Current	12-01-20	CLL
3.16	EPA 7471A	Mercury in Soil	12-05-12	Rev 6	Current	12-01-20	CLL
3.18	3500Cr-B	Hexavalent Chromium	02-28-18	Rev 7	Current	12-01-20	CLL
4.0		**Preparation**					
4.01	EPA 1311	Toxicity Characteristic Leaching Procedure TCLP	05-07-10	Rev 4	Current	12-01-20	JSF
4.02	EPA 1312	Synthetic Precipitate Leaching Procedure SPLP	08-30-12	Rev 6	Current	12-01-20	JSF
4.03	EPA3005A	Acid Digestions for Total and Dissolved Metals	07-20-18	Rev 7	Current	12-01-20	CLL
4.05	EPA 3050B	Acid Digestions for Metals in Soil, Sludge, Sediment	05-15-19	Rev 3	In Review	12-01-20	CLL
4.07	EPA 3510C	Liquid/Liquid Extraction	07-20-18	Rev 4	Current	12-01-20	JSF
4.08	EPA 3520C	Continuous Liquid/Liquid Extraction	04-01-19	Rev 8	Current	12-01-20	JSF
4.11	EPA 3580	Waste Dilution	06-10-05	Rev 2	Current	12-01-20	JSF
4.13	EPA 3546	Soil XCell System – Pressurized Fluid Extraction	04-11-15	Rev 2	Current	12-01-20	JSF
4.14	EPA3535A	Solid Phase Extraction – PAH SIM	07-15-13	Rev 0	Current	12-01-20	JSF
4.16		Solvent Recovery	12-02-03	Rev 4	Current	12-01-20	JSF
4.18		Homogenization and Subsampling of Samples	11-18-06	Rev 2	Current	12-01-20	JSF

Facility Floor Plan


Flowers Chemical Laboratories
First Floor
Covered Trenches
Lazers (1..8)
Computer
Video Cameras (1..4,1..6)
STAIR 103
102
Office 104
Office 105
Office 106
Computer 107
Copy 108
2
Office 100B
Office 100A
Lobby 100
109
110
112
111 VAULT
Library/ Conferen 116
114 JEFF
113
Cont. Liq Extrn
Lounge 120
2,6
Office 121
Office 122
Hood Room 150
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Gas Stor 151
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4,5
3,4
Metals Lab 145
149
Lab
Nutrients 146
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4,2
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HPLC 143
3,1
GC MS 144
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Lab
Wash 125
2,1
Future Lab/ Storage 123
Stor 131
GC MS 141
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142
1,4
1,1
Chem Stor 130
Elec. 129
4,3
4,4
GC
GC
2,2
1,2
6
2,5
1
Shiping
128
Receiving 134
Cooler 135
140
STAIR 126
127
5

Analytical Instrumentation and Equipment

Analytical Instrumentation and Equipment

FCL has an abundance of equipment to meet and expedite any requested turnaround time. All major laboratory instrumentation is isolated from the main laboratory in separate rooms. These rooms are well-ventilated and free from the contamination frequently associated with open access areas. Important accessory equipment such as computers, integrators and auto sequences are protected from power surges and outages by an Uninterruptable Power Supply (UPS). A list of our major laboratory instrumentation including: Gas Chromatograph/Mass Spectrometer, Gas Chromatographs, HPLC, ICP-MS, ICP, Traacs, ManTech, Lachat Lab Instruments, and General Laboratory equipment is provided herein.

FCL Folder/Equipment, or Transfer Template/Quality System/

FCL Equipment Inventory last update 4/17/14

Asset Number	Property Description	MANUFACT	SERIAL NUMBER	LOCAT	DATE in SERVICE
	Computer Equipment				
1	NeXT computer			FCL	3/23/1993
306	Accounting Computer	Cheap Guys		FCL	2007
4	Apple Computer (Database Machine			FCL	2/6/2002
5	Lexmark T620 Printer			FCL	2/12/2002
6	Apple Computer			FCL	12/1/2001
9	Mac Computer (Comp USA)			FCL	1/15/2003
12	Computer for Lab (Mark Rusler)			FCL	8/3/2004
273	Corre Duo Mac Pro			FCL	9/15/2006
375	Toshiba 4200PlusUPS			FCL	3/1/2010
381	Main Panel and Sub-panel surge suppressor			FCL	5/20/2010
382	Mac Mini			FCL	8/15/2010
383	Claris Control Computer			FCL	2/26/2010
391	June's Laptop MAC Book Air	MAC		FCL	6/15/2011
435	Mac mini 2.5 DC	MAC	C047JR4N8DWYL	FCL	1/23/2013
442	IMac 27/3.4QC/2X4GB/1TB/GTX775M	MAC	C02LF15PF8J5	FCL	10/31/2013
	Facility				
13	Lab Furniture			FCL	4/15/1989
253	ST Charles Lab Furn			FCL	8/24/1993
254	ST Charles Funme Hood			FCL	12/1/1993
365	Copytronics Lease Areement			FCL	12/24/2008
	GC Semi-Volatile Instruments				
	Gas Chromatographs with FID, PID, ECD, NPD and Thermistor Detectors				
15	5890 Gas Chromatograph	Hewlett Pacl	2631A08786	FCL	12/15/1986
16	FID detector			FCL	12/15/1986
17	5890 Gas Chromatograph with ECD	Hewlett Pacl	3030G11577	FCL	12/15/1999
18	5890 Gas Chromatograph with NPD/ECI	Hewlett Pacl	2750A17590	FCL	3/8/2000
20	5890A, SeriesII GC/ECD	HP/Agilent	3029A29836	FCL	9/27/2002
21	18593B Autosampler	HP/Agilent	3120827143	FCL	9/27/2002
22	Data Station HP7673	Hewlett Pacl	3104A24206	FCL	9/27/2002
245	7673 Auto sampler	Hewlett Pacl	3202A29307	FCL	9/27/2002
246	Data controler station HP 7673	Hewlett Packard		FCL	9/27/2002
247	Computer Semivoc-NT-3	Pentium		FCL	9/27/2002
248	7673 Auto sampler	Hewlett Pacl	3120A27146	FCL	9/27/2002
249	Data controler station HP 7673	Hewlett Packard		FCL	9/27/2002
250	Computer Semivoc-NT-1	Gateway		FCL	9/27/2002
251	7673 Auto sampler	Hewlett Packard		FCL	9/27/2002
252	Data controler station HP 7673A	Hewlett Packard		FCL	9/27/2002
370	Clarius 600 Gas Chromatograph	Perkin Elme	665S10011201	FCL	3/1/2010
	GC/MS Equipment				
39	Sonicator 1510	Bronson	3435A01930	FCL	1/1/2005
263	5975 MSD	Agilent	US54431800	FCL	2/1/2006

264	7683B Injector	Agilent	CN54737605	FCL	2/1/2006
265	6890N Network GC System	Agilent	CN10550115	FCL	2/1/2006
372	Perkin Elmer Auto System	Perkin Elme	610N2091803	FCL	
374	Perkin Elmer Auto System	Perkin Elme	610N2071511	FCL	
366	EST VOC Concentrator	EST		FCL	10/13/2009

GC Volatiles Equipment

Gas Chromatographs for Volatiles Purge and Trap Analysis

49	CR501 Printer	Shimadzu	40127H	FCL	10/15/1993
51	5890 Gas Chromatograph equipped with	Hewlett Pacl	3223A42912	FCL	10/15/1993
52	H.E.D. and P.I.D. Detectors (SUS88EF)	O.I. Analytical		FCL	10/15/1993
53	4430 Power Supply	O.I. Analytic	B426530286	FCL	10/15/1993
54	4430 Power Supply	O.I. Analytic	89-296A	FCL	10/15/1993
55	5200 Detector Controller	O.I. Analytic	A232176	FCL	10/15/1993
56	CR501 Printer	Shimadzu	30186H	FCL	10/15/1993
60	4430 Lamp power supply	O.I. Analytic	4430-REVD	FCL	7/11/1991
61	4420 ECD	O.I. Analytic	2113-8-577	FCL	7/11/1991
64	Auto Sampling Module	O.I. Analytic	177872	FCL	7/11/1991
65	4552 Auto Sampler	O.I. Analytic		FCL	7/11/1991
82	Eclipse Purge and Trap Model 4660	OI Analytica	A409466202P	FCL	1/12/2005
398	GCMS	Alpha Omega		FCL	12/20/2011
399	GCMS	Alpha Omega		FCL	12/20/2011

Metals Instruments

276	CPI MODBlock w/temp control	CPI	05-C0530	FCL	4/6/2007
386	Mercury Analyzer	Cetac	111005QTA	FCL	2/15/2011
420	MiniMod Block	CPI	NA	FCL	10/29/2012
438	Optima 8300 ICP	Perkin Elme	078N1121602	FCL	8/27/2013
439	NexION 300X	Perkin Elme	81XN3090602	FCL	10/21/2013
440	Chiller recirc pump (water)	PolyScience	6160721E4Q1N	FCL	8/27/2013
441	Chiller recirc pump (ethylene glycol)	PolyScience	6160721EQ41N	FCL	8/27/2013

TRAACS Lab Instruments

97	Traacs 800 with Auto Sampler	Bran-Lubbe	89/0123	FCL	3/17/1989
99	AutoSampler	Sci Instrum	9503670	FCL	7/1/1984
100	AutoSampler	Sci Instrum	TCO 367	FCL	7/1/1984
101	Traacs 800 Auto Sampler	Bran-Lubbe	89/0155	FCL	11/4/1997
266	Lachat QuickChem 8500	Lachet	060600000312	FCL	8/8/2006
267	HP Compaq	Lachet	2UA629130V	FCL	8/8/2006
389	Block Digestor BD 40 w/ control	Tecnicon	407111	FCL	4/7/2011
418	Lachat Autoanalyzer	Lachet		FCL	10/29/2012
430	QuickChem FIA	Lachet	A83000-1414	FCL	10/29/2012
431	Reagent Pump	Lachet	A82030-100	FCL	10/29/2012
432	Random Access Sampler	Lachet	213214	FCL	10/29/2012
433	Dell Computer Optiplex 760	Dell	4RJSQJ1	FCL	10/29/2012
434	HPC589A Deskjet Printer 710	HPC	MX96U1W03J	FCL	10/29/2012

HPLC Instruments

123	Series 1100 HPLC equipped with:	Agilent		FCL	1/11/2005
124	Quaternary pump	Agilent	US72102034	FCL	1/11/2005
125	Fluorescence Detector	Agilent	DE82200282	FCL	1/11/2005
126	Pickering Pinnacle PCX post column	Pickering		FCL	1/11/2005
127	Autosampler	Agilent	DE33223817	FCL	1/11/2005
128	Dell Computer			FCL	1/11/2005
396	HPLC			FCL	12/22/2011
	Ion Chromatograph (IC) Instrument				
136	Auto Sampler	Dionex		FCL	2/18/2003
137	Model ISC-90	Dionex	2080428	FCL	2/18/2003
138	Dell Computer	Dell	D422Z511	FCL	2/18/2003
445	ICS-2100	Dionex	11114053	FCL	11/1/2013
	General Laboratory				
395	TOC Analyser 1030D	OI Analytica	N1477326647	FCL	12/22/2011
397	Auto titrator	Man Tech	190G7216	FCL	12/28/2011
	Spectrophotometer				
144	HACH DR/3000	HACH	9.207E+11	FCL	12/20/2002
145	Genesys 2	Spectronic	3N2C178001	FCL	10/11/2001
	Analytical Balances				
147	1702 Balance	Sartorius	35100148	FCL	5/20/1986
151	Scout Pro	Ohaus	7124280684	FCL	9/25/2005
311	Intell-Lab Balance	intelligent	199134/07	FCL	2/7/2008
364	UWE A250U Balance	UWE	901552	FCL	10/16/2009
417	GT410 Balance	Ohaus	38016	FCL	10/29/2012
	Liquid Concentrators				
152	TurboVap II	Zymark	TV951N6148	FCL	12/14/1995
154	TurboVap II	Zymark	TV9429N4156	FCL	12/14/1995
	TCLP Extractors				
361	TCLP Extractor	Dayton		FCL	
156	TCLP Extractor	Dayton	K92F	FCL	3/16/1991
	Headspace Extractors				
158	3-Zero Headspace Extractors	Gillman		FCL	9/27/1996
	Ovens				
159	0130-4H Oven	QC-Lab Equ	65547	FCL	12/2/1979
162	Model STG 80	Precision Scientific		FCL	4/17/1999
163	Muffle furnace 48000	Thermolyne	7.14931E+11	FCL	4/17/1999
275	Soil Moisture Concentration Heater/Bala	OHAUS(Dat:	1128011732	FCL	4/4/2007

405	VWR oven	VWR / 1330	200804	FCL	10/31/2012
406	Scientific Product	Scientific D›	A04300	FCL	10/31/2012
443	Gravity Convection Oven	Thelco	20-AA-5	FCL	5/1/2010

Water Baths

164	Water Bath extractions	Precision Sc	2472	FCL	5/6/1982
166	Hot plate w/ waterbath	Thermolyne	type 2200	FCL	4/17/1999
167	Fecal bath	Blue M	JW 291	FCL	5/6/1982
312	O + G water bath	BUCHI	made by Mark	FCL	2/12/2008
376	Fecal bath	Blue M	M5-1046	FCL	6/2/2010
414	Entero Coliform Bath 2860	Thermo	210099-613	FCL	10/29/2012
416	Water Bath (anarobic)	Precision Sc	13-AF-2	FCL	10/29/2012

Refrigerators

171	Coldpoint Refrigerator	Sears		FCL	7/8/1985
173	Walk-In Refrigerator	Artic		FCL	8/24/1993
174	GDM47 Refrigerator	True Manufa	1065773	FCL	10/5/1994
175	GE Refrigerator	General Ele(	1399908	FCL	10/1/2008
176	61AR Refrigerator	Marvel Indu	92388020	FCL	7/6/1989
180	KitchenAid Refrgerator	KitchenAid		FCL	4/17/1999
181	Refrigerator	Sanyo stainless		FCL	10/5/1994
307	Ice Machine	Scotsman	06061320012789	FCL	11/9/2006
324	Refrigerator	Appliance Direct		FCL	10/3/2008
400	Refrigerator	Whirlpool		FCL	3/20/2012
444	Refrigerator			FCL	1/7/2014
3031	Refrigerator		0503MCBR980W3:	FCL	5/1/2010

Miscellaneous

182	COD Reactor	Hach	7705A19	FCL	7/8/1985
360	COD Reactor	Hach	980800018028	FCL	
183	Block Digestor 2040	Tecator	338	FCL	
184	Block Digestor 2040	Tecator	255	FCL	
185	Turbidimeter(Micro100)	HF Scientific	111228	FCL	12/13/2001
186	Sonic Disruptor VC-500	Sonics & Ma	9847	FCL	11/18/1987
188	Colony Counter	Cambridge]	11288-1	FCL	7/17/1993
189	U.V. Sterilyzer	Millipore	91-2562	FCL	8/16/1994
190	Radiometer	UVX	18142	FCL	6/10/1995
195	Radiation Survey Meter Model 2000	Bicron	B228X	FCL	7/27/1996
196	BOD Incubator Model 815	Precision Sc	WB64710775	FCL	12/15/2000
197	Vanometer	Lab Safety	20026	FCL	10/10/1994
199	NBS Thermometer (-1 to 201 oC)	ERTCO	J 96-127	FCL	1/9/1997
200	Class 2 weights (1g-100g)	Denver Ist.	96-J092982-01	FCL	2/14/1997
201	Class S weights (1mg - 100 g)	Troemner	14342	FCL	5/7/1996
202	Isotemp Incubator	Fisher	B4162155	FCL	
203	Conductivity/Salinity Instrument	YSI 3100	98L0250 AB	FCL	12/1/1998
205	Color comparator	W.H. Curtin		FCL	
206	Mini Vortex	Fisher	2447	FCL	
207	Sonogen-Z	Branson Ins	ITH-80-6	FCL	
209	pH Meter(Chek-Mite)	Corning	4	FCL	6/25/2002
210	pH Meter(Chek-Mite)	Corning	5	FCL	6/25/2002
211	pH-Meter(8000)	VWR	1990	FCL	
213	Flashpoint	Boekel	FP07307-3	FCL	9/1/2005
313	Ktype Thermomoeter	EXTECH	H005906	FCL	2/29/2008

356	Lachat Mini Distillation Block	Lachat	A2000-973	FCL	11/14/2008
359	Bacterial incubator	Hach	9.304E+11	FCL	
367	Carrier A/C 8.5 7.5 TON			FCL	8/25/2009
369	pH tester 30 (micro)	Oakton	1588059	FCL	4/6/2010
368	Ktype Thermomoeter	Cole Parmer	3665085	FCL	3/9/2010
378	coliform incubator 552	pziser		FCL	
380	pHTester2	Oakton	BOD/CBOD	FCL	
384	Block Digestor 48 Place	Velp Scienti	8169	FCL	5/1/2010
392	Dissolved O2 Meter ProDo	YSI	11H100234	FCL	8/30/2011
403	Dissolved O2 Probe	YSI	11G101709	FCL	8/30/2011
393	K8151 Soil-x Cell System	Environmental express		FCL	6/21/2011
401	pH tester 30 (metals)	Oakton	070/01	FCL	
402	Chlorine Meter(pocket colorimeter)	HACH	OE188200	FCL	2/1/2012
404	BOD Incubator Thermo Sci	Thermo Scientific		FCL	10/29/2012
407	Wavelength Standards	Thermo Scie	SA0334	FCL	11/1/2012
408	Total Coliform Incubator	Thelco Lab	160983-90	FCL	10/29/2012
409	Autoclave Model 8000-DSE	Napco	603101066	FCL	10/29/2012
423	Vacuum pump		0523-V4F-582DX	FCL	10/29/2012

Field Instrumentation

216	Salinity/Conductivity Meter Model30/10	YSI	00C0200 AE	FCL	9/1/2000
217	Line Depth Meter Indicator	Solinst	24292	FCL	7/1/1999
219	Chlorine Test Meter	Hanna	HI93701	FCL	5/4/2004
220	Chlorine Test Meter, Model 1200	LaMotte	0125-1397	FCL	5/28/2004
221	Multi Test Meter, Con 11 Series	Oakton	230002	FCLS	12/22/2004
222	pH/Temp Meter, pH 11 Series	Oakton	227275	FCLS	1/6/2005
277	Typhoon ESP Pump and Controller	ProActive		FCL	2004
278	Typhoon ESP Pump and Controller	ProActive		FCLS	2004
279	Typhoon ESP Pump and Controller	ProActive		FCLN	2004
280	Stainless steel Monsoon ESP pump and (	ProActive	1044	FCL	2005
281	YSI 85 DO, Cond, Temp,Salinity	YSI	02D1076AD	FCL	1997
283	YSI 550A DO Meter	YSI	06A1367AE	FCLS	1990
286	HACH Cond/TDS Meter Model 44600-00	HACH	60010-2392	FCLS	1999
287	Water level inndicator Solinst 65'Model	SCL 144	24292	FCL	2001
289	Water level 200'	Model 101	41892	FCL	2005
290	Water level 200'	no model #	NA	FCLN	2003
291	Water level 200'		34393	FCLS	2005
293	TB Meter 2020TB	LaMotte	26856	FCL	2004
294	TB Meter 2020TB	LaMotte	5736-1005	FCLS	2007
295	Bladder Pump	Geo Tech Pr	NA	FCLN	2004
296	Perastaltic Pump	Geo Tech	NA	FCL	2001
297	Perastaltic Pump	Geo Tech	600100-2392	FCLS	2006
298	Chlorine Test Meter, Model 1200	LaMotte	9076-3003	FCL	
301	Vandorian Style Multi Lever Water Sampler			FCL	1997
302	Sampling Poles	Nasco		FCL	2006
303	Stainless steel Monsoon ESP pump and (	ProActive	-	FCLN	2007
304	Sigma 1350		D08925539A	FCL	2007
305	Sigma 1350		D11926132A	FCL	2007
316	Turbidimeter 2020TB	LaMotte	1579-0300	FCL	2008 (used)
317	ORP meter	Oakton	1316224	FCL	2008
318	Wind meter	Kestrel	568034	FCL	2008
319	Flow Probe	Global	67829	FCL	2008
336	pH Stick	Oakton	1293176	FCL	
337	pH Stick	Oakton	1350987	FCL	
338	pH Stick	Oakton		FCL	

339	Chlorine meter	HACH	07020E06437	FCL	
340	Chlorine meter	HACH	ca#58700-00	FCL	
342	Turb meter	LaMotte	5663-0605	FCL	
343	electric centrifical pump	Flow Tec		FCL	
344	3_ HP Gas centrifical pump	Briggs/Straton		FCL	
345	Water Level	Solinst 50'	31180	FCL	
346	Secci Disk			FCL	
347	John 12' Boat			FCL	
348	Trolling Motor			FCL	
354	2 Stage sampling pole			FCL-S	
424	Well Wizard		3207	FCL	10/29/2012
425	Well Wizard		1624	FCL	10/29/2012
426	N Con Sampler		5059711	FCL	10/29/2012
427	N Con Sampler		5059712	FCL	10/29/2012
428	ISCO Portable Sampler		197H01253	FCL	10/29/2012
429	ISCO Portable Sampler		195A01973	FCL	10/29/2012
436	4 Stage portable pump	ProActive		FCL	10/15/2012
437	YSI proffesional plus	YSI	12J100449	FCL	1/22/2013

Office Furniture & Equipment

223	Desks (10), Chairs (31), Files			FCL	4/1/1993
225	Library Book Cases			FCL	8/23/1993
226	New Fax Machine			FCL	12/15/2000
227	Xerox Work Center Copier			FCL	12/15/2000
228	Computer and Printer 2 yr old			FCL	12/15/2000
394	Air conditioning system		RTU-3	FCL	5/10/2011

Transportation

2051	2000 Toyota Tacoma			FCL	2/28/2006
268	2005 Mazda B3000			FCL	1/10/2006
320	2001 Chevy Tahoe			FCL	9/8/2008
309	2005 Ford XLT			FCL	5/22/2007
322	2003 Buick Rendezvous			FCL	10/3/2008
323	2006 Ford F-150 eVAN			FCLS	12/20/2007
270	2003 Chev. 4x4			FCLS	6/27/2006
363	PT Cruser 2008			FCL	4/15/2009
2036	2004 Chevy Colorado Red			FCLN	5/7/2010
1106	2004 Chevy Colorado Yellow			FCLK	5/12/2010
385	2009 Mercedes			FCL	9/29/2010
2037	2008 Ford Ranger			FCLN	4/19/2013
1107	PT Cruser 2007			FCLS	6/3/2013
446	PT Cruser 2006			FCL	11/25/2013
447	Chevy Silverado K1500 side step			FCL	2/1/2014
448	Chevy Silverado K1500			FCL	2/1/2014

Dishwashers

325	Amana			FCL	12/1/2008
328	GE			FCL	12/1/2008
329	GE			FCL	12/1/2008
331	GE			FCL	12/1/2008
332	GE			FCL	12/1/2008
333	Americana			FCL	12/1/2008

335	Kenmore			FCL	12/1/2008
240	RCA model PSD110S-48BA			FCL	8/31/1993

South Lab

1000	Wirlpool Refridgerator	Whirlpool	541612412	FCLS	12/15/2000
1001	Small GE Refridgerator	GE	RM133734	FCLS	12/15/2000
1002	Precision Drying Oven	Precision	699101280	FCLS	12/15/2000
1004	Fisher Isotemp500	Fisher	300079	FCLS	12/15/2000
1005	Fisher Isotemp525	Iso Temp	300079	FCLS	12/15/2000
1006	Blue Water Bath entero	Blue M	MW-0993	FCLS	12/15/2000
1007	Water Bath VWR 1285PC fecal	VWR	900599	FCLS	12/15/2000
1008	Tuttnauer Autoclave	Tuttnauer	9906450	FCLS	12/15/2000
1009	Mettler analytical balance H72	Mettler	62837	FCLS	12/15/2000
1010	Miscellaneous Equipment			FCLS	12/15/2000
1021	Incubator CBOD	Precision	9406-026	FCLS	12/15/2000
1013	Conductivity meter YSI 310	YSI	01A0002	FCLS	12/15/2000
1014	Oxygen meter YSI 58	YSI	2704	FCLS	12/15/2000
1015	Drying oven	QL	9305125	FCLS	12/15/2000
1016	Weight set		10991	FCLS	12/15/2000
1017	Weight set			FCLS	12/15/2000
1022	DI system	Siemens		FCLS	12/15/2000
1018	pH meter	Corning	10991	FCLS	12/15/2000
1019	Ohaus Pan Scale	OHAUS	2787	FCLS	12/15/2000
1020	Conlony Counter/Quebec	American Optic		FCLS	12/15/2000
1099	Non-Compete Agreeement			FCLS	12/15/2000
1100	Ice Machine	Scotsman	06061320012789	FCLS	11/9/2006
1101	Refrigerator HTR17DBSDRWW	GE Hotpoint	HS796387	FCLS	9/1/2009
1102	pH meter	VWR symph	D03989	FCLS	10/31/2009
1103	pH probe	VWR	14002-860	FCLS	2/10/2010
1104	Conductivity probe	YSI	3252	FCLS	2/10/2010
1105	DO probe	YSI	5905	FCLS	2/10/2010

North Lab

413	Total Coliform Incubator	Thelco Lab	697071032S	FCLN	10/29/2012
2004	O2 Probe	Orion model	9708	FCLN	2/15/2006
2028	O2 Probe	Orion model	97-08-99	FCLN	10/31/2009
2038	pH/ISE meter	Orion model	710A	FCLN	10/31/2009
2006	conductivity meter	Fisher		FCLN	2/15/2006
2002	autobalance	Denver Inst.	A-250	FCLN	2/15/2006
2042	oven	Fisher		FCLN	10/31/2009
2026	BOD incubator	Fisher		FCLN	2/15/2006
2043	reagent refrigerator	GE		FCLN	10/31/2009
2013	waterbath incubator	VWR		FCLN	2/15/2006
2014	UV sterrilizer	Millipore		FCLN	2/15/2006
2044	Colony Counter	Leica		FCLN	10/31/2009
2052	3.5 ton Air conditioner	Lennox		FCLN	07/05/11
2053	Autoclave	OCR	A4-37149	FCLN	6/26/2012
2054	Temp recorder	Dickson	SL4/DRG350	FCLN	08/03/12
2055	Temp recorder	Dickson	SL4/DRG350	FCLN	08/03/12
2056	Temp recorder	Dickson	SC3	FCLN	08/03/12
2057	Ice Machene	Manitolack	310199089	FCLN	10/15/12
2058	Balance	Sartorius	2703016	FCLN	01/20/13
2059	Sample refrigerator	Frigidaire	BA33129150	FCLN	08/08/13

	FCL Keys				
3001	Micro incubator	Gallenkamp		FCLK	1/1/1970
3002	CBOD incubator	Lab Line Ins	672	FCLK	1/1/1970
3003	TSS Oven	Precision	12-T-10	FCLK	1/1/1970
3004	Stir/Hot plate	Corning	model PC-320	FCLK	1/1/1990
3005	Entero water bath	Acme Labs	35677	FCLK	1/1/1970
3008	Laptop	Apple iBook	UV3422 KPMRR	FCLK	1/1/2009
3009	Scout Pro Balance	Ohaus	7129321756	FCLK	1/1/2009
3010	Meter Abridged	VWR Sympl	D02431	FCLK	1/1/2009
3013	Air Pump Whisper	Tetra		FCLK	1/1/2009
3014	Pro BOD Probe YSI 5010	YSI	Lot #08L100467	FCLK	1/1/2009
3015	DSL Modem	Motorola	13AK09018188	FCLK	1/1/2012
3016	Telephone	GE	80011425	FCLK	12/9/2008
3019	DO Meter YSI 5000	YSI	08L 101049	FCLK	1/1/2009
3020	Microscope	B&L		FCLK	1/1/1980
3022	Autoclave	National Ap	7-79-1338-168	FCLK	2/10/2009
3026	Coliform Circulating Water Bath	Precision Mc	9403-105	FCLK	5/1/2010
3038	IR Thermometer	Commercial	MS6530H	FCLK	5/1/2012
3039	Oakton pH	Oakton	2122957	FCLK	4/17/2014
	Misc				
2027	Refrig.			FCLN	6/30/1993
2029	Refrig.			FCLN	6/15/1994
2031	Equip.Storage			FCLN	10/27/1994
2033	Trav.Mob.Lab			FCLN	6/30/1996
2034	Misc.Equip.			FCLN	6/30/1999
2035	Cap Equip.2001			FCLN	6/30/2001
	Office				
2049	Comp-Dell			FCLN	7/24/2003
2050	Computer			FCLN	12/19/2003
2060	Fax Machine			FCLN	6/1/1991
2040	Printer/Chairs/Calc.			FCLN	11/9/1998
2041	Cannon Copier			FCLN	3/19/1996
2045	Computer			FCLN	1/10/1998
310	Apple Laptops,Jeff Jay			FCL	11/15/2006
2097	Building - Madison, FL			FCLN	
2098	Land - Madison, FL	3,000		FCLN	
2099	Goodwill/Non Compete Agreement			FCLN	
1011	New South Lab Building Addition			FCLS	12/1/2007

Accreditation and Certification Documents

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E83018

FLOWERS CHEMICAL LABORATORIES
481 NEWBURYPORT AVENUE
ALTAMONTE SPRINGS, FL 32701

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - MICROBIOLOGY, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, NON-POTABLE WATER - EXTRACTABLE ORGANICS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - PESTICIDES-HERBICIDES-PCB'S, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - EXTRACTABLE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - PESTICIDES-HERBICIDES-PCB'S, SOLID AND CHEMICAL MATERIALS - VOLATILE ORGANICS

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: February 13, 2020 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E83018-78-02/13/2020
Supersedes all previously issued certificates

Florida HEALTH

Laboratory Scope of Accreditation

Attachment to Certificate #: E83018-78, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E83018 **EPA Lab Code: FL00091** **(407) 339-5984**

E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
1,1,1-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
1,1,2,2-Tetrachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
1,1,2-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
1,1-Dichloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
1,1-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
1,1-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
1,2,3-Trichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/28/2013
1,2,3-Trichloropropane	EPA 504.1	Group II Unregulated Contaminants	NELAP	3/14/2003
1,2,4-Trichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	6/8/2006
1,2,4-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	Synthetic Organic Contaminants	NELAP	6/1/2001
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	Synthetic Organic Contaminants	NELAP	6/1/2001
1,2-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
1,2-Dichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
1,2-Dichloropropane	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
1,3,5-Trimethylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
1,3-Dichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
1,3-Dichloropropane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
1,4-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	9/12/2006
2,4-D	EPA 515.4	Synthetic Organic Contaminants	NELAP	1/2/2007
2-Butanone (Methyl ethyl ketone, MEK)	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
2-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	1/28/2013
2-Hexanone	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
4-Chlorotoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
4-Isopropyltoluene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
4-Methyl-2-pentanone (MIBK)	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Acetone	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Alachlor	EPA 525.2	Synthetic Organic Contaminants	NELAP	12/17/2015
Aldicarb (Temik)	EPA 531.1	Group I Unregulated Contaminants	NELAP	6/1/2001
Aldicarb sulfone	EPA 531.1	Group I Unregulated Contaminants	NELAP	6/1/2001
Aldicarb sulfoxide	EPA 531.1	Group I Unregulated Contaminants	NELAP	4/23/2015
Aldrin	EPA 505	Group I Unregulated Contaminants	NELAP	6/1/2001
Aluminum	EPA 200.8	Secondary Inorganic Contaminants	NELAP	3/1/2002
Antimony	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/1/2001
Arsenic	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/1/2001

Laboratory Scope of Accreditation

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State Laboratory ID: E83018 **EPA Lab Code: FL00091** **(407) 339-5984**

E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Atrazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	12/17/2015
Barium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/1/2001
Benzene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Benzo(a)pyrene	EPA 525.2	Synthetic Organic Contaminants	NELAP	1/2/2007
Beryllium	EPA 200.8	Primary Inorganic Contaminants	NELAP	3/1/2002
Bromate	EPA 300.1	Primary Inorganic Contaminants	NELAP	4/23/2015
Bromide	EPA 300.1	Primary Inorganic Contaminants	NELAP	4/23/2015
Bromoacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	4/23/2015
Bromobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Bromochloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Bromodichloromethane	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	6/1/2001
Bromoform	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	6/1/2001
Cadmium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/1/2001
Calcium	EPA 200.7	Primary Inorganic Contaminants	NELAP	6/1/2001
Carbofuran (Furadan)	EPA 531.1	Synthetic Organic Contaminants	NELAP	6/1/2001
Carbon disulfide	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Carbon tetrachloride	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Chlorate	EPA 300.1	Primary Inorganic Contaminants	NELAP	4/23/2015
Chlordane (tech.)	EPA 505	Synthetic Organic Contaminants	NELAP	6/1/2001
Chloride	EPA 300.0	Secondary Inorganic Contaminants	NELAP	6/1/2001
Chlorite	EPA 300.1	Primary Inorganic Contaminants	NELAP	4/23/2015
Chloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	4/23/2015
Chlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Chloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Chloroform	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	6/1/2001
Chromium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/1/2001
cis-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
cis-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	6/1/2001
Copper	EPA 200.8	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	6/1/2001
Cyanide	SM 4500CN-E	Primary Inorganic Contaminants	NELAP	6/1/2001
Dalapon	EPA 515.4	Synthetic Organic Contaminants	NELAP	1/2/2007

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E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Di(2-ethylhexyl) phthalate (DEHP)	EPA 525.2	Synthetic Organic Contaminants	NELAP	6/1/2001
Di(2-ethylhexyl)adipate	EPA 525.2	Synthetic Organic Contaminants	NELAP	6/1/2001
Dibromoacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	4/23/2015
Dibromochloromethane	EPA 524.2	Other Regulated Contaminants,Group II Unregulated Contaminants	NELAP	6/1/2001
Dibromomethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Dichloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	4/23/2015
Dichlorodifluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Dichloromethane (DCM, Methylene chloride)	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Dieldrin	EPA 505	Group I Unregulated Contaminants	NELAP	6/1/2001
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 515.4	Synthetic Organic Contaminants	NELAP	1/2/2007
Diquat	EPA 549.2	Synthetic Organic Contaminants	NELAP	6/1/2001
Endothall	EPA 548.1	Synthetic Organic Contaminants	NELAP	6/1/2001
Endrin	EPA 505	Synthetic Organic Contaminants	NELAP	6/1/2001
Escherichia coli	SM 9223 B	Microbiology	NELAP	1/6/2015
Ethylbenzene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Fluoride	EPA 300.0	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	6/1/2001
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 505	Synthetic Organic Contaminants	NELAP	6/1/2001
Glyphosate	EPA 547	Synthetic Organic Contaminants	NELAP	6/1/2001
Heptachlor	EPA 505	Synthetic Organic Contaminants	NELAP	6/1/2001
Heptachlor epoxide	EPA 505	Synthetic Organic Contaminants	NELAP	6/1/2001
Heterotrophic plate count	SM 9215 B	Microbiology	NELAP	3/4/2014
Hexachlorobenzene	EPA 505	Synthetic Organic Contaminants	NELAP	6/1/2001
Hexachlorobutadiene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Hexachlorocyclopentadiene	EPA 505	Synthetic Organic Contaminants	NELAP	6/8/2006
Hexachloroethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Iodomethane (Methyl iodide)	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Iron	EPA 200.7	Secondary Inorganic Contaminants	NELAP	6/1/2001
Isopropylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Lead	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/1/2001
Legionella pneumophilia	FCL SOP1.85 Legiolert-Elite	Microbiology	NELAP	4/16/2018
Magnesium	EPA 200.7	Primary Inorganic Contaminants	NELAP	4/9/2009
Manganese	EPA 200.7	Secondary Inorganic Contaminants	NELAP	6/1/2001
Mercury	EPA 245.1	Primary Inorganic Contaminants	NELAP	6/1/2001

Laboratory Scope of Accreditation

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Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methomyl (Lannate)	EPA 531.1	Group I Unregulated Contaminants	NELAP	10/23/2003
Methoxychlor	EPA 505	Synthetic Organic Contaminants	NELAP	6/1/2001
Methyl chloride (Chloromethane)	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Methyl tert-butyl ether (MTBE)	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
n-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Nickel	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/1/2001
Nitrate	EPA 300.0	Primary Inorganic Contaminants	NELAP	6/1/2001
Nitrate as N	EPA 353.2	Primary Inorganic Contaminants	NELAP	3/29/2006
Nitrite	EPA 300.0	Primary Inorganic Contaminants	NELAP	6/1/2001
Nitrite as N	EPA 353.2	Primary Inorganic Contaminants	NELAP	3/29/2006
n-Propylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	6/1/2001
Orthophosphate as P	EPA 300.0	Primary Inorganic Contaminants	NELAP	6/1/2001
Oxamyl	EPA 531.1	Synthetic Organic Contaminants	NELAP	6/1/2001
PCBs	EPA 505	Synthetic Organic Contaminants	NELAP	4/6/2011
Pentachlorophenol	EPA 515.4	Synthetic Organic Contaminants	NELAP	1/2/2007
pH	SM 4500-H+-B	Primary Inorganic Contaminants	NELAP	4/9/2009
Picloram	EPA 515.4	Synthetic Organic Contaminants	NELAP	1/2/2007
sec-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Selenium	EPA 200.8	Primary Inorganic Contaminants	NELAP	3/1/2002
Silver	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/1/2001
Silvex (2,4,5-TP)	EPA 515.4	Synthetic Organic Contaminants	NELAP	1/2/2007
Simazine	EPA 525.2	Synthetic Organic Contaminants	NELAP	12/17/2015
Sodium	EPA 200.7	Primary Inorganic Contaminants	NELAP	6/1/2001
Styrene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Sulfate	EPA 300.0	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	6/1/2001
Surfactants - MBAS	SM 5540 C	Secondary Inorganic Contaminants	NELAP	6/1/2001
tert-Butylbenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/6/2019
Tetrachloroethylene (Perchloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Thallium	EPA 200.8	Primary Inorganic Contaminants	NELAP	6/1/2001
Toluene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Total coliforms	SM 9223 B	Microbiology	NELAP	1/6/2015
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	6/1/2001
Total haloacetic acids (HAA5)	EPA 552.3	Synthetic Organic Contaminants	NELAP	5/3/2017
Total nitrate-nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	3/29/2006

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Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Total organic carbon	SM 5310 C	Primary Inorganic Contaminants	NELAP	1/28/2013
Total trihalomethanes	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Toxaphene (Chlorinated camphene)	EPA 505	Synthetic Organic Contaminants	NELAP	6/1/2001
trans-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
trans-1,3-Dichloropropene	EPA 524.2	Group II Unregulated Contaminants	NELAP	12/6/2019
Trichloroacetic acid	EPA 552.3	Group I Unregulated Contaminants	NELAP	4/23/2015
Trichloroethene (Trichloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Trichlorofluoromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	6/1/2001
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	3/14/2003
Vanadium	EPA 200.8	Secondary Inorganic Contaminants	NELAP	11/10/2005
Vinyl chloride	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Xylene (total)	EPA 524.2	Other Regulated Contaminants	NELAP	6/1/2001
Zinc	EPA 200.8	Secondary Inorganic Contaminants	NELAP	6/1/2001

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E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	11/10/2005
1,1,1-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2,2-Tetrachloroethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1,2-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,4-Trichlorobenzene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8011	Volatile Organics	NELAP	1/6/2015
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8011	Volatile Organics	NELAP	1/6/2015
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,2-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Dichloropropane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,2-Diphenylhydrazine (as Azobenzene)	EPA 625.1	Extractable Organics	NELAP	1/25/2018
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,4-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	1/25/2018

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Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	3/24/2008
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	7/1/2003
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	11/10/2005
2,4,6-Trichlorophenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
2,4-Dichlorophenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dimethylphenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dinitrophenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,4-Dinitrotoluene (2,4-DNT)	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2,6-Dinitrotoluene (2,6-DNT)	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Chloroethyl vinyl ether	EPA 624.1	Volatile Organics	NELAP	1/25/2018
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Chloronaphthalene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Chlorophenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Hexanone	EPA 8260	Volatile Organics	NELAP	7/1/2003
2-Methyl-4,6-dinitrophenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	11/10/2005

Attachment to Certificate #: E83018-78, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E83018 **EPA Lab Code: FL00091** **(407) 339-5984**

E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
2-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
3,3'-Dichlorobenzidine	EPA 625.1	Extractable Organics	NELAP	1/25/2018
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	11/10/2005
4,4'-DDD	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4,4'-DDE	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4,4'-DDT	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
4-Bromophenyl phenyl ether	EPA 625.1	Extractable Organics	NELAP	1/25/2018
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chloro-3-methylphenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chlorophenyl phenylether	EPA 625.1	Extractable Organics	NELAP	1/25/2018
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	7/1/2003
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	11/10/2005
4-Nitrophenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acenaphthene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Acenaphthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acenaphthylene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Acetone	EPA 8260	Volatile Organics	NELAP	7/1/2003
Acrolein (Propenal)	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Acrolein (Propenal)	EPA 8260	Volatile Organics	NELAP	2/23/2005
Acrylonitrile	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Acrylonitrile	EPA 8260	Volatile Organics	NELAP	2/23/2005
Aldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Alkalinity as CaCO3	SM 2320 B	General Chemistry	NELAP	4/4/2007
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aluminum	EPA 200.8	Metals	NELAP	6/1/2001

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State Laboratory ID: E83018 **EPA Lab Code: FL00091** **(407) 339-5984**

E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aluminum	EPA 6020	Metals	NELAP	7/1/2003
Ammonia as N	EPA 350.1	General Chemistry	NELAP	6/1/2001
Anthracene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Antimony	EPA 200.8	Metals	NELAP	6/1/2001
Antimony	EPA 6020	Metals	NELAP	11/10/2005
Aroclor-1016 (PCB-1016)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1221 (PCB-1221)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1232 (PCB-1232)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1242 (PCB-1242)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1248 (PCB-1248)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1254 (PCB-1254)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Aroclor-1260 (PCB-1260)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Arsenic	EPA 200.8	Metals	NELAP	6/1/2001
Arsenic	EPA 6020	Metals	NELAP	6/1/2001
Barium	EPA 200.8	Metals	NELAP	6/1/2001
Barium	EPA 6020	Metals	NELAP	7/1/2003
Benzene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Benzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Benzidine	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Benzidine	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(a)anthracene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(a)pyrene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(b)fluoranthene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Benzo(g,h,i)perylene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	7/1/2003

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E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Benzo(k)fluoranthene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Beryllium	EPA 200.8	Metals	NELAP	6/1/2001
Beryllium	EPA 6020	Metals	NELAP	7/1/2003
beta-BHC (beta-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	4/4/2007
bis(2-Chloroethoxy)methane	EPA 625.1	Extractable Organics	NELAP	1/25/2018
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	7/1/2003
bis(2-Chloroethyl) ether	EPA 625.1	Extractable Organics	NELAP	1/25/2018
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	7/1/2003
Boron	EPA 6020	Metals	NELAP	11/10/2005
Bromide	EPA 300.0	General Chemistry	NELAP	6/1/2001
Bromobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromodichloromethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Bromoform	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Bromoform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Butyl benzyl phthalate	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Cadmium	EPA 200.8	Metals	NELAP	6/1/2001
Cadmium	EPA 6020	Metals	NELAP	6/1/2001
Calcium	EPA 200.7	Metals	NELAP	6/1/2001
Calcium	EPA 6010	Metals	NELAP	7/1/2003
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbon tetrachloride	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	6/1/2001
Chemical oxygen demand	EPA 410.4	General Chemistry	NELAP	6/1/2001
Chlordane (tech.)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Chloride	EPA 300.0	General Chemistry	NELAP	6/1/2001
Chloride	SM 4500-Cl^- E	General Chemistry	NELAP	4/4/2007
Chlorobenzene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003

Laboratory Scope of Accreditation

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E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Chloroethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Chloroethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chloroform	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Chloroform	EPA 8260	Volatile Organics	NELAP	7/1/2003
Chlorophylls	SM 10200 H	General Chemistry	NELAP	6/1/2001
Chromium	EPA 200.8	Metals	NELAP	6/1/2001
Chromium	EPA 6020	Metals	NELAP	7/1/2003
Chromium VI	SM 3500-Cr B (20th/21st/22nd Ed.)/UV-VIS	General Chemistry	NELAP	4/4/2007
Chrysene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Chrysene	EPA 8270	Extractable Organics	NELAP	7/1/2003
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
cis-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Cobalt	EPA 200.8	Metals	NELAP	6/1/2001
Cobalt	EPA 6020	Metals	NELAP	7/1/2003
Color	SM 2120 B	General Chemistry	NELAP	4/4/2007
Copper	EPA 200.8	Metals	NELAP	6/1/2001
Copper	EPA 6020	Metals	NELAP	6/1/2001
Corrosivity (langlier index)	SM 2330 B	General Chemistry	NELAP	6/1/2001
Cyanide	SM 4500-CN E	General Chemistry	NELAP	4/4/2007
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
delta-BHC	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Di(2-ethylhexyl) phthalate (DEHP)	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dibenz(a,h)anthracene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dibromochloromethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dibromomethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Dieldrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003

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Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Diethyl phthalate	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dimethyl phthalate	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-n-butyl phthalate	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Di-n-octyl phthalate	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	7/1/2003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan I	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan II	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endosulfan sulfate	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Endrin aldehyde	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Enterococci	ENTEROLERT/ QUANTI-TRAY	Microbiology	NELAP	2/22/2016
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	2/22/2016
Ethyl acetate	EPA 1666	Volatile Organics	NELAP	6/1/2001
Ethylbenzene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	2/22/2016
Fluoranthene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Fluoranthene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Fluorene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Fluorene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Fluoride	EPA 300.0	General Chemistry	NELAP	6/1/2001
Fluoride	SM 4500 F-C	General Chemistry	NELAP	4/4/2007
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Heptachlor	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018

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E83018
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481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Heptachlor epoxide	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Hexachlorobenzene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorobutadiene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachlorocyclopentadiene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hexachloroethane	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	7/1/2003
Hydrogen sulfide, un-ionized (calculation)	SM 4500-S H (21st Ed.)	General Chemistry	NELAP	2/23/2005
Ignitability	EPA 1010	General Chemistry	NELAP	7/1/2003
Indeno(1,2,3-cd)pyrene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Iron	EPA 200.7	Metals	NELAP	6/1/2001
Iron	EPA 6010	Metals	NELAP	7/1/2003
Isophorone	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Isophorone	EPA 8270	Extractable Organics	NELAP	7/1/2003
Isopropyl acetate	EPA 1666	Volatile Organics	NELAP	6/1/2001
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	6/1/2001
Lead	EPA 200.8	Metals	NELAP	6/1/2001
Lead	EPA 6020	Metals	NELAP	6/1/2001
Legionella pneumophilia	FCL SOP1.85 Legiolert-Elite	Microbiology	NELAP	4/16/2018
Lithium	EPA 200.7	Metals	NELAP	10/12/2004
Magnesium	EPA 200.7	Metals	NELAP	6/1/2001
Magnesium	EPA 6010	Metals	NELAP	7/1/2003
Manganese	EPA 200.7	Metals	NELAP	6/1/2001
Manganese	EPA 6010	Metals	NELAP	7/1/2003
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Mercury	EPA 245.1	Metals	NELAP	6/1/2001
Mercury	EPA 7470	Metals	NELAP	6/1/2001

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E83018
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481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Methyl bromide (Bromomethane)	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl chloride (Chloromethane)	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Methylene chloride	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Methylene chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Molybdenum	EPA 200.8	Metals	NELAP	6/1/2001
Molybdenum	EPA 6020	Metals	NELAP	11/10/2005
n-Amyl acetate	EPA 1666	Volatile Organics	NELAP	6/1/2001
Naphthalene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Naphthalene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Naphthalene	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Nickel	EPA 200.8	Metals	NELAP	6/1/2001
Nickel	EPA 6020	Metals	NELAP	6/1/2001
Nitrate as N	EPA 300.0	General Chemistry	NELAP	6/1/2001
Nitrate as N	EPA 353.2	General Chemistry	NELAP	3/29/2006
Nitrite as N	EPA 300.0	General Chemistry	NELAP	6/1/2001
Nitrite as N	EPA 353.2	General Chemistry	NELAP	4/4/2007
Nitrobenzene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodimethylamine	EPA 625.1	Extractable Organics	NELAP	1/25/2018
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodi-n-propylamine	EPA 625.1	Extractable Organics	NELAP	1/25/2018
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Nitrosodiphenylamine	EPA 625.1	Extractable Organics	NELAP	1/25/2018
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	7/1/2003
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Oil & Grease	EPA 1664A	General Chemistry	NELAP	6/1/2001
Organic nitrogen	EPA 351.2 - EPA 350.1	General Chemistry	NELAP	10/20/2000
Orthophosphate as P	EPA 300.0	General Chemistry	NELAP	6/1/2001
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	2/23/2005
Pentachlorophenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	7/1/2003

Laboratory Scope of Accreditation

Attachment to Certificate #: E83018-78, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E83018 **EPA Lab Code: FL00091** **(407) 339-5984**

E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
pH	SM 4500-H+-B	General Chemistry	NELAP	4/4/2007
Phenanthrene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Phenanthrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phenol	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Phenol	EPA 8270	Extractable Organics	NELAP	7/1/2003
Phosphorus, total	EPA 365.1	General Chemistry	NELAP	11/10/2010
Phosphorus, total	EPA 365.4	General Chemistry	NELAP	4/28/2003
Picloram	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Potassium	EPA 200.7	Metals	NELAP	6/1/2001
Potassium	EPA 6010	Metals	NELAP	6/1/2001
Pyrene	EPA 625.1	Extractable Organics	NELAP	1/25/2018
Pyrene	EPA 8270	Extractable Organics	NELAP	7/1/2003
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	4/4/2007
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	4/4/2007
Residue-total	SM 2540 B	General Chemistry	NELAP	4/4/2007
Residue-volatile	EPA 160.4	General Chemistry	NELAP	6/1/2001
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Selenium	EPA 200.8	Metals	NELAP	6/1/2001
Selenium	EPA 6020	Metals	NELAP	11/10/2005
Silicon	EPA 200.7	Metals	NELAP	6/1/2001
Silver	EPA 200.8	Metals	NELAP	6/1/2001
Silver	EPA 6020	Metals	NELAP	7/1/2003
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
Sodium	EPA 200.7	Metals	NELAP	6/1/2001
Sodium	EPA 6010	Metals	NELAP	7/1/2003
Strontium	EPA 6020	Metals	NELAP	11/10/2005
Styrene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Sulfate	EPA 300.0	General Chemistry	NELAP	6/1/2001
Sulfate	EPA 375.2	General Chemistry	NELAP	1/2/2007
Sulfide	SM 4500-S F (19th/20th/21st Ed.)/TITR	General Chemistry	NELAP	4/4/2007
Surfactants - MBAS	SM 5540 C	General Chemistry	NELAP	6/1/2001
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Tetrachloroethylene (Perchloroethylene)	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Thallium	EPA 200.8	Metals	NELAP	6/1/2001

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E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Thallium	EPA 6020	Metals	NELAP	7/1/2003
Tin	EPA 6020	Metals	NELAP	11/10/2005
Titanium	EPA 6020	Metals	NELAP	11/10/2005
Toluene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Toluene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	2/22/2016
Total cyanide	EPA 9012	General Chemistry	NELAP	1/28/2013
Total hardness as CaCO3	SM 2340 B	Metals	NELAP	6/1/2001
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	1/2/2007
Total organic carbon	SM 5310 C	General Chemistry	NELAP	1/28/2013
Total Petroleum Hydrocarbons (TPH)	EPA 1664A	General Chemistry	NELAP	6/1/2001
Total Petroleum Hydrocarbons (TPH)	FL-PRO	Extractable Organics	NELAP	7/1/2003
Total phenolics	EPA 420.4	General Chemistry	NELAP	1/28/2013
Total, fixed, and volatile residue	SM 2540 G	General Chemistry	NELAP	6/1/2001
Toxaphene (Chlorinated camphene)	EPA 608.3	Pesticides-Herbicides-PCB's	NELAP	1/25/2018
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	7/1/2003
trans-1,2-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	7/1/2003
trans-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	1/25/2018
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichloroethene (Trichloroethylene)	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Trichlorofluoromethane	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	7/1/2003
Turbidity	EPA 180.1	General Chemistry	NELAP	6/1/2001
Un-ionized Ammonia	DEP SOP 10/03/83	General Chemistry	NELAP	10/20/2000
Vanadium	EPA 200.8	Metals	NELAP	3/14/2003
Vanadium	EPA 6020	Metals	NELAP	11/10/2005
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	7/1/2003
Vinyl chloride	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	7/1/2003
Xylene (total)	EPA 624.1	Volatile Organics	NELAP	1/25/2018
Xylene (total)	EPA 8260	Volatile Organics	NELAP	7/1/2003
Zinc	EPA 200.8	Metals	NELAP	6/1/2001
Zinc	EPA 6020	Metals	NELAP	7/1/2003

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E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	10/23/2003
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	11/8/2001
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	11/8/2001
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	11/8/2001
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,1-Dichloropropene	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,2,3-Trichloropropane	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,2,4-Trichlorobenzene	EPA 8270	Extractable Organics	NELAP	6/1/2001
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	11/8/2001
1,2-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	11/8/2001
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	11/8/2001
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	11/8/2001
1,3-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	11/8/2001
1,3-Dichloropropane	EPA 8260	Volatile Organics	NELAP	6/1/2001
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	11/8/2001
1,4-Dichlorobenzene	EPA 8270	Extractable Organics	NELAP	11/8/2001
1-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	3/24/2008
2,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	6/1/2001
2,2'-Oxybis(1-chloropropane),bis(2-Chloro-1-methylethyl)ether (fka bis(2-Chloroisopropyl) ether	EPA 8270	Extractable Organics	NELAP	6/1/2001
2,4,5-T	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	8/29/2002
2,4,5-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	10/23/2003
2,4,6-Trichlorophenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
2,4-D	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
2,4-DB	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	6/1/2001
2,4-Dichlorophenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
2,4-Dimethylphenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
2,4-Dinitrophenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
2,4-Dinitrotoluene (2,4-DNT)	EPA 8270	Extractable Organics	NELAP	6/1/2001

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E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
2,6-Dinitrotoluene (2,6-DNT)	EPA 8270	Extractable Organics	NELAP	6/1/2001
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	6/1/2001
2-Chloroethyl vinyl ether	EPA 8260	Volatile Organics	NELAP	6/1/2001
2-Chloronaphthalene	EPA 8270	Extractable Organics	NELAP	6/1/2001
2-Chlorophenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
2-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	6/1/2001
2-Hexanone	EPA 8260	Volatile Organics	NELAP	6/1/2001
2-Methyl-4,6-dinitrophenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
2-Methylnaphthalene	EPA 8270	Extractable Organics	NELAP	6/1/2001
2-Methylphenol (o-Cresol)	EPA 8270	Extractable Organics	NELAP	10/23/2003
2-Nitrophenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
3,3'-Dichlorobenzidine	EPA 8270	Extractable Organics	NELAP	6/1/2001
3/4-Methylphenols (m/p-Cresols)	EPA 8270	Extractable Organics	NELAP	11/10/2005
4,4'-DDD	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
4,4'-DDE	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
4,4'-DDT	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
4-Bromophenyl phenyl ether	EPA 8270	Extractable Organics	NELAP	9/18/2003
4-Chloro-3-methylphenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
4-Chlorophenyl phenylether	EPA 8270	Extractable Organics	NELAP	9/18/2003
4-Chlorotoluene	EPA 8260	Volatile Organics	NELAP	6/1/2001
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	10/23/2003
4-Nitrophenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
Acenaphthene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Acenaphthylene	EPA 8270	Extractable Organics	NELAP	6/1/2001
Acetone	EPA 8260	Volatile Organics	NELAP	6/1/2001
Aldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
alpha-BHC (alpha-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Aluminum	EPA 6020	Metals	NELAP	8/29/2002
Anthracene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Antimony	EPA 6020	Metals	NELAP	11/10/2005
Aroclor-1016 (PCB-1016)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	3/14/2003
Aroclor-1221 (PCB-1221)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	3/14/2003
Aroclor-1232 (PCB-1232)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	3/14/2003
Aroclor-1242 (PCB-1242)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	3/14/2003
Aroclor-1248 (PCB-1248)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	3/14/2003
Aroclor-1254 (PCB-1254)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	6/1/2001

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Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aroclor-1260 (PCB-1260)	EPA 8082	Pesticides-Herbicides-PCB's	NELAP	6/1/2001
Arsenic	EPA 6020	Metals	NELAP	3/1/2002
Barium	EPA 6020	Metals	NELAP	6/1/2001
Benzene	EPA 8260	Volatile Organics	NELAP	11/8/2001
Benzidine	EPA 8270	Extractable Organics	NELAP	6/1/2001
Benzo(a)anthracene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Benzo(a)pyrene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Benzo(b)fluoranthene	EPA 8270	Extractable Organics	NELAP	6/1/2001
Benzo(g,h,i)perylene	EPA 8270	Extractable Organics	NELAP	6/1/2001
Benzo(k)fluoranthene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Beryllium	EPA 6020	Metals	NELAP	3/1/2002
beta-BHC (beta-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
bis(2-Chloroethoxy)methane	EPA 8270	Extractable Organics	NELAP	6/1/2001
bis(2-Chloroethyl) ether	EPA 8270	Extractable Organics	NELAP	11/29/2002
Boron	EPA 6020	Metals	NELAP	11/10/2005
Bromobenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	6/1/2001
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	11/8/2001
Bromoform	EPA 8260	Volatile Organics	NELAP	11/8/2001
Butyl benzyl phthalate	EPA 8270	Extractable Organics	NELAP	6/1/2001
Cadmium	EPA 6020	Metals	NELAP	6/1/2001
Calcium	EPA 6010	Metals	NELAP	11/29/2002
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	6/1/2001
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	11/8/2001
Chlordane (tech.)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	11/8/2001
Chloroethane	EPA 8260	Volatile Organics	NELAP	11/8/2001
Chloroform	EPA 8260	Volatile Organics	NELAP	11/8/2001
Chromium	EPA 6020	Metals	NELAP	6/1/2001
Chrysene	EPA 8270	Extractable Organics	NELAP	6/1/2001
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	6/1/2001
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Cobalt	EPA 6020	Metals	NELAP	3/1/2002
Copper	EPA 6020	Metals	NELAP	3/1/2002
Dalapon	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	6/1/2001
delta-BHC	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Di(2-ethylhexyl) phthalate (DEHP)	EPA 8270	Extractable Organics	NELAP	6/1/2001
Dibenz(a,h)anthracene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	3/14/2003
Dibromomethane	EPA 8260	Volatile Organics	NELAP	6/1/2001
Dicamba	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	6/1/2001
Dichloroprop (Dichlorprop)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	6/1/2001
Dieldrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Diethyl phthalate	EPA 8270	Extractable Organics	NELAP	6/1/2001
Dimethyl phthalate	EPA 8270	Extractable Organics	NELAP	6/1/2001
Di-n-butyl phthalate	EPA 8270	Extractable Organics	NELAP	6/1/2001
Di-n-octyl phthalate	EPA 8270	Extractable Organics	NELAP	6/1/2001
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	6/1/2001
Endosulfan I	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Endosulfan II	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Endosulfan sulfate	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Endrin	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Endrin aldehyde	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Endrin ketone	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	6/1/2001
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	11/8/2001
Fecal coliforms	SM 9221 E	Microbiology	NELAP	11/10/2005
Fluoranthene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Fluorene	EPA 8270	Extractable Organics	NELAP	6/1/2001
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Heptachlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Heptachlor epoxide	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Hexachlorobenzene	EPA 8270	Extractable Organics	NELAP	6/1/2001
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Hexachlorobutadiene	EPA 8270	Extractable Organics	NELAP	6/1/2001
Hexachlorocyclopentadiene	EPA 8270	Extractable Organics	NELAP	6/1/2001
Hexachloroethane	EPA 8260	Volatile Organics	NELAP	6/1/2001
Hexachloroethane	EPA 8270	Extractable Organics	NELAP	6/1/2001
Ignitability	EPA 1010	General Chemistry	NELAP	6/1/2001
Indeno(1,2,3-cd)pyrene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	6/1/2001
Iron	EPA 6010	Metals	NELAP	11/29/2002

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Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Isophorone	EPA 8270	Extractable Organics	NELAP	6/1/2001
Isopropylbenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	1/2/2007
Lead	EPA 6020	Metals	NELAP	6/1/2001
Magnesium	EPA 6010	Metals	NELAP	11/29/2002
Manganese	EPA 6010	Metals	NELAP	3/1/2002
MCPA	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	6/1/2001
MCPP	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	10/20/2000
Mercury	EPA 7471	Metals	NELAP	3/14/2003
Methoxychlor	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/14/2003
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	11/8/2001
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	6/1/2001
Methyl tert-butyl ether (MTBE)	EPA 8260	Volatile Organics	NELAP	6/1/2001
Methylene chloride	EPA 8260	Volatile Organics	NELAP	11/8/2001
Molybdenum	EPA 6020	Extractable Organics	NELAP	11/10/2005
Naphthalene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Naphthalene	EPA 8270	Extractable Organics	NELAP	6/1/2001
n-Butylbenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Nickel	EPA 6020	Metals	NELAP	6/1/2001
Nitrobenzene	EPA 8270	Extractable Organics	NELAP	6/1/2001
n-Nitrosodimethylamine	EPA 8270	Extractable Organics	NELAP	6/1/2001
n-Nitrosodi-n-propylamine	EPA 8270	Extractable Organics	NELAP	9/18/2003
n-Nitrosodiphenylamine	EPA 8270	Extractable Organics	NELAP	6/1/2001
n-Propylbenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Pentachlorophenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
Phenanthrene	EPA 8270	Extractable Organics	NELAP	6/1/2001
Phenol	EPA 8270	Extractable Organics	NELAP	6/1/2001
Phosphorus, total	EPA 365.4	General Chemistry	NELAP	1/2/2007
Picloram	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	6/1/2001
p-Isopropyltoluene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Potassium	EPA 6010	Metals	NELAP	11/29/2002
Pyrene	EPA 8270	Extractable Organics	NELAP	11/8/2001
Pyridine	EPA 8270	Extractable Organics	NELAP	3/29/2006
sec-Butylbenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Selenium	EPA 6020	Extractable Organics	NELAP	11/10/2005
Silver	EPA 6020	Metals	NELAP	6/1/2001

Attachment to Certificate #: E83018-78, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E83018 **EPA Lab Code: FL00091** **(407) 339-5984**

E83018
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Silvex (2,4,5-TP)	EPA 8151	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Sodium	EPA 6010	Metals	NELAP	3/1/2002
Strontium	EPA 6020	Extractable Organics	NELAP	11/10/2005
Styrene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	9/20/2012
tert-Butylbenzene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	11/8/2001
Thallium	EPA 6020	Metals	NELAP	3/1/2002
Toluene	EPA 8260	Volatile Organics	NELAP	11/8/2001
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	1/2/2007
Total Petroleum Hydrocarbons (TPH)	FL-PRO	Extractable Organics	NELAP	6/1/2001
Toxaphene (Chlorinated camphene)	EPA 8081	Pesticides-Herbicides-PCB's	NELAP	3/1/2002
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	6/1/2001
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	6/1/2001
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	6/1/2001
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	11/8/2001
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	6/1/2001
Vanadium	EPA 6020	Metals	NELAP	11/10/2005
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	6/1/2001
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	6/1/2001
Xylene (total)	EPA 8260	Volatile Organics	NELAP	11/8/2001
Zinc	EPA 6020	Metals	NELAP	3/14/2003

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E86562

FLOWERS CHEMICAL LABS - SOUTH
571 NW MERCANTILE PLACE SUITE 111
PORT ST. LUCIE, FL 34986

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: February 13, 2020 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E86562-26-02/13/2020
Supersedes all previously issued certificates

Ron DeSantis
Governor

Florida HEALTH

Laboratory Scope of Accreditation

Attachment to Certificate #: E86562-26, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86562 **EPA Lab Code: FL01065** **(772) 343-8006**

E86562
Flowers Chemical Labs - South
571 NW Mercantile Place
Suite 111
Port St. Lucie, FL 34986

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Escherichia coli	SM 9223 B	Microbiology	NELAP	7/30/2015
Total coliforms	SM 9223 B	Microbiology	NELAP	7/30/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 2/13/2020 **Expiration Date: 6/30/2020**

Laboratory Scope of Accreditation

Attachment to Certificate #: E86562-26, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86562 **EPA Lab Code: FL01065** **(772) 343-8006**

E86562
Flowers Chemical Labs - South
571 NW Mercantile Place
Suite 111
Port St. Lucie, FL 34986

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	6/27/2002
Enterococci	ENTEROLERT	Microbiology	NELAP	7/11/2016
Escherichia coli	SM 9223 B	Microbiology	NELAP	7/11/2016
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	7/11/2016
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	4/4/2007
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	7/11/2016

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 2/13/2020 **Expiration Date: 6/30/2020**

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E82405

FLOWERS CHEMICAL LABS - NORTH
812 S.W. HARVEY GREENE DRIVE
MADISON, FL 32340

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E82405-28-07/01/2019
Supersedes all previously issued certificates

Ron DeSantis
Governor

Florida HEALTH

Laboratory Scope of Accreditation

Attachment to Certificate #: E82405-28, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82405 **EPA Lab Code: FL00348** **(850) 973-6878**

E82405
Flowers Chemical Labs - North
812 S.W. Harvey Greene Drive
Madison, FL 32340

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Escherichia coli	SM 9223 B	Microbiology	NELAP	7/8/2015
Total coliforms	SM 9223 B	Microbiology	NELAP	7/8/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2019 **Expiration Date: 6/30/2020**

Laboratory Scope of Accreditation

Attachment to Certificate #: E82405-28, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E82405 **EPA Lab Code: FL00348** **(850) 973-6878**

E82405
Flowers Chemical Labs - North
812 S.W. Harvey Greene Drive
Madison, FL 32340

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	4/4/2007
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	7/26/2001
Enterococci	ENTEROLERT	Microbiology	NELAP	5/17/2016
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	5/17/2016
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	5/17/2016
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	4/4/2007
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	5/17/2016

State of Florida
Department of Health, Bureau of Public Health Laboratories

This is to certify that

E35834

FLOWERS CHEMICAL LABS - KEYS
3980 OVERSEAS HIGHWAY SUITE 103
MARATHON, FL 33050

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E35834-26-07/01/2019
Supersedes all previously issued certificates

Ron DeSantis
Governor

Florida HEALTH

Laboratory Scope of Accreditation

Attachment to Certificate #: E35834-26, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E35834 **EPA Lab Code: FL01174** **(305) 743-8598**

E35834
Flowers Chemical Labs - Keys
3980 Overseas Highway
Suite 103
Marathon, FL 33050

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Escherichia coli	SM 9223 B	Microbiology	NELAP	8/4/2015
Total coliforms	SM 9223 B	Microbiology	NELAP	8/4/2015

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2019 **Expiration Date: 6/30/2020**

Laboratory Scope of Accreditation

Attachment to Certificate #: E35834-26, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E35834 **EPA Lab Code: FL01174** **(305) 743-8598**

E35834
Flowers Chemical Labs - Keys
3980 Overseas Highway
Suite 103
Marathon, FL 33050

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	3/31/2009
Enterococci	ENTEROLERT	Microbiology	NELAP	6/28/2016
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	6/28/2016
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	6/28/2016
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	1/27/2009
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	6/28/2016

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2019 **Expiration Date: 6/30/2020**

GOVERNMENT OF THE VIRGIN ISLANDS OF THE UNITED STATES

DEPARTMENT OF PLANNING AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
45 MARS HILL
FREDERIKSTED, ST. CROIX, VI 00841
PHONE: (340) 773-1082, FAX: (340) 773-9310

May 16, 2017

June S. Flowers
Secretary, Quality Systems
Flowers Chemical Laboratories
481 Newburyport Avenue
Altamonte Springs, FL 32701

Dear Ms. Flowers,

The Department of Planning and Natural Resources, Division of Environmental Protection (DPNR-DEP) is receipt of your e-mail request for reciprocity dated April 26, 2017. Based on e-mail attachments, Flowers Chemical Laboratories is certified for drinking water analysis in the State of Florida. DPNR-DEP has reviewed your current accredited parameters and has determined your methods and parameters are consistent with the policies of the Virgin Islands Drinking Water Program.

Therefore, DPNR-DEP is granting Flowers Chemical Laboratories, certification in the United States Virgin Islands via Reciprocity for list of analytes certified by Florida Department of Health, Bureau of Public Health Laboratories.

Flowers Chemical Laboratories maintains certification in the United States Virgin Islands Department of Planning and Natural Resources, Division of Environmental Protection under the following conditions:

1. Flowers Chemical Laboratories maintains current NELAP certification status to expire June 30, 2017. VI Laboratory certification expires on date of Florida state certification, granted upcoming certification is forwarded to VIDPNR lab certification program.
2. Flowers Chemical Laboratories is certified only for the parameters and test methods governed under current State of Florida Department of Health, Bureau of Public Health Laboratories certification
3. Flowers Chemical Laboratories provides future Proficiency Testing results to VIDPNR.

Any further questions or concerns regarding the above mentioned may be forwarded to Nadalie Joseph, DPNR-DEP Certifying Officer at 340-773-1082.

Sincerely,

Norman D. Williams
Director, DPNR-DEP

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E83033

FLORIDA RADIOCHEMISTRY SERVICES, INC.
5456 HOFFNER RD. SUITE 201
ORLANDO, FL 32812

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - RADIOCHEMISTRY, NON-POTABLE WATER - RADIOCHEMISTRY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E83033-15-07/01/2019
Supersedes all previously issued certificates

Ron DeSantis
Governor

Florida HEALTH

Laboratory Scope of Accreditation

Attachment to Certificate #: E83033-15, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E83033 **EPA Lab Code: FL01113** **(407) 382-7733**

E83033
Florida Radiochemistry Services, Inc.
5456 Hoffner Rd. Suite 201
Orlando, FL 32812

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Gross-alpha	EPA 900.0	Radiochemistry	NELAP	6/28/2001
Gross-beta	EPA 900.0	Radiochemistry	NELAP	6/28/2001
Radium-226	EPA 903.0	Radiochemistry	NELAP	12/15/2003
Radium-226	EPA 903.1	Radiochemistry	NELAP	6/28/2001
Radium-228	EPA Ra-05	Radiochemistry	NELAP	6/28/2001
Uranium	EPA 908.0	Radiochemistry	NELAP	6/28/2001

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2019 **Expiration Date: 6/30/2020**

Laboratory Scope of Accreditation

Attachment to Certificate #: E83033-15, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E83033 **EPA Lab Code: FL01113** **(407) 382-7733**

E83033
Florida Radiochemistry Services, Inc.
5456 Hoffner Rd. Suite 201
Orlando, FL 32812

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Gross-alpha	EPA 900.0	Radiochemistry	NELAP	6/28/2001
Gross-beta	EPA 900.0	Radiochemistry	NELAP	6/28/2001
Radium-226	EPA 903.1	Radiochemistry	NELAP	6/28/2001
Total alpha radium	EPA 903.0	Radiochemistry	NELAP	12/15/2003

Clients and Customers are urged to verify the laboratory's current certification status with the Environmental Laboratory Certification Program.

Issue Date: 7/1/2019 **Expiration Date: 6/30/2020**

Florida Radiochemistry Services, Inc.

5456 Hoffner Ave., Suite 201
Orlando, FL 32812
Ph. 407-382-7733
Fax. 407-382-7744
Email: flradiochemistry@cfl.rr.com
Contact: Michael J. Naumann or Shawn M. Naumann

Florida Radiochemistry Services, Inc. is a qualified laboratory for running radiological analyses in water. The laboratory has been in business since 1997 and has been certified since the beginning. Every year PT samples are analyzed and reported to keep certifications. The President, Michael Naumann, has been doing radiological testing since 1982. The head chemist and QA officer, Shawn Naumann, has been a full time chemist since 2009 and has been working in a laboratory since 2000.

The laboratory has extensive experience in nonpotable water samples. These samples have included groundwater, surface waters, injection wells, backwash and leachate samples. These type of samples are analyzed on almost a daily basis. Due to this the laboratory is prepared for all samples to be analyzed, this includes the intricacies needed to properly analyze complex samples. This includes adjusting counting times, extra steps to prep a sample and analyze a sample to get the most accurate and useable data possible. The laboratory is prepared for any volume of samples to be analyzed. With multiple counting systems, proper laboratory technique and experience, there is no volume of samples that could not be handled and analyzed. Routinely projects of high volume of samples are received are analyzed and reported within the stated time frame per project.

The laboratory has plenty of experience in government contracts. There have been contracts with state governments (Florida, Maryland, North Carolina, etc) as well as projects with national government. These samples have been analyzed in a timely manner and appropriately reported to corresponding government.

3808 Landlubber St. • Orlando, Florida 32812 • 407-924-7489 • snaumann837@gmail.com

Shawn Naumann

Objective

My goal is to bring quality laboratory practices and work experience to the field of Radiochemistry.

Summary

Quality Assurance Officer / Laboratory Director
Specialized in proper laboratory skills
Able to think outside the box to resolve issues that may be outside the norm.
Have 10+ years experience in a laboratory setting as well as independent research
Bausch and Lamb chemistry student of the year

Skills and Accomplishments

Co-author *Spring 2008*

I was a co author in a research project on a Hydrogen sensor using a Palladium catalyst

Chemistry Student *Fall 2002*

Bausch and Laumb chemistry student of the year

Professional Experience

January 1, 2002— Present *Florida Radiochemisty Services, Inc.* *Orlando, Florida*

Quality Assurance Officer / Laboratory Director
Job responsibilities include dealing with all standards, re-training employees, overseeing all work in the laboratory to ensure quality data, deal with any problems in the laboratory, perform regular maintenance on instruments as well as calibrating instruments.

February 2005— March 2006 *Matt Edminston LLC* *Orlando, Florida*

Shutter Installer
Install new decorative shutters in homes.

Education

Degrees

January 2003— December 2009 | *University of Central Florida* | *Orlando, Florida*

Major: Chemistry; Minor: Mathematics

Co-author, Spring 2008

High School

July 1999— April 2003 | *William R. Boone High School* | *Orlando, Florida*

High School Diploma

Professional and Community Memberships

American Chemical Society

Publications

A Hydrogen Sensor using Manganese Dioxide with a Polladium Catalist(Spring 2008), [Publisher]

This was based on research with a lab partner and I. We were staring to make a hydrogen sensor with a Palladium Catalyst in Manganese Dioxide that could be used in hydrogen cars and on possible space crafts and rockets.

Personal Interests

Bowling
Golf
All science activities
[Interest or Hobby]

References

References available upon request.

MICHAEL J. NAUMANN
3808 LANDLUBBER ST.
ORLANDO, FL. 32812

Experience:
Owner Florida Radiochemistry Services - July 1, 1997 to Present.
Responsible for all activities (Analysis, Calibrations, Quality control, Radiation safety)

Radiochemistry supervisor - Orlando Labs, Orlando, FL. April 1992 to June 1997.
Radiation Safety Officer - Orlando Labs, Orlando, FL. April 1992 to June 1997 (License # 492-1)

Duties: Responsible for monitoring all Radiochemical analyses. Supervision of analysis, data review, training, updating SOP's as necessary. Maintaining calibrations and maintainence on all instruments.
Also reponsible for maintaining all radiation safety procedures, swipes tests, and radiation surveys within the laboratory.

Chief Radiochemist - Core Laboratories, Inc. Casper, WY. August 1989 to March 1992.
Radiochemistry Prodution Supervisor - August 1989 to March 1992.

Duties: Responsible for delegation of lab work and priority analysis. Reviewed all radiochemistry data, and calibration SOP's. Responsible for all Alpha spectroscopy and Gamma spectroscopy analysis.
Assisted the lab Health Physisict logging in all radioactive samples and standards.

Radiochemist - Core Laboratories, Inc. Casper, WY. August 1984 to August 1989

Duties: Responsible for performing a variery of Radiochemical analysis. Including (Ra226, Ra228, Gross Alpha and Gross Beta, Polonium, Strontium and all actinide isotopes).

Education:

A.A.S - Mechanical Engineering
Kirkwood Community College
Cedar Rapids, IA

Certifications:

Class - Safety America, Inc

F.E.M.A - Radiation safety an radiation detection (2 day)
Class - Wyoming Emergency Management Association
Class Taught by Brian Simmons - F.A.A. Engineer

Laboratory Equipment List and Reference Standards

14.1 Gas flow proportional alpha / beta counters (located in instrument room).

14.1.1 Gamma Products G542: 24-total detectors (4 drawer system and 2 drawer system) low background alpha / beta counting system. All 16 detectors in G542-01 are working for gross alpha/beta and drawers 1 and 4 also calibrated for Radium 228. System G542-2 is calibrated for Radium 228 analysis. ID: G542-01 & G542-02

14.2 Scintillation Counters (located in instrument room).

14.2.1 Ludlum Instruments model 182 photo-multiplier detectors connected to Ludlum Instruments scalars

14.2.1.1 Photo-multiplier Detectors: Model 182 – ID: PMD-1; PMD-2, PMD-3, PMD-4, PMD-5

14.2.1.2 Scalars: Model 2000 – ID: SC-01; Model 2200 – ID: SC-02; Model 1000 – ID: SC-03, SC-04, SC-05

14.2.1.3 Bubblers for Radium 226 Analysis – Bubbler ID noted on individual bubblers

14.3 Survey Meters (located in instrument room)

14.3.1 Sper Scientific survey meter. GM tube, beta / gamma detection. ID: SM-111, SM-181

14.3.2 Ludlum Instruments model 2200 gamma survey meter connected to model 44-10 detector. Gamma meter ID: GM-01. Gamma detector ID: GMD-01

14.4 Laboratory Balances (located in office room and prep [lab] room)

14.4.1 Sartorius BP 110 S four decimal place analytical balance – 0 to 110 grams. ID: BAL-01

14.4.2 Dhaus EB Series top loader balance. One decimal – 0 to 3000 grams. ID: BAL-02

14.4.3 Sartorius Quintex1102 top loader 2 decimal place analytical balance – 0 to 550 g. ID: BAL-03

14.5 Centrifuges (located in office room and prep [lab] room)

14.5.1 ELMI Centrifuge CM-6MT. ID: CF-01

14.5.2 Thermo Scientific Heraeus Megafuge 8 Centrifuge. ID: CF-02

14.6 pH Meters

14.6.1 Hanna HI991002 pH/ORP meter. ID: pHM-01

14.7 Fume-hoods

14.7.1 A 48” and 72” inch Lab Conco Fumehood and blower motor. 48” ID: FH-01; 72” ID: FH-02

14.8 Hotplates

14.8.1 Thermoscientific Thermolyne 2200 HPA2240M. ID: HP-003

14.8.2 Thermoscientific Thermolyne 2200 HPA 2235M. ID: HP-04

14.8.3 Corning PC600D. ID: HP-01 & HP-02

14.8.4 Microyn SH-5A. ID: HP-05

14.9 Safety Equipment

14.9.1 Safety glasses and lab coats for each employee

14.9.2 First aid kit

14.9.3 Latex gloves

14.9.4 Acid spill kit and caustic spill kit

14.10 Miscellaneous

14.10.1 De-ionized water system

14.10.2 Five gallon containers for disposal of hazardous materials (quantity – 2)

14.10.3 Two plastic drums for hazardous materials (quantity – 2)

14.10.4 Samples containers – 1 gallon, ½ gallon, 1 liter, 40 mL radon vial, used for sample transport.

14.10.5 pH buffers 4, 7, 10, used for pH meter calibration

14.10.6 Various glassware for sample prep (beakers, volumetric flasks, graduated cylinder, pipettes)

14.10.7 Sharp Carousel II Microwave (used only for heating samples and not personal reasons)

14.10.8 Glassware – varying size of beakers, seperatory funnels, pipettes, volumetric flasks, graduated cylinders (including plastic).

14.11 Liquid standard used for sample spiking and instrument calibration: EPA Reference Standards, Analytics traceable standards.

14.12 Point Sources

14.11.1Am241 and Sr90 – Dupont

14.13 Facilities Used.

150 sq. ft. of Prep Room
144 sq. ft. of Log in Area
180 sq. ft of Office Space
180 sq. ft of Instrument Room

Procedures for Calibration and Maintenance of Equipment

15.1 All calibrations, a repair to instrumentation and checking of laboratory dispensers, etc. are done by the QA Officer and/or laboratory director on a routine basis. This is to safeguard against any adjustments made that would alter or give invalid results.

15.2 Lab Balances (Top Loading, Analytical) – Annual: a certified calibration company calibrates balances each year. Daily: weight checks of 0.5g, 1.0g, 10.0g, and 50.0g (and 100.0 g on top loader balance) are checked (for top loader balance weight checks are done only prior to making chemicals used for prep or analysis. This is due to the fact that this/these balances are not used on a daily basis. Results are entered in the balance weight checkbook. All of the following are included in the weight check book: Initials of who ran the daily check, date of the check, recorded weight at each increment, and serial number of calibrated weight check used.

Allowable Limits for Top Loader Balance:

0.5 g	0.5 g
1.0g	0.9 to 1.1g
10.0g	9.8 to 10.2g
50.0g	49.6 to 50.4g
100.0g	99.4 to 100.6g

Allowable Limits for Analytical Balance:

0.5000g	0.4990 to 0.5010g
1.0000g	0.9990 to 1.0010g
10.0000g	9.9990 to 10.0010g
50.0000g	49.9990 to 50.0010g

Allowable Limits for Analytical Top Loader Balance

0.50g	0.48g to 0.52g
1.0g	0.98g to 1.02g
10.0g	9.97g to 10.03g
50.0g	49.95g to 50.05g
100.0g	99.90g to 100.10g

If any weights fall out of range, the balance cannot be used until the problem has been corrected.

15.3 Low Background Alpha / Beta Counters – These counters will be calibrated on an annual basis. This consists of a high voltage plateau and a percent cross talk for each detector. An alpha / beta self - absorption curve will be created annually. Daily or continuing calibrations (daily source counts) – an

alpha point source (Am 241) and a beta point source (Sr 90) with a known activity will be counted in each detector every day prior to counting any samples. These results are recorded on appropriate documents; refer to section 29.0. The counting results must fall within acceptable limits before sample counting can proceed. On a weekly basis backgrounds are counted on each detector and recorded on appropriate document (document use includes daily source counts). Also on a weekly basis gross alpha/beta calibrations checks are performed. They are run and calculated to ensure the results fall within acceptable limits. These results are kept on file.

Radium 226 Counters – Radium 226 sources are counted in each of the detectors daily. The counting results must pass the QA limits before samples can be counted. The Lucas cells used for sample analysis are calibrated annually. Nightly backgrounds are counted on each detector. The background counts per minute are recorded and used for calculations (see radium 226 SOP).

If the counting results do not fall within the quality control no data is to be collected from that detector or cell until results of the daily calibration are acceptable.

15.3.1 After annual calibration there will be a slight change in detector/cell efficiency. If the change is greater than 25% the calibration will be conducted again to check those results. The QA officer and/or laboratory director are to determine if the calibration is acceptable and if is not; then recalibration is to begin immediately. No samples or data is to be reported on any such detector or cell until the calibration is acceptable. On a quarterly basis graphs of each calibration are created to show acceptable levels of control limits.

15.3.2 For calibration on an instrument or cell, the working calibration range is to close to the detector/cell background to be the lower limit of quantitation.

15.3.3 Initial and annual calibration values are used in the calculation of daily or weekly quality control checks/calibration. The calculation and raw data is documented and stored in the appropriate calibration book.

15.4 Any volumetric equipment used in the prep room (lab area) is to be checked on a quarterly basis to verify measurement.

15.4.1 All glassware and volumetric equipment used in the laboratory is calibrated to ensure accuracy by weight/volume. For example of a 10.0 mL pipette is to be checked, the mass of DI-water will determine the accuracy. If any glassware or volumetric equipment does not fall within acceptable limits and cannot be repaired in any way; will be discarded and not used from that point on. This is noted on the glassware calibration sheet.

15.4.2 For instruments that cannot be weighed out such as a 1000.0 mL volumetric flasks or cylinders then they are calibrated by use of a known instrument. For example if calibrating a 1000.0 mL volumetric flask then a 100.00 mL pipette is to be used to fill the volumetric flask to mark. If calibrating a 1000.0 mL graduated cylinder then a 1000.0 mL volumetric flask is to be used to determine if it is acceptable. FRS uses this for the fact that cylinders and any instrument that is not volumetric have a large error in the instrument that cannot be changed.

15.5 For all analysis (Alpha, Beta, Radium 226, Radium 228, Total Radium and Uranium), each of the detectors used is calibrated for the above analytes. (For any of the calibration procedures, see the lab analysis SOPs.)

15.6 Maintenance of Equipment

All instruments and equipment receive routine preventive maintenance. Routine maintenance insures that all equipment is operating under optimum conditions thereby reducing the possibility of malfunction affecting sample results. There are instrument maintenance logbooks available for review.

15.6.1 If for any reason an instrument has to be removed, stored or sent back to the manufacturer the laboratory is to contact that manufacture. The manufacture is then in charge of handling instrument from packing to transporting and then when returning and reassembling instrument.

15.6.2 When an instrument is returned after repair, it is thoroughly calibrated and checked to ensure results are within acceptable values before any sample is to be used or counted in the instrument.

15.6.2.1 The instrument is not to be used for collecting sample data until the re-calibrations are within acceptable calibration range and quality control ranges. A QA officer will perform this calibration.

15.6.3 If it is deemed by QA Officer, CEO, and/or laboratory director that an instrument cannot be used or cannot be repaired then that instrument can be used as replacement parts for any other instrument in the laboratory (example the alpha/beta counters may be to old to get replacement parts so the other instrument not is used may be used for replacement parts).

15.7 Preventative Action.

15.7.1 Preventative actions for instruments and equipment can and do include calibrations of instruments for specific analysis, in-depth of equipment or instruments, removal of bad instruments or equipment, and bringing online a new instrument or equipment. For routine annual calibrations a preventative action form does not need to be filled out for the fact that the calibrations themselves documents associated with them proved the preventative action. For example gross alpha/beta calibrations on a specific drawer that are filed prove the preventative action. These preventative actions usually require multiple steps. For example changing the tank on a gross alpha/beta counter would not be included for a preventative action because it is simple maintenance requiring one step.

15.7.2 For other instances a preventative action form will be filled out. A copy of that form will be found at the end of QA Manual Section 5.0. For example if a new gross alpha/beta counter is purchased and wanting to be used, the form will indicate the steps used to ensure that the instrument is working correctly and will provide acceptable data for calibrations, clients and PT studies. When a preventative action form is filled out and signed by President/CEO or QA Officer it is then kept on file and accessible at any time by the appropriate personnel.

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E86240

PACE ANALYTICAL SERVICES, LLC-POMPANO FL
3610 PARK CENTRAL N.
POMPANO BEACH, FL 33064

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - MICROBIOLOGY, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - MICROBIOLOGY, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E86240-53-07/01/2019
Supersedes all previously issued certificates

Laboratory Scope of Accreditation

Attachment to Certificate #: E86240-53, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86240 EPA Lab Code: FL01273 (954) 582-4300

E86240
Pace Analytical Services, LLC-Pompano FL
3610 Park Central N.
Pompano Beach, FL 33064

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Conductivity	SM 2510 B	Primary Inorganic Contaminants	NELAP	4/15/2011
Escherichia coli	SM 9222 G	Microbiology	NELAP	2/1/2018
Escherichia coli	SM 9223 B	Microbiology	NELAP	3/22/2010
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	3/22/2010
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	2/25/2002
pH	SM 4500-H+-B	Primary Inorganic Contaminants	NELAP	5/21/2007
Total coliforms	SM 9222 B	Microbiology	NELAP	2/25/2002
Total coliforms	SM 9223 B	Microbiology	NELAP	2/25/2002
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	2/25/2002
Turbidity	EPA 180.1	Secondary Inorganic Contaminants	NELAP	4/15/2011

Laboratory Scope of Accreditation

Attachment to Certificate #: E86240-53, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86240 EPA Lab Code: FL01273 (954) 582-4300

E86240
Pace Analytical Services, LLC-Pompano FL
3610 Park Central N.
Pompano Beach, FL 33064

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	2/25/2002
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	2/25/2002
Chromium VI	EPA 7196	General Chemistry	NELAP	7/1/2003
Conductivity	EPA 120.1	General Chemistry	NELAP	2/25/2002
Enterococci	ENTEROLERT/ QUANTI-TRAY	Microbiology	NELAP	10/13/2014
Escherichia coli	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	10/13/2014
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	9/15/2015
Fecal coliforms	SM 9221 E	Microbiology	NELAP	2/25/2002
Fecal coliforms	SM 9222 D	Microbiology	NELAP	2/25/2002
Fecal streptococci	SM 9230 B	Microbiology	NELAP	2/25/2002
Heterotrophic plate count	SIMPLATE	Microbiology	NELAP	6/28/2004
pH	SM 4500-H+-B	General Chemistry	NELAP	5/21/2007
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	5/21/2007
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	5/21/2007
Residue-settleable	SM 2540 F	General Chemistry	NELAP	4/15/2011
Salinity	SM 2520 B	General Chemistry	NELAP	5/8/2003
Total coliforms	SM 9222 B	Microbiology	NELAP	2/25/2002
Total coliforms	SM 9223 B /QUANTI-TRAY	Microbiology	NELAP	10/13/2014
Turbidity	EPA 180.1	General Chemistry	NELAP	2/25/2002
Turbidity	SM 2130 B	General Chemistry	NELAP	2/25/2002

Laboratory Scope of Accreditation

Attachment to Certificate #: E86240-53, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E86240 EPA Lab Code: FL01273 (954) 582-4300

E86240
Pace Analytical Services, LLC-Pompano FL
3610 Park Central N.
Pompano Beach, FL 33064

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Fecal coliforms	SM 9221 E	Microbiology	NELAP	1/9/2006

Pace Analytical®

Florida Operations

Main Laboratory:
8 East Tower Circle | Ormond Beach, FL 32174 | 386.672.5668
Southeast Florida Laboratory:
3610 Park Central Blvd. N. | Pompano Beach, FL 33064 | 954.582.4300
Tampa Bay Laboratory:
110 South Bayview Blvd. | Oldsmar, FL 34677 | 813.855.1844
Jacksonville Service Center:
8021-6 Philips Hwy. | Jacksonville, FL 33256 | 904.738.7160
Miami Lakes Service Center:
6175 NW 153rd St., Ste. 101 | Miami Lakes, FL 33014 | 305.824.3939

General Manager:
Garett Ervin | (386) 676-4839 |
Garrett.Ervin@pacelabs.com

Sales:
Neshmah Castaneda | (561) 322-8627 |
Neshmah.Castaneda@pacelabs.com

Quality Manager:
Tina Buttermore | (386) 676-4804 |
Tina.Buttermore@pacelabs.com

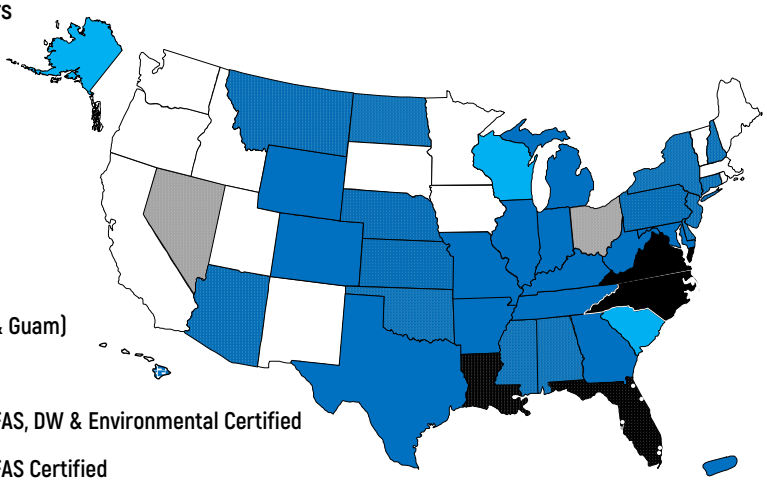
Personnel Overview:
- Number of Personnel - 146

Facilities:
- Ormond Beach - 28,000 ft² full-service laboratory, field sampling/courier services
- Pompano Beach – wet chemistry & microbiological parameters; field sampling/courier services
- Tampa Bay – wet chemistry & microbiological parameters; field sampling/courier services
- Jacksonville Service Center – project management, field sampling/courier services
- Miami Lakes Service Center – field sampling/courier services

Major Instrumentation:
- 14 Gas Chromatograph/Mass Spectrometer Systems
- 12 Gas Chromatograph Systems
- 4 High Pressure Liquid Chromatographs
- 2 Liquid Chromatograph-Mass Spectrometer/Mass Spectrometer Systems
- 3 Lachat Automated Analyzers
- 2 Inductively Coupled Plasma/Mass Spectrometer Systems
- 5 Inductively Coupled Plasma Systems
- 3 Mercury Analyzers
- 1 Low-level Mercury Analyzer
- 6 Ion Chromatographs
- 2 TOC Analyzers

Pace Ormond Beach is open 24/5 Monday – Friday, and 12 hours a day Saturday & Sunday. Pace Florida facilities are connected via daily sample couriers to maximize efficiency and capacity.
Pace Tampa Bay is open 7:00AM - 7:00PM Monday – Friday
Pace Pompano Beach is open 8:00AM – 6:00PM Monday – Friday, 11:00PM – 5:00PM Saturday & Sunday

Capabilities:
- Full-service environmental laboratory testing of waters, soil, and other solid matrices
- Emerging Contaminants testing: PFAS, 1,4-Dioxane & Microcystins
- Drinking and bottled water (DW) laboratory services for:
  - UCMR 3 & 4
  - Synthetic Organic Compounds (SOCs)
  - Volatile Organic Compounds (VOCs)
  - Disinfection Byproducts
  - Experienced with all states' SDWIS reporting systems
  - Primary and Secondary Inorganics
  - Microbiological parameters
  - Radiochemistry
  - Dioxin
  - PFAS
- Rapid Response Program for Emergency Responders
- Field Sampling Services
- EDDs in virtually any format
- PacePort – 24/7 client access to all data, records, and tool to auto-compare data to regulatory and permit limits.



Pace Florida Certifications:

- Full DW Certification (also HI, PR, U.S. Virgin Islands & Guam)
- Partial DW Certified
- DW & Environmental Certified
- PFAS, DW & Environmental Certified
- PFAS Certified & Full DW Certified
- PFAS Certified

Pace FL is UCMR 4 Approved In All States & Territories

Edward Musto

Education and Certifications

University of Central Florida – Orlando, FL
Bachelor of Science in Biology

J.W. Mitchell High School – Trinity, FL
High School Diploma – Magna Cum Lade

Lab Experience

Microbiology Lab – Learned aseptic technique, proper inoculation, and variety of bacterial identification tests including, but not limited to: gram stain, motility, urease, catalase, and oxidase.

Organic Chemistry Lab – Learned use of high tech equipment such as IR spectroscopy, gas chromatography, and rotary evaporator to yield final results of the desired chemical synthesis.

Research Experience

Undergraduate Researcher June 2014 – June 2015

Supervisor: Dr. Ken Fedorka, University of Central Florida, Department of Biology. Served as project lead on a study examining how a cosmopolitan bacteria, *Pseudomonas aeruginosa*, influences the temperature preference of insects and their temperature-dependent survival. Responsible for executing all aspects of the project, including running experiments, collecting and organizing data, culturing animals and bacteria.

Scientific Publications

Fedorka, Kenneth M., Ian C. Kutch, Louisa Collins, and Edward Musto. "Cold Temperature Preference in Bacterially Infected Drosophila Melanogaster Improves Survival but Is Remarkably Suboptimal." Journal of Insect Physiology 93-94 (2016): 36-41.

Professional Presentations

Musto, E., Collins, L., Kutch, I.C. and Fedorka, K. M. The Potential for Parasite Manipulation and Behavioral Fever in *Drosophila melanogaster*. Oral presentation, Southeastern Ecology and Evolution Conference, University of Georgia, Athens, GA, March 2015

Musto, E., and Fedorka, K. M. Do pathogens manipulate their hosts? Poster presentation, Showcase of Undergraduate Research Excellence, University of Central Florida, Orlando, FL, April 2015

Relevant Colligate Coursework

Comparative Vertebrate Anatomy	Evolutionary Biology	Ecology
Animal Physiology	Organic Chemistry I&II	Biology I&II
Microbiology	Independent Research	Genetics
Molecular Cell Biology	Technical Communication	

Relevant Skills

- Proficiency in Microsoft Excel
- Proficiency in JMP Pro 12
- Land survey experience
- Highly knowledgeable in general lab procedures and safety
- Proficiency in aseptic techniques
- Proficient public speaking abilities
- Exceptionally personable
- Skilled in technical writing and presentations

7.5.2 PAS-Pompano Beach Equipment List

Description	Manufacturer	Model	Serial Number	Condition	Location	Internal ID	Manual Location
Analytical Balance	Mettler	AB265-S/FACT	1126452759	Used	Wet Chem	36BAL1	Online
Turbidimeter	Hach	2100AN	14030C024028	New	Wet Chem	36WTA5	Online
pH Meter	Fisher	Accumet AB250	AB92349852	New	Wet Chem	36WTA6	Online
DO Meter	YSI	5000-115	17B101477	New	Wet Chem	36WTA7	Online
Multi Parameter Meter	Hach	HQ430D	150200016108	New	Wet Chem	36WTA8	At Instrument
Salinity Meter	Orion	105A	004265	Used	Wet Chem	36WTA9	Online
ORP Meter	Orion	230A+	021074	Used	Wet Chem	36WTAB	At Instrument
Conductivity Meter	Fisher	AB200	AB92350596	New	Wet Chem	36WTAC	Online
pH Meter	Thermo	Orion 2 Star	B07333	Used	Wet Chem	36WTAD	Online
Walk-In Cooler	American Cold Storage		11259	Used	Custody	SC-001	N/A
Refrigerator	Danby	D1002W	0000810 1040	Used	Wet Chem	WC-001	Online
Incubator	Cole Parm	397C	1883070340256	Used	Wet Chem	MI-006	Online
Incubator	Precision	815	9411-203	Used	Wet Chem	MI-017	Online
Incubator	Precision	815	9504-014	Used	Wet Chem	MI-018	Online
Incubator	Precision	815	9310-032	Used	Wet Chem	MI-019	Online
Incubator	ThermoFisher	Heratherm IGS60	41741240	New	Wet Chem	MI-025	Online
Waterbath	Lindberg Blue	1130	9305-01	Used	Wet Chem	WaterBath -2	Online
Incubator	MesaLabs	1410	14041896	Used	Microbiology	MI-028	Online
DO Meter	HACH	HQ440D	121000079510	New	Wet Chem	DOM-3	At Instrument
Oven	Precision	Fisher 630F	600866	Used	Wet Chem	FU-012	Online
Oven	Fisher	Isotemp 6306	20300036	Used	Wet Chem	FU-015	Online
Oven	Sheldon	1326	09005613	New	Wet Chem	FU-017	Online
Autoclave	Market Forge	STMEL	185784	Used	Microbiology	FU-016	Online
Oven	Baxter	DK-63	A2000036	New	Wet Chem	FU-018	Online
Oven	Baxter	DX61	168009	Used	Wet Chem	FU-022	Online
Oven	Thermo Scientific	0GS750	42206944	Used	Wet Chem	FU-023	Online
Waterbath	Thermo Scientific	TSCIR35	300190521	Used	Wet Chem	MI-031	Online
Waterbath	Thermo Scientific	TSCOL35	300197933	Used	Wet Chem	MI-032	Online
Incubator	Thermo Scientific	Hertherm IGS400	42270439	New	Wet Chem	MI-033	Online
Refrigerator	Kenmore	25370722410	WA90703852	New	Microbiology	MI-034	Online
Incubator	Thermo Scientific	PR505755R	300262179	New	Microbiology	MI-035	Online
Quanti-Tray Sealer	IDEXX	89-0003936-00	13191205021	New	Wet Chem	MI-036	At Instrument
Quanti-Tray Sealer	IDEXX	89-10894-00	14-315-08580	Used	Wet Chem	MI-037	At Instrument
Top Loading Balance	Mettler Toledo	ME4002E	B626691931	Used	Wet Chem	36BAL4	Online

State of Florida
Department of Health, Bureau of Public Health Laboratories
This is to certify that

E81105

THE WATER SPIGOT
5806 EAST HIGHWAY 22
PANAMA CITY, FL 32404

has complied with Florida Administrative Code 64E-1,
for the examination of environmental samples in the following categories

DRINKING WATER - GROUP I UNREGULATED CONTAMINANTS, DRINKING WATER - GROUP II UNREGULATED CONTAMINANTS, DRINKING WATER - MICROBIOLOGY, DRINKING WATER - OTHER REGULATED CONTAMINANTS, DRINKING WATER - PRIMARY INORGANIC CONTAMINANTS, DRINKING WATER - SECONDARY INORGANIC CONTAMINANTS, DRINKING WATER - SYNTHETIC ORGANIC CONTAMINANTS, NON-POTABLE WATER - GENERAL CHEMISTRY, NON-POTABLE WATER - METALS, NON-POTABLE WATER - MICROBIOLOGY, NON-POTABLE WATER - VOLATILE ORGANICS, SOLID AND CHEMICAL MATERIALS - GENERAL CHEMISTRY, SOLID AND CHEMICAL MATERIALS - METALS, SOLID AND CHEMICAL MATERIALS - MICROBIOLOGY

Continued certification is contingent upon successful on-going compliance with the NELAC Standards and FAC Rule 64E-1 regulations. Specific methods and analytes certified are cited on the Laboratory Scope of Accreditation for this laboratory and are on file at the Bureau of Public Health Laboratories, P. O. Box 210, Jacksonville, Florida 32231. Clients and customers are urged to verify with this agency the laboratory's certification status in Florida for particular methods and analytes.

Date Issued: July 01, 2019 Expiration Date: June 30, 2020

Patty A. Lewandowski, MBA, MT(ASCP)
Chief Bureau of Public Health Laboratories
DH Form 1697, 7/04
NON-TRANSFERABLE E81105-43-07/01/2019
Supersedes all previously issued certificates

Ron DeSantis
Governor

Florida HEALTH

Laboratory Scope of Accreditation

Attachment to Certificate #: E81105-43, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
1,1,2-Trichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
1,1-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
1,2,4-Trichlorobenzene	EPA 524.2	Group II Unregulated Contaminants	NELAP	3/7/2011
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	Synthetic Organic Contaminants	NELAP	1/24/2001
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	Synthetic Organic Contaminants	NELAP	1/24/2001
1,2-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
1,2-Dichloroethane	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
1,2-Dichloropropane	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
1,4-Dichlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Alkalinity as CaCO3	SM 2320 B	Primary Inorganic Contaminants	NELAP	6/26/2008
Aluminum	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/22/2003
Antimony	EPA 200.9	Primary Inorganic Contaminants	NELAP	1/24/2001
Arsenic	EPA 200.9	Primary Inorganic Contaminants	NELAP	1/24/2001
Barium	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/22/2003
Benzene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Beryllium	EPA 200.9	Primary Inorganic Contaminants	NELAP	1/11/2006
Bromoacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	4/20/2004
Bromodichloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	3/7/2011
Bromoform	EPA 524.2	Group II Unregulated Contaminants	NELAP	3/7/2011
Cadmium	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/22/2003
Cadmium	EPA 200.9	Primary Inorganic Contaminants	NELAP	5/11/2007
Calcium	EPA 200.7	Primary Inorganic Contaminants	NELAP	8/24/2006
Calcium	SM 3111 B	Primary Inorganic Contaminants	NELAP	6/26/2008
Carbon tetrachloride	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Chloride	SM 4500-Cl^- E	Secondary Inorganic Contaminants	NELAP	6/26/2008
Chloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	4/20/2004
Chlorobenzene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Chloroform	EPA 524.2	Group II Unregulated Contaminants	NELAP	3/7/2011
Chromium	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/22/2003
cis-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Color	SM 2120 B	Secondary Inorganic Contaminants	NELAP	1/24/2001
Conductivity	EPA 120.1	Primary Inorganic Contaminants	NELAP	5/11/2007
Copper	EPA 200.7	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	9/22/2003
Copper	EPA 200.9	Primary Inorganic Contaminants	NELAP	5/11/2007

Laboratory Scope of Accreditation

Attachment to Certificate #: E81105-43, expiration date June 30, 2020. This listing of accredited analytes should be used only when associated with a valid certificate.

State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Copper	SM 3111 B	Secondary Inorganic Contaminants,Primary Inorganic Contaminants	NELAP	5/11/2007
Dibromoacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	4/20/2004
Dibromochloromethane	EPA 524.2	Group II Unregulated Contaminants	NELAP	3/7/2011
Dichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	4/20/2004
Dichloromethane (DCM, Methylene chloride)	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Escherichia coli	COLITAG	Microbiology	NELAP	12/23/2008
Escherichia coli	SM 9223 B	Microbiology	NELAP	1/24/2001
Ethylbenzene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Fluoride	SM 4500 F-C	Primary Inorganic Contaminants,Secondary Inorganic Contaminants	NELAP	1/24/2001
Iron	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/22/2003
Lead	EPA 200.9	Primary Inorganic Contaminants	NELAP	1/24/2001
Magnesium	EPA 200.7	Primary Inorganic Contaminants	NELAP	8/24/2006
Magnesium	SM 3111 B	Primary Inorganic Contaminants	NELAP	6/26/2008
Manganese	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/22/2003
Mercury	EPA 245.1	Primary Inorganic Contaminants	NELAP	1/24/2001
Methyl tert-butyl ether (MTBE)	EPA 524.2	Group II Unregulated Contaminants	NELAP	3/7/2011
Nickel	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/22/2003
Nitrate as N	EPA 353.2	Primary Inorganic Contaminants	NELAP	10/16/2003
Nitrite as N	EPA 353.2	Primary Inorganic Contaminants	NELAP	9/22/2003
Odor	SM 2150 B	Secondary Inorganic Contaminants	NELAP	1/24/2001
pH	SM 4500-H B	Primary Inorganic Contaminants	NELAP	6/26/2008
Potassium	EPA 200.7	Primary Inorganic Contaminants	NELAP	8/24/2006
Potassium	SM 3111 B	Secondary Inorganic Contaminants	NELAP	6/26/2008
Selenium	EPA 200.9	Primary Inorganic Contaminants	NELAP	1/24/2001
Silver	SM 3111 B	Secondary Inorganic Contaminants	NELAP	1/24/2001
Sodium	EPA 200.7	Primary Inorganic Contaminants	NELAP	8/24/2006
Sodium	SM 3111 B	Primary Inorganic Contaminants	NELAP	1/24/2001
Styrene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Sulfate	EPA 375.2	Primary Inorganic Contaminants	NELAP	2/12/2010
Surfactants - MBAS	SM 5540 C	Secondary Inorganic Contaminants	NELAP	1/24/2001
Tetrachloroethylene (Perchloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Thallium	EPA 200.9	Primary Inorganic Contaminants	NELAP	1/24/2001
Toluene	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Total coliforms	COLITAG	Microbiology	NELAP	12/23/2008

Laboratory Scope of Accreditation

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State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Drinking Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Total coliforms	SM 9223 B	Microbiology	NELAP	1/24/2001
Total dissolved solids	SM 2540 C	Secondary Inorganic Contaminants	NELAP	1/24/2001
Total haloacetic acids (HAA5)	EPA 552.2	Synthetic Organic Contaminants	NELAP	4/20/2004
Total nitrate-nitrite	EPA 353.2	Primary Inorganic Contaminants	NELAP	10/16/2003
Total trihalomethanes	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
trans-1,2-Dichloroethylene	EPA 524.2	Other Regulated Contaminants	NELAP	9/18/2018
Trichloroacetic acid	EPA 552.2	Group I Unregulated Contaminants	NELAP	4/20/2004
Trichloroethene (Trichloroethylene)	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Vinyl chloride	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Xylene (total)	EPA 524.2	Other Regulated Contaminants	NELAP	3/7/2011
Zinc	EPA 200.7	Primary Inorganic Contaminants	NELAP	9/22/2003

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State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
1,1,1,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	9/18/2018
1,1,1-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,1,1-Trichloroethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,1,2,2-Tetrachloroethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,1,2,2-Tetrachloroethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,1,2-Trichloroethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,1,2-Trichloroethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,1-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,1-Dichloroethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,1-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,1-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,2,3-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,2,4-Trichlorobenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,2,4-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,2-Dibromo-3-chloropropane (DBCP)	EPA 504.1	Volatile Organics	NELAP	12/23/2008
1,2-Dibromo-3-chloropropane (DBCP)	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 504.1	Volatile Organics	NELAP	12/23/2008
1,2-Dibromoethane (EDB, Ethylene dibromide)	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,2-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,2-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,2-Dichloroethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,2-Dichloroethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,2-Dichloropropane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,2-Dichloropropane	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,3,5-Trimethylbenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,3-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,3-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
1,4-Dichlorobenzene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
1,4-Dichlorobenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
2-Butanone (Methyl ethyl ketone, MEK)	EPA 8260	Volatile Organics	NELAP	3/7/2011
2-Chloroethyl vinyl ether	EPA 624.1	Volatile Organics	NELAP	4/30/2018
2-Hexanone	EPA 8260	Volatile Organics	NELAP	3/7/2011
4-Methyl-2-pentanone (MIBK)	EPA 8260	Volatile Organics	NELAP	3/7/2011
Acetone	EPA 8260	Volatile Organics	NELAP	3/7/2011
Acrolein (Propenal)	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Acrylonitrile	EPA 624.1	Volatile Organics	NELAP	4/30/2018

Laboratory Scope of Accreditation

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State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Alkalinity as CaCO3	SM 2320 B	General Chemistry	NELAP	6/26/2008
Aluminum	EPA 200.7	Metals	NELAP	9/22/2003
Ammonia as N	EPA 350.1	General Chemistry	NELAP	1/24/2001
Antimony	EPA 200.9	Metals	NELAP	6/26/2008
Arsenic	EPA 200.9	Metals	NELAP	6/26/2008
Barium	EPA 200.7	Metals	NELAP	9/22/2003
Benzene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Benzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
Beryllium	EPA 200.9	Metals	NELAP	6/26/2008
Biochemical oxygen demand	SM 5210 B	General Chemistry	NELAP	6/26/2008
Boron	EPA 200.7	Metals	NELAP	3/7/2011
Bromochloromethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
Bromodichloromethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Bromodichloromethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
Bromoform	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Bromoform	EPA 8260	Volatile Organics	NELAP	12/5/2003
Cadmium	EPA 200.7	Metals	NELAP	9/22/2003
Cadmium	EPA 200.9	Metals	NELAP	5/11/2007
Calcium	EPA 200.7	Metals	NELAP	8/24/2006
Calcium	SM 3111 B	Metals	NELAP	6/26/2008
Carbon disulfide	EPA 8260	Volatile Organics	NELAP	12/5/2003
Carbon tetrachloride	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Carbon tetrachloride	EPA 8260	Volatile Organics	NELAP	12/5/2003
Carbonaceous BOD (CBOD)	SM 5210 B	General Chemistry	NELAP	1/24/2001
Chemical oxygen demand	SM 5220 D	General Chemistry	NELAP	1/24/2001
Chloride	SM 4500-Cl^- E	General Chemistry	NELAP	6/26/2008
Chlorobenzene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Chlorobenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
Chloroethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Chloroethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
Chloroform	EPA 624.1	Volatile Organics	NELAP	9/18/2018
Chloroform	EPA 8260	Volatile Organics	NELAP	9/18/2018
Chlorophylls	SM 10200 H	General Chemistry	NELAP	1/21/2004
Chromium	EPA 200.7	Metals	NELAP	9/22/2003
Chromium VI	EPA 7196	General Chemistry	NELAP	5/11/2007
cis-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	12/5/2003

Laboratory Scope of Accreditation

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State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
cis-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
cis-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	12/5/2003
Cobalt	EPA 200.7	Metals	NELAP	9/22/2003
Color	SM 2120 B	General Chemistry	NELAP	6/26/2008
Conductivity	EPA 120.1	General Chemistry	NELAP	1/24/2001
Copper	EPA 200.7	Metals	NELAP	9/22/2003
Copper	EPA 200.9	Metals	NELAP	5/11/2007
Copper	SM 3111 B	Metals	NELAP	6/26/2008
Corrosivity (langlier index)	SM 2330 B	General Chemistry	NELAP	1/24/2001
Dibromochloromethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Dibromochloromethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
Dibromomethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
Dichlorodifluoromethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Dichlorodifluoromethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
Enterococci	ENTEROLERT/ QUANTI-TRAY	Microbiology	NELAP	8/10/2018
Enterococci	EPA 1600	Microbiology	NELAP	1/24/2001
Enterococci	SM 9230 D	Microbiology	NELAP	8/10/2018
Escherichia coli	SM 9223 B	Microbiology	NELAP	8/10/2018
Ethylbenzene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Ethylbenzene	EPA 8260	Volatile Organics	NELAP	12/5/2003
Fecal coliforms	COLILERT®-18 (Fecal Coliforms)	Microbiology	NELAP	8/10/2018
Fecal coliforms	SM 9221 E	Microbiology	NELAP	12/23/2008
Fecal coliforms	SM 9222 D	Microbiology	NELAP	4/21/2004
Hardness (calc.)	SM 3111 B	General Chemistry	NELAP	6/26/2008
Hexachlorobutadiene	EPA 8260	Volatile Organics	NELAP	12/5/2003
Iodomethane (Methyl iodide)	EPA 8260	Volatile Organics	NELAP	3/7/2011
Iron	EPA 200.7	Metals	NELAP	9/22/2003
Kjeldahl nitrogen - total	EPA 351.2	General Chemistry	NELAP	1/24/2001
Lead	EPA 200.9	Metals	NELAP	6/26/2008
Magnesium	EPA 200.7	Metals	NELAP	8/24/2006
Magnesium	SM 3111 B	Metals	NELAP	6/26/2008
Manganese	EPA 200.7	Metals	NELAP	9/22/2003
Mercury	EPA 245.1	Metals	NELAP	9/22/2003
Methyl bromide (Bromomethane)	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Methyl bromide (Bromomethane)	EPA 8260	Volatile Organics	NELAP	12/5/2003

Laboratory Scope of Accreditation

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State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Methyl chloride (Chloromethane)	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Methyl chloride (Chloromethane)	EPA 8260	Volatile Organics	NELAP	12/5/2003
Methylene chloride	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Methylene chloride	EPA 8260	Volatile Organics	NELAP	12/5/2003
Molybdenum	EPA 200.7	Metals	NELAP	9/22/2003
Naphthalene	EPA 8260	Volatile Organics	NELAP	3/19/2010
Nickel	EPA 200.7	Metals	NELAP	9/22/2003
Nitrate as N	EPA 353.2	General Chemistry	NELAP	1/24/2001
Nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	1/24/2001
Nitrite as N	EPA 353.2	General Chemistry	NELAP	9/22/2003
Oil & Grease	EPA 1664A	General Chemistry	NELAP	1/24/2001
Organic nitrogen	TKN minus AMMONIA	General Chemistry	NELAP	3/7/2011
Orthophosphate as P	EPA 365.1	General Chemistry	NELAP	9/18/2018
pH	EPA 9040	General Chemistry	NELAP	7/1/2003
pH	SM 4500-H+-B	General Chemistry	NELAP	6/26/2008
Phosphorus, total	EPA 365.1	General Chemistry	NELAP	1/24/2001
Potassium	EPA 200.7	Metals	NELAP	8/24/2006
Potassium	SM 3111 B	Metals	NELAP	6/26/2008
Residue-filterable (TDS)	SM 2540 C	General Chemistry	NELAP	6/26/2008
Residue-nonfilterable (TSS)	SM 2540 D	General Chemistry	NELAP	6/26/2008
Residue-total	SM 2540 B	General Chemistry	NELAP	6/26/2008
Selenium	EPA 200.9	Metals	NELAP	6/26/2008
Silver	EPA 200.9	Metals	NELAP	3/7/2011
Silver	EPA 272.2	Metals	NELAP	1/24/2001
Silver	SM 3111 B	Metals	NELAP	6/26/2008
Sodium	EPA 200.7	Metals	NELAP	8/24/2006
Sodium	SM 3111 B	Metals	NELAP	6/26/2008
Strontium	EPA 200.7	Metals	NELAP	3/7/2011
Styrene	EPA 8260	Volatile Organics	NELAP	12/5/2003
Sulfate	EPA 375.2	General Chemistry	NELAP	12/23/2008
Surfactants - MBAS	SM 5540 C	General Chemistry	NELAP	6/26/2008
Tetrachloroethylene (Perchloroethylene)	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Tetrachloroethylene (Perchloroethylene)	EPA 8260	Volatile Organics	NELAP	12/5/2003
Thallium	EPA 200.9	Metals	NELAP	6/26/2008
Toluene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Toluene	EPA 8260	Volatile Organics	NELAP	12/5/2003

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State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Non-Potable Water

Analyte	Method/Tech	Category	Certification Type	Effective Date
Total coliforms	SM 9221 B	Microbiology	NELAP	1/24/2001
Total coliforms	SM 9223 B	Microbiology	NELAP	8/10/2018
trans-1,2-Dichloroethylene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
trans-1,2-Dichloroethylene	EPA 8260	Volatile Organics	NELAP	12/5/2003
trans-1,3-Dichloropropene	EPA 624.1	Volatile Organics	NELAP	4/30/2018
trans-1,3-Dichloropropene	EPA 8260	Volatile Organics	NELAP	12/5/2003
trans-1,4-Dichloro-2-butene	EPA 8260	Volatile Organics	NELAP	12/5/2003
Trichloroethene (Trichloroethylene)	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Trichloroethene (Trichloroethylene)	EPA 8260	Volatile Organics	NELAP	12/5/2003
Trichlorofluoromethane	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Trichlorofluoromethane	EPA 8260	Volatile Organics	NELAP	12/5/2003
Turbidity	EPA 180.1	General Chemistry	NELAP	1/24/2001
Un-ionized Ammonia	DEP SOP 10/03/83	General Chemistry	NELAP	1/24/2001
Vanadium	EPA 200.7	Metals	NELAP	9/22/2003
Vinyl acetate	EPA 8260	Volatile Organics	NELAP	3/7/2011
Vinyl chloride	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Vinyl chloride	EPA 8260	Volatile Organics	NELAP	12/5/2003
Xylene (total)	EPA 624.1	Volatile Organics	NELAP	4/30/2018
Xylene (total)	EPA 8260	Volatile Organics	NELAP	12/5/2003
Zinc	EPA 200.7	Metals	NELAP	9/22/2003

Laboratory Scope of Accreditation

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State Laboratory ID: E81105 **EPA Lab Code: FL00098** **(850) 871-1900**

E81105
The Water Spigot
5806 East Highway 22
Panama City, FL 32404

Matrix: Solid and Chemical Materials

Analyte	Method/Tech	Category	Certification Type	Effective Date
Aluminum	EPA 6010	Metals	NELAP	3/7/2011
Arsenic	EPA 6010	Metals	NELAP	1/20/2005
Arsenic	EPA 7060	Metals	NELAP	12/23/2008
Barium	EPA 6010	Metals	NELAP	3/7/2011
Cadmium	EPA 6010	Metals	NELAP	1/20/2005
Chromium	EPA 6010	Metals	NELAP	1/20/2005
Copper	EPA 6010	Metals	NELAP	1/20/2005
Fecal coliforms	SM 9221 E	Microbiology	NELAP	5/11/2007
Iron	EPA 6010	Metals	NELAP	3/7/2011
Kjeldahl nitrogen - total	EPA 351.3	General Chemistry	NELAP	5/11/2007
Lead	EPA 6010	Metals	NELAP	1/20/2005
Lead	EPA 7421	Metals	NELAP	12/23/2008
Manganese	EPA 6010	Metals	NELAP	3/7/2011
Mercury	EPA 7471	Metals	NELAP	1/24/2001
Molybdenum	EPA 6010	Metals	NELAP	1/20/2005
Nickel	EPA 6010	Metals	NELAP	1/20/2005
Organic nitrogen	TKN minus AMMONIA	General Chemistry	NELAP	12/23/2008
Paint Filter Liquids Test	EPA 9095	General Chemistry	NELAP	2/23/2004
pH	EPA 9040	General Chemistry	NELAP	1/24/2001
pH	EPA 9045	General Chemistry	NELAP	1/24/2001
Phosphorus, total	EPA 365.1	General Chemistry	NELAP	5/11/2007
Potassium	EPA 6010	Metals	NELAP	5/11/2007
Residue-fixed	SM 2540 G	General Chemistry	NELAP	12/23/2008
Residue-total	SM 2540 G	General Chemistry	NELAP	8/24/2006
Residue-volatile	SM 2540 G	General Chemistry	NELAP	12/23/2008
Selenium	EPA 6010	Metals	NELAP	1/20/2005
Selenium	EPA 7740	Metals	NELAP	12/23/2008
Synthetic Precipitation Leaching Procedure	EPA 1312	General Chemistry	NELAP	8/10/2018
Total nitrate-nitrite	EPA 353.2	General Chemistry	NELAP	5/11/2007
Total nitrogen	TKN + Total nitrate-nitrite	General Chemistry	NELAP	12/23/2008
Toxicity Characteristic Leaching Procedure	EPA 1311	General Chemistry	NELAP	8/10/2018
Zinc	EPA 6010	Metals	NELAP	1/20/2005

Quality Manual

The Water Spigot, Inc.

5806 East Highway 22
Panama City, FL 32404
Tel: (850) 871-1900
Fax: (850) 871-9303
Email: trish@thewaterspigot.com

Owner: Trish Jackson

This manual covers the entire organization of The Water Spigot, Inc.

We have reviewed this quality manual and recommend its acceptance into policy.

Trish Jackson, President — Date: 12-3-2019

Darrel G. Halsell, Quality Assurance / Technical Director — Date: 3 December 2019

Sally Martin, Microbiology Technical Director — Date: 12.5.2019

Effective Date: 3 December 2019

Version 2019, Revision 1

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POLICY STATEMENT ON QUALITY AND OBJECTIVES OF THE QUALITY SYSTEM

This Quality Manual summarizes the policies and operational procedures associated with The Water Spigot, Inc. in Panama City, Florida. The Water Spigot, Inc. is an independent full-service environmental laboratory that offers comprehensive field sampling and analytical laboratory services. This manual defines the policies, procedures, organizational authority, responsibilities, performance measures and documentation that assure analytical services continually meet a defined standard of quality that is designed to provide clients with data of known and documented quality and, where applicable, demonstrate regulatory compliance. Specific protocols for sample handling, storage, chain of custody, and laboratory analyses, data reduction, corrective action, and reporting are described. Management is completely committed to ethical laboratory practices. All policies and procedures have been structured in accordance with the TNI Standard 2016 EL-V1-ISO-2016-Rev2.1, the applicable EPA requirements, regulations, guidance, technical standards, and the Florida Administrative Code (FAC), Chapter 62-160. Further details on these policies and procedures are contained in this Quality Manual, SOP's and related documents. This Standard is consistent with ISO/IEC 17025:2005 requirements that are relevant to the scope of environmental testing services and thus, the laboratory operates a quality system in conformance with ISO/IEC 17025:2005(E). This Quality Manual, SOPs, and related documentation describe the quality system for The Water Spigot, Inc. All personnel concerned with testing and calibration activities within the laboratory are required to familiarize themselves with the quality documentation and to implement the policies and procedures in their work. The management at The Water Spigot, Inc. is strongly commitment to complying with the TNI Standards and to continually improving the effectiveness of the management system.

The Water Spigot, Inc. performs chemical and microbiological analyses on drinking water, non-potable water and soil samples. Our goal is to produce data that is scientifically valid, defensible, and of known and documented quality in accordance with standards developed by TNI and any applicable state or EPA regulations or requirements.

The Water Spigot is firmly and completely dedicated and committed to providing its' clients with scientifically accurate, validated, and defensible data. The Laboratory currently offers extensive field sampling, trace metals analysis, volatile organic analysis, microbiology analysis, and inorganic analysis. The Laboratory principally serves private homeowners, municipalities, city and state government institutions, military installations, engineering, and industrial firms. In an effort to provide more efficient service there will be an increased use of electronic records.

Management of the Quality Manual

The Quality Manual is reviewed annually by the Quality Manager and laboratory personnel to ensure it still reflects current practices and meets the requirements of any applicable regulations or client specifications. The manual is updated by making a change(s) and then increasing the revision number by one for changes. The cover sheet of the Quality Manual must be re-signed and the Table of Contents is updated whenever the manual is updated.

The Quality Manual is considered confidential within The Water Spigot and may not be altered in anyway except by approval of the Laboratory President and Quality Manager. If it is distributed to external users, it is for the purpose of reviewing The Water Spigot's management system and may not be used for any other purpose without written permission.

MANAGEMENT'S STATEMENT OF STANDARD OF SERVICE

The laboratory's standard of service is defined by the TNI 2016 standards EL-V1-ISO-2016-Rev2.1 and ISO/IEC 17025:2005(E). The Water Spigot, Inc. is committed to providing the testing needed to provide our customers with what they need to meet their personnel and regulatory needs. We are committed to supplying quality defensible analytical data.

Signatures of Compliance

My signature below confirms that I have read and understand all sections of this Quality Manual, Version 2019 Revision 1. Also, my signature below indicates my acceptance and adherence to this Quality Manual in its entirety. The following is a list of statements that I am currently abiding by:

1. I have read all sections of this Quality Manual, Version 2019, Revision 1.
2. I understand and agree to comply with all sections of this Quality Manual, Version 2019, Revision 1.
3. I will not "white-out", obliterate, or scratch out any data. Changes will be made with a single line through the mistake. The day's date, initials of the person, and the reason for the error will also be indicated.
4. I have read, understood, and agree to perform the most recent version of the test methods that I am responsible for performing. The most recent version of the test method, according to TNI Standard 2016 EL-V1-ISO-2016-Rev2.1, is defined as the approved test method.

Trish Jackson	TJ	12-3-19
Trish Jackson	Initials	Date

Signatures of Compliance, Continued

Gale Caldwell	Initials	Date
Ellen Peel	Initials	Date
Darrel Halsell	Initials	Date
Sally Martin	Initials	Date
Mike Bush	Initials	Date
Casey Caldwell	Initials	Date
Jamie Caughlin	Initials	Date

Signatures of Compliance, Continued

David Fuze	Initials	Date
Megan Johnson	Initials	Date
Robin Smith	Initials	Date
Alaina (Lanie) Wise	Initials	Date
Tracy Bass	Initials	Date
Christopher Knight	Initials	Date
Jillian Lunt	Initials	Date

Signatures of Compliance, Continued

	TWB	12/5/2019
Tim Batyski	Initials	Date
	VGS	12/5/2019
Virginia Sweet	Initials	Date
	GW	12/06/2019
Grant Whiten	Initials	Date
		12-10-19
Don Hundley	Initials	Date
	RB	12/11/19
Kelly Ballard	Initials	Date
	MN	12/06/20
Morgan Newson	Initials	Date
	Initials	Date

Signatures of Compliance, Continued

_____	Initials	Date
_____	Initials	Date
_____	Initials	Date
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_____	Initials	Date
_____	Initials	Date
_____	Initials	Date
_____	Initials	Date

MANAGEMENT STRUCTURE

Key Personnel

Laboratory President & Owner	Trish Jackson
Laboratory Business Manager	Gale Caldwell
Laboratory Technical Director	Darrel G. Halsell
Laboratory Projects Manager	Ellen Peel
Quality Assurance Officer	Darrel G. Halsell
Technical Supervisor, Microbiology	Sally Martin
Technical Supervisor, Field Sampling	Mike Bush

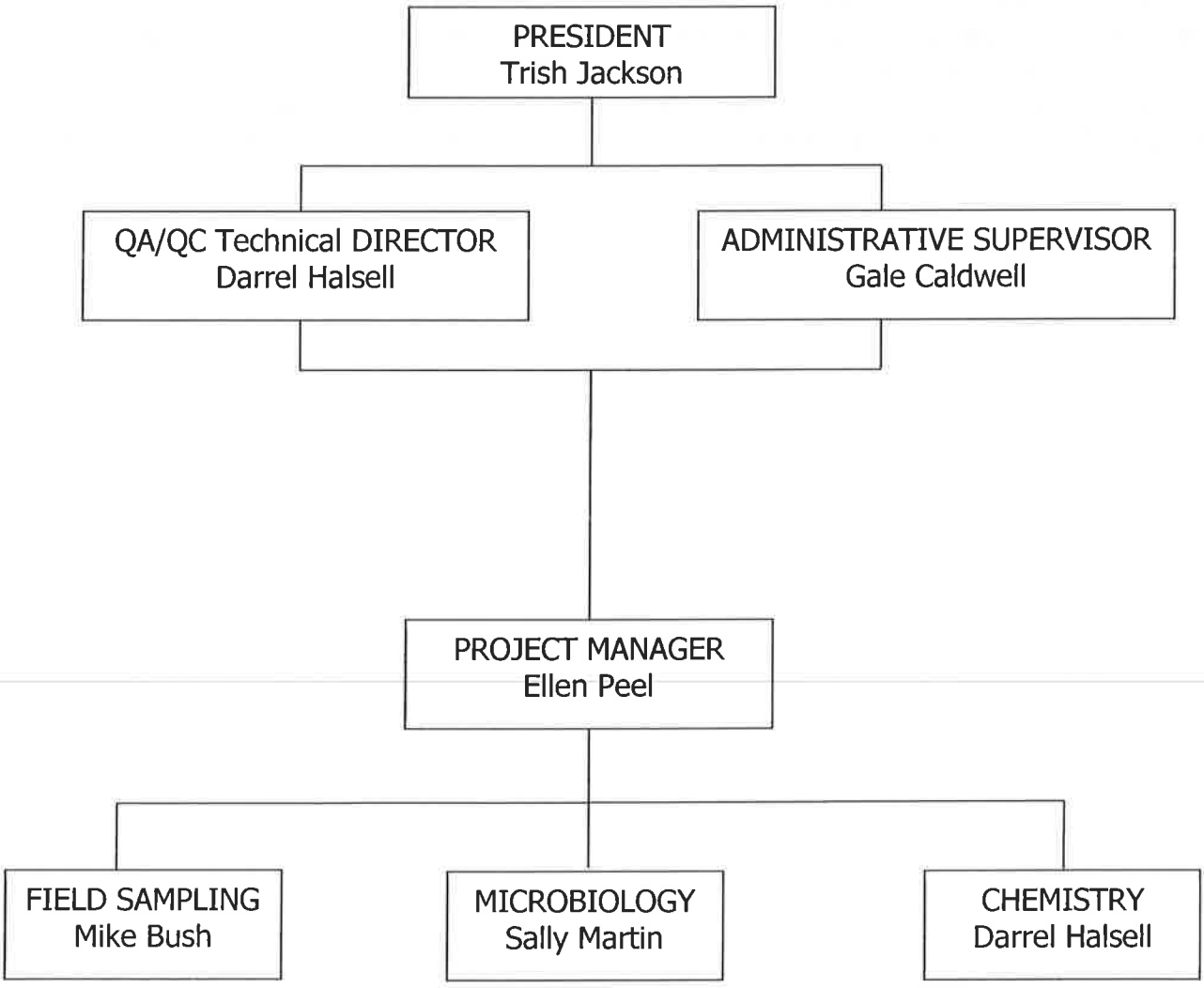
The laboratory is a legally identifiable organization. The laboratory is responsible for carrying out testing activities that meet the requirements of the TNI Standard and that meet the needs of the client. Through application of the policies and procedures outlined in this Section and throughout the Quality Manual:

- The laboratory assures that it is impartial and that personnel are free from undue commercial, financial, or other undue pressures that might influence their technical judgment.
- Management and technical personnel have the authority and resources to carry out their duties and have procedures to identify and correct departures from the laboratory's management system.
- Personnel understand the relevance and importance of their duties as related to the maintenance of the laboratory's management system.

- Ethics and data integrity procedures (see Appendix A, Section 5 – "Management" and Section 19 – "Data Integrity Investigations") ensure personnel do not engage in activities that diminish confidence in the laboratory's capabilities.

- Confidentiality is maintained.

Management Flow Chart



Relationship Between Management, Technical Operations, Support Services and the Quality System

The Water Spigot, Inc. is operated with a close relationship between management, technical operations, support and the quality system. All of our technicians are competent analysts and know that their supervisor and lab director are available for any and all questions. All of the section supervisors and technical directors are familiar with the tests they are responsible for. Any questions concerning policy are brought to the attention of the laboratory president and a decision is made at that time. Our LIMS (Laboratory Information Management System)—X-Lims enables each analyst to enter their own QA/QC data for each run and makes it possible for the QA/QC officer and management to review all data being entered throughout the lab. Confirmations of all lab work entered in X-Lims are performed by another person different from the analyst entering the data. Validity and accuracy of all QA/QC data is also verified during this confirmation process.

Approved Signatories

Laboratory President — Trish Jackson — 12-3-19 — Date

Business Manager — Gale Caldwell — 12-2-19 — Date

QA/Technical Director — Darrel Halsell — 2 Dec 2019 — Date

SAMPLE POLICIES

Sample Acceptance Policy

1. Scope

   This document is a standard operating procedure (SOP) for the acceptance of samples. The SOP covers some of the rules and definitions for accepting samples from customers.

2. Definitions

   a. Chain of Custody – a form which includes all pertinent information about the sample. This includes information about the client; date, time and location of sample collection; type of sample; requested parameters; type of preservation added to the sample; any special instructions; and signatures of who collected the sample, who is relinquishing the sample and who is accepting the sample.

   b. Sample Preservation – the method in which the sample is being preserved. This can include thermal and/or chemical preservation. Refer to the Sample Preservation chart or analytical method to determine the appropriate preservation methods.

   c. Holding Times – the amount of time before analysis must begin before sample degradation begins and the quality of the sample diminishes. This is different depending on the type of sample and type of analysis. Refer to the Holding Times chart or analytical method to determine the appropriate holding time per sample.

3. Summery

   When a sample is brought into the laboratory it is logged into the Sample Log-in Logbook, and into the LIMS. Proficiency test samples are also logged in as normal environmental samples. The purpose of the Sample Log-in logbook is to ensure the validity of the laboratory's data and to track all samples received in the laboratory. On a periodic basis a daily sample log in report is generated by the LIMS that includes all samples logged in for each day, and contains relevant data pertaining to each sample. Each and every sample logged in receives a unique sample number. The LIMS assigns each sample this sample number. Each and every container also has a unique container identification number that is assigned by the LIMS and a unique container ID that is placed on the container before it goes out for sampling or when it is received in from a client. The following information is recorded upon receipt of any sample:

   - Name of the Client
   - Date and time received
   - Date and time sampled
   - Initials of person who accepted the samples
   - Any/all requested parameters/analytes

STATE ASSESSMENTS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

SHEPHERD TECHNICAL SERVICES, LLC

NATIONAL ENVIRONMENTAL LABORATORY
ACCREDITATION PROGRAM
ON-SITE LABORATORY ASSESSMENT REPORT
Bureau of Laboratories
Florida Department of Health

sts@sheptechserv.com
www.sheptechserv.com

REVISED 9/3018

Laboratory: Florida Spectrum Environmental Services

Address: 1460 West McNab Road
Ft. Lauderdale, FL 33309

I. D. Number: E86006

Date of Assessment: July 31-August 1, 2018

Categories Assessed:

Drinking Water
Primary Inorganic Contaminants
Secondary Inorganics Contaminants
Synthetic Organic Contaminants
Other Regulated Contaminants
Group II Unregulated Contaminants
Group I Unregulated Contaminants
Microbiology
Radiochemistry

Solid and Chemical Materials
Metals
General Chemistry
Volatile Organics
Extractable Organics
Pesticides-Herbicides-PCBs
Microbiology

Non-Potable Water
Metals
General Chemistry
Volatile Organics
Extractable Organics
Pesticides-Herbicides-PCBs
Microbiology
Radiochemistry

Assessors: Michael C. Shepherd, Michael T. Hintz, Zachary J. Minns (assessor-in-training)

I. INTRODUCTION:

This laboratory was inspected on-site to verify compliance with Florida Administrative Code (FAC) Rule 64E-1, Certification of Environmental Testing Laboratories, which incorporates by reference the 2003 standards adopted at the National Environmental Laboratory Accreditation Conference (NELAC). Conformity with the 2009 standards of the NELAC Institute (TNI) was simultaneously reviewed.

II. DEFICIENCIES:

See the accompanying DH Form 1137 section II. Proposed corrective action plans, estimated completion dates, and original signatures and dates from responsible laboratory officials must be returned on this form to Shepherd Technical Services within 30 days of receipt of this report.

III. LABORATORY KEY PERSONNEL (Name and Title):

Key Personnel	Position / Title	Technical Director? (Y/N)
Lyle Johnson	Lab Director	Y
Maria Castellanos	Lab Manager	Y
Irena Nutzu	Metals/ Radiochemistry Supervisor	Y
Roxanna Llambias	QA Manager	Y
Brian Mercer	Microbiology Supervisor	Y
Sophie Andre	Wet Chemistry Supervisor	Y
Richard Vicchiarelli	HPLC	Y
Albert Castellanos	Organics/Volatiles Technical Director	Y
Brenda Lips	Volatiles Supervisor	Y

Records for individuals that have had their credentials previously vetted were not necessarily reviewed.

IV. COMMENTS:

1. Laboratory personnel listed below also participated in this on-site assessment.

Nancy Read	Yanet Echevarria	Leidy Cruz
Jose Fernandez	Barbara Mokarska	Martha Raudez
Estela Paz Martinez	Doug Knapp	

2. Personnel qualifications and training files for Sophie Andre were reviewed during the on-site assessment.
3. This on-site assessment was conducted to fulfill biennial on-site assessment requirements and to address the application received on June 26, 2018.
4. The Quality Manual reviewed during this on-site assessment was Revision 11, Effective Date: May 1, 2018.
5. The laboratory was assessed for microbiology drinking water; they are reporting data for compliance/regulatory purposes.
6. Repeat deficiencies from the previous assessment performed August 1-2, 2016 were noted. Deficiency #4, #11.G, #15, #19.E, and #19.F constitute repeat occurrences of the same deficiency identified during the previous on-site assessment. Failure to correct deficiencies and to maintain correction of these deficiencies violates Sections 403.0625(4) and 403.863(4) of the Florida Statutes can result in penalties according to Sections 403.0625(5) and 403.863(5). A history of non-compliance subjects the laboratory to administrative penalties, and jeopardizes the laboratory's certification for all the Fields of Accreditation that are affected.
7. As part of an acceptable corrective action plan, the laboratory must submit copies of recent documentation along with the completed plan of corrections (DH Form 1137) as evidence that the deficiency noted as "Repeat Deficiency" has been corrected. This documentation needs to reflect demonstrated compliance in accordance with the requirement of the standards.

8. During this on-site assessment the laboratory voluntarily relinquished certification for the following Fields of Accreditation, effective on August 1, 2018:

Drinking Water

Analyte	Method Ref (DW)
Bromate	EPA 300.1
Chlorite	EPA 300.1
Chlorate	EPA 300.1
Pseudomonas aeruginosa	PSEUDALERT (MPN)/F-QN

Solid and Chemical Materials

Category	Analyte	Method Ref (SCM)
General Chemistry	Conductivity	EPA 9050

9. For the benefit of NELAP Accreditation Bodies that accredit sample preparation methods, the following methods were shown to meet the requirements in the NELAC Standards, once all deficiencies cited from this on-site assessment are corrected with acceptable corrective action plans:

Preparation	Method	Type
TCLP	EPA 1311	Leaching
SPLP	EPA 1312	Leaching
Acid Digestion	3010A	Metals Preparation
Hot Block Digestion	3050B	Metals Preparation
Liquid/Liquid Extraction	3510C	Organic Extraction
Waste Dilution	3580A	Organic Extraction

10. Any requests for certifications of additional Fields of Accreditation will require submittal of another Application for the Certification of Environmental Testing Laboratories, $200 application fee, NELAC proficiency testing where available, and another on-site assessment at the laboratory's expense.

11. Based on the application to the Florida Department of Health, acceptable proficiency testing, and this on-site assessment, certification is recommended for the following Fields of Accreditation. The effective date of certification and NELAP accreditation will be no sooner than when acceptable Plans of Correction to the deficiencies noted on Form DH 1137 are received, contingent on payment of on-site assessment expense fees and certification fees:

Drinking Water

Category	Analyte	Method Ref
Metals	Hardness (calc.)	EPA 200.7

Non Potable Water

Category	Analyte	Method Ref (NPW)
Microbiology	*Escherichia coli*	EPA 1603
Volatile Organics	cis-1,2-Dichloroethylene	EPA 624.1
Volatile Organics	Dichlorofluoromethane	EPA 624.1
Volatile Organics	*m/p*-Xylenes	EPA 624.1
Volatile Organics	*o*-Xylene	EPA 624.1
Extractable Organics	2-Nitroaniline	EPA 625.1

Category	Analyte	Method Ref (NPW)
Extractable Organics	Benzyl alcohol	EPA 625.1
Extractable Organics	Carbazole	EPA 625.1
Metals	Calcium hardness as $CaCO_3$	EPA 200.7
Metals	Mercury	EPA 7470
General Chemistry	Amenable cyanide	SM 4500-CN- G

Solid and Chemical Materials

Category	Analyte	Method Ref (SCM)
Volatile Organics	m/p-Xylenes	EPA 8260
Volatile Organics	o-Xylene	EPA 8260

12. The deficiencies are not necessarily limited to the specific examples cited. The laboratory must review and correct all relevant activities and documents as appropriate.

V. CONCLUSIONS:

The laboratory's personnel, procedures, equipment, facilities, and quality system are in compliance with the requirements of FAC Rule 64E-1 and the 2003 NELAC Standards. When the deficiencies listed in Section II are corrected, certification and data acceptance are recommended for Fields of Accreditation in the following categories:

Drinking Water
Primary Inorganic Contaminants
Secondary Inorganics Contaminants
Synthetic Organic Contaminants
Other Regulated Contaminants
Group II Unregulated Contaminants
Group I Unregulated Contaminants
Microbiology
Radiochemistry

Solid and Chemical Materials
Metals
General Chemistry
Volatile Organics
Extractable Organics
Pesticides-Herbicides-PCBs
Microbiology

Non-Potable Water
Metals
General Chemistry
Volatile Organics
Extractable Organics
Pesticides-Herbicides-PCBs
Microbiology
Radiochemistry

The above categories are referenced in 64E-1.007, Florida Administrative Code.

NATIONAL ENVIRONMENTAL LABORATORY
ACCREDITATION PROGRAM
ON-SITE LABORATORY ASSESSMENT REPORT

STATE OF FLORIDA DEPARTMENT OF HEALTH

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION

SECTION II

LABORATORY: Florida Spectrum Environmental Sciences	LAB I.D. NO.: E86006	DATE SURVEY COMPLETED: July 31-August 1, 2018	SURVEYOR(S): Michael Shepherd, Michael Hintz Zachary Minns (training)

PARAMETERS SURVEYED:

Drinking Water - Microbiology, Primary Inorganic Contaminants, Secondary Inorganic Contaminants, Synthetic Organic Contaminants, Other Regulated Contaminants, Group I Unregulated Contaminants, Group II Unregulated Contaminants, Radiochemistry

Non-Potable Water - Microbiology, Metals, General Chemistry, Volatile Organics, Extractable Organics, Pesticides-Herbicides-PCBs, Radiochemistry

Solid and Chemical Materials - Microbiology, Metals, General Chemistry, Volatile Organics, Extractable Organics, Pesticides-Herbicides-PCBs, Radiochemistry

(1) ID PREFIX TAG	(2) SUMMARY STATEMENT OF DEFICIENCIES (3) LABORATORY'S PLAN OF CORRECTION *(Each corrective action should be cross-referenced to the appropriate deficiency)*	(4) COMPLETION DATE
1	NELAC Ref: 5.5.10.1 [TNI V1M2, 5.10.1] Laboratory reports do not include the correct units as required by the relevant methods. For example, laboratory reports associated with determination of conductivity using EPA Method 120.1 do not include the units as "Specific Conductance, µmhos/cm at 25 °C" as required by Section 9.2 of the reference method. **Response:** The laboratory reports do not include the correct units as required by the method due to the wrong unit was set in the LIMS system. As corrective action the correct reporting unit was added in the LIMS system (Element) in the conductivity method and the laboratory reports associated with determination of conductivity are showing now the proper units (umhos/cm at 25°C).	9/4/18 ACCEPTED 10/15/2018 Michael Shepherd
2	NELAC Ref: 5.5.10.3.2(f) [TNI V1M2, 5.10.3.2(f)] Test reports do not include identification of any deviations from the reference method. A. The test report for sample 18E0202 does not include qualification of test results for TCLP analyses that are not in compliance with method specifications. Records show the tumbling was performed with a sample aliquot (50 g) less than the required 100-g minimum aliquot. B. Test reports do not include any qualifying flags or statements to indicate insufficient sample was received to perform matrix spiked/matrix spiked duplicate analyses for analyses using EPA Method 8260. **Response:** 2A. The clients do not always provided the minimum sample size recommended for the TCLP extraction and when this situation occurs, the laboratory followed the extraction procedure with the sample size available. Since the sample size of 100g is a method recommendation the analysts were unaware that the test results had to be qualified when less than 100g of sample are extracted. As corrective action a qualifier (W2) with the following description "Method deviation due to limited amount of sample received" was created in the LIMS system, and the analysts were instructed to qualify the test results with the "W2" qualifier when minimum sample size of 100g is not provided by the client. 2B. Since the method states to collect at least two vials; the laboratory decided to prepare the	9/18/18 ACCEPTED 10/15/2018 Michael Shepherd

SIGNATURE: _____ 10/1/18
Responsible Official DATE

(1) ID PREFIX TAG	(2) SUMMARY STATEMENT OF DEFICIENCIES (3) LABORATORY'S PLAN OF CORRECTION *(Each corrective action should be cross-referenced to the appropriate deficiency)*	(4) COMPLETION DATE
	VOA kits with two (2) 40 ml vials for the analysis of volatiles organics compounds. One vial was used for the analysis of the field sample and the second vial split to prepared matrix spike and matrix spiked duplicate. The VOA kits are prepared now with three (3) 40 mL VOA vials; one vial will be used for the sample analysis and one for each matrix spike (MS) and matrix spike duplicate (MSD). The analysts were trained to prepare the MS/MSD from separated vials and if for any particular reason limited amount of sample will be available the test reports will be flagged.	ACCEPTED 10/15/2018 Michael Shepherd
3	NELAC Ref: 5.5.5.2.1(b) [TNI V1M2, 5.5.13.1(b)] The laboratory does not calibrate or verify calibration of all thermometers annually against a NIST reference using temperatures that bracket the range of use. Examples include (but are not necessarily limited to): A. Laboratory staff indicated the temperature probe associated with conductivity meter #WET-54 had not been verified annually against a NIST reference; B. Laboratory staff could not produce temperature verification records for thermometers in use throughout Microbiology. **Response:** 3A. The laboratory was not aware that the temperature of the conductivity meter probe needs to be calibrated / verified at least annually. As corrective action the temperature probe of the conductivity meter WET-54 was verified against the NIST reference thermometer. The conductivity meter probe was added to the list of the temperature calibration/ verification equipment that must be checked at least annually against a NIST calibrated thermometer. The probe was labeled indicating the calibration date, calibration due date, initials of the person performing the calibration and the correction factor. Since the correction factor was (+0.02) the analyst were trained to add 0.02 to the instrument reading temperature to document the corrected temperature in the conductivity test logbook. 3B. All the thermometers used for microbiology analysis have been calibrated at least annually using a calibrated NIST certified thermometer (***see Attachment A.3B***). Since each thermometers used in microbiology are dedicated to the measurement of a single temperature and they are not used for other work, only one point of temperature has been calibrated / verified. As per Vanessa Soto email attached (***see Attachment A.3B***), the TNI standard states that if calibration is for >10°C then a range should be used, but if the thermometer is just for one set temperature like the incubators, the single point is accepted and this was discussed during the last TNI micro committee meeting. Based on this email the laboratory in not out of compliance and no corrective action needs to be implemented at this time.	ACCEPTED 10/15/2018 Michael Shepherd **9/25/18** ACCEPTED 10/15/2018 Michael Shepherd
4	NELAC Ref: 5.5.5.2.1(d) [TNI V1M2, 5.5.13.1(d)] Balances are not checked with NIST- traceable references prior to use on each working day. Records for sample analyses using EPA Method 1664A performed 3/1/18 and 5/17/18 did not include a documented check of the balance for those days of use. **THIS A REPEAT DEFICIENCY FROM THE AUGUST 1-2, 2016 Assessment, Prefix Tag 7.**	**9/25/18**

SIGNATURE: _____ 10/1/18
Responsible Official DATE

(1) ID PREFIX TAG	(2) SUMMARY STATEMENT OF DEFICIENCIES (3) LABORATORY'S PLAN OF CORRECTION *(Each corrective action should be cross-referenced to the appropriate deficiency)*	(4) COMPLETION DATE
	Response: The analysts that performed the analysis on 3/1/18 and 5/17/18 are not the primary analysts for the EPA 1664A test and forgot to document the balance calibration. The analysts were strongly reminded to record the balance verification on the date of use prior proceeding with the test. Close monitoring will be performed by the QA officer to assure that the procedure is followed by the entire laboratory. Copies of EPA 1664A extractions and balance calibration verification linked to the extraction can be found on the ***attachment A.4.***	ACCEPTED 10/15/2018 Michael Shepherd
5	NELAC Ref: 6.8(a)(2) [TNI V1M2, 5.10.11(c)] The laboratory does not ensure non-accredited tests or analytes are identified on the laboratory report when claims to accreditation are made on the report. For example, the assessor observed analysis results for Pseudalert® presence/absence were not flagged as non-accredited testing on reports with Lab ID numbers 17FO451-01 (06/22/17) and 17B0293 (02/09/17). **Response:** The laboratory applied and was inspected for Pseudomonas (P/A) in 2014; however, when certification was submitted, the State made a mistake and gave certification for the wrong method Pseudalert (MPN)/F-QN instead Pseudalert. The method error was identified during the Bi-annual assessment performed in 2016 by STS. The QA officer contacted the state to correct the mistake and by the time Vanessa Soto reached the lab to do a new assessment for the (P/A) method, the lab owner decided to postpone the inspection because he was planning to add new analytes to the scope and wants to get inspected for all parameters at the same time. The work orders 17F0451 and 17B0293 mentioned above were not flag due to most likely an oversight. However, since the test has not been requested with the frequency expected the laboratory decides to drop the certification of Pseudomonas in drinking water matrix. A relinquish letter was submitted on 9/18/18 to the state to drop the Pseudomona aeruginosa analyte in drinking water matrix and the analyte was removed from the laboratory's scope effective 9/18/18. In addition, the analyte certification was removed in the LIMS system and the test for Pseudomonas (P/A) was inactivated.	**9/18/18** ACCEPTED 10/15/2018 Michael Shepherd
6	NELAC Ref: 5.4.12 [TNI V1M2, 4.13.3(a)] The laboratory does not maintain a recordkeeping system that produces accurate, unequivocal records that document all laboratory activities. Examples include (but are not necessarily limited to): A. Temperature records for air incubator Micro-34 reflect that checks are done using thermometer #C66379; however, the assessor observed thermometer #912113 was actually in use; B. Laboratory records for the temperature checks of air incubators Micro-34, Micro-14, and Micro-6A do not reflect the exact time that checks are taking place to ensure temperatures are monitored at least 4 hours apart; C. Correction factors for the traceable NIST reference are not being applied during temperature verifications. The calibration certificate associated with NIST reference thermometer #2381 reflects a correction factor of -0.18 at 35 °C and -0.14 at 44.5 °C; however, temperature verification records for thermometers used in Microbiology do not indicate the correction factors associated with the NIST reference were accounted for during the verification process; D. Records were not available to document the lot number of the acid used for preservation of samples contained in pre-preserved bottle kits provided to clients;	

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E. Unique identification of the non-Class A graduated cylinder used for volume measurements when performing analyses using EPA Methods 549.2 and 548.1 is not recorded; and

F. The laboratory does not keep an accurate record of pH checks performed in sample receiving. Records simply reflect if an analyst observed the sample was either preserved or unpreserved, instead of the actual result of pH analysis.

Response:

6A. The laboratory has two incubators for the same temperature and the wrong temperature template was printed out. As corrective action, the analysts will ensure that all temperature templates correspond to the correct incubator.

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6B. The temperature logs for those incubators have two columns to record the temperature. The first column indicates "Temp °C <10:00 hours" and the second column "Temp °C >14:00 hours". The analysts were trained to record the temperature in the morning before 10:00 am and in the afternoon after 14:00 pm to guarantee they check the temperature twice daily with at least 4 hours apart each. In addition, the laboratory was following the standard method section (4o) which states "monitor and record temperature twice daily (morning and afternoon, separated by at least 4h)"; it does not states that an exact time of check must be provided. As corrective action, the temperature logs for the incubators and water bath will be revised to add columns to record the exact time that the temperature is checked in the morning and in the afternoon. In addition, if the incubator has more than one shelf, the revised logs will included the thermometers used per shelf with its correction factor and additional columns to record the exact time that temperature is checked for each thermometer. The analyst will be trained on the use of new temperature logs.

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6C. The micro supervisor is the person that performs the calibration /verification of the thermometers in this area and he was not aware that for those points (35 °C and 44.5 °C) the traceable NIST reference thermometer has a correction factor. The traceable NIST reference thermometer #2381 for 0.00°C, 4.00°C, 35.00°C, 44.50°C, 105.00°C and 180.00°C has correction factors of -0.04°C, -0.08°C, -0.18°C, -0.14°C, -0.04°C and -0.02°C respectively. Since the critical ranges are at 35°C and 44.5°C, the microbiology thermometers will be re-calibrated using the correction factor that applies to those set points or the closest to the temperature that will be checked. The micro supervisor will be trained on the procedure. The correction factor of the reference NIST thermometer will be used in future calibrations for any thermometer calibration /verification.

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6D. The laboratory has been documenting the preservative name, preservative ID or Lot#, amount of preservative added to each container, container lot number and type of container, prepared date and initials of the person preparing the kits in the Bottle Prep Logbook. However, the unique ID or lot number of the preservative used and its expiration date have not been included in each container only the preservative name. The samples custodians were unaware that the traceability of the preservative used must be documented in the containers provide to the clients. As corrective action the preservation labels of the new bottle kits prepared in-house will be printed with the unique ID or Lot# of the preservative used and its expiration date in addition to the preservative name included before.

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6E. The analyst was not aware that the unique ID of the graduated cylinder use to measure the volume of samples during the extractions of EPA 548.1 and EPA 549.2 must be

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	recorded. As corrective action the unique ID of the non-class A graduated cylinder used for volume measurements when performing the EPA 549.2 and EPA 548.1 extractions will be recorded in sample extraction logbook. 6F. The sample pH is checked and recorded in the laboratory at the time of the samples analysis not when the samples are received by the sample custodians. Only if samples preservation is in doubt because containers and/or chain of custodies (COC) are not clearly marked, the samples pH is checked by the sample custodians when they are received. However, the sample custodians were unaware that pH results and pH paper Lot# used must be documented in order to have traceability. As corrective action when sample pH will be checked on sample receiving, the pH result and the pH paper Lot# used will be recorded on the COC. The sample custodians were trained on this documentation procedure. All lab tests that require preservation verification will be checked to make sure pH results and pH paper Lot# or unique identifier are recorded.	ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd
7	NELAC Ref: 5.5.6.4(d) [TNI V1M2, 5.6.4.2(d)] The laboratory does not ensure all containers of prepared standards and reagents exhibit a unique identifier and an expiration date. The assessor observed multiple containers of prepared pH buffers on the counter without any labeling to identify the lot number and expiration date of the standards. **Response:** The pH buffers are bought in large size containers and for easy handling the analyst pour them in small containers, marked the pH concentration on the container cap, and keep the container next to the stock buffers. However, she was unaware that sub aliquots of reagents and standards must exhibit the laboratory unique ID or lot number and the expiration date. As corrective action the analysts were trained to label the sub aliquots of reagent and standards with the unique identifier or Lot# and the expiration date. The containers in use without the necessary identification were labeled. All the laboratory areas will be checked to assure all reagent and/or standards containers are properly labeled.	10/15/18 ACCEPTED 10/15/2018 Michael Shepherd
8	NELAC Ref: 5.5.6.4(a) [TNI V1M2, 5.6.4.2(a)] The laboratory does not retain records for all standards, reagents, reference materials, and media, including the manufacturer's Certificate of Analysis. Upon request, manufacturer's Certificate of Analysis could not be produced for the following: A. Gelex Secondary (4-6 NTU), lot number A5159; B. Gelex Secondary (40-60 NTU), lot number A5155; C. Gelex Secondary (400-600 NTU), lot number A5159; and D. VWR pH buffer 4.0, lot number 2709820. **Response:** The Certificates of Analysis for the turbidity standards mentioned were printed out from the website; however, the Lot# entered was wrong and the unique ID assigned when they were received didn't match. For the pH buffer Certificate of Analysis the analyst that received and recorded the standard in the Standard and Reagents Receival logbook forgot to print the certificate from the website. As corrective action all the wet chemistry department personnel will be trained in the standards and reagents log-in procedure and the documentation needed for further traceability.	ACCEPTED 10/15/2018 Michael Shepherd 10/15/18

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9	NELAC Ref: 5.4.12.2.2 [TNI V1M2, 4.13.2.2] Observations, data, and calculations are not recorded at the time they are made. For example, analysts in microbiology stated analysis data is sometimes recorded the day after an analysis was started or completed. **Response:** Analyst were recording the original observations the next day due to majority of the samples arrived to the lab late afternoon and due to busy schedule they didn't have time to fill the logbooks properly at the time they are made. As corrective action the analysts started batching the samples indicating the time of analysis, method, matrix and analyst on the computer in the LIMS system on the day they are made as soon as the analysis is completed (within 15 minutes). The computers records are back up and kept for 5 years. The logbooks are filled on the following date using the computer records from previous date and then the final results and/or observations are recorded directly on the logbook as they are made.	**9/18/18** ACCEPTED 10/15/2018 Michael Shepherd
10	NELAC Ref: 5.4.12.2.3 [TNI V1M2, 4.13.2.3] Record keeping errors are not corrected using a cross out and not being made illegible. Several examples of entries in records obliterated using correction fluid were observed in the Volatiles Department logbooks for Standards and Reagent Preparations. **Response:** The errors were not properly corrected using a cross out due to lack of training. The records identified with errors and improperly corrected were made by the new analysts while they were in training. The analysts were trained to make a single cross out, and add date and initial alongside the correction when an error will be done.	**9/24/18** ACCEPTED 10/15/2018 Michael Shepherd
11	NELAC Ref: 5.4.12.2.4(b) [TNI V1M2, 4.13.3(f)] The laboratory does not maintain records of original observations, derived data, and sufficient information to establish an audit trail. Examples include (but are not necessarily limited to): A. Records for microbiological analysis using SM 9222 B and 9222 D do not reflect the unique identification of the funnel used to measure volumes during analysis; B. Records for sterility verification of petri dishes used during microbiological analysis do not include the unique identification of the petri dishes being verified; C. Records for sterilization of disposable pipettes being reused by the laboratory include only the original manufacturer's lot number, making it impossible to distinguish between the subset of the disposable pipette lot that has been through the sterilization process; D. Quality Control records associated with the 120-mL vessels used in Microbiology do not include all of the necessary details associated with the analyses, including the unique identification of the incubator used, incubation time, and the unique identification of the media used for sterility checks; E. Quality Control records associated with Colilert® media do not include the name of the analyst performing the required checks; F. Records in Microbiology analysis using SM 9223 B do not include the unique identification of the comparator used; and G. Records in Sample Receiving do not include the unique identifier of the pH strips used to perform preservation verifications.	

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	ITEM G A REPEAT DEFICIENCY FROM AUGUST 1-2, 2016, Prefix Tag 17.G. **Response:** 11A through 11F. All the above examples are procedural errors in microbiology department not previously identified. As corrective action: 11A. The laboratory logs for membrane filtration will be revised to add the funnel ID used to measure volumes during analysis. 11B. The petri dishes unique ID or Lot# will be added to the sterility verification records of the petri dishes 11C. The laboratory will order disposable pipettes and will be discarded after use, pipettes re-use will not be allowed. 11D. Template used to record the quality control associated with the 120 mL vessels used in Microbiology will be revised to add the necessary details associated with the analyses. 11E. Quality control records associated with the Colilert media will be reviewed to add the analyst performing the required checks. 11F. The logbook template for the SM 9223B will be revised to add the comparator ID or Lot# used. 11G. The sample pH is checked and recorded in the laboratory at the time of the samples analysis not when the samples are received by the sample custodians. Only if samples preservation is in doubt because containers and/or chain of custodies (COC) are not clearly marked, the samples pH is checked by the sample custodians when samples are received. However, the sample custodians were unaware that pH results and pH paper Lot# used must be documented in order to have traceability. As corrective action when sample pH will be checked on sample receiving, the pH result and the pH paper Lot# used will be recorded on the COC. The sample custodians were trained on this documentation procedure. All lab tests that require preservation verification were checked to make sure pH results and pH paper Lot# are recorded. Completion 9/28/18. On the ***attachment A. 11G*** you will find copies of laboratory records with pH checked and pH paper Lot# used recorded.	**10/31/18** ACCEPTED 10/15/2018 *Michael Shepherd* ACCEPTED 10/15/2018 *Michael Shepherd*
12	NELAC Ref: 5.4.12.2.5.3(g) [TNI V1M2, 4.13.3(f)(ix)] Sample preparation records for sample analyses using EPA Method 504.1 and 8011 do not include volumes and weights of reagents used. **Response:** Since the volumes and weights of reagents used in the analyses of EPA 504.1 and 8011 are the indicated in the laboratory's SOP associated to each method, the lab thought that only the reagents traceability must be recorded. The EPA 504.1/EPA 8011 logbook template was revised to include the SOP name and revision number followed. Meanwhile, the SOP name and revision number used will be manually written in the first page of the logbook indicating that applies to all pages of the logbook until the new logbook will be made using the revised template. If a new SOP revision is done prior made the new logbook then the SOP revision used must be write on the pages that applies.	ACCEPTED 10/15/2018 *Michael Shepherd* **8/7/18**
13	NELAC Ref: 5.4.12.2.5.3(i) [TNI V1M2, 4.13.3(f)(xi)]	

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	Records for the initial instrument calibration for GC/MS instrument DELTA performed 7/28/18 do not include any records for the preparation of the reference materials (calibration standards) used for the calibration. **Response:** The calibration curve standard documentation in question was omitted due to lack of training at the time. The analysts were re-trained to document every calibration standard preparation made for an initial calibration curve in the standards preparation logbook. ACCEPTED 10/15/2018 Michael Shepherd	**9/24/18**
14	NELAC Ref: 5.4.12.2.5.3(i) [TNI V1M2, 4.13.3(f)(xi)] Technical records do not uniformly include documentation of reagent origin, receipt, preparation, and use. Examples include (but are not necessarily limited to): A. Records for the analysis of common anions using EPA Method 300.0 do not include an identifier for the eluent used in the chromatography system; B. Records for the preparation of samples for analysis using EPA Method 200.8 only include the manufacturer's lot number for the hydrochloric acid used in the digestion and do not include an identifier for the individual preparation of the 1:1 dilution used as the digestion reagent. **Response:** 14A. A stock solution of the eluent is prepared and recorded, and every time working eluents are needed a dilution is prepared and recorded in the standard and reagent preparation logbook. However, the analyst was not aware that the working eluent identifier must be included with the chromatography raw data. The analysts were instructed to document the working eluent ID in the cover page used for the EPA 300.0 analysis with the raw data analyzed and to record the unique ID and expiration date of the working eluent in use in the containers. 14B. The laboratory supervisor considered that tracking down the stock reagents used for the digestion will be enough. The EPA 200.8 digestion logbook template will be revised to replace the digestion stock reagents lot number by the unique ID of the prepared digestion reagents. Meanwhile, the IDs of the prepared reagents used have been documented in a blank space until the new logbook will be issued. In addition, all the metals logbook templates will be revised to replace the digestion stock reagent used by the prepared digestion reagent where applies and until new logs will be issued the prepared reagents are recorded in a blank space.	**10/15/18** ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd
15	NELAC Ref: 5.4.3.1 [TNI V1M2, 4.3.1] The laboratory's document control procedures do not include all documents that form part of the quality system. The laboratory maintains a number of uncontrolled, shorthand work instructions or "cheat sheets" at the bench for analyst use. An uncontrolled version of the Baker SPE solid phase extraction procedure used for EPA Method 525.2 is posted on the wall in the sample preparation area. **THIS A REPEAT DEFICIENCY FROM AUGUST 1-2, 2016, Prefix Tag 20.** **Response:** The uncontrolled version of the Baker SPE solid phase extraction procedure was posted without informing the QA officer to use as reference when the extraction of the EPA	**9/17/18**

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	525.2 is performed. The uncontrolled version of the Baker SPE solid extraction procedure was controlled (see ***attachment A.15***). In addition, the QA officer checked all the laboratory areas to review if any others uncontrolled documents are in use as "cheat sheets". During the QA officer inspection other documents were found without a control version and a document control number and effective date were assigned and included in the laboratory's master list. ACCEPTED 10/15/2018 Michael Shepherd	
16	NELAC Ref: 5.4.3.2.1 [TNI V1M2, 4.3.2.1] The laboratory's master list of documents does not include all documents in the management system. Examples include (but are not necessarily limited to): A. "Temperature Log" B. "SM 9222 D (Fecal Coliform) m-Fc Broth" log C. "SM 9222 B (Total Coliform) m-Endo Broth" log D. "EPA 1600 (Enterococcus) m- EI Agar medium Log" **Response:** The laboratory microbiology supervisor was not aware that all the documents or templates used to document laboratory records must be included in the laboratory's master list. All the templates used in the microbiology department will be reviewed and document control numbers will be assigned and recorded in the laboratory's master list. ACCEPTED 10/15/2018 Michael Shepherd	**10/31/18**
17	NELAC Ref: 5.4.3.2.3 [TNI V1M2, 4.3.2.3] The laboratory does not ensure all management system documents contain required identification, including the date of issue and/or revision information, page numbering, the total number of pages or a mark to signify the end of the document, and the issuing authority(ies). Examples include (but are not necessarily limited to): A. Fecal Coliform Membrane Filtration Logbook - missing issuing authority and pagination. B. SM 9222 D (Fecal Coliform) m-Fc Medium Logbook- missing issuing authority, pagination and revision information. C. SM 9222B (Total Coliform) m-Endo Broth Medium Log- missing issuing authority, pagination and revision information. D. EPA 1600 (Enterococcus) m-EI Agar Medium Log- missing issuing authority, pagination and revision information. **Response:** Some documents and/or templates in use in the microbiology department do not contain a controlled version in the laboratory quality system, therefore, they have not been properly checked to include all the require identification information needed. All the microbiology documents will be revised to include all the required identification needed and all the sufficient information to establish an audit trail. After the revision the documents will be add to the laboratory's master list and a control number and effective date will be assigned. ACCEPTED 10/15/2018 Michael Shepherd	**10/31/18**

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18	NELAC Ref: 5.5.4.1 [TNI V1M2, 5.4.1] Appropriate test methods and procedures are not used by the laboratory for all tests and related activities within its scope. For sample preparation and subsequent analysis using EPA Methods 549.2 and 548.1, the laboratory is compositing multiple samples into a single sample for extraction and analysis. The justification for such a procedure was cited as Florida Administrative Code (FAC) 62-550.550. However, while the cited rule does allow for compositing samples for a "combined" analysis as a costing saving measure for Public Water Systems (PWS), Section 4(c) limits such compositing to samples from a single public water system or to samples from public water systems serving 3,300 or fewer persons. Analysis of composite samples for endothall using EPA Method 548.1 included a sample composite comprised of aliquots from NSID (North Springs Improvement District,) and CSID (Coral Springs Improvement District) and the Town of Manalapan. According to FL DEP records, the Town of Manalapan serves fewer than 3,300 persons, however NSID and CSID both serve in excess of 40,000 persons. **Response:** The analyst was not aware of the limits established by Florida Administrative Code (FAC) 62-550.550 to composing samples for a combined analysis. As corrective action, compositing of samples for EPA 549.2 and EPA 548.1 analyses up to 5 samples limit will be maintained only if the systems are serving 3300 or fewer persons. However, if the population served by the system is greater than 3300 persons, then compositing will be only permitted within a single system. The information of the serving number of persons for each PWS that the analyses are performed was provided to the analyst to decide how to do the compositing of the samples. The EPA 548.1 and EPA 549.2 SOP were reviewed to indicate the compositing requirements.	**9/27/18** ACCEPTED 10/15/2018 *Michael Shepherd*
19	NELAC Ref: 5.5.4.1 [TNI V1M2, 5.4.1] The laboratory does not use appropriate procedures for all of the tests within its scope of accreditation. Examples include (but are not necessarily limited to): A. While assessing laboratory procedure for membrane filtration, the assessor observed the analyst decant media from the petri dish back into the media container, which has the possibility to contaminate future samples; B. While assessing laboratory procedure for membrane filtration, the assessor observed the analyst touch the forceps to the center of the sample filter numerous times during placement, instead of making contact with the filters only on the outer edge. Such technique has the potential to disrupt and remove potential coliforms that may have collected on the filter surface; C. While assessing laboratory procedure for membrane filtration, numerous petri dishes were observed to have significant air pockets between the media and filter, due to improper filter roll-on technique. Such placement has the possibility to reduce coliform counts as air pockets prevent media from coming in contact with coliforms, inhibiting potential coliform growth; D. Laboratory staff indicated EPA Method 1010 is used for the evaluation of flash point for both aqueous and non-aqueous (soil and other solid) matrices. EPA Method 1010 is only appropriate for analysis of aqueous samples;	

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	E. During analysis of pH, the assessor observed the analyst pour an aliquot of sample into the lid of the sample container, dip the pH strip into the lid, and replace the lid back onto the sample container. Such technique has the possibility of contaminating the sample. F. Laboratory staff in Sample Receiving indicated they occasionally check the pH of samples received for analysis of Hexane-Extractable Material using EPA method 1664A by pouring out an aliquot of sample and analyzing with pH strips. The reference method requires pH analysis to be performed by dipping a glass rod into the sample, followed by rinsing the rod with hexane back into the sample. **ITEMS E and F ARE REPEAT DEFICIENCIES FROM THE AUGUST 1-2, 2016 Assessment, Prefix Tag 26.D AND 29.G, RESPECTIVELY.** **Response:** 19A. Since the petri dishes are sterile, the analyst thought that the media remaining was not contaminated and it can be poured back into the media container. Practices like decant or pour back left standard and/or reagents into the original container, sample pH check putting the pH paper inside the sample or in the lid of the container will be included as a topic in the annual Ethics and Data Training refresher course that will take place in October in the laboratory to all employees. 19B-19C. The analyst is aware that the forceps only can make contact with the outer edge of the filters and about the roll-on technique when place the disk on the media. However, was found that the receptacle's porous plate in the base of the funnel used during the assessment of the test blank sample was damaged. The damaged porous plate caused deformations in the membrane filter and no matter which technique will be used to place the disks on the selected medium the air pockets will be present. When the analyst touched the center of the filter was to remove the entrapment air because he knows that these air pockets are potential inhibitors of bacteria growth. As corrective action, the receptacle's porous plates in the base of the funnel damaged were putting out of service and new funnel units were bought. The QA officer will watch the analyst performing routine work of membrane filtration analyses to be sure that procedure and techniques are done properly and what happens during the assessment was an isolated case. 19D. The method is applicable to liquids and liquid matrices with suspended solids. Even though the laboratory is certified for solid and chemical material matrix; only those samples matrices that can be stirred were analyzed and reported by this method. When samples cannot be stirred the analyst informed the project manager or sample custodians that the test cannot be performed due to matrix and they contacted the client to cancel the analysis. As corrective action if true solids are received, the laboratory will reject the analysis for flashpoint and let the client know that the test method used is not appropriated for the matrix received. 19E. The cited deficiency is most likely attributable to lack of training. As corrective action, the sample custodians were trained by the QA officer to check the sample preservation without placing the sample at risk of contamination. When sample preservation is in question, small amount of sample will be poured onto pH strip. Putting the pH paper inside the bottle or pouring sample in the bottle lid are procedures not allowed. Completion 9/10/18. In the a***ttachment A.19E*** you will find the analyst affidavit indicating that they received, understood and will implement the training procedure.	**10/31/18** ACCEPTED 10/15/2018 *Michael Shepherd* ACCEPTED 10/15/2018 *Michael Shepherd* ACCEPTED 10/15/2018 *Michael Shepherd* ACCEPTED 10/15/2018 *Michael Shepherd*

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	19F. The sample custodians do not check the sample preservation in the sample receiving area unless preservation is in question. The sample preservation is checked in the laboratory at the time of sample analysis and recorded in the logbooks, benchsheets or LIMS system (see ***attachment A.11G***). Therefore, the sample custodians are not familiarized with the sample preservation procedure stated in the EPA 1664A. As corrective action, when sample preservation is questioned for EPA 1664A samples, the pH will not be checked in the sample receiving area. The sample(s) will be taken to lab personnel for proper pH check. The pH results and the pH paper ID or Lot# used will be recorded in the EPA 1664 logbook. Completion 9/10/18. In the ***attachment A.4*** you will find copies of the EPA 1664A extraction log to review the pH recorded and the procedure followed is dip a glass rod in the sample and let a drop fall on the pH strip. This procedure was asked and properly answered by the analyst during the method EPA 1664A assessment.	ACCEPTED 10/15/2018 Michael Shepherd
20	NELAC Ref: 5.5.4.1 [TNI V1M2, 5.4.1] The laboratory has made undocumented and technically unjustified modifications to the reference method. For example: A. Laboratory procedures for EPA Method 531.1 do not incorporate analysis of the Laboratory Performance Check (LPC) on a regular basis. Section 9.8 of the reference method requires the LPC to be analyzed on a daily basis. B. Laboratory procedures for the analysis of volatile organics using EPA Method 524.2 include a sample desorb time of 1.0 minutes. The reference method requires a four minute desorb time. Methods for use under the Safe Drinking Water Act (i.e., drinking water) may not be modified and must be used as written. Further, EPA has documented their objection to such shorter desorb times for this reference method and will not allow them for regulatory compliance under the Safe Drinking Water Act. C. Initial instrument calibration for GC/MS instrument ALPHA performed 7/11/18 for analyses using EPA Method 624.1 was established using unweighted linear regressions. Section 7.3.4 of the reference method requires the regression be weighted inversely proportional to the concentration (1/C). Similar observations were made for analyses using EPA Method 608.3 where Section 7.5.2 of the reference method requires the regression be weighted inversely proportional to the concentration (1/C). D. Balance calibration checks for EPA Method 1664A determinations are not performed at the frequency required by Section 10.0 of the reference method. EPA Method 1664A requires a balance calibration check a 2 mg and 1000 mg at the beginning and end of weighings of a batch of samples. Current procedure in the laboratory includes only the check at the beginning of a batch of samples. E. Laboratory staff indicated the conductivity meter is calibrated every once in a while, instead of daily, as required by EPA method 9050; F. For analysis of Odor using SM 2150 B, the laboratory warms samples to 40 °C, instead of 60 °C, as required by the reference method; G. For analysis of Odor using SM 2150 B, the laboratory prepares two sample dilutions, instead of the preliminary dilution series as required by the reference method; H. For analysis of Odor using SM 2150 B, the analyst indicated they always present a single blank to the panel first, instead of randomizing multiple blanks throughout the	

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	series, as required by the reference method; I. For analysis of ignitability using EPA method 1010, laboratory staff indicated they do not begin analysis with sample temperatures at 30-50 °C below their expected flash point, as required by the reference method; J. During analysis in microbiology using SM 9222 B and SM 9222 D, the assessor observed the microbiology analyst sterilize funnels using isopropyl alcohol, followed by a boiling water rinse. The reference method requires funnel sterilization via autoclave, or through UV exposure for at least two minutes; and K. During analysis in microbiology using SM 9222 B and SM 9222 D, the assessor observed the analyst using forceps with corrugated tips to handle filters, instead of non-corrugated forceps, as required by the reference method. **Response:** 20A. The EPA 531.1 section 9.8 indicates that the instrument performance should be monitored on a daily basis by analysis of the LPC sample. The analyst was performing the analysis of the LPC intermittently as stated in the laboratory's SOP. As corrective action, the LCP will be analyzed on every new sequence. The laboratory's SOP was reviewed to add the analysis of the LPC sample per analytical sequence. The analyst was trained on the procedure. 20B. The sample desorb time was adjusted to 1.00 minute in the method to minimize the interference of water peak and carryover of back end compounds into the next run. As corrective action, the sample desorb time will be adjusted to 3.5+ minutes for drinking water analysis, which rounded is equivalent to 4 minutes. The equipment settings will be re-printed with the current specifications. A new MDL study for EPA 524.1 will be run under this condition. 20C. The laboratory SOP for EPA 624.1 and 608.3 did not have the correct procedure for updating the calibration curve when linear or quadratic fit regression are used. As corrective action, the laboratory's SOPs for the new methods EPA 608.3 and 624.1 were revised to indicate that if linear or quadratic fit regression are used, the regression must be weighted inversely proportional to concentration (1/C). The analysts were trained on the procedure and the proper fit have been implemented on the new calibration curves when applies. 20D The laboratory SOP for EPA 1664A did not have the correct procedure for the balance calibration frequency. As corrective action, the balance calibration verification will be done at the beginning and at the end of weighing of a batch of samples. Analysts will be instructed to perform the required procedure. The EPA 1664A SOP will be reviewed to add the calibration verification requirement stated in the reference method. The analyst will be enforced to read the reference procedure in details. 20E. The conductivity meter was only calibrated when the quality control samples failed the acceptance criteria. The majority of the samples received by the laboratory are logged in for specific conductance by the EPA 120.1 method where the daily calibration is not a requirement. The EPA 9050 method was used on solid matrices because this is the method for which the laboratory holds certification; however, the analysis by this method rarely is requested. As corrective action, one single point calibration is being performed daily on the day of use prior proceeding with the analysis of field samples. The analysts	**10/31/18** ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd

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	were trained in the daily calibration procedure. The specific conductance SOP will be revised to reflect the daily calibration requirement. 20F *through* 20H. The laboratory SOP use for Odor was not following the reference method SM 2150B. As corrective action, the laboratory's SOP will be modified following the reference method SM 2150B. The analyst will be trained in the correct procedure and will be observed by the QA officer performing the test to assure that properly procedure is implemented. 20I. The analyst was not following the laboratory's procedure which states "Samples do not have to be warmed up before analysis due to a possibility of having a sample which might have a flashpoint at a low temperature". The analyst will be re-trained in the procedure and will be instructed to analyze the samples straight out of the refrigerator instead bring the samples up to room temperature. 20J. The laboratory's procedure used to sterilize funnels using isopropyl alcohol, followed by a boiling water immersion for 2 min as per SM 9222B (1.f) is an acceptable procedure; however, it is only applicable for field units. As corrective action, a UV sterilizer box was purchased and placed in service. The laboratory will sterilized the filter parts once in the morning every day via autoclaving, and stored until use. Then before reusing units in successive filtration series the filters parts will be sterilized using a UV box (2 min exposure). 20K. The analysts were not aware that non-corrugated forceps are required for the procedure. As corrective action, the laboratory purchased non-corrugated forceps and the existing forceps were retired from the area.	ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd ACCEPTED 10/15/2018 Michael Shepherd
21	NELAC Ref: 5.5.4.1.1 [TNI V1M2, 4.2.8.5] Laboratory SOP FLEN-552.2, Revision 6 does not accurately reflect all phases of the test method. Section 14.6 of the SOP directs the user to add 10 mL of 10% sulfuric acid rather than the required sulfuric acid methanol solution. **Response:** This was a typo error. The 10% H2SO4/Methanol solution was properly entered in the reagents and standard section 10.7 of the SOP and within the list of reagents listed there is no other reagent containing 10% H2SO4.The laboratory's SOP for EPA 552.2 was reviewed to indicate 10% sulfuric acid/methanol solution in section 14.6. The Revision 6 was retired and Revision 7 placed in use.	8/7/18 ACCEPTED 10/15/2018 Michael Shepherd
22	NELAC Ref: 5.5.9.2(a)(1) [TNI V1M2, 5.9.3(a)(i)] Adequate negative controls are not employed to monitor tests (e.g. blanks, spikes, reference toxicants). TCLP Batch 18C0747 included samples leaching with both TCLP Leaching Fluid #1 and Fluid #2. However, a blank was only prepared and analyzed for Fluid #1. **Response:** The analysts were not aware that two blanks must be extracted and analyzed when TCLP batch includes samples leaching with both TCLP leaching fluid #1 and Fluid #2. The analysts were trained to extract and analyze two laboratory reagent blanks, one for Fluid #1 and one for Fluid #2 every time in a TCLP extraction batch both fluids are used.	8/31/18 ACCEPTED 10/15/2018 Michael Shepherd
23	NELAC Ref: 5.5.9.2(a)(6) [TNI V1M2, 5.9.3(a)(vi)] Not all reagents used within the laboratory are of appropriate quality.	

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	A. Section 7.4 of EPA Method 245.1 requires the nitric acid and sulfuric acid reagents to have an assay level of <1 µg/L Hg. The certificate of analysis (CoA) for the lot of nitric acid in use at the time of the assessment did not provide an assay value for mercury, while the certificate of analysis for the lot of sulfuric acid in use at the time of the assessment shows an assay level of only <5 µg/L Hg. B. Records for sample extraction and analysis of samples using EPA Method 1664A show the hexane used for the extraction process is 66.9% *n*-Hexane. Section 7.3.1 requires an 85% minimum purity for this material. **Response:** 23A. The laboratory supervisor was aware that the mercury levels on the nitric acid and sulfuric acid reagents must be below of <1ug/L. However, was not aware that the assay can be performed in the laboratory using one of the accredited methods for mercury when new lots of reagents are received without mercury specifications. In addition, same reagents have been used before and the mercury level always has been undetected on method blanks digested. As corrective action the laboratory will analyze the nitric acid and sulfuric acid reagents in-house when the information of the mercury levels of <1ug/L will not be present in the CoA or cannot be provided by the vendor. The results of the mercury assay will be keeping with the CoA associated to each reagent. 23B. The Wet Chemistry supervisor was informed verbally by the vendor that the n-Hexane reagent in use meet the EPA 1664A requirements. The laboratory supervisor was focus in finding a product with a Certificate of Analysis that states the isomers C6 purity that didn't pay attention to the n-Hexane purity in the reagent purchased. As corrective action the n-hexane reagent with a minimum purity of 85%, 99.0% minimum purity of saturated C6 isomers, and residue less than 1 mg/L (0.0001% max.) as required by the method will be purchased for the sample extraction and analysis of the samples using the EPA 1664A method.	**10/31/18** ACCEPTED 10/15/2018 *Michael Shepherd* ACCEPTED 10/15/2018 *Michael Shepherd*
24	NELAC Ref: 5.5.9.2(d) [TNI V1M2, 5.9.3(c)] Laboratory procedures have not incorporated the essential standards defined in the Technical Modules for each test method. Procedures for metals analyses using EPA Method 200.7 and 6010 employ standardization with a zero point and a single point calibration standard as is allowed by the reference methods and the standards for accreditation. In such cases, NELAC 2003 5.5.5.2.2.1.h.3 and TNI V1M4 1.7.1.1.h.iii require a standard corresponding to the limit of quantitation be analyzed with each analytical batch and must meet established acceptance criteria. The laboratory does in fact analyze a standard at the limit of quantitation as required, however, the acceptance criteria in use by the laboratory is "detected". A non-quantitative criterion for the acceptability of a quantitation limit verification is not appropriate. **Response:** For both methods EPA 200.7 and EPA 6010 the laboratory analyzes a standard at the limit of quantitation concentration as required by each method. For EPA 6010 the acceptance criteria indicated in the method of 65-135% is established for all analytes and can be found in the laboratory's SOP (FLEN-6010, Rev#8, and section 12.11). For EPA 200.7, the laboratory only established acceptance criteria of qualitative identification for all target analytes due to the method does not state a quantitative criterion for the limit of quantitation and the analysts were not aware of the NELAC requirements. As corrective action, quantitative acceptance criteria of 60-140% was established for all analytes for the EPA 200.7 and the laboratory's SOP was revised to include the control limit established and corrective actions that	**9/28/18** ACCEPTED 10/15/2018 *Michael Shepherd*

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	need to be performed if the criteria is not meet.	
25	NELAC Ref: 5.5.9.2(d) [TNI V1M2, 5.9.3(c)] The laboratory does not ensure that the essential standards outlined in Technical Modules or mandated methods or regulations are incorporated into their method manuals. For example, the assessor observed samples on both the bottom and top shelves of air incubators Micro-34 and Micro-14; however, the laboratory is monitoring temperature on only the bottom shelf when multiple shelves are in use. Section 4.0 of SM 9020 B requires monitoring the temperature on at least the top and bottom shelves when multiple shelves are in use. **Response:** The laboratory was not aware of the monitoring temperature requirement when the incubators have multiple shelves. As corrective action, on the incubators where only one shelf it is used on regular basis the extra shelves was removed and only one thermometer is placed to monitor and record the corrected temperature twice daily with at least 4h apart. Only one incubator has two shelves and one thermometer has been placed per each shelf. The analysts were trained to record the corrected temperature of the two thermometers twice daily with at least 4h apart.	ACCEPTED 10/15/2018 Michael Shepherd 9/30/18

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10/1/18 DATE

NATIONAL ENVIRONMENTAL LABORATORY
ACCREDITATION PROGRAM
ON-SITE LABORATORY ASSESSMENT REPORT

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION

PLEASE FOLLOW THESE INSTRUCTIONS:

In completing the laboratory's section of this form, you should closely observe the following:

1. Review the instructions.

2. Complete the form legibly.

3. Each deficiency is consecutively numbered with an ID Prefix Tag. Your plan of correction should repeat these numbers for identification of each deficiency in the ID Prefix Tag Column (1).

4. Reply to each deficiency cited by reporting the specific action you have taken to effect compliance and enter the root cause analysis and corrective action below the deficiency. Use attachments if necessary. Enter the date it was accomplished in the Completion Date Column (4).

5. For any item which has not yet been corrected, documented the root cause analysis, and report the specific action you intend to take to correct the deficiency. Enter the anticipated date of completion in the Completion Date Column (4).

6. You must present a realistic plan with reasonable time frames based upon the extent and nature of the deficiencies cited.

7. There should be no statements which can be construed as defaming some other party, such as another institution, employees of the institution, etc.

8. You should frame your plan of correction in language that can be readily understood by the lay person.

9. Any deficiencies stated for which you do not concur, your rationale to support this position must be indicated on the form.

10. The form must be completed, signed and dated by a responsible official.

11. The completed document must be returned within thirty (30) calendar days from the date the report was sent. A scanned copy of the original signed and dated document should be emailed to sts@sheptechserv.com. Please retain a copy for your files.

12. Failure to submit a timely reply will leave Shepherd Technical Services no alternative except to submit a finding of non-compliance and recommend denial of certification to the Florida Department of Health.

SIGNATURE: _____ 10/1/18
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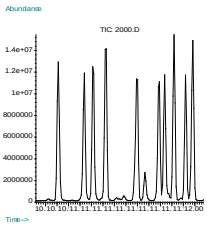

SHEPHERD TECHNICAL SERVICES, LLC

6105 SIERRA LEON
AUSTIN, TX 78759
TELEPHONE/FAX: 512.335.0906

October 16, 2018

Roxana Llambias
Quality Assurance Director
Florida Spectrum Environmental Services
1460 W. McNab Rd.
Fort Lauderdale, FL 33309

FL ID E86006

Ms. Llambas:

Shepherd Technical Services has received your response and Plan of Correction for the findings identified during the assessment conducted at your facility July 31, 2018 through August 1, 2018. The laboratory's response was received by Shepherd Technical Services on October 1, 2018.

Our review of the corrective actions planned and/or taken finds them to be acceptable to address the findings. This audit will be closed.

Please note that a number of the responses cited language such as "staff was unaware of requirements…" Such an observation is troubling as it suggests insufficient training and/or a general lack of knowledge of the requirements presented in either the reference methods or the accreditation standards. The laboratory is reminded of TNI V1M2 4.2.4 "*Top management shall communicate to the organization the importance of meeting customer requirements as well as statutory and regulatory requirements."* Regulatory requirements would include meeting the standards for accreditation and following method requirements. While not rising to the level of a finding, the laboratory may wish to consider reviewing its training procedures in light of these observations.

Attached you will find an annotated copy of the laboratory's response document indicating whether the responses are acceptable. Some items have additional comments included for the benefit of the laboratory.

Please let us know if you have any further questions.

Respectfully,

Michael C. Shepherd

SHEPHERD TECHNICAL SERVICES, LLC

Copy: Vanessa Soto-Contreras, FL-DOH
Mei Beth Shepherd
Michael Hintz

SHEPHERD TECHNICAL SERVICES

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NATIONAL ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
ON-SITE LABORATORY ASSESSMENT REPORT

STATE OF FLORIDA DEPARTMENT OF HEALTH

STATEMENT OF DEFICIENCIES AND PLAN OF CORRECTION
SECTION II

LABORATORY:	LAB I.D. NO.:	DATE SURVEY COMPLETED:	SURVEYOR(S):
Florida Spectrum Environmental Sciences	E86006	August 2, 2016	Mei Beth Shepherd, Mary Wehbe, Michael Shepherd

PARAMETERS SURVEYED: **Drinking Water** - Microbiology, Primary Inorganic Contaminants, Secondary Inorganic Contaminants, Synthetic Organic Contaminants, Other Regulated Contaminants, Group I Unregulated Contaminants, Group II Unregulated Contaminants, Radiochemistry; **Non-Potable Water** - Microbiology, Metals, General Chemistry, Volatile Organics, Extractable Organics, Pesticides-Herbicides-PCB's, Radiochemistry; **Solid and Chemical Materials** - Microbiology, Metals, General Chemistry, Volatile Organics, Extractable Organics, Pesticides-Herbicides-PCB's, Radiochemistry

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1	NELAC Ref: 5.5.10.2(e) [TNI V1M2, 5.10.2(e)] Identification of the test methods used are not uniformly included in the test reports. Sample extract cleanup test procedures (e.g., SW-846 Method 3665, Sulfuric Acid Cleanup, SW-846 Method 3660, Sulfur Cleanup) are not included in the test report. **FSES Response**: I respectfully disagree with this deficiency. The {TNI V1M2, 5.10.2(e)} mentions that each test report shall include identification of the method used. This reference doesn't specify preparation or extraction method, clean up method or analysis method, and our laboratory test reports have included the method of analysis approved by NELAP in our laboratory scope of accreditation according the matrix of the parameter of interest. ***See Attachment B.1*** *As per your response received from FL-DOH and forward via email to me on 10/11/16 "ELCP* does	**8/26/16**

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	not accredit prep method; however, it's a good idea to document the prep and cleanup methods in reports to ensure unambiguous interpretation of the test results. Additionally, other States might want the information and the report can help." I believe that the fact that FL-DOH mentions "its good idea" means that this is not a requirement it is a recommendation and then our laboratory shouldn't be cited with this deficiency. See copy of the email in the ***attachment C.1***	
2	NELAC Ref: 5.5.10.3.1(f) [TNI V1M2, 5.10.11(d)] Numerical results with values outside of the working range are not qualified. Laboratory procedures for analyses using the FL-PRO method include analysis of a high concentration (2000 ppm) standard as a linearity check, however the high concentration standard is not included as part of the calibration curve. Results falling between the upper calibration point and the high concentration standard are not qualified as falling outside of the working range defined by the calibration. **FSES Response**: The analyst was analyzing a high standard concentration of 2000 ppm to prove linearity of the system and due to this, sample with concentrations between the upper calibration range 500 ppm and the high standard 2000 ppm were not diluted and neither flag for falling out of the working range. As corrective action two points (1000 ppm and 2000 ppm) were added to the FL-PRO calibration curve. The calibration curve range now goes up to 2000 ppm.	**9/1/16**
3	NELAC Ref: [TNI V1M2, 5.5.2] The laboratory has not established calibration programs for key quantities or values of the instruments where these properties have a significant effect on the results. Temperature measurements for muffle furnace used for volatile solids are made using the digital readout on the instrument. The digital readout has not been calibrated or verified. **FSES Response**: The NIST traceable thermometer used in the laboratory range is -1/201 °C and the muffle furnace set point for volatiles solids is 550°C. Since the muffle temperature furnace is out of the NIST thermometer the digital readout has not been calibrated. The digital read was calibrated on 9/6/16 with an IR thermometer which is calibrated against the NIST thermometer annually. A label was placed in the muffle furnace with the instrument ID, correction factor, initials of the person who did the calibration and due date of next calibration. The analyst was trained to subtract the correction factor (-15.0°C) from the digital reading when document the	**9/6/16**

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SECTION II

	temperature for the volatiles and fixed solids. The calibration of the muffle furnace digital read out will be done annually with the rest of the thermometers in the laboratory. *The accuracy range of the IR thermometer gun used to do the verification mention above was -32 to 545°C. Since the muffle furnace set point is 550±50°C a new IR gun thermometer (TEMP GUN-3) was bought with an accuracy range -50 to 650 °C. The TEMP GUN-3 was received with a NIST traceable certificate and also was verified with our NIST thermometer. The digital read of the muffle furnace was verified with the TEMP GUN-3 on 10/19/16. A new label was placed in the muffle furnace with the calibration date, initial of the person doing the calibration, instrument ID, next calibration date and correction factor. The new correction factor for the digital read is (-9.0). The analyst was trained to subtract the new correction factor from the digital read out when document the temperature for the volatiles and fixed solids analysis. The verification will be done at least annually. Completion 10/19/16.* ***See attachment C.3***	
4	NELAC Ref: 5.5.5.2.1(a) [TNI V1M2, 5.5.13.1(a)] Laboratory records do not record all repair and maintenance activities. The maintenance log for the Lachate had no entries since 2011. At a minimum the tubing has been replaced in the last five years. **FSES Response**: The analysts that performed the analysis in the Lachate instrument have been trained to record all repairs and maintenance activities in the maintenance log.	**9/15/16**
5	NELAC Ref: 5.5.5.2.1(b) [TNI V1M2, 5.5.13.1(b)] The laboratory does not calibrate support equipment using traceable standards that bracket the range of use. For example: A. The temperature sensor used on the pH meter has not been verified. B. The on-board barometer in the DO meter has not been verified. **FSES Response:** The analysts never were told to verify and/or calibrated the sensor of the pH meter and the on-board barometer in the DO meter. The pH meter probe in use doesn't have a temperature compensation device neither. A. A new probe with temperature compensation will be buying and the sensor of the pH meter will be measured and /or calibrated using the NIST traceable thermometer	**12/31/16**

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	annually by the QA. B. The on-board barometer in the DO meter will be verified semiannually at the same time thermometers of microbiology analysis are been calibrated using as reference the Fort Lauderdale Airport pressure. The next semiannual calibration/verification will be done in December 2016. *The operator's manual for the DO meter Thermo Scientific Orion Star A223 used in the Lab was reviewed and there is no indication of frequency of verification of the barometer. As we stated on our first response, the on board barometer will be verified on semiannual basis starting in December 2016 with the semiannual thermometer calibration of the thermometers used in the microbiology analysis.*	
6	NELAC Ref: 5.5.5.2.1(d) [TNI V1M2, 5.5.13.1(d)] The laboratory does not check balances, ovens, refrigerators, freezers, and water baths with NIST- traceable references (where commercially available) prior to use on each working day in the expected use range. For example: A. Analytical balances are not calibrated daily over the range of use. When balances are calibrated the containers being tared, in some cases, are outside of the range that have been verified. B. Sample refrigerators used for storing samples for volatile organics are not monitored seven days/week. Weekend temperatures are not recorded even though staff stated samples are routinely being incubated over weekend periods. **FSES Response:** A. Balance calibration verification will be done within the range in use. The QA officer verified the set of weights available and maximum working weight per department to make sure references weights were available to bracketing the range in use when balance calibration verification will be done on the day of use. The Logbooks were revised per department to add the weights that must be calibrated per department by default to avoid been out of the range in use. Completion date 9/9/16. B. The sample custodians and analysts in the volatiles department were trained to reset on Friday evenings (or last day of the work week) before leaving the Min/Max thermometers	**9/19/16**

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	used to storing samples for volatiles organics. The Max temperature will be checked and noted Monday morning (or next working day). The temperature logs in the refrigerators storing samples for volatiles organics were checked on 9/19/16 and showed documentation of the temperature the 7 days of the week. *As we stated on Friday evening (or last day of work week) before leaving the min/max thermometers used on refrigerators/freezers to storing samples for volatiles organics will be reset. The personnel were instructed to check and record the minimum and maximum temperature readings on Monday morning (or next working day). Completion 10/17/16.* ***See attachment C.6B***	
7	NELAC Ref: 5.5.5.2.1(d) [TNI V1M2, 5.5.13.1(d)] The laboratory does not check balances with NIST traceable references prior to use on each working day. Records for the verification of balance BAL SV24 showed multiple dates where the balance was in use but had not been verified (most recently 7/25/16). **THIS A REPEAT DEFICIENCY FROM THE MARCH 24-APRIL 5, 2014, Prefix Tag 52.** **FSES Response:** This is a repeat deficiency for the lab but not for the extraction department. The analysts were trained to do and document the balance calibration verification each day of use. The Balance Verification Records Logbook for Balance SV24 has been reviewed and calibrations have been performed and documented for every time of use. In the ***Attachment B.7*** you will find a copy of the balance verification records for the Balance SV24.	**9/11/16**
8	NELAC Ref: 5.5.5.8 [TNI V1M2, 5.5.8] The assessment team observed that mechanical pipettes in use throughout the laboratory have not been labeled, marked, or otherwise identified to indicate the calibration status, including the date when last calibrated and the date or calibration criteria when recalibration is due. **FSES Response**: The mechanical pipettes calibrations have been done on quarterly basis and the information recorded in a logbook or bench sheet. Besides the documentation on logbooks or bench sheets, a label with the calibration date, initials of the person who did the calibration and next calibration due date have been add to the mechanical pipettes and will be updated with the quarterly calibration information.	**9/9/16**

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9	NELAC Ref: 5.5.4.7.1(a) Standard operating procedures to ensure that reported data is free from transcription and calculation errors have not been established. Several methods in the laboratory (especially in general chemistry lab) have data being put into spreadsheets that calculate final results. The spreadsheets are saved and printed; then the results are manually entered into the LIMS. There is no process or procedure in place to confirm that this manual data transcription was performed correctly. The lab staff stated that the entries were made by the supervisor and reviewed by the same supervisor. **FSES Response:** All the spreadsheets calculations have been validated, formulas locked and protected with password (especially in general chemistry lab). A document control number has been assigned to each spreadsheet. Supervisors are responsible of review the data entries by personnel and their own data. *Supervisors are responsible to review the data entries of their laboratory staff. Supervisors were instructed that the data entries performed by them must be peer reviewed to avoid or minimized manual data transcriptions errors. The data entries reviewed will be signed and dated as proof of somebody different than the primary analyst has being reviewed the data entries. Completion 10/17/16.*	**9/16/16**
10	NELAC Ref: 5.5.4.7.2(a) [TNI V1M2, 5.4.7.2(a)] The laboratory does not ensure in-house programming used in spreadsheets are validated as being adequate for use. No records were available to document the validation of the Excel spreadsheets used for calculations for Cr VI. Laboratory staff confirmed the spreadsheets had not been not validated. **FSES Response:** The spreadsheet calculation for Cr IV used by the laboratory has been validated and a document control number assigned. ***See Attachment B.10***	**9/16/16**
11	NELAC Ref: 5.5.4.7.2(d) [TNI V1M2, 5.4.7.2(b)] The laboratory does not secure computer calculations to prevent unauthorized amendment. For example, the calculation cells in the spreadsheet used to calculate results for Unionized Ammonia and Cr VI have not been locked.	**9/16/16**

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	FSES Response: The formulas on the spreadsheet calculations for Unionized Ammonia and Cr IV have been locked and spreadsheets calculations have been protected with a password. The password is controlled, only supervisor and QA officer are authorized to use it as necessary.	
12	NELAC Ref: 5.4.12 [TNI V1M2, 4.13.3(a)] The laboratory record keeping system does not produce unequivocal, accurate records which document all laboratory activities. A. Temperature monitoring records do not unequivocally document laboratory activities. Temperatures are being recorded with no indication(s) as to whether they have corrected using the appropriate correction factors. Various staff indicated that temperatures were being recorded as corrected values while others were not applying the associated correction factors. B. Records for the preparation of reference material SVOGC 1500073 refer to SK-8082-021615 (Method 8082 Spike); however there are no records for the preparation of SK-8082-021615. Similarly, records for the preparation of reference material SVOGCMS 1600077 refer to SK-PAH-021916, while there are no records for the preparation of SK-PAH-021916. C. Analysis for Cr VI do not indicate when the pH meter was calibrated. There can be multiple runs with the same calibration information copied to each analytical batch. There is no indication of which run the actual calibration was performed with. **THIS A REPEAT DEFICIENCY FROM THE MARCH 24-APRIL 5, 2014, Prefix Tag 40.** **FSES Response** A. The personnel are aware that the temperature that must be recorded in logbooks and /or benchsheets must be the temperature with the correction factor. The logbooks and benchsheets have been revised. The temperature recorded is clearly named temperature corrected and a refresher training to emphasize in the documentation of the corrected temperature was done. ***See Attachment B.12A***	**10/15/16**

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	B. The preparation of the standards and reference material are documented in a preparation logbook and if they are used as spikes, internal standards and /or surrogates it is necessary to create the standard or reference material in Element too. In these particular cases the procedure was not followed properly. The analysts will be trained to document the preparation for all standards and references material and create the standards in Element. C. The pH meter calibration date has been documented in the pH logbook in the day that the analysis has been performed. The Cr IV logbook has been revised. The Cr IV logbook has been retired and a revised logbook has been issued on 9/19/16 with a section to document the pH meter used and the pH meter Calibration date. ***See Attachment B.12C***	
13	*NELAC Ref: 5.4.12 [TNI V1M2 4.13.2.1]* *The laboratory does not retain all records of original observations. For example, review the most recent calibration for Cr VI revealed the data had been entered into a computer spread sheet; however, the bench log did not have any record of the calibration, as the original hand written absorbances had been discarded.* ***FSES Response**: The standard IDs traceability can be found in the standard preparation log and the absorbance of the calibrations standards in the excel spreadsheet calculation. The analyst was trained to document the standards calibration IDs and absorbances in the logbook as well in the excel spreadsheet calculations. The most recent calibration for hexavalent chromium was performed on 9/7/16 and information was documented in the logbook.* *The analyst was trained to document all original observations in the logbook as primary document. When calibration will be performed original observations will be recorded in the logbook and in the calculations spreadsheet associated (calibration standards IDs, calibration standards absorbance, calibration standards concentration, and calibration date on the spreadsheet calculations to be able to reconstruct data). As cited above most recent calibration for Cr IV was performed on 9/7/16 and original observations were recorded in the logbook and also in the calculation spreadsheet.*	**9/7/16**
14	NELAC Ref: 5.4.12.1.5(a) [TNI V1M2, 4.13.2.1] Instrument maintenance records do not uniformly include the identity of the individual	**9/23/16**

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	performing the maintenance activities. Most entries in the log for GC/MS instrument for EPA Method 524.2 did not carry the identification/initials of the person making the entry. **FSES Response:** The analyst was trained to record every entry in the instrument maintenance logs with the initials of the person performing the maintenance alongside the date.	
15	NELAC Ref: 5.4.12.2.5.3(b) [TNI V1M2, 4.13.3(f)(iv) & (v)] Date of analysis, and time of analysis when time critical steps are included in the analysis (e.g., extractions and incubations) are not included in the records. Incubation time for COD/CBOD analysis is not recorded to the hour. The time put in the incubator is recorded. However, when removed from the incubator for analysis, only the day is recorded such that one cannot determine if the sample had been incubated for 5 days +/- 6 hours. **FSES Response:** The CBOD/BOD logbook has been revised to reflect the date/time in of the samples into the incubator and the date/time out of the samples incubated. This way the incubation time of the samples can be determined. ***See Attachment B.15***	**9/12/16**
16	NELAC Ref: 5.4.12.2.4(b) [TNI V1M2, 4.13.3(f)] Laboratory records do not include all information necessary for the historical reconstruction of data. Examples include (but are not necessarily limited to): A. Records appearing in the balance verification logbook for balance "BALVOL6" do not include the identity of the reference weight set used in the for the verification. B. The bench log for analyses using EPA Method 504.1 and 8011 do not include the identity of the balance used in the analytical process. C. Records for the preparation of reference materials (calibration standards) from neat materials for EPA Method 552.2 do not include an identifier for the balance used in the preparation(s). D. Records for the preparation of reagents for analyses using SM 4500-NO3 E do not include an identifier for the balance used in the preparation(s).	**9/23/16**

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	E. Records for the analysis of samples for Total Dissolved Solids using SM 2540 C do not include an identifier for the thermometer used to monitor oven temperatures. F. Records for the analysis of samples for Total Dissolved Solids and Total Suspended Solids using SM 2540 C/D do not include an identifier for the filters used in the analytical process. Note: Failure to record filter identification is an issue in other lab areas including but not limited to metals and water chemistry methods. G. Unique identifiers for mechanical pipettes are not recorded when used for spiking samples or preparation of reagents/ and calibration standards. H. Bench sheets for CrVI, phenol and color analysis do not include the identification of the pH meter used. I. For solid pH samples the weight of the sample and balance ID are not recorded. J. Records for the analysis of samples for Biochemical Oxygen Demand and Carbonaceous Biochemical Oxygen Demand (BOD/CBOD) do not include lot numbers for the disposable pipettes used in the analyses. K. Laboratory staff stated that Radiochemistry samples for Gross Alpha and Gross Beta are desiccated for three days as required in the method. However the time the samples are put into and taken out of the desiccator is not documented. L. Laboratory staff stated that Microbiology samples are incubated in a water bath/incubator the correct amount of time; however the records do not clearly show the time samples are placed into and taken out of the water baths and incubators. M. The Geiger counter and IR thermometer used in sample receiving are not documented. **FSES Response:** A. The balance verification logbooks have been revised in all departments in the Lab to include the reference weight set used to verify the balance calibration. Completion date 9/9/16. ***See***	

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	Attachment B.16A B. The EPA 504.1/8011 logbook was revised and section was designed to add the balance ID and Balance Cal date when applies. Completion date 9/15/16. ***See attachment B.16B*** C. A label in the front of the preparation of standards logbook was added indicating the ID of the balance used. The label indicates that the balance ID applies to all preparation in the logbook. The next logbook will include a section to indicate the balance used. Completion 9/16/16 D. New logbooks for the standard and reagents preparation have been issued. A column has been added to indicate the balance used. Completion date 9/20/16. ***See Attachment B.16D*** E. The new logbook for TDS analysis was issued 9/19/16. A section designated for the oven thermometers IDs has been added. ***See Attachment B.16E*** F. The TDS and TSS logbooks include a section to indicate the filters used during the analysis of the TDS and TSS. Completion date 9/19/16. ***See Attachment B.16E and B.16F*** G. The mechanicals pipettes in the lab are found in metal, radiochemistry and general chemistry departments. The standard and reagents preparation logbooks for those departments were revised and a column named pipette ID was added. Also any other analyses involving the use of the mechanical pipettes have been revised to include a section for the pipette used during the analysis. Completion date 9/19/16. ***See Attachment B.16D*** H. The color, phenol and Cr IV logbooks have been issued with a section to document the pH meter used in the analysis. Completion date 9/19/16. ***See Attachment B.16H*** I. New pH log has been issued. The balance ID can be documented as well the weight of the soils samples used in the preparation of the soils samples to determine the pH. Completion 9/19/16. ***See Attachment B.16I*** J. Disposable pipettes are not used in the BOD/CBOD analysis; pipettes used are kept in a container. This container will be label and in a log the pipette lot numbers inside of each associated container. The CBOD/BOD log will include a section to document the pipette used. Completion 9/20/16. ***See Attachment B.15***	

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	K. The EPA 900.0 sample preparation has been reviewed. The section to document time in/out was added. Completion date 9/7/16. ***See Attachment B.16K*** M. Geiger Counter ID and IR temperature GUN ID were added in element on 8/29/16.	
17	NELAC Ref: 5.4.12.2.5.3(i) [TNI V1M2, 4.13.3(f)(xi)] Analytical records do not include standard and reagent origin, preparation, and use. Examples include (but are not necessarily limited to): A. Records for the analysis of samples using EPA Method 524.2 do not include a record of the preparation of the calibration from stock standards. B. Records for the preparation of standards for analyses using EPA Methods 504.1 and 8011 do not include a lot number or unique identifier for the methanol solvent used in the preparation. C. Records for the analysis of samples for Total Organic Halides (TOX) do not include a lot number or unique identifier for the mineral oil and reagent sand used in the preparation of samples. D. Records for the analysis of samples for nitrate/nitrite using SM 4500-NO3 E do not include a lot number or unique identifier for the cadmium reduction column used in the analyses. E. Records for the analysis of samples for sulfate using EPA Method 375.4 do not include a lot number or unique identifier for the Sulfa-Ver reagent used in the analyses. F. Records for the analysis of samples for silica using SM 4500-SiO2 C do not include a lot number or unique identifier for the hydrochloric acid, ammonium molybdate, and oxalic acid reagents used in the analyses. G. Analytical records do not include a lot number or unique identifier for chemical test strips (e.g., pH, chlorine) when used.	**11/30/16**

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	H. Records for the analysis of samples using EPA Method 8321 do not include a lot number or unique identifier for the mobile phase reagents. I. When taking pH readings for Toxicity Characteristic Leaching Procedure (TCLP) and /Synthetic Precipitation Leaching Procedure (SPLP) preparations, the lot numbers for the standards used in the calibration of the pH meter are not recorded. J. The metals standards and reagent preparation logbook does not include volume of reagents added. K. Records for preparation of samples for cyanide analyses do not include: identifiers for pH and all test strip paper, and lot number of NaOH if added. L. Records for analysis of samples for sulfide do not include the lot number of the cadmium carbonate. M. Records for analysis of samples for chloride do not include the lot number for the ascorbic acid used or for the digestion tubes used during the analysis. Further, all reagents for chloride are not consistently being recorded. N. Records for analysis of samples for Phenolics do not include the lot number for 15M NaOH. O. Records for analysis of samples for surfactants (MBAS) using Sm 5540 C do not include an identifier for the wash solution used in the analysis. P. Records for analysis of samples for BOD/CBOD using SM 5210 B do not include: dilution water preparation, seed preparation, and lot number of acid used to adjust sample pH. Q. Records for the analysis of Gross Alpha and Gross Beta do not include the lot number of the acids used for sample preparation. **THIS A REPEAT DEFICIENCY FROM THE MARCH 24-APRIL 5, 2014, Prefix Tag 48.**	

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FSES Response:

A. The calibration standards are prepared from working standards (100 ppm). The working standards are prepared from stock standards and the preparation of the working standards is documented in the standard preparation log. The preparation of the calibration standards from the working standards can be found in the EPA 524.2 SOP section 13.1.1 of the Revision 12 issued 9/19/16. ***See Attachment B.17A***

As stated above the working standards (100ppm) are prepared from stocks standards. The calibration standards are prepared from working standards at 100 ppm. The calibrations standards levels are prepared following the procedure on the EPA 524.2 SOP. The preparation of the calibration standards is now documented on the Standard and Reagents Preparation Logbook and a unique ID is assigned to each calibration standard level prepared. This unique ID is documented also on the raw data in the miscellaneous section for each calibration level. Completion 10/7/16. ***See attachment C.17A***

B. The next time the EPA 504.1/EPA 8011 calibrations standards will be prepared the methanol solvent used in preparation will be documented. The new calibrations standards will be prepared by November.

C. New logbook for TOX was issued including a section to document the mineral oil and sand. Completion 9/19/16. ***See Attachment B.17C***

D. The unique ID assigned to the cadmium reduction column when was received in the laboratory has been documented in the cover page of the NOX analysis with the reagents used. Completion 9/6/16

The analyst never was instructed to record the cadmium column information before. The cadmium column in use was recorded on the Standards and Reagents Receival Logbook with the lot number, vendor, and date received, date opened, the initials of the person who received the product and the expiration date, and a unique ID was assigned. The unique ID assigned was wrote on the Cadmium Column and a label was place on the channel used to run nitrate/nitrate by SM 4500 NO3-F with the ID of the cadmium column, the date that was placed in service and

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	*expiration date. The cover page used for SM 4500 NO3-F analysis includes the batch number, and the batch number includes the samples analyzed with the cadmium column ID recorded at the bottom of the page. Also the raw data is attached to the cover page and includes the samples analyzed with the cadmium column ID recorded in the cover page. Completion 10/10/16 .**See attachment C.17D.*** E. New logbook for sulfate was issued including a section to document the Sulfaver4 reagent. Completion 9/19/16. ***See Attachment B.17E*** F. New logbook for silica was issued with a section to document the reagents used (HCL, ammonium molybdate and oxalic acid). Completion date 9/19/16. ***See Attachment B.17F*** G. New logbooks were issued for those tests where the analysis involves the use of chemical test strips (microbiology, semi-volatiles, metal and general chemistry). For volatiles analysis the documentation has been done in the preparation batch where documentation of pH and chlorine for drinking waters is done. Completion 9/19/16 H. The EPA 8321 cover page include the mobile phase reagents to document the lot number or unique ID. Completion 9/16/19. ***See attachment B.17H*** I. New logbook for pH meter calibration include the 3 buffers standards used to calibrate the meter and the QC check (2nd source standard) to document the lots or unique ID used. Completion 9/1/16. ***See attachment B.17I*** J. New metal preparation standard and reagent log was issued with a column available to document the volume of reagent used. Completion 9/1/16. ***See Attachment B.16D*** K. New cyanide logbook was issued and includes: pH paper, lead acetate paper, KI starch paper IDs and also NaOH section to document this information when will be used. Completion 9/19/16. ***See Attachment B.17K*** L. The cyanide logbook also includes the cadmium carbonate to document the unique ID in case sample test positive for sulfide. Completion 9/19/16. ***See Attachment B.17K***	

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	M. The cyanide also includes the ascorbic acid section to document the unique ID in case positive results found for chlorine and the digestion tubes ID used in the distillation of the cyanide samples. Completion (9/19/16). ***See attachment B.17K*** N. New logbook issue for phenol includes a section to document the 15 N NaOH. Completion date 9/19/16 . ***See Attachment B.16H*** O. New MBAS logbook issued includes a section to document the wash solution. Completion 9/19/16. ***See Attachment B.17O*** P. New CBOD/BOD logbook issued includes a section to document the seed preparation and the dilution water used. Also the acid (H2SO4) or base (NaOH) lot ID in case pH adjustment are required. Completion date 9/12/16. ***See Attachment B.15*** Q. We disagree with this citation. The lot number of the acids used in the sample preparation alpha and beta were documented in the logbook. No corrective action required. In the ***Attachment B.17Q*** a copy of a preparation of the EPA 900.0 samples can be found dated 7/14/16 where the documentation of the HNO3 lot number used was documented.	
18	NELAC Ref: 5.4.10.2 [TNI V1M2, 4.11.2] The corrective action documentation reviewed by the assessment team did not include all required elements of the corrective action process, including root cause analysis and monitoring (follow-up/verification). **FSES Response:** The form used by the Lab doesn't have a section named root cause; however on the follow up /comments section the possible cause (s) of the non-conformance/corrective action report have been documented. The QA Nonconformance/Corrective Action Report has been revised and a new control number assigned. A new section was added to provide the probable root cause for the non-conforming activity, criteria or data. The corrective action follow up/comments section was already on the form used by the Lab previously. ***See Attachment B.18***	**8/29/16**
19	NELAC Ref: 5.4.10.6(b) Laboratory test reports when a quality control measure associated with that sample analysis was	**9/22/16**

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	found to be out of control and the data is to be reported do not carry appropriate laboratory defined data qualifier(s) with the sample results. Test report for work order 16G0409-01 did not include any qualifiers to indicate a failure for the DDT breakdown check associated with the sample analyses. **FSES Response:** No qualifier available to flag the data**.** The "J-9" qualifier was created to qualify the analytical batch when the DDT breakdown failed the acceptance criteria. The qualifier description is "*DDT breakdown failure due to matrix interference*".	
20	NELAC Ref: 5.4.3.1 [TNI V1M2, 4.3.1] The laboratory's document control procedures do not include all documents that form part of the quality system. For example, the laboratory maintains a number of uncontrolled, shorthand work instructions or "cheat sheets" at the bench for analyst use. **FSES Response:** Control numbers were assigned to the "cheat sheets" that were kept (general chemistry, microbiology and HPLC extraction room) and all the unnecessary documentation around the Lab was removed.	**9/20/16**
21	NELAC Ref: 5.4.3.2.1 [TNI V1M2, 4.3.2.1] Assessment staff reviewed log books in the radiochemistry area that were not part of the current document control system. The log books had document control numbers however the documents were not listed in the master list maintained by Quality Control nor were the forms and templates used to create the log books known or maintained by Quality Control. **FSES Response**: The logbooks in used in Radiochemistry were issued in 2010, the controlled master list used in the lab was built by the previous QA officer in 2012 and those logbooks were not included. All the Radiochemistry logbooks issued in 2010 were retired on 9/7/16. Templates for the new logbooks with document control assigned as well logbooks with document control numbers were created with the issued date 9/7/16.	**9/7/16**
22	NELAC Ref: 5.5.4.1.1 [TNI V1M2, 4.2.8.5] Laboratory SOPs for performing GC/MS analyses for EPA Method 524.2 do not contain sufficient detail to perform the tests and generate the test result.	**9/19/16**

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	A. The SOP does not include sufficient guidance or instruction on the GC/MS tuning procedures for selecting appropriate spectra for evaluation to meet the requirements of Section 10.2.2 of the reference method. B. The SOP does not include sufficient guidance or instruction for the preparation of the calibration standards. **FSES Response:** The SOP for EPA 524.2 has been reviewed. The new Revision is (12) and was issued on 9/19/16. ***See Attachment B.17A*** A. The GC/MS tuning procedure was updated to meet the requirements on the reference method see the section 13.2.1 on the Revision 12 EPA 524.2 SOP. B. The section 13.1.1 was reviewed to include sufficient instruction for the preparation of the calibrations standards as well section 10.6 for the preparation of the working standards used in the preparation of the calibration standards.	
23	NELAC Ref: 5.5.9.2(a)(5) [TNI V1M2, 5.9.3(a)(v)] Appropriate formulae to reduce raw data to final results are not selected. For example, for the testing of samples using SW-846 Method 8151A, the laboratory calibrates using methyl esters of the target herbicide acids but does not make a molecular weight adjustment as required by section 7.8.6 of the reference method. The adjustment is required when reporting the results as acids. **FSES Response:** No adjustment of the molecular weight is need it due to after the hydrolysis process on the herbicides extractions, esterification of the samples is performed. As final product we have herbicides as methyl esters like the calibration standards. A note on the template reports will be added indicating that the herbicides compounds are reported as methyl esters. *As corrective action the laboratory will adjust the molecular weight (MW) as required by the reference method to report the results as acids on method EPA 8151. To convert the final results from methyl esters to acids a conversion factor must be used. The conversion factor is generated dividing the MW of the acid/MW of the ester and will be add to the water and soil methods in element. The final result uploaded in element for EPA 8151 (as methyl ester) will be multiply by the conversion factor associated to each compounds and the final results will be reported as acid compounds. Completion 11/15/16.*	**10/31/16**

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24	NELAC Ref: 5.5.9.2(a)(6) [TNI V1M2, 5.9.3(a)(vi)] Purity or grade of reagents used for analysis of samples using EPA Method 1664A is not compliant with requirements of Section 7.9 of the reference method. Records for the preparation of the Precision and Recovery standard show the stearic acid used in the preparation is 90%. The reference method requires a minimum purity of 98% for this material. **FSES Response:** The purity of the stearic acid was oversight, since the proficiency test studies performed in our Lab have been "acceptable" and the quality control samples were within acceptances limit of the method. A new source of stearic acid with a minimum purity of 98% will be obtained for the preparation of the precision and recovery standard and the EPA 1664A SOP will be reviewed to update the purity of the reagent.	**10/31/16**
25	NELAC Ref: 5.5.8.4(a)(2) [TNI V1M2, 5.8.9(a)(ii)] Samples are not stored in such a manner as to prevent cross-contamination. Samples for volatile organics analyses are stored in the same refrigerator as other incoming samples. **FSES Response:** The refrigerator dedicated to storage the volatiles samples malfunctioned on 4/8/16 and the Lab decided to use the most reliable refrigerator to keep the volatiles samples. The refrigerator in use for almost 4 months was storing BOD/CBOD, microbiology and HPLC samples. A refrigerator dedicated to volatiles storage samples only in Sample Custody has been put in use on 8/4/16. The refrigerator ID is SC-10.	**8/4/16**
26	NELAC Ref: 5.5.4.1 [TNI V1M2, 5.4.1] The laboratory does not use appropriate procedures for all tests and related activities within its scope. Examples include: A. Reference material solutions for performing instrument calibrations for EPA Method 552.2 are prepared from neat materials. However, all of the neat materials are highly hygroscopic and are not dried prior to weighing for use as a reference material. Further, when purities are <98%, concentrations are not adjusted to reflect the purity of the material.	**11/31/16**

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	B. The laboratory's procedure for preparing the matrix spike sample for ion chromatographic analyses, as described in the SOP and by the analyst, does not properly determine matrix impact on the analysis. The laboratory process of mixing sample and spike solutions in a 1:1 mixture dilutes the sample matrix too much for the matrix impact determination. C. Laboratory procedures for determining nitrite using SM 4500- NO2 B involves standardizing a nitrite reference material rather than the FAS titrant as directed by the reference method. D. Procedures witnessed by the assessment team for determining preservation while screening samples for analysis do not protect the integrity of the samples prior to or during analysis. Test strips for pH analysis are dipped directly into the sample lid, which could compromise the integrity of the sample or potentially contaminate the sample. E. The laboratory's procedure for calibrating the dissolved oxygen meter is not appropriate for the applied method. The meter calibration procedure witnessed during the assessment involved placing the probe in the calibration sleeve and using the instrument's "AutoCal" function. However, for this technique to work properly, the sponge in the bottom of the probe sleeve must be moist to provide a water saturated air calibration environment. Examination of the sponge immediately after the calibration procedure was performed showed the sponge was completely desiccated. **FSES Response:** A. The standards with purity >98% are not always available such as Dibromoacetic Acid. No desiccator in semi-volatiles department available to kept dried materials hygroscopic. The standards will be purchased with purities >98% and will be kept dried for use in a desiccator assigned to the department. B. The matrix spikes samples analyzed with dilutions were samples that the Lab has historical data and the analyst knows that if samples are analyzed at 1:1 dilution will fall within the calibration range but if same samples are spiked at same dilution (1:1) the concentrations will be out the range of calibration. For this reason, the analyst was diluting the matrix spikes and no the parent sample associated. The analyst was instructed to analyze the matrix spikes samples at same dilution than parent samples associated.	

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	C. The SM 4500-NO2 B method is basically performed with the proficiency test samples. The analyst was taught to standardizing the nitrite stock standard to check the integrity of the standard used with the titrant FAS. However, the nitrite stock standards used in the analysis (primary and secondary source) are commercially prepared with purity >99% and standardization is not required. Only if nitrite stock standard prepared from salt are used standardization with FAS will be required, as well if the FAS used is not commercially prepared must be standardized. The laboratory will be working with commercially purchased nitrite stock standards to eliminate the standardization step in the procedure. *The analyst was taught to standardizing the nitrite stock standard to check the integrity of the standard used with the titrant FAS. As stated above the laboratory will be using nitrite standard commercially purchased with certificate of NIST traceability and purity >99% and the standardization of the FAS will not be required. The SM 4500 NO2-B SOP will be updated. A note in the modification section will be add stating that "because purchased a commercially prepared standard with a certificate of NIST traceability the nitrite standard concentration doesn't need to be verify against FAS and the standardization of FAS titrant will be no longer required" to reflect the deviation from the method. Completion 10/18/16 .**See attachment C.26C*** D. The analysts though that pouring a little bit of sample on the sample container lid to check the preservation would not compromise the sample. When checking the acid /basic preservation of the samples dip the pH paper into the sample is not allow neither pouring in the lid. Pouring sample directly onto the pH paper or using disposable pipette to drop sample onto the pH paper will be the accepted ways to check the sample preservation without compromise the integrity of the sample. E. The analyst thinks that maybe a wrong probe sleeve was checked during the assessment, since another DO meters out of service are in shelf in the same room. The sponge at the bottom of the calibration tube was checked without wet 3 days after been used and was still moist. The Lab analyzed samples with regular frequency and always rinses the probe and introduce inside the calibration tube. Wet the sponge at the bottom of the calibration tube before calibrating the DO probe every time is required. *The analyst was trained to wet the sponge at the bottom of the probe sleeve to provide a*	

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	water saturated air calibration environment before proceed with the calibration of the DO meter every time is required. The BOD and CBOC SOPs will be reviewed to include the instruction on the procedure section 14.1. Completion 10/31/16. ***See attachment C.26E***	
27	NELAC Ref: 5.5.8.2 [TNI V1M2, 5.8.2] The laboratory does not have a documented system and practice for uniquely identifying the samples to be tested to ensure that there can be no confusion regarding the identity of such samples at any time for BOD/CBOD analysis. For each day the BOD bottles used have a unique ID but the same unique ID could be used multiple days in a row, so the incubator may have up to 5 samples in it at one time with the same "unique" ID. **FSES Response:** The BOD bottles per batch set in the incubator were having a unique ID, no duplicates numbers in same extraction batch. The extraction batches are set in different shelf according the extraction date and there is no reason to misplace bottles from one shelf to another. To avoid duplications of the CBOD/BOD bottles the laboratory implements a new numbering system. The bottles will be labeled with consecutive numbers from 1 and all the way to how many bottles are in the department at the time (example: 1,2,3,…..total of bottles available).	**10/15/16**
28	NELAC Ref: 5.4.13.1 [TNI V1M2, 4.14.1, 4.14.5(c)] The laboratory's annual internal audit does not address elements of the quality system. The internal audit uses checklists to audit different technical areas of the laboratory and the schedule is managed to show that the Quality Office does internal audits of all of the facilities; however the quality system processes are not included on this schedule. Staff interviews indicate that these processes have not been included in internal audits. **FSES Response:** The internal audit procedure has been done annually following the same procedure as former QA officer. The annual internal audit Schedule for December 2016 will include in the schedule the quality system to address elements of the quality system. The quality system checklist based on the 2003 NELAC Standards version will be used.	**12/31/16**
29	NELAC Ref: 5.5.4.1 [TNI V1M2, 5.4.1] The laboratory has made modifications to the reference methods that are not authorized, technically justified, or approved. For example:	**10/30/16**

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	A. Testing procedures for Total Suspended Solids (TSS) by method SM 2540 D do not include a requirement that the laboratory filter sufficient sample volume to obtain a minimum residue of 2.5 mg after evaporation. Several sample results with residues <2.5 mg with only 200 mL of sample having been filtered were observed. B. Testing procedures for Total Suspended Solids (TSS) by method SM 2540 D do not include a requirement that the laboratory weigh the filters twice to verify constant weight. The laboratory is using preweighed filters that come with only a single weighing. (see SM 2540 D Section 3.a). C. Staff stated hydrochloric acid (to pH<2) is not added to calibration standards when calibration standards are prepared for analyses using EPA Method 524.2. Section 7.8.2 of the reference method requires addition of the acid to pH<2. D. All analyses performed by SM 4500 methods are calibrated once every six months or annually; however, requirements found in Section 2.a of SM 4020 B call for calibration of the instrument each time analyses are performed. E .Digestion procedures followed by the laboratory for drinking water metals methods 200.8 and 200.7 both have deviations from the method in the volume of acid used. Drinking water methods must be digested exactly as stated in the method. F. When analyzing for mercury by method 245.1 the laboratory is digesting the calibration standards. The method specifically says not to heat the calibration standards. G. Procedures for analyzing samples using EPA Method 1664- A include dipping a pH strip in the cap of the sample bottle for pH measurement and is not following the method procedure of using a glass rod for pH and rinsing with hexane back into the sample bottle. H. Procedures for analyzing samples using EPA Method 1664A involve: i. using two 50-mL portions of hexane in the extraction when the method requires 3 x 60 mL extractions. ii. When performing the final weighing, the weight is taken 3 times in a row without returning the sample to the desiccator in between weightings to assure constant weight. iii. Sample volume is assumed to be 1000 mL if the one liter jar is "mostly" full. Actual	

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	measurements are not taken for each sample. I. When analyzing for TRPH the silica gel is not stored in the dessicator as required in the method. J. For odor analyses using SM 2150: i. method blanks are being checked at only at 40c and not 40c and 60c as required in the method, ii. the most concentrated sample is smelled first instead of the most dilute, iii. result of each dilution is not recorded, only the one dilution where the odor is noticed is recorded. K. When extracting samples for MBAS analysis, NaOH is not added in the beginning and, 27 mL of chloroform is being added all at once instead of 3 x 9 mL portions as required in the reference method. L. Analysis for BOD/CBOD has multiple method modifications including: filtering seed after preparing, not always preparing a minimum of three dilutions, not adjusting pH to 7.0-7.2 if needed (most were adjusted to 6.8), not mixing the sample well (analyst stated it was gently shaken), and dechlorination of samples does not follow the method procedure. **FSES Response:** A. The analyst was trained to filter 300mL as maximum volume for method blank and effluent samples and lower volumes for those samples with visible suspended solids. No more than 500 mL of samples were received for effluent samples for TSS analysis and another test usually have to be done from the same sample container. The Lab will ask to the clients for at least 1L sample volume for effluent samples or clean samples that require TSS analysis to be able to filter a volume that yield a minimum residue of 2.5 mg. B. The filters used in the SM 2540D in the lab are bought pre-weight and the lab though that was enough since the accuracy is between ±0.2mg - ±0.4mg. The Lab will be weighing the single pre-weight filters until runs out and next order will be pre-weight double filters to meet the	

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	method requirements. C. The calibration standards will be acidified pH<2 and the EPA 524.2 SOP reviewed. The EPA 524.2 SOP was revised and the addition of the HCL to the standards calibration can be found in section 13.1.1 of the Revision 12. Completion 9/19/16. ***See attachment B.17A*** D. The Lab Director is convinced that the Standard Methods Committee had no intention of requiring "Daily Initial Calibrations". The Committee has modified the current edition to read: "*Use the initial calibration to quantitate analytes of interest in samples. Use calibration verification only for calibration checks, not for quantitation. Perform initial calibration when the instrument is set up and whenever calibration verification criteria are not met".* It would seem prudent to follow the proposed change rather than badly follow the obviously flawed text of the "approved" version. In the ***Attachment B.29D*** you will find copy of the email received from Andy Eaton. *The laboratory was running initial calibration every six month or whenever calibration checks criteria failed. The initial calibration was only performed on day of use for methods SM 4500H+-B and SM 4500NO2 B (analyzed twice a year with the PT samples). The analysts were instructed to performed daily initial calibration on all the analysis performed in the laboratory by the SM 4500 methods. The SOPs associated with the SM4500 methods will be reviewed to reflect the daily initial calibration requirement. Completion 11/15/16.* E. The drinking waters acidified with turbidity <1NTU have been analyzed un-digested as method stated. The analyst was not adding the HCL to the samples due to her opinion the HCL suppressed the response signal. All the samples by EPA 200.8 and EPA 200.7 will be digested following the procedure stated by the method and the SOPs will be revised to update the procedure. F. This never was cited as deficiency before. Calibration standards for EPA 245.1 are not going to be digested. The EPA 245.1 SOP will be reviewed to update the procedure. G. The analyst thought that putting a sample in the lid to check the pH would not affect the integrity of the sample. To avoid sample contamination and integrity, pH paper will no longer be dipped into the sample. A glass rod will be used to get a drop a sample to the pH paper	

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	and then rinse with hexane. H. (i) The EPA 1664 required 3 extractions of 30 mL each not 3 x60 ml as mentioned by the assessor. The Lab will start doing 3 x30 ml extractions as required by the method (i) The concentrator tube will be weighed until the weight loss is less than 0.5mg or 4% of previous weight, whichever is less with desiccating it for at least 30 minutes after each weighing. (iii) To measure the volume of the samples accurately a mark will be done on the sample bottle, put the sample into the funnel and then fill the bottle with DI water and measure with a volumetric cylinder. The EPA 1664 SOP will be reviewed to update the changes that will be applied as mention above. I. The silica gel will be stored in the desiccator. J. The analysts were instructed to analyze the samples at 40°C as well the method blank and also to make dilutions until no odor noticed and then record that dilution only. (i) The method blank will be analyzed at 40°C and 60° (ii) The analysis of the samples will be started with a series of dilutions and moving up to analyze the undiluted sample. (iii) The dilutions prepared will be documented The Odor SOP will be reviewed to update the changes on the odor procedure. K. The MBAS extraction will be done following the method 3 extractions of 9 mL and NaOH will add at the beginning of the analysis. The MBAS SOP will be reviewed to update the procedure. L. The preparation of the seed has been done following the manufacturer instructions. After seed are prepared they let settle for 30 minutes and then the preparation is decanted. The minimum of three dilutions have not been done only on those samples for which the lab has historical data. The samples have been inverted until adequately mixed avoiding generation of bubbling that could cause false positive results after the incubation period. The adjustment of the pH and dechlorination procedure have been done the way analyst was trained per previous supervisor. The CBOD/BOD SOP will be reviewed. The seed preparation will be done	

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	as manufacturer instructions and samples pH will be adjusted to 7-7.2 when need it. The dilutions stated in the standard method are recommendations; however, a minimum of two dilutions will be run on every sample regardless of historical data, but a minimum of three as per Michael Blizzard "is not necessary is samples are well-characterized and not vary much". The analyst didn't state that the samples were "gently shaken"; he stated they were inverted until adequate mixed avoiding formation of air bubbles that could produce false positive results. If dechlorination is necessary the sterile bacterial container pre-preserved with sodium thiosulfate will be used and will be documented the Lot number. This chlorination procedure is a modification from the standard method as will be mention in the SOP. In the ***Attachment B.29L*** you will find a copy of the Michael Blizzard regards the dilutions. *FSES has written a SQL program that can retrieve historical data for any analyte and export that data to an Excel file. There we can determine the standard deviation and the mean value for any date range. With that in hand, the analyst can determine (for example) how many dilutions to make for BOD and CBOD. For samples that are well-characterized and show a small standard deviation the laboratory will be performing at least two dilutions and at least three dilutions will be performed on the rest of the sample as per standard method requirement. Attached you will find examples that have a small standard deviation and not vary much. See* ***attachment C.29L****. The BOD/CBOD SOPs were reviewed and can be found on the* ***attachment C.26E.*** *Completion 10/31/16.*	
30	NELAC Ref: 5.5.4.1 [TNI V1M2, 5.4.1] Deviations from environmental test methods are not documented in laboratory procedures. Laboratory SOP FLEN 525.2, Revision 8 does not address the omission the use of terpehnyl-d14 as a recovery standard for analyses using EPA Method 525.2. **FSES Response:** The use of the terphenyl-d14 to monitor the recovery of the internal standard in the extraction process in the EPA 525.2 method is recommended but not required, there is no need to mention the omission then in the EPA 525.2 SOP.	**8/26/16**
31	NELAC Ref: 5.5.4.1.1 [TNI V1M2, 4.2.8.5] Standard operating procedures or the QAM do not accurately reflect all phases of current laboratory activities. Examples include:	**1/31/17**

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	A. The laboratory SOP for performing ammonia analyses using EPA Method 350.1 requires residual errors for each point in the initial calibration to be <20%. The calibration on file performed 3/25/16 gave 24% error for the 0.02 ppm calibration point. B. The procedure in the QAM for performing internal audits is not detailed enough for someone similarly qualified to perform an internal audit and have similar results. C. Laboratory staff stated that they used conductivity to determine how much sample to analyze for Gross Alpha and Gross Beta however the SOP states that they use Total Dissolved Solids (TDS). D. The procedure defined in the QAM section H.4 states that radiochemistry standards purchased without an expiration date should be re-certified every 5 years. No expiration or recertification date was on the standards being used by the radiochemistry staff. **FSES Response:** A. The quality control samples analyzed after the calibration curve were within acceptances limits and due to an oversight the residual error for each point of calibration <20% was not checked. When calibration for ammonia will be performed the analyst will aim for a residual error < 20% for each point of calibration. *The analyst was trained to check that the residual errors for each point of calibration must be <20% to comply with the laboratory procedure and in case the criteria is not met correction action must be taken before proceed with the analysis of the samples. Completion 10/15/16.* B. The procedure for performing the internal audits in the LQM was written in a general way for previous QA officer. The procedure to perform the internal audit in the LQM will be revised during the annual review and will be detailed enough. C. There is a correlation between the TDS and Conductivity (TDS/Conductivity=0.5-0.9) and no matter which one the analyst use to determine the amount of sample to analyze for gross alpha and gross beta; however, the conductivity is the parameter used in the estimation due	

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	to can be found in the chain of custody if was measured in the field or can be measured faster than the TDS in the laboratory. The EPA 900.0 SOP will be reviewed to replace the used of TDS by the use of the conductivity. D. The expiration date will be assigned to the standards use in the laboratory.	
32	NELAC Ref: 5.5.9.2(a)(1) [TNI V1M2, 5.9.3(a)(i)] Laboratory procedures do not assure that the essential standards in the Technical Modules, mandated methods, or regulations are incorporated into the test method manuals. Procedures to provide adequate positive and negative controls to monitor tests are not in place. For example: A. The laboratory's procedure for performing sample leaching using EPA Method 1311, Toxicity Characteristic Leaching Procedure (TCLP), includes use of a dedicated zero headspace extractor (ZHE) for the TCLP blank. B. ZHEs are not sufficiently labeled or tracked to ensure method blanks are analyzed in each ZHE on a rotational basis. Section 8.1 of the reference method requires that a blank be performed in each vessel for every 20 samples processed in that vessel. **ITEM B IS A REPEAT OF PREFIX TAG #13.e FROM THE MARCH-APRIL, 2014 ASSESSMENT**. **FSES Response:** The analyst was using a dedicated ZHE extractor for the TCLP blank to avoid cross contamination. A. There will not be a zero headspace extractor designated for blanks only. Extractors will be rotated and blank will be performed in each vessel. ***See Attachment B.32*** B. The extraction of the blank will be rotated in each vessel. The vessel used will be documented on the TCLP Logbook to demonstrate that method blanks are analyzed in each vessel on a rotational basis. ***See Attachment B.12***	**9/23/16**
33	NELAC Ref: 2.5 [TNI V1M1, 5.1.1] Proficiency Test (PT) samples are not handled in the same manner as routine environmental samples. PT samples for nitrate and nitrite were analyzed in duplicate. Routine environmental	**9/21/16**

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	samples are not analyzed in duplicate. Further, the same PT samples were analyzed with an additional quality control check (a previous PT sample) that is not included with routine sample analyses. Additional quality control is also being analyzed with the mercury PT samples. **FSES Response**: I respectfully disagree with the statement "routine environmental samples are not analyzed in duplicate". Some methods require as part of the QC the analysis of duplicates samples every 10 samples or at least one duplicate per analytical batch. The PT are considered as regular samples, so in an analytical batch they can be analyzed as duplicate with no other purpose than meet the quality control requirements of the method. In the mercury analysis the analyst used the previous PT as QC check to verify the accuracy of the system besides the Quality Control samples associated with the analytical batch were the PT sample was analyzed. Personnel have been trained to handle the PT samples as routine environmental samples. No old PT will be allowed to run at the same time a new PT is being analyzed. *The analysts were instructed to do not run old PT samples at the same time a new PT is being analyzed and only run PT samples in duplicate with no other purpose than meet the quality control requirements of the method only if no more routine samples are available at the time of the PT sample analysis; otherwise PT samples cannot be analyzed in duplicates. Completion 10/15/16.*	
34	NELAC Ref: 5.5.9.2(a)(1) [TNI V1M2, 5.9.3(a)(i)] The laboratory does not use an appropriate material to spike the LCS for resulting in an inadequate positive control for all tests. Appendix D, section 1.1.2.1.a of NELAC 2003d requires the LCS be used to evaluate the performance of the total analytical system, including all preparation and analysis steps. Therefore whatever material is used must also evaluate the digestion step. Further V1M2 Section 5.9.3.a.i of 2009 TNI and 5.5.9.2.a.1 of NELAC 2003d requires use of adequate positive controls. Examples include: A. The material used as an LCS for Total Phosphorus analyses is potassium phosphate (dibasic). This material does not test the digestion process's effectiveness at converting non-phosphate forms of phosphorus to phosphate. B. The material used as an LCS for Total Kjeldahl Nitrogen analyses is ammonium chloride. This	**10/31/16**

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	material does not test the digestion process's effectiveness at converting non-ammonium forms of nitrogen to ammonia. C. The material used as an LCS for FSE/TOX Total Organic Halide analyses is sodium chloride. This material does not test the combustion process's effectiveness at converting non-inorganic chloride forms of chlorine to chloride. D. For mercury preparation extra KMNO4 may be added to the samples but not to the method blank and LCS E. The metals digestion area is not using a "solid" matrix in the preparation of method blanks and LCS for solid sample digestions. **FSES Response:** A. The Laboratory will use Phytic Acid as material that test the digestion process effectiveness for Total Phosphorus B. The Laboratory will use Glycine as the material that test the digestion process effectiveness for Total Kjeldahl Nitrogen C. The Laboratory will use chlorobenzene as material that test the combustion process effectiveness for Total Organic Halogens D. Any additional reagents add to the sample will be add to the method blank and the LCS as well. E. There was not an appropriate matrix available. A solid matrix was ordered to be used in solids digestion on the LCS and method blank.	
35	NELAC Ref: 5.5.2.6(b), App C [TNI V1M2, 5.2.5] Laboratory analysts have not performed ongoing demonstrations of capability for each accredited Field of Accreditation. Dialate and a,a-Dimethylphenethlamine do not have passing	12/31/16

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	Demonstrations of Capability (DOCs) for Solid and Chemical Materials for EPA 8270 since prior to the last assessment. **THIS IS A REPEAT DEFICIENCY FROM THE MARCH 24 - APRIL 5, 2014 ASSESSMENT, Prefix tag 12. See comment 8.** **FSES Response:** The laboratory has been performing the CDOC for diallate and a,a-dimethylphenethlamine in soils matrix by EPA 8270 in 2015 and 2016; however for a,a-dimethylphenethlamine do not have passing results. The diallate CDOC s performed in 2015 and 2016 were passing the acceptance limits (see ***attachment B.35***). For a,a-dimethylphenethlamine a new control chart was not possible due to no points available to do it. New CDOC study will be performed until we pass the criteria. *As we stated above the diallate CDOC for solid matrix were performed on 2015 and 2016 and passed the acceptance criteria. Copies of the CDOC for these years were submitted to review with the first response. For a,a-dimethylphenethlamine in solid matrix the laboratory will take the recommendation of relinquish certification for this compound due to not acceptable on-going demonstration of capabilities. Completion 10/3/16.*	
36	NELAC Ref: 5.4.11.1[TNI V1M2, 4.12.1] Interviews with staff indicated that preventive actions, such as bringing a new instrument on-line, do not have a documented action plan for successful implementation. Discussions are had in person however there is no documentation of the discussions and what actions will be taken to successfully implement the change. The QAM states that action plans will be developed however the staff were not able to produce a documented action plan. **FSES Response:** Within the preventive action we have an annual managerial review where improvement opportunities are identified or if preventive actions are required, actions plan are implemented and documented in the managerial review report; when the lab has proficiency testing data failures non conformance are documented, with possible cause of the failure and preventive or corrective plans to correct the issue; as preventive action also instrumentation maintenance are scheduled, and QC data review are performed to identified quality trends and all this procedures are documented.	**9/23/16**

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37	NELAC Ref: 5.5.9.2(d) [TNI V1M2, 5.9.3(c)] The laboratory does not assure that the essential elements of the standard and method are followed. Examples include: A. NELAC 2003 Appendix D.3.8.b.2.ii [TNI V1M5 1.7.3.7.b.ii] The laboratory does not assure that the essential standards in the Technical Modules are incorporated into the test method manuals. The autoclave mechanical timing device is not checked quarterly against a stopwatch and the actual time elapsed documented, only the date checked is documented. B. Requirements for maintaining records of autoclave operations appearing in NELAC 2003 Appendix D.3.8.b.2.iii [TNI V1M5 1.7.3.7.b.ii] include a requirement to include contents of the autoclave for each cycle. Records maintained by the laboratory for the autoclave do not provide sufficient detail to document what was sterilized. The records only indicate "waste" or "equipment" with no other identifier. C. NELAC 2003 Appendix D.3.1(c) [TNI V1M5, 1.7.3.6(d)(i)2] Records do not show that all media (Colilert, M-EI agar, etc) are tested prior to first use with both positive and negative cultures. D. Standard Method 9222 (Section B 4.b) for membrane filtration requires that filtration sessions be completed in 30 minutes or less. The records do not contain a filtration start and stop time for each batch to confirm that this requirement is being met. E. NELAC 2003 Appendix D [TNI V1M4 1.7.3.1.b and V1M2 3.1] batches have been extended over multiple days with only one method blank. For example, Batch 1605544 started on 5/18/16 and included samples added on 5/19/16 and 5/21/16. F. When analyzing for pH, samples are added to a batch later in the day (within 24 hrs) but there is not always and ending CCV. Based on the time recorded the ending CCV may have been run before the addition of samples. ITEM C IS A REPEAT DEFICIENCY FROM THE MARCH 24 - APRIL 5, 2014 ASSESSMENT, Prefix Tag 27.	**9/23/16**

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	FSES Response: A. The analyst knows that the autoclave mechanical timing must be checked quarterly and the action have been performing; however, no documentation for the actual time elapsed. The time recorded on the stopwatch versus the autoclave will be clearly documented with the date checked. ***See Attachment B.37A*** B. The analyst was simplifying the writing. Further detail will be recorded about the contents of the autoclave for every cycle loaded. C. The media have been tested; however, information has not been updated in the logs. Records will be kept up to date for positive and negative controls of each new batch or lot of any kind of media. ***See attachment B.37C*** D. New logbooks will be issue with section available to document the start time and the stop time of the filtration series for SM 9222MF methods ***See attachment B.37D*** E. The analysts were reminded that preparation batches cannot be open for more than 24h. F. If new samples will be added to an open batch (within 24H) is necessary to analyzed a LCS to verify calibration and add a new closing CCV after analyze the new samples, otherwise the batch will be considered incomplete. *The analysts were trained on how to proceed when new samples are going to be add to a pH batch with less than 20 samples that was already close with a closing check standard but still within 24 hours. The analyst have to analyze a calibration verification standard before add new samples to verify that the calibration performed in that day is passing the method acceptance criteria. Then if the standard passes the criteria, the new samples can be analyzed and a new closing check standard must be add at the end of the analysis of the new samples. If the check standard fails the criteria a new calibration must be performed. The pH SOP was reviewed to add the procedure when samples are adding later in the day (within 24 hours). Completion 10/31/16. See section 12.8 of the* ***attachment C.37F***	

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38	NELAC Ref: 5.4.6.1[M2, 4.6.1] The laboratory has a procedure for purchasing described in the quality manual. However interviews with staff indicated that the procedure does not include all of the forms (purchase order, purchase requisition form, email requests etc.) utilized by the staff and that more than one procedure could be used depending on the nature of the purchase (instruments, services, consumables, etc). **FSES Response:** The procedure for purchasing in the LQM will be reviewed during the annual review to reflect the actual procedure follow by the laboratory. The purchase requisition form will be review to include the PO number, receiving date with initial.	**1/31/17**
39	NELAC Ref: 5.5.8.3.1(a)(2)[TNI V1M4-5,1.7.5(b)][TNI V1M6,1.7.4(b)] Procedures to check chemical preservation using readily available techniques (e.g. pH, free chlorine) prior to or during sample preparation or analysis are not implemented by the laboratory. Staff stated samples received for ammonia analyses are only checked for preservation when samples have been collected by the client and not by laboratory staff. Further, results of preservation checks that are performed are not documented. **FSES Response:** When samples are collected by the laboratory staff pre-preserved kits with preservative H2SO4 are used. The analyst will be instructed to check the preservation of the ammonia samples using the pH paper and document the preservation on the analytical sequence.	**9/21/16**

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Attachment C

Support documents

Attachment C.1 *(Copy of the email received from Mei Shepherd on 10/11/16)*

Roxana Llambias

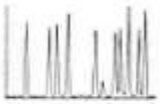
From: Mei Beth Shepherd <mbshep@sheptechserv.com>
Sent: Tuesday, October 11, 2016 11:53 AM
To: 'Roxana Llambias'
Cc: sts@sheptechserv.com; Mary C Wehbe
Subject: RE: STS Response to E86006 Corrective Action

Roxana – I'm glad that you are okay after the hurricane was impacting Florida and the rest of the Eastern Coast.

We have received some additional information from FL-DOH and have responses to your questions. I will put them below to make it easier to follow.

Please let us know if there are additional questions you have.

Thanks, Mei Beth Shepherd



SHEPHERD
TECHNICAL
SERVICES

6105 Sierra Leon
Austin, TX 78759
512.335.0906 (phone/fax)
512.426-1273 (cell phone)
mbshep@sheptechserv.com

From: Roxana Llambias [mailto:r.llambias@flenviro.com]
Sent: Monday, October 10, 2016 1:22 PM
To: Mei Beth Shepherd; sts@sheptechserv.com
Subject: FW: STS Response to E86006 Corrective Action

Hi Mei,

I appreciated your call. I was off last week visiting other facilities. I will be waiting for your inputs in the mean time I will be working on the other deficiencies. As soon you have an answer please email me.

Thank

From: Roxana Llambias [mailto:r.llambias@flenviro.com]
Sent: Monday, October 03, 2016 5:02 PM
To: 'Mei Beth Shepherd'
Subject: RE: STS Response to E86006 Corrective Action

Hi Mei,

I have some questions and would like your recommendations on the revised response received 10/3/16:

- Tag prefix (1) references used mention "identification of the method used". Why we must include the sample preparation and cleanup for solids wastes. Do you have any other reference? If this is a requirement then sample preparation and clean up for water must be include too.

→ STS asked FL-DOH about this requirement and received this response: "ELCP does not accredit prep method; however, it's a good idea to document the prep and cleanup methods in reports to ensure unambiguous interpretation of the test results. Additionally, other States might want the information and the report can help."

- Tag prefix (13) the calibrations standards ID and Absorbances are documented now in the bench sheet and in the calculation spreadsheet. Analysts were trained do document. Not clear the comment added to this deficiency. I don't see why the computer cannot be in other room, if analysts were instructed to record the information in the bench sheet and in the calculation spreadsheet, I don't know what else we should do.

It was not clear to us that the information was documented on the bench sheet as originally observed and then transferred to the calculation spreadsheet from the bench sheet. As long as bench sheets with original observations are maintained as records this is approved.

- Tag prefix (26C) Mike explained to the analyst that if commercially prepared standard is used no standardization is required only when the nitrite standard will be prepared in the lab, and in that case if FAS it is not commercially prepared needs to be standardized. Then the lab is going to use only nitrite stock commercially prepared with a purity >99% to avoid the standardization step. If the analyst misunderstood please, clarify.

If commercially prepared FAS solution is used and has been standardized by the manufacturer, this is acceptable. The nitrite standard prepared by the lab would then be verified against the FAS. The FAS then should only need to be standardized as often as the manufacture or the reference method requires.

- Tag prefix (26E) the correction is in the last sentence" wet the sponge every time in use before calibrate the DO meter.

Please let us know how this correction is assured. Ie the SOP has the requirement, the analyst was trained.

We will appreciate your recommendations.

Sincerely

Roxana Llambias
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Attachment C.3 *Copies of the certificate of NIST traceability for the IR gun thermometer (eT650D) with ID "TEMP GUN-3" and serial number " 201601001684", thermometer specifications and copy of the muffle furnace ID: WET-10 verification with correction factor (-9.0)*

Received
10/19/16 RCL

PO Box 25207
Eugene, OR 97402
U.S.A.

CASCADIA
INNOVATIONS

Calibration Verification Certificate

Model
ennoLogic eT650D

Description
Dual Laser Infrared Thermometer for Industrial and Home Use

Serial Number
201601001684

Date of Test
11/5/2015

Calibration Equipment

- IR-500 Infrared Calibrator, Serial No. 140322792. Calibration verified and adjusted monthly with NIST traceable Reference Thermometer QTI DTU6005-002-N
- Reference Thermometer QTI DTU6005-002-N, NIST traceable
- Calibration Ice Bath Thermoworks Model 822-950

Test Measurement Results

Reference Temperature [°F]	Test Unit Measurement [°F]	Test Error [°F]	Specification Tolerance [°F]
32.0	34.5	2.5	+/- 3.5
65.3	66.7	1.4	+/- 3.5
212.0	209.5	-2.5	+/- 4.1

Calibration Verification Summary

This instrument has been checked for accuracy and found to be within the model's specified tolerance of "± (1% of reading + 1°C/2°F) or ± 2°C/3.5°F (whichever is greater)". Its manufacturer's calibration has been tested using standards traceable to the National Institute of Standards and Technology, or accepted intrinsic standards of measurement.

CVR-IR Version 1.2

Specifications

Temperature Range	
eT650D:	-50°C to 650°C (-58°F to 1202°F) *
eT1050D:	-50°C to 1050°C (-58°F to 1922°F)
Temp. Resolution	0.1°C (0.1°F)
Optical Resolution	10:1 Distance to Spot Size Ratio
Accuracy	± (1% of reading + 1°C/2°F) or ± 2°C/3.5°F (whichever is greater)
Emissivity	Adjustable 0.10 to 1.00
Spectral Response	8 to 14 µm
Response Time	< 1 second
Laser Power	Dual, Class II (<1mW), SGS verified
Laser Wavelength	630 nm to 670 nm
Power	9V battery (included), auto power off after 7sec., lock feature
Battery Lifetime	~22 hours without laser, ~11 hours with laser
Advanced Features	Hi/Lo audible alarms (adjustable), Min/Max/Average display, stores last settings in between uses, 20-value log

* Temp Gun-3
S/N: 201601001684

THERMOMETER CALIBRATION LOG

NIST ID# 4N0533

Thermometer	Instrument	Temperature Reading (°C)	NIST Reference Reading (°C)	Correction Factor	Date Calibrated	Next Calibration Due	
14-985E	Wet-18	193.00	190.20	-2.80	6/23/2016	6/23/2017	
A18180	Wet-8	3.00	3.00	0.00	6/23/2016	6/23/2017	
A17971	R4	3.50	3.00	-0.50	6/23/2016	6/23/2017	
A18024	R5	3.00	3.00	0.00	6/23/2016	6/23/2017	
Prep-8 digital	Prep-8	40.90	41.40	0.50	6/23/2016	6/23/2017	
COD Tel-Tru	Wet-24	148.00	151.20	3.20	6/23/2016	6/23/2017	
CN Block Digital	CN-Block-Digester-1	121.00	121.80	0.80	6/23/2016	6/23/2017	
Wet 12 Digital	Wet 12	105.00	105.00	0.00	6/23/2016	6/23/2017	
3468	Wet 48 - Flashpoint	215.00 (°F)	215.60 (°F)	0.60	6/23/2016	6/23/2017	
1862	Min/Max for Wet 49	121.00	122.00	1.00	6/16/2015	6/16/2016	out of service 11/2/15
76 MM IMM	Wet-39	108.00	106.60	-1.40	6/23/2016	6/23/2017	
T46693	Wet 49	121.00	122.00	1.00	6/23/2016	6/23/2017	
Muffler furnace	Wet-10	550.00	541.00	-9.00	10/19/2016	6/23/2017	**

**Muffle Furnace temperature checked with the IR thermometer Temp Gun-3 correction factor (0.0) calibrated on 10/19/16 with NIST thermometer 4N0533

Attachment C.6B *Copies of the temperature log for sample custody freezer (SCF-9) used for solids samples, sample custody volatiles liquid samples (SC-10), and volatiles department freezer (Vol-8 freezer) and refrigerator (Vol-8 Digital). Min/Max are being documented now see dates 10/15/16-10/16/16.*

SCF-9 Month

(Kenmore 29502 2012) Document Control #: 0101716-003

Thermometer SCF-9 Digital Date:8/31/16

Correction Factor (+) 2.00 °C Cal: 6/23/16 ROL Due Cal: 6/23/17

Acceptable Reading* -10 to -20 °C *Notify QA Officer immediately if temperature is out of range

	Temp Read °C	Temp Corrected °C	Analyst
1	-16	-14	BP
2	-16	-14	BP
3	-19	-17	BP
4	-21	-19	K
5	-17	-15	K
6	-16	-14	BP
7	-21	-19	BP
8	-16	-14	BP
9	-16	-14	BP
10	-18	-16	BP
11	-19	-17	K
12	-18	-16	K
13	-22	-20	BP
14	-21	-19	BP
15	-22 / -21	-20 / -19	K
16	-22 / -21	-20 / -19	K
17	-18	-16	K
18	-18	-16	K
19	-22	-20	K
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Reviewed by_____ Date_____

SC-10 Month October 2016

(Whirlpool EEP3771919)

Thermometer: A17730
Correction Factor (-)0.8 °C
Acceptable Reading* 0-6°C

Cal due date: 6/23/17
*Notify QA Officer immediately if temperature is out of range

	Temp Read °C	Temp Corrected °C	Analyst
1	-7	6.2	BT
2	7	6.2	BT
3	3.8	3.0	BP
4	~~4.4~~ 3.9	~~6.6~~ 3.1	K
5	4.2	3.4	K
6	6.0	5.2	BT
7	3.0	2.8	BT
8	4.0	3.2	BP
9	4.0	3.2	BP
10	3.0	~~2.8~~ 2.2	BT
11	3.3	2.5	K
12	3.2	2.4	K
13	3.0	2.2	BT
14	3.0	2.2	BP
15	2.9 / 4.3	2.1 / 3.5	K
16	2.9 / 4.3	2.1 / 3.5	K
17	3.0	2.2	K
18	10/18/16 ~~2.6~~ 3.5	10/18/16 ~~2.8~~ 2.7	K
19	3.5	2.7	K
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Document Control #:0101716-002
Date:8/3/16

Reviewed by_____ Date_____

Refrigerator # 8 **Month** October 2016

(Kenmore 2010)

Thermometer	Vol-8 Digital		
Correction Factor	(-) 0.70 °C	Cal Date:6/23/16	Due Cal:6/23/17
Acceptable Reading*	1.0 - 4.5 °C		*Notify QA Officer immediately if temperature is out of range

	Temp Corrected °C	Analyst*
1	2°C	
2	2°C	
3	2°C	
4	2.2°C	
5	2.2°C	
6	~~2.2°C~~	
7	2.2°C	
8	2.2°C	
9	2.2°C	
10	12/10/16 ~~1.7~~ 2.0°C	
11	4.2°C	
12	3.0°C	
13	3.2°C	
14	4.00°C	
15	1.7/4.0°C ~~1.7°C~~	~~4~~ 10/17/16
16	1.7/4.0°C	
17	1.7°C	
18	3.4°C	
19		
20		
21		
22		
23		
24		
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31		

Thanksgiving day 10/7/16. MIN/MAX MIN/MAX

Note: The temperature recorded is the temperature corrected based in the correction factor of the thermometer in use

Reviewed by_____ Date: _____

Freezer # 8 **Month** October 2016

(Kenmore 2010)

Thermometer	Vol-8 Freezer
Correction Factor	0.0°C
Acceptable Reading*	-10 to -20°C

Cal Date:9/20/16 ROL Due Cal: 6/23/17

*Notify QA Officer immediately if temperature is out of range

	Temp Corrected °C	Analyst	
1	-19.0°C	[illegible]	
2	-19.0°C	[illegible]	
3	-18.5°C	[illegible]	
4	-18.0°C	[illegible]	
5	-17.5°C	[illegible]	
6	~~-11°C~~	[illegible]	[illegible]
7	-11°C	[illegible]	
8	-15°C	[illegible]	
9	-15°C	[illegible]	
10	-17°C	[illegible]	
11	-14°C	[illegible]	
12	-18°C	[illegible]	
13	-16.5°C	[illegible]	
14	-12.5°C	[illegible]	
15	-13 | -19	[illegible]	[illegible]
16	-13 | -19	[illegible]	[illegible]
17	-13.5°C	[illegible]	
18	-19.0°C	[illegible]	
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			

Note: The temperature recorded is the temperature corrected based in the correction factor of the thermometer in use.

Reviewed by_____ Date:_____

Attachment C.17A (*On page 33-34 you will find the working standards preparation from stocks and in page 1 and 2 of the new logbook preparation of the calibration curve for EPA 524.2)*

FLA ENV Assigned Designation Type + Dept + Date + Suffix	Description	DIL -or- AMT	Manufacturer Lot# and/or FLA ENV Designation # Of Materials used to prepare this item	Date Prepared	Expires	Analyst
I8260B090716B	8260 STD 100 GAS PPM	250uL	VOC-145-01 VOC-128-02 in 5mL MeOH	090716	092116	BL
I-2CEVE-090716	2CEVE 100 PPM	250uL	VOC-144-01 in 5mL MeOH VOC-128-02			
IQ8260B090716B	8260 STD 100 GAS-ALT PPM	250uL	VOC-146-01 in 5mL MeOH VOC-128-02			
IQ-2CEVE-090716	2 CEVE 100 PPM ALT	250uL	VOC-143-01 in 5mL MeOH VOC-128-02			
IBFB091516	BFB Standard 50 ng	25uL	~~VOC-~~ 091516 SU-031516 in MeOH 975uL VOC-128-02	091516	031517	BL
IBFB092016	BFB Standard 25 ng	12.50uL + 975uL MeOH	SU-031516 in MeOH 975uL VOC-128-02	092016	031517	YL
I8260B092116A	8260 STD 100 PPM	250uL 125uL	8260 STD. VOC-126-3 ACROLEIN VOC-138-2	092116	101916	BL
I8260B092116B	8260 STD GAS 100 PPM	250uL	GASES VOC-145 02		100516	
I-2CEVE-092116	2 CEVE 100 PPM	250uL	2-CEVE VOC-144-02		100516	

Types: R = Reagent I = Intermediate S = Standard QC = Quality Control SU = Surrogate IS = Internal Standard

FLA ENV Assigned Designation Type + Dept + Date + Suffix	Description	DIL -or- AMT	Manufacturer Lot# and/or FLA ENV Designation # Of Materials used to prepare this item	Date Prepared	Expires	Analyst
IQ8260B092116A	8260 ALT STD 100 PPM	250uL 125uL	8260 STD VOC-127-02 Acrolein VOC-139-02	092116 BL 0907 092116	101916	BL
IQ8260B092116B	8260 ALT GAS 100 PPM	250uL	GASES VOC-146-02	↓	100516	BL
2-CEVE-092116	2-CEVE 100PPM	250uL	2CEVE VOC-143-02	↓	100516	BL
I8260B 10 PPM 092116	8260 STD 100PPM 8260 GASES PPM 2CEVE 100PPM MeOH	50uL 50uL 50uL 350uL	I8260B092116A I8260ALT092116B I2CEVE 092116 VOC 128-02	92116	100516	YL
I8260B100716B	8260 STD GAS 100 ppm	250uL	GASES VOC-145-02	YL 092116 100716	101716	YL
IQ8260B100716B	8260 ALT GAS 100 PPM	250uL	GASES VOC-146-02	YL 092116 100716	101916	YL
I2CEVE-100716	2CEVE 100PPM	250uL	2CEVE VOC 144-02	YL 092116 100716	101916	YL
IQ2CEVE-100716	2CEVE 100PPM	250uL	2CEVE VOC 143-02	YL 092116 100716	101916	YL
I8260B 10 PPM 100716	8260 STD 100PPM 8260 GASES 100PPM 2CEVE 100PPM MeOH	50uL 50uL 50uL 350uL	I8260B092116A I8260B 100716B I2CEVE 100716 VOC 128-02.	092116 100716	10/19/16	YL
Note: IQ100716 (Hurricane Matthew) ON 10/06/16 - CLOSED 10/10			see next log book started on 10/07/16 QC control # 040516-B06.			YL

Types: R = Reagent I = Intermediate S = Standard QC = Quality Control SU = Surrogate IS = Internal Standard

STANDARDS AND REAGENTS PREPARATION
LOGBOOK
(VOLATILES DEPARTMENT)

Laboratory ID	Description	Manufacter Lot and/or Laboratory ID used to prepare this item	Amount used (ml or g)	Balance ID used	Solvent and Lot used	Volume prepared (ml)	Date prepared	Date expired	Analyst
I.8260B100716B	8260 STD GAS 100 PPM	Gases VOC 145-02	250uL	N/A YE	Methanol VOC 128-02	5mL	100716	101916	YE
IQ8260B100716B	8260 ALT GAS 100 PPM	Gases VOC 146-02	250uL	N/A YE	Methanol VOC 128-02	5mL	100716	101916	YE
I2CEVE-100716	2CEVE 100 PPM	2CEVE VOC 144-02	250uL	N/A YE	Methanol VOC 128-02	5mL	100716	101916	YE
IQ2CEVE100716	2CEVE 100 PPM ALT	2CEVE VOC 143-02	250uL	N/A YE	Methanol VOC 128-02	5mL	100716	101916	YE
I8260B10PPM 100716	8260 STD 100 PPM 8260 GAS 100 PPM 2CEVE 100 PPM	I8260B092116A I8260B100716B I2CEVE 100716	500uL 500uL 500uL	N/A YE N/A YE	Methanol VOC 128-02 (350uL)	500mL	100716	121916	YE
ICAL524LEV1-101016	0.25 PPB INTCAL Level 1	I8260B092116A I8260B100716B I2CEVE 100716 I8260B10PPM100716	N/A ↓ 2.5uL	YE N/A	Solvent Di water	100mL 4 mL were transferred to HCl vial	10/10/16	10/10/16	YE
ICAL524LEV2-101016	0.50 PPB INTCAL Level 2	I8260B10PPM100716	5.0 uL	N/A YE	Solvent Di water	100mL 4 mL was transferred to HCl vial	10/10/16	10/10/16	YE
ICAL524LEV3-101016	1.00 PPB INTCAL Level 3	I8260B10PPM100716	10.0 uL	N/A YE	Solvent Di water	100mL 4 mL was transferred to HCl vial	10/10/16	10/10/16	YE
ICAL524LEV4-101016	2.00 PPB INTCAL Level 4	I8260B10PPM100716	20.0 uL	N/A YE	Solvent Di water	100mL 4 mL was transferred to HCl vial	10/10/16	10/10/16	YE
ICAL524LEV5-101016	5.00 PPB INTCAL Level 5	I8260B10PPM100716 I8260B092116A I8260B100716B I2CEVE 100716	N/A 5.0uL 5.0uL 5.0uL	N/A YE	Solvent Di water	100mL 4 mL was transferred to HCl vial	10/10/16	10/10/16	YE

Types: R=Reagent I=Standard IQ= Secondary Standard IS= Internal Standard SU=Surrogate

* NOTE: for 524.2 Method the vials used had HCl.

Document Control #: 0401516-006
Date: 9/20/16

STANDARDS AND REAGENTS PREPARATION
LOGBOOK
(VOLATILES DEPARTMENT)

Laboratory ID	Description	Manufacter Lot and/or Laboratory ID used to prepare this item	Amount used (ml or g)	Balance ID used	Solvent and Lot used	Volume prepared (ml)	Date prepared	Date expired	Analyst
CAL 524 Lev 6 - 10/10/16	10.0 ppb INT CAL - Level 6	I8260B092116A I8260B 10D9 10B I2CEVE 100716	10 uL 10 uL 10 uL	N/A	Solvent Dwater	100mL 4 mL was transferred to HCl vial	10/10/16	10/10/16	YL
CAL524Level7 - 10/10/16	20.0 ppb INT CAL - Level 7	I8260B092116A I8260B100716B I2CEVE 100716	20 uL 20 uL 20 uL	N/A	Solvent Dwater	100 mL 4 mL was Transferred to HCl vial	10/10/16	10/10/16	YL
CAL524 Lev8 - 10/10/16	50.0 ppb INT CAL - Level 8	I8260B092116A I8260B100716B I2CEVE 100716	50 uL 50 uL 50 uL	N/A	Solvent Dwater	100 mL 4 mL was transferred to HCl vial	10/10/16	10/10/16	YL
CAL524 Lev9 - 10/10/16	100.0 ppb INT CAL Level 9	I8260B092116A I8260B 100716B I2CEVE 100716	100 uL 100 uL 100 uL	N/A	Solvent Dwater	100mL 4 mL was transferred to HCl vial	10/10/16	10/10/16	YL
CAL 8260 Lev1 - 10/10/16	0.25 ppb INT CAL Level 1	I8260B 10ppm 100716	2.5 uL	N/A	Solvent Dwater	100 mL 4 mL was transferred to a vial	10/10/16	10/10/16	YL
CAL 8260 Lev2 - 10/10/16	0.50 ppb INT CAL Level 2	I8260B 10ppm 100716	5.0 uL	N/A	Solvent Dwater	100 mL was transferred to a vial	10/10/16	10/10/16	YL
CAL 8260 Lev3 10/10/16	1.00 ppb INT CAL Level 3	I8260B 10 ppm 100716	10.0 uL	N/A	Solvent Dwater	100 mL 4 mL was transferred to a vial	10/10/16	10/10/16	YL
CAL 8260 Lev4 - 10/10/16	2.00 ppb INT CAL Level 4	I8260B 10 ppm 100716	20.0 uL	N/A	Solvent Dwater	100 mL was transferred to a vial	10/10/16	10/10/16	YL
CAL 8260 Lev5 - 10/10/16	5.00 ppb INT CAL Level 5	I8260B092116A I8260B100716B I2CEVE 100716	5.0 uL 5.0 uL 5.0 uL	N/A	Solvent Dwater	100 mL 4 mL was Transferred to a vial	10/10/16	10/10/16	YL
CAL 8260 Lev6 - 10/10/16	10.00 ppb INT CAL Level 6	I8260B092116A I8260B100716B I2CEVE 100716	10.0 uL 10.0 uL 10.0 uL	N/A	Solvent Dwater	100 mL 4 mL was transferred to a vial	10/10/16	10/10/16	YL
IQ CAL 8260 Lev7 - 10/10/16	20.00 ppb INT CAL Level 7	I8260B092116A I8260B100716B I2CEVE 100716	20 uL 20 uL 20 uL	N/A	Solvent Dwater	100 mL 4 mL was transferred to a vial	10/10/16	10/10/16	YL

Types: R=Reagent I=Standard IQ= Secondary Standard IS= Internal Standard SU=Surrogate

Attachment C. 17D: *Cadmium Column in used 32-WC-06*

STANDARDS AND REAGENTS RECEIVAL LOGBOOK
(WET CHEMISTRY DEPARTMENT)

Laboratory ID	Chemical name	Vendor	Matrix	Concentration	Lot number	Date received	Analyst	Date opened	Date expared
32-WC-01	CHLORINE COLOR REG.	LACHAT	L	—	3171	8/26/13	RPV	8/26/13	6/2015
32-WC-02	2- PROPANOL	FISHER	L	—	032039	8/30/13	RPV	8/30/13	8/30/23
32-WC-03	PHENOPHTHALEIN	BAKER	S	—	430567	8/30/13	RPV	8/30/13	8/30/23
32-WC-04	POTASSIUM PHOSPHATE DIBASIC 3H2O	MALLINCKRODT	S	—	7088 KXVL	9/5/13	RPV	9/5/13	9/5/23
32-WC-05	DCM	INORGANIC VENTURES	L	500 PPM	G2-0182144	9/5/13	RPV	9/5/13	10/1/14
* 32-WC-06	CADMIUM COLUMN	LACHAT	S	—	~~50235A~~ 223BA	9/9/13	RPV	9/9/13	9/9/25
32-WC-07	" "	↓	S	—	↓	↓	RPV	↓	9/9/23
32-WC-08	EDTA DISODIUM SALT DIHYDRATE	AMRESCO	S	—	1673C422	9/24/13	ROL	9/24/13	9/23
32-WC-09	CHLORAX	CHLORAX	L	8.25%	A43008 2110	10/3/13	RPV	10/3/13	10/3/15
32-WC-10	Nitrate as N	Inorganic Ventures	L	1000 ppm	F2-NOX0210	10/7/13	ROL	10/7/13	11/1/14
32-WC-11	PYRIDINE	ALFA AESAR	L	99.8%	L05Y334	10/9/13	RPV	10/9/13	10/9/23
32-WC-12	SODIUM FLUORIDE	SUPRAPUR	S	—	31312	10/10/13	RPV	10/10/13	10/10/23
32-WC-13	HEXANE B X 4L	GFS	L	99%	L313979	10/1/13	DKL	10/1/13	10/1/23
32-WC-14	0/G Filters 10 X 100	VWR	S	18.5 cm	FC.005911	10/1/13	DKL	10/1/13	10/1/23
32-WC-15	SULFIDE 1 REAGENT	HACH	L	—	A3234	10/28/13	ROL	10/28/13	4/2017
32-WC-16	SULFIDE 2 REAGENT	↓	L	—	A3276	↓	↓	↓	10/2018
32-WC-17	SULFURIC ACID	SIGMA	L	95-98%	SHBD5046V	11/4/13	RPV	11/4/13	11/4/23
32-WC-18									
32-WC-19									
32-WC-20									
32-WC-21									
32-WC-22	↓	↓	↓	↓	↓	↓	↓	↓	↓
32-WC-23	SODIUM THIOSULFATE	EMD	S	97% ACS	2991C518	9/7/11	RPV	9/7/11	9/7/31

FLORIDA ENVIRONMENTAL

NUTRIENT ANALYSIS

LACHAT QUICK CHEM 8500 (WET 26)

DATE: 9/6/16
ANALYST: YA
BATCH #: 160935

ANALYSIS:	**ACCEPTANCE CRITERIA: ICV/CCV/LCS/MS/MSD**
☐ Total Cyanide 335.4/SM4500CN/SW846 9012	90-110 %
☐ Total Phenols 420.2/420.4	90-110%
☐ Ammonia-N 350.1	90-110%
☐ Unionized Ammonia DEP SOP	
☐ Ammonium DEP SOP	
☐ Total Kjeldahl Nitrogen 351.2	90-110%
☐ Total Phosphorus 365.4	90-110%
☐ Total Phosphorus EPA 365.1/SM 4500 P-F	90-110%
☐ OPO4 EPA 365.1/SM 4500 P-F	90-110%
☑ NO3/NO2, NO3, NO2 SM 4500-NO3-F	90-110%

CALIBRATION DATE: 9/6/16
METHOD FILE:

TRACEABILITY

ICV#: 509-S-Gen-17
CCV#: 509-S-Gen-19
LCS/LCSD#: 530-S-Gen-08

RECOVERY

ICV % RECOVERY: SEE REPORT	LCS %: RECOVERY: SEE REPORT
MS % RECOVERY: SEE REPORT	MSD %: SEE REPORT
% RPD: SEE REPORT	

Buffer: 517-R-Gen-14
Color Reagent: 530-R-Gen-04
Cadmium colum 32-WC-06

Attachment C.26C *SM 4500 NO2-B SOP*

https://files.acrobat.com/a/preview/ebc8e394-f001-428e-9382-678cfe09682a

Attachment C.26E *BOD and CBOD SOPs*

https://files.acrobat.com/a/preview/a1c7530f-7475-433b-9b83-4e8b6f3fa5af

https://files.acrobat.com/a/preview/99552e7b-52b8-45a3-933c-8bec8c338ee9

Attachment C.29L

Copy of the historical data for CBOD analysis on sample ID "EFFLUENT" for client "NKL" showing a small standard deviation from 8/19/15-9/28/16 period.

NKL_EFFLUENT CBOD 5 day , 20°C							
	Samp1	Samp2	Samp3	Samp4	Samp5	Samp6	Samp7
SampID	16I0913-01	16I0420-01	16H0965-01	16H0607-01	16H0147-01	16G0566-01	16G0115-01
SampDate	9/28/2016	9/14/2016	8/31/2016	8/17/2016	8/3/2016	7/20/2016	7/6/2016
SampName	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
SampRecd	9/28/2016 17:35	9/14/2016 16:45	8/31/2016 17:15	8/17/2016 17:00	8/3/2016 17:05	7/20/2016 16:20	7/6/2016 17:45
CBOD mg/L	0	0	0	4.53	0	0	0
	Samp8	Samp9	Samp10	Samp11	Samp12	Samp13	Samp14
SampID	16F0680-01	16F0244-01	16E0766-01	16E0319-01	16D0777-01	16D0371-01	16C0919-01
SampDate	6/22/2016	6/8/2016	5/25/2016	5/11/2016	4/27/2016	4/13/2016	3/30/2016
SampName	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
SampRecd	6/22/2016 16:30	6/8/2016 17:45	5/25/2016 16:45	5/11/2016 16:25	4/27/2016 16:30	4/13/2016 16:50	3/30/2016 16:40
CBOD mg/L	0	0	0	0	0	0	0
	Samp15	Samp16	Samp17	Samp18	Samp19	Samp20	Samp21
SampID	16C0514-01	16C0101-01	16B0576-02	16B0116-01	16A0521-01	16A0100-01	15L0681-01
SampDate	3/16/2016	3/2/2016	2/17/2016	2/3/2016	1/20/2016	1/6/2016	12/23/2015
SampName	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
SampRecd	3/16/2016 17:25	3/2/2016 17:20	2/17/2016 17:30	2/3/2016 16:30	1/20/2016 18:00	1/6/2016 15:35	12/23/2015 16:30
CBOD mg/L	0	0	0	0	0	0	0
	Samp22	Samp23	Samp24	Samp25	Samp26	Samp27	Samp28
SampID	15L0282-01	15K0728-01	15K0284-01	15J0731-01	15J0355-01	15I0829-01	15I0453-01
SampDate	12/9/2015	11/25/2015	11/11/2015	10/28/2015	10/14/2015	9/30/2015	9/16/2015
SampName	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent	Effluent
SampRecd	12/9/2015 17:20	11/25/2015 17:40	11/11/2015 17:50	10/28/2015 16:50	10/14/2015 16:40	9/30/2015 16:40	9/16/2015 16:45
CBOD mg/L	0	0	0	0	0	0	0
	Samp29	Samp30					
SampID	15I0067-01	15H0496-01		**Average**	**0.151**		
SampDate	9/2/2015	8/19/2015		**SD**	**0.827061062**		
SampName	Effluent	Effluent					
SampRecd	9/2/2015 17:10	8/19/2015 16:10					
CBOD mg/L	0	0					

Copy of the historical data for CBOD analysis on sample ID “RO” for client “CSID” showing a small standard deviation from 3/6/16-9/26/16 period.

CSID_RO_CBOD 5 day ,20°C							
	Samp1	Samp2	Samp3	Samp4	Samp5	Samp6	Samp7
SampID	16I0783-01	16I0550-01	16I0302-01	16I0105-01	16H0877-01	16H0707-01	16H0514-01
SampDate	09/26/2016	09/19/2016	09/12/2016	09/06/2016	08/29/2016	08/22/2016	08/15/2016
SampName	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate
SampRecd	9/26/2016 9:30:00 AM	9/19/2016 9:15:00 AM	9/12/2016 12:30:00 PM	9/6/2016 4:20:00 PM	8/29/2016 8:15:00 AM	8/22/2016 9:00:00 AM	8/15/2016 4:20:00 PM
CBOD mg/L	0	0	0	0	0	0	0

	Samp8	Samp9	Samp10	Samp11	Samp12	Samp13	Samp14
SampID	16H0267-01	16H0042-01	16G0687-01	16G0490-01	16G0291-01	16G0056-01	16F0794-01
SampDate	08/08/2016	08/01/2016	07/25/2016	07/18/2016	07/12/2016	07/05/2016	06/27/2016
SampName	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate
SampRecd	8/8/2016 11:50:00 AM	8/1/2016 5:00:00 PM	7/25/2016 4:15:00 PM	7/18/2016 4:15:00 PM	7/12/2016 4:45:00 PM	7/5/2016 3:00:00 PM	6/27/2016 1:00:00 PM
CBOD mg/L	0	0	0	0	0	0	0

	Samp15	Samp16	Samp17	Samp18	Samp19	Samp20	Samp21
SampID	16F0598-01	16F0367-01	16F0128-01	16F0003-01	16E0659-01	16E0443-01	16E0230-01
SampDate	06/20/2016	06/13/2016	06/06/2016	06/01/2016	05/23/2016	05/16/2016	05/09/2016
SampName	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate
SampRecd	6/20/2016 4:50:00 PM	6/13/2016 4:05:00 PM	6/6/2016 8:20:00 AM	6/1/2016 10:45:00 AM	5/23/2016 2:55:00 PM	5/16/2016 4:20:00 PM	5/9/2016 4:30:00 PM
CBOD mg/L	0	0	0	0	0	0	0

	Samp22	Samp23	Samp24	Samp25	Samp26	Samp27	Samp28
SampID	16E0028-01	16D0701-01	16D0519-01	16D0319-01	16D0089-01	16C0845-01	16C0635-01
SampDate	05/02/2016	04/25/2016	04/18/2016	04/11/2016	04/04/2016	03/28/2016	03/21/2016
SampName	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate	RO Concentrate
SampRecd	5/2/2016 3:30:00 PM	4/25/2016 1:50:00 PM	4/18/2016 4:40:00 PM	4/11/2016 5:10:00 PM	4/4/2016 4:00:00 PM	3/28/2016 4:00:00 PM	3/21/2016 12:35:00 PM
CBOD mg/L	0	0	0	0	17.1	6.03	16.3

	Samp29	Samp30
SampID	16C0434-01	16C0206-01
SampDate	03/14/2016	03/06/2016
SampName	RO Concentrate	RO Concentrate
SampRecd	3/14/2016 4:10:00 PM	3/7/2016 8:20:00 AM
CBOD mg/L	16.9	0

Average	**0.626**
SD	**3.25240616**

Attachment C.37F *pH SOP*

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EQUIPMENT LIST

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
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Florida Spectrum Environmental Services, Inc.
Laboratory Equipment List

Version 34: 12/10/19

Document Control #: 0101119-007

	Suffix	ID	Manufacturer	Number	Placed in Service
WET CHEM	WET-2	Turbidity Meters	Hach 2100 P	1	2006
	WET-COLOR-1	Color	Orbeco-Hellige Aqua Tester	1	2006
	WET-4 ***(Not in used since Nov.2016)***	pH meter	Orion 940 s/n 2093	1	2006
	WET-4 ***(same ID as previous pH meter)***	pH meter	Mettler Toledo FiveEasyPlus FP20 SN: B634929740 LE438 PH electrode	1	Nov. 2016
	WET-31 WET-34 WET-35 WET-43	Magnetic Stirrers / Hot Plates	220T Allied Fisher/ 120 M Thermomix/ Corning/ Barnstead Thermolyne	4	1990/2006
	CN-Block-Digester-1	Block Digester	Lachat Micro Dist	1	2006
	WET-24	COD Hot Block	Hach COD Reactor	1	1990
	WET-20 (**out of service 7/9/19)**	Analytical Balance	XS204 Mettler Toledo	1	2006
	WET-20 (***Same ID as previous analytical balance take out of service for the same use)***	Analytical Balance	RADWAG AS220R2 s/n: 616897	1	7/9/19
	WET-28(Wet Chem Des. -1) WET-29 (Wet Chem Des. -2	Dessicators	Sanpla Dry Keeper	2	2006
	WET-15 (Out of Service in 2014)	Ion (IC-2) Chromatograph	Dionex	1	2006
	Wet-Chem-SpectpH-1	Spectrophotometer	Hach DR 2010 s/n: 971000005804	1	2006
	Wet-Chem-SpectpH-2 **(Backup Inst.)**	Spectrophotometer	Model: Spectronic 20D S Man.: Milton Roy s/n: 3327123006	1	6/3/17
	WET-37	TOC analyzer	Dohrmann Phoenix 8000	1	2006
	WET-18 WET-12 WET-39	Ovens	Fisher Isotemp 500 VWR 1320 VWR-1350F	3	1990 2006 2015
	WET-CHEM-DESS-3	Desiccator	Fisher Scientific	1	1990
	WET-22 (Out of Service)	Flow Analyzer	Astoria 303A	1	2006

WET-48	Flashpoint-Koehler	Model K16200	1	2006
R-4	Refrigerator 4	MT 45	1	
R-5	Refrigerator 5		1	
WET-10	Muffler Furnace	Thermodyne 62700	1	1990
WET-7	BLOCK Digester	Bran Lubbe BD-40	1	1992
WET-41	Block Digester	Lachat BD-46	1	
WET-8 (Out of Service)	Block Digester	Technicon BD-40	1	1992
WET-8	Refrigerator 3	Kenmore	1	1992
WET-42	Top Load Balance	Sartorius BP310-S	1	
WET-51	Parr Bomb Ignition Unit	Parr Instrument Corp	1	
WET-44	Color – Nessler Tubes		1	
WET-45 (Out of Service) **WET-46 (not found)**	Ion Selective Electrode Analyzer	Orion 940	2	2012
WET-47	2 Channel Flow Analyzer	Lachat QuikChem 8500 Series 2	1	2012
WET-26	4 Channel Flow Analyzer	Lachat QuikChem 8500	1	2007
WET-49	Autoclave	Barnstead Laboratory Sterilizer C2250	1	2013
WET-50	Class S Reference Weight Set	OHAUS	1	
WET-52 (Out of Service)	Conductivity Meter	Sper Scientific	1	2013
WET-54	Conductivity Meter	Sper Scientific S/N: 10121164 Probe:10151759(cond.) Probe:10163357(salin.)	1	7/19/16
Prep-8	Hot Shaker	Bellco Biotechnology	1	2011
WET-1 Jupiter	Ion Chromatograph – 930 Compact IC Flex; Autosampler -858; Plus Autodiluter and In-Line Filtration 800 Dosino	Metrohm	1	2014
WET-3 Saturn	Ion Chromatograph – 881 Compact IC Pro; Autosampler – 858	Metrohm	1	2014
WET-9	Moisture Analyzer	Mettler Toledo HG63	1	2009
WET-53 (Out of Service)	Top Loading Balance	Mettler Toledo PE4000	1	2013
WL01	Hood – Wet Lab	Kewaunee 36″	1	?
WL02	Hood – Dock Area	Fisher Safety Flow 84″	1	?

	WL03	Ice Machine	Manitowoc S320	1	?
	RAD-3	Centrifuge	IEC-HN-DII	1	2009
METAL	**MET-1 (send to Lakeland 11/3/16)**	ICP # 1	Varian Vista MPX CCD Simultaneous ICP-OES	1	2003
	MET-2 (Sold)	ICP-MS	Thermo Scientific X Series ICP-MS	1	2006
	MET-5	Mercury analyzer PSA Merlin	PSA Millenium System	1	2014
	MET-6 (Grey Shelves)	Chelation-Instrument-1	Dionex	1	2000
	MET-7 **(Received from Lakeland)**	pH Meter	VWR SR30I Sn:00003441	1	January 2019
	MET-BALANCE-1	Analytical Balance	Mettler Toledo XS204	1	2006
	MET-US-CLEANER-1	Ultrasonic Cleaner	Mettler Electronics Cavitator	1	
	MET-BALANCE-2	Top load balance	Ohaus G8000	1	1992
	MET-BALANCE-4	Analytical Balance	Mettler AE240	1	1994
	MET-13 (**out of service**)	HotBlock-1	CPI Mod Block	1	
	MET-13	Hotblock-1	Environmental Express s/n:3703CEC1785	1	January 2019
	MET-14	HotBlock –2	Environmental Express Hotblock	1	2004
	MET-19	ICP Optical Emission	Varian 720 ES		2006
	MET-20	Multiple magnetic Stirrer and Heating	VELP Scientific AM4	1	2015
	Met-Hg Analyzer-1	Atomic Absorption Spectrophotometer	Perkin Elmer 306	1	1987
	333702	Class S Reference Weight Set	-	1	
	ML01	Hood - Digestions	Labconco 60″	1	2014
	MET-TUMBLER-1	Tumbler	Thames Technologies	1	?
	MET-21	ICP-MS	Agilents Technologies 7800 ICP-MS Autosampler SPS4	1	March 2016
	MET-22	Magnetic Stirrer	Fisher Thermix Stirrer	1	?
	MET-23	ICP-OES	Agilent 5110 ICP-OES s/n: MY18230003 Autosampler SPS4 s/n: AU18164840 Agilent Chiller G8481-80003 s/N: 1803-04203	1	8/15/18

	MET-24 **(Received from Lakeland)**	Top Load Balance	Ohaus Navigator Sn:1121261991	1	2019
EXTRACTIONS	**Prep-15 (Out of Service)**	Turbovap	Zymark	1	2006
	Prep-16	Turbovap	Zymark	1	2006
	Prep-3	Analytical Balance	AG-204 Metler Toledo	1	1992
	Prep-2	Tumbler	Thames Technologies	1	2006
	Prep-18	Hood	Labconco 60″	1	1987
	Prep-5	Dessicator		1	?
	Prep-6	Extraction Manifold	JT Baker	1	2014
	SV-26	Oven for Glassware	Blue M	1	2013
	31861 (WC-18)	Class S Weight Set	Denver Instrument Company	1	2013
	Prep-9	Extraction Shaker	Recipro Shaker RS-1	1	2013
	MET-15	Hotplates	Corning	1	2006
	WET-32	Magnetic Stirrer	Allied/Fisher	1	
SEMI VOL PREP	Prep-1	Oven	VWR	1	1990
	SV-28 (back up)	Tumbler	Constructed in house	1	2006
	SV-29	Prep-Shaker	Glas-Col 099A VH200DH	1	March 2016
	SV-21	SV freezer	Excellence	1	1990
	SV-7	SV-freezer /refrigerator	Sears/Kenmore	1	1991 Orig 2014 SVOC Prep
	SV-8	SV Freezer/Refrigerator	Kenmore BA22929314	1	2012
	SV-1	SV freezer	Kenmore	1	2006
	SV-3	Sonicator	Fischer	1	2006
	Prep-11	Shaking tumbler	Burrell	1	2006
	Prep-12	Hood	Labconco 48″	1	1987
	Prep-13	Hood	Kewaunee 36″	1	2006
	Prep-14	Hood	Labconco 36″	1	2006
	SV-2	Sonicator XL	Heat Systems	1	?
	SVT-3	Centrifuge	Jouan C312	1	2006

	TV-2	Turbovap Concentrator	Biotage Turbovap II	1	April 2013
	TV-3	Turbovap Concentrator	Biotage Turbovap II	1	April 2013
	TV-1 (**Out of Service**)	Turbovap Concentrator	Zymark	1	?
	TV-1 (came from Lakeland)	Turbovap Concentrator	Zymark	1	October 2018
	TV-4 (came from Lakeland)	Rapidvap Concentrator	Labconco	1	October 2018
	SV-5	Hot Plate Stirrer	Fischer Scientific	1	?
	SV-24	Top Load Balance	Mettler PM600	1	?
	SV-6	Ductless Fume Cabinet	Streamline	1	?
	HB-2	Standard Heat Block	VWR	1	2006
	HB-3	Standard Heat Block	VWR	1	2006
	SV-27	Dishwasher	GE	1	2011
	SV-4	Sonicator	Branson Sonifier 450	1	May 2013
	4254-S	Class S Reference Weight Set	-	1	
	EX02	Hood	Kewaunee 60″	1	2014
	SV-30	Glass Desiccator		1	Nov. 2016
SEMIVOLATILES	VOL-1 GCMS-1 BRAVO	5975C Series MSD 7890A Series GC 7683 Autosampler	Agilent	1	2010
	GC/MS #2 BARBARA	6890 Series GC 5973 Network MSD 7683 Autosampler	Agilent	1	2006
	GC/MS #3 **TINA (Out of Service, grey shelves)**	5890 Series II Plus GC 5972 Series MSD 7673 Autosampler	Hewlett Packard	1	1987
	GC/MS #4 IMHOTEP	5973 MSD 6890N Network GC System 7683B Series Autosampler	Agilent Technologies	1	June 2017

	GC/ECD #1 MONICA	5890 Series II GC 7673 Autosampler	Hewlett Packard	1	2006
	GC/ECD #2 JASON	6890 GC 6890 Autosampler	Hewlett Packard	1	1987
	GC/FID #3 RAY	5890 Series II PLUS GC 7673 Autosampler	Hewlett Packard	1	2006
	GC/FID #4 POUIS	5890 Series II GC 7673 Autosampler	Hewlett Packard	1	2006
	GC/ECD #5 CLAUDIA	6890N GC 7683 Autosampler	Agilent	1	2006
	GC/ECD #6 ECHO **(Received from Lakeland)**	HP 6890 series 7683 Series Injector	Hewlett Packard GC Agilent Injector Alpha Omega Tray	1	March 2018
	GC/FID GOLF **(Received from Lakeland)**	6890 GC 7683 Autosampler 7683 Injector	Agilent Technologies	1	January 2019
	GC/MS HOTEL **(Received from Lakeland)**	7890A GC System 5975C VL MSD 7683 Autosampler 7683 Injector	Agilent Technologies Alpha Omega Alpha Omega	1	2019
MICROBIOLOGY	**Micro-1 (Out of Service 7/8/15, grey shelves)**	Balance	Sartorius BP221S	1	
	Micro-2	Microscope	AO Scientific	1	
	Micro-3	Autoclave No. 2	Market Forge Sterilmatic	1	
	Micro-4a Micro-4b	BOD Incubator/Sheldon-Revco	Sheldon/Revco	2	2006 2006
	Micro-5 (Out of Service, grey shelves)	Waterbath	Precision 251	1	
	Micro-6A Micro-6B	Incubator A&B	Blue M	2	 2004
	Micro-8 (**Out of Service**)	Refrigerator	General Electric	1	1987
	Micro-9 **(Out of Service)**	Dessicator	Fisher Scientific	1	
	Micro-10	Dessicator	Lab Line Dessicab	1	
	Micro-12 **(out of service)**	Incubator	Precision	1	

	Micro-13	Water Bath	National	1	2007
	Micro-14	Incubator	Blue M	1	2007
	Micro-16	Incubator	Blue M	1	2010
	Micro-17	Microwave	Sharp Carousel	1	
	Micro-19 (BACKUP)	Aerator	Second Nature Whisper 900	1	
	Micro-20	Stirplate	Thermolyne Nuova	1	
	Micro-21 (Out of Service)	Coliform Waterbath	Precision	1	2012
	Micro-22	Class S Reference Weight Set	Christian Becker	1	
	Micro-23	Analytical Balance	Sartorious BP 110S	1	2015
	Micro -24	Aerator	Active Aqua AAPA15L	1	2015
	Prep-7	Waterbath	VWR	1	2010
	Micro-25	Waterbath	Thermo Scientific	1	2015
	Micro-26	DO Meter	Orion Star A223 Thermo Scientific	1	2015
	Micro-27	Microscope	Nikon	1	
	Micro-28	Portable lamp	LTS	1	
	Micro-29	UV-Lamp	Spectroline EA-160	1	
	Micro-30	Multifunnel Extractor	Pall Corporation	1	
	Micro-31 (BACKUP)	UV-Lamp	Spectroline EA-160	1	
	OUT OF SERVICE	Colony Counter	Lab AIDS	1	
	OUT OF SERVICE	UV LAMP	Model UVG-11	1	
	Micro-32	Quebec Darkfield Colony Counter	Reichert	1	December 2015
	Micro-33	Seven Easy pH meter S20	Mettler Toledo	1	March 2016
	Micro-34	SerieII Water Jacketed CO2 Incubator	Thermo Forma	1	August 2016
	Micro-35 **(Out of Service)**	Microscope	Bansch and Lomb	1	
	ML01	Hood-Sterilchem Gard III Advance	The Baker Company	1	
	WET-30 WET-33 (**Heat is not working)**	Magnetic stirrers/Hot plates	Model PC-310 VWR Model 320	2	

	Micro-36 Micro-37 Micro-38	Bacti-Cinerator	Oxford Scientific Products American Scientific Products	3	
	Micro-39	HotPot	Rival Products	1	
	Micro-40	Spectrafuge 24D	Labnet	1	
	Micro-41	Eppendorf	Mastercycler	1	
	Micro-42	Electrophoresis Systems	Fisher Biotech	1	
	Micro-43	QS-710 Quick Screen/EC-105	Shelton Scientific/EC Apparatus Corporation	1	
	Micro-44	Millipore UV Sterilizer	Millipore	1	September 2018
	Micro-45	Refrigerator	Kenmore	1	October 2018
	Micro-46	Timer	Thomas Scientific	1	
VOLATILES	**GC/MS#1** **STEEVO** **(Out of Service)**	5971 MS 5890 GC SERIES II Purge and Trap Concentrator Autosampler	HP HP Teledyne/Tekmar Velocity XPT Tekmar-Dohrmann AQUA Tek 70	1	2006
	VOL-2 GC/MS #2 ALPHA	5973 MS 6890 GC Concentrator urge and Trap Autosampler	Agilent Agilent Tekmar Dohrmann 3100 Varian Archon	1	2006
	VOL-3 GC/MS #3 CHARLEY **(GC and MSD replaced 2018 received from Lakeland)**	5872 MS (**out of service)** 5890 GC SERIES II(**out of service**) Concentrator Purge and Trap Autosampler GC 6890 5973 MSD	HP HP Tekmar Dohrmann 3100 (00242017) Varian Archon (14632) Agilent US10244125 Agilent US21844027	1	? 2018 2018
	VOL-5	Freezer #9	Avanti	1	2006
	VOL-6	Top Load Balance	Mettler-Toledo PB602-S	1	2006
	VOL-7	Hood	Labconco 36″	1	1990
	Vol-8	Refrig/Freezer	Kenmore	1	?
	Vol-9	Class S Reference Weight Set	-	1	

	VOL-4 GC/MS #4 DELTA	5973 MS 6890 GC Concentrator Purge and Trap Autosampler	HP HP Tekmar Dohrman Velocity XPT Tekmar Dohrman Aquatek 70	1	2012
	VOL-10 OrganicTumbler-1	Tumbler	Lars Lande MFG. Inc.	1	2015
	VOL-11 GC/MS FOXTROT	6890 GC 5973 MS Purge and Trap Autosampler	Agilent Agilent Teledyne Tekmar Centurion	1	September 2018
	VOL-12 **(Moved from Metals to Volatiles)**	pH Meter	VWR SB20	1	2006
	VOL-13 Organic Tumbler-2 (**Received from Lakeland**)	Tumbler	Associated Designed and MFG CO S/N: 2038	1	July 2019
HPLC	HPLC-4	Refrigerator/ Freezer	Kenmore 19	1	2000
	HPLC-1 (Out of Service)	LC	HP 1090	1	?
	HPLC-2	LC Post Column Reactor	HP 1100 Mulan Laboratory ASI Model 310 Lab Alliance Pump	1	
	HPLC-3	LC	HP 1100	1	
	BAL-1	Analytical Balance	M220 Denver Instrument	1	
SAMPLE CUSTODY	Temp Gun-1	Raytek Temp Gun	02326871	1	
	SC-3	Continental Scientific Refrig.	Double Door	1	1994
	SC-4	Jordon	Double Door	1	2006
	SC-6	True Refrigerator	Single Door	1	2006
	SC-7	True Refrigerator	Single Door	1	2009
	SC-8	True Refrigerator	Double Door	1	2010
	SCF-9	Kenmore 29502	Single Door Freezer	1	2012

	SC-10	Whirlpool	Single Door	1	2016
	RAD-9	Geiger Counter	Mini-Monitor (**out of service)**	1	2009
	RAD-9 **(ID Re-assigned 7/22/19 due to mini monitor out of service. Before RAD-10)**	Geiger Counter	Ludlam 12S	1	2009
	SC-11	Magic Chef	Single Door	1	December 2019
RADIO CHEM PREP	RAD-1	Analytical Scale	Sartorius BP 210S	1	2013
	RAD-2	Fume Hood 36″	Fischer Scientific Conserv-Air	1	2009
	RAD-4	Hot Block	Barnstead Thermolyne HB47135	1	2009
	RAD-5	Hot Block	Environmental Express HB	1	2009
	RAD-7	Desiccator	S/N 00231	1	1990
	RAD-11	Desiccator	Sandplatec Corp	1	
RADIOCHEM LAB	RAD-6	Desiccator	Boekel	1	1990
	RAD-8	Gas Proportional Counter	Tennelec/Nucleus Model: LB4110 S/N: 13066	1	2009
	WET-38 (Out of Service)	TOC Analyzer	Dohrmann Phoenix 8000	1	2011
	WET-7 (Out of Service)	TOC Analyzer	Dohrmann Phoenix 8000	1	1991

Field Service List of Meters

Michael Grant

YSI Proseries S/N 0410000381381
Turbidity Super Scientific 860040-AI73163
Hach Chlorine Digital Meter
Hach Chlorine Wheel Model

Leoneider Lopez

YSI Proseries S/N 12F102449
Hach Turbidity meter S/N 13020C023559
Hach Chlorine Digital Meter
Hach Chlorine Wheel Model CN-66F

Bevin Morris

YSI Proseries S/N 12B100049
Hach Chlorine Wheel model
Turbidity Super Scientific 860040-AJ39975

Franklyn Galvis

2 pH Milwaukee Meters

ACCEPTANCE OF ALL ANALYTICAL METHODS LISTED

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
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EMAIL: KKUTIL@FLENVIRO.COM

ACCEPTANCE OF ALL ANALYTICAL METHODS LISTED

April 22, 2020

Diane LeRay CPPO, CPPB
Procurement Manager, Purchasing Services
Solid Waste Authority of Palm Beach County
7501 North Jog Road
West Palm Beach, FL 33412

Dear Ms. LeRay:

Florida-Spectrum Environmental Services, Inc. (PROPOSER) hereby submits its Letter of Acceptance in response to the **Request for Proposal (RFP) No.: 20-202/DL for Analytical Laboratory Services** issued by the Solid Waste Authority of Palm Beach County (AUTHORITY) in March 2020.

Florida-Spectrum Environmental Services, Inc. accepts all analytical methods listed in Part II, Paragraph 2.4.A.4. The analytical method and the MDL to be used in the analysis of the individual parameters must be approved by the AUTHORITY. The LABORATORY shall not change or alter the analytical methods or the MDL's without approval from the AUTHORITY. Unless authorized by the AUTHORITY, MDL's must be below the appropriate regulatory standard. Ground Water samples should be below the standards set forth in Chapter 62-550 F.A.C. or Chapter 62-777, when applicable. Surface Water samples should be below the standards set for in Chapter 62-302 F.A.C.

FLORIDA-SPECTRUM SENVIRONMETNAL SERIVES, INC.
Name of Proposer

Lyle A. Johnson
Print Name of Designated Signatory

Signature

President
Title

State of FLORIDA

County of BROWARD

On this 17th day of April, 2020, before me appeared Lyle Johnso personally known to me to be the person described in and who executed this document and acknowledged that (she/he) signed the same freely and voluntarily for the uses and purposes therein described.

In witness thereof, I have hereunto set my hand and affixed my official seal the day and year last written above.

Signature Katherine Coral

Notary Public in and for the State of Florida

(Name printed) Katherine Coral
Residing at Broward County
My commission expires 01/10/23

(Affix Seal here)

KATHERINE CORAL
MY COMMISSION # GG 289879
EXPIRES: January 10, 2023
Bonded Thru Notary Public Underwriters

Florida-Spectrum Environmental Services, Inc.
1460 W. McNab Road, Fort Lauderdale, FL 33309

Pembroke Laboratory
528 30th Street NE
Fort Meade, FL 33841

Big Lake Laboratory
610 North Parrot Ave.
Okeechobee, FL 34972

Spectrum Laboratories
108 Airport Park Dr.
Garden City, GA 31408

Lakeland Laboratories
1910 Harden Blvd; Suite 101
Lakeland, FL 33803

www.flenviro.com

All NELAP certified analyses are performed in accordance with Chapter 64E-1 Florida Administrative Code, which has been determined to be equivalent to NELAC standards.
Analyses certified by programs other than NELAP are designated with a "~".

QUALITY ASSURANCE MANUAL

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
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QUALITY MANUAL

FOR

Florida Spectrum Environmental Services, Inc.
1460 W. McNab
Fort Lauderdale, FL 33309
Phone: 954-978-6400 Fax: 954-978-2233
www.flenviro.com

Name	Function (Unit)	Telephone	Signatures	Date
Lyle Johnson	Laboratory Director	(954) 978 6400		January 24, 2020
Roxana LLambias	Quality Assurance Director	(954) 978 6400		January 24 , 2020
Maria Castellanos	Laboratory Manager, FTL	(954) 978 6400		January 24 , 2020
Irena Nutzu	Technical Director Metals FTL	(954) 978 6400		January 24, 2020
Albert Castellanos	Technical Director Semi-Volatiles FTL	(954) 978 6400		January 24, 2020
Karina Ramirez	Technical Director Microbiology FTL	(954) 978 6400		January 24, 2020
Sophie Andre	Technical Director Wet Chemistry	(954) 978 6400		January 24, 2020
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Revision Number:	**13**	**Effective Date:**	**January 24 , 2020**
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Section 3 INTRODUCTION AND SCOPE *(TNI V1:M2 – Sections 1,2,3)*

The purpose of this *Quality Manual* is to outline the management system for Florida Spectrum Environmental Services, Inc. The *Quality Manual* defines the policies, procedures, and documentation that assure analytical services continually meet a defined standard of quality that is designed to provide clients with data of known and documented quality and, where applicable, demonstrate regulatory compliance.

The *Quality Manual* sets the standard under which all laboratory operations are performed, including the laboratory's organization, objectives, and operating philosophy. The *Quality Manual* has been prepared to assure compliance with the 2016 TNI Environmental Laboratory Sector Standard – Volume 1 – Management and Technical Requirements for Laboratories Performing Environmental Analysis (EL-V1-M1 through M7-ISO-2016). This Standard is consistent with ISO/IEC 17025:2005 requirements that are relevant to the scope of environmental testing services and thus, the laboratory operates a quality system in conformance with ISO/IEC 17025:2005. In addition, the policies and procedures outlined are compliant with the various accreditation and certification programs listed in Appendix E.

3.1 Scope of Testing

The laboratory's scope of FDOH/TNI accredited analytical testing services for each location can be found at:

- **Okeechobee (Big Lake)**: http://www.flenviro.com/E86618%20Scope%207-1-2019%20Big%20lake.pdf
  Savannah: http://www.flenviro.com/E87671%20scope%2001-20-2020%20%20Savannah.pdf
- **Fort Meade (Pembroke)**: http://www.flenviro.com/E84088%20scope%207-1-2019%20Pembroke.pdf
- **Fort Lauderdale:** http://www.flenviro.com/E86006%20scope%2007-01-2019%20Fort%20Lauderdale.pdf

3.2 Table of Contents, References and Appendices

The Table of Contents is in Section 2 and Appendices are in Section 29.

This *Quality Manual* uses the references included in Volume 1-Modules 1-7 in the 2016 TNI Environmental Laboratory Sector Standard – Volume 1 – Management and Technical Requirements for Laboratories Performing Environmental Analysis. EPA methods under the SW-846, Drinking Water, and Non-Potable Water programs, Standard Methods, and FDEP and FDOH SOPs are also referenced.

This *Quality Manual* uses several references to SOPs, laboratory controlled documents, and other administrative documents which are a part of the quality system. All references to said documents are referring to the most recent, updated versions or revisions.

3.3 Glossary and Acronyms Used

Quality control terms are generally defined within the Section that describes the activity.

3.3.1 Glossary

The *Terms and Definitions* sections from Modules 1-7 in the 2016 TNI Environmental Laboratory Sector Standard – Volume 1 – Management and Technical Requirements for Laboratories Performing Environmental Analysis are used.

3.3.1.1 **The TNI Standard:** Modules 1-7 in the 2016 TNI Environmental Laboratory Sector Standard – Volume 1 – Management and Technical Requirements for Laboratories Performing Environmental Analysis (EL-V1, M1 through M7, ISO-2016).

3.3.2 **Acronyms**

A list of acronyms used in quality system documents and their definitions are:

AB	–	Accrediting Body
ANSI	–	American National Standards Institute
ASQC	–	American Society for Quality Control
ASTM	–	American Society for Testing and Materials
Blk	–	Blank
°C	–	degrees Celsius
cal	–	calibration
CAS	–	Chemical Abstract Service
CCC	-	Continuing calibration control
CCV	–	Continuing calibration verification
COC	–	Chain of custody
DO	–	Dissolved oxygen
IDOC	–	Initial Demonstration of Capability
CDC	-	Continuing Demonstration of Capability
EPA	–	Environmental Protection Agency
FSES	-	Florida Spectrum Environmental Services
g/L	–	grams per liter
GC/MS	–	gas chromatography/mass spectrometry
ICP-MS	–	inductively coupled plasma-mass spectrometry
ICV	–	Initial calibration verification
ISO/IEC	–	International Organization for Standardization/Electrotechnical Commission
lb/in2	–	pound per square inch
LCS	–	Laboratory control sample
LFB	–	Laboratory fortified blank
LIMS	-	Laboratory Internal Management System
LOD	-	Limit of Detection
LOQ	-	Limit of Quantitation
MDL	–	method detection limit
mg/Kg	–	milligrams per kilogram
mg/L	–	milligrams per liter
MS	–	matrix spike
MSD	–	matrix spike duplicate
NELAC	–	National Environmental Laboratory Accreditation Conference
NELAP	–	National Environmental Laboratory Accreditation Program
NIST	–	National Institute of Standards and Technology
PT	–	Proficiency Test(ing)
PTP	-	Proficiency Testing Provider
PTPA	–	Proficiency Testing Provider Accreditor
QA	–	Quality Assurance
QAD	-	Quality Assurance Director
QC	–	Quality Control
QM	–	*Quality Manual*
RL	–	Reporting level
RPD	–	Relative percent difference
RSD	–	Relative standard deviation
SOPs	–	Standard operating procedures
spk	–	spike
std	–	standard
TNI	-	The NELAC Institute
TOC	-	Table of Contents
ug/L	–	micrograms per liter
UV	–	Ultraviolet
VOC	–	Volatile organic compound

3.4 Management of the *Quality Manual*

The Quality Assurance Director is responsible for maintaining the currency of the *Quality Manual*.

The *Quality Manual* is reviewed annually by the QAD and laboratory personnel to ensure it still reflects current practices and meets the requirements of any applicable regulations or client specifications. Sections of the *Quality Manual* are updated by making a change to the Section, increasing the revision number, re-signing the cover sheet (Section 1), and updating the Table of Contents (Section 2) with a new effective date (or page number) for each updated section. Changes are tracked in the document control record (Appendix J)

The *Quality Manual* is considered confidential within FSES and may not be altered in anyway except by approval of the Laboratory Director and Quality Manager. If it is distributed to external users, it is for the purpose of reviewing FSES's management system and may not be used for any other purpose without written permission.

Section 4 ORGANIZATION *(TNI V1:M2 – Section 4.1)*

The laboratory is a legally identifiable organization. The laboratory is responsible for carrying out testing activities that meet the requirements of the TNI Standard, the ISO/EIC 17025 Standard, and that meet the needs of the client, regulatory authority, or organization providing recognition. Through application of the policies and procedures outlined in this Section and throughout the *Quality Manual*:

- The laboratory assures that it is impartial and that personnel are free from undue commercial, financial, or other undue pressures that might influence their technical judgment.
- Management and technical personnel have the authority and resources to carry out their duties and have procedures to identify and correct departures from the laboratory's management system.
- Personnel understand the relevance and importance of their duties as related to the maintenance of the laboratory's management system.
- Ethics and data integrity procedures (see Appendix A, Section 5 – "Management" and Section 19 – "Data Integrity Investigations") ensure personnel do not engage in activities that diminish confidence in the laboratory's capabilities.
- Confidentiality is maintained.

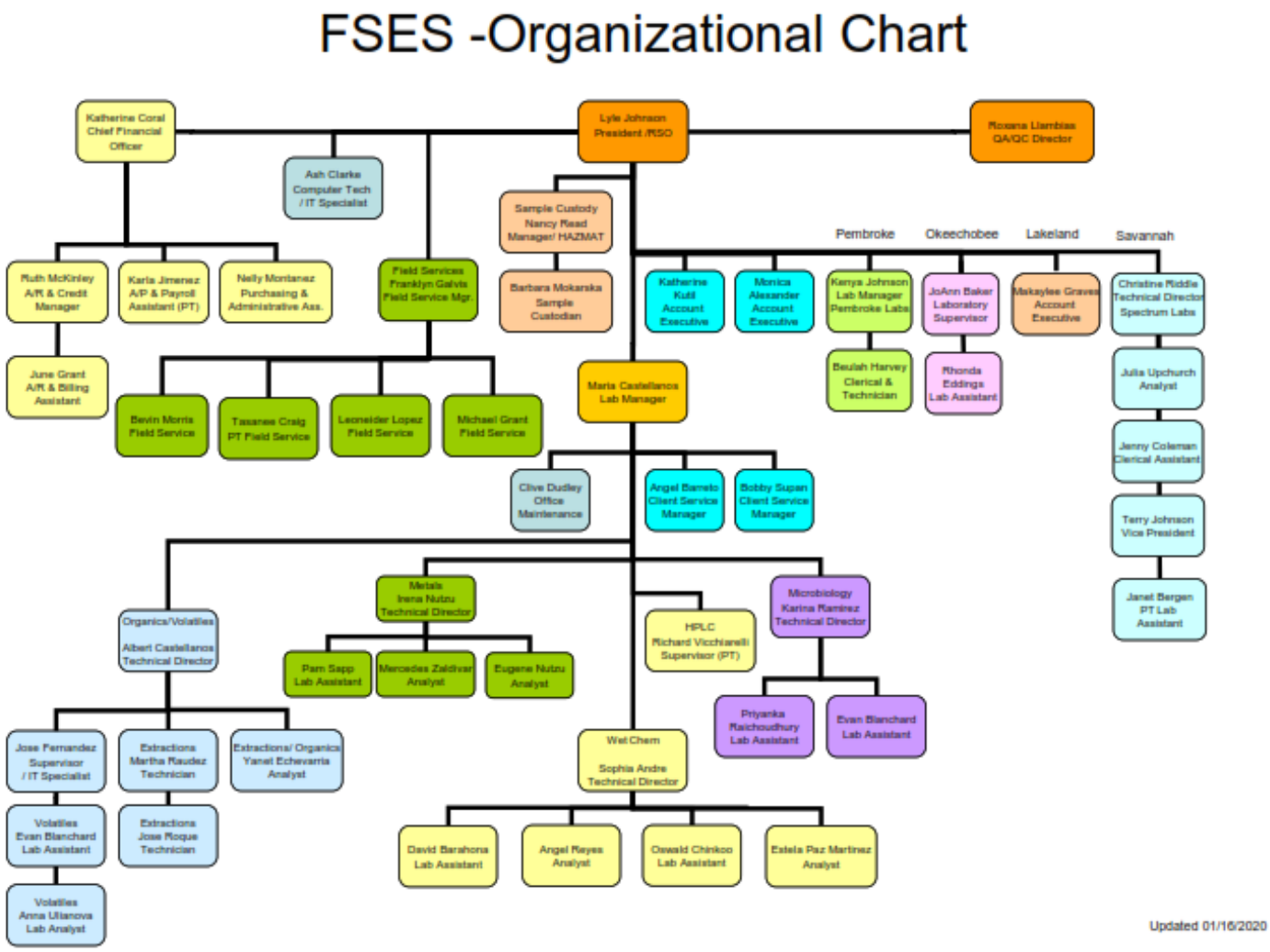
4.1 Organization

The laboratory is a commercial entity. The Tax ID number is FID 20-397-3182. The laboratory is part of a network of five laboratories

The laboratory operates in Fort Lauderdale, FL; Fort Meade, FL; Okeechobee, FL; Lakeland, FL; and Savannah, GA.

The "FSES-Organizational Chart" revision 1/16/2020 can be found in Figure 4-1.

Figure 4-1 – Corporate Organization Chart



Additional information regarding responsibilities, authority and interrelationships of personnel who manage, perform or verify testing is included in Section 5 –"Management" and Section 20 – "Personnel". These sections also include information on supervision, training, technical management, job descriptions, quality personnel, and appointment of deputies for key managerial personnel.

The laboratory has the resources and authority to operate a management system that is capable of identifying departures from that system and from procedures during testing, and initiates actions to minimize or prevent departures.

4.2 Conflict of Interest and Undue Pressure

The organizational structure of the laboratory minimizes the potential for conflicting or undue interests (see Figure 4.1) that might influence the technical judgment of analytical personnel by defining non-conflicting responsibilities. In addition, procedures are in place to prevent outside pressures or involvement in activities that may affect competence, impartiality, judgment, operational integrity, or the quality of the work performed at the laboratory.

Potential conflicts of interest for laboratory personnel include situations where analytical, managerial, production, commercial marketing, or financing responsibilities are potentially in direct opposition with each other or another personal aspect of an employee's life. Employees are trained to recuse themselves in these situations.

Arrangements, such as policies and procedures to prevent commercial, financial or other influences that may negatively affect the quality of the work or negatively reflect on the competence, impartiality, judgment or operational integrity are described in Appendix A – "Ethics and Data Integrity" and in Section 19 – "Data Integrity Investigations".

Section 5 MANAGEMENT *(TNI V1:M2 – Section 4.2)*

The laboratory maintains a management system that is appropriate to the scope of its activities.

5.1 Management Requirements

Top management includes the Laboratory Director, Laboratory Managers, Technical Directors, and the Quality Assurance Director.

Management's commitment to good professional practice and to the quality of its products is defined in the Quality Policy statement, Section 5.3

Management has overall responsibility for the technical operations and the authority needed to generate the required quality of laboratory operations. Management ensures communication within the organization to maintain an effective management system and to communicate the importance of meeting customer, statutory, and regulatory requirements. Management assures that the system documentation is known and available so that appropriate personnel can implement their part. When changes to the management system occur or are planned, managers ensure that the integrity of the system is maintained.

Management is responsible for carrying out testing activities that meet the requirements of the TNI Standard, the ISO/IEC 17025 Standard, and that meet the needs of the client.

Managers implement, maintain, and improve the management system, and identify noncompliance with the system of procedures. Managers initiate actions to prevent or minimize noncompliance.

Management ensures technical competence of personnel operating equipment, performing tests, evaluating results, or signing reports, and limits authority to perform laboratory functions to those appropriately trained and/or supervised. See Section 20 – "Personnel" for specific training procedures.

Management is responsible for defining the minimal level of education, qualifications, experience, and skills necessary for all positions in the laboratory and assuring that technical staff have demonstrated capabilities in their tasks.

Training is kept up to date as described in Section 20 – "Personnel" by periodic review of training records and through employee performance review.

Management bears specific responsibility for maintenance of the management system. This includes defining roles and responsibilities to personnel, approving documents, providing required training, providing a procedure for confidential reporting of data integrity issues, and periodically reviewing data, procedures, and documentation. The assignment of responsibilities, authorities, and interrelationships of the personnel who manage, perform, or verify work affecting the quality of environmental tests is documented in Appendix D.

Management ensures that audit findings and corrective actions are completed within required time frames.

Designated deputies are appointed by management during the absence of the Laboratory Directory, Laboratory Manager, Technical Directors, or the Quality Assurance Director, and always if the absence is more than 15 days.

5.2 Management Roles and Responsibilities

5.2.1 **Laboratory Director/President** – Lyle Johnson

The Laboratory Director (or designee) is responsible for the overall quality, customer service, safety, financial, technical, and human resource performance of the laboratory. The Laboratory Director provides the resources necessary to implement and maintain an effective quality and data integrity program.

5.2.1.1 Responsibilities

The Laboratory Director is responsible for:

a. establishing the overall management system and data integrity program for the company, providing the necessary leadership and resources to assure that the management system and integrity program requirements are met;
b. signing and approving the *Quality Manual;*
c. ensuring the laboratory's policies and procedures meet the quality and customer service standards put forth in this *Quality Manual;*
d. ensuring that laboratory employees are free from any commercial, financial, or other undue pressures that might adversely affect the quality of their work;
e. ensuring that appropriate corrective actions are taken to address analyses identified as requiring such actions by internal and external performance or procedural audits. Procedures that do not meet the standards set forth in the *Quality Manual,* laboratory SOPs or laboratory policies may be temporarily suspended by the Laboratory Director; and
f. reviewing all policies prior to their implementation and ensuring all approved policies are provided to the laboratory personnel and adhered to.

5.2.2 **Quality Assurance Director** – Roxana Llambias

The Quality Assurance Director (or designee) is responsible for the oversight and review of quality control data, but is independent from laboratory operations. See Figure 4.1 – Corporate Organization Chart showing the QAD does not report to Technical Directors or the Laboratory Manager. The Quality Manager's training and proof of experience in QA/QC procedures, knowledge of analytical methods, and the laboratory's management system are available in the employee personnel files.

5.2.2.1 Responsibilities

The Quality Assurance Director is responsible for:

a. serving as a focal point for QA/QC;
b. validating data, verifying calibrations, and QC check standards;
c. arranging or conducting annual internal audits without outside influence;
d. notifying management of deficiencies, and monitoring corrective actions;
e. oversight and review of quality control data and quality assurance documents;
f. ensuring that the management system related to quality is implemented and followed at all times;
g. monitoring and maintaining laboratory certifications;
h. keeping this *Quality Manual* current;
i. signing and approving the *Quality Manual*; and
j. providing yearly ethics and data integrity training for all employees.

5.2.3 **Laboratory Managers** – Maria Castellanos, FLL; Kenya Russell, PEM; JoAnn Baker, BLL; and Christine Riddle, SAV; there is one for each laboratory location.

The Laboratory Managers (or designees) are full-time laboratory staff members and coordinate and supervise laboratory operations, data reporting, and customer service for the entire lab. The Laboratory Managers' proof of experience in the fields of accreditation may be found in their personnel files located at each lab.

If a Laboratory Manager is absent for fifteen (15) calendar days or more, a deputy (see Table 5-1 below) with appropriate qualifications will perform the Laboratory Manager's duties. Beyond a thirty-five (35) calendar day absence, management will notify the primary accreditation body in writing of the absence of the Laboratory Manager and the appointment of the deputy.

5.2.3.1 Responsibilities

The Laboratory Managers are responsible for:

a. implementing laboratory certifications;
b. supervising lab personnel;
c. advising on scheduling and administrating daily work in the entire lab;
d. monitoring analytical results and reporting questionable results to the QAD;
e. ensuring that client specific project requirements are met;
f. answering questions and emails from clients, sales, or personnel;
g. solving issues, assisting analysts and technical directors with daily work;
h. signing and approving the *Quality Manual*;
i. reporting deviations or inconsistencies from the laboratory's *Quality Manual*, policies, or procedures to the QAD;
j. reporting on the performance of the laboratory personnel as a whole; and
k. meeting the general and education requirements and qualifications found in Sections 4.1.7.2 and 5.2.6.1 of the TNI Standard - EL-V1M2-2016

5.2.4 **Technical Directors** – Several; there is one for each area of the FTL lab (See Appendix D).

Note: The Laboratory Manager at SAV is also the Technical Director. For PEM, and BLL Lyle Johnson is the Technical Director.

The Technical Directors (or designees) are full-time laboratory staff members and supervise laboratory operations and data reporting in assigned areas of the lab. The Technical Directors' proof of experience in the fields of accreditation may be found in the employee personnel files.

If a Technical Director is absent for fifteen (15) calendar days or more, a deputy (see Table 5-1 below) with appropriate qualifications will perform the Technical Director's duties. Beyond a thirty-five (35) calendar day absence, management will notify the primary accreditation body in writing of the absence of the Technical Director and the appointment of the deputy.

The Technical Directors are not technical directors of more than one accredited environmental laboratory, except for Lyle Johnson who is Technical Director for PEM and BLL based on the grandfather clause.

5.2.4.1 Responsibilities

The Technical Directors are responsible for:

l. scheduling and administrating daily work in their assigned areas;
m. monitoring performance data and the validity of the analyses in their assigned area;
n. providing QA data for performance audits;
o. maintaining updated precision and accuracy data;
p. maintaining updated and appropriate detection limits;

q. meeting the general and education requirements and qualifications found in Sections 4.1.7.2 and 5.2.6.1 of the TNI Standard - EL-V1M2-2016;
r. training personnel in laboratory policies and procedures, providing documentation, and approving that personnel have appropriate education and technical background to perform assigned tests for which the laboratory is accredited;
s. updating, reviewing, and approving laboratory SOPs for accredited tests which are performed in their assigned area and ensuring procedures are adhered to;
t. completing method validation and new method development documentation for tests which are to be performed in their assigned area;
u. signing and approving the *Quality Manual*; and
v. following the laboratory's *Quality Manual*, policies, and procedures.
w. See Appendix D "Job Descriptions" for the departmental responsibilities of each Technical Director.

5.2.5 Laboratory Key Personnel Deputies

The following table defines who assumes the responsibilities of key personnel in their absence:

Table 5-1 Key Personnel Deputies

Key Personnel	Deputy	Comment
Laboratory Director	CEO	
QA Director	Laboratory Manager	
Laboratory Managers	Nominee	Laboratory Director ensures appropriate and qualified personnel are appointed.
Technical Directors	Nominee	Laboratory Director ensures appropriate and qualified personnel are appointed.

5.3 Quality Policy

Management's commitment to quality and to the management system is stated in the Quality Policy below, which is upheld through the application of related policies and procedures described in the laboratory's *Quality Manual*, SOPs, and policies.

Quality Policy Statement

The Quality Policy of FSES is to use good professional practices to maintain quality in its environmental testing by conforming to the TNI Standard and to uphold a superior standard of service. The objective of the quality system and management is to provide our clients with data of known and documented quality that meets their requirements. Management ensures that personnel are free from any commercial, financial, or other undue pressures, which might adversely affect the quality of work. Quality in environmental analysis is a prerequisite to servicing our clients' needs. This policy is implemented and enforced through the unequivocal commitment of management to the Quality Assurance (QA) principles and practices outlined in this manual and laboratory SOPs. However, the primary responsibility for quality rests with each individual within the organization. Every employee ensures that the generation and reporting of quality analytical data is a priority. Every laboratory employee familiarizes themselves with the quality system and SOPs and implements the policies and procedures in their work. All employees are trained annually on ethical principles and procedures surrounding the data that is generated. The laboratory maintains a strict policy of client confidentiality.

5.4 Ethics and Data Integrity System

The laboratory has an Ethics and Data Integrity policy that is included in Appendix A. The laboratory's Ethics and Data Integrity program, training and investigations are discussed in Section 19 – "Data Integrity Investigations".

5.5 Documentation of Management/Quality System

The management system is defined through the policies and procedures provided in this *Quality Manual* and written laboratory Standard Operating Procedures (SOPs) and policies.

5.5.1 Quality Manual

The *Quality Manual* contains the following required items:

5.5.1.1 document title;

5.5.1.2 laboratory's full name and address;

5.5.1.3 name, address (if different from above), and telephone number of individual(s) responsible for the laboratory;

5.5.1.4 identification of all major organizational units which are to be covered by this quality manual and the effective date of the version;

5.5.1.5 identification of the laboratory's approved signatories;

5.5.1.6 the signed and dated concurrence (with appropriate names and titles), of all responsible parties including the QAD, lab managers, technical directors, and the laboratory director.

5.5.1.7 the objectives of the management system and contain or reference the laboratory's policies and procedures;

5.5.1.8 the laboratory's official quality policy statement, which shall include management system objectives and management's commitment to ethical laboratory practices and to upholding the requirements of this Standard; and

5.5.1.9 a table of contents, and applicable lists of references, glossaries and appendices.

This *Quality Manual* contains or references all required elements as defined by the TNI Standard - V1:M2, Section 4.2.8.4.

5.5.2 Standard Operating Procedures (SOPs)

Standard operating procedures (SOPs) represent all phases of current laboratory operations (they include an effective date, revision number, and signature of the approving authority: the Technical Director for test method SOPs and the QAD for general use SOPs) and are available to all personnel. They contain sufficient detail such that someone with similar qualifications could perform the procedures. There are two types of SOPs used in the laboratory: 1) test method SOPs, which have specific requirements as outlined below, and 2) general use SOPs which document general procedures and do not necessarily contain the specific requirements below.

Each accredited analyte or method has an SOP. Sometimes an SOP is a copy of a method, and any additions are clearly described. The laboratory's test method SOPs include the following topics, where applicable:

i. identification of the method;
ii. applicable matrix or matrices;
iii. limits of detection and quantitation;
iv. scope and application, including parameters to be analyzed;
v. summary of the method;
vi. definitions;

vii. interferences;
viii. safety;
ix. equipment and supplies;
x. reagents and standards;
xi. sample collection, preservation, shipment and storage;
xii. quality control;
xiii. calibration and standardization;
xiv. procedure;
xv. data analysis and calculations;
xvi. method performance;
xvii. pollution prevention;
xviii. data assessment and acceptance criteria for quality control measures;
xix. corrective actions for out-of-control data;
xx. contingencies for handling out-of-control or unacceptable data;
xxi. waste management;
xxii. references; and
xxiii. any tables, diagrams, flowcharts and validation data.
xxiv. a document control record

5.5.3 **Order of Precedence**

In the event of a conflict or discrepancy between policies, the order of precedence is as follows unless otherwise noted:

- Other (work instructions, memos, flow charts, emails)
- SOPs and Policies
- *Quality Manual*

Section 6 DOCUMENT CONTROL *(TNI V1:M2 – Section 4.3)*

This Section describes how the laboratory establishes and maintains a process for document management. Procedures for document management include controlling, distributing, reviewing, and accepting modifications. The purpose of document management is to preclude the use of invalid and/or obsolete documents.

Documents can be SOPs, policy statements, specifications, calibration tables, charts, textbooks, posters, notices, memoranda, software, drawings, plans, etc. These may be on various media, whether hard copy or electronic, and they may be digital, analog, photographic or written.

The laboratory manages three types of documents: 1) controlled, 2) approved, and 3) obsolete.

A controlled document is one that is uniquely identified, issued, tracked, and kept current as part of the management system. Controlled documents may be internal documents or external documents.

An approved document means it has been reviewed, and either signed and dated, or acknowledged in writing or by secure electronic means by the issuing authority(ies).

Obsolete documents have been superseded by more recent versions or are no longer needed.

6.1 Controlled Documents

All documents will be reviewed by the QAD, revised (as appropriate), and approved for use prior to issue.

Documents are reviewed every 2 years to ensure their contents are suitable and in compliance with the current management systems requirements, and accurately describe current operations.

Approved copies of documents are available to staff at all locations where operations are essential to the effective functions of the laboratory. A controlled document master list identifying the current

revision status, distribution, and location of documents in the quality system is available to preclude the use of invalid or obsolete documents. The controlled document list is maintained electronically by the QAD and is updated when controlled documents or revisions are approved for use.

Controlled internal documents are uniquely identified with 1) a unique number identification 2) date of issue and/or revision identification, 3) page number, 4) the total number of pages (or a mark to indicate the end of the document), and 5) signature and date, or acknowledgement in writing or by secure electronic means by the issuing authority(ies) (i.e. management).

The system for allocating the document numbers is as follows:

Each controlled document is assigned a unique 10 digit number in the following format:
TTSSDYY-XXX

Where:

TT = the type of document, as follows:
01- Log Book
02- SOP
03- MDL Study w/ Raw Data
04- Form
05- Quality Manual
06- External Sources Documents

SS = Site Number
01- Fort Lauderdale
02- Big Lake Labs
03- Pembroke Labs
04- Savannah Labs

D = Department Number
1- General/Administrative
2- Wet Chem.
3- Metals
4- Semi-Volatiles
5- Volatiles
6- Microbiology
7 – Sample Custody
8 – Field Service
9- HPLC
10- Radiochemistry

YY = Year, as follows:
13 – 2013, 3013
14 – 2014, etc.
15 – 2015, etc.
16 – 2016, etc.

XXX = Serial Number, starting with 001, and incrementing by 1 each time a new document is added to the system. Each combination of document type, site, and department will have its own serial numbers, with each combination's serial numbers being independently managed from the others.

6.1.1 **Document Changes to Controlled Documents**

6.1.1.1 **Paper Document Changes**

Document changes are approved by the QAD or Technical Director if the QAD is unavailable.

The document management process allows for handwritten modifications to documents. The date and approval is documented with the modifications and countersigned and dated by the QAD if the change was not made by the QAD.

All document modifications are approved. Changes that are not process modifications but clarifications may be performed without revision. Approval is required. The modified document is then copied and distributed, and obsolete documents are removed according to the master list of controlled documents.

Amendments/modifications to documents are incorporated into a new revision and reissued as soon as practicable.

Controlled documents are reviewed at least biannually. Documentation that controlled documents have been reviewed is maintained. Changes to controlled documents are indicated on the associated "Document Control Record" where applicable.

6.1.1.2 **Electronic Document Changes**

Suggested revisions to electronic documents are presented to the QAD for review and approval. Changes to electronic documents are documented through the "Document Control Record" where applicable.

Where practical, the altered text or new text in the draft is identified during the revision or review process to provide for easy identification of the modifications (i.e. change tracking functions).

FSES has strived to automate many of its quality assurance, quality control, and analytical procedures in order to improve the quality of the services it provides. In doing so, many different types of electronic files are generated. To keep these in order and preclude the use of obsolete documents, FSES has implemented a naming system for computer files:

"Description MMDDYY"

Where,

Description = Descriptive information pertaining to the file (e.g. method, document type, department, scope, or intended use)
MM = Month, 01 = January
DD = Day, 04 = 4th Day
YY = Year, 13 = 2013

6.2 Obsolete Documents

All invalid or obsolete documents are retired and removed from general distribution, or otherwise prevented from unintended use.

Obsolete documents retained for legal use or historical knowledge preservation are appropriately marked and retained. Obsolete documents are identified as being obsolete by the QAD. All copies of obsolete documents are collected from employees according to the master list and each obsolete document is clearly marked "Retired" on the front cover. Such documents are stored in the FSES

archives and their location is documented. Controlled documents are retained for a minimum of 5 years.

Section 7 REQUESTS, TENDERS AND CONTRACTS *(TNI V1:M2 – Section 4.4)*

The review of all new work assures that oversight is provided so that requirements are clearly defined, the laboratory has adequate resources and capability, and the test method is applicable to the customer's needs. This process assures that all work will be given adequate attention without shortcuts that may compromise data quality.

Contracts for new work may be formal bids, signed documents, verbal, or electronic. The client's requirements, including the methods to be used, must be clearly defined, documented and understood. Requirements might include target analyte lists, project specific reporting limits (if any), project specific quality control requirements (if any), turnaround time, and requirements for data deliverables. The review must also cover any work that will be subcontracted by the laboratory.

7.1 Procedure for the Review of Work Requests

The Sales Department will review the work request.

For routine projects and other simple tasks, a review by Inside Sales with the Lab Manager is considered adequate. The Lab Manager confirms that the laboratory has required certifications, that it can meet the client's data quality and reporting requirements, and that the lab has the capacity to meet the clients turn around time needs.

For new, complex, or large projects, the proposed work contract is given to the Account Executive. The Account Executive will in turn forward the work contract to the appropriate personnel to evaluate such items as:

- Contractual obligations, bonding issues, and payment terms
- Method capabilities, analyte lists, reporting limits, and quality control requirements
- Subcontracting of environmental tests
- Turn around time feasibility
- QA/QC issues, including certification/accreditation
- Formal laboratory quotations
- Final report formatting and electronic deliverable documents
- Time required to keep sample in house
- Final sample disposal requirements
- PT sample results or other QC documentation

The Account Executive determines if the laboratory has the necessary accreditations, resources, including schedule, equipment, deliverables, and personnel to meet the work request. This is documented with a quote and/or contract. The Account Executive submits a bid to demonstrate the lab's capability to meet the client's requirements and formal quote to the client. The sales staff maintains copies of all signed contracts.

The Account Executive informs the client of the results of the review if it indicates any potential conflict, deficiency, lack of accreditation, or inability of the lab to the complete the work satisfactorily. It is necessary that the contract be acceptable to both the laboratory and the client.

The client is informed of any deviation from the contract including the test method or sample handling processes. All differences between the request and the final contract are resolved and recorded before any work begins. This information is recorded in the project folder.

The review process is repeated when there are amendments to the original contract by the client. The participating personnel are given copies of the amendments. The amendments are maintained in the project folder.

For repetitive routine tasks, the review may be made only at the initial inquiry stage or on granting of a contract for on-going routine work performed under a general agreement with the client, provided the client's requirements don't change.

7.2 Documentation of Review

Records are maintained for every contract or work request, when appropriate. This includes pertinent discussions with a client relating to the client's requirements or the results of the work during the period of execution of the contract. This information is recorded electronically and in the project folder.

Records of all pertinent, project-related communication with the client (including e-mails, fax, telephone conversation etc) are kept electronically and in the project folder.

Section 8 SUBCONTRACTING OF ENVIRONMENTAL TESTS *(TNI V1:M2 – Section 4.5)*

A subcontract laboratory is defined as a laboratory external to this laboratory, or at a different location than the addresses indicated on the front cover of this manual, that performs analyses for this laboratory.

When subcontracting analytical services, the laboratory assures work requiring accreditation is placed with an appropriately accredited laboratory or one that meets applicable statutory and regulatory requirements for performing the tests.

8.1 Procedure

The Account Executive maintains a list of subcontractors.

A copy of the certificate and analyte list from subcontractors is maintained as evidence of compliance. This information is maintained by the Account Executive and is kept on file electronically. The QAD also kept a copy of the information of the subcontracted laboratories electronically and a hard copy in a binder named "*Subcontracted Laboratories*" in the QA office.

The certificate and analyte list are reviewed by the Account Executive, and the QAD if necessary, to ensure the subcontracting laboratory has the appropriate accreditation to do the work.

The Account Executive notifies the client of the intent to subcontract the work in writing on the quotation. The laboratory gains the approval of the client to subcontract their work prior to implementation through quote approval. For ongoing projects where subcontracted analyses have been previously approved, no notification is given.

The laboratory performing the subcontracted work is identified in the final report. The laboratory assumes responsibility to the client for the subcontractor's work, except in the case where a client or a regulating authority specifies which subcontractor is to be used.

8.2 Approval of Subcontracting Laboratories

8.2.1 Identification of Need
- a) Collect the information regarding analyses to be subcontracted.
  - i. Methods/Parameters
  - ii. Matrix
  - iii. Quantity
  - iv. Certification Requirements
  - v. Reporting Requirements (Including EDD requirements)
  - vi. Turnaround Time Requirements
- b) Record information on Laboratory Subcontracting Form (See Appendix B).

8.2.2 Contact Partner Laboratory (Identified on approved Subcontractor Lab List).
- a) Confirm capability to perform analysis.
- b) Confirm certification.
- c) Confirm or obtain pricing.

8.2.3 Prepare quote.
a) Price subcontracted samples with adequate up charge to cover shipping and administration. (Usually at least 50%-60%)
8.2.4 Deliver client approved quote and subcontractor information to laboratory.
8.2.5 Relay all information regarding subcontractor arrangements with the Customer Service Manager and the Sample Custody Manager.
8.2.6 Contact Subcontractor regarding scheduling of event and sample arrival.

Section 9 PURCHASING SERVICES AND SUPPLIES *(TNI V1:M2 – Section 4.6)*

The laboratory ensures that purchased supplies and services that affect the quality of environmental tests are of the required or specified quality, by using approved suppliers and products.

The laboratory has procedures for purchasing, receiving, and storage of supplies that affect the quality of environmental tests.

9.1 Procedure

The procedure for purchasing supplies begins with filling out a Purchase Requisition Form (See Appendix B). The form is then reviewed by the Laboratory Director to ensure that the supplier has the appropriate technical and quality specifications and the supplier is on or added to the approved list. If the order placed in the purchasing form meet the quality specifications, the Laboratory Director sign and date the form and submit to the purchasing department. If same items requested can be found with different vendor (s) at better price, then the purchasing administrative assistant cross with a single line the original order, add the new information and give it to the Laboratory Director for approval or add a comment “as per (Laboratory Director Name)” if he authorized previously the change.

The purchase supplies and services orders also could be received by email, phone call or verbal without filling a purchasing requisition form. Then the laboratory purchasing administrative assistant is in charge to fill the paperwork and get it to the Laboratory Director for approval.

The laboratory keeps a list of approved suppliers. The Laboratory Director’s review is documented and the purchase order is approved by a signature on the Purchase Requisition Form. The purchasing documents containing the data that adequately describe the quality of services and supplies ordered are retained. The description may include type, class, grade, identification, specifications or other technical information.

The supplies received are inspected for breakage, leaks or any other damage. Supplies, reagents, and chemical standards are checked-in (unique ID, date, initial, lot number, expiration date, and Certificate of Analysis for standards) by personnel in the appropriate departments or in storage areas. The supplies received are stored according to manufacturer’s recommendations, laboratory SOPs or test method specifications.

Any documents received with the supplies and services including specifications, certificates of analyses, warranties, maintenance records, calibration records, etc. are kept on file in the appropriate department.

The purchased supplies and reagents that affect the quality of the tests are not used until they are inspected or otherwise verified as complying with requirements defined in the test method.

If a chemical or consumable ordered by the Lab is found to be lacking in the minimum quality required for its intended use, then the Lab will pursue the purchase of the desired item from an alternative supplier that meets the required specifications.

9.2 Approval of Suppliers

Evaluation and selection of suppliers and vendors is performed, in part, on the basis of the quality of their products, their ability to meet the demand for their products, the overall quality of their services, their past history and competitive pricing. This is achieved through evaluation of objective evidence of quality furnished by the supplier, which can include certificates of analysis, recommendations, and proof of historical compliance with similar programs for other clients. To ensure that quality critical consumables and equipment conform to specific requirements, all purchases from specific vendors are approved by the Laboratory Director.

Section 10 SERVICE TO THE CLIENT *(TNI V1:M2 – Section 4.7)*

The laboratory collaborates with clients and/or their representatives in clarifying their requests and in monitoring laboratory performance related to their work. Each request is reviewed to determine the nature of the request and the laboratory's ability to comply with the request within the confines of prevailing statutes and/or regulations without risk to the confidentiality of other clients.

10.1 Client Confidentiality

The laboratory confidentiality policy is to not divulge or release any information to a third party without proper authorization. Third party requests for data and information are referred to the client. Data and records identified as proprietary, privileged, or confidential are exempt from disclosure.

All electronic data (storage or transmissions) are kept confidential, based on technology and laboratory limitations, as required by client or regulation.

A confidentiality notice is included with all electronic data:

CONFIDENTIALITY NOTICE:
This message is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by e-mail and delete all copies of the message.

10.2 Client Support

Communication with the client, or their representative, is maintained to provide proper instruction and modification for testing. Technical staff is available to discuss any technical questions or concerns the client may have. All client inquiries will be responded to within 24 hours. This policy does not mean that client inquiries will be resolved, only that no client will be left unanswered for more than 24 hours. Time frames for resolution of inquiries are provided.

The client, or their representative, may be provided reasonable access to laboratory areas for witnessing testing.

Delays or major deviations to the testing are communicated to the client immediately through email or telephone by the Client Service Manager assigned to their project.

The laboratory will provide the client with all requested information pertaining to the analysis of their samples. An additional charge may apply for additional data/information that was not requested prior to the time of sample analysis or previously agreed upon.

10.3 Client Feedback

The laboratory seeks both negative and positive feedback following the completion of projects and periodically for ongoing projects. Feedback provides acknowledgement, corrective actions where necessary, and opportunities for continuous improvement.

Negative customer feedback is documented as a customer complaint (see Section 11 – "Complaints"). The laboratory seeks both positive and negative feed back through the review of reports with clients.

Section 11 COMPLAINTS *(TNI V1:M2 – Section 4.8)*

The purpose of this section is to assure that customer complaints are addressed and corrected. This includes requests to verify results or analytical data. Complaints provide the laboratory an opportunity to improve laboratory operation and client satisfaction.

Complaints by customers or other parties are reviewed by the Laboratory Director, Laboratory Manager, or QAD and an appropriate action is determined. All customer complaints are documented on the Customer Complaint Form (See Appendix B) by the person receiving the complaint and addressed to the responsible manager.

If it is determined that the complaint has merit, the procedures outlined in Section 14 – Corrective Action are utilized. If it is determined that a complaint is without merit, it is documented, and the client is contacted by the person who received the complaint.

A complaint such as a concern that data is repeatedly late should be reviewed for preventive action (see Section 15 – "Preventive Action") to minimize a future occurrence.

Section 12 CONTROL OF NON-CONFORMING ENVIRONMENTAL TESTING WORK *(TNI V1:M2 – Section 4.9)*

Non-conforming work is work that does not meet acceptance criteria or requirements. Non-conformances can include departures from standard operating procedures or test methods or unacceptable quality control results (see Section 27 – "Quality Assurance for Environmental Testing"). Identification of non-conforming work can come through customer complaints, quality control, instrument calibration, evaluating consumable materials, staff observation, final report review, management reviews and internal and external audits.

12.1 Exceptionally Permitting Departures from Documented Policies and Procedures

Requests for departures from laboratory procedures are approved by the Laboratory Director and documented. Planned departures from procedures or policies do not require audits or investigations.

The laboratory allows the release of non-conforming data when the samples have been analyzed for a purpose other than compliance monitoring required by governmental authorities. The laboratory allows the release of non-conforming data for compliance monitoring only with approval by the Laboratory Director or their designee on a case-by-case basis.

12.2 Non-Conforming Work

The lab policy for control of non-conforming work is to identify the non-conformance, determine if it will be permitted, and take appropriate action. All employees have the authority to stop work on samples when any aspect of the process does not conform to laboratory requirements.

The responsibilities and authorities for the management of non-conforming work are detailed below. The procedure for investigating and taking appropriate corrective actions of non-conforming work are described in Section 14 – "Corrective Actions". Section 14.3 describes procedures for Technical Corrective Actions. Formal corrective action procedures must be followed for non-conforming work that could reoccur (beyond expected random QC failures) or where there is doubt about the laboratory's compliance to its own policies and procedures.

The investigation and associated corrective actions of non-conforming work involving alleged violations of the company's Ethics and Data Integrity policies must follow the procedures outlined in Section 19 – "Data Integrity Investigations".

The laboratory evaluates the significance of the non-conforming work, and takes corrective action immediately. The customer(s) is notified of potential data quality issues resulting from nonconforming work within 7 business days upon discovery. Records of corrections taken or proposed corrective actions to resolve the nonconformance shall be documented. The laboratory allows the release of non-conforming data only with approval by the Laboratory Director on a case-by-case basis. Non-conforming data is clearly identified in the final report (see Section 28 – "Reporting the Results").

The discovery of a nonconformance for results that have already been reported to the customer must be immediately evaluated for significance of the nonconformance, its acceptability to the customer, and determination of the appropriate corrective action.

When a non-conformance is first noted, a Non-Conformance Form (See Appendix B) is initiated and work is halted or reports are withheld, if applicable. The individual initiating the form fills out the first section, which is a statement of fact regarding the suspected non-conformance. The potential non-conformance is not officially considered a non-conformance until an investigation of the situation has taken place normally by the QAD, but may be any member of management. The investigation's goal is to determine and indicate the root cause on the form.

The QAD or designee thereof then assesses the impact of the non-conformance including: whether a qualifier must be included on the final report, what impacts there are on the results, and what corrective action should take place (See Section 14 – "Corrective Action"). Finally, the findings are discussed with the Laboratory Director and the form is signed indicating approval of the form's contents. The client is notified if their data has been impacted within 7 business days upon discovery. If an analyst or employee must take corrective action, they sign the form indicating agreement and intent to complete the corrective action. The form is filed in the QA office in the non-conformance logbook. Follow-up on corrective actions is discussed in Section 14.

Corrective action for routine, non-recurring exceedances can be documented on raw data worksheets, logbooks, e-mails, a database, or other documents.

12.3 Stop Work Procedures

Personnel notify the appropriate Technical Manager of any major non-conformance affecting analyses and data. The Technical Manager reviews the significance of the nonconformance and develops a course of action. If data are questionable the QAD may be involved in the review and clients are notified.

When the investigation of non-conformance indicates that the cause of the non-conformance requires that a method be restricted or not used until modifications are implemented, the Laboratory Director will immediately notify affected personnel of the suspension/restriction. The lab will hold all relevant reports to clients pending review. The QAD must be involved in the resolution of the issue and must verify that the issue is resolved before work may resume. Personnel are notified by the Technical Manager when resumption of work is authorized. The QAD will document the issue, root cause and resolution using the corrective action procedures described in Section 14 – "Corrective Action".

The reporting of non-conforming work involving alleged violations of the company's Ethics and Data Integrity policies must be reported to the QAD. Procedures described in Section 19 – "Data Integrity Investigations" are followed.

Resumption of work after work has been stopped is authorized by the Laboratory Director.

Section 13 IMPROVEMENT *(TNI V1:M2 – Section 4.10)*

Improvement in the overall effectiveness of the laboratory management system is a result of the implementation of the various aspects of the laboratory's management system: quality policy and objectives (Section 5 – "Management"); internal auditing practices (Section 17 – "Internal Audits"); the review and analysis of data (Section 27 – "Quality Assurance for Environmental Testing"); the corrective action (Section 14 – "Corrective Action") and preventive action (Section 15 – "Preventive Action") process; and the annual management review of the quality management system (Section 18 – "Management Reviews") where the various aspects of the management/quality system are summarized, and evaluated and plans for improvement are developed.

Other areas of continual monitoring include: On Time Delivery of reports by the Laboratory Manager to determine laboratory performance and identify management issues, PT performance tracking by the QAD to determine areas of analytical deficiency, re-issuing reports or re-analyzing samples by the Laboratory Manager to correct data errors or typographical errors, Audit performance by the QAD and Laboratory Director to determine areas of management deficiency, Control Charting to generate control limits by the QAD, and experimental analyses to identify issues.

Section 14 CORRECTIVE ACTION *(TNI V1:M2 – Section 4.11)*

Corrective action is the action taken to eliminate the causes of an existing non-conformity, defect, or other undesirable situation in order to prevent recurrence.

Deficiencies cited in external assessments, internal quality audits, data reviews, customer feedback/complaints, control of nonconforming work or managerial reviews are documented and require corrective action. Corrective actions taken are appropriate for the magnitude of the problem and the degree of risk.

14.1 General Procedure

The laboratory uses the Non-Conformance Form (See Appendix B), the Data Review form (See Appendix B), and Audit Reports to document and track corrective actions.

The Technical Director or Laboratory Manager is responsible for initiating corrective action on routine data reviews where a nonconformance is found that could reoccur (beyond expected random QC failures) or where there is doubt about the compliance of the laboratory to its own policies and procedures. The QAD is responsible for monitoring and recording the corrective action. Section 12 – "Non-conforming Environmental Testing Work" outlines the laboratory's policies and procedures for working with non-conformances.

All deficiencies are investigated and a corrective action plan is developed and implemented if determined necessary. The implementation is monitored for effectiveness. Specific corrective action protocols specified in test methods may over-ride general corrective action procedures specified in this manual.

14.1.1 <u>Cause Analysis</u>

Root cause is the condition or event that, if corrected or eliminated, would prevent the recurrence of a deficiency.

When failures due to systematic errors have been identified, the first step of the corrective action process starts with the initial investigation and determination of root cause(s) of the problem. Records are maintained on the aforementioned forms of non-conformances requiring corrective action to show that the root cause(s) was investigated, and includes the results of the investigation.

Where there may be non-systematic errors and as such the initial cause is readily identifiable or expected random failures (e.g. failed quality control), a formal root cause analysis is not

performed and the process begins with selection and implementation of corrective action (also see Section 14.3 "Technical Corrective Actions").

14.1.2 Selection and Implementation of Corrective Actions

Where uncertainty arises regarding the best approach for analysis of the cause of exceedances that require corrective action, appropriate personnel will recommend corrective actions that are appropriate to the magnitude and risk of the problem and that will most likely eliminate the problem and prevent recurrence

The appropriate Technical Director ensures that corrective actions are discharged within the agreed upon time frame.

14.1.3 Monitoring of Corrective Action

The QAD and Laboratory Director will monitor implementation and documentation of the corrective action to assure that the corrective actions were effective. Regular data review is used to follow up on corrective actions. The annual internal audit process is also utilized to follow up on corrective actions.

14.2 Additional Audits

Where the identification of nonconformances or departures from normal lab procedures cast doubt on the laboratory's compliance with its own policies and procedures, or on its compliance with the TNI Standard, the laboratory ensures that the appropriate areas of activity are audited in accordance with Section 17 – "Internal Audits" as soon as possible.

In many cases, the additional audits are follow-ups after the corrective action has been implemented to ensure it is effective. These are done when a serious issue or risk to the laboratory have been identified.

Occasionally, there may be issues that require Directed Assessments by the quality assurance department. A Directed Assessment is defined as a non-random "for cause" assessment conducted by the QAD to follow up on corrective actions. Directed Assessments are performed as needed and ordered by the Laboratory Director. The Laboratory Director will consider many different priorities when selecting which Quality System to assess. Any or all of the following are used during the selection process:

- Priority of the regulatory submission data
- Previous observations of laboratory personnel
- Follow-up to client inquiries
- Data trending analysis
- Volume and type of batch run failures
- Number and type of protocol deviations
- Requests from laboratory personnel
- Follow-up to external audit recommendations

14.3 Technical Corrective Action

Sample data associated with a failed quality control are evaluated for the need to be reanalyzed or qualified. Unacceptable quality control results are documented, and if the evaluation requires cause analysis, the cause and solution are recorded (also see Section 12 – "Control of Nonconforming Environmental Testing Work"*)*.
Analysts are responsible for and routinely implement corrective actions for data with unacceptable QC measures. First level correction may include re-analysis without further assessment. If the test method SOP addresses the specific actions to take, they are followed. Otherwise, corrective actions start with assessment of the cause of the problem.

Corrective actions for non-systematic errors or expected random failures are documented in the data. Corrective actions for non-conformances that may reoccur (beyond expected random QC failures) or where there is concern that the laboratory is not in compliance with its own policies and procedures require that a Non-Conformance Form (See Appendix B) be completed (see Section 14.1). If data are determined to be questionable the Data Review Form (See Appendix B) is used.

Technical managers review Non-Conformance Forms and Data Review Forms and suggest improvements, alternative approaches, and procedures where needed.

If the data reported are affected adversely by the nonconformance, the affected data is clearly identified in the report with the appropriate qualifier and the customer is notified.

The discovery of a non-conformance for results that have already been reported to the client must be immediately evaluated for significance, its acceptability to the client, and determination of appropriate corrective action. Re-analysis is performed or revised reports are issued if necessary.

Section 15 PREVENTIVE ACTION *(TNI V1:M2 – Section 4.12)*

Preventive action is a pro-active process to identify opportunities for improvement rather than a reaction to the identification of problems or complaints.

Preventive action includes, but is not limited to: review of QC data to identify quality trends, regularly scheduled staff quality meetings, annual budget reviews, review of client feedback to look for improvement opportunities, review of proficiency testing data to look for analytes that were nearly missed, annual managerial reviews, scheduled column trimming, running a new LIMS in tandem with the old system to assure at least one working system, and any other actions taken to prevent problems. This includes the application of controls to ensure their effectiveness.

When improvement opportunities are identified or if preventive action is required, action plans are developed, implemented and monitored to reduce the likelihood of the occurrence of nonconformities.

Procedures for preventive actions include the initiation of such actions and subsequent monitoring to ensure that they are effective.

All personnel have the authority to offer suggestions for improvements and to recommend preventive actions, however management is responsible for implementing preventive action.

Section 16 CONTROL OF RECORDS *(TNI V1:M2 – Section 4.13)*

Records are a subset of documents, usually data recordings that include annotations, such as daily refrigerator temperatures posted to a laboratory form, lists, spreadsheets, or analyst notes on a chromatogram. Records may be on any form of media, including electronic and hard copy. Records allow for the historical reconstruction of laboratory activities related to sample-handling and analysis.

The laboratory maintains a record system appropriate to its needs, records all laboratory activities, and complies with applicable standards or regulations as required. Records of original observations and derived data are retained to establish an audit trail. Records help establish factors affecting the uncertainty of the test and enable test repeatability under conditions as close as possible to the original.

16.1 Records Maintained

Records of all procedures to which a sample is subjected while in the possession of the laboratory are kept. The laboratory retains all original observations, calculations and derived data (with sufficient information to produce an audit trail), calibration records, personnel records and a copy of the test report for a minimum of five years from generation of the last entry in the records. At a minimum, the following records are maintained by the laboratory to provide the information needed for historical reconstruction:

i) all raw data, whether hard copy or electronic, for calibrations, samples and quality control measures, including analysts' worksheets and data output records (chromatograms, strip charts, and other instrument response readout records);

ii) a written description or reference to the specific method(s) used, which includes a description of the specific computational steps used to translate parametric observations into a reportable analytical value (a copy of all pertinent Standard Operating Procedures);

iii) laboratory sample ID code;

iv) date of analysis;

v) time of analysis is required if the holding time is seventy-two (72) hours or less, or when time critical steps are included in the analysis (e.g., extractions and incubations);

vi) instrumentation identification and instrument operating conditions/parameters (or reference to such data);

vii) all manual calculations (including manual integrations);

viii) analyst's or operator's initials/signature or electronic identification;

ix) sample preparation, including cleanup, separation protocols, incubation periods or subculture, ID codes, volumes, weights, instrument printouts, meter readings, calculations, reagents;

x) test results (including a copy of the final report);

xi) standard and reagent origin, receipt, preparation, and use;

xii) calibration criteria, frequency and acceptance criteria;

xiii) data and statistical calculations, review, confirmation, interpretation, assessment and reporting conventions;

xiv) quality control protocols and assessment;

xv) electronic data security, software documentation and verification, software and hardware audits, backups, and records of any changes to automated data entries;

xvi) method performance criteria including expected quality control requirements;

xvii) proficiency test results;

xviii) records of demonstration of capability for each analyst;

xix) a record of names, initials, and signatures for all individuals who are responsible for signing or initialing any laboratory record;

xx) correspondence relating to laboratory activities for a specific project;

xxi) corrective action reports;

xxii) preventive action records;

xxiii) copies of internal and external audits including audit responses;

xxiv) copies of all current and historical laboratory SOPs, policies and *Quality Manuals*;

xxv) sample receiving records (including information on any interlaboratory transfers);

xxvi) sample storage records;

xxvii) data review and verification records;

xxviii) personnel qualification, experience and training records;

xxviv) archive records; and

xxviv) management reviews.

16.2 Records Management and Storage

The laboratory maintains a record management system for control of laboratory notebooks, instrument logbooks, standards logbooks, and records for data reduction, validation, storage, and reporting. Data is recorded immediately and legibly in permanent ink (data generated by automated data collections systems is recorded electronically.) Corrections are initialed and dated with the reason noted for corrections other than transcription errors. A single line strikeout is used to make corrections so that the original record is not obliterated. Electronic corrections are recorded, initialed, and dated on an audit trail, where possible. The original record is not obliterated.

Paper Records Paper records are maintained in paper format. Recent documents are organized in each department. Periodically, or as retired, records are filed and organized by the receptionist or designee in clearly labeled cabinets or boxes. The locations of archived paper records are documented.

Electronic Records Instrument generated data files are maintained on the computer controlling the instrument and processing the data. Other electronic records are maintained on a server in a file structure appropriate for their use. All electronic records are backed up.

Records, including electronic records, are easy to retrieve, legible, and protected from deterioration or damage; held secure and in confidence; and are available to accrediting bodies for a minimum of five years or as required by regulation or contract. Records that are stored only on electronic media are supported by the hardware and software necessary for their retrieval. Access to protected records is limited to laboratory management or their designee to prevent unauthorized access or amendment.

Additional information regarding control of data is included in Section 22.5 – “Control of Data”.

Reasonable efforts are made to protect archived information and access logs against fire, theft, loss, environmental deterioration, vermin, and in the case of electronic records, electronic or magnetic sources. Archived records have limited access and are checked out through the Archived Data Access Log. Archived records generated are stored on-site and they are kept for a minimum of 5 years.

In the event that the laboratory transfers ownership or goes out of business, records are maintained or transferred according to client instructions. Appropriate regulatory and state legal requirements concerning laboratory records shall be followed.

16.3 Legal Chain of Custody Records

Not Applicable.

Section 17 AUDITS (TNI V1:M2 – Section 4.14)

Audits measure laboratory performance and verify compliance with accreditation/ certification and project requirements. Audits specifically provide management with an on-going assessment of the management system. They are also instrumental in identifying areas where improvement in the management/quality system will increase the reliability of data. Audits are of four main types: internal, external, performance, and system. Section 17.5 discusses the handling of audit findings.

17.1 Internal Audits

Annually, the laboratory prepares a schedule of internal audits to be performed during the year; however, due to staffing and workflow it is not required that they be completed within the scheduled month. These audits verify compliance with the requirements of the management/quality system, including analytical methods, SOPs, the *Quality Manual*, ethics policies, data integrity, other laboratory policies, and the TNI Standard.

It is the responsibility of the QAD to plan and organize audits as required by the schedule and requested by management. These audits are carried out by trained and qualified personnel who are, wherever resources permit, independent of the activity to be audited. The QAD is the primary responsible to carry out the internal audit; however, the Laboratory Director and Laboratory Manager are also within the list of qualified personnel. Where resources permit, the QAD assign the areas to be assessed between qualified personnel.

To perform the internal audit the FDOH checklists for the 2003 NELAC standard are used. In addition, most recent internal audit and/or external audit reports are reviewed to determine compliance with the deficiencies found and the effectiveness of their plan of correction implemented.

In addition to the scheduled internal audits, it may sometimes be necessary to conduct special audits as a follow-up to corrective actions, PT results, complaints, regulatory audits or alleged data integrity issues. These audits address specific issues (See Section 14.2 – "Additional Audits").

The area audited, the audit findings, and corrective actions are recorded. Audits are reviewed after completion to assure that corrective actions were implemented and effective. This review may occur during the next scheduled audit unless findings are observed that cast doubt on the validity of the data.

17.2 External Audits

On-site assessment shall be performed every two years. The QAD is responsible to contact the contract lab assessment provider (s) at least six months prior the two years deadline to request a quote for the laboratory's inspection. The quote(s) is submitted for approval to the laboratory President/Owner. Once the quote (s) is approved, the QAD will contact the provider (s) to schedule the inspection date (s).

Inspections can be unannounced in those cases in which the Department of Health determines this approach necessary to establish compliance. Factors such as past record, proficiency test performance, personnel and overall laboratory performance will be considered in making this determination.

It is the laboratory's policy to cooperate and assist with all external audits, whether performed by clients or an accrediting body. Management ensures that all areas of the laboratory are accessible to auditors as applicable and that appropriate personnel are available to assist in conducting the audit.

17.2.1 **Confidential Business Information (CBI) Considerations**

During on-site audits, on-site auditors may come into possession of information claimed as business confidential. A business confidentiality claim is defined as "a claim or allegation that business information is entitled to confidential treatment for reasons of business confidentiality or a request for a determination that such information is entitled to such treatment." When information is claimed as business confidential, the laboratory must place on (or attach to) the information at the time it is submitted to the auditor, a cover sheet, stamped or typed legend or other suitable form of notice, employing language such as "trade secret", "proprietary" or "company confidential". Confidential portions of documents otherwise non-confidential must be clearly identified. CBI may be purged of references to client identity by the responsible laboratory official at the time of removal from the laboratory. However, sample identifiers may not be obscured from the information.

17.3 Performance Audits

Performance audits may be Proficiency Test Samples, internal single-blind samples, double-blind samples through a provider or client, or anything that tests the performance of the analyst and method.

Proficiency Test Samples are discussed in Section 27 – "Quality Assurance for Environmental Testing".

17.4 System Audits

The Laboratory's management system is audited though annual management reviews. Refer to Section 18 – "Management Reviews" for further discussion of management reviews.

17.5 Handling Audit Findings

Internal or external audit findings are responded to within the time frame agreed to at the time of the audit. The response may include action plans that could not be completed within the response time frame. A completion date is established by management for each action item and included in the response.

The responsibility for developing and implementing corrective actions to findings is the responsibility of the QAD under the review of the Laboratory Director. Corrective actions are documented through the corrective action process described in Section 14 – "Corrective Actions".

Audit findings that cast doubt on the effectiveness of the laboratory operation to produce data of known and documented quality or that question the correctness or validity of sample results must be investigated. Corrective action procedures described in Section 14 – "Corrective Action" must be followed. Clients must be notified in writing if the investigation shows the laboratory results have been negatively affected and the client's requirements have not been met. The client must be notified within 7 business days after the laboratory discovers the issue. Laboratory management will ensure that this notification is carried out within the specified time frame.

All investigations that result in findings of inappropriate activity are documented and include any disciplinary actions involved, corrective actions taken, and all appropriate notifications of clients. See Section 19 (Data Integrity Investigation) for additional procedures for handling inappropriate activity.

Section 18 MANAGEMENT REVIEWS *(TNI V1:M2 – Section 4.15)*

Top management reviews the management system on an annual basis and maintains records of review findings and actions.

18.1 Management Review Topics

The following are reviewed to ensure their suitability and effectiveness:

- the suitability of policies and procedures;
- reports from managerial and supervisory personnel;
- the outcome of recent internal audits;
- corrective and preventive actions;
- assessments by external bodies;
- the results of interlaboratory comparisons or proficiency tests;
- changes in the volume and type of the work;
- customer feedback;
- complaints;
- recommendations for improvement;
- other relevant factors, such as quality control activities, resources, and staff training.

18.2 Procedure

Laboratory management conducts an annual review of its quality system and its testing and calibration activities. The review takes into account the items listed in Section 18.1.
The managerial review is initiated by the QAD and Laboratory Director near the end of each year so that the review can be accomplished preferable by January 1st. The QAD gathers all required documents necessary to thoroughly review the elements in Section 18.1.

A meeting is scheduled including the Laboratory Director, QAD, and Laboratory Manager. The documents are reviewed in the meeting. Necessary improvements, changes, or action items are noted. In addition, corrective actions, goals, or plans for improvement that arise are noted.

All audit and review findings and any follow-up actions that arise are documented on the "Management System Review" report form and appropriate corrective actions are taken or planned, including notification of affected clients. Laboratory management will ensure the actions are assigned within a two week time frame as indicated by this quality manual. Management will determine appropriate completion dates for action items and ensure they are completed within the agreed upon time frame. The report is filed in the Internal Audits and Managerial Review Logbook and references the reviewed documents.

Section 19 DATA INTEGRITY INVESTIGATIONS *(TNI V1:M2 – Section 4.16)*

In addition to covering data integrity investigations, this Section covers all topics related to ethics and data integrity policies, procedures and training.

Florida Spectrum Environmental Services, Inc. is committed to ensuring the integrity of its data and providing valid data of known and documented quality to its clients. The elements in Florida Spectrum Environmental Services, Inc's Ethics and Data Integrity program include:

- Documented data integrity procedures.
- An Ethics and Data Integrity Policy signed by all management and staff at the time of employment (see Appendix A).
- Annual data integrity training.
- Procedures for confidential reporting of alleged data integrity issues.
- An audit program that monitors data integrity (see Section 17 – "Audits") and procedures for handling data integrity investigations and client notifications.

19.1 Ethics and Data Integrity Procedures

The Ethics and Data Integrity Policy provides an over view of the program. Written procedures that are considered part of the Ethics and Data Integrity program include:

Ethics and Data Integrity Policy (see Appendix A)
Manual integration Procedures (See SOP)
Corrective action procedures (see Section 14)
Procedures for Data Integrity Investigations (detail below)
Data Integrity training procedures (detail below)

Management reviews data integrity procedures yearly and updates these procedures as needed.

Florida Spectrum Environmental Services (FSES) has developed procedures to ensure data integrity, data quality and that promote ethical practices in the laboratory. These procedures are described under the quality control requirements specified in the analytical methods performed and the quality assurance practices covered in our Quality Manual.

The Quality Manual directs analytical and systems auditing activities, performance evaluation activities, and training activities that assist in the assurance of data integrity and ethical practices in the laboratory.

Three additional policies to promote and ensure data integrity and ethical practices in the laboratory are as follows:

1. All employees of FSES are required to read, understand, and sign our Ethics and Data Integrity Agreement at the time of employment. This agreement summarizes activities considered by the Company to be a "misrepresentation of analytical data" and requires employees to agree to not participate in such activities and disclose any information concerning such activities in the laboratory. It also specifies the consequences of participating in such activities. Employees are required to understand, through training and review of quality systems documents, that any infractions of the laboratory data integrity procedures will result in a detailed investigation that could lead to very serious consequences such as immediate termination, or civil/criminal prosecution. Technical directors uphold the spirit and intent by supporting and enforcing data integrity procedures.

2. On an annual basis, FSES conducts training seminars with the entire staff to emphasize the information conveyed in the Ethics and Data Integrity Agreement and in the Manual Integration SOP. This SOP covers the specifics of manual integration, including when it is appropriate and when it is inappropriate. It also includes other procedures specific to gas chromatography and mass spectrometry that must be followed to ensure data integrity such as the use of audit trails and other documentation of manual adjustments. The seminars and attendees are documented with a sign-in sheet.

3. Periodically, the Laboratory Director or Quality Assurance Director will use Element software to conduct electronic audit of analytical data generated using the Laboratory Information Management Systems. The systems track holding times, alarm limits, correct units, detection limits and pertinent parameters for all samples. The LIMS maintains an audit trail which documents any additions or changes in data. It is impossible for an analyst to alter data without an audit trail record.

It is the responsibility of the Quality Assurance Director, with the assistance of the Laboratory Director to ensure that this procedure and the policies contained are followed in each of FSES facilities. Data integrity procedures and evidence of inappropriate actions are reviewed annually or through regularly scheduled internal audits, and are updated by management. Written reports on the outcome of data surveillance activities will be submitted to the Laboratory Director. This report is to include the time period of the audit, the number of samples identified to have data integrity issues and any recommended action to be taken.

All Ethics and Data Integrity Agreements are kept in the employee personnel file and documentation of annual refresher training under item 2 above is maintained in the QA/QC office.

The Owner of FSES will conduct discussions on the issue of data integrity and ethical behavior with the staff. This will be done to emphasize the Company's commitment to data integrity and give the employees additional opportunities to gather information and ask questions.

With this procedure in place, FSES is confident that it can produce analytical data of the highest possible integrity.

19.2 Training

Data integrity training is provided as a formal part of new employee orientation and a refresher is given annually for all employees. Employees are required to understand that any infractions of the laboratory data integrity procedures shall result in a detailed investigation that could lead to very serious consequences including immediate termination, debarment or civil/criminal prosecution. This is discussed in the Ethics and Data Integrity Policy that every employee is required to sign at the time of employment. Attendance for required training is monitored through a signature attendance sheet.

Data integrity training emphasizes the importance of proper written narration (documentation) on the part of the analyst with respect to those cases where analytical data may be useful, but are in one sense or another partially deficient. The following topics and activities are covered:

- organizational mission and its relationship to the critical need for honesty and full disclosure in all analytical reporting;
- how and when to report data integrity issues;
- record keeping;
- training, including discussion regarding all data integrity procedures;
- data integrity training documentation;
- in-depth data monitoring and data integrity procedure documentation; and
- specific examples of breaches of ethical behavior such as improper data manipulations, adjustments of instrument time clocks, and inappropriate changes in concentrations of standards.

Topics covered are provided in writing to all trainees.

19.3 Confidential Reporting of Ethics and Data Integrity Issues

Confidential reporting of data integrity issues is assured through the following procedures (1) unrestricted access to senior management, (2) an assurance that personnel will not be treated unfairly for reporting instances of ethics and data integrity breaches, (3) anonymous reporting, and (4) assurance that if the need for a further detailed investigation arises it shall be performed.

19.4 Investigations

All investigations resulting from data integrity issues are conducted confidentially to the extent necessary. A follow-up evaluation, full investigation, or other appropriate actions are completed and issues clarified. Inappropriate activities are documented, including disciplinary actions, corrective actions, and notifications are made to clients who received any negatively affected data that did not meet the client’s data quality requirements, if applicable.

Section 20 PERSONNEL *(TNI V1:M2 – Section 5.2)*

Florida Spectrum Environmental Services, Inc. employs competent personnel based on education, training, experience and demonstrated skills as required. The laboratory's organization chart can be found in Section 4 – Organization.

20.1 Overview

All personnel are responsible for complying with all quality and data integrity policies and procedures that are relevant to their area of responsibility.

All personnel who are involved in activities related to sample analysis, evaluation of results or who sign test reports, must demonstrate competence in their area of responsibility. Appropriate supervision is given to any personnel in training and the trainer is accountable for the quality of the trainees work. Personnel are qualified to perform the tasks they are responsible for based on education, training, experience and demonstrated skills as required for their area of responsibility.

The laboratory provides goals with respect to education, training and skills of laboratory staff. These goals are outlined in Table 20-1. Training needs are identified at the time of employment and when personnel are moved to a new position or new responsibilities are added to their job responsibilities. Ongoing training, as needed, is also provided to personnel in their current jobs. The effectiveness of the training must be evaluated before the training is considered complete.

Table 20-1 – Goals for Laboratory Personnel Education and Experience

Table 20-1 Personnel Education and Experience Goals		
Area of Responsibility	**Minimum Education**	**Minimum Experience**
Lab Director	Bachelor's Degree in Chemistry, Biology, Environmental, Physical or Engineering Sciences with 24 hours in Chemistry; Coursework in Microbiology and Radiochemistry	2 years Environmental Analysis Methods in Fields of Accreditation
Radiation Safety Officer	Bachelor's Degree in Chemistry, Biology, Environmental, Physical or Engineering Sciences; Coursework in Radiochemistry	2 years Environmental Analysis in Fields of Accreditation
Quality Assurance Director	Bachelor's Degree in Chemistry, Biology, Environmental, Physical or Engineering Sciences with 24 hours in Chemistry; Coursework in Microbiology.	2 years Environmental Analysis in Fields of Accreditation
Lab Manager – FSES/SAV	Bachelor's Degree in Chemical, Environmental, Biological, Physical, or Engineering Sciences with 24 hours in chemistry.	2 years Environmental Analysis in Fields of Accreditation
Lab Manager – PEM	Associate's Degree in Chemical, Physical or Environmental Sciences with 16 hours in Chemistry and 4 hours in Microbiology	2 years Environmental Analysis in Fields of Accreditation
Lab Manager - BLL	Associate's Degree in Sciences or Applied Sciences with 4 hours in Microbiology	1 year Environmental Analysis in Fields of Accreditation
Client Services Manager	High school diploma with science coursework	2 years Environmental Analysis in Fields of Accreditation
Field Services Manager	High school diploma with science coursework	2 years /FDEP Field Services
Field Services Technician	High school diploma with science coursework	None Required
Sample Custody Manager	High school diploma with science coursework	2 years Sample Custody
Sample Custodian	High school diploma with science coursework	None Required

Table 20-1 Personnel Education and Experience Goals		
Area of Responsibility	**Minimum Education**	**Minimum Experience**
Microbiology Director	Bachelor's Degree in Chemical, Environmental, Biological, Physical, or Engineering Sciences with 24 hours in Chemistry and 16 hours Microbiology.	1 year Microbiological Analysis
Microbiology Analyst	High school or GED diploma with microbiology coursework	None Required
Metals Director	Bachelor's Degree in Chemical, Environmental, Biological, Physical, or Engineering Sciences with 24 hours in Chemistry	1 year Metals Analysis
Metals Analyst	High school diploma with chemistry coursework	None Required
Wet Chemistry/HPLC Director	Bachelor's Degree in Chemical, Environmental, Biological, Physical, or Engineering Sciences with 24 hours in Chemistry	1 year Inorganic Analysis
Wet Chemistry/HPLC Analyst	High school or GED diploma with chemistry coursework	None Required
Organics (Semivolatiles) Director	Bachelor's Degree in Chemical, Environmental, Biological, Physical, or Engineering Sciences with 24 hours in Chemistry	1 year Organic Extractions and Analysis
Organic Extractions	High school or GED diploma with chemistry coursework	None Required
Organics (Volatiles) Director	Bachelor's Degree in Chemical, Environmental, Biological, Physical, or Engineering Sciences with 24 hours in Chemistry	1 year Volatiles Analysis
Organics Analyst	High school or GED diploma with chemistry coursework	None required
Radiochemistry Director	Bachelor's Degree in Chemical, Environmental, Biological, Physical, or Engineering Sciences with 24 hours in Chemistry; Radiation Safety Training by RSO	1 year Inorganic Analysis; 2 years Radiological Analysis

20.2 Job Descriptions

Job descriptions are available for all positions that manage, perform, or verify work affecting data quality, and are located in Appendix D. An overview of top management's responsibilities is included in Section 5 – "Management".

Job descriptions include the specific tasks, skills, and analytical knowledge required for each position. Minimum education and experience requirements are located in Table 20-1.

20.3 Training

All personnel are appropriately trained and competent in their assigned tasks before they contribute to functions that can affect data quality. It is management's responsibility to assure personnel are trained. Training records are used to document management's approval of personnel competency. The date on which authorization and/or competence is confirmed is included.

Training records are maintained by the QAD and include individual training forms, raw data, a statement that the employee will follow the most recent SOP, and approval signatures of both the Technical Director responsible for training and supervising the employee in their specific area and the QAD.

20.3.1 Training for New Staff

New staff members are given the following training:

All new staff members are given introductory training and orientation upon arrival (See Appendix B). Training is documented by a signature sheet for topics covered. The new employee also receives Data Integrity training and must sign-off on the Ethics and Data Integrity Policy.

The initial training for a new task contains the following steps:

- All documentation involved with a new and unfamiliar task is read and understood by the trainee.
- Training is under the direct supervision of a qualified senior analyst. During the time the analyst is in training, the trainee may sign laboratory notebooks, logbooks, or worksheets but they must be co-signed by the trainer who is responsible for the data generated.
- The trainee demonstrates competency in the new task before they can operate independently. The competency for a test method is accomplished by a demonstration of capability as defined in Section 22 – "Environmental Methods and Method Validation", Appendix F, Appendix G, and Appendix H. Approval of competency is noted by the date and signature of the Technical Manager on the DOC form (see Appendix B).
- Each step of the training process is documented.
- The documentation is maintained in the employees training record.

20.3.2 **Ongoing Training**

Staff members are given the following ongoing training:

All staff members are given refresher ethics and data integrity training. The training and employee's agreement to follow the Ethics and Data Integrity Policy is documented on a training attendance sheet.

Ongoing training consists of:

- Annually, the analyst shows continued proficiency in each method they perform by maintaining acceptable results on Proficiency Tests.
- Attending training related to job function as applicable.
- Reviewing training documentation in the employee's training record (See Appendix B).

Section 21 ACCOMODATIONS AND ENVIRONMENTAL CONDITIONS

(TNI V1:M2 – Section 5.3)

21.1 Environmental

The laboratory facility is designed and organized to facilitate testing of environmental samples. Environmental conditions are monitored to ensure that conditions do not invalidate results or adversely affect the required quality of any measurement. Such environmental conditions include humidity, voltage, temperature, biological sterility, and dust. The laboratory has a back-up power supply.

If the laboratory environment is required to be controlled by a method or regulation, the adherence is recorded. An example is the recording of temperature during microbiological incubations.

Environmental tests are stopped when the environmental conditions jeopardize the results.

21.2 Work Areas

Work areas include access and entryways to the laboratory, sample receipt area, sample storage area, sample process area, instrumental analysis area, chemical and waste storage area and data handling and storage area.

Access to, and use of, areas affecting the quality of the environmental tests is controlled by restriction of areas to authorized personnel only. See Section 21.4 below.

The laboratory work spaces are adequate for their use, and appropriately clean to support environmental testing and ensure an unencumbered work area.

Laboratory space is arranged to minimize cross-contamination between incompatible areas of the laboratory. Volatiles analysis is in a segregated room on the opposite side of the building with respect to semi-volatiles extractions with a separate air system from the rest of the lab. Air-conditioner filters are impregnated with activated carbon to remove volatile organic compounds from the air. Electronic balances are located away from drafts and doorways, and mounted on marble slabs in areas where their use is not affected by vibration. Biological sterility is monitored using air density plates according to the SOPs for bacteriological test methods. Biological work areas are cleaned and sterilized between uses.

21.3 Floor Plan

A floor plan is available upon request.

21.4 Building Security

The laboratory is kept secure during off hours with locks and an alarm. There are internal and external video monitors throughout the building for security.

A Visitor's Logbook is maintained for every visitor to sign in and out. Visitors must be accompanied by laboratory personnel when in secure areas.

Signs are used to designate secure areas such as the radiological lab, radiological storage safe, and foreign soil locker.

Section 22 ENVIRONMENTAL METHODS AND METHOD VALIDATION (TNI V1:M2 – Section 5.4 and Sections 1.4, 1.5 and 1.6 of Technical Modules TNI V1:M 3-7)

Methods and/or procedures are available for all activities associated with the analysis of the sample including preparation and testing. For purposes of this Section, "method" refers to both the sample preparation and determinative methods (see Scope of Accreditation in Section 3.1 or Appendix E).

Before being put into use, a test method is confirmed by a demonstration of capability or method validation process.

All methods are published or documented. Deviations from the methods are allowed only if the deviation is documented, technically justified, authorized by management and accepted by the customer

22.1 Method Selection

A reference method is a method issued by an organization generally recognized as competent to do so. (When ISO refers to a standard method, that term is equivalent to reference method.) When a laboratory is required to analyze a parameter by a specified method due to a regulatory requirement, the parameter/method combination is recognized as a reference method.

The laboratory will use methods that meet the needs of the customer. Such methods will be based on the latest edition of the method unless it does not meet the needs of the customer.

22.2 Laboratory-Developed Methods

If the laboratory develops a method, the process of designing and validating the method is carefully planned and documented. All personnel involved in the method design, development and implementation will be in constant communication during all stages of development.

Where applicable, the laboratory verifies non-standard methods, laboratory developed/designed methods, standard methods used outside their published scope, and amplifications and modifications of standard methods to confirm that the methods are fit for the intended use.

22.3 Method Validation

Validation is the confirmation, by examination and objective evidence, that the particular requirements for a specific intended use are fulfilled.

At a minimum, reference methods are validated by performing an initial demonstration of capability. Additional requirements are discussed for each technology.

All methods that are not reference methods are validated before use. The validation is designed so that the laboratory can demonstrate that the method is appropriate for its intended use. All records (e.g., planning, method procedure, raw data and data analysis) shall be retained while the method is in use. Based on the validation process, the laboratory will make a statement in the SOP of the intended use requirements and whether or not the validated method meets the use requirements.

Method validation and Demonstration of Capability procedures can be found in:

- Appendix F - Chemistry
- Appendix G – Microbiology
- Appendix H - Radiochemistry

22.4 Estimation of Analytical Uncertainty

Analytical Uncertainty: A subset of Measurement Uncertainty that includes all laboratory activities performed as part of the analysis.

When requested, the laboratory will provide an estimate of the analytical uncertainty as determined using quality control measurements. Analytical uncertainty is characterized by a QC-based nested approach. The analyte of interest is specified, sources of uncertainty are identified, the components of uncertainty are quantified, and the combined and expanded analytical measurement uncertainty is calculated at a specified confidence interval. For specific calculations and measurements used see “Estimation of Analytical Measurement Uncertainty” (See SOP) and associated Microsoft Excel® spreadsheet.

22.5 Control of Data

To ensure that data are protected from inadvertent changes or unintentional destruction, the laboratory uses procedures to check calculations and data transfers (both manual and automated).

22.5.1 Computer and Electronic Data Requirements

Commercial “off-the-shelf” software (i.e. word processing, database, or statistical programs) used within the designed application range is considered sufficiently validated.

The laboratory assures that computers, user-developed computer software, automated equipment, or microprocessors used for the acquisition, processing, recording, reporting, storage, or retrieval of environmental test data are:

- documented in sufficient detail and validated as being adequate for use;
- protected for integrity and confidentiality of data entry or collection, data storage, data transmission and data processing;
- maintained to ensure proper functioning and are provided with the environmental and operating conditions necessary to maintain the integrity of environmental test data; and held secure including the prevention of unauthorized access to, and the unauthorized amendment of, computer records. Data archive security is addressed in Section 16 – “Control

of Records" and building security is addressed in Section 21- "Accommodations and Environmental Conditions".

The laboratory controls access to all programs that are used to acquire, process, record or report data. All programs are password-protected. Each employee is granted access only to those programs that he or she uses. The password is unique to the individual, and cannot be shared.

The laboratory controls access to all programs that are used to acquire, process, record or report data. All programs, where possible, have limited access and capabilities are dependent on the level (e.g. database administration, validator, reviewer, and analyst). An employee is granted access depending on his/her responsibilities and job description. A database administrator is given access to change the underlying code, but may not access or modify any data entry. A reviewer may review the data input, and may change entries only when a second reviewer concurs with the modification. Analysts input data, and have an opportunity to check data entries before permanently saving them. After the data has been saved, modifications may be made only with the electronic authorization of the Technical Director. The validator may review data and assign any validation codes necessary to help interpret the data, or change data only when a second reviewer concurs with the modification. Once the data have been reviewed, the project manager authorizes the data for release to the client. The analysts may not change data, but may alert the applicable Technical Director and project manager of any errors.

The laboratory uses spreadsheets to calculate final results from some raw data. Before reporting any results derived from these programs, the laboratory shall validate the underlying calculations.

The laboratory uses spreadsheets to reduce raw data to final results for many methods. To ensure that the worksheet formulae are correct, the Technical Director of the appropriate department tests each set of cells used for input of the data as well as all cells used for calculations by comparing the results of the spread sheet with manually calculated data.

If any changes are made to the spreadsheet program, the laboratory revalidates spreadsheet calculations before reporting results.

Data from all electronic media are backed up to ensure that data are not lost. The backed up copies are stored on servers and portable flash drives.

22.5.2 **Data Reduction**

As a part of the management system, the laboratory follows the "FSES-Data Verification" (See SOP) to ensure manual calculations are correct, reduce transcription errors, and verify results are correct. In addition, Technical Directors periodically review and sign off on raw data.

The analyst calculates final results from raw data or appropriate computer programs provide the results in a reportable format. The test methods provide required concentration units, calculation formulas and any other information required to obtain final analytical results.

The laboratory has manual integration procedures that must be followed when integrating peaks during data reduction. See "FSES-Manual Integration" SOP.

All raw data must be retained and it is maintained as described in Section 16 – "Control of Records".

22.5.3 **Data Review Procedures**

Data review procedures are located in the SOP "FSES-Data Verification" and Section 27.4 "Data Review".

Section 23 CALIBRATION REQUIREMENTS
(TNI V1:M2 – Sect 5.5 and Section 1.7 of Technical Modules TNI V1:M 3-7)

23.1 General Equipment Requirements

The laboratory provides all the necessary equipment required for the correct performance of the scope of environmental testing performed by the laboratory.

All equipment and software used for testing and sampling are capable of achieving the accuracy required for complying with the specifications of the environmental test methods as specified in the laboratory SOPs.

Equipment is operated only by authorized and trained personnel (see Section 20 – "Personnel").

The laboratory has procedures for the use, maintenance, handling and storage of equipment and they are readily available to laboratory personnel. Manuals provided by the manufacturer of the equipment provide information on use, maintenance, handling and storage of the equipment. The laboratory maintains an equipment list that includes additional information on storage location. The laboratory also has a table to summarize planned equipment maintenance. These procedures ensure proper functioning of the equipment and prevent contamination or deterioration.

All equipment is calibrated or verified before being placed in use to ensure that it meets laboratory specifications and relevant standard specifications. The analyst maintains initial calibration information with the instrument in the work area.

Test equipment, including hardware and software, are safeguarded from adjustments that would invalidate the test result measurements by limiting access to the equipment and using password protection where possible (see Section 22.5 – "Control of Data").

Equipment that has been subject to overloading, mishandling, given suspect results, or shown to be defective or outside specifications is taken out of service. The equipment is isolated to prevent its use or clearly labeled as being out of service until it has been shown to function properly. If it is shown that previous tests are affected, then procedures for nonconforming work are followed and results are documented (see Section 12 – "Control of Nonconforming Environmental Testing Work" and Section 14 – "Corrective Action").

Each item of equipment and software used for testing and significant to the results is uniquely identified. Records of equipment and software are maintained. This information includes the following:

a) identity of the equipment and its software;

b) manufacturer's name, type identification, serial number or other unique identifier;

c) checks that equipment complies with specifications of applicable tests;

d) current location;

e) manufacturer's instructions, if available, or a reference to their location;

f) dates, results and copies of reports and certificates of all calibrations, adjustments, acceptance criteria, and the due date of next calibration;

g) maintenance plan where appropriate, and maintenance carried out to date; documentation on all routine and non-routine maintenance activities and reference material verifications;

h) any damage, malfunction, modification or repair to the equipment;

The laboratory maintains an equipment list with the unique identification, identity of the equipment, manufacturer, current location, and date placed in service. See FSES-Equipment List. All other information listed above is maintained with the instrument in the work area.

23.2 Support Equipment

Support Equipment includes, but is not limited to: balances, ovens, refrigerators, freezers, incubators, water baths, temperature measuring devices (including thermometers and thermistors), thermal/pressure sample preparation devices, and mechanical volumetric dispensing devices (such as Eppendorf or automatic dispensing devices).

All support equipment is maintained in proper working order. Records are kept for all repair and maintenance activities, including service calls in the maintenance logs for each instrument.

All raw data records are retained to document equipment performance. These records include logbooks, data sheets, or equipment computer files.

23.2.1 **Support Equipment Maintenance**

Regular maintenance of support equipment, such as balances and fume hoods is conducted at least annually. Maintenance on other support equipment, such as ovens, refrigerators, and thermometers is conducted on an as needed basis.

Records of maintenance to support equipment are documented in Instrument Maintenance Logs. Maintenance logbooks may be shared with equipment that is housed in the same laboratory area.

Table 23-2 includes a summary of support equipment maintenance.

Table 23-2 Summary of Support Equipment Calibration and Maintenance

Instrument	Activity	Frequency	Documentation
Balance	1. Clean 2. Check alignment 3. Service Contract	1. Before use 2. Before use 3. Annually	Worksheet/log book Post annual service date on balance
ASTM Class 1Weights	1. Only use for the intended purpose 2. Use plastic forceps to handle 3. Keep in case 4. Re-calibrate	4. Every 5 years; weight is used only to check working standard weights which are used for daily checks.	Keep certificate
Working Standard Weights	1. Used to check balances before their use.	Annually using a NIST traceable reference.	Worksheet / logbook
NIST Traceable Thermometer	Accuracy determined by A2LA-accredited weights and measurement laboratory.	Every 5 years.	Keep certificate
Thermometers: 1. Glass and electronic 2. Dial thermometers 3. IR thermometer 4. Min/Max thermometers	Calibration: If temperature device is used over a range of 10°C or less, then single point verification within the range of use is acceptable. If temperature device is used over a range of greater than 10°C, verification must bracket the range of use.	Annually using a NIST traceable reference	Calibration factor, date of calibration and calibration due date on thermometer and worksheet/log book
pH electrometers	Calibration: 1. pH buffer; buffers used for calibration bracket the pH of the media, reagent, or sample tested.	Each day, before use	Worksheet/log book
pH probe	1. Calibrate and/or verified temperature sensor.	1. Annually using a NIST traceable	Calibration factor, date of calibration, calibration

Table 23-2 Summary of Support Equipment Calibration and Maintenance			
Instrument	**Activity**	**Frequency**	**Documentation**
	2. Maintenance as specified by the manufacturer	reference 2.As needed	due date on the pH meter and maintenance on the worksheet/log book
Photometer	1. Keep cells clean	As needed	
Automatic or digital type pipettes	Calibrate for accuracy and precision using reagent water and analytical balance	Quarterly	Worksheet/logbook
Conductivity Meter	1. Calibrate with Standard KCl Solution 2. Calibrate and/or verified temperature sensor	1. Each day, before use 2. Annually using a NIST traceable reference	Worksheet/Logbook
Refrigerators, Freezers, and BOD incubators	1. Thermometers are immersed in liquid to the appropriate immersion line 2. The thermometers are graduated in increments of 1°C or less 3. Min/Max thermometers or temperature charts recording in use where the temperature requires 24/7 monitoring.	Temperatures are recorded each day in use. (min/max thermometers will be used if personnel not available to record daily)	Worksheet/log book
Sterilizer	1. Use a maximum-temperature-registering thermometer or a continuous recording device. 2. Use spore strips or ampoules. 3. Maintenance of autoclave by a professional company or in-house maintenance. 4. Autoclave mechanical timing device	1. Each cycle 2. One sterilizing cycle per month. 3. Once per year 4. Quarterly against a stopwatch	Worksheet/log book
Microbiological incubators, and water baths	1. Thermometers in each unit are immersed in liquid to the appropriate immersion line 2. The thermometers will be graduated in increments of 0.5°C (0.2°C increments for tests which are incubated at 44.5°C) or less 3. The uniformity of temperature distribution shall be established.	1. 2. Temperature of incubators and water baths will be recorded twice a day for each day in use with readings separated by at least four hours 3. Once upon first use after installation or service	Worksheet/log book
DO electrometer	1. Calibrate as specified in SOP 2. Verify the on-board barometer against a certified barometer or using your local airport as reference.	1. Before use 2. Annually	Worksheet/log book
DO probe	1. Calibrate and/or verified temperature 2. Maintenance as specified by manufacturer	1. Annually against a NIST reference traceable 2. As needed	Worksheet/log book

Table 23-2 Summary of Support Equipment Calibration and Maintenance			
Instrument	**Activity**	**Frequency**	**Documentation**
Ovens and Sample Prep Incubators or Devices	1. The thermometers are graduated in increments of 1°C or less 2. Thermometer immersed in water, sand, or thermometer holster.	Temperatures are recorded each day in use	Worksheet/log book
Centrifuge	1. Calibrate and/or verified accuracy of timer and speed bracketing the range of use.	1. Annually	Keep certificate
Spectrophotometer	1. Calibrate and/or verified accuracy and reproducibility of the wavelengths bracketing the range of use.	1. Annually	Keep certificate
Stopwatch	1. Calibrate and or verified accuracy of timer bracketing the range of use	1. Annually against National Time signal	Calibration factor, date of calibration and calibration due date on stopwatch and worksheet/log book
UV Instruments (Used for Sanitization)	1. Disconnect lamp and clean bulbs with soft cloth moistened with ethanol, 70%methanol/30% water, or 2-propanol. 2. Expose plate count agar spread plates containing 200-300 CFU/mL of selected bacterial suspension for 2 min. Incubate plates at 35°C for 48h and count colonies.	1. Monthly 2. Quarterly and replace bulb is colony is not reduced 99%	Worksheet /Maintenance logbook

23.2.2 **Support Equipment Calibration**

All support equipment is calibrated or verified annually over the entire range of use using NIST traceable references where available. The results of the calibration of support equipment are within specifications or (1) the equipment is removed from service until repaired, or (2) records are maintained of correction factors to correct all measurements. If correction factors are used this information is clearly marked on or near the equipment.

Support equipment such as balances, ovens, refrigerators, freezers, and water baths are verified with a NIST traceable reference if available, each day prior to use, to ensure operation is within the expected range for the application for which the equipment is to be used.

Volumetric dispensing devices (except Class A glassware and Glass microliter syringes) are checked for accuracy if quantitative results are dependent on their accuracy. Disposable or single-use volumetric equipment shall be verified once per lot, prior to or in conjunction with its first use; mechanical devices shall be verified prior to first use an on quarterly basis, and all other volumetric support equipment shall be checked for accuracy prior to or in conjunction to its first use.

See Appendix G for Microbiology specific support equipment requirements.

Table 23-3 Calibration Acceptance Criteria for Support Equipment				
Equipment	**Type of Calibration/ Number of Standards**	**Frequency**	**Acceptance Limits**	**Corrective Action**
Analytical Balance	Accuracy determined using NIST-traceable weights. Minimum of 2 standards bracketing the weight of interest. Inspected and calibrated by an accredited calibration body on an annual basis.	Daily	± 1.0%	Clean, check level, ensure lack of drafts, and that unit is warmed up, recheck. If fails, call service.
Work Standard Weights	Accuracy determined using ASTM Class 1 Weights.	Annually	± 1.0%	Replace
Thermometer	Against NIST-traceable thermometer	Yearly at appropriate temperature range for intended use	± 6.0°C	Replace
Minimum-Maximum Thermometers	Against NIST-traceable thermometer	Yearly	± 5.0°C	Replace
InfraRed Temperature Guns	Against NIST-traceable thermometer	Yearly at appropriate temperature range for intended use	± 1.5°C	Repair/replace
Volumetric Dispensing Devices with movable parts (Eppendorf ® pipette, automatic dilutor or dispensing devices)	One delivery by weight. Using DI water, dispense into tared vessel. Record weight with device ID number.	Quarterly	± 1% RSD for 3 replicates ± 5% RPD for 3 replicates	Adjust. Replace.
Volumetric Equipment (filter funnels, bottles, non-class A glassware and other containers with volumetric markings including sample analysis vessels)	Verification can be volumetric as compared to Class A or gravimetric	Once per lot prior first use	±2.5 % of expected value	Discard/Replace
Stopwatch	Against National time Signal	Yearly at appropriate timer range for intended use	±30 seconds	Replace

Table 23-4a Acceptance Criteria for Fort Lauderdale Support Equipment*		
Equipment Identification	**Use**	**Acceptance Criteria**
Prep-8	Odor Water Bath	40°C +/- 1°C
Wet 8	Refrigerator/ Freezer, Wet Chemistry Standards and PTs	1.0-4.5°C / (-)20-(-)10°C

Table 23-4a Acceptance Criteria for Fort Lauderdale Support Equipment*		
Equipment Identification	**Use**	**Acceptance Criteria**
Wet 10	Volatile Solids and Fixed Solids	550± 50°C
Wet 12	TS, TSS, TDS	103-105°C
R-4	Sample Storage, Wet Chem	>0-6°C
R-5	Sample Storage, Wet Chem	>0-6°C
Wet 18	TDS, Glassware Drying	180°C +/- 2°C
Wet 39	Excess TS, TDS, TSS	103-105°C
Wet 49	Autoclave for Total Phosphorus 365.1	121°C (15-20 psi)
Prep 7	Endothall Water Bath	50°C
Prep-16	Turbovap	55°C +/- 2°C
SV-1	Freezer, Reagents and Standards SVOC	(-)20-(-)10°C
SV-7	Refrigerator/ Freezer, SVOC reagents and standards	1.0-4.5°C / (-)20-(-)10°C
SV-8	Refrigerator/ Freezer, SVOC reagents and standards	1.0-4.5°C / (-)20-(-)10°C
SV-21	Freezer, SVOC Reagents and standards	(-)20-(-)10°C
Prep-1	Oven, Glassware, Na2SO4, Silica	130°C
TV-1, TV-2, TV-3	Turbovaps	45°C
Micro-3	Microbiology Autoclave/Sterilizer	121°C (15-20psi)
Micro-4a	BOD Incubator	20°C +/- 1°C
Micro-4b	BOD Incubator	20°C +/- 1°C
Micro-6a	Enterococcus Incubator	41°C +/- 0.5°C
Micro-6b	Total Coliform, HPC, P/A Incubator	35°C +/- 0.5°C
Micro-45	Refrigerator/ Freezer, Micro Media and Cultures	1.0-4.5°C / (-)20-(-)10°C
Micro-13	Bioindicator Water Bath	60°C +/- 2.0°C
Micro-14	Pseudomonas Incubator	38°C +/- 0.5°C
Micro-16	Total Coliform, HPC, P/A Incubator	35°C +/- 0.5°C
Micro-25	Fecal Coliform Water Bath	44.5°C +/- 0.2°C
Micro-34	Legionella Incubator with CO2	35C°C and CO2 at 2.5%

Table 23-4a Acceptance Criteria for Fort Lauderdale Support Equipment*		
Equipment Identification	**Use**	**Acceptance Criteria**
Vol-5	Freezer, VOC Reagents and Standards	(-)20-(-)10°C
Vol-8	Refrigerator/ Freezer, VOC reagents, standards, and samples	1.0-4.5°C / (-)20-(-)10°C
HPLC-4	Refrigerator/ Freezer, HPLC Reagents and Standards	1.0-4.5°C / (-)20-(-)10°C
SC-3	Refrigerator, Sample Custody	>0-6.0°C
SC-4	Refrigerator, Sample Custody	>0-6.0°C
SC-6	Refrigerator, Sample Custody	>0-6.0°C
SC-7	Refrigerator, Sample Custody	>0-6.0°C
SC-8	Refrigerator, Sample Custody	>0-6.0°C
SCF-9	Freezer, Sample Custody	(-)20-(-)10°C
SC-10	Volatiles Samples Refrigerator, Sample Custody	>0-6.0°C
SC-11	Storage of Legal Evidentiary Samples	>0-6°C

*Note: Calibration acceptance criteria for PEM, BLL, and SAV labs are the same for support equipment of the same type and use.

Table 23-4b Acceptance Criteria for Big Lake Support Equipment		
Equipment Identification	**Use**	**Acceptance Criteria**
BLL-24	Autoclave Steam Sterilizer	121 °C (15-20psi)
BLL-02	Total Coliform Incubator	35 °C +/- 0.5°C
BLL-60	Fecal Water Bath	44.5°C +/- 0.2°C
BLL-04	Block Incubator, Fecal Confirmation (LTB)	35 °C +/-0.5°C
BLL-05	Block Incubator, Fecal Confirmation (EC)	44.5 °C +/- 0.2°C
BLL-12	Total Coliform Incubator	35.0 °C +/-0.5°C
BLL-11	Refrigerator for samples, media and reagents	1.0-4.5°C
BLL-16	Bioindicator Incubator	55 - 60°C

Table 23-4c Acceptance Criteria for Pembroke Support Equipment		
Equipment Identification	**Use**	**Acceptance Criteria**
PEMEQ 77	Sample Receive Refrigerator	>0-6°C
PEM EQ-19	Reagent refrigerator	1.0-4 °C
PEM EQ-49	TSS, TDS	103-105°C

Table 23-4c Acceptance Criteria for Pembroke Support Equipment		
Equipment Identification	**Use**	**Acceptance Criteria**
PEM EQ-33	Sample Holding Refrigerator	>0-6°C
PEMEQ 45	TDS, Glassware Drying	180°C +/- 2°C
Autoclave WET-02	Autoclave	121°C (15-20 psi)
PEM EQ-WB2	Spore Ampules Water Bath	55 - 60°C
PEM EQ-WB1	Fecal coliform, EC and EC MUG Water Bath	44.5°C +/- 0.2°C
PEM EQ-20	BOD, CBOD Incubator	20°C +/- 1°C
PEM EQ-21	Total Coliform, P/A Incubator	35°C +/- 0.5°C

Table 23-4d Acceptance Criteria for Savannah Support Equipment		
Equipment Identification	**Use**	**Acceptance Criteria**
FCB1	Fecal Coliform Water bath	44.5 °C +/- 0.2°C
FC1	Air Incubator	35°C+/-0.5°C
TC1	Total Coliform Incubator	35 °C +/-0.5°C
TC2	Dry Bath Incubator	55 -60°C
AC1	Autoclave/Sterilizer	121°C (15-20psi)
OVEN5	TDS Oven	180°C+/-2°C
OVEN1	TSS Oven	103-105°C
OVEN3	Volatiles Solids Oven	500-600°C
OVEN2	Oil and Grease Oven	70°C+/-2°C
COOK1	BOD Incubator	20°C+/-1.0°C
REF1	Microbiology Refrigerator	1.0-4.5°C
REF2	Sample Storage Refrigerator	1.0-4.5 °C
REF3	Sample Storage Refrigerator (Subcontract work)	1.0-4.5°C

23.3 Analytical Equipment

23.3.1 Maintenance for Analytical Equipment

All equipment is properly maintained, inspected, and cleaned. Maintenance of analytical instruments and other equipment may include regularly scheduled preventive maintenance or maintenance on an as-needed basis. Instrument malfunction is documented in Instrument Maintenance Logs, which become part of the laboratory's permanent records. A description of what was done to repair the malfunction is documented in the log.

Table 23-5 Analytical Equipment Maintenance		
Instrument	**Procedure**	**Frequency**
Cold Vapor Atomic Fluorescence Mercury Analyzer	Check tubing for wear Fill rinse tank with 2% HNO_3 Fill reductant bottle with 20% Tin Chloride	Daily Daily Daily
ICP and ICP/MS	Check pump tubing Check liquid argon supply Check fluid level in waste container Check filters Clean or replace filters Check torch Check sample spray chamber for debris Clean and align nebulizer Check entrance slit for debris Change printer cartridge Replace pump tubing	Daily Daily Daily Weekly As required Daily Monthly Monthly Monthly As required As required
UV-Vis Spectrophotometer	Clean ambient flow cell Precision check/alignment of flow cell	As required As required
Auto Analyzers	Clean sampler Check all tubing Clean inside of colorimeter Check manifold temperature Clean pump well and pump rollers Clean wash fluid receptacle Oil rollers/chains/side rails Clean optics and cells	Daily Daily Daily Daily Quarterly Weekly Weekly Quarterly
Hewlett Packard GC/MS	Ion gauge tube degassing Pump oil-level check Pump oil changing Analyzer cleaning Resolution adjustment	As required As required Semi-annually As required As required
Gas Chromatograph	Compare standard response to previous day or since last initial calibration Check carrier gas flow rate in column Check temp. of detector, inlet, column oven Septum replacement Glass wool replacement Check system for gas leaks with SNOOP Check for loose/fray wires and insulation Change/remove sections of guard column Replace connectors/liners Change/replace column(s)	Daily Daily via use of known compound retention Daily As required As required W/cylinder change as req'd As required As required As required As required
Electron Capture Detector (ECD)	Detector wipe test (Ni-63) Detector cleaning	Semi-annually As required
Flame Ionization Detector (FID)	Detector cleaning	As required

Table 23-5 Analytical Equipment Maintenance		
Instrument	**Procedure**	**Frequency**
HPLC	Change guard columns Change lamps Change pump seals Replace tubing Change fuses in power supply Filter all samples and solvents Change autosampler rotor/stator Replace column	As required As required Semi-annually or as req'd As required As required Daily As required As required
Ion Chromatograph	Change guard columns Regenerate/replace suppressor Replace column Replenish Eluent Change pump seals	As required As required As required Daily Semi-annually or as req'd
Balances	Class "1" traceable weight check Clean pan and check if level	Daily, when used Daily
Conductivity Meter	0.01 M KCl calibration Conductivity cell cleaning	Daily As required
Turbidimeter	Check light bulb Calibrate with gel standards	Daily, when used Quarterly or as required
Deionized/Distilled Water	Check conductivity Check deionizer light Monitor for VOA's System cleaning Replace cartridge & large mixed bed resins	Daily Daily Daily As required As required
Drying Ovens	Temperature monitoring Temperature adjustments	Daily As required
Refrigerators/ Freezers	Temperature monitoring Warning system checked Temperature adjustment Defrosting/cleaning	Daily Monthly As required As required
Vacuum Pumps/ Air Compressor	Drained Belts checked Lubricated	Weekly Monthly Semi-annually
pH/Specific Ion Meter	Calibration/check slope Clean electrode	Daily As required
BOD Incubator and Micro Incubators	Temperature monitoring	Daily
Centrifuge	Check brushes and bearings	Every 6 months or as needed
Water Baths	Temperature monitoring Water replaced	Daily Monthly or as needed
TOC UV Analyzer	Replace copper and tin in halide scrubber Clean halide scrubber glassware Replace sodium persulfate Replenish phosphoric acid Replenish rinse water Replace UV bulb	Monthly or as required Monthly or as required Weekly As required As required As required

Table 23-5 Analytical Equipment Maintenance		
Instrument	**Procedure**	**Frequency**
Orbecco-Helige Aqua Tester	Clean color filters	As required
Block Digesters	Monitor temperature Uniformity of temperature	Daily As required
Parr Bomb	Replace seals	As required
Fume Hoods	Check flow	Annually
Desiccators	Replace anhydrous CaSO4	As required
Gas Proportional Counter	Check Flow of Gas In Chamber Check Gas Tank	Daily Change, as required

23.3.2 Instrument Calibration

Information on instrument calibration can be found in Appendix F (Chemistry), Appendix G (Microbiology), and Appendix H (Radiochemistry).

Initial instrument calibration and continuing instrument calibration verification are an important part of ensuring data of known and documented quality. If more stringent calibration requirements are included in a mandated method or by regulation, those calibration requirements override any requirements outlined here or in laboratory SOPs. Generally, procedures and criteria regarding instrument calibrations are provided in test method SOPs.

Section 24 MEASUREMENT TRACEABILITY *(TNI V1:M2 – Section 5.6)*

Measurement quality assurance comes in part from traceability of standards to certified materials.

All equipment used affecting the quality of test results are calibrated prior to being put into service and on a continuing basis (see Section 23 – "Calibration Requirements"). These calibrations are traceable to national standards of measurement where available.

If traceability of measurements to SI units is not possible or not relevant, evidence for correlation of results through interlaboratory comparisons, proficiency testing, or independent analysis is provided.

24.1 Reference Standards

Reference standards are standards of the highest quality available at a given location, from which measurements are derived.

Reference Standards, such as ASTM Class 1 weights, are used for calibration only and for no other purpose.

Reference standards, such as ASTM Class 1 weights, are calibrated by an entity that can provide traceability to national or international standards. The following reference standards are sent out to be calibrated to a national standard as indicated in Section 23 – "Calibration Requirements".

- ASTM Class 1 weight set.
- NIST traceable reference thermometers.

24.2 Reference Materials

Reference materials are substances that have concentrations that are sufficiently well established to use for calibration or as a frame of reference.

Reference materials, where commercially available, are traceable to national standards of measurement, or to Certified Reference Materials, usually by a Certificate of Analysis.

Purchased reference materials require a Certificate of Analysis where available. If a reference material cannot be purchased with a Certificate of Analysis, it is verified by analysis and comparison to a certified reference material and/or demonstration of capability for characterization.

Internal reference materials, such as working standards or intermediate stock solutions, are checked as far as is technically and economically practical.

Procedure for checking internal reference materials:

Working standards or intermediate stock solutions are checked against a second source at first time of use. Working standards and intermediate stock solutions are given expiration dates when they are prepared based on method or regulatory requirements. These standards are used up or disposed of by the expiration date.

Additional working standards such as working class weights or internal thermometers are checked using the frequency summarized in Table 23-3 in Section 23 – "Calibration Requirements".

24.3 Transport and Storage of Reference Standards and Materials

The laboratory handles and transports reference standards and materials in a manner that protects the integrity of the materials. Reference standard and material integrity is protected by separation from incompatible materials and/or minimizing exposure to degrading environments or materials.

Reference standards and materials are stored according to manufacturer's recommendations, method SOP requirements and separately from samples.

24.4 Labeling of Reference Standards, Reagents, and Reference Materials

The laboratory has procedures for purchase, receipt and storage of standards, reagents and reference materials. Purchase procedures are described in Section 9 – "Purchasing Services and Supplies".

Expiration dates can be extended if the reference standard or material's integrity is verified. The extended date may not be beyond the expiration date of the referenced standards used to re-verify.

Procedure for verifying integrity of expired standards:

Expired references or standards are not to be used unless they are checked against a second source to verify their integrity and extend the expiration date. Expired standards and reference materials are given reasonably extended expiration dates depending on the nature of the standard.

Reagent quality is verified upon first use.

24.4.1 **Stock Standards, Reagents, Reference Materials and Media**

Records for all standards, reagents, reference materials, and media include:

- the manufacturer/vendor name (or traceability to purchased stocks or neat compounds)
- the manufacturer's Certificate of Analysis or purity (if supplied)

- the date of receipt
- recommended storage conditions

All purchased stock standards, reagents, reference materials, and media are recorded in a receiving log in the appropriate department with a unique ID, date of receipt, manufacturer, expiration date, description, and initials of the receiving analyst. The Certificate of Analysis is stored in a log associated with the material's unique identification.

If the original container does not have an expiration date provided by the manufacturer or vendor it is not required to be labeled with an expiration date. If an expiration date is provided, it must be labeled with the expiration date.

In methods where the purity of reagents is not specified, analytical reagent grade is used. If the purity is specified, that is the minimum acceptable grade. Purity is verified and documented according to Section 9 – "Purchasing Services and Supplies".

24.4.2 **Prepared Standards, Reagents, Reference Materials and Media**

Records for standards, reagents, reference materials, and media preparation include:

- traceability to purchased stock or neat compounds
- reference to the method of preparation
- date of preparation
- an expiration date after which the material shall not be used (unless its reliability is verified by the laboratory)
- preparer's initials

All containers of prepared standards, reagents, or materials are labeled with a unique ID and an expiration date. The laboratory uses a code that is to be written on each item or container with a letter code indicating department, type of material prepared (reagent, standard, surrogate, etc.), and numerical identifier.

Standard and reagent preparation records are kept in laboratory notebooks.

Prepared reagents are verified to meet the requirements of the test method through blank analysis.

Section 25 COLLECTION OF SAMPLES *(TNI V1:M2 – Section 5.7)*

Florida Spectrum Environmental Services, Inc. provides sampling services. Sampling procedures are described in the following SOPs:

Applicable FDEP SOPs for Laboratory Activities:

- FS1000 – General Sampling
- FS2000 – Aqueous Sampling
- FS2100 – Surface Water Sampling
- FS2200 – Groundwater Sampling
- FS2300 – Drinking Water Sampling
- FS2400 – Wastewater Sampling
- FS3000 – Soil Sampling
- FS4000 – Sediment Sampling
- FS5000 – Waste Sampling
- FS8100 – Contaminated Surface Sampling
- FS8200 – Ultratrace Metals in Surface Waters
- FT1000 – General Field Testing
- FT1100 – Field pH
- FT1200 – Field Conductivity

- FT1300 – Field Salinity
- FT1400 – Field Temperature
- FT1500 – Field DO
- FT1600 – Field Turbidity
- FT2000 – Field Residual Chlorine
- FC1000 – Cleaning and Decontamination of Field Equipment

25.1 Sampling Containers

The laboratory offers clean sampling containers for use by clients. Certificates of Analysis documenting sample container cleanliness are retained. Sterile microbiological sample containers are checked for sterility once per lot.

25.1.1 Preparing Container Orders

Containers (containing any required preservatives) are provided to the client upon request.

Container kits are prepared from approved quotations or may be requested by clients via email or telephone conversation for small scope or recurring projects. Container kits are shipped in sealed coolers, picked up by clients, or delivered by FSES Field Services Technicians.

25.1.2 Sampling Containers, Preservation Requirements, Holding Times

Sampling container, preservation and holding time requirements can be found in the FS1000 General Sampling SOP in Tables FS1000-4, FS1000-5, FS1000-6, FS1000-7, FS1000-8, FS1000-9, and FS1000-11.

If preservation or holding time requirements are not met and FSES Field Services performed the sampling, the procedures in Section 12 – "Control of Nonconforming Environmental Testing Work" are followed. If the client performed the sampling, they are informed of the non-conformance.

25.2 Sampling Plan

The laboratory uses sampling plans provided by clients or prepared in consultation with the client when requested. The plan may include any factors that must be controlled to ensure the validity of the test. Sampling plans and written sampling procedures are used for sampling substances, materials or products for testing. The plan and procedures are made available at the sampling location.

The laboratory's procedures for dealing with planned or requested non-conformances are used when the client requests any deviations from the sampling plan or sampling procedures. The requests are documented.

25.3 Sampling Records

The following relevant sampling data are recorded: sampling procedure used, the date and time of sampling, the identification of the sampler, environmental conditions (if relevant), the sampling location, and the statistics upon which the sampling procedures are based.

Section 26 HANDLING SAMPLES AND TEST ITEMS
(TNI V1:M2 – Section 5.8 and Section 1.7 of Technical Modules TNI V1:M 3-7)

26.1 Sample Receipt

When samples are received at the laboratory, the chain-of-custody is reviewed, the condition is documented, all samples are given unique identifiers, and they are logged into the sample tracking system.

26.1.1 Chain of Custody

The chain of custody or sample submission sheets from the field are reviewed. This documentation is completed in the field and provides a written record of the handling of the samples from the time of collection until they are received at the laboratory. Section 25 – "Collection of Samples" outlines what information is needed on this record. The chain of custody form also provides information on what type of testing is being requested and can act as an order for laboratory services in the absence of a formal contract. An example chain of custody form can be found in Figure 26-1. Chain of custody (COC) and any additional records received at the time of sample submission are maintained by the laboratory in a unique project folder, COCs are scanned into the Element server folder "COCs", and copies of the COCs are kept in chronological file logbooks.

26.2 Sample Acceptance

Procedures for opening shipping containers and examining samples are provided in the FSES SOP for Sample Receiving, Sample Log-In, Sample Custody, and Sample Disposal.

The laboratory has a sample acceptance policy that is made available to sample collection personnel.

Sample Receipt Specifications:

Samples must be properly labeled to include unique identification and waterproof labels and ink.

Samples must be fully and properly documented to include sample ID, location, date and time of collection, collector's name, preservation type, sample type and any special remarks about the sample.

Samples must be in appropriate containers.

Samples must be within specified holding times

Sufficient sample volume must be available to perform the required analyses.

In addition, the laboratory has nonconformance/corrective action procedures to handle samples that don't meet the requirements above, including abnormalities or departure from standard conditions as prescribed in the method, or show signs of damage, contamination or inadequate preservation. Data will be appropriately qualified where samples are reported that do not meet sample acceptance requirements.

The laboratory checks samples for the conditions above, where appropriate, to evaluate sample acceptance. Criteria regarding preservation and holding time requirements can be found in Section 25 – "Collection of Samples". If these conditions are not met, the client is contacted by Sample Receiving personnel prior to any further processing, then 1) the sample is rejected as agreed with the client, 2) the decision to proceed is documented and agreed upon with the client, 3) the condition is noted on the Chain of Custody form and/or lab receipt documents, and 4) the data are qualified in the report.

26.2.1 **Preservation Checks**

The following preservation checks are performed and documented upon receipt:

26.2.1.1 ***Thermal preservation:***

a) Samples that require thermal preservation shall be considered acceptable if the arrival temperature is either within 2°C of the required temperature or method specified range. For samples with a specified temperature of 4°C, samples with a temperature ranging from just above the freezing temperature of the water to 6°C shall be acceptable.

b) Samples that are hand delivered to the lab on the same day that they are collected may not meet the temperature requirements. In these cases, the sample shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

c) Record on the receipt form if ice is present and the sample temperature.

Chlorine and pH checks:

d) The residual chlorine for potable water samples and pH of samples requiring acid/base preservation is checked prior to or during sample preparation by the analysts. Any discrepancies are reported to Sample Receiving personnel and the Client Project Manager.

e) Microbiological samples from chlorinated water systems do not require a chlorine check if –
   - Sufficient sodium thiosulfate is present to neutralize 5 mg/L chlorine (drinking water) and 15 mg/L chlorine (wastewater).
   - One container from each lot is checked for efficacy of sodium thiosulfate chlorine neutralization at 5 mg/L and 15 mg/L levels of chlorine.
   - Chlorine residual is checked in the field and documented.

26.3 Sample Identification

Samples, including subsamples, extracts and digestates, are uniquely identified in a permanent chronological record in a database and on the COC to prevent mix-up and to document receipt of all sample containers.

Samples are assigned sequential numbers that reference more detailed information kept in the sample receipt log and Element database. Individual containers for each sample are uniquely lettered with a suffix.

The following information is included in the Element database and on the COC:

- Client or project name
- Date and time of receipt at lab
- Unique laboratory identification number
- Signature or initials of person making the entries

In addition, the following information is maintained and linked to the log-in record:

- Date and time of sampling linked to the date and time of laboratory receipt.
- Unique field identification number linked to the laboratory sample ID
- Analyses requested (including applicable approved method numbers) linked to the laboratory sample ID.

- Comments regarding rejection (if any).

All documentation received regarding the sample, such as memos or chain of custody, are retained in project folders.

See FSES SOPs for Sample Receiving, Sample Log-In, Sample Custody, and Sample Disposal for further sample identification procedures.

26.4 Sample Aliquots / Subsampling

In order for analysis results to be representative of the sample collected in the field, the laboratory performs subsampling procedures according to test method and field sampling SOPs.

26.5 Sample Storage

Storage conditions are monitored for any required criteria, verified, and the verification recorded in logs.

Samples that require thermal preservation are stored under refrigeration that is +/-2°C of the specified preservation temperature unless regulatory or method specific criteria require something different. For samples with a specified storage temperature of 4°C, storage at a temperature above the freezing point of water to 6°C is acceptable.

Samples are held secure, as required. Samples are accessible only to laboratory personnel.

Samples are stored apart from standards, reagents, food or potentially contaminating sources, and such that cross-contamination is minimized. All portions of samples, including extracts, digestates, leachates, or any product of the sample is maintained according to the required method conditions. Note: If samples need to be stored in the same refrigerator/freezer than potentially contaminated sources, isolate the samples from these sources to minimize cross-contamination (e.g., plastic boxes with lid, seal plastic bags).

26.6 Sample Disposal

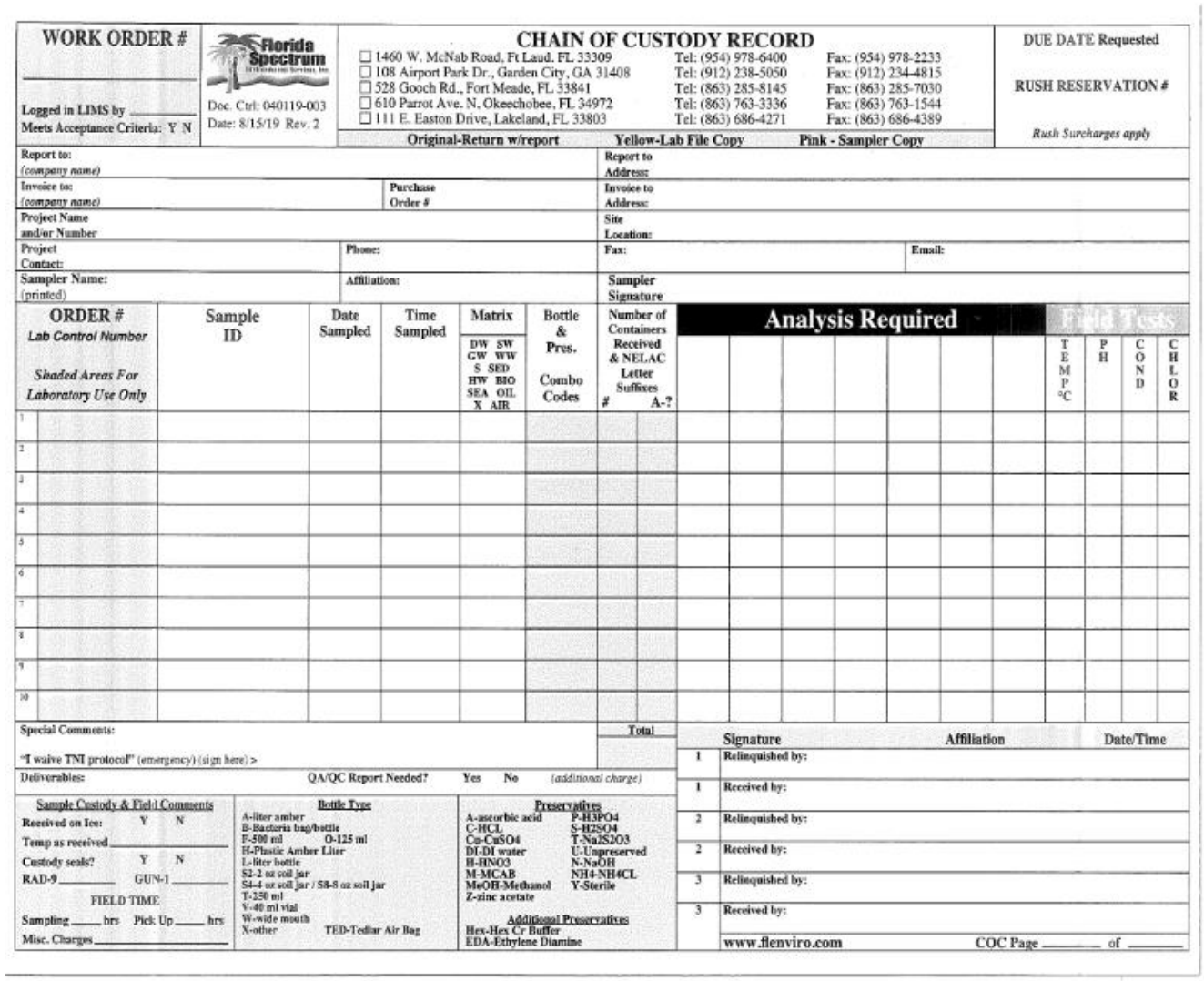
Samples are retained a minimum of 90 days after the report is sent out unless other arrangements have been made with the client.

Samples are disposed of according to Federal, State and local regulations. Procedures are described in FSES SOPs for Sample Receiving, Sample Log-In, Sample Custody**,** and Sample Disposal for the disposal of samples, digestates, leachates, and extracts.

26.7 Sample Transport

Samples that are transported under the responsibility of the laboratory, where necessary, are done so safely and according to storage conditions. This includes moving bottles within the laboratory.

Figure 26-1 Example Chain-of-Custody



WORK ORDER #

Logged in LIMS by _____
Meets Acceptance Criteria: Y N

Florida Spectrum

Doc. Ctrl: 040119-003
Date: 8/15/19 Rev. 2

CHAIN OF CUSTODY RECORD

☐ 1460 W. McNab Road, Ft Laud. FL 33309	Tel: (954) 978-6400	Fax: (954) 978-2233
☐ 108 Airport Park Dr., Garden City, GA 31408	Tel: (912) 238-5050	Fax: (912) 234-4815
☐ 528 Gooch Rd., Fort Meade, FL 33841	Tel: (863) 285-8145	Fax: (863) 285-7030
☐ 610 Parrot Ave. N, Okeechobee, FL 34972	Tel: (863) 763-3336	Fax: (863) 763-1544
☐ 111 E. Easton Drive, Lakeland, FL 33803	Tel: (863) 686-4271	Fax: (863) 686-4389

Original-Return w/report Yellow-Lab File Copy Pink - Sampler Copy

DUE DATE Requested

RUSH RESERVATION #

Rush Surcharges apply

Report to: *(company name)* | Report to Address:
Invoice to: *(company name)* | Purchase Order # | Invoice to Address:
Project Name and/or Number | Site Location:
Project Contact: | Phone: | Fax: | Email:
Sampler Name: (printed) | Affiliation: | Sampler Signature

ORDER # *Lab Control Number* *Shaded Areas For Laboratory Use Only*	Sample ID	Date Sampled	Time Sampled	Matrix (DW SW GW WW S SED HW BIO SEA OIL X AIR)	Bottle & Pres. Combo Codes	Number of Containers Received & NELAC Letter Suffixes # A-?	Analysis Required							Field Tests TEMP °C	PH	COND	CHLOR
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Special Comments:
"I waive TNI protocol" (emergency) (sign here) >

Total

Deliverables: QA/QC Report Needed? Yes No *(additional charge)*

	Signature	Affiliation	Date/Time
1	Relinquished by:		
1	Received by:		
2	Relinquished by:		
2	Received by:		
3	Relinquished by:		
3	Received by:		

Sample Custody & Field Comments
Received on Ice: Y N
Temp as received _____
Custody seals? Y N
RAD-9 _____ GUN-1 _____
FIELD TIME
Sampling ____ hrs Pick Up ____ hrs
Misc. Charges _____

Bottle Type
A-liter amber
B-Bacteria bag/bottle
P-500 ml O-125 ml
H-Plastic Amber Liter
L-liter bottle
S2-2 oz soil jar
S4-4 oz soil jar / S8-8 oz soil jar
T-250 ml
V-40 ml vial
W-wide mouth
X-other TED-Tedlar Air Bag

Preservatives
A-ascorbic acid P-H3PO4
C-HCL S-H2SO4
Co-CuSO4 T-Na2S2O3
DI-DI water U-Unpreserved
H-HNO3 N-NaOH
M-MCAB NH4-NH4CL
MeOH-Methanol Y-Sterile
Z-zinc acetate

Additional Preservatives
Hex-Hex Cr Buffer
EDA-Ethylene Diamine

www.flenviro.com COC Page ____ of ____

Section 27 QUALITY ASSURANCE FOR ENVIRONMENTAL TESTING
(TNI V1:M1, V1:M2 – Section 5.9 and Section 1.7 of Technical Modules TNI V1:M 3-7)

Florida Spectrum Environmental Services, Inc. has procedures for monitoring the validity of the testing it performs. The qualities of test results are recorded in such a way that trends are detectable, and where practicable, are statistically evaluated. To evaluate the quality of test results, the laboratory utilizes certified reference materials, control charting, proficiency testing samples, replicate or confirmation analyses, comparison to historical data, re-testing of retained samples, and correlation of results for different characteristics of a sample.

In addition to procedures for calibration, the laboratory monitors quality control measurements such as blanks, laboratory control samples (LCS), matrix spikes (MS), duplicates, surrogates and internal standards to assess precision and accuracy. Proficiency Testing samples are also analyzed to assess laboratory performance.

Quality control data are analyzed and, when found to be outside pre-defined criteria and not attributable to random failures, action is taken to correct the problem and to prevent incorrect results from being reported. Data associated with quality control data outside of criteria and still deemed reportable will be qualified so the end user of the data may make a determination of the usability of the data - see Section 28 – "Reporting of Results".

27.1 Essential Quality Control Procedures

The quality control procedures specified in test methods are followed by laboratory personnel. The most stringent of control procedures is used in cases where multiple controls are offered. If it is not clear which is the most stringent, that mandated by test method or regulation is followed.

For test methods that do not provide acceptance criteria for an essential quality control element or where no regulatory criteria exist, acceptance criteria are developed. The acceptance criteria for methods which do not provide them are found in laboratory SOPs. Control limits are developed using the mean from multiple measurements, plus or minus 3 standard deviations or static limits are developed with consideration to the limits for approved methods utilizing similar technology and analyte classes.

Written procedures to monitor routine quality controls including acceptance criteria are located in the test method SOPs, except where noted, and include such procedures as:

- use of laboratory control samples and blanks to serve as positive and negative controls for chemistry methods;
- use of laboratory control samples to monitor test variability of laboratory results;
- use of calibrations, continuing calibrations, certified reference materials and/or PT samples to monitor accuracy of the test method;
- measures to monitor test method capability, such as limit of detection, limit of quantitation, and/or range of test applicability, such as linearity;
- use of regression analysis, internal/external standards, or statistical analysis to reduce raw data to final results;
- use of reagents and standards of appropriate quality and use of second source materials as appropriate;
- procedures to ensure the selectivity of the test method for its intended use;
- measures to assure constant and consistent test conditions, such as temperature, humidity, rotation speed, etc., when required by test method;
- use of sterility checks for equipment, media and dilution water for microbiology; and
- use of positive and negative culture controls for microbiology.

27.2 Internal Quality Control Practices

Analytical data generated with QC samples that fall within all prescribed acceptance limits indicate the test method is deemed to be in control.

QC samples that fall outside QC limits indicate the test method are deemed to be out of control (nonconforming) and that corrective action is required and/or that the data are qualified (see Section 12 – “Control of Nonconforming Environmental Testing Work” and Section 14 - “Corrective Actions”).

Detailed QC procedures and QC limits are included in test method standard operating procedures (SOPs), or where unspecified in the SOPs, are detailed.

All QC measures are assessed and evaluated on an on-going basis, so that trends are detected.

27.2.1 General Controls

The following general controls are used:

27.2.1.1 Positive and Negative Controls such as:

a) Blanks (negative)
b) Laboratory control samples (positive)
c) Sterility checks and control cultures (positive and negative).

27.2.1.2 Selectivity is assured through:

a) absolute and relative retention times in chromatographic analyses;
b) two-column confirmation when using non-specific detectors;
c) use of acceptance criteria for mass-spectral tuning (found in test method SOPs);
d) use of the correct method according to its scope assessed during method validation; and
e) use of reference cultures (positive and negative) from a recognized manufacturer (where applicable).

27.2.1.3 Consistency, Variability, Repeatability, and Accuracy are assured through:

a) proper installation and operation of instruments according to manufacturer's recommendations or according to the processes used during method validation;
b) monitoring and controlling environmental conditions (temperature, access, proximity to potential contaminants);
c) selection and use of reagents and standards of appropriate quality; and
d) cleaning glassware appropriate to the level required by the analysis as demonstrated with method blanks. Cleaning procedures not provided in test method SOPs are provided in a separate SOP.
e) For microbiology, glassware care includes use of borosilicate glassware or other non-corrosive material free of chips and cracks, and shall have readable measurement marks; use of detergents designed for laboratory use, testing each day of washing for alkaline or acid residue by testing at least one (1) piece of labware with bromothymol blue, and conduct of the Inhibitory Residue test initially and each time the laboratory changes the detergent formulation or washing procedures.
f) following SOPs and documenting any deviation, assessing for impact, and treating data appropriately;
g) testing to define the variability and/or repeatability of the laboratory results, such as replicates;
h) use of measures to assure the accuracy of the test method, including calibration and/or continuing calibrations, use of certified reference materials, proficiency test samples, or other measures; and
i) use of duplicate plate counts on positive samples (microbiology only).

27.2.1.4 Test Method Capability (also see Section 22 – "Environmental Methods and Method Validation") is assured through:

a) establishment of the limit of detection (MDL) where appropriate;
b) establishment of the limit of quantitation (PQL) or reporting level; and/or
c) establishment of the range of applicability such as linearity.

27.2.1.5 Data reduction is assured to be accurate by:

a) selection of appropriate formulae to reduce raw data to final results such as regression;

b) following specific procedures for data reduction such as manual integration procedures;

c) periodic review of data reduction processes to assure applicability; and

d) microbiological calculations, data reduction, and statistical interpretations specified by each test method.

27.2.1.6 Sample Specific controls are used to evaluate the effect of sample matrix on the performance of the selected analytical method (not a measure of laboratory performance):

- Matrix Spike and Matrix Spike Duplicate (MS/MSD)
- Surrogate Spikes
- Sample Duplicates

27.2.1.7 The following tables summarize the key elements of a quality control system for a laboratory performing chemistry and microbiology testing.

Table 27-1 Essential Quality Control Elements for Chemistry

Item	Frequency	Acceptance Criteria	Corrective action
Negative Control (Method Blank)	1/batch	Method specific, reporting limit, or 1/10th of analyte detected in samples	Qualify data and take corrective action
Positive Control (Laboratory Control Sample)	1/batch	Method specific or determined by laboratory and documented in test method SOPs	Reprocess, reanalyze, or qualify data.
Matrix Spike; Matrix Spike Duplicates *Note: Samples are designed as data quality indicators for a specific sample using the designated method. These controls alone are not used to judge a laboratory's performance.*	Per method requirement	Method specific or determined by laboratory and documented in test method SOPs	Corrective action and qualify data.
Surrogate spikes *See note above.*	Per method requirement	Method specific or determined by laboratory and documented in test method SOPs	Corrective action and qualify data
Matrix Duplicates *See note above.*	Per method requirement	Method specific or determined by laboratory and documented in test method SOPs	Corrective action and qualify data
Continuing Calibration Verification	Per method requirement	Method specific or determined by laboratory and documented in test method SOPs	Reanalyze standard immediately; Corrective action specified in test method SOPs

Table 27-1 Essential Quality Control Elements for Chemistry			
Item	**Frequency**	**Acceptance Criteria**	**Corrective action**
Initial calibration Verification	Per method requirement	Method specific or determined by laboratory and documented in test method SOPs	Reanalyze standard immediately; Corrective action specified in test method SOPs

Table 27-2 Essential Quality Control Requirements for Microbiology – All Methods			
Item	**Frequency**	**Acceptance Criteria**	**Corrective Action[2]**
Sterility check	Each lot of prepared ready-to-use media and each batch of media prepared in the laboratory prior to first use.	No growth	Investigate cause
Sterility check containers	One container (bottle) for each lot or batch sterilized (NSGM)	No growth	Investigate cause
Sterility check dilution water	One per batch of dilution water prepared in the laboratory and on each lot of pre-prepared, ready - to-use dilution water (NSGM)	No growth	Investigate cause
Positive control[1]	pure culture of target organisms/ each lot or batch of medium (prior to first use of medium)	Positive reaction	Investigate cause If necessary, reject the medium
Negative control[1]	Pure culture of non-target organisms/each lot or batch of medium (prior to first use of medium)	Negative reaction	Investigate cause If necessary, reject the medium
Duplicate colony counts (For numeric results only)	Monthly on one positive sample for each month performed.	Same analyst <5% difference between counts Two analysts <10% difference between counts	Investigate cause Qualify data

1) Microorganisms may be single use preparations or cultures maintained by documented procedures that demonstrate the continued purity and viability of the organism.
2) Corrective Action may include the need to retrain.
3) NSGM: Non-selective growth media

Table 27-3 Essential Quality Control Requirements for Microbiology – Filtration Methods Only			
Item	**Frequency**	**Acceptance Criteria**	**Corrective Action**
Sterility check	Any containers, reagents and materials that touch the samples prior first use. Use NSGM for containers, reagents and materials.	No growth	Investigate cause
Method blank	Beginning/end of each run - 1 for every 10 samples - Rinse thoroughly with sterile buffer after each filtration Done as part of the test, use method media.	No growth	Investigate cause Qualify data
Sterility check filters	One filter for each new lot of membrane filters (NSGM)	No growth	Investigate cause

Table 27-3 Essential Quality Control Requirements for Microbiology – Filtration Methods Only			
Item	**Frequency**	**Acceptance Criteria**	**Corrective Action**
Target organism verification (D.3.4.b)	Method specific	Confirmation of reaction	Investigate cause

Table 27-4 Essential Quality Control Requirements for Microbiology – Pour Plate Methods Only			
Item	**Frequency**	**Acceptance Criteria**	**Corrective action**
Method Blank	Minimum of one plate per batch Done as part of test, use method media	1 cfu/plate	Investigate cause, qualify/ reject data

Table 27-5 Stock Cultures		
Item	**Frequency**	**Handling**
Reference cultures	Single use	Preserved and handled per mfg. specifications
Reference culture Reference stock	Culture stocks to make working stocks	Preserved and not refrozen Handling per mfg specs
Working stocks	Not transferred more than five times. Not sub-cultured to replace reference stocks	

27.2.2 **Specific Controls**

27.2.2.1 **Method Blanks**

Method blanks are processed along with and under the same conditions as the associated samples to include all steps in the method. A method blank must be analyzed at a minimum of one per preparation batch. When no separate preparation method is used the batch is defined as the environmental samples that are analyzed with the same method and personnel, using the same lots of reagents, not to exceed the analysis of twenty environmental samples, not including method blanks, LCS, matrix spikes and matrix duplicates. The matrix of the method blank must be similar to the associated samples and be free from any analytes of interest. Method blanks are not required for some analyses because they do not provide any quality information. Some examples are: pH, conductivity, flash point, residual chlorine, and corrosivity.

Contaminated blanks are identified according to the acceptance limits in the test method SOPs or laboratory documentation.

The laboratory identifies a blank as contaminated when analyte results are greater than the reporting limit and greater than 1/10 of that found in any sample, or where contamination affects the sample results according to method requirements or client objectives.

When a blank is determined to be contaminated, the cause must be investigated and measures taken to minimize or eliminate the problem.

Data that are unaffected by the blank contamination (non-detects or other analytes) are reported unqualified.

Sample data that are suspect due to the presence of a contaminated blank are reanalyzed, qualified, or voided.

27.2.2.2 Laboratory Control Samples

Laboratory Control Samples (LCS) are prepared from analyte free water or other clean matrix, and spiked with verified and known amounts of analytes for the purpose of establishing precision or bias measurements.

Laboratory control samples are analyzed at a frequency mandated by method, regulation, or client request, whichever is more stringent. The standard frequency of LCS preparation and analysis is one per analytical batch or as otherwise stated in a laboratory SOP. Exceptions would be for those analytes where no spiking solution is available, such as total volatile solids, odor, temperature, or dissolved oxygen. When no separate preparation method is used the batch is defined as the environmental samples that are analyzed with the same method and personnel, using the same lots of reagents, not to exceed the analysis of twenty environmental samples, not including method blanks, LCS, matrix spikes and matrix duplicates.

The analytes to be spiked in the LCS are specified in the test method SOP. In some cases a client may specify a list of analytes for spiking and the request is handled using the laboratory's nonconformance procedures. For methods with long lists of analytes, the analytes spiked are chosen by the analyst. The number of spiked analytes must, at minimum, meet the criteria below:

a) For methods that include one (1) to ten (10) targets, spike all components.

b) For methods that include eleven (11) to twenty (20) targets, spike at least ten (10) or 80%, whichever is greater.

c) For methods with more than twenty (20) targets, spike at least sixteen (16) components.

The results of laboratory control samples (LCS) are calculated in percent recovery or other appropriate statistical technique that allows comparison to established acceptance criteria. The laboratory documents the calculation in the test method SOPs.

The individual LCS is compared to the acceptance criteria as published in the mandated test method, or where there are no established criteria, the laboratory establishes control limits using the mean +/- three standard deviations as control limits as described above. Static limits may be established as interim limits as described above until enough data (15-20 samples) are available for evaluation.

For LCS/LCSD results outside established criteria corrective action is documented or the data are reported with appropriate data qualifying codes. All data in the batch are qualified.

27.2.2.3 Matrix Spikes and Matrix Spike Duplicates

Matrix Spikes and Matrix Spike Duplicates (MS/MSD) are environmental samples fortified with a known amount of analyte to help assess the effect of the matrix on method performance. The test method SOPs document the required frequency and the number of spiked analytes for long lists are addressed as described above.

The laboratory procedure for MS/MSD includes spiking appropriate analytes at appropriate concentrations, calculating percent recoveries and relative percent difference (RPD), and evaluating and reporting the results. The procedure can be found in the test method SOPs.

Where there are no established criteria, the laboratory uses the mean +/- three standard deviations as MS/MSD control limits as described above. Static limits may be established as interim limits as described above until enough data (15-20 samples) are available for evaluation.

For MS/MSD results outside established criteria corrective action is documented or the data are reported with appropriate data qualifying codes. Only the data from the spiked sample is qualified.

27.2.2.4 Surrogate Spikes

Surrogate spikes are substances with chemical properties and behaviors similar to the analytes of interest used to assess method performance in individual samples. Surrogates are added to all samples (in test methods where surrogate use is appropriate) prior to sample preparation or extraction.
Surrogate recovery results are compared to the acceptance criteria as published in the mandated test method. Where there are no established criteria, the laboratory uses the mean +/- three standard deviations as surrogate control limits as described above. Static limits may be established as interim limits as described above until enough data (15-20 samples) are available for evaluation.

For surrogate results outside established criteria, data are evaluated to determine the impact. Corrective actions are documented or data is qualified as appropriate.

27.2.2.5 Data Qualification Procedures

For specific qualifiers and procedures for handling data associated with quality control sample measurements outside of acceptance criteria or other non-conformances, see Appendix C “Qualifiers” and the Data Qualifier SOP.

27.3 Proficiency Test Samples or Interlaboratory Comparisons

27.3.1 Compliance to Accreditation Requirements

27.3.1.1 Initial accreditation

The laboratory shall achieve a history of two (2) successful (acceptable scores) proficiency testing (PT) studies out of the most recent three (3) attempts for each field of accreditation for which the laboratory seeks accreditation. If the laboratory has two (2) consecutive acceptable PT scores, a third study is not needed.

The two (2) PT studies must be performed no more than eighteen (18) months prior to obtain initial accreditation. The opening date of the second study must be at least seven (7) calendar days after the closing date of the first study.

The closing date of the most recent successful PT for an Field of Proficiency Testing (FoPT) must be no more than six (6) months prior to the application for an initial accreditation, and the laboratory shall continue to participate in PT studies at least semi-annually (no more than seven (7) months apart between consecutive attempts) from that point on.

27.3.1.2 Continued accreditation

The laboratory shall maintain a history of two (2) successful PT studies out of the most recent three (3) attempts for each field of accreditation for which the laboratory holds accreditation. Failure to do so may result in suspension of the affected field of accreditation. The laboratory’s accreditation for a field of accreditation may be

revoked for failure of three (3) consecutive PT studies, either by failure to participate in the required PT study or due to failure to obtain acceptable results.

The laboratory shall analyze and report a PT study at least twice per year for each accreditation Field of Proficiency Testing (FoPT) for which the laboratory seeks to maintain accreditation.

The closing dates of subsequent PT study samples for a particular accreditation FoPT shall be no more than seven (7) months apart.

The opening date of PT study samples for a particular field of accreditation must be at least seven (7) calendar days after the closing date of a PT study for the same field of accreditation. A laboratory that analyzes and reports PT study with an opening date of subsequent PT studies for the same field of accreditation that are closer than seven (7) days from the closing date of the previous PT study are invalid for the purposes of compliance and are not counted toward the laboratory's PT history of the most recent three (3) attempts.

27.3.2 **PT Sample Handling, Analysis and Reporting**

The laboratory does not share PT samples with other laboratories, does not communicate with other laboratories regarding current PT sample results, and does not attempt to obtain the assigned value of any PT sample from the PT provider.

The laboratory shall handle and prepare PT study samples in accordance with the instructions provided by the PT provider.

PT samples are treated as typical samples in the normal production process where possible, including the same analysts, preparation, calibration, quality control and acceptance criteria, sequence of analytical steps, number of replicates, and sample log-in. PT samples are not analyzed multiple times unless routine environmental samples are analyzed multiple times. Where PT samples present special problems in the analysis process, they will be treated as laboratory samples where clients have special requests.

The type, composition, concentration and frequency of quality control samples analyzed with the PT samples are the same as with typical samples.

Prior to the closing date of a study, laboratory personnel do not:

- Subcontract analysis of a PT sample to another laboratory for accreditation purposes.
- Knowingly receive and analyze a PT for another laboratory for accreditation purposes.
- Communicate with an individual from another laboratory concerning the analysis of the PT sample.
- Attempt to find out the assigned value of a PT from the PT Provider.

The laboratory shall report PT study results to the provider on or before the closing date of the study. Except for drinking waters, the laboratory chooses to analyze and report a single method to represent a technology in a single PT study for a particular analyte. The score obtained for the reported method will be applied to all methods in that technology for which the laboratory seeks to obtain or maintain accreditation in that matrix.

Note: If the laboratory reports PT results for multiple methods using the same analytical technology, an evaluation of "not acceptable" for one method will be applied to all methods reported with that technology.

The PT results are reported to the PTRL as established by the TNI FoPT tables. For additional state specific analytes were PTRL are not provided, the laboratory reports to the laboratory's Limit of Quantitation (LOQ).

The laboratory institutes corrective action procedures for failed PT samples following the guidelines in Section 14 – "Corrective Action".

Retention of PT records is similar to those maintained for regular environmental samples. In addition, the lab maintains a copy of the online data entry summary when the PT results are submitted online.

27.4 Data Review

The laboratory reviews all data generated in the laboratory for compliance with method, laboratory and, where appropriate, client requirements.

Initially, the analyst reviews data for acceptability of quality control measures and accuracy of the final result(s).

After the initial review, a second reviewer (Technical Director/Supervisor in appropriate department by preference) considers all manual transfers and calculations of data in detail and spot checks all electronic transfers of data.

Final reports are compared to raw data either directly or through several reviewed steps.

Data Review Procedure:

Bench sheets are used to record the information required for traceability of the analysis. The bench sheets include quality control measurements and acceptance criteria. Data are recorded on the bench sheets promptly at the time of the analysis, in ink.

Analysts review sample data and the QC information at the time of analysis. The analyst signs and dates the bench sheet to indicate that they have performed the steps indicated and that the analysis meets acceptance criteria or has exceptions that are noted on the bench sheet or are highlighted red in the LIMS system. The analyst updates the analysis status to analyzed.

When the analyst has finished the primary analysis review, the Technical Director/Supervisor of each department in the laboratory reviews all data entered into the LIMS system for transcription or technical errors and updates the analysis status to reviewed.

The Technical Director/Supervisor also reviews 10% of bench sheets for the following items:

a) All required information has been recorded on the bench sheet.
b) QC criteria have been met or exceptions are documented on the bench sheet.
c) Manual calculations are checked for accuracy.

When these checks have been completed, the reviewer signs and dates the bench sheet to document that the review has been performed.

The report is printed by the project's Client Service Manager for final review and signature. This final review includes verifying that the data entered has been appropriately transferred to the LIMS and that the data is coherent, that QC results are acceptable, QC exceptions are appropriately reflected on the final report, and results are in line with historical values, if known.

Section 28 REPORTING THE RESULTS *(TNI V1:M2 – Section 5.10)*

The result of each test performed is reported accurately, clearly, unambiguously, and objectively and complies with all specific instructions contained in the test method.

Laboratory results are reported in a test report that includes all the information requested by the client and necessary for the interpretation of the test results and all information required by the method used.

Data are reported without qualification if they are greater than the lowest calibration standard, lower than the highest calibration standard, and without compromised sample or method integrity.

The test reports may be issued as hard copy or by electronic data transfer provided that the requirements of the TNI Standard are met.

28.1 Test Reports

The report format has been designed to accommodate each type of test performed and to minimize the potential for misunderstanding or misuse. The laboratory does not issue multiple reports for the same samples where there is different information on each report unless required to meet regulatory needs and approved by the QAD.

A formal report is not required when preparing regulatory reports.

Some regulatory reporting requirements or formats, such as monthly operating reports, may not require all items listed below; however, the laboratory shall provide all the required information to their client for use in preparing such regulatory reports.

Each test report generated contains the following information (unless not required by the client):

a) a title, such as “Laboratory Analysis Report”;

b) the name and address of the laboratory, the location of the laboratory if different from the address, the phone number, and name of contact person;

c) unique identification of the test report, with the work order ID and revision number if applicable, on each page and a pagination system that ensures that each page is recognized as part of the test report and a clear identification of the end of the report, such as 3 of 10;

d) the name and address of the client, if applicable;

e) the identification of the method used;

f) an unambiguous identification of the sample(s) tested, including the client identification code;

g) the date of sample receipt, dates the tests were performed and, the time of sample preparation (*Date Ext*.) and analysis (*Date Analy*.)

Date Ext.: This is the “date extracted’ record for many chemical analyses that involve sample preparations (extractions, digestions, filtration, beginning of incubation and any other step involving sample preparation before obtain a final result value). For analyses involving preparation steps the holding time clock stops when cap is removed and sample processing begins.

Date Analy.: This is the “date analysis” record. For some analyses is the date and time when calculations are made, samples are injected in the instrument, incubation is stopped and samples are reading and final results are obtained. For those analyses that not involved

preparation steps the "Date Ext." and "Date Analy." are the same in the final report and the clock stops when cap is removed and sample processing begins.

h) reference to the sampling plan and procedures used by the laboratory where these are relevant to the validity or application of the results;

i) the test results, units of measurement, an indication of when results are reported on any basis other than as received (e.g. dry weight), failures identified (See Appendix C for a list of laboratory data qualifiers);

j) the name, function, and signature or an equivalent electronic identification of the person authorizing the test report, and the date of issue;

k) a statement to the effect that the results relate only to the samples; and

l) any non-accredited tests or parameters shall be clearly identified as such to the client when claims of accreditation to this Standard are made in the analytical report or in the supporting electronic or hardcopy deliverables.

28.2 Supplemental Test Report Information

When necessary for interpretation of the results or when requested by the client, test reports include the following additional information:

a) deviations from, additions to, or exclusions from the test method, information on specific test conditions, such as environmental conditions, and any non-standard conditions that may have affected the quality of the results, and any information on the use and definitions of data qualifiers;

b) a statement of compliance/non-compliance when requirements of the quality system are not met, including identification of test results that did not meet the laboratory and regulatory sample acceptance requirements, such as holding time, preservation, etc.;

c) where applicable and when requested by the client, a statement on the estimated uncertainty of the measurement;

d) the lab has a policy not to add opinions and interpretations to lab reports;

e) additional information which may be required by specific methods or client;

f) qualification of results with values outside the calibration range as appropriate.

28.3 Environmental Testing Obtained from Subcontractors

Test results obtained from tests performed by subcontractors are clearly identified on the test report.

The subcontractors report their results in writing or electronically. A copy of the subcontractor's report is made available to the client if requested.

28.4 Electronic Transmission of Results

All test results transmitted by telephone, fax, telex, e-mail, or other electronic means comply with the requirements of the TNI Standard and associated procedures to protect the confidentiality and proprietary rights of the client (see Section 22- "Environmental Methods and Method Validation").

28.4.1 Electronic Data Deliverables

Electronic Data Deliverables (EDDs) are prepared with the same information under the same requirements as paper reporting described above except where not applicable or possible. EDDs

which require ADaPT are reviewed for ADaPT errors using the software, and they are either corrected or explained before the EDD is issued.

Other formats, such as Excel, are prepared with the same information under the same requirements as paper reporting except where not applicable or possible.

EDD and excel report formats are validated to meet the laboratory's requirements for reporting before use.

28.5 Amendments to Test Reports

Material amendments to a test report after it has been issued are made only in the form of another document or data transfer. All supplemental reports meet all the requirements for the initial report and the requirements of this *Quality Manual*.

Amended test reports include the statement, "Supplement to Test Report", and include the report identification for which it is a supplement.

When it is necessary to issue a complete new report, the new report is uniquely identified with a revision number and contains a reference to the original that it replaces.

28.6 Rounding of Reported Data

When a number is obtained by calculations, its accuracy depends on the number used in the calculation. To limit numerical errors, an extra significant figure is retained during calculations, and the final answer rounded to the proper number of significant figures.

The following rules should be used:

- If the extra digit is less than 5, drop the digit.
- If the extra digit is greater than 5, drop it and increase the previous digit by one.
- If the extra digit is five, then increase the previous digit by one if it is odd; otherwise do not change the previous digit.
- All non-zero digits are considered significant.
- Zeros appearing anywhere between two non-zero digits are significant.
- Leading zeros are not significant.
- Trailing zeros in a number containing a decimal point are significant.

Examples are given in the following table:

Calculated Number	Significant digits to report	Number with one extra digit retained	Report rounded number
105.67	3	105.6	106
0.039216	3	0.03921	0.0392
29	3	29	29.0
79.354	3	79.35	79.4
80.350	3	80.45	80.4
80.12	2	80.1	80
45.558	2	45.5	46

28.7 Significant Figures

Significant figures (or significant digits) are used to express, in an approximate way, the precision or uncertainty associated with a reported numerical result. In a sense, this is the most general way to express "how well" a number is known. The correct use of significant figures is important, where spreadsheets, handled calculators, and instrumental digital readouts are capable of generating numbers to almost any degree of apparent precision, which may be much different than the actual

precision associated with a measurement. A few rules will allow us to express results with the correct number of significant figures or digits. The final result should never contain any more significant figures than the least precise data used to calculate it.

28.7.1 **Rules for Significant Figures**

- All non-zero digits are significant.
- The most significant digit in a reported result is the left most non-zero digit: 359.741 (3 is the most significant digit).
- If there is a decimal point, the least significant digit in a reported result is the right- most digit (whether zero or not): 359.741(1 is the least significant digit). If there is no decimal point present, the right-most non-zero digit is the least significant digit.
- The number of digits between and including the most and least significant digit is the number of significant digits in the result: 359.741 (there are six significant digits)

The following table gives some examples of these definitions:

Number	Significant Digits
1.2345	5
12.3	3
99.98	4
12.30	4
012.3	3

28.7.2 At FSES the laboratory's test in LIMS system are set to report the results rounded to three significant figures in the final test reports with the exemption of the Total Trihalomethanes(TTHM) and Total Haloacetic acids (HAA5) methods, which requires two (2) significant figures rounded after addition of associated analytes as per chapter 62-550 drinking water standards, monitoring, and reporting. Results are uploaded manually and/or automatically from the instrumentation, spreadsheets and handled calculators and rounding is made by LIMS automatically. Manual reports if any should follow the rounded rules in section 28.6 and report three significant figures.

Section 29 APPENDICES

Appendix A Ethics and Data Integrity Policy

CODE OF ETHICS

As a "Florida-Spectrum Environmental Services, Inc" laboratory employee:

1. I will be personally responsible for the validity of all data collected and analyses performed by me or under my direction.
2. I will be responsible and ethical in my professional activities.
3. I will encourage research, planning, design and review of activities in a scientifically and technically objective manner.
4. I will incorporate the best professional principles into the preparation of all my work products.
5. I will not approve misrepresentation of work I have performed or that was performed under my direction. I will examine all of my actions, which could be legitimately interpreted as a conflict of interest by clients, officials, the public or peers.
6. In any instance, where I have a financial or personal interest in the activities with which they are directly or indirectly involved, I will make a full disclosure of that interest to my employer, clients or other affected parties.
7. I will not engage in conduct involving dishonesty, fraud, deceit, misrepresentation or discrimination.
8. I will not accept fees wholly or partially contingent on the client's desired result where that desired result conflicts with my professional judgment.
9. I will incorporate the best principles of design and planning when recommending measures to reduce harm and enhance quality
10. I will conduct my analysis activities primarily in subject areas for which I am qualified, and encourage and recognize the participation of other professionals in subject areas where I am less experienced.
11. I shall utilize and participate in interdisciplinary teams wherever practical to determine impacts, define and evaluate all reasonable alternatives to proposed actions, and assess short-term vs.long-term productivity with and without the project or action.
12. I will determine that the activities in which I am involved are consistent with all governing laws, ordinances, guidelines, plans and policies, to the best of my knowledge and ability.

Acknowledge and accepted,

_____ _____
Signature Date

_____ _____
Printed Name Position

Appendix B Forms

Laboratory Non-Conformance and Corrective Action Form

QA Nonconformance/ Corrective Action Report

Client:_____ Sample ID:_____
Analysis:_____ Date of Analysis:_____

Employee:_____ Mgr:_____

Description of non-conforming activity,criteria or data:_____
_____
_____
_____
_____

Provide the probable root cause for the non-conforming activity, criteria or data:
_____
_____
_____
_____

Corrective action required to resolve the non-conforming activity, criteria or data:
_____
_____
_____
_____

QA Designee Initial:_____ Date of Approval:_____
Lab Director Approval:_____ Date of Approval:_____

Date Corrective Action Completed:_____ By:_____

Corrective Action Followup/Comments:_____
_____
_____
_____
_____

QA Designee Signature:_____ Date:_____

Employee Signature*:_____ Date:_____

*My signature indicates that I read, understand, agree with, and will complete the corrective action implemented on this report.

Copies of this report will be filed in the non-conformance logbook with the QA Department.

1 of 1
Date: 8/29/16
Document #: 0401116-004

Demonstration of Capability Form

1 of 1
Date: 1/09/2015
Document Control Number: 0401115-001

Demonstration of Capability Certification Statement

Analyst	*Extraction Analyst (If Applicable)*	*Effective Date*
Method Number	*Matrix*	*SOP Document Control Number or Revision Number:*
Analyte or Class of Analytes	□ Water □ DW □ Solid □ Other: _____	

We, the undersigned, CERTIFY that:

1. The analysts identified above, using the cited test method(s), which is in use at Florida Spectrum Environmental Services, Inc. for the analyses of samples under the National Environmental Laboratory Accreditation Program, have met the **Initial Demonstration of Capability**.

2. The test method(s) was performed by the analyst(s) identified on this certification.

3. A copy of the test method(s), the laboratory-specific SOPs, and the latest *Quality Manual* are available for all personnel on-site. The analyst has read and agrees to perform the latest version of the SOP and comply with the *Quality Manual.*

4. The data associated with the Initial Demonstration of Capability are true, accurate, complete and self-explanatory[1].

5. All raw data (including a copy of this certification form) necessary to reconstruct and validate these analyses have been retained by FSES, and the associated information is well organized and available for review by authorized assessors.

_____	_____	_____
Analyst	*Signature*	*Date*
_____	_____	_____
Technical Director	*Signature*	*Date*
Roxana Llambias	_____	_____
Quality Assurance Director	*Signature*	*Date*

1 **True**: Consistent with supporting data.
Accurate: Based on good laboratory practices consistent with sound scientific principles/practices.
C**omplete**: Includes the results of all supporting performance testing.
Self-Explanatory: Data properly labeled and stored so that the results are clear and require no additional explanation.

Laboratory Subcontracting Form

1 of 1
Date: 3/10/14
Document #: 0401114-009

Subcontractor Information Form

Sample Information:

FSES Acct # _____
Project ID: _____
State of Origin: _____
Certification Req'd _____
Data Rep't Level _____
EDD Requirement _____

Subcontract Lab Information:

Name / Number _____
Location _____

Complete the following OR attach completed quote:

Parameter & Test Methods	*Matrix*	*Quantity*	*Unit Price*
Turnaround Time Required	Standard	Other:	
Reporting Level Required	Standard	Other:	
EDD Required	No	Format:	
Special Project Notes (special supplies, special reporting limits, special project characteristics)			

Submitted by: _____
Date: _____

Customer Complaint Form

FSES Customer Complaint Form

Name of person making complaint: _____

Telephone Number: _____

Date Received: _____

Nature of complaint: _____

Initials of person taking complaint:_____

Results of investigation: _____

Initials of person investigating Complaint:_____

Contact Log

Person in contact with client	Date of Contact	Details of contact (reason, content, method)	Next scheduled client contact (date)

Data Review Form

Florida Spectrum Environmental Services

QA/QC Data Review

Client Information

Client Name:_____ Internal Review: ☐
Date:_____ Client Request: ☐
Work Order:_____
Samples:_____
Analysis:_____

Data Review Parameters

- Sample Receiving (Preservation, Hold Time, COC)

  _____

  _____

- Extraction Quality (If Applicable)

  _____

  _____

- Analysis Quality / QA/QC Criteria

  _____

  _____

  _____

  _____

- Technical or Transcription Errors

  _____

  _____

- Data Validation
  This QA/QC Review has determined that the data is valid: ☐Yes ☐ No

  Recommend Reanalysis? ☐ Yes ☐ No

Additional Comments:

_____

_____

_____
QA Director Signature *Date*

Purchase Requisition Form

Florida Spectrum Environmental Services, Inc.

PURCHASE REQUISITION

Department: _____

PO #	SUPPLIER	PART / ITEM #	DESCRIPTION/ DIMENSIONS	UNIT (EA, CS, PK)	QUANTITY	COST	SHIPPING / NEED ITEMS BY	RECEIVING DATE AND INITIALS
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	
							☐Ground ☐ 2nd day ☐ Rush (next day)	

I certify these part numbers are correct and understand that I will be held responsible for any cost incurred to the company because of incorrect information. I am aware that if I don't specify the shipping method, **ground is the default method of shipping**.

Requested by: _____ Date: _____

Approved by: _____ Date: _____
Laboratory Director

1 of 1
Date: 12/12/16
Document #: 0401116-005

New Employee Orientation Form

Laboratory Operation, Data Validation, and Fraud; Data Review; and QC Sample Training

- Edited by Roxana Llambias, QA Director as Mandatory Employee Ethics and Data Integrity Training
- Effective Date: 01/07/16 FSES Employee Training
- Acknowledgement that the new employee orientation documents were read, understood, and will be followed:

- Signature: _____ Date:_____
- Print Name:_____

- Document Control Number: 0401116-001

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Personal Protection Equipment Agreement

PERSONAL PROTECTION EQUIPMENT AGREEMENT

I, the undersigned, understand and agree that as condition of employment I am required to wear/use the following personal protective equipment supplied and/or required by my employer while working in the laboratory and/or handling samples or chemicals.

Company-supplied	**Company-required** (supplied by employee)
• Protective gloves • Lab coat • Eye protection (or goggles) • Hand sanitation stations • Eye wash • Showers • Fire extinguishers	• Shirt with sleeves (long or short) • Full length pants • Closed-toe shoes • Socks (the area of skin between pants and shoe should not be exposed. • When operating moving parts: individual's hair (shoulder length or longer), must be pulled up.

In the event I sustain an on-the-job injury as a direct result of my failure to wear/use the personal protective equipment listed above, my worker's compensation benefits could be substantially reduced.

_____ _____
Employee Signature – Print name Date

_____ _____
Company Representative Signature – Print name Date

Personal Time Off Request

TIME OFF REQUEST (PTO)*

EMPLOYEE REQUESTING PTO		
NAME:	SIGNATURE:	DATE OF REQUEST:

FROM (mm/dd/yy)	THRU (mm/dd/yy)	Expected return Date (mm/dd/yy)	TOTAL DAYS	TOTAL HOURS

PERSON (S) THAT WILL ASSUME YOUR DUTIES DURING YOUR ABSENCE		
NAME(S):	SIGNATURE(S):	DATE:

SUPERVISOR/MANAGER'S APPROVAL		
NAME:	SIGNATURE:	DATE:
LYLE JOHNSON'S SIGNATURE:		DATE:

ALL PTO REQUESTS OR CHANGES TO AN APPROVED SCHEDULE MUST BE MADE IN WRITING TO YOUR IMMEDIATE MANAGER, THEN MR. JOHNSON AND THEN FORWARDED TO PERSONNEL DEPARTMENT.

PTO (VACATION/SICK/LEAVE) ☐ JURY DUTY ☐ FMLA ☐

* NOTICE REQUIRED (WITH THE EXCEPTIONS OF SICK DAYS NOTIFICATIONS)
- for one day off – at least one week's notice is required - for two days off – at least two week's notice is required - for three-five days off – at least 30 days notice is required - for six+ days off – at least 60 days' notice is required - Maximum PTO allowed during November is 4 days, and during December is 3 days

1 of 1
01/08/20 – Revision 2
Document Control # 0401120-001

Appendix C Data Qualifiers

a. All of the following qualifiers must be used by all analysts when applicable:
   i. **A** – "Value reported is the arithmetic mean of two or more determinations."
      1. This is to be used when the average is taken of two separate aliquots and it is NOT part of the method (i.e. results are averaged for HPC, but it is part of the method).

   ii. **B** – "Result based upon colony counts outside the acceptable range"
      1. This is only to be used when:
         a. Any volume is filtered and the colony count is above:
            i. 300 for HPC
            ii. 80 For Total Coliform, E. coli and Pseudomonas
            iii. 60 for Fecal Coliform, Enterococci and Fecal Streptococci

         b. A dilution is performed (<100 mL filtered) and the colony count is below:
            i. 30 for HPC
            ii. 20 for Total coliform, Fecal coliform, Fecal Streptococci, E. Coli, Enterococci and Pseudomonas.

      2. NOT to be used if:
         a. 100 mL is filtered and the colony count is below:
            i. 30 for HPC (1 mL is used)
            ii. 20 for Total coliform, fecal Coliform, Fecal Streptococci, E. coli, Enterococci and Pseudomonas.

   iii. **C** – "The result was confirmed by a separate analysis of the sample"
      1. To be used when a sample has been determined to contain a specific compound and is re-analyzed utilizing a different chemistry or physics when possible.

   iv. **I** – "Value between MDL and PQL."
      1. To be used when the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

   v. **J** – "Estimated value."
      1. This qualifier must be sent with a comment.

      2. To be used when:

         a. Any LCS, MS/MSD, surrogate, or Reference Standard (GGA for BOD) fails for accuracy.

         b. To be used if surrogate recovery is outside established method control limits:

            i. If it is a single surrogate method, qualify when the surrogate fails.
            ii. If it is a multiple surrogate method, qualify when more than one surrogate fails.
            iii. **For surrogate exceedances use: "J-01" – The surrogate recovery exceeded method acceptance limits.**

         c. To be used when the LCS fails established method control limits:

i. **For LCS exceedances use: "J-02" – The laboratory control sample exceeded method acceptance limits.**

d. To be used when both matrix spikes fail for accuracy:
   i. **For MS/MSD exceedances use: "J-03" – The matrix spike recovery exceeded method acceptance limits.**

vi. **L** - "Off-scale high."
   1. To be used when:

      a. The actual value is known to be greater than the value reported.

      b. The concentration of an analyte is above the acceptable level for quantitation (exceeds the linear range of highest calibration standard) and the curve is known to have a negative deflection.

vii. **N** – "Presumptive evidence of presence of material."
   1. To be used when:

      a. The component has been tentatively identified based on mass spectral library search.

      b. There is an indication that the analyte is present but QC requirements for confirmation were not met.

viii. **Q** – "Sample held beyond accepted holding time."
   1. To be used when:

      a. The pH of a sample is analyzed after 15 minutes from collection.

      b. The sample is analyzed after the mandated holding time. (See Section 25 – "Sampling"). Below find how to calculate the holding time:

         i. **<u>Holding times in hours</u>**: Calculate the holding time for the sample using the 60-minutes increments for each hour that the sample may held past the sample collection before processing must begin. For example, the analytical result for a sample with an 8-hour holding time collected at 9:00 am must be qualified if processing begins after 5:00 pm.
         ii. **<u>Holding time in days:</u>** Calculate the maximum holding time for the sample using the 24-Hour increment for each day that the sample may be held past the sample collection time before processing must begin. For example, the analytical result for a sample with a 7-day holding time collected at 9:00 am on 11/6 must be qualified if processing begins after 9:00am on 11/13, the seventh day after collection.

ix. **T** – "Value is less than the MDL."
   1. To be used when a client would like a result reported below the MDL.

x. **U** – "Undetected"
   1. To be used when an analyte is not detected above the method detection limit.

xi. **V** – "Analyte was detected both in the sample and in the method blank."
   2. To be used when:

      a. The concentration of analyte measured in the method blank is greater than 10% of the concentration in any sample in an analytical batch.

      b. The BOD blank exceeds DO depletion method limit.

      c. DO NOT subtract the blank concentration from the sample unless specified by the method

xii. **Y** – "The laboratory analysis was from an improperly preserved sample."
   1. To be used when:
      a. A sample is in an incorrect bottle and/or was improperly preserved.

      b. The sample is not on ice.

      c. There is chlorine in a microbiological sample or in a BOD sample after sodium thiosulfate preservation/neutralization.

      d. The sample is frozen (<1 degree Celsius).
         i. Not applicable for volatiles in soil.

      e. The sample was on ice, but it is melted and the cooler/package is warm (>10 degrees or >6 degrees Celsius depending on the test).

xiii. **Z** – "Too numerous to count."

   1. This qualifier is NOT to be used with HPC methods. Please refer to Standard Methods for the proper reporting procedures for HPC.

   2. To be used when membrane filter counts produce >200 colonies.

xiv. **R** – "Significant rain in the past 48 hours in excess of ½ inch."

   1. To be used when field services indicates on the chain that there has been more than ½ inch of rain in the past 48 hours.

   2. Rain can cause results to be low biased and it is important to note this.

Appendix D Job Descriptions

Field Supervisor – Franklyn Galvis, Supervisor of Field Procedures. His duties include:

- Providing QA data and documentation from field activities for evaluation,
- Managing and directing field operations,
- Supervising sample bottle kit preparation and preservation,
- Coordinating trip blanks, field blanks, and equipment blanks,
- Training field technicians, and
- Keeping and implementing the most current field SOPs.

Wet Chemistry Technical Director – Sophia Andre, Technical Oversight and QA Evaluation of Inorganic Chemistries. Her duties include:

- Providing QA data and documentation for performance audits,
- Maintaining updated precision and accuracy data for inorganic parameters,.
- Maintaining internal documentation that traces internal working standards to primary standards,
- Maintaining updated method numbers, detection limits, IDOCs, CDCs, and LOD studies for inorganic parameters,
- Training analysts,
- Inorganic method development and implementation, and
- Updating SOPs for Wet Chemistry methods.

HPLC Supervisor- Richard Vicchiarelli, Performance and QA Evaluation of Organic Analysis. His duties include:

- Providing QA data and documentation for performance audits,
- Maintaining updated precision and accuracy data for organic HPLC parameters,
- Maintaining internal documentation that traces internal working standards to primary standards
- Maintaining updated method numbers, detection limits, IDOCs, CDCs, and LOD studies for organic HPLC parameters,
- Updating SOPs for HPLC methods.

Metals/Radiochemistry Technical Director – Irena Nutzu, Technical Oversight and QA Evaluation of Inorganic Metals Analyses (Atomic Absorption Spectrophotometry, ICP, and ICP/MS), and gross alpha and gross beta particle activities. Her duties include:

- Providing QA data and documentation for performance audits,
- Maintaining updated precision and accuracy data for inorganic metals and radiochemistry parameters,
- Maintaining internal documentation that traces internal working standards to primary standards,
- Maintaining updated method numbers, detection limits, IDOCs, CDCs, and LOD studies for inorganic metals and radiochemistry parameters,
- Training analysts, and
- Updating SOPs for Metals and Radiochemistry Methods.

Organics Section Technical Director – Albert Castellanos, Technical Oversight and QA Evaluation of Organic Analyses. His duties include:

- Providing QA data and documentation for performance audits,
- Maintaining updated precision and accuracy data for organics parameters,
- Providing documentation that tuning criteria are met for GC/MS systems,
- Maintaining documentation of acceptable surrogate recoveries and internal standard area counts,
- Maintaining internal documentation that traces internal working standards to primary standards,
- Maintaining updated method numbers, detection limits, IDOCs, CDCs, and LOD studies for organic parameters,
- Training analysts, and
- Updating SOPs for Organics Methods.

Volatile Supervisor – Jose Fernandez, Performance and QA Evaluation of Organic Volatiles Analyses. Her duties include:

- Providing QA data and documentation for performance audits,
- Performing volatiles analyses,
- Maintaining updated precision and accuracy data for organics parameters,
- Providing documentation that tuning criteria are met for GC/MS systems,
- Maintaining documentation of acceptable surrogate recoveries and internal standard area counts,
- Maintaining internal documentation that traces internal working standards to primary standards,
- Maintaining updated method numbers, detection limits, IDOCs, CDCs, and LOD studies for organic parameters,
- Updating SOPs for Volatiles Methods.

Microbiology Technical Director – Karina Ramirez, Performance and QA Evaluation of Microbiological Analyses. Her duties include:

- Providing QA data and documentation for performance audits,
- Performing microbiological and demand analyses,
- Maintaining updated temperature charts,
- Performing and evaluating microbiology QA requirements,
- Maintaining updated method numbers, IDOCs, and CDCs for microbiological parameters,
- Maintaining internal documentation that traces internal working standards to primary standards,
- Training analysts, and
- Updating SOPs for Microbiology Methods.

Analysts – Many, Performance of Specifically Designated Chemical or Microbiological Analyses

- Providing QA data and documentation to Technical Directors,
- Evaluating daily QA checks,
- Meeting holding time requirements,
- Reporting data,
- Analyzing PT samples,
- Maintaining acceptable IDOCs and CDCs, and
- Following SOPs and the most recent version of the *Quality Manual*.

Systems Analyst – Clive Dudley, Maintenance and Evaluation of Mechanical and Engineering Systems. His duties include repair, setup, and evaluation of the functionality of instrumentation, mechanics, and electronics, and radiation and safety monitoring.

Information Technology Specialists– Ashbourne Clarke and Jose Fernandez, Maintenance and Evaluation of Computer and Information Systems. His duties include record keeping, data management, improvement of data and information systems, maintenance of servers and computer programs, repair of IT systems, resolution of IT issues, and database management.

Sample Custody Manager – Nancy Read, Oversight and Management of Sample Receiving Department. Her duties include sample log-in, sample bottle kit preparation, preservation preparation, COC coordination, and sample acceptance.

The laboratory nominates deputies in cases of absence.

Appendix E Laboratory Accreditation/Certification/Recognition

Florida Spectrum Environmental Services, Inc. maintains the following certifications and accreditations with numerous state and national entities:

Organization	Certificate Number
Florida Department of Health, TNI	E86006
Florida Department of Health, TNI	E84088
Florida Department of Health, TNI	E86618
Florida Department of Health, TNI	E87671
Foreign Soil Permit, USDA	P330-18-00048
Georgia Department of Natural Resource, EPD	ID # C042
Center for Disease Control (CDC)	N/A

The certificates and parameter lists (which may differ) for each organization may be found at the following URLs:

FSES Fort Lauderdale:
Certificate – http://www.flenviro.com/E86006%20cert%2007-01-2019%20Fort%20lauderdale.pdf
Parameter List http://www.flenviro.com/E86006%20scope%2007-01-2019%20Fort%20Lauderdale.pdf

FSES Pembroke:
Certificate- http://www.flenviro.com/E84088%20cert%207-1-2019%20Pembroke.pdf
Parameter list - http://www.flenviro.com/E84088%20scope%207-1-2019%20Pembroke.pdf

FSES Big Lake:
Certificate – http://www.flenviro.com/E86618%20Cert%207-1-2019%20Big%20lake.pdf
Parameter List – http://www.flenviro.com/E86618%20Scope%207-1-2019%20Big%20lake.pdf

FSES Savannah:
Certificate- http://www.flenviro.com/E87671%20cert%2001-20-2020%20%20Savannah.pdf
Parameter List – http://www.flenviro.com/E87671%20scope%2001-20-2020%20%20Savannah.pdf

Foreign Soil Permit:
http://www.flenviro.com/Permit_P330-18-00048_20180213.pdf

Georgia Certification:
http://www.flenviro.com/Georgia%20ID%20_%20C042%20-%20Florida%20Spectrum%20Environmental%20Services%20Inc.%20-%202018%20-%20Certification%20by%20Reciprocity.pdf

Legionella certification by CDC:
http://www.flenviro.com/Legionella%20Elite%20Program%20%20Certificate%20Expiration%20120120.pdf

If accreditation is terminated or suspended, the laboratory will immediately cease to use the certificate number reference in any way and inform clients impacted by the change.

Appendix F Chemistry

F.1 Method Validation

Reference methods are validated by determining the LOD or LOQ by the procedures outlined below, and precision and bias using the demonstration of capability procedures.

Before any non-standard method is used in the laboratory, the laboratory determines the data quality indicators that must be used to ensure that the data are acceptable for the intended use. Based on the intended use, the laboratory establishes quality control acceptance criteria for precision, accuracy, selectivity (if applicable).

a) Limit of Detection (LOD) or Minimum Detection Limit (MDL)

The Limit of Detection (LOD) is the laboratory's estimate of the minimum amount of an analyte in a given matrix that an analytical process can reliably detect in their facility.

Formal LOD studies are not required for any component for which spiking solutions or quality control samples are not available. The procedure is not applicable to measurements such as pH, BOD/CBOD, color, microbiology, flashpoint, titrimetric tests, odor, turbidimetric tests, solids, conductivity, dissolved oxygen, and calculated analytes.

The laboratory will select methods with LODs that are expected to meet the intended data use.

LODs are determined in samples that represent the quality system matrices to be evaluated. All sample processing/preparation steps and all determinative steps are used to validate the method for all targeted analytes. The representative quality system matrix will be free from the target analytes of interest or interfering analytes that impact the LOD.

When the method or applicable regulation specifies a LOD study, only the specified method will be used. The laboratory will document the process used to derive the LOD and will retain all the supporting data.

The laboratory uses the following procedure from 40-CFR Part 136, Appendix B, Revision 2 to determine the LOD for all methods which do not specify an LOD study:

The initial MDL procedure is used when the laboratory does not have adequate data to perform the Ongoing Verification, typically when new method is implemented or if a method was rarely used in the 24 months.

LODs are determined by analyzing at least 7 spiked samples and 7 method blank samples through all steps of the method. The used for the MDL must be prepared in at least three batches on three separate calendar dates and analyzed on three separate calendar dates. Existing data may be used if compliant with the requirements for at least three batches, and generated within the last 24 months. The most recent available data for methods blanks and spiked samples must be used.

If there are multiples instruments that will be assigned the same LOD, then the sample analyses must be distributed across all of the instruments. A minimum of two spiked samples and two method blank prepared and analyzed on different calendar dates is required for each instrument. Each analytical batch may contain one spiked sample and one method blank sample run together, but are not required to be. The same prepared extract may be analyzed on multiple instruments so long as the minimum of seven preparations in at least three batches is maintained.

Calculate the standard deviation of the replicate spiked sample measurements and the sample standard deviation of replicate method blank measurement from all instrument to which the LOD will be applied.

To compute the LOD based on spiked samples multiply the calculated standard deviation by the student t test value at the 99% confidence interval associated to number of replicates.

To compute the LOD based on method blanks if none of the method blanks give numerical results (positives and /or negatives) for an individual analyte, the LOD does not apply. If some but not all of the methods blanks give a numerical result, set the LOD equal to the highest method blank result, and if all method blanks give a numerical results, then multiply the standard deviation of the method blank by the student t associated to the number of replicates and add the mean value of the method blank results (use zero in place of the mean if the mean is negative)

Compared the LOD based on spiked samples and the LOD based on method blanks and select the greater as the initial LOD.

For ongoing verification, during any quarter, in which samples are being analyzed, prepare and analyze a minimum of two spiked samples on each instrument, in separate batches using the same spiking concentration used in the determination of the initial LOD. The analytes only need to meet the qualitative identification criteria of the method, if requirement is not meet this is an indication that the spiking level is not high enough and initial LOD must be done. Ensure that at least seven spiked samples and seven blanks are completed.

Once every thirteen months, re-calculate the MDL using the quarter data collected. The verified LOD is the greater of the spiked sample LOD or method blanks LOD. If the verified LOD is within 0.5-2.0 times the existing LOD, then the existing LOD may optionally be left unchanged. Otherwise adjust to the new verification LOD..

LOD studies are performed/repeated:

- before reporting the LOD for a given analyte
- any time there is a change that affects how the method is performed or
- when there is a change in instrumentation that affects the sensitivity of the analysis.

b) <u>Limit of Quantitation (LOQ) or Practical Quantitation Limit (PQL) or Method Reporting Limit (MRL)</u>

The Limit of Quantitation (LOQ) is an estimate of the minimum amount of a substance that can be reported with a specified degree of confidence.

If an LOD study is not performed, concentration values less than the Limit of Quantitation are not reported but are appropriately flagged.

Formal LOQs are not required for any component for which spiking solutions or quality control samples are not available. These include temperature, pH, BOD/CBOD, color, microbiology, flashpoint, titrimetric tests, odor, turbidimetric tests, solids, conductivity, dissolved oxygen, and calculated analytes.

An LOQ determination includes all sample processing and analysis steps in the analytical method. The determination is performed in each quality system matrix for which the test will be performed. The resulting LOQ will be above the LOD (if determined).

Procedure for LOQ determination:
The LOQ must be higher than the LOD established. If the spike level used to determine the LOD is at least 3x the LOD then set the LOQ at the spiked level, if not then set the LOQ at least 3x the LOD determined. The laboratory verifies all LODs, and therefore, is not required to verify LOQs.

c) Precision and Bias

Precision is the degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. Precision is usually expressed as standard deviation, variance, or range, in either absolute or relative terms.

Bias is the systematic error that contributes to the difference between the mean of a significant number of test results and the accepted reference value.

Precision and bias for reference, non-reference, modified reference, or laboratory developed methods are established using the demonstration of capability procedure outlined below.

d) **Selectivity**

Selectivity is the capability of a test method or instrument to respond to a target substance or constituent in the presence of non-target substances (EPA-QAD).

The laboratory evaluates selectivity through procedures defined in the test method SOPs. These procedures include but are not limited to: a second column confirmation or evaluation of retention time windows, mass spectral tuning, ICP interelement interference checks, sample blanks, spectrochemical, atomic absorption or fluorescence profiles, co-precipitation evaluations and specific electrode response factors.

F.2 Demonstration of Capability

Demonstration of Capability (DOC): A procedure to establish the ability of the analyst to generate analytical results of acceptable accuracy and precision.

Before reporting any data with a given method, a satisfactory DOC is performed. Thereafter, each analyst demonstrates continuing proficiency through the procedures outlined in Ongoing Demonstration of Capability.

a) **Initial Demonstration of Capability (IDOC)**

An IDOC is performed:

- Before using any method
- Each time there is a change in instrument type, personnel or method and
- If the laboratory or analysts has not performed the method in a twelve-month period.

The IDOC(s) for each analyst is documented in on an IDOC form in their QA training file. The document identifies the analyst(s) involved in preparation and/or analysis; matrix; analyte(s), class of analyte(s), or measured parameter(s); the method(s) performed; the laboratory-specific SOP used for analysis or revision number; the date(s) of analysis; and a summary of the results used to calculate the mean recovery and standard deviations.

All raw data, preparation records, and calculations for each IDOC are retained and are available for review.

When the method specifies a procedure to be followed only those procedures will be used. If no procedures are specified the laboratory uses its own procedure, which is documented below.

Initial Demonstration of Capability Procedure:

a) A quality control sample is obtained from an outside source. If not available, the QC is prepared using stock standards that are prepared independently from those used in instrument calibration.

b) The analyte(s) is diluted in a volume of clean quality system matrix sufficient to prepare four aliquots at the concentration specified in the method SOP, or if unspecified, to a concentration of 1-4 times the limit of quantitation.

c) At least four aliquots are prepared and analyzed according to the test method either concurrently or over a period of days.

d) Using all of the results, calculate the mean recovery in the appropriate reporting units and the standard deviations of the population (in the same units) for each parameter of interest. When it is not possible to determine mean and standard deviations, such as for presence/absence and logarithmic values, the performance is assessed against established and documented criteria.

e) Compare the information from (d) above to the LCS acceptance criteria for accuracy and duplicate acceptance criteria for precision in the test method (if applicable) or in laboratory-generated acceptance criteria (if there are not established mandatory criteria). If all parameters meet the acceptance criteria, the analysis of actual samples may begin. If any one of the parameters do not meet the acceptance criteria, the performance is unacceptable for that parameter. The acceptance criteria must be defined prior to the analyst performing the method.

f) When one or more of the tested parameters fail at least one of the acceptance criteria, the analyst must proceed according to 1) or 2) below.

1. Locate and correct the source of the problem and repeat the test for all parameters of interest beginning with c) above.

2. Beginning with c) above, repeat the test for all parameters that failed to meet criteria.

Repeated failure, however, confirms a general problem with the measurement system. If this occurs, the source of the problem is located and corrected and the test repeated for all compounds of interest beginning with c).

b) **Ongoing Demonstration of Capability**

After the demonstration of capability is completed, on-going proficiency is maintained and demonstrated at least annually. Each analyst is expected to consistently meet the QC requirements of the method, the laboratory SOP, client requirements and/or the TNI Standard. Ongoing DOCS are documented on the IDOC form, and all records related to the demonstration are retained.

The laboratory uses one of the following procedures to demonstrate ongoing DOC:

a) acceptable performance of a blind sample (single blind to the analyst). Successful analysis of a blind performance sample on a similar method using the same technology (e.g., GC/MS volatiles by purge and trap for Methods 524.2, 624 or 5030/8260) would only require documentation for one of the tests.;

b) another initial DOC; or,

c) at least four (4) consecutive laboratory control samples with acceptable levels of precision and accuracy. The laboratory shall determine the acceptable limits for precision and accuracy prior to analysis. The laboratory shall tabulate or be able to readily retrieve four (4) consecutive passing laboratory control samples (LCS) for each method for each analyst each year. The four LCS samples are selected from the most recent, consecutive analytical batches.

F.3 Calibration

Section 23.2.2 includes information on calibration of support equipment. This Section covers calibration of analytical equipment.

Initial instrument calibration and continuing instrument calibration verification are an important part of ensuring data of known and documented quality. If more stringent calibration requirements are included in a mandated method or by regulation, those calibration requirements override any requirements outlined here or in laboratory SOPs. Generally, procedures and criteria regarding instrument calibrations are provided in test method SOPs.

F.3.1 Initial Instrument Calibration

- Records:

  Initial instrument calibration includes calculations, integrations, acceptance criteria, and associated statistics referenced in the test method SOP.

  Sufficient raw data records are collected to allow reconstruction of the initial instrument calibration. These include, at a minimum, calibration date, test method, instrument, analysis date, analyte names, analysts' signature or initials, concentration and response, calibration curve or response factor, or unique equation or coefficient used to reduce instrument responses to concentration.
  Calibration date and expiration date (when recalibration is due) is documented for equipment requiring calibration, where practicable (see Section 23.1).

- Number of Standards and Concentrations:

  If the reference or mandated method does not specify the number of calibration standards to use, the minimum number is three, not including blanks or a zero standard, except as noted below.

  For instrumentation where single point calibration is recommended by manufacturer's instructions, such as with some ICP and ICP/MS technologies (with a zero and single point calibration), the following apply:

  a) For single point plus zero blank calibrations, the zero point and the single point standard are analyzed prior to the analysis of samples, and the linear range of the instrument established by analyzing a series of standards, one of which is at the lowest quantitation level.
  b) Zero blank and single point calibration standards are analyzed with each analytical batch for methods where they are specified.
  c) A standard corresponding to the limit of quantitation is analyzed with each analytical batch and must meet established acceptance criteria when using single point plus zero blank calibrations.
  d) The linearity of single point plus zero blank calibrations is verified at a frequency established by the method or the manufacturer.

  The lowest calibration standard is the lowest concentration for which quantitative results can be reported without qualification. The lowest calibration standard is at or below the Limit of Quantitation (LOQ) and is greater than the Limit of Detection. Results that are less than the LOQ are considered to have increased uncertainty, and are reported with an "I" qualifier.

  The highest calibration standard is the highest concentration for which quantitative results can be reported. Data reported exceeding the highest calibration standard without dilutions is considered to have increased uncertainty and are either reported with an "L" qualifier or reanalyzed with dilution.

- Evaluation, Verification and Corrective Action

  All initial instrument calibrations are verified with a standard obtained from a second source (manufacturer) traceable to a national standard when commercially available. If a second source is not available, a standard prepared from a different lot may be used.

  Criteria for the acceptance of an initial instrument calibration is established (e.g., correlation coefficient or relative percent difference) and defined in test method SOPs. The criteria used are appropriate to the calibration technique. Generally, a calibration coefficient of ≥0.995 is acceptable. For some methods, a calibration coefficient of ≥0.920 is acceptable.

  Measure of relative error in the calibration is established. For calibrations evaluated using an average response factor, the determination of the relative standard deviation (RSD) is the measure of the relative error. For calibrations evaluated using correlation coefficient or coefficient of determination the relative error is evaluated by either the measurement of the relative error (%RE) or measurement of the relative standard error (%RSE).

  a) The %RE must be performed for two (2) calibration levels: the standard at or near the mid-point of the initial calibration and the standard at the lowest level. Both levels must meet the criteria specified in the method. If no criterion is specified in the method the criterion and procedure for deriving the criterion must be specified in the SOP.

  $$\%\ Relative\ Error = \frac{X'_i - X_i}{X_i} \times 100$$

  X_i = True value for the calibration standard
  X'_i = Measured concentration of the calibration standard

  b) The RSE must meet the criteria specified in the method. If no criterion is specified in the method, the maximum allowable RSE shall be numerically identical to the requirement for RSD in the method. If there is no specification for RSE or RSD in the method, then the RSE shall be specified in the laboratory SOP.

  $$\%\ RSE = 100 \times \sqrt{\sum_{i=1}^{n} \left[\frac{x'_i - x_i}{x_i}\right]^2 \Big/ (n-p)}$$

  X_i = True value of the calibration level i
  X'_i = Measured concentration of calibration level i
  P= Number of terms in the fitting equation (average=1, linear=2, quadratic=3)
  N = Number of calibration points

  Where appropriate, the laboratory has manual integration procedures (See SOP) that are adhered to when evaluating calibration data.

  Any samples that are analyzed after an unacceptable initial calibration are re-analyzed or the data are reported with qualifiers, appropriate to the scope of the unacceptable condition (see Section 12 – "Control of Nonconforming Environmental Testing").

  Quantitation is always determined from the initial calibration unless the test method or applicable regulations require quantitation from the continuing instrument calibration verification.

  Corrective actions are performed when the initial calibration results are outside acceptance criteria. Multiples calibration levels from the lowest and/or highest levels of the curve may be removed for individual analyte, but removal of interior levels in prohibited unless the cause is

determined and documented. If the cause cannot be determined, the calibration curve is re-prepared. If the low or high calibration point is dropped from the curve, the working curve is adjusted and sample results outside the curve are qualified.

Calibration points from the middle of the curve may be removed when the instrument response demonstrates that the standard was not properly introduced to the instrument, or an incorrect standard was analyzed. If the calibration standard from the interior of the curve is removed, then entire single standard calibration level must be removed for all analytes. The standard removed may be replaced if the replacement standard is analyzed within twenty-four (24) hours of the original calibration standard analysis for that particular calibration level for all the analytes involved. A technical valid reason for either removal or replacement of any interior calibration point must be documented.

F.3.2 **Continuing Instrument Calibration**

- Records

  The calculations and associated statistics for continuing instrument calibration are included or referenced in test method SOPs.

  Sufficient raw data records are retained to allow reconstruction of the continuing instrument calibration verification. Continuing instrument calibration verification records connect the continuing verification date to the initial instrument calibration.

  Where appropriate, the laboratory has manual integration procedures (See SOP) that are adhered to when evaluating calibration data.

- Frequency

  Calibration is verified for each compound, element, or other discrete chemical species. For multi-component analytes, such as aroclors, chlordane, toxaphene, or total petroleum hydrocarbons, a representative chemically related substance or mixture is used.

  Calibration verifications are performed:

  - at the beginning and end of each analytical batch, except for instances when an internal standard is used. For methods employing internal standards, one verification is performed at the beginning of the analytical batch. Some methods have more frequent CCV requirements (see specific SOPs). Many inorganic methods require the CCV to be analyzed after every 10 samples.
  - whenever it is expected that the analytical system may be out of calibration or might not meet verification acceptance criteria.
  - when the time period for calibration or the most recent calibration verification has expired.
  - for all analytical systems that have a calibration verification requirement. Requirements can be found in test method SOPs.

- Evaluation, Verification and Corrective Actions

  The validity of the initial calibration is verified prior to sample analysis by use of a continuing instrument calibration verification (CCV) standard sometimes referred to as the initial calibration verification (ICV). The acceptance criteria for CCV standards are found in test method SOPs.

  Corrective action is initiated for CCV results that are outside of acceptance criteria (see Section 12 – "Control of Nonconforming Environmental Testing"). Specific corrective actions for non-

conforming CCVs can be found in test method SOPs and may not require the formal non-conformance/corrective action process.

F.3.3 **Unacceptable Continuing Instrument Calibration Verifications**

If routine corrective action for continuing instrument calibration verification fails to produce a second consecutive (immediate) calibration verification within acceptance criteria, then a new calibration is performed or acceptable performance is demonstrated after corrective action with two consecutive calibration verifications.

For any samples analyzed on a system with an unacceptable calibration, some results may be useable if qualified and under the following conditions:

a) If the acceptance criteria are exceeded high (high bias) and the associated samples are below detection, then those sample results that are non-detects may be reported as non-detects.

b) If the acceptance criteria are exceeded low (low bias) and there are samples that exceed the maximum regulatory limit, then those exceeding the regulatory limit may be reported.

Appendix G Microbiology

G.1 Method Validation

The laboratory validates non-reference methods, laboratory-designed/developed methods, reference methods used outside their published scope, and amplifications and modifications of reference methods to confirm that the methods are fit for their intended use. Non-reference method validation includes procedures for accuracy, precision, and selectivity and must ensure the method meets the data quality objectives for the intended use.

1.5.1 **Accuracy** – Use at least one (1) known pure reference culture at the anticipated environmental conditions, and compare the method results to that of a reference method.
1.5.2 **Precision** – Perform at least ten (10) replicate analyses with both the proposed and reference method, using the target microorganisms of choice. The results shall show that the methods are not statistically different.
1.5.3 **Selectivity (sensitivity)** – Verify all responses in at least ten (10) samples using mixed cultures that include the target organism(s), and at varying concentrations (microbial identification testing or equivalent processes may be used). Calculate the number of false positive and false negative results.

The laboratory will compare the results of these tests with the data quality objectives stated by the client. The data from the above tests must be equal to or better than the stated DQOs. A statement comparing the client DQOs against the above-mentioned QC measures will be included in the validation records.

The laboratory will confirm the validation by participating in a proficiency test program with acceptable results and retain the records of the validation for five years past the date of last use of the method.

G.2 Demonstration of Capability (DOC)

Demonstration of Capability: A procedure to establish the ability of the analyst to generate analytical results of acceptable accuracy and precision.

Before reporting any data with a given method, a satisfactory initial DOC (IDOC) is performed. Thereafter, each analyst will demonstrate continuing proficiency through the procedures outlined in Ongoing Demonstration of Capability.

a) <u>Initial Demonstration of Capability (IDOC)</u>

An IDOC is performed:

- before using any method;
- each time there is a change in instrument type, personnel or method; and
- if the laboratory or analysts has not performed the method in a twelve-month period.

The IDOC(s) for each analyst is documented on the IDOC form in their QA training file. The document identifies the analyst(s) involved in preparation and/or analysis; matrix; analyte(s), class of analyte(s), or measured parameter(s); the method(s) performed; the laboratory-specific SOP used for analysis (including revision number); the date(s) of analysis; and a summary of the results used to calculate the mean recovery and standard deviations.

All raw data, preparation records, and calculations for each DOC are retained and are available for review.

When methods specify a procedure to be followed, only those procedures will be used. If no procedures are specified the laboratory uses its own procedure, which is documented below.

Initial Demonstration of Capability Procedure:

a) The target organism(s) shall be diluted in a volume of sterile quality system matrix (a sample in which no target organisms or interferences are present at concentrations that will impact the results of a specific method). When required by method, the diluent shall be sterile buffer water and /or sterile peptone solution unless specified by the manufacturer. Prepare at least four (4) aliquots at the concentration specified, or if unspecified, to the countable range for plate methods or working range for most probable number (MPN) type methods.
b) At least four (4) aliquots shall be prepared and analyzed concurrently according to the method.
c) Using all of the results, calculate the mean recovery and standard deviation of the results in the appropriate reporting units for each organism of interest. When it is not possible to determine mean and standard deviations, such as for presence/absence, the laboratory shall assess performance against established and documented criteria.
d) For qualitative tests, acceptable performance in a blind study, either internally or externally generated, may be used to meet this Standard, provided that the study consists of a minimum of a blank, a negative culture, and a positive culture for each target organism or metabolite (e.g. b-glucuronidase in E. coli.).
e) Compare the information from c) above to the corresponding acceptance criteria for precision and accuracy in the method (if applicable) or in laboratory-generated acceptance criteria (if there are not established mandatory criteria). If all parameters meet the acceptance criteria, the analysis of actual samples may begin. If any one of the parameters does not meet the acceptance criteria, the performance is unacceptable for that parameter.
f) When one or more of the tested parameters fail at least one of the acceptance criteria, the analyst shall proceed according to i) or ii) below.
    i) Locate and correct the source of the problem and repeat the initial DOC for all parameters of interest beginning with b) above.
    ii) Repeat the initial DOC for all parameters that failed to meet criteria.
g) Repeated failure, however, confirms a general problem with the measurement system. If this occurs, locate and correct the source of the problem and repeat the test for all organisms of interest beginning with b).

b) <u>Ongoing Demonstration of Capability</u>

After the demonstration of capability is completed, on-going proficiency is maintained and demonstrated at least annually. Each analyst is expected to consistently meet the QC requirements of the method, the laboratory SOP, client requirements and/or the TNI standard. Ongoing DOCS are documented on the CDOC form and all records related to the demonstration are retained.

The laboratory uses one of the following procedures to demonstrate ongoing DOC:

a) Acceptable results for one single-blind proficiency test sample for target organisms in each field of accreditation.
b) Analysis of one sample or clean matrix that is fortified with a known quantity of the target organism, with results meeting the laboratory acceptance criteria for accuracy and, where applicable to the testing technique, also meeting the observational details expected for the presumptive, confirmed and completed phases defined in the method.
c) Performing another initial demonstration of capability

G.3 Calibration

Section 23.2.2 includes information on calibration of support equipment. This section covers calibration of analytical equipment.

The laboratory has methods that describe how the support equipment (oxygen meters, pH meters, etc) are calibrated and verified. These are found in Section 23.2.

The laboratory also has one continuous monitor – resistivity in the DI water purification system. The monitor is calibrated once every 5 years. If verification fails, an initial calibration is performed and verified. If the instrument is taken off-line, an initial calibration and verification is performed before returning to service.

G.3.1 **Specific Equipment Requirements**

- Autoclave

  The laboratory initially evaluates the performance of each autoclave before first use by establishing its functional properties and performance through heat distribution characteristics with respect to typical uses. This is usually supplied by the installer.

  Autoclaves meet specified manufacturer and method temperature tolerances. Pressure cookers shall not be used for sterilization of growth media.

  With each use:

  - The laboratory ensures that the sterilization temperature is reached by using a maximum registering thermometer.
  - The laboratory records date, contents, maximum temperature reached, pressure, time in sterilization mode, total run time (may be recorded as time in and time out) and analyst's initials.
  - Temperature sensitive tape is used with the contents of each autoclave run to indicate that the autoclave contents have been processed.

  On a monthly basis, when the autoclave is in use, the laboratory verifies that the autoclave is effectively sterilizing the contents by using Sterikon Plus Bioindicator containing *Geobacillus Stearothermophilus* according to the manufacturer's instructions.

  The autoclave mechanical timing device is checked quarterly against a stopwatch and the actual time elapsed documented. Autoclave maintenance, which is performed internally or by a professional company, is performed annually. The activities include a pressure check and verification of temperature device.

- Volumetric Equipment

  Equipment with movable parts such as automatic dispensers, dispensers/diluters, and mechanical hand pipettes are verified for accuracy quarterly.

  Equipment such as filter funnels, bottles, non-Class A glassware, and other containers with volumetric markings (including sample analysis vessels) are verified once per lot prior to first use. The volume of the disposable volumetric equipment, such as sample bottles, and disposable pipettes are checked once per lot. The verification can be volumetric as compared to class a or gravimetrically.

- Water Baths and Incubators

  The laboratory establishes the uniformity of temperature distribution in incubators and water baths prior first use after installation or service by filling them to full capacity with samples. The time for the instrument to equilibrate to the set temperature is documented. For specific procedures used to establish the uniformity of temperature distribution in microbiological incubators see the "Equilibrium SOP".

  On each day of use, the temperature of incubators and water baths is recorded twice a day, at least four hours apart.
  ***Note*:** There is no intent to take the temperature of incubation units during periods there are no samples under test.

Appendix H Radiochemistry

H.1 Method Validation

Reference methods are validated by determining the minimum detectable activity as outlined below, and precision and bias using an initial demonstration of capability.

The laboratory will compare the results of these tests with the data quality objectives stated by the client. The data from the above tests must be equal to or better than the stated DQOs. A statement comparing the client DQOs against the above-mentioned QC measures will be included in the validation records.

The laboratory will confirm the validation by participating in a proficiency test program with acceptable results and retain the records of the validation for five years past the date of last use of the method.

a) Detectable Activity

1. Minimum Detectable Activity (MDA)

   The laboratory will determine the MDA of a method by a procedure that reflects instrument limitations and the intended data use. When the method requires a specific procedure for determining the MDA, only that procedure will be used.

   MDAs are determined in samples that represent the quality system matrices to be evaluated. All sample processing/preparation steps and all determinative steps are used to validate the method for all targeted analytes. The representative quality system matrix will be free from the target analytes of interest or interfering analytes that impacts the MDA.

   For all quality systems (except drinking water), the MDA represents the estimated of the smallest true activity (or activity concentration) of an analyte that ensure a 95% probability of detection.

   For the Safe Drinking Water Act (SDWA) (drinking water quality system matrix), the MDA (SDWA "detection limit"), the MDA is equal to the concentration of analyte that can be counted with a precision of 100% at the 95% confidence level (1.96σ where σ is the standard deviation of the net counting rate of the sample). The SDWA detection limit (MDA) is equivalent to the concentration at which the relative standard deviation of the measurement due to counting statistics is 1/1.96. The laboratory shall ensure that the determined MDA meets (or is lower than) the published detection limits published in 40 CFR Part 141.25.

   The instrument calculates an MDA at the 95% confidence interval on each analytical run. Initially, the MDA is estimated using MDA measurements for blanks and compared to RDLs. For samples, the MDA is calculated for each sample's analytical run. If it fails to meet required detection limits, the sample is re-analyzed for a longer counting period.

b) Precision and Bias

Precision is the degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves. Precision is usually expressed as standard deviation, variance, or range, in either absolute or relative terms.

BIAS is the systematic error that contributes to the difference between the mean of a significant number of test results and the accepted reference value.

Precision and bias for non-reference, modified reference or laboratory-developed methods are established using the procedure outlined below and compared to the criteria established by the

client (when requested), the method, or the laboratory. Precision and bias are determined by processing samples through all phases of the method (sample preparation, cleanup, analysis, etc.). This study is performed for all quality system matrices for which the test is to be used.

Procedure for Evaluating Precision and Bias in Non-Reference Methods:

1. Analyze QC samples in triplicate containing the analytes of concern at or near the MDA, at a level near ten (10) times the MDA, and at a mid-range concentration.

2. Process these samples on different days as three (3) sets of samples through the entire measurement system for each analyte of interest.

3. Each day one QC sample at each concentration is analyzed. A separate method blank shall be subjected to the analytical method along with the QC samples on each of the three (3) days.

4. For each analyte, calculate the mean recovery for each day, for each level over days, and for all nine (9) samples. Calculate the relative standard deviation for each of the separate means obtained.

The precision value that is determined is compared against uncertainty estimates. The precision at each testing level must be statistically greater than the maximum combined standard uncertainty of measurement at the testing level.

c) Measurement of Uncertainty

The laboratory will report the measurement uncertainty of all radioactive tests. The report will explain the uncertainty and will include:

- An indication that the uncertainty is the combined standard uncertainty ("one sigma")

The instrument calculates the combined standard uncertainty for each analytical run. See EPA 900.0 SOP for an in depth description of calculations.

d) Selectivity

The laboratory will evaluate selectivity using the checks established in the method

H.2 Demonstration of Capability (DOC)

Demonstration of Capability: A procedure to establish the ability of the analyst to generate analytical results of acceptable accuracy and precision.

Before reporting any data with a given method, a satisfactory initial DOC (IDOC) is performed. Thereafter, each analyst will demonstrate continuing proficiency through the procedures outlined in Ongoing Demonstration of Capability.

a) Initial Demonstration of Capability (IDOC)

An IDOC is performed:

- Before using any method,
- Each time there is a change in instrument type, personnel or method, and
- If the laboratory or analysts has not performed the method in a twelve-month period.

The IDOC(s) for each analyst is documented in the training file. The document identifies the analyst(s) involved in preparation and/or analysis; matrix; analyte(s), class of analyte(s), or measured parameter(s); the method(s) performed; the laboratory-specific SOP used for

analysis (including revision number); the date(s) of analysis; and a summary of the results used to calculate the mean recovery and standard deviations.

All raw data, preparation records, and calculations for each DOC are retained and are available for review.

When methods specify a procedure to be followed, only those procedures will be used. If no procedures are specified the laboratory uses its own procedure, which is documented below. Initial Demonstration of Capability Procedure:

a. The analyte(s) [gross alpha as thorium-230 or americium-241 and gross beta as strontium-90 or cesium-137] will be diluted in a volume of clean quality system matrix (a sample in which no target analytes or interferences are present at concentrations that will impact the results of a specific method) sufficient to prepare four (4) aliquots at a laboratory specified concentration.

b) At least four (4) aliquots shall be prepared and analyzed according to the method either concurrently or over a period of days.

c) Using all of the results, calculate the mean recovery in the appropriate reporting units and the standard deviation of the population sample (in the same units) for each parameter of interest. When it is not possible to determine mean and standard deviations, such as for presence/absence and logarithmic values, the laboratory shall assess performance against established and documented criteria.

d) Compare the information from (c) above to the corresponding acceptance criteria for precision and accuracy in the method (if applicable) or in laboratory-generated acceptance criteria (if there are not established mandatory criteria). If all parameters meet the acceptance criteria, the analysis of actual samples may begin. If any one of the parameters does not meet the acceptance criteria, the performance is unacceptable for that parameter.

e) When one or more of the tested parameters fail at least one of the acceptance criteria, the analyst shall proceed according to i) or ii) below.

i) Locate and correct the source of the problem and repeat the test for all parameters of interest beginning with b) above.

ii) Beginning with b) above, repeat the test for all parameters that failed to meet criteria.

f) Repeated failure, however, confirms a general problem with the measurement system. If this occurs, locate and correct the source of the problem and repeat the test for all compounds of interest beginning with b).

g) When an analyte not currently found on the laboratory's list of accredited analytes is added to an existing accredited method, an initial DOC shall be performed for that analyte.

b) **Ongoing Demonstration of Capability**

After the demonstration of capability is completed, on-going proficiency is maintained and demonstrated at least annually. Each analyst is expected to consistently meet the QC requirements of the method, the laboratory SOP, client requirements and/or the TNI standard. Ongoing DOCS are documented on the IDOC form, and all records related to the demonstration are retained.

The laboratory uses any of the following procedures to demonstrate ongoing DOC:

a) Performing another initial demonstration of capability

b) Acceptable results for one-single-blind proficiency test sample (may be applied to similar methods using the same technology).

c) Having at least four (4) consecutive laboratory control samples with acceptable levels of precision and accuracy. The laboratory shall determine the acceptable limits for precision and accuracy prior to analysis. The laboratory shall tabulate or be able to readily retrieve four (4) consecutive passing LCS for each method for each analyst each year.

H.3 Calibration

Section 23.2.2 includes information on calibration of support equipment. This section covers calibration of analytical equipment.

The EPA 900.0 SOP describes detailed calibration procedures.

Initial instrument calibration and continuing instrument calibration verification are an important part of ensuring data of known and documented quality. If more stringent calibration requirements are included in a mandated method or by regulation, those calibration requirements override any requirements outlined here or in laboratory SOPs. Generally, procedures and criteria regarding instrument calibrations are provided in test method SOPs.

H.3.1 **Initial Instrument Calibration**

- Records:

  Initial instrument calibration includes calculations, integrations, acceptance criteria, and associated statistics referenced in the test method SOP.

  Sufficient raw data records are collected to allow reconstruction of the initial instrument calibration. These include, at a minimum, calibration date, test method, instrument, analysis date, analyte names, analysts' signature or initials, concentration and response, calibration curve or response factor, or unique equation or coefficient used to reduce instrument responses to concentration.

  Calibration date and expiration date (when recalibration is due) is documented for equipment requiring calibration, where practicable (see Section 23.1).

- Number of Standards and Concentrations:

  If the reference or mandated method does not specify the number of calibration standards to use, the minimum number is three, not including blanks or a zero standard, except as noted below.

  For instrumentation where single point calibration is recommended by manufacturer's instructions, such as with some ICP and ICP/MS technologies (with a zero and single point calibration), the following apply:

  e) For single point plus zero blank calibrations, the zero point and the single point standard are analyzed prior to the analysis of samples, and the linear range of the instrument established by analyzing a series of standards, one of which is at the lowest quantitation level.

  f) Zero blank and single point calibration standards are analyzed with each analytical batch for methods where they are specified.

  g) A standard corresponding to the limit of quantitation is analyzed with each analytical batch and must meet established acceptance criteria when using single point plus zero blank calibrations.

h) The linearity of single point plus zero blank calibrations is verified at a frequency established by the method or the manufacturer.

The lowest calibration standard is the lowest concentration for which quantitative results can be reported without qualification. The lowest calibration standard is at or below the Limit of Quantitation (LOQ) and is greater than the Limit of Detection. Results that are less than the LOQ are considered to have increased uncertainty, and are reported with an "I" qualifier.

The highest calibration standard is the highest concentration for which quantitative results can be reported. Data reported exceeding the highest calibration standard without dilutions is considered to have increased uncertainty and are either reported with an "L" qualifier or reanalyzed with dilution.

- Evaluation, Verification and Corrective Action

All initial instrument calibrations are verified with a standard obtained from a second source traceable to a national standard when commercially available. If a second source is not available, a standard prepared from a different lot may be used.

Criteria for the acceptance of an initial instrument calibration is established (e.g., correlation coefficient or relative percent difference) and defined in test method SOPs. The criteria used are appropriate to the calibration technique. Generally, a calibration coefficient of ≥0.995 is acceptable.

Any samples that are analyzed after an unacceptable initial calibration are re-analyzed or the data are reported with qualifiers, appropriate to the scope of the unacceptable condition (see Section 12 – "Control of Nonconforming Environmental Testing").

Quantitation is always determined from the initial calibration unless the test method or applicable regulations require quantitation from the continuing instrument calibration verification.

Corrective actions are performed when the initial calibration results are outside acceptance criteria. Calibration points are not dropped from the middle of the curve unless the cause is determined and documented. If the cause cannot be determined, the calibration curve is re-prepared. If the low or high calibration point is dropped from the curve, the working curve is adjusted and sample results outside the curve are qualified.

For gas proportional counter a performance check for detection efficiency is performed on the day-of-use basis for calibration verification and background measurements shall be performed on at least a weekly basis

The instrument is re-calibrated annually.

H.4 Radioactive Source Expiration

Expiration dates for commercially prepared and certified plated planchets used for radioactivity analyses are determined using the half-life of the isotope. The expiration date is equivalent to the half-life from the date born. For aqueous standards prepared from certified radioactivity standards at the laboratory or purchased without expiration dates the expiration date is equivalent to the half-life from the date born.

Appendix I Laboratory Approved Signatures and Initials

All undersigned individuals are approved to sign laboratory records at Florida Spectrum Environmental Services, Inc.

I.1 Fort Lauderdale Approved Signatures and Initials

Name	Electronic Initials	Initials	Signature
Lyle Johnson	LAJ		
Roxana Llambias	ROL	ROL	
Nancy Read	NR		
Barbara Mokarska	BM		
Nellie Montanez	NM	N. M.	
Bevin Morris	BM		
Franklyn Galvis	FG	F.G	
Michael Grant	MG	M.G	
Leoneider Lopez	LL	L.L.	
Craig Tanasse	CT	T.C.	
Maria Castellanos	MEC	MEC	
Suresh Supan	SS	S.S	
Angel Barreto	AB	A.B	
Irena Nutzu	IN	IN	
Eugene Nutzu	EN	E.N.	

Mercedes Zaldivar	MAZ	MAZ	
Richard Vicchiarelli	RVP	RPV	
Priyanka Raichoudhury	PR	PR	
Karina Ramirez	KR	KR	
Albert Castellanos	AC	AC	
Martha Raudez	MR	MR.	
Jose C. Roque	JCR	JCR	
Estela Paz	EP	EP	
Yanet Echevarria	YE	YE.	
Anna Uliannova	AU	AU	
Jose Fernandez	JF	JF	
Angel Reyes	AR	AR	
Sophia Andre	SA	SA	
Oswald Chinkoo	OC	OC	
David Barahona	DB	DB	
Evan Blanchard	EB	EB	
Pamela Sapp	PS	PS	

I.2 Big Lake Approved Signatures and Initials *

Name	Electronic Initials	Initials	Signature
JoAnn Baker	JB	JB	JoAnn Baker
Rhonda Eddings	RE	RE	Rhonda Eddings

I.3 Pembroke Approved Signatures and Initials*

Name	Electronic Initials	Initials	Signature
Kenya Russell	KR		
Beulah Harvey	BEH	BEH	Beulah Harvey

I.4 Savannah Approved Signatures and Initials*

Name	Electronic Initials	Initials	Signature
Christine Riddle	CMR	CMR	Christine Riddle
Jenny Coleman	JC	JC	J. Coleman
Julia Upchurch	JU	J.U.	Julia Upchurch
Janet Bergen	JB	JB	Janet Bergen

*****The Laboratory President/Laboratory Director, Lyle Johnson and Quality Assurance Director, Roxana Llambias Approved Signatures and Initials can be found on Appendix I.1. They are allowed to sign laboratory records for all the laboratories in the Florida Spectrum Environmental Services Inc. network.

Appendix J Document Control Record

TITLE: Laboratory Quality Manual FLL				
Document number	Rev.	Date	Changes	Sections
0501114-001	5	1/6/2014	Quality Manual Completely Revised Based on TNI EL-V1-2009 Modules 1-6 and Previous Quality Manual (NELAC 2003) Revision 4b.	ALL
0501114-002	6	3/14/2014	Cover Page with new revision date and revision number; TOC with updated page numbers , effective dates, and sections; Section 3.4 to clarify LQM updating procedure; Organizational chart; Management roles and responsibilities to include approved LQM signatories; controlled document identification changed ; "IDOC" removed from and "form" added to types of controlled documents; Editorial clarifications; Ongoing training requirements; Equipment list reference and GPC added to analytical equip; Added Big Lake's sample receiving SOP ref; Updated forms with DC#s and Added new forms; Equilibrium SOP ref.	1, 2, 3, 4, 5, 6. 20, 7, 23, 26, App. A, App. B, App. G
0501114-003	6.1	4/30/2014	Updated Org Chart and Job Descriptions; Added H.4 describing procedure for establishing expiration dates of radiochemical standards; clarified calculation of uncertainty for radiochemistry analyses; added reference to SOP. Removed specific references to revisions of quality system documents and added disclaimer in references section.	Fig 4.1, App. D; App. H
0501115-001	7	2/2/2015	Cover Page with new revision date and revision number; TOC with updates effective dates; Updated Scope of testing; Org Chart; Management roles and responsibilities; Replaced IDOC Form with new QAD	3, Fig 4.1, 5, App.B; App D; App E;
0501116-001	8	1/7/2016	Cover page with new revision date and revision number; TOC with updates effective dates; Updated scope and accreditation testing; updated Organization Chart; replaced the purchase order form; replaced the new employee orientation form; updated LOQ at least 3x MDL; added sterilizer maintenance by a professional company also; updated QAD in personnel education and experience.	Cover page; 3.1; Fig 4.1; App. B; App. E; App. F; Table 23.2; Table 20.1
0501116-002	9	4/13/2016	Cover page updates with the phone number of the labs and the personal approving the LQM, effective date, new revision and control number. Updated the Table of Content. Updated the Organization Chart. Added Tables with the support equipment for PEM, SAV and BLL. Added Appendix I for Laboratory approved signatures and Initials. Added a new TT code (06) for external source documents. Changed word address to addresses. Changed document control records to App J.	Cover page; 2; 4.1; Table 23-4b; Table 23-4c; Table 23-4d; App I; 6.1; 8; 3.4

0501117-001	10	1/24/2017	Cover page updates with new revision and effective date; TOC with updates effective dates; Updated the scope of testing; Updated support equipment for FLL. Replaced non-conformance and purchase forms. Laboratory accreditations updates. Updated organization chart. Reviewed of the purchase procedure and internal audit procedure. Update Fort Lauderdale and Pembroke approved signatures. Updated the subcontracting of environmental test procedures. Add organics analyst personal education requirements and experience. Updated the pH probe and DO meter and DO probe calibration. Updated the IR calibration frequency to yearly.	Cover page; Section 2; 3.1; Table23-4a; AppB; AppE; Figure 4-1; 9.1; 17.1; App I.1 and I.3; 8.1; Table 20.1.; Table 23-2; Table 23-3;
0501118-001	11	5/1/18	Cover page updated with new revision and effective date. Updated the effective dates and pages on TOC. Updated the scope of testing. Updated laboratories accreditations, scope, certificate number. Updated the organizational chart. Updated approved signatures. Updated LOD and LOQ procedures. Updated the external audit procedure. Replace the COC form by current form. Updated thermal preservation. Updated radioactive source expiration. Added time frame for non-conforming work. Changed the on-board barometer verification check from semiannual to annually. Updated the support equipment table for Big lake Lab. Added a note indicating that samples stored in same refrigerator/freezer where potentially sources of contamination are present required isolation to reduce cross-contamination. Added radiochemistry Technical Director. Added the background check and instrument performance check frequency in radiochemistry. Updated archived records storage. All Labs keep records onsite.	Cover page Sec.2 Sec. 3.1 Appendix E Figure 4.1 Appendix I Appendix F.1 Sec. 17.2 Fig 26.1 Sec. 26.2.1.1 H.4 Sec. 12.2 Table 23.2. Table 23-4b Sec. 26.5 Appendix D. AppendixH.3 Sec.16.2
0501118-002	12	12/24/18	Updated cover page with new revision and effective date. Replaced TNI 2009 by 2016. Updated organization chart. Updated approved signatures. Updated certification and scope links Removed North Dakota and Lakeland certification and scope and added legionella (CDC). Updated IT Director and volatiles supervisor. Added procedures for rounding results and significant figures. Added definition of “Date Ext.” and “Date Analy.” In test reports. Updated instruments IDs in the acceptance criteria table for support equipment BL and FLL. Updated compliance to accreditation requirements. Updated COC figure. Added centrifuge and spectrophotometer, min/max thermometers, and calibration of the conductivity meter temperature sensor in the support equipment Table, Updated the volumetric dispensing device accuracy check frequency.	Cover page 3.0,3.2, 5.2 4.1 Appendix I 3.1, App E AppE AppD 28.6,28.7 28.1 Tab.23-4a, 23-4b 27.3.1 Fig 26.1 Table 23.2 23.2.2

0501120-001	13	1/24/20	Removed that lab managers at PEM and BLL are the technical director and indicated that Lyle Johnson is the technical director for those facilities based on the grandfather clause. Added stopwatch and UV Sterilizer as support equipment. Added stopwatch and volumetric equipment calibration acceptance criteria. For microbiology, besides borosilicate glassware added non-corrosive material free of chips and cracks, and hall have readable measurement marks; indicated that testing with bromothymol blue shall be at least once daily on at least 1 piece washed, and removed inhibitory test annually and added test performance initially and each time laboratory changes the detergent formulation or washing procedures. Replaced COC for the current in use. Changed initial calibration verification frequency from start of each analytical run to "per method requirement". Mentioned types of medias (prepared ready-to-use and media prepared in the laboratory), and types of dilution water (pre-prepared ready-to -use or prepared in the laboratory). Updated the compliance to accreditation section including the requirements needed for initial and continuing accreditation. Added that the PT is handled and prepared following the provider instructions; also, that except for drinking waters for those analytes certified by different methods the laboratory report one method for the same technology, and that results are reported to the PTRL and when is not available to the laboratory's LOQ. Added "B" qualifier and its uses and how to calculate the holding time by hours and days with examples. Updated field supervisor and microbiology technical director. Updated links for FSES certifications and scopes Added note to indicate that there is no need to take temperature of incubation during periods where there are no samples under test. Added examples of when middle calibration levels may be removed for all analytes and indicated that the level may be replaced within 24 hours of the original standard calibration analysis. In addition, added measurement of relative error in the calibration. Updated Fecal water bath ID in BLL. Updated BLL signatures for the lab. Updated SAV signatures. Updated Lakeland address, LQM revision and effective date. Updated FLL signatures. Updated Time off Request (PTO). Updated Organization Chart. Updated Table of Contents pages and revision dates. Added refrigerator for legal Evidentiary samples in FLL support equipment table.	5.2.4 Table 23-2 Table 23-3 27.2.1.3 (e) Figure 26-1 Table 27-1 Table 27-2 27.3.1 27.3.2 Appendix C Appendix D Appendix E, 3.1 G.3.1 F.3.1 Table 23.4b I.2 I.4 Cover page I.1 Appendix B 4.1 Section 2 Table 23-4a

HOLD TIMES

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
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LOCATION AND ABILITY TO MEET REQUIREMENTS FOR THE EIGHT (8) HOUR HOLD TIME FOR BACTERIA ANALYSIS

Having a significant presence in Florida, Florida-Spectrum Environmental Services, Inc. specializes in servicing the State of Florida. This geographical arrangement gives FSES the unique capability to collect short hold, urgent and emergency samples from anywhere in the area within a short transport distance of its facilities. Thus, FSES is uniquely capable of processing these types of samples in a timely manner. Our major analytical testing facility resides in Ft. Lauderdale, Florida with Facilities in Ft. Meade, Okeechobee, Lakeland, FL and Garden City, GA that house over 30,000 ft2 of laboratories and offices designed for continued growth and expansion of analytical services. Our fleet of samplers and couriers will accommodate your needs no matter where you are located.

Florida-Spectrum Environmental Services, Inc. maintains three laboratories and one service center in Florida for the Central Florida area to meet short holds and sampling requirements of our clients. Our centers are staffed with field scientists with an average experience of 5-10 years in environmental field services. The staff at these centers provides comprehensive sampling services for most applications. They also provide sample kits and sample pickup. Samples are delivered to the main laboratory by same-day and overnight courier service. Sample handling protocols have been established which prevent breakage and ensure security and continuity in sample custody.

Florida-Spectrum Environmental Services, Inc. will comply with the eight (8) hour hold time for bacteria analysis. Florida-Spectrum Environmental Services, Inc., has the unique capability to pickup/collect the short holds for Palm Beach County Solid Waste Authority since we are only forty-five (45) minutes away. Florida-Spectrum can set up two trips; First trip will be around 12:00 Noon for Micro samples and the second trip will be around 3:00 pm for the rest of the samples.

Florida-Spectrum Environmental Services, Inc. Main Laboratory and Field Service Center Location:

Ft. Lauderdale, Florida
Florida-Spectrum Environmental Services, Inc.
1460 W. McNab Road Ft. Lauderdale, FL 33309
Phone: 1.800.ANALYTE • 954.978.6400
Fax: 954.978.2233

Field Services
Florida-Spectrum Environmental Services, Inc. professional team of scientists and technicians are available for environmental sampling. Field sampling activities follow the applicable collection and quality control protocols and requirements. Equipment includes, but is not limited to, instruments to perform field tests such as pH, temperature, conductivity, turbidity, and dissolved oxygen. Our **sampling** teams are 40-hour OSHA trained and have attended the latest training workshops for the FLDEP and EPA latest sampling techniques. Our technicians have extensive experience in the sampling of groundwater, surface water, drinking water, mixed wastes, solid wastes, hazardous wastes, petroleum products, soils, air, resins and other process wastes. We utilize the most advanced sampling apparatus and techniques to preserve data integrity from the field to the laboratory.

Bottle Kits and Courier Services
Sample bottles, instructions, delivery, and shipping to the project site or customer's office are provided free of charge. We will provide courier service pickup utilizing our field services group dispatched from our **Ft. Lauderdale facility. Florida-Spectrum** will supply the Authority with dedicated coolers, sample bottles, kits and shipping to and from the Authorities facilities. Ensuring sample integrity and sample holding times are met.

EXPERTISE OF DESIGNATED STAFF

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

EXPERTISE OF DESIGNATED STAFF

Florida-Spectrum's approach focuses on the FSES Customer Service Manager, we align the Authority with a single point of contact, which ensures a line of communication to meet your technical and contractual requirements. At Florida-Spectrum Environmental Services, Inc. our business model is centered on the relationship we build with our clients. Good communication develops trusted partnerships, which in turn leads to successful project management. Your Customer Service Manager manages your projects from start to finish. You can call your CSM for bottle kits, status of analytical results, data interpretation, and technical questions. They are committed to delivering the full measure of our expertise and to ensure complete client satisfaction with each service we have to offer.

Florida-Spectrum believes that scientifically sound, legally defensible analytical data is the most critical element for the success of an environmental project. Ensuring a project's data quality objectives are met is Florida-Spectrum's primary goal. We do this by: Providing a superior standard of service, using the latest technology, operating with unwavering commitment to our clients and providing services that follow the entire life cycle of a project from initial planning, to project management and implementation, to reporting of results, to final sample disposal.

Ms. Maria Castellanos will handle these responsibilities for **Solid Waste Authority of Palm Beach County.** In case of the Primary Client Service Manager (Maria Castellanos) absence, the alternative contact shall be Mr. Bobby Supan, Client Service Manager. Upon receipt and login of the samples, Ms. Castellanos will verify all input into the LIMS systems to ensure accuracy of requested analysis, methodology, turnaround and client required detection limits. Her responsibilities include the monitoring of status, review of final data, quality assurance reports, and the delivery of the final report with its associated electronic media. Reports to include quality assurance will be submitted to **Solid Waste Authority of Palm Beach County** within the time frame that has been requested.

Florida – Spectrum Environmental Services, Inc. has a well-established and faithfully followed project management process that ensures timely delivery of data and other receivables, as well as meeting client specifications. The formal project management process begins with the arrival of samples. The client service manager verifies that the information entered into our LIMS system regarding each sample matches the information given on the chain of custody form(s). The client service manager also verifies any needs for a rush analysis, special deliverables, etc., during this time.

The LIMS system then plays a vital role in maintaining the project while the work is conducted in the lab, automatically generating reports for each department that inform them of what samples must be analyzed by which tests and when those test results are due. The client service manager, meanwhile, reviews the progress of the project daily (often multiple times per day), also by generating a report from the LIMS system. When the LIMS system indicates that all data for all samples have been entered, the client service manager then validates the data and generates the final report. Simultaneously, the QAD generates the necessary QA/QC report and reviews it. The data is only considered finalized once both the client service manager and the QAD have agreed that the data are valid and acceptable and have indicated such by signing their respective reports.

Our highly experienced team of quality assurance specialists, chemists, account executives and customer service managers combine to form a unique resource that can be used to provide technical and regulatory guidance and aid developing innovative solutions to today's complex array of environmental requirements. You are also assigned an Account Executive to provide quotations, identify your analytical requirements, and provide additional support as required. They act as a liaison between clients and laboratories to provide technical and logistical support, problem resolution, and complete client satisfaction. They will be available to schedule periodic meetings with the Authority personnel to provide a forum for discussing creative ideas for program improvement.

The efforts of our Team – Customer Service Managers and technical Account Executives – teamed with our field and analytical personnel serve to make **Florida-Spectrum Environmental Services, Inc.** an extension of your environmental team. It is our intent to build trust and value in the business and demonstrate the highest level of integrity and quality in all the actions we take and in the services we deliver. Key members of our staff at these facilities are as follows:

KEY PERSONNEL

Lyle Johnson, President/Laboratory Director
Mr. Johnson has been the lab supervisor of Spectrum Laboratories, Inc. since 1974. He is responsible for overall operation of analytical activities in the Ft. Lauderdale, FL, Fort Meade, FL, Okeechobee, FL and Garden City, GA facilities. He is also President of Florida-Spectrum Environmental Services, Inc., which is the main analytical laboratory. Mr. Johnson responsibilities include technical oversight and administration of all laboratory and field operations and client services. Mr. Johnson, having worked in the environmental laboratory field for over 44 years, has extensive experience in analysis of multiple matrices for organic analytes. He has been instrumental in increasing the efficiency of his departments while retaining the highest level of quality. He holds a Bachelor of Science - Chemistry, from Florida Atlantic University.

Roxana Llambias, QA Director
Ms. Llambias is responsible for the Quality Assurance program at Florida-Spectrum Environmental Services, Inc. She is experienced in the development, implementation and maintenance of quality assurance programs in environmental sampling and analysis operations for both government and private concerns. Ms. Llambias closely monitors all departments to ensure compliance with quality control protocols and laboratory methodologies. She conducts periodic internal audits and investigations, documents protocol deviations and initiates corrective action. Ms. Llambias is also responsible for all data management activities including system updates, archiving and modification. She is very knowledgeable in the analysis of multiple matrices for microbiology, inorganics, metals, organics, and solid parameters. She holds a Bachelor of Science in Biochemistry from the University of Havana.

Maria Castellanos, Client Services Manager/Lab Manager
Ms. Castellanos acts as a liaison between the client and the laboratory personnel in the Ft. Lauderdale facility. She has worked in the environmental laboratory field over 32 years. At Florida-Spectrum Environmental Services, Inc. Ms. Castellanos serves as Lab Manager and Director of Project Management where she is directly responsible for managing the Technical Data Management department. Her current role with Florida-Spectrum Environmental Services, Inc. includes coordinating field service activities; ensuring that the analytical staff has the regulatory and background information necessary to complete projects in an accurate and timely manner; responsibility for communicating technical information to the client and provide other customer support services. She holds a Bachelor of Biology and Chemistry from Florida International University (FIU).

Bobby Supan, Client Services Manager
At Florida-Spectrum Environmental Services, Inc. Mr. Supan serves as a Customer Service Manager where he acts as a liaison between the client and the laboratory personnel in the Ft. Lauderdale facility. He is directly responsible for managing projects, scheduling and prioritization of projects, technical review of data, generation of analytical reports, coordinating field service activities and providing technical support to clients. His role in reviewing and validating laboratory data including Analysis, QAQC, Sample Custody and Field Service data. Generating, reviewing and validating environmental reports. Creating projects. Customer Service including analysis suggestions, report, regulation, scheduling, bottle kit, preservative, holding time, TAT, sampling, quality control and customer complaints in general. Preparing drinking water reports (62-550 & 62-555 F.A.C) and UCMR reports. Performing quantitative analysis of scientific data.

Irena Nutzu, Technical Director Metals Department
Ms. Nutzu is responsible for the management of the Metals Department. With over 26 years of laboratory experience, Ms. Nutzu is very knowledgeable in the analysis of multiple matrices for metals analytes. Her responsibilities include overseeing the operations of the metals department to include scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Chemistry, from the University of Bucharest, Romania.

Sophia Andre, Technical Director General Chemistry/ Department
Ms. Andre is responsible for the management of the General Chemistry Department. Ms. Andre is very knowledgeable in the analysis of multiple matrices for inorganic parameters to include metals and general chemistry analytes. Her responsibilities include overseeing the operations of the general chemistry department to include scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Chemistry, from the Florida Atlantic University.

Albert Castellanos, Technical Director Organics Department
Mr. Castellanos is responsible for the management of the Organics Department and its three subdivisions: volatiles, extractions and semi-volatiles. Mr. Castellanos, having worked in the environmental laboratory field for 23 years and has extensive experience in analysis of multiple matrices for organic analytes. He has been instrumental in increasing the efficiency of his departments while retaining the highest level of quality. His responsibilities include successful accomplishment of all project deadlines; review and validation of outgoing data; development of new methods and analytical procedures. He holds a Bachelor of Geology from the University of Miami.

Karina Ramirez, Technical Director Microbiology Department
Ms. Ramirez is responsible for the management of the Microbiology Department. Ms. Ramirez is very knowledgeable in the microbiological samples stemming from environmental matrices including water and soil. Her responsibilities include overseeing the operations of the microbiology department to include scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Biology, from the Florida Atlantic University.

Professional Record
of
Lyle A Johnson
President/Laboratory Director

Education/Training
AA - Broward Community College, FL 1970
B.S. – Chemistry, Florida Atlantic University, FL 1974

Certificates:
Private Pilot # 2102971
Notary Public Florida # DD0453008

Affiliations:
Member of the American Chemical Society
Charter Member of the Florida Society of Environmental Analysts

Awards:
Florida Atlantic University Alumni Association Lifetime Member Award - 1995
U.S. Congressional Order of Merit – 2003

Summary
Mr. Johnson has been the lab supervisor of Spectrum Laboratories, Inc. since 1974. He is responsible for overall operation of analytical activities in the Ft. Lauderdale, FL, Fort Meade, FL, Okeechobee, FL, Lakeland, FL and Garden City, GA facilities. He is also President of Florida-Spectrum Environmental Services, Inc., which is the main analytical laboratory. Mr. Johnson responsibilities include technical oversight and administration of all laboratory and field operations and client services. Mr. Johnson, having worked in the environmental laboratory field for over 44 years, has extensive experience in analysis of multiple matrices for organic analytes. He has been instrumental in increasing the efficiency of his departments while retaining the highest level of quality. He holds a Bachelor of Science - Chemistry, from Florida Atlantic University.

Relevant Experience
- Spectrum Laboratories, Inc. Experience (1974 to Present)
- Florida-Spectrum Environmental Services, Inc. (2006 to Present)
- Mr. Johnson worked as a draftsman for Engineering Science, Inc. in San Diego, California performing duties including preparation of contract plans and standard drawings for a variety of projects involving wastewater treatment facilities, pump stations, reservoirs and chlorination stations. He also worked as a draftsman for Ross, Saarinen, Bolton & Wilder in Ft. Lauderdale, Florida in a similar capacity.

Professional Record
of
Roxana Llambias
QA Director

Education/Training
B.S., BioChemistry, University of Havana, 1999
The NELAC Institute (TNI)

Summary
Ms. Llambias is responsible for the Quality Assurance program at Florida-Spectrum Environmental Services, Inc. She is experienced in the development, implementation and maintenance of quality assurance programs in environmental sampling and analysis operations for both government and private concerns. Ms. Llambias closely monitors all departments to ensure compliance with quality control protocols and laboratory methodologies. She conducts periodic internal audits and investigations, documents protocol deviations and initiates corrective action. Ms. Brice is also responsible for all data management activities including system updates, archiving and modification. She is very knowledgeable in the analysis of multiple matrices for microbiology, inorganics, metals, organics, and solid parameters. She holds a Bachelor of BioChemistry from the University of Havana.

Relevant Experience
- Florida Spectrum Environmental Services (2012 to Present). Ms. Llambias is responsible for the Quality Assurance program at Florida-Spectrum Environmental Services, Inc. Analytical chemist experienced in EPA methods:
  - Inorganics, Metals, Organics, Solids, and Microbiology.
  - Instrumentation: HPLC, IC, GC/MS, Flow Analyzers, Discrete Analyzers, Block Digesters, Distillation Units, Incubators.
- Audit laboratory data, QC samples, lab reports, and procedures.
- Write SOPs, create control charts and quality assurance reports, and keep organized records of laboratory documents.
- Xenco Laboratories ~ Manager of Volatiles Department (2008 – 2012). Collaborate in developing and writing Standards Operating Procedures for Certified analytical test for department.
- Environmental testing of groundwater, surface water, drinking water, mixed wastes, solid wastes, hazardous wastes, petroleum products, soils, air, resins and other process wastes according to methods.(8260B, 624,524.2, 8021, 8015, EPA18, TO-14, method 1311 and 1312).
- Reviewing and reporting data using industrial protocol and company procedures such as LIMS.
- Preparation of standards, internals, surrogates, and sample solutions.
- Analyzing data, interpreting observations and formulating conclusions.
- Keeping and organizing appropriate documentation as required by the company and by the SOP's.
- Training new employees and orienting them to company procedures and culture.
- KSA Environmental Laboratory (2007) ~ Manager of the Volatiles Department, acquiring more experience and knowledge with GC-MS system.
- Manage and coordinate daily's activities and work assignment to Volatiles department.
- Schedule daily assignments to prevent back log of sample analysis and meet quick client turnaround time needs.
- Data review and approval for GC/ MS analysis performed by employees to maintain quality.
- Monitoring quality control, identified problem, find solutions and performed preventive maintenance.
- Training employees to follow EPA, Standards Methods and transitions into NELAC accredited test.
- Analyst in Volatiles Department
- Prepared and analyzed environmental water, soil an air samples according to EPA guidelines for the presences of volatile organic compounds (Methods 8260B, 624, 524.2, TPH-18 and TO14) using gas chromatograph and mass selective detector.

- Interpreted data produced by gas chromatograph and mass selective detector and prepared it for remittance to clients. Performed routine preventive and reparative maintenance on instrumentation.

Professional Record
of
Maria E. Castellanos
Client Services Manager/Lab Manager

Education/Training
B.S. Biological Science-Florida International University, Florida
Microbiology, Biochemistry Major, University of Havana, Cuba

Summary
Ms. Castellanos acts as a liaison between the client and the laboratory personnel in the Ft. Lauderdale facility. She has worked in the environmental laboratory field over 32 years. At Florida-Spectrum Environmental Services, Inc. Ms. Castellanos serves as Lab Manager and Director of Project Management where she is directly responsible for managing the Technical Data Management department. Her current role with Florida-Spectrum Environmental Services, Inc. includes coordinating field service activities; ensuring that the analytical staff has the regulatory and background information necessary to complete projects in an accurate and timely manner; responsibility for communicating technical information to the client and provide other customer support services. She holds a Bachelor of Biology from Florida International University (FIU).

Relevant Experience

- Florida-Spectrum Environmental Services, Inc., Fort Lauderdale, FL, Laboratory & Customer Service Manager, (2005 to Present). Responsible for the day to day laboratory operations including supervision of both laboratory & support staff. Extensive experience in scheduling and project management
- Severn Trent Laboratories (former Precision Environmental Laboratory), Miramar, FL - Operations Manager, (2000 to 2004). Responsible for the day to day laboratory operations including supervision of both professional and support personnel. Extensive experience in scheduling and project management.
- Precision Environmental Laboratory, Miramar, FL, Organics Department Supervisor, (1993 to 2000). Working Supervisor in charge of the overall operation of the department including production flow, report review, and Quality Assurance, Experienced on GC/MS operation and troubleshooting: fully knowledgeable of EPA protocols and regulations.
- Enviropact, Inc. Miami, FL, GS/MS Supervisor, (1985 to 1992). Responsible for the scheduling and follow-up of all semi volatile analysis for the Organic Chemistry section as well as a supervision of personnel. Extensive experience with trace analysis of ground and drinking waters, soils and waste by GC and GC/MS following EPA methodologies. Responsible for interpretation of data and generation of QA/QC reports.

National Institute of Scientific Investigation, Havana, Cuba. Microbiologist, (1980 to 1983). Responsible for the isolation of bacteria and fungi on sugar cane and leguminous plants; further cultivation and classification.

Professional Record
of
Irena M. Nutzu
Metals Department Manager

Education/Training
University of Chemistry, Burharest, 1982-1986
English and Romanian

Summary
Ms. Nutzu is responsible for the management of the Metals Department. With over 26 years of laboratory experience, Ms. Nutzu is very knowledgeable in the analysis of multiple matrices for metals analytes. Her responsibilities include overseeing the operations of the metals department to include: scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Chemistry, from the University of Bucharest, Romania.

Relevant Experience
- 1986-2000 in Romania, High School Chemistry Teacher
- 1986-1990 in Romania, High School Nr. 3 in Miercurea Ciuc
- 1990-2000 in Romania, High School Nr. 1 in Ploiesti High School Director 1999-2000
- August 2000- 2001- worked full time as teacher at Tutor time Child Care in Deerfield Beach, FL.
- 2007-Present – Florida Spectrum Environmental Services, Inc. (Metals Department Supervisor)
- Duties include the management and direction of analysts and technicians to maximize productivity. Perform ICP analysis. Responsible for the coordination of priority projects and evaluation of data. Responsible for the metal preparation, Mercury, TCLP, and ICP analyses.
- Ms. Nutzu is very knowledgeable in the analysis of multiple matrices for trace metals parameters. Her responsibilities include overseeing the operations of the metals department to include: training and management of metals staff, technical support, scheduling, and review of outgoing data and maintenance of equipment.

Professional Record
of
Sophia Andre
General Chemistry Department Manager

Education/Training
Florida Atlantic University
Bachelor of Chemistry

Summary
Ms. Andre is responsible for the management of the General Chemistry Department. Ms. Andre is very knowledgeable in the analysis of multiple matrices for inorganic parameters to include metals and general chemistry analytes. Her responsibilities include overseeing the operations of the general chemistry department to include: scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Chemistry, from the Florida Atlantic University.

Relevant Experience
- Florida-Spectrum Environmental, Inc. – General Chemistry Technical Director, (2014 – Present)
- Conducts analytical testing on a variety of instrumentation including Ion Chromatography, Lachat.
- Perform Chemical analysis on environmental samples including TKN, TP, NH3, NOX, Nitrate-Nitrite, Cyanide, Hexavalent Chromium, Ortho Phosphate.
- Perform manual tests such as odor, color, pH, conductivity and turbidity.
- Performs detailed preparation and experimentation steps.
- Operates and adjusts varied equipment for purposes such as performing the full range of standardized operations.
- Analyze and work up samples from introduction of task to final reporting of data.
- Conducts routine maintenance of instrumentation.
- Promotes cooperation and teamwork among staff.
- Follows Florida-Spectrum Environmental Services, Inc. Policies and Standard Operating Procedures
- Carry's out overall supervision of department's day-to-day operations.
- Scheduled work for department's staff, ensure that department meets project deadlines, and ensure compliance with QA protocols.
- Communicate with other levels of management through the solving of both technical and administrative questions.

Professional Record
of
Alberto Castellanos
Organics Department Manager

Education/Training
University of Miami 1983 B-9
Major in Geology; Minor Chemistry
(Over 30 credits combined Chemistry and Geochemistry Courses with lab)

Summary
Mr. Castellanos is responsible for the management of the Organics Department and its three subdivisions: volatiles, extractions and semi-volatiles. Mr. Castellanos, having worked in the environmental laboratory field for 23 years and has extensive experience in analysis of multiple matrices for organic analytes. He has been instrumental in increasing the efficiency of his departments while retaining the highest level of quality. His responsibilities include successful accomplishment of all project deadlines; review and validation of outgoing data; development of new methods and analytical procedures. He holds a Bachelor of Geology from the University of Miami.

Relevant Experience
- Florida-Spectrum Environmental, Inc. - Organic Technical Director, (1989 – Present)
- Analysis of Semi Volatiles under NELAP certification in water, waste and drinking water matrices by the following EPA methods: 609, 8081, 8082, 8151, 624, 8270, FLPRO, 504.1, 508, 515.3, 525.2, 531, 548, 551.1, and 552.2.
- Analysis of Volatile Organics under NELAP Certification in water, drinking water, soils, and waste matrix by EPA methods 624, 8260, and 524.2
- Software Experience includes but are not limited to RTE-A, (HP1000), HP CHEMSTATION, and a-CHROM.
- Instrumental Exp: HPGC 5890, 6890, MS (598, 5971, 5972, 5973), Tekmar (SC 2000, 2050, 3100), HPLC, HP 1049.
- Detectors: FID, ECD, MS, Fluorescent.
- Extractions: A) Volatiles, 5030 D) Semi Volatiles 3510, 3550, 508, 525.
- SOP Revision, Method Modification.

Professional Record
of
Karina Ramirez
Microbiology Department Manager

Education/Training
Florida Atlantic University
Bachelor of Science, Biology

Summary
Ms. Ramirez is responsible for the management of the Microbiology Department. Ms. Ramirez is very knowledgeable in the microbiological samples stemming from environmental matrices including water and soil. Her responsibilities include overseeing the operations of the microbiology department to include scheduling of a large number of varied analysis, review of outgoing data, successful accomplishment of scheduled deadlines, and maintenance of multiple types of equipment. She holds a Bachelor of Biology, from the Florida Atlantic University.

Relevant Experience
- Florida-Spectrum Environmental, Inc. - Microbiology Technical Director, (2016 – Present)
- Oversee day to day operation for the Microbiology department
- Responsible for the analysis of microbiological samples stemming from environmental matrices including water and soil.
- Perform analyses such as membrane filtration for fecal coliform, Enterococcus, E.coli, total coliform, as well as the use of Colilert as an indicator for the presence of E.Coli and total coliforms and heterotrophic plate counts (HPC), biochemical oxygen demand (BOD), carbonaceous biological oxygen demand (CBOD), as well as screening for Salmonella, Staphylococcus, Pseudomonas, and Legionella to determine water quality of a variety of samples.
- Instruct/teach analysts how to perform microbial tests
- Maintain Quality control/ Quality assurance protocol, as well as Standard Operating Procedures for all tests performed in the Microbiology department
- Ensure all tests are compliant with NELAP protocol
- Consulted with other branches of the company to ensure microbial test were performed correctly and efficiently

Florida-Spectrum Environmental Services, Inc.

PAST PERFORMANCE

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
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FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

PAST PERFORMANCE

Florida-Spectrum has exemplary past performance on programs of similar complexity and scope of work. We have the technical and reporting capabilities in place and ready to support the Authority's requirements.

Broward County Water & Wastewater Operations Division
Florida – Spectrum Environmental Services, Inc. has supported the Broward County WWOD with analytical testing in an overflow capacity. Florida – Spectrum Environmental Services, Inc. analyzes Drinking Water, Groundwater, Wastewater Compliance, Leachate and Sludge for the analysis of volatiles, metals, general chemistry parameters, and TCLP analysis. The contract requires the Department of Health reporting formats and accelerated turnaround times with Level I and Level II quality control data.

City of Homestead
Florida – Spectrum Environmental Services, Inc. has supported the City of Homestead with analytical testing and pickups on a daily basis. Florida – Spectrum Environmental Services, Inc. analyzes there Effluent and Influent water for the analysis of bacteriological samples for monitoring requirements. Florida – Spectrum Environmental Services, Inc. also provides sampling kits, samples pickups, and analysis for the City's Fleet Management Monitoring Wells Annual, Sludge/Biosolids Annual, and Separator's Quarterly Monitoring projects.

One of the major challenges our lab encountered was to maintain our Fort Lauderdale facility open during hurricane Irma on August 2017. The storm threatened to affect all the work-in-process for the clients listed above, since about 74% FPL customers lost electricity in Broward County. However, Florida-Spectrum Environmental Services, Inc. rapidly established a contingency plan, and the laboratory was able to remain operational during the storm, and even received emergency samples from other non-contract Cities and clients.

WP, WS & SOIL PROFICIENCY STUDIES

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
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Certificate # 2427.01

6390 Joyce Drive
100
Golden, CO 80403

Phone 303-940-0033
Fax 866-283-0269
www.phenova.com

Final Report - Water Pollution Proficiency Testing

Study: WP0120

Opening Date: January 6, 2020 - Closing Date: February 20, 2020

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM1-WP) — Lot #: 8207-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	1/27/2020	IN		EPA 200.7	µg/L	520	527	413 - 627	Acceptable
1005	Antimony	1/16/2020	IN		EPA 200.8	µg/L	409	404	327 - 479	Acceptable
1005	Antimony	1/27/2020	IN		EPA 200.7	µg/L	409	402	327 - 479	Acceptable
1010	Arsenic	1/16/2020	IN		EPA 200.8	µg/L	378	379	312 - 439	Acceptable
1010	Arsenic	1/27/2020	IN		EPA 200.7	µg/L	378	379	312 - 439	Acceptable
1015	Barium	1/16/2020	IN		EPA 200.8	µg/L	1680	1680	1430 - 1930	Acceptable
1015	Barium	1/27/2020	IN		EPA 200.7	µg/L	1680	1680	1430 - 1930	Acceptable
1020	Beryllium	1/16/2020	IN		EPA 200.8	µg/L	339	338	288 - 389	Acceptable
1020	Beryllium	1/27/2020	IN		EPA 200.7	µg/L	339	341	288 - 389	Acceptable
1025	Boron	1/27/2020	IN		EPA 200.7	µg/L	1150	1140	982 - 1330	Acceptable
1030	Cadmium	1/16/2020	IN		EPA 200.8	µg/L	645	646	548 - 742	Acceptable
1030	Cadmium	1/27/2020	IN		EPA 200.7	µg/L	645	647	548 - 742	Acceptable
1040	Chromium	1/16/2020	IN		EPA 200.8	µg/L	637	635	542 - 733	Acceptable
1040	Chromium	1/27/2020	IN		EPA 200.7	µg/L	637	637	542 - 733	Acceptable
1050	Cobalt	1/16/2020	IN		EPA 200.8	µg/L	693	686	589 - 797	Acceptable
1050	Cobalt	1/27/2020	IN		EPA 200.7	µg/L	693	687	589 - 797	Acceptable
1055	Copper	1/16/2020	IN		EPA 200.8	µg/L	716	711	608 - 823	Acceptable
1055	Copper	1/27/2020	IN		EPA 200.7	µg/L	716	710	608 - 823	Acceptable
1070	Iron	1/27/2020	IN		EPA 200.7	µg/L	296	299	251 - 340	Acceptable
1075	Lead	1/16/2020	IN		EPA 200.8	µg/L	1330	1340	1130 - 1530	Acceptable
1075	Lead	1/27/2020	IN		EPA 200.7	µg/L	1330	1340	1130 - 1530	Acceptable
1090	Manganese	1/16/2020	IN		EPA 200.8	µg/L	1190	1190	1010 - 1370	Acceptable
1090	Manganese	1/27/2020	IN		EPA 200.7	µg/L	1190	1190	1010 - 1370	Acceptable
1100	Molybdenum	1/16/2020	IN		EPA 200.8	µg/L	226	225	192 - 258	Acceptable
1100	Molybdenum	1/27/2020	IN		EPA 200.7	µg/L	226	224	192 - 258	Acceptable
1105	Nickel	1/16/2020	IN		EPA 200.8	µg/L	1740	1750	1540 - 1940	Acceptable
1105	Nickel	1/27/2020	IN		EPA 200.7	µg/L	1740	1750	1540 - 1940	Acceptable
1140	Selenium	1/16/2020	IN		EPA 200.8	µg/L	875	871	744 - 1010	Acceptable
1140	Selenium	1/27/2020	IN		EPA 200.7	µg/L	875	871	744 - 1010	Acceptable

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Study: WP0120

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Trace Metals 1 (PT-TM1-WP) cont'd — Lot #: 8207-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1150	Silver	1/16/2020	IN		EPA 200.8	µg/L	307	314	261 - 353	Acceptable
1150	Silver	1/27/2020	IN		EPA 200.7	µg/L	307	312	261 - 353	Acceptable
1160	Strontium	1/16/2020	IN		EPA 200.8	µg/L	122	120	104 - 141	Acceptable
1160	Strontium	1/27/2020	IN		EPA 200.7	µg/L	122	120	104 - 141	Acceptable
1165	Thallium	1/16/2020	IN		EPA 200.8	µg/L	357	363	289 - 417	Acceptable
1165	Thallium	1/27/2020	IN		EPA 200.7	µg/L	357	363	289 - 417	Acceptable
1185	Vanadium	1/16/2020	IN		EPA 200.8	µg/L	1390	1390	1180 - 1600	Acceptable
1185	Vanadium	1/27/2020	IN		EPA 200.7	µg/L	1390	1400	1180 - 1600	Acceptable
1190	Zinc	1/16/2020	IN		EPA 200.8	µg/L	539	544	458 - 620	Acceptable
1190	Zinc	1/27/2020	IN		EPA 200.7	µg/L	539	547	458 - 620	Acceptable

Mercury (PT-HG-WP) — Lot #: 8207-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1095	Mercury	1/22/2020	EN		EPA 245.1	µg/L	27.0	25.9	18.9 - 35.0	Acceptable
1095	Mercury	1/28/2020	EN		EPA 7470	µg/L	27.0	25.4	18.9 - 35.0	Acceptable
1095	Mercury	1/22/2020	MAZ		EPA 200.8	µg/L	27.0	26.1	18.9 - 35.0	Acceptable

Tin and Titanium (PT-SNTI-WP) — Lot #: 8207-38

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1175	Tin	2/3/2020	IN		EPA 200.7	µg/L	1510	1450	1060 - 1960	Acceptable
1180	Titanium	1/27/2020	IN		EPA 200.7	µg/L	237	243	201 - 272	Acceptable

Chromium VI (PT-CR6-WP) — Lot #: 8207-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1045	Chromium VI	1/24/2020	AR		SM 3500-Cr B	µg/L	143	141	116 - 170	Acceptable

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Demand (PT-DEM-WP) — Lot #: 8207-07

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1530	BOD	2/4/2020	KR		SM 5210B	mg/L	146	125	74.9 - 243	Acceptable
1555	CBOD	2/4/2020	KR		SM 5210B	mg/L	146	104	58.9 - 243	Acceptable
1565	COD	1/30/2020	OC		EPA 410.4	mg/L	226	215	183 - 260	Acceptable
2040	TOC	2/11/2020	SA		SM 5310C	mg/L	89.1	95.7	74.9 - 102	Acceptable

Minerals 1 (PT-MIN1-WP) — Lot #: 8207-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1505	Total Alkalinity(as CaCO3)	1/24/2020	AR		SM 2320B	mg/L	121	121	103 - 140	Acceptable
1505	Total Alkalinity(as CaCO3)	1/22/2020	SA		EPA 310.2	mg/L	121	134	103 - 140	Acceptable
1540	Bromide	1/22/2020	OC		EPA 300.0	mg/L	6.09	6.73	5.10 - 7.11	Acceptable
1575	Chloride	1/22/2020	OC		EPA 300.0	mg/L	199	197	176 - 223	Acceptable
1575	Chloride	2/1/2020	OC		SM 4500-Cl E	mg/L	199	208	176 - 223	Acceptable
1575	Chloride	1/17/2020	SA		SM 4500 Cl-B	mg/L	199	202	176 - 223	Acceptable
1730	Fluoride	1/22/2020	OC		EPA 300.0	mg/L	3.07	2.62	2.48 - 3.54	Acceptable
2000	Sulfate	1/22/2020	OC		EPA 300.0	mg/L	84.6	86.3	70.4 - 96.4	Acceptable
2000	Sulfate	2/7/2020	SA		EPA 375.4	mg/L	84.6	85.0	70.4 - 96.4	Acceptable
Additional State Specific Analytes										
1813	Total Inorganic Carbon					mg/L	29.0		23.2 - 34.8	NR

Minerals 2 - Hardness (PT-MIN2-WP) — Lot #: 8207-102

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1035	Calcium	1/27/2020	IN		EPA 200.7	mg/L	11.6	11.8	9.84 - 13.3	Acceptable
1550	Calcium Hardness (as CaCO3)	1/27/2020	IN		EPA 200.7	mg/L	28.9	29.5	24.6 - 33.3	Acceptable
1755	Total Hardness (as CaCO3)	1/27/2020	IN		EPA 200.7	mg/L	109	110	92.3 - 125	Acceptable
1085	Magnesium	1/27/2020	IN		EPA 200.7	mg/L	19.4	19.6	16.4 - 22.3	Acceptable
1125	Potassium	1/27/2020	IN		EPA 200.7	mg/L	36.1	36.1	28.9 - 43.3	Acceptable
1155	Sodium	1/27/2020	IN		EPA 200.7	mg/L	34.0	33.2	27.2 - 40.8	Acceptable

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Specific Conductance (PT-COND-WP) — Lot #: 8207-72

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance (25°C)	1/24/2020	OC		EPA 120.1	µmhos/cm	691	709	622 - 761	Acceptable

Solids (PT-SOL-WP) — Lot #: 8207-09B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1955	Total Dissolved Solids at 180° (TFR)	1/13/2020	DAB		SM 2540C	mg/L	192	200	147 - 237	Acceptable
1960	Non-Filterable Residue (TSS)	1/10/2020	DAB		SM 2540D	mg/L	83.0	74.5	67.9 - 92.4	Acceptable
1950	Total Solids	1/14/2020	DAB		SM 2540B	mg/L	275	276	230 - 320	Acceptable

Nutrients 1 - Simple (PT-NUT1-WP) — Lot #: 8207-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	1/30/2020	EP		EPA 350.1	mg/L	11.0	10.0	8.75 - 13.1	Acceptable
1810	Nitrate as N	1/30/2020	OC		EPA 300.0	mg/L	5.44	5.31	4.40 - 6.44	Acceptable
1810	Nitrate as N	2/7/2020	OC		SM 4500-NO3 F	mg/L	5.44	5.24	4.40 - 6.44	Acceptable
1820	Nitrate and Nitrite as N	1/30/2020	OC		EPA 300.0	mg/L	5.44	5.31	4.46 - 6.36	Acceptable
1820	Nitrate and Nitrite as N	1/31/2020	OC		SM 4500-NO3 F	mg/L	5.44	5.24	4.46 - 6.36	Acceptable
1870	Orthophosphate as P	1/30/2020	OC		EPA 300.0	mg/L	0.760	0.830	0.646 - 0.874	Acceptable
1870	Orthophosphate as P	1/31/2020	OC		SM 4500-P F	mg/L	0.760	0.751	0.646 - 0.874	Acceptable
Additional State Specific Analytes										
1712	Total Dissolved Phosphorus					mg/L	0.760		0.646 - 0.874	NR
1647	Dissolved Nitrogen					mg/L	16.4		13.7 - 19.0	NR
1827	Total Nitrogen					mg/L	16.4		13.7 - 19.0	NR

Nutrients 2 - Complex (PT-NUT2-WP) — Lot #: 8207-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1795	Total Kjeldahl Nitrogen (TKN)	1/28/2020	EP		EPA 351.2	mg/L	14.4	12.7	10.7 - 17.7	Acceptable
1910	Total Phosphorous	1/28/2020	EP		EPA 365.4	mg/L	2.31	2.32	1.88 - 2.73	Acceptable
1910	Total Phosphorous	1/27/2020	EP		SM 4500-P F	mg/L	2.31	2.27	1.88 - 2.73	Acceptable

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Nutrients 3 - Nitrite (PT-NUT3-WP) — Lot #: 8207-69

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1840	Nitrite as N	1/6/2020	OC		EPA 300.0	mg/L	3.10	3.40	2.68 - 3.53	Acceptable
1840	Nitrite as N	2/8/2020	OC		SM 4500-NO2-B	mg/L	3.10	3.18	2.68 - 3.53	Acceptable
1840	Nitrite as N	2/7/2020	OC		SM 4500-NO3 F	mg/L	3.10	3.10	2.68 - 3.53	Acceptable

Oil & Grease (PT-OGR-WP) — Lot #: 8207-111

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	2/7/2020	AR		EPA 1664A	mg/L	61.3	56.8	40.9 - 73.4	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/L	74.7		51.4 - 88.3	NR

pH (PT-PH-WP) — Lot #: 8207-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1900	pH	1/22/2020	AR		SM 4500-H+-B	S.U.	7.13	7.16	6.93 - 7.33	Acceptable

Total Cyanide (PT-CN-WP) — Lot #: 8207-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Total Cyanide	1/29/2020	SA		EPA 335.4	mg/L	0.148	0.176	0.0961 - 0.200	Acceptable

Phenolics (PT-PHEN-WP) — Lot #: 8207-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1905	Total Phenolics (4AAP)	2/18/2020	SA		EPA 420.4	mg/L	3.00	1.55	0.989 - 3.30	Acceptable

Sulfide (PT-S2-WP) — Lot #: 8207-22

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2005	Sulfide	2/10/2020	AR		SM 4500-S D	mg/L	5.00	3.56	2.05 - 7.35	Acceptable

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Surfactants (PT-MBAS-WP) — Lot #: 8207-23B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2025	Surfactants - MBAS	1/23/2020	SA		SM 5540C	mg/L	0.641	0.664	0.393 - 0.930	Acceptable

TPH (PT-TPH-WP) — Lot #: 8207-114

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1853	Total Petroleum Hydrocarbons (TPH)	2/6/2020	AR		EPA 1664A	mg/L	141	126	67.1 - 203	Acceptable

Volatile Solids (PT-VSOL-WP) — Lot #: 8207-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1970	Volatile Solids	2/19/2020	DAB		SM 2540E	mg/L	495	480	401 - 545	Acceptable

Turbidity (PT-TURB-WP) — Lot #: 8207-20

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2055	Turbidity	1/21/2020	AR		EPA 180.1	NTU	7.55	7.70	6.00 - 9.09	Acceptable

Silica (PT-SIO2-WP) — Lot #: 8207-21

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1990	Silica as SiO2	2/13/2020	SA		SM 4500-SiO2 C	mg/L	180	185	135 - 225	Acceptable

Color (PT-COL-WP) — Lot #: 8207-51

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1605	Color	1/23/2020	AR		SM 2120B	CU	70.0	50.0	51.9 - 81.9	Not Acceptable

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Cyanide, Amenable (PT-CNA-WP) — Lot #: 8207-83

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes										
1510	Amenable cyanide	2/7/2020	SA		SM 4500-CN-G	mg/L	0.174	0.253	0.113 - 0.235	Not Acceptable

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Volatiles (PT-VOA-WP) — Lot #: 8207-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	2/11/2020	JF		EPA 8260	µg/L	101	102	26.4 - 160	Acceptable
4375	Benzene	2/11/2020	JF		EPA 8260	µg/L	46.1	39.8	32.2 - 59.9	Acceptable
4395	Bromodichloromethane	2/11/2020	JF		EPA 8260	µg/L	<6	<6.00		Acceptable
4400	Bromoform	2/11/2020	JF		EPA 8260	µg/L	48.6	50.6	29.2 - 68.1	Acceptable
4950	Bromomethane	2/11/2020	JF		EPA 8260	µg/L	40.0	28.9	16.0 - 64.0	Acceptable
4455	Carbon tetrachloride	2/11/2020	JF		EPA 8260	µg/L	<7.7	<7.70		Acceptable
4475	Chlorobenzene	2/11/2020	JF		EPA 8260	µg/L	<7.0	<7.00		Acceptable
4485	Chloroethane	2/11/2020	JF		EPA 8260	µg/L	47.9	44.1	19.2 - 76.7	Acceptable
4505	Chloroform	2/11/2020	JF		EPA 8260	µg/L	27.2	24.4	19.1 - 35.4	Acceptable
4960	Chloromethane	2/11/2020	JF		EPA 8260	µg/L	<8	<8.00		Acceptable
4575	Dibromochloromethane	2/11/2020	JF		EPA 8260	µg/L	<6.0	<6.00		Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	2/11/2020	JF		EPA 8260	µg/L	70.9	61.0	42.5 - 99.2	Acceptable
4585	1,2-Dibromoethane (EDB)	2/11/2020	JF		EPA 8260	µg/L	94.3	88.2	61.3 - 127	Acceptable
4595	Dibromomethane	2/11/2020	JF		EPA 8260	µg/L	31.0	27.2	20.1 - 41.8	Acceptable
4610	1,2 Dichlorobenzene	2/11/2020	JF		EPA 8260	µg/L	71.4	58.7	50.0 - 92.8	Acceptable
4615	1,3 Dichlorobenzene	2/11/2020	JF		EPA 8260	µg/L	31.3	22.6	21.9 - 40.7	Acceptable
4620	1,4 Dichlorobenzene	2/11/2020	JF		EPA 8260	µg/L	36.5	27.2	25.6 - 47.5	Acceptable
4630	1,1-Dichloroethane	2/11/2020	JF		EPA 8260	µg/L	14.1	11.6	9.05 - 19.6	Acceptable
4635	1,2 Dichloroethane	2/11/2020	JF		EPA 8260	µg/L	120	113	84.9 - 153	Acceptable
4640	1,1-Dichloroethene	2/11/2020	JF		EPA 8260	µg/L	<6.2	<6.20		Acceptable
4645	cis-1,2-Dichloroethene	2/11/2020	JF		EPA 8260	µg/L	<7.0	<7.00		Acceptable
4700	trans-1,2-Dichloroethene	2/11/2020	JF		EPA 8260	µg/L	56.2	56.0	33.7 - 78.6	Acceptable
4655	1,2-Dichloropropane	2/11/2020	JF		EPA 8260	µg/L	24.4	21.2	17.1 - 31.7	Acceptable
4680	cis-1,3-Dichloropropene	2/11/2020	JF		EPA 8260	µg/L	<6.5	<6.50		Acceptable
4685	trans-1,3-Dichloropropene	2/11/2020	JF		EPA 8260	µg/L	<6.5	<6.50		Acceptable
4765	Ethylbenzene	2/11/2020	JF		EPA 8260	µg/L	<7	<7.00		Acceptable
4835	Hexachlorobutadiene	2/11/2020	JF		EPA 8260	µg/L	125	62.9	14.9 - 147	Acceptable
4840	Hexachloroethane					µg/L	<3.3			NR
4860	2-Hexanone	2/11/2020	JF		EPA 8260	µg/L	<4.4	<4.40		Acceptable

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Volatiles (PT-VOA-WP) cont'd — Lot #: 8207-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4975	Methylene Chloride	2/11/2020	JF		EPA 8260	µg/L	76.5	79.6	45.9 - 107	Acceptable
6385	2-Methylnaphthalene					µg/L	<2.0			NR
4995	4-Methyl-2-pentanone (MIBK)	2/11/2020	JF		EPA 8260	µg/L	181	188	117 - 243	Acceptable
5000	Methyl tert-butyl ether (MTBE)	2/11/2020	JF		EPA 8260	µg/L	27.0	27.4	17.4 - 37.2	Acceptable
5005	Naphthalene	2/11/2020	JF		EPA 8260	µg/L	112	91.8	52.9 - 147	Acceptable
5015	Nitrobenzene					µg/L	<6.2			NR
5100	Styrene	2/11/2020	JF		EPA 8260	µg/L	58.6	48.8	38.1 - 79.1	Acceptable
5105	1,1,1,2-Tetrachloroethane	2/11/2020	JF		EPA 8260	µg/L	78.2	72.2	50.8 - 106	Acceptable
5110	1,1,2,2-Tetrachloroethane	2/11/2020	JF		EPA 8260	µg/L	50.9	49.8	33.1 - 68.8	Acceptable
5115	Tetrachloroethene	2/11/2020	JF		EPA 8260	µg/L	126	59.2	71.9 - 164	Not Acceptable
5140	Toluene	2/11/2020	JF		EPA 8260	µg/L	94.5	81.0	66.1 - 123	Acceptable
5155	1,2,4-Trichlorobenzene	2/11/2020	JF		EPA 8260	µg/L	47.7	34.5	19.8 - 65.0	Acceptable
5160	1,1,1-Trichloroethane	2/11/2020	JF		EPA 8260	µg/L	70.0	52.7	42.0 - 98.0	Acceptable
5165	1,1,2-Trichloroethane	2/11/2020	JF		EPA 8260	µg/L	42.2	39.2	29.5 - 54.8	Acceptable
5170	Trichloroethene	2/11/2020	JF		EPA 8260	µg/L	61.9	43.8	39.3 - 80.9	Acceptable
5175	Trichlorofluoromethane	2/11/2020	JF		EPA 8260	µg/L	<8	<8.00		Acceptable
5180	1,2,3-Trichloropropane	2/11/2020	JF		EPA 8260	µg/L	61.9	58.5	27.5 - 93.8	Acceptable
5210	1,2,4-Trimethylbenzene	2/11/2020	JF		EPA 8260	µg/L	41.3	23.9	26.8 - 55.7	Not Acceptable
5215	1,3,5-Trimethylbenzene	2/11/2020	JF		EPA 8260	µg/L	<6.5	<6.50		Acceptable
5235	Vinyl chloride	2/11/2020	JF		EPA 8260	µg/L	<8	<8.00		Acceptable
5240	m+p-Xylene	2/11/2020	JF		EPA 8260	µg/L	33.6	24.2	20.2 - 47.1	Acceptable
5250	o-Xylene	2/11/2020	JF		EPA 8260	µg/L	45.5	37.7	27.3 - 63.7	Acceptable
5260	Xylenes, total	2/11/2020	JF		EPA 8260	µg/L	79.1	61.9	47.5 - 111	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	2/11/2020	JF		EPA 8260	µg/L	<5	<0.698		Acceptable
4325	Acrolein	2/11/2020	JF		EPA 8260	µg/L	<5	<5.38		Acceptable
4340	Acrylonitrile	2/11/2020	JF		EPA 8260	µg/L	<5	<1.03		Acceptable
4385	Bromobenzene	2/11/2020	JF		EPA 8260	µg/L	<10	<1.25		Acceptable
4390	Bromochloromethane	2/11/2020	JF		EPA 8260	µg/L	<5	<0.564		Acceptable

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USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-WP) cont'd — Lot #: 8207-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4410	2-Butanone (MEK)	2/11/2020	JF		EPA 8260	µg/L	167	182	16.7 - 335	Acceptable
4435	n-Butylbenzene	2/11/2020	JF		EPA 8260	µg/L	<10	<0.936		Acceptable
4440	sec-Butylbenzene	2/11/2020	JF		EPA 8260	µg/L	<10	<0.868		Acceptable
4445	tert-Butylbenzene	2/11/2020	JF		EPA 8260	µg/L	<10	<1.38		Acceptable
4450	Carbon disulfide	2/11/2020	JF		EPA 8260	µg/L	<5	<0.500		Acceptable
4500	2-Chloroethylvinylether	2/11/2020	JF		EPA 8260	µg/L	<5	<6.66		Acceptable
4535	2-Chlorotoluene	2/11/2020	JF		EPA 8260	µg/L	<5	<0.602		Acceptable
4540	4-Chlorotoluene	2/11/2020	JF		EPA 8260	µg/L	<10	<1.30		Acceptable
4625	Dichlorodifluoromethane	2/11/2020	JF		EPA 8260	µg/L	<5	<0.654		Acceptable
4627	Dichlorofluoromethane					µg/L	<5			NR
4660	1,3-Dichloropropane	2/11/2020	JF		EPA 8260	µg/L	<10	<1.15		Acceptable
4665	2,2-Dichloropropane	2/11/2020	JF		EPA 8260	µg/L	<10	<0.822		Acceptable
4670	1,1-Dichloropropene	2/11/2020	JF		EPA 8260	µg/L	<5	<0.674		Acceptable
4900	Isopropylbenzene	2/11/2020	JF		EPA 8260	µg/L	<10	<0.512		Acceptable
4910	p-Isopropyltoluene	2/11/2020	JF		EPA 8260	µg/L	<10	<0.900		Acceptable
5090	n-Propylbenzene	2/11/2020	JF		EPA 8260	µg/L	<10	<1.12		Acceptable
5150	1,2,3-Trichlorobenzene	2/11/2020	JF		EPA 8260	µg/L	<15	<1.17		Acceptable
5225	Vinyl acetate	2/11/2020	JF		EPA 8260	µg/L	<5	<0.654		Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) — Lot #: 8207-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	1/22/2020	YE		EPA 8270	µg/L	50.8	32.0	18.1 - 62.3	Acceptable
5505	Acenaphthylene	1/22/2020	YE		EPA 8270	µg/L	38.9	30.5	13.3 - 48.5	Acceptable
5555	Anthracene	1/22/2020	YE		EPA 8270	µg/L	<3.9	<3.90		Acceptable
5575	Benzo(a)anthracene	1/22/2020	YE		EPA 8270	µg/L	<3.6	<3.60		Acceptable
5585	Benzo(b)fluoranthene	1/22/2020	YE		EPA 8270	µg/L	<7.5	<7.50		Acceptable
5600	Benzo(k)fluoranthene	1/22/2020	YE		EPA 8270	µg/L	<7.7	<7.70		Acceptable
5590	Benzo(g,h,i)perylene	1/22/2020	YE		EPA 8270	µg/L	38.6	34.5	15.4 - 51.5	Acceptable
5580	Benzo(a)pyrene	1/22/2020	YE		EPA 8270	µg/L	<2.4	<2.40		Acceptable
5660	4-Bromophenyl-phenylether	1/22/2020	YE		EPA 8270	µg/L	160	127	66.2 - 199	Acceptable
5670	Butyl benzyl phthalate	1/22/2020	YE		EPA 8270	µg/L	127	102	37.7 - 173	Acceptable
5760	bis(2-Chloroethoxy)methane	1/22/2020	YE		EPA 8270	µg/L	50.4	35.2	16.1 - 61.6	Acceptable
5765	bis(2-Chloroethyl)ether	1/22/2020	YE		EPA 8270	µg/L	56.7	29.0	15.1 - 70.0	Acceptable
5795	2-Chloronaphthalene	1/22/2020	YE		EPA 8270	µg/L	142	93.9	38.8 - 167	Acceptable
5825	4-Chlorophenyl-phenylether	1/22/2020	YE		EPA 8270	µg/L	49.3	35.4	19.9 - 63.2	Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	1/22/2020	YE		EPA 8270	µg/L	183	104	54.9 - 216	Acceptable
5855	Chrysene	1/22/2020	YE		EPA 8270	µg/L	99.6	84.5	42.8 - 125	Acceptable
5895	Dibenzo(a,h)anthracene	1/22/2020	YE		EPA 8270	µg/L	53.1	43.2	18.8 - 71.8	Acceptable
5905	Dibenzofuran	1/22/2020	YE		EPA 8270	µg/L	67.1	53.9	25.9 - 79.0	Acceptable
5925	Di-n-butylphthalate	1/22/2020	YE		EPA 8270	µg/L	144	108	50.4 - 184	Acceptable
4610	1,2-Dichlorobenzene	1/22/2020	YE		EPA 8270	µg/L	49.3	25.4	4.93 - 61.2	Acceptable
4615	1,3-Dichlorobenzene	1/22/2020	YE		EPA 8270	µg/L	68.7	31.0	6.87 - 81.5	Acceptable
4620	1,4-Dichlorobenzene	1/22/2020	YE		EPA 8270	µg/L	160	73.3	16.0 - 176	Acceptable
6070	Diethyl phthalate	1/22/2020	YE		EPA 8270	µg/L	94.8	73.4	17.0 - 132	Acceptable
6135	Dimethyl phthalate	1/22/2020	YE		EPA 8270	µg/L	137	105	13.7 - 197	Acceptable
6185	2,4-Dinitrotoluene	1/22/2020	YE		EPA 8270	µg/L	<4.5	<4.50		Acceptable
6190	2,6-Dinitrotoluene	1/22/2020	YE		EPA 8270	µg/L	160	137	64.9 - 192	Acceptable
6200	Di-n-octylphthalate	1/22/2020	YE		EPA 8270	µg/L	171	135	50.7 - 235	Acceptable
6065	bis(2-ethylhexyl) phthalate	1/22/2020	YE		EPA 8270	µg/L	177	138	62.1 - 228	Acceptable
6265	Fluoranthene	1/22/2020	YE		EPA 8270	µg/L	<15.6	<15.6		Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) cont'd — Lot #: 8207-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6270	Fluorene	1/22/2020	YE		EPA 8270	µg/L	68.4	54.2	28.9 - 82.9	Acceptable
6275	Hexachlorobenzene	1/22/2020	YE		EPA 8270	µg/L	<8.8	<8.80		Acceptable
4835	Hexachlorobutadiene	1/22/2020	YE		EPA 8270	µg/L	<4.3	<4.30		Acceptable
6285	Hexachlorocyclopentadiene	1/22/2020	YE		EPA 8270	µg/L	162	79.5	16.2 - 209	Acceptable
4840	Hexachloroethane	1/22/2020	YE		EPA 8270	µg/L	163	71.4	16.3 - 180	Acceptable
6315	Indeno(1,2,3-cd)pyrene	1/22/2020	YE		EPA 8270	µg/L	45.2	40.5	13.5 - 60.9	Acceptable
6320	Isophorone	1/22/2020	YE		EPA 8270	µg/L	80.7	67.0	29.4 - 101	Acceptable
6385	2-Methylnaphthalene	1/22/2020	YE		EPA 8270	µg/L	<2.0	<2.00		Acceptable
5005	Naphthalene	1/22/2020	YE		EPA 8270	µg/L	31.9	18.2	7.41 - 42.8	Acceptable
5015	Nitrobenzene	1/22/2020	YE		EPA 8270	µg/L	161	86.0	52.7 - 189	Acceptable
6530	N-Nitrosodimethylamine	1/22/2020	YE		EPA 8270	µg/L	142	86.5	14.2 - 157	Acceptable
6535	N-Nitrosodiphenylamine	1/22/2020	YE		EPA 8270	µg/L	<5.6	<5.60		Acceptable
6545	N-Nitroso-di-n-propylamine	1/22/2020	YE		EPA 8270	µg/L	140	89.3	45.7 - 176	Acceptable
6615	Phenanthrene	1/22/2020	YE		EPA 8270	µg/L	<4.7	<4.70		Acceptable
6665	Pyrene	1/22/2020	YE		EPA 8270	µg/L	48.8	32.9	20.4 - 64.3	Acceptable
5155	1,2,4-Trichlorobenzene	1/22/2020	YE		EPA 8270	µg/L	66.9	40.5	11.0 - 81.8	Acceptable
Additional State Specific Analytes										
5545	Aniline	1/22/2020	YE		EPA 8270	µg/L	<30	<0.819		Acceptable
5595	Benzidine	1/22/2020	YE		EPA 8270	µg/L	<200	<0.579		Acceptable
5630	Benzyl alcohol	1/22/2020	YE		EPA 8270	µg/L	<50	<1.39		Acceptable
5680	Carbazole	1/22/2020	YE		EPA 8270	µg/L	<10	<0.804		Acceptable
5745	4-Chloroaniline	1/22/2020	YE		EPA 8270	µg/L	<50	<1.36		Acceptable
5790	1-Chloronaphthalene					µg/L	<20			NR
5945	3,3'-Dichlorobenzidine	1/22/2020	YE		EPA 8270	µg/L	<50	<2.02		Acceptable
4735	p-Dioxane					µg/L	<10			NR
6380	1-Methylnaphthalene	1/22/2020	YE		EPA 8270	µg/L	<30	<0.747		Acceptable
6460	2-Nitroaniline	1/22/2020	YE		EPA 8270	µg/L	<10	<1.23		Acceptable
6465	3-Nitroaniline	1/22/2020	YE		EPA 8270	µg/L	<10	<1.50		Acceptable
6470	4-Nitroaniline	1/22/2020	YE		EPA 8270	µg/L	<10	<1.39		Acceptable

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9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) cont'd — Lot #: 8207-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6525	N-Nitrosodiethylamine					µg/L	<30			NR
6590	Pentachlorobenzene					µg/L	<30			NR
5095	Pyridine	1/22/2020	YE		EPA 8270	µg/L	<30	<0.858		Acceptable
6715	1,2,4,5-Tetrachlorobenzene					µg/L	<30			NR
5145	o-Toluidine					µg/L	<30			NR

Acids (PT-ACIDS-WP) — Lot #: 8207-28

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5700	4-Chloro-3-methylphenol	1/21/2020	YE		EPA 8270	µg/L	54.8	51.9	21.0 - 67.9	Acceptable
5800	2-Chlorophenol	1/21/2020	YE		EPA 8270	µg/L	54.1	43.5	16.2 - 65.6	Acceptable
6000	2,4-Dichlorophenol	1/21/2020	YE		EPA 8270	µg/L	178	169	57.3 - 211	Acceptable
6005	2,6-Dichlorophenol	1/21/2020	YE		EPA 8270	µg/L	65.7	61.0	22.2 - 84.0	Acceptable
6130	2,4-Dimethylphenol	1/21/2020	YE		EPA 8270	µg/L	168	146	46.4 - 208	Acceptable
6175	2,4-Dinitrophenol	1/21/2020	YE		EPA 8270	µg/L	195	170	19.5 - 256	Acceptable
6360	2-Methyl-4,6-Dinitrophenol	1/21/2020	YE		EPA 8270	µg/L	51.2	80.1	14.5 - 75.8	Not Acceptable
6400	2-Methylphenol	1/21/2020	YE		EPA 8270	µg/L	121	85.5	27.7 - 142	Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	1/21/2020	YE		EPA 8270	µg/L	56.0	41.0	5.60 - 74.8	Acceptable
6490	2-Nitrophenol	1/21/2020	YE		EPA 8270	µg/L	166	169	57.2 - 199	Acceptable
6500	4-Nitrophenol	1/21/2020	YE		EPA 8270	µg/L	<10	<10.0		Acceptable
6625	Phenol	1/21/2020	YE		EPA 8270	µg/L	104	37.4	10.4 - 140	Acceptable
6605	Pentachlorophenol	1/21/2020	YE		EPA 8270	µg/L	98.8	79.0	32.1 - 134	Acceptable
6835	2,4,5-Trichlorophenol	1/21/2020	YE		EPA 8270	µg/L	95.3	75.0	34.9 - 119	Acceptable
6840	2,4,6-Trichlorophenol	1/21/2020	YE		EPA 8270	µg/L	53.2	49.1	20.2 - 65.3	Acceptable
Additional State Specific Analytes										
5610	Benzoic acid					µg/L	<50			NR
6495	3-Nitrophenol					µg/L	<100			NR
6735	2,3,4,6-Tetrachlorophenol	1/21/2020	YE		EPA 8270	µg/L	<50	<1.12		Acceptable

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Pesticides (PT-PEST-WP) — Lot #: 8207-29

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	1/23/2020	AC		EPA 8081	µg/L	4.65	4.32	1.64 - 6.25	Acceptable
7110	alpha-BHC	1/23/2020	AC		EPA 8081	µg/L	14.5	12.8	6.40 - 19.7	Acceptable
7115	beta-BHC	1/23/2020	AC		EPA 8081	µg/L	10.2	9.00	4.82 - 13.7	Acceptable
7105	delta-BHC	1/23/2020	AC		EPA 8081	µg/L	<0.79	<0.790		Acceptable
7120	gamma-BHC (Lindane)	1/23/2020	AC		EPA 8081	µg/L	14.2	12.8	6.26 - 19.4	Acceptable
7240	alpha-Chlordane					µg/L	4.67		2.09 - 6.29	NR
7245	gamma-Chlordane					µg/L	8.45		3.81 - 10.9	NR
7355	4,4'-DDD	1/23/2020	AC		EPA 8081	µg/L	4.30	4.10	1.91 - 6.14	Acceptable
7360	4,4'-DDE	1/23/2020	AC		EPA 8081	µg/L	5.91	4.93	2.55 - 7.99	Acceptable
7365	4,4'-DDT	1/23/2020	AC		EPA 8081	µg/L	3.83	3.19	1.52 - 5.58	Acceptable
7470	Dieldrin	1/23/2020	AC		EPA 8081	µg/L	11.5	10.6	5.89 - 15.2	Acceptable
7510	Endosulfan I	1/23/2020	AC		EPA 8081	µg/L	7.25	6.90	2.71 - 9.78	Acceptable
7515	Endosulfan II	1/23/2020	AC		EPA 8081	µg/L	13.8	13.2	5.74 - 18.6	Acceptable
7520	Endosulfan sulfate	1/23/2020	AC		EPA 8081	µg/L	5.11	5.22	2.31 - 7.70	Acceptable
7540	Endrin	1/23/2020	AC		EPA 8081	µg/L	17.5	15.8	7.71 - 24.7	Acceptable
7530	Endrin aldehyde	1/23/2020	AC		EPA 8081	µg/L	17.7	14.6	6.72 - 24.6	Acceptable
7535	Endrin ketone	1/23/2020	AC		EPA 8081	µg/L	16.5	12.4	8.93 - 21.3	Acceptable
7685	Heptachlor	1/23/2020	AC		EPA 8081	µg/L	7.17	7.00	2.56 - 9.67	Acceptable
7690	Heptachlor Epoxide (beta)	1/23/2020	AC		EPA 8081	µg/L	2.22	2.32	1.07 - 3.02	Acceptable
7810	Methoxychlor	1/23/2020	AC		EPA 8081	µg/L	10.8	9.07	4.70 - 15.6	Acceptable

Chlordane (PT-CHLR-WP) — Lot #: 8207-30

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane (total)	1/23/2020	AC		EPA 8081	µg/L	7.75	7.50	3.31 - 10.7	Acceptable

Toxaphene (PT-TXP-WP) — Lot #: 8207-31

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene (total)	1/23/2020	AC		EPA 8081	µg/L	78.4	71.7	16.9 - 114	Acceptable

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PCBs in Water (PT-PCBW-WP) — Lot #: 8207-32

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	1/23/2020	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8885	Aroclor 1221	1/23/2020	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8890	Aroclor 1232	1/23/2020	AC		EPA 8082	µg/L	3.70	3.33	1.40 - 5.16	Acceptable
8895	Aroclor 1242	1/23/2020	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8900	Aroclor 1248	1/23/2020	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8905	Aroclor 1254	1/23/2020	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8910	Aroclor 1260	1/23/2020	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable

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Herbicides (PT-HERB-WP) — Lot #: 8207-36

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	1/16/2020	AC		EPA 8151	µg/L	7.19	4.93	0.719 - 11.1	Acceptable
8595	Dicamba	1/16/2020	AC		EPA 8151	µg/L	8.26	5.64	1.98 - 11.5	Acceptable
8655	2,4,5-T	1/16/2020	AC		EPA 8151	µg/L	4.52	3.40	0.900 - 6.73	Acceptable
8650	2,4,5-TP (Silvex)	1/16/2020	AC		EPA 8151	µg/L	6.05	3.23	1.43 - 8.97	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	1/16/2020	AC		EPA 8151	µg/L	4.97	2.27	1.24 - 8.70	Acceptable
8530	Bentazon	1/16/2020	AC		EPA 8151	µg/L	8.47	5.26	0.847 - 12.7	Acceptable
7135	Brominal (Bromoxynil)					µg/L	<2			NR
8540	Chloramben	1/16/2020	AC		EPA 8151	µg/L	4.99	1.97	0.499 - 7.49	Acceptable
8560	2,4-DB	1/16/2020	AC		EPA 8151	µg/L	8.67	3.08	2.17 - 15.2	Acceptable
8605	2,4-DP (Dichlorprop)	1/16/2020	AC		EPA 8151	µg/L	4.58	3.05	0.458 - 6.88	Acceptable
8550	Dacthal (DCPA)	1/16/2020	AC		EPA 8151	µg/L	4.14	1.24	0.414 - 6.21	Acceptable
8555	Dalapon	1/16/2020	AC		EPA 8151	µg/L	9.67	3.89	2.42 - 16.9	Acceptable
8600	3,5-Dichlorobenzoic acid	1/16/2020	AC		EPA 8151	µg/L	3.34	1.82	0.334 - 5.01	Acceptable
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	1/16/2020	AC		EPA 8151	µg/L	2.71	1.84	0.271 - 4.06	Acceptable
7775	MCPA	1/16/2020	AC		EPA 8151	µg/L	<25	<9.30		Acceptable
7780	MCPP	1/16/2020	AC		EPA 8151	µg/L	<25	<9.40		Acceptable
6500	4-Nitrophenol					µg/L	3.36		0.336 - 5.04	NR
6605	Pentachlorophenol	1/16/2020	AC		EPA 8151	µg/L	3.80	2.17	0.950 - 6.65	Acceptable
8645	Picloram	1/16/2020	AC		EPA 8151	µg/L	6.14	2.16	1.53 - 10.7	Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WP0120	280	275	98.2%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Pollution Proficiency Testing

Study: WP0719

Opening Date: July 8, 2019 - Closing Date: August 22, 2019

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USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM1-WP) — Lot #: 8202-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	7/16/2019	IN		EPA 6010	µg/L	2220	2240	1840 - 2540	Acceptable
1005	Antimony	7/16/2019	IN		EPA 6010	µg/L	268	256	207 - 320	Acceptable
1005	Antimony	7/11/2019	MAZ		EPA 200.8	µg/L	268	259	207 - 320	Acceptable
1010	Arsenic	7/16/2019	IN		EPA 6010	µg/L	146	146	112 - 180	Acceptable
1010	Arsenic	7/11/2019	MAZ		EPA 200.8	µg/L	146	149	112 - 180	Acceptable
1015	Barium	7/16/2019	IN		EPA 6010	µg/L	1480	1480	1260 - 1710	Acceptable
1015	Barium	7/11/2019	MAZ		EPA 200.8	µg/L	1480	1480	1260 - 1710	Acceptable
1020	Beryllium	7/16/2019	IN		EPA 6010	µg/L	183	186	155 - 210	Acceptable
1020	Beryllium	7/11/2019	MAZ		EPA 200.8	µg/L	183	187	155 - 210	Acceptable
1025	Boron	7/16/2019	IN		EPA 6010	µg/L	1680	1710	1430 - 1930	Acceptable
1030	Cadmium	7/16/2019	IN		EPA 6010	µg/L	193	193	164 - 222	Acceptable
1030	Cadmium	7/11/2019	MAZ		EPA 200.8	µg/L	193	192	164 - 222	Acceptable
1040	Chromium	7/16/2019	IN		EPA 6010	µg/L	475	480	404 - 546	Acceptable
1040	Chromium	7/11/2019	MAZ		EPA 200.8	µg/L	475	476	404 - 546	Acceptable
1050	Cobalt	7/16/2019	IN		EPA 6010	µg/L	423	427	359 - 486	Acceptable
1050	Cobalt	7/11/2019	MAZ		EPA 200.8	µg/L	423	429	359 - 486	Acceptable
1055	Copper	7/16/2019	IN		EPA 6010	µg/L	138	146	118 - 159	Acceptable
1055	Copper	7/11/2019	MAZ		EPA 200.8	µg/L	138	142	118 - 159	Acceptable
1070	Iron	7/16/2019	IN		EPA 6010	µg/L	349	354	297 - 402	Acceptable
1075	Lead	7/16/2019	IN		EPA 6010	µg/L	1280	1290	1090 - 1470	Acceptable
1075	Lead	7/11/2019	MAZ		EPA 200.8	µg/L	1280	1290	1090 - 1470	Acceptable
1090	Manganese	7/16/2019	IN		EPA 6010	µg/L	551	554	469 - 634	Acceptable
1090	Manganese	7/11/2019	MAZ		EPA 200.8	µg/L	551	553	469 - 634	Acceptable
1100	Molybdenum	7/16/2019	IN		EPA 6010	µg/L	487	487	422 - 546	Acceptable
1100	Molybdenum	7/11/2019	MAZ		EPA 200.8	µg/L	487	486	422 - 546	Acceptable
1105	Nickel	7/16/2019	IN		EPA 6010	µg/L	1770	1790	1560 - 1980	Acceptable
1105	Nickel	7/11/2019	MAZ		EPA 200.8	µg/L	1770	1790	1560 - 1980	Acceptable
1140	Selenium	7/16/2019	IN		EPA 6010	µg/L	790	807	671 - 908	Acceptable
1140	Selenium	7/11/2019	MAZ		EPA 200.8	µg/L	790	812	671 - 908	Acceptable

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Trace Metals 1 (PT-TM1-WP) cont'd — Lot #: 8202-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1150	Silver	7/16/2019	IN		EPA 6010	µg/L	674	688	573 - 776	Acceptable
1150	Silver	7/11/2019	MAZ		EPA 200.8	µg/L	674	687	573 - 776	Acceptable
1160	Strontium	7/16/2019	IN		EPA 6010	µg/L	329	329	280 - 378	Acceptable
1160	Strontium	7/11/2019	MAZ		EPA 200.8	µg/L	329	327	280 - 378	Acceptable
1165	Thallium	7/16/2019	IN		EPA 6010	µg/L	517	519	426 - 600	Acceptable
1165	Thallium	7/11/2019	MAZ		EPA 200.8	µg/L	517	517	426 - 600	Acceptable
1185	Vanadium	7/16/2019	IN		EPA 6010	µg/L	405	406	344 - 465	Acceptable
1185	Vanadium	7/11/2019	MAZ		EPA 200.8	µg/L	405	408	344 - 465	Acceptable
1190	Zinc	7/16/2019	IN		EPA 6010	µg/L	1670	1710	1420 - 1930	Acceptable
1190	Zinc	7/11/2019	MAZ		EPA 200.8	µg/L	1670	1720	1420 - 1930	Acceptable

Mercury (PT-HG-WP) — Lot #: 8202-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1095	Mercury	7/16/2019	EN		EPA 245.1	µg/L	15.5	15.2	10.8 - 20.1	Acceptable
1095	Mercury	7/17/2019	MAZ		EPA 200.8	µg/L	15.5	15.0	10.8 - 20.1	Acceptable
1095	Mercury	7/16/2019	EN		EPA 7470	µg/L	15.5	14.8	10.8 - 20.1	Acceptable

Tin and Titanium (PT-SNTI-WP) — Lot #: 8202-38

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1175	Tin	7/25/2019	MAZ		EPA 6010	µg/L	381	382	267 - 496	Acceptable
1180	Titanium	7/16/2019	IN		EPA 6010	µg/L	173	175	147 - 199	Acceptable

Chromium VI (PT-CR6-WP) — Lot #: 8202-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1045	Chromium VI	7/23/2019	AR		SM 3500Cr-B	µg/L	258	262	213 - 300	Acceptable

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EPA Lab ID: FL00095

Demand (PT-DEM-WP) — Lot #: 8202-07

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1530	BOD	8/7/2019	KR		SM 5210B	mg/L	49.5	71.8	24.6 - 82.4	Acceptable
1555	CBOD	8/9/2019	KR		SM 5210B	mg/L	49.5	77.4	18.8 - 82.4	Acceptable
1565	COD	8/2/2019	OC		SM 5220D	mg/L	76.7	78.6	56.1 - 94.1	Acceptable
2040	TOC	7/29/2019	SA		SM 5310C	mg/L	30.3	29.7	24.9 - 35.6	Acceptable

Minerals 1 (PT-MIN1-WP) — Lot #: 8202-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1505	Total Alkalinity(as CaCO3)	7/18/2019	AR		SM 2320B	mg/L	66.8	70.4	56.8 - 76.8	Acceptable
1505	Total Alkalinity(as CaCO3)	7/19/2019	SA		EPA 310.2	mg/L	66.8	75.9	56.8 - 76.8	Acceptable
1540	Bromide	7/13/2019	OC		EPA 300.0	mg/L	8.32	8.84	7.08 - 9.62	Acceptable
1575	Chloride	7/13/2019	OC		EPA 300.0	mg/L	85.8	86.2	75.1 - 96.7	Acceptable
1575	Chloride	7/24/2019	SA		SM 4500 CL-E	mg/L	85.8	88.3	75.1 - 96.7	Acceptable
1575	Chloride	8/9/2019	SA		SM 4500 CL-B	mg/L	85.8	88.0	75.1 - 96.7	Acceptable
1730	Fluoride	7/13/2019	OC		EPA 300.0	mg/L	3.83	3.45	3.10 - 4.39	Acceptable
2000	Sulfate	7/13/2019	OC		EPA 300.0	mg/L	32.7	32.5	26.5 - 37.7	Acceptable
2000	Sulfate	8/7/2019	SA		EPA 375.4	mg/L	32.7	32.1	26.5 - 37.7	Acceptable
Additional State Specific Analytes										
1813	Total Inorganic Carbon					mg/L	16.0		12.8 - 19.1	NR

Minerals 2 - Hardness (PT-MIN2-WP) — Lot #: 8202-102

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1035	Calcium	7/16/2019	IN		EPA 6010	mg/L	49.0	48.7	41.7 - 56.4	Acceptable
1550	Calcium Hardness (as CaCO3)	7/16/2019	IN		EPA 200.7	mg/L	122	122	104 - 141	Acceptable
1755	Total Hardness (as CaCO3)	7/16/2019	IN		EPA 200.7	mg/L	177	176	151 - 204	Acceptable
1085	Magnesium	7/16/2019	IN		EPA 6010	mg/L	13.3	13.1	11.3 - 15.3	Acceptable
1125	Potassium	7/16/2019	IN		EPA 6010	mg/L	10.3	10.8	8.26 - 12.4	Acceptable
1155	Sodium	7/16/2019	IN		EPA 6010	mg/L	86.4	86.1	69.1 - 104	Acceptable

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Specific Conductance (PT-COND-WP) — Lot #: 8202-72

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance (25°C)	7/13/2019	OC		EPA 120.1	µmhos/cm	809	789	728 - 890	Acceptable

Solids (PT-SOL-WP) — Lot #: 8202-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1955	Total Dissolved Solids at 180° (TFR)	7/14/2019	DAB		SM 2540C	mg/L	613	480	552 - 675	Not Acceptable
1960	Non-Filterable Residue (TSS)	7/18/2019	DAB		SM 2540D	mg/L	28.7	35.3	19.9 - 34.6	Not Acceptable
1950	Total Solids	7/19/2019	DAB		SM 2540B	mg/L	642	560	578 - 706	Not Acceptable

Nutrients 1 - Simple (PT-NUT1-WP) — Lot #: 8202-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	7/26/2019	SA		EPA 350.1	mg/L	13.8	14.2	11.1 - 16.4	Acceptable
1810	Nitrate as N	8/3/2019	OC		EPA 300.0	mg/L	18.6	18.3	15.5 - 21.6	Acceptable
1810	Nitrate as N	8/7/2019	SA		SM 4500-NO3 F	mg/L	18.6	17.8	15.5 - 21.6	Acceptable
1820	Nitrate and Nitrite as N	8/3/2019	OC		EPA 300.0	mg/L	18.6	18.3	15.5 - 21.5	Acceptable
1820	Nitrate and Nitrite as N	8/3/2019	OC		SM 4500-NO3 F	mg/L	18.6	17.8	15.5 - 21.5	Acceptable
1870	Orthophosphate as P	8/3/2019	OC		EPA 300.0	mg/L	2.94	3.33	2.50 - 3.38	Acceptable
1870	Orthophosphate as P	7/30/2019	SA		EPA 365.1	mg/L	2.94	3.30	2.50 - 3.38	Acceptable
Additional State Specific Analytes										
1712	Total Dissolved Phosphorus					mg/L	2.94		2.50 - 3.38	NR
1647	Dissolved Nitrogen					mg/L	32.4		27.2 - 37.4	NR
1827	Total Nitrogen					mg/L	32.4		27.2 - 37.4	NR

Nutrients 2 - Complex (PT-NUT2-WP) — Lot #: 8202-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1795	Total Kjeldahl Nitrogen (TKN)	8/9/2019	EP		EPA 351.2	mg/L	23.8	22.2	17.9 - 28.7	Acceptable
1910	Total Phosphorous	8/9/2019	EP		EPA 365.4	mg/L	3.93	4.08	3.24 - 4.58	Acceptable
1910	Total Phosphorous	8/2/2019	EP		EPA 365.1	mg/L	3.93	4.13	3.24 - 4.58	Acceptable

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Nutrients 3 - Nitrite (PT-NUT3-WP) — Lot #: 8202-69

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1840	Nitrite as N	8/7/2019	SA		SM 4500-NO3 F	mg/L	0.540	0.527	0.402 - 0.674	Acceptable
1840	Nitrite as N	8/7/2019	OC		EPA 300.0	mg/L	0.540	0.571	0.402 - 0.674	Acceptable
1840	Nitrite as N	8/8/2019	OC		SM 4500-NO2-B	mg/L	0.540	0.530	0.402 - 0.674	Acceptable

Oil & Grease (PT-OGR-WP) — Lot #: 8202-111

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	8/5/2019	AR		EPA 1664A	mg/L	117	95.8	84.5 - 135	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/L	143		105 - 164	NR

pH (PT-PH-WP) — Lot #: 8202-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1900	pH	7/18/2019	AR		SM 4500-H+ B	S.U.	6.29	6.29	6.09 - 6.49	Acceptable

Total Cyanide (PT-CN-WP) — Lot #: 8202-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Total Cyanide	8/6/2019	SA		SM 4500CN-E	mg/L	0.421	0.427	0.274 - 0.569	Acceptable

Phenolics (PT-PHEN-WP) — Lot #: 8202-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1905	Total Phenolics (4AAP)	8/19/2019	SA		EPA 420.4	mg/L	1.46	0.816	0.481 - 1.60	Acceptable

Sulfide (PT-S2-WP) — Lot #: 8202-22

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2005	Sulfide	8/8/2019	AR		SM 4500-S D	mg/L	9.02	6.60	4.48 - 12.7	Acceptable

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Surfactants (PT-MBAS-WP) — Lot #: 8202-23

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2025	Surfactants - MBAS	7/12/2019	SA		SM 5540C	mg/L	0.895	0.972	0.556 - 1.29	Acceptable

TPH (PT-TPH-WP) — Lot #: 8202-114

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1853	Total Petroleum Hydrocarbons (TPH)	8/9/2019	AR		EPA 1664A	mg/L	98.4	92.5	46.3 - 142	Acceptable

Volatile Solids (PT-VSOL-WP) — Lot #: 8202-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1970	Volatile Solids	8/16/2019	AR		SM 2540E	mg/L	250	246	178 - 295	Acceptable

Turbidity (PT-TURB-WP) — Lot #: 8202-20

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2055	Turbidity	8/2/2019	AR		EPA 180.1	NTU	6.71	6.80	5.27 - 8.12	Acceptable

Silica (PT-SIO2-WP) — Lot #: 8202-21

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1990	Silica as SiO2	7/19/2019	SA		SM 4500-SiO2 C	mg/L	56.9	59.8	42.7 - 71.2	Acceptable

Color (PT-COL-WP) — Lot #: 8202-51

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1605	Color	8/2/2019	AR		SM 2120B	CU	55.0	40.0	39.3 - 66.1	Acceptable

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Cyanide, Amenable (PT-CNA-WP) — Lot #: 8202-83

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes										
1510	Amenable cyanide	8/14/2019	SA		SM 4500-CN-G	mg/L	0.133	0.157	0.0865 - 0.180	Acceptable

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EPA Lab ID: FL00095

Volatiles (PT-VOA-WP) — Lot #: 8202-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	8/5/2019	JF		EPA 8260	µg/L	141	183	37.4 - 220	Acceptable
4375	Benzene	8/5/2019	JF		EPA 8260	µg/L	26.1	32.9	18.3 - 33.9	Acceptable
4395	Bromodichloromethane	8/5/2019	JF		EPA 8260	µg/L	38.5	49.9	23.1 - 54.0	Acceptable
4400	Bromoform	8/5/2019	JF		EPA 8260	µg/L	61.7	83.0	37.0 - 86.4	Acceptable
4950	Bromomethane	8/5/2019	JF		EPA 8260	µg/L	<8	<8.00		Acceptable
4455	Carbon tetrachloride	8/5/2019	JF		EPA 8260	µg/L	125	138	71.2 - 168	Acceptable
4475	Chlorobenzene	8/5/2019	JF		EPA 8260	µg/L	63.6	66.6	44.5 - 82.7	Acceptable
4485	Chloroethane	8/5/2019	JF		EPA 8260	µg/L	<8	<8.00		Acceptable
4505	Chloroform	8/5/2019	JF		EPA 8260	µg/L	<7.0	<7.00		Acceptable
4960	Chloromethane	8/5/2019	JF		EPA 8260	µg/L	<8	<8.00		Acceptable
4575	Dibromochloromethane	8/5/2019	JF		EPA 8260	µg/L	80.4	91.9	48.2 - 113	Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	8/5/2019	JF		EPA 8260	µg/L	122	104	73.4 - 171	Acceptable
4585	1,2-Dibromoethane (EDB)	8/5/2019	JF		EPA 8260	µg/L	54.8	64.5	35.6 - 74.0	Acceptable
4595	Dibromomethane	8/5/2019	JF		EPA 8260	µg/L	38.2	47.6	24.8 - 51.6	Acceptable
4610	1,2 Dichlorobenzene	8/5/2019	JF		EPA 8260	µg/L	83.7	81.9	58.6 - 109	Acceptable
4615	1,3 Dichlorobenzene	8/5/2019	JF		EPA 8260	µg/L	16.4	13.8	11.5 - 21.3	Acceptable
4620	1,4 Dichlorobenzene	8/5/2019	JF		EPA 8260	µg/L	67.6	64.9	47.3 - 87.9	Acceptable
4630	1,1-Dichloroethane	8/5/2019	JF		EPA 8260	µg/L	102	128	64.6 - 140	Acceptable
4635	1,2 Dichloroethane	8/5/2019	JF		EPA 8260	µg/L	43.8	60.4	31.1 - 57.8	Not Acceptable
4640	1,1-Dichloroethene	8/5/2019	JF		EPA 8260	µg/L	<6.2	<6.20		Acceptable
4645	cis-1,2-Dichloroethene	8/5/2019	JF		EPA 8260	µg/L	<7.0	<7.00		Acceptable
4700	trans-1,2-Dichloroethene	8/5/2019	JF		EPA 8260	µg/L	<6.0	<6.00		Acceptable
4655	1,2-Dichloropropane	8/5/2019	JF		EPA 8260	µg/L	79.4	103	55.6 - 103	Acceptable
4680	cis-1,3-Dichloropropene	8/5/2019	JF		EPA 8260	µg/L	78.6	<6.50	51.1 - 106	Not Acceptable
4685	trans-1,3-Dichloropropene	8/5/2019	JF		EPA 8260	µg/L	<6.5	73.6		Not Acceptable
4765	Ethylbenzene	8/5/2019	JF		EPA 8260	µg/L	27.2	27.2	19.0 - 35.3	Acceptable
4835	Hexachlorobutadiene	8/5/2019	JF		EPA 8260	µg/L	116	70.2	13.7 - 138	Acceptable
4840	Hexachloroethane					µg/L	<3.3			NR
4860	2-Hexanone	8/5/2019	JF		EPA 8260	µg/L	184	168	93.7 - 273	Acceptable

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1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-WP) cont'd — Lot #: 8202-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4975	Methylene Chloride	8/5/2019	JF		EPA 8260	µg/L	107	95.0	64.1 - 150	Acceptable
6385	2-Methylnaphthalene					µg/L	<2.0			NR
4995	4-Methyl-2-pentanone (MIBK)	8/5/2019	JF		EPA 8260	µg/L	112	133	67.1 - 155	Acceptable
5000	Methyl tert-butyl ether (MTBE)	8/5/2019	JF		EPA 8260	µg/L	37.8	55.6	24.8 - 51.9	Not Acceptable
5005	Naphthalene	8/5/2019	JF		EPA 8260	µg/L	92.9	79.6	43.6 - 123	Acceptable
5015	Nitrobenzene					µg/L	<6.2			NR
5100	Styrene	8/5/2019	JF		EPA 8260	µg/L	<13.0	<13.0		Acceptable
5105	1,1,1,2-Tetrachloroethane	8/5/2019	JF		EPA 8260	µg/L	119	136	77.4 - 161	Acceptable
5110	1,1,2,2-Tetrachloroethane	8/5/2019	JF		EPA 8260	µg/L	101	100	65.7 - 136	Acceptable
5115	Tetrachloroethene	8/5/2019	JF		EPA 8260	µg/L	42.3	27.8	23.2 - 55.5	Acceptable
5140	Toluene	8/5/2019	JF		EPA 8260	µg/L	82.4	95.1	57.7 - 107	Acceptable
5155	1,2,4-Trichlorobenzene	8/5/2019	JF		EPA 8260	µg/L	47.9	43.9	19.9 - 65.3	Acceptable
5160	1,1,1-Trichloroethane	8/5/2019	JF		EPA 8260	µg/L	<6.0	<6.00		Acceptable
5165	1,1,2-Trichloroethane	8/5/2019	JF		EPA 8260	µg/L	51.5	59.4	36.0 - 66.9	Acceptable
5170	Trichloroethene	8/5/2019	JF		EPA 8260	µg/L	49.1	54.1	31.2 - 64.4	Acceptable
5175	Trichlorofluoromethane	8/5/2019	JF		EPA 8260	µg/L	99.0	99.8	39.6 - 158	Acceptable
5180	1,2,3-Trichloropropane	8/5/2019	JF		EPA 8260	µg/L	123	123	57.8 - 184	Acceptable
5210	1,2,4-Trimethylbenzene	8/5/2019	JF		EPA 8260	µg/L	93.2	79.8	60.6 - 126	Acceptable
5215	1,3,5-Trimethylbenzene	8/5/2019	JF		EPA 8260	µg/L	101	79.9	65.6 - 136	Acceptable
5235	Vinyl chloride	8/5/2019	JF		EPA 8260	µg/L	25.1	30.9	10.0 - 40.1	Acceptable
5240	m+p-Xylene	8/5/2019	JF		EPA 8260	µg/L	34.6	36.3	20.7 - 48.4	Acceptable
5250	o-Xylene	8/5/2019	JF		EPA 8260	µg/L	34.3	37.1	20.6 - 48.0	Acceptable
5260	Xylenes, total	8/5/2019	JF		EPA 8260	µg/L	68.9	73.4	41.3 - 96.5	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	8/5/2019	JF		EPA 8260	µg/L	<5	<29.8		Acceptable
4325	Acrolein	8/5/2019	JF		EPA 8260	µg/L	<5	<0.909		Acceptable
4340	Acrylonitrile	8/5/2019	JF		EPA 8260	µg/L	<5	<0.479		Acceptable
4385	Bromobenzene	8/5/2019	JF		EPA 8260	µg/L	<10	<0.340		Acceptable
4390	Bromochloromethane	8/5/2019	JF		EPA 8260	µg/L	<5	<0.172		Acceptable

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9549786400

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Volatiles (PT-VOA-WP) cont'd — Lot #: 8202-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4410	2-Butanone (MEK)	8/5/2019	JF		EPA 8260	µg/L	111	149	11.1 - 222	Acceptable
4435	n-Butylbenzene	8/5/2019	JF		EPA 8260	µg/L	<10	<0.798		Acceptable
4440	sec-Butylbenzene	8/5/2019	JF		EPA 8260	µg/L	<10	<0.531		Acceptable
4445	tert-Butylbenzene	8/5/2019	JF		EPA 8260	µg/L	<10	<0.578		Acceptable
4450	Carbon disulfide	8/5/2019	JF		EPA 8260	µg/L	<5	<0.433		Acceptable
4500	2-Chloroethylvinylether	8/5/2019	JF		EPA 8260	µg/L	<5	<2.24		Acceptable
4535	2-Chlorotoluene	8/5/2019	JF		EPA 8260	µg/L	<5	<0.388		Acceptable
4540	4-Chlorotoluene	8/5/2019	JF		EPA 8260	µg/L	<10	<0.420		Acceptable
4625	Dichlorodifluoromethane	8/5/2019	JF		EPA 8260	µg/L	<5	<0.283		Acceptable
4627	Dichlorofluoromethane					µg/L	<5			NR
4660	1,3-Dichloropropane	8/5/2019	JF		EPA 8260	µg/L	<10	<0.220		Acceptable
4665	2,2-Dichloropropane	8/5/2019	JF		EPA 8260	µg/L	<10	<1.20		Acceptable
4670	1,1-Dichloropropene	8/5/2019	JF		EPA 8260	µg/L	<5	<0.359		Acceptable
4900	Isopropylbenzene	8/5/2019	JF		EPA 8260	µg/L	<10	<0.348		Acceptable
4910	p-Isopropyltoluene	8/5/2019	JF		EPA 8260	µg/L	<10	<0592		Acceptable
5090	n-Propylbenzene	8/5/2019	JF		EPA 8260	µg/L	<10	<0.328		Acceptable
5150	1,2,3-Trichlorobenzene	8/5/2019	JF		EPA 8260	µg/L	<15	<0.751		Acceptable
5225	Vinyl acetate	8/5/2019	JF		EPA 8260	µg/L	<5	<2.31		Acceptable

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9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) — Lot #: 8202-27B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	7/17/2019	AC		EPA 8270	µg/L	89.5	70.1	31.5 - 109	Acceptable
5505	Acenaphthylene	7/17/2019	AC		EPA 8270	µg/L	<2.9	<2.90		Acceptable
5555	Anthracene	7/17/2019	AC		EPA 8270	µg/L	<3.9	<3.90		Acceptable
5575	Benzo(a)anthracene	7/17/2019	AC		EPA 8270	µg/L	<3.6	<3.60		Acceptable
5585	Benzo(b)fluoranthene	7/17/2019	AC		EPA 8270	µg/L	180	202	68.9 - 231	Acceptable
5600	Benzo(k)fluoranthene	7/17/2019	AC		EPA 8270	µg/L	<7.7	<7.70		Acceptable
5590	Benzo(g,h,i)perylene	7/17/2019	AC		EPA 8270	µg/L	182	105	66.7 - 236	Acceptable
5580	Benzo(a)pyrene	7/17/2019	AC		EPA 8270	µg/L	169	173	62.0 - 215	Acceptable
5660	4-Bromophenyl-phenylether	7/17/2019	AC		EPA 8270	µg/L	<8.6	<8.60		Acceptable
5670	Butyl benzyl phthalate	7/17/2019	AC		EPA 8270	µg/L	69.6	80.0	19.6 - 94.2	Acceptable
5760	bis(2-Chloroethoxy)methane	7/17/2019	AC		EPA 8270	µg/L	<3.9	<3.90		Acceptable
5765	bis(2-Chloroethyl)ether	7/17/2019	AC		EPA 8270	µg/L	99.2	59.0	25.7 - 120	Acceptable
5795	2-Chloronaphthalene	7/17/2019	AC		EPA 8270	µg/L	<6.3	<6.30		Acceptable
5825	4-Chlorophenyl-phenylether	7/17/2019	AC		EPA 8270	µg/L	<9.9	<9.90		Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	7/17/2019	AC		EPA 8270	µg/L	<3.1	<3.10		Acceptable
5855	Chrysene	7/17/2019	AC		EPA 8270	µg/L	112	94.5	48.0 - 140	Acceptable
5895	Dibenzo(a,h)anthracene	7/17/2019	AC		EPA 8270	µg/L	76.5	44.7	27.2 - 101	Acceptable
5905	Dibenzofuran	7/17/2019	AC		EPA 8270	µg/L	72.2	58.9	27.9 - 84.5	Acceptable
5925	Di-n-butylphthalate	7/17/2019	AC		EPA 8270	µg/L	<15.8	<15.8		Acceptable
4610	1,2-Dichlorobenzene	7/17/2019	AC		EPA 8270	µg/L	<2.0	<2.00		Acceptable
4615	1,3-Dichlorobenzene	7/17/2019	AC		EPA 8270	µg/L	34.2	23.0	3.90 - 42.7	Acceptable
4620	1,4-Dichlorobenzene	7/17/2019	AC		EPA 8270	µg/L	108	72.5	10.8 - 119	Acceptable
6070	Diethyl phthalate	7/17/2019	AC		EPA 8270	µg/L	169	120	32.4 - 227	Acceptable
6135	Dimethyl phthalate	7/17/2019	AC		EPA 8270	µg/L	151	114	15.1 - 218	Acceptable
6185	2,4-Dinitrotoluene	7/17/2019	AC		EPA 8270	µg/L	86.0	60.6	35.3 - 107	Acceptable
6190	2,6-Dinitrotoluene	7/17/2019	AC		EPA 8270	µg/L	<8.2	<8.20		Acceptable
6200	Di-n-octylphthalate	7/17/2019	AC		EPA 8270	µg/L	171	125	50.7 - 235	Acceptable
6065	bis(2-ethylhexyl) phthalate	7/17/2019	AC		EPA 8270	µg/L	<5.0	<5.00		Acceptable
6265	Fluoranthene	7/17/2019	AC		EPA 8270	µg/L	74.3	50.4	34.5 - 91.6	Acceptable

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Base Neutrals (PT-BN-WP) cont'd — Lot #: 8202-27B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6270	Fluorene	7/17/2019	AC		EPA 8270	µg/L	72.5	58.9	30.6 - 87.5	Acceptable
6275	Hexachlorobenzene	7/17/2019	AC		EPA 8270	µg/L	<8.8	<8.80		Acceptable
4835	Hexachlorobutadiene	7/17/2019	AC		EPA 8270	µg/L	76.5	49.3	7.93 - 93.5	Acceptable
6285	Hexachlorocyclopentadiene	7/17/2019	AC		EPA 8270	µg/L	<5	<5.00		Acceptable
4840	Hexachloroethane	7/17/2019	AC		EPA 8270	µg/L	163	76.6	16.3 - 180	Acceptable
6315	Indeno(1,2,3-cd)pyrene	7/17/2019	AC		EPA 8270	µg/L	121	62.1	34.9 - 147	Acceptable
6320	Isophorone	7/17/2019	AC		EPA 8270	µg/L	84.8	66.5	30.9 - 106	Acceptable
6385	2-Methylnaphthalene	7/17/2019	AC		EPA 8270	µg/L	137	94.4	35.3 - 160	Acceptable
5005	Naphthalene	7/17/2019	AC		EPA 8270	µg/L	144	100	34.5 - 167	Acceptable
5015	Nitrobenzene	7/17/2019	AC		EPA 8270	µg/L	33.4	21.0	10.6 - 41.2	Acceptable
6530	N-Nitrosodimethylamine	7/17/2019	AC		EPA 8270	µg/L	<7.5	<7.50		Acceptable
6535	N-Nitrosodiphenylamine	7/17/2019	AC		EPA 8270	µg/L	<5.6	<5.60		Acceptable
6545	N-Nitroso-di-n-propylamine	7/17/2019	AC		EPA 8270	µg/L	123	86.8	40.1 - 155	Acceptable
6615	Phenanthrene	7/17/2019	AC		EPA 8270	µg/L	125	91.5	58.4 - 147	Acceptable
6665	Pyrene	7/17/2019	AC		EPA 8270	µg/L	74.9	92.6	30.8 - 98.1	Acceptable
5155	1,2,4-Trichlorobenzene	7/17/2019	AC		EPA 8270	µg/L	79.4	50.0	13.9 - 95.9	Acceptable
Additional State Specific Analytes										
5545	Aniline	7/17/2019	AC		EPA 8270	µg/L	<30	<0.819		Acceptable
5595	Benzidine	7/17/2019	AC		EPA 8270	µg/L	<200	<0.579		Acceptable
5630	Benzyl alcohol	7/17/2019	AC		EPA 8270	µg/L	<50	<1.39		Acceptable
5680	Carbazole	7/17/2019	AC		EPA 8270	µg/L	<10	<0.804		Acceptable
5745	4-Chloroaniline	7/17/2019	AC		EPA 8270	µg/L	<50	<1.36		Acceptable
5790	1-Chloronaphthalene					µg/L	<20			NR
5945	3,3'-Dichlorobenzidine	7/17/2019	AC		EPA 8270	µg/L	<50	<2.02		Acceptable
4735	p-Dioxane					µg/L	<10			NR
6380	1-Methylnaphthalene	7/17/2019	AC		EPA 8270	µg/L	<30	<0.747		Acceptable
6460	2-Nitroaniline	7/17/2019	AC		EPA 8270	µg/L	<10	<1.23		Acceptable
6465	3-Nitroaniline	7/17/2019	AC		EPA 8270	µg/L	<10	<1.50		Acceptable
6470	4-Nitroaniline	7/17/2019	AC		EPA 8270	µg/L	<10	<1.39		Acceptable

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Base Neutrals (PT-BN-WP) cont'd — Lot #: 8202-27B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6525	N-Nitrosodiethylamine					µg/L	<30			NR
6590	Pentachlorobenzene					µg/L	<30			NR
5095	Pyridine	7/17/2019	AC		EPA 8270	µg/L	<30	<0.858		Acceptable
6715	1,2,4,5-Tetrachlorobenzene					µg/L	<30			NR
5145	o-Toluidine					µg/L	<30			NR

Acids (PT-ACIDS-WP) — Lot #: 8202-28

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5700	4-Chloro-3-methylphenol	7/17/2019	AC		EPA 8270	µg/L	46.4	32.0	17.8 - 57.6	Acceptable
5800	2-Chlorophenol	7/17/2019	AC		EPA 8270	µg/L	37.5	23.9	11.7 - 45.9	Acceptable
6000	2,4-Dichlorophenol	7/17/2019	AC		EPA 8270	µg/L	150	109	48.7 - 178	Acceptable
6005	2,6-Dichlorophenol	7/17/2019	AC		EPA 8270	µg/L	187	125	56.4 - 232	Acceptable
6130	2,4-Dimethylphenol	7/17/2019	AC		EPA 8270	µg/L	111	76.8	30.9 - 138	Acceptable
6175	2,4-Dinitrophenol	7/17/2019	AC		EPA 8270	µg/L	152	87.4	15.2 - 206	Acceptable
6360	2-Methyl-4,6-Dinitrophenol	7/17/2019	AC		EPA 8270	µg/L	118	87.9	37.2 - 162	Acceptable
6400	2-Methylphenol	7/17/2019	AC		EPA 8270	µg/L	133	83.5	30.3 - 155	Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	7/17/2019	AC		EPA 8270	µg/L	152	93.6	15.2 - 195	Acceptable
6490	2-Nitrophenol	7/17/2019	AC		EPA 8270	µg/L	139	47.6	47.0 - 168	Acceptable
6500	4-Nitrophenol	7/17/2019	AC		EPA 8270	µg/L	159	74.4	15.9 - 214	Acceptable
6625	Phenol	7/17/2019	AC		EPA 8270	µg/L	176	54.4	17.6 - 236	Acceptable
6605	Pentachlorophenol	7/17/2019	AC		EPA 8270	µg/L	85.1	54.2	26.9 - 116	Acceptable
6835	2,4,5-Trichlorophenol	7/17/2019	AC		EPA 8270	µg/L	101	72.2	37.1 - 126	Acceptable
6840	2,4,6-Trichlorophenol	7/17/2019	AC		EPA 8270	µg/L	<11.7	<11.7		Acceptable
Additional State Specific Analytes										
5610	Benzoic acid					µg/L	<50			NR
6495	3-Nitrophenol					µg/L	<100			NR
6735	2,3,4,6-Tetrachlorophenol	7/17/2019	AC		EPA 8270	µg/L	<50	<1.12		Acceptable

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Final Report - Water Pollution Proficiency Testing

Study: WP0719

Opening Date: July 8, 2019 - Closing Date: August 22, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Pesticides (PT-PEST-WP) — Lot #: 8202-29

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	7/24/2019	YE		EPA 608.3	µg/L	2.56	2.10	0.893 - 3.43	Acceptable
7110	alpha-BHC	7/24/2019	YE		EPA 608.3	µg/L	10.9	10.8	4.81 - 14.9	Acceptable
7115	beta-BHC	7/24/2019	YE		EPA 608.3	µg/L	13.0	13.4	6.17 - 17.3	Acceptable
7105	delta-BHC	7/24/2019	YE		EPA 608.3	µg/L	<0.79	<0.790		Acceptable
7120	gamma-BHC (Lindane)	7/24/2019	YE		EPA 608.3	µg/L	4.53	4.36	2.04 - 6.31	Acceptable
7240	alpha-Chlordane					µg/L	2.31		1.01 - 3.19	NR
7245	gamma-Chlordane					µg/L	3.19		1.37 - 4.33	NR
7355	4,4'-DDD	7/24/2019	YE		EPA 608.3	µg/L	3.38	1.68	1.40 - 4.94	Acceptable
7360	4,4'-DDE	7/24/2019	YE		EPA 608.3	µg/L	3.96	2.73	1.69 - 5.42	Acceptable
7365	4,4'-DDT	7/24/2019	YE		EPA 608.3	µg/L	2.35	1.52	0.933 - 3.50	Acceptable
7470	Dieldrin	7/24/2019	YE		EPA 608.3	µg/L	13.0	11.9	6.65 - 17.1	Acceptable
7510	Endosulfan I	7/24/2019	YE		EPA 608.3	µg/L	5.26	5.94	1.91 - 7.12	Acceptable
7515	Endosulfan II	7/24/2019	YE		EPA 608.3	µg/L	13.9	9.50	5.77 - 18.7	Acceptable
7520	Endosulfan sulfate	7/24/2019	YE		EPA 608.3	µg/L	4.73	4.58	2.13 - 7.21	Acceptable
7540	Endrin	7/24/2019	YE		EPA 608.3	µg/L	3.68	4.02	1.61 - 5.29	Acceptable
7530	Endrin aldehyde	7/24/2019	YE		EPA 608.3	µg/L	13.8	8.78	5.21 - 19.4	Acceptable
7535	Endrin ketone	7/24/2019	YE		EPA 608.3	µg/L	4.42	4.54	2.25 - 6.41	Acceptable
7685	Heptachlor	7/24/2019	YE		EPA 608.3	µg/L	6.31	4.40	2.25 - 8.54	Acceptable
7690	Heptachlor Epoxide (beta)	7/24/2019	YE		EPA 608.3	µg/L	7.58	7.42	3.83 - 10.1	Acceptable
7810	Methoxychlor	7/24/2019	YE		EPA 608.3	µg/L	6.52	4.72	2.67 - 9.78	Acceptable

Chlordane (PT-CHLR-WP) — Lot #: 8202-30

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane (total)	7/25/2019	YE		EPA 608.3	µg/L	17.2	18.0	6.98 - 23.1	Acceptable

Toxaphene (PT-TXP-WP) — Lot #: 8202-31

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene (total)	7/24/2019	YE		EPA 608.3	µg/L	28.0	31.5	6.29 - 42.8	Acceptable

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PCBs in Water (PT-PCBW-WP) — Lot #: 8202-32

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	7/25/2019	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8885	Aroclor 1221	7/25/2019	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8890	Aroclor 1232	7/25/2019	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8895	Aroclor 1242	7/25/2019	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8900	Aroclor 1248	7/25/2019	YE		EPA 608.3	µg/L	8.50	10.7	3.10 - 11.4	Acceptable
8905	Aroclor 1254	7/25/2019	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8910	Aroclor 1260	7/25/2019	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable

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EPA Lab ID: FL00095

Herbicides (PT-HERB-WP) — Lot #: 8202-36

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	7/16/2019	AC		EPA 8151	µg/L	6.98	3.29	0.698 - 10.7	Acceptable
8595	Dicamba	7/16/2019	AC		EPA 8151	µg/L	7.02	7.99	1.66 - 9.92	Acceptable
8655	2,4,5-T	7/16/2019	AC		EPA 8151	µg/L	8.07	5.40	1.82 - 11.6	Acceptable
8650	2,4,5-TP (Silvex)	7/16/2019	AC		EPA 8151	µg/L	5.67	4.28	1.35 - 8.43	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	7/16/2019	AC		EPA 8151	µg/L	6.17	5.18	1.54 - 10.8	Acceptable
8530	Bentazon	7/16/2019	AC		EPA 8151	µg/L	2.82	2.32	0.282 - 4.24	Acceptable
7135	Brominal (Bromoxynil)					µg/L	<2			NR
8540	Chloramben	7/16/2019	AC		EPA 8151	µg/L	6.59	2.95	0.659 - 9.89	Acceptable
8560	2,4-DB	7/16/2019	AC		EPA 8151	µg/L	2.55	1.84	0.638 - 4.47	Acceptable
8605	2,4-DP (Dichlorprop)	7/16/2019	AC		EPA 8151	µg/L	8.84	7.14	0.884 - 13.3	Acceptable
8550	Dacthal (DCPA)	7/16/2019	AC		EPA 8151	µg/L	8.69	5.98	0.869 - 13.0	Acceptable
8555	Dalapon	7/16/2019	AC		EPA 8151	µg/L	8.01	3.11	2.00 - 14.0	Acceptable
8600	3,5-Dichlorobenzoic acid	7/16/2019	AC		EPA 8151	µg/L	3.11	1.77	0.311 - 4.66	Acceptable
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	7/16/2019	AC		EPA 8151	µg/L	4.60	1.99	0.460 - 6.90	Acceptable
7775	MCPA	7/16/2019	AC		EPA 8151	µg/L	<25	<9.30		Acceptable
7780	MCPP	7/16/2019	AC		EPA 8151	µg/L	<25	<9.40		Acceptable
6500	4-Nitrophenol					µg/L	3.53		0.353 - 5.29	NR
6605	Pentachlorophenol	7/16/2019	AC		EPA 8151	µg/L	7.60	6.18	1.90 - 13.3	Acceptable
8645	Picloram	7/16/2019	AC		EPA 8151	µg/L	6.95	3.81	1.74 - 12.2	Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
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Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WP0719	280	273	97.5%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM1-WP) — Lot #: 8196-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	1/22/2019	IN		EPA 200.7	µg/L	2380	2380	1980 - 2720	Acceptable
1005	Antimony	1/22/2019	IN		EPA 200.8	µg/L	131	132	91.2 - 165	Acceptable
1005	Antimony	1/22/2019	IN		EPA 200.7	µg/L	131	133	91.2 - 165	Acceptable
1010	Arsenic	1/22/2019	IN		EPA 200.8	µg/L	618	622	520 - 708	Acceptable
1010	Arsenic	1/22/2019	IN		EPA 200.7	µg/L	618	627	520 - 708	Acceptable
1015	Barium	1/22/2019	IN		EPA 200.8	µg/L	691	698	588 - 795	Acceptable
1015	Barium	1/22/2019	IN		EPA 200.7	µg/L	691	700	588 - 795	Acceptable
1020	Beryllium	1/22/2019	IN		EPA 200.8	µg/L	410	415	348 - 471	Acceptable
1020	Beryllium	1/22/2019	IN		EPA 200.7	µg/L	410	417	348 - 471	Acceptable
1025	Boron	1/22/2019	IN		EPA 200.7	µg/L	1860	1890	1580 - 2140	Acceptable
1030	Cadmium	1/22/2019	IN		EPA 200.8	µg/L	609	619	518 - 701	Acceptable
1030	Cadmium	1/22/2019	IN		EPA 200.7	µg/L	609	619	518 - 701	Acceptable
1040	Chromium	1/22/2019	IN		EPA 200.8	µg/L	636	637	541 - 732	Acceptable
1040	Chromium	1/22/2019	IN		EPA 200.7	µg/L	636	644	541 - 732	Acceptable
1050	Cobalt	1/22/2019	IN		EPA 200.8	µg/L	897	893	763 - 1030	Acceptable
1050	Cobalt	1/22/2019	IN		EPA 200.7	µg/L	897	905	763 - 1030	Acceptable
1055	Copper	1/22/2019	IN		EPA 200.8	µg/L	616	617	524 - 709	Acceptable
1055	Copper	1/22/2019	IN		EPA 200.7	µg/L	616	628	524 - 709	Acceptable
1070	Iron	1/22/2019	IN		EPA 200.7	µg/L	3060	3090	2600 - 3510	Acceptable
1075	Lead	1/22/2019	IN		EPA 200.8	µg/L	1160	1180	990 - 1340	Acceptable
1075	Lead	1/22/2019	IN		EPA 200.7	µg/L	1160	1170	990 - 1340	Acceptable
1090	Manganese	1/22/2019	IN		EPA 200.8	µg/L	1080	1070	915 - 1240	Acceptable
1090	Manganese	1/22/2019	IN		EPA 200.7	µg/L	1080	1080	915 - 1240	Acceptable
1100	Molybdenum	1/22/2019	IN		EPA 200.8	µg/L	556	558	484 - 623	Acceptable
1100	Molybdenum	1/22/2019	IN		EPA 200.7	µg/L	556	560	484 - 623	Acceptable
1105	Nickel	1/22/2019	IN		EPA 200.8	µg/L	1420	1430	1260 - 1600	Acceptable
1105	Nickel	1/22/2019	IN		EPA 200.7	µg/L	1420	1440	1260 - 1600	Acceptable
1140	Selenium	1/22/2019	IN		EPA 200.8	µg/L	512	536	435 - 588	Acceptable
1140	Selenium	1/22/2019	IN		EPA 200.7	µg/L	512	537	435 - 588	Acceptable

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Trace Metals 1 (PT-TM1-WP) cont'd — Lot #: 8196-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1150	Silver	1/22/2019	IN		EPA 200.8	µg/L	492	498	418 - 566	Acceptable
1150	Silver	1/22/2019	IN		EPA 200.7	µg/L	492	500	418 - 566	Acceptable
1160	Strontium	1/22/2019	IN		EPA 200.8	µg/L	424	428	361 - 488	Acceptable
1160	Strontium	1/22/2019	IN		EPA 200.7	µg/L	424	428	361 - 488	Acceptable
1165	Thallium	1/22/2019	IN		EPA 200.8	µg/L	317	317	256 - 372	Acceptable
1165	Thallium	1/22/2019	IN		EPA 200.7	µg/L	317	324	256 - 372	Acceptable
1185	Vanadium	1/22/2019	IN		EPA 200.8	µg/L	1610	1620	1370 - 1850	Acceptable
1185	Vanadium	1/22/2019	IN		EPA 200.7	µg/L	1610	1620	1370 - 1850	Acceptable
1190	Zinc	1/22/2019	IN		EPA 200.8	µg/L	386	397	328 - 444	Acceptable
1190	Zinc	1/22/2019	IN		EPA 200.7	µg/L	386	403	328 - 444	Acceptable

Mercury (PT-HG-WP) — Lot #: 8196-05B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1095	Mercury	1/10/2019	EN		EPA 245.1	µg/L	14.4	14.6	10.1 - 18.7	Acceptable
1095	Mercury	1/22/2019	IN		EPA 200.8	µg/L	14.4	14.8	10.1 - 18.7	Acceptable
1095	Mercury	1/15/2019	EN		EPA 7470	µg/L	14.4	14.3	10.1 - 18.7	Acceptable

Tin and Titanium (PT-SNTI-WP) — Lot #: 8196-38

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1175	Tin	1/17/2019	IN		EPA 200.7	µg/L	1440	1480	1010 - 1870	Acceptable
1180	Titanium	1/22/2019	IN		EPA 200.7	µg/L	155	157	131 - 178	Acceptable

Chromium VI (PT-CR6-WP) — Lot #: 8196-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1045	Chromium VI	2/18/2019	AR		SM 3500-Cr B	µg/L	440	418	368 - 507	Acceptable

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Demand (PT-DEM-WP) — Lot #: 8196-07

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1530	BOD	2/9/2019	BRM		SM 5210B	mg/L	75.3	77.6	38.1 - 126	Acceptable
1555	CBOD	2/9/2019	BRM		SM 5210B	mg/L	75.3	83.6	29.6 - 126	Acceptable
1565	COD	2/2/2019	OC		EPA 410.4	mg/L	117	121	90.4 - 139	Acceptable
2040	TOC	2/4/2019	SA		SM 5310C	mg/L	46.1	53.6	38.3 - 53.5	Not Acceptable

Minerals 1 (PT-MIN1-WP) — Lot #: 8196-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1505	Total Alkalinity(as CaCO3)	2/15/2019	SA		EPA 310.2	mg/L	43.4	48.5	36.9 - 49.9	Acceptable
1505	Total Alkalinity(as CaCO3)	2/20/2019	AR		SM 2320B	mg/L	43.4	43.7	36.9 - 49.9	Acceptable
1540	Bromide	2/16/2019	OC		EPA 300.0	mg/L	8.20	9.71	6.97 - 9.49	Not Acceptable
1575	Chloride	2/14/2019	SA		SM 4500 CL-E	mg/L	106	114	92.8 - 119	Acceptable
1575	Chloride	2/15/2019	SA		SM 4500 Cl-B	mg/L	106	111	92.8 - 119	Acceptable
1575	Chloride	1/30/2019	OC		EPA 300.0	mg/L	106	106	92.8 - 119	Acceptable
1730	Fluoride	1/30/2019	OC		EPA 300.0	mg/L	2.84	2.64	2.29 - 3.28	Acceptable
2000	Sulfate	2/12/2019	SA		EPA 375.4	mg/L	91.5	93.6	76.3 - 104	Acceptable
2000	Sulfate	1/30/2019	OC		EPA 300.0	mg/L	91.5	92.0	76.3 - 104	Acceptable
Additional State Specific Analytes										
1813	Total Inorganic Carbon					mg/L	10.4		8.28 - 12.4	NR

Minerals 2 - Hardness (PT-MIN2-WP) — Lot #: 8196-102

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1035	Calcium	1/22/2019	IN		EPA 200.7	mg/L	47.8	47.3	40.7 - 55.0	Acceptable
1550	Calcium Hardness (as CaCO3)	1/22/2019	IN		EPA 200.7	mg/L	119	118	102 - 137	Acceptable
1755	Total Hardness (as CaCO3)	1/22/2019	IN		EPA 200.7	mg/L	221	216	188 - 254	Acceptable
1085	Magnesium	1/22/2019	IN		EPA 200.7	mg/L	24.6	23.8	20.9 - 28.3	Acceptable
1125	Potassium	1/22/2019	IN		EPA 200.7	mg/L	23.8	28	19.1 - 28.6	Acceptable
1155	Sodium	1/22/2019	IN		EPA 200.7	mg/L	85.4	88.6	68.3 - 102	Acceptable

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Specific Conductance (PT-COND-WP) — Lot #: 8196-72

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance (25°C)	2/2/2019	OC		EPA 120.1	µmhos/cm	866	854	779 - 953	Acceptable

Solids (PT-SOL-WP) — Lot #: 8196-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1955	Total Dissolved Solids at 180° (TFR)	1/21/2019	DAB		SM 2540C	mg/L	484	454	436 - 533	Acceptable
1960	Non-Filterable Residue (TSS)	1/18/2019	DAB		SM 2540D	mg/L	74.3	67.0	60.2 - 83.1	Acceptable
1950	Total Solids	2/4/2019	DAB		SM 2540B	mg/L	559	552	503 - 614	Acceptable

Nutrients 1 - Simple (PT-NUT1-WP) — Lot #: 8196-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	2/1/2019	SA		EPA 350.1	mg/L	18.7	19.6	15.0 - 22.1	Acceptable
1810	Nitrate as N	1/31/2019	OC		EPA 300.0	mg/L	22.9	23.0	19.2 - 26.6	Acceptable
1810	Nitrate as N	2/1/2019	SA		SM 4500 NO3-F	mg/L	22.9	23.6	19.2 - 26.6	Acceptable
1820	Nitrate and Nitrite as N	1/31/2019	OC		EPA 300.0	mg/L	22.9	23.0	19.2 - 26.5	Acceptable
1820	Nitrate and Nitrite as N	2/1/2019	SA		SM 4500 NO3-F	mg/L	22.9	23.6	19.2 - 26.5	Acceptable
1870	Orthophosphate as P	1/30/2019	OC		EPA 300.0	mg/L	3.11	3.46	2.64 - 3.58	Acceptable
1870	Orthophosphate as P	2/1/2019	SA		SM 4500-P F	mg/L	3.11	3.12	2.64 - 3.58	Acceptable
Additional State Specific Analytes										
1712	Total Dissolved Phosphorus					mg/L	3.11		2.64 - 3.58	NR
1647	Dissolved Nitrogen					mg/L	41.6		35.0 - 48.0	NR
1827	Total Nitrogen					mg/L	41.6		35.0 - 48.0	NR

Nutrients 2 - Complex (PT-NUT2-WP) — Lot #: 8196-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1795	Total Kjeldahl Nitrogen (TKN)	2/20/2019	SA		EPA 351.2	mg/L	19.2	16.7	14.4 - 23.4	Acceptable
1910	Total Phosphorous	2/17/2019	SA		SM 4500-P F	mg/L	6.99	6.52	5.81 - 8.09	Acceptable
1910	Total Phosphorous	2/20/2019	SA		EPA 365.4	mg/L	6.99	6.36	5.81 - 8.09	Acceptable

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Final Report - Water Pollution Proficiency Testing

Study: WP0119

Opening Date: January 7, 2019 - Closing Date: February 21, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Nutrients 3 - Nitrite (PT-NUT3-WP) — Lot #: 8196-69

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1840	Nitrite as N	1/30/2019	OC		EPA 300.0	mg/L	2.70	2.80	2.32 - 3.08	Acceptable
1840	Nitrite as N	2/14/2019	SA		SM 4500 NO3-F	mg/L	2.70	3.08	2.32 - 3.08	Acceptable
1840	Nitrite as N	2/19/2019	OC		SM 4500-NO2-B	mg/L	2.70	2.78	2.32 - 3.08	Acceptable

Oil & Grease (PT-OGR-WP) — Lot #: 8196-111

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	2/18/2019	SA		EPA 1664A	mg/L	62.4	51.6	41.8 - 74.7	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/L	76.1		52.5 - 89.8	NR

pH (PT-PH-WP) — Lot #: 8196-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1900	pH	2/6/2019	AR		SM 4500 H+-B	S.U.	6.00	6.10	5.80 - 6.20	Acceptable

Total Cyanide (PT-CN-WP) — Lot #: 8196-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Total Cyanide	2/6/2019	SA		EPA 335.4	mg/L	0.277	0.338	0.180 - 0.373	Acceptable

Phenolics (PT-PHEN-WP) — Lot #: 8196-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1905	Total Phenolics (4AAP)	2/7/2019	SA		EPA 420.4	mg/L	2.43	1.20	0.801 - 2.67	Acceptable

Sulfide (PT-S2-WP) — Lot #: 8196-22

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2005	Sulfide	2/19/2019	SA		SM 4500-S D	mg/L	2.17	2.30	0.339 - 3.60	Acceptable

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Surfactants (PT-MBAS-WP) — Lot #: 8196-23

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2025	Surfactants - MBAS	2/6/2019	SA		SM 5540C	mg/L	0.656	0.727	0.402 - 0.952	Acceptable

TPH (PT-TPH-WP) — Lot #: 8196-114

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1853	Total Petroleum Hydrocarbons (TPH)	2/8/2019	SA		EPA 1664A	mg/L	47.8	41.1	21.3 - 69.0	Acceptable

Volatile Solids (PT-VSOL-WP) — Lot #: 8196-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1970	Volatile Solids	2/19/2019	SA		SM 2540E	mg/L	365	299	283 - 412	Acceptable

Turbidity (PT-TURB-WP) — Lot #: 8196-20

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2055	Turbidity	2/7/2019	AR		EPA 180.1	NTU	5.27	5.10	4.03 - 6.47	Acceptable

Silica (PT-SIO2-WP) — Lot #: 8196-21

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1990	Silica as SiO2	2/12/2019	SA		SM 4500-SiO2 C	mg/L	134	136	101 - 168	Acceptable

Color (PT-COL-WP) — Lot #: 8196-51

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1605	Color	2/8/2019	AR		SM 2120B	CU	65.0	60.0	47.7 - 76.7	Acceptable

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Volatiles (PT-VOA-WP) — Lot #: 8196-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	2/13/2019	JF		EPA 8260	µg/L	128	86.1	33.7 - 199	Acceptable
4375	Benzene	2/13/2019	JF		EPA 8260	µg/L	82.4	88.8	57.7 - 107	Acceptable
4395	Bromodichloromethane	2/13/2019	JF		EPA 8260	µg/L	<6	<6.00		Acceptable
4400	Bromoform	2/13/2019	JF		EPA 8260	µg/L	<6	<6.00		Acceptable
4950	Bromomethane	2/13/2019	JF		EPA 8260	µg/L	33.1	25.7	13.2 - 52.9	Acceptable
4455	Carbon tetrachloride	2/13/2019	JF		EPA 8260	µg/L	<7.7	<7.70		Acceptable
4475	Chlorobenzene	2/13/2019	JF		EPA 8260	µg/L	52.2	53.3	36.6 - 67.9	Acceptable
4485	Chloroethane	2/13/2019	JF		EPA 8260	µg/L	<8	<8.00		Acceptable
4505	Chloroform	2/13/2019	JF		EPA 8260	µg/L	22.8	23.7	16.0 - 29.6	Acceptable
4960	Chloromethane	2/13/2019	JF		EPA 8260	µg/L	37.3	37.5	14.9 - 59.8	Acceptable
4575	Dibromochloromethane	2/13/2019	JF		EPA 8260	µg/L	63.3	67.5	38.0 - 88.6	Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	2/13/2019	JF		EPA 8260	µg/L	<9.0	<9.00		Acceptable
4585	1,2-Dibromoethane (EDB)	2/13/2019	JF		EPA 8260	µg/L	92.5	103	60.1 - 125	Acceptable
4595	Dibromomethane	2/13/2019	JF		EPA 8260	µg/L	35.5	34.8	23.1 - 47.9	Acceptable
4610	1,2 Dichlorobenzene	2/13/2019	JF		EPA 8260	µg/L	82.3	86.9	57.6 - 107	Acceptable
4615	1,3 Dichlorobenzene	2/13/2019	JF		EPA 8260	µg/L	83.1	78.6	58.2 - 108	Acceptable
4620	1,4 Dichlorobenzene	2/13/2019	JF		EPA 8260	µg/L	105	102	73.8 - 137	Acceptable
4630	1,1-Dichloroethane	2/13/2019	JF		EPA 8260	µg/L	31.7	33.5	20.1 - 43.5	Acceptable
4635	1,2 Dichloroethane	2/13/2019	JF		EPA 8260	µg/L	16.9	18.0	12.0 - 24.1	Acceptable
4640	1,1-Dichloroethene	2/13/2019	JF		EPA 8260	µg/L	<6.2	<6.20		Acceptable
4645	cis-1,2-Dichloroethene	2/13/2019	JF		EPA 8260	µg/L	78.6	74.7	52.9 - 105	Acceptable
4700	trans-1,2-Dichloroethene	2/13/2019	JF		EPA 8260	µg/L	80.5	63.9	48.3 - 113	Acceptable
4655	1,2-Dichloropropane	2/13/2019	JF		EPA 8260	µg/L	26.0	26.9	18.2 - 33.8	Acceptable
4680	cis-1,3-Dichloropropene	2/13/2019	JF		EPA 8260	µg/L	<6.5	61.8		Not Acceptable
4685	trans-1,3-Dichloropropene	2/13/2019	JF		EPA 8260	µg/L	75.3	<6.50	48.9 - 102	Not Acceptable
4765	Ethylbenzene	2/13/2019	JF		EPA 8260	µg/L	61.9	62.0	43.3 - 80.5	Acceptable
4835	Hexachlorobutadiene	2/13/2019	JF		EPA 8260	µg/L	<4.3	<4.30		Acceptable
4840	Hexachloroethane					µg/L	<3.3			NR
4860	2-Hexanone	2/13/2019	JF		EPA 8260	µg/L	85.3	83.1	40.0 - 129	Acceptable

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Volatiles (PT-VOA-WP) cont'd — Lot #: 8196-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4975	Methylene Chloride	2/13/2019	JF		EPA 8260	µg/L	29.0	29.6	17.4 - 40.7	Acceptable
6385	2-Methylnaphthalene					µg/L	29.9		4.33 - 41.6	NR
4995	4-Methyl-2-pentanone (MIBK)	2/13/2019	JF		EPA 8260	µg/L	61.5	52.5	30.8 - 90.4	Acceptable
5000	Methyl tert-butyl ether (MTBE)	2/13/2019	JF		EPA 8260	µg/L	22.3	23.6	14.1 - 30.8	Acceptable
5005	Naphthalene	2/13/2019	JF		EPA 8260	µg/L	<6.3	<6.30		Acceptable
5015	Nitrobenzene					µg/L	56.9		18.4 - 68.5	NR
5100	Styrene	2/13/2019	JF		EPA 8260	µg/L	88.0	88.9	57.2 - 119	Acceptable
5105	1,1,1,2-Tetrachloroethane	2/13/2019	JF		EPA 8260	µg/L	115	117	74.9 - 156	Acceptable
5110	1,1,2,2-Tetrachloroethane	2/13/2019	JF		EPA 8260	µg/L	<9.8	<9.80		Acceptable
5115	Tetrachloroethene	2/13/2019	JF		EPA 8260	µg/L	43.9	40.2	24.2 - 57.6	Acceptable
5140	Toluene	2/13/2019	JF		EPA 8260	µg/L	74.2	76.0	52.0 - 96.5	Acceptable
5155	1,2,4-Trichlorobenzene	2/13/2019	JF		EPA 8260	µg/L	126	131	57.1 - 172	Acceptable
5160	1,1,1-Trichloroethane	2/13/2019	JF		EPA 8260	µg/L	76.2	77.0	45.7 - 107	Acceptable
5165	1,1,2-Trichloroethane	2/13/2019	JF		EPA 8260	µg/L	117	112	82.0 - 152	Acceptable
5170	Trichloroethene	2/13/2019	JF		EPA 8260	µg/L	38.8	38.2	24.6 - 51.1	Acceptable
5175	Trichlorofluoromethane	2/13/2019	JF		EPA 8260	µg/L	<8	<8.00		Acceptable
5180	1,2,3-Trichloropropane	2/13/2019	JF		EPA 8260	µg/L	<4.1	<4.10		Acceptable
5210	1,2,4-Trimethylbenzene	2/13/2019	JF		EPA 8260	µg/L	101	102	65.4 - 136	Acceptable
5215	1,3,5-Trimethylbenzene	2/13/2019	JF		EPA 8260	µg/L	26.7	22.9	17.3 - 36.0	Acceptable
5235	Vinyl chloride	2/13/2019	JF		EPA 8260	µg/L	56.8	48.1	22.7 - 90.9	Acceptable
5240	m+p-Xylene	2/13/2019	JF		EPA 8260	µg/L	68.8	71.1	41.3 - 96.3	Acceptable
5250	o-Xylene	2/13/2019	JF		EPA 8260	µg/L	59.2	61.5	35.5 - 82.9	Acceptable
5260	Xylenes, total	2/13/2019	JF		EPA 8260	µg/L	128	133	76.8 - 179	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	2/13/2019	JF		EPA 8260	µg/L	<5	<29.8		Acceptable
4325	Acrolein	2/13/2019	JF		EPA 8260	µg/L	<5	<0.909		Acceptable
4340	Acrylonitrile	2/13/2019	JF		EPA 8260	µg/L	<5	<0.479		Acceptable
4385	Bromobenzene	2/13/2019	JF		EPA 8260	µg/L	<10	<0.340		Acceptable
4390	Bromochloromethane	2/13/2019	JF		EPA 8260	µg/L	<5	<0.172		Acceptable

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Volatiles (PT-VOA-WP) cont'd — Lot #: 8196-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4410	2-Butanone (MEK)	2/13/2019	JF		EPA 8260	µg/L	112	123	11.2 - 224	Acceptable
4435	n-Butylbenzene	2/13/2019	JF		EPA 8260	µg/L	<10	<0.798		Acceptable
4440	sec-Butylbenzene	2/13/2019	JF		EPA 8260	µg/L	<10	<0.531		Acceptable
4445	tert-Butylbenzene	2/13/2019	JF		EPA 8260	µg/L	<10	<0.578		Acceptable
4450	Carbon disulfide	2/13/2019	JF		EPA 8260	µg/L	<5	<0.433		Acceptable
4500	2-Chloroethylvinylether	2/13/2019	JF		EPA 8260	µg/L	<5	<2.67		Acceptable
4535	2-Chlorotoluene	2/13/2019	JF		EPA 8260	µg/L	<5	<0.388		Acceptable
4540	4-Chlorotoluene	2/13/2019	JF		EPA 8260	µg/L	<10	<0.420		Acceptable
4625	Dichlorodifluoromethane	2/13/2019	JF		EPA 8260	µg/L	<5	<0.283		Acceptable
4627	Dichlorofluoromethane					µg/L	<5			NR
4660	1,3-Dichloropropane	2/13/2019	JF		EPA 8260	µg/L	<10	<0.220		Acceptable
4665	2,2-Dichloropropane	2/13/2019	JF		EPA 8260	µg/L	<10	<1.20		Acceptable
4670	1,1-Dichloropropene	2/13/2019	JF		EPA 8260	µg/L	<5	<0.359		Acceptable
4900	Isopropylbenzene	2/13/2019	JF		EPA 8260	µg/L	<10	<0.348		Acceptable
4910	p-Isopropyltoluene	2/13/2019	JF		EPA 8260	µg/L	<10	<0.592		Acceptable
5090	n-Propylbenzene	2/13/2019	JF		EPA 8260	µg/L	<10	<0.328		Acceptable
5150	1,2,3-Trichlorobenzene	2/13/2019	JF		EPA 8260	µg/L	<15	<0.751		Acceptable
5225	Vinyl acetate	2/13/2019	JF		EPA 8260	µg/L	<5	<2.31		Acceptable

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Base Neutrals (PT-BN-WP) — Lot #: 8196-27B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	1/30/2019	YE		EPA 8270	µg/L	25.8	23.5	9.44 - 32.2	Acceptable
5505	Acenaphthylene	1/30/2019	YE		EPA 8270	µg/L	161	116	57.0 - 201	Acceptable
5555	Anthracene	1/30/2019	YE		EPA 8270	µg/L	<3.9	<3.90		Acceptable
5575	Benzo(a)anthracene	1/30/2019	YE		EPA 8270	µg/L	149	103	71.8 - 179	Acceptable
5585	Benzo(b)fluoranthene	1/30/2019	YE		EPA 8270	µg/L	<7.5	<7.50		Acceptable
5600	Benzo(k)fluoranthene	1/30/2019	YE		EPA 8270	µg/L	<7.7	<7.70		Acceptable
5590	Benzo(g,h,i)perylene	1/30/2019	YE		EPA 8270	µg/L	52.4	36.7	20.3 - 69.4	Acceptable
5580	Benzo(a)pyrene	1/30/2019	YE		EPA 8270	µg/L	115	97.2	41.7 - 146	Acceptable
5660	4-Bromophenyl-phenylether	1/30/2019	YE		EPA 8270	µg/L	163	116	67.4 - 203	Acceptable
5670	Butyl benzyl phthalate	1/30/2019	YE		EPA 8270	µg/L	151	124	45.4 - 207	Acceptable
5760	bis(2-Chloroethoxy)methane	1/30/2019	YE		EPA 8270	µg/L	163	108	61.4 - 187	Acceptable
5765	bis(2-Chloroethyl)ether	1/30/2019	YE		EPA 8270	µg/L	<5.9	<5.90		Acceptable
5795	2-Chloronaphthalene	1/30/2019	YE		EPA 8270	µg/L	<6.3	<6.30		Acceptable
5825	4-Chlorophenyl-phenylether	1/30/2019	YE		EPA 8270	µg/L	99.6	70.8	37.1 - 123	Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	1/30/2019	YE		EPA 8270	µg/L	41.0	22.0	6.81 - 56.3	Acceptable
5855	Chrysene	1/30/2019	YE		EPA 8270	µg/L	64.1	50.9	28.1 - 81.3	Acceptable
5895	Dibenzo(a,h)anthracene	1/30/2019	YE		EPA 8270	µg/L	<6.9	<6.90		Acceptable
5905	Dibenzofuran	1/30/2019	YE		EPA 8270	µg/L	<11.3	<11.3		Acceptable
5925	Di-n-butylphthalate	1/30/2019	YE		EPA 8270	µg/L	137	123	48.0 - 176	Acceptable
4610	1,2-Dichlorobenzene	1/30/2019	YE		EPA 8270	µg/L	<2.0	<2.00		Acceptable
4615	1,3-Dichlorobenzene	1/30/2019	YE		EPA 8270	µg/L	105	63.6	10.5 - 123	Acceptable
4620	1,4-Dichlorobenzene	1/30/2019	YE		EPA 8270	µg/L	149	102	14.9 - 164	Acceptable
6070	Diethyl phthalate	1/30/2019	YE		EPA 8270	µg/L	159	109	30.4 - 215	Acceptable
6135	Dimethyl phthalate	1/30/2019	YE		EPA 8270	µg/L	58.9	39.8	5.89 - 88.6	Acceptable
6185	2,4-Dinitrotoluene	1/30/2019	YE		EPA 8270	µg/L	121	97.3	51.5 - 148	Acceptable
6190	2,6-Dinitrotoluene	1/30/2019	YE		EPA 8270	µg/L	116	92.4	47.2 - 140	Acceptable
6200	Di-n-octylphthalate	1/30/2019	YE		EPA 8270	µg/L	112	90.8	32.9 - 156	Acceptable
6065	bis(2-ethylhexyl) phthalate	1/30/2019	YE		EPA 8270	µg/L	156	124	54.5 - 202	Acceptable
6265	Fluoranthene	1/30/2019	YE		EPA 8270	µg/L	101	84.5	45.8 - 123	Acceptable

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Base Neutrals (PT-BN-WP) cont'd — Lot #: 8196-27B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6270	Fluorene	1/30/2019	YE		EPA 8270	µg/L	<4.8	<4.80		Acceptable
6275	Hexachlorobenzene	1/30/2019	YE		EPA 8270	µg/L	<8.8	<8.60		Acceptable
4835	Hexachlorobutadiene	1/30/2019	YE		EPA 8270	µg/L	<4.3	<4.30		Acceptable
6285	Hexachlorocyclopentadiene	1/30/2019	YE		EPA 8270	µg/L	<5	<5.00		Acceptable
4840	Hexachloroethane	1/30/2019	YE		EPA 8270	µg/L	181	127	18.1 - 199	Acceptable
6315	Indeno(1,2,3-cd)pyrene	1/30/2019	YE		EPA 8270	µg/L	<9.2	<9.20		Acceptable
6320	Isophorone	1/30/2019	YE		EPA 8270	µg/L	<7.1	<7.10		Acceptable
6385	2-Methylnaphthalene	1/30/2019	YE		EPA 8270	µg/L	<2.0	<2.00		Acceptable
5005	Naphthalene	1/30/2019	YE		EPA 8270	µg/L	145	111	34.8 - 168	Acceptable
5015	Nitrobenzene	1/30/2019	YE		EPA 8270	µg/L	134	94.4	43.9 - 159	Acceptable
6530	N-Nitrosodimethylamine	1/30/2019	YE		EPA 8270	µg/L	79.5	20.6	7.95 - 95.8	Acceptable
6535	N-Nitrosodiphenylamine	1/30/2019	YE		EPA 8270	µg/L	118	106	20.4 - 163	Acceptable
6545	N-Nitroso-di-n-propylamine	1/30/2019	YE		EPA 8270	µg/L	104	72.4	33.8 - 131	Acceptable
6615	Phenanthrene	1/30/2019	YE		EPA 8270	µg/L	<4.7	<4.70		Acceptable
6665	Pyrene	1/30/2019	YE		EPA 8270	µg/L	<4.9	<4.90		Acceptable
5155	1,2,4-Trichlorobenzene	1/30/2019	YE		EPA 8270	µg/L	183	126	37.5 - 212	Acceptable
Additional State Specific Analytes										
5545	Aniline	1/30/2019	YE		EPA 8270	µg/L	<30	<0.819		Acceptable
5595	Benzidine	1/30/2019	YE		EPA 8270	µg/L	<200	<0.579		Acceptable
5630	Benzyl alcohol	1/30/2019	YE		EPA 8270	µg/L	<50	<1.39		Acceptable
5680	Carbazole	1/30/2019	YE		EPA 8270	µg/L	<10	<0.804		Acceptable
5745	4-Chloroaniline	1/30/2019	YE		EPA 8270	µg/L	<50	<1.36		Acceptable
5790	1-Chloronaphthalene					µg/L	<20			NR
5945	3,3'-Dichlorobenzidine	1/30/2019	YE		EPA 8270	µg/L	<50	<2.02		Acceptable
4735	p-Dioxane					µg/L	<10			NR
6380	1-Methylnaphthalene	1/30/2019	YE		EPA 8270	µg/L	<30	<0.747		Acceptable
6460	2-Nitroaniline	1/30/2019	YE		EPA 8270	µg/L	<10	<1.23		Acceptable
6465	3-Nitroaniline	1/30/2019	YE		EPA 8270	µg/L	<10	<1.50		Acceptable
6470	4-Nitroaniline	1/30/2019	YE		EPA 8270	µg/L	<10	<1.39		Acceptable

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Final Report - Water Pollution Proficiency Testing

Study: WP0119

Opening Date: January 7, 2019 - Closing Date: February 21, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) cont'd — Lot #: 8196-27B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6525	N-Nitrosodiethylamine					µg/L	<30			NR
6590	Pentachlorobenzene					µg/L	<30			NR
5095	Pyridine	1/30/2019	YE		EPA 8270	µg/L	<30	<0.858		Acceptable
6715	1,2,4,5-Tetrachlorobenzene					µg/L	<30			NR
5145	o-Toluidine					µg/L	<30			NR

Acids (PT-ACIDS-WP) — Lot #: 8196-28

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5700	4-Chloro-3-methylphenol	1/30/2019	YE		EPA 8270	µg/L	152	106	57.2 - 187	Acceptable
5800	2-Chlorophenol	1/30/2019	YE		EPA 8270	µg/L	44.8	22.6	13.7 - 54.6	Acceptable
6000	2,4-Dichlorophenol	1/30/2019	YE		EPA 8270	µg/L	132	90.5	43.2 - 157	Acceptable
6005	2,6-Dichlorophenol	1/30/2019	YE		EPA 8270	µg/L	<12.1	<12.1		Acceptable
6130	2,4-Dimethylphenol	1/30/2019	YE		EPA 8270	µg/L	156	98.2	43.1 - 193	Acceptable
6175	2,4-Dinitrophenol	1/30/2019	YE		EPA 8270	µg/L	151	123	15.1 - 205	Acceptable
6360	2-Methyl-4,6-Dinitrophenol	1/30/2019	YE		EPA 8270	µg/L	85.6	72.1	26.1 - 120	Acceptable
6400	2-Methylphenol	1/30/2019	YE		EPA 8270	µg/L	62.7	33.8	14.6 - 75.4	Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	1/30/2019	YE		EPA 8270	µg/L	179	102	17.9 - 230	Acceptable
6490	2-Nitrophenol	1/30/2019	YE		EPA 8270	µg/L	171	116	59.0 - 204	Acceptable
6500	4-Nitrophenol	1/30/2019	YE		EPA 8270	µg/L	109	39.0	10.9 - 148	Acceptable
6625	Phenol	1/30/2019	YE		EPA 8270	µg/L	135	36.5	13.5 - 182	Acceptable
6605	Pentachlorophenol	1/30/2019	YE		EPA 8270	µg/L	113	77.2	37.5 - 152	Acceptable
6835	2,4,5-Trichlorophenol	1/30/2019	YE		EPA 8270	µg/L	185	120	67.4 - 224	Acceptable
6840	2,4,6-Trichlorophenol	1/30/2019	YE		EPA 8270	µg/L	61.5	42.5	23.2 - 75.3	Acceptable
Additional State Specific Analytes										
5610	Benzoic acid					µg/L	<50			NR
6495	3-Nitrophenol					µg/L	<100			NR
6735	2,3,4,6-Tetrachlorophenol	1/30/2019	YE		EPA 8270	µg/L	<50	<1.12		Acceptable

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EPA Lab ID: FL00095

Pesticides (PT-PEST-WP) — Lot #: 8196-29

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	1/23/2019	AC		EPA 8081	µg/L	12.6	8.54	4.46 - 17.0	Acceptable
7110	alpha-BHC	1/23/2019	AC		EPA 8081	µg/L	13.9	10.0	6.14 - 18.9	Acceptable
7115	beta-BHC	1/23/2019	AC		EPA 8081	µg/L	16.3	13.0	7.72 - 21.6	Acceptable
7105	delta-BHC	1/23/2019	AC		EPA 8081	µg/L	<0.79	<0.790		Acceptable
7120	gamma-BHC (Lindane)	1/23/2019	AC		EPA 8081	µg/L	19.4	15.1	8.56 - 26.5	Acceptable
7240	alpha-Chlordane					µg/L	7.71		3.48 - 10.3	NR
7245	gamma-Chlordane					µg/L	7.97		3.59 - 10.3	NR
7355	4,4'-DDD	1/23/2019	AC		EPA 8081	µg/L	8.98	6.90	4.53 - 12.2	Acceptable
7360	4,4'-DDE	1/23/2019	AC		EPA 8081	µg/L	7.56	4.74	3.27 - 10.2	Acceptable
7365	4,4'-DDT	1/23/2019	AC		EPA 8081	µg/L	6.96	5.00	2.75 - 9.97	Acceptable
7470	Dieldrin	1/23/2019	AC		EPA 8081	µg/L	4.93	4.22	2.50 - 6.57	Acceptable
7510	Endosulfan I	1/23/2019	AC		EPA 8081	µg/L	5.15	4.48	1.86 - 6.97	Acceptable
7515	Endosulfan II	1/23/2019	AC		EPA 8081	µg/L	15.8	14.0	6.61 - 21.3	Acceptable
7520	Endosulfan sulfate	1/23/2019	AC		EPA 8081	µg/L	18.3	14.4	8.52 - 24.6	Acceptable
7540	Endrin	1/23/2019	AC		EPA 8081	µg/L	14.7	13.2	6.47 - 20.7	Acceptable
7530	Endrin aldehyde	1/23/2019	AC		EPA 8081	µg/L	18.4	14.9	6.99 - 25.6	Acceptable
7535	Endrin ketone	1/23/2019	AC		EPA 8081	µg/L	16.3	13.7	8.82 - 21.0	Acceptable
7685	Heptachlor	1/23/2019	AC		EPA 8081	µg/L	4.12	3.42	1.44 - 5.62	Acceptable
7690	Heptachlor Epoxide (beta)	1/23/2019	AC		EPA 8081	µg/L	6.27	5.52	3.15 - 8.37	Acceptable
7810	Methoxychlor	1/23/2019	AC		EPA 8081	µg/L	11.2	9.06	4.88 - 16.1	Acceptable

Chlordane (PT-CHLR-WP) — Lot #: 8196-30

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane (total)	1/23/2019	AC		EPA 8081	µg/L	17.2	13.8	6.98 - 23.1	Acceptable

Toxaphene (PT-TXP-WP) — Lot #: 8196-31

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene (total)	1/23/2019	AC		EPA 8081	µg/L	38.1	34.8	8.41 - 56.9	Acceptable

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Final Report - Water Pollution Proficiency Testing

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

PCBs in Water (PT-PCBW-WP) — Lot #: 8196-32

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	1/23/2019	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8885	Aroclor 1221	1/23/2019	AC		EPA 8082	µg/L	<0.8	3.75		Not Acceptable
8890	Aroclor 1232	1/23/2019	AC		EPA 8082	µg/L	3.60	<0.800	1.36 - 5.03	Not Acceptable
8895	Aroclor 1242	1/23/2019	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8900	Aroclor 1248	1/23/2019	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8905	Aroclor 1254	1/23/2019	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8910	Aroclor 1260	1/23/2019	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable

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EPA Lab ID: FL00095

Herbicides (PT-HERB-WP) — Lot #: 8196-36

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	1/24/2019	AC		EPA 8151	µg/L	5.14	5.45	0.514 - 8.01	Acceptable
8595	Dicamba	1/24/2019	AC		EPA 8151	µg/L	5.37	3.91	1.23 - 7.76	Acceptable
8655	2,4,5-T	1/24/2019	AC		EPA 8151	µg/L	7.26	6.18	1.61 - 10.5	Acceptable
8650	2,4,5-TP (Silvex)	1/24/2019	AC		EPA 8151	µg/L	5.29	6.84	1.26 - 7.88	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	1/24/2019	AC		EPA 8151	µg/L	5.59	8.54	1.40 - 9.79	Acceptable
8530	Bentazon	1/24/2019	AC		EPA 8151	µg/L	9.48	9.59	0.948 - 14.2	Acceptable
7135	Brominal (Bromoxynil)					µg/L	<2			NR
8540	Chloramben	1/24/2019	AC		EPA 8151	µg/L	3.45	3.46	0.345 - 5.18	Acceptable
8560	2,4-DB	1/24/2019	AC		EPA 8151	µg/L	6.74	4.88	1.69 - 11.8	Acceptable
8605	2,4-DP (Dichlorprop)	1/24/2019	AC		EPA 8151	µg/L	4.09	3.95	0.409 - 6.14	Acceptable
8550	Dacthal (DCPA)	1/24/2019	AC		EPA 8151	µg/L	7.54	6.36	0.754 - 11.3	Acceptable
8555	Dalapon	1/24/2019	AC		EPA 8151	µg/L	6.49	4.26	1.62 - 11.4	Acceptable
8600	3,5-Dichlorobenzoic acid	1/24/2019	AC		EPA 8151	µg/L	8.02	5.52	0.802 - 12.0	Acceptable
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	1/24/2019	AC		EPA 8151	µg/L	9.74	10.4	0.974 - 14.6	Acceptable
7775	MCPA	1/24/2019	AC		EPA 8151	µg/L	<25	<8.45		Acceptable
7780	MCPP	1/24/2019	AC		EPA 8151	µg/L	<25	<12.8		Acceptable
6500	4-Nitrophenol					µg/L	6.71		0.671 - 10.1	NR
6605	Pentachlorophenol	1/24/2019	AC		EPA 8151	µg/L	4.21	4.67	1.05 - 7.36	Acceptable
8645	Picloram	1/24/2019	AC		EPA 8151	µg/L	2.88	3.59	0.721 - 5.05	Acceptable

Cyanide, Amenable (PT-CNA-WP) — Lot #: 8196-83

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes										
1510	Amenable cyanide	2/6/2019	SA		SM 4500-CN-G	mg/L	0.217	0.252	0.141 - 0.293	Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WP0119	280	274	97.9%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Pollution Proficiency Testing

Study: WP0718

Opening Date: July 9, 2018 - Closing Date: August 23, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM1-WP) — Lot #: 8191-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	7/18/2018	IN		EPA 6010	µg/L	2100	2120	1740 - 2400	Acceptable
1005	Antimony	7/18/2018	IN		EPA 200.8	µg/L	294	301	229 - 349	Acceptable
1005	Antimony	7/18/2018	IN		EPA 6010	µg/L	294	298	229 - 349	Acceptable
1010	Arsenic	7/18/2018	IN		EPA 200.8	µg/L	367	367	303 - 427	Acceptable
1010	Arsenic	7/18/2018	IN		EPA 6010	µg/L	367	362	303 - 427	Acceptable
1015	Barium	7/18/2018	IN		EPA 200.8	µg/L	305	310	259 - 351	Acceptable
1015	Barium	7/18/2018	IN		EPA 6010	µg/L	305	304	259 - 351	Acceptable
1020	Beryllium	7/18/2018	IN		EPA 200.8	µg/L	233	238	198 - 268	Acceptable
1020	Beryllium	7/18/2018	IN		EPA 6010	µg/L	233	238	198 - 268	Acceptable
1025	Boron	7/18/2018	IN		EPA 6010	µg/L	1480	1480	1260 - 1700	Acceptable
1030	Cadmium	7/18/2018	IN		EPA 200.8	µg/L	459	470	390 - 527	Acceptable
1030	Cadmium	7/18/2018	IN		EPA 6010	µg/L	459	466	390 - 527	Acceptable
1040	Chromium	7/18/2018	IN		EPA 200.8	µg/L	452	456	384 - 520	Acceptable
1040	Chromium	7/18/2018	IN		EPA 6010	µg/L	452	457	384 - 520	Acceptable
1050	Cobalt	7/18/2018	IN		EPA 200.8	µg/L	391	394	333 - 450	Acceptable
1050	Cobalt	7/18/2018	IN		EPA 6010	µg/L	391	395	333 - 450	Acceptable
1055	Copper	7/18/2018	IN		EPA 200.8	µg/L	432	439	367 - 497	Acceptable
1055	Copper	7/18/2018	IN		EPA 6010	µg/L	432	441	367 - 497	Acceptable
1070	Iron	7/18/2018	IN		EPA 6010	µg/L	3060	3130	2600 - 3520	Acceptable
1075	Lead	7/18/2018	IN		EPA 200.8	µg/L	522	531	444 - 600	Acceptable
1075	Lead	7/18/2018	IN		EPA 6010	µg/L	522	529	444 - 600	Acceptable
1090	Manganese	7/18/2018	IN		EPA 200.8	µg/L	1580	1600	1350 - 1820	Acceptable
1090	Manganese	7/18/2018	IN		EPA 6010	µg/L	1580	1610	1350 - 1820	Acceptable
1100	Molybdenum	7/18/2018	IN		EPA 200.8	µg/L	64.0	64.3	48.8 - 78.4	Acceptable
1100	Molybdenum	7/18/2018	IN		EPA 6010	µg/L	64.0	64.6	48.8 - 78.4	Acceptable
1105	Nickel	7/18/2018	IN		EPA 200.8	µg/L	1710	1740	1520 - 1920	Acceptable
1105	Nickel	7/18/2018	IN		EPA 6010	µg/L	1710	1740	1520 - 1920	Acceptable
1140	Selenium	7/18/2018	IN		EPA 200.8	µg/L	176	176	149 - 202	Acceptable
1140	Selenium	7/18/2018	IN		EPA 6010	µg/L	176	177	149 - 202	Acceptable

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Trace Metals 1 (PT-TM1-WP) cont'd — Lot #: 8191-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1150	Silver	7/18/2018	IN		EPA 200.8	µg/L	725	740	616 - 834	Acceptable
1150	Silver	7/18/2018	IN		EPA 6010	µg/L	725	739	616 - 834	Acceptable
1160	Strontium	7/18/2018	IN		EPA 200.8	µg/L	373	370	317 - 430	Acceptable
1160	Strontium	7/18/2018	IN		EPA 6010	µg/L	373	375	317 - 430	Acceptable
1165	Thallium	7/18/2018	IN		EPA 200.8	µg/L	322	328	260 - 378	Acceptable
1165	Thallium	7/18/2018	IN		EPA 6010	µg/L	322	332	260 - 378	Acceptable
1185	Vanadium	7/18/2018	IN		EPA 200.8	µg/L	283	278	241 - 326	Acceptable
1185	Vanadium	7/18/2018	IN		EPA 6010	µg/L	283	284	241 - 326	Acceptable
1190	Zinc	7/18/2018	IN		EPA 200.8	µg/L	541	555	460 - 622	Acceptable
1190	Zinc	7/18/2018	IN		EPA 6010	µg/L	541	561	460 - 622	Acceptable

Mercury (PT-HG-WP) — Lot #: 8191-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1095	Mercury	7/24/2018	EN		EPA 245.1	µg/L	19.6	19.3	13.7 - 25.5	Acceptable
1095	Mercury	7/19/2018	IN		EPA 200.8	µg/L	19.6	19.9	13.7 - 25.5	Acceptable
1095	Mercury	7/25/2018	EN		EPA 7470	µg/L	19.6	20.0	13.7 - 25.5	Acceptable

Tin and Titanium (PT-SNTI-WP) — Lot #: 8191-38

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1175	Tin	7/20/2018	IN		EPA 6010	µg/L	1420	1420	994 - 1850	Acceptable
1180	Titanium	7/18/2018	IN		EPA 6010	µg/L	213	249	181 - 244	Not Acceptable

Chromium VI (PT-CR6-WP) — Lot #: 8191-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1045	Chromium VI	8/9/2018	LLC		SM 3500-Cr B	µg/L	127	130	103 - 152	Acceptable

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EPA Lab ID: FL00095

Demand (PT-DEM-WP) — Lot #: 8191-07

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1530	BOD	8/14/2018	BRM		SM 5210B	mg/L	63.6	84.3	32.0 - 106	Acceptable
1555	CBOD	8/14/2018	BRM		SM 5210B	mg/L	63.6	85.7	24.7 - 106	Acceptable
1565	COD	8/3/2018	LLC		SM 5220D	mg/L	98.5	99.9	74.8 - 118	Acceptable
2040	TOC	8/6/2018	SA		SM 5310C	mg/L	38.9	37.1	32.2 - 45.4	Acceptable

Minerals 1 (PT-MIN1-WP) — Lot #: 8191-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1505	Total Alkalinity(as CaCO3)	8/7/2018	LLC		SM 2320B	mg/L	378	365	321 - 434	Acceptable
1505	Total Alkalinity(as CaCO3)	8/8/2018	LLC		EPA 310.2	mg/L	378	387	321 - 434	Acceptable
1540	Bromide	8/10/2018	DGK		EPA 300.0	mg/L	5.44	5.56	4.51 - 6.37	Acceptable
1575	Chloride	8/10/2018	DGK		EPA 300.0	mg/L	89.4	88.5	78.3 - 101	Acceptable
1575	Chloride	8/14/2018	SA		SM 4500-CL E	mg/L	89.4	93.8	78.3 - 101	Acceptable
1575	Chloride	8/16/2018	DGK		SM 4500 Cl-B	mg/L	89.4	89.0	78.3 - 101	Acceptable
1730	Fluoride	8/10/2018	DGK		EPA 300.0	mg/L	0.974	0.829	0.739 - 1.19	Acceptable
2000	Sulfate	8/10/2018	DGK		EPA 300.0	mg/L	76.5	76.6	63.5 - 87.2	Acceptable
2000	Sulfate	7/14/2018	SA		EPA 375.4	mg/L	76.5	77.9	63.5 - 87.2	Acceptable
Additional State Specific Analytes										
1813	Total Inorganic Carbon					mg/L	90.2		72.2 - 108	NR

Minerals 2 - Hardness (PT-MIN2-WP) — Lot #: 8191-102

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1035	Calcium	7/18/2018	IN		EPA 6010	mg/L	14.5	15.0	12.3 - 16.7	Acceptable
1550	Calcium Hardness (as CaCO3)	7/18/2018	IN		EPA 200.7	mg/L	36.2	37.3	30.7 - 41.6	Acceptable
1755	Total Hardness (as CaCO3)	7/18/2018	IN		EPA 200.7	mg/L	183	185	155 - 210	Acceptable
1085	Magnesium	7/18/2018	IN		EPA 6010	mg/L	35.6	35.8	30.3 - 40.9	Acceptable
1125	Potassium	7/18/2018	IN		EPA 6010	mg/L	28.6	29.0	22.9 - 34.4	Acceptable
1155	Sodium	7/18/2018	IN		EPA 6010	mg/L	63.1	65.4	50.5 - 75.7	Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Specific Conductance (PT-COND-WP) — Lot #: 8191-72

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance (25°C)	8/6/2018	SA		EPA 120.1	µmhos/cm	270	286	243 - 297	Acceptable

Solids (PT-SOL-WP) — Lot #: 8191-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1955	Total Dissolved Solids at 180° (TFR)	7/23/2018	AR		SM 2540C	mg/L	740	720	666 - 814	Acceptable
1960	Non-Filterable Residue (TSS)	7/23/2018	AR		SM 2540D	mg/L	31.5	33.0	22.4 - 37.5	Acceptable
1950	Total Solids	7/23/2018	AR		SM 2540B	mg/L	771	756	694 - 849	Acceptable

Nutrients 1 - Simple (PT-NUT1-WP) — Lot #: 8191-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	8/8/2018	YBR		EPA 350.1	mg/L	2.59	2.44	1.90 - 3.36	Acceptable
1810	Nitrate as N	8/10/2018	DGK		EPA 300.0	mg/L	9.55	9.56	7.89 - 11.2	Acceptable
1810	Nitrate as N	8/14/2018	SA		SM 4500-NO3 F	mg/L	9.55	9.81	7.89 - 11.2	Acceptable
1820	Nitrate and Nitrite as N	8/10/2018	DGK		EPA 300.0	mg/L	9.55	9.56	7.93 - 11.1	Acceptable
1820	Nitrate and Nitrite as N	8/13/2018	SA		SM 4500-NO3 F	mg/L	9.55	9.81	7.93 - 11.1	Acceptable
1870	Orthophosphate as P	8/10/2018	DGK		EPA 300.0	mg/L	2.17	2.82	1.84 - 2.49	Not Acceptable
1870	Orthophosphate as P	8/17/2018	SA		EPA 365.1	mg/L	2.17	2.19	1.84 - 2.49	Acceptable
Additional State Specific Analytes										
1712	Total Dissolved Phosphorus					mg/L	2.17		1.84 - 2.49	NR
1647	Dissolved Nitrogen					mg/L	12.1		10.1 - 14.2	NR
1827	Total Nitrogen					mg/L	12.1		10.1 - 14.2	NR

Nutrients 2 - Complex (PT-NUT2-WP) — Lot #: 8191-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1795	Total Kjeldahl Nitrogen (TKN)	8/7/2018	YBR		EPA 351.2	mg/L	34.6	32.8	26.2 - 41.5	Acceptable
1910	Total Phosphorous	8/7/2018	YBR		EPA 365.4	mg/L	3.39	3.22	2.78 - 3.96	Acceptable
1910	Total Phosphorous	8/10/2018	YBR		EPA 365.1	mg/L	3.39	3.40	2.78 - 3.96	Acceptable

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Nutrients 3 - Nitrite (PT-NUT3-WP) Lot #: 8191-69

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1840	Nitrite as N	8/10/2018	DGK		EPA 300.0	mg/L	2.88	2.83	2.48 - 3.28	Acceptable
1840	Nitrite as N	8/15/2018	DGK		SM 4500-NO2-B	mg/L	2.88	2.70	2.48 - 3.28	Acceptable
1840	Nitrite as N	8/14/2018	SA		SM 4500-NO3 F	mg/L	2.88	2.81	2.48 - 3.28	Acceptable

Oil & Grease (PT-OGR-WP) Lot #: 8191-111

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	8/14/2018	DGK		EPA 1664A	mg/L	27.0	24.1	14.3 - 35.6	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/L	32.9		18.9 - 42.2	NR

pH (PT-PH-WP) Lot #: 8191-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1900	pH	8/3/2018	LLC		SM 4500-H+ B	S.U.	6.95	6.94	6.75 - 7.15	Acceptable

Total Cyanide (PT-CN-WP) Lot #: 8191-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Total Cyanide	8/7/2018	SA		SM 4500CN-E	mg/L	0.301	0.361	0.196 - 0.406	Acceptable

Cyanide, Amenable (PT-CNA-WP) Lot #: 8191-83

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes										
1510	Amenable cyanide	8/22/2018	SA		SM 4500-CN-G	mg/L	0.347	0.383	0.226 - 0.468	Acceptable

Phenolics (PT-PHEN-WP) Lot #: 8191-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1905	Total Phenolics (4AAP)	8/21/2018	SA		EPA 420.4	mg/L	2.79	1.57	0.921 - 3.07	Acceptable

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9549786400

EPA Lab ID: FL00095

Sulfide (PT-S2-WP) — Lot #: 8191-22

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2005	Sulfide	8/3/2018	LLC		SM 4500-S D	mg/L	4.56	2.63	1.78 - 6.77	Acceptable

Surfactants (PT-MBAS-WP) — Lot #: 8191-23

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2025	Surfactants - MBAS	8/16/2018	DGK		SM 5540C	mg/L	0.293	0.329	0.168 - 0.429	Acceptable

TPH (PT-TPH-WP) — Lot #: 8191-114

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1853	Total Petroleum Hydrocarbons (TPH)	8/15/2018	DGK		EPA 1664A	mg/L	36.9	33.2	15.9 - 53.2	Acceptable

Volatile Solids (PT-VSOL-WP) — Lot #: 8191-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1970	Volatile Solids	8/16/2018	SA		SM 2540 E	mg/L	484	352	391 - 534	Not Acceptable

Turbidity (PT-TURB-WP) — Lot #: 8191-20

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2055	Turbidity	8/16/2018	LLC		EPA 180.1	NTU	3.84	4.20	2.80 - 4.84	Acceptable

Silica (PT-SIO2-WP) — Lot #: 8191-21

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1990	Silica as SiO2	8/15/2018	LLC		SM 4500-SiO2 C	mg/L	236	255	177 - 295	Acceptable

Color (PT-COL-WP) — Lot #: 8191-51

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1605	Color	8/7/2018	LLC		SM 2120B	CU	36.7	40.0	24.0 - 46.7	Acceptable

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9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-WP) — Lot #: 8191-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	8/8/2018	BBL		EPA 8260	µg/L	120	131	31.6 - 188	Acceptable
4375	Benzene	8/8/2018	BBL		EPA 8260	µg/L	76.5	70.3	53.5 - 99.4	Acceptable
4395	Bromodichloromethane	8/8/2018	BBL		EPA 8260	µg/L	77.5	85.1	46.5 - 108	Acceptable
4400	Bromoform	8/8/2018	BBL		EPA 8260	µg/L	37.7	43.6	22.6 - 52.8	Acceptable
4950	Bromomethane	8/8/2018	BBL		EPA 8260	µg/L	26.1	24.0	10.4 - 41.7	Acceptable
4455	Carbon tetrachloride	8/8/2018	BBL		EPA 8260	µg/L	<7.7	<7.70		Acceptable
4475	Chlorobenzene	8/8/2018	BBL		EPA 8260	µg/L	50.2	49.7	35.1 - 65.2	Acceptable
4485	Chloroethane	8/8/2018	BBL		EPA 8260	µg/L	<8	<8.00		Acceptable
4505	Chloroform	8/8/2018	BBL		EPA 8260	µg/L	<7.0	<7.00		Acceptable
4960	Chloromethane	8/8/2018	BBL		EPA 8260	µg/L	21.1	20.6	8.46 - 33.8	Acceptable
4575	Dibromochloromethane	8/8/2018	BBL		EPA 8260	µg/L	<6.0	<6.00		Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	8/8/2018	BBL		EPA 8260	µg/L	52.5	52.8	31.5 - 73.5	Acceptable
4585	1,2-Dibromoethane (EDB)	8/8/2018	BBL		EPA 8260	µg/L	82.7	89.7	53.8 - 112	Acceptable
4595	Dibromomethane	8/8/2018	BBL		EPA 8260	µg/L	40.0	40.2	26.0 - 54.0	Acceptable
4610	1,2 Dichlorobenzene	8/8/2018	BBL		EPA 8260	µg/L	23.1	19.5	16.2 - 30.0	Acceptable
4615	1,3 Dichlorobenzene	8/8/2018	BBL		EPA 8260	µg/L	29.1	25.7	20.4 - 37.9	Acceptable
4620	1,4 Dichlorobenzene	8/8/2018	BBL		EPA 8260	µg/L	42.4	39.2	29.7 - 55.2	Acceptable
4630	1,1-Dichloroethane	8/8/2018	BBL		EPA 8260	µg/L	119	116	75.0 - 163	Acceptable
4635	1,2 Dichloroethane	8/8/2018	BBL		EPA 8260	µg/L	30.9	32.1	21.9 - 41.6	Acceptable
4640	1,1-Dichloroethene	8/8/2018	BBL		EPA 8260	µg/L	<6.2	<6.20		Acceptable
4645	cis-1,2-Dichloroethene	8/8/2018	BBL		EPA 8260	µg/L	<7.0	<7.00		Acceptable
4700	trans-1,2-Dichloroethene	8/8/2018	BBL		EPA 8260	µg/L	<6.0	<6.00		Acceptable
4655	1,2-Dichloropropane	8/8/2018	BBL		EPA 8260	µg/L	25.1	25.2	17.6 - 32.6	Acceptable
4680	cis-1,3-Dichloropropene	8/8/2018	BBL		EPA 8260	µg/L	39.6	36.4	25.7 - 53.4	Acceptable
4685	trans-1,3-Dichloropropene	8/8/2018	BBL		EPA 8260	µg/L	<6.5	<6.50		Acceptable
4765	Ethylbenzene	8/8/2018	BBL		EPA 8260	µg/L	33.7	35.7	23.6 - 43.9	Acceptable
4835	Hexachlorobutadiene	8/8/2018	BBL		EPA 8260	µg/L	67.6	73.5	6.76 - 83.7	Acceptable
4840	Hexachloroethane					µg/L	<3.3			NR
4860	2-Hexanone	8/8/2018	BBL		EPA 8260	µg/L	61.4	64.3	27.0 - 94.1	Acceptable

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Volatiles (PT-VOA-WP) cont'd — Lot #: 8191-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4975	Methylene Chloride	8/8/2018	BBL		EPA 8260	µg/L	91.6	104	55.0 - 128	Acceptable
6385	2-Methylnaphthalene					µg/L	<2.0			NR
4995	4-Methyl-2-pentanone (MIBK)	8/8/2018	BBL		EPA 8260	µg/L	120	120	72.9 - 165	Acceptable
5000	Methyl tert-butyl ether (MTBE)	8/8/2018	BBL		EPA 8260	µg/L	86.5	81.0	58.4 - 118	Acceptable
5005	Naphthalene	8/8/2018	BBL		EPA 8260	µg/L	49.1	40.4	22.6 - 66.5	Acceptable
5015	Nitrobenzene					µg/L	<6.2			NR
5100	Styrene	8/8/2018	BBL		EPA 8260	µg/L	85.4	105	55.5 - 115	Acceptable
5105	1,1,1,2-Tetrachloroethane	8/8/2018	BBL		EPA 8260	µg/L	26.7	25.9	17.3 - 36.0	Acceptable
5110	1,1,2,2-Tetrachloroethane	8/8/2018	BBL		EPA 8260	µg/L	71.5	75.5	46.5 - 96.6	Acceptable
5115	Tetrachloroethene	8/8/2018	BBL		EPA 8260	µg/L	94.8	94.7	53.9 - 124	Acceptable
5140	Toluene	8/8/2018	BBL		EPA 8260	µg/L	58.5	55.7	41.0 - 76.1	Acceptable
5155	1,2,4-Trichlorobenzene	8/8/2018	BBL		EPA 8260	µg/L	24.6	26.3	8.84 - 33.7	Acceptable
5160	1,1,1-Trichloroethane	8/8/2018	BBL		EPA 8260	µg/L	<6.0	<6.00		Acceptable
5165	1,1,2-Trichloroethane	8/8/2018	BBL		EPA 8260	µg/L	24.1	24.8	16.9 - 31.4	Acceptable
5170	Trichloroethene	8/8/2018	BBL		EPA 8260	µg/L	79.2	84.0	50.3 - 103	Acceptable
5175	Trichlorofluoromethane	8/8/2018	BBL		EPA 8260	µg/L	48.3	46.0	19.3 - 77.4	Acceptable
5180	1,2,3-Trichloropropane	8/8/2018	BBL		EPA 8260	µg/L	91.1	93.6	42.0 - 137	Acceptable
5210	1,2,4-Trimethylbenzene	8/8/2018	BBL		EPA 8260	µg/L	95.9	83.1	62.3 - 129	Acceptable
5215	1,3,5-Trimethylbenzene	8/8/2018	BBL		EPA 8260	µg/L	98.2	92.3	63.8 - 133	Acceptable
5235	Vinyl chloride	8/8/2018	BBL		EPA 8260	µg/L	<8	<8.00		Acceptable
5240	m+p-Xylene	8/8/2018	BBL		EPA 8260	µg/L	42.0	48.3	25.2 - 58.7	Acceptable
5250	o-Xylene	8/8/2018	BBL		EPA 8260	µg/L	95.7	112	57.4 - 134	Acceptable
5260	Xylenes, total	8/8/2018	BBL		EPA 8260	µg/L	138	160	82.6 - 193	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	8/8/2018	BBL		EPA 8260	µg/L	<5	<29.8		Acceptable
4325	Acrolein	8/8/2018	BBL		EPA 8260	µg/L	<5	<0.909		Acceptable
4340	Acrylonitrile	8/8/2018	BBL		EPA 8260	µg/L	<5	<0.479		Acceptable
4385	Bromobenzene	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.340		Acceptable
4390	Bromochloromethane	8/8/2018	BBL		EPA 8260	µg/L	<5	<0.172		Acceptable

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Volatiles (PT-VOA-WP) cont'd — Lot #: 8191-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4410	2-Butanone (MEK)	8/8/2018	BBL		EPA 8260	µg/L	125	140	12.5 - 250	Acceptable
4435	n-Butylbenzene	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.798		Acceptable
4440	sec-Butylbenzene	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.531		Acceptable
4445	tert-Butylbenzene	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.578		Acceptable
4450	Carbon disulfide	8/8/2018	BBL		EPA 8260	µg/L	<5	<0.433		Acceptable
4500	2-Chloroethylvinylether	8/8/2018	BBL		EPA 8260	µg/L	<5	<2.24		Acceptable
4535	2-Chlorotoluene	8/8/2018	BBL		EPA 8260	µg/L	<5	<0.388		Acceptable
4540	4-Chlorotoluene	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.420		Acceptable
4625	Dichlorodifluoromethane	8/8/2018	BBL		EPA 8260	µg/L	<5	<0.283		Acceptable
4627	Dichlorofluoromethane					µg/L	<5			NR
4660	1,3-Dichloropropane	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.220		Acceptable
4665	2,2-Dichloropropane	8/8/2018	BBL		EPA 8260	µg/L	<10	<1.20		Acceptable
4670	1,1-Dichloropropene	8/8/2018	BBL		EPA 8260	µg/L	<5	<0.359		Acceptable
4900	Isopropylbenzene	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.348		Acceptable
4910	p-Isopropyltoluene	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.592		Acceptable
5090	n-Propylbenzene	8/8/2018	BBL		EPA 8260	µg/L	<10	<0.328		Acceptable
5150	1,2,3-Trichlorobenzene	8/8/2018	BBL		EPA 8260	µg/L	<15	<0.751		Acceptable
5225	Vinyl acetate	8/8/2018	BBL		EPA 8260	µg/L	<5	<2.31		Acceptable

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Opening Date: July 9, 2018 - Closing Date: August 23, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) Lot #: 8191-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	7/18/2018	AC		EPA 8270	µg/L	134	126	47.1 - 163	Acceptable
5505	Acenaphthylene	7/18/2018	AC		EPA 8270	µg/L	<2.9	<2.90		Acceptable
5555	Anthracene	7/18/2018	AC		EPA 8270	µg/L	<3.9	<3.90		Acceptable
5575	Benzo(a)anthracene	7/18/2018	AC		EPA 8270	µg/L	<3.6	<3.60		Acceptable
5585	Benzo(b)fluoranthene	7/18/2018	AC		EPA 8270	µg/L	106	115	40.6 - 137	Acceptable
5600	Benzo(k)fluoranthene	7/18/2018	AC		EPA 8270	µg/L	<7.7	<7.70		Acceptable
5590	Benzo(g,h,i)perylene	7/18/2018	AC		EPA 8270	µg/L	<5.1	<5.10		Acceptable
5580	Benzo(a)pyrene	7/18/2018	AC		EPA 8270	µg/L	<2.4	<2.40		Acceptable
5660	4-Bromophenyl-phenylether	7/18/2018	AC		EPA 8270	µg/L	158	129	65.3 - 196	Acceptable
5670	Butyl benzyl phthalate	7/18/2018	AC		EPA 8270	µg/L	<13.4	<13.4		Acceptable
5760	bis(2-Chloroethoxy)methane	7/18/2018	AC		EPA 8270	µg/L	<3.9	<3.90		Acceptable
5765	bis(2-Chloroethyl)ether	7/18/2018	AC		EPA 8270	µg/L	124	80.0	31.9 - 148	Acceptable
5795	2-Chloronaphthalene	7/18/2018	AC		EPA 8270	µg/L	191	162	52.0 - 225	Acceptable
5825	4-Chlorophenyl-phenylether	7/18/2018	AC		EPA 8270	µg/L	112	101	41.4 - 138	Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	7/18/2018	AC		EPA 8270	µg/L	166	119	49.0 - 196	Acceptable
5855	Chrysene	7/18/2018	AC		EPA 8270	µg/L	82.9	78.0	35.9 - 104	Acceptable
5895	Dibenzo(a,h)anthracene	7/18/2018	AC		EPA 8270	µg/L	56.4	51.6	20.0 - 76.0	Acceptable
5905	Dibenzofuran	7/18/2018	AC		EPA 8270	µg/L	41.8	41.5	15.9 - 51.4	Acceptable
5925	Di-n-butylphthalate	7/18/2018	AC		EPA 8270	µg/L	64.2	60.0	23.8 - 86.5	Acceptable
4610	1,2-Dichlorobenzene	7/18/2018	AC		EPA 8270	µg/L	115	84.5	14.9 - 133	Acceptable
4615	1,3-Dichlorobenzene	7/18/2018	AC		EPA 8270	µg/L	70.9	49.5	7.09 - 84.0	Acceptable
4620	1,4-Dichlorobenzene	7/18/2018	AC		EPA 8270	µg/L	157	109	15.7 - 173	Acceptable
6070	Diethyl phthalate	7/18/2018	AC		EPA 8270	µg/L	60.7	60.2	9.91 - 87.8	Acceptable
6135	Dimethyl phthalate	7/18/2018	AC		EPA 8270	µg/L	160	128	16.0 - 229	Acceptable
6185	2,4-Dinitrotoluene	7/18/2018	AC		EPA 8270	µg/L	<4.5	<4.50		Acceptable
6190	2,6-Dinitrotoluene	7/18/2018	AC		EPA 8270	µg/L	99.8	87.3	40.5 - 120	Acceptable
6200	Di-n-octylphthalate	7/18/2018	AC		EPA 8270	µg/L	187	175	55.4 - 256	Acceptable
6065	bis(2-ethylhexyl) phthalate	7/18/2018	AC		EPA 8270	µg/L	160	137	56.1 - 208	Acceptable
6265	Fluoranthene	7/18/2018	AC		EPA 8270	µg/L	68.2	62.3	31.9 - 84.4	Acceptable

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Study: WP0718

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Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) cont'd — Lot #: 8191-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6270	Fluorene	7/18/2018	AC		EPA 8270	µg/L	121	115	50.6 - 142	Acceptable
6275	Hexachlorobenzene	7/18/2018	AC		EPA 8270	µg/L	<8.8	<8.80		Acceptable
4835	Hexachlorobutadiene	7/18/2018	AC		EPA 8270	µg/L	57.8	44.5	5.78 - 72.8	Acceptable
6285	Hexachlorocyclopentadiene	7/18/2018	AC		EPA 8270	µg/L	<5	<5.00		Acceptable
4840	Hexachloroethane	7/18/2018	AC		EPA 8270	µg/L	<3.3	<3.30		Acceptable
6315	Indeno(1,2,3-cd)pyrene	7/18/2018	AC		EPA 8270	µg/L	177	126	50.9 - 212	Acceptable
6320	Isophorone	7/18/2018	AC		EPA 8270	µg/L	70.6	69.4	25.7 - 88.4	Acceptable
6385	2-Methylnaphthalene	7/18/2018	AC		EPA 8270	µg/L	109	91.5	27.2 - 129	Acceptable
5005	Naphthalene	7/18/2018	AC		EPA 8270	µg/L	158	124	38.0 - 182	Acceptable
5015	Nitrobenzene	7/18/2018	AC		EPA 8270	µg/L	82.3	57.5	26.8 - 98.1	Acceptable
6530	N-Nitrosodimethylamine	7/18/2018	AC		EPA 8270	µg/L	<7.5	<7.50		Acceptable
6535	N-Nitrosodiphenylamine	7/18/2018	AC		EPA 8270	µg/L	<5.6	<5.60		Acceptable
6545	N-Nitroso-di-n-propylamine	7/18/2018	AC		EPA 8270	µg/L	113	86.5	36.7 - 142	Acceptable
6615	Phenanthrene	7/18/2018	AC		EPA 8270	µg/L	<4.7	<4.70		Acceptable
6665	Pyrene	7/18/2018	AC		EPA 8270	µg/L	<4.9	<4.90		Acceptable
5155	1,2,4-Trichlorobenzene	7/18/2018	AC		EPA 8270	µg/L	<2.0	<2.00		Acceptable
Additional State Specific Analytes										
5545	Aniline	7/18/2018	AC		EPA 8270	µg/L	<30	<0.819		Acceptable
5595	Benzidine	7/18/2018	AC		EPA 8270	µg/L	<200	<0.579		Acceptable
5630	Benzyl alcohol	7/18/2018	AC		EPA 8270	µg/L	<50	<1.39		Acceptable
5680	Carbazole	7/18/2018	AC		EPA 8270	µg/L	<10	<0.804		Acceptable
5745	4-Chloroaniline	7/18/2018	AC		EPA 8270	µg/L	<50	<1.36		Acceptable
5790	1-Chloronaphthalene					µg/L	<20			NR
5945	3,3'-Dichlorobenzidine	7/18/2018	AC		EPA 8270	µg/L	<50	<2.02		Acceptable
4735	p-Dioxane					µg/L	<10			NR
6380	1-Methylnaphthalene	7/18/2018	AC		EPA 8270	µg/L	<30	<0.747		Acceptable
6460	2-Nitroaniline	7/18/2018	AC		EPA 8270	µg/L	<10	<1.23		Acceptable
6465	3-Nitroaniline	7/18/2018	AC		EPA 8270	µg/L	<10	<1.50		Acceptable
6470	4-Nitroaniline	7/18/2018	AC		EPA 8270	µg/L	<10	<1.36		Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) cont'd — Lot #: 8191-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6525	N-Nitrosodiethylamine					µg/L	<30			NR
6590	Pentachlorobenzene					µg/L	<30			NR
5095	Pyridine	7/18/2018	AC		EPA 8270	µg/L	<30	<0.858		Acceptable
6715	1,2,4,5-Tetrachlorobenzene					µg/L	<30			NR
5145	o-Toluidine					µg/L	<30			NR

Acids (PT-ACIDS-WP) — Lot #: 8191-28

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5700	4-Chloro-3-methylphenol	7/18/2018	AC		EPA 8270	µg/L	<11.7	<11.7		Acceptable
5800	2-Chlorophenol	7/18/2018	AC		EPA 8270	µg/L	54.1	29.6	16.2 - 65.6	Acceptable
6000	2,4-Dichlorophenol	7/18/2018	AC		EPA 8270	µg/L	49.4	29.6	17.8 - 60.6	Acceptable
6005	2,6-Dichlorophenol	7/18/2018	AC		EPA 8270	µg/L	120	79.0	37.6 - 151	Acceptable
6130	2,4-Dimethylphenol	7/18/2018	AC		EPA 8270	µg/L	75.7	38.1	21.6 - 94.9	Acceptable
6175	2,4-Dinitrophenol	7/18/2018	AC		EPA 8270	µg/L	177	126	17.7 - 235	Acceptable
6360	2-Methyl-4,6-Dinitrophenol	7/18/2018	AC		EPA 8270	µg/L	167	132	53.9 - 225	Acceptable
6400	2-Methylphenol	7/18/2018	AC		EPA 8270	µg/L	104	55.6	23.9 - 123	Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	7/18/2018	AC		EPA 8270	µg/L	88.8	53.9	8.88 - 116	Acceptable
6490	2-Nitrophenol	7/18/2018	AC		EPA 8270	µg/L	109	65.0	35.5 - 134	Acceptable
6500	4-Nitrophenol	7/18/2018	AC		EPA 8270	µg/L	117	37.0	11.7 - 159	Acceptable
6625	Phenol	7/18/2018	AC		EPA 8270	µg/L	191	57.5	19.1 - 256	Acceptable
6605	Pentachlorophenol	7/18/2018	AC		EPA 8270	µg/L	162	90.7	56.1 - 217	Acceptable
6835	2,4,5-Trichlorophenol	7/18/2018	AC		EPA 8270	µg/L	47.4	33.3	17.5 - 62.2	Acceptable
6840	2,4,6-Trichlorophenol	7/18/2018	AC		EPA 8270	µg/L	98.4	65.4	36.8 - 120	Acceptable
Additional State Specific Analytes										
5610	Benzoic acid					µg/L	<50			NR
6495	3-Nitrophenol					µg/L	<100			NR
6735	2,3,4,6-Tetrachlorophenol	7/18/2018	AC		EPA 8270	µg/L	<50	<1.12		Acceptable

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9549786400

EPA Lab ID: FL00095

Pesticides (PT-PEST-WP) — Lot #: 8191-29

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	7/17/2018	YE		EPA 608.3	µg/L	10.5	8.30	3.71 - 14.1	Acceptable
7110	alpha-BHC	7/17/2018	YE		EPA 608.3	µg/L	5.97	4.36	2.59 - 8.19	Acceptable
7115	beta-BHC	7/17/2018	YE		EPA 608.3	µg/L	2.94	2.43	1.37 - 4.25	Acceptable
7105	delta-BHC	7/17/2018	YE		EPA 608.3	µg/L	<0.79	<0.790		Acceptable
7120	gamma-BHC (Lindane)	7/17/2018	YE		EPA 608.3	µg/L	13.6	10.2	6.01 - 18.6	Acceptable
7240	alpha-Chlordane					µg/L	5.40		2.42 - 7.24	NR
7245	gamma-Chlordane					µg/L	6.21		2.78 - 8.14	NR
7355	4,4'-DDD	7/17/2018	YE		EPA 608.3	µg/L	5.72	4.99	2.71 - 7.98	Acceptable
7360	4,4'-DDE	7/17/2018	YE		EPA 608.3	µg/L	4.05	3.04	1.73 - 5.54	Acceptable
7365	4,4'-DDT	7/17/2018	YE		EPA 608.3	µg/L	4.00	3.12	1.59 - 5.82	Acceptable
7470	Dieldrin	7/17/2018	YE		EPA 608.3	µg/L	2.47	2.46	1.23 - 3.34	Acceptable
7510	Endosulfan I	7/17/2018	YE		EPA 608.3	µg/L	15.7	13.4	6.14 - 21.0	Acceptable
7515	Endosulfan II	7/17/2018	YE		EPA 608.3	µg/L	14.0	12.5	5.85 - 18.9	Acceptable
7520	Endosulfan sulfate	7/17/2018	YE		EPA 608.3	µg/L	14.0	11.9	6.51 - 19.1	Acceptable
7540	Endrin	7/17/2018	YE		EPA 608.3	µg/L	17.0	14.5	7.49 - 24.0	Acceptable
7530	Endrin aldehyde	7/17/2018	YE		EPA 608.3	µg/L	18.4	14.9	6.99 - 25.6	Acceptable
7535	Endrin ketone	7/17/2018	YE		EPA 608.3	µg/L	18.9	17.4	10.3 - 24.2	Acceptable
7685	Heptachlor	7/17/2018	YE		EPA 608.3	µg/L	6.09	6.08	2.17 - 8.24	Acceptable
7690	Heptachlor Epoxide (beta)	7/17/2018	YE		EPA 608.3	µg/L	1.65	1.38	0.773 - 2.26	Acceptable
7810	Methoxychlor	7/17/2018	YE		EPA 608.3	µg/L	4.74	4.94	1.83 - 7.37	Acceptable

Chlordane (PT-CHLR-WP) — Lot #: 8191-30

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane (total)	7/17/2018	YE		EPA 608.3	µg/L	5.11	4.16	2.28 - 7.23	Acceptable

Toxaphene (PT-TXP-WP) — Lot #: 8191-31

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene (total)	7/17/2018	YE		EPA 608.3	µg/L	40.8	39.1	8.99 - 60.8	Acceptable

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9549786400

EPA Lab ID: FL00095

PCBs in Water (PT-PCBW-WP) Lot #: 8191-32

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	7/18/2018	YE		EPA 608.3	µg/L	6.75	4.36	2.48 - 9.15	Acceptable
8885	Aroclor 1221	7/18/2018	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8890	Aroclor 1232	7/18/2018	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8895	Aroclor 1242	7/18/2018	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8900	Aroclor 1248	7/18/2018	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8905	Aroclor 1254	7/18/2018	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable
8910	Aroclor 1260	7/18/2018	YE		EPA 608.3	µg/L	<0.8	<0.800		Acceptable

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9549786400

EPA Lab ID: FL00095

Herbicides (PT-HERB-WP) — Lot #: 8191-36

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	7/16/2018	YE		EPA 8151	µg/L	3.05	2.98	0.305 - 4.91	Acceptable
8595	Dicamba	7/16/2018	YE		EPA 8151	µg/L	3.14	3.68	0.654 - 4.83	Acceptable
8655	2,4,5-T	7/17/2018	YE		EPA 8151	µg/L	5.17	4.92	1.07 - 7.61	Acceptable
8650	2,4,5-TP (Silvex)	7/17/2018	YE		EPA 8151	µg/L	6.40	7.84	1.51 - 9.48	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	7/17/2018	YE		EPA 8151	µg/L	6.34	6.48	1.58 - 11.1	Acceptable
8530	Bentazon	7/17/2018	YE		EPA 8151	µg/L	8.87	7.83	0.887 - 13.3	Acceptable
7135	Brominal (Bromoxynil)					µg/L	<2			NR
8540	Chloramben	7/16/2018	YE		EPA 8151	µg/L	2.97	2.13	0.297 - 4.45	Acceptable
8560	2,4-DB	7/16/2018	YE		EPA 8151	µg/L	3.61	3.69	0.903 - 6.32	Acceptable
8605	2,4-DP (Dichlorprop)	7/17/2018	YE		EPA 8151	µg/L	3.27	3.80	0.327 - 4.91	Acceptable
8550	Dacthal (DCPA)	7/16/2018	YE		EPA 8151	µg/L	3.20	2.06	0.320 - 4.80	Acceptable
8555	Dalapon	7/16/2018	YE		EPA 8151	µg/L	4.42	4.11	0.442 - 6.63	Acceptable
8600	3,5-Dichlorobenzoic acid	7/16/2018	YE		EPA 8151	µg/L	3.27	3.36	0.327 - 4.91	Acceptable
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	7/17/2018	YE		EPA 8151	µg/L	6.22	3.72	0.622 - 9.33	Acceptable
7775	MCPA	7/16/2018	YE		EPA 8151	µg/L	<25	<8.45		Acceptable
7780	MCPP	7/16/2018	YE		EPA 8151	µg/L	<25	<12.8		Acceptable
6500	4-Nitrophenol					µg/L	9.74		0.974 - 14.6	NR
6605	Pentachlorophenol	7/17/2018	YE		EPA 8151	µg/L	8.11	8.34	2.03 - 14.2	Acceptable
8645	Picloram	7/17/2018	YE		EPA 8151	µg/L	4.58	4.64	1.15 - 8.02	Acceptable

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PT Study Score Report

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usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WP0718	280	277	98.9%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Pollution Proficiency Testing

Study: WP0118

Opening Date: January 8, 2018 - Closing Date: February 22, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM1-WP) — Lot #: 8185-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	1/17/2018	IN		EPA 200.7	µg/L	2750	2700	2290 - 3130	Acceptable
1005	Antimony	1/17/2018	MAZ		EPA 200.8	µg/L	302	297	236 - 358	Acceptable
1005	Antimony	1/17/2018	IN		EPA 200.7	µg/L	302	301	236 - 358	Acceptable
1010	Arsenic	1/17/2018	MAZ		EPA 200.8	µg/L	569	559	478 - 653	Acceptable
1010	Arsenic	1/17/2018	IN		EPA 200.7	µg/L	569	559	478 - 653	Acceptable
1015	Barium	1/17/2018	MAZ		EPA 200.8	µg/L	482	471	410 - 554	Acceptable
1015	Barium	1/17/2018	IN		EPA 200.7	µg/L	482	476	410 - 554	Acceptable
1020	Beryllium	1/17/2018	MAZ		EPA 200.8	µg/L	317	313	269 - 364	Acceptable
1020	Beryllium	1/17/2018	IN		EPA 200.7	µg/L	317	310	269 - 364	Acceptable
1025	Boron	1/17/2018	IN		EPA 200.7	µg/L	1960	1910	1670 - 2260	Acceptable
1030	Cadmium	1/17/2018	MAZ		EPA 200.8	µg/L	662	648	563 - 761	Acceptable
1030	Cadmium	1/17/2018	IN		EPA 200.7	µg/L	662	652	563 - 761	Acceptable
1040	Chromium	1/17/2018	MAZ		EPA 200.8	µg/L	530	519	450 - 609	Acceptable
1040	Chromium	1/17/2018	IN		EPA 200.7	µg/L	530	523	450 - 609	Acceptable
1050	Cobalt	1/17/2018	MAZ		EPA 200.8	µg/L	953	933	810 - 1100	Acceptable
1050	Cobalt	1/17/2018	IN		EPA 200.7	µg/L	953	941	810 - 1100	Acceptable
1055	Copper	1/17/2018	MAZ		EPA 200.8	µg/L	432	433	367 - 497	Acceptable
1055	Copper	1/17/2018	IN		EPA 200.7	µg/L	432	430	367 - 497	Acceptable
1070	Iron	1/17/2018	IN		EPA 200.7	µg/L	3840	3840	3270 - 4420	Acceptable
1075	Lead	1/17/2018	MAZ		EPA 200.8	µg/L	1430	1420	1210 - 1640	Acceptable
1075	Lead	1/17/2018	IN		EPA 200.7	µg/L	1430	1420	1210 - 1640	Acceptable
1090	Manganese	1/17/2018	MAZ		EPA 200.8	µg/L	1750	1730	1490 - 2010	Acceptable
1090	Manganese	1/17/2018	IN		EPA 200.7	µg/L	1750	1720	1490 - 2010	Acceptable
1100	Molybdenum	1/17/2018	MAZ		EPA 200.8	µg/L	170	171	143 - 196	Acceptable
1100	Molybdenum	1/17/2018	IN		EPA 200.7	µg/L	170	172	143 - 196	Acceptable
1105	Nickel	1/17/2018	MAZ		EPA 200.8	µg/L	1790	1780	1590 - 2010	Acceptable
1105	Nickel	1/17/2018	IN		EPA 200.7	µg/L	1790	1780	1590 - 2010	Acceptable
1140	Selenium	1/17/2018	MAZ		EPA 200.8	µg/L	609	601	518 - 700	Acceptable
1140	Selenium	1/17/2018	IN		EPA 200.7	µg/L	609	602	518 - 700	Acceptable

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Trace Metals 1 (PT-TM1-WP) cont'd — Lot #: 8185-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1150	Silver	1/17/2018	MAZ		EPA 200.8	µg/L	980	964	833 - 1130	Acceptable
1150	Silver	1/17/2018	IN		EPA 200.7	µg/L	980	963	833 - 1130	Acceptable
1160	Strontium	1/17/2018	MAZ		EPA 200.8	µg/L	258	243	219 - 297	Acceptable
1160	Strontium	1/17/2018	IN		EPA 200.7	µg/L	258	250	219 - 297	Acceptable
1165	Thallium	1/17/2018	MAZ		EPA 200.8	µg/L	478	471	392 - 555	Acceptable
1165	Thallium	1/17/2018	IN		EPA 200.7	µg/L	478	476	392 - 555	Acceptable
1185	Vanadium	1/17/2018	MAZ		EPA 200.8	µg/L	1030	1030	879 - 1190	Acceptable
1185	Vanadium	1/17/2018	IN		EPA 200.7	µg/L	1030	1020	879 - 1190	Acceptable
1190	Zinc	1/17/2018	MAZ		EPA 200.8	µg/L	1200	1140	1020 - 1380	Acceptable
1190	Zinc	1/17/2018	IN		EPA 200.7	µg/L	1200	1150	1020 - 1380	Acceptable

Mercury (PT-HG-WP) — Lot #: 8185-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1095	Mercury	1/23/2018	EN		EPA 245.1	µg/L	10.8	10.4	7.58 - 14.1	Acceptable
1095	Mercury	1/23/2018	MAZ		EPA 200.8	µg/L	10.8	10.5	7.58 - 14.1	Acceptable
1095	Mercury	1/24/2018	EN		EPA 7470	µg/L	10.8	10.2	7.58 - 14.1	Acceptable

Tin and Titanium (PT-SNTI-WP) — Lot #: 8185-38

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1175	Tin	2/6/2018	IN		EPA 200.7	µg/L	950	958	665 - 1230	Acceptable
1180	Titanium	1/17/2018	IN		EPA 200.7	µg/L	253	250	215 - 290	Acceptable

Chromium VI (PT-CR6-WP) — Lot #: 8185-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1045	Chromium VI	1/25/2018	LLC		SM 3500-Cr B	µg/L	878	874	739 - 1000	Acceptable

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Demand (PT-DEM-WP) — Lot #: 8185-07

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1530	BOD	1/23/2018	BRM		SM 5210B	mg/L	44.1	53.3	21.8 - 73.6	Acceptable
1555	CBOD	1/23/2018	BRM		SM 5210B	mg/L	44.1	73.6	16.6 - 73.6	Acceptable
1565	COD	1/30/2018	LLC		EPA 410.4	mg/L	68.4	69.7	49.1 - 85.0	Acceptable
2040	TOC	1/22/2018	SA		SM 5310C	mg/L	27.0	26.0	22.1 - 31.9	Acceptable

Minerals 1 (PT-MIN1-WP) — Lot #: 8185-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1505	Total Alkalinity(as CaCO3)	1/24/2018	LLC		SM 2320B	mg/L	161	158	136 - 185	Acceptable
1505	Total Alkalinity(as CaCO3)	2/5/2018	YBR		EPA 310.2	mg/L	161	171	136 - 185	Acceptable
1540	Bromide	2/2/2018	DGK		EPA 300.0	mg/L	4.97	5.07	4.10 - 5.84	Acceptable
1575	Chloride	2/6/2018	SA		SM 4500-CL E	mg/L	126	126	110 - 141	Acceptable
1575	Chloride	2/9/2018	DGK		SM 4500 CL-B	mg/L	126	124	110 - 141	Acceptable
1575	Chloride	2/2/2018	DGK		EPA 300.0	mg/L	126	123	110 - 141	Acceptable
1730	Fluoride	2/2/2018	DGK		EPA 300.0	mg/L	3.26	3.22	2.63 - 3.75	Acceptable
2000	Sulfate	2/7/2018	SA		EPA 375.4	mg/L	79.9	78.8	66.4 - 91.0	Acceptable
2000	Sulfate	2/2/2018	DGK		EPA 300.0	mg/L	79.9	78.4	66.4 - 91.0	Acceptable
Additional State Specific Analytes										
1813	Total Inorganic Carbon					mg/L	38.3		30.7 - 46.0	NR

Minerals 2 - Hardness (PT-MIN2-WP) — Lot #: 8185-102

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1035	Calcium	1/17/2018	IN		EPA 200.7	mg/L	14.3	14.4	12.1 - 16.4	Acceptable
1550	Calcium Hardness (as CaCO3)	1/17/2018	IN		EPA 200.7	mg/L	35.6	36.0	30.3 - 41.0	Acceptable
1755	Total Hardness (as CaCO3)	1/17/2018	IN		EPA 200.7	mg/L	135	135	115 - 155	Acceptable
1085	Magnesium	1/17/2018	IN		EPA 200.7	mg/L	24.2	24.0	20.5 - 27.8	Acceptable
1125	Potassium	1/17/2018	IN		EPA 200.7	mg/L	17.3	17.5	13.9 - 20.8	Acceptable
1155	Sodium	1/17/2018	IN		EPA 200.7	mg/L	52.7	52.7	42.2 - 63.3	Acceptable

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Specific Conductance (PT-COND-WP) — Lot #: 8185-72

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance (25°C)	1/15/2018	SA		EPA 120.1	µmhos/cm	381	398	343 - 419	Acceptable

Solids (PT-SOL-WP) — Lot #: 8185-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1955	Total Dissolved Solids at 180° (TFR)	1/17/2018	AR		SM 2540C	mg/L	204	210	159 - 249	Acceptable
1960	Non-Filterable Residue (TSS)	1/17/2018	AR		SM 2540D	mg/L	98.5	90.4	81.6 - 109	Acceptable
1950	Total Solids	2/8/2018	AR		SM 2540B	mg/L	303	310	258 - 348	Acceptable

Nutrients 1 - Simple (PT-NUT1-WP) — Lot #: 8185-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	1/31/2018	YBR		EPA 350.1	mg/L	5.72	5.15	4.46 - 7.01	Acceptable
1810	Nitrate as N	2/2/2018	DGK		EPA 300.0	mg/L	17.9	17.3	14.9 - 20.7	Acceptable
1810	Nitrate as N	2/9/2018	SA		SM 4500-NO3 F	mg/L	17.9	17.0	14.9 - 20.7	Acceptable
1820	Nitrate and Nitrite as N	2/2/2018	DKG		EPA 300.0	mg/L	17.9	17.3	14.9 - 20.6	Acceptable
1820	Nitrate and Nitrite as N	2/9/2018	SA		SM 4500-NO3 F	mg/L	17.9	17.0	14.9 - 20.6	Acceptable
1870	Orthophosphate as P	2/2/2018	DGK		EPA 300.0	mg/L	2.75	3.01	2.34 - 3.17	Acceptable
1870	Orthophosphate as P	2/5/2018	YBR		SM 4500-P F	mg/L	2.75	2.83	2.34 - 3.17	Acceptable
Additional State Specific Analytes										
1712	Total Dissolved Phosphorus					mg/L	2.75		2.34 - 3.17	NR
1647	Dissolved Nitrogen					mg/L	23.6		19.8 - 27.3	NR
1827	Total Nitrogen					mg/L	23.6		19.8 - 27.3	NR

Nutrients 2 - Complex (PT-NUT2-WP) — Lot #: 8185-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1795	Total Kjeldahl Nitrogen (TKN)	1/30/2018	YBR		EPA 351.2	mg/L	12.9	12.4	9.55 - 16.0	Acceptable
1910	Total Phosphorous	1/30/2018	YBR		EPA 365.4	mg/L	5.66	5.24	4.69 - 6.56	Acceptable
1910	Total Phosphorous	2/2/2018	YBR		SM 4500-P F	mg/L	5.66	5.13	4.69 - 6.56	Acceptable

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Nutrients 3 - Nitrite (PT-NUT3-WP) Lot #: 8185-69

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1840	Nitrite as N	2/8/2018	DGK		SM 4500-NO2-B	mg/L	3.73	3.52	3.24 - 4.23	Acceptable
1840	Nitrite as N	2/10/2018	DGK		EPA 300.0	mg/L	3.73	3.59	3.24 - 4.23	Acceptable
1840	Nitrite as N	2/9/2018	SA		SM 4500-NO3 F	mg/L	3.73	3.50	3.24 - 4.23	Acceptable

Oil & Grease (PT-OGR-WP) Lot #: 8185-111

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	2/1/2018	DGK		EPA 1664A	mg/L	112	111	80.2 - 129	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/L	136		99.3 - 156	NR

pH (PT-PH-WP) Lot #: 8185-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1900	pH	1/23/2018	LLC		SM 4500-H+ B	S.U.	6.58	6.62	6.38 - 6.78	Acceptable

Total Cyanide (PT-CN-WP) Lot #: 8185-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Total Cyanide	2/5/2018	SA		EPA 335.4	mg/L	0.889	0.863	0.578 - 1.20	Acceptable

Phenolics (PT-PHEN-WP) Lot #: 8185-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1905	Total Phenolics (4AAP)	1/16/2018	SA		EPA 420.4	mg/L	4.46	2.44	1.47 - 4.91	Acceptable

Sulfide (PT-S2-WP) Lot #: 8185-22B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2005	Sulfide	1/29/2018	LLC		SM 4500-S D	mg/L	4.52	4.64	1.76 - 6.72	Acceptable

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Surfactants (PT-MBAS-WP) — Lot #: 8185-23

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2025	Surfactants - MBAS	2/14/2018	DGK		SM 5540C	mg/L	0.620	0.774	0.379 - 0.899	Acceptable

TPH (PT-TPH-WP) — Lot #: 8185-114

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1853	Total Petroleum Hydrocarbons (TPH)	2/2/2018	DGK		EPA 1664A	mg/L	96.1	87.2	45.2 - 139	Acceptable

Volatile Solids (PT-VSOL-WP) — Lot #: 8185-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1970	Volatile Solids	2/8/2018	AR		SM 2540E	mg/L	483	529	390 - 533	Acceptable

Turbidity (PT-TURB-WP) — Lot #: 8185-20

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2055	Turbidity	1/25/2018	LLC		EPA 180.1	NTU	4.44	4.60	3.32 - 5.53	Acceptable

Silica (PT-SIO2-WP) — Lot #: 8185-21

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1990	Silica as SiO2	2/6/2018	LLC		SM 4500-SiO2 C	mg/L	228	225	171 - 285	Acceptable

Color (PT-COL-WP) — Lot #: 8185-51

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1605	Color	1/25/2018	LLC		SM 2120B	CU	70.0	65.0	51.9 - 82.0	Acceptable

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Volatiles (PT-VOA-WP) Lot #: 8185-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	2/9/2018	BBL		EPA 8260	µg/L	107	108	28.1 - 169	Acceptable
4375	Benzene	2/12/2018	BBL		EPA 8260	µg/L	26.7	22.2	18.7 - 34.7	Acceptable
4395	Bromodichloromethane	2/12/2018	BBL		EPA 8260	µg/L	58.6	54.0	35.2 - 82.1	Acceptable
4400	Bromoform	2/9/2018	BBL		EPA 8260	µg/L	72.7	77.0	43.6 - 102	Acceptable
4950	Bromomethane	2/9/2018	BBL		EPA 8260	µg/L	<8	<8.00		Acceptable
4455	Carbon tetrachloride	2/9/2018	BBL		EPA 8260	µg/L	<7.7	<7.70		Acceptable
4475	Chlorobenzene	2/12/2018	BBL		EPA 8260	µg/L	11.6	10.6	8.13 - 15.1	Acceptable
4485	Chloroethane	2/12/2018	BBL		EPA 8260	µg/L	39.7	48.2	15.9 - 63.5	Acceptable
4505	Chloroform	2/12/2018	BBL		EPA 8260	µg/L	91.4	99.0	64.0 - 119	Acceptable
4960	Chloromethane	2/12/2018	BBL		EPA 8260	µg/L	24.6	24.3	9.82 - 39.3	Acceptable
4575	Dibromochloromethane	2/9/2018	BBL		EPA 8260	µg/L	<6.0	<6.00		Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	2/9/2018	BBL		EPA 8260	µg/L	18.5	14.9	11.1 - 25.9	Acceptable
4585	1,2-Dibromoethane (EDB)	2/9/2018	BBL		EPA 8260	µg/L	<6.5	<6.50		Acceptable
4595	Dibromomethane	2/12/2018	BBL		EPA 8260	µg/L	70.1	65.4	45.6 - 94.7	Acceptable
4610	1,2 Dichlorobenzene	2/12/2018	BBL		EPA 8260	µg/L	56.9	48.6	39.8 - 74.0	Acceptable
4615	1,3 Dichlorobenzene	2/12/2018	BBL		EPA 8260	µg/L	89.3	68.5	62.5 - 116	Acceptable
4620	1,4 Dichlorobenzene	2/12/2018	BBL		EPA 8260	µg/L	105	87.8	73.8 - 137	Acceptable
4630	1,1-Dichloroethane	2/9/2018	BBL		EPA 8260	µg/L	<6.4	<6.40		Acceptable
4635	1,2 Dichloroethane	2/12/2018	BBL		EPA 8260	µg/L	34.3	36.8	24.4 - 46.0	Acceptable
4640	1,1-Dichloroethene	2/9/2018	BBL		EPA 8260	µg/L	<6.2	<6.20		Acceptable
4645	cis-1,2-Dichloroethene	2/9/2018	BBL		EPA 8260	µg/L	<7.0	<7.00		Acceptable
4700	trans-1,2-Dichloroethene	2/12/2018	BBL		EPA 8260	µg/L	13.7	16.6	8.20 - 19.1	Acceptable
4655	1,2-Dichloropropane	2/12/2018	BBL		EPA 8260	µg/L	51.0	46.3	35.7 - 66.3	Acceptable
4680	cis-1,3-Dichloropropene	2/9/2018	BBL		EPA 8260	µg/L	113	88.0	73.6 - 153	Acceptable
4685	trans-1,3-Dichloropropene	2/12/2018	BBL		EPA 8260	µg/L	18.9	14.7	12.3 - 25.5	Acceptable
4765	Ethylbenzene	2/12/2018	BBL		EPA 8260	µg/L	38.0	31.1	26.6 - 49.4	Acceptable
4835	Hexachlorobutadiene	2/12/2018	BBL		EPA 8260	µg/L	165	149	20.7 - 192	Acceptable
4840	Hexachloroethane					µg/L	<3.3			NR
4860	2-Hexanone	2/12/2018	BBL		EPA 8260	µg/L	107	89.6	52.1 - 162	Acceptable

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Volatiles (PT-VOA-WP) cont'd — Lot #: 8185-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4975	Methylene Chloride	2/9/2018	BBL		EPA 8260	µg/L	114	99.9	68.6 - 160	Acceptable
6385	2-Methylnaphthalene					µg/L	<2.0			NR
4995	4-Methyl-2-pentanone (MIBK)	2/12/2018	BBL		EPA 8260	µg/L	148	147	93.3 - 201	Acceptable
5000	Methyl tert-butyl ether (MTBE)	2/9/2018	BBL		EPA 8260	µg/L	130	127	88.6 - 177	Acceptable
5005	Naphthalene	2/12/2018	BBL		EPA 8260	µg/L	55.3	41.2	25.6 - 74.5	Acceptable
5015	Nitrobenzene					µg/L	<6.2			NR
5100	Styrene	2/12/2018	BBL		EPA 8260	µg/L	34.3	42.4	22.3 - 46.3	Acceptable
5105	1,1,1,2-Tetrachloroethane	2/9/2018	BBL		EPA 8260	µg/L	<9.8	<9.80		Acceptable
5110	1,1,2,2-Tetrachloroethane	2/12/2018	BBL		EPA 8260	µg/L	64.9	67.1	42.2 - 87.6	Acceptable
5115	Tetrachloroethene	2/12/2018	BBL		EPA 8260	µg/L	48.0	45.1	26.5 - 62.8	Acceptable
5140	Toluene	2/12/2018	BBL		EPA 8260	µg/L	41.7	41.1	29.2 - 54.2	Acceptable
5155	1,2,4-Trichlorobenzene	2/12/2018	BBL		EPA 8260	µg/L	35.6	26.5	14.1 - 48.6	Acceptable
5160	1,1,1-Trichloroethane	2/9/2018	BBL		EPA 8260	µg/L	<6.0	<6.00		Acceptable
5165	1,1,2-Trichloroethane	2/12/2018	BBL		EPA 8260	µg/L	106	99.2	74.0 - 137	Acceptable
5170	Trichloroethene	2/12/2018	BBL		EPA 8260	µg/L	53.6	54.3	34.0 - 70.2	Acceptable
5175	Trichlorofluoromethane	2/12/2018	BBL		EPA 8260	µg/L	95.3	119	38.1 - 153	Acceptable
5180	1,2,3-Trichloropropane	2/12/2018	BBL		EPA 8260	µg/L	136	99.2	64.1 - 202	Acceptable
5210	1,2,4-Trimethylbenzene	2/12/2018	BBL		EPA 8260	µg/L	32.0	20.0	20.8 - 43.2	Not Acceptable
5215	1,3,5-Trimethylbenzene	2/12/2018	BBL		EPA 8260	µg/L	70.7	54.8	45.9 - 95.4	Acceptable
5235	Vinyl chloride	2/9/2018	BBL		EPA 8260	µg/L	<8	<8.00		Acceptable
5240	m+p-Xylene	2/12/2018	BBL		EPA 8260	µg/L	76.1	70.4	45.7 - 107	Acceptable
5250	o-Xylene	2/12/2018	BBL		EPA 8260	µg/L	135	122	81.2 - 189	Acceptable
5260	Xylenes, total	2/12/2018	BBL		EPA 8260	µg/L	211	192	127 - 296	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	2/9/2018	BBL		EPA 8260	µg/L	<5	<29.8		Acceptable
4325	Acrolein	2/9/2018	BBL		EPA 8260	µg/L	<5	<0.909		Acceptable
4340	Acrylonitrile	2/9/2018	BBL		EPA 8260	µg/L	<5	<0.479		Acceptable
4385	Bromobenzene	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.340		Acceptable
4390	Bromochloromethane	2/9/2018	BBL		EPA 8260	µg/L	<5	<0.172		Acceptable

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Final Report - Water Pollution Proficiency Testing

Study: WP0118

Opening Date: January 8, 2018 - Closing Date: February 22, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-WP) cont'd — Lot #: 8185-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4410	2-Butanone (MEK)	2/9/2018	BBL		EPA 8260	µg/L	<5	<0.898		Acceptable
4435	n-Butylbenzene	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.798		Acceptable
4440	sec-Butylbenzene	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.531		Acceptable
4445	tert-Butylbenzene	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.578		Acceptable
4450	Carbon disulfide	2/9/2018	BBL		EPA 8260	µg/L	<5	<0.433		Acceptable
4500	2-Chloroethylvinylether	2/9/2018	BBL		EPA 8260	µg/L	<5	<2.24		Acceptable
4535	2-Chlorotoluene	2/9/2018	BBL		EPA 8260	µg/L	<5	<0.776		Acceptable
4540	4-Chlorotoluene	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.420		Acceptable
4625	Dichlorodifluoromethane	2/9/2018	BBL		EPA 8260	µg/L	<5	<0.283		Acceptable
4627	Dichlorofluoromethane					µg/L	<5			NR
4660	1,3-Dichloropropane	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.220		Acceptable
4665	2,2-Dichloropropane	2/9/2018	BBL		EPA 8260	µg/L	<10	<1.20		Acceptable
4670	1,1-Dichloropropene	2/9/2018	BBL		EPA 8260	µg/L	<5	<0.359		Acceptable
4900	Isopropylbenzene	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.348		Acceptable
4910	p-Isopropyltoluene	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.592		Acceptable
5090	n-Propylbenzene	2/9/2018	BBL		EPA 8260	µg/L	<10	<0.328		Acceptable
5150	1,2,3-Trichlorobenzene	2/9/2018	BBL		EPA 8260	µg/L	<15	<0.751		Acceptable
5225	Vinyl acetate	2/9/2018	BBL		EPA 8260	µg/L	<5	<2.31		Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) — Lot #: 8185-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	1/31/2018	YE		EPA 8270	µg/L	169	140	59.1 - 205	Acceptable
5505	Acenaphthylene	1/31/2018	YE		EPA 8270	µg/L	137	148	48.3 - 171	Acceptable
5555	Anthracene	1/31/2018	YE		EPA 8270	µg/L	<3.9	<3.90		Acceptable
5575	Benzo(a)anthracene	1/31/2018	YE		EPA 8270	µg/L	50.8	47.5	23.6 - 62.6	Acceptable
5585	Benzo(b)fluoranthene	1/31/2018	YE		EPA 8270	µg/L	115	98.0	44.0 - 148	Acceptable
5600	Benzo(k)fluoranthene	1/31/2018	YE		EPA 8270	µg/L	129	108	32.5 - 183	Acceptable
5590	Benzo(g,h,i)perylene	1/31/2018	YE		EPA 8270	µg/L	26.0	25.3	10.9 - 35.3	Acceptable
5580	Benzo(a)pyrene	1/31/2018	YE		EPA 8270	µg/L	147	122	53.7 - 187	Acceptable
5660	4-Bromophenyl-phenylether	1/31/2018	YE		EPA 8270	µg/L	179	167	73.8 - 221	Acceptable
5670	Butyl benzyl phthalate	1/31/2018	YE		EPA 8270	µg/L	115	98.4	34.0 - 157	Acceptable
5760	bis(2-Chloroethoxy)methane	1/31/2018	YE		EPA 8270	µg/L	<3.9	<3.90		Acceptable
5765	bis(2-Chloroethyl)ether	1/31/2018	YE		EPA 8270	µg/L	139	99.7	35.8 - 167	Acceptable
5795	2-Chloronaphthalene	1/31/2018	YE		EPA 8270	µg/L	106	86.3	29.4 - 127	Acceptable
5825	4-Chlorophenyl-phenylether	1/31/2018	YE		EPA 8270	µg/L	137	108	50.0 - 168	Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	1/31/2018	YE		EPA 8270	µg/L	<3.1	<3.10		Acceptable
5855	Chrysene	1/31/2018	YE		EPA 8270	µg/L	76.2	79.0	33.1 - 96.1	Acceptable
5895	Dibenzo(a,h)anthracene	1/31/2018	YE		EPA 8270	µg/L	182	161	64.9 - 233	Acceptable
5905	Dibenzofuran	1/31/2018	YE		EPA 8270	µg/L	152	141	59.3 - 172	Acceptable
5925	Di-n-butylphthalate	1/31/2018	YE		EPA 8270	µg/L	89.9	89.0	32.4 - 118	Acceptable
4610	1,2-Dichlorobenzene	1/31/2018	YE		EPA 8270	µg/L	<2.0	<2.00		Acceptable
4615	1,3-Dichlorobenzene	1/31/2018	YE		EPA 8270	µg/L	176	146	17.6 - 203	Acceptable
4620	1,4-Dichlorobenzene	1/31/2018	YE		EPA 8270	µg/L	139	106	13.9 - 153	Acceptable
6070	Diethyl phthalate	1/31/2018	YE		EPA 8270	µg/L	68.8	65.3	11.6 - 98.2	Acceptable
6135	Dimethyl phthalate	1/31/2018	YE		EPA 8270	µg/L	58.9	54.7	5.89 - 88.5	Acceptable
6185	2,4-Dinitrotoluene	1/31/2018	YE		EPA 8270	µg/L	<4.5	<4.50		Acceptable
6190	2,6-Dinitrotoluene	1/31/2018	YE		EPA 8270	µg/L	<8.2	<8.20		Acceptable
6200	Di-n-octylphthalate	1/31/2018	YE		EPA 8270	µg/L	61.3	59.5	17.7 - 88.5	Acceptable
6065	bis(2-ethylhexyl) phthalate	1/31/2018	YE		EPA 8270	µg/L	56.1	50.5	18.2 - 77.5	Acceptable
6265	Fluoranthene	1/31/2018	YE		EPA 8270	µg/L	66.1	65.8	31.0 - 81.9	Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) cont'd — Lot #: 8185-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6270	Fluorene	1/31/2018	YE		EPA 8270	µg/L	54.5	44.4	23.1 - 67.5	Acceptable
6275	Hexachlorobenzene	1/31/2018	YE		EPA 8270	µg/L	<8.8	<8.80		Acceptable
4835	Hexachlorobutadiene	1/31/2018	YE		EPA 8270	µg/L	<4.3	<4.30		Acceptable
6285	Hexachlorocyclopentadiene	1/31/2018	YE		EPA 8270	µg/L	<5	<5.00		Acceptable
4840	Hexachloroethane	1/31/2018	YE		EPA 8270	µg/L	135	112	13.5 - 149	Acceptable
6315	Indeno(1,2,3-cd)pyrene	1/31/2018	YE		EPA 8270	µg/L	97.6	103	28.3 - 121	Acceptable
6320	Isophorone	1/31/2018	YE		EPA 8270	µg/L	<7.1	<7.10		Acceptable
6385	2-Methylnaphthalene	1/31/2018	YE		EPA 8270	µg/L	<2.0	<2.00		Acceptable
5005	Naphthalene	1/31/2018	YE		EPA 8270	µg/L	173	153	41.5 - 199	Acceptable
5015	Nitrobenzene	1/31/2018	YE		EPA 8270	µg/L	<6.2	<6.20		Acceptable
6530	N-Nitrosodimethylamine	1/31/2018	YE		EPA 8270	µg/L	<7.5	<7.50		Acceptable
6535	N-Nitrosodiphenylamine	1/31/2018	YE		EPA 8270	µg/L	<5.6	<5.60		Acceptable
6545	N-Nitroso-di-n-propylamine	1/31/2018	YE		EPA 8270	µg/L	<9.4	<9.40		Acceptable
6615	Phenanthrene	1/31/2018	YE		EPA 8270	µg/L	<4.7	<4.70		Acceptable
6665	Pyrene	1/31/2018	YE		EPA 8270	µg/L	<4.9	<4.90		Acceptable
5155	1,2,4-Trichlorobenzene	1/31/2018	YE		EPA 8270	µg/L	66.3	51.9	10.9 - 81.1	Acceptable
Additional State Specific Analytes										
5545	Aniline	1/31/2018	YE		EPA 8270	µg/L	<30	<0.819		Acceptable
5595	Benzidine	1/31/2018	YE		EPA 8270	µg/L	<200	<0.579		Acceptable
5630	Benzyl alcohol	1/31/2018	YE		EPA 8270	µg/L	<50	<1.39		Acceptable
5680	Carbazole	1/31/2018	YE		EPA 8270	µg/L	<10	<0.804		Acceptable
5745	4-Chloroaniline	1/31/2018	YE		EPA 8270	µg/L	<50	<1.36		Acceptable
5790	1-Chloronaphthalene					µg/L	<20			NR
5945	3,3'-Dichlorobenzidine	1/31/2018	YE		EPA 8270	µg/L	<50	<2.02		Acceptable
4740	p-Dioxane					µg/L	<10			NR
6380	1-Methylnaphthalene	1/31/2018	YE		EPA 8270	µg/L	<30	<0.747		Acceptable
6460	2-Nitroaniline	1/31/2018	YE		EPA 8270	µg/L	<10	<1.23		Acceptable
6465	3-Nitroaniline	1/31/2018	YE		EPA 8270	µg/L	<10	<1.50		Acceptable
6470	4-Nitroaniline	1/31/2018	YE		EPA 8270	µg/L	<10	<1.39		Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base Neutrals (PT-BN-WP) cont'd — Lot #: 8185-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6525	N-Nitrosodiethylamine					µg/L	<30			NR
6590	Pentachlorobenzene					µg/L	<30			NR
5095	Pyridine	1/31/2018	YE		EPA 8270	µg/L	<30	<0.858		Acceptable
6715	1,2,4,5-Tetrachlorobenzene					µg/L	<30			NR
5145	o-Toluidine					µg/L	<30			NR

Acids (PT-ACIDS-WP) — Lot #: 8185-28

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5700	4-Chloro-3-methylphenol	1/31/2018	YE		EPA 8270	µg/L	62.9	39.7	24.0 - 77.8	Acceptable
5800	2-Chlorophenol	1/31/2018	YE		EPA 8270	µg/L	<9.6	<9.60		Acceptable
6000	2,4-Dichlorophenol	1/31/2018	YE		EPA 8270	µg/L	111	63.6	36.6 - 132	Acceptable
6005	2,6-Dichlorophenol	1/31/2018	YE		EPA 8270	µg/L	108	64.4	34.2 - 136	Acceptable
6130	2,4-Dimethylphenol	1/31/2018	YE		EPA 8270	µg/L	182	105	50.1 - 225	Acceptable
6175	2,4-Dinitrophenol	1/31/2018	YE		EPA 8270	µg/L	190	151	19.0 - 250	Acceptable
6360	2-Methyl-4,6-Dinitrophenol	1/31/2018	YE		EPA 8270	µg/L	169	167	54.5 - 227	Acceptable
6400	2-Methylphenol	1/31/2018	YE		EPA 8270	µg/L	46.0	25.5	10.8 - 56.3	Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	1/31/2018	YE		EPA 8270	µg/L	182	111	18.2 - 233	Acceptable
6490	2-Nitrophenol	1/31/2018	YE		EPA 8270	µg/L	155	93.4	53.1 - 186	Acceptable
6500	4-Nitrophenol	1/31/2018	YE		EPA 8270	µg/L	160	41.3	16.0 - 215	Acceptable
6625	Phenol	1/31/2018	YE		EPA 8270	µg/L	159	45.0	15.9 - 214	Acceptable
6605	Pentachlorophenol	1/31/2018	YE		EPA 8270	µg/L	61.4	43.2	18.0 - 84.6	Acceptable
6835	2,4,5-Trichlorophenol	1/31/2018	YE		EPA 8270	µg/L	111	61.5	40.5 - 137	Acceptable
6840	2,4,6-Trichlorophenol	1/31/2018	YE		EPA 8270	µg/L	45.1	28.1	17.2 - 55.5	Acceptable
Additional State Specific Analytes										
5610	Benzoic acid					µg/L	<50			NR
6495	3-Nitrophenol					µg/L	<100			NR
6735	2,3,4,6-Tetrachlorophenol	1/31/2018	YE		EPA 8270	µg/L	<50	<1.12		Acceptable

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Pesticides (PT-PEST-WP) — Lot #: 8185-29

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	2/8/2018	AC		EPA 8081	µg/L	9.46	5.91	3.35 - 12.7	Acceptable
7110	alpha-BHC	2/8/2018	AC		EPA 8081	µg/L	9.19	7.58	4.03 - 12.5	Acceptable
7115	beta-BHC	2/8/2018	AC		EPA 8081	µg/L	14.1	10.5	6.70 - 18.8	Acceptable
7105	delta-BHC	2/8/2018	AC		EPA 8081	µg/L	8.95	6.37	3.89 - 12.5	Acceptable
7120	gamma-BHC (Lindane)	2/8/2018	AC		EPA 8081	µg/L	7.34	5.91	3.27 - 10.1	Acceptable
7240	alpha-Chlordane					µg/L	5.86		2.63 - 7.84	NR
7245	gamma-Chlordane					µg/L	7.55		3.40 - 9.83	NR
7355	4,4'-DDD	2/8/2018	AC		EPA 8081	µg/L	6.06	3.62	2.90 - 8.42	Acceptable
7360	4,4'-DDE	2/8/2018	AC		EPA 8081	µg/L	6.26	3.50	2.70 - 8.46	Acceptable
7365	4,4'-DDT	2/8/2018	AC		EPA 8081	µg/L	2.61	1.64	1.04 - 3.87	Acceptable
7470	Dieldrin	2/8/2018	AC		EPA 8081	µg/L	12.3	8.47	6.30 - 16.3	Acceptable
7510	Endosulfan I	2/8/2018	AC		EPA 8081	µg/L	7.88	6.54	2.97 - 10.6	Acceptable
7515	Endosulfan II	2/8/2018	AC		EPA 8081	µg/L	6.92	6.57	2.80 - 9.53	Acceptable
7520	Endosulfan sulfate	2/8/2018	AC		EPA 8081	µg/L	12.4	10.1	5.73 - 17.0	Acceptable
7540	Endrin	2/8/2018	AC		EPA 8081	µg/L	4.97	3.50	2.18 - 7.10	Acceptable
7530	Endrin aldehyde	2/8/2018	AC		EPA 8081	µg/L	7.80	6.84	2.89 - 11.5	Acceptable
7535	Endrin ketone	2/8/2018	AC		EPA 8081	µg/L	9.08	10.0	4.84 - 12.2	Acceptable
7685	Heptachlor	2/8/2018	AC		EPA 8081	µg/L	5.43	3.44	1.93 - 7.37	Acceptable
7690	Heptachlor Epoxide (beta)	2/8/2018	AC		EPA 8081	µg/L	4.30	3.08	2.14 - 5.76	Acceptable
7810	Methoxychlor	2/8/2018	AC		EPA 8081	µg/L	17.3	13.6	7.74 - 24.3	Acceptable

Chlordane (PT-CHLR-WP) — Lot #: 8185-30

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane (total)	2/8/2018	AC		EPA 8081	µg/L	21.8	17.2	8.77 - 29.2	Acceptable

Toxaphene (PT-TXP-WP) — Lot #: 8185-31

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene (total)	2/8/2018	AC		EPA 8081	µg/L	71.4	60.0	15.5 - 104	Acceptable

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PCBs in Water (PT-PCBW-WP) Lot #: 8185-32

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	2/8/2018	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8885	Aroclor 1221	2/8/2018	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8890	Aroclor 1232	2/8/2018	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8895	Aroclor 1242	2/8/2018	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8900	Aroclor 1248	2/8/2018	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable
8905	Aroclor 1254	2/8/2018	AC		EPA 8082	µg/L	2.70	3.92	1.04 - 3.85	Not Acceptable
8910	Aroclor 1260	2/8/2018	AC		EPA 8082	µg/L	<0.8	<0.800		Acceptable

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Final Report - Water Pollution Proficiency Testing

Study: WP0118

Opening Date: January 8, 2018 - Closing Date: February 22, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Herbicides (PT-HERB-WP) — Lot #: 8185-36

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	1/31/2018	AC		EPA 8151	µg/L	6.51	5.09	0.651 - 10.0	Acceptable
8595	Dicamba	1/31/2018	AC		EPA 8151	µg/L	2.27	2.16	0.430 - 3.69	Acceptable
8655	2,4,5-T	1/31/2018	AC		EPA 8151	µg/L	3.07	2.91	0.525 - 4.74	Acceptable
8650	2,4,5-TP (Silvex)	1/31/2018	AC		EPA 8151	µg/L	9.40	9.69	2.17 - 13.8	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	1/31/2018	AC		EPA 8151	µg/L	7.64	6.59	1.91 - 13.4	Acceptable
8530	Bentazon	1/31/2018	AC		EPA 8151	µg/L	8.07	8.40	0.807 - 12.1	Acceptable
7135	Brominal (Bromoxynil)					µg/L	<2			NR
8540	Chloramben	1/31/2018	AC		EPA 8151	µg/L	9.63	2.93	0.963 - 14.4	Acceptable
8560	2,4-DB	1/31/2018	AC		EPA 8151	µg/L	4.33	5.05	1.08 - 7.58	Acceptable
8605	2,4-DP (Dichlorprop)	1/31/2018	AC		EPA 8151	µg/L	9.82	8.57	0.982 - 14.7	Acceptable
8550	Dacthal (DCPA)	1/31/2018	AC		EPA 8151	µg/L	9.05	3.84	0.905 - 13.6	Acceptable
8555	Dalapon	1/31/2018	AC		EPA 8151	µg/L	7.60	4.75	1.90 - 13.3	Acceptable
8600	3,5-Dichlorobenzoic acid	1/31/2018	AC		EPA 8151	µg/L	7.53	6.16	0.753 - 11.3	Acceptable
8620	Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	1/31/2018	AC		EPA 8151	µg/L	3.38	1.90	0.338 - 5.07	Acceptable
7775	MCPA	1/31/2018	AC		EPA 8151	µg/L	<25	<8.45		Acceptable
7780	MCPP	1/31/2018	AC		EPA 8151	µg/L	<25	<12.8		Acceptable
6500	4-Nitrophenol					µg/L	8.39		0.839 - 12.6	NR
6605	Pentachlorophenol	1/31/2018	AC		EPA 8151	µg/L	9.63	7.70	2.41 - 16.9	Acceptable
8645	Picloram	1/31/2018	AC		EPA 8151	µg/L	9.24	5.56	2.31 - 16.2	Acceptable

Cyanide, Amenable (PT-CNA-WP) — Lot #: 8185-83

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes										
1510	Amenable cyanide	2/19/2018	SA		SM 4500-CN-G	mg/L	0.146	0.153	0.0949 - 0.197	Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WP0118	280	278	99.3%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Florida Spectrum Env Serv Inc.
Roxana Llambias QA Director 954-978-6400
1460 West Mcnab Rd
Fort Lauderdale FL 33309

Account # 3512

USEPA Lab ID **FL00095**
Study # **0081**
Study Type **WPCHEM**

NPDES ID #
Open Date **01/15/2020**
Close Date **02/29/2020**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part#**38024**	Lot#**WP0081**	**WP Volatile EDB / DBCP**							Invoice# **186393**	Units **ug/L**	
4570	1,2-Dibromo-3-chloropropane	385	EPA 8011-1994		1.17	1.24	1.24	.724	1.71	ACCEPT.	01/23/2020
4585	1,2-Dibromoethane	385	EPA 8011-1994		0.730	0.803	.803	.445	1.11	ACCEPT.	01/23/2020
5180	1,2,3-Trichloropropane					0.361	.361	.217	.56	NOT REPORTED	
Part#**38360**	Lot#**WP0081**	**RCRA EDB/DBCP**			**2 components in Soil**				Invoice# **186393**	Units **ug/Kg**	
4570	1,2-Dibromo-3-chloropropane	385	EPA 8011-1994		195	176	176	111	252	ACCEPT.	01/23/2020
4585	1,2-Dibromoethane	385	EPA 8011-1994		193	192	192	104	262	ACCEPT.	01/23/2020

Samples were prepared and scored according to the principles outlined in the "The TNI Standard EL-V3-2009" and the current Fields of Proficiency Testing Tables, FoPTs.
All components are formulated and verified under Absolutes' NELAC scope ANAB Accreditation ISO 17043 (Cert.# AP-1543) as shown in blue font.
This report may be used in whole or in part by the participant. All results are confidential but limited to accreditation body or other participant requests!

Florida Spectrum Env Serv Inc.
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Fort Lauderdale FL 33309

Account # 3512

USEPA Lab ID **FL00095**
Study # **0079**
Study Type **WPCHEM**

NPDES ID #
Open Date **07/15/2019**
Close Date **08/29/2019**

Part# **38024** Lot# **WP0079** **WP Volatile EDB / DBCP** Invoice# **176392** Units **ug/L**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
4570	1,2-Dibromo-3-chloropropane	385	EPA 8011-1994		0.666	0.553	.553	.316	.811	ACCEPT.	07/29/2019
4585	1,2-Dibromoethane	385	EPA 8011-1994		1.19	1.12	1.12	.638	1.51	ACCEPT.	07/29/2019
5180	1,2,3-Trichloropropane					0.281	.281	.173	.455	NOT REPORTED	

Part# **38360** Lot# **WP0079** **RCRA EDB/DBCP** **2 components in Soil** Invoice# **176392** Units **ug/Kg**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
4570	1,2-Dibromo-3-chloropropane	385	EPA 8011-1994		57.1	62.4	62.4	18.7	104	ACCEPT.	07/23/2019
4585	1,2-Dibromoethane	385	EPA 8011-1994		132	160	160	87.2	219	ACCEPT.	07/23/2019

Samples were prepared and scored according to the principles outlined in the "The TNI Standard EL-V3-2009" and the current Fields of Proficiency Testing Tables, FoPTs.
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Account # 3512

USEPA Lab ID **FL00095**
Study # **0077**
Study Type **WPCHEM**

NPDES ID #
Open Date **01/15/2019**
Close Date **03/01/2019**

Part# **38024** Lot# **WP0077** **WP Volatile EDB / DBCP** Invoice# **176391** Units **ug/L**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
4570	1,2-Dibromo-3-chloropropane	385	EPA 8011-1994		0.328	0.297	.297	.164	.475	ACCEPT.	01/17/2019
4585	1,2-Dibromoethane	385	EPA 8011-1994		0.874	1.77	1.77	1.03	2.33	NOT ACCEPT.	01/17/2019
5180	1,2,3-Trichloropropane					1.92	1.92	1.08	2.6	NOT REPORTED	

Part# **38360** Lot# **WP0077** **RCRA EDB/DBCP** **2 components in Soil** Invoice# **176391** Units **ug/Kg**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
4570	1,2-Dibromo-3-chloropropane	385	EPA 8011-1994		88.0	96.0	96	46.1	148	ACCEPT.	01/17/2019
4585	1,2-Dibromoethane	385	EPA 8011-1994		69.3	80.1	80.1	45.3	112	ACCEPT.	01/17/2019

Samples were prepared and scored according to the principles outlined in the "The TNI Standard EL-V3-2009" and the current Fields of Proficiency Testing Tables, FoPTs.
All components are formulated and verified under Absolutes' NELAC scope ANAB Accreditation ISO 17043 (Cert.# AP-1543) as shown in blue font.
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Florida Spectrum Env Serv Inc.
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Fort Lauderdale FL 33309

Account # 3512

USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WPCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part#**38024**	Lot#**WP0073**	**WP Volatile EDB / DBCP**							Invoice# **167560**	Units **ug/L**	
4570	1,2-Dibromo-3-chloropropane	385	EPA 8011		1.49	1.76	1.76	1.03	2.4	ACCEPT.	01/18/2018
4585	1,2-Dibromoethane	385	EPA 8011		1.11	1.29	1.29	.741	1.73	ACCEPT.	01/18/2018
5180	1,2,3-Trichloropropane					0.802	.802	.46	1.14	NOT REPORTED	
Part#**38360**	Lot#**WP0073**	**RCRA EDB/DBCP**		**2 components in Soil**					Invoice# **167560**	Units **ug/Kg**	
4570	1,2-Dibromo-3-chloropropane	385	EPA 8011		72.4	71.2	71.2	25.9	116	ACCEPT.	01/18/2018
4585	1,2-Dibromoethane	385	EPA 8011		169	160	160	87.2	219	ACCEPT.	01/18/2018

Samples were prepared and scored according to the principles outlined in the "The TNI Standard EL-V3-2009" and the current Fields of Proficiency Testing Tables, FoPTs.
All components are formulated and verified under Absolutes' NELAC scope (ANAB Accreditation ISO 17025, 17043 (Cert.# AP-1543) , Guide 34-35) as shown in blue font.
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Final Report - Water Pollution Proficiency Testing

Study: WPM0120

Opening Date: January 21, 2020 - Closing Date: February 6, 2020

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (PT-MIC-WP) — Lot #: 5324-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2530	Fecal Coliform, MF	1/29/2020	KR		SM 9222D	CFU/100 mL	501	510	246 - 1020	Acceptable
2525	E. Coli, MF	1/29/2020	KR		EPA 1603	CFU/100 mL	567	573	295 - 1090	Acceptable
2500	Total Coliform, MF	1/29/2020	KR		SM 9222B	CFU/100 mL	611	613	328 - 1140	Acceptable
2530	Fecal Coliform, MPN					MPN/100 mL	594		258 - 1370	NR
2525	E. Coli, MPN					MPN/100 mL	643		275 - 1500	NR
2500	Total Coliform, MPN					MPN/100 mL	656		269 - 1600	NR

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WPM0120	3	3	100%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Pollution Proficiency Testing

Study: WPM0719

Opening Date: July 23, 2019 - Closing Date: August 8, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (PT-MIC-WP) — Lot #: 5306-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2530	Fecal Coliform, MF	7/26/2019	KR		SM 9222D	CFU/100 mL	772	940	300 - 1990	Acceptable
2525	E. Coli, MF	7/26/2019	KR		EPA 1603	CFU/100 mL	855	1000	445 - 1640	Acceptable
2500	Total Coliform, MF	7/26/2019	KR		SM 9222B	CFU/100 mL	836	1120	427 - 1640	Acceptable
2530	Fecal Coliform, MPN					MPN/100 mL	865		328 - 2280	NR
2525	E. Coli, MPN					MPN/100 mL	1050		527 - 2080	NR
2500	Total Coliform, MPN					MPN/100 mL	962		409 - 2260	NR

Enterococci/Fecal Streptococci (PT-ENT-WP) — Lot #: 5306-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2520	Enterococci, MF	8/1/2019	KR		EPA 1600	CFU/100 mL	274	215	65 - 1160	Acceptable
2520	Enterococci, MPN					MPN/100 mL	103		12.2 - 880	NR
Additional State Specific Analytes										
2540	Fecal streptococci, MF	8/2/2019	BRM		SM 9230C	CFU/100 mL	274	200	65 - 1160	Acceptable
2540	Fecal streptococci, MPN					MPN/100 mL	103		12.2 - 880	NR

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WPM0719	5	5	100%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Pollution Proficiency Testing

Study: WPM0119

Opening Date: January 22, 2019 - Closing Date: February 7, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (PT-MIC-WP) — Lot #: 5300-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2530	Fecal Coliform, MF	2/2/2019	BRM		SM 9222D	CFU/100 mL	646	498	257 - 1620	Acceptable
2525	E. Coli, MF	2/2/2019	BRM		EPA 1603	CFU/100 mL	776	780	410 - 1470	Acceptable
2500	Total Coliform, MF	2/2/2019	BRM		SM 9222B	CFU/100 mL	752	725	422 - 1340	Acceptable
2530	Fecal Coliform, MPN					MPN/100 mL	739		284 - 1920	NR
2525	E. Coli, MPN					MPN/100 mL	894		437 - 1830	NR
2500	Total Coliform, MPN					MPN/100 mL	876		354 - 2170	NR

Enterococci/Fecal Streptococci (PT-ENT-WP) — Lot #: 5300-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2520	Enterococci, MF	2/2/2019	BRM		EPA 1600	CFU/100 mL	390	355	175 - 869	Acceptable
2520	Enterococci, MPN					MPN/100 mL	227		33.8 - 1520	NR
Additional State Specific Analytes										
2540	Fecal streptococci, MF	2/3/2019	BRM		SM 9230C	CFU/100 mL	390	380	175 - 869	Acceptable
2540	Fecal streptococci, MPN					MPN/100 mL	227		33.8 - 1520	NR

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WPM0119	5	5	100%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

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Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Pollution Proficiency Testing

Study: WPM0718

Opening Date: July 24, 2018 - Closing Date: August 9, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (PT-MIC-WP) — Lot #: 5282-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2530	Fecal Coliform, MF	8/3/2018	BRM		SM 9222D	CFU/100 mL	792	1140	292 - 2150	Acceptable
2525	E. Coli, MF					CFU/100 mL	758		404 - 1420	NR
2500	Total Coliform, MF	8/3/2018	BRM		SM 9222B	CFU/100 mL	949	1080	574 - 1570	Acceptable
2530	Fecal Coliform, MPN					MPN/100 mL	934		372 - 2350	NR
2525	E. Coli, MPN					MPN/100 mL	1080		571 - 2050	NR
2500	Total Coliform, MPN					MPN/100 mL	1090		499 - 2380	NR

Enterococci/Fecal Streptococci (PT-ENT-WP) — Lot #: 5282-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2520	Enterococci, MF	8/3/2018	BRM		EPA 1600	CFU/100 mL	255	200	61 - 1060	Acceptable
2520	Enterococci, MPN					MPN/100 mL	141		13.8 - 1450	NR
Additional State Specific Analytes										
2540	Fecal streptococci, MF	8/4/2018	BRM		SM 9230C	CFU/100 mL	255	230	61 - 1060	Acceptable
2540	Fecal streptococci, MPN					MPN/100 mL	141		13.8 - 1450	NR

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WPM0718	4	4	100%

Report Definitions:

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Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Supply Proficiency Testing

Study: WS0120

Opening Date: January 13, 2020 - Closing Date: February 27, 2020

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM-WS) — Lot #: 9079-04B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	1/27/2020	IN		EPA 200.7	µg/L	810	811	688 - 931	Acceptable
1005	Antimony	1/16/2020	IN		EPA 200.8	µg/L	18.4	16.2	12.9 - 23.9	Acceptable
1010	Arsenic	1/16/2020	IN		EPA 200.8	µg/L	35.1	34.6	24.6 - 45.6	Acceptable
1015	Barium	1/16/2020	IN		EPA 200.8	µg/L	2220	2230	1890 - 2560	Acceptable
1015	Barium	1/27/2020	IN		EPA 200.7	µg/L	2220	2220	1890 - 2560	Acceptable
1020	Beryllium	1/16/2020	IN		EPA 200.8	µg/L	4.15	4.18	3.53 - 4.77	Acceptable
1020	Beryllium	1/27/2020	IN		EPA 200.7	µg/L	4.15	4.22	3.53 - 4.77	Acceptable
1025	Boron	1/27/2020	IN		EPA 200.7	µg/L	1460	1430	1240 - 1680	Acceptable
1030	Cadmium	1/16/2020	IN		EPA 200.8	µg/L	14.7	14.7	11.8 - 17.7	Acceptable
1030	Cadmium	1/27/2020	IN		EPA 200.7	µg/L	14.7	15.3	11.8 - 17.7	Acceptable
1040	Chromium	1/16/2020	IN		EPA 200.8	µg/L	32.0	31.4	27.2 - 36.8	Acceptable
1040	Chromium	1/27/2020	IN		EPA 200.7	µg/L	32.0	32.3	27.2 - 36.8	Acceptable
1055	Copper	1/16/2020	IN		EPA 200.8	µg/L	257	255	231 - 282	Acceptable
1055	Copper	1/27/2020	IN		EPA 200.7	µg/L	257	258	231 - 282	Acceptable
1070	Iron	1/27/2020	IN		EPA 200.7	µg/L	456	468	388 - 525	Acceptable
1075	Lead	1/16/2020	IN		EPA 200.8	µg/L	44.9	44.9	31.4 - 58.3	Acceptable
1090	Manganese	1/16/2020	IN		EPA 200.8	µg/L	649	647	551 - 746	Acceptable
1090	Manganese	1/27/2020	IN		EPA 200.7	µg/L	649	650	551 - 746	Acceptable
1100	Molybdenum	1/16/2020	IN		EPA 200.8	µg/L	71.9	72.3	61.1 - 82.6	Acceptable
1100	Molybdenum	1/27/2020	IN		EPA 200.7	µg/L	71.9	72.2	61.1 - 82.6	Acceptable
1105	Nickel	1/16/2020	IN		EPA 200.8	µg/L	395	405	336 - 455	Acceptable
1105	Nickel	1/27/2020	IN		EPA 200.7	µg/L	395	405	336 - 455	Acceptable
1140	Selenium	1/16/2020	IN		EPA 200.8	µg/L	81.6	81.1	65.3 - 97.9	Acceptable
1150	Silver	1/16/2020	IN		EPA 200.8	µg/L	228	229	160 - 297	Acceptable
1150	Silver	1/27/2020	IN		EPA 200.7	µg/L	228	235	160 - 297	Acceptable
1165	Thallium	1/16/2020	IN		EPA 200.8	µg/L	8.28	8.05	5.80 - 10.8	Acceptable
1185	Vanadium	1/16/2020	IN		EPA 200.8	µg/L	363	367	309 - 418	Acceptable
1185	Vanadium	1/27/2020	IN		EPA 200.7	µg/L	363	367	309 - 418	Acceptable
1190	Zinc	1/16/2020	IN		EPA 200.8	µg/L	1730	1750	1470 - 1990	Acceptable

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EPA Lab ID: FL00095

Trace Metals 1 (PT-TM-WS) cont'd — Lot #: 9079-04B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1190	Zinc	1/27/2020	IN		EPA 200.7	µg/L	1730	1750	1470 - 1990	Acceptable

Mercury (PT-HG-WS) — Lot #: 9079-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1095	Mercury	1/22/2020	EN		EPA 245.1	µg/L	7.06	7.05	4.94 - 9.18	Acceptable
1095	Mercury	1/22/2020	MAZ		EPA 200.8	µg/L	7.06	6.95	4.94 - 9.18	Acceptable

Minerals (PT-MIN-WS) — Lot #: 9079-51

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1505	Alkalinity as CaCO3	1/24/2020	AR		SM 2320B	mg/L	98.3	99.0	88.4 - 108	Acceptable
1035	Calcium	1/27/2020	IN		EPA 200.7	mg/L	83.5	82.3	71.0 - 96.0	Acceptable
1550	Calcium Hardness as CaCO3	1/27/2020	IN		EPA 200.7	mg/L	209	206	177 - 240	Acceptable
1755	Total Hardness as CaCO3	1/27/2020	IN		EPA 200.7	mg/L	237	233	201 - 272	Acceptable
1085	Magnesium	1/27/2020	IN		EPA 200.7	mg/L	6.74	6.65	5.73 - 7.75	Acceptable
1125	Potassium	1/27/2020	IN		EPA 200.7	mg/L	35.4	36.5	30.1 - 40.8	Acceptable
1155	Sodium	1/27/2020	IN		EPA 200.7	mg/L	44.9	45.3	38.2 - 51.7	Acceptable
1955	Total Filterable Residue	1/20/2020	DAB		SM 2540C	mg/L	554	582	444 - 665	Acceptable

Specific Conductance (PT-COND-WS) — Lot #: 9079-57

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance	1/24/2020	OC		EPA 120.1	µmhos/cm	899	918	809 - 988	Acceptable

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Anions 1 (PT-AN1-WS) — Lot #: 9079-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1575	Chloride	1/30/2020	OC		EPA 300.0	mg/L	107	107	90.9 - 123	Acceptable
1575	Chloride	1/17/2020	SA		SM 4500 Cl-B	mg/L	107	104	90.9 - 123	Acceptable
1575	Chloride	2/1/2020	OC		SM 4500-Cl E	mg/L	107	108	90.9 - 123	Acceptable
1730	Fluoride	1/30/2020	OC		EPA 300.0	mg/L	7.24	6.93	6.52 - 7.96	Acceptable
1810	Nitrate as N	1/30/2020	OC		EPA 300.0	mg/L	7.05	6.98	6.35 - 7.76	Acceptable
1810	Nitrate as N	1/31/2020	OC		SM 4500-NO3 F	mg/L	7.05	6.89	6.35 - 7.76	Acceptable
1820	Nitrate and Nitrite as N	1/30/2020	OC		EPA 300.0	mg/L	7.05	6.98	6.00 - 8.11	Acceptable
1820	Nitrate and Nitrite as N	1/31/2020	OC		SM 4500-NO3 F	mg/L	7.05	6.89	6.00 - 8.11	Acceptable
1870	Orthophosphate as P	1/30/2020	OC		EPA 300.0	mg/L	1.99	1.95	1.69 - 2.29	Acceptable
1870	Orthophosphate as P	1/31/2020	OC		SM 4500-P F	mg/L	1.99	1.94	1.69 - 2.29	Acceptable
2000	Sulfate	1/30/2020	OC		EPA 300.0	mg/L	145	147	123 - 166	Acceptable
2000	Sulfate	2/7/2020	SA		EPA 375.4	mg/L	145	144	123 - 166	Acceptable

Anions 2 - Nitrite as N (PT-AN2-WS) — Lot #: 9079-56

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1840	Nitrite as N	2/6/2020	OC		EPA 300.0	mg/L	0.689	0.710	0.586 - 0.793	Acceptable
1840	Nitrite as N	2/8/2020	OC		SM 4500-NO2-B	mg/L	0.689	0.685	0.586 - 0.793	Acceptable
1840	Nitrite as N	2/7/2020	OC		SM 4500-NO3 F	mg/L	0.689	0.685	0.586 - 0.793	Acceptable

Cyanide (PT-CN-WS) — Lot #: 9079-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1635	Cyanide (simple)	2/27/2020	SA		SM 4500CN-E	mg/L	0.396	0.378	0.297 - 0.495	Acceptable

pH (PT-PH-WS) — Lot #: 9079-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1900	pH	1/22/2020	AR		SM 4500-H+-B	S.U.	5.20	5.19	5.00 - 5.40	Acceptable

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Total and Dissolved Organic Carbon (PT-TOC-WS) — Lot #: 9079-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2040	Total Organic Carbon	2/27/2020	SA		SM 5310C	mg/L	12.1	11.3	9.67 - 14.5	Acceptable
1710	Dissolved Organic Carbon (DOC)					mg/L	12.1		10.8 - 13.3	NR

Turbidity (PT-TURB-WS) — Lot #: 9079-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2055	Turbidity	1/21/2020	AR		EPA 180.1	NTU	4.45	4.60	3.76 - 5.03	Acceptable

IDB 1 - Bromide and Bromate (PT-IDB1-WS) — Lot #: 9079-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1535	Bromate					µg/L	16.4		11.5 - 21.3	NR
1540	Bromide	2/25/2020	OC		EPA 300.0	µg/L	232	229	197 - 266	Acceptable

Surfactants (MBAS) (PT-MBAS-WS) — Lot #: 9079-16B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2025	Surfactants - MBAS	1/23/2020	SA		SM 5540C	mg/L	0.905	0.889	0.701 - 1.08	Acceptable

Hexavalent Chromium (PT-CR6-WS) — Lot #: 9079-20

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1045	Chromium VI	1/24/2020	AR		SM 3500-Cr B	µg/L	8.67	10.0	6.94 - 10.4	Acceptable

Uranium (PT-U-WS) — Lot #: 9079-54

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
3055	Uranium	1/16/2020	IN		EPA 200.8	µg/L	40.0	39.0	32.3 - 44.4	Acceptable

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Regulated Volatiles (PT-RVOA-WS) — Lot #: 9079-21

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4375	Benzene	2/20/2020	JF		EPA 524.2	µg/L	17.6	17.3	14.1 - 21.1	Acceptable
4455	Carbon Tetrachloride	2/20/2020	JF		EPA 524.2	µg/L	6.73	7.03	4.04 - 9.43	Acceptable
4475	Chlorobenzene	2/20/2020	JF		EPA 524.2	µg/L	8.23	8.20	4.94 - 11.5	Acceptable
4610	1,2-Dichlorobenzene	2/20/2020	JF		EPA 524.2	µg/L	3.98	3.98	2.39 - 5.57	Acceptable
4620	1,4-Dichlorobenzene	2/20/2020	JF		EPA 524.2	µg/L	14.3	13.0	11.4 - 17.2	Acceptable
4635	1,2-Dichloroethane	2/20/2020	JF		EPA 524.2	µg/L	16.4	16.4	13.1 - 19.6	Acceptable
4640	1,1-Dichloroethylene	2/20/2020	JF		EPA 524.2	µg/L	14.9	15.6	11.9 - 17.9	Acceptable
4645	cis-1,2-Dichloroethylene	2/20/2020	JF		EPA 524.2	µg/L	14.9	13.9	11.9 - 17.8	Acceptable
4700	trans-1,2-Dichloroethylene	2/20/2020	JF		EPA 524.2	µg/L	7.67	7.71	4.60 - 10.7	Acceptable
4975	Dichloromethane (Methylene Chloride)	2/20/2020	JF		EPA 524.2	µg/L	4.58	7.01	2.75 - 6.41	Not Acceptable
4655	1,2-Dichloropropane	2/20/2020	JF		EPA 524.2	µg/L	18.8	19.4	15.0 - 22.5	Acceptable
4765	Ethylbenzene	2/20/2020	JF		EPA 524.2	µg/L	8.09	8.13	4.85 - 11.3	Acceptable
5100	Styrene	2/20/2020	JF		EPA 524.2	µg/L	10.5	12.6	8.44 - 12.7	Acceptable
5115	Tetrachloroethylene	2/20/2020	JF		EPA 524.2	µg/L	15.8	16.1	12.6 - 18.9	Acceptable
5140	Toluene	2/20/2020	JF		EPA 524.2	µg/L	9.08	9.03	5.45 - 12.7	Acceptable
5155	1,2,4-Trichlorobenzene	2/20/2020	JF		EPA 524.2	µg/L	5.09	4.58	3.06 - 7.13	Acceptable
5160	1,1,1-Trichloroethane	2/20/2020	JF		EPA 524.2	µg/L	4.87	4.74	2.92 - 6.82	Acceptable
5165	1,1,2-Trichloroethane	2/20/2020	JF		EPA 524.2	µg/L	7.97	8.17	4.78 - 11.2	Acceptable
5170	Trichloroethylene	2/20/2020	JF		EPA 524.2	µg/L	17.2	16.4	13.8 - 20.6	Acceptable
5235	Vinyl Chloride	2/20/2020	JF		EPA 524.2	µg/L	38.0	41.5	22.8 - 53.2	Acceptable
5260	Total Xylenes	2/20/2020	JF		EPA 524.2	µg/L	20.1	21.7	16.1 - 24.1	Acceptable

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Unregulated Volatiles (PT-UNRVOA-WS) — Lot #: 9079-22

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4385	Bromobenzene	2/20/2020	JF		EPA 524.2	µg/L	10.5	10.1	8.42 - 12.6	Acceptable
4390	Bromochloromethane	2/20/2020	JF		EPA 524.2	µg/L	5.01	5.12	3.01 - 7.01	Acceptable
4950	Bromomethane	2/20/2020	JF		EPA 524.2	µg/L	<3	<3.00		Acceptable
4435	n-Butylbenzene	2/20/2020	JF		EPA 524.2	µg/L	14.0	13.9	11.2 - 16.8	Acceptable
4440	sec-Butylbenzene	2/20/2020	JF		EPA 524.2	µg/L	15.4	17.5	12.3 - 18.4	Acceptable
4445	tert-Butylbenzene	2/20/2020	JF		EPA 524.2	µg/L	19.0	17.7	15.2 - 22.8	Acceptable
4485	Chloroethane	2/20/2020	JF		EPA 524.2	µg/L	28.2	34.0	16.9 - 39.4	Acceptable
4960	Chloromethane	2/20/2020	JF		EPA 524.2	µg/L	24.5	27.7	14.7 - 34.3	Acceptable
4535	2-Chlorotoluene	2/20/2020	JF		EPA 524.2	µg/L	6.97	6.68	4.18 - 9.76	Acceptable
4540	4-Chlorotoluene	2/20/2020	JF		EPA 524.2	µg/L	15.2	14.9	12.2 - 18.2	Acceptable
4595	Dibromomethane	2/20/2020	JF		EPA 524.2	µg/L	4.42	4.28	2.65 - 6.18	Acceptable
4615	1,3-Dichlorobenzene	2/20/2020	JF		EPA 524.2	µg/L	14.4	14.3	11.5 - 17.2	Acceptable
4625	Dichlorodifluoromethane	2/20/2020	JF		EPA 524.2	µg/L	<3	<3.00		Acceptable
4630	1,1-Dichloroethane	2/20/2020	JF		EPA 524.2	µg/L	7.85	8.38	4.71 - 11.0	Acceptable
4660	1,3-Dichloropropane	2/20/2020	JF		EPA 524.2	µg/L	4.47	4.28	2.68 - 6.25	Acceptable
4665	2,2-Dichloropropane	2/20/2020	JF		EPA 524.2	µg/L	5.64	5.22	3.39 - 7.90	Acceptable
4670	1,1-Dichloropropene	2/20/2020	JF		EPA 524.2	µg/L	13.9	12.6	11.2 - 16.7	Acceptable
4680	cis-1,3-Dichloropropene	2/20/2020	JF		EPA 524.2	µg/L	16.2	15.1	13.0 - 19.5	Acceptable
4685	trans-1,3-Dichloropropene	2/20/2020	JF		EPA 524.2	µg/L	16.3	15.4	13.1 - 19.6	Acceptable
5175	Fluorotrichloromethane	2/20/2020	JF		EPA 524.2	µg/L	<3	<3.00		Acceptable
4835	Hexachlorobutadiene	2/20/2020	JF		EPA 524.2	µg/L	34.3	32.4	27.4 - 41.2	Acceptable
4900	Isopropylbenzene	2/20/2020	JF		EPA 524.2	µg/L	15.1	12.0	12.1 - 18.1	Not Acceptable
4910	4-Isopropyltoluene	2/20/2020	JF		EPA 524.2	µg/L	4.23	4.05	2.54 - 5.92	Acceptable
5000	MTBE	2/20/2020	JF		EPA 524.2	µg/L	25.1	31.2	20.1 - 30.1	Not Acceptable
5005	Naphthalene	2/20/2020	JF		EPA 524.2	µg/L	25.0	27.1	17.5 - 32.5	Acceptable
5090	n-Propylbenzene	2/20/2020	JF		EPA 524.2	µg/L	14.8	15.6	11.8 - 17.8	Acceptable
5105	1,1,1,2-Tetrachloroethane	2/20/2020	JF		EPA 524.2	µg/L	4.87	4.95	2.92 - 6.82	Acceptable
5110	1,1,2,2-Tetrachloroethane	2/20/2020	JF		EPA 524.2	µg/L	11.4	11.4	9.11 - 13.7	Acceptable
5150	1,2,3-Trichlorobenzene	2/20/2020	JF		EPA 524.2	µg/L	23.3	23.7	18.6 - 27.9	Acceptable

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Unregulated Volatiles (PT-UNRVOA-WS) cont'd — Lot #: 9079-22

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5180	1,2,3-Trichloropropane	2/20/2020	JF		EPA 524.2	µg/L	5.68	5.31	3.41 - 7.95	Acceptable
5210	1,2,4-Trimethylbenzene	2/20/2020	JF		EPA 524.2	µg/L	4.37	4.86	2.62 - 6.11	Acceptable
5215	1,3,5-Trimethylbenzene	2/20/2020	JF		EPA 524.2	µg/L	6.95	7.39	4.17 - 9.72	Acceptable

Trihalomethanes (PT-THM-WS) — Lot #: 9079-23

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4395	Bromodichloromethane	2/20/2020	JF		EPA 524.2	µg/L	40.1	44.0	32.1 - 48.1	Acceptable
4400	Bromoform	2/20/2020	JF		EPA 524.2	µg/L	21.4	20.7	17.1 - 25.7	Acceptable
4575	Chlorodibromomethane	2/20/2020	JF		EPA 524.2	µg/L	43.9	47.4	35.1 - 52.7	Acceptable
4505	Chloroform	2/20/2020	JF		EPA 524.2	µg/L	13.3	13.4	10.6 - 16.0	Acceptable
Additional State Specific Analytes										
5205	Total Trihalomethanes	2/20/2020	JF		EPA 524.2	µg/L	119	126	94.9 - 143	Acceptable

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EPA Lab ID: FL00095

Pesticides (PT-PEST-WS) — Lot #: 9079-24

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7005	Alachlor	1/27/2020	YE		EPA 525.2	µg/L	16.6	15.7	9.13 - 24.1	Acceptable
7025	Aldrin					µg/L	0.826		0.365 - 1.06	NR
7065	Atrazine	1/27/2020	YE		EPA 525.2	µg/L	11.3	9.30	6.24 - 16.4	Acceptable
7160	Butachlor					µg/L	8.33		4.58 - 12.1	NR
7470	Dieldrin					µg/L	1.98		1.09 - 2.87	NR
7540	Endrin					µg/L	1.36		0.955 - 1.77	NR
7685	Heptachlor					µg/L	0.508		0.280 - 0.737	NR
7690	Heptachlor Epoxide (beta)					µg/L	1.19		0.652 - 1.72	NR
6275	Hexachlorobenzene					µg/L	3.31		1.67 - 4.12	NR
6285	Hexachlorocyclopentadiene					µg/L	11.2		3.32 - 15.9	NR
7120	Lindane					µg/L	0.605		0.333 - 0.878	NR
7810	Methoxychlor					µg/L	17.3		9.53 - 25.1	NR
7835	Metolachlor					µg/L	7.41		4.08 - 10.7	NR
7845	Metribuzin					µg/L	17.5		8.76 - 26.3	NR
8045	Propachlor					µg/L	6.87		3.78 - 9.96	NR
8125	Simazine	1/27/2020	YE		EPA 525.2	µg/L	17.7	19.1	9.74 - 25.7	Acceptable
8295	Trifluralin					µg/L	9.31		5.12 - 13.5	NR
Additional State Specific Analytes										
7130	Bromacil					µg/L	3.44		1.89 - 4.98	NR
7310	Chlorothalonil					µg/L	<0.5			NR
7410	Diazinon					µg/L	19.2		8.45 - 27.9	NR
7475	Dimethoate					µg/L	<0.5			NR
7875	Molinate					µg/L	12.0		6.62 - 17.4	NR
8035	Prometon					µg/L	<0.5			NR
8040	Prometryn					µg/L	<0.5			NR
8220	Thiobencarb					µg/L	<0.5			NR

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Final Report - Water Supply Proficiency Testing

Study: WS0120

Opening Date: January 13, 2020 - Closing Date: February 27, 2020

Laboratory: Florida Spectrum Environmental - Main
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Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Chlordane (PT-CHLR-WS) — Lot #: 9079-25

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane (total)	1/22/2020	AC		EPA 508	µg/L	17.2	14.6	9.47 - 25.0	Acceptable

Toxaphene (PT-TXP-WS) — Lot #: 9079-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene (total)	1/22/2020	AC		EPA 508	µg/L	13.3	11.2	7.32 - 19.3	Acceptable

EDB/DBCP/TCP (PT-EDBCP-WS) — Lot #: 9079-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4570	1,2-Dibromo-3-chloropropane (DBCP)	1/22/2020	AC		EPA 504.1	µg/L	1.53	0.920	0.915 - 2.14	Acceptable
4585	Ethylene Dibromide (EDB)	1/22/2020	AC		EPA 504.1	µg/L	1.30	0.721	0.778 - 1.81	Not Acceptable
5180	1,2,3-Trichloropropane					µg/L	1.48		0.889 - 2.07	NR

PCBs as Decachlorobiphenyl (PT-DECA-WS) — Lot #: 9079-28

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
9105	PCBs as decachlorobiphenyl					µg/L	0.673		0.0673 - 1.35	NR
8872	PCB Aroclor Identification	1/22/2020	AC		EPA 508		1232	1232		Acceptable
Additional State Specific Analytes										
8880	Aroclor 1016					µg/L	<0.260			NR
8885	Aroclor 1221					µg/L	<0.190			NR
8890	Aroclor 1232					µg/L	0.310		0.186 - 0.434	NR
8895	Aroclor 1242					µg/L	<0.260			NR
8900	Aroclor 1248					µg/L	<0.299			NR
8905	Aroclor 1254					µg/L	<0.329			NR
8910	Aroclor 1260					µg/L	<0.360			NR

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Herbicides (PT-HERB-WS) — Lot #: 9079-29

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8505	Acifluorfen	1/24/2020	AC		EPA 515.3	µg/L	50.7	38.4	25.4 - 76.1	Acceptable
8545	2,4-D	1/24/2020	AC		EPA 515.3	µg/L	48.9	42.6	24.5 - 73.4	Acceptable
8560	2,4-DB	1/24/2020	AC		EPA 515.3	µg/L	50.6	34.6	25.3 - 75.8	Acceptable
8555	Dalapon	1/24/2020	AC		EPA 515.3	µg/L	70.4	47.4	35.2 - 106	Acceptable
8595	Dicamba	1/24/2020	AC		EPA 515.3	µg/L	38.4	39.9	19.2 - 57.6	Acceptable
8620	Dinoseb	1/24/2020	AC		EPA 515.3	µg/L	22.3	32.1	8.03 - 31.5	Not Acceptable
6605	Pentachlorophenol	1/24/2020	AC		EPA 515.3	µg/L	7.60	5.26	3.80 - 11.4	Acceptable
8645	Picloram	1/24/2020	AC		EPA 515.3	µg/L	13.3	15.3	6.65 - 20.0	Acceptable
8655	2,4,5-T	1/24/2020	AC		EPA 515.3	µg/L	72.6	52.6	36.3 - 109	Acceptable
8650	2,4,5-TP (Silvex)	1/24/2020	AC		EPA 515.3	µg/L	79.4	71.0	39.7 - 119	Acceptable
Additional State Specific Analytes										
8530	Bentazon					µg/L	24.2		7.72 - 35.8	NR
8540	Chloramben					µg/L	<20			NR
8550	Dacthal diacid (DCPA)					µg/L	<20			NR
8600	3,5-Dichlorobenzoic acid					µg/L	<10			NR
8605	Dichlorprop					µg/L	58.9		34.1 - 70.7	NR
8635	5-Hydroxydicamba					µg/L	<1			NR
6500	4-Nitrophenol					µg/L	<1			NR

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EPA Lab ID: FL00095

Carbamates (PT-CARB-WS) — Lot #: 9079-30B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7010	Aldicarb	1/31/2020	RPV		EPA 531.1	µg/L	15.8	15.5	11.8 - 19.7	Acceptable
7015	Aldicarb Sulfone	1/31/2020	RPV		EPA 531.1	µg/L	77.2	88.4	57.9 - 96.5	Acceptable
7020	Aldicarb Sulfoxide	1/31/2020	RPV		EPA 531.1	µg/L	27.3	28.3	20.5 - 34.1	Acceptable
7195	Carbaryl	1/31/2020	RPV		EPA 531.1	µg/L	63.3	62.2	47.4 - 79.1	Acceptable
7205	Carbofuran	1/31/2020	RPV		EPA 531.1	µg/L	70.7	64.2	38.9 - 103	Acceptable
7710	3-Hydroxycarbofuran	1/31/2020	RPV		EPA 531.1	µg/L	33.6	27.9	26.9 - 40.3	Acceptable
7805	Methomyl	1/31/2020	RPV		EPA 531.1	µg/L	63.6	63.6	50.9 - 76.3	Acceptable
7940	Oxamyl (Vydate)	1/31/2020	RPV		EPA 531.1	µg/L	73.5	69.2	55.1 - 91.9	Acceptable
Additional State Specific Analytes										
8080	Baygon	1/31/2020	RPV		EPA 531.1	µg/L	69.8	65.8	52.3 - 87.2	Acceptable
7800	Methiocarb	1/31/2020	RPV		EPA 531.1	µg/L	85.5	88.2	64.2 - 107	Acceptable

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EPA Lab ID: FL00095

Semivolatiles 1 (PT-SV1-WS) — Lot #: 9079-31

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5580	Benzo(a)pyrene	1/27/2020	YE		EPA 525.2	µg/L	1.27	1.02	0.491 - 1.65	Acceptable
6062	Di(2-Ethylhexyl) Adipate	1/27/2020	YE		EPA 525.2	µg/L	29.9	27.8	18.6 - 39.4	Acceptable
6065	Di(2-Ethylhexyl) Phthalate	1/27/2020	YE		EPA 525.2	µg/L	40.1	34.5	20.4 - 56.2	Acceptable
Additional State Specific Analytes										
5500	Acenaphthene					µg/L	2.00		0.999 - 3.00	NR
5505	Acenaphthylene					µg/L	7.77		3.89 - 11.7	NR
5555	Anthracene					µg/L	8.95		4.48 - 13.4	NR
5575	Benzo(a)anthracene					µg/L	5.47		2.73 - 8.20	NR
5585	Benzo(b)fluoranthene					µg/L	5.30		2.65 - 7.94	NR
5600	Benzo(k)fluoranthene					µg/L	2.28		1.14 - 3.42	NR
5590	Benzo(g,h,i)perylene					µg/L	3.81		1.90 - 5.71	NR
5670	Butyl benzyl phthalate					µg/L	14.8		5.92 - 23.7	NR
5855	Chrysene					µg/L	3.74		1.87 - 5.60	NR
5925	Di-n-butylphthalate					µg/L	43.2		17.3 - 69.1	NR
5895	Dibenz(a,h)anthracene					µg/L	2.21		1.11 - 3.32	NR
6070	Diethylphthalate					µg/L	45.6		18.3 - 73.0	NR
6135	Dimethylphthalate					µg/L	12.3		4.93 - 19.7	NR
6265	Fluoranthene					µg/L	8.03		4.01 - 12.0	NR
6270	Fluorene					µg/L	5.18		2.59 - 7.77	NR
6315	Indeno(1,2,3-cd)pyrene					µg/L	6.39		3.19 - 9.58	NR
6380	1-Methylnaphthalene					µg/L	44.6		22.3 - 66.9	NR
6385	2-Methylnaphthalene					µg/L	42.2		21.1 - 63.3	NR
5005	Naphthalene					µg/L	8.48		5.09 - 11.9	NR
6200	Di-n-octylphthalate					µg/L	16.9		6.76 - 27.1	NR
6615	Phenanthrene					µg/L	4.56		2.28 - 6.84	NR
6665	Pyrene					µg/L	5.42		2.71 - 8.13	NR

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Final Report - Water Supply Proficiency Testing

Study: WS0120

Opening Date: January 13, 2020 - Closing Date: February 27, 2020

Laboratory: Florida Spectrum Environmental - Main
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EPA Lab ID: FL00095

Semivolatiles 2 - Herbicides (PT-SV2HERB-WS) — Lot #: 9079-33

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
9390	Diquat	1/29/2020	RPV		EPA 549.2	µg/L	36.8	25.3	18.4 - 55.3	Acceptable
7525	Endothall	2/7/2020	RPV		EPA 548.1	µg/L	101	82.4	50.3 - 151	Acceptable
9411	Glyphosate	1/30/2020	RPV		EPA 547	µg/L	434	448	347 - 521	Acceptable
Additional State Specific Analytes										
9528	Paraquat	1/29/2020	RPV		EPA 549.2	µg/L	89.2	73.9	44.6 - 134	Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
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Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WS0120	157	152	96.8%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Supply Proficiency Testing

Study: WS0719

Opening Date: July 15, 2019 - Closing Date: August 29, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM-WS) — Lot #: 9077-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	7/18/2019	IN		EPA 200.7	µg/L	881	865	749 - 1010	Acceptable
1005	Antimony	7/18/2019	MAZ		EPA 200.8	µg/L	17.6	17.2	12.3 - 22.9	Acceptable
1010	Arsenic	7/18/2019	MAZ		EPA 200.8	µg/L	45.7	44.4	32.0 - 59.4	Acceptable
1015	Barium	7/18/2019	IN		EPA 200.7	µg/L	2520	2530	2140 - 2900	Acceptable
1015	Barium	7/18/2019	MAZ		EPA 200.8	µg/L	2520	2530	2140 - 2900	Acceptable
1020	Beryllium	7/18/2019	IN		EPA 200.7	µg/L	10.6	10.4	8.99 - 12.2	Acceptable
1020	Beryllium	7/18/2019	MAZ		EPA 200.8	µg/L	10.6	10.5	8.99 - 12.2	Acceptable
1025	Boron	7/18/2019	IN		EPA 200.7	µg/L	1030	1010	876 - 1180	Acceptable
1030	Cadmium	7/18/2019	IN		EPA 200.7	µg/L	38.4	39.1	30.7 - 46.1	Acceptable
1030	Cadmium	7/18/2019	MAZ		EPA 200.8	µg/L	38.4	38.4	30.7 - 46.1	Acceptable
1040	Chromium	7/18/2019	IN		EPA 200.7	µg/L	130	132	110 - 149	Acceptable
1040	Chromium	7/18/2019	MAZ		EPA 200.8	µg/L	130	132	110 - 149	Acceptable
1055	Copper	7/18/2019	IN		EPA 200.7	µg/L	1450	1490	1300 - 1590	Acceptable
1055	Copper	7/18/2019	MAZ		EPA 200.8	µg/L	1450	1500	1300 - 1590	Acceptable
1070	Iron	7/18/2019	IN		EPA 200.7	µg/L	1430	1420	1210 - 1640	Acceptable
1075	Lead	7/18/2019	MAZ		EPA 200.8	µg/L	12.9	13.0	9.05 - 16.8	Acceptable
1090	Manganese	7/18/2019	IN		EPA 200.7	µg/L	724	737	615 - 832	Acceptable
1090	Manganese	7/18/2019	MAZ		EPA 200.8	µg/L	724	736	615 - 832	Acceptable
1100	Molybdenum	7/18/2019	IN		EPA 200.7	µg/L	96.6	99.0	82.1 - 111	Acceptable
1100	Molybdenum	7/18/2019	MAZ		EPA 200.8	µg/L	96.6	99.0	82.1 - 111	Acceptable
1105	Nickel	7/18/2019	IN		EPA 200.7	µg/L	165	167	140 - 189	Acceptable
1105	Nickel	7/18/2019	MAZ		EPA 200.8	µg/L	165	168	140 - 189	Acceptable
1140	Selenium	7/18/2019	MAZ		EPA 200.8	µg/L	16.3	16.3	13.0 - 19.6	Acceptable
1150	Silver	7/18/2019	IN		EPA 200.7	µg/L	200	205	140 - 259	Acceptable
1150	Silver	7/18/2019	MAZ		EPA 200.8	µg/L	200	206	140 - 259	Acceptable
1165	Thallium	7/18/2019	MAZ		EPA 200.8	µg/L	5.90	5.94	4.13 - 7.67	Acceptable
1185	Vanadium	7/18/2019	IN		EPA 200.7	µg/L	400	409	340 - 460	Acceptable
1185	Vanadium	7/18/2019	MAZ		EPA 200.8	µg/L	400	411	340 - 460	Acceptable
1190	Zinc	7/18/2019	IN		EPA 200.7	µg/L	1750	1760	1490 - 2010	Acceptable

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EPA Lab ID: FL00095

Trace Metals 1 (PT-TM-WS) cont'd — Lot #: 9077-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1190	Zinc	7/18/2019	MAZ		EPA 200.8	µg/L	1750	1750	1490 - 2010	Acceptable

Mercury (PT-HG-WS) — Lot #: 9077-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1095	Mercury	7/18/2019	EN		EPA 245.1	µg/L	3.51	3.20	2.46 - 4.56	Acceptable
1095	Mercury	7/18/2019	MAZ		EPA 200.8	µg/L	3.51	3.22	2.46 - 4.56	Acceptable

Minerals (PT-MIN-WS) — Lot #: 9077-51

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1505	Alkalinity as CaCO3	7/18/2019	AR		SM 2320B	mg/L	67.6	72.6	60.8 - 74.4	Acceptable
1035	Calcium	7/18/2019	IN		EPA 200.7	mg/L	80.7	80.3	68.6 - 92.8	Acceptable
1550	Calcium Hardness as CaCO3	7/18/2019	IN		EPA 200.7	mg/L	202	200	171 - 232	Acceptable
1755	Total Hardness as CaCO3	7/18/2019	IN		EPA 200.7	mg/L	237	235	202 - 273	Acceptable
1085	Magnesium	7/18/2019	IN		EPA 200.7	mg/L	8.52	8.28	7.24 - 9.79	Acceptable
1125	Potassium	7/18/2019	IN		EPA 200.7	mg/L	34.9	33.7	29.7 - 40.1	Acceptable
1155	Sodium	7/18/2019	IN		EPA 220.7	mg/L	30.9	30.9	26.3 - 35.5	Acceptable
1955	Total Filterable Residue	7/19/2019	DAB		SM 2540C	mg/L	540	560	432 - 648	Acceptable

Specific Conductance (PT-COND-WS) — Lot #: 9077-57

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance	7/20/2019	OC		EPA 120.1	µmhos/cm	268	264	241 - 295	Acceptable

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9549786400

EPA Lab ID: FL00095

Anions 1 (PT-AN1-WS) — Lot #: 9077-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1575	Chloride	8/8/2019	OC		EPA 300.0	mg/L	128	128	109 - 147	Acceptable
1575	Chloride	8/20/2019	OC		SM 4500-Cl E	mg/L	128	129	109 - 147	Acceptable
1575	Chloride	8/9/2019	SA		SM 4500 Cl-B	mg/L	128	130	109 - 147	Acceptable
1730	Fluoride	8/7/2019	OC		EPA 300.0	mg/L	3.09	3.08	2.78 - 3.40	Acceptable
1810	Nitrate as N	8/7/2019	OC		EPA 300.0	mg/L	3.26	3.14	2.94 - 3.59	Acceptable
1810	Nitrate as N	8/7/2019	SA		SM 4500-NO3 F	mg/L	3.26	3.15	2.94 - 3.59	Acceptable
1820	Nitrate and Nitrite as N	8/7/2019	OC		EPA 300.0	mg/L	3.26	3.14	2.77 - 3.75	Acceptable
1820	Nitrate and Nitrite as N	8/7/2019	SA		SM 4500-NO3 F	mg/L	3.26	3.15	2.77 - 3.75	Acceptable
1870	Orthophosphate as P	8/7/2019	OC		EPA 300.0	mg/L	3.67	3.63	3.12 - 4.22	Acceptable
1870	Orthophosphate as P	8/15/2019	OC		SM 4500-P F	mg/L	3.67	3.74	3.12 - 4.22	Acceptable
2000	Sulfate	8/8/2019	OC		EPA 300.0	mg/L	135	135	115 - 156	Acceptable
2000	Sulfate	8/7/2019	SA		EPA 375.4	mg/L	135	137	115 - 156	Acceptable

Anions 2 - Nitrite as N (PT-AN2-WS) — Lot #: 9077-56

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1840	Nitrite as N	8/7/2019	SA		SM 4500-NO3 F	mg/L	0.561	0.551	0.477 - 0.645	Acceptable
1840	Nitrite as N	8/7/2019	OC		EPA 300.0	mg/L	0.561	0.597	0.477 - 0.645	Acceptable
1840	Nitrite as N	8/8/2019	OC		SM 4500-NO2-B	mg/L	0.561	0.558	0.477 - 0.645	Acceptable

Cyanide (PT-CN-WS) — Lot #: 9077-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1635	Cyanide (simple)	8/6/2019	SA		SM 4500CN-E	mg/L	0.428	0.437	0.321 - 0.535	Acceptable

pH (PT-PH-WS) — Lot #: 9077-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1900	pH	7/18/2019	AR		SM 4500-H+ B	S.U.	7.87	7.88	7.67 - 8.07	Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Total and Dissolved Organic Carbon (PT-TOC-WS) — Lot #: 9077-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2040	Total Organic Carbon	8/12/2019	SA		SM 5310C	mg/L	2.59	2.54	2.07 - 3.11	Acceptable
1710	Dissolved Organic Carbon (DOC)					mg/L	2.59		2.27 - 2.97	NR

Turbidity (PT-TURB-WS) — Lot #: 9077-13B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2055	Turbidity	8/2/2019	AR		EPA 180.1	NTU	4.58	4.60	3.87 - 5.17	Acceptable

IDB 1 - Bromide and Bromate (PT-IDB1-WS) — Lot #: 9077-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1535	Bromate					µg/L	30.5		21.3 - 39.6	NR
1540	Bromide	8/10/2019	OC		EPA 300.0	µg/L	51.6	52.0	43.9 - 59.4	Acceptable

Surfactants (MBAS) (PT-MBAS-WS) — Lot #: 9077-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2025	Surfactants - MBAS	7/19/2019	SA		SM 5540C	mg/L	0.939	0.905	0.730 - 1.12	Acceptable

Hexavalent Chromium (PT-CR6-WS) — Lot #: 9077-20

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1045	Chromium VI	8/2/2019	AR		SM 3500-Cr B	µg/L	8.82	9.00	7.06 - 10.6	Acceptable

Uranium (PT-U-WS) — Lot #: 9077-54

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
3055	Uranium	7/18/2019	MAZ		EPA 200.8	µg/L	13.3	13.3	10.4 - 15.4	Acceptable

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Regulated Volatiles (PT-RVOA-WS) — Lot #: 9077-21

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4375	Benzene	8/6/2019	JF		EPA 524.2	µg/L	11.8	11.1	9.46 - 14.2	Acceptable
4455	Carbon Tetrachloride	8/6/2019	JF		EPA 524.2	µg/L	4.12	4.25	2.47 - 5.77	Acceptable
4475	Chlorobenzene	8/6/2019	JF		EPA 524.2	µg/L	17.5	17.1	14.0 - 21.0	Acceptable
4610	1,2-Dichlorobenzene	8/6/2019	JF		EPA 524.2	µg/L	9.81	11.2	5.88 - 13.7	Acceptable
4620	1,4-Dichlorobenzene	8/6/2019	JF		EPA 524.2	µg/L	3.32	3.40	1.99 - 4.64	Acceptable
4635	1,2-Dichloroethane	8/6/2019	JF		EPA 524.2	µg/L	14.0	13.6	11.2 - 16.8	Acceptable
4640	1,1-Dichloroethylene	8/6/2019	JF		EPA 524.2	µg/L	9.06	10.3	5.44 - 12.7	Acceptable
4645	cis-1,2-Dichloroethylene	8/6/2019	JF		EPA 524.2	µg/L	17.6	16.1	14.1 - 21.1	Acceptable
4700	trans-1,2-Dichloroethylene	8/6/2019	JF		EPA 524.2	µg/L	17.7	17.5	14.1 - 21.2	Acceptable
4975	Dichloromethane (Methylene Chloride)	8/6/2019	JF		EPA 524.2	µg/L	14.3	10.2	11.5 - 17.2	Not Acceptable
4655	1,2-Dichloropropane	8/6/2019	JF		EPA 524.2	µg/L	4.17	4.49	2.50 - 5.84	Acceptable
4765	Ethylbenzene	8/6/2019	JF		EPA 524.2	µg/L	7.80	8.34	4.68 - 10.9	Acceptable
5100	Styrene	8/6/2019	JF		EPA 524.2	µg/L	13.8	17.5	11.0 - 16.5	Not Acceptable
5115	Tetrachloroethylene	8/6/2019	JF		EPA 524.2	µg/L	15.1	15.4	12.0 - 18.1	Acceptable
5140	Toluene	8/6/2019	JF		EPA 524.2	µg/L	15.4	17.1	12.4 - 18.5	Acceptable
5155	1,2,4-Trichlorobenzene	8/6/2019	JF		EPA 524.2	µg/L	3.46	3.84	2.08 - 4.85	Acceptable
5160	1,1,1-Trichloroethane	8/6/2019	JF		EPA 524.2	µg/L	12.3	12.3	9.81 - 14.7	Acceptable
5165	1,1,2-Trichloroethane	8/6/2019	JF		EPA 524.2	µg/L	13.1	13.4	10.5 - 15.7	Acceptable
5170	Trichloroethylene	8/6/2019	JF		EPA 524.2	µg/L	5.06	5.17	3.04 - 7.09	Acceptable
5235	Vinyl Chloride	8/6/2019	JF		EPA 524.2	µg/L	8.88	10.3	5.33 - 12.4	Acceptable
5260	Total Xylenes	8/6/2019	JF		EPA 524.2	µg/L	19.3	20.7	15.4 - 23.2	Acceptable

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9549786400

EPA Lab ID: FL00095

Unregulated Volatiles (PT-UNRVOA-WS) — Lot #: 9077-22

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4385	Bromobenzene	8/6/2019	JF		EPA 524.2	µg/L	16.6	17.2	13.3 - 20.0	Acceptable
4390	Bromochloromethane	8/6/2019	JF		EPA 524.2	µg/L	15.0	14.6	12.0 - 17.9	Acceptable
4950	Bromomethane	8/6/2019	JF		EPA 524.2	µg/L	7.62	6.46	4.57 - 10.7	Acceptable
4435	n-Butylbenzene	8/6/2019	JF		EPA 524.2	µg/L	13.3	17.6	10.6 - 15.9	Not Acceptable
4440	sec-Butylbenzene	8/6/2019	JF		EPA 524.2	µg/L	11.9	14.5	9.50 - 14.3	Not Acceptable
4445	tert-Butylbenzene	8/6/2019	JF		EPA 524.2	µg/L	7.28	6.93	4.37 - 10.2	Acceptable
4485	Chloroethane	8/6/2019	JF		EPA 524.2	µg/L	8.99	8.96	5.40 - 12.6	Acceptable
4960	Chloromethane	8/6/2019	JF		EPA 524.2	µg/L	<3	<3.00		Acceptable
4535	2-Chlorotoluene	8/6/2019	JF		EPA 524.2	µg/L	18.3	21.0	14.6 - 21.9	Acceptable
4540	4-Chlorotoluene	8/6/2019	JF		EPA 524.2	µg/L	10.5	12.6	8.38 - 12.6	Acceptable
4595	Dibromomethane	8/6/2019	JF		EPA 524.2	µg/L	4.47	4.52	2.68 - 6.26	Acceptable
4615	1,3-Dichlorobenzene	8/6/2019	JF		EPA 524.2	µg/L	4.41	4.70	2.65 - 6.18	Acceptable
4625	Dichlorodifluoromethane	8/6/2019	JF		EPA 524.2	µg/L	<3	<3.00		Acceptable
4630	1,1-Dichloroethane	8/6/2019	JF		EPA 524.2	µg/L	5.66	5.21	3.39 - 7.92	Acceptable
4660	1,3-Dichloropropane	8/6/2019	JF		EPA 524.2	µg/L	17.7	18.3	14.1 - 21.2	Acceptable
4665	2,2-Dichloropropane	8/6/2019	JF		EPA 524.2	µg/L	7.34	9.63	4.40 - 10.3	Acceptable
4670	1,1-Dichloropropene	8/6/2019	JF		EPA 524.2	µg/L	6.20	5.09	3.72 - 8.68	Acceptable
4680	cis-1,3-Dichloropropene	8/6/2019	JF		EPA 524.2	µg/L	6.67	19.1	4.00 - 9.34	Not Acceptable
4685	trans-1,3-Dichloropropene	8/6/2019	JF		EPA 524.2	µg/L	17.0	6.48	13.6 - 20.4	Not Acceptable
5175	Fluorotrichloromethane	8/6/2019	JF		EPA 524.2	µg/L	<3	<3.00		Acceptable
4835	Hexachlorobutadiene	8/6/2019	JF		EPA 524.2	µg/L	37.2	37.0	29.7 - 44.6	Acceptable
4900	Isopropylbenzene	8/6/2019	JF		EPA 524.2	µg/L	4.63	4.67	2.78 - 6.48	Acceptable
4910	4-Isopropyltoluene	8/6/2019	JF		EPA 524.2	µg/L	12.4	14.4	9.90 - 14.9	Acceptable
5000	MTBE	8/6/2019	JF		EPA 524.2	µg/L	14.1	15.2	11.3 - 16.9	Acceptable
5005	Naphthalene	8/6/2019	JF		EPA 524.2	µg/L	20.9	21.8	14.6 - 27.1	Acceptable
5090	n-Propylbenzene	8/6/2019	JF		EPA 524.2	µg/L	3.35	3.41	2.01 - 4.69	Acceptable
5105	1,1,1,2-Tetrachloroethane	8/6/2019	JF		EPA 524.2	µg/L	6.10	6.36	3.66 - 8.54	Acceptable
5110	1,1,2,2-Tetrachloroethane	8/6/2019	JF		EPA 524.2	µg/L	10.3	11.5	8.28 - 12.4	Acceptable
5150	1,2,3-Trichlorobenzene	8/6/2019	JF		EPA 524.2	µg/L	47.0	50.1	37.6 - 56.3	Acceptable

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Unregulated Volatiles (PT-UNRVOA-WS) cont'd — Lot #: 9077-22

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5180	1,2,3-Trichloropropane	8/6/2019	JF		EPA 524.2	µg/L	10.1	10.9	8.05 - 12.1	Acceptable
5210	1,2,4-Trimethylbenzene	8/6/2019	JF		EPA 524.2	µg/L	8.25	9.32	4.95 - 11.6	Acceptable
5215	1,3,5-Trimethylbenzene	8/6/2019	JF		EPA 524.2	µg/L	7.55	7.31	4.53 - 10.6	Acceptable

Trihalomethanes (PT-THM-WS) — Lot #: 9077-23

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4395	Bromodichloromethane	8/6/2019	JF		EPA 524.2	µg/L	40.1	48.4	32.1 - 48.1	Not Acceptable
4400	Bromoform	8/6/2019	JF		EPA 524.2	µg/L	34.6	41.0	27.7 - 41.5	Acceptable
4575	Chlorodibromomethane	8/6/2019	JF		EPA 524.2	µg/L	28.0	35.7	22.4 - 33.6	Not Acceptable
4505	Chloroform	8/6/2019	JF		EPA 524.2	µg/L	44.2	45.8	35.4 - 53.1	Acceptable
Additional State Specific Analytes										
5205	Total Trihalomethanes	8/6/2019	JF		EPA 524.2	µg/L	147	171	118 - 176	Acceptable

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Pesticides (PT-PEST-WS) — Lot #: 9077-24

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7005	Alachlor	7/23/2019	AC		EPA 525.2	µg/L	13.4	15.5	7.39 - 19.5	Acceptable
7025	Aldrin					µg/L	0.794		0.351 - 1.02	NR
7065	Atrazine	7/23/2019	AC		EPA 525.2	µg/L	7.24	7.00	3.98 - 10.5	Acceptable
7160	Butachlor					µg/L	3.80		2.09 - 5.51	NR
7470	Dieldrin					µg/L	1.32		0.723 - 1.91	NR
7540	Endrin					µg/L	0.701		0.491 - 0.911	NR
7685	Heptachlor					µg/L	0.391		0.215 - 0.567	NR
7690	Heptachlor Epoxide (beta)					µg/L	2.14		1.17 - 3.10	NR
6275	Hexachlorobenzene					µg/L	1.29		0.629 - 1.63	NR
6285	Hexachlorocyclopentadiene					µg/L	14.3		4.28 - 20.3	NR
7120	Lindane					µg/L	2.21		1.21 - 3.20	NR
7810	Methoxychlor					µg/L	6.05		3.33 - 8.77	NR
7835	Metolachlor					µg/L	15.4		8.49 - 22.4	NR
7845	Metribuzin					µg/L	13.8		6.89 - 20.7	NR
8045	Propachlor					µg/L	8.79		4.84 - 12.7	NR
8125	Simazine	7/23/2019	AC		EPA 525.2	µg/L	3.32	4.47	1.83 - 4.82	Acceptable
8295	Trifluralin					µg/L	3.99		2.20 - 5.79	NR
Additional State Specific Analytes										
7130	Bromacil					µg/L	13.7		7.56 - 19.9	NR
7310	Chlorothalonil					µg/L	<0.5			NR
7410	Diazinon					µg/L	18.1		7.95 - 26.3	NR
7475	Dimethoate					µg/L	<0.5			NR
7875	Molinate					µg/L	28.1		15.4 - 40.7	NR
8035	Prometon					µg/L	<0.5			NR
8040	Prometryn					µg/L	<0.5			NR
8220	Thiobencarb					µg/L	<0.5			NR

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Chlordane (PT-CHLR-WS) — Lot #: 9077-25

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane (total)	7/25/2019	YE		EPA 508	µg/L	17.2	18.5	9.47 - 25.0	Acceptable

Toxaphene (PT-TXP-WS) — Lot #: 9077-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene (total)	7/24/2019	YE		EPA 508	µg/L	10.0	10.4	5.50 - 14.5	Acceptable

EDB/DBCP/TCP (PT-EDBCP-WS) — Lot #: 9077-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4570	1,2-Dibromo-3-chloropropane (DBCP)	7/22/2019	YE		EPA 504.1	µg/L	0.915	1.43	0.549 - 1.28	Not Acceptable
4585	Ethylene Dibromide (EDB)	7/22/2019	YE		EPA 504.1	µg/L	1.09	1.69	0.653 - 1.52	Not Acceptable
5180	1,2,3-Trichloropropane					µg/L	0.613		0.368 - 0.858	NR

PCBs as Decachlorobiphenyl (PT-DECA-WS) — Lot #: 9077-28

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
9105	PCBs as decachlorobiphenyl					µg/L	3.65		0.365 - 7.30	NR
8872	PCB Aroclor Identification	7/24/2019	YE		EPA 508		1254	1254		Acceptable
Additional State Specific Analytes										
8880	Aroclor 1016					µg/L	<0.260			NR
8885	Aroclor 1221					µg/L	<0.190			NR
8890	Aroclor 1232					µg/L	<0.230			NR
8895	Aroclor 1242					µg/L	<0.260			NR
8900	Aroclor 1248					µg/L	<0.299			NR
8905	Aroclor 1254					µg/L	2.40		1.44 - 3.36	NR
8910	Aroclor 1260					µg/L	<0.360			NR

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Herbicides (PT-HERB-WS) — Lot #: 9077-29

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8505	Acifluorfen	7/18/2019	YE		EPA 515.3	µg/L	55.9	85.9	28.0 - 83.9	Not Acceptable
8545	2,4-D	7/18/2019	YE		EPA 515.3	µg/L	63.6	89.7	31.8 - 95.4	Acceptable
8560	2,4-DB	7/18/2019	YE		EPA 515.3	µg/L	97.5	110	48.7 - 146	Acceptable
8555	Dalapon	7/18/2019	YE		EPA 515.3	µg/L	31.5	50.6	15.7 - 47.2	Not Acceptable
8595	Dicamba	7/18/2019	YE		EPA 515.3	µg/L	65.1	101	32.5 - 97.6	Not Acceptable
8620	Dinoseb	7/18/2019	YE		EPA 515.3	µg/L	54.8	67.2	18.5 - 76.1	Acceptable
6605	Pentachlorophenol	7/18/2019	YE		EPA 515.3	µg/L	8.36	10.3	4.18 - 12.5	Acceptable
8645	Picloram	7/18/2019	YE		EPA 515.3	µg/L	45.5	58.6	22.7 - 68.2	Acceptable
8655	2,4,5-T	7/18/2019	YE		EPA 515.3	µg/L	50.9	46.5	25.4 - 76.3	Acceptable
8650	2,4,5-TP (Silvex)	7/18/2019	YE		EPA 515.3	µg/L	82.2	100	41.1 - 123	Acceptable
Additional State Specific Analytes										
8530	Bentazon					µg/L	52.0		19.7 - 74.1	NR
8540	Chloramben					µg/L	<20			NR
8550	Dacthal diacid (DCPA)					µg/L	<20			NR
8600	3,5-Dichlorobenzoic acid					µg/L	88.4		44.2 - 133	NR
8605	Dichlorprop					µg/L	<10			NR
8635	5-Hydroxydicamba					µg/L	<1			NR
6500	4-Nitrophenol					µg/L	<1			NR

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Carbamates (PT-CARB-WS) — Lot #: 9077-30

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7010	Aldicarb	7/23/2019	RPV		EPA 531.1	µg/L	23.5	24.5	17.6 - 29.4	Acceptable
7015	Aldicarb Sulfone	7/23/2019	RPV		EPA 531.1	µg/L	51.6	58.0	38.7 - 64.5	Acceptable
7020	Aldicarb Sulfoxide	7/23/2019	RPV		EPA 531.1	µg/L	50.2	51.0	37.6 - 62.7	Acceptable
7195	Carbaryl	7/23/2019	RPV		EPA 531.1	µg/L	43.5	45.0	32.6 - 54.4	Acceptable
7205	Carbofuran	7/23/2019	RPV		EPA 531.1	µg/L	109	93.6	60.1 - 159	Acceptable
7710	3-Hydroxycarbofuran	7/23/2019	RPV		EPA 531.1	µg/L	41.6	41.2	33.3 - 49.9	Acceptable
7805	Methomyl	7/23/2019	RPV		EPA 531.1	µg/L	36.0	42.1	28.8 - 43.2	Acceptable
7940	Oxamyl (Vydate)	7/23/2019	RPV		EPA 531.1	µg/L	79.6	74.0	59.7 - 99.5	Acceptable
Additional State Specific Analytes										
8080	Baygon	7/23/2019	RPV		EPA 531.1	µg/L	44.8	41.3	33.6 - 56.1	Acceptable
7800	Methiocarb	7/23/2019	RPV		EPA 531.1	µg/L	57.7	54.4	43.3 - 72.2	Acceptable

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Final Report - Water Supply Proficiency Testing

Study: WS0719

Opening Date: July 15, 2019 - Closing Date: August 29, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Semivolatiles 1 (PT-SV1-WS) — Lot #: 9077-31

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5580	Benzo(a)pyrene	7/23/2019	AC		EPA 525.2	µg/L	1.93	1.91	0.805 - 2.45	Acceptable
6062	Di(2-Ethylhexyl) Adipate	7/23/2019	AC		EPA 525.2	µg/L	18.5	20.1	10.2 - 25.3	Acceptable
6065	Di(2-Ethylhexyl) Phthalate	7/23/2019	AC		EPA 525.2	µg/L	14.5	14.4	7.25 - 22.1	Acceptable
Additional State Specific Analytes										
5500	Acenaphthene					µg/L	3.56		1.78 - 5.34	NR
5505	Acenaphthylene					µg/L	2.05		1.02 - 3.07	NR
5555	Anthracene					µg/L	2.70		1.35 - 4.04	NR
5575	Benzo(a)anthracene					µg/L	1.69		0.845 - 2.54	NR
5585	Benzo(b)fluoranthene					µg/L	4.70		2.35 - 7.05	NR
5600	Benzo(k)fluoranthene					µg/L	2.48		1.24 - 3.71	NR
5590	Benzo(g,h,i)perylene					µg/L	4.18		2.09 - 6.28	NR
5670	Butyl benzyl phthalate					µg/L	44.3		17.7 - 70.8	NR
5855	Chrysene					µg/L	8.76		4.38 - 13.1	NR
5925	Di-n-butylphthalate					µg/L	43.9		17.5 - 70.2	NR
5895	Dibenz(a,h)anthracene					µg/L	5.97		2.99 - 8.96	NR
6070	Diethylphthalate					µg/L	44.3		17.7 - 70.9	NR
6135	Dimethylphthalate					µg/L	17.9		7.15 - 28.6	NR
6265	Fluoranthene					µg/L	3.06		1.53 - 4.59	NR
6270	Fluorene					µg/L	3.63		1.81 - 5.44	NR
6315	Indeno(1,2,3-cd)pyrene					µg/L	4.53		2.27 - 6.80	NR
6380	1-Methylnaphthalene					µg/L	19.8		9.91 - 29.7	NR
6385	2-Methylnaphthalene					µg/L	17.1		8.54 - 25.6	NR
5005	Naphthalene					µg/L	26.0		15.6 - 36.3	NR
6200	Di-n-octylphthalate					µg/L	16.4		6.56 - 26.3	NR
6615	Phenanthrene					µg/L	5.62		2.81 - 8.43	NR
6665	Pyrene					µg/L	1.32		0.658 - 1.97	NR

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EPA Lab ID: FL00095

Semivolatiles 2 - Herbicides (PT-SV2HERB-WS) — Lot #: 9077-33B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
9390	Diquat	7/23/2019	RPV		EPA 549.2	µg/L	31.9	34.9	15.9 - 47.8	Acceptable
7525	Endothall	8/19/2019	RPV		EPA 548.1	µg/L	377	380	189 - 566	Acceptable
9411	Glyphosate	7/18/2019	RPV		EPA 547	µg/L	494	420	395 - 593	Acceptable
Additional State Specific Analytes										
9528	Paraquat	7/23/2019	RPV		EPA 549.2	µg/L	29.2	61.1	14.6 - 43.8	Not Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WS0719	157	143	91.1%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Study: WS0119

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9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM-WS) — Lot #: 9075-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	1/22/2019	IN		EPA 200.7	µg/L	887	896	754 - 1020	Acceptable
1005	Antimony	1/22/2019	IN		EPA 200.8	µg/L	35.3	33.6	24.7 - 45.8	Acceptable
1010	Arsenic	1/22/2019	IN		EPA 200.8	µg/L	31.1	31.2	21.8 - 40.5	Acceptable
1015	Barium	1/22/2019	IN		EPA 200.7	µg/L	680	680	578 - 782	Acceptable
1015	Barium	1/22/2019	IN		EPA 200.8	µg/L	680	681	578 - 782	Acceptable
1020	Beryllium	1/22/2019	IN		EPA 200.7	µg/L	8.24	8.29	7.00 - 9.48	Acceptable
1020	Beryllium	1/22/2019	IN		EPA 200.8	µg/L	8.24	8.10	7.00 - 9.48	Acceptable
1025	Boron	1/22/2019	IN		EPA 200.7	µg/L	1730	1740	1470 - 1990	Acceptable
1030	Cadmium	1/22/2019	IN		EPA 200.7	µg/L	45.8	46.2	36.6 - 54.9	Acceptable
1030	Cadmium	1/22/2019	IN		EPA 200.8	µg/L	45.8	46.2	36.6 - 54.9	Acceptable
1040	Chromium	1/22/2019	IN		EPA 200.7	µg/L	151	152	128 - 174	Acceptable
1040	Chromium	1/22/2019	IN		EPA 200.8	µg/L	151	152	128 - 174	Acceptable
1055	Copper	1/22/2019	IN		EPA 200.7	µg/L	1450	1480	1300 - 1590	Acceptable
1055	Copper	1/22/2019	IN		EPA 200.8	µg/L	1450	1470	1300 - 1590	Acceptable
1070	Iron	1/22/2019	IN		EPA 200.7	µg/L	1350	1360	1150 - 1550	Acceptable
1075	Lead	1/22/2019	IN		EPA 200.8	µg/L	31.4	31.1	22.0 - 40.8	Acceptable
1090	Manganese	1/22/2019	IN		EPA 200.7	µg/L	458	455	389 - 527	Acceptable
1090	Manganese	1/22/2019	IN		EPA 200.8	µg/L	458	454	389 - 527	Acceptable
1100	Molybdenum	1/22/2019	IN		EPA 200.7	µg/L	96.2	94.6	81.7 - 111	Acceptable
1100	Molybdenum	1/22/2019	IN		EPA 200.8	µg/L	96.2	95.7	81.7 - 111	Acceptable
1105	Nickel	1/22/2019	IN		EPA 200.7	µg/L	430	434	365 - 494	Acceptable
1105	Nickel	1/22/2019	IN		EPA 200.8	µg/L	430	433	365 - 494	Acceptable
1140	Selenium	1/22/2019	IN		EPA 200.8	µg/L	79.0	78.4	63.2 - 94.8	Acceptable
1150	Silver	1/22/2019	IN		EPA 200.7	µg/L	226	233	158 - 294	Acceptable
1150	Silver	1/22/2019	IN		EPA 200.8	µg/L	226	228	158 - 294	Acceptable
1165	Thallium	1/22/2019	IN		EPA 200.8	µg/L	9.89	9.85	6.92 - 12.9	Acceptable
1185	Vanadium	1/22/2019	IN		EPA 200.7	µg/L	680	694	578 - 782	Acceptable
1185	Vanadium	1/22/2019	IN		EPA 200.8	µg/L	680	686	578 - 782	Acceptable
1190	Zinc	1/22/2019	IN		EPA 200.7	µg/L	707	715	601 - 814	Acceptable

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9549786400

EPA Lab ID: FL00095

Trace Metals 1 (PT-TM-WS) cont'd — Lot #: 9075-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1190	Zinc	1/22/2019	IN		EPA 200.8	µg/L	707	715	601 - 814	Acceptable

Mercury (PT-HG-WS) — Lot #: 9075-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1095	Mercury	1/21/2019	EN		EPA 245.1	µg/L	1.97	1.91	1.38 - 2.56	Acceptable
1095	Mercury	1/22/2019	IN		EPA 200.8	µg/L	1.97	1.92	1.38 - 2.56	Acceptable

Minerals (PT-MIN-WS) — Lot #: 9075-51

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1505	Alkalinity as CaCO3	2/20/2019	AR		SM 2320B	mg/L	74.9	73.6	67.4 - 82.4	Acceptable
1035	Calcium	1/22/2019	IN		EPA 200.7	mg/L	83.0	84.0	70.6 - 95.5	Acceptable
1550	Calcium Hardness as CaCO3	1/22/2019	IN		EPA 200.7	mg/L	207	210	176 - 238	Acceptable
1755	Total Hardness as CaCO3	1/22/2019	IN		EPA 200.7	mg/L	283	283	241 - 326	Acceptable
1085	Magnesium	1/22/2019	IN		EPA 200.7	mg/L	18.1	17.9	15.4 - 20.8	Acceptable
1125	Potassium	1/22/2019	IN		EPA 200.7	mg/L	38.5	40.0	32.7 - 44.3	Acceptable
1155	Sodium	1/22/2019	IN		EPA 200.7	mg/L	34.3	35.7	29.1 - 39.4	Acceptable
1955	Total Filterable Residue	1/22/2019	DAB		SM 2540C	mg/L	604	562	483 - 724	Acceptable

Specific Conductance (PT-COND-WS) — Lot #: 9075-57

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1610	Specific Conductance	2/2/2019	OC		EPA 120.1	µmhos/cm	741	735	667 - 815	Acceptable

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USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Anions 1 (PT-AN1-WS) — Lot #: 9075-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1575	Chloride	1/31/2019	OC		EPA 300.0	mg/L	141	144	120 - 162	Acceptable
1575	Chloride	2/14/2019	SA		SM 4500-CL E	mg/L	141	144	120 - 162	Acceptable
1575	Chloride	2/15/2019	SA		SM 4500-Cl B	mg/L	141	147	120 - 162	Acceptable
1730	Fluoride	1/30/2019	OC		EPA 300.0	mg/L	5.88	5.84	5.29 - 6.46	Acceptable
1810	Nitrate as N	1/30/2019	OC		EPA 300.0	mg/L	7.09	7.09	6.38 - 7.80	Acceptable
1810	Nitrate as N	2/1/2019	SA		SM 4500-NO3 F	mg/L	7.09	7.02	6.38 - 7.80	Acceptable
1820	Nitrate and Nitrite as N	1/30/2019	OC		EPA 300.0	mg/L	7.09	7.09	6.03 - 8.16	Acceptable
1820	Nitrate and Nitrite as N	2/1/2019	SA		SM 4500-NO3 F	mg/L	7.09	7.02	6.03 - 8.16	Acceptable
1870	Orthophosphate as P	1/30/2019	OC		EPA 300.0	mg/L	1.89	1.99	1.60 - 2.17	Acceptable
1870	Orthophosphate as P	2/1/2019	SA		SM 4500-P F	mg/L	1.89	1.90	1.60 - 2.17	Acceptable
2000	Sulfate	1/30/2019	OC		EPA 300.0	mg/L	48.0	48.4	40.8 - 55.1	Acceptable
2000	Sulfate	2/12/2019	SA		EPA 375.4	mg/L	48.0	49.1	40.8 - 55.1	Acceptable

Anions 2 - Nitrite as N (PT-AN2-WS) — Lot #: 9075-56

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1840	Nitrite as N	1/30/2019	OC		EPA 300.0	mg/L	1.80	1.79	1.53 - 2.07	Acceptable
1840	Nitrite as N	2/19/2019	OC		SM 4500-NO2 B	mg/L	1.80	1.73	1.53 - 2.07	Acceptable
1840	Nitrite as N	2/14/2019	SA		SM 4500-NO3 F	mg/L	1.80	1.98	1.53 - 2.07	Acceptable

Cyanide (PT-CN-WS) — Lot #: 9075-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1635	Cyanide (simple)	2/6/2019	SA		SM 4500-CN E	mg/L	0.318	0.363	0.238 - 0.397	Acceptable

pH (PT-PH-WS) — Lot #: 9075-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1900	pH	2/6/2019	AR		SM 4500-H+-B	S.U.	9.16	8.98	8.96 - 9.36	Acceptable

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Total and Dissolved Organic Carbon (PT-TOC-WS) — Lot #: 9075-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2040	Total Organic Carbon	2/27/2019	SA		SM 5310C	mg/L	8.20	8.69	6.56 - 9.84	Acceptable
1710	Dissolved Organic Carbon (DOC)					mg/L	8.20		7.29 - 9.02	NR

Turbidity (PT-TURB-WS) — Lot #: 9075-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2055	Turbidity	2/7/2019	AR		EPA 180.1	NTU	1.28	1.40	1.04 - 1.59	Acceptable

IDB 1 - Bromide and Bromate (PT-IDB1-WS) — Lot #: 9075-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1535	Bromate					µg/L	30.4		21.3 - 39.5	NR
1540	Bromide	2/16/2019	OC		EPA 300.0	µg/L	58.9	57.0	50.0 - 67.7	Acceptable

Surfactants (MBAS) (PT-MBAS-WS) — Lot #: 9075-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2025	Surfactants - MBAS	2/6/2019	SA		SM 5540C	mg/L	0.195	0.239	0.100 - 0.292	Acceptable

Hexavalent Chromium (PT-CR6-WS) — Lot #: 9075-20

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1045	Chromium VI	2/18/2019	AR		SM 3500-Cr B	µg/L	34.4	32.0	27.5 - 41.2	Acceptable

Uranium (PT-U-WS) — Lot #: 9075-54

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
3055	Uranium	1/22/2019	IN		EPA 200.8	µg/L	94.9	97.6	77.5 - 104	Acceptable

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Regulated Volatiles (PT-RVOA-WS) — Lot #: 9075-21

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4375	Benzene	2/21/2019	JF		EPA 524.2	µg/L	17.0	16.4	13.6 - 20.4	Acceptable
4455	Carbon Tetrachloride	2/21/2019	JF		EPA 524.2	µg/L	13.9	13.8	11.2 - 16.7	Acceptable
4475	Chlorobenzene	2/21/2019	JF		EPA 524.2	µg/L	12.0	12.5	9.58 - 14.4	Acceptable
4610	1,2-Dichlorobenzene	2/21/2019	JF		EPA 524.2	µg/L	16.7	11.9	13.4 - 20.1	Not Acceptable
4620	1,4-Dichlorobenzene	2/21/2019	JF		EPA 524.2	µg/L	10.2	5.60	8.14 - 12.2	Not Acceptable
4635	1,2-Dichloroethane	2/21/2019	JF		EPA 524.2	µg/L	2.64	2.73	1.59 - 3.70	Acceptable
4640	1,1-Dichloroethylene	2/21/2019	JF		EPA 524.2	µg/L	9.70	9.22	5.82 - 13.6	Acceptable
4645	cis-1,2-Dichloroethylene	2/21/2019	JF		EPA 524.2	µg/L	16.0	16.7	12.8 - 19.3	Acceptable
4700	trans-1,2-Dichloroethylene	2/21/2019	JF		EPA 524.2	µg/L	12.6	13.6	10.1 - 15.1	Acceptable
4975	Dichloromethane (Methylene Chloride)	2/21/2019	JF		EPA 524.2	µg/L	15.0	17.3	12.0 - 18.1	Acceptable
4655	1,2-Dichloropropane	2/21/2019	JF		EPA 524.2	µg/L	11.7	13.0	9.40 - 14.1	Acceptable
4765	Ethylbenzene	2/21/2019	JF		EPA 524.2	µg/L	10.1	8.06	8.05 - 12.1	Acceptable
5100	Styrene	2/21/2019	JF		EPA 524.2	µg/L	16.5	14.1	13.2 - 19.8	Acceptable
5115	Tetrachloroethylene	2/21/2019	JF		EPA 524.2	µg/L	10.8	9.92	8.67 - 13.0	Acceptable
5140	Toluene	2/21/2019	JF		EPA 524.2	µg/L	6.79	6.86	4.08 - 9.51	Acceptable
5155	1,2,4-Trichlorobenzene	2/21/2019	JF		EPA 524.2	µg/L	8.23	6.74	4.94 - 11.5	Acceptable
5160	1,1,1-Trichloroethane	2/21/2019	JF		EPA 524.2	µg/L	17.7	16.3	14.2 - 21.3	Acceptable
5165	1,1,2-Trichloroethane	2/21/2019	JF		EPA 524.2	µg/L	10.5	10.8	8.40 - 12.6	Acceptable
5170	Trichloroethylene	2/21/2019	JF		EPA 524.2	µg/L	15.0	14.6	12.0 - 18.0	Acceptable
5235	Vinyl Chloride	2/21/2019	JF		EPA 524.2	µg/L	31.2	30.0	18.7 - 43.7	Acceptable
5260	Total Xylenes	2/21/2019	JF		EPA 524.2	µg/L	8.44	8.43	5.06 - 11.8	Acceptable

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Unregulated Volatiles (PT-UNRVOA-WS) — Lot #: 9075-22B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4385	Bromobenzene	2/21/2019	JF		EPA 524.2	µg/L	16.8	15.2	13.4 - 20.1	Acceptable
4390	Bromochloromethane	2/21/2019	JF		EPA 524.2	µg/L	8.10	7.71	4.86 - 11.3	Acceptable
4950	Bromomethane	2/21/2019	JF		EPA 524.2	µg/L	<3	<3.00		Acceptable
4435	n-Butylbenzene	2/21/2019	JF		EPA 524.2	µg/L	15.5	13.2	12.4 - 18.6	Acceptable
4440	sec-Butylbenzene	2/21/2019	JF		EPA 524.2	µg/L	14.2	14.1	11.3 - 17.0	Acceptable
4445	tert-Butylbenzene	2/21/2019	JF		EPA 524.2	µg/L	19.3	17.2	15.4 - 23.1	Acceptable
4485	Chloroethane	2/21/2019	JF		EPA 524.2	µg/L	23.3	24.4	14.0 - 32.6	Acceptable
4960	Chloromethane	2/21/2019	JF		EPA 524.2	µg/L	14.3	15.4	8.61 - 20.1	Acceptable
4535	2-Chlorotoluene	2/21/2019	JF		EPA 524.2	µg/L	18.7	19.2	14.9 - 22.4	Acceptable
4540	4-Chlorotoluene	2/21/2019	JF		EPA 524.2	µg/L	14.6	13.0	11.7 - 17.5	Acceptable
4595	Dibromomethane	2/21/2019	JF		EPA 524.2	µg/L	18.1	17.4	14.5 - 21.7	Acceptable
4615	1,3-Dichlorobenzene	2/21/2019	JF		EPA 524.2	µg/L	15.5	15.8	12.4 - 18.6	Acceptable
4625	Dichlorodifluoromethane	2/21/2019	JF		EPA 524.2	µg/L	<3	<3.00		Acceptable
4630	1,1-Dichloroethane	2/21/2019	JF		EPA 524.2	µg/L	19.4	20.8	15.5 - 23.2	Acceptable
4660	1,3-Dichloropropane	2/21/2019	JF		EPA 524.2	µg/L	3.03	2.91	1.82 - 4.25	Acceptable
4665	2,2-Dichloropropane	2/21/2019	JF		EPA 524.2	µg/L	10.0	9.58	8.02 - 12.0	Acceptable
4670	1,1-Dichloropropene	2/21/2019	JF		EPA 524.2	µg/L	12.7	13.3	10.2 - 15.3	Acceptable
4680	cis-1,3-Dichloropropene	2/21/2019	JF		EPA 524.2	µg/L	4.42	3.36	2.65 - 6.19	Acceptable
4685	trans-1,3-Dichloropropene	2/21/2019	JF		EPA 524.2	µg/L	18.9	12.3	15.1 - 22.7	Not Acceptable
5175	Fluorotrichloromethane	2/21/2019	JF		EPA 524.2	µg/L	16.4	18.5	9.84 - 23.0	Acceptable
4835	Hexachlorobutadiene	2/21/2019	JF		EPA 524.2	µg/L	27.5	26.8	22.0 - 33.0	Acceptable
4900	Isopropylbenzene	2/21/2019	JF		EPA 524.2	µg/L	5.77	4.21	3.46 - 8.08	Acceptable
4910	4-Isopropyltoluene	2/21/2019	JF		EPA 524.2	µg/L	14.9	14.7	11.9 - 17.9	Acceptable
5000	MTBE	2/21/2019	JF		EPA 524.2	µg/L	34.2	23.5	27.4 - 41.1	Not Acceptable
5005	Naphthalene	2/21/2019	JF		EPA 524.2	µg/L	16.3	14.5	11.4 - 21.2	Acceptable
5090	n-Propylbenzene	2/21/2019	JF		EPA 524.2	µg/L	14.3	14.4	11.4 - 17.2	Acceptable
5105	1,1,1,2-Tetrachloroethane	2/21/2019	JF		EPA 524.2	µg/L	13.2	14.3	10.5 - 15.8	Acceptable
5110	1,1,2,2-Tetrachloroethane	2/21/2019	JF		EPA 524.2	µg/L	15.1	16.7	12.0 - 18.1	Acceptable
5150	1,2,3-Trichlorobenzene	2/21/2019	JF		EPA 524.2	µg/L	42.3	32.6	33.8 - 50.8	Not Acceptable

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Study: WS0119

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USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Unregulated Volatiles (PT-UNRVOA-WS) cont'd — Lot #: 9075-22B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5180	1,2,3-Trichloropropane	2/21/2019	JF		EPA 524.2	µg/L	10.7	11.3	8.59 - 12.9	Acceptable
5210	1,2,4-Trimethylbenzene	2/21/2019	JF		EPA 524.2	µg/L	13.7	14.8	10.9 - 16.4	Acceptable
5215	1,3,5-Trimethylbenzene	2/21/2019	JF		EPA 524.2	µg/L	16.5	17.3	13.2 - 19.8	Acceptable

Trihalomethanes (PT-THM-WS) — Lot #: 9075-23

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4395	Bromodichloromethane	2/21/2019	JF		EPA 524.2	µg/L	43.4	44.7	34.7 - 52.1	Acceptable
4400	Bromoform	2/21/2019	JF		EPA 524.2	µg/L	24.3	25.6	19.4 - 29.1	Acceptable
4575	Chlorodibromomethane	2/21/2019	JF		EPA 524.2	µg/L	5.74	6.31	4.59 - 6.89	Acceptable
4505	Chloroform	2/21/2019	JF		EPA 524.2	µg/L	17.7	17.6	14.2 - 21.2	Acceptable
Additional State Specific Analytes										
5205	Total Trihalomethanes	2/21/2019	JF		EPA 524.2	µg/L	91.1	94.2	72.9 - 109	Acceptable

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EPA Lab ID: FL00095

Pesticides (PT-PEST-WS) — Lot #: 9075-24

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7005	Alachlor	2/5/2019	YE		EPA 525.2	µg/L	10.5	9.43	5.75 - 15.2	Acceptable
7025	Aldrin					µg/L	2.45		1.11 - 3.12	NR
7065	Atrazine	2/5/2019	YE		EPA 525.2	µg/L	13.2	11.0	7.25 - 19.1	Acceptable
7160	Butachlor					µg/L	17.6		9.70 - 25.6	NR
7470	Dieldrin					µg/L	1.97		1.09 - 2.86	NR
7540	Endrin					µg/L	1.05		0.736 - 1.37	NR
7685	Heptachlor					µg/L	1.12		0.616 - 1.62	NR
7690	Heptachlor Epoxide (beta)					µg/L	2.47		1.36 - 3.59	NR
6275	Hexachlorobenzene					µg/L	4.20		2.12 - 5.21	NR
6285	Hexachlorocyclopentadiene					µg/L	14.1		4.21 - 19.9	NR
7120	Lindane					µg/L	0.479		0.263 - 0.694	NR
7810	Methoxychlor					µg/L	10.8		5.92 - 15.6	NR
7835	Metolachlor					µg/L	10.1		5.56 - 14.6	NR
7845	Metribuzin					µg/L	2.82		1.41 - 4.23	NR
8045	Propachlor					µg/L	3.28		1.80 - 4.75	NR
8125	Simazine	2/5/2019	YE		EPA 525.2	µg/L	18.2	16.7	10.0 - 26.4	Acceptable
8295	Trifluralin					µg/L	6.39		3.51 - 9.26	NR
Additional State Specific Analytes										
7130	Bromacil					µg/L	17.3		9.52 - 25.1	NR
7310	Chlorothalonil					µg/L	<0.5			NR
7410	Diazinon					µg/L	5.59		2.45 - 8.10	NR
7475	Dimethoate					µg/L	<0.5			NR
7875	Molinate					µg/L	23.6		13.0 - 34.3	NR
8035	Prometon					µg/L	<0.5			NR
8040	Prometryn					µg/L	<0.5			NR
8220	Thiobencarb					µg/L	<0.5			NR

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9549786400

EPA Lab ID: FL00095

Chlordane (PT-CHLR-WS) — Lot #: 9075-25

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane (total)	1/24/2019	AC		EPA 508	µg/L	11.6	8.40	6.39 - 16.9	Acceptable

Toxaphene (PT-TXP-WS) — Lot #: 9075-26

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene (total)	1/24/2019	AC		EPA 508	µg/L	4.08	5.86	2.24 - 5.91	Acceptable

EDB/DBCP/TCP (PT-EDBCP-WS) — Lot #: 9075-27

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4570	1,2-Dibromo-3-chloropropane (DBCP)	1/17/2019	AC		EPA 504.1	µg/L	1.22	0.984	0.732 - 1.71	Acceptable
4585	Ethylene Dibromide (EDB)	1/17/2019	AC		EPA 504.1	µg/L	0.829	0.689	0.497 - 1.16	Acceptable
5180	1,2,3-Trichloropropane					µg/L	1.43		0.858 - 2.00	NR

PCBs as Decachlorobiphenyl (PT-DECA-WS) — Lot #: 9075-28

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
9105	PCBs as decachlorobiphenyl					µg/L	4.01		0.401 - 8.02	NR
8872	PCB Aroclor Identification	1/24/2019	AC		EPA 508		1248	1248		Acceptable
Additional State Specific Analytes										
8880	Aroclor 1016					µg/L	<0.260			NR
8885	Aroclor 1221					µg/L	<0.190			NR
8890	Aroclor 1232					µg/L	<0.230			NR
8895	Aroclor 1242					µg/L	<0.260			NR
8900	Aroclor 1248					µg/L	2.40		1.44 - 3.36	NR
8905	Aroclor 1254					µg/L	<0.329			NR
8910	Aroclor 1260					µg/L	<0.360			NR

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Herbicides (PT-HERB-WS) — Lot #: 9075-29

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8505	Acifluorfen	2/1/2019	AC		EPA 515.3	µg/L	36.3	36.3	18.2 - 54.5	Acceptable
8545	2,4-D	2/1/2019	AC		EPA 515.3	µg/L	12.5	17.8	6.24 - 18.7	Acceptable
8560	2,4-DB	2/1/2019	AC		EPA 515.3	µg/L	116	85.1	57.8 - 173	Acceptable
8555	Dalapon	2/1/2019	AC		EPA 515.3	µg/L	39.4	52.0	19.7 - 59.1	Acceptable
8595	Dicamba	2/1/2019	AC		EPA 515.3	µg/L	80.5	84.6	40.3 - 121	Acceptable
8620	Dinoseb	2/1/2019	AC		EPA 515.3	µg/L	44.6	38.0	15.2 - 62.2	Acceptable
6605	Pentachlorophenol	2/1/2019	AC		EPA 515.3	µg/L	24.7	21.0	12.4 - 37.1	Acceptable
8645	Picloram	2/1/2019	AC		EPA 515.3	µg/L	66.5	49.7	33.3 - 99.8	Acceptable
8655	2,4,5-T	2/1/2019	AC		EPA 515.3	µg/L	41.2	27.1	20.6 - 61.7	Acceptable
8650	2,4,5-TP (Silvex)	2/1/2019	AC		EPA 515.3	µg/L	28.4	26.8	14.2 - 42.5	Acceptable
Additional State Specific Analytes										
8530	Bentazon					µg/L	27.8		9.29 - 40.8	NR
8540	Chloramben					µg/L	<20			NR
8550	Dacthal diacid (DCPA)					µg/L	<20			NR
8600	3,5-Dichlorobenzoic acid					µg/L	<10			NR
8605	Dichlorprop					µg/L	29.5		16.5 - 35.2	NR
8635	5-Hydroxydicamba					µg/L	<1			NR
6500	4-Nitrophenol					µg/L	<1			NR

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EPA Lab ID: FL00095

Carbamates (PT-CARB-WS) — Lot #: 9075-30

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7010	Aldicarb	2/2/2019	RPV		EPA 531.1	µg/L	41.4	41.5	31.0 - 51.7	Acceptable
7015	Aldicarb Sulfone	2/2/2019	RPV		EPA 531.1	µg/L	59.0	53.9	44.2 - 73.7	Acceptable
7020	Aldicarb Sulfoxide	2/2/2019	RPV		EPA 531.1	µg/L	15.7	17.2	11.8 - 19.7	Acceptable
7195	Carbaryl	2/2/2019	RPV		EPA 531.1	µg/L	45.3	38.3	34.0 - 56.7	Acceptable
7205	Carbofuran	2/2/2019	RPV		EPA 531.1	µg/L	130	106	71.3 - 188	Acceptable
7710	3-Hydroxycarbofuran	2/2/2019	RPV		EPA 531.1	µg/L	25.6	23.5	20.5 - 30.7	Acceptable
7805	Methomyl	2/2/2019	RPV		EPA 531.1	µg/L	80.5	74.0	64.4 - 96.6	Acceptable
7940	Oxamyl (Vydate)	2/2/2019	RPV		EPA 531.1	µg/L	91.4	67.6	68.6 - 114	Not Acceptable
Additional State Specific Analytes										
8080	Baygon	2/2/2019	RPV		EPA 531.1	µg/L	52.3	46.1	39.2 - 65.4	Acceptable
7800	Methiocarb	2/2/2019	RPV		EPA 531.1	µg/L	103	90.4	77.0 - 128	Acceptable

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EPA Lab ID: FL00095

Semivolatiles 1 (PT-SV1-WS) — Lot #: 9075-31

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5580	Benzo(a)pyrene	2/5/2019	YE		EPA 525.2	µg/L	2.03	1.73	0.852 - 2.57	Acceptable
6062	Di(2-Ethylhexyl) Adipate	2/5/2019	YE		EPA 525.2	µg/L	42.8	49.6	27.9 - 55.2	Acceptable
6065	Di(2-Ethylhexyl) Phthalate	2/5/2019	YE		EPA 525.2	µg/L	40.0	40.0	20.3 - 56.0	Acceptable
Additional State Specific Analytes										
5500	Acenaphthene					µg/L	1.50		0.749 - 2.25	NR
5505	Acenaphthylene					µg/L	8.27		4.13 - 12.4	NR
5555	Anthracene					µg/L	2.91		1.46 - 4.37	NR
5575	Benzo(a)anthracene					µg/L	4.07		2.03 - 6.10	NR
5585	Benzo(b)fluoranthene					µg/L	2.55		1.28 - 3.83	NR
5600	Benzo(k)fluoranthene					µg/L	1.23		0.617 - 1.85	NR
5590	Benzo(g,h,i)perylene					µg/L	6.05		3.03 - 9.08	NR
5670	Butyl benzyl phthalate					µg/L	35.8		14.3 - 57.2	NR
5855	Chrysene					µg/L	8.21		4.11 - 12.3	NR
5925	Di-n-butylphthalate					µg/L	38.5		15.4 - 61.6	NR
5895	Dibenz(a,h)anthracene					µg/L	4.78		2.39 - 7.17	NR
6070	Diethylphthalate					µg/L	44.8		17.9 - 71.7	NR
6135	Dimethylphthalate					µg/L	38.9		15.6 - 62.3	NR
6265	Fluoranthene					µg/L	2.01		1.01 - 3.02	NR
6270	Fluorene					µg/L	2.40		1.20 - 3.59	NR
6315	Indeno(1,2,3-cd)pyrene					µg/L	5.29		2.64 - 7.93	NR
6380	1-Methylnaphthalene					µg/L	19.2		9.60 - 28.8	NR
6385	2-Methylnaphthalene					µg/L	28.7		14.3 - 43.0	NR
5005	Naphthalene					µg/L	15.4		9.21 - 21.5	NR
6200	Di-n-octylphthalate					µg/L	37.3		14.9 - 59.8	NR
6615	Phenanthrene					µg/L	3.02		1.51 - 4.53	NR
6665	Pyrene					µg/L	8.68		4.34 - 13.0	NR

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Semivolatiles 2 - Herbicides (PT-SV2HERB-WS) — Lot #: 9075-33

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
9390	Diquat	2/1/2019	RPV		EPA 549.2	µg/L	22.3	20.2	11.2 - 33.5	Acceptable
7525	Endothall	2/6/2019	RPV		EPA 548.1	µg/L	439	568	219 - 658	Acceptable
9411	Glyphosate	2/6/2019	RPV		EPA 547	µg/L	387	335	310 - 465	Acceptable
Additional State Specific Analytes										
9528	Paraquat	2/1/2019	RPV		EPA 549.2	µg/L	24.8	32.6	12.4 - 37.2	Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WS0119	157	151	96.2%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Florida Spectrum Env Serv Inc.
Roxana Llambias QA Director 954-978-6400
1460 West Mcnab Rd
Fort Lauderdale FL 33309

Account # 3512

USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part#**38003**	Lot#**WS0073**	**PT Carbamates**			**10 components**			Invoice# **167560**		Units **ug/L**	
7010	Aldicarb	126	EPA 531.1		33.2	30.0	30	22.5	37.5	ACCEPT.	02/10/2018
7015	Aldicarb sulfone	126	EPA 531.1		79.4	80.2	80.2	60.2	100	ACCEPT.	02/10/2018
7020	Aldicarb sulfoxide	126	EPA 531.1		51.6	48.1	48.1	36.1	60.1	ACCEPT.	02/10/2018
7195	Carbaryl	126	EPA 531.1		67.4	70.0	70	52.5	87.5	ACCEPT.	02/10/2018
7205	Carbofuran	126	EPA 531.1		79.4	76.1	76.1	41.9	110	ACCEPT.	02/10/2018
7710	3-Hydroxycarbofuran	126	EPA 531.1		38.4	36.1	36.1	28.9	43.3	ACCEPT.	02/10/2018
7805	Methomyl	126	EPA 531.1		63.0	60.0	60	48	72	ACCEPT.	02/10/2018
7940	Oxamyl	126	EPA 531.1		76.0	74.1	74.1	55.6	92.6	ACCEPT.	02/10/2018
7800	Methiocarb	126	EPA 531.1		109	110	110	88.7	121	ACCEPT.	02/10/2018
8080	Propoxur (Baygon)	126	EPA 531.1		38.4	38.1	38.1	30.1	44.5	ACCEPT.	02/10/2018
Part#**38012**	Lot#**WS0073**	**PT EPA Method 504.1 Analytes**			**3 components**			Invoice# **167560**		Units **ug/L**	
4570	1,2-Dibromo-3-chloropropane	110	EPA 504.1		1.50	1.56	1.56	.936	2.18	ACCEPT.	01/19/2018
4585	1,2-Dibromoethane	110	EPA 504.1		0.396	0.462	.462	.277	.647	ACCEPT.	01/19/2018
5180	1,2,3-Trichloropropane					0.842	.842	.505	1.18	NOT REPORTED	

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1460 West Mcnab Rd
Fort Lauderdale FL 33309

Account # 3512

USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

Part# **38022** Lot# **WS0073** **WS Regulated VOCs** **21 Components** Invoice# **167560** Units **ug/L**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
4375	Benzene	124	EPA 524.2		8.05	9.00	9	5.4	12.6	ACCEPT.	02/12/2018
4455	Carbon tetrachloride	124	EPA 524.2		9.96	8.20	8.2	4.92	11.5	ACCEPT.	02/12/2018
4475	Chlorobenzene	124	EPA 524.2		13.7	10.8	10.8	8.64	13	NOT ACCEPT.	02/12/2018
4610	1,2-Dichlorobenzene	124	EPA 524.2		14.6	18.0	18	14.4	21.6	ACCEPT.	02/12/2018
4620	1,4-Dichlorobenzene	124	EPA 524.2		10.6	13.6	13.6	10.9	16.3	NOT ACCEPT.	02/12/2018
4635	1,2-Dichloroethane	124	EPA 524.2		6.72	6.20	6.2	3.72	8.68	ACCEPT.	02/12/2018
4640	1,1-Dichloroethylene	124	EPA 524.2		18.0	12.0	12	9.6	14.4	NOT ACCEPT.	02/12/2018
4645	cis-1,2-Dichloroethylene	124	EPA 524.2		7.69	9.20	9.2	5.52	12.9	ACCEPT.	02/12/2018
4700	trans-1,2-Dichloroethylene	124	EPA 524.2		5.56	5.61	5.61	3.37	7.85	ACCEPT.	02/12/2018
4975	Dichloromethane	124	EPA 524.2		9.68	7.80	7.8	4.68	10.9	ACCEPT.	02/12/2018
4655	1,2-Dichloropropane	124	EPA 524.2		8.28	6.40	6.4	3.84	8.96	ACCEPT.	02/12/2018
4765	Ethylbenzene	124	EPA 524.2		16.3	14.2	14.2	11.4	17	ACCEPT.	02/12/2018
5100	Styrene	124	EPA 524.2		13.7	9.40	9.4	5.64	13.2	NOT ACCEPT.	02/12/2018
5115	Tetrachloroethylene	124	EPA 524.2		8.83	6.80	6.8	4.08	9.52	ACCEPT.	02/12/2018
5140	Toluene	124	EPA 524.2		19.6	14.4	14.4	11.5	17.3	NOT ACCEPT.	02/12/2018
5160	1,1,1-Trichloroethane	124	EPA 524.2		5.53	4.60	4.6	2.76	6.44	ACCEPT.	02/12/2018
5165	1,1,2-Trichloroethane	124	EPA 524.2		9.91	7.60	7.6	4.56	10.6	ACCEPT.	02/12/2018
5170	Trichloroethylene	124	EPA 524.2		19.9	17.8	17.8	14.2	21.4	ACCEPT.	02/12/2018
5155	1,2,4-Trichlorobenzene	124	EPA 524.2		12.2	15.2	15.2	12.2	18.2	ACCEPT.	02/12/2018
5235	Vinyl chloride	124	EPA 524.2		9.11	6.41	6.41	3.85	8.97	NOT ACCEPT.	02/12/2018
5260	Total Xylenes	124	EPA 524.2		38.6	33.6	33.6	26.9	40.3	ACCEPT.	02/12/2018

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Account # 3512

USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

Part# **38023** Lot# **WS0073** **WS Unregulated VOCs** **Qualitative and Quantitative** Invoice# **167560** Units **ug/L**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
4385	Bromobenzene	124	EPA 524.2		5.37	0.00	0	0	0	NOT ACCEPT.	02/12/2018
4390	Bromochloromethane	124	EPA 524.2		12.9	11.6	11.6	9.28	13.9	ACCEPT.	02/12/2018
4950	Bromomethane	124	EPA 524.2		11.3	13.0	13	7.8	18.2	ACCEPT.	02/12/2018
4435	n-Butylbenzene	124	EPA 524.2		10.8	7.80	7.8	4.68	10.9	ACCEPT.	02/12/2018
4440	sec-Butylbenzene	124	EPA 524.2		11.3	14.0	14	11.2	16.8	ACCEPT.	02/12/2018
4445	tert-Butylbenzene	124	EPA 524.2		3.84	0.00	0	0	0	NOT ACCEPT.	02/12/2018
4485	Chloroethane	124	EPA 524.2		40.9	32.1	32.1	19.3	44.9	ACCEPT.	02/12/2018
4960	Chloromethane	124	EPA 524.2		18.7	17.2	17.2	10.3	24.1	ACCEPT.	02/12/2018
4535	2-Chlorotoluene	124	EPA 524.2		0.00	0.00	0	0	0	ACCEPT.	02/12/2018
4540	4-Chlorotoluene	124	EPA 524.2		5.27	7.00	7	4.2	9.8	ACCEPT.	02/12/2018
4595	Dibromomethane	124	EPA 524.2		10.8	9.60	9.6	5.76	13.4	ACCEPT.	02/12/2018
4615	1,3-Dichlorobenzene	124	EPA 524.2		18.3	16.0	16	12.8	19.2	ACCEPT.	02/12/2018
4625	Dichlorodifluoromethane	124	EPA 524.2		0.00	0.00	0	0	0	ACCEPT.	02/12/2018
4630	1,1-Dichloroethane	124	EPA 524.2		8.38	7.40	7.4	4.44	10.4	ACCEPT.	02/12/2018
4660	1,3-Dichloropropane	124	EPA 524.2		11.0	10.2	10.2	8.16	12.2	ACCEPT.	02/12/2018
4665	2,2-Dichloropropane	124	EPA 524.2		15.9	13.6	13.6	10.9	16.3	ACCEPT.	02/12/2018
4670	1,1-Dichloropropene	124	EPA 524.2		5.62	8.41	8.41	5.05	11.8	ACCEPT.	02/12/2018
4680	cis-1,3-Dichloropropene	124	EPA 524.2		5.57	5.00	5	3	7	ACCEPT.	02/12/2018
4685	trans-1,3-Dichloropropene	124	EPA 524.2		12.4	14.2	14.2	11.4	17	ACCEPT.	02/12/2018
5175	Fluorotrichloromethane	124	EPA 524.2		45.4	46.0	46	27.6	64.4	ACCEPT.	02/12/2018
4835	Hexachlorobutadiene	124	EPA 524.2		27.6	34.0	34	27.2	40.8	ACCEPT.	02/12/2018
4900	Isopropylbenzene	124	EPA 524.2		7.65	10.4	10.4	8.32	12.5	NOT ACCEPT.	02/12/2018
4910	4-Isopropyltoluene	124	EPA 524.2		12.2	14.6	14.6	11.7	17.5	ACCEPT.	02/12/2018
5090	n-Propylbenzene	124	EPA 524.2		7.07	9.20	9.2	5.52	12.9	ACCEPT.	02/12/2018
5105	1,1,1,2-Tetrachloroethane	124	EPA 524.2		14.5	12.8	12.8	10.2	15.4	ACCEPT.	02/12/2018
5110	1,1,2,2-Tetrachloroethane	124	EPA 524.2		16.7	17.0	17	13.6	20.4	ACCEPT.	02/12/2018
5150	1,2,3-Trichlorobenzene	124	EPA 524.2		4.37	7.20	7.2	4.32	10.1	ACCEPT.	02/12/2018
5210	1,2,4-Trimethylbenzene	124	EPA 524.2		9.31	11.8	11.8	9.44	14.2	NOT ACCEPT.	02/12/2018
5180	1,2,3-Trichloropropane	124	EPA 524.2		15.8	17.0	17	13.6	20.4	ACCEPT.	02/12/2018
5215	1,3,5-Trimethylbenzene	124	EPA 524.2		0.00	0.00	0	0	0	ACCEPT.	02/12/2018
5000	Methyl tert-butyl ether (MTBE)	124	EPA 524.2		40.7	40.0	40	32	48	ACCEPT.	02/12/2018

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USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part#**38025**	Lot#**WS0073**	**WS Trihalomethanes**			**4 Components (5 Tests)**			Invoice# **167560**		Units **ug/L**	
4395	Bromodichloromethane	124	EPA 524.2		30.3	25.5	25.5	20.4	30.6	ACCEPT.	02/12/2018
4400	Bromoform	124	EPA 524.2		34.5	38.0	38	30.4	45.6	ACCEPT.	02/12/2018
4505	Chloroform	124	EPA 524.2		47.6	44.0	44	35.2	52.8	ACCEPT.	02/12/2018
4575	Chlorodibromomethane	124	EPA 524.2		37.6	32.8	32.8	26.2	39.4	ACCEPT.	02/12/2018
5205	Total Trihalomethanes	124	EPA 524.2		150	140	140	112	168	ACCEPT.	02/12/2018
Part#**38026**	Lot#**WS0073**	**WS Pesticide Amp 1**			**Organochlorine Pesticides**			Invoice# **167560**		Units **ug/L**	
7025	Aldrin	114	EPA 508		1.71	2.20	2.2	.993	2.8	ACCEPT.	02/07/2018
7470	Dieldrin	114	EPA 508		0.898	1.00	1	.55	1.45	ACCEPT.	02/07/2018
7540	Endrin	114	EPA 508		0.670	1.60	1.6	1.12	2.08	NOT ACCEPT.	02/07/2018
7685	Heptachlor	114	EPA 508		1.24	1.51	1.51	.831	2.19	ACCEPT.	02/07/2018
7690	Heptachlor epoxide	114	EPA 508		1.60	1.80	1.8	.99	2.61	ACCEPT.	02/07/2018
6275	Hexachlorobenzene	114	EPA 508		4.31	4.50	4.5	2.28	5.59	ACCEPT.	02/07/2018
6285	Hexachlorocyclopentadiene	114	EPA 508		5.90	10.0	10	2.95	14.2	ACCEPT.	02/07/2018
7120	Lindane	114	EPA 508		1.75	1.91	1.91	1.05	2.77	ACCEPT.	02/07/2018
7810	Methoxychlor	114	EPA 508		13.4	12.1	12.1	6.66	17.5	ACCEPT.	02/07/2018
8045	Propachlor	114	EPA 508		9.92	8.81	8.81	4.85	12.8	ACCEPT.	02/07/2018
8295	Trifluralin	114	EPA 508		5.03	7.81	7.81	4.3	11.3	ACCEPT.	02/07/2018
Part#**38027**	Lot#**WS0073**	**WS Pesticide Amp 2**			**Toxaphene**			Invoice# **167560**		Units **ug/L**	
8250	Toxaphene	114	EPA 508		17.4	17.6	17.6	9.68	25.5	ACCEPT.	02/07/2018
Part#**38028**	Lot#**WS0073**	**WS Pesticide Amp 4**			**Organonitrogen Pesticides**			Invoice# **167560**		Units **ug/L**	
7005	Alachlor	125	EPA 525.2		16.3	18.1	18.1	9.96	26.2	ACCEPT.	01/26/2018
7065	Atrazine	125	EPA 525.2		12.3	12.0	12	6.6	17.4	ACCEPT.	01/26/2018
8125	Simazine	125	EPA 525.2		10.5	9.03	9.03	4.97	13.1	ACCEPT.	01/26/2018
Part#**38029**	Lot#**WS0073**	**WS Pesticide Amp 3**			**Chlordane**			Invoice# **167560**		Units **ug/L**	
7250	Chlordane (Total)	114	EPA 508		6.54	8.20	8.2	4.51	11.9	ACCEPT.	02/07/2018

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NPDES ID #
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NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# **38030**	Lot# **WS0073**	**WS Herbicides**			**8 components**			Invoice# **167560**		Units **ug/L**	
8505	Acifluorfen	123	EPA 515.3		15.7	15.2	15.2	7.6	22.8	ACCEPT.	01/23/2018
8545	2,4-D	123	EPA 515.3		28.5	39.5	39.5	19.8	59.3	ACCEPT.	01/23/2018
8555	Dalapon	123	EPA 515.3		34.1	28.8	28.8	14.4	43.2	ACCEPT.	01/23/2018
8595	Dicamba	123	EPA 515.3		34.8	36.8	36.8	18.4	55.2	ACCEPT.	01/23/2018
8620	Dinoseb	123	EPA 515.3		17.1	13.4	13.4	5.15	19.3	ACCEPT.	01/23/2018
6605	Pentachlorophenol	123	EPA 515.3		23.0	22.2	22.2	11.1	33.3	ACCEPT.	01/23/2018
8645	Picloram	123	EPA 515.3		36.5	51.6	51.6	25.8	77.4	ACCEPT.	01/23/2018
8650	2,4,5-TP	123	EPA 515.3		54.3	46.4	46.4	23.2	69.6	ACCEPT.	01/23/2018
Part# **38033**	Lot# **WS0073**	**WS PAH**			**Benzo(a)pyrene**			Invoice# **167560**		Units **ug/L**	
5580	Benzo(a)pyrene	125	EPA 525.2		0.900	1.20	1.2	.458	1.57	ACCEPT.	01/26/2018
Part# **38034**	Lot# **WS0073**	**WS PCB**			**Report as Decachlorobiphenyl**			Invoice# **167560**		Units **ug/L**	
9105	Decachlorobiphenyl					2.08	2.08	.208	4.16	NOT REPORTED	
8872	Aroclor Identification	114	EPA 508		1248	1248	1248	1248	1248	ACCEPT.	02/07/2018
Part# **38035**	Lot# **WS0073**	**WS Endothall**						Invoice# **167560**		Units **ug/L**	
7525	Endothall	128	EPA 548.1		325	341	341	171	512	ACCEPT.	02/07/2018
Part# **38037**	Lot# **WS0073**	**WS Glyphosate**			**Glyphosate (n-Phosphonomethyl gylcine)**			Invoice# **167560**		Units **ug/L**	
9411	Glyphosate	127	EPA 547		562	490	490	392	588	ACCEPT.	02/12/2018
Part# **38038**	Lot# **WS0073**	**WS Disinfection By-Products AMP 1**			**6 Components - Free acids**			Invoice# **167560**		Units **ug/L**	
9315	Bromochloroacetic acid					36.5	36.5	21.9	51.1	NOT REPORTED	
9357	Dibromoacetic acid	424	EPA 552.2		47.8	47.5	47.5	28.5	66.5	ACCEPT.	01/19/2018
9360	Dichloroacetic acid	424	EPA 552.2		14.1	15.5	15.5	9.3	21.7	ACCEPT.	01/19/2018
9312	Monobromoacetic acid	424	EPA 552.2		18.0	23.5	23.5	14.1	32.9	ACCEPT.	01/19/2018
9336	Monochloroacetic acid	424	EPA 552.2		30.1	45.1	45.1	27.1	63.1	ACCEPT.	01/19/2018
9642	Trichloroacetic acid	424	EPA 552.2		14.6	30.0	30	18	42	NOT ACCEPT.	01/19/2018

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NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part#**38130**	Lot#**WS0073**	**WS Phthalates Mix**			**NELAC Additional Analytes**			Invoice# **167560**		Units **ug/L**	
5670	Benzo butyl phthalate					14.4	14.4	5.76	23	NOT REPORTED	
5925	Di-n-butyl-phthalate					12.6	12.6	5.04	20.2	NOT REPORTED	
6070	Diethyl phthalate					36.0	36	14.4	57.6	NOT REPORTED	
6135	Dimethyl phthalate					26.0	26	10.4	41.6	NOT REPORTED	
6200	Di-n-octyl-phthalate					48.1	48.1	19.2	77	NOT REPORTED	
6065	Bis(2-Ethylhexyl) phthalate	125	EPA 525.2		25.7	26.0	26	13.1	37.4	ACCEPT.	01/26/2018
6062	Bis(2-Ethylhexyl) adipate	125	EPA 525.2		10.6	9.86	9.86	3.86	14.7	ACCEPT.	01/26/2018
Part#**38131**	Lot#**WS0073**	**WS Paraquat & Diquat**			**NELAC Additional Analytes**			Invoice# **167560**		Units **ug/L**	
9390	Diquat	422	EPA 549.2		25.6	26.0	26	13	39	ACCEPT.	01/25/2018
9528	Paraquat	422	EPA 549.2		68.3	82.1	82.1	41.1	123	ACCEPT.	01/25/2018
Part#**38164**	Lot#**WS0073**	**WS Carbon Disulfide, MIBK, Naphthalene 3 Components**						Invoice# **167560**		Units **ug/L**	
4450	Carbon disulphide					14.8	14.8	11.8	17.8	NOT REPORTED	
4995	4-Methyl-2-pentanone					17.2	17.2	13.8	20.6	NOT REPORTED	
5005	Naphthalene	124	EPA 524.2		15.9	25.7	25.7	18	33.4	NOT ACCEPT.	02/12/2018
Part#**38173**	Lot#**WS0073**	**SDWA Herbicide Acid Mix #2**			**Additional Analytes**			Invoice# **167560**		Units **ug/L**	
8530	Bentazon					20.0	20	5.91	30	NOT REPORTED	
8540	Chloramben					70.5	70.5	35.3	106	NOT REPORTED	
8550	Dacthal					92.2	92.2	9.22	160	NOT REPORTED	
8560	2,4-DB	123	EPA 515.3		28.7	36.1	36.1	18.1	54.2	ACCEPT.	01/23/2018
8600	3,5-Dichlorobenzoic acid					72.1	72.1	36.1	108	NOT REPORTED	
8605	Dichlorprop					96.2	96.2	56.4	116	NOT REPORTED	
6500	4-Nitrophenol					56.9	56.9	28.5	85.4	NOT REPORTED	
8655	2,4,5-T	123	EPA 515.3		45.3	76.1	76.1	38.1	114	ACCEPT.	01/23/2018
Part#**55009**	Lot#**WS0073**	**WS Inorganic Disinfection By-Products**	**Amp 1**					Invoice# **167560**		Units **ug/L**	
1570	Chlorate					138	138	96.6	179	NOT REPORTED	
1595	Chlorite					470	470	329	611	NOT REPORTED	

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Open Date **01/15/2018**
Close Date **03/01/2018**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# **55010**	Lot# **WS0073**	**WS Inorganic Disinfection By-Products**	**Amp 2**					Invoice# **167560**		Units **ug/L**	
1535	Bromate					37.7	37.7	26.4	49	NOT REPORTED	
1540	Bromide	58	EPA 300.0 (NA)		134	104	104	88.4	120	NOT ACCEPT.	02/03/2018
Part# **55011**	Lot# **WS0073**	**WS NO_3^-, NO_2^-, F, PO_4^{-3}, and NO_3^- & NO_2^-**	**5 components**					Invoice# **167560**		Units **mg/L**	
1810	Nitrate as N	58	EPA 300.0 (NA)		3.71	3.90	3.9	3.51	4.29	ACCEPT.	02/03/2018
1840	Nitrite as N	58	EPA 300.0 (NA)		1.53	1.54	1.54	1.31	1.77	ACCEPT.	02/03/2018
1730	Fluoride	58	EPA 300.0 (NA)		5.31	5.48	5.48	4.93	6.03	ACCEPT.	02/03/2018
1870	Orthophosphate as P	58	EPA 300.0 (NA)		1.85	1.93	1.93	1.64	2.22	ACCEPT.	02/03/2018
1820	Nitrate and Nitrite as N	58	EPA 300.0 (NA)		5.24	5.44	5.44	4.62	6.26	ACCEPT.	02/03/2018
Part# **55011**	Lot# **WS0073**	**WS NO_3^-, NO_2^-, F, PO_4^{-3}, and NO_3^- & NO_2^-**	**5 components**					Invoice# **167560**		Units **mg/L**	
1810	Nitrate as N	1430	4500-NO3-F		3.69	3.90	3.9	3.51	4.29	ACCEPT.	02/09/2018
1840	Nitrite as N	1430	4500-NO3-F		1.51	1.54	1.54	1.31	1.77	ACCEPT.	02/09/2018
1730	Fluoride					5.48	5.48	4.93	6.03	NOT REPORTED	
1870	Orthophosphate as P					1.93	1.93	1.64	2.22	NOT REPORTED	
1820	Nitrate and Nitrite as N	1430	4500-NO3-F		5.20	5.44	5.44	4.62	6.26	ACCEPT.	02/09/2018
Part# **55011**	Lot# **WS0073**	**WS NO_3^-, NO_2^-, F, PO_4^{-3}, and NO_3^- & NO_2^-**	**5 components**					Invoice# **167560**		Units **mg/L**	
1810	Nitrate as N					3.90	3.9	3.51	4.29	NOT REPORTED	
1840	Nitrite as N	1426	SM 4500-$NO2^-$ B (1988)		1.45	1.54	1.54	1.31	1.77	ACCEPT.	02/08/2018
1730	Fluoride					5.48	5.48	4.93	6.03	NOT REPORTED	
1870	Orthophosphate as P	1438	SM 4500-P F		1.82	1.93	1.93	1.64	2.22	ACCEPT.	02/05/2018
1820	Nitrate and Nitrite as N					5.44	5.44	4.62	6.26	NOT REPORTED	

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Florida Spectrum Env Serv Inc.
Roxana Llambias QA Director 954-978-6400
1460 West Mcnab Rd
Fort Lauderdale FL 33309

Account # 3512

USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# **55012**	Lot# **WS0073**	**WS Trace Elements**			**Amp 1**			Invoice# **167560**		Units **ug/L**	
1005	Antimony	13	EPA 200.8		35.9	38.0	38	26.6	49.4	ACCEPT.	01/17/2018
1010	Arsenic	13	EPA 200.8		22.5	23.0	23	16.1	29.9	ACCEPT.	01/17/2018
1015	Barium	13	EPA 200.8		637	640	640	544	736	ACCEPT.	01/17/2018
1020	Beryllium	13	EPA 200.8		12.0	12.7	12.7	10.8	14.6	ACCEPT.	01/17/2018
1030	Cadmium	13	EPA 200.8		42.4	43.0	43	34.4	51.6	ACCEPT.	01/17/2018
1040	Chromium	13	EPA 200.8		76.5	79.9	79.9	67.9	91.9	ACCEPT.	01/17/2018
1055	Copper	13	EPA 200.8		180	180	180	162	198	ACCEPT.	01/17/2018
1075	Lead	13	EPA 200.8		68.7	70.9	70.9	49.6	92.2	ACCEPT.	01/17/2018
1095	Total Mercury	13	EPA 200.8		3.56	4.31	4.31	3.02	5.6	ACCEPT.	01/23/2018
1105	Nickel	13	EPA 200.8		470	470	470	400	541	ACCEPT.	01/17/2018
1140	Selenium	13	EPA 200.8		82.8	86.9	86.9	69.5	104	ACCEPT.	01/17/2018
1165	Thallium	13	EPA 200.8		7.77	8.00	8	5.6	10.4	ACCEPT.	01/17/2018
Part# **55012**	Lot# **WS0073**	**WS Trace Elements**			**Amp 1**			Invoice# **167560**		Units **ug/L**	
1005	Antimony					38.0	38	26.6	49.4	NOT REPORTED	
1010	Arsenic					23.0	23	16.1	29.9	NOT REPORTED	
1015	Barium	12	EPA 200.7		637	640	640	544	736	ACCEPT.	01/17/2018
1020	Beryllium	12	EPA 200.7		12.3	12.7	12.7	10.8	14.6	ACCEPT.	01/17/2018
1030	Cadmium	12	EPA 200.7		43.8	43.0	43	34.4	51.6	ACCEPT.	01/17/2018
1040	Chromium	12	EPA 200.7		78.7	79.9	79.9	67.9	91.9	ACCEPT.	01/17/2018
1055	Copper	12	EPA 200.7		183	180	180	162	198	ACCEPT.	01/17/2018
1075	Lead					70.9	70.9	49.6	92.2	NOT REPORTED	
1095	Total Mercury	41	EPA 245.1		3.73	4.31	4.31	3.02	5.6	ACCEPT.	01/23/2018
1105	Nickel	12	EPA 200.7		476	470	470	400	541	ACCEPT.	01/17/2018
1140	Selenium					86.9	86.9	69.5	104	NOT REPORTED	
1165	Thallium					8.00	8	5.6	10.4	NOT REPORTED	
Part# **55013**	Lot# **WS0073**	**WS Trace Elements**			**Amp 2**			Invoice# **167560**		Units **ug/L**	
1025	Boron	12	EPA 200.7		1180	1249	1249	1062	1436	ACCEPT.	01/17/2018
1090	Manganese	12	EPA 200.7		467	450	450	383	518	ACCEPT.	01/17/2018
1100	Molybdenum	12	EPA 200.7		111	115	115	97.8	132	ACCEPT.	01/17/2018
1190	Zinc	12	EPA 200.7		716	719	719	611	827	ACCEPT.	01/17/2018

Samples were prepared and scored according to the principles outlined in the "The TNI Standard EL-V3-2009" and the current Fields of Proficiency Testing Tables, FoPTs.
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Account # 3512

USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# **55013**	Lot# **WS0073**	**WS Trace Elements**			**Amp 2**			Invoice# **167560**		Units **ug/L**	
1025	Boron					1249	1249	1062	1436	NOT REPORTED	
1090	Manganese	13	EPA 200.8		467	450	450	383	518	ACCEPT.	01/17/2018
1100	Molybdenum	13	EPA 200.8		109	115	115	97.8	132	ACCEPT.	01/17/2018
1190	Zinc	13	EPA 200.8		715	719	719	611	827	ACCEPT.	01/17/2018
Part# **55016**	Lot# **WS0073**	**WS pH @ 25°C**						Invoice# **167560**		Units **pH**	
1900	pH @ 25	1419	SM 4500-H+-B - 2011		7.64	7.50	7.5	7.3	7.7	ACCEPT.	01/23/2018
Part# **55021**	Lot# **WS0073**	**WS Turbidity**						Invoice# **167560**		Units **NTU**	
2055	Turbidity	11	EPA 180.1 (NA)		4.90	4.18	4.18	3.53	4.74	NOT ACCEPT.	01/25/2018
Part# **55022**	Lot# **WS0073**	**WS Cyanide**						Invoice# **167560**		Units **mg/L**	
1645	Cyanide	1407	SM 4500-CN⁻ E (92)		0.314	0.294	.294	.221	.368	ACCEPT.	02/05/2018
Part# **55070**	Lot# **WS0073**	**WS Sulphate/TOC**						Invoice# **167560**		Units **mg/L**	
2000	Sulfate	58	EPA 300.0 (NA)		92.6	92.2	92.2	78.4	106	ACCEPT.	02/03/2018
2040	TOC	232	5310C		10.9	11.6	11.6	9.28	13.9	ACCEPT.	01/22/2018
Part# **55070**	Lot# **WS0073**	**WS Sulphate/TOC**						Invoice# **167560**		Units **mg/L**	
2000	Sulfate	95	EPA 375.4 (NA)		90.2	92.2	92.2	78.4	106	ACCEPT.	02/07/2018
2040	TOC					11.6	11.6	9.28	13.9	NOT REPORTED	
Part# **55079**	Lot# **WS0073**	**SDWA Trace Elements #3**			**NELAC Additional Analytes**			Invoice# **167560**		Units **ug/L**	
1000	Aluminum	12	EPA 200.7		353	330	330	264	396	ACCEPT.	01/17/2018
1070	Iron	12	EPA 200.7		723	719	719	611	827	ACCEPT.	01/17/2018
1085	Magnesium					3308	3308	2812	3804	NOT REPORTED	
1150	Silver	12	EPA 200.7		246	250	250	175	325	ACCEPT.	01/17/2018
1185	Vanadium	12	EPA 200.7		675	680	680	578	782	ACCEPT.	01/17/2018

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Account # 3512

USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# **55079**	Lot# **WS0073**	**SDWA Trace Elements #3**			**NELAC Additional Analytes**			Invoice# **167560**		Units **ug/L**	
1000	Aluminum					330	330	264	396	NOT REPORTED	
1070	Iron					719	719	611	827	NOT REPORTED	
1085	Magnesium					3308	3308	2812	3804	NOT REPORTED	
1150	Silver	13	EPA 200.8		247	250	250	175	325	ACCEPT.	01/17/2018
1185	Vanadium	13	EPA 200.8		674	680	680	578	782	ACCEPT.	01/17/2018
Part# **55080**	Lot# **WS0073**	**WS Conductance @ 25°C**			**NELAC Additional Analyte**			Invoice# **167560**		Units **µmhos/cm**	
1610	Specific Conductance @ 25 C	3	EPA 120.1		595	575	575	518	633	ACCEPT.	01/15/2018
Part# **55106**	Lot# **WS0073**	**WS MBAS**			**NELAC Additional Analytes**			Invoice# **167560**		Units **mg/L**	
2025	MBAS	470	5540C		0.691	0.732	.732	.555	.891	ACCEPT.	02/14/2018
Part# **55112**	Lot# **WS0073**	**WS Chromium VI**						Invoice# **167560**		Units **ug/L**	
1045	Chromium VI	8483	SM 3500-Cr B		29.0	28.0	28	22.4	33.6	ACCEPT.	01/25/2018
Part# **55122**	Lot# **WS0073**	**WS Minerals Mix #1**						Invoice# **167560**		Units **mg/L**	
1505	Alkalinity	191	2320B		37.4	36.2	36.2	32.6	39.8	ACCEPT.	01/24/2018
1155	Sodium	12	EPA 200.7		16.1	16.7	16.7	14.2	19.2	ACCEPT.	01/17/2018
1125	Potassium	12	EPA 200.7		24.0	25.6	25.6	21.8	29.4	ACCEPT.	01/17/2018
1575	Chloride	58	EPA 300.0 (NA)		22.8	23.2	23.2	19.7	26.7	ACCEPT.	02/03/2018
Part# **55122**	Lot# **WS0073**	**WS Minerals Mix #1**						Invoice# **167560**		Units **mg/L**	
1505	Alkalinity					36.2	36.2	32.6	39.8	NOT REPORTED	
1155	Sodium					16.7	16.7	14.2	19.2	NOT REPORTED	
1125	Potassium					25.6	25.6	21.8	29.4	NOT REPORTED	
1575	Chloride	1394	SM 4500-Cl B (1992)		22.0	23.2	23.2	19.7	26.7	ACCEPT.	02/09/2018
Part# **55122**	Lot# **WS0073**	**WS Minerals Mix #1**						Invoice# **167560**		Units **mg/L**	
1505	Alkalinity					36.2	36.2	32.6	39.8	NOT REPORTED	
1155	Sodium					16.7	16.7	14.2	19.2	NOT REPORTED	
1125	Potassium					25.6	25.6	21.8	29.4	NOT REPORTED	
1575	Chloride	1397	SM 4500-Cl E		24.0	23.2	23.2	19.7	26.7	ACCEPT.	02/06/2018

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Fort Lauderdale FL 33309

Account # 3512

USEPA Lab ID **FL00095**
Study # **0073**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2018**
Close Date **03/01/2018**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# **55123**	Lot# **WS0073**	**WS Minerals Mix #2**		**4 components**					Invoice# **167560**	Units **mg/L**	
1035	Calcium	12	EPA 200.7		45.8	45.8	45.8	38.9	52.7	ACCEPT.	01/17/2018
1085	Magnesium	12	EPA 200.7		12.5	12.9	12.9	11	14.8	ACCEPT.	01/17/2018
1755	Total Hardness (CaCO3)	12	EPA 200.7		166	168	168	143	193	ACCEPT.	01/17/2018
1550	Calcium Hardness	12	EPA 200.7		114	114	114	96.9	131	ACCEPT.	01/17/2018
Part# **55161**	Lot# **WS0073**	**SDWA Solids (Total Solids, TSS, & TDS)**		**Additional Analytes**					Invoice# **167560**	Units **mg/L**	
1950	Total Solids					414	414	290	538	NOT REPORTED	
1955	Total Dissolved Solids	201	2540C		296	307	307	246	368	ACCEPT.	01/17/2018
1960	Non-Filterable Residue (TSS)					107	107	74.9	139	NOT REPORTED	
Part# **55164**	Lot# **WS0073**	**SDWA Uranium**		**Additional Analyte**					Invoice# **167560**	Units **ug/L**	
1184	Uranium	13	EPA 200.8		56.2	58.0	58	40.6	75.4	ACCEPT.	01/17/2018

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Account # 3512

USEPA Lab ID **FL00095** NPDES ID #
Study # **0081** Open Date **01/15/2020**
Study Type **WSCHEM** Close Date **02/29/2020**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# **38026**	Lot# **WS0081**	**WS Pesticide Amp 1**			**Organochlorine Pesticides**			Invoice# **186393**		Units **ug/L**	
7025	Aldrin	1824	EPA 508-1995		1.57	1.80	1.8	.81	2.29	ACCEPT.	01/23/2020
7470	Dieldrin	1824	EPA 508-1995		2.39	1.75	1.75	.963	2.54	ACCEPT.	01/23/2020
7540	Endrin	1824	EPA 508-1995		0.440	0.461	.461	.323	.599	ACCEPT.	01/23/2020
7685	Heptachlor	1824	EPA 508-1995		2.23	2.32	2.32	1.28	3.36	ACCEPT.	01/23/2020
7690	Heptachlor epoxide	1824	EPA 508-1995		0.753	0.801	.801	.441	1.16	ACCEPT.	01/23/2020
6275	Hexachlorobenzene	1824	EPA 508-1995		3.81	4.40	4.4	2.23	5.46	ACCEPT.	01/23/2020
6285	Hexachlorocyclopentadiene	1824	EPA 508-1995		3.62	5.41	5.41	1.54	7.84	ACCEPT.	01/23/2020
7120	Lindane	1824	EPA 508-1995		1.94	1.37	1.37	.754	1.99	ACCEPT.	01/23/2020
7810	Methoxychlor	1824	EPA 508-1995		5.52	7.05	7.05	3.88	10.2	ACCEPT.	01/23/2020
8045	Propachlor	1824	EPA 508-1995		2.71	2.80	2.8	1.54	4.06	ACCEPT.	01/23/2020
8295	Trifluralin	1824	EPA 508-1995		7.61	9.02	9.02	4.96	13.1	ACCEPT.	01/23/2020
Part# **38038**	Lot# **WS0081**	**WS Disinfection By-Products AMP 1**			**6 Components - Free acids**			Invoice# **186393**		Units **ug/L**	
9315	Bromochloroacetic acid					17.0	17	10.2	23.8	NOT REPORTED	
9357	Dibromoacetic acid	1858	EPA 552.2-1995		11.0	14.1	14.1	8.46	19.7	ACCEPT.	01/21/2020
9360	Dichloroacetic acid	1858	EPA 552.2-1995		24.6	27.1	27.1	16.3	37.9	ACCEPT.	01/21/2020
9312	Monobromoacetic acid	1858	EPA 552.2-1995		27.1	32.1	32.1	19.3	44.9	ACCEPT.	01/21/2020
9336	Monochloroacetic acid	1858	EPA 552.2-1995		32.8	40.1	40.1	24.1	56.1	ACCEPT.	01/21/2020
9642	Trichloroacetic acid	1858	EPA 552.2-1995		30.4	46.0	46	27.6	64.4	ACCEPT.	01/21/2020

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Account # 3512

USEPA Lab ID **FL00095**
Study # **0079**
Study Type **WSCHEM**

NPDES ID #
Open Date **07/15/2019**
Close Date **08/29/2019**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part#**38026**	Lot#**WS0079**	**WS Pesticide Amp 1**			**Organochlorine Pesticides**			Invoice# **176392**		Units **ug/L**	
7025	Aldrin	1824	EPA 508-1995		0.690	0.882	.882	.391	1.13	ACCEPT.	07/24/2019
7470	Dieldrin	1824	EPA 508-1995		1.55	1.37	1.37	.754	1.99	ACCEPT.	07/24/2019
7540	Endrin	1824	EPA 508-1995		1.10	0.742	.742	.519	.965	NOT ACCEPT.	07/24/2019
7685	Heptachlor	1824	EPA 508-1995		1.28	1.71	1.71	.941	2.48	ACCEPT.	07/24/2019
7690	Heptachlor epoxide	1824	EPA 508-1995		1.28	1.08	1.08	.594	1.57	ACCEPT.	07/24/2019
6275	Hexachlorobenzene	1824	EPA 508-1995		5.04	4.80	4.8	2.43	5.96	ACCEPT.	07/24/2019
6285	Hexachlorocyclopentadiene	1824	EPA 508-1995		1.38	2.21	2.21	.553	3.38	ACCEPT.	07/24/2019
7120	Lindane	1824	EPA 508-1995		1.73	1.55	1.55	.853	2.25	ACCEPT.	07/24/2019
7810	Methoxychlor	1824	EPA 508-1995		14.0	10.1	10.1	5.56	14.6	ACCEPT.	07/24/2019
8045	Propachlor	1824	EPA 508-1995		6.28	4.60	4.6	2.53	6.67	ACCEPT.	07/24/2019
8295	Trifluralin	1824	EPA 508-1995		8.88	9.02	9.02	4.96	13.1	ACCEPT.	07/24/2019
Part#**38038**	Lot#**WS0079**	**WS Disinfection By-Products AMP 1**			**6 Components - Free acids**			Invoice# **176392**		Units **ug/L**	
9315	Bromochloroacetic acid					39.1	39.1	23.5	54.7	NOT REPORTED	
9357	Dibromoacetic acid	1858	EPA 552.2-1995		23.7	25.0	25	15	35	ACCEPT.	08/05/2019
9360	Dichloroacetic acid	1858	EPA 552.2-1995		24.7	21.0	21	12.6	29.4	ACCEPT.	08/05/2019
9312	Monobromoacetic acid	1858	EPA 552.2-1995		44.4	49.1	49.1	29.5	68.7	ACCEPT.	08/05/2019
9336	Monochloroacetic acid	1858	EPA 552.2-1995		39.0	38.1	38.1	22.9	53.3	ACCEPT.	08/05/2019
9642	Trichloroacetic acid	1858	EPA 552.2-1995		22.7	27.1	27.1	16.3	37.9	ACCEPT.	08/05/2019

This report may be used in whole or in part by the participant. All results are confidential but limited to accreditation body or other participant requests!

Florida Spectrum Env Serv Inc.
Roxana Llambias QA Director 954-978-6400
1460 West Mcnab Rd
Fort Lauderdale FL 33309

Account # 3512

USEPA Lab ID **FL00095**
Study # **0077**
Study Type **WSCHEM**

NPDES ID #
Open Date **01/15/2019**
Close Date **03/01/2019**

NELAC #	Component	Method Code	Method Description	</>	Reported Value	AV or StudyMean	Assigned Value	Acceptance Limits Low	Acceptance Limits High	Performance Evaluation	Analysis Date
Part# **38026**	Lot# **WS0077**	**WS Pesticide Amp 1**			**Organochlorine Pesticides**			Invoice# **176391**		Units **ug/L**	
7025	Aldrin	1824	EPA 508-1995		0.702	1.02	1.02	.454	1.3	ACCEPT.	01/24/2019
7470	Dieldrin	1824	EPA 508-1995		1.53	1.67	1.67	.919	2.42	ACCEPT.	01/24/2019
7540	Endrin	1824	EPA 508-1995		0.310	0.481	.481	.337	.625	NOT ACCEPT.	01/24/2019
7685	Heptachlor	1824	EPA 508-1995		0.590	0.665	.665	.366	.964	ACCEPT.	01/24/2019
7690	Heptachlor epoxide	1824	EPA 508-1995		1.10	1.24	1.24	.682	1.8	ACCEPT.	01/24/2019
6275	Hexachlorobenzene	1824	EPA 508-1995		2.08	3.40	3.4	1.71	4.23	ACCEPT.	01/24/2019
6285	Hexachlorocyclopentadiene	1824	EPA 508-1995		4.30	6.82	6.82	1.97	9.81	ACCEPT.	01/24/2019
7120	Lindane	1824	EPA 508-1995		1.60	2.22	2.22	1.22	3.22	ACCEPT.	01/24/2019
7810	Methoxychlor	1824	EPA 508-1995		3.29	3.83	3.83	2.11	5.55	ACCEPT.	01/24/2019
8045	Propachlor	1824	EPA 508-1995		1.95	2.40	2.4	1.32	3.48	ACCEPT.	01/24/2019
8295	Trifluralin	1824	EPA 508-1995		1.14	1.50	1.5	.825	2.18	ACCEPT.	01/24/2019
Part# **38038**	Lot# **WS0077**	**WS Disinfection By-Products AMP 1**			**6 Components - Free acids**			Invoice# **176391**		Units **ug/L**	
9315	Bromochloroacetic acid					34.5	34.5	20.7	48.3	NOT REPORTED	
9357	Dibromoacetic acid	1858	EPA 552.2-1995		35.4	35.5	35.5	21.3	49.7	ACCEPT.	02/22/2019
9360	Dichloroacetic acid	1858	EPA 552.2-1995		36.7	47.5	47.5	28.5	66.5	ACCEPT.	02/22/2019
9312	Monobromoacetic acid	1858	EPA 552.2-1995		17.7	15.5	15.5	9.3	21.7	ACCEPT.	02/22/2019
9336	Monochloroacetic acid	1858	EPA 552.2-1995		19.8	18.5	18.5	11.1	25.9	ACCEPT.	02/22/2019
9642	Trichloroacetic acid	1858	EPA 552.2-1995		21.2	22.1	22.1	13.3	30.9	ACCEPT.	02/22/2019

Samples were prepared and scored according to the principles outlined in the "The TNI Standard EL-V3-2009" and the current Fields of Proficiency Testing Tables, FoPTs.
All components are formulated and verified under Absolutes' NELAC scope ANAB Accreditation ISO 17043 (Cert.# AP-1543) as shown in blue font.
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Final Report - Water Supply Proficiency Testing

Study: WSM0120

Opening Date: January 21, 2020 - Closing Date: February 6, 2020

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (Presence/Absence) (PT-MIC-WS) Lot #: 5324-07

Complete Analyte Evaluation

The complete analyte evaluation(s) are based on the results for the individual samples. The Evaluation is "Acceptable" if nine of ten samples are Acceptable, and no false negatives are reported.

NELAC Code	Analyte	Evaluation
2530	Fecal Coliform	Acceptable
2525	E.Coli	Acceptable
2500	Total Coliform	Acceptable

Individual Sample Evaluation

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Assigned Value	Result	Evaluation
Sample 1								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
Sample 2								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
Sample 3								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
Sample 4								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable

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Final Report - Water Supply Proficiency Testing

Study: WSM0120

Opening Date: January 21, 2020 - Closing Date: February 6, 2020

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (Presence/Absence) (PT-MIC-WS) cont'd — Lot #: 5324-07

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Assigned Value	Result	Evaluation
Sample 5								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
Sample 6								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
Sample 7								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
Sample 8								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable
Sample 9								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
Sample 10								
2530	Fecal Coliform	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	1/29/2020	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	1/29/2020	KR		SM 9223B	Presence	Presence	Acceptable

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Final Report - Water Supply Proficiency Testing

Study: WSM0120

Opening Date: January 21, 2020 - Closing Date: February 6, 2020

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Heterotrophic Plate Count (PT-HPC-WS) — Lot #: 5324-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2555	Heterotrophic Plate Count (MF, PP)	1/30/2020	KR		SM 9215B	CFU/mL	126	114	94 - 168	Acceptable
2555	Heterotrophic Plate Count (MPN)					MPN/mL	148		81.3 - 268	NR

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WSM0120	34	34	100%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Supply Proficiency Testing

Study: WSM0719

Opening Date: July 23, 2019 - Closing Date: August 8, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (Presence/Absence) (PT-MIC-WS) Lot #: 5306-05

Complete Analyte Evaluation

The complete analyte evaluation(s) are based on the results for the individual samples. The Evaluation is "Acceptable" if nine of ten samples are Acceptable, and no false negatives are reported.

NELAC Code	Analyte	Evaluation
2530	Fecal Coliform	Acceptable
2525	E.Coli	Acceptable
2500	Total Coliform	Acceptable

Individual Sample Evaluation

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Assigned Value	Result	Evaluation
Sample 1								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
Sample 2								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
Sample 3								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
Sample 4								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable

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Final Report - Water Supply Proficiency Testing

Study: WSM0719

Opening Date: July 23, 2019 - Closing Date: August 8, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (Presence/Absence) (PT-MIC-WS) cont'd — Lot #: 5306-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Assigned Value	Result	Evaluation
Sample 5								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
Sample 6								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
Sample 7								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
Sample 8								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
Sample 9								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable
Sample 10								
2530	Fecal Coliform	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	7/26/2019	KR		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	7/26/2019	KR		SM 9223B	Presence	Presence	Acceptable

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Final Report - Water Supply Proficiency Testing

Study: WSM0719

Opening Date: July 23, 2019 - Closing Date: August 8, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Heterotrophic Plate Count (PT-HPC-WS) — Lot #: 5306-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2555	Heterotrophic Plate Count (MF, PP)	8/2/2019	KR		SM 9215B	CFU/mL	278	263	183 - 421	Acceptable
2555	Heterotrophic Plate Count (MPN)					MPN/mL	233		96.6 - 562	NR

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WSM0719	34	34	100%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Supply Proficiency Testing

Study: WSM0119

Opening Date: January 22, 2019 - Closing Date: February 7, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (Presence/Absence) (PT-MIC-WS) Lot #: 5300-06

Complete Analyte Evaluation

The complete analyte evaluation(s) are based on the results for the individual samples. The Evaluation is "Acceptable" if nine of ten samples are Acceptable, and no false negatives are reported.

NELAC Code	Analyte	Evaluation
2530	Fecal Coliform	Acceptable
2525	E.Coli	Acceptable
2500	Total Coliform	Acceptable

Individual Sample Evaluation

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Assigned Value	Result	Evaluation
Sample 1								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
Sample 2								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
Sample 3								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
Sample 4								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable

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Final Report - Water Supply Proficiency Testing

Study: WSM0119

Opening Date: January 22, 2019 - Closing Date: February 7, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (Presence/Absence) (PT-MIC-WS) cont'd — Lot #: 5300-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Assigned Value	Result	Evaluation
Sample 5								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
Sample 6								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
Sample 7								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
Sample 8								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
Sample 9								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Presence	Presence	Acceptable
Sample 10								
2530	Fecal Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2525	E.Coli	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable
2500	Total Coliform	2/2/2019	BRM		SM9223B	Absence	Absence	Acceptable

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Final Report - Water Supply Proficiency Testing

Study: WSM0119

Opening Date: January 22, 2019 - Closing Date: February 7, 2019

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Heterotrophic Plate Count (PT-HPC-WS) — Lot #: 5300-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2555	Heterotrophic Plate Count (MF, PP)	2/3/2019	BRM		SM9215B	CFU/mL	249	247	198 - 312	Acceptable
2555	Heterotrophic Plate Count (MPN)					MPN/mL	232		134 - 401	NR

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WSM0119	34	34	100%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Water Supply Proficiency Testing

Study: WSM0718

Opening Date: July 24, 2018 - Closing Date: August 9, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (Presence/Absence) (PT-MIC-WS) Lot #: 5282-05

Complete Analyte Evaluation

The complete analyte evaluation(s) are based on the results for the individual samples. The Evaluation is "Acceptable" if nine of ten samples are Acceptable, and no false negatives are reported.

NELAC Code	Analyte	Evaluation
2530	Fecal Coliform	Acceptable
2525	E.Coli	Acceptable
2500	Total Coliform	Acceptable

Individual Sample Evaluation

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Assigned Value	Result	Evaluation
Sample 1								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
Sample 2								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
Sample 3								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
Sample 4								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable

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Final Report - Water Supply Proficiency Testing

Study: WSM0718

Opening Date: July 24, 2018 - Closing Date: August 9, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Micro (Presence/Absence) (PT-MIC-WS) cont'd — Lot #: 5282-05

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Assigned Value	Result	Evaluation
Sample 5								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
Sample 6								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
Sample 7								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
Sample 8								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
Sample 9								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Presence	Presence	Acceptable
Sample 10								
2530	Fecal Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2525	E.Coli	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable
2500	Total Coliform	8/3/2018	BRM		SM 9223B	Absence	Absence	Acceptable

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EPA Lab ID: FL00095

Heterotrophic Plate Count (PT-HPC-WS) — Lot #: 5282-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
2555	Heterotrophic Plate Count (MF, PP)	8/4/2018	BRM		SM 9215B	CFU/mL	257	229	189 - 348	Acceptable
2555	Heterotrophic Plate Count (MPN)					MPN/mL	289		183 - 459	NR

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
WSM0718	34	34	100%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Soil / Hazardous Waste PT

Study: HW0120

Opening Date: January 27, 2020 - Closing Date: March 12, 2020

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
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EPA Lab ID: FL00095

Metals (PT-MET-SOIL) — Lot #: 7079-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	1/30/2020	IN		EPA 6010	mg/kg	10400	9160	4930 - 14200	Acceptable
1005	Antimony	1/30/2020	IN		EPA 6010	mg/kg	115	80.0	11.5 - 145	Acceptable
1010	Arsenic	1/30/2020	IN		EPA 6010	mg/kg	369	338	226 - 420	Acceptable
1015	Barium	1/30/2020	IN		EPA 6010	mg/kg	425	383	276 - 467	Acceptable
1020	Beryllium	1/30/2020	IN		EPA 6010	mg/kg	340	326	221 - 374	Acceptable
1025	Boron	1/30/2020	IN		EPA 6010	mg/kg	368	157	89.7 - 405	Acceptable
1030	Cadmium	1/30/2020	IN		EPA 6010	mg/kg	221	204	144 - 243	Acceptable
1035	Calcium	1/30/2020	IN		EPA 6010	mg/kg	10600	9690	6790 - 11700	Acceptable
1040	Chromium	1/30/2020	IN		EPA 6010	mg/kg	288	269	180 - 334	Acceptable
1050	Cobalt	1/30/2020	IN		EPA 6010	mg/kg	130	116	83.6 - 143	Acceptable
1055	Copper	1/30/2020	IN		EPA 6010	mg/kg	355	307	229 - 391	Acceptable
1070	Iron	1/30/2020	IN		EPA 6010	mg/kg	16800	11500	4390 - 22200	Acceptable
1075	Lead	1/30/2020	IN		EPA 6010	mg/kg	205	180	127 - 226	Acceptable
1085	Magnesium	1/30/2020	IN		EPA 6010	mg/kg	9820	8900	6240 - 10800	Acceptable
1090	Manganese	1/30/2020	IN		EPA 6010	mg/kg	1770	1560	1210 - 1950	Acceptable
1095	Mercury	2/11/2020	EN		EPA 7471	mg/kg	11.6	9.38	6.12 - 14.3	Acceptable
1100	Molybdenum	1/30/2020	IN		EPA 6010	mg/kg	86.7	79.2	51.2 - 96.3	Acceptable
1105	Nickel	1/30/2020	IN		EPA 6010	mg/kg	122	106	72.9 - 135	Acceptable
1125	Potassium	1/30/2020	IN		EPA 6010	mg/kg	9070	8080	5440 - 10100	Acceptable
1140	Selenium	1/30/2020	IN		EPA 6010	mg/kg	369	327	221 - 413	Acceptable
1150	Silver	1/30/2020	IN		EPA 6010	mg/kg	68.3	66.0	41.2 - 76.0	Acceptable
1155	Sodium	1/30/2020	IN		EPA 6010	mg/kg	11100	10200	6470 - 12500	Acceptable
1160	Strontium	1/30/2020	IN		EPA 6010	mg/kg	317	291	203 - 349	Acceptable
1165	Thallium	1/30/2020	IN		EPA 6010	mg/kg	82.5	70.0	43.7 - 94.7	Acceptable
1175	Tin	1/30/2020	IN		EPA 6010	mg/kg	186	148	95.2 - 221	Acceptable
1185	Vanadium	1/30/2020	IN		EPA 6010	mg/kg	336	295	223 - 370	Acceptable
1190	Zinc	1/30/2020	IN		EPA 6010	mg/kg	477	427	286 - 531	Acceptable
Additional State Specific Analytes										
1080	Lithium	1/30/2020	IN		EPA 6010	mg/kg	260	250	153 - 301	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0120

Opening Date: January 27, 2020 - Closing Date: March 12, 2020

Laboratory: Florida Spectrum Environmental - Main
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EPA Lab ID: FL00095

Metals (PT-MET-SOIL) cont'd — Lot #: 7079-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
1180	Titanium	1/30/2020	IN		EPA 6010	mg/kg	362	233	29.7 - 599	Acceptable
3055	Uranium	1/30/2020	IN		EPA 6010	mg/kg	49.8	40.0	32.4 - 55.8	Acceptable

Cyanide (PT-CN-SOIL) — Lot #: 7079-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Cyanide, total	2/27/2020	SA		EPA 9012	mg/kg	138	102	34.3 - 152	Acceptable

Corrosivity-pH (PT-CORR-SOIL) — Lot #: 7079-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1625	Corrosivity (pH)	2/4/2020	AR		EPA 9045	Units	8.65	8.24	8.05 - 9.25	Acceptable

Flash Point (PT-FP-SOIL) — Lot #: 7079-10B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1780	Ignitability (Flashpoint)	3/2/2020	DAB		EPA 1010	°F	109	117	92.0 - 126	Acceptable

Anions (PT-AN-SOIL) — Lot #: 7079-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1540	Bromide	2/4/2020	OC		EPA 9056	mg/kg	30.8	31.3	21.0 - 38.5	Acceptable
1575	Chloride	2/4/2020	OC		EPA 9056	mg/kg	481	504	348 - 646	Acceptable
1730	Fluoride	2/4/2020	OC		EPA 9056	mg/kg	249	126	53.3 - 274	Acceptable
1810	Nitrate as N	2/4/2020	OC		EPA 9056	mg/kg	400	416	306 - 481	Acceptable
2000	Sulfate	2/4/2020	OC		EPA 9056	mg/kg	667	766	378 - 947	Acceptable
Additional State Specific Analytes										
1870	Orthophosphate as P	2/4/2020	OC		EPA 9056	mg/kg	263	86.4	26.3 - 289	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0120

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EPA Lab ID: FL00095

Nutrients (PT-NUT-SOIL) — Lot #: 7079-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	3/9/2020	SA		EPA 350.1	mg/kg	378	303	105 - 511	Acceptable
1795	Total Kjeldahl Nitrogen(TKN)	2/19/2020	EP		EPA 351.2	mg/kg	1160	839	510 - 1430	Acceptable
1910	Total Phosphorous	2/19/2020	EP		EPA 365.4	mg/kg	913	911	154 - 1290	Acceptable
Additional State Specific Analytes										
2040	Total Organic Carbon(TOC)					mg/kg	6590		609 - 12400	NR

Oil & Grease (PT-OGR-SOIL) — Lot #: 7079-94

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	3/11/2020	SA		EPA 9071	mg/kg	1500	1380	412 - 2140	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/kg	1830		503 - 2610	NR

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Final Report - Soil / Hazardous Waste PT

Study: HW0120

Opening Date: January 27, 2020 - Closing Date: March 12, 2020

Laboratory: Florida Spectrum Environmental - Main
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Fort Lauderdale, FL 33309
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Contact: Mrs. Roxana Llambias, QAD
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EPA Lab ID: FL00095

Volatiles (PT-VOA-SOIL) — Lot #: 7079-12B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	3/5/2020	JF		EPA 8260	µg/kg	786	720	82.0 - 1220	Acceptable
4375	Benzene	3/5/2020	JF		EPA 8260	µg/kg	159	140	103 - 215	Acceptable
4395	Bromodichloromethane	3/5/2020	JF		EPA 8260	µg/kg	80.2	68.0	48.1 - 112	Acceptable
4400	Bromoform	3/5/2020	JF		EPA 8260	µg/kg	99.9	103	54.9 - 145	Acceptable
4410	2-Butanone (MEK)	3/5/2020	JF		EPA 8260	µg/kg	472	441	157 - 723	Acceptable
4455	Carbon tetrachloride	3/5/2020	JF		EPA 8260	µg/kg	139	105	69.4 - 208	Acceptable
4475	Chlorobenzene	3/5/2020	JF		EPA 8260	µg/kg	<10	<10.0		Acceptable
4575	Chlorodibromomethane	3/5/2020	JF		EPA 8260	µg/kg	176	155	105 - 246	Acceptable
4505	Chloroform	3/5/2020	JF		EPA 8260	µg/kg	79.9	63.8	47.9 - 112	Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	3/5/2020	JF		EPA 8260	µg/kg	67.8	61.9	33.9 - 102	Acceptable
4585	1,2-Dibromoethane (EDB)	3/5/2020	JF		EPA 8260	µg/kg	<13	<13.0		Acceptable
4610	1,2-Dichlorobenzene	3/5/2020	JF		EPA 8260	µg/kg	123	100	73.7 - 172	Acceptable
4615	1,3-Dichlorobenzene	3/5/2020	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
4620	1,4-Dichlorobenzene	3/5/2020	JF		EPA 8260	µg/kg	120	89.9	72.0 - 168	Acceptable
4630	1,1-Dichloroethane	3/5/2020	JF		EPA 8260	µg/kg	75.4	62.6	45.2 - 105	Acceptable
4635	1,2-Dichloroethane	3/5/2020	JF		EPA 8260	µg/kg	148	119	89.0 - 208	Acceptable
4640	1,1-Dichloroethene	3/5/2020	JF		EPA 8260	µg/kg	<10	<10.0		Acceptable
4645	cis-1,2-Dichloroethene	3/5/2020	JF		EPA 8260	µg/kg	56.9	42.5	34.2 - 79.7	Acceptable
4700	trans-1,2-Dichloroethene	3/5/2020	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
4655	1,2-Dichloropropane	3/5/2020	JF		EPA 8260	µg/kg	186	169	121 - 251	Acceptable
4680	cis-1,3-Dichloropropene	3/5/2020	JF		EPA 8260	µg/kg	182	155	109 - 254	Acceptable
4685	trans-1,3-Dichloropropene	3/5/2020	JF		EPA 8260	µg/kg	<11	<11.0		Acceptable
4765	Ethylbenzene	3/5/2020	JF		EPA 8260	µg/kg	128	103	76.9 - 179	Acceptable
4860	2-Hexanone	3/5/2020	JF		EPA 8260	µg/kg	<50	<50.0		Acceptable
4975	Methylene chloride (Dichloromethane)	3/5/2020	JF		EPA 8260	µg/kg	78.1	69.1	39.1 - 117	Acceptable
5000	Methyl-tert-butyl ether (MTBE)	3/5/2020	JF		EPA 8260	µg/kg	126	99.3	75.5 - 176	Acceptable
4995	4-Methyl-2-pentanone (MIBK)	3/5/2020	JF		EPA 8260	µg/kg	310	277	155 - 465	Acceptable
5005	Naphthalene	3/5/2020	JF		EPA 8260	µg/kg	<20	<20.0		Acceptable
5100	Styrene	3/5/2020	JF		EPA 8260	µg/kg	136	137	88.3 - 183	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0120

Opening Date: January 27, 2020 - Closing Date: March 12, 2020

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EPA Lab ID: FL00095

Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7079-12B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5105	1,1,1,2-Tetrachloroethane	3/5/2020	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
5110	1,1,2,2-Tetrachloroethane	3/5/2020	JF		EPA 8260	µg/kg	126	116	69.3 - 183	Acceptable
5115	Tetrachloroethene	3/5/2020	JF		EPA 8260	µg/kg	166	131	82.9 - 249	Acceptable
5140	Toluene	3/5/2020	JF		EPA 8260	µg/kg	166	140	108 - 224	Acceptable
5155	1,2,4-Trichlorobenzene	3/5/2020	JF		EPA 8260	µg/kg	<16	<16.0		Acceptable
5160	1,1,1-Trichloroethane	3/5/2020	JF		EPA 8260	µg/kg	93.7	65.7	51.5 - 136	Acceptable
5165	1,1,2-Trichloroethane	3/5/2020	JF		EPA 8260	µg/kg	99.9	82.2	69.9 - 130	Acceptable
5170	Trichloroethene	3/5/2020	JF		EPA 8260	µg/kg	123	100	73.6 - 172	Acceptable
5180	1,2,3-Trichloropropane	3/5/2020	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
5260	Xylenes, total	3/5/2020	JF		EPA 8260	µg/kg	216	185	119 - 314	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	3/5/2020	JF		EPA 8260	µg/kg	<200	<56.8		Acceptable
4325	Acrolein	3/5/2020	JF		EPA 8260	µg/kg	<20	<16.5		Acceptable
4340	Acrylonitrile	3/5/2020	JF		EPA 8260	µg/kg	<20	<2.74		Acceptable
4385	Bromobenzene	3/5/2020	JF		EPA 8260	µg/kg	<40	<2.58		Acceptable
4390	Bromochloromethane	3/5/2020	JF		EPA 8260	µg/kg	<20	<2.94		Acceptable
4950	Bromomethane	3/5/2020	JF		EPA 8260	µg/kg	<80	<2.74		Acceptable
4435	n-Butylbenzene	3/5/2020	JF		EPA 8260	µg/kg	53.9	43.7	25.7 - 84.7	Acceptable
4440	sec-Butylbenzene	3/5/2020	JF		EPA 8260	µg/kg	<20	<5.92		Acceptable
4445	tert-Butylbenzene	3/5/2020	JF		EPA 8260	µg/kg	<20	<3.04		Acceptable
4450	Carbon disulfide	3/5/2020	JF		EPA 8260	µg/kg	<20	<3.12		Acceptable
4465	Chloroacetaldehyde					µg/kg	<20			NR
4485	Chloroethane	3/5/2020	JF		EPA 8260	µg/kg	<80	<2.00		Acceptable
5765	bis(2-Chloroethyl)ether					µg/kg	<20			NR
5760	bis(2-Chloroethoxy)methane					µg/kg	<20			NR
4659	2,2'-Oxybis(1-Chloropropane)					µg/kg	<20			NR
4500	2-Chloroethylvinylether	3/5/2020	JF		EPA 8260	µg/kg	<20	<15.5		Acceptable
4960	Chloromethane	3/5/2020	JF		EPA 8260	µg/kg	<80	<2.38		Acceptable
4535	2-Chlorotoluene	3/5/2020	JF		EPA 8260	µg/kg	174	156	107 - 250	Acceptable

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Final Report - Soil / Hazardous Waste PT

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Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7079-12B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4540	4-Chlorotoluene	3/5/2020	JF		EPA 8260	µg/kg	61.9	51.1	33.8 - 93.8	Acceptable
4595	Dibromomethane	3/5/2020	JF		EPA 8260	µg/kg	<20	<3.02		Acceptable
4625	Dichlorodifluoromethane	3/5/2020	JF		EPA 8260	µg/kg	<80	<2.00		Acceptable
4660	1,3-Dichloropropane	3/5/2020	JF		EPA 8260	µg/kg	<20	<4.04		Acceptable
4665	2,2-Dichloropropane	3/5/2020	JF		EPA 8260	µg/kg	<20	<4.08		Acceptable
4670	1,1-Dichloropropene	3/5/2020	JF		EPA 8260	µg/kg	<20	<2.32		Acceptable
9375	DIPE					µg/kg	<20			NR
4840	Hexachloroethane					µg/kg	<20			NR
4835	Hexachlorobutadiene	3/5/2020	JF		EPA 8260	µg/kg	<20	<4.56		Acceptable
4900	Isopropylbenzene	3/5/2020	JF		EPA 8260	µg/kg	<40	<5.94		Acceptable
4910	p-Isopropyltoluene	3/5/2020	JF		EPA 8260	µg/kg	<20	<3.50		Acceptable
5090	n-Propylbenzene	3/5/2020	JF		EPA 8260	µg/kg	174	149	106 - 257	Acceptable
4370	TAME					µg/kg	<20			NR
5150	1,2,3-Trichlorobenzene	3/5/2020	JF		EPA 8260	µg/kg	<20	<4.78		Acceptable
5175	Trichlorofluoromethane	3/5/2020	JF		EPA 8260	µg/kg	<80	<3.82		Acceptable
5210	1,2,4-Trimethylbenzene	3/5/2020	JF		EPA 8260	µg/kg	<20	<3.08		Acceptable
5215	1,3,5-Trimethylbenzene	3/5/2020	JF		EPA 8260	µg/kg	<20	<5.98		Acceptable
5225	Vinyl acetate	3/5/2020	JF		EPA 8260	µg/kg	<20	<3.38		Acceptable
5235	Vinyl chloride	3/5/2020	JF		EPA 8260	µg/kg	<80	<2.00		Acceptable
5250	o-Xylene	3/5/2020	JF		EPA 8260	µg/kg	107	93.4	58.7 - 155	Acceptable
5240	m+p-Xylene	3/5/2020	JF		EPA 8260	µg/kg	110	91.1	60.3 - 159	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0120

Opening Date: January 27, 2020 - Closing Date: March 12, 2020

Laboratory: Florida Spectrum Environmental - Main
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Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) — Lot #: 7079-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	2/5/2020	YE		EPA 8270	µg/kg	5340	4030	1540 - 6000	Acceptable
5505	Acenaphthylene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5555	Anthracene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5575	Benzo(a)anthracene	2/5/2020	YE		EPA 8270	µg/kg	2360	1850	839 - 2770	Acceptable
5585	Benzo(b)fluoranthene	2/5/2020	YE		EPA 8270	µg/kg	2270	<100	680 - 2890	Not Acceptable
5600	Benzo(k)fluoranthene	2/5/2020	YE		EPA 8270	µg/kg	2370	1850	740 - 2950	Acceptable
5590	Benzo(g,h,i)perylene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5580	Benzo(a)pyrene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5660	4-Bromophenyl-phenylether	2/5/2020	YE		EPA 8270	µg/kg	7310	6010	2350 - 9320	Acceptable
5670	Butyl benzyl phthalate	2/5/2020	YE		EPA 8270	µg/kg	9820	7350	3050 - 13700	Acceptable
5700	4-Chloro-3-methylphenol	2/5/2020	YE		EPA 8270	µg/kg	3190	2460	775 - 3850	Acceptable
5760	Bis(2-chloroethoxy)methane	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5765	bis(2-Chloroethyl)ether	2/5/2020	YE		EPA 8270	µg/kg	8780	6510	1550 - 10200	Acceptable
5795	2-Chloronaphthalene	2/5/2020	YE		EPA 8270	µg/kg	9710	6740	2390 - 11600	Acceptable
5800	2-Chlorophenol	2/5/2020	YE		EPA 8270	µg/kg	<150	<150		Acceptable
5825	4-Chlorophenyl-phenylether	2/5/2020	YE		EPA 8270	µg/kg	4110	3320	1130 - 4980	Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	2/5/2020	YE		EPA 8270	µg/kg	<150	<150		Acceptable
5855	Chrysene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5895	Dibenzo(a,h)anthracene	2/5/2020	YE		EPA 8270	µg/kg	2140	1590	505 - 2910	Acceptable
5905	Dibenzofuran	2/5/2020	YE		EPA 8270	µg/kg	7970	6040	2610 - 8970	Acceptable
5925	Di-n-butylphthalate	2/5/2020	YE		EPA 8270	µg/kg	8020	6400	2050 - 10800	Acceptable
4610	1,2-Dichlorobenzene	2/5/2020	YE		EPA 8270	µg/kg	9940	6740	994 - 11700	Acceptable
4615	1,3-Dichlorobenzene	2/5/2020	YE		EPA 8270	µg/kg	5730	3610	573 - 6620	Acceptable
4620	1,4-Dichlorobenzene	2/5/2020	YE		EPA 8270	µg/kg	3630	2260	363 - 4120	Acceptable
6000	2,4-Dichlorophenol	2/5/2020	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6070	Diethylphthalate	2/5/2020	YE		EPA 8270	µg/kg	3720	2970	1140 - 4550	Acceptable
6135	Dimethylphthalate	2/5/2020	YE		EPA 8270	µg/kg	5120	4030	1590 - 6310	Acceptable
6185	2,4-Dinitrotoluene	2/5/2020	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6190	2,6-Dinitrotoluene	2/5/2020	YE		EPA 8270	µg/kg	9400	6740	3180 - 10900	Acceptable

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Opening Date: January 27, 2020 - Closing Date: March 12, 2020

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7079-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6200	Di-n-octylphthalate	2/5/2020	YE		EPA 8270	µg/kg	3790	3340	816 - 5490	Acceptable
6065	Bis(2-ethylhexyl)phthalate	2/5/2020	YE		EPA 8270	µg/kg	10700	7960	2950 - 14800	Acceptable
6265	Fluoranthene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6270	Fluorene	2/5/2020	YE		EPA 8270	µg/kg	2700	2210	830 - 3290	Acceptable
6275	Hexachlorobenzene	2/5/2020	YE		EPA 8270	µg/kg	3340	2670	1230 - 3900	Acceptable
4835	Hexachlorobutadiene	2/5/2020	YE		EPA 8270	µg/kg	8490	5670	1700 - 9900	Acceptable
4840	Hexachloroethane	2/5/2020	YE		EPA 8270	µg/kg	5120	3220	512 - 5930	Acceptable
6315	Indeno(1,2,3-cd)pyrene	2/5/2020	YE		EPA 8270	µg/kg	2860	2130	473 - 3860	Acceptable
6320	Isophorone	2/5/2020	YE		EPA 8270	µg/kg	3590	2660	792 - 4370	Acceptable
6385	2-Methylnaphthalene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6400	2-Methylphenol	2/5/2020	YE		EPA 8270	µg/kg	<300	<300		Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	2/5/2020	YE		EPA 8270	µg/kg	<300	<300		Acceptable
5005	Naphthalene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5015	Nitrobenzene	2/5/2020	YE		EPA 8270	µg/kg	3730	2350	656 - 4380	Acceptable
6490	2-Nitrophenol	2/5/2020	YE		EPA 8270	µg/kg	12700	7420	1910 - 14100	Acceptable
6500	4-Nitrophenol	2/5/2020	YE		EPA 8270	µg/kg	11400	3970	1140 - 14400	Acceptable
6545	N-Nitroso-di-n-propylamine	2/5/2020	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6605	Pentachlorophenol	2/5/2020	YE		EPA 8270	µg/kg	4350	1390	435 - 4790	Acceptable
6615	Phenanthrene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6625	Phenol	2/5/2020	YE		EPA 8270	µg/kg	5630	3870	968 - 6360	Acceptable
6665	Pyrene	2/5/2020	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5155	1,2,4-Trichlorobenzene	2/5/2020	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6835	2,4,5-Trichlorophenol	2/5/2020	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6840	2,4,6-Trichlorophenol	2/5/2020	YE		EPA 8270	µg/kg	5840	4410	1370 - 6740	Acceptable
Additional State Specific Analytes										
5145	2-Amino-1-methylbenzene					µg/kg	<500			NR
5545	Aniline	2/5/2020	YE		EPA 8270	µg/kg	<500	<50.4		Acceptable
5595	Benzidine	2/5/2020	YE		EPA 8270	µg/kg	<500	<44.1		Acceptable
5610	Benzoic acid					µg/kg	<500			NR

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7079-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
5625	Benzotrichloride					µg/kg	<500			NR
5630	Benzyl alcohol	2/5/2020	YE		EPA 8270	µg/kg	<500	<85.8		Acceptable
5635	Benzyl chloride					µg/kg	<500			NR
5680	Carbazole	2/5/2020	YE		EPA 8270	µg/kg	<500	<35.1		Acceptable
5745	4-Chloroaniline	2/5/2020	YE		EPA 8270	µg/kg	<500	<63.0		Acceptable
5790	1-Chloronaphthalene					µg/kg	<500			NR
5945	3,3'-Dichlorobenzidine	2/5/2020	YE		EPA 8270	µg/kg	<500	<81.0		Acceptable
6005	2,6-Dichlorophenol	2/5/2020	YE		EPA 8270	µg/kg	<1500	<120		Acceptable
6130	2,4-Dimethylphenol	2/5/2020	YE		EPA 8270	µg/kg	<3000	<130		Acceptable
6175	2,4-Dinitrophenol	2/5/2020	YE		EPA 8270	µg/kg	<3000	<31.8		Acceptable
6280	Hexachlorocyclohexane					µg/kg	<500			NR
6285	Hexachlorocyclopentadiene	2/5/2020	YE		EPA 8270	µg/kg	<1500	<19.6		Acceptable
6360	2-Methyl-4,6-Dinitrophenol	2/5/2020	YE		EPA 8270	µg/kg	<3000	<33.0		Acceptable
6460	2-Nitroaniline	2/5/2020	YE		EPA 8270	µg/kg	<500	<60.3		Acceptable
6465	3-Nitroaniline	2/5/2020	YE		EPA 8270	µg/kg	<500	<57.0		Acceptable
6470	4-Nitroaniline	2/5/2020	YE		EPA 8270	µg/kg	<500	<57.3		Acceptable
6495	3-Nitrophenol					µg/kg	<500			NR
6525	N-Nitrosodiethylamine					µg/kg	<1500			NR
6530	N-Nitrosodimethylamine	2/5/2020	YE		EPA 8270	µg/kg	<1500	<55.2		Acceptable
6535	N-Nitrosodiphenylamine	2/5/2020	YE		EPA 8270	µg/kg	<1500	<83.1		Acceptable
6590	Pentachlorobenzene					µg/kg	<500			NR
5095	Pyridine	2/5/2020	YE		EPA 8270	µg/kg	<500	<61.2		Acceptable
6705	1,2,3,4-Tetrachlorobenzene					µg/kg	<500			NR
6710	1,2,3,5-Tetrachlorobenzene					µg/kg	<500			NR
6715	1,2,4,5-Tetrachlorobenzene					µg/kg	<500			NR
6730	2,3,4,5-Tetrachlorophenol					µg/kg	<500			NR
6735	2,3,4,6-Tetrachlorophenol	2/5/2020	YE		EPA 8270	µg/kg	<500	<112		Acceptable
5150	1,2,3-Trichlorobenzene					µg/kg	<500			NR

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Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7079-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6800	1,3,5-Trichlorobenzene					µg/kg	<500			NR

Pesticides (PT-PEST-SOIL) — Lot #: 7079-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	2/4/2020	AC		EPA 8081	µg/kg	413	320	126 - 545	Acceptable
7110	alpha-BHC	2/4/2020	AC		EPA 8081	µg/kg	79.1	66.2	15.4 - 110	Acceptable
7115	beta-BHC	2/4/2020	AC		EPA 8081	µg/kg	473	436	154 - 633	Acceptable
7105	delta-BHC	2/4/2020	AC		EPA 8081	µg/kg	156	125	35.1 - 232	Acceptable
7120	gamma-BHC (Lindane)	2/4/2020	AC		EPA 8081	µg/kg	416	294	120 - 548	Acceptable
7240	alpha-Chlordane					µg/kg	222		81.9 - 302	NR
7245	gamma-Chlordane					µg/kg	289		118 - 378	NR
7355	4,4'-DDD	2/4/2020	AC		EPA 8081	µg/kg	409	320	151 - 565	Acceptable
7360	4,4'-DDE	2/4/2020	AC		EPA 8081	µg/kg	355	325	125 - 483	Acceptable
7365	4,4'-DDT	2/4/2020	AC		EPA 8081	µg/kg	241	195	61.2 - 362	Acceptable
7470	Dieldrin	2/4/2020	AC		EPA 8081	µg/kg	97.0	93.5	30.3 - 140	Acceptable
7510	Endosulfan I	2/4/2020	AC		EPA 8081	µg/kg	319	258	83.6 - 353	Acceptable
7515	Endosulfan II	2/4/2020	AC		EPA 8081	µg/kg	251	209	66.5 - 322	Acceptable
7520	Endosulfan sulfate	2/4/2020	AC		EPA 8081	µg/kg	398	377	86.7 - 560	Acceptable
7540	Endrin	2/4/2020	AC		EPA 8081	µg/kg	234	245	89.0 - 299	Acceptable
7530	Endrin aldehyde	2/4/2020	AC		EPA 8081	µg/kg	250	142	25.0 - 284	Acceptable
7535	Endrin ketone	2/4/2020	AC		EPA 8081	µg/kg	282	261	72.7 - 399	Acceptable
7685	Heptachlor	2/4/2020	AC		EPA 8081	µg/kg	407	322	129 - 511	Acceptable
7690	Heptachlor epoxide	2/4/2020	AC		EPA 8081	µg/kg	269	227	96.5 - 351	Acceptable
7810	Methoxychlor	2/4/2020	AC		EPA 8081	µg/kg	462	354	52.9 - 691	Acceptable

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Chlordane (PT-CHLR-SOIL) — Lot #: 7079-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane	2/4/2020	AC		EPA 8081	µg/kg	299	229	74.2 - 457	Acceptable

Toxaphene (PT-TXP-SOIL) — Lot #: 7079-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene	2/4/2020	AC		EPA 8081	µg/kg	1270	903	240 - 1680	Acceptable

PCBs (PT-PCB-SOIL) — Lot #: 7079-17

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	2/4/2020	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8885	Aroclor 1221	2/4/2020	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8890	Aroclor 1232	2/4/2020	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8895	Aroclor 1242	2/4/2020	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8900	Aroclor 1248	2/4/2020	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8905	Aroclor 1254	2/4/2020	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8910	Aroclor 1260	2/4/2020	AC		EPA 8082	mg/kg	27.4	32.6	6.68 - 36.2	Acceptable
Additional State Specific Analytes										
8870	Total PCBs					mg/kg	27.4		6.93 - 37.4	NR

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Herbicides (PT-HERB-SOIL) — Lot #: 7079-18C

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	2/12/2020	AC		EPA 8151	µg/kg	714	439	71.4 - 989	Acceptable
8560	2,4-DB	2/12/2020	AC		EPA 8151	µg/kg	193	105	46.1 - 243	Acceptable
8595	Dicamba	2/12/2020	AC		EPA 8151	µg/kg	496	351	70.6 - 616	Acceptable
8620	Dinoseb	2/12/2020	AC		EPA 8151	µg/kg	901	268	90.1 - 1230	Acceptable
6605	Pentachlorophenol	2/12/2020	AC		EPA 8151	µg/kg	345	105	34.5 - 423	Acceptable
8655	2,4,5-T	2/12/2020	AC		EPA 8151	µg/kg	581	440	75.4 - 767	Acceptable
8650	2,4,5-TP (Silvex)	2/12/2020	AC		EPA 8151	µg/kg	741	382	74.1 - 940	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	2/12/2020	AC		EPA 8151	µg/kg	<100	<6.37		Acceptable
8530	Bentazon	2/12/2020	AC		EPA 8151	µg/kg	259	155	25.9 - 376	Acceptable
8540	Chloramben	2/12/2020	AC		EPA 8151	µg/kg	<100	<5.27		Acceptable
8550	Dacthal (DCPA)	2/12/2020	AC		EPA 8151	µg/kg	<100	<3.14		Acceptable
8555	Dalapon	2/12/2020	AC		EPA 8151	µg/kg	<100	<4.92		Acceptable
8600	3,5-Dichlorobenzoic acid	2/12/2020	AC		EPA 8151	µg/kg	130	103	13.0 - 188	Acceptable
8605	Dichloroprop (Dichlorprop)	2/12/2020	AC		EPA 8151	µg/kg	<100	<3.11		Acceptable
7775	MCPA	2/12/2020	AC		EPA 8151	µg/kg	<1000	<418		Acceptable
7780	MCPP	2/12/2020	AC		EPA 8151	µg/kg	<1000	<311		Acceptable
6500	4-Nitrophenol					µg/kg	524		52.4 - 760	NR
8645	Picloram	2/12/2020	AC		EPA 8151	µg/kg	454	200	45.4 - 659	Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
HW0120	229	228	99.6%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Soil / Hazardous Waste PT

Study: HW0719

Opening Date: July 29, 2019 - Closing Date: September 12, 2019

Laboratory: Florida Spectrum Environmental - Main
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EPA Lab ID: FL00095

Metals (PT-MET-SOIL) — Lot #: 7077-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	8/5/2019	IN		EPA 6010	mg/kg	9510	9420	5000 - 14300	Acceptable
1005	Antimony	8/5/2019	IN		EPA 6010	mg/kg	175	80.0	17.5 - 213	Acceptable
1010	Arsenic	8/5/2019	IN		EPA 6010	mg/kg	126	119	73.6 - 139	Acceptable
1015	Barium	8/5/2019	IN		EPA 6010	mg/kg	223	209	139 - 245	Acceptable
1020	Beryllium	8/5/2019	IN		EPA 6010	mg/kg	79.9	78.6	50.7 - 87.9	Acceptable
1025	Boron	8/5/2019	IN		EPA 6010	mg/kg	578	533	286 - 668	Acceptable
1030	Cadmium	8/5/2019	IN		EPA 6010	mg/kg	106	102	66.6 - 116	Acceptable
1035	Calcium	8/5/2019	IN		EPA 6010	mg/kg	20000	18900	12800 - 22000	Acceptable
1040	Chromium	8/5/2019	IN		EPA 6010	mg/kg	178	168	105 - 196	Acceptable
1050	Cobalt	8/5/2019	IN		EPA 6010	mg/kg	54.5	52.6	34.1 - 60.0	Acceptable
1055	Copper	8/5/2019	IN		EPA 6010	mg/kg	160	151	100 - 176	Acceptable
1070	Iron	8/5/2019	IN		EPA 6010	mg/kg	18800	15300	6230 - 25800	Acceptable
1075	Lead	8/5/2019	IN		EPA 6010	mg/kg	248	230	152 - 273	Acceptable
1085	Magnesium	8/5/2019	IN		EPA 6010	mg/kg	12800	12200	8040 - 14100	Acceptable
1090	Manganese	8/5/2019	IN		EPA 6010	mg/kg	215	197	123 - 237	Acceptable
1095	Mercury	8/8/2019	EN		EPA 7471	mg/kg	21.7	19.9	10.9 - 25.5	Acceptable
1100	Molybdenum	8/5/2019	IN		EPA 6010	mg/kg	242	221	143 - 266	Acceptable
1105	Nickel	8/5/2019	IN		EPA 6010	mg/kg	403	372	236 - 444	Acceptable
1125	Potassium	8/5/2019	IN		EPA 6010	mg/kg	20000	17000	12200 - 22000	Acceptable
1140	Selenium	8/5/2019	IN		EPA 6010	mg/kg	196	185	111 - 217	Acceptable
1150	Silver	8/5/2019	IN		EPA 6010	mg/kg	57.3	54.5	34.6 - 64.3	Acceptable
1155	Sodium	8/5/2019	IN		EPA 6010	mg/kg	2410	2410	1410 - 2830	Acceptable
1160	Strontium	8/5/2019	IN		EPA 6010	mg/kg	49.6	46.1	28.9 - 55.9	Acceptable
1165	Thallium	8/5/2019	IN		EPA 6010	mg/kg	55.4	49.5	25.3 - 64.9	Acceptable
1175	Tin	8/7/2019	MAZ		EPA 6010	mg/kg	197	188	102 - 234	Acceptable
1185	Vanadium	8/5/2019	IN		EPA 6010	mg/kg	316	298	202 - 347	Acceptable
1190	Zinc	8/5/2019	IN		EPA 6010	mg/kg	543	518	314 - 598	Acceptable
Additional State Specific Analytes										
1080	Lithium	8/6/2019	MAZ		EPA 6010	mg/kg	1250	1270	732 - 1440	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0719

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Metals (PT-MET-SOIL) cont'd — Lot #: 7077-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
1180	Titanium	8/5/2019	IN		EPA 6010	mg/kg	569	479	49.4 - 994	Acceptable
3055	Uranium	8/6/2019	MAZ		EPA 6010	mg/kg	32.9	31.2	21.6 - 37.2	Acceptable

Cyanide (PT-CN-SOIL) — Lot #: 7077-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Cyanide, total	9/6/2019	SA		EPA 9012	mg/kg	23.1	21.6	3.92 - 37.6	Acceptable

Corrosivity-pH (PT-CORR-SOIL) — Lot #: 7077-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1625	Corrosivity (pH)	8/2/2019	AR		EPA 9045	Units	2.84	2.62	2.24 - 3.44	Acceptable

Flash Point (PT-FP-SOIL) — Lot #: 7077-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1780	Ignitability (Flashpoint)	8/28/2019	DAB		EPA 1010	°F	140	142	123 - 157	Acceptable

Anions (PT-AN-SOIL) — Lot #: 7077-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1540	Bromide	8/6/2019	OC		EPA 9056	mg/kg	60.2	62.8	43.5 - 76.4	Acceptable
1575	Chloride	8/6/2019	OC		EPA 9056	mg/kg	895	913	658 - 1180	Acceptable
1730	Fluoride	8/6/2019	OC		EPA 9056	mg/kg	467	154	83.5 - 513	Acceptable
1810	Nitrate as N	8/6/2019	OC		EPA 9056	mg/kg	102	99.1	70.9 - 125	Acceptable
2000	Sulfate	8/6/2019	OC		EPA 9056	mg/kg	1840	1790	1050 - 2550	Acceptable
Additional State Specific Analytes										
1870	Orthophosphate as P	8/6/2019	OC		EPA 9056	mg/kg	447	122	44.7 - 492	Acceptable

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Nutrients (PT-NUT-SOIL) — Lot #: 7077-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	8/23/2019	SA		EPA 350.1	mg/kg	2090	1410	1200 - 2460	Acceptable
1795	Total Kjeldahl Nitrogen(TKN)	9/5/2019	SA		EPA 351.2	mg/kg	2870	2490	1450 - 3680	Acceptable
1910	Total Phosphorous	9/5/2019	SA		EPA 365.4	mg/kg	1070	1090	276 - 1890	Acceptable
Additional State Specific Analytes										
2040	Total Organic Carbon(TOC)					mg/kg	12100		1210 - 24500	NR

Oil & Grease (PT-OGR-SOIL) — Lot #: 7077-94

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	8/29/2019	SA		EPA 9071	mg/kg	2160	1670	809 - 3240	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/kg	2630		849 - 3350	NR

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Volatiles (PT-VOA-SOIL) — Lot #: 7077-12B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	9/3/2019	JF		EPA 8260	µg/kg	436	425	43.6 - 696	Acceptable
4375	Benzene	9/3/2019	JF		EPA 8260	µg/kg	36.2	28.1	23.5 - 48.9	Acceptable
4395	Bromodichloromethane	9/3/2019	JF		EPA 8260	µg/kg	180	190	108 - 253	Acceptable
4400	Bromoform	9/3/2019	JF		EPA 8260	µg/kg	75.6	84.7	41.6 - 110	Acceptable
4410	2-Butanone (MEK)	9/3/2019	JF		EPA 8260	µg/kg	123	123	19.4 - 202	Acceptable
4455	Carbon tetrachloride	9/3/2019	JF		EPA 8260	µg/kg	153	166	76.3 - 229	Acceptable
4475	Chlorobenzene	9/3/2019	JF		EPA 8260	µg/kg	122	108	61.0 - 183	Acceptable
4575	Chlorodibromomethane	9/3/2019	JF		EPA 8260	µg/kg	118	133	70.5 - 165	Acceptable
4505	Chloroform	9/3/2019	JF		EPA 8260	µg/kg	163	154	98.0 - 229	Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	9/3/2019	JF		EPA 8260	µg/kg	170	208	84.8 - 254	Acceptable
4585	1,2-Dibromoethane (EDB)	9/3/2019	JF		EPA 8260	µg/kg	95.4	103	62.0 - 129	Acceptable
4610	1,2-Dichlorobenzene	9/3/2019	JF		EPA 8260	µg/kg	124	128	74.6 - 174	Acceptable
4615	1,3-Dichlorobenzene	9/3/2019	JF		EPA 8260	µg/kg	130	129	77.7 - 181	Acceptable
4620	1,4-Dichlorobenzene	9/3/2019	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
4630	1,1-Dichloroethane	9/3/2019	JF		EPA 8260	µg/kg	176	157	105 - 246	Acceptable
4635	1,2-Dichloroethane	9/3/2019	JF		EPA 8260	µg/kg	169	142	101 - 236	Acceptable
4640	1,1-Dichloroethene	9/3/2019	JF		EPA 8260	µg/kg	<10	<10.0		Acceptable
4645	cis-1,2-Dichloroethene	9/3/2019	JF		EPA 8260	µg/kg	78.3	73.3	47.0 - 110	Acceptable
4700	trans-1,2-Dichloroethene	9/3/2019	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
4655	1,2-Dichloropropane	9/3/2019	JF		EPA 8260	µg/kg	181	187	118 - 245	Acceptable
4680	cis-1,3-Dichloropropene	9/3/2019	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
4685	trans-1,3-Dichloropropene	9/3/2019	JF		EPA 8260	µg/kg	<11	<11.0		Acceptable
4765	Ethylbenzene	9/3/2019	JF		EPA 8260	µg/kg	61.6	64.9	37.0 - 86.3	Acceptable
4860	2-Hexanone	9/3/2019	JF		EPA 8260	µg/kg	201	225	101 - 302	Acceptable
4975	Methylene chloride (Dichloromethane)	9/3/2019	JF		EPA 8260	µg/kg	108	107	53.9 - 162	Acceptable
5000	Methyl-tert-butyl ether (MTBE)	9/3/2019	JF		EPA 8260	µg/kg	168	144	101 - 235	Acceptable
4995	4-Methyl-2-pentanone (MIBK)	9/3/2019	JF		EPA 8260	µg/kg	357	371	178 - 535	Acceptable
5005	Naphthalene	9/3/2019	JF		EPA 8260	µg/kg	<20	<20.0		Acceptable
5100	Styrene	9/3/2019	JF		EPA 8260	µg/kg	<26	<26.0		Acceptable

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Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7077-12B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5105	1,1,1,2-Tetrachloroethane	9/3/2019	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
5110	1,1,2,2-Tetrachloroethane	9/3/2019	JF		EPA 8260	µg/kg	<11	<11.0		Acceptable
5115	Tetrachloroethene	9/3/2019	JF		EPA 8260	µg/kg	101	82.5	50.4 - 151	Acceptable
5140	Toluene	9/3/2019	JF		EPA 8260	µg/kg	139	137	90.1 - 187	Acceptable
5155	1,2,4-Trichlorobenzene	9/3/2019	JF		EPA 8260	µg/kg	123	131	49.2 - 197	Acceptable
5160	1,1,1-Trichloroethane	9/3/2019	JF		EPA 8260	µg/kg	<11	<11.0		Acceptable
5165	1,1,2-Trichloroethane	9/3/2019	JF		EPA 8260	µg/kg	138	148	96.9 - 180	Acceptable
5170	Trichloroethene	9/3/2019	JF		EPA 8260	µg/kg	96.8	109	58.1 - 135	Acceptable
5180	1,2,3-Trichloropropane	9/3/2019	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
5260	Xylenes, total	9/3/2019	JF		EPA 8260	µg/kg	188	176	104 - 273	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	9/3/2019	JF		EPA 8260	µg/kg	<200	<28.4		Acceptable
4325	Acrolein	9/3/2019	JF		EPA 8260	µg/kg	<20	<12.1		Acceptable
4340	Acrylonitrile	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.00		Acceptable
4385	Bromobenzene	9/3/2019	JF		EPA 8260	µg/kg	<40	<1.00		Acceptable
4390	Bromochloromethane	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.00		Acceptable
4950	Bromomethane	9/3/2019	JF		EPA 8260	µg/kg	<80	<2.11		Acceptable
4435	n-Butylbenzene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.45		Acceptable
4440	sec-Butylbenzene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.11		Acceptable
4445	tert-Butylbenzene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.08		Acceptable
4450	Carbon disulfide	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.56		Acceptable
4465	Chloroacetaldehyde					µg/kg	<20			NR
4485	Chloroethane	9/3/2019	JF		EPA 8260	µg/kg	<80	<1.21		Acceptable
5765	bis(2-Chloroethyl)ether					µg/kg	<20			NR
5760	bis(2-Chloroethoxy)methane					µg/kg	<20			NR
4659	2,2'-Oxybis(1-Chloropropane)					µg/kg	<20			NR
4500	2-Chloroethylvinylether	9/3/2019	JF		EPA 8260	µg/kg	<20	<5.70		Acceptable
4960	Chloromethane	9/3/2019	JF		EPA 8260	µg/kg	<80	<1.19		Acceptable
4535	2-Chlorotoluene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.00		Acceptable

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Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7077-12B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4540	4-Chlorotoluene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.00		Acceptable
4595	Dibromomethane	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.00		Acceptable
4625	Dichlorodifluoromethane	9/3/2019	JF		EPA 8260	µg/kg	<80	<1.96		Acceptable
4660	1,3-Dichloropropane	9/3/2019	JF		EPA 8260	µg/kg	58.0	58.7	40.3 - 78.5	Acceptable
4665	2,2-Dichloropropane	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.00		Acceptable
4670	1,1-Dichloropropene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.06		Acceptable
9375	DIPE					µg/kg	<20			NR
4840	Hexachloroethane					µg/kg	<20			NR
4835	Hexachlorobutadiene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.32		Acceptable
4900	Isopropylbenzene	9/3/2019	JF		EPA 8260	µg/kg	<40	<1.15		Acceptable
4910	p-Isopropyltoluene	9/3/2019	JF		EPA 8260	µg/kg	101	104	54.9 - 154	Acceptable
5090	n-Propylbenzene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.06		Acceptable
4370	TAME					µg/kg	<20			NR
5150	1,2,3-Trichlorobenzene	9/3/2019	JF		EPA 8260	µg/kg	65.4	67.2	36.2 - 98.1	Acceptable
5175	Trichlorofluoromethane	9/3/2019	JF		EPA 8260	µg/kg	<80	<1.00		Acceptable
5210	1,2,4-Trimethylbenzene	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.13		Acceptable
5215	1,3,5-Trimethylbenzene	9/3/2019	JF		EPA 8260	µg/kg	26.7	29.3	16.3 - 39.9	Acceptable
5225	Vinyl acetate	9/3/2019	JF		EPA 8260	µg/kg	<20	<1.69		Acceptable
5235	Vinyl chloride	9/3/2019	JF		EPA 8260	µg/kg	<80	<1.00		Acceptable
5250	o-Xylene	9/3/2019	JF		EPA 8260	µg/kg	93.8	86.7	51.6 - 136	Acceptable
5240	m+p-Xylene	9/3/2019	JF		EPA 8260	µg/kg	94.5	89.4	52.0 - 137	Acceptable

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Base, Neutrals and Acids (PT-BNA-SOIL) — Lot #: 7077-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	8/27/2019	YE		EPA 8270	µg/kg	2940	1920	870 - 3410	Acceptable
5505	Acenaphthylene	8/27/2019	YE		EPA 8270	µg/kg	2360	1920	669 - 2990	Acceptable
5555	Anthracene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5575	Benzo(a)anthracene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5585	Benzo(b)fluoranthene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5600	Benzo(k)fluoranthene	8/27/2019	YE		EPA 8270	µg/kg	5350	3690	1690 - 6630	Acceptable
5590	Benzo(g,h,i)perylene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5580	Benzo(a)pyrene	8/27/2019	YE		EPA 8270	µg/kg	3430	2270	1010 - 4250	Acceptable
5660	4-Bromophenyl-phenylether	8/27/2019	YE		EPA 8270	µg/kg	6360	4050	1970 - 7900	Acceptable
5670	Butyl benzyl phthalate	8/27/2019	YE		EPA 8270	µg/kg	4110	2990	1230 - 5650	Acceptable
5700	4-Chloro-3-methylphenol	8/27/2019	YE		EPA 8270	µg/kg	14000	7050	3640 - 15400	Acceptable
5760	Bis(2-chloroethoxy)methane	8/27/2019	YE		EPA 8270	µg/kg	5570	3660	1300 - 6280	Acceptable
5765	bis(2-Chloroethyl)ether	8/27/2019	YE		EPA 8270	µg/kg	12200	6350	2290 - 13600	Acceptable
5795	2-Chloronaphthalene	8/27/2019	YE		EPA 8270	µg/kg	6080	4030	1480 - 7190	Acceptable
5800	2-Chlorophenol	8/27/2019	YE		EPA 8270	µg/kg	12900	6100	2160 - 14200	Acceptable
5825	4-Chlorophenyl-phenylether	8/27/2019	YE		EPA 8270	µg/kg	9780	5730	2810 - 12200	Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	8/27/2019	YE		EPA 8270	µg/kg	4200	2500	614 - 5030	Acceptable
5855	Chrysene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5895	Dibenzo(a,h)anthracene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5905	Dibenzofuran	8/27/2019	YE		EPA 8270	µg/kg	6120	4340	1980 - 6930	Acceptable
5925	Di-n-butylphthalate	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
4610	1,2-Dichlorobenzene	8/27/2019	YE		EPA 8270	µg/kg	3900	1890	390 - 4430	Acceptable
4615	1,3-Dichlorobenzene	8/27/2019	YE		EPA 8270	µg/kg	8270	3640	827 - 9140	Acceptable
4620	1,4-Dichlorobenzene	8/27/2019	YE		EPA 8270	µg/kg	8290	3540	829 - 9120	Acceptable
6000	2,4-Dichlorophenol	8/27/2019	YE		EPA 8270	µg/kg	7550	4220	1590 - 8300	Acceptable
6070	Diethylphthalate	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6135	Dimethylphthalate	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6185	2,4-Dinitrotoluene	8/27/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6190	2,6-Dinitrotoluene	8/27/2019	YE		EPA 8270	µg/kg	13100	8040	4320 - 14700	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0719

Opening Date: July 29, 2019 - Closing Date: September 12, 2019

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Fort Lauderdale, FL 33309
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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7077-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6200	Di-n-octylphthalate	8/27/2019	YE		EPA 8270	µg/kg	6310	4410	1440 - 8920	Acceptable
6065	Bis(2-ethylhexyl)phthalate	8/27/2019	YE		EPA 8270	µg/kg	7050	4350	1840 - 9800	Acceptable
6265	Fluoranthene	8/27/2019	YE		EPA 8270	µg/kg	6960	4270	2270 - 8750	Acceptable
6270	Fluorene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6275	Hexachlorobenzene	8/27/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
4835	Hexachlorobutadiene	8/27/2019	YE		EPA 8270	µg/kg	5830	3440	1050 - 6550	Acceptable
4840	Hexachloroethane	8/27/2019	YE		EPA 8270	µg/kg	10200	4680	1020 - 11400	Acceptable
6315	Indeno(1,2,3-cd)pyrene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6320	Isophorone	8/27/2019	YE		EPA 8270	µg/kg	7530	5890	1890 - 9240	Acceptable
6385	2-Methylnaphthalene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6400	2-Methylphenol	8/27/2019	YE		EPA 8270	µg/kg	<300	<300		Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	8/27/2019	YE		EPA 8270	µg/kg	<300	<300		Acceptable
5005	Naphthalene	8/27/2019	YE		EPA 8270	µg/kg	2350	1500	346 - 2920	Acceptable
5015	Nitrobenzene	8/27/2019	YE		EPA 8270	µg/kg	2200	1400	306 - 2800	Acceptable
6490	2-Nitrophenol	8/27/2019	YE		EPA 8270	µg/kg	7940	4520	1140 - 8730	Acceptable
6500	4-Nitrophenol	8/27/2019	YE		EPA 8270	µg/kg	6890	2600	689 - 9190	Acceptable
6545	N-Nitroso-di-n-propylamine	8/27/2019	YE		EPA 8270	µg/kg	4210	2630	789 - 5380	Acceptable
6605	Pentachlorophenol	8/27/2019	YE		EPA 8270	µg/kg	5250	2200	525 - 5870	Acceptable
6615	Phenanthrene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6625	Phenol	8/27/2019	YE		EPA 8270	µg/kg	5890	3420	992 - 6510	Acceptable
6665	Pyrene	8/27/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5155	1,2,4-Trichlorobenzene	8/27/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6835	2,4,5-Trichlorophenol	8/27/2019	YE		EPA 8270	µg/kg	3820	2160	745 - 4450	Acceptable
6840	2,4,6-Trichlorophenol	8/27/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
Additional State Specific Analytes										
5145	2-Amino-1-methylbenzene					µg/kg	<500			NR
5545	Aniline	8/27/2019	YE		EPA 8270	µg/kg	<500	<50.4		Acceptable
5595	Benzidine	8/27/2019	YE		EPA 8270	µg/kg	<500	<44.1		Acceptable
5610	Benzoic acid					µg/kg	<500			NR

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9549786400

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Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7077-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
5625	Benzotrichloride					µg/kg	<500			NR
5630	Benzyl alcohol	8/27/2019	YE		EPA 8270	µg/kg	<500	<85.8		Acceptable
5635	Benzyl chloride					µg/kg	<500			NR
5680	Carbazole	8/27/2019	YE		EPA 8270	µg/kg	<500	<35.1		Acceptable
5745	4-Chloroaniline	8/27/2019	YE		EPA 8270	µg/kg	<500	<63.0		Acceptable
5790	1-Chloronaphthalene					µg/kg	<500			NR
5945	3,3'-Dichlorobenzidine	8/27/2019	YE		EPA 8270	µg/kg	<500	<81.0		Acceptable
6005	2,6-Dichlorophenol	8/27/2019	YE		EPA 8270	µg/kg	<1500	<120		Acceptable
6130	2,4-Dimethylphenol	8/27/2019	YE		EPA 8270	µg/kg	<3000	<130		Acceptable
6175	2,4-Dinitrophenol	8/27/2019	YE		EPA 8270	µg/kg	<3000	<31.8		Acceptable
6280	Hexachlorocyclohexane					µg/kg	<500			NR
6285	Hexachlorocyclopentadiene	8/27/2019	YE		EPA 8270	µg/kg	<1500	<19.6		Acceptable
6360	2-Methyl-4,6-Dinitrophenol	8/27/2019	YE		EPA 8270	µg/kg	<3000	<33.0		Acceptable
6460	2-Nitroaniline	8/27/2019	YE		EPA 8270	µg/kg	<500	<60.3		Acceptable
6465	3-Nitroaniline	8/27/2019	YE		EPA 8270	µg/kg	<500	<57.0		Acceptable
6470	4-Nitroaniline	8/27/2019	YE		EPA 8270	µg/kg	<500	<57.3		Acceptable
6495	3-Nitrophenol					µg/kg	<500			NR
6525	N-Nitrosodiethylamine					µg/kg	<1500			NR
6530	N-Nitrosodimethylamine	8/27/2019	YE		EPA 8270	µg/kg	<1500	<55.2		Acceptable
6535	N-Nitrosodiphenylamine	8/27/2019	YE		EPA 8270	µg/kg	<1500	<83.1		Acceptable
6590	Pentachlorobenzene					µg/kg	<500			NR
5095	Pyridine	8/27/2019	YE		EPA 8270	µg/kg	<500	<61.2		Acceptable
6705	1,2,3,4-Tetrachlorobenzene					µg/kg	<500			NR
6710	1,2,3,5-Tetrachlorobenzene					µg/kg	<500			NR
6715	1,2,4,5-Tetrachlorobenzene					µg/kg	<500			NR
6730	2,3,4,5-Tetrachlorophenol					µg/kg	<500			NR
6735	2,3,4,6-Tetrachlorophenol	8/27/2019	YE		EPA 8270	µg/kg	<500	<112		Acceptable
5150	1,2,3-Trichlorobenzene					µg/kg	<500			NR

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Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7077-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6800	1,3,5-Trichlorobenzene					µg/kg	<500			NR

Pesticides (PT-PEST-SOIL) — Lot #: 7077-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	8/9/2019	YE		EPA 8081	µg/kg	95.4	75.9	27.2 - 139	Acceptable
7110	alpha-BHC	8/9/2019	YE		EPA 8081	µg/kg	197	139	55.2 - 269	Acceptable
7115	beta-BHC	8/9/2019	YE		EPA 8081	µg/kg	197	164	45.3 - 272	Acceptable
7105	delta-BHC	8/9/2019	YE		EPA 8081	µg/kg	429	342	121 - 591	Acceptable
7120	gamma-BHC (Lindane)	8/9/2019	YE		EPA 8081	µg/kg	403	329	114 - 523	Acceptable
7240	alpha-Chlordane					µg/kg	341		124 - 454	NR
7245	gamma-Chlordane					µg/kg	97.7		35.8 - 132	NR
7355	4,4'-DDD	8/9/2019	YE		EPA 8081	µg/kg	450	501	157 - 583	Acceptable
7360	4,4'-DDE	8/9/2019	YE		EPA 8081	µg/kg	395	438	140 - 535	Acceptable
7365	4,4'-DDT	8/9/2019	YE		EPA 8081	µg/kg	380	291	94.2 - 530	Acceptable
7470	Dieldrin	8/9/2019	YE		EPA 8081	µg/kg	79.7	97.9	22.2 - 116	Acceptable
7510	Endosulfan I	8/9/2019	YE		EPA 8081	µg/kg	208	230	57.6 - 264	Acceptable
7515	Endosulfan II	8/9/2019	YE		EPA 8081	µg/kg	187	194	46.3 - 239	Acceptable
7520	Endosulfan sulfate	8/9/2019	YE		EPA 8081	µg/kg	382	379	78.3 - 510	Acceptable
7540	Endrin	8/9/2019	YE		EPA 8081	µg/kg	70.1	74.4	13.6 - 110	Acceptable
7530	Endrin aldehyde	8/9/2019	YE		EPA 8081	µg/kg	312	<5.00	31.2 - 343	Not Acceptable
7535	Endrin ketone	8/9/2019	YE		EPA 8081	µg/kg	249	228	57.4 - 325	Acceptable
7685	Heptachlor	8/9/2019	YE		EPA 8081	µg/kg	240	202	74.8 - 312	Acceptable
7690	Heptachlor epoxide	8/9/2019	YE		EPA 8081	µg/kg	413	412	146 - 515	Acceptable
7810	Methoxychlor	8/9/2019	YE		EPA 8081	µg/kg	489	406	50.9 - 673	Acceptable

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Chlordane (PT-CHLR-SOIL) — Lot #: 7077-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane	8/10/2019	YE		EPA 8081	µg/kg	390	324	90.8 - 553	Acceptable

Toxaphene (PT-TXP-SOIL) — Lot #: 7077-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene	8/10/2019	YE		EPA 8081	µg/kg	1120	1030	358 - 1340	Acceptable

PCBs (PT-PCB-SOIL) — Lot #: 7077-17

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	8/12/2019	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8885	Aroclor 1221	8/12/2019	YE		EPA 8082	mg/kg	32.3	19.4	6.59 - 35.8	Acceptable
8890	Aroclor 1232	8/12/2019	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8895	Aroclor 1242	8/12/2019	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8900	Aroclor 1248	8/12/2019	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8905	Aroclor 1254	8/12/2019	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8910	Aroclor 1260	8/12/2019	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
Additional State Specific Analytes										
8870	Total PCBs					mg/kg	32.3		6.94 - 37.5	NR

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Herbicides (PT-HERB-SOIL) — Lot #: 7077-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	8/22/2019	YE		EPA 8151	µg/kg	842	268	84.2 - 1170	Acceptable
8560	2,4-DB	8/22/2019	YE		EPA 8151	µg/kg	289	83.3	28.9 - 510	Acceptable
8595	Dicamba	8/22/2019	YE		EPA 8151	µg/kg	826	703	82.6 - 1200	Acceptable
8620	Dinoseb	8/22/2019	YE		EPA 8151	µg/kg	482	31.8	48.2 - 829	Not Acceptable
6605	Pentachlorophenol	8/22/2019	YE		EPA 8151	µg/kg	659	188	65.9 - 879	Acceptable
8655	2,4,5-T	8/22/2019	YE		EPA 8151	µg/kg	129	103	12.9 - 180	Acceptable
8650	2,4,5-TP (Silvex)	8/22/2019	YE		EPA 8151	µg/kg	227	112	22.7 - 306	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	8/22/2019	YE		EPA 8151	µg/kg	656	215	65.6 - 953	Acceptable
8530	Bentazon	8/22/2019	YE		EPA 8151	µg/kg	<100	<5.92		Acceptable
8540	Chloramben	8/22/2019	YE		EPA 8151	µg/kg	<100	<5.29		Acceptable
8550	Dacthal (DCPA)	8/22/2019	YE		EPA 8151	µg/kg	<100	<3.16		Acceptable
8555	Dalapon	8/22/2019	YE		EPA 8151	µg/kg	<100	<4.94		Acceptable
8600	3,5-Dichlorobenzoic acid	8/22/2019	YE		EPA 8151	µg/kg	818	373	81.8 - 1190	Acceptable
8605	Dichloroprop (Dichlorprop)	8/22/2019	YE		EPA 8151	µg/kg	190	71.2	19.0 - 276	Acceptable
7775	MCPA	8/22/2019	YE		EPA 8151	µg/kg	<1000	<419		Acceptable
7780	MCPP	8/22/2019	YE		EPA 8151	µg/kg	<1000	<312		Acceptable
6500	4-Nitrophenol					µg/kg	671		67.1 - 974	NR
8645	Picloram	8/22/2019	YE		EPA 8151	µg/kg	<100	<5.91		Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
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Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
HW0719	229	227	99.1%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Metals (PT-MET-SOIL) — Lot #: 7075-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	1/31/2019	IN		EPA 6010	mg/kg	11000	11800	6330 - 17400	Acceptable
1005	Antimony	1/31/2019	IN		EPA 6010	mg/kg	90.7	80.7	9.07 - 124	Acceptable
1010	Arsenic	1/31/2019	IN		EPA 6010	mg/kg	379	333	227 - 422	Acceptable
1015	Barium	1/31/2019	IN		EPA 6010	mg/kg	252	234	167 - 278	Acceptable
1020	Beryllium	1/31/2019	IN		EPA 6010	mg/kg	250	234	161 - 275	Acceptable
1025	Boron	1/31/2019	IN		EPA 6010	mg/kg	436	369	210 - 490	Acceptable
1030	Cadmium	1/31/2019	IN		EPA 6010	mg/kg	314	271	201 - 345	Acceptable
1035	Calcium	1/31/2019	IN		EPA 6010	mg/kg	7700	7750	5460 - 9200	Acceptable
1040	Chromium	1/31/2019	IN		EPA 6010	mg/kg	48.6	41.8	30.5 - 56.6	Acceptable
1050	Cobalt	1/31/2019	IN		EPA 6010	mg/kg	351	318	225 - 386	Acceptable
1055	Copper	1/31/2019	IN		EPA 6010	mg/kg	327	290	210 - 360	Acceptable
1070	Iron	1/31/2019	IN		EPA 6010	mg/kg	16800	16300	5850 - 25100	Acceptable
1075	Lead	1/31/2019	IN		EPA 6010	mg/kg	322	273	203 - 354	Acceptable
1085	Magnesium	1/31/2019	IN		EPA 6010	mg/kg	4780	4590	3070 - 5680	Acceptable
1090	Manganese	1/31/2019	IN		EPA 6010	mg/kg	1300	1170	890 - 1430	Acceptable
1095	Mercury	1/31/2019	EN		EPA 7471	mg/kg	1.99	2.37	1.05 - 2.46	Acceptable
1100	Molybdenum	1/31/2019	IN		EPA 6010	mg/kg	84.4	73.7	49.0 - 92.9	Acceptable
1105	Nickel	1/31/2019	IN		EPA 6010	mg/kg	131	117	77.7 - 144	Acceptable
1125	Potassium	1/31/2019	IN		EPA 6010	mg/kg	8450	6810	5290 - 9870	Acceptable
1140	Selenium	1/31/2019	IN		EPA 6010	mg/kg	256	212	149 - 284	Acceptable
1150	Silver	1/31/2019	IN		EPA 6010	mg/kg	82.9	72.0	50.2 - 91.7	Acceptable
1155	Sodium	1/31/2019	IN		EPA 6010	mg/kg	6740	5230	3900 - 7590	Acceptable
1160	Strontium	1/31/2019	IN		EPA 6010	mg/kg	338	311	219 - 376	Acceptable
1165	Thallium	1/31/2019	IN		EPA 6010	mg/kg	119	95.0	67.0 - 132	Acceptable
1175	Tin	1/31/2019	IN		EPA 6010	mg/kg	115	106	56.7 - 143	Acceptable
1185	Vanadium	1/31/2019	IN		EPA 6010	mg/kg	224	207	143 - 246	Acceptable
1190	Zinc	1/31/2019	IN		EPA 6010	mg/kg	730	638	433 - 804	Acceptable
Additional State Specific Analytes										
1080	Lithium	2/5/2019	IN		EPA 6010	mg/kg	1070	938	610 - 1200	Acceptable

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Metals (PT-MET-SOIL) cont'd — Lot #: 7075-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
1180	Titanium	1/31/2019	IN		EPA 6010	mg/kg	757	653	64.8 - 1300	Acceptable
3055	Uranium	2/6/2019	IN		EPA 6010	mg/kg	41.3	32.9	26.5 - 45.6	Acceptable

Cyanide (PT-CN-SOIL) — Lot #: 7075-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Cyanide, total	3/5/2019	SA		EPA 9012	mg/kg	144	122	45.1 - 165	Acceptable

Corrosivity-pH (PT-CORR-SOIL) — Lot #: 7075-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1625	Corrosivity (pH)	2/8/2019	AR		EPA 9045	Units	6.33	6.82	5.73 - 6.93	Acceptable

Flash Point (PT-FP-SOIL) — Lot #: 7075-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1780	Ignitability (Flashpoint)	3/6/2019	SA		EPA 1010	°F	117	110	100 - 134	Acceptable

Anions (PT-AN-SOIL) — Lot #: 7075-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1540	Bromide	3/7/2019	OC		EPA 9056	mg/kg	17.2	14.3	11.3 - 22.2	Acceptable
1575	Chloride	3/1/2019	OC		EPA 9056	mg/kg	869	826	642 - 1160	Acceptable
1730	Fluoride	3/2/2019	OC		EPA 9056	mg/kg	436	153	74.1 - 480	Acceptable
1810	Nitrate as N	3/2/2019	OC		EPA 9056	mg/kg	493	473	387 - 602	Acceptable
2000	Sulfate	3/1/2019	OC		EPA 9056	mg/kg	399	342	217 - 566	Acceptable
Additional State Specific Analytes										
1870	Orthophosphate as P	3/1/2019	OC		EPA 9056	mg/kg	373	94.7	37.3 - 410	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0119

Opening Date: January 28, 2019 - Closing Date: March 14, 2019

Laboratory: Florida Spectrum Environmental - Main
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USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Nutrients (PT-NUT-SOIL) — Lot #: 7075-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	3/7/2019	SA		EPA 350.1	mg/kg	2040	1490	1190 - 2440	Acceptable
1795	Total Kjeldahl Nitrogen(TKN)	3/8/2019	EP		EPA 351.2	mg/kg	2820	2440	1510 - 3820	Acceptable
1910	Total Phosphorous	3/8/2019	EP		EPA 365.4	mg/kg	1020	1050	248 - 1750	Acceptable
Additional State Specific Analytes										
2040	Total Organic Carbon(TOC)					mg/kg	6850		714 - 14500	NR

Oil & Grease (PT-OGR-SOIL) — Lot #: 7075-94

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	3/7/2019	SA		EPA 9071	mg/kg	633	658	63.3 - 1140	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/kg	772		77.2 - 1390	NR

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EPA Lab ID: FL00095

Volatiles (PT-VOA-SOIL) — Lot #: 7075-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	3/7/2019	JF		EPA 8260	µg/kg	697	689	70.5 - 1080	Acceptable
4375	Benzene	3/7/2019	JF		EPA 8260	µg/kg	46.3	55.1	30.1 - 62.5	Acceptable
4395	Bromodichloromethane	3/7/2019	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
4400	Bromoform	3/7/2019	JF		EPA 8260	µg/kg	<11	<11.0		Acceptable
4410	2-Butanone (MEK)	3/7/2019	JF		EPA 8260	µg/kg	118	126	17.3 - 194	Acceptable
4455	Carbon tetrachloride	3/7/2019	JF		EPA 8260	µg/kg	<10	<10.0		Acceptable
4475	Chlorobenzene	3/7/2019	JF		EPA 8260	µg/kg	119	141	59.7 - 179	Acceptable
4575	Chlorodibromomethane	3/7/2019	JF		EPA 8260	µg/kg	196	170	118 - 274	Acceptable
4505	Chloroform	3/7/2019	JF		EPA 8260	µg/kg	177	161	106 - 248	Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	3/7/2019	JF		EPA 8260	µg/kg	97.6	113	48.8 - 146	Acceptable
4585	1,2-Dibromoethane (EDB)	3/7/2019	JF		EPA 8260	µg/kg	56.7	71.8	36.8 - 76.5	Acceptable
4610	1,2-Dichlorobenzene	3/7/2019	JF		EPA 8260	µg/kg	27.3	32.6	16.4 - 38.2	Acceptable
4615	1,3-Dichlorobenzene	3/7/2019	JF		EPA 8260	µg/kg	63.4	69.4	38.0 - 88.8	Acceptable
4620	1,4-Dichlorobenzene	3/7/2019	JF		EPA 8260	µg/kg	154	134	92.4 - 216	Acceptable
4630	1,1-Dichloroethane	3/7/2019	JF		EPA 8260	µg/kg	81.1	83.3	48.6 - 113	Acceptable
4635	1,2-Dichloroethane	3/7/2019	JF		EPA 8260	µg/kg	121	141	72.8 - 170	Acceptable
4640	1,1-Dichloroethene	3/7/2019	JF		EPA 8260	µg/kg	101	144	50.5 - 151	Acceptable
4645	cis-1,2-Dichloroethene	3/7/2019	JF		EPA 8260	µg/kg	157	133	93.9 - 219	Acceptable
4700	trans-1,2-Dichloroethene	3/7/2019	JF		EPA 8260	µg/kg	172	142	103 - 240	Acceptable
4655	1,2-Dichloropropane	3/7/2019	JF		EPA 8260	µg/kg	119	147	77.4 - 161	Acceptable
4680	cis-1,3-Dichloropropene	3/7/2019	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
4685	trans-1,3-Dichloropropene	3/7/2019	JF		EPA 8260	µg/kg	73.6	78.4	40.5 - 107	Acceptable
4765	Ethylbenzene	3/7/2019	JF		EPA 8260	µg/kg	107	144	64.1 - 150	Acceptable
4860	2-Hexanone	3/7/2019	JF		EPA 8260	µg/kg	235	465	117 - 352	Not Acceptable
4975	Methylene chloride (Dichloromethane)	3/7/2019	JF		EPA 8260	µg/kg	<10	<10.0		Acceptable
5000	Methyl-tert-butyl ether (MTBE)	3/7/2019	JF		EPA 8260	µg/kg	34.8	44.0	20.9 - 48.7	Acceptable
4995	4-Methyl-2-pentanone (MIBK)	3/7/2019	JF		EPA 8260	µg/kg	408	270	204 - 613	Acceptable
5005	Naphthalene	3/7/2019	JF		EPA 8260	µg/kg	159	152	79.7 - 239	Acceptable
5100	Styrene	3/7/2019	JF		EPA 8260	µg/kg	102	137	66.6 - 138	Acceptable

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9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7075-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5105	1,1,1,2-Tetrachloroethane	3/7/2019	JF		EPA 8260	µg/kg	<12	<12.0		Acceptable
5110	1,1,2,2-Tetrachloroethane	3/7/2019	JF		EPA 8260	µg/kg	196	184	108 - 284	Acceptable
5115	Tetrachloroethene	3/7/2019	JF		EPA 8260	µg/kg	180	147	89.8 - 269	Acceptable
5140	Toluene	3/7/2019	JF		EPA 8260	µg/kg	114	125	73.9 - 153	Acceptable
5155	1,2,4-Trichlorobenzene	3/7/2019	JF		EPA 8260	µg/kg	<16	<16.0		Acceptable
5160	1,1,1-Trichloroethane	3/7/2019	JF		EPA 8260	µg/kg	115	136	63.3 - 167	Acceptable
5165	1,1,2-Trichloroethane	3/7/2019	JF		EPA 8260	µg/kg	<14	<14.0		Acceptable
5170	Trichloroethene	3/7/2019	JF		EPA 8260	µg/kg	36.8	45.6	22.1 - 51.5	Acceptable
5180	1,2,3-Trichloropropane	3/7/2019	JF		EPA 8260	µg/kg	177	158	88.5 - 266	Acceptable
5260	Xylenes, total	3/7/2019	JF		EPA 8260	µg/kg	358	373	197 - 518	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	3/7/2019	JF		EPA 8260	µg/kg	<200	<28.6		Acceptable
4325	Acrolein	3/7/2019	JF		EPA 8260	µg/kg	<20	<12.2		Acceptable
4340	Acrylonitrile	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.01		Acceptable
4385	Bromobenzene	3/7/2019	JF		EPA 8260	µg/kg	47.8	60.7	27.4 - 68.6	Acceptable
4390	Bromochloromethane	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.01		Acceptable
4950	Bromomethane	3/7/2019	JF		EPA 8260	µg/kg	<80	<2.13		Acceptable
4435	n-Butylbenzene	3/7/2019	JF		EPA 8260	µg/kg	162	135	77.2 - 255	Acceptable
4440	sec-Butylbenzene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.12		Acceptable
4445	tert-Butylbenzene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.09		Acceptable
4450	Carbon disulfide	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.57		Acceptable
4465	Chloroacetaldehyde					µg/kg	<20			NR
4485	Chloroethane	3/7/2019	JF		EPA 8260	µg/kg	<80	<1.22		Acceptable
5765	bis(2-Chloroethyl)ether					µg/kg	<20			NR
5760	bis(2-Chloroethoxy)methane					µg/kg	<20			NR
4659	2,2'-Oxybis(1-Chloropropane)					µg/kg	<20			NR
4500	2-Chloroethylvinylether	3/7/2019	JF		EPA 8260	µg/kg	<20	<5.75		Acceptable
4960	Chloromethane	3/7/2019	JF		EPA 8260	µg/kg	<80	<1.20		Acceptable
4535	2-Chlorotoluene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.01		Acceptable

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Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7075-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4540	4-Chlorotoluene	3/7/2019	JF		EPA 8260	µg/kg	28.4	29.3	15.5 - 42.9	Acceptable
4595	Dibromomethane	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.01		Acceptable
4625	Dichlorodifluoromethane	3/7/2019	JF		EPA 8260	µg/kg	<80	<1.98		Acceptable
4660	1,3-Dichloropropane	3/7/2019	JF		EPA 8260	µg/kg	45.5	55.0	31.7 - 61.7	Acceptable
4665	2,2-Dichloropropane	3/7/2019	JF		EPA 8260	µg/kg	94.8	118	44.6 - 155	Acceptable
4670	1,1-Dichloropropene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.07		Acceptable
9375	DIPE					µg/kg	<20			NR
4840	Hexachloroethane					µg/kg	<20			NR
4835	Hexachlorobutadiene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.33		Acceptable
4900	Isopropylbenzene	3/7/2019	JF		EPA 8260	µg/kg	<40	<1.16		Acceptable
4910	p-Isopropyltoluene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.18		Acceptable
5090	n-Propylbenzene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.07		Acceptable
4370	TAME					µg/kg	<20			NR
5150	1,2,3-Trichlorobenzene	3/7/2019	JF		EPA 8260	µg/kg	<20	<2.64		Acceptable
5175	Trichlorofluoromethane	3/7/2019	JF		EPA 8260	µg/kg	<80	<1.01		Acceptable
5210	1,2,4-Trimethylbenzene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.14		Acceptable
5215	1,3,5-Trimethylbenzene	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.07		Acceptable
5225	Vinyl acetate	3/7/2019	JF		EPA 8260	µg/kg	<20	<1.69		Acceptable
5235	Vinyl chloride	3/7/2019	JF		EPA 8260	µg/kg	<80	<1.01		Acceptable
5250	o-Xylene	3/7/2019	JF		EPA 8260	µg/kg	177	156	97.2 - 256	Acceptable
5240	m+p-Xylene	3/7/2019	JF		EPA 8260	µg/kg	181	217	99.5 - 262	Acceptable

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9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) — Lot #: 7075-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5505	Acenaphthylene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5555	Anthracene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5575	Benzo(a)anthracene	2/12/2019	YE		EPA 8270	µg/kg	1130	970	405 - 1470	Acceptable
5585	Benzo(b)fluoranthene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5600	Benzo(k)fluoranthene	2/12/2019	YE		EPA 8270	µg/kg	2480	1930	790 - 3140	Acceptable
5590	Benzo(g,h,i)perylene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5580	Benzo(a)pyrene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5660	4-Bromophenyl-phenylether	2/12/2019	YE		EPA 8270	µg/kg	12200	9800	3930 - 15400	Acceptable
5670	Butyl benzyl phthalate	2/12/2019	YE		EPA 8270	µg/kg	11100	11200	3380 - 15100	Acceptable
5700	4-Chloro-3-methylphenol	2/12/2019	YE		EPA 8270	µg/kg	13100	8300	3060 - 14400	Acceptable
5760	Bis(2-chloroethoxy)methane	2/12/2019	YE		EPA 8270	µg/kg	3460	2670	683 - 3900	Acceptable
5765	bis(2-Chloroethyl)ether	2/12/2019	YE		EPA 8270	µg/kg	9380	6400	1580 - 10400	Acceptable
5795	2-Chloronaphthalene	2/12/2019	YE		EPA 8270	µg/kg	3990	3230	949 - 4660	Acceptable
5800	2-Chlorophenol	2/12/2019	YE		EPA 8270	µg/kg	10300	6540	1580 - 11300	Acceptable
5825	4-Chlorophenyl-phenylether	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	2/12/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
5855	Chrysene	2/12/2019	YE		EPA 8270	µg/kg	2430	2140	871 - 2870	Acceptable
5895	Dibenzo(a,h)anthracene	2/12/2019	YE		EPA 8270	µg/kg	1950	1560	436 - 2670	Acceptable
5905	Dibenzofuran	2/12/2019	YE		EPA 8270	µg/kg	7220	6420	2390 - 8260	Acceptable
5925	Di-n-butylphthalate	2/12/2019	YE		EPA 8270	µg/kg	9400	9360	2490 - 13000	Acceptable
4610	1,2-Dichlorobenzene	2/12/2019	YE		EPA 8270	µg/kg	4340	2870	434 - 4780	Acceptable
4615	1,3-Dichlorobenzene	2/12/2019	YE		EPA 8270	µg/kg	11800	7580	1180 - 13000	Acceptable
4620	1,4-Dichlorobenzene	2/12/2019	YE		EPA 8270	µg/kg	11400	7340	1140 - 12500	Acceptable
6000	2,4-Dichlorophenol	2/12/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6070	Diethylphthalate	2/12/2019	YE		EPA 8270	µg/kg	11700	11600	3700 - 14400	Acceptable
6135	Dimethylphthalate	2/12/2019	YE		EPA 8270	µg/kg	2160	1850	603 - 2710	Acceptable
6185	2,4-Dinitrotoluene	2/12/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6190	2,6-Dinitrotoluene	2/12/2019	YE		EPA 8270	µg/kg	12600	11200	4300 - 14700	Acceptable

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Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7075-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6200	Di-n-octylphthalate	2/12/2019	YE		EPA 8270	µg/kg	8950	8910	2200 - 13100	Acceptable
6065	Bis(2-ethylhexyl)phthalate	2/12/2019	YE		EPA 8270	µg/kg	5350	5520	1320 - 7510	Acceptable
6265	Fluoranthene	2/12/2019	YE		EPA 8270	µg/kg	1150	1030	332 - 1610	Acceptable
6270	Fluorene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6275	Hexachlorobenzene	2/12/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
4835	Hexachlorobutadiene	2/12/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
4840	Hexachloroethane	2/12/2019	YE		EPA 8270	µg/kg	15000	10100	1500 - 16400	Acceptable
6315	Indeno(1,2,3-cd)pyrene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6320	Isophorone	2/12/2019	YE		EPA 8270	µg/kg	12800	11500	3220 - 15100	Acceptable
6385	2-Methylnaphthalene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6400	2-Methylphenol	2/12/2019	YE		EPA 8270	µg/kg	<300	<300		Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	2/12/2019	YE		EPA 8270	µg/kg	<300	<300		Acceptable
5005	Naphthalene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5015	Nitrobenzene	2/12/2019	YE		EPA 8270	µg/kg	9990	6830	2220 - 11500	Acceptable
6490	2-Nitrophenol	2/12/2019	YE		EPA 8270	µg/kg	9370	7520	1450 - 10800	Acceptable
6500	4-Nitrophenol	2/12/2019	YE		EPA 8270	µg/kg	11500	2970	1150 - 15300	Acceptable
6545	N-Nitroso-di-n-propylamine	2/12/2019	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6605	Pentachlorophenol	2/12/2019	YE		EPA 8270	µg/kg	12100	3500	1210 - 13300	Acceptable
6615	Phenanthrene	2/12/2019	YE		EPA 8270	µg/kg	1390	1200	497 - 1730	Acceptable
6625	Phenol	2/12/2019	YE		EPA 8270	µg/kg	6290	4280	1020 - 6920	Acceptable
6665	Pyrene	2/12/2019	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5155	1,2,4-Trichlorobenzene	2/12/2019	YE		EPA 8270	µg/kg	3680	2300	368 - 4040	Acceptable
6835	2,4,5-Trichlorophenol	2/12/2019	YE		EPA 8270	µg/kg	11700	7780	2460 - 13900	Acceptable
6840	2,4,6-Trichlorophenol	2/12/2019	YE		EPA 8270	µg/kg	13000	8120	2840 - 14300	Acceptable
Additional State Specific Analytes										
5145	2-Amino-1-methylbenzene					µg/kg	<500			NR
5545	Aniline	2/12/2019	YE		EPA 8270	µg/kg	<500	<50.4		Acceptable
5595	Benzidine	2/12/2019	YE		EPA 8270	µg/kg	<500	<44.1		Acceptable
5610	Benzoic acid					µg/kg	<500			NR

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Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7075-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
5625	Benzotrichloride					µg/kg	<500			NR
5630	Benzyl alcohol	2/12/2019	YE		EPA 8270	µg/kg	<500	<85.8		Acceptable
5635	Benzyl chloride					µg/kg	<500			NR
5680	Carbazole	2/12/2019	YE		EPA 8270	µg/kg	<500	<35.1		Acceptable
5745	4-Chloroaniline	2/12/2019	YE		EPA 8270	µg/kg	<500	<63.0		Acceptable
5790	1-Chloronaphthalene					µg/kg	<500			NR
5945	3,3'-Dichlorobenzidine	2/12/2019	YE		EPA 8270	µg/kg	<500	<81.0		Acceptable
6005	2,6-Dichlorophenol	2/12/2019	YE		EPA 8270	µg/kg	<1500	<120		Acceptable
6130	2,4-Dimethylphenol	2/12/2019	YE		EPA 8270	µg/kg	<3000	<130		Acceptable
6175	2,4-Dinitrophenol	2/12/2019	YE		EPA 8270	µg/kg	<3000	<31.8		Acceptable
6280	Hexachlorocyclohexane					µg/kg	<500			NR
6285	Hexachlorocyclopentadiene	2/12/2019	YE		EPA 8270	µg/kg	<1500	<19.6		Acceptable
6360	2-Methyl-4,6-Dinitrophenol	2/12/2019	YE		EPA 8270	µg/kg	<3000	<33.0		Acceptable
6460	2-Nitroaniline	2/12/2019	YE		EPA 8270	µg/kg	<500	<60.3		Acceptable
6465	3-Nitroaniline	2/12/2019	YE		EPA 8270	µg/kg	<500	<57.0		Acceptable
6470	4-Nitroaniline	2/12/2019	YE		EPA 8270	µg/kg	<500	<57.3		Acceptable
6495	3-Nitrophenol					µg/kg	<500			NR
6525	N-Nitrosodiethylamine					µg/kg	<1500			NR
6530	N-Nitrosodimethylamine	2/12/2019	YE		EPA 8270	µg/kg	<1500	<55.2		Acceptable
6535	N-Nitrosodiphenylamine	2/12/2019	YE		EPA 8270	µg/kg	<1500	<83.1		Acceptable
6590	Pentachlorobenzene					µg/kg	<500			NR
5095	Pyridine	2/12/2019	YE		EPA 8270	µg/kg	<500	<61.2		Acceptable
6705	1,2,3,4-Tetrachlorobenzene					µg/kg	<500			NR
6710	1,2,3,5-Tetrachlorobenzene					µg/kg	<500			NR
6715	1,2,4,5-Tetrachlorobenzene					µg/kg	<500			NR
6730	2,3,4,5-Tetrachlorophenol					µg/kg	<500			NR
6735	2,3,4,6-Tetrachlorophenol	2/12/2019	YE		EPA 8270	µg/kg	<500	<112		Acceptable
5150	1,2,3-Trichlorobenzene					µg/kg	<500			NR

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Final Report - Soil / Hazardous Waste PT

Study: HW0119

Opening Date: January 28, 2019 - Closing Date: March 14, 2019

Laboratory: Florida Spectrum Environmental - Main
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EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7075-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6800	1,3,5-Trichlorobenzene					µg/kg	<500			NR

Pesticides (PT-PEST-SOIL) — Lot #: 7075-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	2/5/2019	AC		EPA 8081	µg/kg	441	302	135 - 580	Acceptable
7110	alpha-BHC	2/5/2019	AC		EPA 8081	µg/kg	473	292	143 - 620	Acceptable
7115	beta-BHC	2/5/2019	AC		EPA 8081	µg/kg	197	148	45.5 - 273	Acceptable
7105	delta-BHC	2/5/2019	AC		EPA 8081	µg/kg	143	98.4	28.1 - 203	Acceptable
7120	gamma-BHC (Lindane)	2/5/2019	AC		EPA 8081	µg/kg	399	274	119 - 545	Acceptable
7240	alpha-Chlordane					µg/kg	80.2		27.7 - 109	NR
7245	gamma-Chlordane					µg/kg	68.0		23.6 - 95.4	NR
7355	4,4'-DDD	2/5/2019	AC		EPA 8081	µg/kg	216	134	65.9 - 303	Acceptable
7360	4,4'-DDE	2/5/2019	AC		EPA 8081	µg/kg	298	190	103 - 410	Acceptable
7365	4,4'-DDT	2/5/2019	AC		EPA 8081	µg/kg	195	125	42.7 - 267	Acceptable
7470	Dieldrin	2/5/2019	AC		EPA 8081	µg/kg	319	224	121 - 414	Acceptable
7510	Endosulfan I	2/5/2019	AC		EPA 8081	µg/kg	94.6	66.0	16.5 - 123	Acceptable
7515	Endosulfan II	2/5/2019	AC		EPA 8081	µg/kg	283	185	73.3 - 350	Acceptable
7520	Endosulfan sulfate	2/5/2019	AC		EPA 8081	µg/kg	325	180	67.6 - 448	Acceptable
7540	Endrin	2/5/2019	AC		EPA 8081	µg/kg	238	181	90.2 - 302	Acceptable
7530	Endrin aldehyde	2/5/2019	AC		EPA 8081	µg/kg	288	117	28.8 - 317	Acceptable
7535	Endrin ketone	2/5/2019	AC		EPA 8081	µg/kg	304	152	75.8 - 414	Acceptable
7685	Heptachlor	2/5/2019	AC		EPA 8081	µg/kg	268	189	88.7 - 363	Acceptable
7690	Heptachlor epoxide	2/5/2019	AC		EPA 8081	µg/kg	335	240	125 - 445	Acceptable
7810	Methoxychlor	2/5/2019	AC		EPA 8081	µg/kg	419	224	43.5 - 602	Acceptable

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Chlordane (PT-CHLR-SOIL) — Lot #: 7075-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane	2/6/2019	AC		EPA 8081	µg/kg	132	74.2	30.0 - 199	Acceptable

Toxaphene (PT-TXP-SOIL) — Lot #: 7075-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene	2/5/2019	AC		EPA 8081	µg/kg	1390	650	288 - 1800	Acceptable

PCBs (PT-PCB-SOIL) — Lot #: 7075-17

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	2/5/2019	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8885	Aroclor 1221	2/5/2019	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8890	Aroclor 1232	2/5/2019	AC		EPA 8082	mg/kg	5.00	3.39	0.754 - 6.03	Acceptable
8895	Aroclor 1242	2/5/2019	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8900	Aroclor 1248	2/5/2019	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8905	Aroclor 1254	2/5/2019	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8910	Aroclor 1260	2/5/2019	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
Additional State Specific Analytes										
8870	Total PCBs					mg/kg	5.00		0.660 - 5.54	NR

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Herbicides (PT-HERB-SOIL) — Lot #: 7075-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	2/21/2019	AC		EPA 8151	µg/kg	842	659	84.2 - 1100	Acceptable
8560	2,4-DB	2/21/2019	AC		EPA 8151	µg/kg	770	157	77.0 - 1180	Acceptable
8595	Dicamba	2/21/2019	AC		EPA 8151	µg/kg	487	328	55.0 - 573	Acceptable
8620	Dinoseb	2/21/2019	AC		EPA 8151	µg/kg	676	169	67.6 - 940	Acceptable
6605	Pentachlorophenol	2/21/2019	AC		EPA 8151	µg/kg	334	122	33.4 - 429	Acceptable
8655	2,4,5-T	2/21/2019	AC		EPA 8151	µg/kg	194	115	19.4 - 254	Acceptable
8650	2,4,5-TP (Silvex)	2/21/2019	AC		EPA 8151	µg/kg	132	114	13.2 - 187	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	2/21/2019	AC		EPA 8151	µg/kg	<100	<10.0		Acceptable
8530	Bentazon	2/21/2019	AC		EPA 8151	µg/kg	266	172	26.6 - 386	Acceptable
8540	Chloramben	2/21/2019	AC		EPA 8151	µg/kg	<100	<9.60		Acceptable
8550	Dacthal (DCPA)	2/21/2019	AC		EPA 8151	µg/kg	<100	<7.33		Acceptable
8555	Dalapon	2/21/2019	AC		EPA 8151	µg/kg	<100	<4.74		Acceptable
8600	3,5-Dichlorobenzoic acid	2/21/2019	AC		EPA 8151	µg/kg	426	234	42.6 - 617	Acceptable
8605	Dichloroprop (Dichlorprop)	2/21/2019	AC		EPA 8151	µg/kg	367	179	36.7 - 532	Acceptable
7775	MCPA	2/21/2019	AC		EPA 8151	µg/kg	<1000	<709		Acceptable
7780	MCPP	2/21/2019	AC		EPA 8151	µg/kg	<1000	<524		Acceptable
6500	4-Nitrophenol					µg/kg	651		65.1 - 945	NR
8645	Picloram	2/21/2019	AC		EPA 8151	µg/kg	414	37.3	41.4 - 601	Not Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
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Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
HW0119	229	227	99.1%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Soil / Hazardous Waste PT

Study: HW0718

Opening Date: July 30, 2018 - Closing Date: September 13, 2018

Laboratory: Florida Spectrum Environmental - Main
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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Metals (PT-MET-SOIL) — Lot #: 7073-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	8/7/2018	IN		EPA 6010	mg/kg	11400	10900	5640 - 15800	Acceptable
1005	Antimony	8/7/2018	IN		EPA 6010	mg/kg	161	80.0	16.1 - 199	Acceptable
1010	Arsenic	8/7/2018	IN		EPA 6010	mg/kg	353	296	213 - 395	Acceptable
1015	Barium	8/7/2018	IN		EPA 6010	mg/kg	790	638	518 - 869	Acceptable
1020	Beryllium	8/7/2018	IN		EPA 6010	mg/kg	93.9	79.8	61.4 - 103	Acceptable
1025	Boron	8/7/2018	IN		EPA 6010	mg/kg	537	418	254 - 592	Acceptable
1030	Cadmium	8/7/2018	IN		EPA 6010	mg/kg	258	216	168 - 284	Acceptable
1035	Calcium	8/7/2018	IN		EPA 6010	mg/kg	19900	18500	13400 - 21900	Acceptable
1040	Chromium	8/7/2018	IN		EPA 6010	mg/kg	195	158	118 - 219	Acceptable
1050	Cobalt	8/7/2018	IN		EPA 6010	mg/kg	172	138	112 - 189	Acceptable
1055	Copper	8/7/2018	IN		EPA 6010	mg/kg	260	205	169 - 286	Acceptable
1070	Iron	8/7/2018	IN		EPA 6010	mg/kg	18400	13100	5860 - 25100	Acceptable
1075	Lead	8/7/2018	IN		EPA 6010	mg/kg	136	107	82.9 - 150	Acceptable
1085	Magnesium	8/7/2018	IN		EPA 6010	mg/kg	4550	3730	2710 - 5130	Acceptable
1090	Manganese	8/7/2018	IN		EPA 6010	mg/kg	1320	1020	907 - 1450	Acceptable
1095	Mercury	8/7/2018	EN		EPA 7471	mg/kg	18.4	16.4	9.06 - 21.1	Acceptable
1100	Molybdenum	8/7/2018	IN		EPA 6010	mg/kg	224	183	136 - 247	Acceptable
1105	Nickel	8/7/2018	IN		EPA 6010	mg/kg	466	377	282 - 524	Acceptable
1125	Potassium	8/7/2018	IN		EPA 6010	mg/kg	7300	7090	4450 - 8440	Acceptable
1140	Selenium	8/7/2018	IN		EPA 6010	mg/kg	299	248	178 - 335	Acceptable
1150	Silver	8/7/2018	IN		EPA 6010	mg/kg	33.9	27.4	20.3 - 39.3	Acceptable
1155	Sodium	8/7/2018	IN		EPA 6010	mg/kg	13600	11400	8010 - 15400	Acceptable
1160	Strontium	8/7/2018	IN		EPA 6010	mg/kg	300	221	196 - 336	Acceptable
1165	Thallium	8/7/2018	IN		EPA 6010	mg/kg	271	188	167 - 299	Acceptable
1175	Tin	8/7/2018	IN		EPA 6010	mg/kg	218	205	115 - 262	Acceptable
1185	Vanadium	8/7/2018	IN		EPA 6010	mg/kg	118	90.0	67.2 - 132	Acceptable
1190	Zinc	8/7/2018	IN		EPA 6010	mg/kg	578	422	346 - 643	Acceptable
Additional State Specific Analytes										
1080	Lithium	8/7/2018	IN		EPA 6010	mg/kg	466	489	275 - 541	Acceptable

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Metals (PT-MET-SOIL) cont'd — Lot #: 7073-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
1180	Titanium	8/7/2018	IN		EPA 6010	mg/kg	301	269	26.4 - 532	Acceptable
3055	Uranium	8/7/2018	IN		EPA 6010	mg/kg	82.7	60.3	54.3 - 93.5	Acceptable

Cyanide (PT-CN-SOIL) — Lot #: 7073-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Cyanide, total	9/11/2018	SA		EPA 9012	mg/kg	100	101	33.1 - 128	Acceptable

Corrosivity-pH (PT-CORR-SOIL) — Lot #: 7073-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1625	Corrosivity (pH)	8/8/2018	LLC		EPA 9045	Units	7.60	7.20	7.00 - 8.20	Acceptable

Flash Point (PT-FP-SOIL) — Lot #: 7073-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1780	Ignitability (Flashpoint)	8/24/2018	DGK		EPA 1010	°F	129	110	112 - 146	Not Acceptable

Anions (PT-AN-SOIL) — Lot #: 7073-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1540	Bromide	8/22/2018	DGK		EPA 9056	mg/kg	24.3	11.0	14.1 - 27.0	Not Acceptable
1575	Chloride	8/22/2018	DGK		EPA 9056	mg/kg	583	608	411 - 756	Acceptable
1730	Fluoride	8/22/2018	DGK		EPA 9056	mg/kg	449	225	81.4 - 494	Acceptable
1810	Nitrate as N	8/22/2018	DGK		EPA 9056	mg/kg	177	180	131 - 216	Acceptable
2000	Sulfate	8/22/2018	DGK		EPA 9056	mg/kg	880	918	493 - 1220	Acceptable
Additional State Specific Analytes										
1870	Orthophosphate as P	8/22/2018	DGK		EPA 9056	mg/kg	242	98.5	24.2 - 266	Acceptable

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Nutrients (PT-NUT-SOIL) — Lot #: 7073-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	8/28/2018	YBR		EPA 350.1	mg/kg	2030	2550	1190 - 2440	Not Acceptable
1795	Total Kjeldahl Nitrogen(TKN)	8/22/2018	YBR		EPA 351.2	mg/kg	2820	2670	1530 - 3870	Acceptable
1910	Total Phosphorous	8/22/2018	YBR		EPA 365.4	mg/kg	1460	1810	389 - 2450	Acceptable
Additional State Specific Analytes										
2040	Total Organic Carbon(TOC)					mg/kg	9000		868 - 17600	NR

Oil & Grease (PT-OGR-SOIL) — Lot #: 7073-94

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	8/21/2018	DGK		EPA 9071	mg/kg	1380	1320	422 - 2170	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/kg	1680		515 - 2650	NR

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Volatiles (PT-VOA-SOIL) — Lot #: 7073-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	8/9/2018	BBL		EPA 8260	µg/kg	377	391	37.7 - 609	Acceptable
4375	Benzene	9/4/2018	BBL		EPA 8260	µg/kg	93.1	93.3	60.5 - 126	Acceptable
4395	Bromodichloromethane	8/9/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4400	Bromoform	8/9/2018	BBL		EPA 8260	µg/kg	185	176	102 - 269	Acceptable
4410	2-Butanone (MEK)	8/9/2018	BBL		EPA 8260	µg/kg	260	256	73.6 - 407	Acceptable
4455	Carbon tetrachloride	9/4/2018	BBL		EPA 8260	µg/kg	150	157	75.0 - 225	Acceptable
4475	Chlorobenzene	9/4/2018	BBL		EPA 8260	µg/kg	170	182	84.8 - 254	Acceptable
4575	Chlorodibromomethane	9/4/2018	BBL		EPA 8260	µg/kg	30.4	29.8	18.2 - 42.5	Acceptable
4505	Chloroform	8/9/2018	BBL		EPA 8260	µg/kg	36.6	43.0	22.0 - 51.3	Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	9/4/2018	BBL		EPA 8260	µg/kg	73.2	77.2	36.6 - 110	Acceptable
4585	1,2-Dibromoethane (EDB)	8/9/2018	BBL		EPA 8260	µg/kg	122	125	79.0 - 164	Acceptable
4610	1,2-Dichlorobenzene	8/9/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4615	1,3-Dichlorobenzene	8/9/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4620	1,4-Dichlorobenzene	9/4/2018	BBL		EPA 8260	µg/kg	81.7	81.5	49.0 - 114	Acceptable
4630	1,1-Dichloroethane	8/9/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4635	1,2-Dichloroethane	8/9/2018	BBL		EPA 8260	µg/kg	25.6	26.7	15.4 - 35.9	Acceptable
4640	1,1-Dichloroethene	8/9/2018	BBL		EPA 8260	µg/kg	<10	<10.0		Acceptable
4645	cis-1,2-Dichloroethene	8/9/2018	BBL		EPA 8260	µg/kg	159	64.9	95.1 - 222	Not Acceptable
4700	trans-1,2-Dichloroethene	8/9/2018	BBL		EPA 8260	µg/kg	57.2	<12.0	34.3 - 80.1	Not Acceptable
4655	1,2-Dichloropropane	9/4/2018	BBL		EPA 8260	µg/kg	64.8	68.5	42.1 - 87.4	Acceptable
4680	cis-1,3-Dichloropropene	9/4/2018	BBL		EPA 8260	µg/kg	172	167	103 - 241	Acceptable
4685	trans-1,3-Dichloropropene	8/9/2018	BBL		EPA 8260	µg/kg	<11	<11.0		Acceptable
4765	Ethylbenzene	8/9/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4860	2-Hexanone	9/4/2018	BBL		EPA 8260	µg/kg	322	313	161 - 483	Acceptable
4975	Methylene chloride (Dichloromethane)	8/9/2018	BBL		EPA 8260	µg/kg	<10	<10.0		Acceptable
5000	Methyl-tert-butyl ether (MTBE)	9/4/2018	BBL		EPA 8260	µg/kg	128	104	76.7 - 179	Acceptable
4995	4-Methyl-2-pentanone (MIBK)	8/9/2018	BBL		EPA 8260	µg/kg	<50	<50.0		Acceptable
5005	Naphthalene	9/4/2018	BBL		EPA 8260	µg/kg	171	183	85.4 - 256	Acceptable
5100	Styrene	9/4/2018	BBL		EPA 8260	µg/kg	111	143	71.9 - 149	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0718

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Laboratory: Florida Spectrum Environmental - Main
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Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7073-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5105	1,1,1,2-Tetrachloroethane	9/4/2018	BBL		EPA 8260	µg/kg	107	112	64.4 - 150	Acceptable
5110	1,1,2,2-Tetrachloroethane	8/9/2018	BBL		EPA 8260	µg/kg	<11	<11.0		Acceptable
5115	Tetrachloroethene	9/4/2018	BBL		EPA 8260	µg/kg	112	106	55.9 - 168	Acceptable
5140	Toluene	9/4/2018	BBL		EPA 8260	µg/kg	187	196	122 - 253	Acceptable
5155	1,2,4-Trichlorobenzene	9/4/2018	BBL		EPA 8260	µg/kg	57.3	58.7	22.9 - 91.8	Acceptable
5160	1,1,1-Trichloroethane	8/9/2018	BBL		EPA 8260	µg/kg	63.9	64.2	35.1 - 92.6	Acceptable
5165	1,1,2-Trichloroethane	8/9/2018	BBL		EPA 8260	µg/kg	37.1	41.3	26.0 - 48.2	Acceptable
5170	Trichloroethene	9/4/2018	BBL		EPA 8260	µg/kg	184	173	110 - 258	Acceptable
5180	1,2,3-Trichloropropane	9/4/2018	BBL		EPA 8260	µg/kg	163	158	81.7 - 245	Acceptable
5260	Xylenes, total	9/4/2018	BBL		EPA 8260	µg/kg	274	318	151 - 398	Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	8/9/2018	BBL		EPA 8260	µg/kg	<200	<28.4		Acceptable
4325	Acrolein	8/9/2018	BBL		EPA 8260	µg/kg	<20	<13.8		Acceptable
4340	Acrylonitrile	8/9/2018	BBL		EPA 8260	µg/kg	<20	<5.10		Acceptable
4385	Bromobenzene	9/4/2018	BBL		EPA 8260	µg/kg	49.2	49.9	31.5 - 65.8	Acceptable
4390	Bromochloromethane	8/9/2018	BBL		EPA 8260	µg/kg	<20	<2.85		Acceptable
4950	Bromomethane	8/9/2018	BBL		EPA 8260	µg/kg	<80	<3.30		Acceptable
4435	n-Butylbenzene	9/4/2018	BBL		EPA 8260	µg/kg	120	153	57.3 - 189	Acceptable
4440	sec-Butylbenzene	9/4/2018	BBL		EPA 8260	µg/kg	102	132	58.3 - 152	Acceptable
4445	tert-Butylbenzene	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.30		Acceptable
4450	Carbon disulfide	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.01		Acceptable
4465	Chloroacetaldehyde					µg/kg	<20			NR
4485	Chloroethane	8/9/2018	BBL		EPA 8260	µg/kg	<80	<3.90		Acceptable
5765	bis(2-Chloroethyl)ether					µg/kg	<20			NR
5760	bis(2-Chloroethoxy)methane					µg/kg	<20			NR
4659	2,2'-Oxybis(1-Chloropropane)					µg/kg	<20			NR
4500	2-Chloroethylvinylether	8/9/2018	BBL		EPA 8260	µg/kg	<20	<4.52		Acceptable
4960	Chloromethane	8/9/2018	BBL		EPA 8260	µg/kg	<80	<3.60		Acceptable
4535	2-Chlorotoluene	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.60		Acceptable

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9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7073-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4540	4-Chlorotoluene	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.60		Acceptable
4595	Dibromomethane	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.30		Acceptable
4625	Dichlorodifluoromethane	8/9/2018	BBL		EPA 8260	µg/kg	<80	<2.67		Acceptable
4660	1,3-Dichloropropane	8/9/2018	BBL		EPA 8260	µg/kg	46.9	43.0	32.7 - 63.5	Acceptable
4665	2,2-Dichloropropane	8/9/2018	BBL		EPA 8260	µg/kg	<20	<2.52		Acceptable
4670	1,1-Dichloropropene	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.60		Acceptable
9375	DIPE					µg/kg	<20			NR
4840	Hexachloroethane					µg/kg	<20			NR
4835	Hexachlorobutadiene	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.90		Acceptable
4900	Isopropylbenzene	8/9/2018	BBL		EPA 8260	µg/kg	<40	<3.39		Acceptable
4910	p-Isopropyltoluene	9/4/2018	BBL		EPA 8260	µg/kg	36.7	42.1	20.0 - 56.3	Acceptable
5090	n-Propylbenzene	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.90		Acceptable
4370	TAME					µg/kg	<20			NR
5150	1,2,3-Trichlorobenzene	8/9/2018	BBL		EPA 8260	µg/kg	<20	<3.90		Acceptable
5175	Trichlorofluoromethane	8/9/2018	BBL		EPA 8260	µg/kg	<80	<3.30		Acceptable
5210	1,2,4-Trimethylbenzene	9/4/2018	BBL		EPA 8260	µg/kg	101	110	57.0 - 152	Acceptable
5215	1,3,5-Trimethylbenzene	9/4/2018	BBL		EPA 8260	µg/kg	159	190	97.4 - 238	Acceptable
5225	Vinyl acetate	8/9/2018	BBL		EPA 8260	µg/kg	<20	<1.69		Acceptable
5235	Vinyl chloride	8/9/2018	BBL		EPA 8260	µg/kg	<80	<3.00		Acceptable
5250	o-Xylene	9/4/2018	BBL		EPA 8260	µg/kg	136	164	74.8 - 197	Acceptable
5240	m+p-Xylene	9/4/2018	BBL		EPA 8260	µg/kg	138	154	76.1 - 201	Acceptable

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Base, Neutrals and Acids (PT-BNA-SOIL) — Lot #: 7073-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	8/14/2018	AC		EPA 8270	µg/kg	2930	2330	851 - 3340	Acceptable
5505	Acenaphthylene	8/14/2018	AC		EPA 8270	µg/kg	2580	2470	695 - 3110	Acceptable
5555	Anthracene	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
5575	Benzo(a)anthracene	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
5585	Benzo(b)fluoranthene	8/14/2018	AC		EPA 8270	µg/kg	1570	1400	463 - 2070	Acceptable
5600	Benzo(k)fluoranthene	8/14/2018	AC		EPA 8270	µg/kg	2150	1800	710 - 2830	Acceptable
5590	Benzo(g,h,i)perylene	8/14/2018	AC		EPA 8270	µg/kg	2870	2580	905 - 3870	Acceptable
5580	Benzo(a)pyrene	8/14/2018	AC		EPA 8270	µg/kg	2010	1800	535 - 2660	Acceptable
5660	4-Bromophenyl-phenylether	8/14/2018	AC		EPA 8270	µg/kg	<150	<150		Acceptable
5670	Butyl benzyl phthalate	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
5700	4-Chloro-3-methylphenol	8/14/2018	AC		EPA 8270	µg/kg	<150	<150		Acceptable
5760	Bis(2-chloroethoxy)methane	8/14/2018	AC		EPA 8270	µg/kg	9620	10400	2350 - 10600	Acceptable
5765	bis(2-Chloroethyl)ether	8/14/2018	AC		EPA 8270	µg/kg	3520	1980	352 - 4330	Acceptable
5795	2-Chloronaphthalene	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
5800	2-Chlorophenol	8/14/2018	AC		EPA 8270	µg/kg	7310	4570	1180 - 8040	Acceptable
5825	4-Chlorophenyl-phenylether	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	8/14/2018	AC		EPA 8270	µg/kg	4980	3260	711 - 5730	Acceptable
5855	Chrysene	8/14/2018	AC		EPA 8270	µg/kg	2290	1900	856 - 2830	Acceptable
5895	Dibenzo(a,h)anthracene	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
5905	Dibenzofuran	8/14/2018	AC		EPA 8270	µg/kg	4710	3460	1510 - 5370	Acceptable
5925	Di-n-butylphthalate	8/14/2018	AC		EPA 8270	µg/kg	8940	5940	2390 - 12500	Acceptable
4610	1,2-Dichlorobenzene	8/14/2018	AC		EPA 8270	µg/kg	<150	<150		Acceptable
4615	1,3-Dichlorobenzene	8/14/2018	AC		EPA 8270	µg/kg	7920	5130	792 - 8710	Acceptable
4620	1,4-Dichlorobenzene	8/14/2018	AC		EPA 8270	µg/kg	7080	4170	708 - 7790	Acceptable
6000	2,4-Dichlorophenol	8/14/2018	AC		EPA 8270	µg/kg	<150	<150		Acceptable
6070	Diethylphthalate	8/14/2018	AC		EPA 8270	µg/kg	3850	3260	1220 - 4870	Acceptable
6135	Dimethylphthalate	8/14/2018	AC		EPA 8270	µg/kg	5670	4660	1790 - 7050	Acceptable
6185	2,4-Dinitrotoluene	8/14/2018	AC		EPA 8270	µg/kg	<150	<150		Acceptable
6190	2,6-Dinitrotoluene	8/14/2018	AC		EPA 8270	µg/kg	6870	6070	2340 - 8070	Acceptable

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9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7073-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6200	Di-n-octylphthalate	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
6065	Bis(2-ethylhexyl)phthalate	8/14/2018	AC		EPA 8270	µg/kg	12700	7220	3610 - 17700	Acceptable
6265	Fluoranthene	8/14/2018	AC		EPA 8270	µg/kg	2210	1990	694 - 2940	Acceptable
6270	Fluorene	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
6275	Hexachlorobenzene	8/14/2018	AC		EPA 8270	µg/kg	2420	1940	921 - 2930	Acceptable
4835	Hexachlorobutadiene	8/14/2018	AC		EPA 8270	µg/kg	<150	<150		Acceptable
4840	Hexachloroethane	8/14/2018	AC		EPA 8270	µg/kg	7360	4960	736 - 8120	Acceptable
6315	Indeno(1,2,3-cd)pyrene	8/14/2018	AC		EPA 8270	µg/kg	2380	1690	391 - 3220	Acceptable
6320	Isophorone	8/14/2018	AC		EPA 8270	µg/kg	3780	3300	834 - 4550	Acceptable
6385	2-Methylnaphthalene	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
6400	2-Methylphenol	8/14/2018	AC		EPA 8270	µg/kg	<300	<300		Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	8/14/2018	AC		EPA 8270	µg/kg	<300	<300		Acceptable
5005	Naphthalene	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
5015	Nitrobenzene	8/14/2018	AC		EPA 8270	µg/kg	<150	<150		Acceptable
6490	2-Nitrophenol	8/14/2018	AC		EPA 8270	µg/kg	8750	6330	1300 - 9730	Acceptable
6500	4-Nitrophenol	8/14/2018	AC		EPA 8270	µg/kg	12900	7180	1290 - 17600	Acceptable
6545	N-Nitroso-di-n-propylamine	8/14/2018	AC		EPA 8270	µg/kg	<150	<150		Acceptable
6605	Pentachlorophenol	8/14/2018	AC		EPA 8270	µg/kg	13700	8610	1370 - 15000	Acceptable
6615	Phenanthrene	8/14/2018	AC		EPA 8270	µg/kg	<100	<100		Acceptable
6625	Phenol	8/14/2018	AC		EPA 8270	µg/kg	13500	8600	2250 - 14800	Acceptable
6665	Pyrene	8/14/2018	AC		EPA 8270	µg/kg	2510	2130	756 - 3330	Acceptable
5155	1,2,4-Trichlorobenzene	8/14/2018	AC		EPA 8270	µg/kg	10800	7800	2360 - 11900	Acceptable
6835	2,4,5-Trichlorophenol	8/14/2018	AC		EPA 8270	µg/kg	8120	5690	1710 - 9780	Acceptable
6840	2,4,6-Trichlorophenol	8/14/2018	AC		EPA 8270	µg/kg	9250	6040	2070 - 10200	Acceptable
Additional State Specific Analytes										
5145	2-Amino-1-methylbenzene					µg/kg	<500			NR
5545	Aniline	8/14/2018	AC		EPA 8270	µg/kg	<500	<50.4		Acceptable
5595	Benzidine	8/14/2018	AC		EPA 8270	µg/kg	<500	<44.1		Acceptable
5610	Benzoic acid					µg/kg	<500			NR

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Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7073-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
5625	Benzotrichloride					µg/kg	<500			NR
5630	Benzyl alcohol	8/14/2018	AC		EPA 8270	µg/kg	<500	<85.8		Acceptable
5635	Benzyl chloride					µg/kg	<500			NR
5680	Carbazole	8/14/2018	AC		EPA 8270	µg/kg	<500	<35.1		Acceptable
5745	4-Chloroaniline	8/14/2018	AC		EPA 8270	µg/kg	<500	<63.0		Acceptable
5790	1-Chloronaphthalene					µg/kg	<500			NR
5945	3,3'-Dichlorobenzidine	8/14/2018	AC		EPA 8270	µg/kg	<500	<81.0		Acceptable
6005	2,6-Dichlorophenol	8/14/2018	AC		EPA 8270	µg/kg	<1500	<120		Acceptable
6130	2,4-Dimethylphenol	8/14/2018	AC		EPA 8270	µg/kg	<3000	<130		Acceptable
6175	2,4-Dinitrophenol	8/14/2018	AC		EPA 8270	µg/kg	<3000	<31.8		Acceptable
6280	Hexachlorocyclohexane					µg/kg	<500			NR
6285	Hexachlorocyclopentadiene	8/14/2018	AC		EPA 8270	µg/kg	<1500	<19.6		Acceptable
6360	2-Methyl-4,6-Dinitrophenol	8/14/2018	AC		EPA 8270	µg/kg	<3000	<33.0		Acceptable
6460	2-Nitroaniline	8/14/2018	AC		EPA 8270	µg/kg	<500	<60.3		Acceptable
6465	3-Nitroaniline	8/14/2018	AC		EPA 8270	µg/kg	<500	<57.0		Acceptable
6470	4-Nitroaniline	8/14/2018	AC		EPA 8270	µg/kg	<500	<57.3		Acceptable
6495	3-Nitrophenol					µg/kg	<500			NR
6525	N-Nitrosodiethylamine					µg/kg	<1500			NR
6530	N-Nitrosodimethylamine	8/14/2018	AC		EPA 8270	µg/kg	<1500	<55.2		Acceptable
6535	N-Nitrosodiphenylamine	8/14/2018	AC		EPA 8270	µg/kg	<1500	<83.1		Acceptable
6590	Pentachlorobenzene					µg/kg	<500			NR
5095	Pyridine	8/14/2018	AC		EPA 8270	µg/kg	<500	<61.2		Acceptable
6705	1,2,3,4-Tetrachlorobenzene					µg/kg	<500			NR
6710	1,2,3,5-Tetrachlorobenzene					µg/kg	<500			NR
6715	1,2,4,5-Tetrachlorobenzene					µg/kg	<500			NR
6730	2,3,4,5-Tetrachlorophenol					µg/kg	<500			NR
6735	2,3,4,6-Tetrachlorophenol	8/14/2018	AC		EPA 8270	µg/kg	<500	<112		Acceptable
5150	1,2,3-Trichlorobenzene					µg/kg	<500			NR

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Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7073-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6800	1,3,5-Trichlorobenzene					µg/kg	<500			NR

Pesticides (PT-PEST-SOIL) — Lot #: 7073-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	8/21/2018	YE		EPA 8081	µg/kg	382	283	115 - 498	Acceptable
7110	alpha-BHC	8/21/2018	YE		EPA 8081	µg/kg	376	267	109 - 486	Acceptable
7115	beta-BHC	8/21/2018	YE		EPA 8081	µg/kg	333	252	92.6 - 429	Acceptable
7105	delta-BHC	8/21/2018	YE		EPA 8081	µg/kg	461	416	132 - 637	Acceptable
7120	gamma-BHC (Lindane)	8/21/2018	YE		EPA 8081	µg/kg	343	262	95.7 - 454	Acceptable
7240	alpha-Chlordane					µg/kg	362		124 - 451	NR
7245	gamma-Chlordane					µg/kg	370		142 - 452	NR
7355	4,4'-DDD	8/21/2018	YE		EPA 8081	µg/kg	389	287	136 - 517	Acceptable
7360	4,4'-DDE	8/21/2018	YE		EPA 8081	µg/kg	432	418	153 - 578	Acceptable
7365	4,4'-DDT	8/21/2018	YE		EPA 8081	µg/kg	315	243	72.6 - 420	Acceptable
7470	Dieldrin	8/21/2018	YE		EPA 8081	µg/kg	417	316	173 - 568	Acceptable
7510	Endosulfan I	8/21/2018	YE		EPA 8081	µg/kg	265	193	58.9 - 291	Acceptable
7515	Endosulfan II	8/21/2018	YE		EPA 8081	µg/kg	272	208	52.0 - 299	Acceptable
7520	Endosulfan sulfate	8/21/2018	YE		EPA 8081	µg/kg	153	165	30.2 - 229	Acceptable
7540	Endrin	8/21/2018	YE		EPA 8081	µg/kg	429	373	179 - 524	Acceptable
7530	Endrin aldehyde	8/21/2018	YE		EPA 8081	µg/kg	451	388	59.6 - 525	Acceptable
7535	Endrin ketone	8/21/2018	YE		EPA 8081	µg/kg	448	424	112 - 588	Acceptable
7685	Heptachlor	8/21/2018	YE		EPA 8081	µg/kg	369	247	111 - 445	Acceptable
7690	Heptachlor epoxide	8/21/2018	YE		EPA 8081	µg/kg	473	415	170 - 593	Acceptable
7810	Methoxychlor	8/21/2018	YE		EPA 8081	µg/kg	452	390	48.2 - 647	Acceptable

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EPA Lab ID: FL00095

Chlordane (PT-CHLR-SOIL) — Lot #: 7073-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane	8/21/2018	YE		EPA 8081	µg/kg	175	187	37.8 - 244	Acceptable

Toxaphene (PT-TXP-SOIL) — Lot #: 7073-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene	8/21/2018	YE		EPA 8081	µg/kg	653	656	195 - 735	Acceptable

PCBs (PT-PCB-SOIL) — Lot #: 7073-17

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	8/22/2018	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8885	Aroclor 1221	8/22/2018	YE		EPA 8082	mg/kg	43.7	37.7	9.79 - 52.1	Acceptable
8890	Aroclor 1232	8/22/2018	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8895	Aroclor 1242	8/22/2018	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8900	Aroclor 1248	8/22/2018	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8905	Aroclor 1254	8/22/2018	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8910	Aroclor 1260	8/22/2018	YE		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
Additional State Specific Analytes										
8870	Total PCBs	8/22/2018	YE		EPA 8082	mg/kg	43.7	<0.100	10.2 - 54.2	Not Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0718

Opening Date: July 30, 2018 - Closing Date: September 13, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Herbicides (PT-HERB-SOIL) — Lot #: 7073-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	8/23/2018	YE		EPA 8151	µg/kg	610	303	61.0 - 914	Acceptable
8560	2,4-DB	8/23/2018	YE		EPA 8151	µg/kg	578	65.4	57.8 - 1030	Acceptable
8595	Dicamba	8/23/2018	YE		EPA 8151	µg/kg	149	82.0	14.9 - 192	Acceptable
8620	Dinoseb	8/23/2018	YE		EPA 8151	µg/kg	281	43.3	28.1 - 402	Acceptable
6605	Pentachlorophenol	8/23/2018	YE		EPA 8151	µg/kg	466	251	46.6 - 611	Acceptable
8655	2,4,5-T	8/23/2018	YE		EPA 8151	µg/kg	710	419	71.0 - 1110	Acceptable
8650	2,4,5-TP (Silvex)	8/23/2018	YE		EPA 8151	µg/kg	280	269	28.0 - 390	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	8/23/2018	YE		EPA 8151	µg/kg	<100	<10.0		Acceptable
8530	Bentazon	8/23/2018	YE		EPA 8151	µg/kg	887	424	88.7 - 1290	Acceptable
8540	Chloramben	8/23/2018	YE		EPA 8151	µg/kg	112	<10.4	3.98 - 163	Acceptable
8550	Dacthal (DCPA)	8/23/2018	YE		EPA 8151	µg/kg	<100	<7.74		Acceptable
8555	Dalapon	8/23/2018	YE		EPA 8151	µg/kg	<100	<5.23		Acceptable
8600	3,5-Dichlorobenzoic acid	8/23/2018	YE		EPA 8151	µg/kg	720	505	72.0 - 1040	Acceptable
8605	Dichloroprop (Dichlorprop)	8/23/2018	YE		EPA 8151	µg/kg	275	132	27.5 - 399	Acceptable
7775	MCPA	8/23/2018	YE		EPA 8151	µg/kg	<1000	<712		Acceptable
7780	MCPP	8/23/2018	YE		EPA 8151	µg/kg	<1000	<526		Acceptable
6500	4-Nitrophenol					µg/kg	671		67.1 - 974	NR
8645	Picloram	8/23/2018	YE		EPA 8151	µg/kg	<100	<7.74		Acceptable

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PT Study Score Report

EPA ID: FL00095
Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
HW0718	230	224	97.4%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

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Final Report - Soil / Hazardous Waste PT

Study: HW0118

Opening Date: January 29, 2018 - Closing Date: March 15, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Metals (PT-MET-SOIL) — Lot #: 7071-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1000	Aluminum	2/13/2018	MAZ		EPA 6010	mg/kg	13000	10900	5510 - 15500	Acceptable
1005	Antimony	2/13/2018	MAZ		EPA 6010	mg/kg	88.0	22.1	8.80 - 125	Acceptable
1010	Arsenic	2/13/2018	MAZ		EPA 6010	mg/kg	45.0	41.9	27.0 - 50.1	Acceptable
1015	Barium	2/13/2018	MAZ		EPA 6010	mg/kg	175	153	114 - 193	Acceptable
1020	Beryllium	2/13/2018	MAZ		EPA 6010	mg/kg	45.0	42.7	30.9 - 51.5	Acceptable
1025	Boron	2/13/2018	MAZ		EPA 6010	mg/kg	89.0	80.0	48.0 - 100	Acceptable
1030	Cadmium	2/13/2018	MAZ		EPA 6010	mg/kg	44.1	40.0	28.4 - 48.5	Acceptable
1035	Calcium	2/13/2018	MAZ		EPA 6010	mg/kg	5190	4690	3290 - 5800	Acceptable
1040	Chromium	2/13/2018	MAZ		EPA 6010	mg/kg	45.1	40.0	28.5 - 52.8	Acceptable
1050	Cobalt	2/13/2018	MAZ		EPA 6010	mg/kg	47.1	43.5	31.7 - 52.9	Acceptable
1055	Copper	2/13/2018	MAZ		EPA 6010	mg/kg	44.0	40.0	30.1 - 50.2	Acceptable
1070	Iron	2/13/2018	MAZ		EPA 6010	mg/kg	17700	15900	5800 - 25000	Acceptable
1075	Lead	2/13/2018	MAZ		EPA 6010	mg/kg	47.1	44.7	28.7 - 61.7	Acceptable
1085	Magnesium	2/13/2018	MAZ		EPA 6010	mg/kg	3240	3000	1820 - 3770	Acceptable
1090	Manganese	2/13/2018	MAZ		EPA 6010	mg/kg	332	281	217 - 366	Acceptable
1095	Mercury	2/14/2018	EN		EPA 7471	mg/kg	3.03	3.61	1.69 - 3.94	Acceptable
1100	Molybdenum	2/13/2018	MAZ		EPA 6010	mg/kg	35.1	30.0	17.0 - 38.6	Acceptable
1105	Nickel	2/13/2018	MAZ		EPA 6010	mg/kg	48.0	44.2	30.9 - 57.3	Acceptable
1125	Potassium	2/13/2018	MAZ		EPA 6010	mg/kg	2570	2420	1430 - 3250	Acceptable
1140	Selenium	2/13/2018	MAZ		EPA 6010	mg/kg	50.4	40.9	23.0 - 59.9	Acceptable
1150	Silver	2/13/2018	MAZ		EPA 6010	mg/kg	23.0	20.3	12.8 - 26.2	Acceptable
1155	Sodium	2/13/2018	MAZ		EPA 6010	mg/kg	594	505	214 - 653	Acceptable
1160	Strontium	2/13/2018	MAZ		EPA 6010	mg/kg	133	96.2	66.4 - 146	Acceptable
1165	Thallium	2/13/2018	MAZ		EPA 6010	mg/kg	48.0	40.3	22.7 - 60.7	Acceptable
1175	Tin	2/13/2018	MAZ		EPA 6010	mg/kg	135	70.7	67.5 - 165	Acceptable
1185	Vanadium	2/13/2018	MAZ		EPA 6010	mg/kg	47.0	40.0	17.7 - 60.3	Acceptable
1190	Zinc	2/13/2018	MAZ		EPA 6010	mg/kg	111	110	75.1 - 139	Acceptable
Additional State Specific Analytes										
1080	Lithium	2/13/2018	MAZ		EPA 6010	mg/kg	158	172	96.8 - 190	Acceptable

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Final Report - Soil / Hazardous Waste PT

Study: HW0118

Opening Date: January 29, 2018 - Closing Date: March 15, 2018

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Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Metals (PT-MET-SOIL) cont'd — Lot #: 7071-04

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
1180	Titanium	2/13/2018	MAZ		EPA 6010	mg/kg	565	375	42.6 - 858	Acceptable
3055	Uranium	2/13/2018	MAZ		EPA 6010	mg/kg	25.1	26.6	19.7 - 33.9	Acceptable

Cyanide (PT-CN-SOIL) — Lot #: 7071-06

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1645	Cyanide, total	3/6/2018	SA		EPA 9012	mg/kg	190	165	69.6 - 240	Acceptable

Corrosivity-pH (PT-CORR-SOIL) — Lot #: 7071-11

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1625	Corrosivity (pH)	3/6/2018	LLC		EPA 9045	Units	7.98	7.83	7.38 - 8.58	Acceptable

Flash Point (PT-FP-SOIL) — Lot #: 7071-10

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1780	Ignitability (Flashpoint)	3/7/2018	DGK		EPA 1010	°F	145	120	128 - 162	Not Acceptable

Anions (PT-AN-SOIL) — Lot #: 7071-08

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1540	Bromide	3/5/2018	SA		EPA 9056	mg/kg	84.7	78.9	59.0 - 102	Acceptable
1575	Chloride	3/5/2018	SA		EPA 9056	mg/kg	773	780	570 - 1030	Acceptable
1730	Fluoride	3/5/2018	SA		EPA 9056	mg/kg	323	255	63.7 - 355	Acceptable
1810	Nitrate as N	3/5/2018	SA		EPA 9056	mg/kg	438	434	345 - 539	Acceptable
2000	Sulfate	3/5/2018	SA		EPA 9056	mg/kg	954	956	526 - 1300	Acceptable
Additional State Specific Analytes										
1870	Orthophosphate as P	3/5/2018	SA		EPA 9056	mg/kg	172	105	17.2 - 190	Acceptable

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USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Nutrients (PT-NUT-SOIL) — Lot #: 7071-09

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1515	Ammonia as N	3/5/2018	SA		EPA 350.1	mg/kg	2880	2740	1750 - 3430	Acceptable
1795	Total Kjeldahl Nitrogen(TKN)	3/1/2018	YBR		EPA 351.2	mg/kg	3670	2890	1860 - 4630	Acceptable
1910	Total Phosphorous	3/1/2018	YBR		EPA 365.4	mg/kg	1870	1840	516 - 3070	Acceptable
Additional State Specific Analytes										
2040	Total Organic Carbon(TOC)					mg/kg	14600		1330 - 27000	NR

Oil & Grease (PT-OGR-SOIL) — Lot #: 7071-94

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
1803	n-Hexane Extractable Material (O&G) (Gravimetric)	3/10/2018	DGK		EPA 9071	mg/kg	1760	2170	581 - 2610	Acceptable
1803	n-Hexane Extractable Material (O&G) (IR)					mg/kg	2150		709 - 3180	NR

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Final Report - Soil / Hazardous Waste PT

Study: HW0118

Opening Date: January 29, 2018 - Closing Date: March 15, 2018

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USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-SOIL) — Lot #: 7071-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
4315	Acetone	3/8/2018	BBL		EPA 8260	µg/kg	663	403	66.3 - 1030	Acceptable
4375	Benzene	3/8/2018	BBL		EPA 8260	µg/kg	174	97.5	113 - 235	Not Acceptable
4395	Bromodichloromethane	3/8/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4400	Bromoform	3/8/2018	BBL		EPA 8260	µg/kg	134	66.5	73.8 - 194	Not Acceptable
4410	2-Butanone (MEK)	3/8/2018	BBL		EPA 8260	µg/kg	246	252	68.3 - 387	Acceptable
4455	Carbon tetrachloride	3/8/2018	BBL		EPA 8260	µg/kg	187	112	93.6 - 281	Acceptable
4475	Chlorobenzene	3/8/2018	BBL		EPA 8260	µg/kg	<10	<10.0		Acceptable
4575	Chlorodibromomethane	3/8/2018	BBL		EPA 8260	µg/kg	82.9	51.3	49.8 - 116	Acceptable
4505	Chloroform	3/8/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4570	1,2-Dibromo-3-chloropropane (DBCP)	3/8/2018	BBL		EPA 8260	µg/kg	<10	<10.0		Acceptable
4585	1,2-Dibromoethane (EDB)	3/8/2018	BBL		EPA 8260	µg/kg	187	108	121 - 252	Not Acceptable
4610	1,2-Dichlorobenzene	3/8/2018	BBL		EPA 8260	µg/kg	81.9	25.1	49.2 - 115	Not Acceptable
4615	1,3-Dichlorobenzene	3/8/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4620	1,4-Dichlorobenzene	3/8/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4630	1,1-Dichloroethane	3/8/2018	BBL		EPA 8260	µg/kg	97.3	60.3	58.4 - 136	Acceptable
4635	1,2-Dichloroethane	3/8/2018	BBL		EPA 8260	µg/kg	148	94.3	89.0 - 208	Acceptable
4640	1,1-Dichloroethene	3/8/2018	BBL		EPA 8260	µg/kg	<10	<10.0		Acceptable
4645	cis-1,2-Dichloroethene	3/8/2018	BBL		EPA 8260	µg/kg	67.1	36.3	40.3 - 94.0	Not Acceptable
4700	trans-1,2-Dichloroethene	3/8/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
4655	1,2-Dichloropropane	3/8/2018	BBL		EPA 8260	µg/kg	101	56.0	65.7 - 136	Not Acceptable
4680	cis-1,3-Dichloropropene	3/8/2018	BBL		EPA 8260	µg/kg	63.5	28.6	38.1 - 88.8	Not Acceptable
4685	trans-1,3-Dichloropropene	3/8/2018	BBL		EPA 8260	µg/kg	27.3	<11.0	15.0 - 39.5	Not Acceptable
4765	Ethylbenzene	3/8/2018	BBL		EPA 8260	µg/kg	76.7	33.9	46.0 - 107	Not Acceptable
4860	2-Hexanone	3/8/2018	BBL		EPA 8260	µg/kg	186	<50.0	92.8 - 278	Not Acceptable
4975	Methylene chloride (Dichloromethane)	3/8/2018	BBL		EPA 8260	µg/kg	160	110	80.1 - 240	Acceptable
5000	Methyl-tert-butyl ether (MTBE)	3/8/2018	BBL		EPA 8260	µg/kg	96.2	49.6	57.7 - 135	Not Acceptable
4995	4-Methyl-2-pentanone (MIBK)	3/8/2018	BBL		EPA 8260	µg/kg	238	<50.0	119 - 357	Not Acceptable
5005	Naphthalene	3/8/2018	BBL		EPA 8260	µg/kg	<20	<20.0		Acceptable
5100	Styrene	3/8/2018	BBL		EPA 8260	µg/kg	67.4	35.5	43.8 - 91.0	Not Acceptable

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Study: HW0118

Opening Date: January 29, 2018 - Closing Date: March 15, 2018

Laboratory: Florida Spectrum Environmental - Main
1460 W. McNab Road
Fort Lauderdale, FL 33309
USA

Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7071-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5105	1,1,1,2-Tetrachloroethane	3/8/2018	BBL		EPA 8260	µg/kg	<12	<12.0		Acceptable
5110	1,1,2,2-Tetrachloroethane	3/8/2018	BBL		EPA 8260	µg/kg	<11	<11.0		Acceptable
5115	Tetrachloroethene	3/8/2018	BBL		EPA 8260	µg/kg	71.8	30.7	35.9 - 108	Not Acceptable
5140	Toluene	3/8/2018	BBL		EPA 8260	µg/kg	166	190	108 - 224	Acceptable
5155	1,2,4-Trichlorobenzene	3/8/2018	BBL		EPA 8260	µg/kg	147	<16.0	58.7 - 235	Not Acceptable
5160	1,1,1-Trichloroethane	3/8/2018	BBL		EPA 8260	µg/kg	167	96.0	92.0 - 243	Acceptable
5165	1,1,2-Trichloroethane	3/8/2018	BBL		EPA 8260	µg/kg	35.7	<14.0	25.0 - 46.4	Not Acceptable
5170	Trichloroethene	3/8/2018	BBL		EPA 8260	µg/kg	62.7	33.2	37.6 - 87.8	Not Acceptable
5180	1,2,3-Trichloropropane	3/8/2018	BBL		EPA 8260	µg/kg	170	99.6	85.1 - 255	Acceptable
5260	Xylenes, total	3/8/2018	BBL		EPA 8260	µg/kg	367	167	202 - 532	Not Acceptable
Additional State Specific Analytes										
4320	Acetonitrile	3/8/2018	BBL		EPA 8260	µg/kg	<200	<28.4		Acceptable
4325	Acrolein	3/8/2018	BBL		EPA 8260	µg/kg	<20	<13.8		Acceptable
4340	Acrylonitrile	3/8/2018	BBL		EPA 8260	µg/kg	<20	<5.10		Acceptable
4385	Bromobenzene	3/8/2018	BBL		EPA 8260	µg/kg	<40	<7.80		Acceptable
4390	Bromochloromethane	3/8/2018	BBL		EPA 8260	µg/kg	<20	<2.85		Acceptable
4950	Bromomethane	3/8/2018	BBL		EPA 8260	µg/kg	<80	<3.30		Acceptable
4435	n-Butylbenzene	3/8/2018	BBL		EPA 8260	µg/kg	<20	<3.60		Acceptable
4440	sec-Butylbenzene	3/8/2018	BBL		EPA 8260	µg/kg	<20	<7.20		Acceptable
4445	tert-Butylbenzene	3/8/2018	BBL		EPA 8260	µg/kg	<20	<3.30		Acceptable
4450	Carbon disulfide	3/8/2018	BBL		EPA 8260	µg/kg	<20	<3.01		Acceptable
4465	Chloroacetaldehyde					µg/kg	<20			NR
4485	Chloroethane	3/8/2018	BBL		EPA 8260	µg/kg	<80	<3.90		Acceptable
5765	bis(2-Chloroethyl)ether					µg/kg	<20			NR
5760	bis(2-Chloroethoxy)methane					µg/kg	<20			NR
4659	2,2'-Oxybis(1-Chloropropane)					µg/kg	<20			NR
4500	2-Chloroethylvinylether	3/8/2018	BBL		EPA 8260	µg/kg	<20	<4.52		Acceptable
4960	Chloromethane	3/8/2018	BBL		EPA 8260	µg/kg	<80	<3.60		Acceptable
4535	2-Chlorotoluene	3/8/2018	BBL		EPA 8260	µg/kg	155	57.9	95.1 - 223	Not Acceptable

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Volatiles (PT-VOA-SOIL) cont'd — Lot #: 7071-12

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
4540	4-Chlorotoluene	3/8/2018	BBL		EPA 8260	µg/kg	82.2	21.7	44.9 - 125	Not Acceptable
4595	Dibromomethane	3/8/2018	BBL		EPA 8260	µg/kg	<20	<3.30		Acceptable
4625	Dichlorodifluoromethane	3/8/2018	BBL		EPA 8260	µg/kg	<80	<2.67		Acceptable
4660	1,3-Dichloropropane	3/8/2018	BBL		EPA 8260	µg/kg	<20	<2.70		Acceptable
4665	2,2-Dichloropropane	3/8/2018	BBL		EPA 8260	µg/kg	<20	<2.52		Acceptable
4670	1,1-Dichloropropene	3/8/2018	BBL		EPA 8260	µg/kg	61.3	28.3	37.5 - 92.8	Not Acceptable
9375	DIPE					µg/kg	39.9		28.3 - 52.5	NR
4840	Hexachloroethane					µg/kg	<20			NR
4835	Hexachlorobutadiene	3/8/2018	BBL		EPA 8260	µg/kg	<20	<3.90		Acceptable
4900	Isopropylbenzene	3/8/2018	BBL		EPA 8260	µg/kg	<40	<3.39		Acceptable
4910	p-Isopropyltoluene	3/8/2018	BBL		EPA 8260	µg/kg	190	46.8	104 - 292	Not Acceptable
5090	n-Propylbenzene	3/8/2018	BBL		EPA 8260	µg/kg	95.2	26.6	57.9 - 140	Not Acceptable
4370	TAME					µg/kg	37.3		25.8 - 49.4	NR
5150	1,2,3-Trichlorobenzene	3/8/2018	BBL		EPA 8260	µg/kg	<20	<3.90		Acceptable
5175	Trichlorofluoromethane	3/8/2018	BBL		EPA 8260	µg/kg	<80	<3.30		Acceptable
5210	1,2,4-Trimethylbenzene	3/8/2018	BBL		EPA 8260	µg/kg	135	42.1	76.7 - 204	Not Acceptable
5215	1,3,5-Trimethylbenzene	3/8/2018	BBL		EPA 8260	µg/kg	<20	<3.60		Acceptable
5225	Vinyl acetate	3/8/2018	BBL		EPA 8260	µg/kg	<20	<1.69		Acceptable
5235	Vinyl chloride	3/8/2018	BBL		EPA 8260	µg/kg	<80	<3.00		Acceptable
5250	o-Xylene	3/8/2018	BBL		EPA 8260	µg/kg	184	86.4	101 - 266	Not Acceptable
5240	m+p-Xylene	3/8/2018	BBL		EPA 8260	µg/kg	184	80.3	101 - 266	Not Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) Lot #: 7071-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
5500	Acenaphthene	2/14/2018	YE		EPA 8270	µg/kg	4450	3680	1340 - 5230	Acceptable
5505	Acenaphthylene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5555	Anthracene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5575	Benzo(a)anthracene	2/14/2018	YE		EPA 8270	µg/kg	4360	3580	1660 - 5260	Acceptable
5585	Benzo(b)fluoranthene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5600	Benzo(k)fluoranthene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5590	Benzo(g,h,i)perylene	2/14/2018	YE		EPA 8270	µg/kg	2820	2500	860 - 3700	Acceptable
5580	Benzo(a)pyrene	2/14/2018	YE		EPA 8270	µg/kg	3070	2140	865 - 3770	Acceptable
5660	4-Bromophenyl-phenylether	2/14/2018	YE		EPA 8270	µg/kg	4220	3560	1300 - 5310	Acceptable
5670	Butyl benzyl phthalate	2/14/2018	YE		EPA 8270	µg/kg	9960	8670	3000 - 13400	Acceptable
5700	4-Chloro-3-methylphenol	2/14/2018	YE		EPA 8270	µg/kg	12200	7120	3220 - 13500	Acceptable
5760	Bis(2-chloroethoxy)methane	2/14/2018	YE		EPA 8270	µg/kg	3900	3100	863 - 4590	Acceptable
5765	bis(2-Chloroethyl)ether	2/14/2018	YE		EPA 8270	µg/kg	4690	3340	643 - 5960	Acceptable
5795	2-Chloronaphthalene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5800	2-Chlorophenol	2/14/2018	YE		EPA 8270	µg/kg	10800	6730	1890 - 12200	Acceptable
5825	4-Chlorophenyl-phenylether	2/14/2018	YE		EPA 8270	µg/kg	11600	10800	3430 - 14900	Acceptable
4659	2,2'-Oxybis(1-Chloropropane)	2/14/2018	YE		EPA 8270	µg/kg	<150	<150		Acceptable
5855	Chrysene	2/14/2018	YE		EPA 8270	µg/kg	4360	3690	1710 - 5320	Acceptable
5895	Dibenzo(a,h)anthracene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5905	Dibenzofuran	2/14/2018	YE		EPA 8270	µg/kg	4090	3450	1320 - 4760	Acceptable
5925	Di-n-butylphthalate	2/14/2018	YE		EPA 8270	µg/kg	6420	6350	1660 - 8850	Acceptable
4610	1,2-Dichlorobenzene	2/14/2018	YE		EPA 8270	µg/kg	6530	3580	653 - 8030	Acceptable
4615	1,3-Dichlorobenzene	2/14/2018	YE		EPA 8270	µg/kg	12900	6390	1290 - 16100	Acceptable
4620	1,4-Dichlorobenzene	2/14/2018	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6000	2,4-Dichlorophenol	2/14/2018	YE		EPA 8270	µg/kg	5650	2860	1150 - 6220	Acceptable
6070	Diethylphthalate	2/14/2018	YE		EPA 8270	µg/kg	8610	8120	2820 - 11000	Acceptable
6135	Dimethylphthalate	2/14/2018	YE		EPA 8270	µg/kg	10100	8850	3280 - 12500	Acceptable
6185	2,4-Dinitrotoluene	2/14/2018	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6190	2,6-Dinitrotoluene	2/14/2018	YE		EPA 8270	µg/kg	<150	<150		Acceptable

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Contact: Mrs. Roxana Llambias, QAD
9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7071-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
6200	Di-n-octylphthalate	2/14/2018	YE		EPA 8270	µg/kg	3620	3120	807 - 5440	Acceptable
6065	Bis(2-ethylhexyl)phthalate	2/14/2018	YE		EPA 8270	µg/kg	6590	5760	1750 - 9440	Acceptable
6265	Fluoranthene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6270	Fluorene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6275	Hexachlorobenzene	2/14/2018	YE		EPA 8270	µg/kg	5620	4990	2190 - 6870	Acceptable
4835	Hexachlorobutadiene	2/14/2018	YE		EPA 8270	µg/kg	<150	<150		Acceptable
4840	Hexachloroethane	2/14/2018	YE		EPA 8270	µg/kg	12600	8030	1260 - 16600	Acceptable
6315	Indeno(1,2,3-cd)pyrene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6320	Isophorone	2/14/2018	YE		EPA 8270	µg/kg	13800	11700	3540 - 16600	Acceptable
6385	2-Methylnaphthalene	2/14/2018	YE		EPA 8270	µg/kg	4160	3320	1060 - 4800	Acceptable
6400	2-Methylphenol	2/14/2018	YE		EPA 8270	µg/kg	<300	<300		Acceptable
6410	4-Methylphenol (and/or 3-Methylphenol)	2/14/2018	YE		EPA 8270	µg/kg	<300	<300		Acceptable
5005	Naphthalene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
5015	Nitrobenzene	2/14/2018	YE		EPA 8270	µg/kg	9790	7080	2330 - 12000	Acceptable
6490	2-Nitrophenol	2/14/2018	YE		EPA 8270	µg/kg	3300	<300	410 - 3630	Not Acceptable
6500	4-Nitrophenol	2/14/2018	YE		EPA 8270	µg/kg	7130	<300	713 - 9190	Not Acceptable
6545	N-Nitroso-di-n-propylamine	2/14/2018	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6605	Pentachlorophenol	2/14/2018	YE		EPA 8270	µg/kg	9490	3970	949 - 10600	Acceptable
6615	Phenanthrene	2/14/2018	YE		EPA 8270	µg/kg	<100	<100		Acceptable
6625	Phenol	2/14/2018	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6665	Pyrene	2/14/2018	YE		EPA 8270	µg/kg	4070	3760	1240 - 5320	Acceptable
5155	1,2,4-Trichlorobenzene	2/14/2018	YE		EPA 8270	µg/kg	2800	1870	293 - 3590	Acceptable
6835	2,4,5-Trichlorophenol	2/14/2018	YE		EPA 8270	µg/kg	<150	<150		Acceptable
6840	2,4,6-Trichlorophenol	2/14/2018	YE		EPA 8270	µg/kg	3800	2020	785 - 4350	Acceptable
Additional State Specific Analytes										
5145	2-Amino-1-methylbenzene					µg/kg	<500			NR
5545	Aniline	2/14/2018	YE		EPA 8270	µg/kg	<500	<50.4		Acceptable
5595	Benzidine	2/14/2018	YE		EPA 8270	µg/kg	<500	<44.1		Acceptable
5610	Benzoic acid					µg/kg	<500			NR

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9549786400

EPA Lab ID: FL00095

Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7071-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
5625	Benzotrichloride					µg/kg	<500			NR
5630	Benzyl alcohol	2/14/2018	YE		EPA 8270	µg/kg	<500	<85.8		Acceptable
5635	Benzyl chloride					µg/kg	<500			NR
5680	Carbazole	2/14/2018	YE		EPA 8270	µg/kg	<500	<35.1		Acceptable
5745	4-Chloroaniline	2/14/2018	YE		EPA 8270	µg/kg	<500	<63.0		Acceptable
5790	1-Chloronaphthalene					µg/kg	<500			NR
5945	3,3'-Dichlorobenzidine	2/14/2018	YE		EPA 8270	µg/kg	<500	<81.0		Acceptable
6005	2,6-Dichlorophenol	2/14/2018	YE		EPA 8270	µg/kg	<1500	<120		Acceptable
6130	2,4-Dimethylphenol	2/14/2018	YE		EPA 8270	µg/kg	<3000	<130		Acceptable
6175	2,4-Dinitrophenol	2/14/2018	YE		EPA 8270	µg/kg	<3000	<31.8		Acceptable
6280	Hexachlorocyclohexane					µg/kg	<500			NR
6285	Hexachlorocyclopentadiene	2/14/2018	YE		EPA 8270	µg/kg	<1500	<19.6		Acceptable
6360	2-Methyl-4,6-Dinitrophenol	2/14/2018	YE		EPA 8270	µg/kg	<3000	<33.0		Acceptable
6460	2-Nitroaniline	2/14/2018	YE		EPA 8270	µg/kg	<500	<60.3		Acceptable
6465	3-Nitroaniline	2/14/2018	YE		EPA 8270	µg/kg	<500	<57.0		Acceptable
6470	4-Nitroaniline	2/14/2018	YE		EPA 8270	µg/kg	<500	<57.3		Acceptable
6495	3-Nitrophenol					µg/kg	<500			NR
6525	N-Nitrosodiethylamine					µg/kg	<1500			NR
6530	N-Nitrosodimethylamine	2/14/2018	YE		EPA 8270	µg/kg	<1500	<55.2		Acceptable
6535	N-Nitrosodiphenylamine	2/14/2018	YE		EPA 8270	µg/kg	<1500	<83.1		Acceptable
6590	Pentachlorobenzene					µg/kg	<500			NR
5095	Pyridine	2/14/2018	YE		EPA 8270	µg/kg	<500	<61.2		Acceptable
6705	1,2,3,4-Tetrachlorobenzene					µg/kg	<500			NR
6710	1,2,3,5-Tetrachlorobenzene					µg/kg	<500			NR
6715	1,2,4,5-Tetrachlorobenzene					µg/kg	<500			NR
6730	2,3,4,5-Tetrachlorophenol					µg/kg	<500			NR
6735	2,3,4,6-Tetrachlorophenol	2/14/2018	YE		EPA 8270	µg/kg	<500	<112		Acceptable
5150	1,2,3-Trichlorobenzene					µg/kg	<500			NR

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Base, Neutrals and Acids (PT-BNA-SOIL) cont'd — Lot #: 7071-13

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
Additional State Specific Analytes cont'd										
6800	1,3,5-Trichlorobenzene					µg/kg	<500			NR

Pesticides (PT-PEST-SOIL) — Lot #: 7071-14

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7025	Aldrin	2/20/2018	AC		EPA 8081	µg/kg	239	175	71.3 - 320	Acceptable
7110	alpha-BHC	2/20/2018	AC		EPA 8081	µg/kg	212	149	55.1 - 269	Acceptable
7115	beta-BHC	2/20/2018	AC		EPA 8081	µg/kg	110	75.3	13.1 - 165	Acceptable
7105	delta-BHC	2/20/2018	AC		EPA 8081	µg/kg	461	284	122 - 593	Acceptable
7120	gamma-BHC (Lindane)	2/20/2018	AC		EPA 8081	µg/kg	97.9	97.2	16.0 - 149	Acceptable
7240	alpha-Chlordane					µg/kg	452		153 - 555	NR
7245	gamma-Chlordane					µg/kg	114		40.2 - 145	NR
7355	4,4'-DDD	2/20/2018	AC		EPA 8081	µg/kg	419	276	141 - 532	Acceptable
7360	4,4'-DDE	2/20/2018	AC		EPA 8081	µg/kg	447	282	153 - 580	Acceptable
7365	4,4'-DDT	2/20/2018	AC		EPA 8081	µg/kg	278	218	63.4 - 373	Acceptable
7470	Dieldrin	2/20/2018	AC		EPA 8081	µg/kg	384	292	150 - 502	Acceptable
7510	Endosulfan I	2/20/2018	AC		EPA 8081	µg/kg	345	247	98.7 - 405	Acceptable
7515	Endosulfan II	2/20/2018	AC		EPA 8081	µg/kg	284	212	75.1 - 357	Acceptable
7520	Endosulfan sulfate	2/20/2018	AC		EPA 8081	µg/kg	362	264	77.9 - 508	Acceptable
7540	Endrin	2/20/2018	AC		EPA 8081	µg/kg	189	145	67.8 - 246	Acceptable
7530	Endrin aldehyde	2/20/2018	AC		EPA 8081	µg/kg	361	216	40.8 - 422	Acceptable
7535	Endrin ketone	2/20/2018	AC		EPA 8081	µg/kg	297	234	72.9 - 400	Acceptable
7685	Heptachlor	2/20/2018	AC		EPA 8081	µg/kg	87.8	67.0	23.2 - 122	Acceptable
7690	Heptachlor epoxide	2/20/2018	AC		EPA 8081	µg/kg	449	296	158 - 553	Acceptable
7810	Methoxychlor	2/20/2018	AC		EPA 8081	µg/kg	415	285	44.1 - 608	Acceptable

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Chlordane (PT-CHLR-SOIL) — Lot #: 7071-15

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
7250	Chlordane	2/20/2018	AC		EPA 8081	µg/kg	827	455	181 - 1080	Acceptable

Toxaphene (PT-TXP-SOIL) — Lot #: 7071-16

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8250	Toxaphene	2/20/2018	AC		EPA 8081	µg/kg	1200	763	127 - 1650	Acceptable

PCBs (PT-PCB-SOIL) — Lot #: 7071-17B

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8880	Aroclor 1016	2/20/2018	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8885	Aroclor 1221	2/20/2018	AC		EPA 8082	mg/kg	6.69	4.56	1.26 - 8.60	Acceptable
8890	Aroclor 1232	2/20/2018	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8895	Aroclor 1242	2/20/2018	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8900	Aroclor 1248	2/20/2018	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8905	Aroclor 1254	2/20/2018	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
8910	Aroclor 1260	2/20/2018	AC		EPA 8082	mg/kg	<0.1	<0.100		Acceptable
Additional State Specific Analytes										
8870	Total PCBs					mg/kg	6.69		1.27 - 8.67	NR

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EPA Lab ID: FL00095

Herbicides (PT-HERB-SOIL) — Lot #: 7071-18

NELAC Code	Analyte	Analysis Date	Analyst	Method Code	Method Description	Units	Assigned Value	Result	Acceptance Limits	Evaluation
8545	2,4-D	2/8/2018	AC		EPA 8151	µg/kg	712	297	71.2 - 1000	Acceptable
8560	2,4-DB	2/8/2018	AC		EPA 8151	µg/kg	684	279	68.4 - 1010	Acceptable
8595	Dicamba	2/8/2018	AC		EPA 8151	µg/kg	289	259	28.9 - 393	Acceptable
8620	Dinoseb	2/8/2018	AC		EPA 8151	µg/kg	541	249	54.1 - 739	Acceptable
6605	Pentachlorophenol	2/8/2018	AC		EPA 8151	µg/kg	193	109	19.3 - 221	Acceptable
8655	2,4,5-T	2/8/2018	AC		EPA 8151	µg/kg	149	143	14.9 - 219	Acceptable
8650	2,4,5-TP (Silvex)	2/8/2018	AC		EPA 8151	µg/kg	464	414	46.4 - 630	Acceptable
Additional State Specific Analytes										
8505	Acifluorfen	2/8/2018	AC		EPA 8151	µg/kg	615	462	61.5 - 893	Acceptable
8530	Bentazon	2/8/2018	AC		EPA 8151	µg/kg	186	141	18.6 - 269	Acceptable
8540	Chloramben	2/8/2018	AC		EPA 8151	µg/kg	<100	<9.69		Acceptable
8550	Dacthal (DCPA)	2/8/2018	AC		EPA 8151	µg/kg	<100	<7.40		Acceptable
8555	Dalapon	2/8/2018	AC		EPA 8151	µg/kg	<100	<4.79		Acceptable
8600	3,5-Dichlorobenzoic acid	2/8/2018	AC		EPA 8151	µg/kg	<100	<9.06		Acceptable
8605	Dichloroprop (Dichlorprop)	2/8/2018	AC		EPA 8151	µg/kg	406	278	40.6 - 589	Acceptable
7775	MCPA	2/8/2018	AC		EPA 8151	µg/kg	<1000	<716		Acceptable
7780	MCPP	2/8/2018	AC		EPA 8151	µg/kg	<1000	<528		Acceptable
6500	4-Nitrophenol					µg/kg	396		39.6 - 575	NR
8645	Picloram	2/8/2018	AC		EPA 8151	µg/kg	754	<7.32	75.4 - 1090	Not Acceptable

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PT Study Score Report

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usa

Study Number	Number of Reported Results	Number of Passing Results	Percent Passing
HW0118	229	199	86.9%

Report Definitions:

Number of Reported Results The number of results reported which could be evaluated. Results receiving an evaluation of "NR" or "No Evaluation" are not included.

Number of Passing Results The number of results reported receiving an evaluation of "Acceptable" or "Check for Error".

Percent Passing The percentage of results reported receiving an evaluation of "Acceptable" or "Check for Error".

RAD-120 Final Evaluation Report

A Waters Company

Roxana Llambias
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EPA ID: FL00095
ERA Customer Number: S599001
Report Issued: 02/24/20
Study Dates: 01/06/20 - 02/20/20

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Z Score	Study Mean	Study Standard Deviation	Analyst Name
RAD GroSS™ Alpha/Beta (cat# 809, lot# R120-759)												
2830	Gross Alpha	pCi/L	31.1	58.9	30.8 - 73.3	Acceptable	EPA 900.0 1980	1/28/2020	-1.67	52.3	12.7	Irena Nutzu
2840	Gross Beta	pCi/L	23.4	21.0	12.6 - 29.1	Acceptable	EPA 900.0 1980	1/28/2020	1.18	19.9	2.92	Irena Nutzu

This report is scored by the criteria in the 2016 TNI Standard, Volume 3, instead of by the criteria in the 2009 TNI Standard to which the Proficiency Testing Provider is accredited. This is a planned change and is endorsed by the TNI Proficiency Testing Program Executive Committee for transition to the 2016 TNI Standard.

CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

RAD-120

Florida Spectrum Environmental Svcs

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 45 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

GroSS™ Alpha/Beta

Matthew Seebeck
Quality Officer

S599001

RAD-118 2009 TNI Evaluation Final Complete Report

Roxana Llambias
QA Director
Florida Spectrum Environmental Svcs
1460 W. McNab Rd.
Ft Lauderdale, FL 33309
954-978-6400

EPA ID: **FL00095**
ERA Customer Number: **S599001**
Report Issued: **08/26/19**
Study Dates: **07/08/19 - 08/22/19**

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Z Score	Study Mean	Study Standard Deviation	Analyst Name
RAD GroSS™ Alpha/Beta (cat# 809, lot# R118-759)												
2830	Gross Alpha	pCi/L	49.3	70.6	37.1 - 87.1	Acceptable	EPA 900.0 1980	7/29/2019	-1.19	67.9	15.6	Irena Nutzu
2840	Gross Beta	pCi/L	63.7	63.9	44.2 - 70.5	Acceptable	EPA 900.0 1980	7/29/2019	0.580	59.6	7.06	Irena Nutzu

CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

RAD-118

Florida Spectrum Environmental Svcs

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 43 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

GroSS™ Alpha/Beta

Matthew Seebeck
Quality Officer

S599001

RAD-116 2009 TNI Evaluation Final Complete Report

Roxana Llambias
QA Director
Florida Spectrum Environmental Svcs
1460 W. McNab Rd.
Ft Lauderdale, FL 33309
954-978-6400

EPA ID: **FL00095**
ERA Customer Number: **S599001**
Report Issued: **02/25/19**
Study Dates: **01/07/19 - 02/21/19**

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Z Score	Study Mean	Study Standard Deviation	Analyst Name
RAD GroSS™ Alpha/Beta (cat# 809, lot# R116-759)												
2830	Gross Alpha	pCi/L	16.8	21.8	10.9 - 29.5	Acceptable	EPA 900.0 GPC 1980	1/25/2019	-0.935	21.5	4.98	Irena Nutzu
2840	Gross Beta	pCi/L	50.0	55.7	38.1 - 62.6	Acceptable	EPA 900.0 GPC 1980	1/25/2019	0.637	46.4	5.71	Irena Nutzu

CERTIFICATE OF EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

RAD-116

Florida Spectrum Environmental Svcs

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 45 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

GroSS™ Alpha/Beta

Matthew Seebeck
Quality Officer

S599001

RAD-114 2009 TNI Evaluation Final Complete Report

Roxana Llambias
QA Director
Florida Spectrum Environmental Svcs
1460 W. McNab Rd.
Ft Lauderdale, FL 33309
954-978-6400

EPA ID: **FL00095**
ERA Customer Number: **S599001**
Report Issued: **08/27/18**
Study Dates: **07/09/18 - 08/23/18**

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Z Score	Study Mean	Study Standard Deviation	Analyst Name
RAD GroSS™ Alpha/Beta (cat# 809, lot# R114-759)												
2830	Gross Alpha	pCi/L	19.2	16.0	7.79 - 22.6	Acceptable	EPA 900.0 GPC 1980	8/7/2018	0.888	16.4	3.17	Irena Nutzu
2840	Gross Beta	pCi/L	24.0	49.0	33.2 - 56.1	Not Acceptable	EPA 900.0 GPC 1980	8/7/2018	-3.74	43.0	5.08	Irena Nutzu

LISTED METHODS IN BID SHEET

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

LISTED METHODS IN BID SHEET

Florida-Spectrum is certified for at least one (1) method per line as it pertains to the sample matrix (as listed for SCOPE A or SCOPE B (SBE only). If Florida-Spectrum must subcontract analysis in rare events as described in Section 2.4.A.2, then we will subcontract the work to a FDOH/NELAP laboratory and provide necessary documentation of such contracted entity.

Any alternate methods that are not listed will be provided in a stand-alone attachment, as per addendum 3.

Florida-Spectrum Environmental Services, Inc.

MANAGERIAL CAPABILITIES

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

MANAGERIAL CAPABILITIES

At **Florida-Spectrum** our managers create a strong workplace and culture which facilitates all employees to grow and engage, and at the same time business goals and objectives are achieved. It includes their leadership qualities, collaborative decision making, and nurturing creativity and innovation. At **Florida-Spectrum** our ability to manage tasks simultaneously and expeditiously shows that we have become one of the leading environmental testing laboratories because we constantly measure our performance against our objectives and learn, adjust and continuously improve.

Our laboratories collectively maintain State and NELAP certifications in order to provide overlap of services and capabilities, this enables us to support one another and successfully manage large scale, and long-term projects. High levels of qualification are maintained through seminars, presentations, in house training, and continuing education. Topics range from the scope and application of standard operating procedures to critical advances in laboratory safety, analytical techniques, instrumental technology and ethics. Our employees are our biggest asset and the Company invests in their training and enhancement.

Our approach to problem/task resolution and teamwork at **Florida-Spectrum Environmental Services, Inc.** is in our business model which is centered on the relationship we build with our clients. Good communication develops trusted partnerships, which in turn leads to successful project management. You are also assigned an Account Executive to provide quotations, identify your analytical requirements, and provide additional support as required. They act as a liaison between clients and laboratories to provide technical and logistical support, problem resolution, and complete client satisfaction. We make ourselves available to schedule periodic meetings with our client's personnel to provide a forum for discussing creative ideas for program improvement.

REFERENCES

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

REFERENCES

City of Hialeah

Florida – Spectrum Environmental Services, Inc. has supported the City of Hialeah with analytical testing and sampling on a daily, monthly, quarterly, annual basis and special projects. Florida – Spectrum Environmental Services, Inc. analyzes Drinking Water, Groundwater, Wastewater and Sludge for the analysis of organics, general chemistry parameters, metals, and bacteria. The contract requires the Department of Health reporting formats.

Client Contact: Armando Vidal (Public Works Director)
3700 W. 4th Ave
Hialeah, FL 33012
Phone Number: (305) 556-3803
Fax Number: (305) 827-0811
Email: avidal@hialeahfl.gov
Time Period: 2012-Present

Jacobs ~ City of Pembroke Pines

Florida – Spectrum Environmental Services, Inc. has supported the Jacobs ~ City of Pembroke Pines with analytical testing and sampling on a daily, monthly, quarterly and annual basis. Florida – Spectrum Environmental Services, Inc. analyzes Drinking Water, Groundwater, and Reclaimed Water for the analysis of organic, general chemistry parameters, and bacteria. The contract requires the Department of Health reporting formats.

Client Contact: Michael Cepeda (Water Treatment Plant Manager/Chief Operator)
Jacobs ~ City of Pembroke Pines
7960 Johnson Street
Pembroke Pines, FL 33024
Phone Number: (754) 260-4505
Fax Number: (954) 986-5025
Email: michael.cepeda@jacobs.com
Time Period: 2016 – Present

North Springs Improvement District (NSID)

Florida – Spectrum Environmental Services, Inc. has supported the North Springs Improvement District with analytical testing and sampling on a daily, monthly and quarterly basis. Florida – Spectrum Environmental Services, Inc. analyzes Drinking Water, Groundwater, Wastewater and Sludge for the analysis of volatiles, general chemistry parameters, and bacteria. The contract requires the Department of Health reporting formats.

Client Contact: Rod Colon (Director of Operations)
9700 NW 52nd Street
Coral Springs, FL 33076
Phone Number: (954) 796-6628
Fax Number: (954) 755-7237
Email: rodc@fladistricts.com
Time Period: 1979-Present

Broward County Water & Wastewater Operations Division

Florida – Spectrum Environmental Services, Inc. has supported the Broward County WWOD with analytical testing in an overflow capacity. Florida – Spectrum Environmental Services, Inc. analyzes Drinking Water, Groundwater, Wastewater Compliance, Leachate and Sludge for the analysis of volatiles, metals, general chemistry parameters, and TCLP analysis. The contract requires the Department of Health reporting formats and accelerated turnaround times with Level I and Level II quality control data.

Client Contact: Mr. Naveen Mehan (Laboratory Manager)
Broward County Water & Wastewater Operations Division
2401 North Powerline Road
Pompano Beach, FL 33069
Phone Number: (954) 831-3057
Fax Number: (954) 960-0365
Email: nmehan@broward.org
Time Period: 2008 – Present

CURRENT CONTRACTS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

CURRENT CONTRACTS

Florida-Spectrum has extensive experience working with all entities in the environmental sector including FDEP, County and City Government, Water Control Districts, and numerous industries and private consulting firms. Our list of current contracts that we are obligated to fulfill are as follows, Broward County WWOD, Town of Davie, City of Coral Springs, City of Margate, City of Coconut Creek, City of Hialeah, City of Pembroke Pines, City of Riviera Beach, City of Pompano Beach, City of Homestead, City of Savannah, City of Bowling Green, Seminole Tribe, Hardee County, City of Frostproof, South Martin Regional Utilities, NSID, CSID, FDEP, and the Village of Wellington.

INVOICE PROCESSING

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

INVOICE PROCESSING

Florida-Spectrum's description of our invoice processing.

1. Work orders are received from the client or from our field techs.
2. Samples are logged into Element by Sample Custody.
3. Once the reports are completed, they are reviewed by the specific client's CSM (Customer Service Manager)
4. When CSM is satisfied the report is correct, the reports are put in the "To Be Invoiced" tray to be invoiced by either June Grant or Ruth McKinley in accounting.
5. If client requires a PO# & it is not provided on the COC, we email the client for a PO#. If client does not use PO#'s this step is skipped.
6. Invoices are then emailed to the client per any instructions from them. If no email instruction has been given invoices are mailed out with the reports.
7. Statements are sent out on a monthly basis.

Florida-Spectrum Environmental Services, Inc.

3.2.6

DEMONSTRATION OF SERVICE PERFORMANCE

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

DEMONSTRATION OF SERVICE PERFORMANCE

Florida – Spectrum Environmental Services, Inc. has the resources and abilities to provide comprehensive analytical laboratory services to the **Solid Waste Authority of Palm Beach County RFP No. 20-202/DL; Analytical Laboratory Services** of water quality, soils, ash, and leachate for the Authority landfills, transfer stations, waste-to-energy facilities, debris management sites, and other recycling facilities as specified by regulatory timeframes in various Federal, State, and local permits as further detailed in the RFP. Florida – Spectrum Environmental Services, Inc. has the ability, capacity, skill, and financial resources to perform the work and provide the service required. At Florida – Spectrum, we understand the Authority's objective in its solicitation for Analytical Laboratory Services. Florida – Spectrum Environmental Services, Inc. understands the requirements of meeting specified Holding Times producing highly accurate data, and submitting data timely in the appropriate ADaPT format

We understand the duties as explained in the Analytical Laboratory Services Scope of Work (SOW) regarding testing, quality assurance/control and data reporting in Florida ADaPT Electronic Data Deliverable (EDD) format relating to the following SCOPE Categories:

SCOPE A: REGULATORY COMPLIANCE AND INVESTIGATIVE ANALYSIS

SCOPE B: REGULATORY COMPLIANCE AND SUPPORT (SBE ONLY)

We will meet this need by providing timely, high quality analytical data in a manner that is responsive to the Solid Waste Authority of Palm Beach County's needs.

The staff and management of **Florida – Spectrum Environmental Services, Inc.** are committed and prepared to perform the highest level of data quality and client services available in the industry. The laboratory staff and management are highly experienced and capable of not only addressing your routine analytical needs, but also, any special requests, we will work with the Authority to create a custom, streamlined solution that meets your regulatory needs, data quality objectives and project schedule. Florida-Spectrum will provide Project Management and Analytical Services from our primary location in Ft. Lauderdale, FL.

Florida – Spectrum Environmental Services, Inc. will provide the following:

- Single Point of Contact via Client Service Manager in the laboratory as well as a Customer Service Representative (outside account executive).
- **Florida-Spectrum** will supply the Authority with dedicated coolers, sample bottles, kits and shipping to and from the Authority's facilities. Ensuring sample integrity and sample holding times are met.
- **Sample kits** with all necessary supplies will be prepared and documented in accordance with FDEP-QA –001/01 at **No Additional Cost**. Will purchase and provide to the AUTHORITY new coolers in sufficient quantities for contract services. These coolers will be dedicated and labeled "SWA PBC" and used for shipping to and from the AUTHORITY. These coolers will be kept in good repair and be used for no other purpose other than transport of AUTHORITY samples.
- Trip Blanks for VOC's will be provided and reported per cooler (FDEP Field SOP FQ 1213).
- When requested by the AUTHORITY, Trip Blanks for Metals will be provided and reported at a frequency determined by the AUTHORITY.
- **Emergencies~ Florida-Spectrum Environmental Services, Inc.** will arrange for sample retrieval at Department specified facilities during the event of a Department determined emergency or crisis, service shall be provided within the hours of the Department's request. We will respond immediately, 24 hours a day, under emergency conditions as identified by the Departments. This is to include immediate analysis under conditions of suspected acute violations and imminent health risks.
- **All Field Sampling activities** will follow the applicable collection and quality control protocols and requirements described in the in The Department of Environmental Protection's 2014 Standard Operating Procedures for Field Activities (DEP QA Rule, 62-160, F.A.C.).

- Field testing, sample collection and preservation, laboratory testing, method detection limits, including quality control procedures, shall be in accordance with methods approved by the F.D.E.P. in Chapters 62-4.246 and 62.160, F.A.C., State of Florida Department of Health (DOH), National Environmental Laboratory Accreditation Conference (NELAC), and the Florida Department of Environmental Protection (FDEP); approved methods published by the F.D.E.P. or as published in Standard Methods, A.S.T.M.; or EPA methods, and Section 6.4 shall be used. All analysis will be conducted within the holding times as specified by CFR 40 part 136, Table II, and the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures.
- **Florida-Spectrum Environmental Services, Inc.** understands and will comply with the short hold of samples. Analysis in accordance with the required methodology approved by USEPA, FDEP and/or as per Standard Methods for the examination of Groundwater, Non-Potable Water, Leachate, Industrial Wastewater, Surface Water, Stormwater, Drinking Water, and Solids (i.e. Incinerator ash, Biosolids, Contaminated Soils, Borings, Soils, etc.) samples method detection limit for each reported value will comply with FDEP SOP requirements.
- **Florida-Spectrum Environmental Services, Inc.** will notify the appropriate **Authority's** Department immediately if analysis cannot be performed, i.e., loss of certification, broken bottles, samples received beyond acceptable holding times, malfunctioning instrumentation/equipment, etc.
- **To ensure the AUTHORITY'S permit requirements are met, Florida – Spectrum Environmental Services, Inc.** will provide the **Solid Waste Authority of Palm Beach County a final report in both hard copy and Florida Department of Environmental Protection's (FDEP's) electronic Automated Data Processing Tool (ADaPT) format within twenty-one (21) calendar days from receipt of the sample.**
- All reports will be submitted via e-mail (pdf file), electronic formats, along with the original hard copies signed to follow by mail. All hard copy reports will be accompanied with its respective chain of custody, field sheets, invoices, and quality assurance data (Level II "Plus"). All electronic data will be submitted in the ADaPT format.
- All laboratory analytical results will be **submitted in accordance with 62-160.340, F.A.C., Record Keeping and Reporting Requirements for Laboratory Procedures.**
- To ensure sample integrity and analysis is within required Holding Times, we are dedicated to meeting the turnaround time requirements and we are within a 200-mile radius of the AUTHORITY's Administration Building.
- **Florida – Spectrum Environmental Services, Inc.** meets the Federal Government's small business size designation criteria for SIC 8234 and is a certified SBE by the South Florida Water Management District (SFWMD).
- A Quality Assurance program that complies with the NELAC Institute (TNI) standards, ISO 17025 compliant and is recognized nationally as meeting and exceeding guidelines for the generation of accurate, legally defensible data.
- Extensive experience working with all entities in the environmental sector including FDEP, County and City Government, Water Control Districts, and numerous industries and private consulting firms.
- **Florida-Spectrum** has an exemplary past performance on programs of similar complexity and scope of work. We have the ability, capacity, skill, and financial resources to perform the work and provide the service required in place and ready to support your program.
- **Florida-Spectrum will adhere to all requirements listed in Part II, Statement of Work:** Analytical Laboratory Report requirements, Quality Assurance requirements, Sample Containers requirements, Packing requirements, Shipping of Sample Kits requirements, Chain-Of-Custody Reports requirements, Laboratory Written Explanation requirements, Laboratory Data Retention requirements, Sample Storage requirements, Laboratory Quality Systems Manual requirements and List of Parameters requirements.
- All non-contractual items will be billed in accordance with Florida-Spectrums current pricelist, **less a 50% discount.**

Florida – Spectrum Environmental Services, Inc. is committed to providing all the specified requirements in accordance with the requested turnaround time and all required bid specifications listed in the **RFP No. 20-202/DL; Analytical Laboratory Services**. We are confident that upon review of our qualifications, you will deem **Florida – Spectrum Environmental Services, Inc.** an asset to this contract.

FLORIDA-SPECTRUM SBE CERTIFICATION

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

April 10, 2020

REGISTERED VENDOR NO.: 110656

Katherine Coral, C.F.O.
Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Fort Lauderdale, FL 33309

CERTIFICATION EXPIRATION DATE
April 10, 2023

Dear Ms. Coral:

Congratulations, the South Florida Water Management District (District) has recertified your firm as a Small Business Enterprise (SBE). This certification is valid for three (3) years and may **only** be applied when business is conducted in the following area(s):

Laboratory Testing: Water & Soil Services

Your submittal of bids or proposals to supply other products or services outside of the specialty area(s) noted above will not count toward SBE participation. If you require certification in other specialty areas, please contact the Procurement Bureau, SBE Section, for additional information.

Renewal is required every three (3) years and should be requested a minimum of 45 days prior to the above expiration date.

If any changes occur within your company during the certification period such as ownership, affiliate company status, address, telephone number, licensing status, gross revenue, or any information that relates to your SBE Certification status, you must notify this office in writing immediately. It is imperative that we maintain current information on your company at all times. *FAILURE TO REPORT CHANGES MAY RESULT IN DECERTIFICATION.*

Certification is not a guarantee that your firm will receive work, nor an assurance that your firm will remain in the District's vendor database.

We look forward to a mutually beneficial working relationship.

Sincerely,

Joni Lynn Fox
Sr. Contract Compliance Specialist
Procurement Bureau

JLF/kk

Florida-Spectrum Environmental Services, Inc.

LICENSES

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

State of Florida
Department of State

I certify from the records of this office that FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC. is a corporation organized under the laws of the State of Florida, filed on December 16, 2005.

The document number of this corporation is P05000164156.

I further certify that said corporation has paid all fees due this office through December 31, 2020, that its most recent annual report/uniform business report was filed on January 2, 2020, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Second day of January, 2020

GREAT SEAL OF THE STATE OF FLORIDA
IN GOD WE TRUST

Secretary of State

Tracking Number: 1897560610CC

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

BROWARD COUNTY LOCAL BUSINESS TAX RECEIPT

115 S. Andrews Ave., Rm. A-100, Ft. Lauderdale, FL 33301-1895 – 954-831-4000

VALID OCTOBER 1, 2019 THROUGH SEPTEMBER 30, 2020

DBA:
Business Name: FLORIDA SPECTRUM ENVIRONMENTAL SERVICES INC

Receipt #: 279-6562
Business Type: ALL OTHERS (RESEARCH & DEV)

Owner Name: FLORIDA SPECTRUM ENVIRONMENTAL
Business Location: 1460 W MCNAB RD
FT LAUDERDALE
Business Phone: 954-978-6400

Business Opened: 03/22/2006
State/County/Cert/Reg:
Exemption Code:

Rooms	Seats	Employees	Machines	Professionals
		10		

For Vending Business Only						
	Number of Machines:			Vending Type:		
Tax Amount	Transfer Fee	NSF Fee	Penalty	Prior Years	Collection Cost	Total Paid
45.00	0.00	0.00	0.00	0.00	0.00	45.00

THIS RECEIPT MUST BE POSTED CONSPICUOUSLY IN YOUR PLACE OF BUSINESS

THIS BECOMES A TAX RECEIPT

WHEN VALIDATED

This tax is levied for the privilege of doing business within Broward County and is non-regulatory in nature. You must meet all County and/or Municipality planning and zoning requirements. This Business Tax Receipt must be transferred when the business is sold, business name has changed or you have moved the business location. This receipt does not indicate that the business is legal or that it is in compliance with State or local laws and regulations.

CITY OF FORT LAUDERDALE | BUSINESS TAX DIVISION
BUSINESS TAX YEAR 2019-2020

100 N. Andrews Avenue, 1ST Floor, Fort Lauderdale, Florida 33301
(954) 828-5195

Business ID: 9055798 Business Name: FLORIDA-SPECTRUM ENV SERV INC
Business Address: 1460 W MCNAB RD
Tax Category: LABORATORY SERVICES-MEDICAL Tax#: 538132 Fee:

FLORIDA-SPECTRUM ENV SERV INC

1460 W MCNAB RD
FORT LAUDERDALE, FL 33309

DETACH AND POST THIS RECEIPT IN A CONSPICUOUS PLACE

Business ID:	
Tax Number:	9055798
Business Name:	538132
Business Address:	FLORIDA-SPECTRUM ENV SERV INC
Business Contact:	1460 W MCNAB RD FLA SPECTRUM

- This Receipt is issued for the period commencing October 1st and ending September 30th of the years shown above.
- If you have moved out of the city, please email businesstax@fortlauderdale.gov and include the Business ID #.
- A transfer of business location within the city limits is subject to zoning approval. Complete a Business Tax Transfer Application and bring it to our office to obtain the necessary approval.
- If you have sold your business, please provide us with a copy of the Bill of Sale.
- A Transfer fee of 10% of the annual business tax fee applies. The fee shall not be less than $3.00, nor greater than $25.00.

Please be advised that this issuance of a Local Business Tax Receipt establishes that the business you intend to conduct is a use permitted by the City Zoning Code for the location at which you intend to operate. The issuance of a Local Business Tax Receipt in no way certifies that the property located at this address is in compliance with other provisions of the City Code of Ordinances.

BUSINESS TAX DIVISION
100 N. Andrews Avenue, 1st Floor, Fort Lauderdale, Florida 33301
Phone (954)828-5195 | Fax (954)828-5881
www.fortlauderdale.gov

WEST PALM BEACH
Development Services

CITY OF WEST PALM BEACH

2019 to 2020 BUSINESS RECEIPT

NOT TRANSFERABLE

CITY OF WEST PALM BEACH
P.O. BOX 3147, WEST PALM BEACH, FL. 33402

0000022742
FLORIDA SPECTRUM ENV SERV INC
1460 W MCNAB RD

ENVIRONMENTAL TESTING
LABORATORY E86006

BUS. TAX ID.	CATEGORY	DESCRIPTION	FEE
48702	888888	REGISTRATION OF ANY BUSINESS	69.46

EXPIRES SEPTEMBER 30, 2020

TOTAL➡ 69.46

** PAID 69.46 ** BAL ** 0.00

THIS DOCUMENT NOT VALID UNTIL FUNDS ARE COLLECTED

POLK COUNTY LOCAL BUSINESS TAX RECEIPT

ACCOUNT NO. **5476** **CLASS: B** **EXPIRES: 9/30/2020**

OWNER NAME	LOCATION
LYLE A JOHNSON - PRES	**528 GOOCH RD** **FORT MEADE - IN**

BUSINESS NAME AND MAILING ADDRESS

PEMBROKE LABORATORIES INC
FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES INC
528 GOOCH RD
FT MEADE, FL 33841

CODE	ACTIVITY TYPE
540140	**LABORATORY**

PROFESSIONAL LICENSE (IF APPLICABLE)

OFFICE OF JOE G. TEDDER, CFC * TAX COLLECTOR

THIS POLK COUNTY LOCAL BUSINESS TAX RECEIPT MUST BE CONSPICUOUSLY DISPLAYED AT THE BUSINESS LOCATION

PAID-1207846.0001-0001 09/10/2019 09/06/2019 NGG 12 57.75

TC301F-16

Environmental Protection and Growth Management Department
ENVIRONMENTAL AND CONSUMER PROTECTION DIVISION
One North University Drive, Suite A102, Plantation, Florida 33324
Phone: 954-519-1260 - Fax: 954-519-1494

HAZARDOUS MATERIAL MANAGEMENT FACILITY LICENSE

License Number: HM-00265-19

Applicant:
Mr. Lyle A Johnson, President
Spectrum Laboratories, Inc.
1460 W MCNAB RD
Fort Lauderdale, FL 33309

Facility Number: 00265
Florida Spectrum Environmental Services
1460 W MCNAB RD
Fort Lauderdale, FL 33309

This license is issued under the provisions of Chapter 27 of the Broward County Code of Ordinances hereinafter called the Code. The above-named applicant, hereinafter called Licensee, is hereby authorized to perform the work or operate the facility shown on the approved drawings, plans, documents, and specifications submitted by the Licensee and made a part hereof and described specifically below. The issuance of this license is a final agency determination. A person with a substantial interest may file a petition to request review of or to intervene in a review of a final administrative determination, subject to the provisions of Section 27-14, Broward County Code of Ordinances. If no objection to this license is received within 14 days, the Licensee will be deemed to have accepted it and all the attached terms and conditions.

ALL GENERAL CONDITIONS and SPECIFIC CONDITIONS, on the back of the license or as attached, are considered to constitute the requirements of this license. The Licensee is required to fully comply with all these conditions. Any failure to comply with conditions or requirements as set forth may result in revocation or suspension of this license and may subject the Licensee to enforcement action in accordance with the provisions of Article 1, Division 4 of the Code.

Nature of Business: Analytical Laboratory

Hazardous Waste Stream: Acids, Heavy Metals, Base, Bulbs, Methylene Chloride, Solvent, Oil

Well Field: N/A **Septic:** No

IMPORTANT: THIS LICENSE IS ISSUED ONLY TO THE LICENSEE FOR THE FACILITY ADDRESS IDENTIFIED ABOVE.
IF THE FACILITY MOVES, CLOSES, OR HAS A CHANGE IN LICENSEE OR ACTIVITY, THE LICENSEE MUST:

- Transfer license to a new owner or operator
- Submit written notification thirty (30) days prior to closing the facility
- Properly remove and/or dispose of all hazardous materials when closing a facility
- Submit application for each hazardous material management facility location(s) in Broward County
- Submit application, secure approval, and call (954) 519-1260 for inspection, prior to installing or modifying storage tanks
- Submit application, secure approval, and call (954) 519-1260 for inspection, prior to removing or moving storage tanks
- Properly maintain storage tanks and the associated license until all tanks are properly closed

The issuance of this license is a final agency determination. A person with a substantial interest may file a petition to request review of or to intervene in a review of a final administrative determination, subject to the provisions of Section 27-14, Broward County Code of Ordinances

Application Received: Mar 26, 2019
Effective Date: Jul 01, 2019
Expiration Date: Jun 30, 2021
Issued By: **Valerie Mebane**

Renewal Application Due: ***May 01, 2021***

VALERIE MEBANE, NATURAL RESOURCES SPECIALIST
Phone: 954-519-1485 - Email: VMebane@broward.org
ENVIRONMENTAL AND CONSUMER PROTECTION DIVISION
www.broward.org/PollutionPrevention

(PLEASE SEE LICENSE CONDITIONS ON THE BACK)

Florida-Spectrum Environmental Services, Inc.

MDLS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
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MDL/PQL MASTER LIST March 2013

Drinking Water
Non-Potable Water
Solid

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Ammonia	Non-Potable Water	350.1	Wet 26	0.014	0.042	mg/L
	Solid	350.1	Wet 26	0.111	0.333	mg/kg
Bromate	Drinking Water	300.1	Metrohm	1.6	4.8	ug/L
Bromide	Drinking Water/ Non-Potable Water	300.0	Metrohm	0.011	0.1	mg/L
	Solid	SW 846 9056	Wet 14	1.175	3.525	mg/kg
Chemical Oxygen Demand	Non-Potable Water	410.4/ SM 5220D	Wet 6 (Wetchem spectph-1)	6.14	18.4	mg/L
Chlorate	Drinking Water	300.1	Metrohm	1.6	4.8	ug/L
Chloride	Drinking Water/ Non-Potable Water	300.0	Wet-1/Wet-3	0.247	1	mg/L
	Drinking Water/Non-Potable Water	SM 4500 Cl-E	Wet 47	0.272	1.000	mg/L
	Solid	SW 846 9056	Wet 14	2.799	#N/A	mg/kg
Chlorite	Drinking Water	300.1	Metrohm	5	15	ug/L
Cyanide	Drinking Water/ Non-Potable Water	335.4/ SM4500 CN-E	Wet 47	0.0043	0.0129	mg/L
	Solid	SW 846 9012	Wet 47	0.045	0.135	mg/kg
Fluoride	Drinking Water/ Non-Potable Water	300.0	Wet-1/Wet-3	0.0168	0.0504	mg/L
	Solid	SW 846 9056	Wet 14	0.745	#N/A	mg/kg
Hexavalent Chromium	Drinking Water/ Non-Potable Water	SM 3500 Cr-B	Wet Chem Spectph-1	0.0079	0.0500	mg/L
Methylene Blue Active Substances	Drinking Water/ Non-Potable Water	SM 5540C	Wet 6	0.0603	#N/A	mg/L
Nitrate	Drinking Water/ Non-Potable Water	300.0	Wet-1/Wet-3	0.0739	0.222	mg/L
	Drinking Water/Non-Potable Water	SM 4500 NO3-F	Wet 47	0.0078	0.0500	mg/L
	Solid	SW 846 9056	Wet 14	0.51	#N/A	mg/kg
Nitrite	Drinking Water/ Non-Potable Water	300.0	Wet-1/Wet-3	0.0425	0.150	mg/L
	Drinking Water/ Non-Potable Water	SM 4500 NO2-B	Wetchem-Spectph-1	0.0033	0.01	mg/L
	Drinking Water/ Non-Potable Water	SM 4500 NO3-F	Wet 47	0.0136	0.0409	mg/L
	Solid	SW 846 9056	Wet 14	0.617	#N/A	mg/kg
NOX	Drinking Water/ Non-Potable Water	300.0	Wet-1/Wet-3	0.0425	0.222	mg/L
	Drinking Water/Non-Potable Water	SM 4500 NO3-F	Wet 47	0.0078	0.0500	mg/L
	Solid	SW 846 9056	Wet-1/Wet-3			
Orthophosphate	Drinking Water/ Non-Potable Water	300.0	Wet-1/ Wet-3	0.0551	0.165	mg/L
	Drinking Water	SM 4500 P-F	WET 47	0.0077	0.023	
	Solid	SW 846 9056	Wet 14	0.604	1.812	mg/kg

	Non-Potable Water	365.1/ SM 4500 P-F	Wet 47	0.0077	0.0232	mg/L
Phenol	Solid	SW 846 9066	Wet 47	0.119	0.357	mg/kg
	Non-Potable Water	420.4	Wet 47	0.004	#N/A	mg/L
Silica	Non-Potable Water	SM 4500 SiO2-C	Wet Chem Spectph-1	0.0396	0.119	mg/L
Sulfate	Drinking Water/ Non-Potable Water	300.0	Wet-1/Wet-3	0.194	1	mg/L
	Solid	SW 846 9056	Wet 14	2.804	#N/A	mg/kg
	Drinking Water/ Non-Potable Water	375.4	Wet 2	0.891	5	mg/L
Sulfide	Non-Potable Water	SM 4500 S2- D	Wetchem Spectph-1	0.0062	0.05	mg/L
NOT CERTIFIED	Solid	SW 846 9030B / 9034	Wet 6	0.2	#N/A	mg/kg
Total Kjeldahl Nitrogen	Non-Potable Water	351.2	Wet 26	0.184	0.552	mg/L
	Solid	351.2	Wet 26	4.79	14.4	mg/kg
Total Organic Carbon	Drinking Water/ Non-Potable Water	SM5310C	Wet 37 (Dick)	0.296	1.00	mg/L
Total Phosphorus	Non-Potable Water	365.4	Wet 26	0.666	0.2	mg/L
	Solid	365.4	Wet 26	1.86	5.57	mg/kg
	Non-Potable Water	365.1/ SM 4500 P-F	Wet 26/Wet-47	0.0093	0.0278	mg/L
Alkalinity	Non-Potable Water	EPA 310.2	WET-47	2.49	7.46	mg/L

ANALYTES NOT REQUIRING MDL, ACCURACY, OR PRECISION:

Alkalinity	Drinking Water	SM 2320B	Titrimetric	2	2	mg/L
	Non-Potable Water	SM 2320B	Titrimetric	2	2	mg/L
Chloride	Drinking Water	SM 4500 Cl-B	Titrimetric	3.36	10.08	mg/L
	Non-Potable Water	SM 4500 Cl-B	Titrimetric	3.36	10.08	mg/L
Chlorine, Total Residual	Water	EPA 330.4	Titrimetric	0.01	0.03	mg/L
Color	Drinking Water	SM 2120B	Wet-Color-1	5	15	PCU
Conductivity	Non-Potable Water	EPA 120.1	Wet-54	1	1	uS/cm at 25 C
	Solid	EPA 9050	Wet-54	1	1	uS/cm
Corrosivity	Solid	SW 846 9040	WET-4	0.1	0.1	pH Units
Fixed Residue	Solid	SM 2540G	Wet-20	0.0001	0.0003	% by weight
Ignitability	Solid/Chemical	EPA 1010	Wet-48	75	75	°F
	Non-Potable Water	EPA 1010	WET-48	75	75	°F
Odor	Drinking Water	SM 2150B	Prep-8	1	3	TON
Organic Nitrogen	Non-Potable Water	351.2/ TKN minus AMMONIA	Wet 26			mg/L
	Solid	TKN minus AMMONIA	Wet 26			mg/kg
pH	Drinking Water	SM 9500-H+B	WET-4	0.1	0.1	pH Units
	Non-Potable Water	SM 4500-H+-B	WET-4	0.1	0.1	pH Units
	Solid	SW 846 9045	WET-4	0.1	0.1	pH Units

TDS	Drinking Water	SM 2540C	Wet-20	10	30	mg/L
	Non-Potable Water	SM 2540C	Wet-20	10	30	mg/L
Total Nitrogen	Solid	TKN + Total Nitrate/Nitrite	Wet 26/ Wet 1/Wet 3			mg/L
	Non-Potable Water	TKN + Total Nitrate/Nitrite	Wet 26/ Wet 1/Wet 3	0.0078	0.552	mg/L
Total Organic Halogens	Solid	SW 846 5050/ 9253	WET-51	3.36	10.08	mg/kg
TS	Solid	SM2540G	Wet-20	0.0001	0.0003	% by weight
	Non-Potable Water	SM 2540B	Wet-20	1	3	mg/L
TSS	Non-Potable Water	SM 2540D	Wet-20	1	3	mg/L
Turbidity	Drinking Water	EPA 180.1	Wet-2	0.05	0.15	NTU
	Non-Potable Water	EPA 180.1	Wet-2	0.05	0.15	NTU
Unionized Ammonia	Non-Potable Water	DEP SOP 10/03/83	Wet-26	NA		
Volatile Residue	Solid	SM 2540G	Wet-20	0.0001	0.0003	% by Weight
	Non-Potable Water	SM 2540E/ SM2540G	Wet-20	1	3	mg/L

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Silver	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	0.702	5.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.702	5.0000	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.261	4.0000	ug/L
	Solids	6010	MET-23/ MET-19	0.00884	0.0500	mg/kg
Aluminum	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	2.81	10.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	2.81	10.0000	ug/L
	Solids	6010	MET-23/ MET-19	0.169	0.5000	mg/kg
Arsenic	Non-Potable Water	200.7	MET-23/ MET-19	2.89	10.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	2.89	10.0000	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.102	0.500	ug/L
	Solids	6010	MET-23/ MET-19	0.179	0.5000	mg/kg
Boron	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	2.36	10.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	2.36	10.0000	ug/L
	Solids	6010	MET-23/ MET-19	0.189	0.5000	mg/kg
Barium	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	0.0785	1.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.0785	1	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.112	1.00	ug/L
	Solids	6010	MET-23/ MET-19	0.00531	0.0250	mg/kg
Beryllium	Drinking Water/Non-Potable Water	200.7	MET-23/ MET-19	0.123	1.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.123	1.0000	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.0601	0.250	ug/L
	Solids	6010	MET-23/ MET-19	0.00506	0.0500	mg/kg
Bismuth	Non-Potable Water	FSE-ICP/ICP-AES	MET-19	0.0419	0.2	mg/L
Calcium	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	9	50.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	9	50	ug/L
	Solids	6010	MET-23/ MET-19	0.527	2.5000	mg/kg
Cadmium	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	0.32	1.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.32	1	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.0357	0.200	ug/L
	Solids	6010	MET-23/ MET-19	0.0114	0.0500	mg/kg
Cobalt	Non-Potable Water	200.7	MET-23/ MET-19	0.382	1.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.382	1.0000	ug/L

	Non-Potable Water	200.8	MET-21	0.226	4.00	ug/L
	Solids	6010	MET-23/ MET-19	0.0206	0.1000	mg/kg
Chromium	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	0.736	5.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.736	5	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.495	4.00	ug/L
	Solids	6010	MET-23/ MET-19	0.0449	0.2500	mg/kg
Copper	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	0.669	5.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.669	5	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.328	2.000	ug/L
	Solids	6010	MET-23/ MET-19	0.053	0.2500	mg/kg
Iron	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	1.1	10.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	1.1	10	ug/L
	Solids	6010	MET-23/ MET-19	0.0475	0.5000	mg/kg
Potassium	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	8.31	50.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	8.31	50	ug/L
	Solids	6010	MET-23/ MET-19	0.937	5.0000	mg/kg
Magnesium	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	4.57	20.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	4.57	20	ug/L
	Solids	6010	MET-23/ MET-19	0.202	1.0000	mg/kg
Manganese	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	0.147	1.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.147	1	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.109	1.00	ug/L
	Solids	6010	MET-23/ MET-19	0.00955	0.0500	mg/kg
Molybdenum	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	2.763	10.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	2.763	10	ug/L
	Drinking Water/Non-Potable Water	200.8	MET-21	0.314	4.00	ug/L
	Solids	6010	MET-23/ MET-19	0.14	0.5000	mg/kg
Sodium	Drinking Water/Non-Potable Water	200.7	MET-19/ MET-23	0.39	2.00	mg/L
	Non-Potable Water	6010	MET-23/ MET-19	0.39	2.00	mg/L
	Solids	6010	MET-23/ MET-19	6.24	25.0	mg/kg
Nickel	Drinking Water	200.7	MET-23/ MET-19	0.874	5.00	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.874	5	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.51	4.00	ug/L
	Solids	6010	MET-23/ MET-19	0.0445	0.25	mg/kg
Lead	Non-Potable Water	200.7	MET-23/ MET-19	1.43	10.00	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	1.43	10.0	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.0447	0.500	ug/L

	Solids	6010	MET-23/ MET-19	0.0939	0.5000	mg/kg
Antimony	Non-Potable Water	200.7	MET-23/ MET-19	4.91	15.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	49.1	15.0000	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.0113	0.2500	ug/L
	Solids	6010	MET-23/ MET-19	0.201	1.0000	mg/kg
Selenium	Non-Potable Water	200.7	MET-23/ MET-19	3.09	15.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	3.09	15.0000	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.575	2.50	ug/L
	Solids	6010	MET-23/ MET-19	0.192	1.0000	mg/kg
Silicon	Drinking Water/ Non-Potable Water	200.7	MET-23/ MET-19	4.12	20.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	4.12	20	ug/L
	Solids	6010	MET-23/ MET-19	0.127	0.5000	mg/kg
Strontium	Non-Potable Water	200.7	MET-23/ MET-19	0.289	1.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.289	1.0000	ug/L
	Non-Potable Water	200.8	MET-21	0.0345	0.250	ug/L
	Solids	6010	MET-23/ MET-19	0.0151	0.0500	mg/kg
Titanium	Non-Potable Water	200.7	MET-23/ MET-19	0.197	1.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.197	1.0000	ug/L
	Solids	6010	MET-23/ MET-19	0.014	0.0500	mg/kg
Thallium	Non-Potable Water	200.7	MET-23/ MET-19	2.47	15.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	2.47	15.0000	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	0.0061	0.0250	ug/L
	Solids	6010	MET-23/ MET-19	0.117	0.5000	mg/kg
Thorium	Non-Potable Water	200.8	MET-21	0.227	1.000	ug/L
Uranium	Drinking Water/ Non-Potable Water	200.8	MET-21	0.0069	0.250	ug/L
	Soil	6010	MET-19	0.0846	0.5000	mg/kg
Vanadium	Drinking Water	200.7	MET-23/ MET-19	0.529	2.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	0.529	2	ug/L
	Drinking Water/Non-Potable Water	200.8	MET-21	0.481	4.00	ug/L
	Solids	6010	MET-23/ MET-19	0.0262	0.1000	mg/kg
Zinc	Drinking Water	200.7	MET-23/ MET-19	1.7	10.00000	ug/L
	Non-Potable Water	6010	MET-23/ MET-19	1.7	10	ug/L
	Drinking Water/ Non-Potable Water	200.8	MET-21	1.10	5.00	ug/L
	Solids	6010	MET-23/ MET-19	0.0631	0.5000	mg/kg
Mercury	Drinking Water/ Non-Potable Water	245.1	MET-5	0.152	0.456	ug/L
	Drinking Water/Non-Potable Water	200.8	MET-21	0.0563	0.300	ug/L
	Solids	7471	MET-5	0.0577	0.173	mg/kg

	Non-Potable Water	7470	MET-5	0.15	0.45	ug/L
Low level Mercury	Drinking Water/ Non-Potable Water	245.1	MET-5	0.00894	0.02682	ug/L
Tin	Non-Potable Water	200.7/6010	MET-23/MET-19	0.0159	0.05	mg/L
	Solids	6010	MET-19	1.02	5.00	mg/kg
Lithium	Non-Potable Water	200.7	MET-19	3.3	25	ug/L
	Solids	6010	MET-19	0.0931	1.25	mg/kg
Gold	Solids	6010	MET-19	0.18	0.54	mg/Kg
Iridium	Solids	6010	MET-19	0.19	0.57	mg/Kg
Palladium	Solids	6010	MET-19	0.20	0.60	mg/Kg
Platinum	Solids	6010	MET-19	0.20	0.60	mg/Kg
Rhodium	Solids	6010	MET-19	0.07	0.21	mg/Kg
Ruthenium	Solids	6010	MET-19	0.24	0.71	mg/Kg
Osmium	Solids	6010	MET-19	0.15	0.45	mg/Kg

Calculated Analytes

Total Hardness	Non-Potable Water	200.7	MET-1/MET-19	0.014	0.042	mg/L
Calcium Hardness	Non-Potable Water	200.7	MET-1/MET-19	0.0072	0.0216	mg/L
Magnesium Hardness	Non-Potable Water	200.7	MET-1/MET-19	0.0065	0.0195	mg/L

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
3-Hydroxycarbofuran	Drinking Water	531.1	HPLC #2	0.97	2.91	ug/L
Aldicarb	Drinking Water	531.1	HPLC #2	0.935	2.81	ug/L
Aldicarb Sulfone	Drinking Water	531.1	HPLC #2	0.941	2.82	ug/L
Aldicarb Sulfoxide	Drinking Water	531.1	HPLC #2	0.433	1.3	ug/L
Carbaryl	Drinking Water	531.1	HPLC #2	0.561	1.68	ug/L
Carbofuran	Drinking Water	531.1	HPLC #2	0.756	2.27	ug/L
Methiocarb	Drinking Water	531.1	HPLC #2	0.608	1.82	ug/L
Methomyl	Drinking Water	531.1	HPLC #2	0.484	1.45	ug/L
Oxamyl	Drinking Water	531.1	HPLC #2	0.589	1.77	ug/L
Propoxur (Baygon)	Drinking Water	531.1	HPLC #2	0.788	2.36	ug/L
Glyphosate	Drinking Water	547	HPLC #2	4.34	13	ug/L
Endothall	Drinking Water	548.1	BARBARA	2.719	#N/A	ug/L
Diquat	Drinking Water	549.2	HPLC #3	0.0908	0.500	ug/L
Paraquat	Drinking Water	549.2	HPLC #3	0.270	0.811	ug/L
Bromacil	Non-Potable Water	8321	HPLC #3	0.316	0.950	ug/L
Diuron	Non-Potable Water	8321	HPLC #3	0.0747	0.500	ug/L

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
1,2-Dibromoethane (EDB)	Drinking Water	504.1	Jason	0.0038	0.02	ug/L
	Non Potable Water	8011	Jason	0.0025	0.03	ug/l
	Soil	8011	Jason	0.0034	0.03	ug/kg
1,2-Dibromo-3-chloropropane (DBCP)	Drinking Water	504.1	Jason	0.0017	0.02	ug/L
	Non Potable Water	8011	Jason	0.0045	0.03	ug/L
	Soil	8011	Jason	0.0017	0.03	ug/kg

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Aldrin	Drinking Water	508	MONICA	0.011	0.033	ug/L
Chlordane	Drinking Water	508	MONICA	0.013	#N/A	ug/L
Dieldrin	Drinking Water	508	MONICA	0.011	#N/A	ug/L
Endrin	Drinking Water	508	MONICA	0.0101	#N/A	ug/L
gamma-BHC (Lindane)	Drinking Water	508	MONICA	0.0119	#N/A	ug/L
Heptachlor	Drinking Water	508	MONICA	0.0125	#N/A	ug/L
Heptachlor Epoxide	Drinking Water	508	MONICA	0.0108	#N/A	ug/L
Hexachlorobenzene	Drinking Water	508	MONICA	0.0091	#N/A	ug/L
Hexachlorocyclopentadiene	Drinking Water	508	MONICA	0.01	#N/A	ug/L
Methoxychlor	Drinking Water	508	MONICA	0.0132	#N/A	ug/L
PCBs	Drinking Water	508	MONICA	NO MDL (Calculation)		Use highest P
Arochlor 1016	Drinking Water	ONLY TOT PCBs	MONICA	0.052	#N/A	ug/L
Arochlor 1221	Drinking Water	ONLY TOT PCBs	MONICA	0.021	#N/A	ug/L
Arochlor 1232	Drinking Water	ONLY TOT PCBs	MONICA	0.025	#N/A	ug/L
Arochlor 1242	Drinking Water	ONLY TOT PCBs	MONICA	0.019	#N/A	ug/L
Arochlor 1248	Drinking Water	ONLY TOT PCBs	MONICA	0.034	#N/A	ug/L
Arochlor 1254	Drinking Water	ONLY TOT PCBs	MONICA	0.024	#N/A	ug/L
Arochlor 1260	Drinking Water	ONLY TOT PCBs	MONICA	0.027	#N/A	ug/L
Propachlor (Ramrod)	Drinking Water	508	MONICA	0.052	#N/A	ug/L
Toxaphene	Drinking Water	508	MONICA	0.21	#N/A	ug/L
Trifluralin	Drinking Water	508	MONICA	0.024	#N/A	ug/L

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Escherichia coli	Drinking Water	SM 9223 B	-	1	1	CFU
Heterotrophic Plate Count	Drinking Water	SM 9215 B	-	1	1	CFU
Total coliform	Drinking Water/ Non-Potable Water	SM 9223 B	-	1	1	CFU
Biochemical Oxygen Demand	Non-Potable Water	405.1/ SM5210B	-	2	6	mg/L
Carbonaceous Biochemical Oxygen Demand	Non-Potable Water	SM 5210B	-	2	6	mg/L
Fecal Coliforms	Non-Potable Water	SM 9222D	-	1	1	CFU
Enterococci	Non-Potable Water	EPA 1600	-	1	1	CFU
Fecal Streptococci	Non-Potable Water	SM 9230C	-	1	1	CFU

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Ethyl Acetate	Non-Potable Waters	EPA 1666	Alpha	2.19	6.56	ug/L
Isopropyl Acetate	Non-Potable Waters	EPA 1666	Alpha	1.85	5.56	ug/L
n-Butyl Acetate	Non-Potable Waters	EPA 1666	Alpha	2.82	8.46	ug/L
n-Amyl Acetate	Non-Potable Waters	EPA 1666	Alpha	1.65	4.96	ug/L

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
1,1,1,2-Tetrachloroethane	Non-Potable Water	8260	ALPHA	0.084	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.309	1	ug/kg
	Drinking Water	524.2	DELTA	0.0557	0.167	ug/L
1,1,1-Trichloroethane	Non-Potable Water	624/8260	ALPHA	0.038	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.231	1	ug/kg
	Drinking Water	524.2	DELTA	0.0689	0.207	ug/L
1,1,2,2-Tetrachloroethane	Non-Potable Water	624/8260	ALPHA	0.069	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.293	1	ug/kg
	Drinking Water	524.2	DELTA	0.0594	0.178	ug/L
1,1,2-Trichloroethane	Non-Potable Water	624/8260	ALPHA	0.075	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.304	1	ug/kg
	Drinking Water	524.2	DELTA	0.0884	0.265	ug/L
1,1-Dichloroethane	Non-Potable Water	624/8260	ALPHA	0.204	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.251	1	ug/kg
	Drinking Water	524.2	DELTA	0.0764	0.229	ug/L
1,1-Dichloroethene	Non-Potable Water	624/8260	ALPHA	0.059	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.461	1.383	ug/kg
	Drinking Water	524.2	DELTA	0.0513	0.154	ug/L
1,1-Dichloropropene	Non-Potable Water	8260	ALPHA	0.12	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.353	1.06	ug/kg
	Drinking Water	524.2	DELTA	0.0527	0.158	ug/L
1,2,3-Trichlorobenzene	Non-Potable Water	8260	ALPHA	0.25	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.872	2.617	ug/kg
	Drinking Water	524.2	DELTA	0.212	0.636	ug/L
1,2,3-Trichloropropane	Non-Potable Water	8260	ALPHA	0.122	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.306	1	ug/kg
	Drinking Water	524.2	DELTA	0.124	0.372	ug/L
1,2,4-Trichlorobenzene	Non-Potable Water	8260	ALPHA	0.248	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.748	2.245	ug/kg
	Drinking Water	524.2	DELTA	0.18	0.54	ug/L
1,2,4-Trimethylbenzene	Non-Potable Water	8260	ALPHA	0.211	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.378	1.133	ug/kg
	Drinking Water	524.2	DELTA	0.0672	0.202	ug/L
1,2-Dibromo-3-chloropropane	Non-Potable Water	8011/8260	ALPHA	0.236	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.65	1.95	ug/kg
	Drinking Water	NOT CERT	ALPHA	0.154	#N/A	ug/L
1,2-Dibromoethane (EDB)	Non-Potable Water	8011/8260	ALPHA	0.071	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.253	1	ug/kg
1,2-Dichlorobenzene	Non-Potable Water	624/8260	ALPHA	0.193	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.533	1.598	ug/kg
	Drinking Water	524.2	DELTA	0.0566	0.17	ug/L
1,2-Dichloroethane	Non-Potable Water	624/8260	ALPHA	0.036	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.236	1	ug/kg
	Drinking Water	524.2	DELTA	0.0968	0.29	ug/L
1,2-Dichloropropane	Non-Potable Water	624/8260	ALPHA	0.045	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.262	1	ug/kg

	Drinking Water	524.2	DELTA	0.117	0.351	ug/L
1,3,5-Trimethylbenzene	Non-Potable Water	8260	ALPHA	0.135	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.353	1.058	ug/kg
	Drinking Water	524.2	DELTA	0.0651	0.195	ug/L
1,3-Dichlorobenzene	Non-Potable Water	624/8260	ALPHA	0.195	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.421	1.264	ug/kg
	Drinking Water	524.2	DELTA	0.0758	0.227	ug/L
1,3-Dichloropropane	Non-Potable Water	8260	ALPHA	0.073	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.243	1	ug/kg
	Drinking Water	524.2	DELTA	0.08	0.24	ug/L
1,4-Dichlorobenzene	Non-Potable Water	624/8260	ALPHA	0.257	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.476	1.428	ug/kg
	Drinking Water	524.2	DELTA	0.0878	0.264	ug/L
2,2-Dichloropropane	Non-Potable Water	8260	ALPHA	0.401	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.233	1	ug/kg
	Drinking Water	524.2	DELTA	0.0868	0.26	ug/L
2-Butanone (Methyl Ethyl Ketone)	Non-Potable Water	8260	ALPHA	0.299	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	4.127	12.381	ug/kg
	Drinking Water	524.2	DELTA	0.195	0.585	ug/L
2-Chloroethylvinyl ether	Non-Potable Water	624/8260	ALPHA	0.745	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	1.899	5.696	ug/kg
2-Chlorotoluene	Non-Potable Water	8260	ALPHA	0.129	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.288	1	ug/kg
	Drinking Water	524.2	DELTA	0.0846	0.254	ug/L
2-Hexanone	Non-Potable Water	8260	ALPHA	0.445	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	1.651	5	ug/kg
	Drinking Water	524.2	DELTA	0.147	0.441	ug/L
4-Chlorotoluene	Non-Potable Water	8260	ALPHA	0.14	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.333	1	ug/kg
	Drinking Water	524.2	DELTA	0.0767	0.23	ug/L
4-Methyl-2-Pentanone (MIBK)	Non-Potable Water	8260	ALPHA	0.135	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	1.369	5	ug/kg
	Drinking Water	524.2	DELTA	0.0629	0.189	ug/L
Acetone	Non-Potable Water	8260	ALPHA	6.312	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	2.434	7.303	ug/kg
	Drinking Water	524.2	DELTA	1.11	3.33	ug/L
Acrolein	Non-Potable Water	624/8260	ALPHA	0.303	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	4.027	12.08	ug/kg
Acrylonitrile	Non-Potable Water	624/8260	ALPHA	0.16	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.332	1	ug/kg
Allyl Chloride	Non-Potable Water	8260	ALPHA	0.122	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.675	2.026	ug/kg
Benzene	Non-Potable Water	624/8260	ALPHA	0.03	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.28	1	ug/kg
	Drinking Water	524.2	DELTA	0.0748	0.224	ug/L
Bromobenzene	Non-Potable Water	8260	ALPHA	0.113	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.23	1	ug/kg
	Drinking Water	524.2	DELTA	0.101	0.303	ug/L
Bromochloromethane	Non-Potable Water	8260	ALPHA	0.057	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.302	1	ug/kg
	Drinking Water	524.2	DELTA	0.101	0.303	ug/L
Bromodichloromethane	Non-Potable Water	624/8260	ALPHA	0.086	#N/A	ug/L

	Soil	8260	Charlie/Foxtrot	0.316	1	ug/kg
	Drinking Water	524.2	DELTA	0.0764	0.229	ug/L
Bromoform	Non-Potable Water	624/8260	ALPHA	0.138	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.54	1.62	ug/kg
	Drinking Water	524.2	DELTA	0.054	0.162	ug/L
Bromomethane (Methyl Bromide)	Non-Potable Water	624/8260	ALPHA	0.132	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.702	2.106	ug/kg
	Drinking Water	524.2	DELTA	0.183	0.549	ug/L
Carbon Disulfide	Non-Potable Water	8260	ALPHA	0.144	0.432	ug/L
	Soil	8260	Charlie/Foxtrot	0.52	1.56	ug/kg
	Drinking Water	524.2	DELTA	0.0689	0.207	ug/L
Carbon Tetrachloride	Non-Potable Water	624/8260	ALPHA	0.052	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.251	1	ug/kg
	Drinking Water	524.2	DELTA	0.0586	0.176	ug/L
Chlorobenzene	Non-Potable Water	624/8260	ALPHA	0.079	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.226	1	ug/kg
	Drinking Water	524.2	DELTA	0.0654	0.196	ug/L
Chloroethane	Non-Potable Water	624/8260	ALPHA	0.308	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.402	1.207	ug/kg
	Drinking Water	524.2	DELTA	0.222	0.666	ug/L
Chloroform	Non-Potable Water	624/8260	ALPHA	0.077	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.502	1.505	ug/kg
	Drinking Water	524.2	DELTA	0.0868	0.26	ug/L
Chloromethane (Methyl Chloride)	Non-Potable Water	624/8260	ALPHA	0.048	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.397	1.191	ug/kg
	Drinking Water	524.2	DELTA	0.0925	0.278	ug/L
cis-1,2-Dichloroethene	Non-Potable Water	8260	ALPHA	0.213	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.238	1	ug/kg
	Drinking Water	524.2	DELTA	0.117	0.352	ug/L
cis-1,3-Dichloropropene	Non-Potable Water	624/8260	ALPHA	0.05	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.267	1	ug/kg
	Drinking Water	524.2	DELTA	0.0767	0.23	ug/L
Dibromochloromethane	Non-Potable Water	624/8260	ALPHA	0.066	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.411	1.234	ug/kg
	Drinking Water	524.2	DELTA	0.108	0.324	ug/L
Dibromomethane	Non-Potable Water	8260	ALPHA	0.057	#N/A	ug/L
	Soil	8260	Charlie/Foxtrot	0.304	1	ug/kg
	Drinking Water	524.2	DELTA	0.114	0.342	ug/L
Dichlorodifluoromethane	Non-Potable Water	8260	ALPHA	0.094	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.652	1.957	ug/kg
	Drinking Water	524.2	DELTA	0.0713	0.214	ug/L
Ethyl Benzene	Non-Potable Water	624/8260	ALPHA	0.084	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.308	1	ug/kg
	Drinking Water	524.2	DELTA	0.0736	0.221	ug/L
Ethyl Methacrylate	Non-Potable Water	8260	ALPHA	0.077	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.438	1.314	ug/kg
	Drinking Water	524.2	DELTA	0.115	0.345	ug/L
Hexachlorobutadiene	Non-Potable Water	8260	ALPHA	0.141	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.439	1.318	ug/kg
	Drinking Water	524.2	DELTA	0.245	0.735	ug/L
Iodomethane	Non-Potable Water	8260	ALPHA	0.078	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.673	2.02	ug/kg

Isopropylbenzene	Non-Potable Water	8260	ALPHA	0.116	#N/A	ug/L
	Drinking Water	524.2	DELTA	0.0504	0.151	ug/L
m,p-Xylene	Non-Potable Water	624/8260	ALPHA	0.168	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.707	2.121	ug/kg
Methacrylonitrile	Non-Potable Water	8260	ALPHA	0.249	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.572	1.717	ug/kg
	Drinking Water	524.2	DELTA	0.163	0.489	ug/L
Methylene Chloride	Non-Potable Water	624/8260	ALPHA	0.751	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	3.167	9.5	ug/kg
	Drinking Water	524.2	DELTA	0.142	0.426	ug/L
Methyl Methacrylate	Non-Potable Water	8260	ALPHA	0.076	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.33	1	ug/kg
	Drinking Water	524.2	DELTA	0.183	0.549	ug/L
Methyl-tert-butyl ether	Non-Potable Water	8260	ALPHA	0.086	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.469	1.406	ug/kg
	Drinking Water	524.2	DELTA	0.0621	0.186	ug/L
Naphthalene	Non-Potable Water	8260	ALPHA	0.579	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	1.079	3.236	ug/kg
	Drinking Water	524.2	DELTA	0.163	0.489	ug/L
n-Butyl Benzene	Non-Potable Water	8260	ALPHA	0.266	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.482	1.447	ug/kg
	Drinking Water	524.2	DELTA	0.138	0.414	ug/L
n-Propylbenzene	Non-Potable Water	8260	ALPHA	0.109	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.354	1.061	ug/kg
	Drinking Water	524.2	DELTA	0.0689	0.207	ug/L
o-Xylene	Non-Potable Water	624/8260	ALPHA	0.084	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.333	1	ug/kg
p-Isopropyltoluene	Non-Potable Water	8260	ALPHA	0.197	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.39	1.171	ug/kg
	Drinking Water	524.2	DELTA	0.0859	0.258	ug/L
Propionitrile	Non-Potable Water	8260	ALPHA	0.24	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.761	2.283	ug/kg
sec-Butyl Benzene	Non-Potable Water	8260	ALPHA	0.177	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.371	1.113	ug/kg
	Drinking Water	524.2	DELTA	0.054	0.162	ug/L
Styrene	Non-Potable Water	8260	ALPHA	0.096	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.387	1.162	ug/kg
	Drinking Water	524.2	DELTA	0.0788	0.236	ug/L
tert-Butylbenzene	Non-Potable Water	8260	ALPHA	0.193	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.36	1.081	ug/kg
	Drinking Water	524.2	DELTA	0.0651	0.195	ug/L
Tetrachloroethene	Non-Potable Water	624/8260	ALPHA	0.084	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.38	1.14	ug/kg
	Drinking Water	524.2	DELTA	0.095	0.285	ug/L
Toluene	Non-Potable Water	624/8260	ALPHA	0.035	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.26	1	ug/kg
	Drinking Water	524.2	DELTA	0.108	0.324	ug/L
Total Trihalomethanes	Drinking Water	524.2	DELTA	0.319	0.958	ug/L
Total Xylenes	Drinking Water	524.2	DELTA	0.207	0.622	ug/L
	Soil	8260	Charley/Foxtrot	1.068	3.204	ug/kg
trans-1,2-Dichloroethene	Non-Potable Water	624/8260	ALPHA	0.107	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.334	1.001	ug/kg

	Drinking Water	524.2	DELTA	0.0806	0.242	ug/L
trans-1,3-Dichloropropene	Non-Potable Water	624/8260	ALPHA	0.25	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.326	1	ug/kg
	Drinking Water	524.2	DELTA	0.159	0.477	ug/L
trans-1,4-Dichloro-2-butene	Non-Potable Water	8260	ALPHA	0.122	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.305	1	ug/kg
Trichloroethene	Non-Potable Water	624/8260	ALPHA	0.05	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.338	1.013	ug/kg
	Drinking Water	524.2	DELTA	0.111	0.333	ug/L
Trichlorofluoromethane	Non-Potable Water	624/8260	ALPHA	0.07	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.299	1	ug/kg
	Drinking Water	524.2	DELTA	0.0594	0.178	ug/L
Vinyl chloride	Non-Potable Water	624/8260	ALPHA	0.084	#N/A	ug/L
	Soil	8260	Charley/Foxtrot	0.312	1	ug/kg
	Drinking Water	524.2	DELTA	0.08	0.24	ug/L
Tetrahydrofuran	Drinking Water	524.2	DELTA	0.382	1.15	ug/L
	Soil	8260	Charley/Foxtrot	0.988	2.965	ug/kg
Diethyl Ether	Drinking Water	524.2	DELTA	0.0933	0.28	ug/L
	Soil	8260	Charley/Foxtrot	0.381	1.143	ug/kg
Methyl Acrylate	Drinking water	524.2	DELTA	0.156	0.468	ug/L
	Soil	8260	Charley/Foxtrot	0.298	1	ug/kg

APPIX COMPOUNDS

1,4-Dioxane	Non-Potable Water	8260	Delta	4.35	50	ug/L
	Soil	8260	CHARLEY	6.36	#N/A	ug/kg
Acetonitrile	Non-Potable Water	8260	ALPHA	9.94	#N/A	ug/L
	Soil	8260	CHARLEY	9.46	#N/A	ug/kg
Chloroprene	Non-Potable Water	8260	ALPHA	0.678	#N/A	ug/L
	Soil	8260	CHARLEY	0.666	#N/A	ug/kg
Isobutyl Alcohol	Non-Potable Water	8260	DELTA	6.657	#N/A	ug/L
	Soil	8260	CHARLEY	8.84	#N/A	ug/kg
Pentachloroethane	Non-Potable Water	8260	ALPHA	0.187	#N/A	ug/L
	Soil	8260	DELTA	0.77	#N/A	ug/kg
Vinyl Acetate	Non-Potable Water	8260	ALPHA	1.32	#N/A	ug/L
	Soil	8260	CHARLEY	0.564	#N/A	ug/kg
Isopropanol	Non-Potable Water	8260	DELTA	6.057	#N/A	ug/L
Tert-Butyl Alcohol	Non-Potable Water	8260	DELTA	4.601	#N/A	ug/L
N-Butyl Alcohol	Non-Potable Water	8260	DELTA	6.239	#N/A	ug/L
Methyl Acetate	Non-Potable Water	8260	DELTA	1.193	#N/A	ug/L
Ethyl Acetate	Non-Potable Water	8260	DELTA	0.875	#N/A	ug/L
Isopropyl Acetate	Non-Potable Water	8260	DELTA	0.528	#N/A	ug/L
N-Amyl Acetate	Non-Potable Water	8260	DELTA	0.996	#N/A	ug/L

Review 625 and 8270 Certifications!!!

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
1,2,4-Trichlorobenzene	Non-Potable Water	8270D	TINA	0.32	0.96	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0393	0.500	ug/L
	Soil	8270	TINA	32.8	98.4	ug/kg
1-Methylnapthalene	Non-Potable Water	625/8270D	TINA	0.249	0.747	ug/L
	Soil	8270	TINA	27.3	81.9	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.015	0.045	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.349	1.047	ug/kg
2,3,4,6-Tetrachlorophenol	Non-Potable Water	625/8270D	TINA	0.372	1.12	ug/L
	Soil	8270	TINA	37.3	112	ug/kg
2,4,5-Trichlorophenol	Non-Potable Water	8270D	TINA	0.281	0.843	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.130	0.500	ug/L
	Soil	8270	TINA	25.2	75.6	ug/kg
2,4,6-Trichlorophenol	Non-Potable Water	8270D	TINA	0.447	1.34	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.118	0.5	ug/L
	Soil	8270	TINA	30.1	90.3	ug/kg
2,4-Dichlorophenol	Non-Potable Water	8270D	TINA	0.347	1.04	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0723	0.5	ug/L
	Soil	8270	TINA	37.4	112	ug/kg
2,4-Dimethylphenol	Non-Potable Water	8270D	TINA	0.386	1.16	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0685	0.5	ug/L
	Soil	8270	TINA	43.4	130	ug/kg
2,4-Dinitrotoluene	Non-Potable Water	8270D	TINA	0.381	1.14	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0957	0.5	ug/L
	Soil	8270	TINA	33.9	102	ug/kg
2,4-Dinitrophenol	Non-Potable Water	8270D	TINA	0.17	0.54	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	15.1	45.2	ug/L
	Soil	8270	TINA	10.6	31.8	ugkg
4,6-Dinitro-2-methylphenol	Non-Potable Water	8270D	TINA	0.18	0.55	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	16.4	49.3	ug/L
	Soil	8270	TINA	11.01	33.03	ug/kg
2,6-Dichlorophenol	Non-Potable Water	8270D	TINA	0.595	1.78	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0769	0.5	ug/L
	Soil	8270	TINA	39.9	120	ug/kg
2,6-Dinitrotoluene	Non-Potable Water	8270D	TINA	0.315	0.945	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.104	0.5	ug/L
	Soil	8270	TINA	32.7	98.1	ug/kg
3,3-Dichlorobenzidine	Non-Potable Water	8270D	TINA	0.673	2.02	
	Non-Potable Water	625.1	Barbara/Imhotep	0.37	1.11	ug/L
	Soil	8270	TINA	27	81	ug/kg
2-Chlorophenol	Non-Potable Water	8270D	TINA	0.277	0.831	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0648	0.5	ug/L
	Soil	8270	TINA	27.1	81.3	ug/kg
2-Chloronaphthalene	Non-Potable Water	8270D	TINA	0.269	0.807	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0535	0.5	ug/L
	Soil	8270	TINA	29.1	87.3	ug/kg
2-Methylnapthalene	Non-Potable Water	8270D	TINA	0.64	1.92	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0228	0.5	ug/L
	Soil	8270	TINA	27	81	ug/kg

Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.009	0.027	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.435	1.305	ug/kg
2-Nitrophenol	Non-Potable Water	8270D	TINA	0.455	1.36	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0946	0.5	ug/L
	Soil	8270	TINA	37.4	112	ug/kg
4-Bromo-diphenylether	Non-Potable Water	8270D	TINA	0.331	0.993	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.34	1.02	ug/L
	Soil	8270	TINA	30.8	92.4	ug/kg
4-Chloro-3-methylphenol	Non-Potable Water	8270D	TINA	0.319	0.957	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.081	0.5	ug/L
	Soil	8270	TINA	36.1	108	ug/kg
4-Chlorodiphenylether	Non-Potable Water	8270D	TINA	0.247	0.741	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0503	0.5	ug/L
	Soil	8270	TINA	28.2	84.6	ug/kg
4-Nitrophenol	Non-Potable Water	8270D	TINA	0.654	1.96	ug/l
	Non-Potable Water	625.1	Barbara/Imhotep	0.712	2.14	ug/L
	Soil	8270	TINA	11.6	34.8	ug/kg
Acenaphthylene	Non-Potable Water	8270D	TINA	0.22	0.66	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0418	0.5	ug/L
	Soil	8270	TINA	26	78	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.006	0.018	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.211	0.633	ug/kg
Acenapthene	Non-Potable Water	8270D	TINA	0.307	0.921	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0411	0.5	ug/L
	Soil	8270	TINA	26.8	80.4	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.012	0.036	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.321	0.963	ug/kg
Aniline	Non-Potable Water	8270D	TINA	0.273	0.819	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.11	0.5	ug/L
	Soil	8270	TINA	16.8	50.4	ug/kg
Anthracene	Non-Potable Water	8270D	TINA	0.229	0.897	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0598	0.5	ug/L
	Soil	8270	TINA	33.1	99.3	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.01	0.03	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.355	1.065	ug/kg
Azobenzene (1,2-Diphenylhydrazine)	Non-Potable Water	8270D	TINA	0.257	0.771	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0711	0.5	ug/L
	Soil	8270	TINA	22.8	68.4	ug/kg
Benzo (a) anthracene	Non-Potable Water	8270D	TINA	0.301	0.903	ug/L
	Non-Potable Water	0.0622	Barbara/Imhotep	0.0622	0.5	ug/L
	Soil	8270	TINA	26	78	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.013	0.039	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.353	1.059	ug/kg
Benzo (a) pyrene	Non-Potable Water	8270D	TINA	0.274	0.822	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.447	1.34	ug/L
	Soil	8270	TINA	22.5	67.5	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.009	0.027	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.24	0.72	ug/kg
Benzo (b) fluoranthene	Non-Potable Water	8270D	TINA	0.318	0.954	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.277	0.831	ug/L
	Soil	8270	TINA	22.2	66.6	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.007	0.021	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.433	1.299	ug/kg
Benzo (ghi) perylene	Non-Potable Water	8270D	TINA	0.245	0.735	ug/L

	Non-Potable Water	625.1	Barbara/Imhotep	0.414	1.24	ug/L
	Soil	8270	TINA	13.8	41.4	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.007	0.021	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.266	0.798	ug/kg
Benzo (k) fluoranthene	Non-Potable Water	8270D	TINA	0.299	0.897	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.302	0.906	ug/L
	Soil	8270	TINA	29.3	87.9	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.009	0.027	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.313	0.939	ug/kg
Benzyl alcohol	Non-Potable Water	8270D	TINA	0.463	1.39	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.297	0.892	ug/L
	Soil	8270	TINA	28.6	85.8	ug/kg
Bis(2-chloroethoxy)methane	Non-Potable Water	8270D	TINA	0.294	0.882	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0535	0.5	ug/L
	Soil	8270	TINA	22.6	67.8	ug/kg
Bis(2-chloroethyl)ether	Non-Potable Water	8270D	TINA	0.281	0.843	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.173	0.519	ug/L
	Soil	8270	TINA	22.97	68.9	ug/kg
Bis(2-chloroisopropyl)ether	Non-Potable Water	8270D	TINA	1.34	4.02	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0511	0.5	ug/L
	Soil	8270	TINA	19.6	58.8	ug/kg
Bis(2-ethylhexyl)phthalate	Non-Potable Water	8270D	TINA	0.329	0.987	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0924	0.5	ug/L
	Soil	8270	TINA	32.2	96.6	ug/kg
Butylbenzyl phthalate	Non-Potable Water	8270D	TINA	0.363	1.09	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0876	0.5	ug/L
	Soil	8270	TINA	33.5	101	ug/kg
Benzidine	Non-Potable Water	8270D	TINA	0.193	0.579	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	1.58	4.75	ug/L
	Soil	8270	TINA	14.7	44.1	ug/kg
Chrysene	Non-Potable Water	8270D	TINA	0.352	1.06	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0992	0.5	ug/L
	Soil	8270	TINA	33.4	100	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.007	0.021	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.148	0.444	ug/kg
Demeton-O	Non-Potable Water	625/8270D	TINA	0.45	1.35	ug/L
	Soil	8270	TINA	7.75	23.25	ug/kg
Diazinon	Non-Potable Water	FSE-OPP/G	TINA	0.31	0.93	ug/L
	Soil	FSE-OPP/G	TINA	9.48	28.44	ug/kg
Dibenzo (ah) anthracene	Non-Potable Water	8270D	TINA	0.16	0.48	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.518	1.55	ug/L
	Soil	8270	TINA	19.6	58.8	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.007	0.021	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.253	0.759	ug/kg
Dibenzofuran	Non-Potable Water	8270D	TINA	0.291	0.873	ug/l
	Non-Potable Water	625.1	Barbara/Imhotep	0.0494	0.5	ug/L
	Soil	8270	TINA	33.9	102	ug/kg
Diethylphthalate	Non-Potable Water	8270D	TINA	0.246	0.738	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.048	0.5	ug/L
	Soil	8270	TINA	28.6	85.8	ug/kg
Dimethylphthalate	Non-Potable Water	8270D	TINA	0.427	1.28	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0647	0.5	ug/L
	Soil	8270	TINA	29.8	89.4	ug/kg
Di-n-butyl phthalate	Non-Potable Water	8270D	TINA	0.312	0.936	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0758	0.5	ug/L

	Soil	8270	TINA	30.8	92.4	ug/kg
Di-n-octyl phthalate	Non-Potable Water	8270D	TINA	0.17	0.51	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0909	0.5	ug/L
	Soil	8270	TINA	36.2	109	ug/kg
Ethion	Non-Potable Water	625/8270D	TINA	0.24	0.72	ug/L
	Soil	8270	TINA	12.08	36.24	ug/kg
Ethyl methanesulfonate	Non-Potable Water	625/8270D	TINA	0.254	0.762	ug/L
	Soil	8270	TINA	14.9	44.7	ug/kg
Fluoranthrene	Non-Potable Water	8270D	TINA	0.294	0.882	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.38	1.14	ug/L
	Soil	8270	TINA	33.1	99.3	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.01	0.03	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.32	0.96	ug/kg
Fluorene	Non-Potable Water	8270D	TINA	0.25	0.75	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0315	0.5	ug/L
	Soil	8270	TINA	34.2	103	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.015	0.045	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.426	1.278	ug/kg
Guthion (Azinphos methyl)	Non-Potable Water	625/8270D	BRAVO	0.0459	0.138	ug/L
	Soil	8270	BRAVO	1.033	3.099	ug/kg
Hexachlorobenzene	Non-Potable Water	8270D	TINA	0.218	0.654	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0669	0.5	ug/L
	Soil	8270	TINA	25.1	75.3	ug/kg
Hexachlorobutadiene	Non-Potable Water	8270D	TINA	0.284	0.852	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0289	0.5	ug/L
	Soil	8270	TINA	31.5	94.5	ug/kg
Hexachlorocyclopentadiene	Non-Potable Water	625/8270D	TINA	0.54	1.62	ug/L
	Soil	8270	TINA	6.54	19.6	ug/kg
Hexachloroethane	Non-Potable Water	8270D	TINA	0.475	1.42	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0703	0.5	ug/L
	Soil	8270	TINA	27.9	83.7	ug/kg
Indeno (123-cd) pyrene	Non-Potable Water	8270D	TINA	0.225	0.675	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.448	1.34	ug/L
	Soil	8270	TINA	14.9	44.7	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.004	0.012	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.147	0.441	ug/kg
Isophorone	Non-Potable Water	8270D	TINA	0.68	2.04	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0864	0.5	ug/L
	Soil	8270	TINA	20.2	60.6	ug/kg
Malathion	Non-Potable Water	625/8270D	TINA	0.21	0.63	ug/L
	Soil	8270	TINA	3.8	11.4	ug/kg
m-Dichlorobenzene (1,3-Dichlorobenzene)	Non-Potable Water	8270D	TINA	0.275	0.825	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.048	0.5	ug/L
	Soil	8270	TINA	27.8	83.4	ug/kg
Methyl methanesulfonate	Non-Potable Water	625/8270D	TINA	0.457	1.37	ug/L
	Soil	8270	TINA	21.8	65.4	ug/kg
m-Nitroaniline (3-Nitroaniline)	Non-Potable Water	625/8270D	TINA	0.5	1.5	ug/L
	Soil	8270	TINA	19	57	ug/kg
Napthalene	Non-Potable Water	8270D	TINA	0.267	0.801	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0358	0.5	ug/L
	Soil	8270	TINA	26.7	80.1	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.009	0.027	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.374	1.122	ug/kg
Nitrobenzene	Non-Potable Water	8270D	TINA	0.408	1.22	ug/L

	Non-Potable Water	625.1	Barbara/Imhotep	0.244	0.731	ug/L
	Soil	8270	TINA	22.6	67.8	ug/kg
n-Nitrosodimethylamine	Non-Potable Water	8270D	TINA	0.292	0.876	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.504	1.51	ug/L
	Soil	8270	TINA	18.4	55.2	ug/kg
n-Nitrosodi-n-propylamine	Non-Potable Water	8270D	TINA	0.232	0.696	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.243	0.729	ug/L
	Soil	8270	TINA	23.5	70.5	ug/kg
n-Nitrosodiphenylamine	Non-Potable Water	8270D	TINA	0.262	0.786	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0287	0.5	ug/L
	Soil	8270	TINA	27.7	83.1	ug/kg
o-Cresol (2-methylphenol)	Non-Potable Water	8270D	TINA	0.256	0.768	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.221	0.664	ug/L
	Soil	8270	TINA	25.7	77.1	ug/kg
o-Dichlorobenzene (1,2-Dichlorobenzene)	Non-Potable Water	8270D	TINA	0.358	1.07	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0449	0.5	ug/L
	Soil	8270	TINA	23.2	69.6	ug/kg
o-Nitroaniline (2-Nitroaniline)	Non-Potable Water	8270D	TINA	0.41	1.23	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.144	0.5	ug/L
	Soil	8270	TINA	20.1	60.3	ug/kg
Parathion (Parathion Ethyl)	Non-Potable Water	625/8270D	TINA	0.32	0.96	ug/L
	Soil	8270	TINA	10.8	32.4	ug/kg
Parathion methyl	Non-Potable Water	625/8270D	TINA	0.11	0.33	ug/L
	Soil	8270	TINA	6.23	18.69	ug/kg
p-Chloroaniline (4-Chloroaniline)	Non-Potable Water	625/8270D	TINA	0.453	1.36	ug/L
	Soil	8270	TINA	21	63	ug/kg
m/p-Cresol (3/4-methylphenol)	Non-Potable Water	8270D	TINA	0.334	1	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.284	1	ug/L
	Soil	8270	TINA	33.9	102	ug/kg
p-Dichlorobenzene (1,4-Dichlorobenzene)	Non-Potable Water	8270D	TINA	0.266	0.798	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.041	0.5	ug/L
	Soil	8270	TINA	25.1	75.3	ug/kg
Pentachlorophenol	Non-Potable Water	8270D	TINA	1.42	4.26	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.858	5	ug/L
	Soil	8270	TINA	33.2	99.6	ug/kg
Phenanthrene	Non-Potable Water	8270D	TINA	0.42	1.26	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0531	0.5	ug/L
	Soil	8270	TINA	31.6	94.8	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.008	0.024	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.284	0.852	ug/kg
Phenol	Non-Potable Water	8270D	TINA	0.245	0.735	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.0695	0.5	ug/L
	Soil	8270	TINA	24.1	72.3	ug/kg
p-Nitroaniline (4-Nitroaniline)	Non-Potable Water	625/8270D	TINA	0.464	1.39	ug/L
	Soil	8270	TINA	19.1	57.3	ug/kg
Pyrene	Non-Potable Water	8270D	TINA	0.237	0.711	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.128	0.5	ug/L
	Soil	8270	TINA	32.6	97.8	ug/kg
Low Level PAHS	Non-Potable Water	8270D	BARBARA	0.011	0.033	ug/L
Low Level PAHS	Soil	8270	BARBARA	0.215	0.645	ug/kg
Pyridine	Non-Potable Water	8270D	TINA	0.286	0.858	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.313	0.938	ug/L
	Soil	8270	TINA	20.4	61.2	ug/kg

Benzoic Acid(not certified)	Non-Potable Water	8270D	TINA	0.694	2.08	ug/L
	Soil	8270	TINA	16.8	50.4	ug/kg

Extended List Compounds (App IX)

N-Nitrosodiethylamine	Non-Potable Water	EPA 8270D	TINA	0.376	1.13	ug/L
	Soil	8270	TINA	26.1	78.3	ug/kg
n-decane	Non-Potable Water	EPA 625.1	Barbara/Imhotep	0.323	2.00	ug/L
alpha-terpineol	Non-Potable Water	EPA 625.1	Barbara/Imhotep	0.412	2.00	ug/L
n-Octadecane	Non-Potable Water	EPA 625.1	Barbara/Imhotep	0.708	2.12	ug/L
2,3-Dichloroaniline	Non-Potable Water	EPA 625.1	Barbara/Imhotep	0.419	2.00	ug/L
2-Picoline	Non-Potable Water	EPA 8270D	TINA	0.446	1.34	ug/L
	Soil	8270	TINA	15.8	47.4	ug/kg
N-Nitrosomethylethylamine	Non-Potable Water	EPA 8270D	TINA	0.79	2.37	ug/L
	Soil	8270	TINA	23.7	71.1	ug/kg
N-Nitrodiethylamine	Non-Potable Water	EPA 8270D	TINA	0.376	1.13	ug/L
	Soil	8270	TINA	26.1	78.3	ug/kg
N-Nitrosopyrrolidine	Non-Potable Water	EPA 8270D	TINA	0.984	2.95	ug/L
	Soil	8270	TINA	16.6	49.8	ug/kg
Acetophenone	Non-Potable Water	EPA 8270D	TINA	0.563	1.69	ug/L
	Soil	8270	TINA	17.8	53.4	ug/kg
N-Nitrosomorpholine	Non-Potable Water	EPA 8270D	TINA	0.24	0.72	ug/L
	Soil	8270	TINA	18.1	54.3	ug/kg
o-Toluidine	Non-Potable Water	EPA 8270D	TINA	0.69	2.07	ug/L
	Soil	8270	TINA	22.6	67.8	ug/kg
N-Nitrosopiperidine	Non-Potable Water	EPA 8270D	TINA	0.26	0.78	ug/L
	Soil	8270	TINA	11.97	35.9	ug/kg
o,o,o-Triethylphosphorothioate	Non-Potable Water	EPA 8270D	TINA	0.439	1.32	ug/L
	Soil	8270	TINA	18.6	55.8	ug/kg
a,a-Dimethylphenethylamine	Non-Potable Water	EPA 8270D	TINA	0.395	1.18	ug/L
	Soil	8270	TINA	12.51	37.52	ug/kg
Hexachloropropene	Non-Potable Water	EPA 8270D	TINA	0.385	1.15	ug/L
	Soil	8270	TINA	11.99	35.98	ug/kg
N-Nitroso-n-butylamine	Non-Potable Water	EPA 8270D	TINA	0.261	0.783	ug/L
	Soil	8270	TINA	14.7	44.1	ug/kg
Isosafrole	Non-Potable Water	EPA 8270D	TINA	0.33	0.99	ug/L
	Soil	8270	TINA	14.8	44.4	ug/kg
1,2,4,5-Tetrachlorobenzene	Non-Potable Water	EPA 8270D	TINA	0.285	0.855	ug/L
	Soil	8270	TINA	15.5	46.5	ug/kg
Safrole	Non-Potable Water	EPA 8270D	TINA	0.3	0.89	ug/L
	Soil	8270	TINA	12.5	37.5	ug/kg
1,4-Naphtoquinone	Non-Potable Water	EPA 8270D	TINA	0.347	1.04	ug/L
	Soil	8270	TINA	17.2	51.6	ug/kg
1,2-Dinitrobenzene	Non-Potable Water	EPA 8270D	TINA	0.763	2.29	ug/L
	Soli	8270	TINA	27.2	81.6	ug/kg
1,3-Dinitrobenzene	Non-Potable Water	EPA 8270D	TINA	0.501	1.5	ug/L
	Soil	8270	TINA	21.7	65.1	ug/kg
Pentachlorobenzene	Non-Potable Water	EPA 8270D	TINA	0.354	1.06	ug/L
	Soil	8270	TINA	11.5	34.5	ug/kg
2-Naphthylamine	Non-Potable Water	EPA 8270D	TINA	0.413	1.24	ug/L
	Soil	8270	TINA	18.7	56.1	ug/kg
1-Naphthylamine	Non-Potable Water	EPA 8270D	TINA	0.56	1.69	ug/L
	Soil	8270	TINA	17.1	85.5	uig/kg
5-Nitro-o-toluidine	Non-Potable Water	EPA 8270D	TINA	0.418	1.25	ug/L
	Soil	8270	TINA	32	96	ug/kg

Diallate	Non-Potable Water	EPA 8270D	TINA	0.66	1.98	ug/L
	Soil	8270	TINA	35.6	106.8	ug/kg
2,4,6-Trinitrobenzene	Non-Potable Water	EPA 8270D	TINA	1.99	5.97	ug/L
	Soil	8270	TINA	51.95	54.95	ug/kg
1,3,5-Tinitrobenzene	Non-Potable Water	EPA 8270D	TINA	1.35	4.05	ug/L
	Soil	8270	TINA	52.7	158	ug/kg
Phenacethin	Non-Potable Water	EPA 8270D	TINA	0.49	1.47	ug/L
	Soil	8270	TINA	21.1	63.3	ug/kg
4-Aminobiphenyl	Non-Potable Water	EPA 8270D	TINA	0.701	2.1	ug/L
	Soil	8270	TINA	40.1	120	ug/kg
Pentachloronitrobenzene	Non-Potable Water	EPA 8270D	TINA	0.622	1.87	ug/L
	Soil	8270	TINA	27.3	81.9	ug/kg
Pronamide	Non-Potable Water	EPA 8270D	TINA	0.34	1.03	ug/L
	Soil	8270	TINA	18.8	56.4	ug/kg
Nitroquinoline-1-Oxide	Non-Potable Water	EPA 8270D	TINA	0.304	0.912	ug/L
	Soil	8270	TINA	45.1	135	ug/kg
Methapyrilene	Non-Potable Water	EPA 8270D	TINA	0.287	0.861	ug/L
	Soil	8270	TINA	50.2	151	ug/kg
Isodrin	Non-Potable Water	EPA 8270D	TINA	0.341	1.02	ug/L
	Soil	8270	TINA	24.1	72.3	ug/kg
4-Dimethylaminoazobenzene	Non-Potable Water	EPA 8270D	TINA	0.413	1.24	ug/L
	Soil	8270	TINA	11.3	33.9	ug/kg
Chlorobenzilate	Non-Potable Water	EPA 8270D	TINA	0.357	1.07	ug/L
	Soil	8270	TINA	17	51	ug/kg
3,3-Dimethylbenzidine	Non-Potable Water	EPA 8270D	TINA	1.09	3.27	ug/L
	Soil	8270	TINA	19.4	58.2	ug/kg
3,3-Dimethoxybenzidine	Non-Potable Water	EPA 8270D	TINA	1.93	5.79	ug/L
	Soil	8270	TINA	8.71	26.1	ug/kg
2-Acetylaminofluorene	Non-Potable Water	EPA 8270D	TINA	0.362	1.09	ug/L
	Soil	8270	TINA	18	54	ug/kg
7,12-Dimethylbenz(a)anthracene	Non-Potable Water	EPA 8270D	TINA	0.64	1.93	ug/L
	Soil	8270	TINA	16.4	49.2	ug/kg
3-Methylchlolanthrene	Non-Potable Water	EPA 8270D	TINA	0.4	1.21	ug/L
	Soil	8270	TINA	14.9	44.7	ug/kg
Biphenyl	Non-Potable Water	EPA 8270D	TINA	0.326	0.978	ug/L
	Soil	8270	TINA	14.1	42.3	ug/kg
Carbazole	Non-Potable Water	EPA 8270D	TINA	0.268	0.804	ug/L
	Non-Potable Water	625.1	Barbara/Imhotep	0.423	1.27	ug/L
	Soil	8270	TINA	13.6	40.8	ug/kg
Stychnine	Non-Potable Water	EPA 8270D	TINA	7.06	21.2	ug/L
	Soil	8270	TINA	105	315	ug/kg

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Arochlor 1016	Non-Potable Water	608.3	MONICA/ECHO	0.186	0.557	ug/L
	Non-Potable Water	8082	MONICA	0.046	0.138	ug/L
	Soil	8082	MONICA	1.288	#N/A	ug/kg
Arochlor 1221	Non-Potable Water	608.3	MONICA/ECHO	0.186	0.558	ug/L
	Non-Potable Water	8082	MONICA	0.108	#N/A	ug/L
	Soil	8082	MONICA	0.739	#N/A	ug/kg
Arochlor 1232	Non-Potable Water	608.3	MONICA/ECHO	0.184	0.551	ug/L
	Non-Potable Water	8082	MONICA	0.035	#N/A	ug/L
	Soil	8082	MONICA	1.948	#N/A	ug/kg
Arochlor 1242	Non-Potable Water	608.3	MONICA/ECHO	0.0377	0.25	ug/L
	Non-Potable Water	8082	MONICA	0.045	#N/A	ug/L
	Soil	8082	MONICA	0.775	#N/A	ug/kg
Arochlor 1248	Non-Potable Water	608.3	MONICA/ECHO	0.0597	0.25	ug/L
	Non-Potable Water	8082	MONICA	0.026	#N/A	ug/L
	Soil	8082	MONICA	0.48	#N/A	ug/kg
Arochlor 1254	Non-Potable Water	608.3	MONICA/ECHO	0.134	0.402	ug/L
	Non-Potable Water	8082	MONICA	0.04	#N/A	ug/L
	Soil	8082	MONICA	0.786	#N/A	ug/kg
Arochlor 1260	Non-Potable Water	608.3	MONICA/ECHO	0.0968	0.291	ug/L
	Non-Potable Water	8082	MONICA	0.144	#N/A	ug/L
	Soil	8082	MONICA	1.435	#N/A	ug/kg
Aldrin	Non-Potable Water	608.3	MONICA/ECHO	0.0014	0.005	ug/L
	Non-Potable Water	8081	MONICA	0.00173	0.00519	ug/L
	Soil	8081	MONICA	0.0362	0.108	ug/kg
BHC-alpha	Non-Potable Water	608.3	MONICA/ECHO	0.002	0.0059	ug/L
	Non-Potable Water	8081	MONICA	0.00113	0.0034	ug/L
	Soil	8081	MONICA	0.0575	0.172	ug/kg
BHC-beta	Non-Potable Water	608.3	MONICA/ECHO	0.0017	0.0052	ug/L
	Non-Potable Water	8081	MONICA	0.00173	0.00519	ug/L
	Soil	8081	MONICA	0.0865	0.260	ug/kg
BHC-delta	Non-Potable Water	608.3	MONICA/ECHO	0.0029	0.0088	ug/L
	Non-Potable Water	8081	MONICA	0.0039	#N/A	ug/L
	Soil	8081	MONICA	0.0377	0.113	ug/kg
Chlordane	Non-Potable Water	608.3	MONICA/ECHO	0.0091	0.0400	ug/L
	Non-Potable Water	8081	MONICA	0.02	#N/A	ug/L
	Soil	8081	MONICA/ECHO	0.525	1.58	ug/kg
Dieldrin	Non-Potable Water	608.3	MONICA/ECHO	0.0018	0.0055	ug/L
	Non-Potable Water	8081	MONICA	0.00146	0.00438	ug/L
	Soil	8081	MONICA	0.0397	0.119	ug/kg
Endrin Ketone	Non-Potable Water	8081	MONICA	0.00236	0.00708	ug/L
	Non-Potable Water	608.3	MONICA/ECHO	0.0029	0.0088	ug/L
	Soil	8081	MONICA	0.0632	0.190	ug/kg
Endosulfan I	Non-Potable Water	608.3	MONICA/ECHO	0.0017	0.005	ug/L
	Non-Potable Water	8081	MONICA	0.00227	0.00681	ug/L
	Soil	8081	MONICA	0.0623	0.187	ug/kg
Endosulfan II	Non-Potable Water	608.3	MONICA/ECHO	0.0015	0.005	ug/L
	Non-Potable Water	8081	MONICA	0.00227	0.00681	ug/L
	Soil	8081	MONICA	0.196	#N/A	ug/kg
Endosulfan sulfate	Non-Potable Water	608.3	MONICA/ECHO	0.0021	0.0062	ug/L
	Non-Potable Water	8081	MONICA	0.00113	0.00339	ug/L

	Soil	8081	MONICA	0.0411	0.123	ug/kg
Endrin	Non-Potable Water	608.3	MONICA/ECHO	0.0029	0.0086	ug/L
	Non-Potable Water	8081	MONICA	0.00146	0.00438	ug/L
	Soil	8081	MONICA	0.156	#N/A	ug/kg
Endrin aldehyde	Non-Potable Water	608.3	MONICA/ECHO	0.002	0.006	ug/L
	Non-Potable Water	8081	MONICA	0.00207	0.00621	ug/L
	Soil	8081	MONICA	0.0622	0.187	ug/kg
Heptachlor	Non-Potable Water	608.3	MONICA/ECHO	0.0019	0.0058	ug/L
	Non-Potable Water	8081	MONICA	0.0034	0.0102	ug/L
	Soil	8081	MONICA	0.0719	0.216	ug/kg
Heptachlor epoxide	Non-Potable Water	608.3	MONICA/ECHO	0.0035	0.0104	ug/L
	Non-Potable Water	8081	MONICA	0.00146	0.00438	ug/L
	Soil	8081	MONICA	0.0909	0.273	ug/kg
Lindane (gamma-hex	Non-Potable Water	608.3	MONICA/ECHO	0.0015	0.005	ug/L
	Non-Potable Water	8081	MONICA	0.00454	0.0136	ug/L
	Soil	8081	MONICA	0.0543	0.163	ug/kg
Methoxychlor	Non-Potable Water	8081	MONICA	0.005	#N/A	ug/L
	Non-Potable Water	608.3	MONICA/ECHO	0.0041	0.0123	ug/L
	Soil	8081	MONICA	0.149	#N/A	ug/kg
p'p-DDD (4,4'-DDD)	Non-Potable Water	608.3	MONICA/ECHO	0.0034	0.0102	ug/L
	Non-Potable Water	8081	MONICA	0.0027	0.0081	ug/L
	Soil	8081	MONICA	0.0705	0.211	ug/kg
p'p-DDE (4,4'-DDE)	Non-Potable Water	608.3	MONICA/ECHO	0.0017	0.0051	ug/L
	Non-Potable Water	8081	MONICA	0.00146	0.00438	ug/L
	Soil	8081	MONICA	0.144	#N/A	ug/kg
p'p-DDT (4,4'-DDT)	Non-Potable Water	608.3	MONICA/ECHO	0.0023	0.0068	ug/L
	Non-Potable Water	8081	MONICA	0.0016	0.0048	ug/L
	Soil	8081	MONICA	0.0363	0.109	ug/kg
Toxaphene	Non-Potable Water	608	MONICA	0.143	0.429	ug/L
	Non-Potable Water	8081	MONICA	0.075	#N/A	ug/L
	Soil	8081	MONICA/ECHO	4.59	16.7	ug/kg
Mirex	Non-Potable Water	8081	MONICA	0.0016	0.0048	ug/L
	Soil	8081	MONICA	0.0618	0.185	ug/kg
DCPA	Non-Potable Water	8081	Monica	0.00113	0.00339	ug/L
	Soil(not certified)	8081	Monica	0.0487	0.146	ug/kg
Chlorothalonil	Non-Potable Water	8081	Monica	0.0016	0.0048	ug/L
	Soil (not certified)	8081	Monica	0.0272	0.0816	ug/kg
Propachlor	Non-Potable Water	8081	Monica	0.02	0.06	ug/L
	Soil(not certified)	8081	Monica	0.0842	0.253	ug/kg
Etridiazole	Non-Potable Water	8081	Monica	0.01	0.03	ug/L
	Soil(not certified)	8081	Monica	0.0928	0.278	ug/kg
Chlorneb	Non-Potable Water	8081	Monica	0.016	0.048	ug/L
	Soil(not certified)	8081	Monica	0.182	0.546	ug/kg

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Chlorobenzilate	Non-Potable Water	8081	Monica	0.0383	0.115	ug/L
Isodrin	Non-Potable Water	8081	Monica	0.0098	0.0294	ug/L
	Soil	8081	Monica	0.415	1.25	ug/kg
Kepone	Non-Potable Water	8081	Monica	0.00664	0.0199	ug/L
	Soil	8081	Monica	0.5630	1.6900	ug/kg
PCNB	Non-Potable Water	8081	Monica	0.00826	0.0248	ug/L
Chloropropylate	Non-Potable water	8081	Monica	0.0141	0.0423	ug/L
Diclone	Non-Potable Water	8081	Monica	0.019	0.057	ug/L
Nitrofen	Non-Potable water	8081	Monica	0.006	0.018	ug/L

Dicofol	Non-Potable Water	8081	Monica	0.0102	0.0306	ug/L
	Soil	8081	Monica	0.177	0.531	ug/kg
Diallate	Soil	8081	Monica	0.648	1.94	ug/kg

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
2,4,5-T	Non-Potable Water	8151	Monica	0.0183	0.1	ug/L
	Soil	8151	Monica	0.563	3.33	ug/kg
	Drinking Water	515.3	Monica	0.187	0.56	ug/L
2,4-D	Non-Potable Water	8151	Monica	0.0635	0.191	ug/L
	Soil	8151	Monica	1.48	4.45	ug/kg
	Drinking Water	515.3	Monica	0.372	1.12	ug/L
2,4-DB	Non-Potable Water	8151	Monica	0.0847	0.254	ug/L
	Soil	8151	Monica	1.4	4.21	ug/kg
	Drinking Water	515.3	Monica	0.243	0.73	ug/L
3,5-DCBA	Drinking Water	515.3	Monica	0.157	0.47	ug/L
	Soil	8151	Monica	0.147	3.33	ug/kg
	Non-Potable Water	8151	Monica	0.0414	0.124	ug/L
Dalapon	Non-Potable Water	8151	Monica	0.0543	0.163	ug/L
	Soil	8151	Monica	1.81	5.44	ug/kg
	Drinking Water	515.3	Monica	0.343	1.03	ug/L
Dicamba	Non-Potable Water	8151	Monica	0.0318	0.1	ug/L
	Soil	8151	Monica	0.633	3.33	ug/kg
	Drinking Water	515.3	Monica	0.0971	0.5	ug/L
Dichloroprop	Non-Potable Water	8151	Monica	0.0333	0.1	ug/L
	Soil	8151	Monica	0.9	3.33	ug/kg
	Drinking Water	515.3	Monica	0.0836	0.5	ug/L
Dinoseb	Non-Potable Water	8151	Monica	0.058	0.174	ug/L
	Soil	8151	Monica	0.569	3.33	ug/kg
	Drinking Water	515.3	Monica	0.107	0.321	ug/L
MCPA	Non-Potable Water	8151	Monica	1.83	10	ug/L
	Soil	8151	Monica	151	452	ug/kg
MCPP	Non-Potable Water	8151	Monica	2.25	10	ug/L
	Soil	8151	Monica	82.1	333	ug/kg
Pentachlorophenol	Drinking Water	515.3	Monica	0.0374	0.112	ug/L
	Soil	8151	Monica	0.604	3.33	ug/kg
	Non-Potable Water	8151	Monica	0.0552	0.166	ug/L
Picloram	Non-Potable Water	8151	Monica	0.0814	0.244	ug/L
	Soil	8151	Monica	2.1	6.3	ug/kg
	Drinking Water	515.3	Monica	0.0762	0.5	ug/L
Silvex (2,4,5-TP)	Non-Potable Water	8151	Monica	0.0708	0.212	ug/L
	Soil	8151	Monica	0.889	3.33	ug/kg
	Drinking Water	515.3	Monica	0.123	0.368	ug/L
Chloramben	Drinking Water	515.3	Monica	0.142	0.427	ug/L
	Soil	8151	Monica	1.9	5.7	ug/kg
	Non-Potable Water	8151	Monica	0.0589	0.177	ug/L
Bentazon	Drinking Water	515.3	Monica	0.181	0.544	ug/L
	Soil	8151	Monica	2.1	6.31	ug/kg
	Non-Potable Water	8151	Monica	0.0625	0.188	ug/L
DCPA	Drinking Water	515.3	Monica	0.143	0.5	ug/L
	Soil	8151	Monica	0.551	3.33	ug/kg
	Non-Potable Water	8151	Monica	0.0255	0.1	ug/L
Acifluorfen	Drinking Water	515.3	Monica	0.0674	0.5	ug/L
	Soil	8151	Monica	2.23	6.68	ug/kg

	Non-Potable Water	8151	Monica	0.0334	0.1	ug/L
4-Nitrophenol	Soil (not Certified)	8151	Monica	0.392	3.33	ug/kg
	Non-Potable Water(not ce	8151	Monica	0.061	0.183	ug/L

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Atrazine	Drinking Water	525.2	BRAVO	0.0217	0.0651	ug/L
Alachlor	Drinking Water	525.2	BRAVO	0.032	0.096	ug/L
Benzo (a) pyrene	Drinking Water	525.2	BRAVO	0.0106	0.0318	ug/L
Bis(2-ethylhexyl) phthalate	Drinking Water	525.2	BRAVO	0.0226	0.0678	ug/L
Bis-(2-Ethylhexyl) Adipate	Drinking Water	525.2	BRAVO	0.0226	0.0678	ug/L
Simazine	Drinking Water	525.2	BRAVO	0.0212	0.0636	ug/L

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ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Dibromoacetic Acid	Drinking Water	552.2	CLAUDIA	0.288	1.00	ug/L
Dichloroacetic Acid	Drinking Water	552.2	CLAUDIA	0.386	1.50	ug/L
Monobromoacetic Acid	Drinking Water	552.2	CLAUDIA	0.279	1.50	ug/L
Monochloroacetic Acid	Drinking Water	552.2	CLAUDIA	0.310	1.50	ug/L
Trichloroacetic Acid	Drinking Water	552.2	CLAUDIA	0.158	0.50	ug/L
Total HAAs	Drinking Water	552.2	CLAUDIA	CALCULATION - NO MDL		

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
1,1,1-Trichloro-2-propanone	Drinking Water	551.1	CLAUDIA	0.06	#N/A	ug/L
1,1-Dichloro-2-propanone	Drinking Water	551.1	CLAUDIA	0.2	#N/A	ug/L
Bromochloroacetonitrile	Drinking Water	551.1	CLAUDIA	0.05	#N/A	ug/L
Chloral Hydrate	Drinking Water	551.1	CLAUDIA	0.11	#N/A	ug/L
Chloropicrin	Drinking Water	551.1	CLAUDIA	0.26	#N/A	ug/L
Dibromoacetonitrile	Drinking Water	551.1	CLAUDIA	0.28	#N/A	ug/L
Dichloroacetonitrile	Drinking Water	551.1	CLAUDIA	0.06	#N/A	ug/L
Trichloroacetonitrile	Drinking Water	551.1	CLAUDIA	0.08	#N/A	ug/L

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Aspon	Non-Potable Water	8141 by 8270	BARBARA	0.035	0.1060	ug/L
	Soil	8141 by 8270	BARBARA	2.436	7.308	ug/kg
Atrazine	Non-Potable Water	8141 by 8270	BRAVO	0.0342	0.1026	ug/L
	Soil	8141 by 8270	BRAVO	1.098	3.294	ug/kg
Azinphos methyl	Non-Potable Water	8141 by 8270	BRAVO	0.0459	0.1380	ug/L
	Soil	8141 by 8270	BRAVO	1.033	3.099	ug/kg
Azinphos-ethyl	Non-Potable Water	8141 by 8270	BRAVO	0.0263	0.0789	ug/L
	Soil	8141 by 8270	BRAVO	0.878	2.634	ug/kg
Bolstar	Non-Potable Water	8141 by 8270	BRAVO	0.0367	0.1100	ug/L
	Soil	8141 by 8270	BRAVO	1.577	4.731	ug/kg
Carbophenothion	Non-Potable Water	8141 by 8270	BRAVO	0.0217	0.0651	ug/L
	Soil	8141 by 8270	BRAVO	0.721	2.163	ug/kg
Chlorfenvinphos	Non-Potable Water	8141 by 8270	BRAVO	0.0167	0.0501	ug/L
	Soil	8141 by 8270	BARBARA	1.553	4.659	ug/kg
Chlorpyrifos	Non-Potable Water	8141 by 8270	BRAVO	0.0403	0.1210	ug/L
	Soil	8141 by 8270	BRAVO	1.168	3.504	ug/kg
Chlorpyrifos methyl	Non-Potable Water	8141 by 8270	BARBARA	0.028	0.0850	ug/L
	Soil	8141 by 8270	BRAVO	1.096	3.288	ug/kg
Coumaphos	Non-Potable Water	8141 by 8270	BRAVO	0.0413	0.1240	ug/L
	Soil	8141 by 8270	BRAVO	2.15	6.45	ug/kg
Crotoxyphos	Non-Potable Water	8141 by 8270	BRAVO	0.0287	0.0861	ug/L
	Soil	8141 by 8270	BRAVO	1.49	4.47	ug/kg
Demeton-o	Non-Potable Water	8141 by 8270	BRAVO	0.0153	0.0459	ug/L
	Soil	8141 by 8270	BRAVO	0.433	1.299	ug/kg
Demeton-s	Non-Potable Water	8141 by 8270	BARBARA	0.052	0.1550	ug/L
	Soil	8141 by 8270	BRAVO	1.333	3.999	ug/kg
Diazinon	Non-Potable Water	8141 by 8270	BRAVO	0.0202	0.0606	ug/L
	Soil	8141 by 8270	BRAVO	1.444	4.332	ug/kg
Dichlorofenthion	Non-Potable Water	8141 by 8270	BRAVO	0.0245	0.0735	ug/L
	Soil	8141 by 8270	BRAVO	1.128	3.384	ug/kg
Dichlorvos	Non-Potable Water	8141 by 8270	BRAVO	0.0226	0.0678	ug/L
	Soil	8141 by 8270	BRAVO	1.333	3.999	ug/kg
Dicrotophos	Non-Potable Water	8141 by 8270	BARBARA	0.015	0.0450	ug/L
	Soil	8141 by 8270	BARBARA	0.319	0.959	ug/kg
Dimethoate	Non-Potable Water	8141 by 8270	BRAVO	0.0373	0.1120	ug/L
	Soil	8141 by 8270	BRAVO	1.464	4.392	ug/kg
Dioxathion	Non-Potable Water	8141 by 8270	BRAVO	0.0949	0.2850	ug/L
	Soil	8141 by 8270	BRAVO	3.306	9.918	ug/kg
Disulfoton	Non-Potable Water	8141 by 8270	BRAVO	0.0408	0.1220	ug/L
	Soil	8141 by 8270	BRAVO	2.536	7.608	ug/kg
EPN	Non-Potable Water	8141 by 8270	BRAVO	0.0594	0.1780	ug/L
	Soil	8141 by 8270	BRAVO	2.747	8.241	ug/kg
EPTC	Non-Potable Water	8141 by 8270	BRAVO	0.0342	0.1030	ug/L
	Soil	8141 by 8270	BRAVO	3.589	10.767	ug/kg
Ethion	Non-Potable Water	8141 by 8270	BRAVO	0.0437	0.1310	ug/L
	Soil	8141 by 8270	BRAVO	1.666	4.998	ug/kg
Ethoprop	Non-Potable Water	8141 by 8270	BRAVO	0.0286	0.0858	ug/L
	Soil	8141 by 8270	BRAVO	0.901	2.703	ug/kg
Famphur	Non-Potable Water	8141 by 8270	BRAVO	0.0411	0.1230	ug/L
	Soil	8141 by 8270	BRAVO	1.623	4.869	ug/kg

Fenitrothion	Non-Potable Water	8141 by 8270	BRAVO	0.0198	0.0594	ug/L
	Soil	8141 by 8270	BRAVO	0.699	2.097	ug/kg
Fensulfothion	Non-Potable Water	8141 by 8270	BARBARA	0.005	0.0150	ug/L
	Soil	8141 by 8270	BARBARA	0.59	1.769	ug/kg
Fenthion	Non-Potable Water	8141 by 8270	BRAVO	0.0236	0.0708	ug/L
	Soil	8141 by 8270	BRAVO	1.46	4.38	ug/kg
Fonophos	Non-Potable Water	8141 by 8270	BRAVO	0.0245	0.0735	ug/L
	Soil	8141 by 8270	BRAVO	1.444	4.332	ug/kg
Hexamethylphosphoramide	Non-Potable Water	8141 by 8270	BRAVO	0.0356	0.1070	ug/L
	Soil	8141 by 8270	BRAVO	1.756	5.268	ug/kg
Leptophos	Non-Potable Water	8141 by 8270	BRAVO	0.0267	0.0801	ug/L
	Soil	8141 by 8270	BRAVO	1.086	3.258	ug/kg
Malathion	Non-Potable Water	8141 by 8270	BRAVO	0.0257	0.0771	ug/L
	Soil	8141 by 8270	BRAVO	1.045	3.135	ug/kg
Merphos	Non-Potable Water	8141 by 8270	BRAVO	0.0602	0.1810	ug/L
	Soil	8141 by 8270	BARBARA	7.578	22.734	ug/kg
Mevinphos	Non-Potable Water	8141 by 8270	BRAVO	0.0239	0.0717	ug/L
	Soil	8141 by 8270	BRAVO	1.187	3.561	ug/kg
Molinate	Non-Potable Water	8141 by 8270	BRAVO	0.0204	0.0612	ug/L
	Soil	8141 by 8270	BRAVO	1.259	3.777	ug/kg
Monocrotophos	Non-Potable Water	8141 by 8270	BRAVO	0.008	0.0240	ug/L
	Soil	8141 by 8270	BRAVO	1.144	3.432	ug/kg
Naled	Non-Potable Water	8141 by 8270	BRAVO	0.0121	0.0363	ug/L
	Soil	8141 by 8270	BARBARA	0.769	2.307	ug/kg
Parathion-ethyl	Non-Potable Water	8141 by 8270	BRAVO	0.0317	0.0951	ug/L
	Soil	8141 by 8270	BRAVO	0.818	2.454	ug/kg
Parathion-methyl	Non-Potable Water	8141 by 8270	BRAVO	0.0167	0.0501	ug/L
	Soil	8141 by 8270	BRAVO	0.959	2.877	ug/kg
Pebulate	Non-Potable Water	8141 by 8270	BRAVO	0.0323	0.0969	ug/L
	Soil	8141 by 8270	BRAVO	1.688	5.064	ug/kg
Phorate	Non-Potable Water	8141 by 8270	BRAVO	0.0203	0.0609	ug/L
	Soil	8141 by 8270	BRAVO	1.954	5.862	ug/kg
Phosmet	Non-Potable Water	8141 by 8270	BRAVO	0.0237	0.0711	ug/L
	Soil	8141 by 8270	BRAVO	0.982	2.946	ug/kg
Phosphamidon	Non-Potable Water	8141 by 8270	BRAVO	0.0264	0.0792	ug/L
	Soil	8141 by 8270	BRAVO	0.648	1.944	ug/kg
Ronnel	Non-Potable Water	8141 by 8270	BRAVO	0.0227	0.0681	ug/L
	Soil	8141 by 8270	BRAVO	1.172	3.516	ug/kg
Simazine	Non-Potable Water	8141 by 8270	BRAVO	0.0218	0.0654	ug/L
	Soil	8141 by 8270	BRAVO	1.171	3.513	ug/kg
Stirophos	Non-Potable Water	8141 by 8270	BRAVO	0.0275	0.0825	ug/L
	Soil	8141 by 8270	BRAVO	1.148	3.444	ug/kg
Sulfotep	Non-Potable Water	8141 by 8270	BRAVO	0.0479	0.1440	ug/L
	Soil	8141 by 8270	BRAVO	2.022	6.033	ug/kg
TEPP	Non-Potable Water	8141 by 8270	BRAVO	0.1	0.3000	ug/L
	Soil	8141 by 8270	BRAVO	3.747	11.241	ug/kg
Terbufos	Non-Potable Water	8141 by 8270	BRAVO	0.0322	0.0966	ug/L
	Soil	8141 by 8270	BRAVO	1.135	3.405	ug/kg
Thionazin	Non-Potable Water	8141 by 8270	BRAVO	0.0596	0.1790	ug/L
	Soil	8141 by 8270	BRAVO	1.379	4.137	ug/kg
Tokuthion (Prothiofos)	Non-Potable Water	8141 by 8270	BRAVO	0.0307	0.0921	ug/L
	Soil	8141 by 8270	BRAVO	0.953	2.859	ug/kg
Trichlorfon(NOT CERTIFIED)	Non-Potable Water	8141 by 8270	BARBARA	5	#N/A	ug/L

	Soil	8141 by 8270	BARBARA	5	#N/A	ug/kg
Trichloronate	Non-Potable Water	8141 by 8270	BRAVO	0.0276	0.0828	ug/L
	Soil	8141 by 8270	BRAVO	1.018	3.054	ug/kg
Tri-o-cresylphosphate	Non-Potable Water	8141 by 8270	BRAVO	0.0601	0.1800	ug/L
	Soil	8141 by 8270	BRAVO	1.221	3.663	ug/kg

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Oil And Grease	Non-Potable Water	1664A	-	1.3	3.9	mg/L
	Soil	9071	-	105	315	mg/kg
Total Recoverable Petroleum Hydrocarbons	Soil	FSE-OG-TRPH/GRAV (9071)	-	77.5	233	mg/kg
	Non-potable Water	FSE-OG-TRPH/GRAV (1664A)	N/A	1.39	4.18	mg/L
Total Petroleum Hydrocarbons	Non-Potable Water	FL-PRO	Ray	0.008	0.085	mg/L
	Soil	FL-PRO	Ray	0.143	2.83	mg/kg

ANALYTE	CERTIFIED MATRIX	METHOD	INSTRUMENT	MDL	PQL	UNITS
Chlorine Dioxide (Field)	Water	SM4500ClO2D	Comparater, DPD	0.02	0.06	mg/L
Total Residual Chlorine (Field)	Water	EPA 330.4	Comparater, DPD	0.1	0.3	mg/L
Free Chlorine (Field)	Water	Hach DPD	Comparater, DPD	0.1	0.2	mg/L
Depth to Water (Field)	Water	FDEP SOP		0.01	0.01	Feet
Temperature (Field)	Water	EPA 170.1		1	1	Degree C
pH (Field)	Water	SM 4500 H+	YSI	0.1	0.3	pH Units
Dissolved Oxygen (Field)	Water	EPA 360.1	YSI	0.01	0.03	mg/L
Turbidity (Field)	Water	EPA 180.1	Turbidimeter	0.05	0.15	NTU
Specific Conductance (Field)	Water	EPA 120.1	YSI	1	3	uS/cm

FLORIDA-SPECTRUM'S STANDARD LIST PRICE

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
KATHARINE A. KUTIL
1460 W. MCNAB ROAD
FT. LAUDERDALE, FL 33309
PHONE#: 954.978.6400
FAX#: 954.978.2233
EMAIL: KKUTIL@FLENVIRO.COM

Florida-Spectrum Environmental Laboratory
Pricing Schedule

Revision 1.0
Effective 01/01/20

Includes:
Pricing & Test Method Reference
Holding Time & Preservative Reference Chart

Phones: (800) 262-5983 or (954) 978-6400
Fax: (954) 978-2233

www. flenviro.com

Florida-Spectrum Environmental Services, Inc.
1460 West McNab Road
Fort Lauderdale, FL 33309

Big Lake Laboratories
610 North Parrot Ave.
Okeechobee, FL 34972
863-763-3336

Pembroke Laboratories
528 30th Street NE
Fort Meade, Fl 33841
863-285-8145

Spectrum Laboratories
108 Airport Park Dr.
Garden City, Ga 31408
912-238-5050

Lakeland Laboratories
111 E. Easton Drive
Lakeland, Fl 33803
863-686-4271

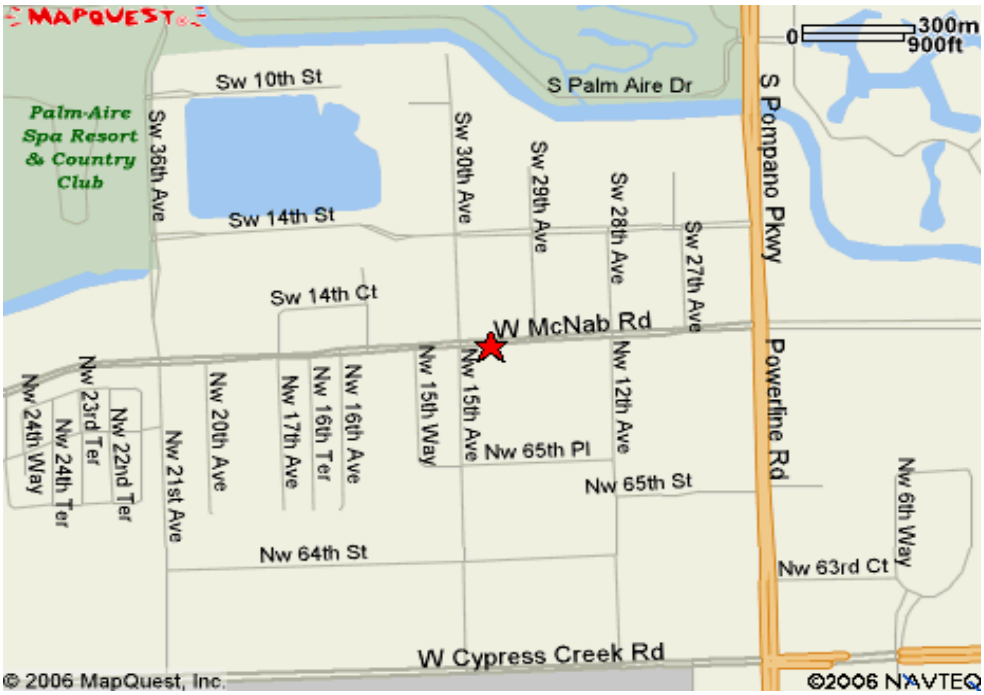
Hours of Operation

Sample Custody Department is open 8:00am-6:00pm Monday-Friday and 9:00am-2:00pm Saturdays

Client Service Managers are available 8:00am-5:00pm Monday-Friday

Location

1460 West McNab Road
Fort Lauderdale, Florida 33309
Phone (954) 978-6400
Fax (954) 978-2233



Sample Pick-Up Fees

Pick-Up Region	Sample Pick-Up Charge
Broward County	$55 service fee
Dade County	$55 service fee
Palm Beach County	$55 service fee
Other Regions	$55 per hour portal to portal
Note: Projects over $1000	Free Sample Pick-up *(or shipping depending on region)*

Please call 1-2 days in advance to schedule your sample pick-up and get added to the route.

SAMPLING RATES

Sampling Rates	Rates
Sampling Labor Rate M - F (per hour)	$75.00
Sampling Labor Rate for Saturday (per hour)	$112.50
Sampling Labor Rate for Sunday or Holiday (per hour)	$150.00
Mileage (When applicable by special quote)	$0.55
Compositer Rental per 24 hr day *Price does not include labor for setup and next day sample pickup*	$275.00
Organic Vapor Analyzer Rental per day or any part here of	$275.00
Bailers (each)	$15.00
.45 micron filter (each)	$20.00
Field Tests pH, conductivity, chlorine (free, total residual, dioxide), disolved oxygen (DO), depth to water, total depth of well, filtered in field, oxidation reduction potential (ORP), salinity, turbidity	$20.00 p/sample

EXPEDITED SERVICES & SPECIAL DELIVERABLES

Expedited Analytical Service	Factor x Price
Same Day, <10 Hrs (200% Surcharge)	3.00
1 Day (24 Hours) (100% Surcharge)	2.00
2 Days (48 Hours) (75% Surcharge)	1.75
3 Days (72 Hours) (50% Surcharge)	1.50
4 Days (96 Hours) (25% Surcharge)	1.25
Mobilize personnel and open laboratory on Sundays or Holidays	$350.00
For TCLP/SPLP:	Factor x Price
2 Days (48 Hours) (100% Surcharge)	2.00
3 Days (72 Hours) (75% Surcharge)	1.75
4 Days (96 Hours) (50% Surcharge)	1.50

Call your personal Client Service Manager ahead of time to reserve your expedited work with a RUSH RESERVATION NUMBER

Special Reports	Price
Customer Report Format	Quoted
Electronic Deliverables	Quoted
QA/QC Summary Report including… Blank, LCS Recovery, MSPK-DUP, % Recovery & RPD-Precision, Surrogates, Completeness, Acceptance Criteria as per published EPA	
Quality Assurance Data Request after report	20% Surcharge

Technical Support	Price
Technician (software support, test selection, archive retrieval, etc.)	$80.00 per Hr
Research (method development, literature search, forensic)	$195.00 per Hr
Expert Witness Testimony	$275.00 per Hr

SALES & CLIENT SERVICES CONTACT INFORMATION

As part of our reorganization, we focused on improving our Client Services & Sales Structure

As a client you now have a personalized "Sales & Services Manager" team assigned to handle your account. This team works in tandem to coordinate and handle your service needs.

Need to discuss special pricing for an upcoming sampling event?
Call your Account Executive contact.

Need to check on Sample Results, request a RUSH Reservation Number, ask for technical assistance, order a Sample Kit? Call your Client Service Manager.

With few exceptions, these Teams have been structured based on a Geographical distribution. The Sales/Client Services Manager Teams are as follows…

Region	Account Executive	Client Service Mgr
Miami-Dade, Monroe, Lee, Charlotte, Manatee, Pinellas Counties Latin America Caribbean Islands	Monica Alexander Cell# (305) 733-0824 m.alexander@flenviro.com	Maria Castellanos (954) 978-6400 Ext. 303 m.castellanos@flenviro.com
Hillsborough, Polk and Highland Counties	Katharine Kutil Cell# (561) 715-4426 kkutil@flenviro.com	Bobby Supan (954) 978-6400 Ext. 304 s.suppan@flenviro.com
Broward County	Katharine Kutil Cell# (561) 715-4426 kkutil@flenviro.com	Angel Barreto (954) 978-6400 Ext. 325 a.barreto@flenviro.com
Palm Beach, Martin, Okeechobee, Hendry, Glades St. Lucie and Indian River Counties	Katharine Kutil Cell# (561) 715-4426 kkutil@flenviro.com	Bobby Supan (954) 978-6400 Ext. 304 s.supan@flenviro.com

TURNAROUND TIME

Florida Environmental's Turnaround Time for standard in-house analysis and reporting is five business days.

Note: Work subcontracted to outside labs will usually take longer.

PAYMENT TERMS

Minimum Billing Charge of $30 applies to all work submissions. Terms are based on negotiated contractual conditions, or approved credit. Otherwise payment terms are C.O.D.

SAMPLE STORAGE

Clients that request that samples be placed on hold will be charged a storage fee of $1 per container per day that samples are stored. This allows us to recoup some of the costs of providing containers, preservatives, and kitting for samples that are never processed.

Metals

METAL	WATER MATRIX	COST	SOIL, SOLIDS, OILS, & WASTES	COST
Aluminum (Al)	200.7/ 200.8	$28.00	6010	$37.00
Antimony (Sb)	200.7/ 200.8	$28.00	6010	$37.00
Arsenic (As)	200.7/ 200.8	$28.00	6010	$37.00
Barium (Ba)	200.7/ 200.8	$28.00	6010	$37.00
Beryllium (Be)	200.7/ 200.8	$28.00	6010	$37.00
Bismuth (Bi)	FSE-ICP/ICP-AES	$28.00	6010	$37.00
Boron (B)	200.7/200.8	$28.00	6010	$37.00
Cadmium (Cd)	200.7/ 200.8/ 200.10	$28.00	6010	$37.00
Calcium (Ca)	200.7/ 200.8	$28.00	6010	$37.00
Chromium (Cr)	200.7/ 200.8	$28.00	6010	$37.00
Cobalt (Co)	200.7/ 200.8	$28.00	6010	$37.00
Copper (Cu)	200.7/ 200.8/ 200.10	$28.00	6010	$37.00
Gold (Au)	200.7/ 200.8	$54.00	6010	$69.00
Iron (Fe)	200.7/ 200.8	$28.00	6010	$37.00
Lead (Pb)	200.7/ 200.8/ 200.10	$28.00	6010	$37.00
Lithium (Li)	200.7	$28.00	6010	$37.00
Magnesium (Mg)	200.7/ 200.8	$28.00	6010	$37.00
Manganese (Mn)	200.7/ 200.8	$28.00	6010	$37.00
Mercury (Hg)	245.1	$61.00	7471	$69.00
Mercury (Hg)	200.8	$54.00	7471	$69.00
Molybdenum (Mo)	200.7/ 200.8	$28.00	6010	$37.00
Nickel (Ni)	200.7/ 200.8	$28.00	6010	$37.00
Palladium (Pd)	200.7/ 200.8	$54.00	6010	$69.00
Platinum (Pt)	200.7/ 200.8	$54.00	6010	$69.00
Potassium (K)	200.7/ 200.8	$28.00	6010	$37.00
Selenium (Se)	200.7/ 200.8	$28.00	6010	$37.00
Silicon (Si)	200.7	$35.00	6010	$50.00
Silver (Ag)	200.7/ 200.8	$28.00	6010	$37.00
Sodium (Na)	200.7/ 200.8	$28.00	6010	$37.00
Strontium (Sr)	200.7/ 200.8	$28.00	6010	$37.00
Sulfur, Total (S)	200.7	$43.00	6010	$64.00
Thallium (Tl)	200.7/ 200.8	$28.00	6010	$37.00
Thorium (Th)	200.8	$72.00	-	-
Tin (Sn)	200.7/ 200.8	$28.00	6010	$37.00
Titanium (Ti)	200.7/ 200.8	$28.00	6010	$37.00
Uranium (U)	200.8	$72.00	6010	$80.00
Vanadium (V)	200.7/ 200.8	$28.00	6010	$37.00
Zinc (Zn)	200.7/ 200.8	$28.00	6010	$37.00
ICP Metals Scan (Includes Quantitations of Detected Metals)	200.7/200.8	$394.00	6010	$394.00
1311 TCLP Extraction				$105.00
1312 SPLP Extraction				$105.00

***Appropriate test methods will be selected to satisfy NELAC and meet your regulatory requirements.**

All prices include digestion/ extraction except for seawater ($68 surcharge) & TCLP/SPLP Extraction $105.00

+ individual metals in soil matrix price.Ask your Sales representative and or Client Service Manager for assistance with Special

Request metals not listed above.

4RCRA metals: As, Cd, Cr, Pb

8RCRA metals: Ag, As, Ba, Cd, Cr, Hg, Pb, Se

INORGANIC CONSTITUENTS AND PROPERTIES

Inorganic Constituent	Water Matrix	Cost	Soils, Solids, Oils, Waste Matrix	Cost
Acidity	305.1	$23.00	-	-
Acids, % and Type	Combined	$47.00	Combined	$63.00
Alkalinity (CaCO3)	310.2 & SM2320B	$23.00	-	-
Asbestos (Sub)	15-550.310TEM	$394.00	Bulk	$105.00
Biochemical Oxygen Demand (BOD-5)	405.1 & SM5210B	$62.00	-	-
Bromide (Br)	300	$28.00	9056	$38.00
Bromate, Chlorite	300.1	$105.00	-	-
BTU (Parr Bomb.) (Sub)	ASTM	$165.00	ASTM	$236.00
Carbon, Total Organic (TOC)	SM5310C	$44.00	9060 (Sub)	$71.00
CBOD	SM5210B	$62.00	-	-
Carbon Dioxide (CO2)	310.2 & SM2320B	$21.00	-	-
Chemical Oxygen Demand	410.4	$34.00	-	$44.00
Chlorate	300.1	$28.00	300.1 (Sub)	$100.00
Chloride (Cl-)	300 & SM4500	$28.00	9056	$38.00
Chloride in concrete			N/A	$79.00
Chlorine, Residual	330.4	$22.00	-	-
Chlorine Demand	SM 2350B	$226.00	-	-
Chlorophyll A	SM10200	$93.00		$0.00
Chromium Hexavalent	SM 3500-Cr B (20th/21stEd.)	$66.00	7196 (Sub)	$77.00
Coliform, Fecal	SM9222D	$50.00	-	-
Coliform,Total	SM9222B	$50.00	-	-
Color	SM2120B	$29.00	N/A	$29.00
Conductivity	120.1	$16.00	9050	$16.00
Corrosivity (SW846)	-	$49.00	9040	$49.00
Cyanide, Total (CN−)	SM 4500CN-E & 335.4	$71.00	9012	$88.00
Flashpoint (PMCC) (Ignitablitiy)	EPA 1010	$50.00	EPA 1010	$50.00
Fluoride (Fl-)	300	$28.00	9056	$38.00
Gross Alpha	900	$110.00	-	$110.00
Gross Alpha (High Solids){sub}	900.1	$173.00	-	$173.00
Gross Beta	900	$110.00	-	-
Halogens, Total (TX)	325.3 (MOD)	$84.00	FSE-TOX/TITR	$84.00
Halogens, Organic (TOX)	325.3 (MOD)	$84.00	5050/9056	$84.00
Hardness, Total (calc.)	200.7	$28.00	-	-
Hardness, Calcium	200.7	$28.00	-	-
Hydrocarbons, SGT-HEM (TRPH)	1664A	$110.00	FSE-OG-TRPH/GRAV	$110.00
Hydrogen Sulfide	376.2	$47.00	9030	$137.00
IC Scan (chloride, fluoride, nitrate, nitrite, sulfate, orthophosphate)	300	$168.00		
Karl Fisher Water	-	-	D6304	$189.00
Lab Filtration	-	$21.00	-	-
Langalier Index	SM2330B	$76.00	-	-
MBAS (SURFACTANTS)	425.1/ SM5540C	$68.00	-	-
Nitrate (NO3)	300 & SM4500	$28.00	9056	$44.00
Nitrite (NO2)	300 & SM4500	$28.00	9056	$44.00
Un-ionized Ammonia	DEP SOP 10/03/83	$38.00	-	-
Nitrogen (Ammonia)(NH3)	350.1	$38.00	350.1	$44.00
Nitrogen (Kjedahl)(TKN)	351.2	$42.00	351.2	$47.00
Nitrogen(Total Organic)	TKN minus AMMONIA	$58.00	TKN minus AMMONIA	$63.00
Nitrogen (Total)	300 +351 Combined	$68.00	TKN + Total nitrate-nitrite	$74.00

INORGANIC CONSTITUENTS AND PROPERTIES (continued)

Inorganic Constituent	Water Matrix	Cost	Soils, Solids, Oils, Waste Matrix	Cost
Odor	SM2150B	$26.00	-	$26.00
Oil & Grease, HEM	1664A	$110.00	9071	$110.00
Oxygen Dissolved	360.1	$22.00	-	-
Paint Filter Liquids Test	-	-	9095	$55.00
Percent Solids	S160.3	$23.00	SM2540G	$23.00
Percent Liquids	-	-	S160.3	$33.00
Percent Water	-	-	Karl Fischer	$189.00
pH	SM 4500H+ B	$16.00	9040	$22.00
Phenols	420.4	$51.00	9066	$68.00
Phosphorus, Ortho	300/ 365.1	$28.00	9056	$47.00
Phosphorus, Total	365.4	$50.00	365.4	$55.00
Phosphorus, Total (low level)	365.1	$51.00	-	-
Radium 226 {sub}	903	$168.00	-	-
Radium 228 {sub}	904	$168.00	-	-
Reactivity (SW846)	40 CFR 261.23	$147.00	40 CFR 261.23	$165.00
Residue, Total Filterable (TDS)	SM2540C	$35.00	-	-
Residue, Non-Filterable (TSS)	SM2540D	$35.00	-	-
Residue, Total	SM2540B	$25.00	SM2540G	$25.00
Residue, Volatile	SM2540E/G	$60.00	-	-
Resistivity	120.1	$16.00	9050	$16.00
Salinity	SM210B	$22.00	-	-
Silica	SM 4500-SiO2 C	$33.00	-	-
Specific Gravity (Density)	SM213E	$22.00	SM213E	$27.00
Sulfate (SO4)	300 & 375.4	$28.00	9056	$38.00
Sulfide	SM 4500-S D/UV-VIS	$47.00	9030	$137.00
Turbidity	180.1	$23.00	-	-
UV254	SM5910B	$63.00	-	-
Viscosity (Single Temperature)	ASTM D88	$77.00	ASTM D88	$82.00

*__Appropriate test methods will be selected to satisfy NELAC and meet your regulatory requirements.__

All prices include digestion/ extraction except for seawater ($68 surcharge) & TCLP/SPLP Extraction $105.00 + individual metals in soil matrix price.Ask your Sales representative and or Client Service Manager for assistance with Special Request methods not listed above.

Organic Analysis (GC-GC/MS)

Methodology	Drinking Water	Cost	Non-Potable Water	Cost	Soils, Solids, Oils, & Waste Matrix	Cost
Purgeable Halocarbons	-	-	8260 VOH	$121.00	8260 VOH	$126.00
Purgeable Aromatics + MTBE	-	-	8260 VOA	$99.00	8260 VOA	$105.00
Purgeable Organics + MTBE by GC/MS	524.2	$220.00	624/8260 Full	$220.00	8260 Full	$231.00
THMs Only	524.2	$110.00	-	$110.00	-	-
Library Search	-	-	8260LS	$231.00	8260LS	$231.00
Acetates	1666	$525.00	1666	$525.00		
EDB, DBCP	504.1	$88.00	8011	$88.00	8011	$99.00
Organochlorine Pesticides	508	$187.00	608 (8081)	$187.00	8081	$199.00
PCBs (Only)	508A	$99.00	608 (8082)	$99.00	8082	$110.00
Nitrogen, Phosphorus & Triazine Pesticides	507	$187.00	619	$187.00		
Organophosporus Pesticides	-	-	614 (8270)	$198.00	8141 (8270)	$220.00
Chlorophenoxy Herbicides	515.1	$240.00	615 (8151)	$240.00	8151	$330.00
Carbamate Pesticides	531.1	$220.00	-	-	8318	$331.00
Glyphosate	547	$176.00	-	-	-	-
Endothall	548	$231.00	-	-	-	-
Diquat/Paraquat	549	$331.00	-	-	-	-
Acrylamide	8316 (sub)	$315.00	-	-	8316 (sub)	$ 315.00
Epichlorohydrin	8260 (sub)	$210.00	-	-	8260 (sub)	$ 210.00
Haloacetic Nitriles (HAN's)	551.1 (sub)	$248.00	-	-	-	-
Haloacetic Acids (HAA's)	552.2	$275.00	-	-	-	-
Florida-Petroleum Residual Organics	-	-	FL-PRO	$138.00	FL-PRO	$170.00
Phenols	-	-	604** (8270)	$182.00	8040** (8270)	$214.00
Benzidines	-	-	605** (8270)	$182.00	8050** (8270)	$214.00
Phthalate Esters	-	-	606** (8270)	$182.00	8060** (8270)	$214.00
Nitrosamines	-	-	607** (8270)	$182.00	8070** (8270)	$214.00
Nitroaromatics & Isophorone	-	-	609** (8270)	$182.00	8090** (8270)	$214.00
Polynuclear Aromatic Hydrocarbons *(PAH)*	-	-	610** (8270)	$182.00	8310** (8270)	$214.00
Haloethers	-	-	611** (8270)	$182.00	8110** (8270)	$214.00
Chlorinated Hydrocarbons	-	-	612** (8270)	$182.00	8120** (8270)	$214.00
Semi-Volatile Extractable Compounds	525	$391.00	625/8270 Full	$391.00	8270 Full	$424.00
Library Search	-	-	8270LS	$231.00	8270LS	$231.00

Methodology		Drinking Water Cost	Non-Potable Water Cost	Soils, Solids, Oils, & Waste Matrix Cost
Speciation of Hydrocarbons	C5-C40 Specification derived from PAH, PRO & Volatile Organic Compound Data	-	$464.00	$496.00
Petroleum Fingerprint	8015H-Modified	$231.00	$231.00	$231.00
Caffeine in Surface & Groundwater (NEW)	SOP 2004-0-125 Special Research Developed Method	$331.00	$331.00	$331.00

***Appropriate test methods will be selected to satisfy NELAC and meet your regulatory requirements.**

****Florida Environmental uses EPA 625/8270 method to analyze for rare "600 & 8000 series" methods.**

All prices include digestion/ extraction except for seawater ($68 surcharge) & TCLP/SPLP Extraction $105.00 + individual metals in soil matrix price.Ask your Sales representative and/or Client Service Manager for assistance with Special Request methods not listed above.

COMMONLY REQUESTED PROFILES

Designate profile name on chain of custody for best pricing and convenience.

Package Name	Description of Package	Cost of Analysis	
		Water	Soil
RCRA 8 Metals	Ag, As, Ba, Cd, Cr, Hg, Pb, Se	$257.00	$328.00
Priority Pollutant Metals	Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn	$397.00	$513.00
ECR II Profile	Chloride, Total Hardness, pH, Conductivity, Nitrate Color, Ca, Fe, TDS	$236.00	_
V.A./F.H.A/H.U.D. Water Potability Profile	pH, TDS, Hardness, Turbidity, Cu, Pb, Fe, As NO_3, FL-, Coliform, NO_2, Cl-, Br, ophosphate, sulfate	$460.00	_
Dade Non-Community Drinking Water Profile	Color, pH, As, Cd, Cu, Pb, Hg, Se, Ag, Hex-Cr, TDS, Odor, Ba, Fe, Mn, Na, Zn, CN-, Fl-, SO4, MBAS, NO3, Turbidity, CL-, EPA 504, 508, 515, 524.2	$1,550.00	_
TAL List-Inorganics/Metals	Al, Sb, As, Ba, Be, Cd,Ca, Cr, Co, Cu, Fe, Mg, Mn, Hg, Ni, K, Se, Na, Tl, V, Zn, CN-, Ag, Sn, Sulfide, % Solids	$818.00	$1,131.00
TCL List Organics	EPA 8260, 8270, 8081/8082	$798.00	$854.00
40 CFR 258 Appendix I Metals	Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni, Se, Ag, Tl, V, Zn	$420.00	$555.00
40 CFR 258 Appendix I Volatiles	EPA 8260 w/ Extended List, 8011	$414.00	$435.00
40 CFR 258 Appendix II Metals/ Inorganics	As, Be, Cd, Cr, Pb, Hg, Ni, Se, Zn, Ag, Sb, Cu, Tl, Ba, Co, Sn, V, CN-, Sulfide	$627.00	$886.00
40 CFR 258 Appendix II Organics	EPA 8260 w/Extended list, EPA 8270 w/Extended list, EPA 8081, 8141, 8151	$1,446.00	$1,591.00
THM Formation Potential	Includes THMs	$499.00	_

BASIC FLORIDA DISPOSAL PACKAGES

Disposal Package Name	Distribution of Package	EPA/Standard Test Methods	Cost of Analysis
Basic Fingerprint	Flashpoint, pH, %Solids, Specific Gravity Oil & Grease, Color, Odor	1010, 9045, SM2540G, SM213E, 9071, 140.1	$287.00
Standard Incineration Profile*	Total (Cd, Pb, As, Cr, Hg, Se, Ba, Ni, Ag) TCLP Purgeable Halocarbons & Aromatics %Solids, PRO, Halogens, BTU	6010, 7471,1311/8260, SM2540G PRO, 5050/9253, PARR	$1,214.00
Standard Landfill Profile	TCLP (Cd, Pb, As, Cr, Hg, Se, Ba, Ni, Ag) TCLP Purgeable Halocarbons & Aromatics pH, %Solids, Flashpoint, FL-PRO, Odor, Color, Specific Gravity	1311/(6010/7471/8260). 140.1, 9045, SM2540G, 1010 SM213E, PRO	$1,153.00

*In the case of Used Oils, profile will need to include PCB's at an additional charge of $110 per sample.

AIR MONITORING (TEDLARBAG)

Analysis	Description of Analysis	Cost of Analysis
TO-14 (MOD)	Aromatics + Halocarbons	$276.00
TO-18	Aromatics only	$122.00

UST, REMEDIATION, DISPOSAL, & SLUDGE PACKAGES

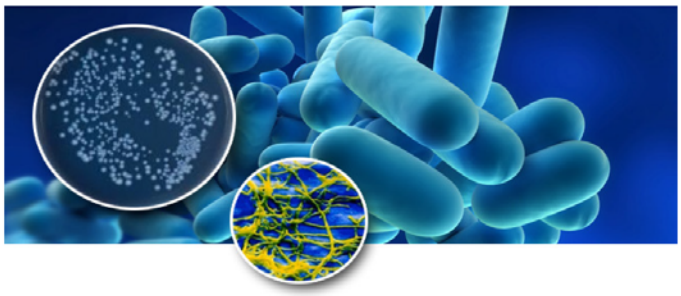
Designate profile name on chain of custody for best pricing and convenience

Package Name	Description of Package	Test Methods	Cost
62-713 Petroleum Contaminated PRE Treatment	Volatile Halocarbons, As, Cd, Cr, Pb, FLPRO, %Solids, TOX (added when oil is of concern) + $84.00	8260 VOH, FL-PRO, 6010, 5050/9056	$467.00 $551.00
62-713 Non-Petroleum Contaminated PRE Treatment	Volatile Organics, Semi-Volatile Organics, Pesticides, As, Ba, Cd, Cr, Pb, Se, Ag, Hg %Solids	8260, 8270, 8081, 6010 7471	$1,205.00
62-713 Petroleum Contaminated POST Treatment	Volatile Aromatic, FL-PRO, As, Cd Cr, Pb, Polynuclear Aromatic Hydrocarbons, % Solids	8260 VOA, FL-PRO, 8270 PAH, 6010	$660.00
62-713 Non-Petroleum Contaminated POST Treatment	Volatile Organics, Semi-Volatile Organics, Pesticides, As, Ba, Cd, Cr, Pb, Se, Ag, Hg %solids	8260, 8270, 8081, 6010, 7471	$1,205.00
TABLE C 62-780, F.A.C. Gas & Kerosene Analytical Groups	**WATER**: Volatile Aromatics and Halocarbons, MTBE, EDB, Lead, TRPHs, 1- and 2-methylnaphthalene, and the 16 method-listed PAHs included in Table B **SOIL**: MTBE1- and 2-methylnaphthalene, and the 16 method-listed PAHs included in Table B, TRPHs, % Solids	**W:** Lead, FL-PRO, 504.1 8260 VOA/VOH, 8270 PAH **S:** 8260 VOA, 8270 PAH, FL-PRO. %solids	$656.00 $512.00
TABLE D 62-780, F.A.C. Used Oil Group	As, Cd, Cr, Pb, Priority Pollutant Volatiles including VOH, Priority Pollutant Semi-Volatiles. Nonpriority Pollutant Organics (with GC/MS peaks > 10 ug/L). 1- and 2-methylnaphthalene, and the 16 method-listed PAHs included in Table B. PCB's, TRPHs (waters), add % Solids (soils only)	**W:** 200.7, 8260, LS, 8270, LS, 608 + PCBs, FL-PRO **S:** 6010, 8260, 8270, 8081, FL-PRO, % solids TCLP RCRA 4 Metals (if needed per table D)	$1,510.00 $1,195.00 $1,211.00
TABLE E 62-780.* Petroleum 376.301 Group	**WATER:** VOA, VOH, PAH, EDB, As,Cd, Cr, Pb, FL-PRO, CL- SO4, TDS **SOIL:** VOA, VOH, PAH, FL-PRO, As, Cd, Cr, Pb %Solids	**W:** 8260, 8270, 8011, 200 series, FL-PRO, 300, SM 2540C **S:** 8260, 8270, 7000 or 6010 series, FL-PRO	$831.00 $786.00
CFR 122, App. D Priority Pollutants	Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn, Cyanide, Phenols, Volatile Organics, Semi-Volatile Organics, Pesticides & PCBs, % Solids	**W:** 200 Series, 335.4, 420.4 624, 625, 608 **S:** 6010, 9012, 9065, 8260, 8270, 8081/8082	$1,317.00 $1,546.00
CFR 266.40 Waste Oil, Energy Recovery Profile (with Florida extras)	As, Cd, Cr, Pb, Hg, Flashpoint, Halogens, pH, % Solids	6010,7471, 1010, 5050/9056, 9045	$396.00
Statue 503 Sludge Analysis	%Solids, T. Nitrogen, T. Phosphorus, As, Cd, Cr, Cu Pb, Hg, Mo, Ni, K, Se, Zn, pH	SM2540G, 6010, 7471, 9045 expressed as dry weight	$613.00
RINKER (CEMEX) Pre-burn Parameters	As, Cd, Cr, Pb, Hg, Se, Ag, Ba, VOA, VOH FL-PRO, Total Organic Halogens, %Solids For "Non-Virgin" add PCB	6010, 7471, 8260, FL-PRO, 5050/9056 8082	$836.00 $946.00
DERM Clean Backfill Criteria	TCLP (As, Ba, Cd, Cr, Pb, Hg, Se, Ag, Ni, Cu,) VOA, VOH, PAH's, PRO, Oil & Grease, % Solids	1311/6010/7471, 8260LL, 8270, PRO, 9071	$1,255.00

***In the case of Used Oils, profile will need to include PCBs at an additional charge (per sample) of $110.00**

Potable Water Testing

for the Marine Industry



Florida-Spectrum Environmental Services, Inc. is pleased to announce that our Ft. Lauderdale laboratory is capable of sampling and analyzing your potable water.

Water Potability Testing:

Ship owners shall take every measure practicable to ensure that Drinking Water provided on board ships for which they have the responsibility and intended for supply to seafarers and passengers is of good quality and safe for consumption, as per the World Health Organization (WHO).

Water Potability Profile:

*pH
Turbidity
Conductivity
*Total Chlorine
Arsenic
Lead
Copper
Nickel
Chloride
Nitrate
Total Coliform/E.Coli
Total Heterotrophic Bacteria
Legionella

Cost of Analysis includes sampling in the Tri-County area: $645.00

*** Must be performed in the field.***

Call now and test your water!

Florida-Spectrum Environmental Services Inc.

1460 West McNab Rd. Fort Lauderdale, FL 33309

Phone#: (800) 262-5983

Visit Us on the Web at: www.flenviro.com

Florida Spectrum Environmental Services, Inc.

NELAP ACCREDITED TNI LABORATORY

TCLP/SPLP ANALYSIS AND PRICING

EPA Hazardous Waste No.	Contaminant	Chemical Abstracts Service Number	Regulatory Level (MG/L)	Method of Analysis
D004	Arsenic	7440-38-2	5.0	1311/1312-6010
D005	Barium	7440-39-3	100.0	1311/1312-6010
D006	Cadmium	7440-43-9	1.0	1311/1312-6010
D007	Chromium	7440-47-3	5.0	1311/1312-6010
D008	Lead	7439-92-1	5.0	1311/1312-6010
D009	Mercury	7439-97-6	0.2	1311/1312-7471
D010	Selenium	7782-49-2	1.0	1311/1312-6010
D011	Silver	7440-22-4	5.0	1311/1312-6010
D018	Benzene	71-43-2	0.5	1311/1312-8260
D019	Carbon Tetrachloride	56-23-5	0.5	1311/1312-8260
D021	Chlorobenzene	109-90-7	100.0	1311/1312-8260
D022	Chloroform	67-66-3	6.0	1311/1312-8260
D022	1,4-Dichlorobenzene	106-46-7	7.5	1311/1312-8260
D027	1,2-Dicholoroethane	107-06-2	0.5	1311/1312-8260
D028	1,1-Dichloroethylene	75-35-4	0.7	1311/1312-8260
D029	Methyl Ethyl Ketone	78-9393	200.0	1311/1312-8260
D035	Tetrachlorethylene	127-18-4	0.7	1311/1312-8260
D039	Trichloroethylene	79-01-6	0.5	1311/1312-8260
D040	Vinyl Chloride	75-01-4	0.2	1311/1312-8260
D043	Chlordane	57-75-9	0.03	1311/1312-8270
D020	0-Cresol	95-48-7	200.0	1311/1312-8270
D023	m-Cresol	108-39-4	200.0	1311/1312-8270
D024	p-Cresol	106-44-5	200.0	1311/1312-8270
D025	Cresol		200.0	1311/1312-8270
D030	2,4-Dintrotulene	121-14-2	0.13	1311/1312-8270
D012	Endrin	72-20-8	0.02	1311/1312-8270
D031	Heptachlor	76-44-8	0.008	1311/1312-8270
D032	Hexachlorobenzene	118-74-1	0.13	1311/1312-8270
D033	Hexachlorobutadiene	87-68-3	0.5	1311/1312-8270
D034	Hexachloroethane	67-72-1	3.0	1311/1312-8270
D013	Lindane	58-89-9	0.4	1311/1312-8270
D014	Methoxychlor	72-43-5	10.0	1311/1312-8270
D036	Nitrobenzene	98-95-3	2.0	1311/1312-8270
D037	Pentachlorophenol	87-86-5	100.0	1311/1312-8270
D038	Pyridine	110-86-1	5.0	1311/1312-8270
D015	Toxaphene	8001-35-2	0.5	1311/1312-8270
D041	2,4,5-trichlorophenol	95-95-4	400.0	1311/1312-8270
D042	2,4,6,-trichlorophenol	88-06-02	2.0	1311/1312-8270
D016	2,4-D	94-75-7	10.0	1311/1312-8151/8270
D017	2,4,5-TP(silvex)	93-72-1	1.0	1311/1312-8151/8270

FULL TCLP or SPLP for each extraction (volatiles, metals, semi): $1,610.00

TCLP or SPLP Extractions for volatiles, metals, and semi volatiles $105.00 each

Metals(8-RCRA) $257.00 Volatiles(8260) $220.00 Semi-volatiles(8270) $391.00

Herbicides(8151) $240.00 Pesticides (8081) $187.00

DRINKING WATER 62-550 PRICING

(based on DEP Reporting Format 62-550.730 Revised January 2004)

Regulation	Description	Cost
62-550.310 (1)	Inorganic Contaminants*	$524.00
62-550.320	Secondary Contaminants	$426.00
62.550.310 (3)	Disinfection By-Products	$490.00
62.550.310 (6)	Radionuclides**	$446.00
62-550.310 (4)(a)	Volatile Organics	$220.00
62-550.310 (4)(b)	Synthetic Organics***	$1,864.00
Complete 62-550 PACKAGE-waivers	Florida DEP SAFE DW Reporting Format #62-550.730(rev. 1/04)	$3,970.00

*A statewide waiver explains only those systems with known asbestos containing pipes or components are required to monitor **ASBESTOS**. If required for your facility, Asbestos by TEM…….{subcontract} $394.00

** Radionuclides with Gross Beta $556.00

*** A Statewide waiver explains **DIOXIN** only needs to tested in the public water systems whose source is "under direct influence of surface water" or ground water wells located within 1.6 km (1.0 mile) of a potential dioxin source. If required for facility, Dioxin by EPA Method 1613 (TCDD Only).....$979.00 {subcontracted}

MICROBIOLOGICAL & LAB PURE WATER TESTING

Any Microbiological samples dropped off, picked up or sampled on a Friday will be subject to a Weekend lab fee of $75. Sunday and Holiday will be subject to a lab fee of $350

Microbiologicals		
Analysis	**Method**	**Cost**
Legionella	CDC	$250.00
Legionella (with confirmation)	CDC	$350.00
Microbial Identification (speciation)	SM9211	$116.00
Biofilm Organisms	SM9211	$165.00
Total Coliform/ E.Coli	SM9223B	$50.00
Total Coliform	SM9222B	$50.00
Fecal Coliform	SM9222D	$50.00
E.coli (sludge)	EPA 1103.1 (sub)	$71.00
E.coli	SM9221F (sub)	$50.00
Fecal Streptococci	SM9230C	$50.00
Enterococci	EPA1600	$65.00
Pseudomonas	SM9213E	$68.00
Staphylococci	SM9213B	$68.00
Salmonella	SM9260B	$68.00
Yeast & Mold	SM9610	$84.00
Fecal & Sludge	SM9222D	$74.00
Bacteriological Quality DI Water	SM9020	$341.00
Student's T	SM9020	$341.00
Coliphage Virus	SM9211D (sub)	$89.00
Iron Reducing Bacteria	SM9240 (sub)	$58.00
Sulfur Reducing Bacteria	SM9240 (sub)	$58.00
Microscopic Examination (Micro ID)	SM9211	$175.00
Total Plate Count* (Heterotrophic)	SM9215	$72.00
Mold	SM9610	$84.00
Laboratory Pure Water		
Analysis	**Method**	**Cost**
A. Water Suitability Test	SM9020	$341.00
B. Trace Metals	200.7	$121.00

SAMPLE CONTAINERS, PRESERVATION AND HOLDING TIMES

ORGANICS

Analysis	Minimum Volume	Container Type	Required Preservative	Holding Time from Date/Time Sampled
Volatiles by EPA 8260 or EPA 524.2	3 X 40 ML	Vials	HCl to pH<2/Cool, 4 Deg. C 10 mg Na2S2O3 For Residual Cl2	Analysis: 14 Days
Purgeable Halocarbons by EPA 8260	3 X 40 ML	Vials	Cool, 4 Deg. C 10 mg Na2S2O3 For Residual Cl2	Analysis: 14 Days
Trihalomethanes (THM)	2 X 40 ML	Vials	HCl to pH<2/Cool, 4 Deg. 10 mg Na2S2O3 For Residual Cl2	Analysis: 14 Days
Gasoline Range Organics (GRO) by 8015	2 X 40 ML	Vials	HCl to pH<2/Cool, 4 Deg. C	Analysis: 14 Days
Diesel Range Organics (DRO) by 8015	2 X 1000 ML	G	Cool, 4 Deg. C	Aqueous Extraction: 7 Days Solids Extraction: 14 Days Extract Analysis: 40 Days
Purgeable Halocarbons & Aromatics by 8021B	3 X 40 ML	Vials	HCl to pH<2/Cool, 4 Deg. C 10 mg Na2S2O3 For Residual Cl2	Analysis: 14 Days
Acid Extractable by 625 or 8270C or	2 X 1000 ML	G	Cool, 4 Deg. C	Aqueous Extraction: 7 Days Solids Extraction: 14 Days Extract Analysis: 40 Days
PAH by 625 or 8270C or 8310	2 X 1000 ML	G	Cool, 4 Deg. C	Aqueous Extraction: 7 Days Solids Extraction: 14 Days Extract Analysis: 40 Days

ORGANICS (continued)

Analysis	Minimum Volume	Container Type	Required Preservative	Holding Time from Date/Time Sampled
Pesticides by 608 or 8081 or	2 X 1000 ML	G	Cool, 4 Deg. C	Aqueous Extraction: 7 Days Solids Extraction: 14 Days Extract Analysis: 40 Days
Herbicides	2 X 1000 ML	G	Cool, 4 Deg. C	Aqueous Extraction: 7 Days Solids Extraction: 14 Days Extract Analysis: 40 Days
EDB/DBCP by 504.1 or 8011	2 X 40 ML	Vials	Cool, 4 Deg. C 10 mg Na2S2O3 For Residual Cl2	Analysis: 14 Days
Extractable Petroleum Hydrocarbons (EPH)	2 X 1000 ML	G	HCl to pH<2/Cool, 4 Deg. C	Aqueous Extraction: 7 Days Solids Extraction: 14 Days Extract Analysis: 40 Days
Volatile Petroleum Hydrocarbons (VPH)	3 X 40 ML	Vials	HCl to pH<2/Cool, 4 Deg. C	Analysis: 14 Days
GC TPH Fingerprint by 8015	2 X 1000 ML	G	Cool, 4 Deg. C	Aqueous Extraction: 7 Days Solids Extraction: 14 Days Extract Analysis: 40 Days
TPH by FLPRO	2 X 1000 ML	G	H2SO4 to pH<2/Cool, 4 Deg. C	Aqueous Extraction: 7 Days Solids Extraction: 14 Days Extract Analysis: 40 Days

INORGANICS & METALS

Immediate to 48 Hours

Analysis	Minimum Volume	Container Type	Required Preservative	Holding Time from Date/Time Sampled
Biological Oxygen Demand (BOD)	500 ML	P, G	Cool, 4 Deg. C	48 Hours
Color	100 ML	P, G	Cool, 4 Deg. C	48 Hours
Dissolved Oxygen (DO)	1000 ML	G	ZHS, Cool, 4 Deg. C	Immediate
Surfactants (MBAS)	500 ML	P, G	Cool, 4 Deg. C	48 Hours
Nitrite Nitrogen	100 ML	P, G	Cool, 4 Deg. C	48 Hours
Odor	500 ML	G	Cool, 4 Deg. C	24 Hours
Orthophosphate	100 ML	P, G	Cool, 4 Deg. C Filtered in Field	48 Hours
pH	50 ML	P, G	Cool, 4 Deg. C	Immediate
Total Residual Chlorine	200 ML	P, G	Cool, 4 Deg. C	Immediate
Turbidity	100 ML	P, G	Cool, 4 Deg. C	48 Hours
Hexavalent Chromium	500 ML	P, G	$(NH_4)_2SO_4$ Buffer, Cool, 4 Deg. C	28 Days
Sulfite	200 ML	P, G	Cool, 4 Deg. C	Immediate
Carbon Dioxide	200 ML	P, G	Cool, 4 Deg. C	Immediate
Settleable Solids (SS)	2 X 1000 ML	P, G	Cool, 4 Deg. C	48 Hours
Carbonaceous BOD	500 ML	P, G	Cool, 4 Deg. C	48 Hours
Chlorine Demand	100 ML	P, G	Cool, 4 Deg. C	Immediate
Total Coliform Bacteria	125 ML	P, G (Sterile)	$Na_2S_2O_3$/Cool, 4 Deg. C	30 Hours/Potable
Fecal Coliform Bacteria	125 ML	P, G (Sterile)	$Na_2S_2O_3$/Cool, 4 Deg. C	6 Hours
Total Plate Count (HPC)	125 ML	P, G (Sterile)	Cool, 4 Deg. C	8 Hours Recommended/24 Hours Maximum
General Petroleum Degraders	125 ML	P, G (Sterile)	Cool, 4 Deg. C	24 Hours Recommended

INORGANICS & METALS (continued)

7 DAYS

Analysis	Minimum Volume	Container Type	Required Preservative	Holding Time from Date/Time Sampled
Sulfide	2 x 250 ML	P, G	NaOH to pH>12, ZnAc/Cool, 4 Deg. C	7 Days
Total Dissolved Solids (TDS)	500 ML	P, G	Cool, 4 Deg. C	7 Days
Total Suspended Solids (TSS)	500 ML	P, G	Cool, 4 Deg. C	7 Days
Total Solids (TS)	200 ML	P, G	Cool, 4 Deg. C	7 Days
Particulate Matter	200 ML	P	Cool, 4 Deg. C	7 Days
Total Mineral Solids	200 ML	P, G	Cool, 4 Deg. C	7 Days
Total Volatile Solids (TVS)	200 ML	P, G	Cool, 4 Deg. C	7 Days
Total Volatile Suspended Solids (TVSS)	200 ML	P, G	Cool, 4 Deg. C	7 Days

Greater than 7 Days

Analysis	Minimum Volume	Container Type	Required Preservative	Holding Time from Date/Time Sampled
Chemical Oxygen Demand (COD)	100 ML	P, G	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Organics Nitrogen	500 ML	P, G	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Total Nitrogen	500 ML	P, G	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Acidity	200 ML	P, G	Cool, 4 Deg. C	14 Days
Alkalinity	200 ML	P, G	Cool, 4 Deg. C	14 Days
Mercury	500 ML	P, G	HNO3 to pH<2/Cool, 4 Deg. C	28 Days
Percent Ash	100 ML	P, G	Cool, 4 Deg. C	Not Regulated
Bromide	100 ML	P, G	Cool, 4 Deg. C	28 Days
BTU	50 ML	P, G	Cool, 4 Deg. C	Not Regulated
Bicarbonate	200 ML	P, G	Cool, 4 Deg. C	14 Days
Hardness	100 ML	P, G	HNO3 to pH<2/Cool, 4 Deg. C	6 Months
Chloride	100 ML	P, G	Cool, 4 Deg. C	28 Days

INORGANICS & METALS (continued)

Greater than 7 Days

Analysis	Minimum Volume	Container Type	Required Preservative	Holding Time from Date/Time Sampled
Total Metals	500 ML	P, G	HNO3 to pH<2/Cool, 4 Deg. C	6 Months
Fluoride	200 ML	P	Cool, 4 Deg. C	28 Days
Corrosivity	100 ML	P, G	Cool, 4 Deg. C	Not Regulated
Corrosivity Langlier Index	See Notes for Test Volumes	See Notes	Follow Preservation For Listed Test	Calculation: TDS, pH, ALK Hardness, Temp
Oxidation Reduction Potential (ORP)	200 ML	P, G	Cool, 4 Deg. C	Not Regulated
Amenable Cyanide	250 ML	P, G	NaOH to pH>12/Cool, 4 Deg. C	14 Days
Moisture, Karl Fischer	50 ML	P, G	Cool, 4 Deg. C	Not Regulated
Oil & Grease (413.1) / Freon Based Method	2 X 1000 ML	G	HCl to pH<2/Cool, 4 Deg. C	28 Days
Tetraethyl Lead	500 ML	P	ZHS, Cool, 4 Deg. C	Not Regulated
Paint Filter Test	200 ML	P, G	Cool, 4 Deg. C	Not Regulated
Petroleum Hydrocarbons by 418.1 (TPH)	2 X 1000 ML	G	HCl to pH<2/Cool, 4 Deg. C	28 Days (NJ - 7 days water)
Phenols by Chloroform Extraction	500 ML	G	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Phenols	300 ML	G	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Dissolved Silica	100 ML	P	Cool, 4 Deg. C	28 Days
Specific Conductance	200 ML	P, G	Cool, 4 Deg. C	28 Days
Specific Gravity	100 ML	P	Cool, 4 Deg. C	Not Regulated
Sulfate	200 ML	P, G	Cool, 4 Deg. C	28 Days
Percent Sulfur	50 ML	P	Cool, 4 Deg. C	Not Regulated
Total Chlorine	50 ML	P, G	Cool, 4 Deg. C	Not Regulated

INORGANICS & METALS (continued)

Greater than 7 Days

Analysis	Minimum Volume	Container Type	Required Preservative	Holding Time from Date/Time Sampled
Total Kjeldahl Nitrogen (TKN)	100 ML	P, G	H2SO4 to pH&tl;2/Cool, 4 Deg. C	28 Days
Total and/or Dissolved Organics Carbon	40 ML	P, G	HCl to pH<2/Cool, 4 Deg. C	28 Days
Total Organics Chlorine	100 ML	P, G	Cool, 4 Deg. C	Not Regulated
Total Organics Halides (TOX)	300 ML	G	ZHS/H2SO4 TO pH<2/Cool, 4 Deg. C	28 Days
Total Phosphorous	200 ML	P, G	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Reactive Sulfide	100 ML	P, G	Cool, 4 Deg. C	Not Regulated
Reactive Cyanide	100 ML	P, G	Cool, 4 Deg, C	Not Regulated
Nitrate Nitrogen	50 ML	50 ML	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Ignitability	100 ML	P, G	Cool, 4 Deg. C	Not Regulated
Nitrate + Nitrite Nitrogen	100 ML	P, G	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Ammonia Nitrogen	200 ML	P, G	H2SO4 to pH<2/Cool, 4 Deg. C	28 Days
Cyanide	250 ML	P, G	NaOH to pH>12/Ascorbic Acid Cool, 4 Deg. C	14 Days
Oil & Grease (1661A) / Hexane Based Method	3 X 1000 ML	G	HCl to pH<2/Cool, 4 Deg. C	28 Days

ADDENDUMS

FLORIDA-SPECTRUM ENVIRONMENTAL SERVICES, INC.
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YOUR PARTNER FOR
SOLID WASTE SOLUTIONS

ADDENDUM NO. 1

ANALYTICAL LABORATORY SERVICES

RFP No. 20-202/DL March 25, 2020

This Addendum to the specifications and contract documents is issued to provide additional information and clarification to the original RFP's scope of services and proposal form and is hereby declared a part of the original scope of services and contract documents. In case of a conflict, this Addendum shall govern.

PROPOSERS shall acknowledge receipt of this Addendum by inserting this Addendum Number and Date issued within Proposal Form 1 – Transmittal Letter located within the original RFP document. Failure to do so may be cause for the PROPOSER to be rendered as non-responsive.

REMINDER:

SUBMISSION DUE DATE: APRIL 22, 2020

SUBMISSION DEADLINE: 2:00PM

LOCATION: SOLID WASTE AUTHORITY ADMINISTRATION BUILDING

1. Given the uncertainty of the COVID-19 matter and the potential threat to the health and safety of the public, Purchasing Services is cancelling all public openings for Bids or closings (submission due date) for RFP's, except for construction bids that will be conducted via phone-in teleconference calls. However, the Non-Mandatory Pre-proposal Conference scheduled for Tuesday, April 7, 2020 at 10:00am will be conducted via ADOBE Connect. Participants will need to register for the session to receive a link to access said session from their email. The following is the link to the Pre-Proposal Conference:
   https://swa.adobeconnect.com/prebid20-202/event/registration.html.

ALL ELSE REMAINS THE SAME

Diane LeRay

Diane LeRay, CPPO, CPPB
Procurement Manager

YOUR PARTNER FOR
SOLID WASTE SOLUTIONS

ADDENDUM NO. 2

ANALYTICAL LABORATORY SERVICES

RFP No. 20-202/DL April 6, 2020

This Addendum to the specifications and contract documents is issued to provide additional information and clarification to the original RFP's scope of services and proposal form and is hereby declared a part of the original scope of services and contract documents. In case of a conflict, this Addendum shall govern.

PROPOSERS shall acknowledge receipt of this Addendum by inserting this Addendum Number and Date issued within Proposal Form 1 – Transmittal Letter located within the original RFP document. Failure to do so may be cause for the PROPOSER to be rendered as non-responsive.

REMINDER:

SUBMISSION DUE DATE: APRIL 22, 2020

SUBMISSION DEADLINE: 2:00PM

LOCATION: SOLID WASTE AUTHORITY ADMINISTRATION BUILDING

1. REMINDER: Given the uncertainty of the COVID-19 matter and the potential threat to the health and safety of the public, Purchasing Services is cancelling all public openings for Bids or closings (submission due date) for RFP's, except for construction bids that will be conducted via phone-in teleconference calls. However, the Non-Mandatory Pre-proposal Conference scheduled for Tuesday, April 7, 2020 at 10:00am will be conducted via ADOBE Connect. Participants will need to register for the session to receive a link to access said session from their email. The following is the link to the Pre-Proposal Conference: https://swa.adobeconnect.com/prebid20-202/event/registration.html.

2. The Solid Waste Authority of Palm Beach County is transitioning to an E-Procurement system through Negometrix, in order to submit proposals electronically at this time. If you are new to Negometrix, please Register your company. If you already have a Negometrix3 account, please click on the link below and log in to access the Solicitation. https://platform-us.negometrix.com/ProcessInvitation.aspx?invitationGuid=f10a7376-4660-4331-af49-98a021922516
Attention: this link is valid for a limited amount of time

ALL ELSE REMAINS THE SAME

Diane LeRay

Diane LeRay, CPPO, CPPB
Procurement Manager

YOUR PARTNER FOR
SOLID WASTE SOLUTIONS

ADDENDUM NO. 3

ANALYTICAL LABORATORY SERVICES

RFP No. 20-202/DL April 15, 2020

This Addendum to the specifications and contract documents is issued to provide additional information and clarification to the original RFP's scope of services and proposal form and is hereby declared a part of the original scope of services and contract documents. In case of a conflict, this Addendum shall govern.

PROPOSERS shall acknowledge receipt of this Addendum by inserting this Addendum Number and Date issued within Proposal Form 1 – Transmittal Letter located within the original RFP document. Failure to do so may be cause for the PROPOSER to be rendered as non-responsive.

REMINDER:

SUBMISSION DUE DATE: APRIL 22, 2020

SUBMISSION DEADLINE: 2:00PM

LOCATION: SOLID WASTE AUTHORITY ADMINISTRATION BUILDING

1. REMINDER: The Solid Waste Authority of Palm Beach County has transitioned to an E-Procurement system through Negometrix, in order to submit proposals electronically at this time. If you are new to Negometrix, please Register your company. If you already have a Negometrix3 account, please click on the link below and log in to access the Solicitation. https://platform-us.negometrix.com/ProcessInvitation.aspx?invitationGuid=f10a7376-4660-4331-af49-98a021922516 Attention: this link is valid for a limited amount of time.

2. Responses to questions as a result of the Virtual Pre-Proposal Conference on April 7, 2020 and received prior to the due date for questions on April 10, 2020 are as follows:

   Q1: Would it be possible to get the pricing sheet in Excel? This could improve the accuracy of the data entered for the bidders.
   A1: Bid Form 2A is provided in Excel (.xlsx) format as a separate attachment (See Revised Proposal 2A). The workbook contains both a tab for Scope A and a tab for Scope B. Please be sure to use the appropriate tab when developing the price for your proposal. Changes to Form 2A that result from this addendum have already been incorporated into the Excel file provided.

   Q2: Section 3.2.4 of the RFP speaks about IDOCs. Are bidders required to submit all IDOCs with the proposal, or are the IDOCs only required to be made available for SWA review if requested? All of the IDOCs for all the methods in this bid could total thousands of pages.
   A2: IDOCs or on-going DOCs (whichever is applicable) are only needed per main analyst and for each method the lab proposes for this RFP.

   Q3: Will we only submit on-line now and not submit hard copies?
   A3: Due to the current situation of social distancing, the Authority will be accepting electronic copies through Negometrix only. Please advise if you are having any issues with the process.

Q4: Is there a specific place we should list alternative methods? Such as Nitrate Nitrogen by EPA 352.1, alternative SM4500-NO3; and Nitrite Nitrogen by EPA 353.2 alternative being SM4500-NO3?

A4: A method and price appropriate to the sample matrix listed must be provided per analyte per line on Form 2A. Any alternate methods that are not listed can be provided in a stand-alone attachment. If analytical method is not available in the Proposer's laboratory, a sub-contracted laboratory's pricing is to be provided along with their qualifications.

Q5: On page 38 of RFP on Scope A Bid Form, there are two entries for "Organic Toxic Pollutants-VOC." Both have same number of samples listed, but one says method is 624/8260 while the other has only 8260. Is one a duplicate and should it be removed? Or are they separate samples and analysis?

A5: Please delete the line item that only lists 8260 as a method for Organic Toxic Pollutants - VOC. This was a duplicate.

Q6: Our lab would be subcontracting very little testing. And for the little work we will subcontract, there is not a firm qualifying as an SBE with Palm Beach County or the SWA. Are we still required to submit Proposal Forms 5, 6, 7, and 8 if we are not an SBE and will not be utilizing any SBEs?

A6: No. A non-certified SBE Proposer submitting a proposal without SBE subcontractor participation for Scope A is not required to submit Proposal Forms 5, 6 & 7. See Section 3.2.8, Small Business Enterprise Participation, for the submission requirements for forms. Regarding the submission of Proposal Form 8, Section 3.2.9, Local Preference Qualification & Application provides the requirements to receive points for location. However, a Certified SBE Proposer submitting a proposal for Scope A and/or B must submit Proposal Forms 5, 6 & 7. See Section 3.2.8, Small Business Enterprise Participation, for the submission requirements for forms. Regarding Proposal Form 8, the response above addresses the requirements.

Q7: Section 3.2.9 Local Preference Qualification and Application – (Proposal Form 8): The tax receipt is generate in Hollywood (Broward County) because the Laboratory is located there we just have another office in Palm Beach is this valid for the authority?

A7: Section 3.2.9 outlines the qualifications to receive points for location.

Q8: Section 3.2.5 Experience and Qualifications: Our headquarters office is located in Bogotá- Colombia and we have been working in testing and monitoring services for 15 years, the other laboratory located in Hollywood are for 3 years there. Will the authority accept the experience and projects that we have been doing in Colombia related with analyzing samples from landfills (including leachate, surface waters and ground water), experience with high volumes of samples and experience with government contracts issued in Colombia?

A8: Experience and qualifications are required for the laboratory that will be providing services to the AUTHORITY. Experience in the United States meeting the standards outlined in the RFP must be met.

Q9: ATTACHMENT 3 – APPENDIX II TO PART 258 – LIST OF HAZARDOUS INORGANIC AND ORGANIC CONSTITUENTS: Are these Components solid or liquid?

A9: The components are liquid.

Q10: The certification of Nelac give us it's about drinking and non-drinking water, amp we want to know if surface water and ground water are under no- drinking water?

A10: Surface water and ground water are listed under non-potable water.

Q11: Could the authority provide us the prices of the last laboratory contracts?

A11: Currently, the Authority does not have a contract. Rather, the Authority is piggybacking contracts from the City of Jacksonville and Bay County. The Authority follows the terms and conditions set forth in these piggybacks, which usually have renewal options for a one-year term.

Q12: If possible, could you please provide us a form for my company to send all documents by web?

A12: Due to the current situation of social distancing, the Authority will be accepting electronic copies through Negometrix only. Please advise if you are having any issues with the process.

Q13: In the case that we are registering for SBE with the registration they give us, it is useful because our certificate would be in process.

A13: Section 3.2.8 – Small Business Enterprise (SBE) Participation, outlines the requirements of certified SBEs to submit proposals for Scope B. Firms must be certified as an SBE at the time of bid.

Q14: The majority of the labs are not certified for every single method, for example Metals, for 200.7, 200.8. 200.9. 6010, 6020. Does the SWA required all the methods listed, or can the labs provide alternate methods as per our NELAP cert?

A14: A method and price appropriate to the sample matrix listed must be provided per analyte per line on Form 2A. Any alternate methods that are not listed can be provided in a stand-alone attachment. If analytical method is not available in the Proposer's laboratory, a sub-contracted laboratory's pricing is to be provided along with their qualifications.

Q15: If an SBE is allowed to bid on both scopes A and B, does that mean they can receive multiple awards?

A15: Yes.

Q16: As mentioned you are piggybacking a municipality contract at this time, how long have you been doing this and for what reason did you decide not to go out for bid and do a piggyback?

A16: The Authority has been using a piggyback contract for Analytical Laboratory Services since 2016. We have been developing this RFP in accordance with the Economic Inclusion Policy that was approved by the Governing Board in 2018.

Q17: On the scope section part five, do you want us to <u>demonstrate our ability</u> to perform the requested quantity by showing our capacity at the primary lab? And not specific projects?

A17: The Proposer needs to provide the capacity of any primary or satellite laboratory that will be performing the work for this RFP. Current contract obligations are required per Paragraph 3.2.5.

Q18: To confirm, local presence in section 3.2.9 is referring to having your primary lab (75%) located in Palm Beach County? I am assuming this is the permanent office doing substantial work that you're referring to?

A18: Section 3.2.9 is looking for a business headquartered in Palm Beach County for at least a period of one year. The requirement to perform 75% of the work within 200 miles of the AUTHORITY is covered in Part II, Section 2.3.D., and has more to do with meeting holding times than meeting local business requirements.

Q19: In the pricing schedule proposal form 2- Methods such as VOAs by 8260 would typically have 1 unit price and would not be priced by analyte. Is it acceptable to provide a unit price in the first line and $0 on subsequent lines for that method? (Or do you want the unit price divided amongst each analyte for that method?)

A19: Provide a unit price for each analyte for each method. Do not leave any line item blank.

Q20: In page 61 of the pricing schedule, it is asking for "pre-delivery appendix one" and "post-delivery appendix one" pricing for sampling services, what does this mean?

A20: The form has an error. The form is to read: "Pre-Delivery Level IV QA Package (like CLP)" and "Post-Delivery Level IV QA Package (like CLP)". A revision to the form is provided as a part of this addendum.

Q21: What documentation do you want to see to confirm that the laboratory is able to maintain all applicable standards of NELAP? (aside from copies of the certifications)

A21: The laboratory should provide a statement, signed and dated by key personnel, attesting that they have read, understood and will follow the current Quality Manual. (an example of a full description can be found here: EL-V1M2-2016-Rev2.1 section 4.2.1)

Q22: 3.2.4 – Minimum Requirements Section A7. Do you require a list of the personnel and computers specific only to the production of the ADaPT deliverables?

A22: The minimum requirements are to provide both the personnel and the means of generation needed for the production of the ADaPT deliverables.

Q23: 3.2.5 – Experience and Qualifications Section B2 & B3 – Do you want resumes submitted for all laboratory personnel or just key staff and primary analysts? How do you want us to provide personnel's "experience with current analytical equipment"?

A23: Experience is required for key staff and primary analysts. Key staff is listed on Paragraph 3.2.5.H. As a part of the resume for these persons, the PROPOSER may list the types of equipment the individual has experience with.

Q24: Can we propose alternative methods?

A24: Yes, however the methods must be an approved EPA, FDEP, or other applicable agency method, and must be applicable to the matrix/and or program requirements. Any such alternate methods are to be provided as a stand-alone document.

Q25: Due to size limitation concerns, can the RFP be uploaded in multiple files properly identified as per Table of Contents, such as Form 1-Transmittal Letter, Form 2A- Price Proposal and so on?

A25: File size concerns are not an issue as Negometrix is a bonafide E-procurement platform. However, Proposers are advised that Form 2A – Price Proposal must be submitted and/or uploaded separately from the Qualifications portion of the RFP submittal.

Q26: According to 3.2.3.2 Proposal Form 2A –Price Proposal is to be submitted on a separate envelope. Can it be submitted as per question #2 above?

A26: Yes, Form 2A – Price Proposal must be submitted and/or uploaded separately from the Qualifications portion of the RFP submittal.

Q27: Please confirm that Form 2- Scope B table, can be left blank if not proposing as SBE Prime or if only submitting for Scope A.

A27: This is correct. Form 2A should only be filled for Scope A OR Scope B, depending on which proposal is being submitted.

Q28: Authority- Can you confirm No SBE participation is required under Scope A submittal?

A28: Yes, SBE participation is not required for Scope A.

Q29: Authority- Can you confirm API only applies to Scope B proposers?

A29: Yes, the API only applies to Scope B (SBE only).

Q30: As per 3.2.8 Small Business Enterprise (SBE) Participation – (Proposal Forms 5, 6 & 7) SCOPE B (SBE only). Please confirm that Forms 5, 6, and 7 only apply and are to be completed and submitted for those proposers submitting on Scope B only.

A30: Yes. However, if a Non-Certified Proposer submits a proposal for Scope A and intends to subcontract to a certified SBE, we encourage Proposers to complete and submit Proposal Forms 5 & 6 with their proposal.

Q31: Regarding Commercial Nondiscrimination Policy- All Formal Solicitations issued for AUTHORITY contracts shall include the following certification to be completed by the PROPOSER;/Every contract and subcontract shall contain a nondiscrimination clause that reads as follows:. Can the AUTHORITY indicate if there is a specific document or form to be completed at this time?

A31: Yes. Proposal Form 9 - Proposer's Qualification Statement must be completed and submitted with proposal.

Q32: Form 8- Confirmation of Business Location is only to be completed if applicable, correct?

A32: Yes. Proposal Form 8, outlines the qualifications to receive points.

Q33: Scope A- Form 2A- Bid Sheet- EPA 8021 Method is listed in three line items. VOCs and Chlorinated Hydrocarbons *** makes reference to: *** EPA Method 8021 list, Attachment # 1 is provided with Proposal Form 2A. The Method can be substituted; however, the 37 parameters listed for this method are required. Priority Pollutant Volatile Organic Halocarbons- lists EPA 8021/ and EPA 8260 as an alternate method. Aromatic and

Halogenated Volatiles in Soil- It only references EPA 8021, nevertheless, these compounds fall under the same category and list from the two above mentioned items. Furthermore, based on FDEP NELAC Certified Laboratories Index- no commercial laboratory is certified to perform the Halogenated Compounds by EPA 8021 only by EPA 8260. Can the AUTHORITY confirm that EPA 8260 can [be used?]

A33: Yes, EPA 8260 can be used.

Q34: Simazine- Can Method 508.1 be perform?

A34: The Acceptable methods listed in 40 CFR are:

63.	Simazine	GC	505, 507, 619, 1656, 608.3
		GC/MS	525.1, 525.2, 625.1

However, EPA 508.1 can be used upon FDEP UIC Program approval.

Q35: Atrazine- Is Method EPA 523.2 a typo? Is it meant to be EPA 525.2?

A35: Yes, this is a typo. EPA 525.2 is correct.

Q36: Nitrate Nitrogen- It lists Method EPA 352.1, is this a typo and supposed to be EPA 353.2 just like Nitrite Nitrogen item right below on the bid sheet? In addition, this method does not appear to be an option at the FDEP Certified Laboratories Index.

A36: EPA 352.1 is not a typo (see the table below from 40 CFR 136.3).

38. Nitrate (as N), mg/L	Ion Chromatography	300.0, Rev. 2.1 (1993) and 300.1, Rev. 1.0 (1997)	4110 B-2011 or C-2011	D4327-03	993.30.[3]
	CIE/UV		4140 B-2011	D6508-10	D6508, Rev. 2.[54]
	Ion Selective Electrode		4500-NO_3^- D-2011		
	Colorimetric (Brucine sulfate)	352.1 (Issued 1971)[1]			973.50,[3] 419D[17] p. 28.[9]

If no laboratory provides this analysis method, an additional technology to EPA 300.0 must be provided.

Q37: Total Coliforms MPN- It lists Method SM 9221 E, however according to FDEP NELAC Certified Laboratories Index- no commercial laboratory is certified by this method. Can 9223B/Quanti-tray be acceptable?

A37: 9221 E is a typo, and should be 9221 B for MPN. 9223B/Quanti-tray is an acceptable method provided it can accommodate a highly contaminated matrix.

Q38: Line 9, Page 37: Atrazine (in wastewaters) - Can Atrazine be analyzed via EPA 525.2 or EPA 8270, instead of EPA 8141/523.2?

A38: Yes, (523.2 was a typo) EPA 525.2 and EPA 8270 can be used.

Q39: Lines 16 and 18, Page 38: FOR THE FOLLOWING ITEMS (Matrix: GW, SW, WW): Antimony - EPA 200.9/7062, SM 3113B/3111B; Arsenic - EPA 206.5/200.9/7062/7061, SM3113B/3114 B: Is one of these methods strictly required or can the lab analyze these by alternate NELAP certified methods (for example 200.8, 200.7, 6010)?

A39: A method and price appropriate to the sample matrix listed must be provided per analyte per line on Form 2A. Any alternate methods that are not listed can be provided in a stand-alone attachment. If analytical method is not available in the Proposer's laboratory, a sub-contracted laboratory's pricing is to be provided along with their qualifications.

Q40: Lines 1, 8, and 13, Page 39: FOR THE FOLLOWING ITEMS (Matrix: GW, SW, WW): Lead - EPA 7010/200.9, SM 3111B, 3111C, 3113B; Selenium - EPA 200.9 /7741/7742, SM 3113B, 3111C, 3114B; Thallium - EPA 200.9/279.2 /7010, SM 3113B/3111B: Is one of these methods strictly required or can the lab analyze these by alternate NELAP certified methods (for example 200.8, 200.7, 6010)?

A40: A method and price appropriate to the sample matrix listed must be provided per analyte per line on Form 2A. Any alternate methods that are not listed can be provided in a stand-alone attachment. If analytical method is not available in the Proposer's laboratory, a sub-contracted laboratory's pricing is to be provided along with their qualifications.

Q41: Line 24, Page 39: Total Inorganic Carbon (in wastewaters) does not show on FDOH or TNI search engines as a NELAP analyte. Could it be calculated from TOC analysis via SM5310C, given that the laboratory is certified for it?
A41: Yes.

Q42: Line 5, Page 40: Nitrate as N via EPA 352.1 (waters). Could you verify that this is the method required? Can we analyze this item by an alternate NELAP certified method (for example EPA 300.0)?
A42: A method and price appropriate to the sample matrix listed must be provided per analyte per line on Form 2A. Any alternate methods that are not listed can be provided in a stand-alone attachment. If analytical method is not available in the Proposer's laboratory, a sub-contracted laboratory's pricing is to be provided along with their qualifications.

Q43: Line 7, Page 40: Nitrite as N via EPA 353.2 (waters). Can we analyze this item by an alternate NELAP certified method (for example EPA 300.0?
A43: A method and price appropriate to the sample matrix listed must be provided per analyte per line on Form 2A. Any alternate methods that are not listed can be provided in a stand-alone attachment. If analytical method is not available in the Proposer's laboratory, a sub-contracted laboratory's pricing is to be provided along with their qualifications.

Q44: Line 14, Page 40: Fecal Coliforms via SM 9221 E - Can we analyze this item by an alternate NELAP certified method (for example SM 9222 B?
A44: Due to the matrix of the sample an MF NELAP-certified method may not be used.

Q45: Line 16, Page 40: Total Coliforms via SM 9221 E - Can we analyze this item by an alternate NELAP certified method (for example SM 9222 B?
A45: SM 9221 E is a typo. The method needed is SM 9221 B.

Q46: Line 26, Page 40: Calcium Hardness via SM2340B - could we calculate results from Calcium analysis via NELAP certified method EPA 200.7?
A46: The laboratory will need to use SM2340B.

Q47: Line 7, Page 41: Fluoride via SM4500 (waters). Can the lab analyze this item by an alternate NELAP certified method (for example EPA 300.0)?
A47: A method and price appropriate to the sample matrix listed must be provided per analyte per line on Form 2A. Any alternate methods that are not listed can be provided in a stand-alone attachment. If analytical method is not available in the Proposer's laboratory, a sub-contracted laboratory's pricing is to be provided along with their qualifications.

Q48: Line 17, Page 41: Total Hardness via SM2340B (waters) - could we calculate results from Calcium & Magnesium analysis via NELAP certified method EPA 200.7?
A48: The laboratory will need to use SM2340B.

Q49: Line 6, Page 42: Full Primary DW Scan - Parameters included/excluded (p.44) - Are all Disinfection By-Products (Table 3: THMs, HAAs, Bromate, Chlorite) to be included or only THMs & HAAs?
A49: PROPOSERS are to provide only THMs and HAAs from Table 3.

Q50: Line 6, Page 42: Full Primary DW Scan - Parameters included/excluded (p.44) - is Table 6 - Secondary DW Standards included or excluded?

A50: Both Primary and Secondary Drinking Water Standards are needed.

Q51: Line 12, Page 43: Organophosphorus Compounds (soils) - can we analyze these via NELAP certified method EPA 8270 or NELAP certified Florida-Spectrum's own developed method: FSE-OPP/GC-MS?
A51: EPA 8270 is acceptable, and the laboratory's own developed method must be accepted by the FDEP Solid Waste Program, and must be included in the FDOH certification.

Q52: Line 14, Page 43: EPA 8021 (soils) - could we analyze these via NELAP certified method EPA 8260?
A52: EPA 8260 is acceptable.

Q53: Line 9, Page 44: Nitrate as N EPA 353.2 (soils). Can we analyze this item by an alternate NELAP certified method (for example EPA 9056)?
A53: Nitrate as N by EPA 9056 is also acceptable.

Q54: Line 10, Page 44: Nitrite as N EPA 353.2 (soils). Can we analyze this item by an alternate NELAP certified method (for example EPA 9056)?
A54: Nitrate as N by EPA 9056 is also acceptable.

Q55: Line 11, Page 44: Nitrate+Nitrite N EPA 353.2 (soils) - Can we analyze this item by an alternate NELAP certified method (for example EPA 9056)?
A55: Nitrate+Nitrite N by EPA 9056 is also acceptable.

Q56: Line 2, Page 47: Nitrate as N via EPA 352.1 (waters). Could you verify that this is the method required? Can we analyze this item by an alternate NELAP certified method (for example EPA 300.0)?
A56: Nitrate as N by EPA 300.0 is acceptable, however, the laboratory must also be certified or provide pricing for an alternate technology method.

Q57: Line 4, Page 47: Nitrite as N via EPA 353.2 (waters). Can we analyze this item by an alternate NELAP certified method (for example EPA 300.0?
A57: Nitrite as N by EPA 300.0 is acceptable, however, the laboratory must also be certified or provide pricing for an alternate technology method.

Q58: Line 19, Page 47: Corrosivity (langlier Index) via SM2330B (waters) - TO BE SUBBED TO FLOWERS OR T.A. SAV
A58: Please be sure to provide qualifications for any sub-consultants to be used.

Q59: Line 21, Page 47: Fluoride via SM4500 (waters). Can the lab analyze this item by an alternate NELAP certified method (for example EPA 300.0)?
A59: Fluoride by EPA 300.0 is acceptable, however, the laboratory must also be certified or provide pricing for an alternate technology method.

Q60: Line 4, Page 48: Total Hardness via SM2340B (waters) - could we calculate results from Calcium & Magnesium analysis via NELAP certified method EPA 200.7?
A60: The laboratory will need to use SM2340B.

Q61: Line 5, Page 56: Attachment 3-App II - Diphenylamine, is this item unregulated? Analyte does not show on FDOH or TNI search engines as a NELAP analyte. Please advise.
A61: This item is found in the FDEP Laboratories Certified Under NELAP by the Florida Department of Health:

Non-Potable Water	EPA 625.1	Diphenylamine
Non-Potable Water	EPA 8270	Diphenylamine
Solids	EPA 8270	Diphenylamine

Q62: Line 21, Page 58: Attachment 3-App II - Parathion - is this Parathion (ethyl)? If not, there is no NELAP certified lab on FDOH or TNI search engine for this item. Please advise.
A62: Yes, this is a synonym for Parathion Ethyl.

Q63: Line 28, Page 58: Attachment 3-App II - p-phenylenediamine - item not listed on FDOH or TNI search engines. Please advise.
A63: A synonym is 1, 4-Phenylenediamine

Q64: Since the SWA Pre-Proposal Conference for RFP No.: 20-202/DL for Analytical Laboratory Services was recorded, and will be included in an Addendum; does this mean that the answers provided to our questions will be binding?
A64: No. Oral statements made during the meeting shall not be binding. Only information in writing, created as an Addendum, will be considered as an official response and legally binding.

Q65: For items that are not short-hold, can we subcontract outside the 200 mile radius?
A65: As long as 75% of the analysis is done within the 200-mile radius, any additional non-short-hold time analyses may be performed outside the radius.

Q66: We noticed that a question was posted directly via Negometrix. Does this and any other questions posted this way have to be submitted as part of the bid package? If yes, will they be considered part of the bid Addendums?
A66: Questions posed directly via Negometrix and via email to the Procurement representative will be part of the Addendum. Therefore, they will be part of the RFP that will require acknowledgement on Proposal Form 1-Transmittal Letter.

Q67: Can the County provide an Excel version of the pricing sheets?
A67: Bid Form 2A is provided in Excel (.xlsx) format attached. The workbook contains both a tab for Scope A and a tab for Scope B. Please be sure to use the appropriate tab when developing the price for your proposal. Changes to Form 2A that result from this addendum have already been incorporated into the Excel file provided.

Q68: Can the County provide the current renewal option and the current contracted rates?
A68: Currently, the Authority does not have a contract. Rather, the Authority is piggybacking contracts from the City of Jacksonville and Bay County. The Authority follows the terms and conditions set forth in these piggybacks, which usually have renewal options for a one-year term.

Q69: Could we send all documents by web? If it's possible.
A69: Due to the current situation of social distancing, the Authority will be accepting electronic copies through Negometrix only. Please advise if you are having any issues with the process.

Q70: From the pre-bid call, please confirm that you only require that the IDOC or DOC be submitted for the primary analyst of each method.
A70: IDOCs or on-going DOCs (whichever is applicable) are only needed per main analyst and for each method the lab proposes for this RFP.

Q71: Can the pricing and limit forms be provided in excel?
A71: Bid Form 2A is provided in Excel (.xlsx) format attached. The workbook contains both a tab for Scope A and a tab for Scope B. Please be sure to use the appropriate tab when developing the price for your proposal. Changes to Form 2A that result from this addendum have already been incorporated into the Excel file provided.

Q72: Does the lab still have to submit the six (6) hard copies of the bid proposal or will the labs be submitting bid proposal documents exclusively and electronically via Negometrix?
A72: Due to the current situation of social distancing, the Authority will be accepting electronic copies through Negometrix only. Please advise if you are having any issues with the process.

Q73: If the laboratory provides all the required information in the report, would an alternate format be acceptable?
A73: During the proposal evaluation phase, an alternate report format would be acceptable; however, if awarded a contract, the format that is outlined within the RFP is to be used.

Q74: Please confirm that only one electronic package is to be submitted via Negometrix? And that no hard copies or USB are to be submitted.
A74: Due to the current situation of social distancing, the Authority will be accepting electronic copies through Negometrix only. Please advise if you are having any issues with the process.

3. For clarification purposes, please separate documents to be submitted as: Proposal: RFP 20-202_LabName_Qualifications, and Fee Schedule RFP 20-202_LabName_Pricelist.

4. Revised Proposal Forms 2A (Excel file), and Revised Proposal Form 2B (pdf) will be separate files named as underlined.

ALL ELSE REMAINS THE SAME

Diane LeRay

Diane LeRay, CPPO, CPPB
Procurement Manager