



**Department of
Design and
Construction**

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE**

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
WEBSITE www1.nyc.gov/site/ddc/index.page

**VOLUME 1 OF 3
BID BOOKLET**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SEK-20070

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING
8'-0" W X 8'-0" H OUTFALL STORM SEWER IN:
25TH AVE. BETWEEN HUNTER AVE. AND GRAVESEND BAY
Together with All Work Incidental Thereto

**BOROUGH OF BROOKLYN
CITY OF NEW YORK**



FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
PREPARED BY
IN-HOUSE DESIGN

DECEMBER 18, 2018

9-045

March 09, 2021

CERTIFIED MAIL - RETURN RECEIPT REQUEST
D'ONOFRIO GENERAL CONTRACTORS CORP.
202 28th Street
Brooklyn, NY 11232

RE: FMS ID: SEK20070
E-PIN: 85019B0042001
DDC PIN: 8502015SE0012C
RECONSTRUCTION OF
APPROXIMATELY 287 FEET OF THE
EXISTING OUTFALL SEWER IN 25TH
AVENUE-BOROUGH OF BROOKLYN
NOTICE OF AWARD

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of \$5,531,489.60 submitted at the bid opening on March 22, 2019. Within ten (10) days of your receipt of this notice of award, you are required to take the actions set forth in Paragraphs (1) through (3) below. For your convenience, attached please find a copy of Schedule A of the General Conditions to the Contract, which sets forth the types and amounts of insurance coverage required for this contract.

- (1) Execute two copies of the Agreement. Attached are the Signature Agreement pages which must be completed and returned to the agency. The Agreement must be signed by an officer of the corporation or a partner of the firm.
- (2) Submit to the Contracts Unit two properly executed performance and payment bonds. If required for this contract, copies of performance and payment bonds are attached.
- (3) Submit to the Contracts Unit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by New York State Law. The insurance documentation specified in this paragraph is required for registration of the contract with the Comptroller's Office.



On or before the contract commencement date, you are required to submit all other certificates of insurance and/or policies in the types and amounts required by Schedule A. Such certificates of Insurance and/or policies must be submitted to the Agency Chief Contracting Office, Attention: Risk Manager, Fourth Floor at the above indicated department address.

Your attention is directed to the section of the Information for Bidders entitled "Failure to Execute Contract". As indicated in this section, in the event you fail to execute the contract and furnish the required bonds within the (10) days of your receipt of this notice of award, your bid security will be retained by the City and you will be liable for the difference between your bid price and the price for which the contract is subsequently awarded, less the amount of the bid security retained.

As of August 16, 2019, please be advised that Contract Site Safety Plans for DDC projects must be submitted through DDC's online Site Safety Plan (SSP) application (available via our Agency Portal – *DDC Anywhere*).

To create an account and begin your Site Safety Pan submission using SSP, click on the link below:

DDC Portal <https://ddcanywhere.nyc/Registration/Registration>

For questions regarding this web-based application, please contact DDC via email at: appsupport@ddc.nyc.gov.

Sincerely,

A handwritten signature in black ink that reads 'Lorraine Holley'.

Lorraine Holley
Deputy ACCO



Notices to Bidders

Pre-Bid Questions (PBQs)

Please be advised that PBQs should be submitted to the Agency Contact Person (CSB_projectinquiries@ddc.nyc.gov) at least five (5) business days (by 5:00 PM EST) prior to the bid opening date as indicated in ATTACHMENT 1 - BID INFORMATION, page A-1 and SCHEDULE B, page 13, VOLUME 1 OF 3 of this BID BOOKLET.

All PBQs must reference the Project ID. If a Bidder has multiple PBQs for the same Project ID, the PBQs must be numbered sequentially, even if they are submitted separately.

Apprenticeship Program

If Apprenticeship Program is required as noted on Page 19 of this BID BOOKLET, the following notice applies:

Please be advised that, pursuant to the authority granted to the City under Labor Law §816-b, the New York City Department of Design and Construction hereby requires that the contractor awarded a contract as a result of this solicitation, and any of its subcontractors with subcontracts worth two million dollars or over, have, prior to entering into such contract or subcontract, apprenticeship agreements appropriate for the type and scope of work to be performed that have been registered with, and approved by, the New York State Commissioner of Labor. In addition, the contractor and its subcontractors will be required to show that such apprenticeship program/s have successfully passed the two year Probation period following the initial registration date of such program/s with the New York State Department of Labor.

The failure to prove, upon request, that these requirements have been met shall result in the contract not being awarded to the contractor or the subcontractor not being approved.

Please be further advised that, pursuant to Labor Law §220, the allowable ratio of apprentices to journeypersons in any craft classification shall not be greater than the ratio permitted to the contractor as to its workforce on any job under the registered apprenticeship program.

Notices to Bidders

PASSPort Disclosure Filing

All vendors that intend to do business with the City of New York must complete a disclosure process in order to be considered for a contract. This disclosure process was formerly completed using Vendor Information Exchange System (VENDEX) paper-based forms. The City of New York has moved collection of vendor disclosure information online. In early August 2017, the New York City Mayor's Office of Contract Services (MOCS) launched the **Procurement and Sourcing Solutions Portal (PASSPort)**, a new online procurement system that replaced the paper-VENDEX process. In anticipation of awards, all bidders must create online accounts in the new PASSPort system, and file all disclosure information using PASSPort. **Paper submissions, including certifications of no changes to existing VENDEX packages will not be accepted in lieu of complete online filings.**

All vendors that intend to do business with the City, but specifically those that fall into any of the following categories, are required to enroll:

- Have a pending award with a City Agency; or
- Hold a current contract with a City Agency and have either an expiring VENDEX or expiring Certificate of No Change.

The Department of Design and Construction (DDC) and MOCS hereby notifies all proposers that the PASSPort system is available, and that disclosure filing completion is required prior to any award through this competitive bid.

To enroll in PASSPort and to access the PASSPort website (including online training), please visit www.nyc.gov/passport. Contact MOCS at passport@mocs.nyc.gov for additional information and technical support.

Notices to Bidders

NYC Construction Loan Pilot Program

The New York City Department of Small Business Services (SBS), in conjunction with the New York Business Development Corporation (NYBDC), have established a **NYC Construction Loan** pilot program to provide prime contractors and subcontractors financing for mobilization costs on certain City construction projects.

Under this initiative, loans are available for early stage mobilization needs such as insurance, labor, supplies and equipment. Bidders are strongly encouraged to visit "Growing Your Business" at www.nyc.gov/nycbusiness to learn more about the loan or contact constructionloan@sbs.nyc.gov / (212) 513-6444 to obtain details and to determine preliminary eligibility.

A successful loan applicant will be required to make an assignment of its contract (or subcontract) payments to the lender NYBDC until the loan is repaid. If the loan is to a subcontractor, a prime contractor must honor the terms of such an assignment.

A prime contractor may not discriminate against a subcontractor or potential subcontractor by reason of the subcontractor's participation, or nonparticipation, in the NYC Construction loan program.

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CITY OF NEW YORK
DEPARTMENT OF
DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

BID BOOKLET

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND
REQUIRED FOR:

PROJECT ID: SEK-20070

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING
8'-0" W X 8'-0"H OUTFALL STORM SEWER IN:
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BOROUGH OF BROOKLYN
CITY OF NEW YORK

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PROJECT ID: SEK-20070

**CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE**

BID BOOKLET

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**CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE**

SPECIAL NOTICE TO BIDDERS

BID SUBMISSION REQUIREMENTS

THE FOLLOWING DOCUMENTS ARE TO BE COMPLETED AND SUBMITTED WITH THE BID:

1. Bid Schedule and Bid Form, including Affirmation
2. Bid Security (if required, see Attachment 1 on Page A-1)
3. Schedule B: M/WBE Utilization Plan (if participation goals have been established)

**FAILURE TO SUBMIT ITEMS (1), (2) AND (3)
WILL RESULT IN THE DISQUALIFICATION OF THE BID.**

4. Safety Questionnaire
5. Construction Employment Report (if bid is \$1,000,000 or more)
6. Contract Certificate (if bid is less than \$1,000,000)
7. Confirmation of Vendex Compliance
8. Bidder's Certification of Compliance with Iran Divestment Act
9. Special Experience Requirements (if applicable)
10. Apprenticeship Program Questionnaire (if applicable)
11. Any addenda issued prior to the receipt of bids

**FAILURE TO SUBMIT ITEMS (4) THROUGH (11)
MAY RESULT IN THE DISQUALIFICATION OF THE BID.**

NOTES:

- (1) All of the above referred to blank forms to be completed and submitted with the bid are included in the BID BOOKLET.
- (2) If the bidder has any questions or requires additional information, please contact the Department of Design and Construction by phone (718-391- 2601) or by fax (718-391-2627).
- (3) **PASSPort Compliance:** The Bidder is advised that Vendex Questionnaires and procedures have been replaced by the PASSPort system. Compliance with PASSPort is mandatory for contract Award. PASSPort system details are set forth on NTB-2 at the beginning of this Bid Booklet.
- (4) **SPECIAL EXPERIENCE REQUIREMENTS:** The Bidder is advised that Special Experience Requirements may apply to this contract. Such requirements are set forth on pages 3, 3a, 3b, and 4 of this Bid Booklet.

SPECIAL NOTICE TO BIDDERS

SPECIAL EXPERIENCE REQUIREMENTS (Revised 03/2014)

- (A) **SPECIAL EXPERIENCE REQUIREMENTS FOR THE BIDDER:** The Special Experience Requirements set forth below apply to the bidder. Compliance with such Special Experience Requirements will be determined solely by the City prior to an award of contract. Failure to comply with the Special Experience Requirements will result in rejection of the bid as non-responsive.

The requirements in this Section (A) apply to this contract where indicated by a blackened box (■).

- The bidder must, within the last seven (7) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least one (1) project similar in scope and type to the required work. Such prior project may have been performed as a prime contractor, subcontractor or sub-subcontractor.

The Special Experience Requirements next to the blackened box below apply to the bidder. If the bidder intends to perform such work itself, it must demonstrate compliance with the Special Experience Requirements. If the bidder intends to subcontract this work, the proposed subcontractor or sub-subcontractor must demonstrate compliance with the Special Experience Requirements. The contractor, subcontractor or sub-subcontractor (hereinafter referred to as the "entity") that will perform any specific area of work indicated by the blackened box below, may have performed the required prior project(s) as a prime contractor, subcontractor or sub-subcontractor. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City.

- Trunk Water Main Work:** The entity that will perform the trunk water main work must, within the last seven (7) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least one (1) project similar in scope and type to the required work.
- Best Management Practice Work:** Best Management Practice ("BMP") Work is any item of work in the Bid Schedule that begins with the prefix "BMP". The entity that will perform any BMP Work must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work.

For professional services in connection with BMP Work, (i.e., monitoring and reporting services), the individual who will perform the required services must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work. Additional requirements are set forth below.

- The individual serving as the Restoration Specialist (Construction Monitor) must be a Registered Landscape Architect licensed by the state of New York, or must have equivalent professional experience.
- The individual serving as the Erosion and Sediment Control Licensed/Certified Professional must be a Certified Professional in Erosion and Sediment Control (CPESC), certified by CPESC, Inc.
- Micro-Tunneling/Pipe Jacking Work:** The entity that will perform the micro-tunneling/pipe jacking work must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work.
- OTHER:** _____

(B) SPECIAL EXPERIENCE REQUIREMENTS FOR SPECIFIC AREAS OF WORK (to be provided after an award of contract):

The requirements in this Section (B) apply to this contract where indicated by a blackened box (■).

The Special Experience Requirements set forth below apply to the contractor, subcontractor or sub-subcontractor that will perform the specific area of work. Compliance with such Special Experience Requirements will be determined solely by the City after an award of contract. After an award of contract, when requested by the City, the contractor will be required to submit the qualifications of the contractor, subcontractor or sub-subcontractor that will perform the specific area of work. If the bidder intends to perform such work itself, it must demonstrate compliance with the Special Experience Requirements. If the bidder intends to subcontract this work, the proposed subcontractor or sub-subcontractor must demonstrate compliance with the Special Experience Requirements. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City.

Special Experience Requirements apply to the contractor, subcontractor or sub-subcontractor (hereinafter referred to as the "entity") that will perform any specific area of work indicated by a blackened box. The entity may have performed the required prior project(s) as a prime contractor, subcontractor or sub-subcontractor.

■ **Hazmat Work:** Hazmat Work is any item of work in the Bid Schedule that begins with the prefix 8.01. The entity that will perform any Hazmat Work must, within the last three (3) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least five (5) projects similar in scope and type to the required work.

■ **Pile, CFA Pile, and/or Mini-Pile Work:** The entity that will perform the Pile, CFA Pile and/or Mini-Pile Work must, within the last three (3) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work.

For professional services in connection with Pile Work, (i.e., engineering and inspection services), the individual who will perform the required services must be a Professional Engineer licensed by the state of New York. Such individual must also comply with the above requirements for prior projects.

■ **Construction Report, Monitoring And Post-Construction Report, and Continuous Real-Time Monitoring For Vibrations And Movements And Post-Construction Report Work:** The entity that will perform the Construction Report, Monitoring For Vibrations And Movements, and Post-Construction Report Work must, within the last three (3) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least two (2) projects similar in scope and type to the required work.

For professional services in connection with Reporting and Monitoring Work, (i.e., engineering and inspection services), the individual who will perform the required services must be a Professional Engineer licensed by the state of New York. Such individual must also comply with the above requirements for prior projects.

OTHER: _____

(C) **SPECIFICATIONS:** In the event of any conflict, omission or inconsistency between (1) the Specifications and/or Contract Drawings, and (2) the Special Experience Requirements in Section (B) of the Special Notice To Bidders, the special experience listed in the Specifications and/or Contract Drawings shall be controlling. The Special Experience Requirements in Section (B) of this Special Notice To Bidders are only for the convenience of the bidders.

(D) **SUBMISSION REQUIREMENTS:** For each project submitted to demonstrate compliance with the Special Experience Requirements, the bidder must complete and submit the Qualification Form included in the Bid Booklet. The City will only evaluate a project if the following criteria are met: (1) the project is described on the Qualification Form, and (2) all information on the Qualification Form is provided. The City will not evaluate any project which does not comply with the criteria set forth herein, including any project which is referred to only on the resume of an individual.

If Special Experience Requirements are indicated for any specific area of work, the submission requirement set forth above shall apply to the entity that will perform the specific area of work.

(E) **CONDITIONS:** In determining compliance with the Special Experience Requirements for the bidder set forth above, the City may consider prior projects completed by principal(s) or other employees of the bidder while affiliated with another entity, subject to the conditions set forth below.

- Any principal or other employee on whose prior experience the bidder is relying to demonstrate compliance with this special experience requirement must have held the following: (a) a significant management role in the prior entity with which he/she was affiliated, and (b) a significant management role in the entity submitting the bid for a period of at least six (6) months, or from the inception of the bidding entity.
- The bidder may not rely on the experience of its principals or other employees to demonstrate compliance with any other requirements, including without limitation, financial requirements or requirements for a specified minimum amount of annual gross revenues.

(F) **JOINT VENTURES:** In the event the bidder is a joint venture, at least one firm in the joint venture must meet the above described experience requirements.

Qualification Form

List previous projects completed to meet the special experience requirements for this contract. Please photocopy this form for submission of all required projects.

Name of Contractor: D'Onofrio General Contractors Corp.

Name of Project: Manhattan West Street Reconstruction & trenching

Location of Project: Manhattan, New York

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: Consolidated Edison - Ray Setteducati

Title: Construction Inspector Phone Number: 212-460-4600

Brief description of the Project completed or the Project in progress: Trenching for electrical services and street restoration

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: \$ 27,000,000.00

Start Date and Completion Date: 2016 - 2021

Name of Contractor: D'Onofrio General Contractors Corp.

Name of Project: Manhattan Sidewalk Restoration

Location of Project: Manhattan, New York

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: Consolidated Edison - Ray Setteducati

Title: Construction Inspector Phone Number: 212-460-4600

Brief description of the Project completed or the Project in progress: Sidewalk restoration for pedestrian and vehicular traffic control

Was the Project performed as a prime, a subcontractor or a sub-subcontractor: Prime

Amount of Contract, Subcontract or Sub-subcontract: \$ 10,000,000.00

Start Date and Completion Date: 2017 - 2022

ATTACHMENT 1 - BID INFORMATION

PROJECT ID: SEK-20070
PIN: 8502015SE0012

Description and Location of Work:

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET
OF THE EXISTING 8' 0"W X 8' 0" OUTFALL STORM SEWER IN 25TH AVE
BETWEEN HUNTER AVE AND GRAVESEND BAY

Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK

Documents Available At: 30-30 Thomson Avenue
First Floor Bid Procurement Room
Long Island City, New York 11101
8:30 A.M. to 4:00 P.M. – Monday through Friday

Submission of Bids To: 30-30 Thomson Avenue
First Floor Bid Procurement Room
Long Island City, New York 11101
Before 11:00 A.M. on March 8, 2019

Bid Opening: 30-30 Thomson Avenue
First Floor Bid Procurement Room
Long Island City, New York 11101
Time and Date: 11:00 A.M. on March 8, 2019

Pre-Bid Conference: Yes _____ No X
If Yes, Mandatory _____ Optional: _____
Time and Date: _____
Location: _____

Bid Security: Bid Security is required in the amount set forth below; provided, however, bid security is not required if the TOTAL BID PRICE set forth on the Bid Form is less than \$ 1,000,000.00.
(1) Bond in an amount not less than 10% of the TOTAL BID PRICE set forth on the Bid Form, OR
(2) Certified Check in an amount not less than 2% of the TOTAL BID PRICE set forth on the Bid Form.

Performance and Payment Security: Required for contracts in the amount of \$1,000,000 or more. Performance Security and Payment Security shall each be in an amount equal to 30% of the Contract Price.

Agency Contact Person: Lorraine Holley Phone: 718-391-2601 Fax: 718-391-2627
Email: CSB_projectinquiries@ddc.nyc.gov



For questions about site accessibility, please contact our disability services facilitator at (718) 391-2815 or via email at accessibility@ddc.nyc.gov.

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LIST OF DRAWINGS

PROJECT ID: SEK-20070

PIN: 8502015SE0012C

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN & PROFILE: 25TH AVE TO OUTFALL
3	OUTFALL DETAILS AND ACCESS MANHOLE NUMBER 1
4	ACCESS MANHOLE NUMBER 2
5	BOX SEWER CROSS SECTION & PILE LAYOUT PLAN
6	CHAMBER # 1

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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE - BUREAU OF DESIGN

Contract PIN 8502015SE0012C
Project ID SEK20070

BID SCHEDULE

- NOTE: (1) The Agency may reject a bid if it contains unbalanced bid prices. An unbalanced bid is considered to be one containing lump sum or unit items which do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs, anticipated for the performance of the items in question.
- (2) The following bid prices on Unit Price Contracts are to be paid for the actual quantities of the several classes of work in the completed work or structure, and they cover the cost of all work, labor, material, tools, plant and appliances of every description necessary to complete the entire work, as specified, and the removal of all debris, temporary work and appliances.
- (3) ^{*} PLEASE BE SURE A LEGIBLE BID IS ENTERED, IN INK, FOR EACH ITEM. Alterations must be initialed in ink by the bidder.
- (4) The Extended Amount entered in Column 5 shall be the product of the Estimated Quantity in Column 2 times the Unit Price Bid in Column 4.
- (5) Prospective bidders must examine the Bid Schedule carefully and, before bidding, must advise the Commissioner, in writing, if any pages are missing, and must request that such missing pages be furnished them. The pages of this Bid Schedule are numbered consecutively, as follows: B-3 through B-17

12/29/2016

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BID PAGES



NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

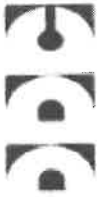
Contract PIN

85020155E10120

Project ID

SNK20070

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
4.02 CA (001)	130.0 TONS	BINDER MIXTURE	\$	230.00	\$	29,900.00
4.04 H (002)	40.0 C.Y.	CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH)	\$	395.00	\$	15,800.00
4.16 AA (003)	3.0 EACH	TREES REMOVED (4" TO UNDER 12" CALLIPER)	\$	922.00	\$	2,766.00
4.16 AB (004)	3.0 EACH	TREES REMOVED (12" TO UNDER 18" CALLIPER)	\$	1,500.00	\$	4,500.00



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 BIDD PAGE 5

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN 6502015SE0012C
 Project ID 5K20070

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
4.16 AC (005)	3.0 EACH	TREES REMOVED (18" TO UNDER 24" CALIPER)	\$ 1,750.00		\$ 5,250.00	
4.16 AD (006)	3.0 EACH	TREES REMOVED (24" CALIPER AND OVER)	\$ 2,250.00		\$ 6,750.00	
4.16 BA405 (007)	40.0 EACH TREE PITS	TREES PLANTED, 2-1/2" TO 3" CALIPER, ALL TYPES, IN 4' X 5'	\$ 1,500.00		\$ 60,000.00	
4.16 CA405 (008)	5.0 EACH TREE PITS	TREES PLANTED, 3" TO 3 1/2" CALIPER, ALL TYPES, IN 4' X 5'	\$ 1,750.00		\$ 8,750.00	



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BIDDINGS

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN
Project ID

65020155E00120
SEK20070

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
4.16 DA405 (009)	5.0 EACH	TREES PLANTED, 3-1/2" TO 4" CALIPER, ALL TYPERS, IN 4" X 5" TREE PITS	\$ 2,000.00		\$ 10,000.00	
4.16 EA405 (010)	5.0 EACH	TREES PLANTED, 4" TO 4-1/2" CALIPER, ALL TYPERS, IN 4" X 5"	\$ 2,250.00		\$ 11,250.00	
4.18 A (011)	15.0 EACH	MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	\$ 3,500.00		\$ 52,500.00	
4.18 B (012)	10.0 EACH	MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.)	\$ 2,500.00		\$ 25,000.00	

3/27/2018
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 BIDD PAGE 5



NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN
 Project ID

8502015SE00120
 SKK20070

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
4.18 C (013)	6.0 EACH	MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)	\$ 4,000.00		\$ 24,000.00	
4.18 D (014)	15.0 EACH	MAINTENANCE TREE PRUNING (24" CAL. AND OVER)	\$ 3,000.00		\$ 45,000.00	
4.19 (015)	300.0 S.Y.	SODDING				
4.20 (016)	200.0 S.Y.	SEEDING	\$ 40.00		\$ 12,000.00	
			\$ 30.00		\$ 6,000.00	



Contract PIN 6502015SE0012C
 Project ID SKK20070

12/22/2016
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 BIDDPAULS

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
4.21 (017)	130.0 P/HR	TREE CONSULTANT	\$	235.00	\$	30,550.00
50.11MS080080 (018)	130.0 L.F.	8'-0"W X 8' -0"H SINGLE BARREL FLAT TOP REINFORCED CONCRETE STORM SEWER	\$	4,000.00	\$	520,000.00
51.11C000 (019)	1.0 EACH	CHAMBER	\$	350,000.00	\$	350,000.00
51.61F000 (020)	1.0 EACH	OUTFALL	\$	1,400,000.00	\$	1,400,000.00



NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN 05G2015SE0012C

Project ID SKK20070

12/27/2016

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BID PACES

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
6.01 AC (021)	1200.0 S.Y.	CLEARING AND GRUBBING	\$	25.00	\$	30,000.00
6.02 AAN (022)	1200.0 C.Y.	UNCLASSIFIED EXCAVATION	\$	150.00	\$	180,000.00
6.26 (023)	700.0 L.F.	TIMBER CURB	\$	5.00	\$	3,500.00
6.28 AA (024)	700.0 L.F.	LIGHTED TIMBER BARRICADES	\$	10.00	\$	7,000.00



NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN: 85020155100120
Project ID: SKK20070

12/27/2018
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BID PAGES

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
6.34 AC (025)	150.0 L.F.	CHAIL LINK FENCE, 6'-" HIGH	\$	50.00	\$	7,500.00
6.40 C (026)	24.0 MONTH	ENGINEER'S FIELD OFFICE (TYPE C)	\$	17,000.00	\$	408,000.00
6.52 CG (027)	500.0 P/HR	CROSSING GUARD	\$	55.00	\$	27,500.00
6.87 (028)	20.0 EACH	PLASTIC BARRELS	\$	18.00	\$	360.00



NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN: R5G2015SE0012C
Project ID: SEK20070

12/27/2018
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BIDDINGS

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
7.13 B (029)	18.0 MONTH	MAINTENANCE OF SITE UNIT PRICE BID SHALL NOT BE LESS THAN: \$9,000.00	\$ 14,000.00		\$ 252,000.00	
7.36 (030)	500.0 L.F.	PEDESTRIAN STEEL BARRICADES	\$ 25.00		\$ 12,500.00	
7.88 AA (031)	1.0 L.S.	RODENT INFESTATION SURVEY AND MONITORING UNIT PRICE BID SHALL NOT BE LESS THAN: \$10,000.00	\$ 12,000.00		\$ 12,000.00	
7.88 AB (032)	72.0 EACH	RODENT BAIT STATIONS UNIT PRICE SHALL NOT BE LESS THAN: \$60.00	\$ 75.00		\$ 5,400.00	



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BIDD PAGE 5

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN: B5020155EJ012C
Project ID: SKK20070

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
7.88 AC (033)	72.0 EACH	BAITING OF RODENT BAIT STATIONS UNIT PRICE BID SHALL NOT BE LESS THAN: \$10.50	\$ 12.00		\$ 864.00	
7.88 AD (034)	18.0 BLOCK	WATERBUG BAIT APPLICATIONS UNIT PRICE BID SHALL NOT BE LESS THAN: \$72.00	\$ 75.00		\$ 1,350.00	
70.11TT (035)	3700.0 V.F.	TIMBER PILES (TREATED)	\$ 50.00		\$ 185,000.00	
70.21DK (036)	200.0 S.Y.	DECKING	\$ 150.00		\$ 30,000.00	



NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract FIN 8502015SE00120
Project ID SEK20070

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COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
70.31 FN (037)	150.0 L.F.	FENCING UNIT PRICE BID SHALL NOT BE LESS THAN: \$2.00	\$	10.00	\$	1,500.00
70.51EO (038)	50.0 C.Y.	EXCAVATION OF BOULDERS IN OPEN CUT UNIT PRICE BID SHALL NOT BE LESS THAN: \$75.00	\$	90.00	\$	4,500.00
70.61RE (039)	50.0 C.Y.	ROCK EXCAVATION				
70.71SB (040)	500.0 C.Y.	STONE BALLAST UNIT PRICE BID SHALL NOT BE LESS THAN: \$15.00	\$	1,000.00	\$	50,000.00
			\$	60.00	\$	30,000.00



NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN 6502015SE00120
Project ID SKK20070

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BID PAGES

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
70.81CB (041)	180.0 C.Y.	CLEAN BACKFILL UNIT PRICE SHALL NOT BE LESS THAN: \$15.00	\$ 25.00		\$ 4,500.00	
73.21AC (042)	300.0 C.Y.	ADDITIONAL CONCRETE UNIT PRICE SHALL NOT BE LESS THAN: \$62.50	\$ 115.00		\$ 34,500.00	
73.51AS (043)	27000.0 LBS.	ADDITIONAL STEEL REINFORCING BARS UNIT PRICE SHALL NOT BE LESS THAN: \$1.00	\$ 3.00		\$ 81,000.00	
76.11CR (044)	1.0 I.S.	CONSTRUCTION REPORT	\$ 75,000.00		\$ 75,000.00	



Contract PIN: 6502015SEED02C
 Project ID: SKR20070

12/23/2016
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 BID TABS

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
76.21MR (045)	1.0 I.S.	MONITORING AND POST-CONSTRUCTION REPORT	\$ 65,000.00		\$ 65,000.00	
8.01 C1 (046)	3600.0 TONS	HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	\$ 90.00		\$ 324,000.00	
8.01 C2 (047)	7.0 SETS	SAMPLING AND TESTING OF CONTAMINATED/ POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	\$ 2,500.00		\$ 17,500.00	
8.01 H (048)	450.0 TONS	HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	\$ 385.00		\$ 173,250.00	



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NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
 DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

Contract PIN 8502015SI0012C
 Project ID **SKK20070**

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
8.01 S (049)	1.0 L.S.	HEALTH AND SAFETY	\$ 75,000.00		\$ 75,000.00	
8.01 W1 (050)	100.0 DAY	REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	\$ 3,500.00		\$ 350,000.00	
8.01 W2 (051)	100.0 SETS	SAMPLING AND TESTING OF CONTAMINATED WATER	\$ 2,500.00		\$ 250,000.00	



DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE BUREAU OF DESIGN

SEN20070

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES)		COL. 5 EXTENDED AMOUNTS (IN FIGURES)	
			DOLLARS	CTS	DOLLARS	CTS
SUB-TOTAL:			\$		\$	5,318,740.00
6.39 A (052)	1 0 LUMP SUM	MOBILIZATION SHALL NOT EXCEED 4% OF THE ABOVE SUBTOTAL PRICE			212,749.60	
			\$		218,260.00	
TOTAL BID PRICE			\$		5,531,489.60	

8/16/2020

2020/9/18

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BID FORM
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

**BID FOR FURNISHING ALL LABOR AND
MATERIAL NECESSARY AND REQUIRED FOR:**

PROJECT ID: SEK20070
THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING
8'-0" W X 8'-0"H OUTFALL STORM SEWER IN:
25TH AVE. BETWEEN HUNTER AVE. AND GRAVESEND BAY
Together with All Work Incidental Thereto

BOROUGH OF BROOKLYN
CITY OF NEW YORK

Name of Bidder: D'Onofrio General Contractors Corp.

Date of Bid Opening: March 8, 2019

Bidder is: (Check one, whichever applies) Individual () Partnership () Corporation (X)

Place of Business of Bidder: 202 28th Street - Brooklyn, NY 11232

Bidder's Telephone Number: 718-832-5700 Fax Number: 718-832-5772

Bidder's E-Mail Address: ray@donofrio.biz

Residence of Bidder (If Individual): n/a

If Bidder is a Partnership, fill in the following blanks:

Names of Partners

Residence of Partners

If Bidder is a Corporation, fill in the following blanks:

Organized under the laws of the State of New York

Name and Home Address of President: Jerry D'Onofrio - Brooklyn, New York

Name and Home Address of Secretary: Vincent D'Onofrio - Brooklyn, New York

Name and Home Address of Treasurer: John D'Onofrio - Brooklyn, New York

BID FORM

The above-named Bidder affirms and declares:

1. The said bidder is of lawful age and the only one interested in this bid; and no person, firm or corporation other than hereinbefore named has any interest in this bid, or in the Contract proposed to be taken.
2. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) unless otherwise required by law, the prices quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
3. No councilman or other officer or employee or person whose salary is payable in whole or in part from the City Treasury is directly or indirectly interested in this bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.
4. The bidder is not in arrears to the City of New York upon debt or contract or taxes, and is not a defaulter, as surety or otherwise, upon any obligation of the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York or State of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except as set forth on the Affirmation included as page C-6 of this Bid Booklet.

The bidder hereby affirms that it has paid all applicable City income, excise and other taxes for all years it has conducted business activities in New York City.

5. The bidder, as an individual, or as a member, partner, director or officer of the bidder, if the same be a firm, partnership or corporation, executes this document expressly warranting and representing that should this bid be accepted by the City and the Contract awarded to him, he and his subcontractors engaged in the performance: (1) will comply with the provisions of Section 6-108 of the Administrative Code of the City of New York and the non-discrimination provisions of Section 220a of the New York State Labor Law, as more expressly and in detail set forth in the Agreement; (2) will comply with Section 6-109 of the Administrative Code of the City of New York in relation to minimum wages and other stipulations as more expressly and in detail set forth in the Agreement; (3) have complied with the provisions of the aforesaid laws since their respective effective dates, and (4) will post notices to be furnished by the City, setting forth the requirements of the aforesaid laws in prominent and conspicuous places in each and every plant, factory, building and structure where employees engaged in the performance of the Contract can readily view it, and will continue to keep such notices posted until the supplies, materials and equipment, or work labor and services required to be furnished or rendered by the Contractor have been finally accepted by the City. In the event of any breach or violation of the foregoing, the Contractor may be subject to damages, liquidated or otherwise, cancellation of the Contract and suspension as a bidder for a period of three years. (The words, "the bidder", "he", "his", and "him" where used herein shall mean the individual bidder, firm, partnership or corporation executing this bid).

6. Compliance Report

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, (1) represents that his attention has been specifically drawn to Executive Order No. 50, dated, April 25, 1980, on Equal Employment Compliance of the contract, and (2) warrants that he will comply with the provisions of Executive Order No. 50. The Employment Report must be submitted as part of the bid.

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, executes this document expressly warranting that he will comply with: (1) the provision of the contract on providing records, Chapter 8.

7. By submission of this bid, the bidder certifies that it now has and will continue to have the financial capability to fully perform the work required for this contract. Any award of this contract will be made in reliance upon such certification. Upon request therefor, the bidder will submit written verification of such financial capability in a form that is acceptable to the department.

8. In accordance with Section 165 of the State Finance Law, the bidder agrees that tropical hardwoods, as defined in Section 165 of the State Finance Law, shall not be utilized in the performance of this Contract, except as the same are permitted by the foregoing provision of law.

9. The bidder has visited and examined the site of the work and has carefully examined the Contract in the form approved by the Corporation Counsel, and will execute the Contract and perform all its items, covenants and conditions, and will provide, furnish and deliver all the work, materials, supplies, tools and appliances for all labor and materials necessary or required for the hereinafter named work, all in strict conformity with the Contract, for the prices set forth in the Bid Schedule:

10. M/WBE UTILIZATION PLAN: By signing its bid, the bidder agrees to the Vendor Certification and Required Affirmations set forth below, unless a full waiver of the Participation Goals is granted. The Vendor Certification and Required Affirmations will be deemed to satisfy the requirement to complete Section V of Part II of Schedule B: M/WBE Utilization Plan.

Section V: Vendor Certification and Required Affirmations:

I hereby:

- 1) acknowledge my understanding of the M/WBE participation requirements as set forth in this Contract and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York and the rules promulgated thereunder;
- 2) affirm that the information supplied in support of the M/WBE Utilization Plan is true and correct;
- 3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;
- 4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and
- 5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

BID FORM

PROJECT ID. : SEK20070

TOTAL BID PRICE: In the space provided below, the Bidder shall indicate its Total Bid Price in figures. Such Total Bid Price is set forth on the final page of the Bid Schedule.

TOTAL BID PRICE:
(a/k/a BID PROPOSAL)

5,531,489.60 (RV)
\$ ~~5,537,000.00~~ 2/6/2020
BB 3/22/19

BIDDER'S SIGNATURE AND AFFIDAVIT

Bidder: D'Anofrio General Contractors Corp.

By: [Signature]
(Signature of Partner or corporate officer)

Attest:
(Corporate Seal)

Secretary of Corporate Bidder

Affidavit on the following page should be subscribed
and sworn to before a Notary Public

BID FORM (TO BE NOTARIZED)

AFFIDAVIT WHERE BIDDER IS AN INDIVIDUAL

STATE OF NEW YORK, COUNTY OF _____ ss:

_____ being duly sworn says:

I am the person described in and who executed the foregoing bid, and the several matters therein stated are in all respects true.

(Signature of the person who signed the Bid)

Subscribed and sworn to before me this
_____ day of _____, _____

Notary Public

AFFIDAVIT WHERE BIDDER IS A PARTNERSHIP

STATE OF NEW YORK, COUNTY OF _____ ss:

_____ being duly sworn says:

I am a member of _____ the firm described in and which executed the foregoing bid. I subscribed the name of the firm thereto on behalf of the firm, and the several matters therein stated are in all respects true.

(Signature of Partner who signed the Bid)

Subscribed and sworn to before me this
_____ day of _____, _____

Notary Public

AFFIDAVIT WHERE BIDDER IS A CORPORATION

STATE OF NEW YORK, COUNTY OF Kings ss:

Vincent D'Onofrio

_____ being duly sworn says:

I am the VP of the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at Brooklyn, NY

I have knowledge of the several matters therein stated, and they are in all respects true.

Vincent D'Onofrio
(Signature of Corporate Officer who signed the Bid)

Subscribed and sworn to before me this
15 day of MARCH, 2019

Anthony Macca
Notary Public

Anthony Macca

Commissioner of Deeds, City of New York

Number: 2-13348

Certificate Filed in: Kings County

Term Expires: 03-01-20

AFFIRMATION

PROJECT ID. SEK20070

The undersigned bidder affirms and declares that said bidder is not in arrears to the City of New York upon debt, contract or taxes and is not a defaulter, as surety or otherwise, upon obligation to the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except: None

(If none, the bidder shall insert the word "None" in the space provided above.)

Full Name of Bidder: D'Onofrio General Contractors Corp.
Address: 202 28th Street
City Brooklyn State New York Zip Code 11232

CHECK ONE BOX AND INCLUDE APPROPRIATE NUMBER:

A - Individual or Sole Proprietorship*
SOCIAL SECURITY NUMBER

B - Partnership, Joint Venture or other unincorporated organization
EMPLOYER IDENTIFICATION NUMBER

C- Corporation
EMPLOYER IDENTIFICATION NUMBER

11-3093462

By: [Signature]
Signature

Title: Secretary / Pres

If a corporation, place seal here

This affirmation must be signed by an officer or duly authorized representative.

*Under the Federal Privacy Act the furnishing of Social Security Numbers by bidders on City contracts is voluntary. Failure to provide a Social Security Number will not result in a bidder's disqualification. Social Security Numbers will be used to identify bidders, proposers or vendors to ensure their compliance with laws, to assist the City in enforcement of laws, as well as to provide the City a means of identifying of businesses which seek City contracts.

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**BID BOND 1
FORM OF BID BOND**

KNOW ALL MEN BY THESE PRESENTS. That we, D'Onofrio General Contractors Corp.

202 28th Street, Brooklyn, NY 11232

hereinafter referred to as the "Principal", and Liberty Mutual Insurance Company

1200 Macarthur Boulevard

Mahwah, NJ 07430

hereinafter referred to as the "Surety" are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "CITY", or to its successors and assigns in the penal sum of

Ten Percent of Amount Bid

(\$ 10%), Dollars lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for

Reconstruction of 287 Feet of Existing Outfall Storm Sewer.SEK20070

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall not withdraw said Proposal without the consent of the City for a period of forty-five (45) days after the opening of bids and in the event of acceptance of the Principal's Proposal by the City, if the Principal shall:

(a) Within ten (10) days after notification by the City, execute in quadruplicate and deliver to the City all the executed counterparts of the Contract in the form set forth in the Contract Documents, in accordance with the proposal as accepted, and

(b) Furnish a performance bond and separate payment bond, as may be required by the City, for the faithful performance and proper fulfillment of such Contract, which bonds shall be satisfactory in all respects to the City and shall be executed by good and sufficient sureties, and

(c) In all respects perform the agreement created by the acceptance of said Proposal as provided in the Information for Bidders, bound herewith and made a part hereof, or if the City shall reject the aforesaid Proposal, then this obligation shall be null and void; otherwise to remain in full force and effect.

BID BOND 2

In the event that the Proposal of the Principal shall be accepted and the Contract be awarded to him the Surety hereunder agrees subject only to the payment by the Principal of the premium therefore, if requested by the City, to write the aforementioned performance and payment bonds in the form set forth in the Contract Documents.

It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

There shall be no liability under this bond if, in the event of the acceptance of the Principal's Proposal by the City, either a performance bond or payment bond, or both, shall not be required by the City on or before the 30th day after the date on which the City signs the Contract.

The surety, for the value received, hereby stipulates and agrees that the obligations of the Surety and its bond shall in no way be impaired or affected by any postponements of the date upon which the City will receive or open bids, or by any extensions of the time within which the City may accept the Principal's Proposal, or by any waiver by the City of any of the requirements of the Information for Bidders, and the Surety hereby waives notice of any such postponements, extensions, or waivers.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the 12th day of March, 2019.

(Seal)

D'Onofrio General Contractors Corp. (L.S.)

Principal

By: 

(Seal)

Liberty Mutual Insurance Company

Surety

By: 

Jaclyn Thomas, Attorney-in-Fact

BID BOND 3

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of NY County of KINGS ss:
On this 15th day of MARCH, 2019, before me personally came
JOHN D'ONOFRIO to me known, who, being by me duly sworn, did depose and say
that he resides at BROOKLYN, NY
that he is the Sec/TREAS of D'ONOFRIO GC CORP
the corporation described in and which executed the foregoing instrument; that he knows the seal of said
corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of
the directors of said corporation, and that he signed his name thereto by like order.

Anthony Macca
Commissioner of Deeds, City of New York
Number: 2-13348
Certificate Filed in: Kings County
Term Expires: 03-01-20

Anthony Macca
Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:
On this _____ day of _____, _____, before me personally appeared
_____ to me known and known to me to be one of the members of the
firm of _____ described in and who executed the foregoing
instrument, and he acknowledged to me that he executed the same as and for the act and deed of said
firm.

Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:
On this _____ day of _____, _____, before me personally appeared
_____ to me known and known to me to be the person described in
and who executed the foregoing instrument and acknowledged that he executed the same.

Notary Public

ACKNOWLEDGMENTS AND JUSTIFICATION OF SURETIES

Surety Acknowledgment

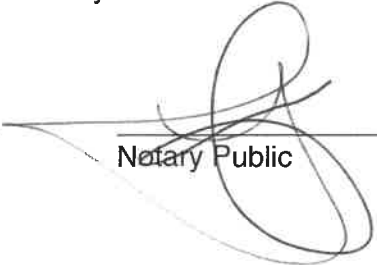
State of New York

County of Nassau

On the 12th day of March, 2019 personally came Jaclyn Thomas to me known , who being by me duly sworn did depose and say that he/she is an Attorney-in-Fact of Liberty Mutual Insurance Company in and which executed the above Instrument know(s) the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he/she/they signed the said instrument and affixed the said seal as Attorney-in-fact by authority of the Board of Directors of said corporation and by authority of this office under the standing resolution thereof.

THERESA A. LANFRANCO
Notary Public, State of New York
No. 01LA6110377
Qualified in Suffolk County
Certified in Nassau County
Commission Expires June 1, 2020

My commission expires _____



Notary Public



This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8200623-969521

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Frank Abbatiello; Raymond C. Carman; Theresa A. Lanfranco; Tara Laverdiere; Lisa Marrazzo; Philip G. Samuels; D. J. Scotto; Louis J. Spina; Kim Spinello; Jaclyn Thomas; Denese Thompson

all of the city of Uniondale state of NY each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 26th day of February, 2019.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: [Signature]
David M. Carey, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 26th day of February, 2019 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: [Signature]
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS: Section 12. Power of Attorney.

Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts: Section 5. Surety Bonds and Undertakings.

Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 12 day of March, 2019.



By: [Signature]
Renee C. Llewellyn, Assistant Secretary

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.



LIBERTY MUTUAL INSURANCE COMPANY
FINANCIAL STATEMENT — DECEMBER 31, 2017

Assets		Liabilities	
Cash and Bank Deposits	\$370,003,299	Unearned Premiums	\$7,503,154,587
*Bonds — U.S Government	1,331,664,975	Reserve for Claims and Claims Expense.....	19,658,731,454
*Other Bonds	11,127,053,004	Funds Held Under Reinsurance Treaties.....	224,693,828
*Stocks	16,367,850,688	Reserve for Dividends to Policyholders.....	967,520
Real Estate	272,895,626	Additional Statutory Reserve	52,491,027
Agents' Balances or Uncollected Premiums.....	5,258,657,823	Reserve for Commissions, Taxes and	
Accrued Interest and Rents	100,341,596	Other Liabilities	<u>4,049,392,852</u>
Other Admitted Assets.....	<u>11,192,287,530</u>	Total	<u>\$31,489,431,268</u>
Total Admitted Assets.....	<u>\$46,020,754,541</u>	Special Surplus Funds.....	\$176,230,822
		Capital Stock.....	10,000,000
		Paid in Surplus.....	9,484,316,385
		Unassigned Surplus.....	4,860,776,066
		Surplus to Policyholders	<u>14,531,323,273</u>
		Total Liabilities and Surplus	<u>\$46,020,754,541</u>



* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2017, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 16th day of March, 2018.

T. Mikolajewski

Assistant Secretary

(NO TEXT ON THIS PAGE)

M/WBE PROGRAM

M/WBE UTILIZATION PLAN

M/WBE Program Requirements: The requirements for the M/WBE Program are set forth on the following pages of this Bid Booklet, in the section entitled “Notice to All Prospective Contractors”.

Schedule B: M/WBE Utilization Plan: Schedule B: M/WBE Utilization Plan for this Contract is set forth in this Bid Booklet on the pages following the section entitled “Notice to All Prospective Contractors”. The M/WBE Utilization Plan (Part I) indicates whether Participation Goals have been established for this Contract. If Participation Goals have been established for this Contract, the bidder must submit an M/WBE Utilization Plan (Part II) with its bid.

Waiver: The bidder may seek a full or partial pre-award waiver of the Participation Goals in accordance with the “Notice to All Prospective Contractors” (See Part A, Section 10). The bidder’s request for a waiver must be submitted at least seven (7) calendar days prior to the bid date. Waiver requests submitted after the deadline will not be considered. The form for requesting a waiver of the Participation Goals is set forth in the M/WBE Utilization Plan (Part III).

Rejection of the Bid: The bidder must complete Schedule B: M/WBE Utilization Plan (Part II) set forth in this Bid Booklet on the pages following the section entitled “Notice to All Prospective Contractors”. A Schedule B submitted by the bidder which does not include the Vendor Certification and Required Affirmations (See Section V of Part II) will be deemed to be non-responsive, unless a full waiver of the Participation Goals is granted (Schedule B, Part III). In the event that the City determines that the bidder has submitted a Schedule B where the Vendor Certification and Required Affirmations are completed but other aspects of the Schedule B are not complete, or contain a copy or computation error that is at odds with the Vendor Certification and Required Affirmations, the bidder will be notified by the Agency and will be given four (4) calendar days from receipt of notification to cure the specified deficiencies and return a completed Schedule B to the Agency. Failure to do so will result in a determination that the Bid is non-responsive. Receipt of notification is defined as the date notice is emailed or faxed (if the bidder has provided an email address or fax number), or no later than five (5) calendar days from the date of mailing or upon delivery, if delivered.

Impact on LBE Requirements: If Participation Goals have been established for the participation of M/WBEs, the contractor is not required to comply with the Locally Based Enterprise Program (“LBE”). The LBE Program is set forth in Article 67 of the Contract.

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NOTICE TO ALL PROSPECTIVE CONTRACTORS

**PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS
ENTERPRISES IN CITY PROCUREMENT**

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). Section 6-129 establishes the program for participation in City procurement ("M/WBE Program") by minority-owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6-129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan"), and are detailed below. The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129. Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts. Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A

**PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD
AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS**

1. The MBE and/or WBE Participation Goals established for this Contract or Task Orders issued pursuant to this Contract, ("Participation Goals"), as applicable, are set forth on Schedule B, Part I to this Contract (see Page 1, line 1 Total Participation Goals) or will be set forth on Schedule B, Part I to Task Orders issued pursuant to this Contract, as applicable.

The Participation Goals represent a percentage of the total dollar value of the Contract or Task Order, as applicable, that may be achieved by awarding subcontracts to firms certified with New York City Department of Small Business Services as MBEs and/or WBEs, and/or by crediting the participation of prime contractors and/or qualified joint ventures as provided in Section 3 below, unless the goals have been waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

2. If Participation Goals have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the Participation Goals, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

3. If Participation Goals have been established for this Contract or Task Order issued pursuant to this Contract, a Contractor that is an MBE and/or WBE shall be permitted to count its own participation toward fulfillment of the relevant Participation Goal, provided that in accordance with Section 6-129 the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that the Contractor pays to direct subcontractors (as defined in Section 6-129(c)(13)), and provided further that a Contractor that is certified as both an MBE and a WBE may count its own participation either toward the goal for MBEs or the goal for WBEs, but not both.

A Contractor that is a qualified joint venture (as defined in Section 6-129(c)(30)) shall be permitted to count a percentage of its own participation toward fulfillment of the relevant **Participation Goal**. In accordance with Section 6-129, the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that Contractor pays to direct subcontractors, and then multiplying the remainder by the percentage to be applied to total profit to determine the amount to which an MBE or WBE is entitled pursuant to the joint venture agreement, provided that where a participant in a joint venture is certified as both an MBE and a WBE, such amount shall be counted either toward the goal for MBEs or the goal for WBEs, but not both.

4. A. If **Participation Goals** have been established for this Contract, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Utilization Plan, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. In the event that this M/WBE Utilization Plan indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals**, the bid or proposal, as applicable, shall be deemed non-responsive, unless Agency has granted the bidder or proposer, as applicable, a pre- award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

B. (i) If this Contract is for a master services agreement or other requirements type contract that will result in the issuance of Task Orders that will be individually registered ("Master Services Agreement") and is subject to **M/WBE Participation Goals**, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Participation Requirements for Master Services Agreements That Will Require Individually Registered Task Orders, Part II (page 2) indicating the prospective contractor's certification and required affirmations to make all reasonable good faith efforts to meet participation goals established on each individual Task Order issued pursuant to this Contract, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified **Participation Goals** by soliciting and obtaining the participation of certified MBE and/or WBE firms. In the event that the Schedule B indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals** that may be established on Task Orders issued pursuant to this Contract, the bid or proposal, as applicable, shall be deemed nonresponsive.

(ii) **Participation Goals** on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If **Participation Goals** have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. The contractor must engage in good faith efforts to meet the **Participation Goals** as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

C. **THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO _**

SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

5. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, within 30 days of issuance by Agency of a notice to proceed, submit a list of proposed persons or entities to which it intends to award subcontracts within the subsequent 12 months. In the case of multiyear contracts, such list shall also be submitted every year thereafter. The Agency may also require the Contractor to report periodically about the contracts awarded by its direct subcontractors to indirect subcontractors (as defined in Section 6-129(c)(22)). **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work. In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.**

6. MBE and WBE firms must be certified by DSBS in order for the Contractor to credit such firms' participation toward the attainment of the **Participation Goals**. Such certification must occur prior to the firms' commencement of work. A list of MBE and WBE firms may be obtained from the DSBS website at www.nyc.gov/buycertified, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).

7. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, with each voucher for payment, and/or periodically as Agency may require, submit statements, certified under penalty of perjury, which shall include, but not be limited to: the total amount the Contractor paid to its direct subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount direct subcontractors paid to indirect subcontractors; the names, addresses and contact numbers of each MBE or WBE hired as a subcontractor by the Contractor, and, where applicable, hired by any of the Contractor's direct subcontractors; and the dates and amounts paid to each MBE or WBE. The Contractor shall also submit, along with its voucher for final payment: the total amount it paid to subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount its direct subcontractors paid directly to their indirect subcontractors; and a final list, certified under penalty of perjury, which shall include the name, address and contact information of each subcontractor that is an MBE or WBE, the work performed by, and the dates and amounts paid to each.

8. If payments made to, or work performed by, MBEs or WBEs are less than the amount specified in the Contractor's M/WBE Utilization Plan, Agency shall take appropriate action, in accordance with Section 6-129 and Article II below, unless the Contractor has obtained a modification of its M/WBE Utilization Plan in accordance with Section 6-129 and Part A, Section 11 below.

9. Where an M/WBE Utilization Plan has been submitted, and the Contractor requests a change order the value of which exceeds the greater of 10 percent of the Contract or Task Order, as applicable, or \$500,000, Agency shall review the scope of work for the Contract or Task Order, as applicable, and the scale and types of work involved in the change order, and determine whether the **Participation Goals** should be modified.

10. **Pre-award waiver of the Participation Goals.** (a) A bidder or proposer, or contractor with respect to a Task Order, may seek a pre-award full or partial waiver of the **Participation Goals** in accordance with Section 6-129, which requests that Agency change one or more **Participation Goals** on the grounds that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, or by demonstrating that it has legitimate business reasons for proposing a lower level of subcontracting in its M/WBE Utilization Plan.

(b) To apply for a full or partial waiver of the **Participation Goals**, a bidder, proposer, or contractor, as applicable, must complete Part III (Page 5) of Schedule B and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing to the Agency by email at zhangji@ddc.nyc.gov or via facsimile at (718) 391-1886. Bidders, proposers, or contractors, as applicable, who have submitted requests will receive an Agency response by no later than two (2) calendar days prior to the due date for bids, proposals, or Task Orders; provided, however, that if that date would fall on a weekend or holiday, an Agency response will be provided by close-of-business on the business day before such weekend or holiday date.

(c) If the Agency determines that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, it shall revise the solicitation and extend the deadline for bids and proposals, or revise the Task Order, as applicable.

(d) Agency may grant a full or partial waiver of the **Participation Goals** to a bidder, proposer or contractor, as applicable, who demonstrates—before submission of the bid, proposal or Task Order, as applicable—that it has legitimate business reasons for proposing the level of subcontracting in its M/WBE Utilization Plan. In making its determination, Agency shall consider factors that shall include, but not be limited to, whether the bidder, proposer or contractor, as applicable, has the capacity and the bona fide intention to perform the Contract without any subcontracting, or to perform the Contract without awarding the amount of subcontracts represented by the **Participation Goals**. In making such determination, Agency may consider whether the M/WBE Utilization Plan is consistent with past subcontracting practices of the bidder, proposer or contractor, as applicable, whether the bidder, proposer or contractor, as applicable, has made efforts to form a joint venture with a certified firm, and whether the bidder, proposer, or contractor, as applicable, has made good faith efforts to identify other portions of the Contract that it intends to subcontract.

11. **Modification of M/WBE Utilization Plan.** (a) A Contractor may request a modification of its M/WBE Utilization Plan after award of this Contract. **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor may request a Modification of its M/WBE Utilization Plan as part of its bid submission.** The Agency may grant a request for Modification of a Contractor's M/WBE Utilization Plan if it determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good-faith efforts to meet the **Participation Goals**. In making such determination, Agency shall consider evidence of the following efforts, as applicable, along with any other relevant factors:

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;

- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;
- (viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

Agency's M/WBE officer shall provide written notice to the Contractor of the determination.

(b) The Agency may modify the **Participation Goals** when the scope of the work has been changed by the Agency in a manner that affects the scale and types of work that the Contractor indicated in its M/WBE Utilization Plan would be awarded to subcontractors.

12. If this Contract is for an indefinite quantity of construction, standard or professional services or is a requirements type contract and the Contractor has submitted an M/WBE Utilization Plan and has committed to subcontract work to MBEs and/or WBEs in order to meet the **Participation Goals**, the Contractor will not be deemed in violation of the M/WBE Program requirements for this Contract with regard to any work which was intended to be subcontracted to an MBE and/or WBE to the extent that the Agency has determined that such work is not needed.

13. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, at least once annually during the term of the Contract or Task Order, as applicable, Agency shall review the Contractor's progress toward attainment of its M/WBE Utilization Plan, including but not limited to, by reviewing the percentage of work the Contractor has actually awarded to MBE and/or WBE subcontractors and the payments the Contractor made to such subcontractors.

14. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, Agency shall evaluate and assess the Contractor's performance in meeting those goals, and such evaluation and assessment shall become part of the Contractor's overall contract performance evaluation.

PART B: MISCELLANEOUS

1. The Contractor shall take notice that, if this solicitation requires the establishment of an M/WBE Utilization Plan, the resulting contract may be audited by DSBS to determine compliance with Section 6-129. See §6-129(e)(10). Furthermore, such resulting contract may also be examined by the City's Comptroller to assess compliance with the M/WBE Utilization Plan.

2. Pursuant to DSBS rules, construction contracts that include a requirement for an M/WBE Utilization Plan shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.

3. DSBS is available to assist contractors and potential contractors in determining the availability of MBEs and/or WBEs to participate as subcontractors, and in identifying opportunities that are appropriate for participation by MBEs and/or WBEs in contracts.

4. Prospective contractors are encouraged to enter into qualified joint venture agreements with MBEs and/or WBEs as defined by Section 6-129(c)(30).

5. By submitting a bid or proposal the Contractor hereby acknowledges its understanding of the M/WBE Program requirements set forth herein and the pertinent provisions of Section 6-129, and any rules promulgated thereunder, and if awarded this Contract, the Contractor hereby agrees to comply with the M/WBE Program requirements of this Contract and pertinent provisions of Section 6-129, and any rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract. The Contractor hereby agrees to make all reasonable, good faith efforts to solicit and obtain the participation of MBEs and/or WBEs to meet the required **Participation Goals**.

ARTICLE II. ENFORCEMENT

1. If Agency determines that a bidder or proposer, as applicable, has, in relation to this procurement, violated Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, Agency may disqualify such bidder or proposer, as applicable, from competing for this Contract and the Agency may revoke such bidder's or proposer's prequalification status, if applicable.

2. Whenever Agency believes that the Contractor or a subcontractor is not in compliance with Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to any M/WBE Utilization Plan, Agency shall send a written notice to the Contractor describing the alleged noncompliance and offering the Contractor an opportunity to be heard. Agency shall then conduct an investigation to determine whether such Contractor or subcontractor is in compliance.

3. In the event that the Contractor has been found to have violated Section 6-129, the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to, any M/WBE Utilization Plan, Agency may determine that one of the following actions should be taken:

- (a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;
- (b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;
- (c) making a finding that the Contractor is in default of the Contract;
- (d) terminating the Contract;
- (e) declaring the Contractor to be in breach of Contract;
- (f) withholding payment or reimbursement;
- (g) determining not to renew the Contract;
- (h) assessing actual and consequential damages;
- (i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the M/WBE Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;
- (j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or
- (k) taking any other appropriate remedy.

4. If an M/WBE Utilization Plan has been submitted, and pursuant to this Article II, Section 3, the Contractor has been found to have failed to fulfill its **Participation Goals** contained in its M/WBE Utilization Plan or the **Participation Goals** as modified by Agency pursuant to Article I, Part A, Section 11, Agency may assess liquidated damages in the amount of ten percent (10%) of the difference between the dollar amount of work required to be awarded to MBE and/or WBE firms to meet the **Participation Goals** and the dollar amount the Contractor actually awarded and paid, and/or credited, to MBE and/or WBE firms. In view of the difficulty of accurately ascertaining the loss which the City will suffer by reason of Contractor's failure to meet the **Participation Goals**, the foregoing amount is hereby fixed and agreed as the liquidated damages that the City will suffer by reason of such failure, and not as a penalty. Agency may deduct and retain out of any monies which may become due under this Contract the amount of any such liquidated damages; and in case the amount which may become due under this Contract shall be less than the amount of liquidated damages suffered by the City, the Contractor shall be liable to pay the difference.

5. Whenever Agency has reason to believe that an MBE and/or WBE is not qualified for certification, or is participating in a contract in a manner that does not serve a commercially useful function (as defined in Section 6-129(c)(8)), or has violated any provision of Section 6-129, Agency shall notify the Commissioner of DSBS who shall determine whether the certification of such business enterprise should be revoked.

6. Statements made in any instrument submitted to Agency pursuant to Section 6-129 shall be submitted under penalty of perjury and any false or misleading statement or omission shall be grounds for the application of any applicable criminal and/or civil penalties for perjury. The making of a false or fraudulent statement by an MBE and/or WBE in any instrument submitted pursuant to Section 6-129 shall, in addition, be grounds for revocation of its certification.

7. The Contractor's record in implementing its M/WBE Utilization Plan shall be a factor in the evaluation of its performance. Whenever Agency determines that a Contractor's compliance with an M/WBE Utilization Plan has been unsatisfactory, Agency shall, after consultation with the City Chief Procurement Officer, file an advice of caution form for inclusion in PASSPort as caution data.

Tax ID #: 11-3093462

APT PIN #: 85019B0042

**SCHEDULE B – M/WBE Utilization Plan
Part I: M/WBE Participation Goals**

Part I to be completed by contracting agency

Contract Overview

APT E- Pin # 85019B0042 FMS Project ID#: SEK20070

Project Title/ Agency PIN # RECONSTRUCTION OF OUTFALL STORM SEWER IN 25TH AVE /8502015SE0012C

Bid/Proposal Response Date March 8, 2019

Contracting Agency Department of Design and Construction

Agency Address 30-30 Thomson Ave. City Long Island City State NY Zip Code 11101

Contact Person Tempestt Bellamy Title MWBE Compliance & Outreach Analyst

Telephone # 718-391-2604 Email bellamyte@ddc.nyc.gov

Project Description (attach additional pages if necessary)

PROJECT ID: SEK20070

**THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING
8'-0" W X 8'-0"H OUTFALL STORM SEWER IN:
25TH AVE. BETWEEN HUNTER AVE. AND GRAVESEND BAY
Together with All Work Incidental Thereto**

**BOROUGH OF BROOKLYN
CITY OF NEW YORK**

M/WBE Participation Goals for Services

Enter the percentage amount for each group or for an unspecified goal. Please note that there are no goals for Asian Americans in Professional Services.

Prime Contract Industry: Construction

Group	Percentage
<u>Unspecified*</u>	<u>13 %</u>
or	
<u>Black American</u>	<u>UNSPECIFIED*</u>
<u>Hispanic American</u>	<u>UNSPECIFIED*</u>
<u>Asian American</u>	<u>UNSPECIFIED*</u>
<u>Women</u>	<u>UNSPECIFIED*</u>
Total Participation Goals	13 %
	Line 1

**Note: For this procurement, individual ethnicity and gender goals are not specified. The Total Participation Goal for construction contracts may be met by using either Black-American, Hispanic-American, Asian American, or Women certified firms or any combination of such firms.*

Tax ID #: 11-3093462

APT E-
PIN #: 85019B0042

SCHEDULE B - Part II: M/WBE Participation Plan

Part II to be completed by the bidder/proposer.

Please note: For Non-M/WBE Prime Contractors who will NOT subcontract any services and will self-perform the entire contract, you must obtain a FULL waiver by completing the Waiver Application on pages 17 and 18 and timely submitting it to the contracting agency pursuant to the Notice to Prospective Contractors. Once a FULL WAIVER is granted, it must be included with your bid or proposal and you do not have to complete or submit this form with your bid or proposal.

Section I: Prime Contractor Contact Information

Tax ID #	<u>11-3093462</u>	FMS Vendor ID #	<u> </u>
Business Name	<u>D'ONOFRIO GC CORP.</u>	Contact Person	<u>RAY DENARO</u>
Address	<u>202 28TH Street; Brooklyn, New York 11232</u>		
Telephone #	<u>718 832 5700</u>	Email	<u>ray@donofrio.biz</u>

Section II: M/WBE Utilization Goal Calculation: Check the applicable box and complete subsection.

PRIME CONTRACTOR ADOPTING AGENCY M/WBE PARTICIPATION GOALS

<input checked="" type="checkbox"/> For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals. Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.	Total Bid/Proposal Value	Agency Total Participation Goals (Line 1, Page 13)	Calculated M/WBE Participation Amount
	\$ <u>5,531,489.60</u>	<u>13 %</u>	\$ <u>719,093.65</u>
	\$	X	= \$ Line 2

PRIME CONTRACTOR OBTAINED PARTIAL WAIVER APPROVAL: ADOPTING MODIFIED M/WBE PARTICIPATION GOALS

<input type="checkbox"/> For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Modified M/WBE Participation Goals. Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.	Total Bid/Proposal Value	Adjusted Participation Goal (From Partial Waiver)	Calculated M/WBE Participation Amount
	\$	X	= \$ Line 3

Section III: M/WBE Utilization Plan: How Proposer/Bidder Will Fulfill M/WBE Participation Goals. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation. Check applicable box. The Proposer or Bidder will fulfill the M/WBE Participation Goals:

As an M/WBE Prime Contractor that will self-perform and/or subcontract to other M/WBE firms a portion of the contract the value of which is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals. Please check all that apply to Prime Contractor:

MBE WBE

As a Qualified Joint Venture with an M/WBE partner, in which the value of the M/WBE partner's participation and/or the value of any work subcontracted to other M/WBE firms is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals.

As a non M/WBE Prime Contractor that will enter into subcontracts with M/WBE firms the value of which is at least the amount located on Lines 2 or 3 above, as applicable.

Section IV: General Contract Information

What is the expected percentage of the total contract dollar value that you expect to award in subcontracts for services, regardless of M/WBE status? % 10-15%

Enter brief description of the type(s) and dollar value of subcontracts for all any services you plan on subcontracting if awarded this contract. For each item, indicate whether the work is designated for participation by MBEs and/or WBEs and the time frame in which such work is scheduled to begin and end. Use additional sheets if necessary.

✓ Scopes of Subcontract Work

1. Zero Below Trucking - MBE - \$150,000.00 - Duration of Job
2. Cassone Trailer + Container - WBE - \$75,000.00 - Duration of Job
3. United Fuel - WBE - \$60,000.00 - Duration of Job
4. Sajo Contracting Corp. \$425,000.00 - Duration of Job
5. _____
6. Zero Below - Trucking + Soil Disposal
7. Cassone - Field Office + Equipment
8. United Fuel - Fuel Delivery Service
9. Sajo Contracting Corp - Civil/Structural Items
10. _____
11. Civil + Structural work includes but
12. is not limited to excavation + installation
13. of sheeting + shoring.
14. _____
15. _____
16. _____
17. _____


Tax ID #: 11-3093462

APT E-
PIN #: 85019B0042

Section V: Vendor Certification and Required Affirmations

I hereby:

- 1) acknowledge my understanding of the M/WBE participation requirements as set forth herein and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York ("Section 6-129"), and the rules promulgated thereunder;
- 2) affirm that the information supplied in support of this M/WBE Utilization Plan is true and correct;
- 3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;
- 4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and
- 5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

Signature		Date	<u>3-25-2019</u>
Print Name	<u>RAIMONDO DENARO</u>	Title	<u>Exec PM</u>

SCHEDULE B – PART III – REQUEST FOR WAIVER OF M/WBE PARTICIPATION REQUIREMENT

Contract Overview

Tax ID # _____ FMS Vendor ID # _____
 Business Name _____
 Contact Name _____ Telephone # _____ Email _____
 Type of Procurement Competitive Sealed Bids Other Bid/Response Due Date _____
 APT E-PIN # (for this procurement): _____ Contracting Agency: _____

M/WBE Participation Goals as described in bid/solicitation documents

_____ % Agency M/WBE Participation Goal

Proposed M/WBE Participation Goal as anticipated by vendor seeking waiver

_____ % of the total contract value anticipated in good faith by the bidder/proposer to be subcontracted for services and/or credited to an M/WBE Prime Contractor or Qualified Joint Venture.

Basis for Waiver Request: Check appropriate box & explain in detail below (attach additional pages if needed)

- Vendor does not subcontract services, and has the capacity and good faith intention to perform all such work itself with its own employees.
- Vendor subcontracts some of this type of work but at a lower % than bid/solicitation describes, and has the capacity and good faith intention to do so on this contract. (Attach subcontracting plan outlining services that the vendor will self-perform and subcontract to other vendors or consultants.)
- Vendor has other legitimate business reasons for proposing the M/WBE Participation Goal above. Explain under separate cover.

References

List 3 most recent contracts performed for NYC agencies (if any). Include information for each subcontract awarded in performance of such contracts. Add more pages if necessary.

<p>CONTRACT NO. _____</p> <p>Total Contract Amount \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>	<p>AGENCY _____</p> <p>Total Amount Subcontracted \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>	<p>DATE COMPLETED _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>
<p>CONTRACT NO. _____</p> <p>Total Contract Amount \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>	<p>AGENCY _____</p> <p>Total Amount Subcontracted \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>	<p>DATE COMPLETED _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>
<p>CONTRACT NO. _____</p> <p>Total Contract Amount \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>	<p>AGENCY _____</p> <p>Total Amount Subcontracted \$ _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>	<p>DATE COMPLETED _____</p> <p>Item of Work Subcontracted and Value of subcontract _____</p>

List 3 most recent contracts performed for other entities. Include information for each subcontract awarded in performance of such contracts. Add more pages if necessary.

(Complete ONLY if vendor has performed fewer than 3 New York City contracts.)

TYPE OF Contract	ENTITY	DATE COMPLETED
_____	_____	_____
Manager at entity that hired vendor (Name/Phone No./Email)		
_____	_____	_____
Total Contract Amount	Total Amount Subcontracted	
\$ _____	\$ _____	
Type of Work Subcontracted	_____	_____
_____	_____	_____

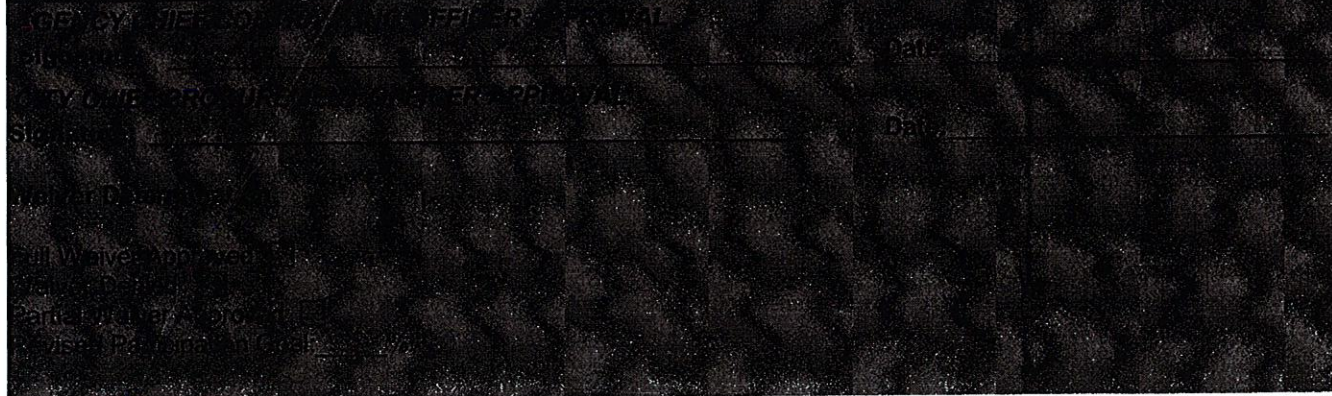
TYPE OF Contract	AGENCY/ENTITY	DATE COMPLETED
_____	_____	_____
Manager at agency/entity that hired vendor (Name/Phone No./Email)		
_____	_____	_____
Total Contract Amount	Total Amount Subcontracted	
\$ _____	\$ _____	
Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract
_____	_____	_____

TYPE OF Contract	AGENCY/ENTITY	DATE COMPLETED
_____	_____	_____
Manager at entity that hired vendor (Name/Phone No./Email)		
_____	_____	_____
Total Contract Amount	Total Amount Subcontracted	
\$ _____	\$ _____	
Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract
_____	_____	_____

VENDOR CERTIFICATION: I hereby affirm that the information supplied in support of this waiver request is true and correct, and that this request is made in good faith.

Signature: _____ **Date:** _____
Print Name: _____ **Title:** _____

Shaded area below is for agency completion only



APPRENTICESHIP PROGRAM REQUIREMENTS

Bidders are advised that the Apprenticeship Program Requirements set forth below apply to each contract for which a check mark is indicated before the word "Yes". Compliance with these requirements will be determined solely by the City.

YES NO

(1) Apprenticeship Program Requirements

Notice to Bidders: Please be advised that, pursuant to the authority granted to the City under Labor Law Section 816-b, the Department of Design and Construction hereby requires that the contractor awarded a contract as a result of this Invitation for Bids, and any of its subcontractors with subcontracts worth two million dollars or over, have, prior to entering into such contract or subcontract, apprenticeship agreements appropriate for the type and scope of work to be performed that have been registered with, and approved by, the New York State Commissioner of Labor. In addition, the contractor and its subcontractors will be required to show that such apprenticeship program/s have successfully passed the two year Probation period following the initial registration date of such program/s with the New York State Department of Labor.

The failure to prove, upon request, that these requirements have been met shall result in the contract not being awarded to the contractor or the subcontract not being approved.

Please be further advised that, pursuant to Labor Law Section 220, the allowable ratio of apprentices to journeypersons in any craft classification shall not be greater than the ratio permitted to the contractor as to its workforce on any job under the registered apprenticeship program.

(2) Apprenticeship Program Questionnaire

The bidder must submit a completed and signed Apprenticeship Program Questionnaire. The Questionnaire is set forth on the following page of the Bid Booklet.

APPRENTICESHIP PROGRAM QUESTIONNAIRE ("APQ")

Bidder Name: D'Onofrio General Contractors Corp.
Project ID Number: SEK 20070

The Bidder MUST complete, sign, and submit this Apprenticeship Program Questionnaire with its bid.

1. Does the bidder have any Apprenticeship Program agreement(s) appropriate for the type and scope of work to be performed? (Note: Participation may be by either direct sponsorship or through collective bargaining agreement(s).)

YES NO

2. Has/have the bidder's Apprenticeship Program agreement(s) been registered with, and approved by the New York State Commissioner of Labor ("NYSDOL Commissioner")?

YES NO

3. Has/have the bidder's Apprenticeship Program successfully passed the two-year Probation period following its initial registration with the New York State Department of Labor ("NYSDOL")?

YES NO

If the answers to Questions 1, 2, and 3 are "Yes". The bidder shall, in the space below (and/or attached herewith where applicable), provide the contact information for such Apprenticeship Program(s) as well as information demonstrating that such Apprenticeship Program(s) have passed the two-year Probation period following its initial registration with the NYSDOL. (The bidder may attach additional pages if necessary).

- Where the bidder directly sponsors any such apprenticeship Program(s), the bidder shall provide the following:

- The trade classification(s) covered by such program(s), and the date(s) such program(s) was/were approved by the NYSDOL Commissioner; and/or
- A copy of a letter(s) from the NYSDOL, on NYSDOL's letterhead, executed by an official thereof, which verifies/verify the trade classification(s) covered by such program(s), and the date(s) such program(s) was/were approved by the NYSDOL Commissioner and the Active status of such program(s).

- Where the bidder participates in any such Apprenticeship Program(s) through its membership in an employer organization(s) that directly sponsors such program(s) or where the employer association(s) participates in such program(s) through collective bargaining, the bidder shall provide the following:

- The contact information for the employer organization(s), and the apprenticeable trade(s) covered pursuant to the bidder's affiliation therewith, and the date such program(s) was/were approved by the NYSDOL Commissioner; or
- A letter(s) from such employer organization(s), on letterhead of such organization(s), executed by an officer, delegate or official thereof, which verifies/verify the trade classification(s) covered by such program(s) was/were approved by the NYSDOL Commissioner, and that the bidder is both a member in good standing of the identified employer organization and is subject to the provisions of the Apprenticeship Program agreement(s) sponsored thereby.

APPRENTICESHIP PROGRAM QUESTIONNAIRE ("APQ")

Project ID Number: SEK 20070

- Where the bidder participates in any such Apprenticeship Programs through collective bargaining agreements, the bidder shall provide the following:
 - The contact information for such collective bargaining entity(ies) and the apprenticeable trade(s) covered pursuant to the bidder's affiliation therewith;
 - A letter(s) from such collective bargaining entity(ies), on letterhead of such entity(ies), executed by an officer, delegate or official thereof, which verifies/verify the bidder's status as a signatory/participant in good standing to such collective bargaining entity(ies) Apprenticeship Program Agreements.

District Council - United Brotherhood of Carpenters
& Joiners - New York - Local 1556 395
Hudson Street, 1st Floor New York, NY 10014

Bidder: D'Onofrio General Contractors Corp.

By: [Signature] Title: Secretary/Treas.
(Signature of Partner or Corporate Officer)

Date: 3-15-2019

SAFETY QUESTIONNAIRE

The bidder must include, with its bid, all information requested on this Safety Questionnaire. Failure to provide a completed and signed Safety Questionnaire at the time of bid opening may result in disqualification of the bid as non-responsive.

1. Bidder Information:

Company Name: D'Onofrio General Contractors Corp.

DDC Project Number: 8502018

Company Size: Ten (10) employees or less
 Greater than ten (10) employees

Company has previously worked for DDC YES NO

2. Type(s) of Construction Work

TYPE OF WORK	LAST 3 YEARS	THIS PROJECT
General Building Construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Residential Building Construction	<input type="checkbox"/>	<input type="checkbox"/>
Nonresidential Building Construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Heavy Construction, except building	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Highway and Street Construction	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Heavy Construction, except highways	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Plumbing, Heating, HVAC	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Painting and Paper Hanging	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Electrical Work	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Masonry, Stonework and Plastering	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Carpentry and Floor Work	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Roofing, Siding, and Sheet Metal	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Concrete Work	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Specialty Trade Contracting	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Asbestos Abatement	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>	<input type="checkbox"/>

3. Experience Modification Rate:

The Experience Modification Rate (EMR) is a rating generated by the National Council of Compensation Insurance (NCCI). This rating is used to determine the contractor's premium for worker's compensation insurance. The contractor may obtain its EMR by contacting its insurance broker or the NCCI. If the contractor cannot obtain its EMR, it must submit a written explanation as to why.

Project ID. SEK 20070

The Contractor must indicate its Intrastate and Interstate EMR for the past three years. [Note: For contractors with less than three years of experience, the EMR will be considered to be 1.00].

YEAR	INTRASTATE RATE	INTERSTATE RATE
<u>2018</u>	<u></u>	<u></u>
<u>2017</u>	<u>0.88</u>	<u></u>
<u>2016</u>	<u>0.86</u>	<u></u>

If the Intrastate and/or Interstate EMR for any of the past three years is greater than 1.00, the contractor must attach, to this questionnaire, a written explanation for the rating and identify what corrective action was taken to correct the situation resulting in that rating.

4. OSHA Information:

YES NO Contractor has received a willful violation issued by OSHA or New York City Department of Buildings (NYCDOB) within the last three years.

YES NO Contractor has had an incident requiring OSHA notification within 8 hours (all work-related fatalities) or an incident requiring OSHA notification within 24 hours (all work-related in-patient hospitalizations, all amputations and all losses of an eye).

The Occupational Safety and Health Act (OSHA) of 1970 requires employers with ten or more employees, on a yearly basis to complete and maintain on file the form entitled "Log of Work-related Injuries and Illnesses". This form is commonly referred to as the OSHA 300 Log (OSHA 200 Log for 2001 and earlier).

The OSHA 300 Log must be submitted for the last three years for contractors with more than ten employees.

The Contractor must indicate the total number of hours worked by its employees, as reflected in payroll records for the past three years.

The contractor must submit the Incident Rate for Lost Time Injuries (the Incident Rate) for the past three years. The Incident Rate is calculated in accordance with the formula set forth below. For each given year, the total number of incidents is the total number of non-fatal injuries and illnesses reported on the OSHA 300 Log. The 200,000 hours represents the equivalent of 100 employees working forty hours a week, fifty weeks per year.

Incident Rate =
$$\frac{\text{Total Number of Incidents} \times 200,000}{\text{Total Number of Hours Worked by Employees}}$$

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
<u>2016</u>	<u>10,000 + Hours</u>	<u>0.00</u>
<u>2017</u>	<u>10,000 + Hours</u>	<u>0.00</u>
<u>2018</u>	<u>10,000 + Hours</u>	<u>0.00</u>

If the contractor's Incident Rate for any of the past three years is one point higher than the Incident Rate for the type of construction it performs (listed below), the contractor must attach, to this questionnaire, a written explanation for the relatively high rate.

General Building Construction	8.5
Residential Building Construction	7.0
Nonresidential Building Construction	10.2
Heavy Construction, except building	8.7
Highway and Street Construction	9.7
Heavy Construction, except highways	8.3
Plumbing, Heating, HVAC	11.3
Painting and Paper Hanging	6.9
Electrical Work	9.5
Masonry, Stonework and Plastering	10.5
Carpentry and Floor Work	12.2
Roofing, Siding, and Sheet Metal	10.3
Concrete Work	8.6
Specialty Trade Contracting	8.6

5. Safety Performance on Previous DDC Project(s)

YES NO Contractor previously audited by the DDC Office of Site Safety.

DDC Project Number(s): _____, _____, _____

YES NO Accident on previous DDC Project(s).

DDC Project Number(s): _____, _____, _____

YES NO Fatality or Life-altering Injury on DDC Project(s) within the last three years. [Examples of a life-altering injury include loss of limb, loss of a sense (e.g., sight, hearing), or loss of neurological function].

DDC Project Number(s): _____, _____, _____

Date: 3-15-19

By: [Signature]
(Signature of Owner, Partner, Corporate Officer)

Title: Secretary / Pres.

Pre-Award Process

The bidder is advised that as part of the pre-award review of its bid, it may be required to submit the information described in Sections (A) through (D) below. If required, such information must be submitted by the bidder within five (5) business days following receipt of notification from DDC that it is among the low bidders. Such notification from DDC will be by facsimile or in writing and will specify the types of information must be submitted. The types of information the bidder may be required to submit are described below. In the event the bidder fails to submit the required information within the specified time frame, its bid may be rejected as nonresponsive.

- (A) **Project Reference Form:** If required, the bidder must complete and submit the Project Reference Form set forth on pages 27 through 29 of this Bid Booklet. The Project Reference Form consists of 3 parts: (1) Contracts Completed by the Bidder, (2) Contracts Currently Under Construction by the Bidder, and (3) Pending Contracts Not Yet Started by the Bidder.
- (B) **Copy of License:** If required, the bidder must submit a copy of the license under which the bidder will be performing the work. Such license must clearly show the following: (1) Name of the Licensee, (2) License Number, and (3) Expiration date of the License. A copy of the license will be required from bidders for the following contracts: Plumbing Work, Electrical Work and Asbestos Abatement.
- (C) **Financial Information:** If required, the bidder must submit the financial information described below:
- (1) **Audited Financial Statements:** Financial statements (Balance Sheet and Income Statement) of the entity submitting the bid, as audited by an independent auditor licensed to practice as a certified public accountant (CPA). Audited financial statements for the three most recent fiscal years must be submitted. Each such financial statement must include the auditor's standard report.

If the bidder does not have audited financial statements, it must submit an affidavit attesting to the fact that the bidder does not have such statements. In addition, the bidder must submit the following documentation covering the three most recent fiscal years: signed federal tax returns, unaudited financial statements, and a "certified review letter" from a certified public accountant (CPA) verifying the unaudited financial statements.

Unless the most recent audited or unaudited financial statement was issued within ninety (90) days, the bidder must submit interim financial information that includes data on financial position and results of operation (income data) for the current fiscal year. Such information may be summarized on a monthly or quarterly basis or at other intervals.

- (2) **Schedule of Aged Accounts Receivable,** including portion due within ninety (90) days.

(D) **Project Specific Information:** If required, the bidder must submit the project specific information described below:

- (1) Statement indicating the number of years of experience the bidder has had and in what type of construction.
- (2) Resumes of all key personnel to be involved in the project, including the proposed project superintendent.
- (3) List of significant pieces of equipment expected to be used for the contract, and whether such equipment is owned or leased.
- (4) Description of work expected to be subcontracted, and to what firms, if known.
- (5) List of key material suppliers.
- (6) Preliminary bar chart time schedule
- (7) Contractor's expected means of financing the project. This should be based on the assumption that the contractor is required to finance 2X average monthly billings throughout the contract period.
- (8) Any other issues the contractor sees as impacting his ability to complete the project according to the contract.

In addition to the information described in Sections (A) through (D) above, the bidder shall submit such additional information as the Commissioner may require, including without limitation, an explanation or justification for specific unit price items.

The bidder is further advised that it may be required to attend a pre-award meeting with DDC representatives. If such a meeting is convened, the bidder will be advised as to any additional material to be provided.

PLEASE SEE ATTACHED

A. PROJECT REFERENCES – CONTRACTS COMPLETED BY THE BIDDER

List all contracts substantially completed within the last 4 years, up to a maximum of 10, in descending order of date of substantial completion.

Project & Location	Contract Type	Contract Amount (\$000)	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. if different from owner

Completed Project Listing

Date of Work	Project Location	Project Description	Contact Person	Contract Amount	Unique Features
Apr-17	Manhattan	Sidewalk Restoration Contract	Jerry D'Onofrio, III - 718-832-5700	9MM	Restore sidewalk, concrete roadway, blustone curb, blustone sidewalk, steel curb, cobblestone restoration,
May-16	Con Edision - Manhattan	Tunnel Storm Hardening	PJ Mazza	2.2MM	Install sluice gates, divers placed concrete in discharge tunnels for storm preventative measures.
Nov-16	NYCHA - Bronx Queens	Roof Replacement & Related Masonry Work	Raimondo Denaro - 718-832-5700	\$17,500,000.00	Sidewalk Shredding, Masonry, Asbestos Remediation & Electrical Upgrades
Nov-15	NYCHA - Brooklyn/Staten Island	Roof Replacement & Related Masonry Work	Raimondo Denaro - 718-832-5700	\$15,000,000.00	Sidewalk Shredding, Masonry, Asbestos Remediation & Electrical Upgrades
Jul-17	Manhattan - Battery Park City Authority	Repairs to the North Esplanade within Battery Park City Authority	Anthony Macca	\$2,000,000.00	Marine Rehabilitation to the North Esplanade located within Battery Park
May-16	Manhattan - Battery Park City Authority	North Cove Marine Phase IV Pile Repairs	Anthony Macca	\$5,000,000.00	Pile Rehabilitation to more than 193 concrete piles at the North Cove Marina
Jan-16	FDR Drive - Manhattan	Protection Against Marine Borers	Anthony Macca	\$70,000,000.00	Install PVC Barrier Pile wrapping in conjunction with petrolatum and fiberglass jackets & structural concrete encasements
Jan-15	MTA - TBTA (Queens)	Substructure Underwater Repairs @ the Gil Hodges Bridge	Steven Zerges	\$15,000,000.00	Using 3D Sonar echoscope to monitor our real time installation of the scour protection at the supports of the Gil Hodges Bridge
Oct-17	Silver Cup Studios - Queens	Roof Rehabilitation at Silver Cup Studios Queens	Raimondo Denaro - 718-832-5700	\$1,500,000.00	Installation of a Spray Polyurethane Roofing System over 100,000 SF of roof area
Dec-16	MTA - Various in 5 Boroughs	Roofing When & Where	Raimondo Denaro - 718-832-5700	\$1,500,000.00	Installation of Several Roofing Systems @ Multiple MTA Facilities
Aug-17	Con Edison - 74th Street (Manhattan)	Carlisle Roof Installation - 35,000 SF	Vincent Leone	\$1,750,000.00	Installation of a Carlisle EPDM Roofing system, mechanical and electrical upgrades

B. PROJECT REFERENCES – CONTRACTS CURRENTLY UNDER CONSTRUCTION BY THE BIDDER

List all contracts currently under construction even if they are not similar to the contract being awarded.

Project & Location	Contract Type	Contract Amount (\$000)	Subcontracted to Others (\$000)	Uncompleted Portion (\$000)	Date Scheduled to Complete	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. if different from owner

C. PROJECT REFERENCES – PENDING CONTRACTS NOT YET STARTED BY THE BIDDER

List all contracts awarded to or won by the bidder but not yet started.

Project & Location	Contract Type	Contract Amount (\$000)	Date Scheduled to Start	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. if different from owner
MTA - 207th Street Roof Rehab 207th Street Yard - Manhattan	Prime	\$31,687,000	March 2019	NYCT 646-252-6289	SAME

(NO TEXT ON THIS PAGE)

**OFFICE OF THE MAYOR
BUREAU OF LABOR SERVICES
CONTRACT CERTIFICATE**

To be completed if the contract is less than \$1,000,000

Contractor: _____

Address: _____

Telephone Number: _____

Name and Title of Signatory: _____

Contracting Agency or Owner: _____

Project Number: _____

Proposed Contract Amount: _____

Description and Address of Proposed Contract: _____

Names of Subcontractors in the amount of 750,000 or more on this contract (if not known at this time, so state indicating that trades will be subcontracted):

I, (fill in name of person signing) _____,
hereby affirm that I am authorized by the above-named contractor to certify that said contractor's proposed contract with the above-named owner or city agency is less than \$1,000,000. This affirmation is made in accordance with Executive Order No. 50 (1980) as amended and its implementing regulations.

_____ Date _____ Signature

**WILLFUL OR FRAUDULENT FALSIFICATION OF ANY DATA OR INFORMATION
SUBMITTED HEREWITH MAY RESULT IN THE TERMINATION OF ANY CONTRACT
BETWEEN THE CITY AND THE BIDDER OR CONTRACTOR AND BAR THE BIDDER OR
CONTRACTOR FROM PARTICIPATION IN ANY CITY CONTRACT FOR A PERIOD OF UP TO
THREE YEARS. FURTHER, SUCH FALSIFICATION MAY RESULT IN CRIMINAL
PROSECUTION.**

VENDEX COMPLIANCE

(A) **Vendex Fees:** Pursuant to Procurement Policy Board Rule 2-08(f)(2), the contractor will be charged a fee for the administration of the VENDEX system, including the Vendor Name Check process, if a Vendor Name Check review is required to be conducted by the Department of Investigation. The contractor shall also be required to pay the applicable required fees for any of its subcontractors for which Vendor Name Check reviews are required. The fee(s) will be deducted from payments made to the contractor under the contract. For contracts with an estimated value of less than or equal to \$1,000,000, the fee will be \$175 per Vendor Name Check review. For contracts with an estimated value of greater than \$1,000,000, the fee will be \$350 per Vendor Name Check review.

(B) **Confirmation of Vendex Compliance:** The Bidder shall submit this Confirmation of Vendex Compliance to the Department of Design and Construction, Contracts Section, 30-30 Thomson Avenue – First Floor, Long Island City, NY 11101.

Bid Information: The Bidder shall complete the bid information set forth below.

Name of Bidder: _____
Bidder's Address: _____
Bidder's Telephone Number: _____
Bidder's Fax Number: _____
Date of Bid Opening: _____
PROJECT ID: _____

Vendex Compliance: To demonstrate compliance with Vendex requirements, the Bidder shall complete either Section (1) or Section (2) below, whichever applies.

(1) **Submission of Vendex Questionnaires to MOCS:** By signing in the space provided below, the Bidder certifies that as of the date specified below, the Bidder has submitted Vendex Questionnaires to the Mayor's Office of Contract Services, Attn: VENDEX, 253 Broadway, 9th Floor, New York, New York 10007.

Date of Submission: _____

By: _____

(Signature of Partner or corporate officer)

Print Name: _____

(2) **Submission of Certification of No Change to DDC:** By signing in the space provided below, the Bidder certifies that it has read the instructions in a "Vendor's Guide to Vendex" and that such instructions do not require the Bidder to submit Vendex Questionnaires. The Bidder has completed **TWO ORIGINALS** of the Certification of No Change set forth on the next page of this Bid Booklet.

By: _____

(Signature of Partner or corporate officer)

Print Name: _____

(NO TEXT ON THIS PAGE)

Certificate of No Change Form

- Please submit two completed forms. Copies will not be accepted.
- Please send both copies to the agency that requested it, unless you are advised to send it directly to the Mayor's Office of Contract Services (MOCS).
- A materially false statement willfully or fraudulently made in connection with this certification, and/or the failure to conduct appropriate due diligence in verifying the information that is the subject of this certification, may result in rendering the submitting entity non-responsible for the purpose of contract award.
- A materially false statement willfully or fraudulently made in connection with this certification may subject the person making the false statement to criminal charges

I, _____, being duly sworn, state that I have read
Enter Your Name

and understand all the items contained in the vendor questionnaire and any submission of change as identified on page one of this form and certify that as of this date, these items have not changed. I further certify that, to the best of my knowledge, information and belief, those answers are full, complete, and accurate; and that, to the best of my knowledge, information, and belief, those answers continue to be full, complete, and accurate.

In addition, I further certify on behalf of the submitting vendor that the information contained in the principal questionnaire(s) and any submission of change identified on page two of this form have not changed and have been verified and continue, to the best of my knowledge, to be full, complete and accurate.

I understand that the City of New York will rely on the information supplied in this certification as additional inducement to enter into a contract with the submitting entity.

Vendor Questionnaire *This section is required.*

This refers to the vendor questionnaire(s) submitted for the vendor doing business with the City.

Name of Submitting Entity: _____

Vendor's Address: _____

Vendor's EIN or TIN: _____ Requesting Agency: _____

Are you submitting this Certification as a parent? (Please circle one) Yes No

Signature date on the last full vendor questionnaire signed for the submitting vendor: _____

Signature date on change submission for the submitting vendor: _____

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.



Principal Name	Date of signature on last full Principal Questionnaire	Date(s) of signature on submission of change
1		
2		
3		
4		
5		
6		

Check if additional changes were submitted and attach a document with the date of additional submissions.

Certification *This section is required.*

This form must be signed and notarized. Please complete this twice. Copies will not be accepted.

Certified By:

Name (Print)

Title

Name of Submitting Entity

Signature

Date

Notarized By:

Notary Public

County License Issued

License Number

Sworn to before me on: _____
Date

Certificate of No Change Form



- Please submit two completed forms. Copies will not be accepted.
- Please send both copies to the agency that requested it, unless you are advised to send it directly to the Mayor's Office of Contract Services (MOCS).
- A materially false statement willfully or fraudulently made in connection with this certification, and/or the failure to conduct appropriate due diligence in verifying the information that is the subject of this certification, may result in rendering the submitting entity non-responsible for the purpose of contract award.
- A materially false statement willfully or fraudulently made in connection with this certification may subject the person making the false statement to criminal charges

I, _____, being duly sworn, state that I have read
Enter Your Name

and understand all the items contained in the vendor questionnaire and any submission of change as identified on page one of this form and certify that as of this date, these items have not changed. I further certify that, to the best of my knowledge, information and belief, those answers are full, complete, and accurate; and that, to the best of my knowledge, information, and belief, those answers continue to be full, complete, and accurate.

In addition, I further certify on behalf of the submitting vendor that the information contained in the principal questionnaire(s) and any submission of change identified on page two of this form have not changed and have been verified and continue, to the best of my knowledge, to be full, complete and accurate.

I understand that the City of New York will rely on the information supplied in this certification as additional inducement to enter into a contract with the submitting entity.

Vendor Questionnaire *This section is required.*

This refers to the vendor questionnaire(s) submitted for the vendor doing business with the City.

Name of Submitting Entity: _____

Vendor's Address: _____

Vendor's EIN or TIN: _____ Requesting Agency: _____

Are you submitting this Certification as a parent? (Please circle one) Yes No

Signature date on the last full vendor questionnaire signed for the submitting vendor: _____

Signature date on change submission for the submitting vendor: _____

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.



Principal Name	Date of signature on last full Principal Questionnaire	Date(s) of signature on submission of change
1		
2		
3		
4		
5		
6		

Check if additional changes were submitted and attach a document with the date of additional submissions.

Certification *This section is required.*

This form must be signed and notarized. Please complete this twice. Copies will not be accepted.

Certified By:

Name (Print)

Title

Name of Submitting Entity

Signature

Date

Notarized By:

Notary Public

County License Issued

License Number

Sworn to before me on: _____
Date

VENDEX COMPLIANCE

(A) **Vendex Fees:** Pursuant to Procurement Policy Board Rule 2-08(f)(2), the contractor will be charged a fee for the administration of the VENDEX system, including the Vendor Name Check process, if a Vendor Name Check review is required to be conducted by the Department of Investigation. The contractor shall also be required to pay the applicable required fees for any of its subcontractors for which Vendor Name Check reviews are required. The fee(s) will be deducted from payments made to the contractor under the contract. For contracts with an estimated value of less than or equal to \$1,000,000, the fee will be \$175 per Vendor Name Check review. For contracts with an estimated value of greater than \$1,000,000, the fee will be \$350 per Vendor Name Check review.

(B) **Confirmation of Vendex Compliance:** The Bidder shall submit this Confirmation of Vendex Compliance to the Department of Design and Construction, Contracts Section, 30-30 Thomson Avenue – First Floor, Long Island City, NY 11101.

Bid Information: The Bidder shall complete the bid information set forth below.

Name of Bidder: Donofrio General Contractors Corp.
Bidder's Address: 202 28th Street - Brooklyn, New York 11232
Bidder's Telephone Number: 718 - 832 - 5700
Bidder's Fax Number: 718 - 832 - 5772
Date of Bid Opening: _____
PROJECT ID: SEK 20070

Vendex Compliance: To demonstrate compliance with Vendex requirements, the Bidder shall complete either Section (1) or Section (2) below, whichever applies.

- (1) **Submission of Vendex Questionnaires to MOCS:** By signing in the space provided below, the Bidder certifies that as of the date specified below, the Bidder has submitted Vendex Questionnaires to the Mayor's Office of Contract Services, Attn: VENDEX, 253 Broadway, 9th Floor, New York, New York 10007.

Date of Submission: _____

By: _____
(Signature of Partner or corporate officer)

Print Name: _____

- (2) **Submission of Certification of No Change to DDC:** By signing in the space provided below, the Bidder certifies that it has read the instructions in a "Vendor's Guide to Vendex" and that such instructions do not require the Bidder to submit Vendex Questionnaires. The Bidder has completed **TWO ORIGINALS** of the Certification of No Change set forth on the next page of this Bid Booklet.

By: John D'Onofrio
(Signature of Partner or corporate officer)

Print Name: John D'Onofrio Secretary/Treas.

IRAN DIVESTMENT ACT COMPLIANCE RIDER

FOR NEW YORK CITY CONTRACTORS

The Iran Divestment Act of 2012, effective as of April 12, 2012, is codified at State Finance Law (“SFL”) §165-a and General Municipal Law (“GML”) §103-g. The Iran Divestment Act, with certain exceptions, prohibits municipalities, including the City, from entering into contracts with persons engaged in investment activities in the energy sector of Iran. Pursuant to the terms set forth in SFL §165-a and GML §103-g, a person engages in investment activities in the energy sector of Iran if:

- (a) The person provides goods or services of twenty million dollars or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or
- (b) The person is a financial institution that extends twenty million dollars or more in credit to another person, for forty-five days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list created pursuant to paragraph (b) of subdivision three of Section 165-a of the State Finance Law and maintained by the Commissioner of the Office of General Services.

A bid or proposal shall not be considered for award nor shall any award be made where the bidder or proposer fails to submit a signed and verified bidder’s certification.

Each bidder or proposer must certify that it is not on the list of entities engaged in investment activities in Iran created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. In any case where the bidder or proposer cannot certify that they are not on such list, the bidder or proposer shall so state and shall furnish with the bid or proposal a signed statement which sets forth in detail the reasons why such statement cannot be made. The City of New York may award a bid to a bidder who cannot make the certification on a case by case basis if:

- (1) The investment activities in Iran were made before the effective date of this section (i.e., April 12, 2012), the investment activities in Iran have not been expanded or renewed after the effective date of this section and the person has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran: or
- (2) The City makes a determination that the goods or services are necessary for the City to perform its functions and that, absent such an exemption, the City would be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.

**BIDDER'S CERTIFICATION OF COMPLIANCE WITH
IRAN DIVESTMENT ACT**


Pursuant to General Municipal Law §103-g, which generally prohibits the City from entering into contracts with persons engaged in investment activities in the energy sector of Iran, the bidder/proposer submits the following certification:

[Please Check One]

BIDDER'S CERTIFICATION

- By submission of this bid or proposal, each bidder/proposer and each person signing on behalf of any bidder/proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each bidder/proposer is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law.

- I am unable to certify that my name and the name of the bidder/proposer does not appear on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. I have attached a signed statement setting forth in detail why I cannot so certify.



SIGNATURE
John D'Onofrio

PRINTED NAME
Secretary Tres.

TITLE

Sworn to before me this
15 day of March, 2019



Notary Public

Dated: **Anthony Macca**
Commissioner of Deeds, City of New York
Number: 2-13348
Certificate Filed in: **Kings** County
Term Expires: **03-01-20**

~~Anthony Macca
Commissioner of Deeds, City of New York
Number: 2-13348
Certificate Filed in: Kings County
Term Expires: 03-01-20~~

**THE CITY OF NEW YORK
DEPARTMENT OF SMALL BUSINESS SERVICES
DIVISION OF LABOR SERVICES
CONTRACT COMPLIANCE UNIT
110 WILLIAMS STREET
NEW YORK, NEW YORK 10038
PHONE: (212) 513-6323
FAX: (212) 618-8879**

CONSTRUCTION

EMPLOYMENT

REPORT

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The City of New York
Department of Small Business Services
Division of Labor Services
Contract Compliance Unit
110 William Street
New York, New York 10038
Phone: (212) 513 – 6323
Fax: (212) 618-8879

**CONSTRUCTION EMPLOYMENT REPORT
 INSTRUCTIONS**

WHO MUST FILE A CONSTRUCTION EMPLOYMENT REPORT

A Construction Employment Report (ER) must be filed if you meet the following conditions:

CONTRACT FUNDING SOURCE	CONTRACTOR	CONTRACT VALUE	SUBMISSION REQUIREMENT
Federal/Federally assisted	Prime and subcontractors	\$10,000 or greater	Construction Employment Report
City and state funded	Prime contractor	\$1,000,000 or greater	
	Subcontractor	\$750,000 or greater	
			Less than \$750,000	Less than $750,000 Certificate (City/State Only)

Prime Contractor:

- A general contractor or construction manager selected to perform work on a construction project funded (in whole or in part) by the federal government with a proposed contract value of \$10,000 or more.
- A general contractor or construction manager selected to perform work on a construction project funded or assisted by the City of New York with a proposed contract value of \$1,000,000 or more.

Subcontractor:

- A subcontractor selected to perform work on a construction project funded (in whole or in part) by the federal government with a proposed contract value of \$10,000 or more.
- A subcontractor selected to perform work on a construction project funded or assisted by the City of New York with a proposed contract value of \$750,000 or more.
- A subcontractor selected to perform work on a construction project funded or assisted by the City of New York with a proposed contract value of less than \$750,000 must submit a "Less than \$750,000" certificate.

WHERE TO FILE

Employment Reports must be filed with the City agency awarding the contract. If you are a contractor or subcontractor who will be working for a private developer in receipt of funding or assistance from the City, the ER must be filed with the City agency with jurisdiction over the developer's project.

DLS REVIEW PROCESS

In accordance with Executive Order 50 (EO 50), upon receipt by DLS of a completed ER, DLS conducts a review of the contractor's current employment policies, practices and procedures, as well as perform a statistical analysis of the contractor's workforce, if necessary. The process is as follows:

1. Within five (5) business days, DLS will review the ER for completeness and accuracy. If any information is omitted or incorrect, or if necessary documents are not submitted, the submission shall be deemed incomplete and DLS will inform the contractor. The substantive compliance review does not commence until the submission is complete. **An incomplete submission will delay the review process and may preclude or interrupt the contract approval.**
2. If the ER submission is complete, the compliance review will proceed, resulting in one of the following:

Certificate of Approval

The contractor is found to be in compliance with all applicable laws and regulations. The approval is valid for 36 months.

Continued Approval Certificate

The contractor has been issued a Certificate of Approval in the previous 36 months which is good for the applicable contract.

Conditional Certificate of Compliance

The contractor is required to take corrective actions in order to be in compliance with EO 50. The contractor must meet the conditions within one month of the issue of the Conditional Certificate.

Determination of Nonperformance

The contractor has failed to take the required corrective actions stipulated in the Conditional Certificate. A determination of nonperformance may prevent a contractor from receiving an award of a contract.

HOW TO COMPLETE THE EMPLOYMENT REPORT

Contents

General Information

Part I: Contractor/Subcontractor Information

Part II: Employment Policies and Practices

Part III: Contract Bid Information and Projected and Current Workforce Forms

Signature Page

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

- Questions 7 – 11: Please provide the required contact information for your company. All contracts must have a designated Equal Employment Officer.
- Question 12: If you are a subcontractor, you must state the name of the contractor for whom you are providing the construction services.
- Question 13: Please provide the number of permanent employees in your company.
- Question 14a-g: The Project Identification Number (PIN) and the Contract Registration ID Number (CT#) can be obtained from the City agency. Provide a description of the trade work you will perform on this project and the address where the work will be performed. Subcontractors can obtain this information from the contract they have with the prime contractor.
- Questions 15 – 18: If your company has received a valid Certificate of Approval within the past 36 months, been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP), or if your company has submitted an ER for a different contract for which you have not yet received a compliance certificate, then you only need to complete and submit the following:
- General Information section
 - Part I - Contractor/Subcontractor Information
 - Form B - Projected Workforce
 - Signature Page

If your company is currently waiting for an approval on another contract previously submitted, be certain to identify the date on which you submitted the completed Employment Report, the name of the City contracting agency with which the contract was made, and the name and telephone number of the person to whom the Employment Report was submitted.

If your company was issued a Conditional Certificate of Approval, all required corrective actions must have been taken or DLS will not issue a Continued Certificate.

- Question 18: If the company was audited by the OFCCP, also provide the following:
- Identify the reviewing OFCCP office by its name and address
 - If an unconditional certificate of compliance was issued by the OFCCP, attach a copy of the certificate in lieu of completing Parts II and III;
 - Include copies of all corrective actions and documentation of OFCCP's performance; and
 - Provide a copy of all stated OFCCP findings.

- Question 19: Please provide a copy of any Collective Bargaining Agreement(s) which is negotiated through an employer trade association on behalf of your organization or any of its affiliates.

PART II: EMPLOYMENT POLICIES AND PRACTICES

Remember to label all documents with the question number for which they are submitted.

Questions 20a – j: You must respond to the questions as to whether or not your firm has documents reflecting written policies, benefits and procedures. If so, then you must identify by name each document in which the policy(ies), procedure(s) and benefit(s) is located and submit copies of all of the document(s). If your firm follows unwritten practices or procedures, include an explanation of how they operate. Please submit the most current document(s), including all applicable amendments. Label each document and/or unwritten practice according to the question to which it corresponds (e.g. 20a, 20b, etc.)

Questions 21a – h: Inquires about the manner/methods by which you comply with the requirements of the Immigration Reform and Control Act of 1986 (IRCA).

Question 22: Inquires into where and how I-9 forms are maintained and stored.

Questions 23a – e: Inquires into whether or not there is a requirement that an applicant or employee be subjected to a medical examination at any given time. Copies of the medical information questionnaire and instructions must be submitted with the Employment Report.

Question 24: Indicate the existence and location of all statements of your firm's Equal Employment Opportunity policy and attach a copy of each statement.

Question 25: Submit any current Affirmative Action Plan(s) created pursuant to Executive Order 11246.

Question 26: If your firm or collective bargaining agreement has an internal grievance procedure, indicate this and submit a copy of the policy and procedure. If unwritten, explain its nature and operation. Explain how your firm's procedure addresses EEO complaints.

Question 27: If your employees have used the procedure in the last three (3) years, please submit an explanation in the format indicated below:

1. Number of complaint(s)	2. Nature of the complaint(s)	3. Position(s) of the complainant(s)	4. Was an investigation conducted? Y/N	5. Current status of the disposition
---------------------------	-------------------------------	--------------------------------------	---	--------------------------------------

The City of New York Department of Small Business Services
Division of Labor Services Contract Compliance Unit
110 William Street, New York, New York 10038
Phone: (212) 513 - 6323
Fax: (212) 618-8879

CONSTRUCTION EMPLOYMENT REPORT

GENERAL INFORMATION

1. Your contractual relationship in this contract is: Prime contractor Subcontractor
- 1a. Are MWBE goals attached to this project? Yes No
2. Please check one of the following if your firm would like information on how to certify with the City of New York as a:
 Minority Owned Business Enterprise Locally Based Business Enterprise
 Women Owned Business Enterprise Emerging Business Enterprise
 Disadvantaged Business Enterprise
- 2a. If you are certified as an MBE, WBE, LBE, EBE or DBE, what city/state agency are you certified with? _____ Are you DBE certified? Yes No
3. Please indicate if you would like assistance from SBS in identifying certified MWBEs for contracting opportunities: Yes No
4. Is this project subject to a project labor agreement? Yes No
5. Are you a Union contractor? Yes No If yes, please list which local(s) you affiliated with 1556, 731, 79, 14, 15
6. Are you a Veteran owned company? Yes No

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

7. 11-3093462 RAY.DENARO@donofriogc.com
Employer Identification Number or Federal Tax I.D. Email Address
8. D'Onofrio GC Corp.
Company Name
9. 202 28TH ST Brooklyn, NY 11232
Company Address and Zip Code
10. JERRY D'Onofrio 718 832 5700
Chief Operating Officer Telephone Number
11. John D'Onofrio " "11
Designated Equal Opportunity Compliance Officer Telephone Number
(If same as Item #10, write "same")
12. Raimundo DENARO - Exec PM
Name of Prime Contractor and Contact Person
(If same as Item #8, write "same")

13. Number of employees in your company: 25 +

14. Contract information:

(a) DDC Contracting Agency (City Agency) (b) 5,537,000 Contract Amount

(c) SEK20070 Procurement Identification Number (PIN) (d) TBD Contract Registration Number (CT#)

(e) TBD Projected Commencement Date (f) TBD Projected Completion Date

(g) Description and location of proposed contract:
Replacement of 287 FT of Outfall Sewer in Brooklyn, NY

15. Has your firm been reviewed by the Division of Labor Services (DLS) within the past 36 months and issued a Certificate of Approval? Yes X No

If yes, attach a copy of certificate.

16. Has DLS within the past month reviewed an Employment Report submission for your company and issued a Conditional Certificate of Approval? Yes X No

If yes, attach a copy of certificate.

NOTE: DLS WILL NOT ISSUE A CONTINUED CERTIFICATE OF APPROVAL IN CONNECTION WITH THIS CONTRACT UNLESS THE REQUIRED CORRECTIVE ACTIONS IN PRIOR CONDITIONAL CERTIFICATES OF APPROVAL HAVE BEEN TAKEN.

17. Has an Employment Report already been submitted for a different contract (not covered by this Employment Report) for which you have not yet received compliance certificate? Yes No X If yes,

Date submitted: _____
Agency to which submitted: _____
Name of Agency Person: _____
Contract No: _____
Telephone: _____

18. Has your company in the past 36 months been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP)? Yes No X

If yes,

(a) Name and address of OFCCP office.

(b) Was a Certificate of Equal Employment Compliance issued within the past 36 months?
Yes___ No___

If yes, attach a copy of such certificate.

(c) Were any corrective actions required or agreed to? Yes___ No___

If yes, attach a copy of such requirements or agreements.

(d) Were any deficiencies found? Yes___ No___

If yes, attach a copy of such findings.

19. Is your company or its affiliates a member or members of an employers' trade association which is responsible for negotiating collective bargaining agreements (CBA) which affect construction site hiring? Yes___ No X

If yes, attach a list of such associations and all applicable CBA's.

PART II: DOCUMENTS REQUIRED

20. For the following policies or practices, attach the relevant documents (e.g., printed booklets, brochures, manuals, memoranda, etc.). If the policy(ies) are unwritten, attach a full explanation of the practices. See instructions.

Y (a) Health benefit coverage/description(s) for all management, nonunion and union employees (whether company or union administered)

Y (b) Disability, life, other insurance coverage/description

N (c) Employee Policy/Handbook

N (d) Personnel Policy/Manual

N (e) Supervisor's Policy/Manual

Y (f) Pension plan or 401k coverage/description for all management, nonunion and union employees, whether company or union administered

Y (g) Collective bargaining agreement(s).

N (h) Employment Application(s)

N (i) Employee evaluation policy/form(s).

N (j) Does your firm have medical and/or non-medical (i.e. education, military, personal, pregnancy, child care) leave policy?

21. To comply with the Immigration Reform and Control Act of 1986 when and of whom does your firm require the completion of an I-9 Form?

- | | |
|--|--|
| (a) Prior to job offer | Yes ___ No <input checked="" type="checkbox"/> |
| (b) After a conditional job offer | Yes ___ No <input checked="" type="checkbox"/> |
| (c) After a job offer | Yes <input checked="" type="checkbox"/> No ___ |
| (d) Within the first three days on the job | Yes <input checked="" type="checkbox"/> No ___ |
| (e) To some applicants | Yes ___ No <input checked="" type="checkbox"/> |
| (f) To all applicants | Yes <input checked="" type="checkbox"/> No ___ |
| (g) To some employees | Yes ___ No <input checked="" type="checkbox"/> |
| (h) To all employees | Yes <input checked="" type="checkbox"/> No ___ |

22. Explain where and how completed I-9 Forms, with their supportive documentation, are maintained and made accessible.

All I-9 Forms are filled out on the first day of Employment & kept at the main office.

23. Does your firm or any of its collective bargaining agreements require job applicants to take a medical examination? Yes ___ No ___

If yes, is the medical examination given:

- | | |
|-----------------------------------|----------------|
| (a) Prior to a job offer | Yes ___ No ___ |
| (b) After a conditional job offer | Yes ___ No ___ |
| (c) After a job offer | Yes ___ No ___ |
| (d) To all applicants | Yes ___ No ___ |
| (e) Only to some applicants | Yes ___ No ___ |

N/A

If yes, list for which applicants below and attach copies of all medical examination or questionnaire forms and instructions utilized for these examinations.

N/A

24. Do you have a written equal employment opportunity (EEO) policy? Yes No ___

If yes, list the document(s) and page number(s) where these written policies are located.

25. Does the company have a current affirmative action plan(s) (AAP)

___ Minorities and Women

___ Individuals with handicaps

Other. Please specify _____

26. Does your firm or collective bargaining agreement(s) have an internal grievance procedure with respect to EEO complaints? Yes No ___

If yes, please attach a copy of this policy.

If no, attach a report detailing your firm's unwritten procedure for handling EEO complaints.

27. Has any employee, within the past three years, filed a complaint pursuant to an internal grievance procedure or with any official of your firm with respect to equal employment opportunity? Yes ___ No

If yes, attach an internal complaint log. See instructions.

28. Has your firm, within the past three years, been named as a defendant (or respondent) in any administrative or judicial action where the complainant (plaintiff) alleged violation of any anti-discrimination or affirmative action laws? Yes ___ No

If yes, attach a log. See instructions.

29. Are there any jobs for which there are physical qualifications? Yes ___ No

If yes, list the job(s), submit a job description and state the reason(s) for the qualification(s).

30. Are there any jobs for which there are age, race, color, national origin, sex, creed, disability, marital status, sexual orientation, or citizenship qualifications? Yes ___ No

If yes, list the job(s), submit a job description and state the reason(s) for the qualification(s).

SIGNATURE PAGE

I, (print name of authorized official signing) R. DENARO hereby certify that the information submitted herewith is true and complete to the best of my knowledge and belief and submitted with the understanding that compliance with New York City's equal employment requirements, as contained in Chapter 56 of the City Charter, Executive Order No. 50 (1980), as amended, and the implementing Rules and Regulations, is a contractual obligation. I also agree on behalf of the company to submit a certified copy of payroll records to the Division of Labor Services on a monthly basis.

D'Onofrio GC Corp.
Contractor's Name

RAIMONDO DENARO Exec PM
Name of person who prepared this Employment Report Title

Raimondo DENARO Exec PM
Name of official authorized to sign on behalf of the contractor Title

718-832-5700
Telephone Number


Signature of authorized official 3-29-19
Date

If contractors are found to be underutilizing minorities and females in any given trade based on Chapter 56 Section 3H, the Division of Labor Services reserves the right to request the contractor's workforce data and to implement an employment program.

Contractors who fail to comply with the above mentioned requirements or are found to be in noncompliance may be subject to the withholding of final payment.

Willful or fraudulent falsifications of any data or information submitted herewith may result in the termination of the contract between the City and the bidder or contractor and in disapproval of future contracts for a period of up to five years. Further, such falsification may result in civil and/or criminal prosecution.

To the extent permitted by law and consistent with the proper discharge of DLS' responsibilities under Charter Chapter 56 of the City Charter and Executive Order No. 50 (1980) and the implementing Rules and Regulations, all information provided by a contractor to DLS shall be confidential.

Only original signatures accepted.

Sworn to before me this 29 day of March 20 19


Notary Public Anthony Magca 3/29/19
Date

Anthony Magca
Commissioner of Deeds, City of New York
Number: 2-13348
Certificate Filed In: Kings County
Term Expires: 03-01-20

FORM A. CONTRACT BID INFORMATION: USE OF SUBCONTRACTORS/TRADES

1. Do you plan to subcontractor work on this contract? Yes No
2. If yes, complete the chart below.

NOTE: All proposed subcontractors with a subcontract in excess of \$750,000 must complete an Employment Report for review and approval before the contract may be awarded and work commences.

SUBCONTRACTOR'S NAME*	OWNERSHIP (ENTER APPROPRIATE CODE LETTERS BELOW)	WORK TO BE PERFORMED BY SUBCONTRACTOR	TRADE PROJECTED FOR USE BY SUBCONTRACTOR	PROJECTED DOLLAR VALUE OF SUBCONTRACT
Said Contracting Corp	A	Civil / Structural	Laborers	~ 700,000

*If subcontractor is presently unknown, please enter the trade (craft name).

OWNERSHIP CODES

- W: White
- B: Black
- H: Hispanic
- A: Asian
- N: Native American
- F: Female

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

(J) Journey/level Workers (A) Apprentice
 (H) Helper (TRN) Trainee
 (TOT) Total by Column

For each trade to be engaged by your company for this project, enter the projected workforce for Males and Females by trade classification on the charts below.

Trade:	MALES					FEMALES											
	(1) White Non-Hisp.		(2) Black Non-Hisp.		(3) Hisp.	(4) Asian		(5) Native Amer.		(6) White Non-Hisp.	(7) Black Non-Hisp.		(8) Hisp.	(9) Asian		(10) Native Amer.	
	J	2	1	6									1				
H																	
A			1														
TRN																	
TOT	2	1	7														

Total (Col. #1-10): 7

Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): 8

Total Female (Col. #6 - 10): 1

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

UNIONS

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

- (J) Journeylevel Workers
- (H) Helper
- (TRN) Trainee
- (TOT) Total by Column

For each trade currently engaged by your company for all work performed in New York City, enter the current workforce for Males and Females by trade classification on the charts below.

Trade: 1556, 79, 14, 15

Union Affiliation, if applicable _____

Total (Col. #1-10): 42

Total Minority, Male & Female (Col. #2,3,4,5,7,8,9, & 10): 35

Total Female (Col. #6-10): 0

	MALES					FEMALES				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	White Non Hisp.	Black Non Hisp.	Hisp.	Asian	Native Amer.	White Non Hisp.	Black Non Hisp.	Hisp.	Asian	Native Amer.
J	10	5	25							
H										
A			5							
TRN										
TOT	10	5	30			0	0	0	0	0

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

UNIONS



careers
businesses
neighborhoods

Gregg Bishop
Commissioner

219CY132

April 16, 2019

Mr. Raimondo Denaro
Project Manager
D'Onofrio General Contractors Corp.
202 28th Street
Brooklyn, NY 11232

RE: Department of Design and Construction Contract; Project No. SEK20027;
Replacement of 287 ft. Outfall Sewer; Borough of Brooklyn; Contract Value:
\$5,537,000.00; **Continued Certificate of Approval.**

Dear Mr. Denaro:

Please be advised that **D'Onofrio General Contractors Corp.** has already received notice of its approval status for the three (3) year period indicated in the Department of Small Business Services/Division of Labor Services' (DLS') Certificate of Approval dated **September 2, 2016**, for File No. 216CY369.

As your organization continues to meet the equal employment opportunity requirements of the City of New York, DLS approves the awarding of the above-referenced contract. This approval does not extend the initial 3-year approval (**August 18, 2016 – August 17, 2019**) referred to above.

If you have any questions, please contact Ms. Rosalyn Dawson at (212) 618-8843 or by e-mail: rdawson@sbs.nyc.gov.

Very truly yours,


Helen Wilson
Assistant Commissioner
Division of Labor Services

HW: lh

c: Nishon Rivers (DDC)
Rosalyn Dawson
Lisa Harris
File

The City of New York Department of Small Business Services
Division of Labor Services Contract Compliance Unit
110 William Street, New York, New York 10038
Phone: (212) 513 - 6323
Fax: (212) 618-8879

CONSTRUCTION EMPLOYMENT REPORT

GENERAL INFORMATION

1. Your contractual relationship in this contract is: Prime contractor___ Subcontractor x
- 1a. Are M/WBE goals attached to this project? Yes ___ No ___
2. Please check one of the following if your firm would like information on how to certify with the City of New York as a:

<input type="checkbox"/> Minority Owned Business Enterprise	<input type="checkbox"/> Locally Based Business Enterprise
<input type="checkbox"/> Women Owned Business Enterprise	<input type="checkbox"/> Emerging Business Enterprise
<input type="checkbox"/> Disadvantaged Business Enterprise	
- 2a. If you are certified as an **MBE, WBE, LBE, EBE** or **DBE**, what city/state agency are you certified with? _____ Are you DBE certified? Yes ___ No ___
3. Please indicate if you would like assistance from SBS in identifying certified M/WBEs for contracting opportunities: Yes ___ No ___
4. Is this project subject to a project labor agreement? Yes ___ No ___
5. Are you a Union contractor? Yes ___ No ___ If yes, please list which local(s) you affiliated with _____
6. Are you a Veteran owned company? Yes ___ No ___

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

7. _____
Employer Identification Number or Federal Tax I.D. Email Address
8. _____
Company Name
9. _____
Company Address and Zip Code
10. _____
Chief Operating Officer Telephone Number
11. _____
Designated Equal Opportunity Compliance Officer Telephone Number
(If same as Item #10, write "same")
12. _____
Name of Prime Contractor and Contact Person
(If same as Item #8, write "same")

13. Number of employees in your company: _____

14. Contract information:

(a) _____
Contracting Agency (City Agency)

(b) _____
Contract Amount

(c) _____
Procurement Identification Number (PIN)

(d) _____
Contract Registration Number (CT#)

(e) _____
Projected Commencement Date

(f) _____
Projected Completion Date

(g) Description and location of proposed contract:

15. Has your firm been reviewed by the Division of Labor Services (DLS) within the past 36 months and issued a Certificate of Approval? Yes___ No___

If yes, attach a copy of certificate.

16. Has DLS within the past month reviewed an Employment Report submission for your company and issued a Conditional Certificate of Approval? Yes___ No___

If yes, attach a copy of certificate.

NOTE: DLS WILL NOT ISSUE A CONTINUED CERTIFICATE OF APPROVAL IN CONNECTION WITH THIS CONTRACT UNLESS THE REQUIRED CORRECTIVE ACTIONS IN PRIOR CONDITIONAL CERTIFICATES OF APPROVAL HAVE BEEN TAKEN.

17. Has an Employment Report already been submitted for a different contract (not covered by this Employment Report) for which you have not yet received compliance certificate?

Yes___ No___ If yes,

Date submitted: _____

Agency to which submitted: _____

Name of Agency Person: _____

Contract No: _____

Telephone: _____

18. Has your company in the past 36 months been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP)? Yes___ No___

If yes,

(a) Name and address of OFCCP office.

(b) Was a Certificate of Equal Employment Compliance issued within the past 36 months?
Yes___ No___

If yes, attach a copy of such certificate.

(c) Were any corrective actions required or agreed to? Yes___ No___

If yes, attach a copy of such requirements or agreements.

(d) Were any deficiencies found? Yes___ No___

If yes, attach a copy of such findings.

19. Is your company or its affiliates a member or members of an employers' trade association which is responsible for negotiating collective bargaining agreements (CBA) which affect construction site hiring? Yes___ No___

If yes, attach a list of such associations and all applicable CBA's.

PART II: DOCUMENTS REQUIRED

20. For the following policies or practices, attach the relevant documents (e.g., printed booklets, brochures, manuals, memoranda, etc.). If the policy(ies) are unwritten, attach a full explanation of the practices. See instructions.

- ___ (a) Health benefit coverage/description(s) for all management, nonunion and union employees (whether company or union administered)
- ___ (b) Disability, life, other insurance coverage/description
- ___ (c) Employee Policy/Handbook
- ___ (d) Personnel Policy/Manual
- ___ (e) Supervisor's Policy/Manual
- ___ (f) Pension plan or 401k coverage/description for all management, nonunion and union employees, whether company or union administered
- ___ (g) Collective bargaining agreement(s).
- ___ (h) Employment Application(s)
- ___ (i) Employee evaluation policy/form(s).
- ___ (j) Does your firm have medical and/or non-medical (i.e. education, military, personal, pregnancy, child care) leave policy?

21. To comply with the Immigration Reform and Control Act of 1986 when and of whom does your firm require the completion of an I-9 Form?

- (a) Prior to job offer Yes___ No___
- (b) After a conditional job offer Yes___ No___
- (c) After a job offer Yes___ No___
- (d) Within the first three days on the job Yes___ No___
- (e) To some applicants Yes___ No___
- (f) To all applicants Yes___ No___
- (g) To some employees Yes___ No___
- (h) To all employees Yes___ No___

22. Explain where and how completed I-9 Forms, with their supportive documentation, are maintained and made accessible.

23. Does your firm or any of its collective bargaining agreements require job applicants to take a medical examination? Yes___ No___

If yes, is the medical examination given:

- (a) Prior to a job offer Yes___ No___
- (b) After a conditional job offer Yes___ No___
- (c) After a job offer Yes___ No___
- (d) To all applicants Yes___ No___
- (e) Only to some applicants Yes___ No___

If yes, list for which applicants below and attach copies of all medical examination or questionnaire forms and instructions utilized for these examinations.

24. Do you have a written equal employment opportunity (EEO) policy? Yes___ No___

If yes, list the document(s) and page number(s) where these written policies are located.

25. Does the company have a current affirmative action plan(s) (AAP)

- ___ Minorities and Women
- ___ Individuals with handicaps
- ___ Other. Please specify _____

26. Does your firm or collective bargaining agreement(s) have an internal grievance procedure with respect to EEO complaints? Yes___ No___

If yes, please attach a copy of this policy.

If no, attach a report detailing your firm's unwritten procedure for handling EEO complaints.

27. Has any employee, within the past three years, filed a complaint pursuant to an internal grievance procedure or with any official of your firm with respect to equal employment opportunity? Yes___ No___

If yes, attach an internal complaint log. See instructions.

28. Has your firm, within the past three years, been named as a defendant (or respondent) in any administrative or judicial action where the complainant (plaintiff) alleged violation of any anti-discrimination or affirmative action laws? Yes___ No___

If yes, attach a log. See instructions.

29. Are there any jobs for which there are physical qualifications? Yes___ No___

If yes, list the job(s), submit a job description and state the reason(s) for the qualification(s).

30. Are there any jobs for which there are age, race, color, national origin, sex, creed, disability, marital status, sexual orientation, or citizenship qualifications? Yes___ No___

If yes, list the job(s), submit a job description and state the reason(s) for the qualification(s).

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID OPENING DATE: March 15, 2019

PROJECT NO.: SEK20070

DESCRIPTION: THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING 8' 0" W X 8' 0" H OUTFALL STORM SEWER IN 25TH AVE

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Ammendments	Drawings (number)
1	03/06/2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)

The Table above is a guide. Refer to the referenced Addendum for specific information.

ATTACH TO CONTRACT DOCUMENTS
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: SEK20070
THE RECONSTRUCTION OF APPROXIMATELY 287 FEET
OF THE EXISTING 8' 0" W X 8' 0" H OUTFALL STORM SEWER IN 25TH AVE

Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK
ADDENDUM NO. 1

DATED: March 6, 2019

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Attachment 1 – Bid Information on Page A-1; Change the dates shown for Submission of Bids and for Bid Opening from "March 8, 2019" to read "March 15, 2019".
2. Refer to the Bid and Contract Documents, VOLUME 1 OF 3, SCHEDULE B – M/WBE Utilization Plan on Page 13; Change the date shown for Bid/Proposal Response Date from "March 8, 2019" to read "March 15, 2019".

END OF ADDENDUM NO. 1

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of ONE (1) page.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

D Onofrio GC Corp.

Name of Bidder

By: [Signature]

[Signature]
GEORGE FRANZ, P.E.
Executive Director

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID OPENING DATE: March 22, 2019

PROJECT NO.: SEK20070

DESCRIPTION: THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING 8' 0" W X 8' 0" H OUTFALL STORM SEWER IN 25TH AVE

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Ammendments	Drawings (number)
1	03/06/2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
2	03/13/2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)

The Table above is a guide. Refer to the referenced Addendum for specific information.

ATTACH TO CONTRACT DOCUMENTS
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: SEK20070

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET
OF THE EXISTING 8' 0" W X 8' 0" H OUTFALL STORM SEWER IN 25TH AVE

Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK
ADDENDUM NO. 2

DATED: March 13, 2019

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Attachment 1 – Bid Information on Page A-1;
Change the dates shown for Submission of Bids and for Bid Opening from "March 15, 2019" to read "March 22, 2019."
2. Refer to the Bid and Contract Documents, VOLUME 1 OF 3, Schedule B – M/WBE Utilization Plan on Page 13
Change the dates shown for Submission of Bids and for Bid Opening from "March 15, 2019" to read "March 22, 2019."

END OF ADDENDUM NO. 2

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of ONE (1) page.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

D'Onofrio GC Corp.

Name of Bidder

for Akadunkanmakal
GEORGE FRANZ, P.E.
Executive Director

By: [Signature]

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

ADDENDA CONTROL SHEET

BID OPENING DATE: March 22, 2019

PROJECT NO.: SEK20070

DESCRIPTION: THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING 8' 0" W X 8' 0" H OUTFALL STORM SEWER IN 25TH AVE

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Ammendments	Drawings (number)
1	03/06/2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
2	03/13/2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
3	03/18/2019	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (2)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> (0)

The Table above is a guide. Refer to the referenced Addendum for specific information.

ATTACH TO CONTRACT DOCUMENTS
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: SEK20070
THE RECONSTRUCTION OF APPROXIMATELY 287 FEET
OF THE EXISTING 8' 0" W X 8' 0" H OUTFALL STORM SEWER IN 25TH AVE

Together With All Work Incidental Thereto
BOROUGH OF BROOKLYN
CITY OF NEW YORK
ADDENDUM NO. 3

DATED: March 18, 2019

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

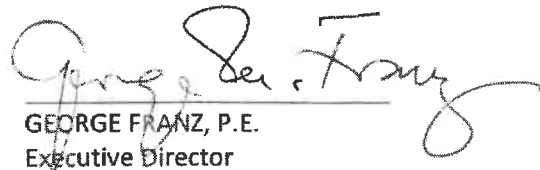
- 1- Refer to the Contract Drawings Sheet 3 of 6 and 5 of 6;
Delete Sheet 3 of 6 and 5 of 6 in their entirety;
Substitute with the attached revised Sheet 3R of 6 and 5R of 6.
- 2- For additional information, see the attached THREE (3) pages of "Questions Submitted by Bidders and DDC's Responses".

END OF ADDENDUM NO. 3

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of ONE (1) page, THREE (3) pages of Attachments and TWO (2) revised drawings.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BID

D'Onofrio GC Corp.
Name of Bidder


GEORGE FRANZ, P.E.
Executive Director

By: 

QUESTIONS SUBMITTED BY BIDDERS AND DDC'S RESPONSES

Question 1:

What are the limits of the work area on Hunter Ave. to the north and along 25th Ave. outside of the fenced area?

DDC's Response:

Please refer to contract drawings sheets 1 through 6, for project limits and scope of work.

Question 2:

Where is the trunk watermain work implied by the inclusion or "Revisions to Trunk Water Main Work" in Vol. 3 of the specs page SW-12?

DDC's Response:

"C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK" at SW-12 are not applicable for this project.

Question 3:

Where is the paving restoration work implied by the addition of Section 71.41.4 to the specifications in Vol. 3 pages SW-10 and 11?

DDC's Response:

This section refers to standard language and shall be followed when necessary as directed by the Engineer.

Question 4:

Has the department obtained permission from DSNY to connect a temporary bulkhead to the existing bulkhead adjacent to the proposed outfall? Are there any known restrictions to making such connection?

DDC's Response:

There is no temporary bulkhead connecting to the existing bulkhead.

Question 5:

There is a unit priced bid item for the Stone Ballast but not for the rip rap stone, boulder apron, stone pavement, or grouted stone pavement. How would these items be paid?

DDC's Response:

Bid item 51.61F000: OUTFALL shall include the total cost of construction of the outfall. Please refer to Sheet 3R of contract drawings for outfall details and general notes.

Question 6:

What are the limits and materials to be considered for unclassified excavation? Pavement core data has not been provided in the soil borings. It seems like the project area is unpaved.

DDC's Response:

Please refer to the standard specifications for unclassified excavation. The project area is unpaved and shall be restored to the satisfaction of the engineer.

Question 7:

What are the limits of pavement restoration and where is the transition from Binder Mixture to Sod? This is not indicated in the drawings nor in the pavement restoration provisions.

DDC's Response:

At present there is no limit of areas for pavement restoration vs sodding locations shown on the contract drawings. However, in the BID SCHEDULE, there are items for pavement restoration and sodding and must be done as directed by the Engineer.

Question 8:

There are no details for "Alternate Pre-cast Sewer Box Section on Piles". What will be the dimensions of the pile cap in the event the GC decides to use pre-cast sections?

DDC's Response:

Refer to revised drawings attached to this addendum.

Question 9:

Can the box sections on the outfall be prefabricated as well? If so, please provide pile cap details.

DDC's Response:

The outfall must be pour in place.

Question 10:

SPEDES Discharge Permit

Spec section 40.14.1 (C) on page SW-6 requires the contractor to obtain the SPDES permit from the NYS DEC. It appears that the Project falls within a Potential Environmental Justice Area (PEJA). If the Project falls within a PEJA, the NYC DDC must prepare and implement a Public Participation Plan (PPP). In addition, areas requiring a PPP are not permitted to file for Jurisdictional Determination. The Permitting Process including submission, approval, and implementation of a PPP exceeds 12-months. Because not much of the work can be done without dewatering, there remains insufficient time to complete the project in 18 months.

- Confirm the Project falls within a PEJA and a PPP is required.
- Confirm means of compensation to prepare, submit and implement a PPP.
- We suggest the project duration be extended to allow the time to get the permit and do the work.

DDC's Response:

The project area falls within the PEJA. The Contractor is required to complete a PPP, if required by NYSDEC. Permit is the responsibility of the Contractor. Bidders should include this possible requirement from NYSDEC in bid prices. For projects that do require PPP submission, it would add an extra three months to the normal dewatering permit process when contractor's experienced consultants provide quality documentation for agency review and approval, which have been accounted for in the contract duration.

Question 11:

US Army Corp of Engineers Permits

Spec section 40.15.1 (C) and (D) on page SW-9 requires the contractor comply with the Army Corp of Engineers Permits Title 7 and Title 33. Confirm/Advise regarding the following:

- The NYCDDC has obtained the permits and applicable variance.
- The Permits contain Permit-Specific Regional Conditions that impose moratoriums on allowable work periods please advise which of the following Moratorium, if any, apply:
 - o Essential Fish Habitat (EFH) supporting anadromous fish migration/spawning - In water work (without cofferdam installed) avoided March 1 to June 30 (4 months)
 - o Essential Fish Habitat (EFH) for winter flounder - In water work avoided January 15 to May 31 (4.5 months)
 - o National Marine Fisheries Threatened and Endangered Habitat – work generate turbidity and sediment avoided March 16 to October 31 (7.5 months)
 - o If all moratorium are imposed - work restricted period January 15 – October 31 (9.5 months)
- If moratorium are applicable we suggest the project duration be extended to allow the time when work is restricted.

DDC's Response:

NYCDDC has submitted the wetland permit application to the regulatory agency for approval. The above stated conditions are included in the application



**INFRASTRUCTURE DIVISION
BUREAU OF DESIGN**

VOLUME 1 OF 3

PROJECT ID: SEK-20070

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING
8'-0" W X 8'-0" H OUTFALL STORM SEWER IN:
25 TH AVE. BETWEEN HUNTER AVE. AND GRAVESEND BAY
Together with All Work Incidental Thereto

BOROUGH OF BRONX
CITY OF NEW YORK

Contractor

Dated _____, 20__



**Department of
Design and
Construction**

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE**

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
WEBSITE www1.nyc.gov/site/ddc/index.page

VOLUME 2 OF 3

**INFORMATION FOR BIDDERS
CONTRACT
PERFORMANCE AND PAYMENT BONDS
PREVAILING WAGE SCHEDULE**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SEK-20070

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING
8'-0" W X 8'-0"H OUTFALL STORM SEWER IN:
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Together with All Work Incidental Thereto

**BOROUGH OF BROOKLYN
CITY OF NEW YORK**



FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
PREPARED BY
IN-HOUSE DESIGN

DECEMBER 18, 2018



**Department of
Design and
Construction**

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE**

30-30 THOMSON AVENUE
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VOLUME 2 OF 3

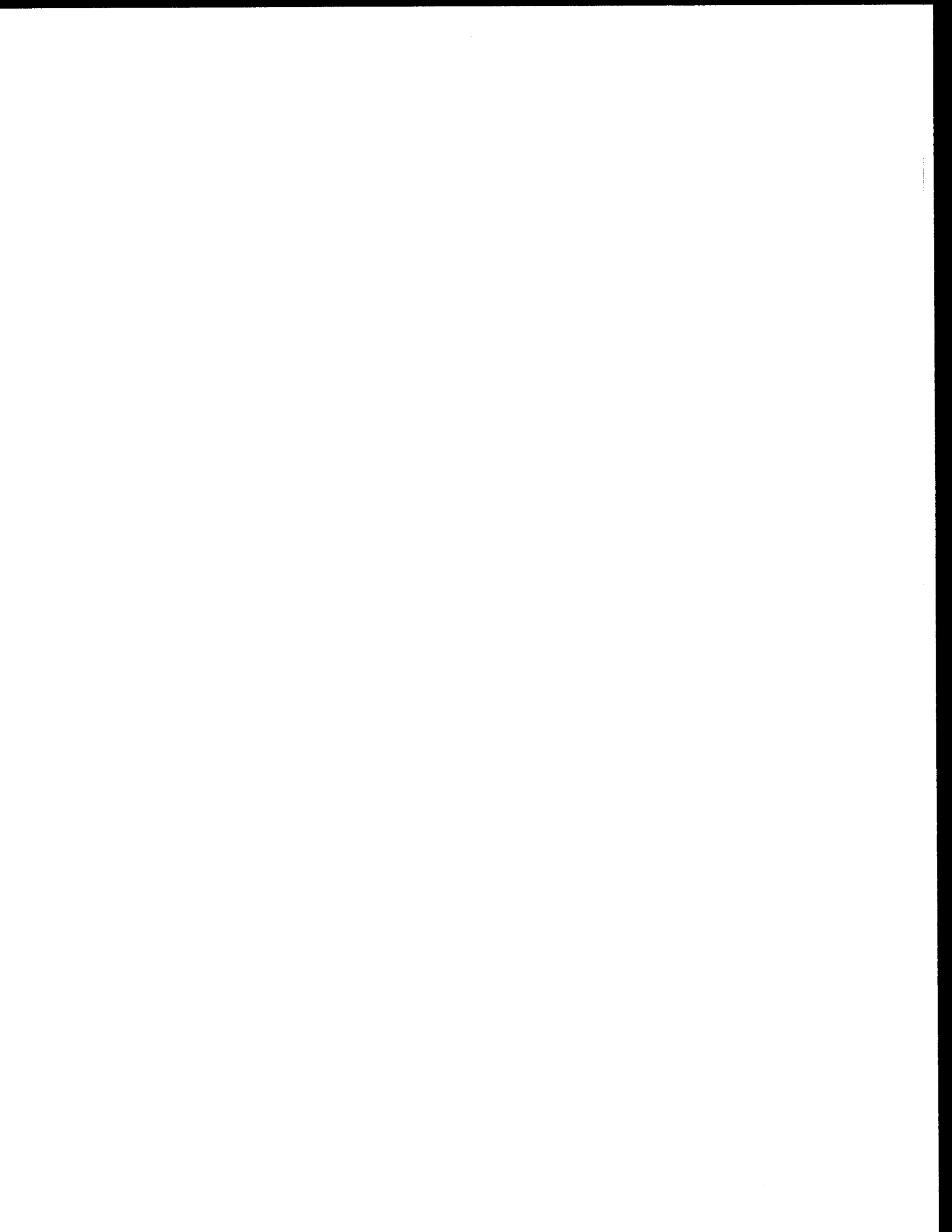
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DECEMBER 18, 2018



CITY OF NEW YORK

**DEPARTMENT OF
DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURES**

INFORMATION FOR BIDDERS

JUNE 2015

(NO TEXT ON THIS PAGE)

*CITY OF NEW YORK CITY
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFORMATION FOR BIDDERS*

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INFORMATION FOR BIDDERS

1. Description and Location of Work

The description and location of the work for which bids are requested are specified in Attachment 1, "Bid Information". Attachment 1 is included as page A-1 of the Bid Booklet.

2. Time and Place for Receipt of Bids

Sealed bids shall be received on or before the date and hour specified in Attachment 1, at which time they will be publicly opened and read aloud in the presence of the Commissioner or his or her representative, and any bidders who may desire to be present.

3. Definitions

The definitions set forth in the Procurement Policy Board Rules shall apply to this Invitation For Bids.

4. Invitation For Bids and Contract Documents

(A) Except for titles, sub-titles, headings, running headlines, tables of contents and indices (all of which are printed herein merely for convenience) the following, except for such portions thereof as may be specifically excluded, shall be deemed to be part of the Contract and the Invitation for Bids.

- (1) All provisions required by law to be inserted in this Contract, whether actually inserted or not
- (2) The Contract Drawings and Specifications
- (3) The General Conditions, the General Requirements and the Special Conditions, if any
- (4) The Contract
- (5) The Information for Bidders; Request for Proposals; Notice of Solicitation and Proposal For Bids; Bid or Proposal, and, if used, the Bid Booklet
- (6) The Budget Director's Certificate; all Addenda issued prior to the receipt of the bids; the Notice of Award; Performance and Payment Bonds, if required; and the Notice to Proceed with the Work.

(B) For particulars as to this procurement, including quantity and quality of the purchase, extent of the work or labor to be performed, delivery and performance schedule, and any other special instructions, prospective bidders are referred to the Invitation For Bids Documents. A copy of such documents can be obtained at the location set forth in Attachment 1.

(C) Deposit for Copy of Invitation For Bids Documents: Prospective bidders may obtain a copy of the Invitation For Bids Documents by complying with the conditions set forth in the Notice of Solicitation. The deposit must be in the form of a check or money order made payable to the City of New York, and drawn upon a state or national bank or trust company, or a check of such bank or trust company signed by a duly authorized officer thereof.

(D) Return of Invitation For Bids Documents: All Invitation For Bids Documents must be returned to the Department upon request. If the bidder elects not to submit a bid thereunder, the

Invitation For Bids Documents shall be returned to the Department, along with a statement that no bid will be submitted.

(E) Return of Deposit: Such deposit will be returned within 30 days after the award of the contract or the rejection of all bids as set forth in the advertisement, provided the Invitation For Bids Documents are returned to the location specified in Attachment 1, in physical condition satisfactory to the Commissioner.

(F) Additional Copies: Additional copies of the Invitation For Bids Documents may be obtained, subject to the conditions set forth in the advertisement for bids.

5. Pre-Bid Conference

A pre-bid conference shall be held as set forth in Attachment 1. Nothing stated at the pre-bid conference shall change the terms or conditions of the Invitation For Bids Documents, unless a change is made by written amendment as provided in Section 9 below. Failure to attend a mandatory pre-bid conference shall constitute grounds for the rejection of the bid.

6. Agency Contact

Any questions or correspondence relating to this bid solicitation shall be addressed to the Agency Contact person specified in Attachment 1.

7. Bidder's Oath

(A) The bid shall be properly signed by an authorized representative of the bidder and the bid shall be verified by the written oath of the authorized representative who signed the bid, that the several matters stated and information furnished therein are in all aspects true.

(B) A materially false statement willfully or fraudulently made in connection with the bid or any of the forms completed and submitted with the bid may result in the termination of any Contract between the City and the Bidder. As a result, the Bidder may be barred from participating in future City contracts as well as be subject to possible criminal prosecution.

8. Examination and Viewing of Site

(A) Pre-Bidding (Investigation) Viewing of Site -Bidders must carefully view and examine the site of the proposed work, as well as its adjacent area, and seek other usual sources of information, for they will be conclusively presumed to have full knowledge of any and all conditions on, about or above the site relating to or affecting in any way the performance of the work to be done under the Contract which were or should have been indicated to a reasonably prudent bidder. To arrange a date for visiting the work site, bidders are to contact the Agency Contact person specified in Attachment 1.

(B) Should the contractor encounter during the progress of the work subsurface conditions at the site materially differing from any shown on the Contract Drawings or indicated in the Specifications or such subsurface conditions as could not reasonably have been anticipated by the contractor and were not anticipated by the City, which conditions will materially affect the cost of the work to be done under the

Contract, the attention of the Commissioner must be called immediately to such conditions before they are disturbed. The Commissioner shall thereupon promptly investigate the conditions. If he finds that they do so materially differ, or that they could not have been reasonably anticipated by the contractor and were not anticipated by the City, the Contract may be modified with his written approval.

9. Examination of Proposed Contract

(A) Request for Interpretation or Correction: Prospective bidders must examine the Contract Documents carefully and before bidding must request the Commissioner in writing for an interpretation or correction of every patent ambiguity, inconsistency or error therein which should have been discovered by a reasonably prudent bidder. Such interpretation or correction, as well as any additional contract provisions the Commissioner may decide to include, will be issued in writing by the Commissioner as an addendum to the Contract, which will be transmitted to each person recorded as having received a copy of the Contract Documents from the Department. Transmission of such addendum will be by mail, e-mail, facsimile or hand delivery. Such addendum will also be posted at the place where the Contract Documents are available for the inspection of prospective bidders. Upon transmission as provided for herein, such addendum shall become a part of the Contract Documents, and binding on all bidders, whether or not actual notice of such addendum is shown.

(B) Only Commissioner's Interpretation or Correction Binding: Only the written interpretation or correction so given by the Commissioner shall be binding, and prospective bidders are warned that no other officer, agent or employee of the City is authorized to give information concerning, or to explain or interpret, the Contract.

(C) Documents given to a subcontractor for the purpose of soliciting the subcontractor's bid shall include either a copy of the bid cover sheet or a separate information sheet setting forth the project name, the Contract number (if available), the contracting agency and the Project's location.

10. Form of Bid

Each bid must be submitted upon the prescribed form and must contain: a) the name, residence and place of business of the person or persons making the same; b) the names of all persons interested therein, and if no other person is so interested, such fact must be distinctly stated; c) a statement to the effect that it is made without any connection with any other person making a bid for the same purpose and that it is in all respects fair and without collusion or fraud; d) a statement that no Council member or other officer or employee or person whose salary is payable in whole or part from the City Treasury is directly or indirectly interested therein or in the supplies, materials or equipment and work or labor to which it relates, or in any portion of the profits thereof; e) a statement that the bidder is not in arrears to the City or to any agency upon a debt or contract or taxes, and is not a defaulter as surety or otherwise upon any obligation to the City to any agency thereof, except as set forth in the bid.

THE BID SHALL BE TYPEWRITTEN OR WRITTEN LEGIBLY IN INK. THE BID SHALL BE SIGNED IN INK. ERASURES OR ALTERATIONS SHALL BE INITIALED BY THE SIGNER IN INK. FAILURE TO CONFORM TO THE REQUIREMENTS OF THIS SECTION 10 SHALL RESULT IN THE REJECTION OF THE BID.

11. Irrevocability of Bid

The prices set forth in the bid cannot be revoked and shall be effective until the award of the Contract, unless the bid is withdrawn as provided for in Sections 15 and 18 below.

12. Acknowledgment of Amendments

The receipt of any amendment to the Contract Documents shall be acknowledged by the bidder in its bid submission.

13. Bid Samples and Descriptive Literature

Bid samples and descriptive literature shall not be submitted by the bidder, unless expressly requested elsewhere in the Contract or Contract Documents. Any unsolicited bid samples or descriptive literature which are submitted shall not be examined or tested and shall not be deemed to vary any of the provisions of this Contract.

14. Proprietary Information/Trade Secrets

(A) The bidder shall identify those portions of the bid which it deems to be confidential, proprietary information or trade secrets, and provide justification why such materials shall not be disclosed by the City. All such materials shall be clearly indicated by stamping the pages on which such information appears, at the top and bottom thereof with the word "Confidential". Such materials stamped "Confidential" must be easily separable from the non-confidential sections of the bid.

(B) All such materials so indicated shall be reviewed by the Agency and any decision not to honor a request for confidentiality shall be communicated in writing to the bidder. For those bids which are unsuccessful, all such confidential materials shall be returned to the bidder. Prices, makes and model or catalog numbers of the items offered, deliveries, and terms of payment shall be publicly available after bid opening, regardless of any designation of confidentiality made by the bidder.

15. Pre-Opening Modification or Withdrawal of Bids

Bids may be modified or withdrawn by written notice received in the office designated in Attachment 1, before the time and date set for the bid opening. If a bid is withdrawn in accordance with this Section, the bid security, if any, shall be returned to the bidder.

16. Bid Evaluation and Award

In accordance with the New York City Charter, the Procurement Policy Board Rules and the terms and conditions of this Invitation For Bids, this Contract shall be awarded, if at all, to the responsible bidder whose bid meets the requirements and evaluation criteria set forth in the Invitation For Bids, and whose bid price is either the most favorable bid price or, if the Invitation For Bids so states, the most favorable evaluated bid price. A bid may not be evaluated for any requirement or criterion that is not disclosed in the Invitation For Bids.

Restriction: No negotiations with any bidder shall be allowed to take place except under the circumstances and in the manner set forth in Section 21. Nothing in this Section shall be deemed to permit a contract award to a bidder submitting a higher quality item than that designated in the Invitation For Bids, if that bid is not also the most favorable bid.

17. Late Bids, Late Withdrawals and Late Modifications

Any bid received at the place designated in the solicitation after the time and date set for receipt of bids is late and shall not be considered. Any request for withdrawal or modification received at the place designated in the solicitation after the time and date set for receipt of bids is late and shall not be considered. The exception to this provision is that a late modification of a successful bid that makes the bid terms more favorable to the City shall be considered at any time it is received.

18. Withdrawal of Bids.

Except as provided for in Section 15, above, a bidder may not withdraw its bid before the expiration of forty-five (45) days after the date of the opening of bids; thereafter, a bidder may withdraw its bid only in writing and in advance of an actual award. If within sixty (60) days after the execution of the Contract, the Commissioner fails to fix the date for commencement of work by written notice to the bidder, the bidder, at his option, may ask to be relieved of his obligation to perform the work called for by written notice to the Commissioner. If such notice is given to the Commissioner, and the request to withdraw is granted, the bidder waives all claims in connection with this Contract.

19. Mistake in Bids

(A) Mistake Discovered Before Bid Opening: A bidder may correct mistakes discovered before the time and date set for bid opening by withdrawing or correcting the bid as provided in Section 15 above.

(B) Mistakes Discovered Before Award

(1) In accordance with General Municipal Law (Section 103, subdivision 11), where a unilateral error or mistake is discovered in a bid, such bid may be withdrawn upon written approval of the Agency Chief Contracting Officer if the following conditions are met:

- (a) The mistake is known or made known to the agency prior to the awarding of the Contract or within 3 days after the opening of the bid, whichever period is shorter; and
- (b) The price bid was based upon an error of such magnitude that enforcement would be unconscionable; and
- (c) The bid was submitted in good faith and the bidder submits credible evidence that the mistake was a clerical error as opposed to a judgment error; and
- (d) The error in the bid is actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of work, labor, material or services made directly in the compilation of the bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of the original work paper, documents, or materials used in the preparation of the bid sought to be withdrawn; and
- (e) It is possible to place the agency in the same position as existed prior to the bid.

(2) Unless otherwise required by law, the sole remedy for a bid mistake in accordance with this Article shall be withdrawal of the bid, and the return of the bid bond, or other security, if any, to the bidder. Thereafter, the agency may, in its discretion, award the Contract to the next lowest bidder or rebid the Contract. Any amendment to or reformation of a bid or a Contract to rectify such an error or mistake

therein is strictly prohibited.

(3) If the mistake and the intended correct bid are clearly evident on the face of the bid document, the bid shall be corrected to the intended correct bid and may not be withdrawn. Examples of mistakes that may be corrected are typographical errors, errors in extending unit prices, transposition errors and arithmetical errors.

20. Low Tie Bids

(A) When two or more low responsive bids from responsible bidders are identical in price, meeting all the requirements and criteria set forth in the Invitation For Bids, the Agency Chief Contracting Officer will break the tie in the following manner and order of priority:

- (1) Award to a certified New York City small, minority or woman-owned business entity bidder;
- (2) Award to a New York City bidder;
- (3) Award to a certified New York State small, minority or woman-owned business bidder;
- (4) Award to a New York State bidder.

(B) If two or more bidders still remain equally eligible after application of paragraph (A) above, award shall be made by a drawing by lot limited to those bidders. The bidders involved shall be invited to attend the drawing. A witness shall be present to verify the drawing and shall certify the results on the bid tabulation sheet.

21. Rejection of Bids

(A) Rejection of Individual Bids: The Agency may reject a bid if:

- (1) The bidder fails to furnish any of the information required pursuant to Section 24 or 28 hereof; or if
- (2) The bidder is determined to be not responsible pursuant to the Procurement Policy Board Rules; or if
- (3) The bid is determined to be non-responsive pursuant to the Procurement Policy Board Rules; or if
- (4) The bid, in the opinion of the Agency Chief Contracting Officer, contains unbalanced bid prices and is thus non-responsive, unless the bidder can show that the prices are not unbalanced for the probable required quantity of items, or if the imbalance is corrected pursuant to Section 15.

(B) Rejection of All Bids: The Agency, upon written approval by the Agency Chief Contracting Officer, may reject all bids and may elect to resolicit bids if in its sole opinion it shall deem it in the best interest of the City so to do.

(C) Rejection of All Bids and Negotiation With All Responsible Bidders: The Agency Head may determine that it is appropriate to cancel the Invitation For Bids after bid opening and before award and to complete the acquisition by negotiation. This determination shall be based on one of the following reasons:

- (1) All otherwise acceptable bids received are at unreasonable prices, or only one bid is received and the Agency Chief Contracting Officer cannot determine the reasonableness of the bid price, or no responsive bid has been received from a responsible bidder; or
- (2) In the judgment of the Agency Chief Contracting Officer, the bids were not independently arrived at in open competition, were collusive, or were submitted in bad faith.

(D) When the Agency has determined that the Invitation for Bids is to be canceled and that use of negotiation is appropriate to complete the acquisition, the contracting officer may negotiate and award the Contract without issuing a new solicitation, subject to the following conditions:

- (1) prior notice of the intention to negotiate and a reasonable opportunity to negotiate have been given by the contracting officer to each responsible bidder that submitted a bid in response to the Invitation for Bids;
- (2) the negotiated price is the lowest negotiated price offered by a responsible bidder; and
- (3) the negotiated price is lower than the lowest rejected bid price of a responsible bidder that submitted a bid in response to the Invitation for Bids.

22. Right to Appeal Determinations of Non-Responsiveness or Non-Responsibility and Right to Protest Solicitations and Award

The bidder has the right to appeal a determination of non-responsiveness or non-responsibility and has the right to protest a solicitation and award. For further information concerning these rights, the bidder is directed to the Procurement Policy Board Rules.

23. Affirmative Action and Equal Employment Opportunity

This Invitation For Bids is subject to applicable provisions of Federal, State and Local Laws and executive orders requiring affirmative action and equal employment opportunity.

24. VENDEX Questionnaires

(A) Requirement: Pursuant to Administrative Code Section 6-116.2 and the PPB Rules, bidders may be obligated to complete and submit VENDEX Questionnaires. Generally, if this bid is \$100,000 or more, or if this bid when added to the sum total of all contracts, concessions and franchises the bidder has received from the City and any subcontracts received from City contractors over the past twelve months, equals or exceeds \$100,000, Vendex Questionnaires must be completed. If required, Vendex Questionnaires must be completed and submitted before any award of contract may be made or before approval is given for a proposed subcontractor. Non-compliance with these submission requirements may result in the disqualification of the bid, disapproval of a subcontractor, subsequent withdrawal of approval for the use of an approved subcontractor, or the cancellation of the contract after its award.

(B) Submission: Vendex Questionnaires must be submitted directly to the Mayor's Office of Contract Services, ATTN: Vendex, 253 Broadway, 9th Floor, New York, New York 10007. In addition, the bidder must submit a Confirmation of Vendex Compliance to the agency. A form for this confirmation is set forth in the Bid Booklet.

(C) Obtaining Forms: Vendex Questionnaires, as well as detailed instructions, may be obtained at www.nyc.gov/vendex. The bidder may also obtain Vendex forms and instructions by contacting the

Agency Chief Contracting Office or the contract person for this contract.

25. Complaints About the Bid Process

The New York City Comptroller is charged with the audit of contracts in New York City. Any vendor who believes that there has been unfairness, favoritism or impropriety in the bid process should inform the Comptroller, Office of Contract Administration, One Centre Street, Room 835, New York, New York; telephone number (212)669-2797.

26. Bid, Performance and Payment Security

(A) Bid Security: Each bid must be accompanied by bid security in an amount and type specified in Attachment 1 (page A-1 of the Bid Booklet). The bid security shall assure the City of New York of the adherence of the bidder to its proposal, the execution of the Contract, and the furnishing of Performance and Payment Bonds by the bidder, if required in Attachment 1. Bid security shall be returned to the bidder as follows:

- (1) Within ten (10) days after the bid opening, the Comptroller will be notified to return the deposits of all but the three (3) lowest bidders. Within five (5) days after the award, the Comptroller will be notified to return the deposits of the remaining two unsuccessful bidders.
- (2) Within five (5) days after the execution of the Contract and acceptance of the Contractor's bonds, the Comptroller will be notified to return the bid security of the successful bidder or, if performance and payment bonds are not required, only after the sum retained under Article 21 of the Contract equals the amount of the bid security.
- (3) Where all bids are rejected, the Comptroller will be notified to return the deposit of the three (3) lowest bidders at the time of rejection.

(B) Performance and Payment Security: Performance and Payment Security must be provided in an amount and type specified in Attachment 1 (page A-1 of the Bid Booklet). The performance and payment security shall be delivered by the contractor prior to or at the time of execution of the Contract. If a contractor fails to deliver the required performance and payment security, its bid security shall be enforced, and an award of Contract may be made to the next lowest responsible and responsive bidder, or the contract may be rebid.

(C) Acceptable Types of Security: Acceptable types of security for bids, performance, and payment shall be limited to the following:

- (1) a one-time bond in a form satisfactory to the City;
- (2) a bank certified check or money order;
- (3) obligations of the City of New York; or
- (4) other financial instruments as determined by the Office of Construction in consultation with the Comptroller.

Whenever the successful bidder deposits obligations of the City of New York as performance and payment security, the Comptroller may sell and use the proceeds thereof for any purpose for which the principal or surety on such bond would be liable under the terms of the Contract. If the money is deposited with the Comptroller, the successful bidder shall not be entitled to receive interest on such money from the City.

(D) Form of Bonds: Security provided in the form of bonds must be prepared on the form of bonds authorized by the City of New York. Forms for bid, performance, and payment bonds are included in the Invitation for Bids Documents. Such bonds must have as surety thereunder such surety company or companies as are: (1) approved by the City of New York; (2) authorized to do business in the State of New York, and (3) approved by the Department of the Treasury of the United States. Premiums for any required bonds must be included in the base bid.

The bidder is advised that submission of a bid bond where the surety on such bond fails to meet the criteria set forth herein, shall result in the rejection of the bid as non-responsive.

The Department of the Treasury of the United States advises that information concerning approved surety companies may be obtained as follows: (1) from the Government Printing Office at 202-512-1800; (2) through the Internet at <http://www.fms.treas.gov/c570/index.html>, and (3) through a computerized public bulletin board, which can be accessed by using your computer modem and dialing 202-874-6887.

(E) Power of Attorney: Attorneys in fact who sign bid, performance, or payment bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

27. Failure to Execute Contract

In the event of failure of the successful bidder to execute the Contract and furnish the required security within ten (10) days after notice of the award of the Contract, the deposit of the successful bidder or so much thereof as shall be applicable to the amount of the award made shall be retained by the City, and the successful bidder shall be liable for and hereby agrees to pay on demand the difference between the price bid and the price for which such Contract shall be subsequently awarded, including the cost of any required reletting and less the amount of such deposit. No plea of mistake in such accepted bid shall be available to the bidder for the recovery of the deposit or as a defense to any action based upon such accepted bid. Further, should the bidder's failure to comply with this Section cause any funding agency, body or group (Federal, State, City, Public, Private, etc.) to terminate, cancel or reduce the funding on this project, the bidder in such event shall be liable also to the City for the amount of actual funding withdrawn by such agency on this project, less the amount of the forfeited deposit.

28. Bidder Responsibilities and Qualifications

(A) Bidders must include with their bids all information necessary for a determination of bidder responsibility, as set forth in the Specifications.

(B) The Agency may require any bidder or prospective bidder to furnish all books of account, records, vouchers, statements or other information concerning the bidder's financial status for examination as may be required by the Agency to ascertain the bidder's responsibility and capability to perform the Contract. If required, a bidder must also submit a sworn statement setting forth such information as the Agency may require concerning present and proposed plant and equipment, the personnel and qualifications of his working organizations, prior experience and performance record.

(C) Oral Examination on Qualifications: In addition thereto, and when directed by the Agency, the bidder, or a responsible officer, agent or employee of the bidder, must submit to an oral examination to be conducted by the Agency in relation to his proposed tentative plan and schedule of

operations, and such other matters as the Agency may deem necessary in order to determine the bidder's ability and responsibility to perform the work in accordance with the Contract. Each person so examined must sign and verify a stenographic transcript of such examination noting thereon such corrections as such person may desire to make.

(D) If the bidder fails or refuses to supply any of the documents or information set forth in paragraph (B) hereof or fails to comply with any of the requirements thereof, the Agency may reject the bid.

29. Employment Report

In accordance with Executive Order No. 50 (1980) as modified by Executive Order 108 (1986), the filing of a completed Employment Report (ER) is a requirement of doing business with the City of New York for construction contractors with contracts of \$1,000,000 or more and subcontractors with construction subcontracts of \$750,000 or more. The required forms and information are included in the Bid Booklet.

30. Labor Law Requirements

(A) General: The successful bidder will be required to comply strictly with all Federal, State and local labor laws and regulations.

(B) New York State Labor Law: This Contract is subject to New York State Labor Law Section 220, which requires that construction workers on the site be paid prevailing wages and supplements. The Contractor is reminded that all wage provisions of this Contract will be enforced strictly and failure to comply will be considered when evaluating performance. Noncompliance may result in the contractor being debarred by the City from future contracts. Complaints filed with the Comptroller may result in decisions which may debar a contractor from bidding contracts with any state governmental entity and other political subdivisions.

(C) Records: The Contractor is expected to submit accurate payroll reports and other required documents and verify attendance and job classifications being utilized in compliance with the law, Contract provisions and agency procedures.

31. Insurance

(A) Bidders are advised that the insurance requirements contained herein are regarded as material terms of the Contract. As required by Article 22 of the Contract, the contractor must effect and maintain with companies licensed and authorized to do business in the State of New York, the types of insurance set forth therein, when required by and in the amounts set forth in Schedule A of the General Conditions. Such required insurance must be provided from the date the contractor is ordered to commence work and up to the date of final acceptance of all required work.

(B) The contractor must, within ten days of receipt of the notice of award, submit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A of the General Conditions, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by Section 57 of the New York State Workers' Compensation Law and Section 220 of the Disability Benefits Law.

32. Lump Sum Contracts

(A) Comparison of Bids: Bids on Lump Sum Contracts will be compared on the basis of the lump sum price bid, adjusted for alternate prices bid, if any.

(B) Lump Sum Bids for "General Construction Work" which include excavation shall include all necessary excavation work defined in the Specifications as being included in the lump sum bid. The bidder shall also bid a unit price for the additional cost of excavating material which is defined in the Specifications as excavation for which additional payment will be made. The total estimated additional cost of removing such material will be taken as the quantity set forth in the Engineer's Estimate multiplied by the unit price bid. This total estimated cost of additional excavation shall be added to the lump sum bid for the General Construction Work for the purpose of comparing bids to determine the low bidder.

(C) Variations from Engineer's Estimate: The Engineer's Estimate of the quantity of excavation for which additional payment will be made is approximate only and is given solely to be used as a uniform basis for the comparison of bids and such estimate is not to be considered as part of this contract. The quantities actually required to complete the contract work may be more or less than the quantities in the Engineer's Estimate and, if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

33. Unit Price Contracts

(A) Comparison of Bids: Bids on Unit Price Contracts will be compared on the basis of a total estimated price, arrived at by taking the sum of the estimated quantities of such items, in accordance with the Engineer's Estimate of Quantities set forth in the Bid Schedule, multiplied by the corresponding unit prices, and including any lump sum bids on individual items.

(B) Variations from Engineer's Estimate: Bidders are warned that the Engineer's Estimate of Quantities on the various items of work and materials is approximate only, given solely to be used as a uniform basis for the comparison of bids, and is not be considered part of this contract. The quantities actually required to complete the contract work may be less or more than so estimated, and if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

(C) Overruns: The terms and conditions applicable to overruns of unit price items are set forth in Article 26 of the Contract.

34. Excise Tax

Bidders are referred to the Specifications for information on Federal Excise Tax exemptions.

35. Licenses and Permits

The successful bidder will be required to obtain all necessary licenses and permits necessary to perform the work.

36. Multiple Prime Contractors

If more than one prime contractor will be involved on this project, all contractors are required to examine the Invitation for Bid packages for all other parts of the project.

37. Locally Based Enterprise Requirements (LBE)

This Contract is subject to the requirements of Administrative Code, Section 6-108.1, and the regulations promulgated thereunder. No construction contract will be awarded unless and until these requirements have been complied with in their entirety. The bidder is advised of the provisions set forth below, as well as the provisions with respect to the Locally Based Enterprise Program contained in Article 67 of the Contract. The contractor is advised that:

(A) If any portion of the Contract is subcontracted, not less than ten percent of the total dollar amount of the contract shall be awarded to locally based enterprises ("LBEs"); except, where less than ten percent of the total dollar amount of the Contract is subcontracted, such lesser percentage shall be so awarded.

(B) No contractor shall require performance and payment bonds from LBE subcontractors.

(C) No Contract shall be awarded unless the contractor first identifies in its bid:

- (1) the percentage, dollar amount and type of work to be subcontracted; and
- (2) the percentage, dollar amount and type of work to be subcontracted to LBEs.

(D) Within ten calendar days after notification of low bid, the apparent low bidder shall submit an "LBE Participation Schedule" to the contracting agency. If such schedule does not identify sufficient LBE subcontractors to meet the requirements of Administrative Code Section 6-108.1, the apparent low bidder shall submit documentation of its good faith efforts to meet such requirements.

(1) The "LBE Participation Schedule" shall include:

- (a) the name and address of each LBE that will be given a subcontract,
- (b) the percentage, dollar amount and type of work to be subcontracted to the LBE, and
- (c) the dates when the LBE subcontract work will commence and end.

(2) The following documents shall be attached to the "LBE Participation Schedule":

- (a) verification letters from each subcontractor listed in the "LBE Participation Schedule" stating that the LBE will enter into a formal agreement for work,
- (b) certification documents of any proposed LBE subcontractor which is not on the LBE certified list, and
- (c) copies of the certification letter of any proposed subcontractor which is an LBE.

(3) Documentation of good faith efforts to achieve the required LBE percentage shall include as appropriate but not limited to the following:

- (a) attendance at prebid meetings, when scheduled by the agency, to advise bidders of contract requirements;

- (b) advertisement where appropriate in general circulation media, trade association publications and small business media of the specific subcontracts that would be at least equal to the percentage goal for LBE utilization specified by the contractor;
- (c) written notification to association of small, minority and women contractors soliciting specific subcontractors;
- (d) written notification by certified mail to LBE firms that their interest in the contract is solicited for specific work items and their estimated values;
- (e) demonstration of efforts made to select portions of the work for performance by LBE firms in order to increase the likelihood of achieving the stated goal;
- (f) documented efforts to negotiate with LBE firms for specific subcontracts, including at a minimum:
 - (i) The names, address and telephone numbers of LBE firms that are contacted;
 - (ii) A description of the information provided to LBE firms regarding the plans and specifications for portions of the work to be performed;
 - (iii) Documentation showing that no reasonable price can be obtained from LBE firms;
 - (iv) A statement of why agreements with LBE firms were not reached;
- (g) a statement of the reason for rejecting any LBE firm which the contractor deemed to be unqualified; and
- (h) documentation of efforts made to assist the LBE firms contacted that needed assistance in obtaining required insurance.

(E) Unless otherwise waived by the Commissioner with the approval of the Office of Economic and Financial Opportunity, failure of a proposed contractor to provide the information required by paragraphs (C) and (D) above may render the bid non-responsive and the Contract may not be awarded to the bidder. If the contractor states that it will subcontract a specific portion of the work, but can demonstrate despite good faith efforts it cannot achieve its required LBE percentage for subcontracted work until after award of Contract, the Contract may be awarded, subject to a letter of compliance from the contractor stating that it will comply with Administrative Code Section 6-108.1 and subject to approval by the Commissioner. If the contractor has not met its required LBE percentage prior to award, the contractor shall demonstrate that a good faith effort has been made subsequent to award to obtain LBEs on each subcontract until it meets the required percentage.

(F) When a bidder indicates prior to award that no work will be subcontracted, no work may be subcontracted without the prior written approval of the Commissioner, which shall be granted only if the contractor in good faith seeks LBE subcontractors at least six weeks prior to the start of work.

(G) The contractor may not substitute or change any LBE which was identified prior to award of the contract without the written permission of the Commissioner. The contractor shall make a written application to the Commissioner for permission to make such substitution or change, explaining why the contractor needs to change its LBE subcontractor and how the contractor will meet its LBE subcontracting requirement. Copies of such application must be served on the originally identified LBE by certified mail return receipt requested, as well as the proposed substitute LBE. The Commissioner shall determine whether or not to grant the contractor's request for substitution.

38. Bid Submission Requirements

The following forms, all of which are contained in the Bid Booklet, are to be completed and submitted with the bid:

- (1) Bid Schedule and Bid Form, including Affirmation
- (2) Bid Security (if required, see Attachment 1 on Page A-1)
- (3) M/WBE Subcontractor Utilization Plan (if participation goals have been established)

**FAILURE TO SUBMIT ITEMS (1), (2) AND (3)
WILL RESULT IN THE DISQUALIFICATION OF THE BID.**

- (4) Safety Questionnaire
- (5) Construction Employment Report (if bid is \$1,000,000 or more)
- (6) Contract Certificate (if bid is less than \$1,000,000)
- (7) Confirmation of Vendex Compliance
- (8) Special Experience Requirements (if applicable to this contract)
- (9) Apprenticeship Program Questionnaire (if applicable)

**FAILURE TO SUBMIT ITEMS (4) THROUGH (9)
MAY RESULT IN THE DISQUALIFICATION OF THE BID.**

39. Comptroller's Certificate

This Contract shall not be binding or of any force unless it is registered by the Comptroller in accordance with Section 328 of the City Charter and the Procurement Policy Board Rules. This Contract shall continue in force only after annual appropriation of funds by the City of New York and certification as hereinabove set forth.

40. Procurement Policy Board Rules

This Invitation For Bids is subject to the Rules of the Procurement Policy Board of the City of New York. In the event of a conflict between said Rules and a provision of this Invitation For Bids, the Rules shall take precedence.

41. DDC Safety Requirements

The DDC Safety Requirements apply to the work to be performed pursuant to the Contract. The DDC Safety Requirements are set forth on the following pages.

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
SAFETY REQUIREMENTS

June 2015

THE DDC SAFETY REQUIREMENTS INCLUDE THE FOLLOWING SECTIONS:

- I. POLICY ON SITE SAFETY**
- II. PURPOSE**
- III. DEFINITIONS**
- IV. RESPONSIBILITIES**
- V. SAFETY QUESTIONNAIRE**
- VI. SAFETY PROGRAM AND SITE SAFETY PLAN**
- VII. KICK-OFF/PRE-CONSTRUCTION MEETINGS AND SAFETY REVIEW**
- VIII. EVALUATION DURING WORK IN PROGRESS**
- IX. SAFETY PERFORMANCE EVALUATION**

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Safety and Site Support– Quality Assurance and Construction Safety

I. POLICY ON SITE SAFETY

The City of New York Department of Design and Construction (DDC) is committed to a policy of injury and illness prevention and risk management for construction work that will ensure the safety and health of the workers engaged in the projects and the protection of the general public. Therefore, it is DDC's policy that work carried out by Contractors on DDC jobsites must, at a minimum, comply with applicable federal, state and city laws, rules and regulations, including without limitation:

- ❑ U. S. Department of Labor 29 Code of Federal Regulations (CFR) Part 1926 and applicable Sub-parts of Part 1910 – U.S. Occupational Safety and Health Administration (OSHA); New York State Department of Labor Industrial Code Rule 23 – Protection in Construction, Demolition and Excavation;
- ❑ New York City Construction Codes, Title 28
- ❑ NYC Department of Transportation Title 34 Chapter 2 – Highway Rules
- ❑ New York State Department of Labor Industrial Code Rule 16 NYCRR Part 753
- ❑ Title 15 of the Rules of the City of New York, Chapter 13 Citywide Construction Dust Mitigation
- ❑ Manual on Uniform Traffic Control Devices (MUTCD)
- ❑ Title 15 of the Rules of the City of New York, Chapter 28 Citywide Construction Noise Mitigation

II. PURPOSE

The purpose of this policy is to ensure that Contractors perform their work and supervise their employees in accordance with all applicable federal, state and city rules and regulations. Further, Contractors will be expected to minimize or eliminate jobsite and public hazards, through a planning, inspection, auditing and corrective action process. The goal is to control risks so that injuries, illnesses and accidents to contractors' employees, DDC employees and the general public, as well as damage to city-owned and private property, are reduced to the lowest level feasible.

III. DEFINITIONS

Agency Chief Contracting Officer (ACCO): The ACCO shall mean the person delegated authority by the Commissioner to organize and supervise the procurement activity of subordinate Agency staff in conjunction with the CCPO.

Competent Person: As defined by OSHA, an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees or the general public, and who has authorization to take prompt corrective measures to eliminate them.

Construction Safety Auditor: A representative of the QA&CS Construction Safety Unit who provides inspection and assessment services to enhance health and safety on all DDC construction projects. The activities of the Construction Safety Auditor include performing site surveys, reviewing health and safety plans, reviewing construction permits, and rendering technical advice and assistance to DDC Resident Engineers and Project Managers.

Construction Safety Unit: A part of QA&CS within the Division of Program Management/ Safety & Site Support that assesses contractor safety on DDC jobsites and advises responsible parties of needed corrective actions.

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Construction Superintendent: A representative of the contractor responsible for overseeing performance of the required construction work. This individual must engage in sound construction practices, and is responsible to maintain a safe work site. In the case of a project involving the demolition, alteration or new construction of buildings, the Construction Superintendent must be licensed by the NYC Department of Buildings.

Contractor: For purposes of these Safety Requirements, the term “Contractor” shall mean any person or entity that enters into a contract for the performance of construction work on a DDC project. The term “Contractor” shall include any person or entity which enters into any of the following types of contracts: (1) a prime construction contract for a specific project, (2) a prime construction contract using the Job Order Contracting System (“JOCS Contract”), and (3) a subcontract with a CM/Builder (“First Tier Subcontract”).

Daily Safety Job Briefing: Daily jobsite safety meetings, giving to all jobsite personnel by contractor, with the purpose of discussing project specific safety procedures for the scheduled construction work.

Director - Quality Assurance and Construction Safety (QA&CS): Responsible for the operations of the QACS Construction Safety Unit and the DDC Site Safety management programs.

Job Hazard Analysis (JHA): A process of identifying the major job steps and any potential site-specific hazards that may be present during construction and establishing the means and methods to eliminate or control those hazards.

Qualified Person: As defined by OSHA, an individual who, by possession of a recognized degree, certificate, license or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve problems relating to the subject matter, the work, or the project. Qualified Persons are required under regulation to address issues pertaining, but without limit, to fall protection, scaffold design and trenching and shoring, among others.

Project Site: Those areas indicated in the Contract Documents where the Work is to be performed.

Project Safety Representative: The designated project safety representative shall have completed an authorized 30 hour OSHA Construction Safety Course and other safety training applicable to Contractor’s/subcontractor’s project work. Except in instances where a dedicated Project Safety Manager is required, a Project Safety Representative may also function as a superintendent, foreman or crew leader on the Project, but must have sufficient experience and authority to undertake corrective actions and must qualify to be a competent person. No work is to be performed on site when a Project Safety Representative is not present.

Project Safety Manager: A dedicated, full-time project safety manager may be a contractual requirement on large projects or projects deemed by DDC to be particularly high risk. This would be in addition or in lieu of a Contractor’s Project Safety Representative. This individual shall not have any other assigned duties. This individual shall have received, at a minimum an authorized 30 hour OSHA Construction Safety Course. Other examples of acceptable training are OSHA Safety and Health Standards for the Construction Industry training program (OSHA 510), Certified Safety Professional (CSP), Certified Industrial Hygienist (CIH) or a degree/certificate in a safety and health from a college-level curriculum. A Project Safety Manager shall possess the additional training, years of experience, and skills necessary to thoroughly understand the health and safety hazards and controls for large construction projects, including the full scope of the specific Work.

QA&CS – Quality Assurance and Construction Safety of the New York City Department of Design and Construction.

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Resident Engineer (RE) / Construction Project Manager (CPM): Representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the work. (The RE/CPM may be a third-party consultant, including a Construction Management firm, retained by DDC)

Safety Program: Established by the Contractor that covers all operations of that Contractor and establishes the Contractor's overall safety policy, regulatory compliance plan and minimum safety standards. The Safety Program must be submitted prior to the commencement of work at the site and is subject to review and acceptance by the Construction Safety Unit.

Safety Questionnaire: Used by DDC to evaluate Contractor's current and past safety performance. It is required to be completed by all Contractors initially when submitting bids for Construction work, or when being pre-qualified and updated annually or as requested by the DDC.

Site Safety Manager: For certain projects, as defined in NYC Construction Codes – Title 28, the Contractor shall provide a Site Safety Manager with a Site Safety Manager License issued by the NYC Department of Building.

Site Safety Plan: A site-specific safety plan developed by the Contractor for a specific project. The Site Safety Plan must identify hazards associated with the project, and include specific safety procedures and training appropriate and necessary to complete the work. The Site Safety Plan must be submitted prior to the commencement of work at the site and is subject to review and acceptance by the Construction Safety Unit.

Unsafe or Unhealthy Condition: A condition that could be potentially hazardous to the health and safety of personnel or the public, and/or damaging to equipment, machinery, property or the environment.

Weekly Safety Meetings: Weekly documented jobsite safety meetings, given to all jobsite personnel by contractor, with the purpose of discussing general safety topics and job specific requirements encountered at the DDC work site.

Work: The construction required by the Contract Documents whether completed or partially completed, performed by the Contractor/ subcontractors. Work refers to the furnishing of labor, furnishing and incorporating materials and equipment into the construction and providing any service required by the Contract Documents to fulfill the Contractor's obligation to complete the Project.

IV. RESPONSIBILITIES

All persons who manage, perform, and provide support for construction projects shall conduct operations in compliance with the requirements identified in this Policy and all applicable governing regulatory agency requirements and guidelines pertaining to safety in construction.

A. DDC or CM Resident Engineer / Construction Project Manager

- Monitors the issuance of safety- related permits, approvals and drawings and maintains copies on site.
- Monitors construction-related work activities to confirm that they are conducted in accordance with DDC policies and all applicable regulations that pertain to construction safety.
- Maintains documentation and periodically attends weekly safety meetings and daily safety job briefings.
- Notifies the Construction Safety Unit and the ACCO's Insurance and Risk Management Unit of project- related accidents and emergencies, as per DDC's Construction Safety Emergency and Accident Notification and Response Protocol.
- Gathers facts related to all accidents and prepares DDC Construction Accident Report.

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- Notifies the Construction Safety Unit within two (2) hours of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB or others and forwards a copy of the inspection report within three days of its receipt.
- Monitors the conditions at the site for conformance with the contractor's Site Safety Plan and DDC construction documents.
- Notifies the contractor and DDC in the event that any condition or activity exists that is not in compliance with the contractor's Site Safety Plan, applicable federal, state or local codes or any condition that presents a potential risk of injury to the public or workers or possible damage to property.
- Notifies DDC of any unsafe or unhealthy condition and directs the contractor to provide such labor, materials, equipment and supervision to abate such conditions.
- Escort and assist QA&CS Construction Safety Auditors during the field and record inspections.
- Reports emergency conditions to the Construction Safety Unit immediately.

B. Contractors

- Submit a completed Safety Questionnaire and other safety performance related documentation with its bid or as part of a pre-qualification package.
- Complete a written Job Hazard Analysis (JHA) that identifies safety hazards for project specific work tasks and hazard control methods. A written JHA shall be available at the site for reference and included in the Site Safety Plan submitted by the contractor.
- Submit a Site Safety Plan and Safety Program within 30 days from the Award Date or as otherwise directed. The Site Safety Plan and Safety Program are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. The Site Safety Plan shall be revised and updated as necessary.
- Develop project specific safety procedures to protect general public during all construction activities for the duration of the project.
- Ensure that all employees are aware of the hazards associated with the project through documented formal and informal training and/or other communications. Conduct and document weekly safety meetings and daily job briefing sessions for the duration of the project. Documentation to be provided to the RE/CPM on a monthly basis.
- Name the Project Safety Representative and Project Safety Manager, if required. The Contractor will be required to identify the Project Safety Representative and Project Safety Manager in the Site Safety Plan. Resumes, outlining the qualification and experience for the Project Safety Representative and Project Safety Manager, shall be available upon request. DDC reserves the right to request that the Contractor replace any Project Safety Representative or Project Safety Manager for any reason at any time during the project.
- Name a Competent Person(s), The Contractor will be required to identify a Competent Person(s) in the Site Safety Plan.
- Comply with all mandated federal, state and local safety and health rules and regulations.
- Comply with all provisions of the Site Safety Plan.
- Conduct applicable safety training prior to the commencement of work at the site. All training records (OSHA 10-hour, flagger, scaffold, fall protection, confined space entry, etc.) shall be provided to the RE/CPM prior to mobilization, included in the Site Safety Plan, kept current during the course of the project, and available for review. Prior to performing any work on DDC project all employees shall have successfully completed, within the previous five calendar years, a 10 Hour OSHA construction safety course.
- As part of the Site Safety Plan, prepare a site specific programs and plans, such as MPT plan, steel erection plan, confined space program, fall protection plan, demolition plan, etc. (if not otherwise provided in the contract documents) and comply with all of its provisions.
- Conduct and document site-specific safety orientation for Contractor personnel to review the hazards associated with the project as identified in the Site Safety Plan and the specific safety procedures and

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controls that will be used to protect workers, the general public and property. The Project Safety Representative and/or Project Safety Manager will conduct this training prior to mobilization and provide documentation to the RE/CPM.

- Provide, replace and adequately maintain at or around the project site, suitable and sufficient signage, lights, barricades and enclosures (fences, sidewalk sheds, netting, bracing, etc.).
- Report unsafe or unhealthy conditions to the RE/CPM as soon as practical, but no more than 24 hours after discovery, and take prompt actions to remove or abate such conditions.
- Report any accidents involving injuries to workers or the general public, as well as property damage, to the RE/CPM within one (1) hour.
- Following an accident, the Contractor shall not remove or alter any equipment, structure, material, or evidence related to the accident. Exception: Immediate emergency procedures taken to secure structures, temporary construction, operations, or equipment that pose a continued imminent danger or facilitate assistance for persons who are trapped or who have sustained bodily injury.
- Notify the RE/CPM within one (1) hour of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB or others.
- Maintain all records pertaining to all required compliance documents and accident and injury reports.
- Address DDC recommendations on safety, which shall in no way relieve the Contractor of its responsibilities for safety on the project. The Contractor has sole responsibility for safety.

V. SAFETY QUESTIONNAIRE

DDC requires that all Contractors provide information regarding their current and past safety performance and programs. This will be accomplished by the use of the DDC Safety Questionnaire. As a part of the bid submittal package, the contractor must submit a completed DDC Safety Questionnaire listing company workers' compensation experience modification rating and OSHA Incident Rates for the three (3) years prior to the date of the bid opening. DDC may request a Contractor to update its Questionnaire at any time or to provide more detailed information. The Contractor must provide the requested information within 15 days.

The following criteria will be used by DDC in reviewing the Contractor's responsibility, which will be based on the information provided on the questionnaire:

- Criteria 1: OSHA Injury and Illness Rates (I&IR) are no greater than the average for the industry (based on the most current Bureau of Labor Statistics data for the Contractors SIC code); and
- Criteria 2: Insurance workers compensation Experience Modification Rate (EMR) equal to or less than 1.0; and
- Criteria 3: Any willful violations issued by OSHA or NYC DOB within the last three (3) years; and
- Criteria 4: A fatality (worker or member of public) and injuries, requiring OSHA notification, experienced on or near Contractor's worksite within the last three (3) years; and
- Criteria 5: Past safety performance on DDC projects (accidents; status of safety program and site safety plan submittals; etc.)
- Criteria 6: OSHA violation history for the last three (3) years;
- Criteria 7: Contractor shall provide OSHA Injury and Illness Records (currently OSHA 300 and 300A Logs) for the last three (3) years.

If the Contractor fails to meet the basic criteria listed above, the Construction Safety Unit may request, through the ACCO, more details concerning the Contractor's safety experience. DDC may request the Contractor to provide copies of, among other things, accident investigation reports, OSHA records, OSHA and NYC DOB citations, EPA citations and written corrective action plan.

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VI. SAFETY PROGRAM AND SITE SAFETY PLAN

Within thirty (30) days from the Award Date, or as otherwise directed, the Contractor shall submit the following: (1) Safety Program, and (2) Site Safety Plan. The Safety Program shall set forth the Contractor's overall safety policy, regulatory compliance plan and minimum safety standards. The Site Safety Plan shall identify project work scope, safety hazards associated with the project tasks, and include specific safety procedures and training appropriate and necessary to complete the work. The Safety Program and the Site Safety Plan are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. Failure by the Contractor to submit an acceptable Site Safety Plan and Safety Program shall be grounds for default.

Safety Program: Corporate Safety Program established by the Contractor that includes the Contractor's overall safety policy, regulatory compliance plan and basic safety procedures covering all aspects of construction operations, performed by the Contractor. The Safety Program shall be a written document with a separate section describing each element of the Safety Program. The Safety Program shall have at minimum the following elements applicable to the Contractor's operations:

- Responsibility and Organization – Contractor's company organization chart, including titles, names, contact information, roles and responsibilities for key personnel, etc.
- Safety Training Program – Contractor's corporate training program.
- Hazard Corrective Actions – Criteria for safety inspections, identification of safety non-compliances, implementation and verification of corrective actions, forms to document safety inspections results, etc.
- Accident/Exposure Investigation
- Recordkeeping and Reporting Injuries – Responsible staff; reporting and recording criteria; OSHA 300 and 300A form completion, etc.
- Fire Protection and Prevention Program
- Housekeeping
- Illumination
- Sanitation
- Personal Protective Equipment (PPE) – Company policy for the use of head protection, foot protection, hearing protection, eye and face protection, protective clothing, and any additional protective equipment based on work tasks; PPE inspection and replacement policy.
- Hazard Communication Program
- Employee Emergency Action Plan
- Protection of Underground Facilities and Utilities
- Ionizing/Nonionizing Radiation
- Material Handling, Storage, Use and Disposal
- Tools – Hand and Power
- Signs, Signals, and Barricades
- Scaffold – Local Law 52 requirements, installation, use, inspection, dismantling, training and general safety requirements.
- Welding and Cutting
- Electrical Safety
- Fall Protection
- Cranes, Derrick, Hoists, Elevators, Conveyors
- Excavation Safety
- Concrete and Masonry Construction
- Maintenance and Protection of Traffic
- Steel Erection
- Demolition
- Blasting and the Use of Explosives
- Stairways and Ladders

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- Toxic and Hazardous Substances
- Alcohol and Drug Abuse Policy
- Rodents and Vermin
- Occupational Noise Exposure
- Confined Space Program – General confined Space Program: training requirements, confined space hazard evaluation procedure, atmospheric testing procedure, confined space classification, permit-required procedure, communication procedure, rescue procedure, forms, etc.
- Construction Vehicles/Heavy Equipment
- Dust Control Procedures

Site Safety Plan: The Site Safety Plan shall be a written document and shall apply to all project specific Contractor and subcontractor operations, and shall have at a minimum, the following elements with each element described in a separate section (It may be necessary to modify the basic format for certain unique or high-risk projects, such as tunnels or high-rise construction):

- Project Work Scope – Detailed information regarding work tasks that will be performed by contractor and subcontractors under the project.
- Responsibility and Organization – Contractor's organization chart with responsible staff for the project, including titles, names, contact information, roles and responsibilities.
- Safety Training and Education – OSHA 10 Hours training, requirements for daily safety briefings and weekly safety meetings, any work task specific training, responsible staff for implementation of training program for the project.
- Job Hazard Analysis (JHA) – Project specific Job Hazard Analysis including work tasks, identified hazards, hazard control methods (administrative, engineering, PPE), contractor's name, project id, location, name and signature of a certifying person, hazard assessment date.
- Protection of Public
- Hazard Corrective Actions – Responsible staff, forms, frequency of safety inspections and implementation of corrective actions.
- Accident/Exposure Investigation – Accident/incident notification procedure of DDC project staff. Project specific procedures for accident investigation and implementation of corrective actions.
- First Aid and Medical Attention – Responsible staff, location and inspection of First Aid kit, directions to local hospitals; emergency telephone numbers.
- Project Specific Fire Protection and Prevention Program.
- Project Specific Illumination Procedure.
- Project Specific Sanitation Procedure.
- Personal Protective Equipment (PPE)
- Hazard Communication Program – Responsible staff; training; SDS records, project specific list of chemical; location of the program and SDS records.
- Means of Egress – Information regarding free and unobstructed egress from all parts of the building or structure; exit marking; maintenance of means of egress, etc.
- Employee Emergency Action Plan – Project specific: responsible staff, emergency alarm system, evacuation procedure, procedure to account for employees after evacuation, etc.
- Evacuation Plan – Project specific evacuation plan (drawing/scheme) with exists and evacuation routes.
- Protection of Underground Facilities and Utilities, including responsible staff.
- Ionizing/Nonionizing Radiation – Competent person, license and qualification requirements, type of radiation, employees exposure and protection, etc.
- Material Handling, Storage, Use and Disposal – Project specific information regarding material storage and disposal.
- Signs, Signals, and Barricades – Use of danger/warning signs, sidewalk closure, safety instruction signs, pedestrian fencing and barricades, etc.
- Scaffold – Project specific scaffold types, training, scaffold drawings, competent person, criteria for project specific scaffold, falling object protection.

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- Welding and Cutting – project specific procedure for welding and cutting, including all necessary safety requirements such as fire prevention, personal protective equipment, hot work permits, FDNY certificate requirements.
- Fall Protection – Project specific information regarding selected fall protection systems, fall protection plan.
- Cranes, Derrick, Hoists, Elevators, Conveyors – project specific equipment information including type, rated load capacity, manufacture specification requirements, competent person, exposure to falling load, inspection, recordkeeping, clearance requirements, communication procedure, ground lines, permits.
- Excavation Safety – Competent person, project specific protective system.
- Maintenance and Protection of Traffic Plan – Project specific MPT plan, flagmen training.
- Steel Erection – Site specific erection plan, requirements for applicable written notifications, competent person.
- Demolition – Engineering survey, including written evidence, disconnection of all effected utilities, identification of all hazardous chemicals, materials, gases, etc., floor openings, chutes, inspection and maintenance of all stairs/passageways, removal of materials/debris/structural elements, lock out/tag out, competent person.
- Blasting and the Use of Explosives – Project specific safety procedures, warning signs, training/qualification, transportation, storage and use of explosives, inspection.
- Toxic and Hazardous Substances – Safety procedures for substances to be used on project.
- Noise Mitigation Plan – Completed project specific Noise Mitigation Plan.
- Confined Space Program – Project specific Confined Space Program, responsible staff, training records, equipment information, rescue procedure, list of project specific confined spaces, forms.
- Construction Vehicles/Heavy Equipment – Type of construction vehicles/heavy equipment to be used on site.
- Dust Mitigation Plan – Completed project specific Dust Mitigation Plan.

The most critical component of the Site Safety Plan is the Job Hazard Analysis (JHA) section. The JHA form is a written document prepared by the contractor. The contractor must conduct a site and task assessment JHA to identify the major job steps and any potential safety or environmental hazards related to performance of the work, eliminate or implement controls for the potential hazards, and identify proper personal protective equipment for the task. The JHA shall be communicated to all contractor/subcontractor personnel on site.

The initial Job Hazard Assessment form shall be included in the contractor's Site Safety Plan and the current form shall be available at the construction site for reference.

Certain DDC programs, such as Job Order Contracting System (JOCS), may not necessarily require Site Safety Plans. The JOCS contractor shall submit a Safety Program. The Site Safety Plan requirement for the JOCS contractor will be determined by QA&CS based on a project work scope, construction activities and project location. In addition, certain DDC Operating Units may establish client-specific program or safety requirements. The contractor's Site Safety Plan must address such client-specific program or safety requirements.

VII. KICK-OFF MEETINGS/PRE-CONSTRUCTION AND SAFETY REVIEW

RE/CPM shall invite QA&CS Construction Safety Unit to the construction kick-off meeting. A QA&CS representative will participate in this meeting with the Contractor and RE/CPM prior to the start of the project for the purpose of:

- A. Reviewing the safety issues detailed in the contract.
- B. Reviewing the Site Safety Plan.
- C. Reviewing any new issues or information that was not previously addressed.
- D. Discussing planned inspections and audits of the site by QA&CS personnel.

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VIII. EVALUATION DURING WORK IN PROGRESS

The Contractor's adherence to these Safety Requirements will be monitored throughout the project. This will be accomplished by the following:

- A. Use of a safety checklist by a representative of the Construction Safety Unit or other designated DDC representative or Consultant during regular, unannounced inspections of the job site. Field Exit Conferences will be held with the RE/CPM, Contractor Project Safety Representatives.
- B. The RE/CPM will continually monitor the safety and environmental performance of the contractor's employees and work methods. Deficiencies shall be brought to the attention of the contractor's representative on site for immediate correction. The DDC representative will maintain a written record of these deficiencies and have these records available upon request. Any critical deficiencies shall be immediately reported to QA&CS phone# (718) 391-1624 or (718) 391-1911.
- C. If the Contractor's safety performance during the project is not up to DDC standards (safety performance measure, accident/incident rate, etc.) the Director – QA&CS, or his/her designee will meet with the Contractor's Project Safety Representative and or Project Safety Manager, the DDC Project Manager, the RE/CPM, and the DDC Environmental Specialist (if environmental issues are involved). The purpose of this meeting is to 1) determine the level of non-compliance; 2) explain and clarify the safety/environmental provisions; 3) agree on a future course of action to correct the deficiencies.
- D. If the deficiencies continue to occur with inadequate attention by the contractor, this shall, among other remedies available, be grounds for default.
- E. The contractor shall within 1 hour inform the RE/CPM/CM of all accidents/incidents including all fatalities, any injuries to employees or members of the general public, and property damage (e.g., structural damage, equipment rollovers, utility damage, loads dropped from crane). The RE/CPM shall notify the Construction Safety Unit as per DDC's Construction Safety Emergency and Accident Notification and Response Protocol and shall maintain a record of all contractor accidents/incidents for the project.
- F. The Construction Safety Unit shall be notified within two (2) hours of the start of any NYS-DOL/ NYC-COSH/ OSHA/ EPA inspections.

IX. SAFETY PERFORMANCE EVALUATION

The contractor's safety record, including accident/incident history and DDC safety inspection results, will be considered as part of the Contractor's performance evaluation at the conclusion of the project. Poor safety performance during the course of the project shall be a reason to rate a Contractor unsatisfactory which may be reflected in the City's Vendex system and will be considered for future procurement actions as set forth in the City's Procurement Policy Board Rules.

CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT

March 2017

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**CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT**

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WITNESSETH:

The parties, in consideration of the mutual agreements contained herein, agree as follows:

CHAPTER I: THE CONTRACT AND DEFINITIONS

ARTICLE 1. THE CONTRACT

1.1 Except for titles, subtitles, headings, running headlines, tables of contents and indices (all of which are printed herein merely for convenience), the following, except for such portions thereof as may be specifically excluded, shall be deemed to be part of this **Contract**:

1.1.1 All provisions required by law to be inserted in this **Contract**, whether actually inserted or not;

1.1.2 The Contract Drawings and Specifications;

1.1.3 The General Conditions and Special Conditions, if any;

1.1.4 The **Contract**;

1.1.5 The Information for Bidders; Request for Proposals; Notice of Solicitation and Proposal For Bids; Bid or Proposal, and, if used, the Bid Booklet;

1.1.6 All Addenda issued prior to the receipt of the bids; the Notice of Award; Performance and Payment Bonds, if required; and the Notice to Proceed or the Order to Work.

1.2 Should any conflict occur in or between the Drawings and Specifications, the **Contractor** shall be deemed to have estimated the most expensive way of doing the **Work**, unless the **Contractor** shall have asked for and obtained a decision in writing from the **Commissioner** of the **Agency** that is entering into this **Contract**, before the submission of its bid, as to what shall govern.

ARTICLE 2. DEFINITIONS

2.1 The following words and expressions, or pronouns used in their stead, shall, wherever they appear in this **Contract**, be construed as follows, unless a different meaning is clear from the context:

2.1.1 "**Addendum**" or "**Addenda**" shall mean the additional **Contract** provisions and/or technical clarifications issued in writing by the **Commissioner** prior to the receipt of bids.

2.1.2 "**Agency**" shall mean a city, county, borough or other office, position, department, division, bureau, board or commission, or a corporation, institution or agency of government, the expenses of which are paid in whole or in part from the **City** treasury.

2.1.3 "**Agency Chief Contracting Officer**" (**ACCO**) shall mean a person delegated authority by the **Commissioner** to organize and supervise the procurement activity of subordinate **Agency** staff in conjunction with the **CCPO**, or his/her duly authorized representative.

2.1.4 **"Allowance"** shall mean a sum of money which the Agency may include in the total amount of the Contract for such specific contingencies as the Agency believes may be necessary to complete the Work, *e.g.*, lead or asbestos remediation, and for which the Contractor will be paid on the basis of stipulated unit prices or a formula set forth in the Contract or negotiated between the parties provided, however, that if the Contractor is not directed to use the Allowance, the Contractor shall have no right to such money and it shall be deducted from the total amount of the Contract.

2.1.5 **"City"** shall mean the City of New York.

2.1.6 **"City Chief Procurement Officer" (CCPO)** shall mean a person delegated authority by the Mayor to coordinate and oversee the procurement activity of Mayoral agency staff, including the ACCO and any offices which have oversight responsibility for the procurement of construction, or his/her duly authorized representative.

2.1.7 **"Commissioner"** shall mean the head of the Agency that has entered into this Contract, or his/her duly authorized representative.

2.1.8 **"Comptroller"** shall mean the Comptroller of the City of New York.

2.1.9 **"Contract"** or **"Contract Documents"** shall mean each of the various parts of the contract referred to in Article 1 hereof, both as a whole and severally.

2.1.10 **"Contract Drawings"** shall mean only those drawings specifically entitled as such and listed in the Specifications or in any Addendum, or any drawings furnished by the Commissioner, pertaining or supplemental thereto.

2.1.11 **"Contract Work"** shall mean everything required to be furnished and done by the Contractor by any one or more of the parts of the Contract referred to in Article 1, except Extra Work as hereinafter defined.

2.1.12 **"Contractor"** shall mean the entity which executed this Contract, whether a corporation, firm, partnership, joint venture, individual, or any combination thereof, and its, their, his/her successors, personal representatives, executors, administrators, and assigns, and any person, firm, partnership, joint venture, individual, or corporation which shall at any time be substituted in the place of the Contractor under this Contract.

2.1.13 **"Days"** shall mean calendar days, except where otherwise specified.

2.1.14 **"Engineer"** or **"Architect"** or **"Project Manager"** shall mean the person so designated in writing by the Commissioner in the Notice to Proceed or the Order to Work to act as such in relation to this Contract, including a private Architect or Engineer or Project Manager, as the case may be. Subject to written approval by the Commissioner, the Engineer, Architect or Project Manager may designate an authorized representative.

2.1.15 **"Engineering Audit Officer" (EAO)** shall mean the person so designated by the Commissioner to perform responsible auditing functions hereunder.

2.1.16 **"Extra Work"** shall mean Work other than that required by the Contract at the time of award which is authorized by the Commissioner pursuant to Chapter VI of this Contract.

2.1.17 **"Federal-Aid Contract"** shall mean a contract in which the United States (federal) Government provides financial funding as so designated in the Information for Bidders.

2.1.18 **"Final Acceptance"** shall mean final written acceptance of all the Work by the Commissioner, a copy of which shall be sent to the Contractor.

2.1.19 **"Final Approved Punch List"** shall mean a list, approved pursuant to Article 14.2.2, specifying those items of Work to be completed by the Contractor after Substantial Completion and dates for the completion of each item of Work.

2.1.20 **"Law"** or **"Laws"** shall mean the Constitution of the State of New York, the New York City Charter, the New York City Administrative Code, a statute of the United States or of the State of New York, a local law of the City of New York, any ordinance, rule or regulation having the force of law, or common law.

2.1.21 **"Materialman"** shall mean any corporation, firm, partnership, joint venture, or individual, other than employees of the Contractor, who or which contracts with the Contractor or any Subcontractor, to fabricate or deliver, or who actually fabricates or delivers, plant, materials or equipment to be incorporated in the Work.

2.1.22 **"Means and Methods of Construction"** shall mean the labor, materials, temporary structures, tools, plant, and construction equipment, and the manner and time of their use, necessary to accomplish the result intended by this Contract.

2.1.23 **"Notice to Proceed"** or **"Order to Work"** shall mean the written notice issued by the Commissioner specifying the time for commencement of the Work and the Engineer, Architect or Project Manager.

2.1.24 **"Other Contractor(s)"** shall mean any contractor (other than the entity which executed this Contract or its Subcontractors) who or which has a contract with the City for work on or adjacent to the building or Site of the Work.

2.1.25 **"Payroll Taxes"** shall mean State Unemployment Insurance (SUI), Federal Unemployment Insurance (FUI), and payments pursuant to the Federal Insurance Contributions Act (FICA).

2.1.26 **"Project"** shall mean the public improvement to which this Contract relates.

2.1.27 **"Procurement Policy Board" (PPB)** shall mean the Agency of the City of New York whose function is to establish comprehensive and consistent procurement policies and rules which shall have broad application throughout the City.

2.1.28 **"Required Quantity"** in a unit price Contract shall mean the actual quantity of any item of Work or materials which is required to be performed or furnished in order to comply with the Contract.

2.1.29 **"Resident Engineer"** shall mean the representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the Work.

2.1.30 **"Site"** shall mean the area upon or in which the Contractor's operations are carried on, and such other areas adjacent thereto as may be designated as such by the Engineer.

2.1.31 “**Small Tools**” shall mean items that are ordinarily required for a worker’s job function, including but not limited to, equipment that ordinarily has no licensing, insurance or substantive storage costs associated with it; such as circular and chain saws, impact drills, threaders, benders, wrenches, socket tools, etc.

2.1.32 “**Specifications**” shall mean all of the directions, requirements, and standards of performance applying to the Work as hereinafter detailed and designated under the Specifications.

2.1.33 “**Subcontractor**” shall mean any person, firm or corporation, other than employees of the Contractor, who or which contracts with the Contractor or with its subcontractors to furnish, or actually furnishes labor, or labor and materials, or labor and equipment, or superintendence, supervision and/or management at the Site. Wherever the word Subcontractor appears, it shall also mean sub-Subcontractor.

2.1.34 “**Substantial Completion**” shall mean the written determination by the Engineer that the Work required under this Contract is substantially, but not entirely, complete and the approval of the **Final Approved Punch List**.

2.1.35 “**Work**” shall mean all services required to complete the Project in accordance with the Contract Documents, including without limitation, labor, material, superintendence, management, administration, equipment, and incidentals, and obtaining any and all permits, certifications and licenses as may be necessary and required to complete the Work, and shall include both Contract Work and Extra Work.

CHAPTER II: THE WORK AND ITS PERFORMANCE

ARTICLE 3. CHARACTER OF THE WORK

3.1 Unless otherwise expressly provided in the **Contract Drawings, Specifications, and Addenda**, the **Work** shall be performed in accordance with the best modern practice, utilizing, unless otherwise specified in writing, new and unused materials of standard first grade quality and workmanship and design of the highest quality, to the satisfaction of the **Commissioner**.

ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION

4.1 Unless otherwise expressly provided in the **Contract Drawings, Specifications, and Addenda**, the **Means and Methods of Construction** shall be such as the **Contractor** may choose; subject, however, to the **Engineer’s** right to reject the **Means and Methods of Construction** proposed by the **Contractor** which in the opinion of the **Engineer**:

4.1.1 Will constitute or create a hazard to the **Work**, or to persons or property; or

4.1.2 Will not produce finished **Work** in accordance with the terms of the **Contract**; or

4.1.3 Will be detrimental to the overall progress of the **Project**.

4.2 The **Engineer’s** approval of the **Contractor’s Means and Methods of Construction**, or his/her failure to exercise his/her right to reject such means or methods, shall not relieve the **Contractor**

of its obligation to complete the **Work** as provided in this **Contract**; nor shall the exercise of such right to reject create a cause of action for damages.

ARTICLE 5. COMPLIANCE WITH LAWS

5.1 The **Contractor** shall comply with all **Laws** applicable to this **Contract** and to the **Work** to be done hereunder.

5.2 Procurement Policy Board Rules: This **Contract** is subject to the Rules of the **PPB** (“**PPB Rules**”) in effect at the time of the bid opening for this **Contract**. In the event of a conflict between the **PPB Rules** and a provision of this **Contract**, the **PPB Rules** shall take precedence.

5.3 Noise Control Code provisions.

5.3.1 In accordance with the provisions of Section 24-216(b) of the Administrative Code of the **City** (“**Administrative Code**”), Noise Abatement Contract Compliance, devices and activities which will be operated, conducted, constructed or manufactured pursuant to this **Contract** and which are subject to the provisions of the **City Noise Control Code** shall be operated, conducted, constructed, or manufactured without causing a violation of the **Administrative Code**. Such devices and activities shall incorporate advances in the art of noise control development for the kind and level of noise emitted or produced by such devices and activities, in accordance with regulations issued by the **Commissioner** of the **City Department of Environmental Protection**.

5.3.2 The **Contractor** agrees to comply with Section 24-219 of the Administrative Code and implementing rules codified at 15 Rules of the City of New York (“**RCNY**”) Section 28-100 *et seq.* In accordance with such provisions, the **Contractor**, if the **Contractor** is the responsible party under such regulations, shall prepare and post a Construction Noise Mitigation Plan at each **Site**, in which the **Contractor** shall certify that all construction tools and equipment have been maintained so that they operate at normal manufacturers operating specifications. If the **Contractor** cannot make this certification, it must have in place an Alternative Noise Mitigation Plan approved by the **City Department of Environmental Protection**. In addition, the **Contractor’s** certified Construction Noise Mitigation Plan is subject inspection by the **City Department of Environmental Protection** in accordance with Section 28-101 of Title 15 of **RCNY**. No **Contract Work** may take place at a **Site** unless there is a Construction Noise Mitigation Plan or approved Alternative Noise Mitigation Plan in place. In addition, the **Contractor** shall create and implement a noise mitigation training program. Failure to comply with these requirements may result in fines and other penalties pursuant to the applicable provisions of the **Administrative Code** and **RCNY**.

5.4 Ultra Low Sulfur Diesel Fuel: In accordance with the provisions of Section 24-163.3 of the **Administrative Code**, the **Contractor** specifically agrees as follows:

5.4.1 Definitions. For purposes of this Article 5.4, the following definitions apply:

5.4.1(a) “**Contractor**” means any person or entity that enters into a Public Works Contract with a **City Agency**, or any person or entity that enters into an agreement with such person or entity, to perform work or provide labor or services related to such Public Works Contract.

5.4.1(b) "Motor Vehicle" means any self-propelled vehicle designed for transporting persons or property on a street or highway.

5.4.1(c) "Nonroad Engine" means an internal combustion engine (including the fuel system) that is not used in a Motor Vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under Section 7411 or Section 7521 of Title 42 of the United States Code, except that this term shall apply to internal combustion engines used to power generators, compressors or similar equipment used in any construction program or project.

5.4.1(d) "Nonroad Vehicle" means a vehicle that is powered by a Nonroad Engine, fifty (50) horsepower and greater, and that is not a Motor Vehicle or a vehicle used solely for competition, which shall include, but not be limited to, excavators, backhoes, cranes, compressors, generators, bulldozers, and similar equipment, except that this term shall not apply to horticultural maintenance vehicles used for landscaping purposes that are powered by a Nonroad Engine of sixty-five (65) horsepower or less and that are not used in any construction program or project.

5.4.1(e) "Public Works Contract" means a contract with a **City Agency** for a construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge; a contract with a **City Agency** for the preparation for any construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge; or a contract with a **City Agency** for any final work involved in the completion of any construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge.

5.4.1(f) "Ultra Low Sulfur Diesel Fuel" means diesel fuel that has a sulfur content of no more than fifteen parts per million (15 ppm).

5.4.2 Ultra Low Sulfur Diesel Fuel

5.4.2(a) All **Contractors** shall use Ultra Low Sulfur Diesel Fuel in diesel-powered Nonroad Vehicles in the performance of this **Contract**.

5.4.2(b) Notwithstanding the requirements of Article 5.4.2(a), **Contractors** may use diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) to fulfill the requirements of this Article 5.4.2, where the Commissioner of the City Department of Environmental Protection ("DEP Commissioner") has issued a determination that a sufficient quantity of Ultra Low Sulfur Diesel Fuel is not available to meet the needs of **Agencies** and **Contractors**. Any such determination shall expire after six (6) months unless renewed.

5.4.2(c) **Contractors** shall not be required to comply with this Article 5.4.2 where the **City Agency** letting this **Contract** makes a written finding, which is approved, in writing, by the DEP Commissioner, that a sufficient quantity of Ultra Low Sulfur Diesel Fuel, or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) is not available to meet the requirements of Section 24-163.3 of the Administrative Code, provided that such **Contractor** in its fulfillment of the

requirements of this **Contract**, to the extent practicable, shall use whatever quantity of Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) is available. Any finding made pursuant to this Article 5.4.2(c) shall expire after sixty (60) **Days**, at which time the requirements of this Article 5.4.2 shall be in full force and effect unless the **City Agency** renews the finding in writing and such renewal is approved by the DEP Commissioner.

5.4.2(d) **Contractors** may check on determinations and approvals issued by the DEP Commissioner pursuant to Section 24-163.3 of the Administrative Code, if any, at www.dep.nyc.gov or by contacting the **City Agency** letting this **Contract**.

5.4.2(e) The requirements of this Article 5.4.2 do not apply where they are precluded by federal or State funding requirements or where the **Contract** is an emergency procurement.

5.4.3 Best Available Technology

5.4.3(a) All **Contractors** shall utilize the best available technology for reducing the emission of pollutants for diesel-powered Nonroad Vehicles in the performance of this **Contract**. For determinations of best available technology for each type of diesel-powered Nonroad Vehicle, **Contractors** shall comply with the regulations of the **City Department of Environmental Protection**, as and when adopted, Chapter 14 of Title 15 of the Rules of the City of New York (RCNY). The **Contractor** shall fully document all steps in the best available technology selection process and shall furnish such documentation to the **City Agency** or the DEP Commissioner upon request. The **Contractor** shall retain all documentation generated in the best available technology selection process for as long as the selected best available technology is in use.

5.4.3(b) No **Contractor** shall be required to replace best available technology for reducing the emission of pollutants or other authorized technology utilized for a diesel-powered Nonroad Vehicle in accordance with the provisions of this Article 5.4.3 within three (3) years of having first utilized such technology for such vehicle.

5.4.3(c) This Article 5.4.3 shall not apply to any vehicle used to satisfy the requirements of a specific Public Works Contract for fewer than twenty (20) **Days**.

5.4.3(d) The **Contractor** shall not be required to comply with this Article 5.4.3 with respect to a diesel-powered Nonroad Vehicle under the following circumstances:

5.4.3(d)(i) Where the **City Agency** makes a written finding, which is approved, in writing, by the DEP Commissioner, that the best available technology for reducing the emission of pollutants as required by this Article 5.4.3 is unavailable for such vehicle, the **Contractor** shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for such vehicle.

5.4.3(d)(ii) Where the DEP Commissioner has issued a written waiver based upon the **Contractor** having demonstrated to the DEP Commissioner that the use of the best available technology for reducing the emission of pollutants might endanger the operator of such vehicle or those working near such vehicle, due to engine malfunction, the **Contractor** shall use whatever technology for

reducing the emission of pollutants, if any, is available and appropriate for such vehicle, which would not endanger the operator of such vehicle or those working near such vehicle.

5.4.3(d)(iii) In determining which technology to use for the purposes of Articles 5.4.3(d)(i) and 5.4.3(d)(ii) above, the **Contractor** shall primarily consider the reduction in emissions of particulate matter and secondarily consider the reduction in emissions of nitrogen oxides associated with the use of such technology, which shall in no event result in an increase in the emissions of either such pollutant.

5.4.3(d)(iv) The **Contractor** shall submit requests for a finding or a waiver pursuant to this Article 5.4.3(d) in writing to the DEP Commissioner, with a copy to the ACCO of the **City Agency** letting this **Contract**. Any finding or waiver made or issued pursuant to Articles 5.4.3(d)(i) and 5.4.3(d)(ii) above shall expire after one hundred eighty (180) **Days**, at which time the requirements of Article 5.4.3(a) shall be in full force and effect unless the **City Agency** renews the finding, in writing, and the DEP Commissioner approves such finding, in writing, or the DEP Commissioner renews the waiver, in writing.

5.4.3(e) The requirements of this Article 5.4.3 do not apply where they are precluded by federal or State funding requirements or where the **Contract** is an emergency procurement.

5.4.4 Section 24-163 of the Administrative Code. The **Contractor** shall comply with Section 24-163 of the Administrative Code related to the idling of the engines of motor vehicles while parking.

5.4.5 Compliance

5.4.5(a) The **Contractor's** compliance with Article 5.4 may be independently monitored. If it is determined that the **Contractor** has failed to comply with any provision of Article 5.4, any costs associated with any independent monitoring incurred by the **City** shall be reimbursed by the **Contractor**.

5.4.5(b) Any **Contractor** who violates any provision of Article 5.4, except as provided in Article 5.4.5(c) below, shall be liable for a civil penalty between the amounts of one thousand (\$1,000) and ten thousand (\$10,000) dollars, in addition to twice the amount of money saved by such **Contractor** for failure to comply with Article 5.4.

5.4.5(c) No **Contractor** shall make a false claim with respect to the provisions of Article 5.4 to a **City Agency**. Where a **Contractor** has been found to have done so, such **Contractor** shall be liable for a civil penalty of twenty thousand (\$20,000) dollars, in addition to twice the amount of money saved by such **Contractor** in association with having made such false claim.

5.4.6 Reporting

5.4.6(a) For all Public Works Contracts covered by this Article 5.4, the **Contractor** shall report to the **City Agency** the following information:

5.4.6(a)(i) The total number of diesel-powered Nonroad Vehicles used to fulfill the requirements of this Public Works Contract;

5.4.6(a)(ii) The number of such Nonroad Vehicles that were powered by Ultra Low Sulfur Diesel Fuel;

5.4.6(a)(iii) The number of such Nonroad Vehicles that utilized the best available technology for reducing the emission of pollutants, including a breakdown by vehicle model and the type of technology;

5.4.6(a)(iv) The number of such Nonroad Vehicles that utilized such other authorized technology in accordance with Article 5.4.3, including a breakdown by vehicle model and the type of technology used for each such vehicle;

5.4.6(a)(v) The locations where such Nonroad Vehicles were used; and

5.4.6(a)(vi) Where a determination is in effect pursuant to Article 5.4.2(b) or 5.4.2(c), detailed information concerning the **Contractor's** efforts to obtain Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm).

5.4.6(b) The **Contractor** shall submit the information required by Article 5.4.6(a) at the completion of **Work** under the Public Works Contract and on a yearly basis no later than August 1 throughout the term of the Public Works Contract. The yearly report shall cover **Work** performed during the preceding fiscal year (July 1 - June 30).

5.5 Ultra Low Sulfur Diesel Fuel. In accordance with the Coordinated Construction Act for Lower Manhattan, as amended:

5.5.1 Definitions. For purposes of this Article 5.5, the following definitions apply:

5.5.1(a) "Lower Manhattan" means the area to the south of and within the following lines: a line beginning at a point where the United States pierhead line in the Hudson River as it exists now or may be extended would intersect with the southerly line of West Houston Street in the Borough of Manhattan extended, thence easterly along the southerly side of West Houston Street to the southerly side of Houston Street, thence easterly along the southerly side of Houston Street to the southerly side of East Houston Street, thence northeasterly along the southerly side of East Houston Street to the point where it would intersect with the United States pierhead line in the East River as it exists now or may be extended, including tax lots within or immediately adjacent thereto.

5.5.1(b) "Lower Manhattan Redevelopment Project" means any project in Lower Manhattan that is funded in whole or in part with federal or State funding, or any project intended to improve transportation between Lower Manhattan and the two air terminals in the City known as LaGuardia Airport and John F. Kennedy International Airport, or between Lower Manhattan and the air terminal in Newark known as Newark Liberty International Airport, and that is funded in whole or in part with federal funding.

5.5.1(c) "Nonroad Engine" means an internal combustion engine (including the fuel system) that is not used in a Motor Vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under Section 7411 or Section 7521 of Title 42 of the United States Code, except that this term shall apply to internal combustion engines used to power generators, compressors or similar equipment used in any construction program or project.

5.5.1(d) "Nonroad Vehicle" means a vehicle that is powered by a Nonroad Engine, fifty (50) horsepower (HP) and greater, and that is not a Motor Vehicle or a vehicle used solely for competition, which shall include, but not be limited to, excavators, backhoes, cranes, compressors, generators, bulldozers, and similar equipment, except that this terms shall not apply to horticultural maintenance vehicles used for landscaping purposes that are powered by a Nonroad Engine of sixty-five (65) HP or less and that are not used in any construction program or project.

5.5.1(e) "Ultra Low Sulfur Diesel Fuel" means diesel fuel that has a sulfur content of no more than fifteen parts per million (15 ppm).

5.5.2 Requirements. **Contractors** and **Subcontractors** are required to use only Ultra Low Sulfur Diesel Fuel to power the diesel-powered Nonroad Vehicles with engine HP rating of fifty (50) HP and above used on a Lower Manhattan Redevelopment Project and, where practicable, to reduce the emission of pollutants by retrofitting such Nonroad Vehicles with oxidation catalysts, particulate filters, or technology that achieves lowest particulate matter emissions.

5.6 Pesticides. In accordance with Section 17-1209 of the Administrative Code, to the extent that the **Contractor** or any **Subcontractor** applies pesticides to any property owned or leased by the **City**, the **Contractor**, and any **Subcontractor** shall comply with Chapter 12 of the Administrative Code.

5.7 Waste Treatment, Storage, and Disposal Facilities and Transporters. In connection with the **Work**, the **Contractor** and any **Subcontractor** shall use only those waste treatment, storage, and disposal facilities and waste transporters that possess the requisite license, permit or other governmental approval necessary to treat, store, dispose, or transport the waste, materials or hazardous substances.

5.8 Environmentally Preferable Purchasing. The **Contractor** shall ensure that products purchased or leased by the **Contractor** or any **Subcontractor** for the **Work** that are not specified by the **City** or are submitted as equivalents to a product specified by the **City** comply with the requirements of the New York City Environmentally Preferable Purchasing Program contained in Chapter 11 of Title 43 of the RCNY, pursuant to Chapter 3 of Title 6 of the Administrative Code.

ARTICLE 6. INSPECTION

6.1 During the progress of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall at all times afford the representatives of the **City** every reasonable, safe, and proper facility for inspecting all **Work** done or being done at the **Site** and also for inspecting the manufacture or preparation of materials and equipment at the place of such manufacture or preparation.

6.2 The **Contractor's** obligation hereunder shall include the uncovering or taking down of finished **Work** and its restoration thereafter; provided, however, that the order to uncover, take down and restore shall be in writing, and further provided that if **Work** thus exposed proves satisfactory, and if the **Contractor** has complied with Article 6.1, such uncovering or taking down and restoration shall be

considered an item of **Extra Work** to be paid for in accordance with the provisions of Article 26. If the **Work** thus exposed proves unsatisfactory, the **City** has no obligation to compensate the **Contractor** for the uncovering, taking down or restoration.

6.3 Inspection and approval by the **Commissioner**, the **Engineer**, **Project Manager**, or **Resident Engineer**, of finished **Work** or of **Work** being performed, or of materials and equipment at the place of manufacture or preparation, shall not relieve the **Contractor** of its obligation to perform the **Work** in strict accordance with the **Contract**. Finished or unfinished **Work** not found to be in strict accordance with the **Contract** shall be replaced as directed by the **Engineer**, even though such **Work** may have been previously approved and paid for. Such corrective **Work** is **Contract Work** and shall not be deemed **Extra Work**.

6.4 Rejected **Work** and materials shall be promptly taken down and removed from the **Site**, which must at all times be kept in a reasonably clean and neat condition.

ARTICLE 7. PROTECTION OF WORK AND OF PERSONS AND PROPERTY; NOTICES AND INDEMNIFICATION

7.1 During the performance of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall be under an absolute obligation to protect the finished and unfinished **Work** against any damage, loss, injury, theft and/or vandalism and in the event of such damage, loss, injury, theft and/or vandalism, it shall promptly replace and/or repair such **Work** at the **Contractor's** sole cost and expense, as directed by the **Resident Engineer**. The obligation to deliver finished **Work** in strict accordance with the **Contract** prior to **Final Acceptance** shall be absolute and shall not be affected by the **Resident Engineer's** approval of, or failure to prohibit, the **Means and Methods of Construction** used by the **Contractor**.

7.2 During the performance of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall take all reasonable precautions to protect all persons and the property of the **City** and of others from damage, loss or injury resulting from the **Contractor's**, and/or its **Subcontractors'** operations under this **Contract**. The **Contractor's** obligation to protect shall include the duty to provide, place or replace, and adequately maintain at or about the **Site** suitable and sufficient protection such as lights, barricades, and enclosures.

7.3 The **Contractor** shall comply with the notification requirements set forth below in the event of any loss, damage or injury to **Work**, persons or property, or any accidents arising out of the operations of the **Contractor** and/or its **Subcontractors** under this **Contract**.

7.3.1 The **Contractor** shall make a full and complete report in writing to the **Resident Engineer** within three (3) **Days** after the occurrence.

7.3.2 The **Contractor** shall also send written notice of any such event to all insurance carriers that issued potentially responsive policies (including commercial general liability insurance carriers for events relating to the **Contractor's** own employees) no later than twenty (20) days after such event and again no later than twenty (20) days after the initiation of any claim and/or action resulting therefrom. Such notice shall contain the following information: the number of the insurance policy, the name of the Named Insured, the date and location of the incident, and the identity of the persons injured or property damaged. For any policy on which the **City** and/or the **Engineer**, **Architect**, or **Project Manager** are Additional Insureds, such notice shall expressly specify that "this notice is

being given on behalf of the City of New York as Additional Insured, such other Additional Insureds, as well as the Named Insured.”

7.3.2(a) Whenever such notice is sent under a policy on which the **City** is an Additional Insured, the **Contractor** shall provide copies of the notice to the **Comptroller**, the **Commissioner** and the **City Corporation Counsel**. The copy to the **Comptroller** shall be sent to the Insurance Unit, NYC Comptroller’s Office, 1 Centre Street – Room 1222, New York, New York, 10007. The copy to the **Commissioner** shall be sent to the address set forth in Schedule A of the General Conditions. The copy to the **City Corporation Counsel** shall be sent to Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department, 100 Church Street, New York, New York 10007.

7.3.2(b) If the **Contractor** fails to provide any of the foregoing notices to any appropriate insurance carrier(s) in a timely and complete manner, the **Contractor** shall indemnify the **City** for all losses, judgments, settlements, and expenses, including reasonable attorneys’ fees, arising from an insurer’s disclaimer of coverage citing late notice by or on behalf of the **City**.

7.4 To the fullest extent permitted by law, the **Contractor** shall defend, indemnify, and hold the **City**, its employees, and officials (the “Indemnitees”) harmless against any and all claims (including but not limited to claims asserted by any employee of the **Contractor** and/or its **Subcontractors**) and costs and expenses of whatever kind (including but not limited to payment or reimbursement of attorneys’ fees and disbursements) allegedly arising out of or in any way related to the operations of the **Contractor** and/or its **Subcontractors** in the performance of this **Contract** or from the **Contractor’s** and/or its **Subcontractors’** failure to comply with any of the provisions of this **Contract** or of the **Law**. Such costs and expenses shall include all those incurred in defending the underlying claim and those incurred in connection with the enforcement of this Article 7.4 by way of cross-claim, third-party claim, declaratory action or otherwise. The parties expressly agree that the indemnification obligation hereunder contemplates (1) full indemnity in the event of liability imposed against the Indemnitees without negligence and solely by reason of statute, operation of **Law** or otherwise; and (2) partial indemnity in the event of any actual negligence on the part of the Indemnitees either causing or contributing to the underlying claim (in which case, indemnification will be limited to any liability imposed over and above that percentage attributable to actual fault whether by statute, by operation of **Law**, or otherwise). Where partial indemnity is provided hereunder, all costs and expenses shall be indemnified on a pro rata basis.

7.4.1 Indemnification under Article 7.4 or any other provision of the **Contract** shall operate whether or not **Contractor** or its **Subcontractors** have placed and maintained the insurance specified under Article 22.

7.5 The provisions of this Article 7 shall not be deemed to create any new right of action in favor of third parties against the **Contractor** or the **City**.

CHAPTER III: TIME PROVISIONS

ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK

8.1 The **Contractor** shall commence the **Work** on the date specified in the **Notice to Proceed** or the **Order to Work**. The time for performance of the **Work** under the **Contract** shall be computed from

the date specified in the **Notice to Proceed** or the **Order to Work**. **TIME BEING OF THE ESSENCE** to the **City**, the **Contractor** shall thereafter prosecute the **Work** diligently, using such **Means and Methods of Construction** as are in accord with Article 4 herein and as will assure its completion not later than the date specified in this Contract, or on the date to which the time for completion may be extended.

ARTICLE 9. PROGRESS SCHEDULES

9.1 To enable the **Work** to be performed in an orderly and expeditious manner, the **Contractor**, within fifteen (15) **Days** after the **Notice to Proceed** or **Order to Work**, unless otherwise directed by the **Engineer**, shall submit to the **Engineer** a proposed progress schedule based on the Critical Path Method in the form of a bar graph or in such other form as specified by the **Engineer**, and monthly cash flow requirements, showing:

9.1.1 The anticipated time of commencement and completion of each of the various operations to be performed under this **Contract**; and

9.1.2 The sequence and interrelation of each of these operations with the others and with those of other related contracts; and

9.1.3 The estimated time required for fabrication or delivery, or both, of all materials and equipment required for the **Work**, including the anticipated time for obtaining required approvals pursuant to Article 10; and

9.1.4 The estimated amount in dollars the **Contractor** will claim on a monthly basis.

9.2 The proposed schedule shall be revised as directed by the **Engineer**, until finally approved by the **Engineer**, and after such approval, subject to the provisions of Article 11, shall be strictly adhered to by the **Contractor**.

9.3 If the **Contractor** shall fail to adhere to the approved progress schedule, or to the schedule as revised pursuant to Article 11, it shall promptly adopt such other or additional **Means and Methods of Construction**, at its sole cost and expense, as will make up for the time lost and will assure completion in accordance with the approved progress schedule. The approval by the **City** of a progress schedule which is shorter than the time allotted under the **Contract** shall not create any liability for the **City** if the approved progress schedule is not met.

9.4 The **Contractor** will not receive any payments until the proposed progress schedule is submitted.

ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL

10.1 From time to time as the **Work** progresses and in the sequence indicated by the approved progress schedule, the **Contractor** shall submit to the **Engineer** a specific request in writing for each item of information or approval required by the **Contractor**. These requests shall state the latest date upon which the information or approval is actually required by the **Contractor**, and shall be submitted in a reasonable time in advance thereof to provide the **Engineer** a sufficient time to act upon such submissions, or any necessary re-submissions thereof.

10.2 The **Contractor** shall not have any right to an extension of time on account of delays due to the **Contractor's** failure to submit requests for the required information or the required approval in accordance with the above requirements.

ARTICLE 11. NOTICE OF CONDITIONS CAUSING DELAY AND DOCUMENTATION OF DAMAGES CAUSED BY DELAY

11.1 After the commencement of any condition which is causing or may cause a delay in completion of the **Work**, including conditions for which the **Contractor** may be entitled to an extension of time, the following notifications and submittals are required:

11.1.1 Within fifteen (15) **Days** after the **Contractor** becomes aware or reasonably should be aware of each such condition, the **Contractor** must notify the **Resident Engineer** or **Engineer**, as directed by the **Commissioner**, in writing of the existence, nature and effect of such condition upon the approved progress schedule and the **Work**, and must state why and in what respects, if any, the condition is causing or may cause a delay. Such notice shall include a description of the construction activities that are or could be affected by the condition and may include any recommendations the **Contractor** may have to address the delay condition and any activities the **Contractor** may take to avoid or minimize the delay.

11.1.2 If the **Contractor** shall claim to be sustaining damages for delay as provided for in this Article 11, within forty-five (45) **Days** from the time such damages are first incurred for each such condition, the **Contractor** shall submit to the **Commissioner** a verified written statement of the details and estimates of the amounts of such damages, including categories of expected damages and projected monthly costs, together with documentary evidence of such damages as the **Contractor** may have at the time of submission ("statement of delay damages"), as further detailed in Article 11.6. The **Contractor** may submit the above statement within such additional time as may be granted by the **Commissioner** in writing upon written request therefor.

11.1.3 Articles 11.1.1 and 11.1.2 do not relieve the **Contractor** of its obligation to comply with the provisions of Article 44.

11.2 Failure of the **Contractor** to strictly comply with the requirements of Article 11.1.1 may, in the discretion of the **Commissioner**, be deemed sufficient cause to deny any extension of time on account of delay arising out of such condition. Failure of the **Contractor** to strictly comply with the requirements of both Articles 11.1.1 and 11.1.2 shall be deemed a conclusive waiver by the **Contractor** of any and all claims for damages for delay arising from such condition and no right to recover on such claims shall exist.

11.3 When appropriate and directed by the **Engineer**, the progress schedule shall be revised by the **Contractor** until finally approved by the **Engineer**. The revised progress schedule must be strictly adhered to by the **Contractor**.

11.4 **Compensable Delays**

11.4.1 The **Contractor** agrees to make claim only for additional costs attributable to delay in the performance of this **Contract** necessarily extending the time for completion of the **Work** or resulting from acceleration directed by the **Commissioner** and required to maintain the progress schedule, occasioned solely by any act or omission to act of the **City** listed below. The **Contractor** also agrees that delay from any other cause shall be

compensated, if at all, solely by an extension of time to complete the performance of the **Work**.

- 11.4.1.1 The failure of the **City** to take reasonable measures to coordinate and progress the **Work** to the extent required by the **Contract**, except that the **City** shall not be responsible for the **Contractor's** obligation to coordinate and progress the **Work** of its **Subcontractors**.
- 11.4.1.2 Unreasonable delays attributable to the review of shop drawings, the issuance of change orders, or the cumulative impact of change orders that were not brought about by any act or omission of the **Contractor**.
- 11.4.1.3 The unavailability of the **Site** caused by acts or omissions of the **City**.
- 11.4.1.4 The issuance by the **Engineer** of a stop work order that was not brought about through any act or omission of the **Contractor**.
- 11.4.1.5 Differing site conditions or environmental hazards that were neither known nor reasonably ascertainable on a pre-bid inspection of the **Site** or review of the bid documents or other publicly available sources, and that are not ordinarily encountered in the **Project's** geographical area or neighborhood or in the type of **Work** to be performed.
- 11.4.1.6 Delays caused by the **City's** bad faith or its willful, malicious, or grossly negligent conduct;
- 11.4.1.7 Delays not contemplated by the parties;
- 11.4.1.8 Delays so unreasonable that they constitute an intentional abandonment of the **Contract** by the **City**; and
- 11.4.1.9 Delays resulting from the **City's** breach of a fundamental obligation of the **Contract**.

11.4.2 No claim may be made for any alleged delay in **Substantial Completion** of the **Work** if the **Work** will be or is substantially completed by the date of **Substantial Completion** provided for in Schedule A unless acceleration has been directed by the **Commissioner** to meet the date of **Substantial Completion** set forth in Schedule A, or unless there is a provision in the **Contract** providing for additional compensation for early completion.

11.4.3 The provisions of this Article 11 apply only to claims for additional costs attributable to delay and do not preclude determinations by the **Commissioner** allowing reimbursements for additional costs for **Extra Work** pursuant to Articles 25 and 26 of this **Contract**. To the extent that any cost attributable to delay is reimbursed as part of a change order, no additional claim for compensation under this Article 11 shall be allowed.

11.5 **Non-Compensable Delays.** The **Contractor** agrees to make no claim for, and is deemed to have included in its bid prices for the various items of the **Contract**, the extra/additional costs attributable to any delays caused by or attributable to the items set forth below. For such items, the **Contractor** shall be compensated, if at all, solely by an extension of time to complete the performance of the **Work**, in accordance with the provisions of Article 13. Such extensions of time will be granted, if at all, pursuant to the grounds set forth in Article 13.3.

11.5.1 The acts or omissions of any third parties, including but not limited to **Other Contractors**, public/ governmental bodies (other than **City Agencies**), utilities or private enterprises, who are disclosed in the **Contract Documents** or are ordinarily encountered or generally recognized as related to the **Work**;

11.5.2 Any situation which was within the contemplation of the parties at the time of entering into the **Contract**, including any delay indicated or disclosed in the **Contract Documents** or that would be generally recognized by a reasonably prudent contractor as related to the nature of the **Work**, and/or the existence of any facility or appurtenance owned, operated or maintained by any third party, as indicated or disclosed in the **Contract Documents** or ordinarily encountered or generally recognized as related to the nature of the **Work**;

11.5.3 Restraining orders, injunctions or judgments issued by a court which were caused by a Contractor's submission, action or inaction or by a Contractor's **Means and Methods of Construction**, or by third parties, unless such order, injunction or judgment was the result of an act or omission by the **City**;

11.5.4 Any labor boycott, strike, picketing, lockout or similar situation;

11.5.5 Any shortages of supplies or materials, or unavailability of equipment, required by the **Contract Work**;

11.5.6 Climatic conditions, storms, floods, droughts, tidal waves, fires, hurricanes, earthquakes, landslides or other catastrophes or acts of God, or acts of war or of the public enemy or terrorist acts, including the **City's** reasonable responses thereto; and

11.5.7 **Extra Work** which does not significantly affect the overall completion of the **Contract**, reasonable delays in the review or issuance of change orders or field orders and/or in shop drawing reviews or approvals.

11.6 Required Content of Submission of Statement of Delay Damages

11.6.1 In the verified written statement of delay damages required by Article 11.1.2, the following information shall be provided by the **Contractor**:

11.6.1.1 For each delay, the start and end dates of the claimed periods of delay and, in addition, a description of the operations that were delayed, an explanation of how they were delayed, and the reasons for the delay, including identifying the applicable act or omission of the **City** listed in Article 11.4.

11.6.1.2 A detailed factual statement of the claim providing all necessary dates, locations and items of **Work** affected by the claim.

11.6.1.3 The estimated amount of additional compensation sought and a breakdown of that amount into categories as described in Article 11.7.

11.6.1.4 Any additional information requested by the **Commissioner**.

11.7 Recoverable Costs

11.7.1 Delay damages may be recoverable for the following costs actually and necessarily incurred in the performance of the **Work**:

11.7.1.1 Direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits, based on time and materials records;

11.7.1.2 Necessary materials (including transportation to the **Site**), based on time and material records;

- 11.7.1.3 Reasonable rental value of necessary plant and equipment other than small tools, plus fuel/energy costs according to the applicable formula set forth in Articles 26.2.4 and/or 26.2.8, based on time and material records;
- 11.7.1.4 Additional insurance and bond costs;
- 11.7.1.5 Extended **Site** overhead, field office rental, salaries of field office staff, on-site project managers and superintendents, field office staff vehicles, **Project**-specific storage, field office utilities and telephone, and field office consumables;
- 11.7.1.6 Labor escalation costs based on actual costs;
- 11.7.1.7 Materials and equipment escalation costs based on applicable industry indices unless documentation of actual increased cost is provided;
- 11.7.1.8 Additional material and equipment storage costs based on actual documented costs and additional costs necessitated by extended manufacturer warranty periods; and
- 11.7.1.9 Extended home office overhead calculated based on the following formula:
 - (1) Subtract from the original **Contract** amount the amount earned by original contractual **Substantial Completion** date (not including change orders);
 - (2) Remove 15% overhead and profit from the calculation in item (1) by dividing the results of item (1) by 1.15;
 - (3) Multiply the result of item (2) by 7.25% for the total home office overhead;
 - (4) Multiply the result of item (3) by 7.25% for the total profit; and
 - (5) The total extended home office overhead will be the total of items (3) and (4).

11.7.2 Recoverable Subcontractor Costs. When the **Work** is performed by a **Subcontractor**, the **Contractor** may be paid the actual and necessary costs of such subcontracted **Work** as outlined above in Articles 11.7.1.1 through 11.7.1.8, and an additional overhead of 5% of the costs outlined in Articles 11.7.1.1 through 11.7.1.3.

11.7.3 Non-Recoverable Costs. The parties agree that the **City** will have no liability for the following items and the **Contractor** agrees it shall make no claim for the following items:

- 11.7.3.1 Profit, or loss of anticipated or unanticipated profit, except as provided in Article 11.7.1.9;
- 11.7.3.2 Consequential damages, including, but not limited to, construction or bridge loans or interest paid on such loans, loss of bonding capacity, bidding opportunities, or interest in investment, or any resulting insolvency;
- 11.7.3.3 Indirect costs or expenses of any nature except those included in Article 11.7.1;
- 11.7.3.4 Direct or indirect costs attributable to performance of **Work** where the **Contractor**, because of situations or conditions within its control, has not progressed the **Work** in a satisfactory manner; and
- 11.7.3.5 Attorneys' fees and dispute and claims preparation expenses.

- 11.8 Any claims for delay under this Article 11 are not subject to the jurisdiction of the Contract Dispute Resolution Board pursuant to the dispute resolution process set forth in Article 27.
- 11.9 Any compensation provided to the **Contractor** in accordance with this Article 11 will be made pursuant to a claim filed with the **Comptroller**. Nothing in this Article 11 extends the time for the **Contractor** to file an action with respect to a claim within six months after **Substantial Completion** pursuant to Article 56.

ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS

12.1 During the progress of the **Work**, **Other Contractors** may be engaged in performing other work or may be awarded other contracts for additional work on this **Project**. In that event, the **Contractor** shall coordinate the **Work** to be done hereunder with the work of such **Other Contractors** and the **Contractor** shall fully cooperate with such **Other Contractors** and carefully fit its own **Work** to that provided under other contracts as may be directed by the **Engineer**. The **Contractor** shall not commit or permit any act which will interfere with the performance of work by any **Other Contractors**.

12.2 If the **Engineer** determines that the **Contractor** is failing to coordinate its **Work** with the work of **Other Contractors** as the **Engineer** has directed, then the **Commissioner** shall have the right to withhold any payments otherwise due hereunder until the **Contractor** completely complies with the **Engineer's** directions.

12.3 The **Contractor** shall notify the **Engineer** in writing if any **Other Contractor** on this **Project** is failing to coordinate its work with the **Work** of this **Contract**. If the **Engineer** finds such charges to be true, the **Engineer** shall promptly issue such directions to the **Other Contractor** with respect thereto as the situation may require. The **City** shall not, however, be liable for any damages suffered by any **Other Contractor's** failure to coordinate its work with the **Work** of this **Contract** or by reason of the **Other Contractor's** failure to promptly comply with the directions so issued by the **Engineer**, or by reason of any **Other Contractor's** default in performance, it being understood that the **City** does not guarantee the responsibility or continued efficiency of any contractor. The **Contractor** agrees to make no claim against the **City** for any damages relating to or arising out of any directions issued by the **Engineer** pursuant to this Article 12 (including but not limited to the failure of any **Other Contractor** to comply or promptly comply with such directions), or the failure of any **Other Contractor** to coordinate its work, or the default in performance of any **Other Contractor**.

12.4 The **Contractor** shall indemnify and hold the **City** harmless from any and all claims or judgments for damages and from costs and expenses to which the **City** may be subjected or which it may suffer or incur by reason of the **Contractor's** failure to comply with the **Engineer's** directions promptly; and the **Comptroller** shall have the right to exercise the powers reserved in Article 23 with respect to any claims which may be made for damages due to the **Contractor's** failure to comply with the **Engineer's** directions promptly. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.5 Should the **Contractor** sustain any damage through any act or omission of any **Other Contractor** having a contract with the **City** for the performance of work upon the **Site** or of work which may be necessary to be performed for the proper prosecution of the **Work** to be performed hereunder, or through any act or omission of a subcontractor of such **Other Contractor**, the **Contractor** shall have no claim against the **City** for such damage, but shall have a right to recover such damage from the **Other**

Contractor under the provision similar to the following provisions which apply to this **Contract** and have been or will be inserted in the contracts with such **Other Contractors**:

12.5.1 Should any **Other Contractor** having or who shall hereafter have a contract with the **City** for the performance of work upon the **Site** sustain any damage through any act or omission of the **Contractor** hereunder or through any act or omission of any **Subcontractor** of the **Contractor**, the **Contractor** agrees to reimburse such **Other Contractor** for all such damages and to defend at its own expense any action based upon such claim and if any judgment or claim (even if the allegations of the action are without merit) against the **City** shall be allowed the **Contractor** shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith and agrees to indemnify and hold the **City** harmless from all such claims. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.6 The **City's** right to indemnification hereunder shall in no way be diminished, waived or discharged by its recourse to assessment of liquidated damages as provided in Article 15, or by the exercise of any other remedy provided for by **Contract** or by **Law**.

ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE

13.1 If performance by the **Contractor** is delayed for a reason set forth in Article 13.3, the **Contractor** may be allowed a reasonable extension of time in conformance with this Article 13 and the **PPB Rules**.

13.2 Any extension of time may be granted only by the **ACCO** or by the Board for the Extension of Time (hereafter "Board") (as set forth below) upon written application by the **Contractor**.

13.3 Grounds for Extension: If such application is made, the **Contractor** shall be entitled to an extension of time for delay in completion of the **Work** caused solely:

13.3.1 By the acts or omissions of the **City**, its officials, agents or employees; or

13.3.2 By the act or omissions of **Other Contractors** on this **Project**; or

13.3.3 By supervening conditions entirely beyond the control of either party hereto (such as, but not limited to, acts of God or the public enemy, excessive inclement weather, war or other national emergency making performance temporarily impossible or illegal, or strikes or labor disputes not brought about by any act or omission of the **Contractor**).

13.3.4 The **Contractor** shall, however, be entitled to an extension of time for such causes only for the number of **Days** of delay which the **ACCO** or the Board may determine to be due solely to such causes, and then only if the **Contractor** shall have strictly complied with all of the requirements of Articles 9 and 10.

13.4 The **Contractor** shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the **Work** as determined by the **ACCO** or the Board, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the **Contractor** or of its **Subcontractors** or **Materialmen**, and would of itself (irrespective

of the concurrent causes) have delayed the **Work**, no extension of time will be allowed for the period of delay resulting from such act, fault or omission.

13.5 The determination made by the **ACCO** or the Board on an application for an extension of time shall be binding and conclusive on the **Contractor**.

13.6 The **ACCO** or the Board acting entirely within their discretion may grant an application for an extension of time for causes of delay other than those herein referred.

13.7 Permitting the **Contractor** to continue with the **Work** after the time fixed for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment to the **Contractor** after such time, shall in no way operate as a waiver on the part of the **City** of any of its rights under this **Contract**.

13.8 Application for Extension of Time:

13.8.1 Before the **Contractor's** time extension request will be considered, the **Contractor** shall notify the **ACCO** of the condition which allegedly has caused or is causing the delay, and shall submit a written application to the **ACCO** identifying:

13.8.1(a) The **Contractor**; the registration number; and **Project** description;

13.8.1(b) Liquidated damage assessment rate, as specified in the **Contract**;

13.8.1(c) Original total bid price;

13.8.1(d) The original **Contract** start date and completion date;

13.8.1(e) Any previous time extensions granted (number and duration); and

13.8.1(f) The extension of time requested.

13.8.2 In addition, the application for extension of time shall set forth in detail:

13.8.2(a) The nature of each alleged cause of delay in completing the **Work**;

13.8.2(b) The date upon which each such cause of delay began and ended and the number of **Days** attributable to each such cause;

13.8.2(c) A statement that the **Contractor** waives all claims except for those delineated in the application, and the particulars of any claims which the **Contractor** does not agree to waive. For time extensions for **Substantial Completion** and final completion payments, the application shall include a detailed statement of the dollar amounts of each element of claim item reserved; and

13.8.2(d) A statement indicating the **Contractor's** understanding that the time extension is granted only for purposes of permitting continuation of **Contract** performance and payment for **Work** performed and that the **City** retains its right to conduct an investigation and assess liquidated damages as appropriate in the future.

13.9 Analysis and Approval of Time Extensions:

13.9.1 For time extensions for partial payments, a written determination shall be made by the **ACCO** who may, for good and sufficient cause, extend the time for the performance of the **Contract** as follows:

13.9.1(a) If the **Work** is to be completed within six (6) months, the time for performance may be extended for sixty (60) **Days**;

13.9.1(b) If the **Work** is to be completed within less than one (1) year but more than six (6) months, an extension of ninety (90) **Days** may be granted;

13.9.1(c) If the **Contract** period exceeds one (1) year, besides the extension granted in Article 13.9.1(b), an additional thirty (30) **Days** may be granted for each multiple of six (6) months involved beyond the one (1) year period; or

13.9.1(d) If exceptional circumstances exist, the **ACCO** may extend the time for performance beyond the extensions in Articles 13.9.1(a), 13.9.1(b), and 13.9.1(c). In that event, the **ACCO** shall file with the Mayor's Office of Contract Services a written explanation of the exceptional circumstances.

13.9.2 For extensions of time for **Substantial Completion** and final completion payments, the **Engineer**, in consultation with the **ACCO**, shall prepare a written analysis of the delay (including a preliminary determination of the causes of delay, the beginning and end dates for each such cause of delay, and whether the delays are excusable under the terms of this **Contract**). The report shall be subject to review by and approval of the Board, which shall have authority to question its analysis and determinations and request additional facts or documentation. The report as reviewed and made final by the Board shall be made a part of the **Agency** contract file. Neither the report itself nor anything contained therein shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

13.9.3 Approval Mechanism for Time Extensions for **Substantial Completion** or Final Completion Payments: An extension shall be granted only with the approval of the Board which is comprised of the **ACCO** of the **Agency**, the **City** Corporation Counsel, and the **Comptroller**, or their authorized representatives.

13.9.4 Neither the granting of any application for an extension of time to the **Contractor** or any **Other Contractor** on this **Project** nor the papers, records or reports related to any application for or grant of an extension of time or determination related thereto shall be referred to or offered in evidence by the **Contractor** or its attorneys in any action or proceeding.

13.10 No Damage for Delay: The **Contractor** agrees to make no claim for damages for delay in the performance of this **Contract** occasioned by any act or omission to act of the **City** or any of its representatives, except as provided for in Article 11.

ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK

14.1 Date for **Substantial Completion**: The **Contractor** shall substantially complete the **Work** within the time fixed in Schedule A of the General Conditions, or within the time to which such **Substantial Completion** may be extended.

14.2 **Determining the Date of Substantial Completion:** The **Work** will be deemed to be substantially complete when the two conditions set forth below have been met.

14.2.1 **Inspection:** The **Engineer** or **Resident Engineer**, as applicable, has inspected the **Work** and has made a written determination that it is substantially complete.

14.2.2 **Approval of Final Approved Punch List and Date for Final Acceptance:** Following inspection of the **Work**, the **Engineer/Resident Engineer** shall furnish the **Contractor** with a final punch list, specifying all items of **Work** to be completed and proposing dates for the completion of each specified item of **Work**. The **Contractor** shall then submit in writing to the **Engineer/Resident Engineer** within ten (10) **Days** of the **Engineer/Resident Engineer** furnishing the final punch list either acceptance of the dates or proposed alternative dates for the completion of each specified item of **Work**. If the **Contractor** neither accepts the dates nor proposes alternative dates within ten (10) **Days**, the schedule proposed by the **Engineer/Resident Engineer** shall be deemed accepted. If the **Contractor** proposes alternative dates, then, within a reasonable time after receipt, the **Engineer/Resident Engineer**, in a written notification to the **Contractor**, shall approve the **Contractor's** completion dates or, if they are unable to agree, the **Engineer/Resident Engineer** shall establish dates for the completion of each item of **Work**. The latest completion date specified shall be the date for **Final Acceptance** of the **Work**.

14.3 **Date of Substantial Completion.** The date of approval of the **Final Approved Punch List**, shall be the date of **Substantial Completion**. The date of approval of the **Final Approved Punch List** shall be either (a) if the **Contractor** approves the final punch list and proposed dates for completion furnished by the **Engineer/Resident Engineer**, the date of the **Contractor's** approval; or (b) if the **Contractor** neither accepts the dates nor proposes alternative dates, ten (10) **Days** after the **Engineer/Resident Engineer** furnishes the **Contractor** with a final punch list and proposed dates for completion; or (c) if the **Contractor** proposes alternative dates, the date that the **Engineer/Resident Engineer** sends written notification to the **Contractor** either approving the **Contractor's** proposed alternative dates or establishing dates for the completion for each item of **Work**.

14.4 **Determining the Date of Final Acceptance:** The **Work** will be accepted as final and complete as of the date of the **Engineer's/Resident Engineer's** inspection if, upon such inspection, the **Engineer/Resident Engineer** finds that all items on the **Final Approved Punch List** are complete and no further **Work** remains to be done. The **Commissioner** will then issue a written determination of **Final Acceptance**.

14.5 **Request for Inspection:** Inspection of the **Work** by the **Engineer/Resident Engineer** for the purpose of **Substantial Completion** or **Final Acceptance** shall be made within fourteen (14) **Days** after receipt of the **Contractor's** written request therefor.

14.6 **Request for Re-inspection:** If upon inspection for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer/Resident Engineer** determines that there are items of **Work** still to be performed, the **Contractor** shall promptly perform them and then request a re-inspection. If upon re-inspection, the **Engineer/Resident Engineer** determines that the **Work** is substantially complete or finally accepted, the date of such re-inspection shall be the date of **Substantial Completion** or **Final Acceptance**. Re-inspection by the **Engineer/Resident Engineer** shall be made within ten (10) **Days** after receipt of the **Contractor's** written request therefor.

14.7 Initiation of Inspection by the **Engineer/Resident Engineer**: If the **Contractor** does not request inspection or re-inspection of the **Work** for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer/Resident Engineer** may initiate such inspection or re-inspection.

ARTICLE 15. LIQUIDATED DAMAGES

15.1 In the event the **Contractor** fails to substantially complete the **Work** within the time fixed for such **Substantial Completion** in Schedule A of the General Conditions, plus authorized time extensions, or if the **Contractor**, in the sole determination of the **Commissioner**, has abandoned the **Work**, the **Contractor** shall pay to the **City** the sum fixed in Schedule A of the General Conditions, for each and every **Day** that the time consumed in substantially completing the **Work** exceeds the time allowed therefor; which said sum, in view of the difficulty of accurately ascertaining the loss which the **City** will suffer by reason of delay in the **Substantial Completion** of the **Work** hereunder, is hereby fixed and agreed as the liquidated damages that the **City** will suffer by reason of such delay, and not as a penalty. This Article 15 shall also apply to the **Contractor** whether or not the **Contractor** is defaulted pursuant to Chapter X of this **Contract**. Neither the failure to assess liquidated damages nor the granting of any time extension shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

15.2 Liquidated damages received hereunder are not intended to be nor shall they be treated as either a partial or full waiver or discharge of the **City's** right to indemnification, or the **Contractor's** obligation to indemnify the **City**, or to any other remedy provided for in this **Contract** or by **Law**.

15.3 The **Commissioner** may deduct and retain out of the monies which may become due hereunder, the amount of any such liquidated damages; and in case the amount which may become due hereunder shall be less than the amount of liquidated damages suffered by the **City**, the **Contractor** shall be liable to pay the difference.

ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION

16.1 Unless otherwise provided for in the **Specifications**, the **Commissioner** may take over, use, occupy or operate any part of the **Work** at any time prior to **Final Acceptance**, upon written notification to the **Contractor**. The **Engineer** or **Resident Engineer**, as applicable, shall inspect the part of the **Work** to be taken over, used, occupied, or operated, and will furnish the **Contractor** with a written statement of the **Work**, if any, which remains to be performed on such part. The **Contractor** shall not object to, nor interfere with, the **Commissioner's** decision to exercise the rights granted by Article 16. In the event the **Commissioner** takes over, uses, occupies, or operates any part of the **Work**:

16.1.1 the **Engineer/Resident Engineer** shall issue a written determination of **Substantial Completion** with respect to such part of the **Work**;

16.1.2 the **Contractor** shall be relieved of its absolute obligation to protect such part of the unfinished **Work** in accordance with Article 7;

16.1.3 the **Contractor's** guarantee on such part of the **Work** shall begin on the date of such use by the **City**; and;

16.1.4 the **Contractor** shall be entitled to a return of so much of the amount retained in accordance with Article 21 as it relates to such part of the **Work**, except so much thereof as may be retained under Articles 24 and 44.

CHAPTER IV: SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 17. SUBCONTRACTS

17.1 The **Contractor** shall not make subcontracts totaling an amount more than the percentage of the total **Contract** price fixed in Schedule A of the General Conditions, without prior written permission from the **Commissioner**. All subcontracts made by the **Contractor** shall be in writing. No **Work** may be performed by a **Subcontractor** prior to the **Contractor** entering into a written subcontract with the **Subcontractor** and complying with the provisions of this Article 17.

17.2 Before making any subcontracts, the **Contractor** shall submit a written statement to the **Commissioner** giving the name and address of the proposed **Subcontractor**; the portion of the **Work** and materials which it is to perform and furnish; the cost of the subcontract; the VENDEX questionnaire if required; the proposed subcontract if requested by the **Commissioner**; and any other information tending to prove that the proposed **Subcontractor** has the necessary facilities, skill, integrity, past experience, and financial resources to perform the **Work** in accordance with the terms and conditions of this **Contract**.

17.3 In addition to the requirements in Article 17.2, **Contractor** is required to list the **Subcontractor** in the web based Subcontractor Reporting System through the City's Payee Information Portal (PIP), available at www.nyc.gov/pip.¹ For each **Subcontractor** listed, **Contractor** is required to provide the following information: maximum contract value, description of **Subcontractor's** **Work**, start and end date of the subcontract and identification of the **Subcontractor's** industry. Thereafter, **Contractor** will be required to report in the system the payments made to each **Subcontractor** within 30 days of making the payment. If any of the required information changes throughout the Term of the **Contract**, **Contractor** will be required to revise the information in the system.

Failure of the **Contractor** to list a **Subcontractor** and/or to report **Subcontractor** payments in a timely fashion may result in the **Commissioner** declaring the **Contractor** in default of the **Contract** and will subject **Contractor** to liquidated damages in the amount of \$100 per day for each day that the **Contractor** fails to identify a **Subcontractor** along with the required information about the **Subcontractor** and/or fails to report payments to a **Subcontractor**, beyond the time frames set forth herein or in the notice from the **City**. Article 15 shall govern the issue of liquidated damages.

17.4 If an approved **Subcontractor** elects to subcontract any portion of its subcontract, the proposed sub-subcontract shall be submitted in the same manner as directed above.

17.5 The **Commissioner** will notify the **Contractor** in writing whether the proposed **Subcontractor** is approved. If the proposed **Subcontractor** is not approved, the **Contractor** may submit another proposed **Subcontractor** unless the **Contractor** decides to do the **Work**. No **Subcontractor** shall be permitted to enter or perform any work on the **Site** unless approved.

17.6 Before entering into any subcontract hereunder, the **Contractor** shall provide the proposed **Subcontractor** with a complete copy of this document and inform the proposed **Subcontractor** fully and completely of all provisions and requirements of this **Contract** relating either directly or indirectly to the **Work** to be performed and the materials to be furnished under such subcontract, and every such

¹ In order to use the new system, a PIP account will be required. Detailed instructions on creating a PIP account and using the new system are also available at www.nyc.gov/pip. Additional assistance with PIP may be obtained by emailing the Financial Information Services Agency Help Desk at pip@fisa.nyc.gov.

Subcontractor shall expressly stipulate that all labor performed and materials furnished by the **Subcontractor** shall strictly comply with the requirements of this **Contract**.

17.7 Documents given to a prospective **Subcontractor** for the purpose of soliciting the **Subcontractor's** bid shall include either a copy of the bid cover or a separate information sheet setting forth the **Project** name, the **Contract** number (if available), the **Agency** (as noted in Article 2.1.6), and the **Project's** location.

17.8 The **Commissioner's** approval of a **Subcontractor** shall not relieve the **Contractor** of any of its responsibilities, duties, and liabilities hereunder. The **Contractor** shall be solely responsible to the **City** for the acts or defaults of its **Subcontractor** and of such **Subcontractor's** officers, agents, and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the **Contractor** to the extent of its subcontract.

17.9 If the **Subcontractor** fails to maintain the necessary facilities, skill, integrity, past experience, and financial resources (other than due to the **Contractor's** failure to make payments where required) to perform the **Work** in accordance with the terms and conditions of this **Contract**, the **Contractor** shall promptly notify the **Commissioner** and replace such **Subcontractor** with a newly approved **Subcontractor** in accordance with this Article 17.

17.10 The **Contractor** shall be responsible for ensuring that all **Subcontractors** performing **Work** at the **Site** maintain all insurance required by **Law**.

17.11 The **Contractor** shall promptly, upon request, file with the **Engineer** a conformed copy of the subcontract and its cost. The subcontract shall provide the following:

17.11.1 **Payment to Subcontractors:** The agreement between the **Contractor** and its **Subcontractor** shall contain the same terms and conditions as to method of payment for **Work**, labor, and materials, and as to retained percentages, as are contained in this **Contract**.

17.11.2 **Prevailing Rate of Wages:** The agreement between the **Contractor** and its **Subcontractor** shall include the prevailing wage rates and supplemental benefits to be paid in accordance with Labor Law Section 220.

17.11.3 **Section 6-123 of the Administrative Code:** Pursuant to the requirements of Section 6-123 of the Administrative Code, every agreement between the **Contractor** and a **Subcontractor** in excess of fifty thousand (\$50,000) dollars shall include a provision that the **Subcontractor** shall not engage in any unlawful discriminatory practice as defined in Title VIII of the Administrative Code (Section 8-101 *et seq.*).

17.11.4 All requirements required pursuant to federal and/or state grant agreement(s), if applicable to the **Work**.

17.12 The **Commissioner** may deduct from the amounts certified under this **Contract** to be due to the **Contractor**, the sum or sums due and owing from the **Contractor** to the **Subcontractors** according to the terms of the said subcontracts, and in case of dispute between the **Contractor** and its **Subcontractor**, or **Subcontractors**, as to the amount due and owing, the **Commissioner** may deduct and withhold from the amounts certified under this **Contract** to be due to the **Contractor** such sum or sums as may be claimed by such **Subcontractor**, or **Subcontractors**, in a sworn affidavit, to be due and owing until such time as such claim or claims shall have been finally resolved.

17.13 On contracts where performance bonds and payment bonds are executed, the **Contractor** shall include on each requisition for payment the following data: **Subcontractor's** name, value of the subcontract, total amount previously paid to **Subcontractor** for **Work** previously requisitioned, and the amount, including retainage, to be paid to the **Subcontractor** for **Work** included in the requisition.

17.14 On **Contracts** where performance bonds and payment bonds are not executed, the **Contractor** shall include with each requisition for payment submitted hereunder, a signed statement from each and every **Subcontractor** and/or **Materialman** for whom payment is requested in such requisition. Such signed statement shall be on the letterhead of the **Subcontractor** and/or **Materialman** for whom payment is requested and shall (i) verify that such **Subcontractor** and/or **Materialman** has been paid in full for all **Work** performed and/or material supplied to date, exclusive of any amount retained and any amount included on the current requisition, and (ii) state the total amount of retainage to date, exclusive of any amount retained on the current requisition.

ARTICLE 18. ASSIGNMENTS

18.1 The **Contractor** shall not assign, transfer, convey or otherwise dispose of this **Contract**, or the right to execute it, or the right, title or interest in or to it or any part thereof, or assign, by power of attorney or otherwise any of the monies due or to become due under this **Contract**, unless the previous written consent of the **Commissioner** shall first be obtained thereto, and the giving of any such consent to a particular assignment shall not dispense with the necessity of such consent to any further or other assignments.

18.2 Such assignment, transfer, conveyance or other disposition of this **Contract** shall not be valid until filed in the office of the **Commissioner** and the **Comptroller**, with the written consent of the **Commissioner** endorsed thereon or attached thereto.

18.3 Failure to obtain the previous written consent of the **Commissioner** to such an assignment, transfer, conveyance or other disposition, may result in the revocation and annulment of this **Contract**. The **City** shall thereupon be relieved and discharged from any further liability to the **Contractor**, its assignees, transferees or sublessees, who shall forfeit and lose all monies therefor earned under the **Contract**, except so much as may be required to pay the **Contractor's** employees.

18.4 The provisions of this clause shall not hinder, prevent, or affect an assignment by the **Contractor** for the benefit of its creditors made pursuant to the **Laws** of the State of New York.

18.5 This **Contract** may be assigned by the **City** to any corporation, agency or instrumentality having authority to accept such assignment.

CHAPTER V: CONTRACTOR'S SECURITY AND GUARANTEE

ARTICLE 19. SECURITY DEPOSIT

19.1 If performance and payment bonds are required, the **City** shall retain the bid security to ensure that the successful bidder executes the **Contract** and furnishes the required payment and performance security within ten (10) **Days** after notice of the award of the **Contract**. If the successful bidder fails to execute the **Contract** and furnish the required payment and performance security, the **City** shall retain such bid security as set forth in the Information for Bidders. If the successful bidder executes the

Contract and furnishes the required payment and performance security, the **City** shall return the bid security within a reasonable time after the furnishing of such bonds and execution of the **Contract** by the **City**.

19.2 If performance and payment bonds are not required, the bid security shall be retained by the **City** as security for the **Contractor's** faithful performance of the **Contract**. If partial payments are provided, the bid security will be returned to the **Contractor** after the sum retained under Article 21 equals the amount of the bid security, subject to other provisions of this **Contract**. If partial payments are not provided, the bid security will be released when final payment is certified by the **City** for payment.

19.3 If the **Contractor** is declared in default under Article 48 prior to the return of the deposit, or if any claim is made such as referred to in Article 23, the amount of such deposit, or so much thereof as the **Comptroller** may deem necessary, may be retained and then applied by the **Comptroller**:

19.3.1 To compensate the **City** for any expense, loss or damage suffered or incurred by reason of or resulting from such default, including the cost of re-letting and liquidated damages; or

19.3.2 To indemnify the **City** against any and all claims.

ARTICLE 20. PAYMENT GUARANTEE

20.1 On **Contracts** where one hundred (100%) percent performance bonds and payment bonds are executed, this Article 20 does not apply.

20.2 In the event the terms of this **Contract** do not require the **Contractor** to provide a payment bond or where the **Contract** does not require a payment bond for one hundred (100%) percent of the **Contract** price, the **City** shall, in accordance with the terms of this Article 20, guarantee payment of all lawful claims for:

20.2.1 Wages and compensation for labor performed and/or services rendered; and

20.2.2 Materials, equipment, and supplies provided, whether incorporated into the **Work** or not, when demands have been filed with the **City** as provided hereinafter by any person, firm, or corporation which furnished labor, material, equipment, supplies, or any combination thereof, in connection with the **Work** performed hereunder (hereinafter referred to as the "beneficiary") at the direction of the **City** or the **Contractor**.

20.3 The provisions of Article 20.2 are subject to the following limitations and conditions:

20.3.1 If the **Contractor** provides a payment bond for a value that is less than one hundred (100%) percent of the value of the **Contract Work**, the payment bond provided by the **Contractor** shall be primary (and non-contributing) to the payment guarantee provided under this Article 20.

20.3.2 The guarantee is made for the benefit of all beneficiaries as defined in Article 20.2 provided that those beneficiaries strictly adhere to the terms and conditions of Article 20.3.4 and 20.3.5.

20.3.3 Nothing in this Article 20 shall prevent a beneficiary providing labor, services or material for the **Work** from suing the **Contractor** for any amounts due and owing the beneficiary by the **Contractor**.

20.3.4 Every person who has furnished labor or material, to the **Contractor** or to a **Subcontractor** of the **Contractor**, in the prosecution of the **Work** and who has not been paid in full therefor before the expiration of a period of ninety (90) **Days** after the date on which the last of the labor was performed or material was furnished by him/her for which the claim is made, shall have the right to sue on this payment guarantee in his/her own name for the amount, or the balance thereof, unpaid at the time of commencement of the action; provided, however, that a person having a direct contractual relationship with a **Subcontractor** of the **Contractor** but no contractual relationship express or implied with the **Contractor** shall not have a right of action upon the guarantee unless he/she shall have given written notice to the **Contractor** within one hundred twenty (120) **Days** from the date on which the last of the labor was performed or the last of the material was furnished, for which his/her claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the material was furnished or for whom the labor was performed. The notice shall be served by delivering the same personally to the **Contractor** or by mailing the same by registered mail, postage prepaid, in an envelope addressed to the **Contractor** at any place where it maintains an office or conducts its business; provided, however, that where such notice is actually received by the **Contractor** by other means, such notice shall be deemed sufficient.

20.3.5 Except as provided in Labor Law Section 220-g, no action on this payment guarantee shall be commenced after the expiration of the one-year limitations period set forth in Section 137(4)(b) of the State Finance Law.

20.3.6 The **Contractor** shall promptly forward to the **City** any notice or demand received pursuant to Article 20.3.4. The **Contractor** shall inform the **City** of any defenses to the notice or demand and shall forward to the **City** any documents the **City** requests concerning the notice or demand.

20.3.7 All demands made against the **City** by a beneficiary of this payment guarantee shall be presented to the **Engineer** along with all written documentation concerning the demand which the **Engineer** deems reasonably appropriate or necessary, which may include, but shall not be limited to: the subcontract; any invoices presented to the **Contractor** for payment; the notarized statement of the beneficiary that the demand is due and payable, that a request for payment has been made of the **Contractor** and that the demand has not been paid by the **Contractor** within the time allowed for such payment by the subcontract; and copies of any correspondence between the beneficiary and the **Contractor** concerning such demand. The **City** shall notify the **Contractor** that a demand has been made. The **Contractor** shall inform the **City** of any defenses to the demand and shall forward to the **City** any documents the **City** requests concerning the demand.

20.3.8 The **City** shall make payment only if, after considering all defenses presented by the **Contractor**, it determines that the payment is due and owing to the beneficiary making the demand.

20.3.9 No beneficiary shall be entitled to interest from the **City**, or to any other costs, including, but not limited to, attorneys' fees, except to the extent required by State Finance Law Section 137.

20.4 Upon the receipt by the **City** of a demand pursuant to this Article 20, the **City** may withhold from any payment otherwise due and owing to the **Contractor** under this **Contract** an amount sufficient to satisfy the demand.

20.4.1 In the event the **City** determines that the demand is valid, the **City** shall notify the **Contractor** of such determination and the amount thereof and direct the **Contractor** to immediately pay such amount to the beneficiary. In the event the **Contractor**, within seven (7) **Days** of receipt of such notification from the **City**, fails to pay the beneficiary, such failure shall constitute an automatic and irrevocable assignment of payment by the **Contractor** to the beneficiary for the amount of the demand determined by the **City** to be valid. The **Contractor**, without further notification or other process, hereby gives its unconditional consent to such assignment of payment to the beneficiary and authorizes the **City**, on its behalf, to take all necessary actions to implement such assignment of payment, including without limitation the execution of any instrument or documentation necessary to effectuate such assignment.

20.4.2 In the event that the amount otherwise due and owing to the **Contractor** by the **City** is insufficient to satisfy such demand, the **City** may, at its option, require payment from the **Contractor** of an amount sufficient to cover such demand and exercise any other right to require or recover payment which the **City** may have under **Law** or **Contract**.

20.4.3 In the event the **City** determines that the demand is invalid, any amount withheld pending the **City's** review of such demand shall be paid to the **Contractor**; provided, however, no lien has been filed. In the event a claim or an action has been filed, the terms and conditions set forth in Article 23 shall apply. In the event a lien has been filed, the parties will be governed by the provisions of the Lien Law of the State of New York.

20.5 The provisions of this Article 20 shall not prevent the **City** and the **Contractor** from resolving disputes in accordance with the **PPB** Rules, where applicable.

20.6 In the event the **City** determines that the beneficiary is entitled to payment pursuant to this Article 20, such determination and any defenses and counterclaims raised by the **Contractor** shall be taken into account in evaluating the **Contractor's** performance.

20.7 Nothing in this Article 20 shall relieve the **Contractor** of the obligation to pay the claims of all persons with valid and lawful claims against the **Contractor** relating to the **Work**.

20.8 The **Contractor** shall not require any performance, payment or other bonds of any **Subcontractor** if this **Contract** does not require such bonds of the **Contractor**.

20.9 The payment guarantee made pursuant to this Article 20 shall be construed in a manner consistent with Section 137 of the State Finance Law and shall afford to persons furnishing labor or materials to the **Contractor** or its **Subcontractors** in the prosecution of the **Work** under this **Contract** all of the rights and remedies afforded to such persons by such section, including but not limited to, the right to commence an action against the **City** on the payment guarantee provided by this Article 20 within the one-year limitations period set forth in Section 137(4)(b).

ARTICLE 21. RETAINED PERCENTAGE

21.1 If this **Contract** requires one hundred (100%) percent performance and payment security, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and

retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.2 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded does not exceed one million (\$1,000,000) dollars, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.3 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded exceeds one million (\$1,000,000) dollars, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, up to ten (10%) percent of the value of **Work** certified for payment in each partial payment voucher. The percentage to be retained is set forth in Schedule A of the General Conditions.

ARTICLE 22. INSURANCE

22.1 Types of Insurance: The **Contractor** shall procure and maintain the following types of insurance if, and as indicated, in Schedule A of the General Conditions (with the minimum limits and special conditions specified in Schedule A). Such insurance shall be maintained from the date the **Contractor** is required to provide Proof of Insurance pursuant to Article 22.3.1 through the date of completion of all required **Work** (including punch list work as certified in writing by the **Resident Engineer**), except for insurance required pursuant to Article 22.1.4, which may terminate upon **Substantial Completion** of the **Contract**. All insurance shall meet the requirements set forth in this Article 22. Wherever this Article requires that insurance coverage be "at least as broad" as a specified form (including all ISO forms), there is no obligation that the form itself be used, provided that the **Contractor** can demonstrate that the alternative form or endorsement contained in its policy provides coverage at least as broad as the specified form.

22.1.1 Commercial General Liability Insurance: The **Contractor** shall provide Commercial General Liability Insurance covering claims for property damage and/or bodily injury, including death, which may arise from any of the operations under this **Contract**. Coverage under this insurance shall be at least as broad as that provided by the latest edition of Insurance Services Office ("ISO") Form CG 0001. Such insurance shall be "occurrence" based rather than "claims-made" and include, without limitation, the following types of coverage: premises operations; products and completed operations; contractual liability (including the tort liability of another assumed in a contract); broad form property damage; independent contractors; explosion, collapse and underground (XCU); construction means and methods; and incidental malpractice. Such insurance shall contain a "per project" aggregate limit, as specified in Schedule A, that applies separately to operations under this **Contract**.

22.1.1(a) Such Commercial General Liability Insurance shall name the **City** as an Additional Insured. Coverage for the **City** shall specifically include the **City's** officials and employees, be at least as broad as the latest edition of ISO Form CG 20 10 and provide completed operations coverage at least as broad as the latest edition of ISO Form CG 20 37.

22.1.1(b) Such Commercial General Liability Insurance shall name all other entities designated as additional insureds in Schedule A but only for claims arising from the

Contractor's operations under this Contract, with coverage at least as broad as the latest edition of ISO Form CG 20 26.

22.1.1(c) If the **Work** requires a permit from the Department of Buildings pursuant to 1 RCNY Section 101-08, the **Contractor** shall provide Commercial General Liability Insurance with limits of at least those required by 1 RCNY section 101-08 or greater limits required by the Agency in accordance with Schedule A. If the **Work** does not require such a permit, the minimum limits shall be those provided for in Schedule A.

22.1.1(d) If any of the **Work** includes repair of a waterborne vessel owned by or to be delivered to the **City**, such Commercial General Liability shall include, or be endorsed to include, Ship Repairer's Legal Liability Coverage to protect against, without limitation, liability arising from navigation of such vessels prior to delivery to and acceptance by the **City**.

22.1.2 Workers' Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance: The **Contractor** shall provide, and shall cause its **Subcontractors** to provide, Workers Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance in accordance with the **Laws** of the State of New York on behalf of all employees providing services under this **Contract** (except for those employees, if any, for which the **Laws** require insurance only pursuant to Article 22.1.3).

22.1.3 United States Longshoremen's and Harbor Workers Act and/or Jones Act Insurance: If specified in Schedule A of the General Conditions or if required by **Law**, the **Contractor** shall provide insurance in accordance with the United States Longshoremen's and Harbor Workers Act and/or the Jones Act, on behalf of all qualifying employees providing services under this **Contract**.

22.1.4 Builders Risk Insurance: If specified in Schedule A of the General Conditions, the **Contractor** shall provide Builders Risk Insurance on a completed value form for the total value of the **Work** through **Substantial Completion** of the **Work** in its entirety. Such insurance shall be provided on an All Risk basis and include coverage, without limitation, for windstorm (including named windstorm), storm surge, flood and earth movement. Unless waived by the **Commissioner**, it shall include coverage for ordinance and law, demolition and increased costs of construction, debris removal, pollutant clean up and removal, and expediting costs. Such insurance shall cover, without limitation, (a) all buildings and/or structures involved in the **Work**, as well as temporary structures at the **Site**, and (b) any property that is intended to become a permanent part of such building or structure, whether such property is on the **Site**, in transit or in temporary storage. Policies shall name the **Contractor** as Named Insured and list the **City** as both an Additional Insured and a Loss Payee as its interest may appear.

22.1.4(a) Policies of such insurance shall specify that, in the event a loss occurs at an occupied facility, occupancy of such facility is permitted without the consent of the issuing insurance company.

22.1.4(b) Such insurance may be provided through an Installation Floater, at the **Contractor's** option, if it otherwise conforms with the requirements of this Article 22.1.4.

22.1.5 Commercial Automobile Liability Insurance: The **Contractor** shall provide Commercial Automobile Liability Insurance for liability arising out of ownership,

maintenance or use of any owned (if any), non-owned and hired vehicles to be used in connection with this **Contract**. Coverage shall be at least as broad as the latest edition of ISO Form CA0001. If vehicles are used for transporting hazardous materials, the Automobile Liability Insurance shall be endorsed to provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90.

22.1.6 **Contractors Pollution Liability Insurance:** If specified in Schedule A of the General Conditions, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Contractors Pollution Liability Insurance covering bodily injury and property damage. Such insurance shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants (including asbestos), including any loss, cost or expense incurred as a result of any cleanup of pollutants (including asbestos) or in the investigation, settlement or defense of any claim, action, or proceedings arising from the operations under this **Contract**. Such insurance shall be in the **Contractor's** name and list the **City** as an Additional Insured and any other entity specified in Schedule A. Coverage shall include, without limitation, (a) loss of use of damaged property or of property that has not been physically injured, (b) transportation, and (c) non-owned disposal sites.

22.1.6(a) Coverage for the **City** as Additional Insured shall specifically include the **City's** officials and employees and be at least as broad as provided to the **Contractor** for this **Project**.

22.1.6(b) If such insurance is written on a claims-made policy, such policy shall have a retroactive date on or before the effective date of this **Contract**, and continuous coverage shall be maintained, or an extended discovery period exercised, for a period of not less than three (3) years from the time the **Work** under this **Contract** is completed.

22.1.7 **Marine Insurance:**

22.1.7(a) **Marine Protection and Indemnity Insurance:** If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Marine Protection and Indemnity Insurance with coverage at least as broad as Form SP-23. The insurance shall provide coverage for the **Contractor** or **Subcontractor** (whichever is doing this **Work**) and for the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured for bodily injury and property damage arising from marine operations under this **Contract**. Coverage shall include, without limitation, injury or death of crew members (if not fully provided through other insurance), removal of wreck, damage to piers, wharves and other fixed or floating objects and loss of or damage to any other vessel or craft, or to property on such other vessel or craft.

22.1.7(b) **Hull and Machinery Insurance:** If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Hull and Machinery Insurance with coverage for the **Contractor** or **Subcontractor** (whichever is doing this **Work**) and for the **City** (together with its officials and employees) as Additional Insured at least as broad as the latest edition of American Institute Tug Form for all tugs used under this

Contract and Collision Liability at least as broad as the latest edition of American Institute Hull Clauses.

22.1.7(c) Marine Pollution Liability Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such Work to maintain, Marine Pollution Liability Insurance covering itself (or the Subcontractor doing such Work) as Named Insured and the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured. Coverage shall be at least as broad as that provided by the latest edition of Water Quality Insurance Syndicate Form and include, without limitation, liability arising from the discharge or substantial threat of a discharge of oil, or from the release or threatened release of a hazardous substance including injury to, or economic losses resulting from, the destruction of or damage to real property, personal property or natural resources.

22.1.8 The **Contractor** shall provide such other types of insurance, at such minimum limits and with such conditions, as are specified in Schedule A of the General Conditions.

22.2 General Requirements for Insurance Coverage and Policies:

22.2.1 All required insurance policies shall be maintained with companies that may lawfully issue the required policy and have an A.M. Best rating of at least A-/VII or a Standard and Poor's rating of at least A, unless prior written approval is obtained from the **City Corporation Counsel**.

22.2.2 The **Contractor** shall be solely responsible for the payment of all premiums for all required policies and all deductibles and self-insured retentions to which such policies are subject, whether or not the **City** is an insured under the policy.

22.2.3 In his/her sole discretion, the **Commissioner** may, subject to the approval of the **Comptroller** and the **City Corporation Counsel**, accept Letters of Credit and/or custodial accounts in lieu of required insurance.

22.2.4 The **City's** limits of coverage for all types of insurance required pursuant to Schedule A of the General Conditions shall be the greater of (i) the minimum limits set forth in Schedule A or (ii) the limits provided to the **Contractor** as Named Insured under all primary, excess, and umbrella policies of that type of coverage.

22.2.5 The **Contractor** may satisfy its insurance obligations under this Article 22 through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein.

22.2.6 Policies of insurance provided pursuant to this Article 22 shall be primary and non-contributing to any insurance or self-insurance maintained by the **City**.

22.3 Proof of Insurance:

22.3.1 For all types of insurance required by Article 22.1 and Schedule A, except for insurance required by Articles 22.1.4 and 22.1.7, the **Contractor** shall file proof of insurance in accordance with this Article 22.3 within ten (10) **Days** of award. For insurance

provided pursuant to Articles 22.1.4 and 22.1.7, proof shall be filed by a date specified by the **Commissioner** or ten (10) **Days** prior to the commencement of the portion of the **Work** covered by such policy, whichever is earlier.

22.3.2 For Workers' Compensation Insurance provided pursuant to Article 22.1.2, the **Contractor** shall submit one of the following forms: C-105.2 Certificate of Workers' Compensation Insurance; U-26.3 - State Insurance Fund Certificate of Workers' Compensation Insurance; Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. For Disability Benefits Insurance provided pursuant to Article 22.1.2, the **Contractor** shall submit DB-120.1 - Certificate Of Insurance Coverage Under The NYS Disability Benefits Law, Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. ACORD forms are not acceptable.

22.3.3 For policies provided pursuant to all of Article 22.1 other than Article 22.1.2, the **Contractor** shall submit one or more Certificates of Insurance on forms acceptable to the **Commissioner**. All such Certificates of Insurance shall certify (a) the issuance and effectiveness of such policies of insurance, each with the specified minimum limits (b) for insurance secured pursuant to Article 22.1.1 that the **City** and any other entity specified in Schedule A is an Additional Insured thereunder; (c) in the event insurance is required pursuant to Article 22.1.6 and/or Article 22.1.7, that the **City** is an Additional Insured thereunder; (d) the company code issued to the insurance company by the National Association of Insurance Commissioners (the NAIC number); and (e) the number assigned to the **Contract** by the **City**. All such Certificates of Insurance shall be accompanied by either a duly executed "Certification by Insurance Broker or Agent" in the form contained in Part III of Schedule A or copies of all policies referenced in such Certificate of Insurance as certified by an authorized representative of the issuing insurance carrier. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

22.3.4 Documentation confirming renewals of insurance shall be submitted to the **Commissioner** prior to the expiration date of coverage of policies required under this **Contract**. Such proofs of insurance shall comply with the requirements of Articles 22.3.2 and 22.3.3.

22.3.5 The **Contractor** shall be obligated to provide the **City** with a copy of any policy of insurance provided pursuant to this Article 22 upon the demand for such policy by the **Commissioner** or the **City Corporation Counsel**.

22.4 Operations of the **Contractor**:

22.4.1 The **Contractor** shall not commence the **Work** unless and until all required certificates have been submitted to and accepted by the **Commissioner**. Acceptance by the **Commissioner** of a certificate does not excuse the **Contractor** from securing insurance consistent with all provisions of this Article 22 or of any liability arising from its failure to do so.

22.4.2 The **Contractor** shall be responsible for providing continuous insurance coverage in the manner, form, and limits required by this **Contract** and shall be authorized to perform **Work** only during the effective period of all required coverage.

22.4.3 In the event that any of the required insurance policies lapse, are revoked, suspended or otherwise terminated, for whatever cause, the **Contractor** shall immediately stop all **Work**, and shall not recommence **Work** until authorized in writing to do so by the **Commissioner**. Upon quitting the **Site**, except as otherwise directed by the **Commissioner**, the **Contractor** shall leave all plant, materials, equipment, tools, and supplies on the **Site**. **Contract** time shall continue to run during such periods and no extensions of time will be granted. The **Commissioner** may also declare the **Contractor** in default for failure to maintain required insurance.

22.4.4 In the event the **Contractor** receives notice, from an insurance company or other person, that any insurance policy required under this Article 22 shall be cancelled or terminated (or has been cancelled or terminated) for any reason, the **Contractor** shall immediately forward a copy of such notice to both the **Commissioner** and the New York City Comptroller, attn: Office of Contract Administration, Municipal Building, One Centre Street, room 1005, New York, New York 10007. Notwithstanding the foregoing, the **Contractor** shall ensure that there is no interruption in any of the insurance coverage required under this Article 22.

22.4.5 Where notice of loss, damage, occurrence, accident, claim or suit is required under an insurance policy maintained in accordance with this Article 22, the **Contractor** shall notify in writing all insurance carriers that issued potentially responsive policies of any such event relating to any operations under this **Contract** (including notice to Commercial General Liability insurance carriers for events relating to the **Contractor's** own employees) no later than 20 days after such event. For any policy where the **City** is an Additional Insured, such notice shall expressly specify that "this notice is being given on behalf of the City of New York as Insured as well as the Named Insured." Such notice shall also contain the following information: the number of the insurance policy, the name of the named insured, the date and location of the damage, occurrence, or accident, and the identity of the persons or things injured, damaged or lost. The **Contractor** shall simultaneously send a copy of such notice to the City of New York c/o Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department, 100 Church Street, New York, New York 10007.

22.4.6 In the event of any loss, accident, claim, action, or other event that does or can give rise to a claim under any insurance policy required under this Article 22, the **Contractor** shall at all times fully cooperate with the **City** with regard to such potential or actual claim.

22.5 **Subcontractor Insurance:** In the event the **Contractor** requires any **Subcontractor** to procure insurance with regard to any operations under this **Contract** and requires such **Subcontractor** to name the **Contractor** as an **Additional Insured** thereunder, the **Contractor** shall ensure that the **Subcontractor** name the **City**, including its officials and employees, as an **Additional Insured** with coverage at least as broad as the most recent edition of ISO Form CG 20 26.

22.6 Wherever reference is made in Article 7 or this Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth in Schedule A of the General Conditions. In the event no address is set forth in Schedule A, such documents are to be sent to the **Commissioner's** address as provided elsewhere in this **Contract**.

22.7 Apart from damages or losses covered by insurance provided pursuant to Articles 22.1.2, 22.1.3, or 22.1.5, the **Contractor** waives all rights against the **City**, including its officials and employees, for any damages or losses that are covered under any insurance required under this Article 22 (whether or

not such insurance is actually procured or claims are paid thereunder) or any other insurance applicable to the operations of the **Contractor** and/or its employees, agents, or **Subcontractors**.

22.8 In the event the **Contractor** utilizes a self-insurance program to satisfy any of the requirements of this Article 22, the **Contractor** shall ensure that any such self-insurance program provides the **City** with all rights that would be provided by traditional insurance under this Article 22, including but not limited to the defense and indemnification obligations that insurers are required to undertake in liability policies.

22.9 Materiality/Non-Waiver: The **Contractor's** failure to secure policies in complete conformity with this Article 22, or to give an insurance company timely notice of any sort required in this **Contract** or to do anything else required by this Article 22 shall constitute a material breach of this **Contract**. Such breach shall not be waived or otherwise excused by any action or inaction by the **City** at any time.

22.10 Pursuant to General Municipal Law Section 108, this **Contract** shall be void and of no effect unless **Contractor** maintains Workers' Compensation Insurance for the term of this **Contract** to the extent required and in compliance with the New York State Workers' Compensation Law.

22.11 Other Remedies: Insurance coverage provided pursuant to this Article 22 or otherwise shall not relieve the **Contractor** of any liability under this **Contract**, nor shall it preclude the **City** from exercising any rights or taking such other actions available to it under any other provisions of this **Contract** or Law.

ARTICLE 23. MONEY RETAINED AGAINST CLAIMS

23.1 If any claim shall be made by any person or entity (including **Other Contractors** with the **City** on this **Project**) against the **City** or against the **Contractor** and the **City** for any of the following:

(a) An alleged loss, damage, injury, theft or vandalism of any of the kinds referred to in Articles 7 and 12, plus the reasonable costs of defending the **City**, which in the opinion of the **Comptroller** may not be paid by an insurance company (for any reason whatsoever);
or

(b) An infringement of copyrights, patents or use of patented articles, tools, etc., as referred to in Article 57; or

(c) Damage claimed to have been caused directly or indirectly by the failure of the **Contractor** to perform the **Work** in strict accordance with this **Contract**,

the amount of such claim, or so much thereof as the **Comptroller** may deem necessary, may be withheld by the **Comptroller**, as security against such claim, from any money due hereunder. The **Comptroller**, in his/her discretion, may permit the **Contractor** to substitute other satisfactory security in lieu of the monies so withheld.

23.2 If an action on such claim is timely commenced and the liability of the **City**, or the **Contractor**, or both, shall have been established therein by a final judgment of a court of competent jurisdiction, or if such claim shall have been admitted by the **Contractor** to be valid, the **Comptroller** shall pay such judgment or admitted claim out of the monies retained by the **Comptroller** under the provisions of this Article 23, and return the balance, if any, without interest, to the **Contractor**.

ARTICLE 24. MAINTENANCE AND GUARANTY

24.1 The **Contractor** shall promptly repair, replace, restore or rebuild, as the **Commissioner** may determine, any finished **Work** in which defects of materials or workmanship may appear or to which damage may occur because of such defects, during the one (1) year period subsequent to the date of **Substantial Completion** (or use and occupancy in accordance with Article 16), except where other periods of maintenance and guaranty are provided for in Schedule A.

24.2 As security for the faithful performance of its obligations hereunder, the **Contractor**, upon filing its requisition for payment on **Substantial Completion**, shall deposit with the **Commissioner** a sum equal to one (1%) percent of the price (or the amount fixed in Schedule A of the General Conditions) in cash or certified check upon a state or national bank and trust company or a check of such bank and trust company signed by a duly authorized officer thereof and drawn to the order of the **Comptroller**, or obligations of the **City**, which the **Comptroller** may approve as of equal value with the sum so required.

24.3 In lieu of the above, the **Contractor** may make such security payment to the **City** by authorizing the **Commissioner** in writing to deduct the amount from the **Substantial Completion** payment which shall be deemed the deposit required above.

24.4 If the **Contractor** has faithfully performed all of its obligations hereunder the **Commissioner** shall so certify to the **Comptroller** within five (5) **Days** after the expiration of one (1) year from the date of **Substantial Completion** and acceptance of the **Work** or within thirty (30) **Days** after the expiration of the guarantee period fixed in the **Specifications**. The security payment shall be repaid to the **Contractor** without interest within thirty (30) **Days** after certification by the **Commissioner** to the **Comptroller** that the **Contractor** has faithfully performed all of its obligations hereunder.

24.5 Notice by the **Commissioner** to the **Contractor** to repair, replace, rebuild or restore such defective or damaged **Work** shall be timely, pursuant to this article, if given not later than ten (10) **Days** subsequent to the expiration of the one (1) year period or other periods provided for herein.

24.6 If the **Contractor** shall fail to repair, replace, rebuild or restore such defective or damaged **Work** promptly after receiving such notice, the **Commissioner** shall have the right to have the **Work** done by others in the same manner as provided for in the completion of a defaulted **Contract**, under Article 51.

24.7 If the security payment so deposited is insufficient to cover the cost of such **Work**, the **Contractor** shall be liable to pay such deficiency on demand by the **Commissioner**.

24.8 The **Engineer's** certificate setting forth the fair and reasonable cost of repairing, replacing, rebuilding or restoring any damaged or defective **Work** when performed by one other than the **Contractor**, shall be binding and conclusive upon the **Contractor** as to the amount thereof.

24.9 The **Contractor** shall obtain all manufacturers' warranties and guaranties of all equipment and materials required by this **Contract** in the name of the **City** and shall deliver same to the **Commissioner**. All of the **City's** rights and title and interest in and to said manufacturers' warranties and guaranties may be assigned by the **City** to any subsequent purchasers of such equipment and materials or lessees of the premises into which the equipment and materials have been installed.

CHAPTER VI: CHANGES, EXTRA WORK, AND DOCUMENTATION OF CLAIM

ARTICLE 25. CHANGES

25.1 Changes may be made to this **Contract** only as duly authorized in writing by the **Commissioner** in accordance with the **Law** and this **Contract**. All such changes, modifications, and amendments will become a part of the **Contract**. **Work** so ordered shall be performed by the **Contractor**.

25.2 **Contract** changes will be made only for **Work** necessary to complete the **Work** included in the original scope of the **Contract** and/or for non-material changes to the scope of the **Contract**. Changes are not permitted for any material alteration in the scope of **Work** in the **Contract**.

25.3 The **Contractor** shall be entitled to a price adjustment for **Extra Work** performed pursuant to a written change order. Adjustments to price shall be computed in one or more of the following ways:

25.3.1 By applicable unit prices specified in the **Contract**; and/or

25.3.2 By agreement of a fixed price; and/or

25.3.3 By time and material records; and/or

25.3.4 In any other manner approved by the **CCPO**.

25.4 All payments for change orders are subject to pre-audit by the **Engineering Audit Officer** and may be post-audited by the **Comptroller** and/or the **Agency**.

ARTICLE 26. METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK

26.1 **Overrun of Unit Price Item**: An overrun is any quantity of a unit price item which the **Contractor** is directed to provide which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule.

26.1.1 For any unit price item, the **Contractor** will be paid at the unit price bid for any quantity up to one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule. If during the progress of the **Work**, the actual quantity of any unit price item required to complete the **Work** approaches the estimated quantity for that item, and for any reason it appears that the actual quantity of any unit price item necessary to complete the **Work** will exceed the estimated quantity for that item by twenty-five (25%) percent, the **Contractor** shall immediately notify the **Engineer** of such anticipated overrun. The **Contractor** shall not be compensated for any quantity of a unit price item provided which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule without written authorization from the **Engineer**.

26.1.2 If the actual quantity of any unit price item necessary to complete the **Work** will exceed one hundred twenty five (125%) percent of the estimated quantity for that item set forth in the bid schedule, the **City** reserves the right and the **Contractor** agrees to negotiate a new unit price for such item. In no event shall such negotiated new unit price exceed the unit bid price. If the **City** and **Contractor** cannot agree on a new unit price, then the **City** shall order the **Contractor** and the **Contractor** agrees to provide additional quantities of

the item on the basis of time and material records for the actual and reasonable cost as determined under Article 26.2, but in no event at a unit price exceeding the unit price bid.

26.2 Extra Work: For **Extra Work** where payment is by agreement on a fixed price in accordance with Article 25.3.2, the price to be paid for such **Extra Work** shall be based on the fair and reasonable estimated cost of the items set forth below. For **Extra Work** where payment is based on time and material records in accordance with Article 25.3.3, the price to be paid for such **Extra Work** shall be the actual and reasonable cost of the items set forth below, calculated in accordance with the formula specified therein, if any.

26.2.1 Necessary materials (including transportation to the **Site**); plus

26.2.2 Necessary direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits; plus

26.2.3 Sales and personal property taxes, if any, required to be paid on materials not incorporated into such **Extra Work**; plus

26.2.4 Reasonable rental value of **Contractor**-owned (or **Subcontractor**-owned, as applicable), necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per operating hour: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. Reasonable rental value is defined as the lower of either seventy-five percent of the monthly prorated rental rates established in "The AED Green Book, Rental Rates and Specifications for Construction Equipment" published by Equipment Watch (the "Green Book"), or seventy-five percent of the monthly prorated rental rates established in the "Rental Rate Blue Book for Construction Equipment" published by Equipment Watch (the "Blue Book") (the applicable Blue Book rate being for rental only without the addition of any operational costs listed in the Blue Book). The reasonable rental value is deemed to be inclusive of all operating costs except for fuel/energy consumption and equipment operator's wages/costs. For multiple shift utilization, reimbursement shall be calculated as follows: first shift shall be seventy-five (75%) percent of such rental rates; second shift shall be sixty (60%) percent of the first shift rate; and third shift shall be forty (40%) percent of the first shift rate. Equipment on standby shall be reimbursed at one-third (1/3) the prorated monthly rental rate. **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment includes equipment from rental companies affiliated with or controlled by the **Contractor** (or **Subcontractor**, as applicable), as determined by the **Commissioner**. In establishing cost reimbursement for non-operating **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment (scaffolding, sheeting systems, road plates, etc.), the **City** may restrict reimbursement to a purchase-salvage/life cycle basis if less than the computed rental costs; plus

26.2.5 Necessary installation and dismantling of such plant and equipment, including transportation to and from the **Site**, if any, provided that, in the case of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) equipment rented from a third party, the cost of installation and dismantling are not allowable if such costs are included in the rental rate; plus

26.2.6 Necessary fees charged by governmental entities; plus

26.2.7 Necessary construction-related service fees charged by non-governmental entities, such as landfill tipping fees; plus

26.2.8 Reasonable rental costs of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per hour of operation: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. In lieu of renting, the **City** reserves the right to direct the purchase of non-operating equipment (scaffolding, sheeting systems, road plates, etc.), with payment on a purchase-salvage/life cycle basis, if less than the projected rental costs; plus

26.2.9 Workers' Compensation Insurance, and any insurance coverage expressly required by the **City** for the performance of the **Extra Work** which is different than the types of insurance required by Article 22 and Schedule A of the General Conditions. The cost of Workers' Compensation Insurance is subject to applicable payroll limitation caps and shall be based upon the carrier's Manual Rate for such insurance derived from the applicable class Loss Cost ("LC") and carrier's Lost Cost Multiplier ("LCM") approved by the New York State Department of Financial Services, and with the exception of experience rating, rate modifiers as promulgated by the New York Compensation Insurance Rating Board ("NYCIRB"); plus

26.2.10 Additional costs incurred as a result of the **Extra Work** for performance and payment bonds; plus

26.2.11 Twelve percent (12%) percent of the total of items in Articles 26.2.1 through 26.2.5 as compensation for overhead, except that no percentage for overhead will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes. Overhead shall include without limitation, all costs and expenses in connection with administration, management superintendence, small tools, and insurance required by Schedule A of the General Conditions other than Workers' Compensation Insurance; plus

26.2.12 Ten (10%) percent of the total of items in Articles 26.2.1 through 26.2.5, plus the items in Article 26.2.11, as compensation for profit, except that no percentage for profit will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes; plus

26.2.13 Five (5%) percent of the total of items in Articles 26.2.6 through 26.2.10 as compensation for overhead and profit.

26.3 Where the **Extra Work** is performed in whole or in part by other than the **Contractor's** own forces pursuant to Article 26.2, the **Contractor** shall be paid, subject to pre-audit by the **Engineering Audit Officer**, the cost of such **Work** computed in accordance with Article 26.2 above, plus an additional allowance of five (5%) percent to cover the **Contractor's** overhead and profit.

26.4 Where a change is ordered, involving both **Extra Work** and omitted or reduced **Contract Work**, the **Contract** price shall be adjusted, subject to pre-audit by the **EAO**, in an amount based on the difference between the cost of such **Extra Work** and of the omitted or reduced **Work**.

26.5 Where the **Contractor** and the **Commissioner** can agree upon a fixed price for **Extra Work** in accordance with Article 25.3.2 or another method of payment for **Extra Work** in accordance with

Article 25.3.4, or for **Extra Work** ordered in connection with omitted **Work**, such method, subject to pre-audit by the **EAO**, may, at the option of the **Commissioner**, be substituted for the cost plus a percentage method provided in Article 26.2; provided, however, that if the **Extra Work** is performed by a **Subcontractor**, the **Contractor** shall not be entitled to receive more than an additional allowance of five (5%) percent for overhead and profit over the cost of such **Subcontractor's Work** as computed in accordance with Article 26.2.

ARTICLE 27. RESOLUTION OF DISPUTES

27.1 All disputes between the **City** and the **Contractor** of the kind delineated in this Article 27.1 that arise under, or by virtue of, this **Contract** shall be finally resolved in accordance with the provisions of this Article 27 and the **PPB Rules**. This procedure for resolving all disputes of the kind delineated herein shall be the exclusive means of resolving any such disputes.

27.1.1 This Article 27 shall not apply to disputes concerning matters dealt with in other sections of the **PPB Rules**, or to disputes involving patents, copyrights, trademarks, or trade secrets (as interpreted by the courts of New York State) relating to proprietary rights in computer software.

27.1.2 This Article 27 shall apply only to disputes about the scope of **Work** delineated by the **Contract**, the interpretation of **Contract** documents, the amount to be paid for **Extra Work** or disputed work performed in connection with the **Contract**, the conformity of the **Contractor's Work** to the **Contract**, and the acceptability and quality of the **Contractor's Work**; such disputes arise when the **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner** makes a determination with which the **Contractor** disagrees.

27.2 All determinations required by this Article 27 shall be made in writing clearly stated, with a reasoned explanation for the determination based on the information and evidence presented to the party making the determination. Failure to make such determination within the time required by this Article 27 shall be deemed a non-determination without prejudice that will allow application to the next level.

27.3 During such time as any dispute is being presented, heard, and considered pursuant to this Article 27, the **Contract** terms shall remain in force and the **Contractor** shall continue to perform **Work** as directed by the **ACCO** or the **Engineer**. Failure of the **Contractor** to continue **Work** as directed shall constitute a waiver by the **Contractor** of its claim.

27.4 Presentation of Disputes to Commissioner.

Notice of Dispute and Agency Response. The **Contractor** shall present its dispute in writing ("Notice of Dispute") to the **Commissioner** within thirty (30) Days of receiving written notice of the determination or action that is the subject of the dispute. This notice requirement shall not be read to replace any other notice requirements contained in the **Contract**. The Notice of Dispute shall include all the facts, evidence, documents, or other basis upon which the **Contractor** relies in support of its position, as well as a detailed computation demonstrating how any amount of money claimed by the **Contractor** in the dispute was arrived at. Within thirty (30) Days after receipt of the detailed written submission comprising the complete Notice of Dispute, the **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner** shall submit to the **Commissioner** all materials he or she deems pertinent to the dispute. Following initial submissions to the **Commissioner**, either party may demand of the other the production of any document or other material the demanding party believes may be relevant to the dispute. The requested party shall produce all relevant materials that are not otherwise

protected by a legal privilege recognized by the courts of New York State. Any question of relevancy shall be determined by the **Commissioner** whose decision shall be final. Willful failure of the **Contractor** to produce any requested material whose relevancy the **Contractor** has not disputed, or whose relevancy has been affirmatively determined, shall constitute a waiver by the **Contractor** of its claim.

27.4.1 **Commissioner Inquiry.** The **Commissioner** shall examine the material and may, in his or her discretion, convene an informal conference with the **Contractor**, the **ACCO**, and the **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner** to resolve the issue by mutual consent prior to reaching a determination. The **Commissioner** may seek such technical or other expertise as he or she shall deem appropriate, including the use of neutral mediators, and require any such additional material from either or both parties as he or she deems fit. The **Commissioner's** ability to render, and the effect of, a decision hereunder shall not be impaired by any negotiations in connection with the dispute presented, whether or not the **Commissioner** participated therein. The **Commissioner** may or, at the request of any party to the dispute, shall compel the participation of any **Other Contractor** with a contract related to the **Work** of this **Contract**, and that **Contractor** shall be bound by the decision of the **Commissioner**. Any **Other Contractor** thus brought into the dispute resolution proceeding shall have the same rights and obligations under this Article 27 as the **Contractor** initiating the dispute.

27.4.2 **Commissioner Determination.** Within thirty (30) **Days** after the receipt of all materials and information, or such longer time as may be agreed to by the parties, the **Commissioner** shall make his or her determination and shall deliver or send a copy of such determination to the **Contractor**, the **ACCO**, and **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner**, as applicable, together with a statement concerning how the decision may be appealed.

27.4.3 **Finality of Commissioner's Decision.** The **Commissioner's** decision shall be final and binding on all parties, unless presented to the Contract Dispute Resolution Board pursuant to this Article 27. The **City** may not take a petition to the Contract Dispute Resolution Board. However, should the **Contractor** take such a petition, the **City** may seek, and the Contract Dispute Resolution Board may render, a determination less favorable to the **Contractor** and more favorable to the **City** than the decision of the **Commissioner**.

27.5 **Presentation of Dispute to the Comptroller.** Before any dispute may be brought by the **Contractor** to the Contract Dispute Resolution Board, the **Contractor** must first present its claim to the **Comptroller** for his or her review, investigation, and possible adjustment.

27.5.1 **Time, Form, and Content of Notice.** Within thirty (30) **Days** of its receipt of a decision by the **Commissioner**, the **Contractor** shall submit to the **Comptroller** and to the **Commissioner** a Notice of Claim regarding its dispute with the **Agency**. The Notice of Claim shall consist of (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written decision of the **Commissioner**; and (iii) a copy of all materials submitted by the **Contractor** to the **Agency**, including the Notice of Dispute. The **Contractor** may not present to the **Comptroller** any material not presented to the **Commissioner**, except at the request of the **Comptroller**.

27.5.2 Response. Within thirty (30) **Days** of receipt of the Notice of Claim, the **Agency** shall make available to the **Comptroller** a copy of all material submitted by the **Agency** to the **Commissioner** in connection with the dispute. The **Agency** may not present to the **Comptroller** any material not presented to the **Commissioner** except at the request of the **Comptroller**.

27.5.3 **Comptroller Investigation.** The **Comptroller** may investigate the claim in dispute and, in the course of such investigation, may exercise all powers provided in Sections 7-201 and 7-203 of the Administrative Code. In addition, the **Comptroller** may demand of either party, and such party shall provide, whatever additional material the **Comptroller** deems pertinent to the claim, including original business records of the **Contractor**. Willful failure of the **Contractor** to produce within fifteen (15) **Days** any material requested by the **Comptroller** shall constitute a waiver by the **Contractor** of its claim. The **Comptroller** may also schedule an informal conference to be attended by the **Contractor**, **Agency** representatives, and any other personnel desired by the **Comptroller**.

27.5.4 Opportunity of **Comptroller** to Compromise or Adjust Claim. The **Comptroller** shall have forty-five (45) **Days** from his or her receipt of all materials referred to in Article 27.5.3 to investigate the disputed claim. The period for investigation and compromise may be further extended by agreement between the **Contractor** and the **Comptroller**, to a maximum of ninety (90) **Days** from the **Comptroller's** receipt of all materials. The **Contractor** may not present its petition to the Contract Dispute Resolution Board until the period for investigation and compromise delineated in this Article 27.5.4 has expired. In compromising or adjusting any claim hereunder, the **Comptroller** may not revise or disregard the terms of the **Contract** between the parties.

27.6 Contract Dispute Resolution Board. There shall be a Contract Dispute Resolution Board composed of:

27.6.1 The chief administrative law judge of the Office of Administrative Trials and Hearings (OATH) or his/her designated OATH administrative law judge, who shall act as chairperson, and may adopt operational procedures and issue such orders consistent with this Article 27 as may be necessary in the execution of the Contract Dispute Resolution Board's functions, including, but not limited to, granting extensions of time to present or respond to submissions;

27.6.2 The **CCPO** or his/her designee; any designee shall have the requisite background to consider and resolve the merits of the dispute and shall not have participated personally and substantially in the particular matter that is the subject of the dispute or report to anyone who so participated; and

27.6.3 A person with appropriate expertise who is not an employee of the **City**. This person shall be selected by the presiding administrative law judge from a prequalified panel of individuals, established and administered by OATH with appropriate background to act as decision-makers in a dispute. Such individual may not have a contract or dispute with the **City** or be an officer or employee of any company or organization that does, or regularly represents persons, companies, or organizations having disputes with the **City**.

27.7 Petition to the Contract Dispute Resolution Board. In the event the claim has not been settled or adjusted by the **Comptroller** within the period provided in this Article 27, the **Contractor**,

within thirty (30) Days thereafter, may petition the Contract Dispute Resolution Board to review the Commissioner's determination.

27.7.1 Form and Content of Petition by Contractor. The Contractor shall present its dispute to the Contract Dispute Resolution Board in the form of a petition, which shall include (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed, and the reason(s) the Contractor contends the dispute was wrongly decided by the Commissioner; (ii) a copy of the written Decision of the Commissioner, (iii) copies of all materials submitted by the Contractor to the Agency; (iv) a copy of the written decision of the Comptroller, if any, and (v) copies of all correspondence with, or written material submitted by the Contractor, to the Comptroller. The Contractor shall concurrently submit four (4) complete sets of the Petition: one set to the City Corporation Counsel (Attn: Commercial and Real Estate Litigation Division) and three (3) sets to the Contract Dispute Resolution Board at OATH's offices with proof of service on the City Corporation Counsel. In addition, the Contractor shall submit a copy of the written statement of the substance of the dispute, cited in (i) above, to both the Commissioner and the Comptroller.

27.7.2 Agency Response. Within thirty (30) Days of its receipt of the Petition by the City Corporation Counsel, the Agency shall respond to the brief written statement of the Contractor and make available to the Contract Dispute Resolution Board all material it submitted to the Commissioner and Comptroller. Three (3) complete copies of the Agency response shall be provided to the Contract Dispute Resolution Board and one to the Contractor. Extensions of time for submittal of the Agency response shall be given as necessary upon a showing of good cause or, upon consent of the parties, for an initial period of up to thirty (30) Days.

27.7.3 Further Proceedings. The Contract Dispute Resolution Board shall permit the Contractor to present its case by submission of memoranda, briefs, and oral argument. The Contract Dispute Resolution Board shall also permit the Agency to present its case in response to the Contractor by submission of memoranda, briefs, and oral argument. If requested by the City Corporation Counsel, the Comptroller shall provide reasonable assistance in the preparation of the Agency's case. Neither the Contractor nor the Agency may support its case with any documentation or other material that was not considered by the Comptroller, unless requested by the Contract Dispute Resolution Board. The Contract Dispute Resolution Board, in its discretion, may seek such technical or other expert advice as it shall deem appropriate and may seek, on its own or upon application of a party, any such additional material from any party as it deems fit. The Contract Dispute Resolution Board, in its discretion, may combine more than one dispute between the parties for concurrent resolution.

27.7.4 Contract Dispute Resolution Board Determination. Within forty-five (45) Days of the conclusion of all written submissions and oral arguments, the Contract Dispute Resolution Board shall render a written decision resolving the dispute. In an unusually complex case, the Contract Dispute Resolution Board may render its decision in a longer period, not to exceed ninety (90) Days, and shall so advise the parties at the commencement of this period. The Contract Dispute Resolution Board's decision must be consistent with the terms of the Contract. Decisions of the Contract Dispute Resolution Board shall only resolve matters before the Contract Dispute Resolution Board and shall not have precedential effect with respect to matters not before the Contract Dispute Resolution Board.

27.7.5 Notification of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board shall send a copy of its decision to the **Contractor**, the **ACCO**, the **Engineer**, the **Comptroller**, the **City Corporation Counsel**, the **CCPO**, and the **PPB**. A decision in favor of the **Contractor** shall be subject to the prompt payment provisions of the **PPB Rules**. The Required Payment Date shall be thirty (30) Days after the date the parties are formally notified of the Contract Dispute Resolution Board's decision.

27.7.6 Finality of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board's decision shall be final and binding on all parties. Any party may seek review of the Contract Dispute Resolution Board's decision solely in the form of a challenge, filed within four (4) months of the date of the Contract Dispute Resolution Board's decision, in a court of competent jurisdiction of the State of New York, County of New York pursuant to Article 78 of the Civil Practice Law and Rules. Such review by the court shall be limited to the question of whether or not the Contract Dispute Resolution Board's decision was made in violation of lawful procedure, was affected by an error of **Law**, or was arbitrary and capricious or an abuse of discretion. No evidence or information shall be introduced or relied upon in such proceeding that was not presented to the Contract Dispute Resolution Board in accordance with this Article 27.

27.8 Any termination, cancellation, or alleged breach of the **Contract** prior to or during the pendency of any proceedings pursuant to this Article 27 shall not affect or impair the ability of the **Commissioner** or Contract Dispute Resolution Board to make a binding and final decision pursuant to this Article 27.

ARTICLE 28. RECORD KEEPING FOR EXTRA OR DISPUTED WORK OR WORK ON A TIME & MATERIALS BASIS

28.1 While the **Contractor** or any of its **Subcontractors** is performing **Work** on a time and material basis or **Extra Work** on a time and material basis ordered by the **Commissioner** under Article 25, or where the **Contractor** believes that it or any of its **Subcontractors** is performing **Extra Work** but a final determination by **Agency** has not been made, or the **Contractor** or any of its **Subcontractors** is performing disputed **Work** (whether on or off the **Site**), or complying with a determination or order under protest in accordance with Articles 11, 27, and 30, in each such case the **Contractor** shall furnish the **Resident Engineer** daily with three (3) copies of written statements signed by the **Contractor's** representative at the **Site** showing:

28.1.1 The name, trade, and number of each worker employed on such **Work** or engaged in complying with such determination or order, the number of hours employed, and the character of the **Work** each is doing; and

28.1.2 The nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such **Work** or compliance with such determination or order, and from whom purchased or rented.

28.2 A copy of such statement will be countersigned by the **Resident Engineer**, noting thereon any items not agreed to or questioned, and will be returned to the **Contractor** within two (2) **Days** after submission.

28.3 The **Contractor** and its **Subcontractors**, when required by the **Commissioner**, or the **Comptroller**, shall also produce for inspection, at the office of the **Contractor** or **Subcontractor**, any and all of its books, bid documents, financial statements, vouchers, records, daily job diaries and reports,

and cancelled checks, and any other documents relating to showing the nature and quantity of the labor, materials, plant and equipment actually used in the performance of such **Work**, or in complying with such determination or order, and the amounts expended therefor, and shall permit the **Commissioner** and the **Comptroller** to make such extracts therefrom, or copies thereof, as they or either of them may desire.

28.4 In connection with the examination provided for herein, the **Commissioner**, upon demand therefor, will produce for inspection by the **Contractor** such records as the **Agency** may have with respect to such **Extra Work** or disputed **Work** performed under protest pursuant to order of the **Commissioner**, except those records and reports which may have been prepared for the purpose of determining the accuracy and validity of the **Contractor's** claim.

28.5 Failure to comply strictly with these requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such **Work** or compliance with such determination or order.

ARTICLE 29. OMITTED WORK

29.1 If any **Contract Work** in a lump sum **Contract**, or if any part of a lump sum item in a unit price, lump sum, or percentage-bid **Contract** is omitted by the **Commissioner** pursuant to Article 33, the **Contract** price, subject to audit by the EAO, shall be reduced by a pro rata portion of the lump sum bid amount based upon the percent of **Work** omitted subject to Article 29.4. For the purpose of determining the pro rata portion of the lump sum bid amount, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be the determining factor.

29.2 If the whole of a lump sum item or units of any other item is so omitted by the **Commissioner** in a unit price, lump sum, or percentage-bid **Contract**, then no payment will be made therefor except as provided in Article 29.4.

29.3 For units that have been ordered but are only partially completed, the unit price shall be reduced by a pro rata portion of the unit price bid based upon the percentage of **Work** omitted subject to Article 29.4.

29.4 In the event the **Contractor**, with respect to any omitted **Work**, has purchased any non-cancelable material and/or equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated into the **Work**, the **Contractor** shall be paid for such material and/or equipment in accordance with Article 64.2.1(b); provided, however, such payment is contingent upon the **Contractor's** delivery of such material and/or equipment in acceptable condition to a location designated by the **City**.

29.5 The **Contractor** agrees to make no claim for damages or for loss of overhead and profit with regard to any omitted **Work**.

ARTICLE 30. NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS

30.1 If the **Contractor** shall claim to be sustaining damages by reason of any act or omission of the **City** or its agents, it shall submit to the **Commissioner** within forty-five (45) **Days** from the time such damages are first incurred, and every thirty (30) **Days** thereafter to the extent additional damages are being incurred for the same condition, verified statements of the details and the amounts of such

damages, together with documentary evidence of such damages. The **Contractor** may submit any of the above statements within such additional time as may be granted by the **Commissioner** in writing upon written request therefor. Failure of the **Commissioner** to respond in writing to a written request for additional time within thirty (30) **Days** shall be deemed a denial of the request. On failure of the **Contractor** to strictly comply with the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist. Damages that the **Contractor** may claim in any action or dispute resolution procedure arising under or by reason of this **Contract** shall not be different from or in excess of the statements and documentation made pursuant to this Article 30. This Article 30.1 does not apply to claims submitted to the **Commissioner** pursuant to Article 11 or to claims disputing a determination under Article 27.

30.2 In addition to the foregoing statements, the **Contractor** shall, upon notice from the **Commissioner**, produce for examination at the **Contractor's** office, by the **Engineer, Architect** or **Project Manager**, all of its books of account, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**, and submit itself and persons in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.3 In addition to the statements required under Article 28 and this Article 30, the **Contractor** and/or its **Subcontractor** shall, within thirty (30) **Days** upon notice from the **Commissioner** or **Comptroller**, produce for examination at the **Contractor's** and/or **Subcontractor's** office, by a representative of either the **Commissioner** or **Comptroller**, all of its books of account, bid documents, financial statements, accountant workpapers, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**. Further, the **Contractor** and/or its **Subcontractor** shall submit any person in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.4 Unless the information and examination required under Article 30.3 is provided by the **Contractor** and/or its **Subcontractor** upon thirty (30) **Days'** notice from the **Commissioner** or **Comptroller**, or upon the **Commissioner's** or **Comptroller's** written authorization to extend the time to comply, the **City** shall be released from all claims arising under, relating to or by reason of this **Contract**, except for sums certified by the **Commissioner** to be due under the provisions of this **Contract**. It is further stipulated and agreed that no person has the power to waive any of the foregoing provisions and that in any action or dispute resolution procedure against the **City** to recover any sum in excess of the sums certified by the **Commissioner** to be due under or by reason of this **Contract**, the **Contractor** must allege in its complaint and prove, at trial or during such dispute resolution procedure, compliance with the provisions of this Article 30.

30.5 In addition, after the commencement of any action or dispute resolution procedure by the **Contractor** arising under or by reason of this **Contract**, the **City** shall have the right to require the **Contractor** to produce for examination under oath, up until the trial of the action or hearing before the Contract Dispute Resolution Board, the books and documents described in Article 30.3 and submit itself and all persons in its employ for examination under oath. If this Article 30 is not complied with as required, then the **Contractor** hereby consents to the dismissal of the action or dispute resolution procedure.

CHAPTER VII: POWERS OF THE RESIDENT ENGINEER, THE ENGINEER OR ARCHITECT AND THE COMMISSIONER

ARTICLE 31. THE RESIDENT ENGINEER

31.1 The **Resident Engineer** shall have the power to inspect, supervise, and control the performance of the **Work**, subject to review by the **Commissioner**. The **Resident Engineer** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER

32.1 The **Engineer** or **Architect** or **Project Manager**, in addition to those matters elsewhere herein delegated to the **Engineer** and expressly made subject to his/her determination, direction or approval, shall have the power, subject to review by the **Commissioner**:

32.1.1 To determine the amount, quality, and location of the **Work** to be paid for hereunder; and

32.1.2 To determine all questions in relation to the **Work**, to interpret the **Contract Drawings, Specifications, and Addenda**, and to resolve all patent inconsistencies or ambiguities therein; and

32.1.3 To determine how the **Work** of this **Contract** shall be coordinated with **Work of Other Contractors** engaged simultaneously on this **Project**, including the power to suspend any part of the **Work**, but not the whole thereof; and

32.1.4 To make minor changes in the **Work** as he/she deems necessary, provided such changes do not result in a net change in the cost to the **City** or to the **Contractor** of the **Work** to be done under the **Contract**; and

32.1.5 To amplify the **Contract Drawings**, add explanatory information and furnish additional **Specifications** and drawings, consistent with this **Contract**.

32.2 The foregoing enumeration shall not imply any limitation upon the power of the **Engineer** or **Architect** or **Project Manager**, for it is the intent of this **Contract** that all of the **Work** shall generally be subject to his/her determination, direction, and approval, except where the determination, direction or approval of someone other than the **Engineer** or **Architect** or **Project Manager** is expressly called for herein.

32.3 The **Engineer** or **Architect** or **Project Manager** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 33. THE COMMISSIONER

33.1 The **Commissioner**, in addition to those matters elsewhere herein expressly made subject to his/her determination, direction or approval, shall have the power:

33.1.1 To review and make determinations on any and all questions in relation to this **Contract** and its performance; and

33.1.2 To modify or change this **Contract** so as to require the performance of **Extra Work** (subject, however, to the limitations specified in Article 25) or the omission of **Contract Work**; and

33.1.3 To suspend the whole or any part of the **Work** whenever in his/her judgment such suspension is required:

33.1.3(a) In the interest of the **City** generally; or

33.1.3(b) To coordinate the **Work** of the various contractors engaged on this **Project** pursuant to the provisions of Article 12; or

33.1.3(c) To expedite the completion of the entire **Project** even though the completion of this particular **Contract** may thereby be delayed.

ARTICLE 34. NO ESTOPPEL

34.1 Neither the **City** nor any **Agency**, official, agent or employee thereof, shall be bound, precluded or estopped by any determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this **Contract** by the **City**, the **Commissioner**, the **Engineer**, the **Resident Engineer**, or any other official, agent or employee of the **City**, either before or after the final completion and acceptance of the **Work** and payment therefor:

34.1.1 From showing the true and correct classification, amount, quality or character of the **Work** actually done; or that any such determination, decision, order, letter, payment or certificate was untrue, incorrect or improperly made in any particular, or that the **Work**, or any part thereof, does not in fact conform to the requirements of this **Contract**; and

34.1.2 From demanding and recovering from the **Contractor** any overpayment made to it, or such damages as the **City** may sustain by reason of the **Contractor's** failure to perform each and every part of its **Contract**.

CHAPTER VIII: LABOR PROVISIONS

ARTICLE 35. EMPLOYEES

35.1 The **Contractor** and its **Subcontractors** shall not employ on the **Work**:

35.1.1 Anyone who is not competent, faithful and skilled in the **Work** for which he/she shall be employed; and whenever the **Commissioner** shall inform the **Contractor**, in writing, that any employee is, in his/her opinion, incompetent, unfaithful or disobedient, that employee shall be discharged from the **Work** forthwith, and shall not again be employed upon it; or

35.1.2 Any labor, materials or means whose employment, or utilization during the course of this **Contract**, may tend to or in any way cause or result in strikes, work stoppages, delays, suspension of **Work** or similar troubles by workers employed by the **Contractor** or its **Subcontractors**, or by any of the trades working in or about the buildings and premises where **Work** is being performed under this **Contract**, or by **Other Contractors** or their **Subcontractors** pursuant to other contracts, or on any other building or premises owned or operated by the **City**, its **Agencies**, departments, boards or authorities. Any violation by the **Contractor** of this requirement may, upon certification of the **Commissioner**, be considered as proper and sufficient cause for declaring the **Contractor** to be in default, and for the **City** to take action against it as set forth in Chapter X of this **Contract**, or such other article of this **Contract** as the **Commissioner** may deem proper; or

35.1.3 In accordance with Section 220.3-e of the Labor Law of the State of New York (hereinafter "Labor Law"), the **Contractor** and its **Subcontractors** shall not employ on the **Work** any apprentice, unless he/she is a registered individual, under a bona fide program registered with the New York State Department of Labor. The allowable ratio of apprentices to journey-level workers in any craft classification shall not be greater than the ratio permitted to the **Contractor** as to its work force on any job under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the **Comptroller** of the **City** for the classification of **Work** actually performed. The **Contractor** or **Subcontractor** will be required to furnish written evidence of the registration of its program and apprentices as well as all the appropriate ratios and wage rates, for the area of the construction prior to using any apprentices on the **Contract Work**.

35.2 If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand (\$250,000) dollars, all laborers, workers, and mechanics employed in the performance of the **Contract** on the public work site, either by the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by the **Contract**, shall be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration.

35.3 In accordance with Local Law Nos. 30-2012 and 33-2012, codified at sections 6-132 and 12-113 of the Administrative Code, respectively,

35.3.1 The **Contractor** shall not take an adverse personnel action with respect to an officer or employee in retaliation for such officer or employee making a report of information concerning conduct which such officer or employee knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by any officer or employee relating to this **Contract** to (a) the **Commissioner** of the Department of Investigation, (b) a member of the New York City Council, the Public Advocate, or the **Comptroller**, or (c) the **CCPO**, **ACCO**, **Agency** head, or **Commissioner**.

35.3.2 If any of the **Contractor's** officers or employees believes that he or she has been the subject of an adverse personnel action in violation of Article 35.3.1, he or she shall be entitled to bring a cause of action against the **Contractor** to recover all relief necessary to make him or her whole. Such relief may include but is not limited to: (a) an injunction to restrain continued retaliation, (b) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (c) reinstatement of full fringe benefits and seniority rights, (d) payment of two times back

pay, plus interest, and (e) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorney's fees.

35.3.3 The **Contractor** shall post a notice provided by the **City** in a prominent and accessible place on any site where work pursuant to the **Contract** is performed that contains information about:

35.3.3(a) how its employees can report to the New York City Department of Investigation allegations of fraud, false claims, criminality or corruption arising out of or in connection with the **Contract**; and

35.3.3(b) the rights and remedies afforded to its employees under Administrative Code sections 7-805 (the New York City False Claims Act) and 12-113 (the Whistleblower Protection Expansion Act) for lawful acts taken in connection with the reporting of allegations of fraud, false claims, criminality or corruption in connection with the **Contract**.

35.3.4 For the purposes of this Article 35.3, "adverse personnel action" includes dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space, equipment or other benefit, failure to appoint, failure to promote, or any transfer or assignment or failure to transfer or assign against the wishes of the affected officer or employee.

35.3.5 This Article 35.3 is applicable to all of the **Contractor's** **Subcontractors** having subcontracts with a value in excess of \$100,000; accordingly, the **Contractor** shall include this rider in all subcontracts with a value a value in excess of \$100,000.

35.4 Article 35.3 is not applicable to this **Contract** if it is valued at \$100,000 or less. Articles 35.3.1, 35.3.2, 35.3.4, and 35.3.5 are not applicable to this **Contract** if it was solicited pursuant to a finding of an emergency.

35.5 Paid Sick Leave Law.

35.5.1 Introduction and General Provisions.

35.5.1(a) The Earned Sick Time Act, also known as the Paid Sick Leave Law ("PSLL"), requires covered employees who annually perform more than 80 hours of work in New York City to be provided with paid sick time.² Contractors of the **City** or of other governmental entities may be required to provide sick time pursuant to the PSLL.

35.5.1(b) The PSLL became effective on April 1, 2014, and is codified at Title 20, Chapter 8, of the New York City Administrative Code. It is administered by the City's Department of Consumer Affairs ("DCA"); DCA's rules promulgated under the PSLL are codified at Chapter 7 of Title 6 of the Rules of the City of New York ("Rules").

² Pursuant to the PSLL, if fewer than five employees work for the same employer, as determined pursuant to New York City Administrative Code § 20-912(g), such employer has the option of providing such employees uncompensated sick time.

35.5.1(c) The **Contractor** agrees to comply in all respects with the PSL and the Rules, and as amended, if applicable, in the performance of this **Contract**. The **Contractor** further acknowledges that such compliance is a material term of this **Contract** and that failure to comply with the PSL in performance of this **Contract** may result in its termination.

35.5.1(d) The **Contractor** must notify the **Agency Chief Contracting Officer** of the **Agency** with whom it is contracting in writing within ten (10) days of receipt of a complaint (whether oral or written) regarding the PSL involving the performance of this **Contract**. Additionally, the **Contractor** must cooperate with DCA's education efforts and must comply with DCA's subpoenas and other document demands as set forth in the PSL and Rules.

35.5.1(e) The PSL is summarized below for the convenience of the **Contractor**. The **Contractor** is advised to review the PSL and Rules in their entirety. On the website www.nyc.gov/PaidSickLeave there are links to the PSL and the associated Rules as well as additional resources for employers, such as Frequently Asked Questions, timekeeping tools and model forms, and an event calendar of upcoming presentations and webinars at which the **Contractor** can get more information about how to comply with the PSL. The **Contractor** acknowledges that it is responsible for compliance with the PSL notwithstanding any inconsistent language contained herein.

35.5.2 Pursuant to the PSL and the Rules: Applicability, Accrual, and Use.

35.5.2(a) An employee who works within the City of New York for more than eighty hours in any consecutive 12-month period designated by the employer as its "calendar year" pursuant to the PSL ("Year") must be provided sick time. Employers must provide a minimum of one hour of sick time for every 30 hours worked by an employee and compensation for such sick time must be provided at the greater of the employee's regular hourly rate or the minimum wage. Employers are not required to provide more than 40 hours of sick time to an employee in any Year.

35.5.2(b) An employee has the right to determine how much sick time he or she will use, provided that employers may set a reasonable minimum increment for the use of sick time not to exceed four hours per **Day**. In addition, an employee may carry over up to 40 hours of unused sick time to the following Year, provided that no employer is required to allow the use of more than forty hours of sick time in a Year or carry over unused paid sick time if the employee is paid for such unused sick time and the employer provides the employee with at least the legally required amount of paid sick time for such employee for the immediately subsequent Year on the first **Day** of such Year.

35.5.2(c) An employee entitled to sick time pursuant to the PSL may use sick time for any of the following:

- i. such employee's mental illness, physical illness, injury, or health condition or the care of such illness, injury, or condition or such employee's need for medical diagnosis or preventive medical care;
- ii. such employee's care of a family member (an employee's child, spouse, domestic partner, parent, sibling, grandchild or grandparent, or the child or parent of an employee's spouse or domestic partner) who has a mental

- illness, physical illness, injury or health condition or who has a need for medical diagnosis or preventive medical care;
- iii. closure of such employee's place of business by order of a public official due to a public health emergency; or
 - iv. such employee's need to care for a child whose school or childcare provider has been closed due to a public health emergency.

35.5.2(d) An employer must not require an employee, as a condition of taking sick time, to search for a replacement. However, an employer may require an employee to provide: reasonable notice of the need to use sick time; reasonable documentation that the use of sick time was needed for a reason above if for an absence of more than three consecutive work days; and/or written confirmation that an employee used sick time pursuant to the PSSL. However, an employer may not require documentation specifying the nature of a medical condition or otherwise require disclosure of the details of a medical condition as a condition of providing sick time and health information obtained solely due to an employee's use of sick time pursuant to the PSSL must be treated by the employer as confidential.

35.5.2(e) If an employer chooses to impose any permissible discretionary requirement as a condition of using sick time, it must provide to all employees a written policy containing those requirements, using a delivery method that reasonably ensures that employees receive the policy. If such employer has not provided its written policy, it may not deny sick time to an employee because of non-compliance with such a policy.

35.5.2(f) Sick time to which an employee is entitled must be paid no later than the payday for the next regular payroll period beginning after the sick time was used.

35.5.3 Exemptions and Exceptions. Notwithstanding the above, the PSSL does not apply to any of the following:

35.5.3(a) an independent contractor who does not meet the definition of employee under section 190(2) of the New York State Labor Law;

35.5.3(b) an employee covered by a valid collective bargaining agreement in effect on April 1, 2014, until the termination of such agreement;

35.5.3(c) an employee in the construction or grocery industry covered by a valid collective bargaining agreement if the provisions of the PSSL are expressly waived in such collective bargaining agreement;

35.5.3(d) an employee covered by another valid collective bargaining agreement if such provisions are expressly waived in such agreement and such agreement provides a benefit comparable to that provided by the PSSL for such employee;

35.5.3(e) an audiologist, occupational therapist, physical therapist, or speech language pathologist who is licensed by the New York State Department of Education and who calls in for work assignments at will, determines his or her own schedule, has the ability to reject or accept any assignment referred to him or her, and is paid an average hourly wage that is at least four times the federal minimum wage;

35.5.3(f) an employee in a work study program under Section 2753 of Chapter 42 of the United States Code;

35.5.3(g) an employee whose work is compensated by a qualified scholarship program as that term is defined in the Internal Revenue Code, Section 117 of Chapter 20 of the United States Code; or

35.5.3(h) a participant in a Work Experience Program (WEP) under section 336-c of the New York State Social Services Law.

35.5.4 Retaliation Prohibited. An employer may not threaten or engage in retaliation against an employee for exercising or attempting in good faith to exercise any right provided by the PSSL. In addition, an employer may not interfere with any investigation, proceeding, or hearing pursuant to the PSSL.

35.5.5 Notice of Rights.

35.5.5(a) An employer must provide its employees with written notice of their rights pursuant to the PSSL. Such notice must be in English and the primary language spoken by an employee, provided that DCA has made available a translation into such language. Downloadable notices are available on DCA's website at <http://www.nyc.gov/html/dca/html/law/PaidSickLeave.shtml>.

35.5.5(b) Any person or entity that willfully violates these notice requirements is subject to a civil penalty in an amount not to exceed fifty dollars for each employee who was not given appropriate notice.

35.5.6 Records. An employer must retain records documenting its compliance with the PSSL for a period of at least three years, and must allow DCA to access such records in furtherance of an investigation related to an alleged violation of the PSSL.

35.5.7 Enforcement and Penalties.

35.5.7(a) Upon receiving a complaint alleging a violation of the PSSL, DCA has the right to investigate such complaint and attempt to resolve it through mediation. Within 30 Days of written notification of a complaint by DCA, or sooner in certain circumstances, the employer must provide DCA with a written response and such other information as DCA may request. If DCA believes that a violation of the PSSL has occurred, it has the right to issue a notice of violation to the employer.

35.5.7(b) DCA has the power to grant an employee or former employee all appropriate relief as set forth in New York City Administrative Code § 20-924(d). Such relief may include, among other remedies, treble damages for the wages that should have been paid, damages for unlawful retaliation, and damages and reinstatement for unlawful discharge. In addition, DCA may impose on an employer found to have violated the PSSL civil penalties not to exceed \$500 for a first violation, \$750 for a second violation within two years of the first violation, and \$1,000 for each succeeding violation within two years of the previous violation.

35.5.8 More Generous Policies and Other Legal Requirements. Nothing in the PSSL is intended to discourage, prohibit, diminish, or impair the adoption or retention of a more generous sick time policy, or the obligation of an employer to comply with any contract,

collective bargaining agreement, employment benefit plan or other agreement providing more generous sick time. The PSLL provides minimum requirements pertaining to sick time and does not preempt, limit or otherwise affect the applicability of any other law, regulation, rule, requirement, policy or standard that provides for greater accrual or use by employees of sick leave or time, whether paid or unpaid, or that extends other protections to employees. The PSLL may not be construed as creating or imposing any requirement in conflict with any federal or state law, rule or regulation.

35.6 HireNYC: Hiring and Reporting Requirements. This Article 35.6 applies to construction contracts of \$1,000,000 or more. The **Contractor** shall comply with the requirements of Articles 35.6.1-35.6.5 for all non-trades jobs (e.g., for an administrative position arising out of **Work** ant located in New York City). The **Contractor** shall reasonably cooperate with SBS and the City on specific outreach events, including "Hire-on-the-Spot" events, for the hiring of trades workers in connection with the **Work**. If provided elsewhere in this **Contract**, this **Contract** is subject to a project labor agreement.

35.6.1 Enrollment. The **Contractor** shall enroll with the HireNYC system, found at www.nyc.gov/sbs, within thirty (30) days after the registration of this **Contract** pursuant to Section 328 of the New York City Charter. The **Contractor** shall provide information about the business, designate a primary contact and say whether it intends to hire for any entry to mid-level job opportunities arising from this **Contract** and located in New York City, and, if so, the approximate start date of the first hire.

35.6.2 Job Posting Requirements.

35.6.2(a) Once enrolled in HireNYC, the **Contractor** agrees to update the HireNYC portal with all entry to mid-level job opportunities arising from this **Contract** and located in New York City, if any, which shall be defined as jobs requiring no more than an associate degree, as provided by the New York State Department of Labor (see Column F of <https://labor.ny.gov/stats/2012-2022-NYS-Employment-Prospects.xls>). The information to be updated includes the types of entry and mid-level positions made available from the work arising from the **Contract** and located in New York City, the number of positions, the anticipated schedule of initiating the hiring process for these positions, and the contact information for the **Contractor's** representative charged with overseeing hiring. The **Contractor** must update the HireNYC portal with any hiring needs arising from the contract and located in New York City, and the requirements of the jobs to be filled, no less than three weeks prior to the intended first day of employment for each new position, except with the permission of SBS, not to be unreasonably withheld, and must also update the HireNYC portal as set forth below.

35.6.2(b) After enrollment through HireNYC and submission of relevant information, SBS will work with the **Contractor** to develop a recruitment plan which will outline the candidate screening process, and will provide clear instructions as to when, where, and how interviews will take place. HireNYC will screen applicants based on employer requirements and refer applicants whom it believes are qualified to the **Contractor** for interviews. The **Contractor** must interview referred applicants whom it believes are qualified.

35.6.2(c) After completing an interview of a candidate referred by HireNYC, the **Contractor** must provide feedback via the portal within twenty (20) business days to indicate which candidates were interviewed and hired, if any. In addition, the **Contractor** shall provide the start date of new hires, and additional information

reasonably related to such hires, within twenty (20) business days after the start date. In the event the **Contractor** does not have any job openings covered by this Rider in any given year, the **Contractor** shall be required to provide an annual update to HireNYC to that effect. For this purpose, the reporting year shall run from the date of the registration of the **Contract** pursuant to Charter section 328 and each anniversary date.

35.6.2(d) These requirements do not limit the **Contractor's** ability to assess the qualifications of prospective workers, and to make final hiring and retention decisions. No provision of this Article 35.6 shall be interpreted so as to require the **Contractor** to employ any particular worker.

35.6.2(e) In addition, the provisions of this Article 35.6 shall not apply to positions that the **Contractor** intends to fill with employees employed pursuant to the job retention provision of Section 22-505 of the Administrative Code of the City of New York. The **Contractor** shall not be required to report such openings with HireNYC. However, the **Contractor** shall enroll with the HireNYC system pursuant to Article 35.6.1, above, and, if such positions subsequently become open, then the remaining provisions of this Article 35.6 will apply.

35.6.3 Breach and Liquidated Damages. If the **Contractor** fails to comply with the terms of the **ContrSact** and this Article 35.6 (1) by not enrolling its business with HireNYC; (2) by not informing HireNYC, as required, of open positions; or (3) by failing to interview a qualified candidate, the **Agency** may assess liquidated damages in the amount of two-thousand five hundred dollars (\$2,500) per breach. For all other events of noncompliance with the terms of this Article 35.6, the **Agency** may assess liquidated damages in the amount of five hundred dollars (\$500) per breach. Furthermore, in the event the **Contractor** breaches the requirements of this Article 35.6 during the term of the **Contract**, the **City** may hold the **Contractor** in default of this **Contract**.

35.6.4 Audit Compliance. In addition to the auditing requirements set forth in other parts of the **Contract**, the **Contractor** shall permit SBS and the **City** to inspect any and all records concerning or relating to job openings or the hiring of individuals for work arising from the **Contract** and located in New York City. The **Contractor** shall permit an inspection within seven (7) business days of the request.

35.6.5 Other Reporting Requirements. The **Contractor** shall report to the **City**, on a monthly basis, all information reasonably requested by the **City** that is necessary for the **City** to comply with any reporting requirements imposed by **Law**, including any requirement that the **City** maintain a publicly accessible database. In addition, the **Contractor** agrees to comply with all reporting requirements imposed by **Law**, or as otherwise requested by the **City**.

35.6.6 Federal Hiring Requirements. If this **Contract** is federally funded (as indicated elsewhere in this **Contract**), the **Contractor** shall comply with all federal hiring requirements as may be set forth in this **Contract**, including, as applicable: (a) Section 3 of the HUD Act of 1968, which requires, to the greatest extent feasible, economic opportunities for 30 percent of new hires be given to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing and Executive Order 11246, which prohibits discrimination in employment due to race, color, religion, sex or national origin, and requires the implementation of goals for minority and female participation for work involving any construction trade.

ARTICLE 36. NO DISCRIMINATION

36.1 The **Contractor** specifically agrees, as required by Labor Law Section 220-e, as amended, that:

36.1.1 In the hiring of employees for the performance of **Work** under this **Contract** or any subcontract hereunder, neither the **Contractor**, **Subcontractor**, nor any person acting on behalf of such **Contractor** or **Subcontractor**, shall by reason of race, creed, color or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the **Work** to which the employment relates;

36.1.2 Neither the **Contractor**, **Subcontractor**, nor any person on its behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of **Work** under this **Contract** on account of race, creed, color or national origin;

36.1.3 There may be deducted from the amount payable to the **Contractor** by the **City** under this **Contract** a penalty of fifty (\$50.00) dollars for each person for each **Day** during which such person was discriminated against or intimidated in violation of the provisions of this **Contract**; and

36.1.4 This **Contract** may be cancelled or terminated by the **City** and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this Article 36.

36.1.5 This Article 36 covers all construction, alteration and repair of any public building or public work occurring in the State of New York and the manufacture, sale, and distribution of materials, equipment, and supplies to the extent that such operations are performed within the State of New York pursuant to this **Contract**.

36.2 The **Contractor** specifically agrees, as required by Section 6-108 of the Administrative Code, as amended, that:

36.2.1 It shall be unlawful for any person engaged in the construction, alteration or repair of buildings or engaged in the construction or repair of streets or highways pursuant to a **Contract** with the **City** or engaged in the manufacture, sale or distribution of materials, equipment or supplies pursuant to a **Contract** with the **City** to refuse to employ or to refuse to continue in any employment any person on account of the race, color or creed of such person.

36.2.2 It shall be unlawful for any person or any servant, agent or employee of any person, described in Article 36.1.2, to ask, indicate or transmit, orally or in writing, directly or indirectly, the race, color or creed or religious affiliation of any person employed or seeking employment from such person, firm or corporation.

36.2.3 Breach of the foregoing provisions shall be deemed a violation of a material provision of this **Contract**.

36.2.4 Any person, or the employee, manager or owner of or officer of such firm or corporation who shall violate any of the provisions of this Article 36.2 shall, upon

conviction thereof, be punished by a fine of not more than one hundred (\$100.00) dollars or by imprisonment for not more than thirty (30) **Days**, or both.

36.3 This **Contract** is subject to the requirements of Executive Order No. 50 (1980) ("E.O. 50"), as revised, and the rules and regulations promulgated thereunder. No contract will be awarded unless and until these requirements have been complied with in their entirety. By signing this **Contract**, the **Contractor** agrees that it:

36.3.1 Will not engage in any unlawful discrimination against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability, marital status or sexual orientation with respect to all employment decisions including, but not limited to, recruitment, hiring, upgrading, demotion, downgrading, transfer, training, rates of pay or other forms of compensation, layoff, termination, and all other terms and conditions of employment; and

36.3.2 Will not engage in any unlawful discrimination in the selection of **Subcontractors** on the basis of the owner's race, color, creed, national origin, sex, age, disability, marital status or sexual orientation; and

36.3.3 Will state in all solicitations or advertisements for employees placed by or on behalf of the **Contractor** that all qualified applicants will receive consideration for employment without unlawful discrimination based on race, creed, color, national origin, sex, age, citizens status, disability, marital status, sexual orientation, or that it is an equal employment opportunity employer; and

36.3.4 Will send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or memorandum of understanding, written notification of its equal employment opportunity commitments under E.O. 50 and the rules and regulations promulgated thereunder; and

36.3.5 Will furnish, before the award of the **Contract**, all information and reports, including an employment report, that are required by E.O. 50, the rules and regulations promulgated thereunder, and orders of the City Department of Business Services, Division of Labor Services (**DLS**) and will permit access to its books, records, and accounts by the **DLS** for the purposes of investigation to ascertain compliance with such rules, regulations, and orders.

36.4 The **Contractor** understands that in the event of its noncompliance with the nondiscrimination clauses of this **Contract** or with any of such rules, regulations, or orders, such noncompliance shall constitute a material breach of this **Contract** and noncompliance with E.O. 50 and the rules and regulations promulgated thereunder. After a hearing held pursuant to the rules of the **DLS**, the Director of the **DLS** may direct the **Commissioner** to impose any or all of the following sanctions:

36.4.1 Disapproval of the **Contractor**; and/or

36.4.2 Suspension or termination of the **Contract**; and/or

36.4.3 Declaring the **Contractor** in default; and/or

36.4.4 In lieu of any of the foregoing sanctions, the Director of the **DLS** may impose an employment program.

In addition to any actions taken under this **Contract**, failure to comply with E.O. 50 and the rules and regulations promulgated thereunder, in one or more instances, may result in a **City Agency** declaring the **Contractor** to be non-responsible in future procurements. The **Contractor** further agrees that it will refrain from entering into any **Contract** or **Contract** modification subject to E.O. 50 and the rules and regulations promulgated thereunder with a **Subcontractor** who is not in compliance with the requirements of E.O. 50 and the rules and regulations promulgated thereunder.

36.5 The **Contractor** specifically agrees, as required by Section 6-123 of the Administrative Code, that:

36.5.1 The **Contractor** will not engage in any unlawful discriminatory practice in violation of Title 8 of the Administrative Code; and

36.5.2 Any failure to comply with this Article 36.5 may subject the **Contractor** to the remedies set forth in Section 6-123 of the Administrative Code, including, where appropriate, sanctions such as withholding of payment, imposition of an employment program, finding the **Contractor** to be in default, cancellation of the **Contract**, or any other sanction or remedy provided by **Law** or **Contract**.

ARTICLE 37. LABOR LAW REQUIREMENTS

37.1 The **Contractor** shall strictly comply with all applicable provisions of the Labor Law, as amended. Such compliance is a material term of this **Contract**.

37.2 The **Contractor** specifically agrees, as required by Labor Law Sections 220 and 220-d, as amended, that:

37.2.1 **Hours of Work:** No laborer, worker, or mechanic in the employ of the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by this **Contract** shall be permitted or required to work more than eight (8) hours in any one (1) **Day**, or more than five (5) **Days** in any one (1) week, except as provided in the Labor Law and in cases of extraordinary emergency including fire, flood, or danger to life or property, or in the case of national emergency when so proclaimed by the President of the United States of America.

37.2.2 In situations in which there are not sufficient laborers, workers, and mechanics who may be employed to carry on expeditiously the **Work** contemplated by this **Contract** as a result of such restrictions upon the number of hours and **Days** of labor, and the immediate commencement or prosecution or completion without undue delay of the **Work** is necessary for the preservation of the **Site** and/or for the protection of the life and limb of the persons using the same, such laborers, workers, and mechanics shall be permitted or required to work more than eight (8) hours in any one (1) **Day**; or five (5) **Days** in any one (1) week; provided, however, that upon application of any **Contractor**, the **Commissioner** shall have first certified to the Commissioner of Labor of the State of New York (hereinafter "Commissioner of Labor") that such public **Work** is of an important nature and that a delay in carrying it to completion would result in serious disadvantage to the public; and provided, further, that such Commissioner of Labor shall have determined that such an emergency does in fact exist as provided in Labor Law Section 220.2.

37.2.3 Failure of the **Commissioner** to make such a certification to the Commissioner of Labor shall not entitle the **Contractor** to damages for delay or for any cause whatsoever.

37.2.4 Prevailing Rate of Wages: The wages to be paid for a legal day's **Work** to laborers, workers, or mechanics employed upon the **Work** contemplated by this **Contract** or upon any materials to be used thereon shall not be less than the "prevailing rate of wage" as defined in Labor Law Section 220, and as fixed by the **Comptroller** in the attached Schedule of Wage Rates and in updated schedules thereof. The prevailing wage rates and supplemental benefits to be paid are those in effect at the time the **Work** is being performed.

37.2.5 Requests for interpretation or correction in the Information for Bidders includes all requests for clarification of the classification of trades to be employed in the performance of the **Work** under this **Contract**. In the event that a trade not listed in the **Contract** is in fact employed during the performance of this **Contract**, the **Contractor** shall be required to obtain from the **Agency** the prevailing wage rates and supplementary benefits for the trades used and to complete the performance of this **Contract** at the price at which the **Contract** was awarded.

37.2.6 Minimum Wages: Except for employees whose wage is required to be fixed pursuant to Labor Law Section 220, all persons employed by the **Contractor** and any **Subcontractor** in the manufacture or furnishing of the supplies, materials, or equipment, or the furnishing of work, labor, or services, used in the performance of this **Contract**, shall be paid, without subsequent deduction or rebate unless expressly authorized by **Law**, not less than the sum mandated by **Law**.

37.3 Working Conditions: No part of the **Work**, labor or services shall be performed or rendered by the **Contractor** in any plants, factories, buildings or surroundings or under working conditions which are unsanitary or hazardous or dangerous to the health and safety of employees engaged in the performance of this **Contract**. Compliance with the safety, sanitary, and factory inspection **Laws** of the state in which the **Work** is to be performed shall be prima facie evidence of compliance with this Article 37.3.

37.4 Prevailing Wage Enforcement: The **Contractor** agrees to pay for all costs incurred by the **City** in enforcing prevailing wage requirements, including the cost of any investigation conducted by or on behalf of the **Agency** or the **Comptroller**, where the **City** discovers a failure to comply with any of the requirements of this Article 37 by the **Contractor** or its **Subcontractor(s)**. The **Contractor** also agrees that, should it fail or refuse to pay for any such investigation, the **Agency** is hereby authorized to deduct from a **Contractor's** account an amount equal to the cost of such investigation.

37.4.1 The Labor Law Section 220 and Section 220-d, as amended, provide that this **Contract** shall be forfeited and no sum paid for any **Work** done hereunder on a second conviction for willfully paying less than:

37.4.1(a) The stipulated prevailing wage scale as provided in Labor Law section 220, as amended, or

37.4.1(b) The stipulated minimum hourly wage scale as provided in Labor Law section 220-d, as amended.

37.4.2 For any breach or violation of either working conditions (Article 37.3) or minimum wages (Article 37.2.6) provisions, the party responsible therefor shall be liable to the **City** for liquidated damages, which may be withheld from any amounts due on any contracts with the **City** of such party responsible, or may be recovered in actions brought by the **City**

Corporation Counsel in the name of the **City**, in addition to damages for any other breach of this **Contract**, for a sum equal to the amount of any underpayment of wages due to any employee engaged in the performance of this **Contract**. In addition, the **Commissioner** shall have the right to cancel contracts and enter into other contracts for the completion of the original contract, with or without public letting, and the original **Contractor** shall be liable for any additional cost. All sums withheld or recovered as deductions, rebates, refunds, or underpayment of wages hereunder, shall be held in a special deposit account and shall be paid without interest, on order of the **Comptroller**, directly to the employees who have been paid less than minimum rates of pay as set forth herein and on whose account such sums were withheld or recovered, provided that no claims by employees for such payments shall be entertained unless made within two (2) years from the date of actual notice to the **Contractor** of the withholding or recovery of such sums by the **City**.

37.4.3 A determination by the **Comptroller** that a **Contractor** and/or its **Subcontractor** willfully violated Labor Law Section 220 will be forwarded to the **City's** five District Attorneys for review.

37.4.4 The **Contractor's** or **Subcontractor's** noncompliance with this Article 37.4 and Labor Law Section 220 may result in an unsatisfactory performance evaluation and the **Comptroller** may also find and determine that the **Contractor** or **Subcontractor** willfully violated the New York Labor Law.

37.4.4(a) An unsatisfactory performance evaluation for noncompliance with this Article 37.4 may result in a determination that the **Contractor** is a non-responsible bidder on subsequent procurements with the **City** and thus a rejection of a future award of a contract with the **City**, as well as any other sanctions provided for by Law.

37.4.4(b) Labor Law Section 220-b, as amended, provides that when two (2) final determinations have been rendered against a **Contractor** or **Subcontractor** within any consecutive six (6) year period determining that such **Contractor** or **Subcontractor** has willfully failed to pay the prevailing rate of wages or to provide supplements in accordance with the Labor Law and this Article 37.4, whether such failures were concurrent or consecutive and whether or not such final determinations concerning separate public works projects are rendered simultaneously, such **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public works contract with the **City** for a period of five (5) years from the second final determination. If the final determination involves the falsification of payroll records or the kickback of wages or supplements, the **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public works contract with the **City** for a period of five (5) years from the first final determination.

37.4.4(c) Labor Law Section 220, as amended, provides that the **Contractor** or **Subcontractor** found to have violated this Article 37.4 may be directed to make payment of wages or supplements including interest found to be due, and the **Contractor** or **Subcontractor** may be directed to make payment of a further sum as a civil penalty in an amount not exceeding twenty-five (25%) percent of the total amount found to be due.

37.5 The **Contractor** and its **Subcontractors** shall within ten (10) **Days** after mailing of a Notice of Award or written order, post in prominent and conspicuous places in each and every plant, factory, building, and structure where employees of the **Contractor** and its **Subcontractors** engaged in the

performance of this **Contract** are employed, notices furnished by the **City**, in relation to prevailing wages and supplements, minimum wages, and other stipulations contained in Sections 220 and 220-h of the Labor Law, and the **Contractor** and its **Subcontractors** shall continue to keep such notices posted in such prominent and conspicuous places until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services required to be furnished or rendered under this **Contract**.

37.6 The **Contractor** shall strictly comply with all of the provisions of Articles 37.6.1 through 37.6.5, and provide for all workers, laborers or mechanics in its employ, the following:

37.6.1 **Notices Posted At Site:** Post, in a location designated by the **City**, schedules of prevailing wages and supplements for this **Project**, a copy of all re-determinations of such schedules for the **Project**, the Workers' Compensation Law Section 51 notice, all other notices required by **Law** to be posted at the **Site**, the **City** notice that this **Project** is a public works project on which each worker is entitled to receive the prevailing wages and supplements for the occupation at which he or she is working, and all other notices which the **City** directs the **Contractor** to post. The **Contractor** shall provide a surface for such notices which is satisfactory to the **City**. The **Contractor** shall maintain and keep current such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible or removed for any reason. The **Contractor** shall post such notices before commencing any **Work** on the **Site** and shall maintain such notices until all **Work** on the **Site** is complete; and

37.6.2 **Daily Site Sign-in Sheets:** Maintain daily **Site** sign-in sheets, and require that **Subcontractors** maintain daily **Site** sign-in sheets for its employees, which include blank spaces for an employee's name to be both printed and signed, job title, date started and Social Security number, the time the employee began work and the time the employee left work, until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services to be furnished or rendered under this **Contract** unless exception is granted by the **Comptroller** upon application by the **Agency**. In the alternative, subject to the approval of the **CCPO**, the **Contractor** and **Subcontractor** may maintain an electronic or biometric sign-in system, which provides the information required by this Article 37.6.2; and

37.6.3 **Individual Employee Information Notices:** Distribute a notice to each worker, laborer or mechanic employed under this **Contract**, in a form provided by the **Agency**, that this **Project** is a public works project on which each worker, laborer or mechanic is entitled to receive the prevailing rate of wages and supplements for the occupation at which he or she is working. If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand (\$250,000) dollars, such notice shall also include a statement that each worker, laborer or mechanic must be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration. Such notice shall be distributed to each worker before he or she starts performing any **Work** of this **Contract** and with the first paycheck after July first of each year. "Worker, laborer or mechanic" includes employees of the **Contractor** and all **Subcontractors** and all employees of suppliers entering the **Site**. At the time of distribution, the **Contractor** shall have each worker, laborer or mechanic sign a statement, in a form provided by the **Agency**, certifying that the worker has received the notice required by this Article 37.6.3, which signed statement shall be maintained with the payroll records required by this **Contract**; and

37.6.3(a) The **Contractor** and each **Subcontractor** shall notify each worker, laborer or mechanic employed under this **Contract** in writing of the prevailing rate of

wages for their particular job classification. Such notification shall be given to every worker, laborer, and mechanic on their first pay stub and with every pay stub thereafter; and

37.6.4 Site Laminated Identification Badges: The **Contractor** shall provide laminated identification badges which include a photograph of the worker's, laborer's or mechanic's face and indicate the worker's, laborer's or mechanic's name, trade, employer's name, and employment starting date (month/day/year). Further, the **Contractor** shall require as a condition of employment on the **Site**, that each and every worker, laborer or mechanic wear the laminated identification badge at all times and that it may be seen by any representative of the **City**. The **Commissioner** may grant a written waiver from the requirement that the laminated identification badge include a photograph if the **Contractor** demonstrates that the identity of an individual wearing a laminated identification badge can be easily verified by another method; and

37.6.5 Language Other Than English Used On Site: Provide the **ACCO** notice when three (3) or more employees (worker and/or laborer and/or mechanic) on the **Site**, at any time, speak a language other than English. The **ACCO** will then provide the **Contractor** the notices described in Article 37.6.1 in that language or languages as may be required. The **Contractor** is responsible for all distributions under this Article 37; and

37.6.6 Provision of Records: The **Contractor** and **Subcontractor(s)** shall produce within five (5) **Days** on the **Site** of the **Work** and upon a written order of the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, or the **Comptroller**, such records as are required to be kept by this Article 37.6; and

37.6.7 The **Contractor** and **Subcontractor(s)** shall pay employees by check or direct deposit. If this **Contract** is for an amount greater than one million (\$1,000,000) dollars, checks issued by the **Contractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**). For any subcontract for an amount greater than seven hundred fifty thousand (\$750,000) dollars, checks issued by a **Subcontractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**); and

37.6.8 The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of Articles 37.6.1 through 37.6.7 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

37.7 The **Contractor** and its **Subcontractors** shall keep such employment and payroll records as are required by Section 220 of the Labor Law. The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of this Article 37.7 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

37.8 At the time the **Contractor** makes application for each partial payment and for final payment, the **Contractor** shall submit to the **Commissioner** a written payroll certification, in the form provided by this **Contract**, of compliance with the prevailing wage, minimum wage, and other provisions and stipulations required by Labor Law Section 220 and of compliance with the training requirements of Labor Law Section 220-h set forth in Article 35.2. This certification of compliance shall be a condition precedent to payment and no payment shall be made to the **Contractor** unless and until each such certification shall have been submitted to and received by the **Commissioner**.

37.9 This **Contract** is executed by the **Contractor** with the express warranty and representation that the **Contractor** is not disqualified under the provisions of Section 220 of the Labor Law from the award of the **Contract**.

37.10 Any breach or violation of any of the foregoing shall be deemed a breach or violation of a material provision of this **Contract**, and grounds for cancellation thereof by the **City**.

ARTICLE 38. PAYROLL REPORTS

38.1 The **Contractor** and its **Subcontractor(s)** shall maintain on the **Site** during the performance of the **Work** the original payrolls or transcripts thereof which the **Contractor** and its **Subcontractor(s)** are required to maintain and shall submit such original payrolls or transcripts, subscribed and affirmed by it as true, within thirty (30) **Days** after issuance of its first payroll, and every thirty (30) **Days** thereafter, pursuant to Labor Law Section 220(3-a)(a)(iii). The **Contractor** and **Subcontractor(s)** shall submit such original payrolls or transcripts along with each and every payment requisition. If payment requisitions are not submitted at least once a month, the **Contractor** and its **Subcontractor(s)** shall submit original payrolls and transcripts both along with its payment requisitions and independently of its payment requisitions.

38.2 The **Contractor** shall maintain payrolls or transcripts thereof for six (6) years from the date of completion of the **Work** on this **Contract**. If such payrolls and transcripts are maintained outside of New York City after the completion of the **Work** and their production is required pursuant to this Article 38, the **Contractor** shall produce such records in New York City upon request by the **City**.

38.3 The **Contractor** and **Subcontractor(s)** shall comply with any written order, direction, or request made by the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, the **Agency Labor Law Investigator(s)**, or the **Comptroller**, to provide to the requesting party any of the following information and/or records within five (5) **Days** of such written order, direction, or request:

38.3.1 Such original payrolls or transcripts thereof subscribed and affirmed by it as true and the statements signed by each worker pursuant to this Chapter VIII; and/or

38.3.2 Attendance sheets for each **Day** on which any employee of the **Contractor** and/or any of the **Subcontractor(s)** performed **Work** on the **Site**, which attendance sheet shall be in a form acceptable to the **Agency** and shall provide information acceptable to the **Agency** to identify each such employee; and/or

38.3.3 Any other information to satisfy the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, the **Agency Labor Law Investigator(s)** or the **Comptroller**, that this Chapter VIII and the Labor Law, as to the hours of employment and prevailing rates of wages and/or supplemental benefits, are being observed.

38.4 The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of Articles 38.1 and/or 38.2 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

ARTICLE 39. DUST HAZARDS

39.1 Should a harmful dust hazard be created in performing the **Work** of this **Contract**, for the elimination of which appliances or methods have been approved by the Board of Standards and Appeals

of the City of New York, such appliances and methods shall be installed, maintained, and effectively operated during the continuance of such harmful dust hazard. Failure to comply with this provision after notice shall make this **Contract** voidable at the sole discretion of the **City**.

CHAPTER IX: PARTIAL AND FINAL PAYMENTS

ARTICLE 40. CONTRACT PRICE

40.1 The **City** shall pay, and the **Contractor** agrees to accept, in full consideration for the **Contractor's** performance of the **Work** subject to the terms and conditions hereof, the lump sum price or unit prices for which this **Contract** was awarded, plus the amount required to be paid for any **Extra Work** ordered by the **Commissioner** under Article 25, less credit for any **Work** omitted pursuant to Article 29.

ARTICLE 41. BID BREAKDOWN ON LUMP SUM

41.1 Within fifteen (15) **Days** after the commencement date specified in the **Notice to Proceed** or **Order to Work**, unless otherwise directed by the **Resident Engineer**, the **Contractor** shall submit to the **Resident Engineer** a breakdown of its bid price, or of lump sums bid for items of the **Contract**, showing the various operations to be performed under the **Contract**, as directed in the progress schedule required under Article 9, and the value of each of such operations, the total of such items to equal the lump sum price bid. Said breakdown must be approved in writing by the **Resident Engineer**.

41.2 No partial payment will be approved until the **Contractor** submits a bid breakdown that is acceptable to the **Resident Engineer**.

41.3 The **Contractor** shall also submit such other information relating to the bid breakdown as directed by the **Resident Engineer**. Thereafter, the breakdown may be used only for checking the **Contractor's** applications for partial payments hereunder, but shall not be binding upon the **City**, the **Commissioner**, or the **Engineer** for any purpose whatsoever.

ARTICLE 42. PARTIAL PAYMENTS

42.1 From time to time as the **Work** progresses satisfactorily, but not more often than once each calendar month (except where the **Commissioner** approves in writing the submission of invoices on a more frequent basis and for invoices relating to **Work** performed pursuant to a change order), the **Contractor** may submit to the **Engineer** a requisition for a partial payment in the prescribed form, which shall contain an estimate of the quantity and the fair value of the **Work** done during the payment period.

42.2 Partial payments may be made for materials, fixtures, and equipment in advance of their actual incorporation in the **Work**, as the **Commissioner** may approve, and upon the terms and conditions set forth in the General Conditions.

42.3 The **Contractor** shall also submit to the **Commissioner** in connection with every application for partial payment a verified statement in the form prescribed by the **Comptroller** setting forth the information required under Labor Law Section 220-a.

42.4 Within thirty (30) **Days** after receipt of a satisfactory payment application, and within sixty (60) **Days** after receipt of a satisfactory payment application in relation to **Work** performed pursuant to a change order, the **Engineer** will prepare and certify, and the **Commissioner** will approve, a voucher for a partial payment in the amount of such approved estimate, less any and all deductions authorized to be made by the **Commissioner** under the terms of this **Contract** or by **Law**.

ARTICLE 43. PROMPT PAYMENT

43.1 The Prompt Payment provisions of the **PPB** Rules in effect at the time of the bid will be applicable to payments made under this **Contract**. The provisions require the payment to the **Contractor** of interest on payments made after the required payment date, except as set forth in the **PPB** Rules.

43.2 The **Contractor** shall submit a proper invoice to receive payment, except where the **Contract** provides that the **Contractor** will be paid at predetermined intervals without having to submit an invoice for each scheduled payment.

43.3 Determination of interest due will be made in accordance with the **PPB** Rules.

43.4 If the **Contractor** is paid interest, the proportionate share(s) of that interest shall be forwarded by the **Contractor** to its **Subcontractor(s)**.

43.5 The **Contractor** shall pay each **Subcontractor** or **Materialman** not later than seven (7) **Days** after receipt of payment out of amounts paid to the **Contractor** by the **City** for **Work** performed by the **Subcontractor** or **Materialman** under this **Contract**.

43.5.1 If **Contractor** fails to make any payment to any **Subcontractor** or **Materialman** within seven (7) **Days** after receipt of payment by the **City** pursuant to this Article 43.5, then the **Contractor** shall pay interest on amounts due to such **Subcontractor** or **Materialman** at the rate of interest in effect on the date such payment is made by the **Contractor** computed in accordance with Section 756-b (1)(b) of the New York General Business Law. Accrual of interest shall commence on the **Day** immediately following the expiration of the seventh **Day** following receipt of payment by the **Contractor** from the **City** and shall end on the date on which payment is made.

43.6 The **Contractor** shall include in each of its subcontracts a provision requiring each **Subcontractor** to make payment to each of its **Subcontractors** or **Materialmen** for **Work** performed under this **Contract** in the same manner and within the same time period set forth above.

ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT

44.1 The **Contractor** shall submit with the **Substantial Completion** requisition:

44.1.1 A final verified statement of any pending Article 27 disputes in accordance with the **PPB** Rules and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the

Contractor claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay.

44.1.1(a) With respect to each such claim, the **Commissioner**, the **Comptroller** and, in the event of litigation, the **City Corporation Counsel** shall have the same right to inspect, and to make extracts or copies of, the **Contractor's** books, vouchers, records, etc., as is referred to in Articles 11, 27, 28, and 30. Nothing contained in this Article 44.1.1(a) is intended to or shall relieve the **Contractor** from the obligation of complying strictly with Articles 11, 27, 28, and 30. The **Contractor** is warned that unless such claims are completely set forth as herein required, the **Contractor** upon acceptance of the **Substantial Completion** payment pursuant to this Article 44, will have waived any such claims.

44.1.2 **A Final Approved Punch List.**

44.1.3 Where required, a request for an extension of time to achieve **Substantial Completion** or final extension of time.

44.2 The **Commissioner** shall issue a voucher calling for payment of any part or all of the balance due for **Work** performed under the **Contract**, including monies retained under Article 21, less any and all deductions authorized to be made by the **Commissioner**, under this **Contract** or by **Law**, and less twice the amount the **Commissioner** considers necessary to ensure the completion of the balance of the **Work** by the **Contractor**. Such a payment shall be considered a partial and not a final payment. No **Substantial Completion** payment shall be made under this Article 44 where the **Contractor** failed to complete the **Work** within the time fixed for such completion in the Schedule A of the General Conditions, or within the time to which completion may have been extended, until an extension or extensions of time for the completion of **Work** have been acted upon pursuant to Article 13.

44.3 No further partial payments shall be made to the **Contractor** after **Substantial Completion**, except the **Substantial Completion** payment and payment pursuant to any **Contractor's** requisition that were properly filed with the **Commissioner** prior to the date of **Substantial Completion**; however, the **Commissioner** may grant a waiver for further partial payments after the date of **Substantial Completion** to permit payments for change order **Work** and/or release of retainage and deposits pursuant to Articles 21 and 24. Such waiver shall be in writing.

44.4 The **Contractor** acknowledges that nothing contained in this Article 44 is intended to or shall in any way diminish the force and effect of Article 13.

ARTICLE 45. FINAL PAYMENT

45.1 After completion and **Final Acceptance** of the **Work**, the **Contractor** shall submit all required certificates and documents, together with a requisition for the balance claimed to be due under the **Contract**, less the amount authorized to be retained for maintenance under Article 24. Such submission shall be within 90 days of the date of the **Commissioner's** written determination of **Final Acceptance**, or within such additional time as may be granted by the **Commissioner** in writing. If the **Contractor** fails to submit all required certificates and documents within the time allowed, no payment of the balance claimed shall be made to the **Contractor** and the **Contractor** shall be deemed to have forfeited its right to payment of any balance claimed. A verified statement similar to that required in connection with applications for partial payments shall also be submitted to the **Commissioner**.

45.2 Amended Verified Statement of Claims: The **Contractor** shall also submit with the final requisition any amendments to the final verified statement of any pending dispute resolution procedures in accordance with the **PPB Rules** and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) that have occurred subsequent to **Substantial Completion**, setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each such item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the **Contractor** claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay. With reference to each such claim, the **Commissioner**, the **Comptroller** and, in the event of litigation, the **City Corporation Counsel** shall have the same right to inspect, and to make extracts or copies of, the **Contractor's** books, vouchers, records, etc., as is referred to in Articles 11, 27, 28, and 30. Nothing contained in this Article 45.2, is intended to or shall relieve the **Contractor** from the obligation of complying strictly with Articles 11, 27, 28, and 30. The **Contractor** is warned that unless such claims are completely set forth as herein required, the **Contractor**, upon acceptance of the Final Payment pursuant to Article 46, will have waived any such claims.

45.3 Preparation of Final Voucher: Upon determining the balance due hereunder other than on account of claims, the **Engineer** will prepare and certify, for the **Commissioner's** approval, a voucher for final payment in that amount less any and all deductions authorized to be made by the **Commissioner** under this **Contract** or by **Law**. In the case of a lump sum **Contract**, the **Commissioner** shall certify the voucher for final payment within thirty (30) **Days** from the date of completion and acceptance of the **Work**, provided all requests for extensions of time have been acted upon.

45.3.1 All prior certificates and vouchers upon which partial payments were made, being merely estimates made to enable the **Contractor** to prosecute the **Work** more advantageously, shall be subject to correction in the final voucher, and the certification of the **Engineer** thereon and the approval of the **Commissioner** thereof, shall be conditions precedent to the right of the **Contractor** to receive any money hereunder. Such final voucher shall be binding and conclusive upon the **Contractor**.

45.3.2 Payment pursuant to such final voucher, less any deductions authorized to be made by the **Commissioner** under this **Contract** or by **Law**, shall constitute the final payment, and shall be made by the **Comptroller** within thirty (30) **Days** after the filing of such voucher in his/her office.

45.4 The **Contractor** acknowledges that nothing contained in this Article 45 is intended to or shall in any way diminish the force and effect of Article 13.

ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT

46.1 The acceptance by the **Contractor**, or by anyone claiming by or through it, of the final payment, whether such payment be made pursuant to any judgment of any court, or otherwise, shall constitute and operate as a release of the **City** from any and all claims of and liability to the **Contractor** for anything heretofore done or furnished for the **Contractor** relating to or arising out of this **Contract** and the **Work** done hereunder, and for any prior act, neglect or default on the part of the **City** or any of its officials, agents or employees, excepting only a claim against the **City** for the amounts deducted or retained in accordance with the terms and provisions of this **Contract** or by **Law**, and excepting any claims, not otherwise waived, or any pending dispute resolution procedures which are contained in the

verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45.

46.2 The **Contractor** is warned that the execution by it of a release, in connection with the acceptance of the final payment, containing language purporting to reserve claims other than those herein specifically excepted from the operation of this Article 46, or those for amounts deducted by the **Commissioner** from the final requisition or from the final payment as certified by the **Engineer** and approved by the **Commissioner**, shall not be effective to reserve such claims, anything stated to the **Contractor** orally or in writing by any official, agent or employee of the **City** to the contrary notwithstanding.

46.3 Should the **Contractor** refuse to accept the final payment as tendered by the **Comptroller**, it shall constitute a waiver of any right to interest thereon.

46.4 The **Contractor**, however, shall not be barred by this Article 46 from commencing an action for breach of **Contract** to the extent permitted by **Law** and by the terms of the **Contract** for any claims that are contained in the verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45 or that arose after submission of the final payment requisition, provided that a detailed and verified statement of claim is served upon the contracting **Agency** and **Comptroller** not later than forty (40) **Days** after the making of such final payment by electronic funds transfer (EFT) or the mailing of such final payment. The statement shall specify the items upon which the claim will be based and any such claim shall be limited to such items.

ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION

47.1 All works of art, including paintings, mural decorations, stained glass, statues, bas-reliefs, and other sculptures, monuments, fountains, arches, and other structures of a permanent character intended for ornament or commemoration, and every design of the same to be used in the performance of this **Contract**, and the design of all bridges, approaches, buildings, gates, fences, lamps, or structures to be erected, pursuant to the terms of this **Contract**, shall be submitted to the Art Commission, d/b/a the Public Design Commission of the City of New York, and shall be approved by the Public Design Commission prior to the erection or placing in position of the same. The final payment shall not become due or payable under this **Contract** unless and until the Public Design Commission shall certify that the design for the **Work** herein contracted for has been approved by the said Public Design Commission, and that the same has been executed in substantial accordance with the design so approved, pursuant to the provisions of Chapter 37, Section 854 of the **City Charter**, as amended.

CHAPTER X: CONTRACTOR'S DEFAULT

ARTICLE 48. COMMISSIONER'S RIGHT TO DECLARE CONTRACTOR IN DEFAULT

48.1 In addition to those instances specifically referred to in other Articles herein, the **Commissioner** shall have the right to declare the **Contractor** in default of this **Contract** if:

48.1.1 The **Contractor** fails to commence **Work** when notified to do so by the **Commissioner**; or if

48.1.2 The **Contractor** shall abandon the **Work**; or if

48.1.3 The **Contractor** shall refuse to proceed with the **Work** when and as directed by the **Commissioner**; or if

48.1.4 The **Contractor** shall, without just cause, reduce its working force to a number which, if maintained, would be insufficient, in the opinion of the **Commissioner**, to complete the **Work** in accordance with the progress schedule; or if

48.1.5 The **Contractor** shall fail or refuse to increase sufficiently such working force when ordered to do so by the **Commissioner**; or if

48.1.6 The **Contractor** shall sublet, assign, transfer, convert or otherwise dispose of this **Contract** other than as herein specified; or sell or assign a majority interest in the **Contractor**; or if

48.1.7 The **Contractor** fails to secure and maintain all required insurance; or if

48.1.8 A receiver or receivers are appointed to take charge of the **Contractor's** property or affairs; or if

48.1.9 The **Commissioner** shall be of the opinion that the **Contractor** is or has been unnecessarily or unreasonably or willfully delaying the performance and completion of the **Work**, or the award of necessary subcontracts, or the placing of necessary material and equipment orders; or if

48.1.10 The **Commissioner** shall be of the opinion that the **Contractor** is or has been willfully or in bad faith violating any of the provisions of this **Contract**; or if

48.1.11 The **Commissioner** shall be of the opinion that the **Work** cannot be completed within the time herein provided therefor or within the time to which such completion may have been extended; provided, however, that the impossibility of timely completion is, in the **Commissioner's** opinion, attributable to conditions within the **Contractor's** control; or if

48.1.12 The **Work** is not completed within the time herein provided therefor or within the time to which the **Contractor** may be entitled to have such completion extended; or if

48.1.13 Any statement or representation of the **Contractor** in the **Contract** or in any document submitted by the **Contractor** with respect to the **Work**, the **Project**, or the **Contract** (or for purposes of securing the **Contract**) was untrue or incorrect when made; or if

48.1.14 The **Contractor** or any of its officers, directors, partners, five (5%) percent shareholders, principals, or other persons substantially involved in its activities, commits any of the acts or omissions specified as the grounds for debarment in the **PPB Rules**.

48.2 Before the **Commissioner** shall exercise his/her right to declare the **Contractor** in default, the **Commissioner** shall give the **Contractor** an opportunity to be heard, upon not less than two (2) **Days'** notice.

ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT

49.1 The right to declare the **Contractor** in default for any of the grounds specified or referred to in Article 48 shall be exercised by sending the **Contractor** a notice, signed by the **Commissioner**, setting forth the ground or grounds upon which such default is declared (hereinafter referred to as a "Notice of Default").

49.2 The **Commissioner's** determination that the **Contractor** is in default shall be conclusive, final, and binding on the parties and such a finding shall preclude the **Contractor** from commencing a plenary action for any damages relating to the **Contract**. If the **Contractor** protests the determination of the **Commissioner**, the **Contractor** may commence an action in a court of competent jurisdiction of the State of New York under Article 78 of the New York Civil Practice Law and Rules.

ARTICLE 50. QUITTING THE SITE

50.1 Upon receipt of such notice the **Contractor** shall immediately discontinue all further operations under this **Contract** and shall immediately quit the **Site**, leaving untouched all plant, materials, equipment, tools, and supplies then on the **Site**.

ARTICLE 51. COMPLETION OF THE WORK

51.1 The **Commissioner**, after declaring the **Contractor** in default, may then have the **Work** completed by such means and in such manner, by contract with or without public letting, or otherwise, as he/she may deem advisable, utilizing for such purpose such of the **Contractor's** plant, materials, equipment, tools, and supplies remaining on the **Site**, and also such **Subcontractors**, as he/she may deem advisable.

51.2 After such completion, the **Commissioner** shall make a certificate stating the expense incurred in such completion, which shall include the cost of re-letting and also the total amount of liquidated damages (at the rate provided for in the **Contract**) from the date when the **Work** should have been completed by the **Contractor** in accordance with the terms hereof to the date of actual completion of the **Work**. Such certificate shall be binding and conclusive upon the **Contractor**, its sureties, and any person claiming under the **Contractor**, as to the amount thereof.

51.3 The expense of such completion, including any and all related and incidental costs, as so certified by the **Commissioner**, and any liquidated damages assessed against the **Contractor**, shall be charged against and deducted out of monies which are earned by the **Contractor** prior to the date of default. Should the expense of such completion, as certified by the **Commissioner**, exceed the total sum which would have been payable under the **Contract** if it had been completed by the **Contractor**, any excess shall be paid by the **Contractor**.

ARTICLE 52. PARTIAL DEFAULT

52.1 In case the **Commissioner** shall declare the **Contractor** in default as to a part of the **Work** only, the **Contractor** shall discontinue such part, shall continue performing the remainder of the **Work** in strict conformity with the terms of this **Contract**, and shall in no way hinder or interfere with any **Other Contractor(s)** or persons whom the **Commissioner** may engage to complete the **Work** as to which the **Contractor** was declared in default.

52.2 The provisions of this Chapter relating to declaring the **Contractor** in default as to the entire **Work** shall be equally applicable to a declaration of partial default, except that the **Commissioner** shall be entitled to utilize for completion of the part of the **Work** as to which the **Contractor** was declared in default only such plant, materials, equipment, tools, and supplies as had been previously used by the **Contractor** on such part.

ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK

53.1 In completing the whole or any part of the **Work** under the provisions of this Chapter X, the **Commissioner** shall have the power to depart from or change or vary the terms and provisions of this **Contract**, provided, however, that such departure, change or variation is made for the purpose of reducing the time or expense of such completion. Such departure, change or variation, even to the extent of accepting a lesser or different performance, shall not affect the conclusiveness of the **Commissioner's** certificate of the cost of completion referred to in Article 51, nor shall it constitute a defense to an action to recover the amount by which such certificate exceeds the amount which would have been payable to the **Contractor** hereunder but for its default.

ARTICLE 54. OTHER REMEDIES

54.1 In addition to the right to declare the **Contractor** in default pursuant to this Chapter X, the **Commissioner** shall have the absolute right, in his/her sole discretion and without a hearing, to complete or cause to be completed in the same manner as described in Articles 51 and 53, any or all unsatisfactory or uncompleted punch list **Work** that remains after the completion date specified in the **Final Approved Punch List**. A written notice of the exercise of this right shall be sent to the **Contractor** who shall immediately quit the **Site** in accordance with the provisions of Article 50.

54.2 The expense of completion permitted under Article 54.1, including any and all related and incidental costs, as so certified by the **Commissioner**, shall be charged against and deducted out of monies which have been earned by the **Contractor** prior to the date of the exercise of the right set forth in Article 54.1; the balance of such monies, if any, subject to the other provisions of this **Contract**, to be paid to the **Contractor** without interest after such completion. Should the expense of such completion, as certified by the **Commissioner**, exceed the total sum which would have been payable under the **Contract** if it had been completed by the **Contractor**, any excess shall be paid by the **Contractor**.

54.3 The previous provisions of this Chapter X shall be in addition to any and all other remedies available under **Law** or in equity.

54.4 The exercise by the **City** of any remedy set forth herein shall not be deemed a waiver by the **City** of any other legal or equitable remedy contained in this **Contract** or provided under **Law**.

CHAPTER XI: MISCELLANEOUS PROVISIONS

ARTICLE 55. CONTRACTOR'S WARRANTIES

55.1 In consideration of, and to induce, the award of this **Contract** to the **Contractor**, the **Contractor** represents and warrants:

55.1.1 That it is financially solvent, sufficiently experienced and competent to perform the **Work**; and

55.1.2 That the facts stated in its bid and the information given by it pursuant to the Information for Bidders is true and correct in all respects; and

55.1.3 That it has read and complied with all requirements set forth in the **Contract**.

ARTICLE 56. CLAIMS AND ACTIONS THEREON

56.1 Any claim, that is not subject to dispute resolution under the **PPB Rules** or this **Contract**, against the **City** for damages for breach of **Contract** shall not be made or asserted in any action, unless the **Contractor** shall have strictly complied with all requirements relating to the giving of notice and of information with respect to such claims, as herein before provided.

56.2 Nor shall any action be instituted or maintained on any such claims unless such action is commenced within six (6) months after **Substantial Completion**; except that:

56.2.1 Any claims arising out of events occurring after **Substantial Completion** and before **Final Acceptance** of the **Work** shall be asserted within six (6) months of **Final Acceptance** of the **Work**;

56.2.2 If the **Commissioner** exercises his/her right to complete or cause to complete any or all unsatisfactory or uncompleted punch list **Work** that remains after the completion date specified in the **Final Approved Punch List** pursuant to Article 54, any such action shall be commenced within six (6) months from the date the **Commissioner** notifies the **Contractor** in writing that he/she has exercised such right. Any claims for monies deducted, retained or withheld under the provisions of this **Contract** shall be asserted within six (6) months after the date when such monies otherwise become due and payable hereunder; and

56.2.3 If the **Commissioner** exercises his/her right to terminate the **Contract** pursuant to Article 64, any such action shall be commenced within six (6) months of the date the **Commissioner** exercises said right.

ARTICLE 57. INFRINGEMENT

57.1 The **Contractor** shall be solely responsible for and shall defend, indemnify, and hold the **City** harmless from any and all claims (even if the allegations of the lawsuit are without merit) and judgments for damages and from costs and expenses to which the **City** may be subject to or which it may suffer or incur allegedly arising out of or in connection with any infringement by the **Contractor** of any copyright, trade secrets, trademark or patent rights or any other property or personal right of any third party by the **Contractor** and/or its **Subcontractors** in the performance or completion of the **Work**. Insofar as the facts or **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent permitted by **Law**.

ARTICLE 58. NO CLAIM AGAINST OFFICIALS, AGENTS OR EMPLOYEES

58.1 No claim whatsoever shall be made by the **Contractor** against any official, agent or employee of the **City** for, or on account of, anything done or omitted to be done in connection with this **Contract**.

ARTICLE 59. SERVICE OF NOTICES

59.1 The **Contractor** hereby designates the business address, fax number, and email address specified in its bid, as the place where all notices, directions or other communications to the **Contractor** may be delivered, or to which they may be mailed. Any notice, direction, or communication from either party to the other shall be in writing and shall be deemed to have been given when (i) delivered personally; (ii) sent by certified mail, return receipt requested; (iii) delivered by overnight or same day courier service in a properly addressed envelope with confirmation; or (iv) sent by fax or email and, unless receipt of the fax or e-mail is acknowledged by the recipient by fax or e-mail, deposited in a post office box regularly maintained by the United States Postal Service in a properly addressed, postage pre-paid envelope.

59.2 **Contractor's** notice address, email address, or fax number may be changed at any time by an instrument in writing, executed and acknowledged by the **Contractor**, and delivered to the **Commissioner**.

59.3 Nothing herein contained shall, however, be deemed to preclude or render inoperative the service of any notice, direction or other communication upon the **Contractor** personally, or, if the **Contractor** is a corporation, upon any officer thereof.

ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT

60.1 If this **Contract** contains any unlawful provision not an essential part of the **Contract** and which shall not appear to have been a controlling or material inducement to the making thereof, the same shall be deemed of no effect and shall, upon notice by either party, be deemed stricken from the **Contract** without affecting the binding force of the remainder.

ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED

61.1 It is the intent and understanding of the parties to this **Contract** that each and every provision of **Law** required to be inserted in this **Contract** shall be and is inserted herein. Furthermore, it is hereby stipulated that every such provision is to be deemed to be inserted herein, and if, through mistake or otherwise, any such provision is not inserted, or is not inserted in correct form, then this **Contract** shall forthwith upon the application of either party be amended by such insertion so as to comply strictly with the **Law** and without prejudice to the rights of either party hereunder.

ARTICLE 62. TAX EXEMPTION

62.1 The **City** is exempt from payment of Federal, State, and local taxes, including sales and compensating use taxes of the State of New York and its cities and counties on all tangible personal property sold to the **City** pursuant to the provisions of this **Contract**. These taxes are not to be included in bids. However, this exemption does not apply to tools, machinery, equipment or other property leased by or to the **Contractor**, **Subcontractor** or **Materialman** or to tangible personal property which, even

though it is consumed, is not incorporated into the completed **Work** (consumable supplies) and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**. The **Contractor** and its **Subcontractors** and **Materialmen** shall be responsible for and pay any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property and upon all such consumable supplies and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**.

62.2 The **Contractor** agrees to sell and the **City** agrees to purchase all tangible personal property, other than consumable supplies and other tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**, that is required, necessary or proper for or incidental to the construction of the **Project** covered by this **Contract**. The sum paid under this **Contract** for such tangible personal property shall be in full payment and consideration for the sale of such tangible personal property.

62.2.1 The **Contractor** agrees to construct the **Project** and to perform all **Work**, labor and services rendered, necessary, proper or incidental thereto for the sum shown in the bid for the performance of such **Work**, labor, and services, and the sum so paid pursuant to this **Contract** for such **Work**, labor, and services, shall be in full consideration for the performance by the **Contractor** of all its duties and obligations under this **Contract** in connection with said **Work**, labor, and services.

62.3 20 NYCRR Section 541.3(d) provides that a **Contractor's** purchases of tangible personal property that is either incorporated into real property owned by a governmental entity or purchased for and sold to a governmental entity are exempt from sales and use tax. The **City** shall not pay sales tax for any such tangible personal property that it purchases from the **Contractor** pursuant to the **Contract**. With respect to such tangible personal property, the **Contractor**, at the request of the **City**, shall furnish to the **City** such bills of sale and other instruments as may be required by the **City**, properly executed, acknowledged and delivered assuring to the **City** title to such tangible personal property, free of liens and/or encumbrances, and the **Contractor** shall mark or otherwise identify all such tangible personal property as the property of the **City**.

62.4 Title to all tangible personal property to be sold by the **Contractor** to the **City** pursuant to the provisions of the **Contract** shall immediately vest in and become the sole property of the **City** upon delivery of such tangible personal property to the **Site**. Notwithstanding such transfer of title, the **Contractor** shall have the full and continuing responsibility to install such tangible personal property in accordance with the provisions of this **Contract**, protect it, maintain it in a proper condition and forthwith repair, replace and make good any damage thereto, theft or disappearance thereof, and furnish additional tangible personal property in place of any that may be lost, stolen or rendered unusable, without cost to the **City**, until such time as the **Work** covered by the **Contract** is fully accepted by the **City**. Such transfer of title shall in no way affect any of the **Contractor's** obligations hereunder. In the event that, after title has passed to the **City**, any of the tangible personal property is rejected as being defective or otherwise unsatisfactory, title to all such tangible personal property shall be deemed to have been transferred back to the **Contractor**.

62.5 The purchase by **Subcontractors** or **Materialmen** of tangible personal property to be sold hereunder shall be a purchase or procurement for resale to the **Contractor** (either directly or through other **Subcontractors**) and therefore not subject to the aforesaid sales and compensating use taxes, provided that the subcontracts and purchase agreements provide for the resale of such tangible personal property and that such subcontracts and purchase agreements are in a form similar to this **Contract** with respect to the separation of the sale of consumable supplies and tangible personal property that the

Contractor is required to remove from the **Site** during or upon completion of the **Work** from the **Work** and labor, services, and any other matters to be provided, and provided further that the subcontracts and purchase agreements provide separate prices for tangible personal property and all other services and matters. Such separation shall actually be followed in practice, including the separation of payments for tangible personal property from the payments for other **Work** and labor and other things to be provided.

62.6 The **Contractor** and its **Subcontractors** and **Materialmen** shall furnish a **Contractor Exempt Purchase Certificate** to all persons, firms or corporations from which they purchase tangible personal property for the performance of the **Work** covered by this **Contract**.

62.7 In the event any of the provisions of this Article 62 shall be deemed to be in conflict with any other provisions of this **Contract** or create any ambiguity, then the provisions of this Article 62 shall control.

ARTICLE 63. INVESTIGATION(S) CLAUSE

63.1 The parties to this **Contract** agree to cooperate fully and faithfully with any investigation, audit or inquiry conducted by a United States, a State of New York (State) or a **City** governmental agency or authority that is empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath, or conducted by the Inspector General of a governmental agency that is a party in interest to the transaction, submitted bid, submitted proposal, contract, lease, permit or license that is the subject of the investigation, audit or inquiry.

63.2 If any person who has been advised that his/her statement, and any information from such statement, will not be used against him/her in any subsequent criminal proceeding refuses to testify before a grand jury or other governmental agency or authority empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath concerning the award of or performance under any transaction, agreement, lease, permit, contract, or license entered into with the **City**, the State, or any political subdivision or public authority thereof, or the Port Authority of New York and New Jersey, or any local development corporation within the **City**, or any public benefit corporation organized under the **Laws** of the State of New York, or;

63.3 If any person refuses to testify for a reason other than the assertion of his/her privilege against self incrimination in an investigation, audit or inquiry conducted by a **City** or State governmental agency or authority empowered directly or by designation to compel the attendance of witnesses and to take testimony under oath, or by the Inspector General of the governmental agency that is a party in interest in, and is seeking testimony concerning the award of, or performance under any transaction, agreement, lease, permit, contract, or license entered into with the **City**, the State, or any political subdivision thereof or any local development corporation within the **City**, then;

63.4 The **Commissioner** whose **Agency** is a party in interest to the transaction, submitted bid, submitted proposal, contract, lease, permit, or license shall convene a hearing, upon not less than five (5) **Days'** written notice to the parties involved to determine if any penalties should attach for the failure of a person to testify.

63.5 If any non-governmental party to the hearing requests an adjournment, the **Commissioner** who convened the hearing may, upon granting the adjournment, suspend any contract, lease, permit, or license, pending the final determination pursuant to Article 63.7 without the **City** incurring any penalty or damages for delay or otherwise.

63.6 The penalties which may attach after a final determination by the **Commissioner** may include but shall not exceed:

63.6.1 The disqualification for a period not to exceed five (5) years from the date of an adverse determination for any person, or any entity of which such person was a member at the time the testimony was sought, from submitting bids for, or transacting business with, or entering into or obtaining any contract, lease, permit or license with or from the City; and/or

63.6.2 The cancellation or termination of any and all such existing City contracts, leases, permits or licenses that the refusal to testify concerns and that have not been assigned as permitted under this **Contract**, nor the proceeds of which pledged, to an unaffiliated and unrelated institutional lender for fair value prior to the issuance of the notice scheduling the hearing, without the City incurring any penalty or damages on account of such cancellation or termination; monies lawfully due for goods delivered, work done, rentals, or fees accrued prior to the cancellation or termination shall be paid by the City.

63.7 The **Commissioner** shall consider and address in reaching his/her determination and in assessing an appropriate penalty the factors in Articles 63.7.1 and 63.7.2. The **Commissioner** may also consider, if relevant and appropriate, the criteria established in Articles 63.7.3 and 63.7.4, in addition to any other information which may be relevant and appropriate:

63.7.1 The party's good faith endeavors or lack thereof to cooperate fully and faithfully with any governmental investigation or audit, including but not limited to the discipline, discharge, or disassociation of any person failing to testify, the production of accurate and complete books and records, and the forthcoming testimony of all other members, agents, assignees or fiduciaries whose testimony is sought.

63.7.2 The relationship of the person who refused to testify to any entity that is a party to the hearing, including but not limited to, whether the person whose testimony is sought has an ownership interest in the entity and/or the degree of authority and responsibility the person has within the entity.

63.7.3 The nexus of the testimony sought to the subject entity and its contracts, leases, permits or licenses with the City.

63.7.4 The effect a penalty may have on an unaffiliated and unrelated party or entity that has a significant interest in an entity subject to penalties under Article 63.6, provided that the party or entity has given actual notice to the **Commissioner** upon the acquisition of the interest, or at the hearing called for in Article 63.4, gives notice and proves that such interest was previously acquired. Under either circumstance the party or entity shall present evidence at the hearing demonstrating the potential adverse impact a penalty will have on such person or entity.

63.8 Definitions:

63.8.1 The term "license" or "permit" as used in this Article 63 shall be defined as a license, permit, franchise or concession not granted as a matter of right.

63.8.2 The term "person" as used in this Article 63 shall be defined as any natural person doing business alone or associated with another person or entity as a partner, director, officer, principal or employee.

63.8.3 The term "entity" as used in this Article 63 shall be defined as any firm, partnership, corporation, association, joint venture, or person that receives monies, benefits, licenses, leases, or permits from or through the City or otherwise transacts business with the City.

63.8.4 The term "member" as used in this Article 63 shall be defined as any person associated with another person or entity as a partner, director, officer, principal or employee.

63.9 In addition to and notwithstanding any other provision of this Contract, the Commissioner may in his/her sole discretion terminate this Contract upon not less than three (3) Days' written notice in the event the Contractor fails to promptly report in writing to the Commissioner of the Department of Investigations ("DOI") of the City any solicitation of money, goods, requests for future employment or other benefit or thing of value, by or on behalf of any employee of the City or other person, firm, corporation or entity for any purpose which may be related to the procurement or obtaining of this Contract by the Contractor, or affecting the performance of this Contract.

ARTICLE 64. TERMINATION BY THE CITY

64.1 In addition to termination pursuant to any other article of this Contract, the Commissioner may, at any time, terminate this Contract by written notice to the Contractor. In the event of termination, the Contractor shall, upon receipt of such notice, unless otherwise directed by the Commissioner:

64.1.1 Stop Work on the date specified in the notice;

64.1.2 Take such action as may be necessary for the protection and preservation of the City's materials and property;

64.1.3 Cancel all cancelable orders for material and equipment;

64.1.4 Assign to the City and deliver to the Site or another location designated by the Commissioner, any non-cancelable orders for material and equipment that is not capable of use except in the performance of this Contract and has been specifically fabricated for the sole purpose of this Contract and not incorporated in the Work;

64.1.5 Take no action which will increase the amounts payable by the City under this Contract.

64.2 In the event of termination by the City pursuant to this Article 64, payment to the Contractor shall be in accordance with Articles 64.2.1, 64.2.2 or 64.2.3, to the extent that each respective article applies.

64.2.1 Lump Sum Contracts or Items: On all lump sum Contracts, or on lump sum items in a Contract, the City will pay the Contractor the sum of the amounts described in Articles 64.2.1(a) and 64.2.1(b), less all payments previously made pursuant to this Contract. On lump sum Contracts only, the City will also pay the Contractor an additional sum as provided in Article 64.2.1(c).

64.2.1(a) For Work completed prior to the notice of termination, the Contractor shall be paid a pro rata portion of the lump sum bid amount, plus approved change orders, based upon the percent completion of the Work, as determined by the

Commissioner. For the purpose of determining the pro rata portion of the lump sum bid amount to which the **Contractor** is entitled, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be dispositive. The **Commissioner's** determination hereunder shall be final, binding, and conclusive.

64.2.1(b) For non-cancelable material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated in the **Work**, the **Contractor** shall be paid the lesser of the following, less salvage value:

64.2.1(b)(i) The Direct Cost, as defined in Article 64.2.4; or

64.2.1(b)(ii) The fair and reasonable value, if less than Direct Cost, of such material and equipment, plus necessary and reasonable delivery costs.

64.2.1(b)(iii) In addition, the **Contractor** shall be paid five (5%) percent of the amount described in Article 64.2.1(b)(i) or Article 64.2.1(b)(ii), whichever applies.

64.2.1(c) Except as otherwise provided in Article 64.2.1(d), on all lump sum **Contracts**, the **Contractor** shall be paid the percentage indicated below applied to the difference between the total lump sum bid amount and the total of all payments made prior to the notice of termination plus all payments allowed pursuant to Articles 64.2.1(a) and 64.2.1(b):

64.2.1(c)(i) Five (5%) percent of the first five million (\$5,000,000) dollars; and

64.2.1(c)(ii) Three (3%) percent of any amount between five million (\$5,000,000) dollars and fifteen million (\$15,000,000) dollars; plus

64.2.1(c)(iii) One (1%) percent of any amount over fifteen million (\$15,000,000) dollars.

64.2.1(d) In the event the **City** terminates a lump sum **Contract** pursuant to this Article 64 within ninety (90) **Days** after registration of the **Contract** with the **Comptroller**, the **Contractor** shall be paid one (1%) percent of the difference between the lump sum bid amount and the total of all payments made pursuant to this Article 64.2.

64.2.2 Unit Price Contracts or Items: On all unit price **Contracts**, or on unit price items in a **Contract**, the **City** will pay the **Contractor** the sum of the amounts described in Articles 64.2.2(a) and 64.2.2(b), less all payments previously made pursuant to this **Contract**:

64.2.2(a) For all completed units, the unit price stated in the **Contract**, and

64.2.2(b) For units that have been ordered but are only partially completed, the **Contractor** will be paid:

64.2.2(b)(i) A pro rata portion of the unit price stated in the **Contract** based upon the percent completion of the unit and

64.2.2(b)(ii) For non-cancelable material and equipment, payment will be made pursuant to Article 64.2.1(b).

64.2.3 Time and Materials Contracts or Items Based on Time and Material Records: On all **Contracts** or items in a **Contract** where payment for the **Work** is based on time and material records, the **Contractor** shall be paid in accordance with Article 26, less all payments previously made pursuant to this **Contract**.

64.2.4 Direct Costs: Direct Costs as used in this Article 64.2 shall mean:

64.2.4(a) The actual purchase price of material and equipment, plus necessary and reasonable delivery costs,

64.2.4(b) The actual cost of labor involved in construction and installation at the **Site**, and

64.2.4(c) The actual cost of necessary bonds and insurance purchased pursuant to requirements of this **Contract** less any amounts that have been or should be refunded by the **Contractor's** sureties or insurance carriers.

64.2.4(d) Direct Costs shall not include overhead.

64.3 In no event shall any payments under this Article 64 exceed the **Contract** price for such items.

64.4 All payments pursuant to Article 64 shall be in the nature of liquidated damages and shall be accepted by the **Contractor** in full satisfaction of all claims against the **City**.

64.5 The **City** may deduct or set off against any sums due and payable pursuant to this Article 64, any deductions authorized by this **Contract** or by **Law** (including but not limited to liquidated damages) and any claims it may have against the **Contractor**. The **City's** exercise of the right to terminate the **Contract** pursuant to this Article 64 shall not impair or otherwise effect the **City's** right to assert any claims it may have against the **Contractor** in a plenary action.

64.6 Where the **Work** covered by the **Contract** has been substantially completed, as determined in writing by the **Commissioner**, termination of the **Work** shall be handled as an omission of **Work** pursuant to Articles 29 and 33, in which case a change order will be issued to reflect an appropriate reduction in the **Contract** sum, or if the amount is determined after final payment, such amount shall be paid by the **Contractor**.

ARTICLE 65. CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE

65.1 This **Contract** shall be deemed to be executed in the **City** regardless of the domicile of the **Contractor**, and shall be governed by and construed in accordance with the **Laws** of the State of New York and the **Laws** of the United States, where applicable.

65.2 The parties agree that any and all claims asserted against the **City** arising under this **Contract** or related thereto shall be heard and determined in the courts of the State of New York ("New York State Courts") located in the **City** and County of New York. To effect this **Contract** and intent, the **Contractor** agrees:

65.2.1 If the **City** initiates any action against the **Contractor** in Federal court or in a New York State Court, service of process may be made on the **Contractor** either in person, wherever such **Contractor** may be found, or by registered mail addressed to the **Contractor** at its address as set forth in this **Contract**, or to such other address as the **Contractor** may provide to the **City** in writing; and

65.2.2 With respect to any action between the **City** and the **Contractor** in a New York State Court, the **Contractor** hereby expressly waives and relinquishes any rights it might otherwise have:

65.2.2(a) To move to dismiss on grounds of forum non conveniens;

65.2.2(b) To remove to Federal Court; and

65.2.2(c) To move for a change of venue to a New York State Court outside New York County.

65.2.3 With respect to any action brought by the **City** against the **Contractor** in a Federal Court located in the **City**, the **Contractor** expressly waives and relinquishes any right it might otherwise have to move to transfer the action to a Federal Court outside the **City**.

65.2.4 If the **Contractor** commences any action against the **City** in a court located other than in the **City** and County of New York, upon request of the **City**, the **Contractor** shall either consent to a transfer of the action to a New York State Court of competent jurisdiction located in the **City** and County of New York or, if the Court where the action is initially brought will not or cannot transfer the action, the **Contractor** shall consent to dismiss such action without prejudice and may thereafter reinstate the action in a New York State Court of competent jurisdiction in New York County.

65.3 If any provision(s) of this Article 65 is held unenforceable for any reason, each and all other provision(s) shall nevertheless remain in full force and effect.

ARTICLE 66. PARTICIPATION IN AN INTERNATIONAL BOYCOTT

66.1 The **Contractor** agrees that neither the **Contractor** nor any substantially owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the Federal Export Administration Act of 1979, as amended, or the regulations of the United States Department of Commerce (Commerce Department) promulgated thereunder.

66.2 Upon the final determination by the Commerce Department or any other agency of the United States as to, or conviction of the **Contractor** or a substantially-owned affiliated company thereof for participation in an international boycott in violation of the provisions of the Export Administration Act of 1979, as amended, or the regulations promulgated thereunder, the **Comptroller** may, at his/her option, render forfeit and void this **Contract**.

66.3 The **Contractor** shall comply in all respects, with the provisions of Section 6-114 of the Administrative Code and the rules and regulations issued by the **Comptroller** thereunder.

ARTICLE 67. LOCALLY BASED ENTERPRISE PROGRAM

67.1 This **Contract** is subject to the requirements of Section 6-108.1 of the Administrative Code and regulations promulgated thereunder. No construction contract shall be awarded unless and until these requirements have been complied with in their entirety; however, compliance with this Article 67 is not required if the Agency sets Subcontractor Participation Goals for Minority- and Women-Owned Business Enterprises (M/WBEs).

67.2 Unless specifically waived by the **Commissioner** with the approval of the Division of Economic and Financial Opportunity of the City Department of Business Services, if any portion of the **Contract** is subcontracted, not less than ten (10%) percent of the total dollar amount of the **Contract** shall be awarded to locally based enterprises (LBEs); except that where less than ten (10%) percent of the total dollar amount of the **Contract** is subcontracted, such lesser percentage shall be so awarded.

67.3 The **Contractor** shall not require performance and payment bonds from LBE **Subcontractors**.

67.4 If the **Contractor** has indicated prior to award that no **Work** will be subcontracted, no **Work** shall be subcontracted without the prior approval of the **Commissioner**, which shall be granted only if the **Contractor** makes a good faith effort beginning at least six (6) weeks before the **Work** is to be performed to obtain LBE **Subcontractors** to perform the **Work**.

67.5 If the **Contractor** has not identified sufficient LBE **Subcontractors** prior to award, it shall sign a letter of compliance stating that it complies with Section 6-108.1 of the Administrative Code, recognizes that achieving the LBE requirement is a condition of its **Contract**, and shall submit documentation demonstrating its good faith efforts to obtain LBEs. After award, the **Contractor** shall begin to solicit LBE's to perform subcontracted **Work** at least six (6) weeks before the date such **Work** is to be performed and shall demonstrate that a good faith effort has been made to obtain LBEs on each subcontract until it meets the required percentage.

67.6 Failure of the **Contractor** to comply with the requirements of Section 6-108.1 of the Administrative Code and the regulations promulgated thereunder shall constitute a material breach of this **Contract**. Remedy for such breach may include the imposition of any or all of the following sanctions:

67.6.1 Reducing the **Contractor's** compensation by an amount equal to the dollar value of the percentage of the LBE subcontracting requirement not complied with;

67.6.2 Declaring the **Contractor** in default;

67.6.3 If the **Contractor** is an LBE, de-certifying and declaring the **Contractor** ineligible to participate in the LBE program for a period of up to three (3) years.

ARTICLE 68. ANTITRUST

68.1 The **Contractor** hereby assigns, sells, and transfers to the **City** all right, title, and interest in and to any claims and causes of action arising under the antitrust **Laws** of New York State or of the United States relating to the particular goods or services purchased or procured by the **City** under this **Contract**.

ARTICLE 69. MacBRIDE PRINCIPLES PROVISIONS

69.1 Notice To All Prospective Contractors:

69.1.1 Local Law No. 34 of 1991 became effective on September 10, 1991 and added Section 6-115.1 of the Administrative Code. The local Law provides for certain restrictions on **City Contracts** to express the opposition of the people of the **City** to employment discrimination practices in Northern Ireland to promote freedom of work-place opportunity.

69.1.2 Pursuant to Section 6-115.1, prospective **Contractors** for **Contracts** to provide goods or services involving an expenditure of an amount greater than ten thousand (\$10,000.) dollars, or for construction involving an amount greater than fifteen thousand (\$15,000.) dollars, are asked to sign a rider in which they covenant and represent, as a material condition of their **Contract**, that any business operations in Northern Ireland conducted by the **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** will be conducted in accordance with the MacBride Principles of nondiscrimination in employment.

69.1.3 Prospective **Contractors** are not required to agree to these conditions. However, in the case of **Contracts** let by competitive sealed bidding, whenever the lowest responsible bidder has not agreed to stipulate to the conditions set forth in this notice and another bidder who has agreed to stipulate to such conditions has submitted a bid within five (5%) percent of the lowest responsible bid for a **Contract** to supply goods, services or construction of comparable quality, the **Agency** shall refer such bids to the Mayor, the Speaker or other officials, as appropriate, who may determine, in accordance with applicable **Law**, that it is in the best interest of the **City** that the **Contract** be awarded to other than the lowest responsible pursuant to Section 313(b)(2) of the **City Charter**.

69.1.4 In the case of **Contracts** let by other than competitive sealed bidding, if a prospective **Contractor** does not agree to these conditions, no **Agency**, elected official or the **City Council** shall award the **Contract** to that bidder unless the **Agency** seeking to use the goods, services or construction certifies in writing that the **Contract** is necessary for the **Agency** to perform its functions and there is no other responsible **Contractor** who will supply goods, services or construction of comparable quality at a comparable price.

69.2 In accordance with Section 6-115.1 of the Administrative Code, the **Contractor** stipulates that such **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** either:

69.2.1 Have no business operations in Northern Ireland, or

69.2.2 Shall take lawful steps in good faith to conduct any business operations they have in Northern Ireland in accordance with the MacBride Principles, and shall permit independent monitoring of their compliance with such principles.

69.3 For purposes of this Article, the following terms shall have the following meanings:

69.3.1 "MacBride Principles" shall mean those principles relating to nondiscrimination in employment and freedom of work-place opportunity which require employers doing business in Northern Ireland to:

69.3.1(a) increase the representation of individuals from under-represented religious groups in the workforce, including managerial, supervisory, administrative, clerical and technical jobs;

69.3.1(b) take steps to promote adequate security for the protection of employees from under-represented religious groups both at the work-place and while traveling to and from **Work**;

69.3.1(c) ban provocative religious or political emblems from the workplace;

69.3.1(d) publicly advertise all job openings and make special recruitment efforts to attract applicants from under-represented religious groups;

69.3.1(e) establish layoff, recall, and termination procedures which do not in practice favor a particular religious group;

69.3.1(f) abolish all job reservations, apprenticeship restrictions and different employment criteria which discriminate on the basis of religion;

69.3.1(g) develop training programs that will prepare substantial numbers of current employees from under-represented religious groups for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade, and improve the skills of workers from under-represented religious groups;

69.3.1(h) establish procedures to assess, identify, and actively recruit employees from under-represented religious groups with potential for further advancement; and

69.3.1(i) appoint a senior management staff member to oversee affirmative action efforts and develop a timetable to ensure their full implementation.

69.4 The **Contractor** agrees that the covenants and representations in Article 69.2 are material conditions to this **Contract**. In the event the **Agency** receives information that the **Contractor** who made the stipulation required by this Article 69 is in violation thereof, the **Agency** shall review such information and give the **Contractor** an opportunity to respond. If the **Agency** finds that a violation has occurred, the **Agency** shall have the right to declare the **Contractor** in default and/or terminate this **Contract** for cause and procure supplies, services or **Work** from another source in the manner the **Agency** deems proper. In the event of such termination, the **Contractor** shall pay to the **Agency**, or the **Agency** in its sole discretion may withhold from any amounts otherwise payable to the **Contractor**, the difference between the **Contract** price for the uncompleted portion of this **Contract** and the cost to the **Agency** of completing performance of this **Contract** either itself or by engaging another **Contractor** or **Contractors**. In the case of a requirement **Contract**, the **Contractor** shall be liable for such difference in price for the entire amount of supplies required by the **Agency** for the uncompleted term of **Contractor's Contract**. In the case of a construction **Contract**, the **Agency** shall also have the right to hold the **Contractor** in partial or total default in accordance with the default provisions of this **Contract**, and/or may seek debarment or suspension of the **Contractor**. The rights and remedies of the **Agency** hereunder shall be in addition to, and not in lieu of, any rights and remedies the **Agency** has pursuant to this **Contract** or by operation of **Law**.

ARTICLE 70. ELECTRONIC FILING/NYC DEVELOPMENT HUB

70.1 The **Contractor** shall electronically file all alteration type-2 and alteration type-3 applications via the New York City Development Hub Web site, except applications for the following types of minor alterations: enlargements, curb cuts, legalizations, fire alarms, builders pavement plans, and jobs filed on Landmark Preservation Commission calendared properties. All such filings must be professionally certified. Information about electronic filing via the New York City Development Hub is available on the City Department of Buildings Web site at www.nyc.gov/buildings.

ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS

71.1 Tropical hardwoods, as defined in Section 165 of the New York State Finance Law (Finance Law), shall not be utilized in the performance of this **Contract** except as expressly permitted by Section 165 of the Finance Law.

ARTICLE 72. CONFLICTS OF INTEREST

72.1 Section 2604 of the City Charter and other related provisions of the City Charter, the Administrative Code, and the Penal Law are applicable under the terms of this **Contract** in relation to conflicts of interest and shall be extended to **Subcontractors** authorized to perform **Work**, labor and services pursuant to this **Contract** and further, it shall be the duty and responsibility of the **Contractor** to so inform its respective **Subcontractors**. Notice is hereby given that, under certain circumstances, penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

ARTICLE 73. MERGER CLAUSE

73.1 The written **Contract** herein, contains all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of this **Contract** shall be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

ARTICLE 74. STATEMENT OF WORK

74.1 The **Contractor** shall furnish all labor and materials and perform all **Work** in strict accordance with the **Specifications** and **Addenda** thereto, numbered as shown in Schedule A.

ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR

75.1 The City will pay and the **Contractor** will accept in full consideration for the performance of the **Contract**, subject to additions and deductions as provided herein, the total sum shown in Schedule A, this said sum being the amount at which the **Contract** was awarded to the **Contractor** at a public letting thereof, based upon the **Contractor's** bid for the **Contract**.

ARTICLE 76. ELECTRONIC FUNDS TRANSFER

76.1 In accordance with Section 6-107.1 of the Administrative Code, the **Contractor** agrees to accept payments under this **Contract** from the City by electronic funds transfer (EFT). An EFT is any

transfer of funds, other than a transaction originated by check, draft or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument or computer or magnetic tape so as to order, instruct or authorize a financial institution to debit or credit an account. Prior to the first payment made under this **Contract**, the **Contractor** shall designate one financial institution or other authorized payment agent and shall complete the attached "EFT Vendor Payment Enrollment Form" in order to provide the Commissioner of the City Department of Finance with information necessary for the **Contractor** to receive electronic funds transfer payments through a designated financial institution or authorized payment agent. The crediting of the amount of a payment to the appropriate account on the books of a financial institution or other authorized payment agent designated by the **Contractor** shall constitute full satisfaction by the **City** for the amount of the payment under this **Contract**. The account information supplied by the **Contractor** to facilitate the electronic funds transfer shall remain confidential to the fullest extent provided by Law.

76.2 The **Commissioner** may waive the application of the requirements of this Article 76 to payments on contracts entered into pursuant to Section 315 of the **City Charter**. In addition, the Commissioner of the Department of Finance and the Comptroller may jointly issue standards pursuant to which the **Agency** may waive the requirements of this Article 76 for payments in the following circumstances: (i) for individuals or classes of individuals for whom compliance imposes a hardship; (ii) for classifications or types of checks; or (iii) in other circumstances as may be necessary in the interest of the **City**.

ARTICLE 77. RECORDS RETENTION

77.1 The **Contractor** agrees to retain all books, records, and other documents relevant to this **Contract** for six years after the final payment or termination of this **Contract**, whichever is later. **City**, state, and federal auditors and any other persons duly authorized by the **City** shall have full access to and the right to examine any such books, records, and other documents during the retention period.

ARTICLE 78. EXAMINATION AND VIEWING OF SITE, CONSIDERATION OF OTHER SOURCES OF INFORMATION AND CHANGED SITE CONDITIONS

78.1 Pre-Bidding (Investigation) Viewing of Site – Bidders must carefully view and examine the **Site** of the proposed **Work**, as well as its adjacent area, and seek other usual sources of information, for they will be conclusively presumed to have full knowledge of any and all conditions and hazards on, about or above the **Site** relating to or affecting in any way the performance of the **Work** to be done under the **Contract** that were or should have been known by a reasonably prudent bidder. To arrange a date for visiting the **Site**, bidders are to contact the **Agency** contact person specified in the bid documents.

78.2 Should the **Contractor** encounter during the progress of the **Work** site conditions or environmental hazards at the **Site** materially differing from any shown on the **Contract Drawings** or indicated in the **Specifications** or such conditions or environmental hazards as could not reasonably have been anticipated by the **Contractor**, which conditions or hazards will materially affect the cost of the **Work** to be done under the **Contract**, the attention of the **Commissioner** must be called immediately to such conditions or hazards before they are disturbed. The **Commissioner** shall thereupon promptly investigate the conditions or hazards. If the **Commissioner** finds that they do so materially differ, and that they could not have been reasonably anticipated by the **Contractor**, the **Contract** may be modified with the **Commissioner's** written approval.

**ARTICLE 79. PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED
BUSINESS ENTERPRISES IN CITY PROCUREMENT**

NOTICE TO ALL PROSPECTIVE CONTRACTORS

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). Section 6-129 establishes the program for participation in City procurement ("M/WBE Program") by minority-owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6-129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan"), and are detailed below. The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129. Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts. Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A

**PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD
AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS**

1. The MBE and/or WBE Participation Goals established for this Contract or Task Orders issued pursuant to this Contract, ("Participation Goals"), as applicable, are set forth on Schedule B, Part I to this Contract (see Page 1, line 1 Total Participation Goals) or will be set forth on Schedule B, Part I to Task Orders issued pursuant to this Contract, as applicable.

The **Participation Goals** represent a percentage of the total dollar value of the Contract or Task Order, as applicable, that may be achieved by awarding subcontracts to firms certified with New York City Department of Small Business Services as MBEs and/or WBEs, and/or by crediting the participation of prime contractors and/or qualified joint ventures as provided in Section 3 below, unless the goals have been waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

2. If **Participation Goals** have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the **Participation Goals**, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

3. If **Participation Goals** have been established for this Contract or Task Order issued pursuant to this Contract, a Contractor that is an MBE and/or WBE shall be permitted to count its own participation toward fulfillment of the relevant **Participation Goal**, provided that in accordance with Section 6-129 the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that the Contractor pays to direct subcontractors (as defined in Section 6-129(c)(13)), and provided further that a Contractor that is certified as both an MBE and a WBE may count its own participation either toward the goal for MBEs or the goal for WBEs, but not both.

A Contractor that is a qualified joint venture (as defined in Section 6-129(c)(30)) shall be permitted to count a percentage of its own participation toward fulfillment of the relevant **Participation Goal**. In accordance with Section 6-129, the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that Contractor pays to direct subcontractors, and then multiplying the remainder by the percentage to be applied to total profit to determine the amount to which an MBE or WBE is entitled pursuant to the joint venture agreement, provided that where a participant in a joint venture is certified as both an MBE and a WBE, such amount shall be counted either toward the goal for MBEs or the goal for WBEs, but not both.

4. A. If **Participation Goals** have been established for this Contract, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Utilization Plan, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. In the event that this M/WBE Utilization Plan indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals**, the bid or proposal, as applicable, shall be deemed non-responsive, unless Agency has granted the bidder or proposer, as applicable, a pre- award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

B. (i) If this Contract is for a master services agreement or other requirements type contract that will result in the issuance of Task Orders that will be individually registered ("Master Services Agreement") and is subject to M/WBE **Participation Goals**, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Participation Requirements for Master Services Agreements That Will Require Individually Registered Task Orders, Part II (page 2) indicating the prospective contractor's certification and required affirmations to make all reasonable good faith efforts to meet participation goals established on each individual Task Order issued pursuant to this Contract, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified **Participation Goals** by soliciting and obtaining the participation of certified MBE and/or WBE firms. In the event that the Schedule B indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals** that may be established on Task Orders issued pursuant to this Contract, the bid or proposal, as applicable, shall be deemed nonresponsive.

(ii) **Participation Goals** on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If **Participation Goals** have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. The contractor must engage in good faith efforts to meet the **Participation Goals** as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

C. THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

5. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, within 30 days of issuance by Agency of a notice to proceed, submit a list of proposed persons or entities to which it intends to award subcontracts within the subsequent 12 months. In the case of multiyear contracts, such list shall also be submitted every year thereafter. The Agency may also require the Contractor to report periodically about the contracts awarded by its direct subcontractors to indirect subcontractors (as defined in Section 6-129(c)(22)). **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work. In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.**

6. MBE and WBE firms must be certified by DSBS in order for the Contractor to credit such firms' participation toward the attainment of the **Participation Goals**. Such certification must occur prior to the

firms' commencement of work. A list of MBE and WBE firms may be obtained from the DSBS website at www.nyc.gov/buycertified, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).

7. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, with each voucher for payment, and/or periodically as Agency may require, submit statements, certified under penalty of perjury, which shall include, but not be limited to: the total amount the Contractor paid to its direct subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount direct subcontractors paid to indirect subcontractors; the names, addresses and contact numbers of each MBE or WBE hired as a subcontractor by the Contractor, and, where applicable, hired by any of the Contractor's direct subcontractors; and the dates and amounts paid to each MBE or WBE. The Contractor shall also submit, along with its voucher for final payment: the total amount it paid to subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount its direct subcontractors paid directly to their indirect subcontractors; and a final list, certified under penalty of perjury, which shall include the name, address and contact information of each subcontractor that is an MBE or WBE, the work performed by, and the dates and amounts paid to each.

8. If payments made to, or work performed by, MBEs or WBEs are less than the amount specified in the Contractor's M/WBE Utilization Plan, Agency shall take appropriate action, in accordance with Section 6-129 and Article II below, unless the Contractor has obtained a modification of its M/WBE Utilization Plan in accordance with Section 6-129 and Part A, Section 11 below.

9. Where an M/WBE Utilization Plan has been submitted, and the Contractor requests a change order the value of which exceeds the greater of 10 percent of the Contract or Task Order, as applicable, or \$500,000, Agency shall review the scope of work for the Contract or Task Order, as applicable, and the scale and types of work involved in the change order, and determine whether the **Participation Goals** should be modified.

10. Pre-award waiver of the **Participation Goals**. (a) A bidder or proposer, or contractor with respect to a Task Order, may seek a pre-award full or partial waiver of the **Participation Goals** in accordance with Section 6-129, which requests that Agency change one or more **Participation Goals** on the grounds that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, or by demonstrating that it has legitimate business reasons for proposing a lower level of subcontracting in its M/WBE Utilization Plan.

(b) To apply for a full or partial waiver of the **Participation Goals**, a bidder, proposer, or contractor, as applicable, must complete Part III (Page 5) of Schedule B and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing to the Agency by email at poped@ddc.nyc.gov or via facsimile at (718) 391-1886. Bidders, proposers, or contractors, as applicable, who have submitted requests will receive an Agency response by no later than two (2) calendar days prior to the due date for bids, proposals, or Task Orders; provided, however, that if that date would fall on a weekend or holiday, an Agency response will be provided by close-of-business on the business day before such weekend or holiday date.

(c) If the Agency determines that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, it shall revise the solicitation and extend the deadline for bids and proposals, or revise the Task Order, as applicable.

(d) Agency may grant a full or partial waiver of the **Participation Goals** to a bidder, proposer or contractor, as applicable, who demonstrates—before submission of the bid, proposal or Task Order, as applicable—that it has legitimate business reasons for proposing the level of subcontracting in its M/WBE Utilization Plan. In making its determination, Agency shall consider factors that shall include, but not be limited to, whether the bidder, proposer or contractor, as applicable, has the capacity and the bona fide intention to perform the Contract without any subcontracting, or to perform the Contract without awarding the amount of subcontracts represented by the **Participation Goals**. In making such determination, Agency may consider whether the M/WBE Utilization Plan is consistent with past subcontracting practices of the bidder, proposer or contractor, as applicable, whether the bidder, proposer or contractor, as applicable, has made efforts to form a joint venture with a certified firm, and whether the bidder, proposer, or contractor, as applicable, has made good faith efforts to identify other portions of the Contract that it intends to subcontract.

11. Modification of M/WBE Utilization Plan. (a) A Contractor may request a modification of its M/WBE Utilization Plan after award of this Contract. **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor may request a Modification of its M/WBE Utilization Plan as part of its bid submission.** The Agency may grant a request for Modification of a Contractor's M/WBE Utilization Plan if it determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good faith efforts to meet the **Participation Goals**. In making such determination, Agency shall consider evidence of the following efforts, as applicable, along with any other relevant factors:

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;
- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;
- (viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

Agency's M/WBE officer shall provide written notice to the Contractor of the determination.

(b) The Agency may modify the **Participation Goals** when the scope of the work has been changed by the Agency in a manner that affects the scale and types of work that the Contractor indicated in its M/WBE Utilization Plan would be awarded to subcontractors.

12. If this Contract is for an indefinite quantity of construction, standard or professional services or is a requirements type contract and the Contractor has submitted an M/WBE Utilization Plan and has committed to subcontract work to MBEs and/or WBEs in order to meet the **Participation Goals**, the Contractor will not be deemed in violation of the M/WBE Program requirements for this Contract with regard to any work which was intended to be subcontracted to an MBE and/or WBE to the extent that the Agency has determined that such work is not needed.

13. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, at least once annually during the term of the Contract or Task Order, as applicable, Agency shall review the Contractor's progress toward attainment of its M/WBE Utilization Plan, including but not limited to, by reviewing the percentage of work the Contractor has actually awarded to MBE and/or WBE subcontractors and the payments the Contractor made to such subcontractors.

14. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, Agency shall evaluate and assess the Contractor's performance in meeting those goals, and such evaluation and assessment shall become part of the Contractor's overall contract performance evaluation.

PART B: MISCELLANEOUS

1. The Contractor shall take notice that, if this solicitation requires the establishment of an M/WBE Utilization Plan, the resulting contract may be audited by DSBS to determine compliance with Section 6-129. See §6-129(e)(10). Furthermore, such resulting contract may also be examined by the City's Comptroller to assess compliance with the M/WBE Utilization Plan.

2. Pursuant to DSBS rules, construction contracts that include a requirement for an M/WBE Utilization Plan shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.

3. DSBS is available to assist contractors and potential contractors in determining the availability of MBEs and/or WBEs to participate as subcontractors, and in identifying opportunities that are appropriate for participation by MBEs and/or WBEs in contracts.

4. Prospective contractors are encouraged to enter into qualified joint venture agreements with MBEs and/or WBEs as defined by Section 6-129(c)(30).

5. By submitting a bid or proposal the Contractor hereby acknowledges its understanding of the M/WBE Program requirements set forth herein and the pertinent provisions of Section 6-129, and any rules promulgated thereunder, and if awarded this Contract, the Contractor hereby agrees to comply with the M/WBE Program requirements of this Contract and pertinent provisions of Section 6-129, and any rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract. The Contractor hereby agrees to make all reasonable, good faith efforts to solicit and obtain the participation of MBEs and/or WBEs to meet the required **Participation Goals**.

ARTICLE II. ENFORCEMENT

1. If Agency determines that a bidder or proposer, as applicable, has, in relation to this procurement, violated Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, Agency may disqualify such bidder or proposer, as applicable, from competing for this Contract and the Agency may revoke such bidder's or proposer's prequalification status, if applicable.

2. Whenever Agency believes that the Contractor or a subcontractor is not in compliance with Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to any **M/WBE** Utilization Plan, Agency shall send a written notice to the Contractor describing the alleged noncompliance and offering the Contractor an opportunity to be heard. Agency shall then conduct an investigation to determine whether such Contractor or subcontractor is in compliance.

3. In the event that the Contractor has been found to have violated Section 6-129, the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to, any **M/WBE** Utilization Plan, Agency may determine that one of the following actions should be taken:

- (a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;
- (b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;
- (c) making a finding that the Contractor is in default of the Contract;
- (d) terminating the Contract;
- (e) declaring the Contractor to be in breach of Contract;
- (f) withholding payment or reimbursement;
- (g) determining not to renew the Contract;
- (h) assessing actual and consequential damages;
- (i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the **M/WBE** Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;
- (j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or
- (k) taking any other appropriate remedy.

4. If an **M/WBE** Utilization Plan has been submitted, and pursuant to this Article II, Section 3, the Contractor has been found to have failed to fulfill its **Participation Goals** contained in its **M/WBE** Utilization Plan or the **Participation Goals** as modified by Agency pursuant to Article I, Part A, Section 11, Agency may assess liquidated damages in the amount of ten percent (10%) of the difference between the dollar amount of work required to be awarded to MBE and/or WBE firms to meet the **Participation Goals** and the dollar amount the Contractor actually awarded and paid, and/or credited, to MBE and/or WBE firms. In view of the difficulty of accurately ascertaining the loss which the City will suffer by reason of Contractor's failure to meet the **Participation Goals**, the foregoing amount is hereby fixed and agreed as the liquidated damages that the City will suffer by reason of such failure, and not as a penalty. Agency may deduct and retain out of any monies which may become due under this Contract the amount of any such liquidated damages; and in case the amount which may become due under this Contract shall be less than the amount of liquidated damages suffered by the City, the Contractor shall be liable to pay the difference.


5. Whenever Agency has reason to believe that an MBE and/or WBE is not qualified for certification, or is participating in a contract in a manner that does not serve a commercially useful function (as defined in Section 6-129(c)(8)), or has violated any provision of Section 6-129, Agency shall notify the Commissioner of DSBS who shall determine whether the certification of such business enterprise should be revoked.

6. Statements made in any instrument submitted to Agency pursuant to Section 6-129 shall be submitted under penalty of perjury and any false or misleading statement or omission shall be grounds for the application of any applicable criminal and/or civil penalties for perjury. The making of a false or fraudulent statement by an MBE and/or WBE in any instrument submitted pursuant to Section 6-129 shall, in addition, be grounds for revocation of its certification.

7. The Contractor's record in implementing its **M/WBE** Utilization Plan shall be a factor in the evaluation of its performance. Whenever Agency determines that a Contractor's compliance with an **M/WBE** Utilization Plan has been unsatisfactory, Agency shall, after consultation with the City Chief Procurement Officer, file an advice of caution form for inclusion in VENDEX as caution data.

IN WITNESS WHEREOF, the Commissioner, on behalf of the City of New York, and the Contractor, have executed this agreement in quadruplicate, two parts of which are to remain with the Commissioner, another to be filed with the Comptroller of the City, and the fourth to be delivered to the Contractor.

THE CITY OF NEW YORK

By: 
Commissioner

CONTRACTOR: D'Onofrio General Contractors Corp.

By: 
(Member of Firm or Officer of Corporation)

Title: Project Exec

(Where Contractor is a Corporation, add):
Attest:


Secretary



(Seal)

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of NY County of KINGS ss:

On this 15th day of MARCH, 2021, before me personally came RAIMONDO DENARO to me known who, being by me duly sworn did depose and say that he resides at BROOKLYN, NY that he is the Project Executive of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

Anthony Macca

Commissioner of Deeds, City of New York
Number: 2-13348
Certificate Filed in: Kings County
Term Expires: 03-01-22

Anthony Macca
Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be one of the members of the firm of _____ described in and who executed the foregoing instrument; and he acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT BY COMMISSIONER

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally came _____ to me known, and known to be the Deputy Commissioner of the Department of Design and Construction of The City of New York, the person described as such in and who as such executed the foregoing instrument and acknowledged to me that he executed the same as Deputy Commissioner for the purposes therein mentioned.

Notary Public or Commissioner of Deeds

AUTHORITY

MAYOR'S CERTIFICATE NO. CBX
BUDGET DIRECTOR'S CERTIFICATE NO.

DATED
DATED

APPROPRIATION
COMMISSIONER'S CERTIFICATE

In conformity with the provisions of Section 6-101 of the Administrative Code of the City of New York, it is hereby certified that the estimated cost of the work, materials and supplies required by the within Contract, amounting to

Five million five hundred thirty-one thousand four hundred

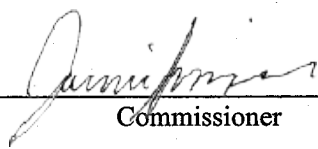
Eighty-nine hundred dollars and sixty cents

Dollars (\$ 5,531,489.60)

is chargeable to the fund of the Department of Design and Construction entitled Code

Department of Design and Construction

I hereby certify that the specifications contained herein comply with the terms and conditions of the BUDGET.



Commissioner

COMPTROLLER'S CERTIFICATE

The City of New York _____

Pursuant to the provisions of Section 6-101 of the Administrative Code of the City of New York, I hereby certify that there remains unapplied and unexpended a balance of the above mentioned fund applicable to this Contract sufficient to pay the estimated expense of executing the same viz:

\$ _____

Comptroller

**MAYOR'S CERTIFICATE OR
CERTIFICATE OF THE DIRECTOR
OF THE BUDGET**

Performance Bond #1 (Pages 100 to 103): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 1)

PERFORMANCE BOND #1

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____

hereinafter referred to as the "Principal,"
and, _____

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns in the penal sum of _____

(\$ _____) Dollars, lawful money of the United States for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for _____

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making

Performance Bond #1 (Pages 100 to 103): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 2)

good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the City that the City has determined that the Principal is in default of the Contract, to (1) pay the City the cost to complete the contract as determined by the City in excess of the balance of the Contract held by the City, plus any damages or costs to which the City is entitled, up to the full amount of the above penal sum, (2) fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof, or (3) tender a completion Contractor that is acceptable to the City. The Surety (Sureties) further agrees, at its option, either to notify the City that it elects to pay the city the cost of completion plus any applicable damages and costs under option (1) above, or to commence and diligently perform the Work specified in the Contract, including physical site work, within twenty-five (25) business days after written notice thereof from the City and, if the Surety elects to fully perform and complete the Work, then to complete all Work within the time set forth in the Contract or such other time as agreed to between the City and Surety in accordance with the Contract. If the Surety elects to tender payment pursuant to (1) above, then the Surety shall tender such amount within fifteen (15) business days notification from the City of the cost of completion. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to pay the City the cost of completion, to commence and complete all Work as provided herein, or to tender a completion contractor.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or to the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, and waivers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to subcontractors shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal. Notwithstanding the above, if the City makes payments to the Principal before the time required by the contract that in the aggregate exceed \$100,000 or 10% of the Contract price, whichever is less, and that have not become earned prior to the Principal being found to be in default, then all payments made to the Principal before the time required by the Contract shall be added to the remaining contract value available to be paid for the completion of the Contract as if such sums had not been paid to the Principal, but shall not provide a basis for non-performance of its obligation to pay the City the cost of completion, to commence and to complete all Work as provided herein, or to tender a completion contractor.

Performance Bond #1 (Pages 100 to 103): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 3)

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this

_____ day of _____, 20_____
(Seal)

Principal (L.S.)

By: _____
(Seal) Surety

By: _____
(Seal) Surety

By: _____
(Seal) Surety

By: _____
(Seal) Surety

By: _____
(Seal) Surety

By: _____

Bond Premium Rate _____

Bond Premium Cost _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Performance Bond #1 (Pages 100 to 103): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of _____ County of _____ ss:

On this _____ day of _____, 20_____ before me personally came _____, to me known, who, being by me duly sworn did depose and say that he/she resides at _____

_____ ; that he/she is the _____ of the corporation described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, 20_____ before me personally came _____, to me known, who, being by me duly sworn did depose and say that he/she resides at _____

_____ ; that he/she is _____ partner of _____, a limited/general partnership existing under the laws of the State of _____, the partnership described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of said partnership.

Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, 20_____ before me personally came _____, to me known, who, being by me duly sworn did depose and say that he/she resides at _____

_____ , and that he/she is the individual whose name is subscribed to the within instrument and acknowledged to me that by his/her signature on the instrument, said individual executed the instrument.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

Affix Acknowledgments and Justification of Sureties.

Bond No. 015213354

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 1)

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS,;

That we, D'Onofrio General Contractors Corp.

202 28th Street, Brooklyn, NY 11232

hereinafter referred to as the "Principal,"
and, Liberty Mutual Insurance Company

1200 Macarthur Boulevard , Mahwah, NJ 07430

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns in the penal sum of Five Million Five Hundred Thirty One Thousand Four Hundred Eighty Nine Dollars and 60/100

(\$ 5,531,489.60) Dollars, lawful money of the United States for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

Reconstruction of Approximately 287 Feet of the Existing Outfall Sewer in 25th Avenue - Borough of

Brooklyn, DDC Pin:8502015SE0012C

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 2)

good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the City that the City has determined that the Principal is in default of the Contract, to either (1) pay the full amount of the above penal sum in complete discharge and exoneration of this bond and of all the liabilities of the Surety relating to this bond, or (2) fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof. The Surety (Sureties) further agrees, at its option, either to tender the penal sum or to commence and diligently perform the Work specified in the Contract, including physical site work, within twenty-five (25) business days after written notice thereof from the City and to complete all Work within the time set forth in the Contract or such other time as agreed to between the City and Surety in accordance with the Contract. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to commence and to complete all Work as provided herein.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or to the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any Work to be performed or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal.

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 3)

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this 15th day of March, 2021.

(Seal) D'Onofrio General Contractors Corp. (L.S.)
Principal
By: *[Signature]*

(Seal) Liberty Mutual Insurance Company
Surety
By: *[Signature]*
Tara Laverdiere, Attorney-in-Fact



(Seal) _____
Surety
By: _____

(Seal) _____
Surety
By: _____

(Seal) _____
Surety
By: _____

(Seal) _____
Surety
By: _____

Bond Premium Rate 15.26/15.26/9.22/7.31/6.68/6.11
Bond Premium Cost \$47,895.00

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of NEW YORK County of KINGS ss:

On this 16TH day of MARCH, 2021 before me personally came JOHN D'ONOFRIO,

to me known, who, being by me duly sworn did depose and say that he/she resides at BROOKLYN, NEW YORK; that he/she is the SEC / TREAS of the corporation described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

Anthony Macca

Commissioner of Deeds, City of New York

Number: 2-13348

Certificate Filed in: Kings County

Term Expires: 03-01-22

Anthony Macca
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally came _____,

to me known, who, being by me duly sworn did depose and say that he/she resides at _____; that he/she is _____ partner of _____, a limited/general partnership existing under the laws of the State of _____, the partnership described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of said partnership.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally came _____,

to me known, who, being by me duly sworn did depose and say that he/she resides at _____, and that he/she is the individual whose name is subscribed to the within instrument and acknowledged to me that by his/her signature on the instrument, said individual executed the instrument.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

Affix Acknowledgments and Justification of Sureties.

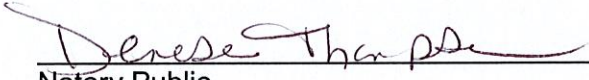
Surety Acknowledgment

State of New York

County of Nassau

On the 15 day of March, 2021 personally came Tara Laverdiere to me known, who being by me duly sworn did depose and say that he/she is an Attorney-in-Fact, of Liberty Mutual Insurance Company which executed the above Instrument know(s) the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he/she/they signed the said instrument and affixed the said seal as Attorney-in-fact by authority of the Board of Directors of said corporation and by authority of this office under the standing resolution thereof.

My commission expires _____



Notary Public

DENESE THOMPSON
NOTARY PUBLIC-STATE OF NEW YORK
No. 01TH4623317
Qualified in Nassau County
My Commission Expires 02-28-2023

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for mortgage, note, loan, letter of credit, bank deposit, currency rate, interest rate or residual value guarantees. To confirm the validity of this Power of Attorney call 610-832-8240 between 9:00 am and 4:30 pm EST on any business day.



Liberty Mutual.
SURETY

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Tara Laverdiere of the city of Uniondale, state of NY its true and lawful attorney-in-fact, with full power and authority hereby conferred to sign, execute and acknowledge the following surety bond:

Principal Name: D'Onofrio General Contractors Corp.

Obligee Name: City of New York

Surety Bond Number: 015213354

Bond Amount: See Bond Form

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 12th day of December, 2018.



The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: _____

David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA
COUNTY OF MONTGOMERY

ss

On this 12th day of December, 2018, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: _____

Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, of Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company do hereby certify that this power of attorney executed by said Companies is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 15th day of March, 2021.



By: _____

Renee C. Llewellyn, Assistant Secretary



LIBERTY MUTUAL INSURANCE COMPANY
FINANCIAL STATEMENT — DECEMBER 31, 2019

Assets		Liabilities	
Cash and Bank Deposits	\$778,754,989	Unearned Premiums	\$8,007,146,482
*Bonds — U.S Government	2,780,808,610	Reserve for Claims and Claims Expense	21,532,853,787
*Other Bonds	12,645,608,792	Funds Held Under Reinsurance Treaties	507,868,920
*Stocks	16,385,435,431	Reserve for Dividends to Policyholders	1,143,826
Real Estate	235,608,378	Additional Statutory Reserve	125,722,000
Agents' Balances or Uncollected Premiums	6,217,983,641	Reserve for Commissions, Taxes and	
Accrued Interest and Rents	102,273,390	Other Liabilities	4,117,460,075
Other Admitted Assets	11,957,106,292	Total	\$34,292,195,090
		Special Surplus Funds	\$32,768,443
		Capital Stock	10,000,075
		Paid in Surplus	10,044,978,933
		Unassigned Surplus	6,723,636,983
		Surplus to Policyholders	16,811,384,434
Total Admitted Assets	<u>\$51,103,579,523</u>	Total Liabilities and Surplus	<u>\$51,103,579,524</u>



* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
 The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2019, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 27th day of March, 2020.

T. Mikolajewski

 Assistant Secretary

Bond No. 015213354

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 1)

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

D'Onofrio General Contractors Corp.

202 28th Street, Brooklyn, NY 11232

hereinafter referred to as the "Principal", and Liberty Mutual Insurance Company

1200 Macarthur Boulevard , Mahwah, NJ 07430

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns, in the penal sum of

Five Million Five Hundred Thirty One Thousand Four Hundred Eighty Nine Dollars and 60/100

(\$ 5,531,489.60) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for Reconstruction of Approximately 287 Feet of the Existing Outfall Sewer in 25th Avenue - Borough of Brooklyn, DDC Pin:8502015SE0012C

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns and other Subcontractors to whom Work under this Contract is sublet and his or their successors and assigns shall promptly pay or cause to be paid all lawful claims for

(a) Wages and compensation for labor performed and services rendered by all persons engaged in the prosecution of the Work under said Contract, and any amendment or extension thereof or addition thereto, whether such persons be agents servants or employees of the Principal or any such Subcontractor, including all persons so engaged who perform the work of laborers or mechanics at or in the vicinity of the site

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 2)

of the Project regardless of any contractual relationship between the Principal or such Subcontractors, or his or their successors or assigns, on the one hand and such laborers or mechanics on the other, but not including office employees not regularly stationed at the site of the project; and

(b) Materials and supplies (whether incorporated in the permanent structure or not), as well as teams, fuels, oils, implements or machinery furnished, used or consumed by said Principal or any subcontractor at or in the vicinity of the site of the Project in the prosecution of the Work under said Contract and any amendment or extension thereof or addition thereto; then this obligation shall be void, otherwise to remain in full force and effect.

This bond is subject to the following additional conditions, limitations and agreements:

(a) The Principal and Surety (Sureties) agree that this bond shall be for the benefit of any materialmen or laborer having a just claim, as well as the City itself.

(b) All persons who have performed labor, rendered services or furnished materials and supplies, as aforesaid, shall have a direct right of action against the Principal and his, its or their successors and assigns, and the Surety (Sureties) herein, or against either or both or any of them and their successors and assigns. Such persons may sue in their own name, and may prosecute the suit to judgment and execution without the necessity of joining with any other persons as party plaintiff.

(c) The Principal and Surety (Sureties) agree that neither of them will hold the City liable for any judgment for costs of otherwise, obtained by either or both of them against a laborer or materialman in a suit brought by either a laborer or materialman under this bond for moneys allegedly due for performing work or furnishing material.

(d) The Surety (Sureties) or its successors and assigns shall not be liable for any compensation recoverable by an employee or laborer under the Workmen's Compensation Law.

(e) In no event shall the Surety (Sureties), or its successors or assigns, be liable for a greater sum than the penalty of this bond or be subject to any suit, action or proceeding hereon that is instituted by any person, firm, or corporation hereunder later than two years after the complete performance of said Contract and final settlement thereof.

The Principal, for himself and his successors and assigns, and the Surety (Sureties), for itself and its successors and assigns, do hereby expressly waive any objection that might be interposed as to the right of the City to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either of them might interpose to an action brought hereon by any person, firm or corporation, including subcontractors, materialmen and third persons, for work, labor, services, supplies or material performed rendered, or furnished as aforesaid upon the ground that there is no law authorizing the City to require the foregoing provisions to be place in this bond.

And the Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties), and its bonds shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or of the said Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any part thereof, or of any Work to be performed, or any moneys due to become due thereunder and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, Subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done or in relation to said Principal.

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 3)

IN WITNESS WHEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this 15th day of March, 2021.

(Seal)

D'Onofrio General Contractors Corp. (L.S.)

Principal

By: 

(Seal)



Liberty Mutual Insurance Company

Surety

By: 

Tara Laverdiere, Attorney-in-Fact

(Seal)

Surety

By: _____

(Seal)

Surety

By: _____

(Seal)

Surety

By: _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of NY County of KINGS ss:

On this 16TH day of MARCH, 2021, before me personally came JOHN D'ONOFRIO to me known, who, being by me duly sworn did depose and say that he resides at BROOKLYN, NEW YORK that he is the Secy TREAS of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

Anthony Macca

Commissioner of Deeds, City of New York
Number: 2-13348
Certificate Filed in: Kings County
Term Expires: 03-01-22

Anthony Macca
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this ____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be one of the members of the firm of _____ described in and who executed the foregoing instrument; and he acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this ____ day of _____, _____, before me personally appeared _____ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

Affix Acknowledgments and Justification of Sureties.

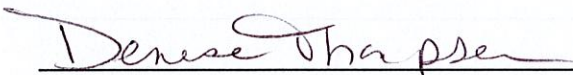
Surety Acknowledgment

State of New York

County of Nassau

On the 15 day of March, 2021 personally came Tara Laverdiere to me known, who being by me duly sworn did depose and say that he/she is an Attorney-in-Fact, of Liberty Mutual Insurance Company which executed the above Instrument know(s) the corporate seal of said corporation; that the seal affixed to the within instrument is such corporate seal, and that he/she/they signed the said instrument and affixed the said seal as Attorney-in-fact by authority of the Board of Directors of said corporation and by authority of this office under the standing resolution thereof.

My commission expires _____



Notary Public

DENESE THOMPSON
NOTARY PUBLIC-STATE OF NEW YORK
No. 01TH4623317
Qualified in Nassau County
My Commission Expires 02-28-2023

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for mortgage, note, loan, letter of credit, bank deposit, currency rate, interest rate or residual value guarantees. To confirm the validity of this Power of Attorney call 610-832-8240 between 9:00 am and 4:30 pm EST on any business day.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Tara Laverdiere of the city of Uniondale, state of NY its true and lawful attorney-in-fact, with full power and authority hereby conferred to sign, execute and acknowledge the following surety bond:

Principal Name: D'Onofrio General Contractors Corp.

Obligee Name: City of New York

Surety Bond Number: 015213354 Bond Amount: See Bond Form

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 12th day of December, 2018.



The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 12th day of December, 2018, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, of Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company do hereby certify that this power of attorney executed by said Companies is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 15th day of March, 2021.



By: Renee C. Llewellyn
Renee C. Llewellyn, Assistant Secretary



LIBERTY MUTUAL INSURANCE COMPANY
FINANCIAL STATEMENT — DECEMBER 31, 2019

Assets	Liabilities
Cash and Bank Deposits..... \$778,754,989	Unearned Premiums..... \$8,007,146,482
*Bonds — U.S Government..... 2,780,808,610	Reserve for Claims and Claims Expense..... 21,532,853,787
*Other Bonds..... 12,645,608,792	Funds Held Under Reinsurance Treaties..... 507,868,920
*Stocks..... 16,385,435,431	Reserve for Dividends to Policyholders..... 1,143,826
Real Estate..... 235,608,378	Additional Statutory Reserve..... 125,722,000
Agents' Balances or Uncollected Premiums..... 6,217,983,641	Reserve for Commissions, Taxes and
Accrued Interest and Rents..... 102,273,390	Other Liabilities..... 4,117,460,075
Other Admitted Assets..... 11,957,106,292	Total..... \$34,292,195,090
	Special Surplus Funds..... \$32,768,443
	Capital Stock..... 10,000,075
	Paid in Surplus..... 10,044,978,933
	Unassigned Surplus..... 6,723,636,983
	Surplus to Policyholders..... 16,811,384,434
Total Admitted Assets..... <u>\$51,103,579,523</u>	Total Liabilities and Surplus..... <u>\$51,103,579,524</u>



* Bonds are stated at amortized or investment value; Stocks at Association Market Values.
The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2019, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 27th day of March, 2020.

T. Mikolajewski

Assistant Secretary



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

4/28/2021

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 National Insurance Brokerage of New York, Inc. 175 Oval Drive Islandia NY 11749	CONTACT NAME: Susan Garfinkel PHONE (A/C No. Ext): (631)273-4242 E-MAIL ADDRESS:	FAX (A/C, No): (631)273-8990
	INSURER(S) AFFORDING COVERAGE	
INSURED D'Onofrio General Contractors Corp. PO Box 320199 Brooklyn NY 11232	INSURER A: Liberty Mutual/Mitsui Sumitomo	NAIC # 23043
	INSURER B: Progressive Casualty Ins Company	NAIC # 24260
	INSURER C: Starstone National Insurance Company	NAIC # 25496
	INSURER D: Great American Ins/Starstone Ins	NAIC # 11691
	INSURER E: Liberty Mutual Insurance Company	NAIC # 23043
	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	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC <input type="checkbox"/> OTHER:			MLIB-1001241-01	7/16/2020	7/16/2021	EACH OCCURRENCE	\$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 50,000
							MED EXP (Any one person)	\$ 10,000
							PERSONAL & ADV INJURY	\$ 1,000,000
							GENERAL AGGREGATE	\$ 2,000,000
							PRODUCTS - COMP/OP AGG	\$ 1,000,000
								\$
B	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS			04178934-3	9/26/2020	9/26/2021	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$			NYABTWA2002	7/16/2020	7/16/2021	EACH OCCURRENCE	\$ 4,000,000
							AGGREGATE	\$ 4,000,000
								\$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	T80210184-881 USL&H Coverage Incl.	4/1/2021	4/1/2022	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER	
							E.L. EACH ACCIDENT	\$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	\$ 1,000,000
D	Excess Liability			OMH4298057/ATO689A20/B107	7/16/2020	7/16/2021		15,000,000
E	Marine Employers Liability			NYABNE75003 incl. Jones Act	6/01/2020	6/01/2021	Deductible: \$10,000	1,000,000


DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Project: SEK20070- Reconstruction of Approximately 20 feet of the existing Outfall sewer in 25th avenue- Borough of Brooklyn

The following are included as additional insured as their interest may appear on a primary and non-contributory basis and waiver of subrogation applies with respect to General Liability as required by written contract/written agreement per the policy terms, conditions and exclusions:

City of New York, including its officials and employees
 New York City Department of Design & Construction; National Grid

CERTIFICATE HOLDER**CANCELLATION**

Director, Risk Mgmt, MTA Risk & Insurance Standard, Enforcement & Claims Unit 2 Broadway, 21st Floor New York, NY 10004	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 Frank Cormio/ALEXAN 
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Workers' Compensation Board

CERTIFICATE OF INSURANCE COVERAGE

under the NYS DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

PART 1. To be completed by Disability and Paid Family Leave Benefits Carrier or Licensed Insurance Agent of that Carrier

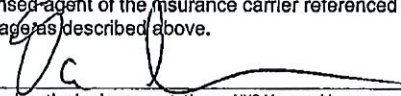
<p>1a. Legal Name & Address of Insured (use street address only) D'Onofrio General Contractors Corp 202 28th Street Brooklyn, NY 11232</p> <p>Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., Wrap-Up Policy)</p>	<p>1b. Business Telephone Number of Insured (718) 832-5700</p> <p>1c. Federal Employer Identification Number of Insured or Social Security Number 11-3093462</p>
--	--

<p>2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) Director, Risk Mgmt, MTA Risk & Insurance Mgmt Standards, Enforcement & Claims Unit 2 Broadway, 21st Floor New York, NY 10004</p>	<p>3a. Name of Insurance Carrier Guardian Life Insurance Co of America</p> <p>3b. Policy Number of Entity Listed in Box "1a" 931490-0000</p> <p>3c. Policy effective period <u>10/19/2015</u> to <u>10/18/2021</u></p>
---	---

4. Policy provides the following benefits:
 A. Both disability and paid family leave benefits.
 B. Disability benefits only.
 C. Paid family leave benefits only.

5. Policy covers:
 A. All of the employer's employees eligible under the NYS Disability and Paid Family Leave Benefits Law.
 B. Only the following class or classes of employer's employees:

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named Insured has NYS Disability and/or Paid Family Leave Benefits insurance coverage as described above.

Date Signed March 12, 2021 By 
(Signature of Insurance carrier's authorized representative or NYS Licensed Insurance Agent of that Insurance carrier)

Telephone Number (212) 964-2150 Name and Title Dan Saltzman - President

IMPORTANT: If Boxes 4A and 5A are checked, and this form is signed by the insurance carrier's authorized representative or NYS Licensed Insurance Agent of that carrier, this certificate is COMPLETE. Mail it directly to the certificate holder.

If Box 4B, 4C or 5B is checked, this certificate is NOT COMPLETE for purposes of Section 220, Subd. 8 of the NYS Disability and Paid Family Leave Benefits Law. It must be mailed for completion to the Workers' Compensation Board, Plans Acceptance Unit, PO Box 5200, Binghamton, NY 13902-5200.

PART 2. To be completed by the NYS Workers' Compensation Board (Only if Box 4C or 5B of Part 1 has been checked)

**State of New York
Workers' Compensation Board**

According to information maintained by the NYS Workers' Compensation Board, the above-named employer has complied with the NYS Disability and Paid Family Leave Benefits Law with respect to all of his/her employees.

Date Signed _____ By _____
(Signature of Authorized NYS Workers' Compensation Board Employee)

Telephone Number _____ Name and Title _____

Please Note: Only insurance carriers licensed to write NYS disability and paid family leave benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1. Insurance brokers are NOT authorized to issue this form.



Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in Box 3 on this form is certifying that it is insuring the business referenced in box "1a" for disability and/or paid family leave benefits under the New York State Disability and Paid Family Leave Benefits Law. The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed as the certificate holder in Box 2.

The insurance carrier must notify the above certificate holder and the Workers' Compensation Board within 10 days IF a policy is cancelled due to nonpayment of premiums or within 30 days IF there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from coverage indicated on this Certificate. (These notices may be sent by regular mail.) Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent, or until the policy expiration date listed in Box 3c, whichever is earlier.

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Disability and/or Paid Family Leave Benefits contract of insurance only while the underlying policy is in effect.

Please Note: Upon the cancellation of the disability and/or paid family leave benefits policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of NYS Disability and/or Paid Family Leave Benefits Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Disability and Paid Family Leave Benefits Law.

DISABILITY AND PAID FAMILY LEAVE BENEFITS LAW

§220. Subd. 8

(a) The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in employment as defined in this article, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand and twenty-one, the payment of family leave benefits for all employees has been secured as provided by this article. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any disability benefits to any such employee if so employed.

(b) The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in employment as defined in this article and notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits and after January first, two thousand eighteen, the payment of family leave benefits for all employees has been secured as provided by this article.

(NO TEXT ON THIS PAGE)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

LABOR LAW ARTICLE 8 - NYC PUBLIC WORKS

Workers, Laborers and Mechanics employed on a public work project must receive not less than the prevailing rate of wage and benefits for the classification of work performed by each upon such public work. Pursuant to Labor Law Article 8 the Comptroller of the City of New York has promulgated this schedule solely for Workers, Laborers and Mechanics engaged by private contractors on New York City public work projects. Prevailing rates are required to be annexed to and form part of the public work contract pursuant to § 220 (3).

This schedule is a compilation of separate determinations of the prevailing rate of wage and supplements made by the Comptroller for each trade classification listed herein pursuant to New York State Labor Law section § 220 (5). The source of the wage and supplement rates, whether a collective bargaining agreement, survey data or other, is listed at the end of each classification.

Agency Chief Contracting Officers should contact the Bureau of Labor Law's Classification Unit with any questions concerning trade classifications, prevailing rates or prevailing practices with respect to procurement on New York City public work contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on public work contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to public work contracts in the procurement stage must contact the contracting agency responsible for the procurement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

Any questions concerning trade classifications, prevailing rates or prevailing practices on New York City public work contracts that have already been awarded may be directed to the Bureau of Labor Law's Classification Unit by calling (212) 669-4443. All callers must have the agency name and contract registration number available when calling with questions on public work contracts. Please direct all other compliance issues to: Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 651, New York, N.Y. 10007; Fax (212) 669-4002.

The appropriate schedule of prevailing wages and benefits must be posted at all public work sites pursuant to Labor Law § 220 (3-a) (a).

This schedule is applicable to work performed during the effective period, unless otherwise noted. Changes to this schedule are published on our web site comptroller.nyc.gov/wages. Contractors must pay the wages and supplements in effect when the worker, laborer, mechanic performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site comptroller.nyc.gov/wages.

The Comptroller's Office has attempted to include all overtime, shift and night differential, Holiday, Saturday, Sunday or other premium time work. However, this schedule does not set forth every prevailing practice with respect to such rates with which employers must comply. All such practices are nevertheless part of the employer's prevailing wage obligation and contained in the collective bargaining agreements of the prevailing wage unions. These collective bargaining agreements are available for inspection by appointment. Requests for appointments may be made by calling (212) 669-4443, Monday through Friday between the hours of 9 a.m. and 5 p.m.

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

Prevailing rates and ratios for apprentices are published in the Construction Apprentice Prevailing Wage Schedule. Pursuant to Labor Law § 220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant, registered with the New York State Department of Labor, may be paid at the apprentice rates. Apprentices who are not so registered must be paid as journey persons.

New York City public work projects awarded pursuant to a Project Labor Agreement ("PLA") in accordance with Labor Law section 222 may have different labor standards for shift, premium and overtime work. Please refer to the PLA's pre-negotiated labor agreements for wage and benefit rates applicable to work performed outside of the regular workday. More information is available at the Mayor's Office of Contract Services (MOCS) web page at:

<https://www1.nyc.gov/site/mocs/contract/project-labor-agreements.page>

All the provisions of Labor Law Article 8 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller in accordance with the trade classifications in this schedule; however, we will enforce shift, premium, overtime and other non-standard rates as they appear in a project's pre-negotiated labor agreement.

In order to meet their obligation to provide prevailing supplemental benefits to each covered employee, employers must either:

- 1) Provide bona fide fringe benefits which cost the employer no less than the prevailing supplemental benefits rate; or
- 2) Supplement the employee's hourly wage by an amount no less than the prevailing supplemental benefits rate; or
- 3) Provide a combination of bona fide fringe benefits and wage supplements which cost the employer no less than the prevailing supplemental benefits rate in total.

Although prevailing wage laws do not require employers to provide bona fide fringe benefits (as opposed to wage supplements) to their employees, other laws may. For example, the Employee Retirement Income Security Act, 29 U.S.C. § 1001 et seq., the Patient Protection and Affordable Care Act, 42 U.S.C. § 18001 et seq., and the New York City Paid Sick Leave Law, N.Y.C. Admin. Code § 20-911 et seq., require certain employers to provide certain benefits to their employees. Labor agreements to which employers are a party may also require certain benefits. The Comptroller's Office does not enforce these laws or agreements.

Employers must provide prevailing supplemental benefits at the straight time rate for each hour worked unless otherwise noted in the classification.

Paid Holidays, Vacation and Sick Leave when listed must be paid or provided in addition to the prevailing hourly supplemental benefit rate.

For more information, please refer to the Comptroller's Prevailing Wage Law Regulations in Title 44 of the Rules of the City of New York, Chapter 2, available at comptroller.nyc.gov/wages.

**Wasył Kinach, P.E.
Director of Classifications
Bureau of Labor Law**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

ASBESTOS HANDLER
SEE HAZARDOUS MATERIAL HANDLER

BLASTER

Blaster

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$55.21**
Supplemental Benefit Rate per Hour: **\$42.53**

Blaster- Hydraulic Trac Drill

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$49.35**
Supplemental Benefit Rate per Hour: **\$42.53**

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$48.52**
Supplemental Benefit Rate per Hour: **\$42.53**

Blaster - Journeyperson

(Laborer, Chipper/Jackhammer including Walk Behind Self Propelled Hydraulic Asphalt and Concrete Breakers and Hydro (Water) Demolition, Powder Carrier, Hydraulic Chuck Tender, Chuck Tender and Nipper)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$42.00**
Supplemental Benefit Rate per Hour: **\$42.53**

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$21.00**
Supplemental Benefit Rate per Hour: **\$42.53**

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays

Labor Day
Thanksgiving Day

Shift Rates

When two shifts are employed, single time rate shall be paid for each shift. When three shifts are found necessary, each shift shall work seven and one half hours (7 ½), but shall be paid for eight (8) hours of labor, and be permitted one half hour for lunch.

(Local #731)

BOILERMAKER

Boilermaker

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$57.17

Supplemental Benefit Rate per Hour: \$43.62

Supplemental Note: For time and one half overtime - \$64.81 For double overtime - \$86.00

Overtime Description

For Repair and Maintenance work:

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

For New Construction work:

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Quadruple time the regular rate for work on the following holiday(s).
Labor Day

Paid Holidays

Good Friday
Day after Thanksgiving
Day before Christmas
Day before New Year's Day

Shift Rates

When shifts are required, the first shift shall work eight (8) hours at the regular straight-time hourly rate. The second shift shall work seven and one-half (7 ½) hours and receive eight hours at the regular straight time hourly rate plus twenty-five cents (\$0.25) per hour. The third shift shall work seven (7) hours and receive eight hours at the regular straight time hourly rate plus fifty cents (\$0.50) per hour. A thirty (30) minute lunch period shall not be considered as time worked. Work in excess of the above shall be paid overtime at the appropriate new construction work or repair work overtime wage and supplemental benefit hourly rate.

(Local #5)

BRICKLAYER

Bricklayer

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$55.10

Supplemental Benefit Rate per Hour: \$31.20

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

Overtime rates to be paid outside the regular scheduled work day.

(Bricklayer District Council)

CARPENTER - BUILDING COMMERCIAL

Building Commercial

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$52.50

Supplemental Benefit Rate per Hour: \$46.28

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

The employer may work two (2) shifts with the first shift at the straight time wage rate starting at the established time between 7 a.m. and 9 a.m. The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight (8) hours pay for seven (7) hours of work, nine (9) hours pay for eight (8) hours of work.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

When it is not possible to conduct alteration work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

CARPENTER - HEAVY CONSTRUCTION WORK
(Construction of Engineering Structures and Building Foundations)

Heavy Construction Work

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$53.63

Supplemental Benefit Rate per Hour: \$50.67

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Carpenters District Council)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

CARPENTER - HIGH RISE CONCRETE FORMS
(Excludes Engineering Structures and Building Foundations)

Carpenter High Rise A

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$50.78

Supplemental Benefit Rate per Hour: \$43.34

Carpenter High Rise B

Carpenter High Rise B worker is excluded from high risk operations such as erection decking, perimeter debris netting, leading edge work, self-climbing form systems, and the installation of cocoon systems unless directly supervised by a Carpenter High Rise A worker.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$40.19

Supplemental Benefit Rate per Hour: \$16.65

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

The second shift wage rate shall be 113% of the straight time hourly wage rate. There must be a first shift in order to work a second shift.

(Carpenters District Council)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST

Carpenter - Hod Hoist

(Assisted by Mason Tender)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$50.50**

Supplemental Benefit Rate per Hour: **\$39.46**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift.

(Carpenters District Council)

CEMENT & CONCRETE WORKER

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Cement & Concrete Worker

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$42.48

Supplemental Benefit Rate per Hour: \$26.00

Supplemental Note: \$29.50 on Saturdays; \$33.00 on Sundays & Holidays

Cement & Concrete Worker - (Hired after 2/6/2016)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$32.00

Supplemental Benefit Rate per Hour: \$18.00

Supplemental Note: \$19.50 on Saturdays; \$21.00 on Sundays & Holidays

Overtime Description

Time and one half the regular rate after 7 hour day (time and one half the regular rate after an 8 hour day when working with Dockbuilders on pile cap forms and for work below street level to the top of the foundation wall, not to exceed 2 feet or 3 feet above the sidewalk-brick shelf, when working on the foundation and structure.)

Overtime

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

1/2 day before Christmas Day

1/2 day before New Year's Day

Shift Rates

On shift work extending over a twenty-four hour period, all shifts are paid at straight time.

(Cement Concrete Workers District Council)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

CEMENT MASON

Cement Mason

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$43.97**

Supplemental Benefit Rate per Hour: **\$39.71**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Overtime Description

Time and one-half the regular rate after an 8 hour day, double time the regular rate after 10 hours. Time and one-half the regular rate on Saturday, double time the regular rate after 10 hours. Double time the regular rate on Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

Shift Rates

For an off shift day, (work at times other than the regular 7:00 A.M. to 3:30 P.M. work day) a cement mason shall be paid at the regular hourly rate plus a 25% per hour differential. Four Days a week at Ten (10)hour day.

(Local #780) (BCA)

CORE DRILLER

Core Driller

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$39.69**

Supplemental Benefit Rate per Hour: **\$25.45**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Core Driller Helper

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$31.62

Supplemental Benefit Rate per Hour: \$25.45

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$28.46

Supplemental Benefit Rate per Hour: \$25.45

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$25.30

Supplemental Benefit Rate per Hour: \$25.45

Core Driller Helper (First year in the industry)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$22.13

Supplemental Benefit Rate per Hour: \$25.45

Overtime Description

Time and one half the regular rate for work on a holiday plus Holiday pay when worked.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Shift Rates

The shift day shall be the continuous eight and one-half (8½) hours from 6:00 A.M. to 2:30 P.M. and from 2:30 P.M. to 11:00 P.M., including one-half (½) hour of employees regular rate of pay for lunch. When two (2) or more shifts are employed, single time shall be paid for each shift, but those employees employed on a shift other than from 8:00 A.M. to 5:00 P.M. shall, in addition, receive seventy-five cents (\$0.75) per hour differential for each hour worked. When three (3) shifts are needed, each shift shall work seven and one-half (7 ½) hours paid for eight (8) hours of labor and be permitted one-half (½) hour for mealtime.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(Carpenters District Council)

DERRICKPERSON AND RIGGER

Derrick Person & Rigger

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$46.86**

Supplemental Benefit Rate per Hour: **\$51.40**

Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. \$52.82 - For work performed in Staten Island.

Derrick Person & Rigger - Site Work

Assists the Stone Mason-Setter in the setting of stone

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$40.29**

Supplemental Benefit Rate per Hour: **\$39.23**

Overtime Description

The first two hours of overtime on weekdays and the first seven hours of work on Saturdays are paid at time and one half for wages and supplemental benefits. All additional overtimes is paid at double time for wages and supplemental benefits. Deduct \$1.42 from the Staten Island hourly benefits rate before computing overtime.

Overtime

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

(Local #197)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

DIVER

Diver (Marine)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$67.94

Supplemental Benefit Rate per Hour: \$50.67

Diver Tender (Marine)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$48.24

Supplemental Benefit Rate per Hour: \$50.67

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

When three shifts are utilized each shift shall work seven and one half-hours (7 1/2 hours) and paid for 8 hours, allowing for one half hour for lunch.

(Carpenters District Council)

DOCKBUILDER - PILE DRIVER

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Dockbuilder - Pile Driver

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$53.63

Supplemental Benefit Rate per Hour: \$50.67

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Carpenters District Council)

DRIVER: TRUCK (TEAMSTER)

Driver - Dump Truck

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$41.18

Supplemental Benefit Rate per Hour: \$47.22

Supplemental Note: Over 40 hours worked: at time and one half rate - \$20.58; at double time rate - \$27.44

Driver - Tractor Trailer

Effective Period: 7/1/2018 - 6/30/2019

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$42.97**

Supplemental Benefit Rate per Hour: **\$47.15**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$18.30; at double time rate - \$24.41

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$43.53**

Supplemental Benefit Rate per Hour: **\$47.15**

Supplemental Note: Over 40 hours worked: at time and one half rate - \$18.30 at double time rate - \$24.41

Overtime Description

For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay. For Thanksgiving week, the prorated share shall be 5 1/3 hours of holiday pay for each day worked in Thanksgiving week.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Off single shift work commencing between 6:00 P.M. and 5:00 A.M. shall work eight and one half (8 1/2) hours allowing for one half hour for lunch and be paid 117.3% of the straight time hourly wage rate.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Driver Redi-Mix (Sand & Gravel)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$38.40

Supplemental Benefit Rate per Hour: \$44.12

Supplemental Note: Over 40 hours worked: time and one half rate \$15.99, double time rate \$21.33

Overtime Description

For Paid Holidays: Employees working two (2) days in the calendar week in which the holiday falls are to paid for these holidays, provided they shape each remaining workday during that calendar week.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

President's Day

Columbus Day

Veteran's Day

Triple time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Thanksgiving Day

Christmas Day

(Local #282)

ELECTRICIAN

(Including installation of low voltage cabling carrying data, video and/or voice on building construction/alteration/renovation projects.)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Electrician "A" (Regular Day / Day Shift)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$56.00
Supplemental Benefit Rate per Hour: \$55.72

Electrician "A" (Regular Day Overtime after 7 hrs / Day Shift Overtime after 8 hrs)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$84.00
Supplemental Benefit Rate per Hour: \$59.23

Electrician "A" (Swing Shift)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$65.71
Supplemental Benefit Rate per Hour: \$63.52

Electrician "A" (Swing Shift Overtime After 7.5 hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$98.57
Supplemental Benefit Rate per Hour: \$67.64

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$73.60
Supplemental Benefit Rate per Hour: \$70.09

Electrician "A" (Graveyard Shift Overtime After 7 hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$110.40
Supplemental Benefit Rate per Hour: \$74.70

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on a holiday.
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

When so elected by the Employer, one or more shifts of at least five days duration may be scheduled as follows:
Day Shift: 8:00 am to 4:30 pm, Swing Shift 4:30 pm to 12:30 am, Graveyard Shift: 12:30 am to 8:00 am.

For multiple shifts of temporary light and/or power, the temporary light and/or power employee shall be paid for 8 hours at the straight time rate. For three or less workers performing 8 hours temporary light and/or power the supplemental benefit rate is \$25.92.

Electrician "M" (First 8 hours)

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$29.00**

Supplemental Benefit Rate per Hour: **\$22.65**

First and Second Year "M" Wage Rate Per Hour: **\$24.50**

First and Second Year "M" Supplemental Rate: **\$20.30**

Electrician "M" (Overtime After First 8 hours)

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$43.50**

Supplemental Benefit Rate per Hour: **\$24.47**

First and Second Year "M" Wage Rate Per Hour: **\$36.75**

First and Second Year "M" Supplemental Rate: **\$21.84**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Local #3)

ELECTRICIAN - ALARM TECHNICIAN

(Scope of Work - Inspect, test, repair, and replace defective, malfunctioning, or broken devices, components and controls of Fire, Burglar and Security Systems)

Alarm Technician

Effective Period: 7/1/2018 - 3/9/2019

Wage Rate per Hour: \$32.90

Supplemental Benefit Rate per Hour: \$16.82

Supplemental Note: \$15.32 only after 8 hours worked in a day

Effective Period: 3/10/2019 - 6/30/2019

Wage Rate per Hour: \$33.40

Supplemental Benefit Rate per Hour: \$17.68

Supplemental Note: \$16.06 only after 8 hours worked in a day

Overtime Description

Time and one half the regular rate for work on the following holidays: Columbus Day, Veterans Day, Day after Thanksgiving.

Double time the regular rate for work on the following holidays: New Year's day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day.

Overtime

Time and one half the regular rate after an 8 hour day.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Night Differential is based upon a ten percent (10%) differential between the hours of 4:00 P.M. and 12:30 A.M. and a fifteen percent (15%) differential for the hours 12:00 A.M. to 8:00 A.M.

Vacation

At least 1 year of employment.....ten (10) days
5 years or more of employment.....fifteen (15) days
10 years of employment.....twenty (20) days
Plus one Personal Day per year

Sick Days:

One day per Year. Up to 4 vacation days may be used as sick days.

(Local #3)

ELECTRICIAN-STREET LIGHTING WORKER

Electrician - Electro Pole Electrician

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$56.00
Supplemental Benefit Rate per Hour: \$57.63

Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$42.16
Supplemental Benefit Rate per Hour: \$42.19

Electrician - Electro Pole Maintainer

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$36.11

Supplemental Benefit Rate per Hour: \$37.93

Overtime Description

Electrician - Electro Pole Electrician: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week.

Electrician - Electro Pole Foundation Installer: Time and one half the regular rate after 8 hours within a 24 hour period and Saturday and Sunday.

Electrician - Electro Pole Maintainer: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week. Saturdays and Sundays may be used as a make-up day at straight time when a day is lost during the week to inclement weather.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

(Local #3)

ELEVATOR CONSTRUCTOR

Elevator Constructor

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$64.48

Supplemental Benefit Rate per Hour: \$35.80

Overtime Description

For New Construction: work performed after 7 or 8 hour day, Saturday, Sunday or between 4:30pm and 7:00am shall be paid at double time rate.

Existing buildings: work performed after an 8 hour day, Saturday, Sunday or between 5:30pm and 7:00 am shall be paid time and one half.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Overtime

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

Elevator Service/Modernization Mechanic

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$50.49
Supplemental Benefit Rate per Hour: \$35.65

Overtime Description

For Scheduled Service Work: Double time - work scheduled in advance by two or more workers performed on Sundays, Holidays, and between midnight and 7:00am.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Afternoon shift - regularly hourly rate plus a (15%) fifteen percent differential. Graveyard shift - time and one half the regular rate.

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ENGINEER

Engineer - Heavy Construction Operating Engineer I

Cherry pickers 20 tons and over and Loaders (rubber tired and/or tractor type with a manufacturer's minimum rated capacity of six cubic yards and over).

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$68.99**

Supplemental Benefit Rate per Hour: **\$38.28**

Supplemental Note: **\$69.16** on overtime

Shift Wage Rate: **\$110.38**

Engineer - Heavy Construction Operating Engineer II

Backhoes, Basin Machines, Groover, Mechanical Sweepers, Bobcat, Boom Truck, Barrier Transport (Barrier Mover) & machines of similar nature. Operation of Churn Drills and machines of a similar nature, Stetco Silent Hoist and machines of similar nature, Vac-Alls, Meyers Machines, John Beam and machines of a similar nature, Ross Carriers and Travel Lifts and machines of a similar nature, Bulldozers, Scrapers and Turn-a-Pulls: Tugger Hoists (Used exclusively for handling excavated material); Tractors with attachments, Hyster and Roustabout Cranes, Cherry pickers. Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco Backhoes; Mighty Midget and similar breakers and Tampers, Curb and Gutter Pavers and Motor Patrol, Motor Graders and all machines of a similar nature. Locomotives 10 Tons or under. Mini-Max, Break-Tech and machines of a similar nature; Milling machines, robotic and demolition machines and machines of a similar nature, shot blaster, skid steer machines and machines of a similar nature including bobcat, pile rig rubber-tired excavator (37,000 lbs. and under), 2 man auger.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$66.92**

Supplemental Benefit Rate per Hour: **\$38.28**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$107.07

Engineer - Heavy Construction Operating Engineer III

Minor Equipment such as Tractors, Post Hole Diggers, Ditch Witch (Walk Behind), Road Finishing Machines, Rollers five tons and under, Tugger Hoists, Dual Purpose Trucks, Fork Lifts, and Dempsey Dumpers, Fireperson.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$63.44
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$101.50

Engineer - Heavy Construction Maintenance Engineer I

Installing, Repairing, Maintaining, Dismantling and Manning of all equipment including Steel Cutting, Bending and Heat Sealing Machines, Mechanical Heaters, Grout Pumps, Bentonite Pumps & Plants, Screening Machines, Fusion Coupling Machines, Tunnel Boring Machines Moles and Machines of a similar nature, Power Packs, Mechanical Hydraulic Jacks; all drill rigs including but not limited to Churn, Rotary Caisson, Raised Bore & Drills of a similar nature; Personnel, Inspection & Safety Boats or any boats used to perform functions of same, Mine Hoists, Whirlies, all Climbing Cranes, all Tower Cranes, including but not limited to Truck Mounted and Crawler Type and machines of similar nature; Maintaining Hydraulic Drills and machines of a similar nature; Well Point System-Installation and dismantling; Burning, Welding, all Pumps regardless of size and/or motor power, except River Cofferdam Pumps and Wells Point Pumps; Motorized Buggies (three or more); equipment used in the cleaning and televising of sewers, but not limited to jet-rodder/vacuum truck, vacall/vactor, closed circuit television inspection equipment; high powered water pumps, jet pumps; screed machines and concrete finishing machines of a similar nature; vermeers.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$66.60
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$106.56

Engineer - Heavy Construction Maintenance Engineer II

On Base Mounted Tower Cranes

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$87.74
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$140.38

Engineer - Heavy Construction Maintenance Engineer III

On Generators, Light Towers

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$43.66

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$69.86

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$44.82
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$71.71

Engineer - Heavy Construction Oilers I

Gradalls, Cold Planer Grader, Concrete Pumps, Driving Truck Cranes, Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$59.97
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$95.95

Engineer - Heavy Construction Oilers II

All gasoline, electric, diesel or air operated Shovels, Draglines, Backhoes, Keystones, Pavers, Guniting Machines, Battery of Compressors, Crawler Cranes, two-person Trenching Machines.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$41.22
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$65.95

Engineer - Steel Erection Maintenance Engineers

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$63.75
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$102.00

Engineer - Steel Erection Oiler I

On a Truck Crane

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$59.61
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$95.38

Engineer - Steel Erection Oiler II

On a Crawler Crane

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$45.16
Supplemental Benefit Rate per Hour: \$38.28
Supplemental Note: \$69.16 on overtime
Shift Wage Rate: \$72.26

Overtime Description

On jobs of more than one shift, if the next shift employee fails to report for work through any cause over which the employer has no control, the employee on duty who works the next shift continues to work at the single time rate.

Overtime

Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Engineer - Building Work Maintenance Engineers I

Installing, repairing, maintaining, dismantling (of all equipment including: Steel Cutting and Bending Machines, Mechanical Heaters, Mine Hoists, Climbing Cranes, Tower Cranes, Linden Peine, Lorain, Liebherr, Mannes, or machines of a similar nature, Well Point Systems, Deep Well Pumps, Concrete Mixers with loading Device, Concrete Plants, Motor Generators when used for temporary power and lights), skid steer machines of a similar nature including bobcat.

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$61.05

Supplemental Benefit Rate per Hour: \$38.28

Supplemental Note: \$69.16 on overtime

Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$47.25

Supplemental Benefit Rate per Hour: \$38.28

Supplemental Note: \$69.16 on overtime

Engineer - Building Work Oilers I

All gasoline, electric, diesel or air operated Gradealls: Concrete Pumps, Overhead Cranes in Power Houses: Their duties shall be to assist the Engineer in oiling, greasing and repairing of all machines; Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks, Cherrypickers (hydraulic cranes) over 70,000 GVW, and machines of a similar nature.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$58.01

Supplemental Benefit Rate per Hour: \$38.28

Supplemental Note: \$69.16 on overtime

Engineer - Building Work Oilers II

Oilers on Crawler Cranes, Backhoes, Trenching Machines, Gunite Machines, Compressors (three or more in Battery).

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$42.89

Supplemental Benefit Rate per Hour: \$38.28

Supplemental Note: \$69.16 on overtime

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates

Off Shift: double time the regular hourly rate.

(Local #15)

ENGINEER - CITY SURVEYOR AND CONSULTANT

Party Chief

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$39.90**

Supplemental Benefit Rate per Hour: **\$21.60**

Supplemental Note: Overtime Benefit Rate - \$29.83 per hour (time & one half) \$38.05 per hour (double time).

Instrument Person

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$32.81**

Supplemental Benefit Rate per Hour: **\$21.60**

Supplemental Note: Overtime Benefit Rate - \$29.83 per hour (time & one half) \$38.05 per hour (double time).

Rodperson

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$28.34**

Supplemental Benefit Rate per Hour: **\$21.60**

Supplemental Note: Overtime Benefit Rate - \$29.83 per hour (time & one half) \$38.05 per hour (double time).

Overtime Description

Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (BUILDING CONSTRUCTION)
(Construction of Building Projects, Concrete Superstructures, etc.)

Field Engineer - BC Party Chief

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$63.81**

Supplemental Benefit Rate per Hour: **\$33.93**

Supplemental Note: Overtime Benefit Rate - \$47.57 per hour (time & one half) \$61.21 per hour (double time).

Field Engineer - BC Instrument Person

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$49.60**

Supplemental Benefit Rate per Hour: **\$33.93**

Supplemental Note: Overtime Benefit Rate - \$47.57 per hour (time & one half) \$61.21 per hour (double time).

Field Engineer - BC Rodperson

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$32.11**

Supplemental Benefit Rate per Hour: **\$33.93**

Supplemental Note: Overtime Benefit Rate - \$47.57 per hour (time & one half) \$61.21 per hour (double time).

Overtime Description

Time and one half the regular rate after a 7 hour work and time and one half the regular rate for Saturday for the first seven hours worked, Double time the regular time rate for Saturday for work performed in excess of seven hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
President's Day
Good Friday

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (HEAVY CONSTRUCTION)
(Construction of Roads, Tunnels, Bridges, Sewers, Building Foundations,
Engineering Structures etc.)

Field Engineer - HC Party Chief

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$72.19

Supplemental Benefit Rate per Hour: \$35.32

Supplemental Note: Overtime benefit rate - \$49.53 per hour (time & one half), \$63.74 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$53.03

Supplemental Benefit Rate per Hour: \$35.32

Supplemental Note: Overtime benefit rate - \$49.53 per hour (time & one half), \$63.74 per hour (double time).

Field Engineer - HC Rodperson

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$44.51

Supplemental Benefit Rate per Hour: \$35.32

Supplemental Note: Overtime benefit rate - \$49.53 per hour (time & one half), \$63.74 per hour (double time).

Overtime Description

Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
Lincoln's Birthday

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (STEEL ERECTION)

Field Engineer - Steel Erection Party Chief

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$67.31**

Supplemental Benefit Rate per Hour: **\$34.82**

Supplemental Note: Overtime benefit rate - \$48.78 per hour (time & one half), \$62.74 per hour (double time).

Field Engineer - Steel Erection Instrument Person

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$52.47**

Supplemental Benefit Rate per Hour: **\$34.82**

Supplemental Note: Overtime benefit rate - \$48.78 per hour (time & one half), \$62.74 per hour (double time).

Field Engineer - Steel Erection Rodperson

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$35.14**

Supplemental Benefit Rate per Hour: **\$34.82**

Supplemental Note: Overtime benefit rate - \$48.78 per hour (time & one half), \$62.74 per hour (double time).

Overtime Description

Time and one half the regular rate for Saturday for the first eight hours worked.

Double time the regular rate for Saturday for work performed in excess of eight hours.

Overtime

Time and one half the regular rate after an 8 hour day.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - OPERATING

Operating Engineer - Road & Heavy Construction I

Back Filling Machines, Cranes, Mucking Machines and Dual Drum Paver.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$79.03**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: \$57.75 overtime hours

Shift Wage Rate: **\$126.45**

Operating Engineer - Road & Heavy Construction II

Backhoes, Power Shovels, Hydraulic Clam Shells, Steel Erection, Moles and machines of a similar nature.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$81.79**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: \$57.75 overtime hours

Shift Wage Rate: **\$130.86**

Operating Engineer - Road & Heavy Construction III

Mine Hoists, Cranes, etc. (Used as Mine Hoists)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$84.39**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: \$57.75 overtime hours

Shift Wage Rate: **\$135.02**

Operating Engineer - Road & Heavy Construction IV

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Gradealls, Keystones, Cranes on land or water (with digging buckets), Bridge Cranes, Vermeer Cutter and machines of a similar nature, Trenching Machines.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$82.38**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$131.81**

Operating Engineer - Road & Heavy Construction V

Pile Drivers & Rigs (employing Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$80.77**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$129.23**

Operating Engineer - Road & Heavy Construction VI

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$76.78**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$122.85**

Operating Engineer - Road & Heavy Construction VII

Barrier Movers , Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$62.16**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$99.46**

Operating Engineer - Road & Heavy Construction VIII

Utility Compressors

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$48.42**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$60.82**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$73.05**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$116.88**

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$67.21**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$107.54**

Operating Engineer - Road & Heavy Construction XI

Compressors (Portable 3 or more in battery), Driving of Truck Mounted Compressors, Well-point Pumps, Tugger Machines Well Point Pumps, Churn Drill.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$52.38**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$83.81**

Operating Engineer - Road & Heavy Construction XII

All Drills and Machines of a similar nature.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$77.58**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

Shift Wage Rate: **\$124.13**

Operating Engineer - Road & Heavy Construction XIII

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$75.16**

Supplemental Benefit Rate per Hour: **\$31.85**

Supplemental Note: **\$57.75** overtime hours

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Shift Wage Rate: \$120.26

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$71.89

Supplemental Benefit Rate per Hour: \$31.85

Supplemental Note: \$57.75 overtime hours

Shift Wage Rate: \$115.02

Operating Engineer - Road & Heavy Construction XV

Compressors (Portable Single or two in Battery, not over 100 feet apart), Pumps (River Cofferdam) and Welding Machines, Push Button Machines, All Engines Irrespective of Power (Power-Pac) used to drive auxiliary equipment, Air, Hydraulic, etc.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$48.73

Supplemental Benefit Rate per Hour: \$31.85

Supplemental Note: \$57.75 overtime hours

Shift Wage Rate: \$77.97

Operating Engineer - Road & Heavy Construction XVI

Concrete Breaking Machines, Hoists (Single Drum), Load Masters, Locomotives (over ten tons) and Dinkies over ten tons, Hydraulic Crane-Second Engineer.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$68.69

Supplemental Benefit Rate per Hour: \$31.85

Supplemental Note: \$57.75 overtime hours

Shift Wage Rate: \$109.90

Operating Engineer - Road & Heavy Construction XVII

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$69.21

Supplemental Benefit Rate per Hour: \$31.85

Supplemental Note: \$57.75 overtime hours

Shift Wage Rate: \$110.74

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2018 - 6/30/2019

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$98.99**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours
Shift Wage Rate: **\$158.38**

Operating Engineer - Paving I

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$76.78**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours
Shift Wage Rate: **\$122.85**

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$74.81**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours
Shift Wage Rate: **\$119.70**

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$63.40**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours
Shift Wage Rate: **\$101.44**

Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$82.02**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours

Operating Engineer - Concrete II

Compressors

Effective Period: 7/1/2018 - 6/30/2019

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$49.10**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours

Operating Engineer - Concrete III

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$65.70**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$84.83**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours
Shift Wage Rate: **\$135.73**

Operating Engineer - Steel Erection II

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$81.54**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours
Shift Wage Rate: **\$130.46**

Operating Engineer - Steel Erection III

Compressors, Welding Machines.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$48.69**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours
Shift Wage Rate: **\$77.90**

Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$46.39**

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours
Shift Wage Rate: **\$74.22**

Operating Engineer - Building Work I

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for hoisting material.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$67.78**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours

Operating Engineer - Building Work II

Compressors, Welding Machines (Cutting Concrete-Tank Work), Paint Spraying, Sandblasting, Pumps (with the exclusion of Concrete Pumps), All Engines irrespective of Power (Power-Pac) used to drive Auxiliary Equipment, Air, Hydraulic, Jacking System, etc.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$50.96**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$77.03**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$81.56**
Supplemental Benefit Rate per Hour: **\$31.85**
Supplemental Note: **\$57.75** overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$75.21**
Supplemental Benefit Rate per Hour: **\$31.85**

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Note: \$57.75 overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$74.43

Supplemental Benefit Rate per Hour: \$31.85

Supplemental Note: \$57.75 overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$59.35

Supplemental Benefit Rate per Hour: \$31.85

Supplemental Note: \$57.75 overtime hours

For New House Car projects Wage Rate per Hour \$47.54

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

For House Cars and Rack & Pinion only: Overtime paid at time and one-half for all hours in excess of eight hours in a day, Saturday, Sunday and Holidays worked.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates

For Steel Erection Only: Shifts may be worked at the single time rate at other than the regular working hours (8:00 A.M. to 4:30 P.M.) on the following work ONLY: Heavy construction jobs on work below the street level, over railroad tracks and on building jobs.

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(Operating Engineer Local #14)

FLOOR COVERER

(Interior vinyl composition tile, sheath vinyl linoleum and wood parquet tile including site preparation and synthetic turf not including site preparation)

Floor Coverer

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$50.50

Supplemental Benefit Rate per Hour: \$45.88

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

Two shifts may be utilized with the first shift working 8:00 A.M. to the end of the shift at the straight time of pay. The second shift will receive one hour at double time rate for the last hour of the shift. (eight for seven, nine for eight).

(Carpenters District Council)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

GLAZIER
(New Construction, Remodeling, and Alteration)

Glazier

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$45.55**

Supplemental Benefit Rate per Hour: **\$41.39**

Supplemental Note: Supplemental Benefit Overtime Rate: **\$62.10**

Overtime Description

An optional 8th hour can be worked at straight time rate. If 9th hour is worked, then both hours or more (8th & 9th or more) will be at the double time rate of pay.

Overtime

Double time the regular rate after a 7 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

Shifts shall be any 7 hours beyond 4:00 P.M. for which the glazier shall receive 8 hours pay for 7 hours worked.

(Local #1281)

GLAZIER - REPAIR & MAINTENANCE

(For the Installation of Glass - All repair and maintenance work on a particular building, whenever performed, where the total cumulative contract value is

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

under \$141,750. Except where enumerated (i.e. plate glass windows) does not apply to non-residential buildings.)

Craft Jurisdiction for repair, maintenance and fabrication

Plate glass replacement, Residential glass replacement, Residential mirrors and shower doors, Storm windows and storm doors, Residential replacement windows, Herculite door repairs, Door closer repairs, Retrofit apartment house (non commercial buildings), Glass tinting.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$25.06

Supplemental Benefit Rate per Hour: \$21.54

Overtime

Time and one half the regular rate after an 8 hour day.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on the following holiday(s).

Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

(Local #1281)

HAZARDOUS MATERIAL HANDLER

(Removal, abatement, encapsulation or decontamination of asbestos, lead, mold, or other toxic or hazardous waste/materials)

Handler

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$36.00

Supplemental Benefit Rate per Hour: \$16.45

Overtime

Time and one half the regular rate after an 8 hour day.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Time and one half the regular rate for Sunday.
Time and one half the regular hourly rate after 40 hours in any work week.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day
Easter

Paid Holidays

None

(Local #78 and Local #12A)

HEAT AND FROST INSULATOR

Heat & Frost Insulator

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$61.21
Supplemental Benefit Rate per Hour: \$39.46

Overtime Description

Double time shall be paid for supplemental benefits during overtime work.
8th hour paid at time and one half.

Overtime

Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Christmas Day

Triple time the regular rate for work on the following holiday(s).

Labor Day

Paid Holidays

None

Shift Rates

The first shift shall work seven hours at the regular straight time rate. The second and third shift shall work seven hours the regular straight time hourly rate plus a fourteen percent wage and benefit premium. Off hour work in occupied or retail buildings may be worked on weekdays with an increment of \$1.00 per hour and eight hours pay for seven (7) hours worked. Double time will apply for over seven (7) hours worked on weekdays, weekends or holidays.

(Local #12) (BCA)

**HOUSE WRECKER
(TOTAL DEMOLITION)**

House Wrecker - Tier A

On all work sites the first, second, eleventh and every third House Wrecker thereafter will be Tier A House Wreckers (i.e. 1st, 2nd, 11th, 14th etc). Other House Wreckers may be Tier B House Wreckers.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$36.88

Supplemental Benefit Rate per Hour: \$29.47

House Wrecker - Tier B

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$26.11

Supplemental Benefit Rate per Hour: \$21.88

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

Iron Worker - Ornamental

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$44.40

Supplemental Benefit Rate per Hour: \$52.62

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description

Time and one half the regular rate after a 7 hour day for a maximum of two hours on any regular work day (the 8th and 9th hour) and double time shall be paid for all work on a regular work day thereafter, time and one half the regular rate for Saturday for the first seven hours of work and double time shall be paid for all work on a Saturday thereafter.

Overtime

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

For off shift work - 8 hours pay for 7 hours of work. When two or three shifts are employed on a job, Monday through Friday, the workday for each shift shall be seven hours and paid for ten and one-half hours at the single

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

time rate. When two or three shifts are worked on Saturday, Sunday or holidays, each shift shall be seven hours and paid fifteen and three-quarters hours.

(Local #580)

IRON WORKER - STRUCTURAL

Iron Worker - Structural

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$50.35

Supplemental Benefit Rate per Hour: \$73.95

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description

Monday through Friday- the first eight hours are paid at straight time, the 9th and 10th hours are paid at time and one-half the regular rate, all additional weekday overtime is paid at double the regular rate. Saturdays- the first eight hours are paid at time and one-half the regular rate, double time thereafter. Sunday-all shifts are paid at double time.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

Monday through Friday - First Shift: First eight hours are paid at straight time, the 9th & 10th hours are paid at time and a half, double time paid thereafter. Second and third Shifts: First eight hours are paid at time and one-half, double time thereafter. Saturdays: All shifts, first eight hours paid at time and one-half, double time thereafter: Sunday all shifts are paid at double time.

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(Local #40 & #361)

LABORER

(Foundation, Concrete, Excavating, Street Pipe Layer and Common)

Laborer

Excavation and foundation work for buildings, heavy construction, engineering work, and hazardous waste removal in connection with the above work. Landscaping tasks in connection with heavy construction work, engineering work and building projects. Projects include, but are not limited to pollution plants, sewers, parks, subways, bridges, highways, etc.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$42.00**

Supplemental Benefit Rate per Hour: **\$42.63**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Christmas Day

Paid Holidays

Labor Day

Thanksgiving Day

Shift Rates

When two shifts are employed, single time rate shall be paid for each shift. When three shifts are found necessary, each shift shall work seven and one half hours (7 ½), but shall be paid for eight (8) hours of labor, and be permitted one half hour for lunch.

(Local #731)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

LANDSCAPING

(Landscaping tasks, as well as tree pruning, tree removing, spraying and maintenance in connection with the planting of street trees and the planting of trees in city parks but not when such activities are performed as part of, or in connection with, other construction or reconstruction projects.)

Landscaper (Above 6 years experience)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$30.25
Supplemental Benefit Rate per Hour: \$16.05

Landscaper (3 - 6 years experience)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$29.25
Supplemental Benefit Rate per Hour: \$16.05

Landscaper (up to 3 years experience)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$26.75
Supplemental Benefit Rate per Hour: \$16.05

Groundperson

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$26.75
Supplemental Benefit Rate per Hour: \$16.05

Tree Remover / Pruner

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$35.25
Supplemental Benefit Rate per Hour: \$16.05

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$25.25
Supplemental Benefit Rate per Hour: \$16.05

Watering - Plant Maintainer

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$20.22

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$16.05**

Overtime Description

For all overtime work performed, supplemental benefits shall include an additional seventy-five (\$0.75) cents per hour.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Shift Rates

Work performed on a 4pm to 12am shift has a 15% differential. Work performed on a 12am to 8am shift has a 20% differential.

(Local #175)

MARBLE MECHANIC

Marble Setter

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$53.63**

Supplemental Benefit Rate per Hour: **\$40.35**

Marble Finisher

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$42.21**

Supplemental Benefit Rate per Hour: **\$37.71**

Marble Polisher

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$37.99**

Supplemental Benefit Rate per Hour: **\$29.48**

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Overtime Description.

Supplemental Benefit contributions are to be made at the applicable overtime rates. Time and one half the regular rate after a 7 hour day or time and one half the regular rate after an 8 hour day - chosen by Employer at the start of the project and then would last for the full duration of the project.

Overtime

Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Local #7)

MASON TENDER

Mason Tender

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$38.40
Supplemental Benefit Rate per Hour: \$31.04

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

The employer may work two (2) shifts with the first shift at the straight time wage rate and the second shift receiving eight (8) hours paid for seven (7) hours work at the straight time wage rate. When it is not possible to conduct alteration work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Local #79)

MASON TENDER (INTERIOR DEMOLITION WORKER)

Mason Tender Tier A

Tier A Interior Demolition Worker performs all burning, chopping, and other technically skilled tasks related to interior demolition work.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$36.44**

Supplemental Benefit Rate per Hour: **\$24.50**

Mason Tender Tier B

Tier B Interior Demolition Worker performs manual work and work incidental to demolition work, such as loading and carting of debris from the work site to an area where it can be loaded in to bins/trucks for removal. Also performs clean-up of the site when demolition is completed.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$25.63**

Supplemental Benefit Rate per Hour: **\$18.82**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

(Local #79)

METALLIC LATHER

Metallic Lather

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$46.28**

Supplemental Benefit Rate per Hour: **\$44.92**

Supplemental Note: Supplemental benefits for overtime are paid at the appropriate overtime rate.

Overtime Description

Overtime would be time and one half the regular rate after a seven (7) or eight (8) hours workday, which would be set at the start of the job.

Overtime

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

There will be no shift differential paid on the first shift if more than one shift is employed. The shift differential will remain \$12/hour on the second and third shift for the first eight (8) hours if worked. There will be no pyramiding on overtime worked on second and third shifts. The time and one half (1.5x) rate will be against the base wage rate, not the shift differential

(Local #46)

MILLWRIGHT

Millwright

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$52.70

Supplemental Benefit Rate per Hour: \$53.21

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

The first shift shall receive the straight time rate of pay. The second shift receives the straight time rate of pay plus fifteen (15%) per cent. Members of the second shift shall be allowed one half hour to eat, with this time being included in the hours of the workday established. There must be a first shift to work a second shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) per cent for weekday hours.

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$48.85**

Supplemental Benefit Rate per Hour: **\$41.33**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$52.35 per hour.

Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$47.25**

Supplemental Benefit Rate per Hour: **\$41.31**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$52.33 per hour.

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$47.25**

Supplemental Benefit Rate per Hour: **\$41.33**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$52.33 per hour.

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

Good Friday

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(Local #7)

PAINTER

Painter - Brush & Roller

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$42.50**

Supplemental Benefit Rate per Hour: **\$30.87**

Supplemental Note: \$ 35.50 on overtime

Spray & Scaffold / Decorative / Sandblast

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$45.50**

Supplemental Benefit Rate per Hour: **\$30.87**

Supplemental Note: \$ 35.50 on overtime

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

(District Council of Painters #9)

PAINTER - METAL POLISHER

METAL POLISHER

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$30.58
Supplemental Benefit Rate per Hour: \$7.16

METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$31.53
Supplemental Benefit Rate per Hour: \$7.16

METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$34.08
Supplemental Benefit Rate per Hour: \$7.16

Overtime Description

All work performed on Saturdays shall be paid at time-in-a half. The exception being; for suspended scaffold work and work deemed as a construction project; an eight (8) hour shift lost during the week due to circumstances beyond the control of the employer, up to a maximum of eight (8) hours per week, may be worked on Saturday at the straight time rate.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.
Triple time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Four Days a week at Ten (10) hours straight a day.

Local 8A-28A

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

PAINTER - SIGN

Sign Painter

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$41.16

Supplemental Benefit Rate per Hour: \$16.04

Assistant Sign Painter

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$34.97

Supplemental Benefit Rate per Hour: \$14.92

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Vacation

At least 1 year of employment.....1 week

2 years or more of employment.....2 weeks

8 years or more of employment.....3 weeks

(Local #8A-28A)

PAINTER - STRIPER

Striper (paint)

Effective Period: 7/1/2018 - 6/30/2019

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CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$35.00**

Supplemental Benefit Rate per Hour: **\$12.37**

Supplemental Note: Overtime Supplemental Benefit rate - \$8.02; New Hire Rate (0-3 months) - \$0.00

Lineperson (thermoplastic)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$39.00**

Supplemental Benefit Rate per Hour: **\$12.37**

Supplemental Note: Overtime Supplemental Benefit rate - \$8.02; New Hire Rate (0-3 months) - \$0.00

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Employees hired before April 1, 2003: 15% night shift premium differential for work commenced at 9:00 PM or later.

Vacation

Employees with one to two years service shall accrue vacation based on hours worked: 250 hours worked - 1 day vacation; 500 hours worked - 2 days vacation; 750 hours worked - 3 days vacation; 900 hours worked - 4 days vacation; 1,000 hours worked - 5 days vacation. Employees with two to five years service receive two weeks vacation. Employees with five to twenty years service receive three weeks vacation. Employees with twenty to twenty-five years service receive four weeks vacation. Employees with 25 or more years service receive five weeks vacation. Vacation must be taken during winter months. 2 Personal Days except employees hired after 4/1/12 who do not have 2 years of service.

(Local #917)

PAINTER - STRUCTURAL STEEL

Painters on Structural Steel

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$49.50**

Supplemental Benefit Rate per Hour: **\$38.83**

Painter - Power Tool

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$55.50**

Supplemental Benefit Rate per Hour: **\$38.83**

Overtime Wage Rate: **\$6.00** above the "Painters on Structural Steel" overtime rate.

Overtime Description

Supplemental Benefits shall be paid for each hour worked, up to forty (40) hours per week for the period of May 1st to November 15th or up to fifty (50) hours per week for the period of November 16th to April 30th.

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Regular hourly rates plus a ten per cent (10%) differential

(Local #806)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$44.89**

Supplemental Benefit Rate per Hour: **\$33.13**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Note: Supplemental benefits are to be paid at the appropriate straight time and overtime rate.

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

Evening shift - 4:30 P.M. to 12:00 Midnight (regular rate of pay); any work performed before 7:00 A.M. shall be at time and one half the regular base rate of pay.

(District Council of Painters #9)

PAVER AND ROADBUILDER

Paver & Roadbuilder - Formsetter

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$46.35

Supplemental Benefit Rate per Hour: \$43.01

Supplemental Note: For time and one half overtime - \$46.89 For double overtime - \$50.76

Paver & Roadbuilder - Laborer

Paving and road construction work, regardless of material used, including but not limited to preparation of job sites, removal of old surfaces, asphalt and/or concrete, by whatever method, including but not limited to milling; laying of concrete; laying of asphalt for temporary, patchwork, and utility paving (but not production paving); site preparation and incidental work before the installation of rubberized materials and similar surfaces; installation and repair of temporary construction fencing; slurry seal coating, maintenance of safety surfaces; play equipment installation, and other related work.

Effective Period: 7/1/2018 - 6/30/2019

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$42.48**

Supplemental Benefit Rate per Hour: **\$43.01**

Supplemental Note: For time and one half overtime - \$46.89 For double overtime - \$50.76

Production Paver & Roadbuilder - Screed Person

(Production paving is asphalt paving when using a paving machine or on a project where a paving machine is traditionally used)

Adjustment of paving machinery on production paving jobs.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$46.95**

Supplemental Benefit Rate per Hour: **\$43.01**

Supplemental Note: For time and one half overtime - \$46.89 For double overtime - \$50.76

Production Paver & Roadbuilder - Raker

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$46.35**

Supplemental Benefit Rate per Hour: **\$43.01**

Supplemental Note: For time and one half overtime - \$46.89 For double overtime - \$50.76

Production Paver & Roadbuilder - Shoveler

General laborer (except removal of surfaces - see Paver and Roadbuilder-Laborer) including but not limited to tamper, AC paint and liquid tar work.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$42.48**

Supplemental Benefit Rate per Hour: **\$43.01**

Supplemental Note: For time and one half overtime - \$46.89 For double overtime - \$50.76

Overtime Description

If an employee works New Year's Day or Christmas Day, they receive the single time rate plus 25%.

For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Paid Holidays

Memorial Day
Independence Day
Labor Day
Thanksgiving Day

Shift Rates

When two shifts are employed, the work period for each shift shall be a continuous eight (8) hours. When three shifts are employed, each shift will work seven and one half (7 ½) hours but will be paid for eight (8) hours since only one half (1/2) hour is allowed for meal time.

When two or more shifts are employed, single time will be paid for each shift.

Night Work - On night work, the first eight (8) hours of work will be paid for at the single time rate, except that production paving work shall be paid at 10% over the single time rate for the screed person, rakers and shovelers directly involved only. This differential is to be paid when there is only one shift and the shift works at night. All other workers will be exempt. Hours worked over eight (8) hours during said shift shall be paid for at the time and one-half rate.

(Local #1010)

PLASTERER

Plasterer

Effective Period: 7/1/2018 - 7/31/2018

Wage Rate per Hour: **\$45.58**

Supplemental Benefit Rate per Hour: **\$25.87**

Effective Period: 8/1/2018 - 6/30/2019

Wage Rate per Hour: **\$45.93**

Supplemental Benefit Rate per Hour: **\$26.52**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

When it is not possible to conduct work during regular working hours (between 6:30am and 4:30pm), a shift differential shall be paid at the regular hourly rate plus a twelve per cent (12%) per hour differential. Workers on shift work shall be allowed a paid one-half hour meal break.

(Local #262)

PLASTERER - TENDER

Plasterer - Tender

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$38.40**

Supplemental Benefit Rate per Hour: **\$31.04**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

When work commences outside regular work hours, workers receive an hour additional (differential) wage and supplement payment. Eight hours pay for seven hours work or nine hours pay for eight hours work.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

(Mason Tenders District Council)

PLUMBER

Plumber

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$68.40**

Supplemental Benefit Rate per Hour: **\$33.80**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Plumber - Temporary Services

Temporary Services - When there are no Plumbers on the job site, there may be three shifts designed to cover the entire twenty-four hour period, including weekends if necessary, at the following rate straight time.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$54.80**

Supplemental Benefit Rate per Hour: **\$26.96**

Overtime Description

Double time the regular rate after a 7 hour day - unless for new construction site work where the plumbing contract price is \$1.5 million or less, the hours of labor can be 8 hours per day at the employers option. On Alteration jobs when other mechanical trades at the site are working an eighth hour at straight time, then the plumber shall also work an eighth hour at straight time.

Overtime

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Shift work, when directly specified in public agency or authority documents where plumbing contract is \$8 million or less, will be permitted. 30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER (MECHANICAL EQUIPMENT AND SERVICE)
(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Plumber

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$41.55

Supplemental Benefit Rate per Hour: \$16.61

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

(Plumbers Local # 1)

PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION)

Effective Period: 7/1/2018 - 6/30/2019

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$47.47

Supplemental Benefit Rate per Hour: \$24.36

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday.

50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER: PUMP & TANK
Oil Trades (Installation and Maintenance)

Plumber - Pump & Tank

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$65.65

Supplemental Benefit Rate per Hour: \$25.06

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

All work outside the regular workday (8:00 A.M. to 3:30 P.M.) is to be paid at time and one half the regular hourly rate

(Plumbers Local #1)

**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,
STEAMBLASTER
(Exterior Building Renovation)**

Journey person

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$52.57**

Supplemental Benefit Rate per Hour: **\$25.80**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

All work outside the regular work day (an eight hour workday between the hours of 6:00 A.M. and 4:30 P.M.) is to be paid at time and one half the regular rate.

(Bricklayer District Council)

ROOFER

Roofer

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$42.50

Supplemental Benefit Rate per Hour: \$33.37

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Second shift - Regular hourly rate plus a 10% differential. Third shift - Regular hourly rate plus a 15% differential.

(Local #8)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

SHEET METAL WORKER

Sheet Metal Worker

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$49.65**

Supplemental Benefit Rate per Hour: **\$49.15**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Sheet Metal Worker - Fan Maintenance

(The temporary operation of fans or blowers in new or existing buildings for heating and/or ventilation, and/or air conditioning prior to the completion of the project.)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$39.72**

Supplemental Benefit Rate per Hour: **\$49.15**

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$12.90**

Supplemental Benefit Rate per Hour: **\$8.07**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Work that can only be performed outside regular working hours (eight hours of work between 7:30 A.M. and 3:30 P.M.) - First shift (work between 3:30 P.M. and 11:30 P.M.) - 10% differential above the established hourly rate.
Second shift (work between 11:30 P.M. and 7:30 A.M.) - 15% differential above the established hourly rate.

For Fan Maintenance: On all full shifts of fan maintenance work the straight time hourly rate of pay will be paid for each shift, including nights, Saturdays, Sundays, and holidays.

(Local #28)

SHEET METAL WORKER - SPECIALTY (Decking & Siding)

Sheet Metal Specialty Worker

The first worker to perform this work must be paid at the rate of the Sheet Metal Worker. The second and third workers shall be paid the Specialty Worker Rate. The ratio of One Sheet Metal Worker, then Two Specialty Workers shall be utilized thereafter.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$45.26**

Supplemental Benefit Rate per Hour: **\$25.66**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

(Local #28)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

SHIPYARD WORKER

Shipyard Mechanic - First Class

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$28.19**
Supplemental Benefit Rate per Hour: **\$3.03**

Shipyard Mechanic - Second Class

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$20.87**
Supplemental Benefit Rate per Hour: **\$2.75**

Shipyard Laborer - First Class

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$21.89**
Supplemental Benefit Rate per Hour: **\$2.79**

Shipyard Laborer - Second Class

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$15.71**
Supplemental Benefit Rate per Hour: **\$2.55**

Shipyard Dockhand - First Class

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$21.57**
Supplemental Benefit Rate per Hour: **\$2.78**

Shipyard Dockhand - Second Class

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$16.96**
Supplemental Benefit Rate per Hour: **\$2.60**

Overtime Description

Work performed on holiday is paid double time the regular hourly wage rate plus holiday pay.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Double time the regular rate for Sunday.
Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Based on Survey Data

SIGN ERECTOR
(Sheet Metal, Plastic, Electric, and Neon)

Sign Erector

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$48.50
Supplemental Benefit Rate per Hour: \$52.89

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Time and one half the regular hourly rate is to be paid for all hours worked outside the regular workday either (7:00 A.M. through 2:30 P.M.) or (8:00 A.M. through 3:30 P.M.)

(Local #137)

STEAMFITTER

Steamfitter I

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$57.25**

Supplemental Benefit Rate per Hour: **\$55.79**

Supplemental Note: Overtime supplemental benefit rate: **\$110.84**

Steamfitter -Temporary Services

The steamfitters shall not do any other work and shall not be permitted to work more than one shift in a twenty-four hour day. When steamfitters are present during the regular working day, no temporary services steamfitter will be required

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$43.51**

Supplemental Benefit Rate per Hour: **\$45.22**

Overtime

Double time the regular rate after a 7 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE**

Work performed between 3:30 P.M. and 7:00 A.M. and on Saturdays, Sundays and Holidays shall be at double time the regular hourly rate and paid at the overtime supplemental benefit rate above.

Steamfitter II

For heating, ventilation, air conditioning and mechanical public work contracts with a dollar value not to exceed \$15,000,000 and for fire protection/sprinkler public work contracts not to exceed \$1,500,000.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$57.25**

Supplemental Benefit Rate per Hour: **\$55.79**

Supplemental Note: Overtime supplemental benefit rate: **\$110.84**

Steamfitter -Temporary Services

The steamfitters shall not do any other work and shall not be permitted to work more than one shift in a twenty-four hour day. When steamfitters are present during the regular working day, no temporary services steamfitter will be required.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$43.51**

Supplemental Benefit Rate per Hour: **\$45.22**

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

May be performed outside of the regular workday except Saturday, Sunday and Holidays. A shift shall consist of eight working hours. All work performed in excess of eight hours shall be paid at double time. No shift shall commence after 7:00 P.M. on Friday or 7:00 P.M. the day before holidays. All work performed after 12:01 A.M.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Saturday or 12:01 A.M. the day before a Holiday will be paid at double time. When shift work is performed the wage rate for regular time worked is a thirty percent premium together with fringe benefits.

On Transit Authority projects, where work is performed in the vicinity of tracks all shift work on weekends and holidays may be performed at the regular shift rates.

Local #638

**STEAMFITTER - REFRIGERATION AND AIR CONDITIONER
(Maintenance and Installation Service Person)**

Refrigeration and Air Conditioner Mechanic

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$41.50**

Supplemental Benefit Rate per Hour: **\$16.56**

Refrigeration and Air Conditioner Service Person V

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$34.10**

Supplemental Benefit Rate per Hour: **\$14.80**

Refrigeration and Air Conditioner Service Person IV

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$28.25**

Supplemental Benefit Rate per Hour: **\$13.36**

Refrigeration and Air Conditioner Service Person III

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$24.24**

Supplemental Benefit Rate per Hour: **\$12.29**

Refrigeration and Air Conditioner Service Person II

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2018 - 6/30/2019

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$20.10

Supplemental Benefit Rate per Hour: \$11.29

Refrigeration and Air Conditioner Service Person I

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$14.71

Supplemental Benefit Rate per Hour: \$10.12

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Independence Day

Labor Day

Veteran's Day

Thanksgiving Day

Christmas Day

Double time and one half the regular rate for work on the following holiday(s).

Martin Luther King Jr. Day

President's Day

Memorial Day

Columbus Day

Paid Holidays

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

(Local #638B)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

STONE MASON - SETTER

Stone Mason - Setter

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$53.62

Supplemental Benefit Rate per Hour: \$41.65

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

Good Friday

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

Shift Rates

For all work outside the regular workday (8:00 A.M. to 3:30 P.M. Monday through Friday), the pay shall be straight time plus a ten percent (10%) differential.

(Bricklayers District Council)

TAPER

Drywall Taper

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$47.82

Supplemental Benefit Rate per Hour: \$25.61

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays

Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

(Local #1974)

TELECOMMUNICATION WORKER

(Install/maintain/repair telecommunications cables carrying data, video, and/or voice except for installation on building construction/alteration/renovation projects. Locate & mark underground telecommunications cables and utilities for street excavation.)

Telecommunication Worker

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$43.66

Supplemental Benefit Rate per Hour: \$23.15

Supplemental Note: The above rate applies for Manhattan, Bronx, Brooklyn, Queens. \$22.84 for Staten Island only.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
Lincoln's Birthday
Washington's Birthday
Memorial Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Paid Holidays

New Year's Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees have the option of observing either Martin Luther King's Birthday or the day after Thanksgiving instead of Lincoln's Birthday

Shift Rates

For any workday that starts before 8A.M. or ends after 6P.M. there is a 10% differential for the applicable worker's hourly rate.

Vacation

After 6 months.....one week.
After 12 months but less than 7 years.....two weeks.
After 7 or more but less than 15 years.....three weeks.
After 15 years or more but less than 25 years.....four weeks.

(C.W.A.)

TILE FINISHER

Tile Finisher

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$41.77
Supplemental Benefit Rate per Hour: \$30.87

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TILE LAYER - SETTER

Tile Layer - Setter

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$53.98

Supplemental Benefit Rate per Hour: \$35.38

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Day after Thanksgiving
Christmas Day

Shift Rates

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TIMBERPERSON

Timberperson

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$49.10

Supplemental Benefit Rate per Hour: \$49.97

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Time and one half the regular hourly rate after 40 hours in any work week.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Local #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$62.37
Supplemental Benefit Rate per Hour: \$52.39

Tunnel Workers (Compressed Air Rates)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$60.21
Supplemental Benefit Rate per Hour: \$50.65

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$59.11
Supplemental Benefit Rate per Hour: \$49.74

Outside Lock Tender, Outside Gauge Tender, Muck Lock Tender (Compressed Air Rates)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$58.04
Supplemental Benefit Rate per Hour: \$48.81

Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$58.04
Supplemental Benefit Rate per Hour: \$48.81

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$50.87
Supplemental Benefit Rate per Hour: \$46.11

Blasters (Free Air Rates)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$59.52

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$50.03

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$56.97

Supplemental Benefit Rate per Hour: \$47.89

All Others (Free Air Rates)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$52.63

Supplemental Benefit Rate per Hour: \$44.29

Microtunneling (Free Air Rates)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$45.58

Supplemental Benefit Rate per Hour: \$38.31

Overtime Description

For Repair-Maintenance Work on Existing Equipment and Facilities - Time and one half the regular rate after a 7 hour day, or for Saturday, or for Sunday. Double time the regular rate for work on a holiday.

For Small-Bore Micro Tunneling Machines - Time and one-half the regular rate shall be paid for all overtime.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

(Local #147)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION WORKER PREVAILING WAGE SCHEDULE

WELDER

**TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE
PERFORMING THE WORK.**

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE**

ARTICLE 8 – NYC PUBLIC WORKS

**OFFICE OF THE COMPTROLLER
CITY OF NEW YORK**

**CONSTRUCTION APPRENTICE
PREVAILING WAGE SCHEDULE**

Pursuant to Labor Law § 220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant and registered with the New York State Department of Labor, may be paid at the apprentice rates in this schedule. Apprentices who are not so registered must be paid as journey persons in accordance with the trade classification of the work they actually performed.

Apprentice ratios are established to ensure the proper safety, training and supervision of apprentices. A ratio establishes the number of journey workers required for each apprentice in a program and on a job site. Ratios are interpreted as follows: in the case of a 1:1, 1:4 ratio, there must be one journey worker for the first apprentice, and four additional journey workers for each subsequent apprentice.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

BOILERMAKER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Boilermaker (First Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 65% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$31.26

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 70% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$33.02

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 75% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$34.78

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 80% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$36.56

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 85% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$38.32

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 90% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$40.09

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 95% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$41.84

(Local #5)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

BRICKLAYER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Bricklayer (First 750 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.80

Bricklayer (Second 750 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.80

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.80

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.80

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 90% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.80

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 95% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.80

(Bricklayer District Council)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

CARPENTER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Carpenter (First Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 40% of Journeyman's rate

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.54

Carpenter (Second Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 50% of Journeyman's rate

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.54

Carpenter (Third Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 65% of Journeyman's rate

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.54

Carpenter (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 80% of Journeyman's rate

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$33.54

(Carpenters District Council)

CARPENTER - HIGH RISE CONCRETE FORMS

(Ratio of Apprentice to Journeyman: 1 to 1, 2 to 5)

Carpenter - High Rise (First Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$17.52

Supplemental Benefit Rate per Hour: \$16.20

Carpenter - High Rise (Second Year)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$23.95
Supplemental Benefit Rate per Hour: \$16.33

Carpenter - High Rise (Third Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$30.53
Supplemental Benefit Rate per Hour: \$16.46

Carpenter - High Rise (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$38.15
Supplemental Benefit Rate per Hour: \$16.61

(Carpenters District Council)

CEMENT MASON
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Cement Mason (First Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 50% of Journeyman's Rate

Cement Mason (Second Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 60% of Journeyman's Rate

Cement Mason (Third Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 70% of Journeyman's Rate

(Local #780)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

CEMENT AND CONCRETE WORKER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Cement & Concrete Worker (First 1333 hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$17.75

Cement & Concrete Worker (Second 1333 hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$23.03

Cement & Concrete Worker (Last 1334 hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$24.30

Cement & Concrete Worker (Hired after 2/6/2016 - First 1334 hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: \$16.96
Supplemental Benefit Rate Per Hour: \$11.80

Cement & Concrete Worker (Hired after 2/6/2016 - Second 1334 hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: \$22.08
Supplemental Benefit Rate Per Hour: \$16.49

Cement & Concrete Worker (Hired after 2/6/2016 - Last 1334 hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: \$27.20
Supplemental Benefit Rate Per Hour: \$17.33

(Cement Concrete Workers District Council)

DERRICKPERSON & RIGGER (STONE)
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Derrickperson & Rigger (stone) - First Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: 50% of Journeyman's rate

Derrickperson & Rigger (stone) - Second Year: 1st Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

Derrickperson & Rigger (stone) - Second Year: 2nd Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

Derrickperson & Rigger (stone) - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 90% of Journeyman's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

(Local #197)

**DOCKBUILDER/PILE DRIVER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 6)**

Dockbuilder/Pile Driver (First Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$33.54

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$33.54

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2018 - 6/30/2019

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$33.54

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$33.54

(Carpenters District Council)

ELECTRICIAN

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Electrician (First Term: 0-6 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$14.50
Supplemental Benefit Rate per Hour: \$12.63
Overtime Supplemental Rate Per Hour: \$13.58

Electrician (First Term: 7-12 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$15.50
Supplemental Benefit Rate per Hour: \$13.14
Overtime Supplemental Rate Per Hour: \$14.16

Electrician (Second Term: 0-6 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$16.50
Supplemental Benefit Rate per Hour: \$13.64
Overtime Supplemental Rate Per Hour: \$14.73

Electrician (Second Term: 7-12 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$17.50
Supplemental Benefit Rate per Hour: \$14.15
Overtime Supplemental Rate Per Hour: \$15.31

Electrician (Third Term: 0-6 Months)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$18.50
Supplemental Benefit Rate per Hour: \$14.66
Overtime Supplemental Rate Per Hour: \$15.88

Electrician (Third Term: 7-12 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$19.50
Supplemental Benefit Rate per Hour: \$15.17
Overtime Supplemental Rate Per Hour: \$16.45

Electrician (Fourth Term: 0-6 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$20.50
Supplemental Benefit Rate per Hour: \$15.68
Overtime Supplemental Rate Per Hour: \$17.03

Electrician (Fourth Term: 7-12 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$22.50
Supplemental Benefit Rate per Hour: \$16.70
Overtime Supplemental Rate Per Hour: \$18.18

Electrician (Fifth Term: 0-12 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$24.50
Supplemental Benefit Rate per Hour: \$20.30
Overtime Supplemental Rate Per Hour: \$21.84

Electrician (Fifth Term: 13-18 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$29.00
Supplemental Benefit Rate per Hour: \$22.65
Overtime Supplemental Rate Per Hour: \$24.47

Overtime Description

Overtime Wage paid at time and one half the regular rate

(Local #3)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

ELEVATOR CONSTRUCTOR

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 2)

Elevator (Constructor) - First Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$30.89

Elevator (Constructor) - Second Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$31.38

Elevator (Constructor) - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$32.36

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$33.34

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 2)

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Per Hour: \$30.82

Elevator Service/Modernization Mechanic (Second Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Benefit Per Hour: \$31.30

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: \$32.26

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: \$33.23

(Local #1)

ENGINEER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Engineer - First Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$25.38
Supplemental Benefit Rate per Hour: \$25.53

Engineer - Second Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$31.72
Supplemental Benefit Rate per Hour: \$25.53

Engineer - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$34.89
Supplemental Benefit Rate per Hour: \$25.53

Engineer - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$38.06
Supplemental Benefit Rate per Hour: \$25.53

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

(Local #15)

ENGINEER - OPERATING

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 5)

Operating Engineer - First Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour 40% of Journeyman's Rate
Supplemental Benefit Per Hour: \$21.60

Operating Engineer - Second Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's Rate
Supplemental Benefit Per Hour: \$21.60

Operating Engineer - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 60% of Journeyman's Rate
Supplemental Benefit Per Hour: \$21.60

(Local #14)

FLOOR COVERER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Floor Coverer (First Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Rate Per Hour: \$31.14

Floor Coverer (Second Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$31.14

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Floor Coverer (Third Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$31.14

Floor Coverer (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Rate Per Hour: \$31.14

(Carpenters District Council)

GLAZIER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Glazier (First Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Rate Per Hour: \$15.66

Glazier (Second Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$25.76

Glazier (Third Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$29.02

Glazier (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Rate Per Hour: \$35.07

(Local #1281)

HAZARDOUS MATERIAL HANDLER
(Ratio of Apprentice Journeyperson: 1 to 1, 1 to 3)

Handler (First 1000 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 78% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$14.25

Handler (Second 1000 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$14.25

Handler (Third 1000 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 83% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$14.25

Handler (Fourth 1000 Hours)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 89% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$14.25

(Local #78)

HEAT & FROST INSULATOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Heat & Frost Insulator (First Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #12)

**HOUSE WRECKER
(TOTAL DEMOLITION)
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)**

House Wrecker - First Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$21.17

Supplemental Benefit Rate per Hour: \$18.79

House Wrecker - Second Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$22.32

Supplemental Benefit Rate per Hour: \$18.79

House Wrecker - Third Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$23.97

Supplemental Benefit Rate per Hour: \$18.79

House Wrecker - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$26.53

Supplemental Benefit Rate per Hour: \$18.79

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Iron Worker (Ornamental) - 1st Ten Months

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 50% of Journeyman's rate

Supplemental Rate Per Hour: \$40.20

Iron Worker (Ornamental) - 11 -16 Months

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 55% of Journeyman's rate

Supplemental Rate Per Hour: \$41.44

Iron Worker (Ornamental) - 17 - 22 Months

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 60% of Journeyman's rate

Supplemental Rate Per Hour: \$42.68

Iron Worker (Ornamental) - 23 - 28 Months

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 70% of Journeyman's rate

Supplemental Rate Per Hour: \$45.17

Iron Worker (Ornamental) - 29 - 36 Months

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 80% of Journeyman's rate

Supplemental Rate Per Hour: \$47.65

(Local #580)

IRON WORKER - STRUCTURAL

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 6)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$26.27
Supplemental Benefit Rate per Hour: \$51.18

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$26.87
Supplemental Benefit Rate per Hour: \$51.18

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$27.47
Supplemental Benefit Rate per Hour: \$51.18

(Local #40 and #361)

**LABORER (FOUNDATION, CONCRETE, EXCAVATING, STREET PIPE
LAYER & COMMON)
(Ratio Apprentice to Journeyman: 1 to 1, 1 to 3)**

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - First
1000 hours**

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Rate Per Hour: \$42.63

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Second 1000 hours**

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$42.63

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Third 1000 hours**

Effective Period: 7/1/2018 - 6/30/2019

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$42.63

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Fourth 1000 hours**

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 90% of Journeyman's rate
Supplemental Rate Per Hour: \$42.63

(Local #731)

**MARBLE MECHANICS
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)**

Cutters & Setters - First 750 Hours

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 50% of Journeyman's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Cutters & Setters - Second 750 Hours

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 55% of Journeyman's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 65% of Journeyman's rate

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 75% of Journeyman's rate

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019
Wage and Supplemental Rate Per Hour: 85% of Journeyman's rate

Cutters & Setters - Sixth 750 Hours

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

Polishers & Finishers - First 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Polishers & Finishers - Second 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Polishers & Finishers - Third 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Polishers & Finishers - Fourth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 90% of Journeyperson's rate

(Local #7)

MASON TENDER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Mason Tender - First Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$21.39**

Supplemental Benefit Rate per Hour: **\$19.90**

Mason Tender - Second Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: **\$22.54**

Supplemental Benefit Rate per Hour: **\$19.90**

Mason Tender - Third Year

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$24.29
Supplemental Benefit Rate per Hour: \$19.95

Mason Tender - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$26.95
Supplemental Benefit Rate per Hour: \$19.95

(Local #79)

METALLIC LATHER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Metallic Lather (First Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$26.38
Supplemental Benefit Rate per Hour: \$14.96

Metallic Lather (Second Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$30.38
Supplemental Benefit Rate per Hour: \$16.96

Metallic Lather (Third Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$35.38
Supplemental Benefit Rate per Hour: \$18.92

Metallic Lather (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$37.38
Supplemental Benefit Rate per Hour: \$19.92

(Local #46)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

MILLWRIGHT

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Millwright (First Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$28.33

Supplemental Benefit Rate per Hour: \$34.28

Millwright (Second Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$33.48

Supplemental Benefit Rate per Hour: \$37.88

Millwright (Third Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$38.63

Supplemental Benefit Rate per Hour: \$42.13

Millwright (Fourth Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$48.93

Supplemental Benefit Rate per Hour: \$48.69

(Local #740)

PAINTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painter - Brush & Roller - First Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$17.00

Supplemental Benefit Rate per Hour: \$14.46

Painter - Brush & Roller - Second Year

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$21.25
Supplemental Benefit Rate per Hour: \$18.63

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$25.50
Supplemental Benefit Rate per Hour: \$21.86

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$34.00
Supplemental Benefit Rate per Hour: \$27.88

(District Council of Painters)

PAINTER - METAL POLISHER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Metal Polisher (First Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$13.00
Supplemental Benefit Rate per Hour: \$5.13

Metal Polisher (Second Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$13.00
Supplemental Benefit Rate per Hour: \$5.13

Metal Polisher (Third Year)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$15.75
Supplemental Benefit Rate per Hour: \$5.13

(Local 8A-28)

PAINTER - STRUCTURAL STEEL

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Painters - Structural Steel (First Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 40% of Journeyman's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 80% of Journeyman's rate

(Local #806)

PAVER AND ROADBUILDER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Paver and Roadbuilder - First Year (Minimum 1000 hours)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$28.36

Supplemental Benefit Rate per Hour: \$20.30

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$30.00

Supplemental Benefit Rate per Hour: \$20.30

(Local #1010)

PLASTERER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Plasterer - First Year: 1st Six Months

Effective Period: 7/1/2018 - 7/31/2018
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Rate Per Hour: \$13.43

Effective Period: 8/1/2018 - 6/30/2019
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Rate Per Hour: \$13.88

Plasterer - First Year: 2nd Six Months

Effective Period: 7/1/2018 - 7/31/2018
Wage Rate Per Hour: 45% of Journeyman's rate
Supplemental Rate Per Hour: \$13.91

Effective Period: 8/1/2018 - 6/30/2019
Wage Rate Per Hour: 45% of Journeyman's rate
Supplemental Rate Per Hour: \$14.36

Plasterer - Second Year: 1st Six Months

Effective Period: 7/1/2018 - 7/31/2018
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$15.88

Effective Period: 8/1/2018 - 6/30/2019
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$16.44

Plasterer - Second Year: 2nd Six Months

Effective Period: 7/1/2018 - 7/31/2018
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$16.96

Effective Period: 8/1/2018 - 6/30/2019
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$17.53

Plasterer - Third Year: 1st Six Months

Effective Period: 7/1/2018 - 7/31/2018
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Rate Per Hour: \$19.13

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 8/1/2018 - 6/30/2019
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$19.72

Plasterer - Third Year: 2nd Six Months

Effective Period: 7/1/2018 - 7/31/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$20.21

Effective Period: 8/1/2018 - 6/30/2019
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$20.81

(Local #530)

PLASTERER - TENDER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plasterer Tender - First Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$21.39
Supplemental Benefit Rate per Hour: \$19.90

Plasterer Tender - Second Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$22.54
Supplemental Benefit Rate per Hour: \$19.90

Plasterer Tender - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$24.29
Supplemental Benefit Rate per Hour: \$19.95

Plasterer Tender - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: \$26.95
Supplemental Benefit Rate per Hour: \$19.95

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

(Local #79)

PLUMBER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$16.28

Supplemental Benefit Rate per Hour: \$5.43

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$19.28

Supplemental Benefit Rate per Hour: \$6.43

Plumber - Second Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$26.93

Supplemental Benefit Rate per Hour: \$18.10

Plumber - Third Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$29.03

Supplemental Benefit Rate per Hour: \$18.10

Plumber - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$31.88

Supplemental Benefit Rate per Hour: \$18.10

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate per Hour: \$33.28

Supplemental Benefit Rate per Hour: \$18.10

Plumber - Fifth Year: 2nd Six Months

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$45.35**
Supplemental Benefit Rate per Hour: **\$18.10**

(Plumbers Local #1)

**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,
STEAMBLASTER**
(Exterior Building Renovation)
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - First Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$25.89**
Supplemental Benefit Rate per Hour: **\$13.64**

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Second Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$28.97**
Supplemental Benefit Rate per Hour: **\$18.15**

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$34.12**
Supplemental Benefit Rate per Hour: **\$20.90**

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate per Hour: **\$41.33**
Supplemental Benefit Rate per Hour: **\$21.60**

(Bricklayer District Council)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

ROOFER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 2)

Roofer - First Year

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 35% of Journeyman's Rate

Supplemental Rate Per Hour: 20% of Journeyman's Rate

Roofer - Second Year

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 50% of Journeyman's Rate

Roofer - Third Year

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 60% of Journeyman's Rate

Roofer - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 75% of Journeyman's Rate

(Local #8)

SHEET METAL WORKER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Sheet Metal Worker (0-6 Months)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 25% of Journeyman's rate

Supplemental Rate Per Hour: \$6.45

Sheet Metal Worker (7-18 Months)

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 35% of Journeyman's rate

Supplemental Rate Per Hour: \$18.07

Sheet Metal Worker (19-30 Months)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: \$24.76

Sheet Metal Worker (31-36 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$29.17

Sheet Metal Worker (37-42 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$29.17

Sheet Metal Worker (43-48 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$35.85

Sheet Metal Worker (49-54 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$35.85

Sheet Metal Worker (55-60 Months)

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$40.30

(Local #28)

SIGN ERECTOR

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: \$15.28

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$17.33

Sign Erector - Second Year: 1st Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: \$19.38

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$21.45

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$28.98

Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$31.53

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$34.80

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$37.43

Sign Erector - Fifth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$40.03

Sign Erector - Sixth Year

Effective Period: 7/1/2018 - 6/30/2019

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$42.63

(Local #137)

STEAMFITTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Steamfitter - First Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate and Supplemental Per Hour: 40% of Journeyperson's rate

Steamfitter - Second Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate and Supplemental Rate Per Hour: 50% of Journeyperson's rate.

Steamfitter - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate and Supplemental Rate per Hour: 65% of Journeyperson's rate.

Steamfitter - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

Steamfitter - Fifth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate and Supplemental Rate Per Hour: 85% of Journeyperson's rate.

(Local #638)

STONE MASON - SETTER
(Ratio Apprentice of Journeyperson: 1 to 1, 1 to 2)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Stone Mason - Setters - First 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 60% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Third 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 70% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Fourth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Fifth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 90% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Sixth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage Rate Per Hour: 100% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

(Bricklayers District Council)

TAPER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Drywall Taper - First Year

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Drywall Taper - Second Year

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate

Drywall Taper - Third Year

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 80% of Journeyman's rate

(Local #1974)

TILE LAYER - SETTER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 50% of Journeyman's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 55% of Journeyman's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 65% of Journeyman's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 75% of Journeyman's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 85% of Journeyman's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2018 - 6/30/2019

Wage and Supplemental Rate Per Hour: 95% of Journeyman's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

(Local #7)

TIMBERPERSON

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Timberperson - First Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$33.19

Timberperson - Second Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$33.19

Timberperson - Third Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$33.19

Timberperson - Fourth Year

Effective Period: 7/1/2018 - 6/30/2019
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$33.19

(Local #1536)



Leonard A. Mancusi
SENIOR ASSISTANT COMPTROLLER

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
1 CENTRE STREET ROOM 1120
NEW YORK, N.Y. 10007-2341

TELEPHONE: (212) 669-3622
FAX NUMBER: (212) 669-8496

ALAN G. HEVESI
COMPTROLLER

MEMORANDUM

November 6, 2000

To Agency Chief Contracting Officers

From: Leonard A. Mancusi 

Re: Security at Construction Sites

.....

Prior to the enactment of Administrative Code §6-109, security guards on construction sites were not subject to prevailing wages. Security guards under the New York State labor law are covered under §230 which provides that prevailing wages are to be paid for security guards in existing buildings. §6-109 of the Administrative Code which was enacted in 1996 closed this loophole by including all security guards working pursuant to a city contract as a prevailing wage trade.

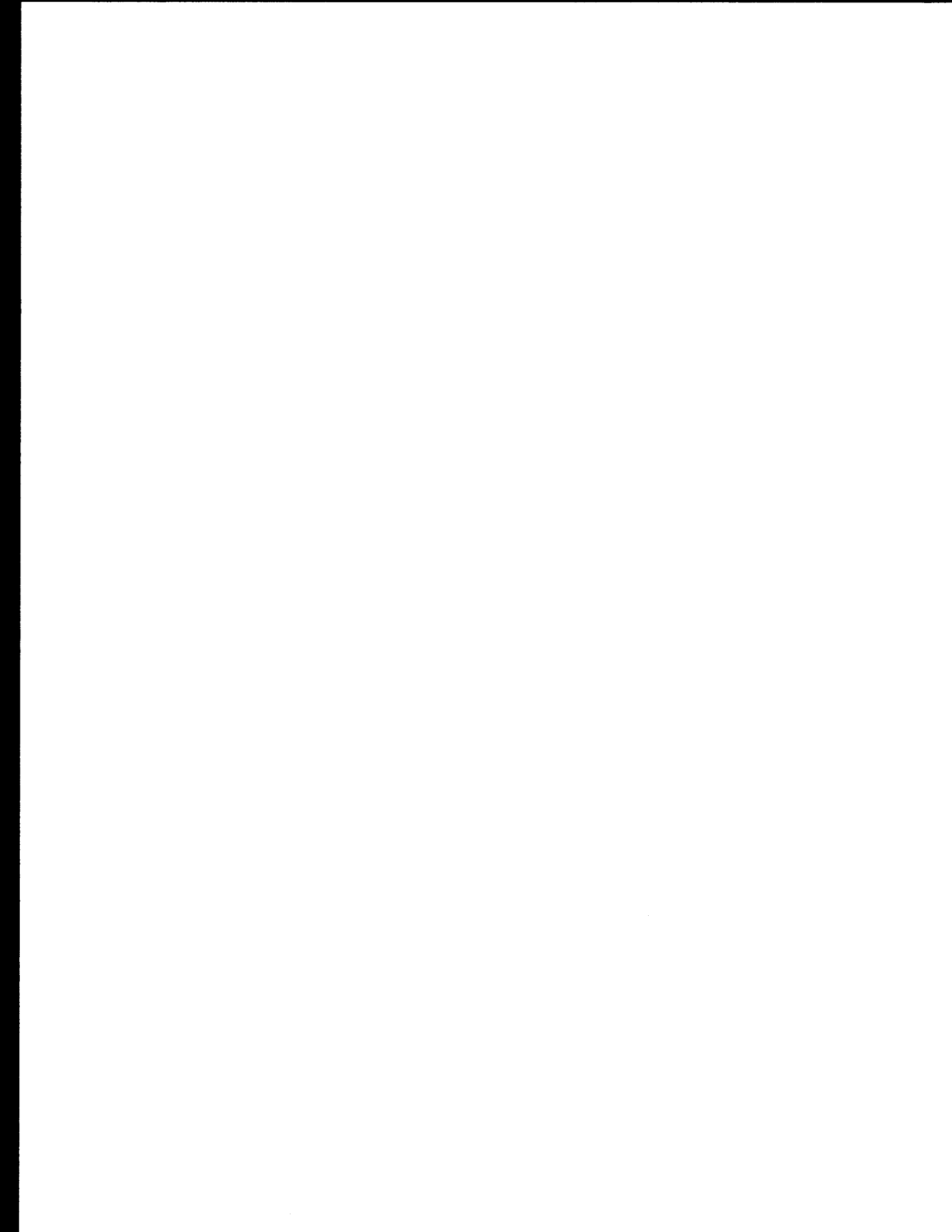
Although some construction contract boilerplate language has been amended to include §6-109, sub-contractors performing security services have advised us that they were not aware of this provision and, since traditionally, security guards were not a covered trade on construction sites, and they were not advised by a prime contractor that they would have to pay prevailing wages, they have not been doing so.

To avoid the possibility of issuing stop payments against prime contractors for the failure of their security service sub-contractors to pay

prevailing wages, we suggest that you write to all your existing security guard sub-contractors and their primes and in the future, upon approval of a security guard sub-contractor, advise the contractors of their obligation to pay prevailing wages under §6-109 of the Administrative Code.

As always, your cooperation is appreciated.

**-LAM:er
ACCO.SECURITY AT SITES**





Department of Design and Construction

INFRASTRUCTURE DIVISION BUREAU OF DESIGN

VOLUME 2 OF 3

PROJECT ID: SEK-20070

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING 8'-0" W X 8'-0" H OUTFALL STORM SEWER IN: 25 TH AVE. BETWEEN HUNTER AVE. AND GRAVESEND BAY Together with All Work Incidental Thereto

BOROUGH OF BRONX CITY OF NEW YORK

D'ONOFRIO GENERAL CONTRACTORS CORP Contractor Dated MARCH 29, 2021

APPROVED AS TO FORM CERTIFIED AS TO LEGAL AUTHORITY

[Signature] Acting Corporation Counsel

1/23/19 KT

Dated January 23, 2019



**Department of
Design and
Construction**

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE**

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
WEBSITE www1.nyc.gov/site/ddc/index.page

VOLUME 3 OF 3

**SCHEDULE A
SPECIFICATIONS AND
REVISIONS TO STANDARD SPECIFICATIONS**

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SEK-20070

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING
8'-0" W X 8'-0" H OUTFALL STORM SEWER IN:
25TH AVE. BETWEEN HUNTER AVE. AND GRAVESEND BAY
Together with All Work Incidental Thereto

**BOROUGH OF BROOKLYN
CITY OF NEW YORK**



FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
PREPARED BY
IN-HOUSE DESIGN

DECEMBER 18, 2018

9-045



VOLUME 3 OF 3
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SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

The following New York City Department of Transportation (NYCDOT) reference documents are available online at: <http://www1.nyc.gov/site/ddc/resources/publications.page> or for purchase between 9:00 A.M. and 3:00 P.M. at 55 Water St., Ground Floor, NYC, N.Y. 10041. Contact: Ms Vivian Valdez, Tel. (212) 839-9434

1. NYCDOT Standard Highway Specifications, August 1, 2015
2. NYCDOT Standard Highway Details of Construction, July 1, 2010
3. NYCDOT Division of Street Lighting Specifications
4. NYCDOT Division of Street Lighting Standard Drawings
5. NYCDOT Standard Specifications for Traffic Signals
6. NYCDOT Standard Drawings for Traffic Signals

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available online at: <http://www1.nyc.gov/site/ddc/resources/publications.page> or for pick up between 8:00 A.M. and 4:00 P.M. at 30-30 Thomson Avenue, 3rd Floor, Division of Infrastructure, Long Island City, N.Y. 11101.

Contact: Mr. Nader Soliman, Tel. (718) 391-1179

1. NYCDEP Standard Sewer and Water Main Specifications, July 1, 2014
2. NYCDEP Instructions for Concrete Specifications, Jan. 92
3. NYCDEP General Specification 11-Concrete, November 1991
4. NYCDEP Sewer Design Standards, (September 2007) Revised August 2018

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available online at: <http://www1.nyc.gov/site/ddc/resources/publications.page> or for pick up between 8:00 A.M. and 4:00 P.M. at 30-30 Thomson Avenue, 3rd Floor, Division of Infrastructure, Long Island City, N.Y. 11101.

Contact: Mr. Robert Kuhlmann, Tel. (718) 391-2145

1. NYCDEP Water Main Standard Drawings, November 2010
2. Specifications for Trunk Main Work, July 2014
3. Standard Design and Guidelines for Green Infrastructure Practices, latest version, available only online at: http://www.nyc.gov/html/dep/html/stormwater/green_infrastructure_standards.shtml

Water main work material specifications are available at the Department of Environmental Protection, 59-17 Junction Boulevard, 3rd Floor Low-Rise Building, Flushing, N.Y. 11373-5108.

Contact: Mr. Tarlock Sahansra, P.E., Tel. (718) 595-5302

E-mail: TSAHANSRA@DEP.NYC.GOV

Standard Specifications and Drawings for New York City Fire Department Communications facilities of New York City are available online at <https://www1.nyc.gov/assets/fdny/downloads/pdf/about/fdny-plant-operations-standard-drawings-specifications.pdf> or for pick up from the FDNY Facilities Management Bureau, Plant Operations Engineering, 316 Sgt. Beers Avenue Cluster 1 Box 16, Fort Totten, N.Y. 11359.

Contact: Mr. Ed Durkin, Tel. (718) 281-3933

Tree Planting Standards of the City of New York Parks & Recreation are available at the following Department of Parks & Recreation website:

<http://www.nycgovparks.org/pagefiles/53/Tree-Planting-Standards.pdf>

SPECIFICATIONS AND STANDARDS OF PRIVATE UTILITIES

The Following reference document for Private Utility Work is available for pick up between 8:30 A.M. and 4:00 P.M. at 30-30 Thomson Avenue, First Floor Bid Procurement Room, L.I.C., N.Y. 11101.

1. CET SPECIFICATIONS AND SKETCHES dated November 2010

SCHEDULE A**(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT
(INCLUDING GENERAL CONDITIONS RELATED TO ARTICLE 22 – INSURANCE)****PART I. REQUIRED INFORMATION**

<p align="center"><u>INFORMATION FOR BIDDERS SECTION 26 BID SECURITY</u></p> <p><u>The Contractor shall obtain a bid security in the amount indicated to the right.</u></p>	<p>Required provided the TOTAL BID PRICE set forth on the Bid Form is \$1,000,000. or more.</p> <p>Certified Check: 2% of Bid Amount or Bond: 10% of Bid Amount</p>
<p align="center"><u>INFORMATION FOR BIDDERS SECTION 26 PERFORMANCE AND PAYMENT BONDS</u></p> <p><u>The Contractor shall obtain performance and payment bonds in the amount indicated to the right.</u></p>	<p>Required for contracts in the amount of \$1,000,000 or more.</p> <p>Performance Security and Payment Security shall each be in an amount equal to 100% of the Contract Price.</p>
<p align="center"><u>INFORMATION FOR BIDDERS DEPARTMENT OF DESIGN AND CONSTRUCTION SAFETY REQUIREMENTS</u></p> <p>The Contractor shall provide the safety personnel as indicated to the right.</p>	<ul style="list-style-type: none"> ■ Project Safety Representative ■ Dedicated, full-time Project Safety Manager
<p align="center"><u>CONTRACT ARTICLE 14 DATE FOR SUBSTANTIAL COMPLETION</u></p> <p>The Contractor shall substantially complete the Work in the number of calendar days indicated to the right.</p>	<p>See Page SA-4</p>
<p align="center"><u>CONTRACT ARTICLE 15 LIQUIDATED DAMAGES</u></p> <p>If the Contractor fails to substantially complete the Work within the time fixed for substantial completion plus authorized time extensions or if the Contractor, in the sole determination of the Commissioner, has abandoned the Work, the Contractor shall pay to the City the amount indicated to the right.</p>	<p>\$2,000.00 for each consecutive calendar day over substantial completion time</p>
<p align="center"><u>CONTRACT ARTICLE 17. SUB-CONTRACTOR</u></p> <p>The Contractor shall not make subcontracts totaling an amount more than the percentage of the total Contract price indicated to the right.</p>	<p>Not to exceed <u>35</u> % of the Contract price</p>

<p style="text-align: center;"><u>CONTRACT ARTICLE 21.</u> <u>RETAINAGE</u></p> <p>The Commissioner shall deduct and retain until the substantial completion of the Work the percent value of the Work indicated to the right.</p>	<p style="text-align: center;"><u>5 %</u> of the value of the Work</p>
<p style="text-align: center;"><u>CONTRACT ARTICLE 22.</u> <u>(Per Directions Below)</u></p>	<p>See pages SA-5 through SA-13</p>
<p style="text-align: center;"><u>CONTRACT ARTICLE 24.</u> <u>DEPOSIT GUARANTEE</u></p> <p>As security for the faithful performance of its obligations, the Contractor, upon filing its requisition for payment on Substantial Completion, shall deposit with the Commissioner a sum equal to the percentage of the Contract price indicated to the right.</p>	<p>1% of Contract price</p>
<p style="text-align: center;"><u>CONTRACT ARTICLE 24.</u> <u>PERIOD OF GUARANTEE</u></p> <p>Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.</p>	<p>Eighteen (18) Months, excluding Trees</p> <p>Twenty-four (24) Months for Tree Planting</p>
<p style="text-align: center;"><u>CONTRACT ARTICLE 74.</u> <u>STATEMENT OF WORK</u></p> <p>The Contractor shall furnish all labor and materials and perform all Work in strict accordance with the Contract Drawings, Specifications, and all Addenda thereto, as shown in the column to the right.</p>	<p>Addenda, numbered:</p> <hr/>
<p style="text-align: center;"><u>CONTRACT ARTICLE 75.</u> <u>COMPENSATION TO BE PAID TO CONTRACTOR</u></p> <p>The City shall pay and the Contractor shall accept in full consideration for the performance of the Contract, subject to additions and deductions as provided herein, the total sum shown in the column to the right, being the amount at which the Contract was awarded to the Contractor at a public letting thereof, based upon the Contractor's bid for the Contract.</p>	<p>Amount for which the Contract was Awarded:</p> <hr/> <p style="text-align: right;">Dollars</p> <p>(\$ <hr style="display: inline-block; width: 150px; vertical-align: middle;"/>)</p>
<p style="text-align: center;"><u>CONTRACT ARTICLE 79.</u> <u>PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT</u></p>	<p>See M/WBE Utilization Plan in the Bid Booklet</p>

<p style="text-align: center;"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 6.40</u> <u>LIQUIDATED DAMAGES FOR ENGINEER'S FIELD OFFICE</u></p> <p>If the Contractor fails to satisfactorily provide the field office and all equipment specified in Section 6.40 - Engineer's Field Office, and/or if a cited deficiency exceed seventy two (72) hours after notice from the Engineer in writing, or is permitted to recur, liquidated damages will be assessed in the amount specified herein for each subsequent calendar day or part thereof that a cited deficiency resulting in nonpayment, as described in Section 6.40.5, is not corrected.</p>	<p>\$ <u>500.00</u> for each calendar day of deficiency</p>
<p style="text-align: center;"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 6.70</u> <u>LIQUIDATED DAMAGES FOR MAINTENANCE AND PROTECTION OF TRAFFIC</u></p>	<p>\$ <u>250.00</u> for each instance of failure to comply with the Maintenance and Protection of Traffic requirements within three (3) hours after written notice from the Engineer.</p> <p>\$ <u>500.00</u> for each and every hour of failing to open the entire width of roadway to traffic the morning following a night/weekend work operation.</p>
<p style="text-align: center;"><u>STANDARD HIGHWAY SPECIFICATIONS</u> <u>SECTION 7.13</u> <u>LIQUIDATED DAMAGES FOR MAINTENANCE OF SITE</u></p> <p>If the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of Section 7.13 - Maintenance of Site, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum specified above per calendar day, for each instance of such failure, as liquidated damages and not as a penalty, for such default.</p>	<p>\$ <u>400.00</u> for each calendar day, for each occurrence</p>

Date for Substantial Completion (Reference: Article 14)

The Contractor shall substantially complete the Work within the Final Contract Duration determined in accordance with the terms and conditions set forth herein.

The Base Contract Duration for this project is 545 consecutive calendar days ("ccds").

The Final Contract Duration shall be the Base Contract Duration when a check mark is indicated before the word "NO", below, and shall be the Base Contract Duration adjusted by the table set forth below when a check mark is indicated before the word "YES", below.

YES NO

When the Final Contract Duration is indicated above to be adjusted by the table below, the table may increase the Base Contract Duration depending on the date of scheduled substantial completion to avoid a scheduled substantial completion of the Work during the winter months. The date of scheduled substantial completion shall be determined by adding the Base Contract Duration to the date specified to commence work in the written Notice to Proceed. The Final Contract Duration shall then be determined as follows:

- (a) Find the row that corresponds to the month of substantial completion based on the Base Contract Duration added to the date specified to commence work in the written Notice to Proceed.
- (b) Find the number of days to be added to the Base Contract Duration in the table below. Add that number of days to the Base Contract Duration to obtain the Final Contract Duration in consecutive calendar days.

Month of Substantial Completion based on the Base Contract Duration	Number of Days of adjustment
January	150
February	120
March	90
April	60
May	30
June	0
July	0
August	0
September	0
October	0
November –December 15	0
December 16 – December 31	180

In addition, should Item No. 9.30, "Storm Water Pollution Prevention," exist in the Contract and the required Storm Water Pollution Prevention Plan (SWPPP) does not conform to NYSDEC's recommended Standards, an additional 60 ccd shall be added to the above Final Contract Duration.

(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART II. TYPES OF INSURANCE, MINIMUM LIMITS AND SPECIAL CONDITIONS

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;
- Policy limits consistent with the requirements listed below;
- Additional insureds or loss payees consistent with the requirements listed below; and
- The number assigned to the Contract by the City (in the “Description of Operations” field).

Insurance indicated by a blackened box (■) or by X in a □ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
<p>■ Commercial General Liability Art. 22.1.1</p>	<p>The minimum limits shall be \$ <u>3,000,000</u> per occurrence and \$ <u>6,000,000</u> per project aggregate applicable to this Contract.</p> <p>Additional Insureds:</p> <ol style="list-style-type: none"> 1. City of New York, including its officials and employees, with coverage at least as broad as ISO Form CG 20 10 and CG 20 37, 2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the Contract requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity’s name, if known, or the entity’s title (e.g., Project Manager), 3. National Grid.

- Workers' Compensation Art. 22.1.2
- Disability Benefits Insurance Art. 22.1.2
- Employers' Liability Art. 22.1.2
- Jones Act Art. 22.1.3
- U.S. Longshoremen's and Harbor Workers Compensation Act Art. 22.1.3

Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction.

Note: The following forms are acceptable: (1) New York State Workers' Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers' Compensation Board Form No. DB-120.1 and (4) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers' Compensation or Disability Insurance.

Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. Law.

Additional Requirements:

(1) NYCTA "OUTSIDE CONTRACT" INSURANCE REQUIREMENTS: Workers' Compensation Insurance (including Employer's Liability Insurance) with limits of not less than \$2,000,000, which limit may be met by a combination of primary and excess insurance meeting the statutory limits of New York State.

(2) Two (2) certificates of such insurance shall be furnished to the Director, Risk Management, MTA Risk and Insurance Management Standards, Enforcement and Claims Unit, 2 Broadway, 21st Floor, New York, NY 10004.

<p><input type="checkbox"/> Builders' Risk</p> <p>Art. 22.1.4</p>	<p><input type="checkbox"/> Required: 100% of total bid amount</p> <p><input type="checkbox"/> Required: 100 % of total bid amount for Item(s):</p> <p>Contractor the Named Insured; the City both an Additional Insured and one of the loss payees as its interests may appear.</p> <p>If the Work does not involve construction of a new building or gut renovation work, the Contractor may provide an installation floater in lieu of Builders Risk insurance.</p> <p>Note: Builders Risk Insurance may terminate upon Substantial Completion of the Work in its entirety.</p>
<p><input checked="" type="checkbox"/> Commercial Auto Liability</p> <p>Art. 22.1.5</p>	<p>\$ <u>2,000,000</u> per accident combined single limit</p> <p>If vehicles are used for transporting hazardous materials, the Contractor shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90</p> <p>Additional Insureds:</p>
<p><input type="checkbox"/> Contractors Pollution Liability</p> <p>Art. 22.1.6</p>	<p>\$ <u>5,000,000</u> per occurrence</p> <p>\$ <u>5,000,000</u> aggregate</p> <p>Additional Insureds:</p> <ol style="list-style-type: none"> 1. City of New York, including its officials and employees, and 2. _____ 3. _____

<input type="checkbox"/> Marine Protection and Indemnity Art. 22.1.7(a)	<p>\$ _____ each occurrence \$ _____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<input type="checkbox"/> Hull and Machinery Insurance Art. 22.1.7(b)	<p>\$ _____ per occurrence \$ _____ aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<input type="checkbox"/> Marine Pollution Liability Art. 22.1.7(c)	<p>\$ <u>1,000,000</u> per occurrence \$ <u>1,000,000</u> aggregate</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>

[OTHER]

Art. 22.1.8

 Railroad Protection Liability Policy

(ISO-RIMA or equivalent form) approved by Permitter covering the work to be performed at the designated site and affording protection for damages arising out of bodily injury or death, physical damage to or destruction of property, including damage to the Insured's own property and conforming to the following:

- Policy Endorsement CG 28 31 - Pollution Exclusion Amendment is required to be endorsed onto the policy when environmental-related work and/or exposures exist.
- Indicate the Name and address of the Contractor to perform the work, the Contract # and the name of the railroad property where the work is being performed and the Agency Permit.
- Evidence of Railroad Protective Liability Insurance, must be provided in the form of the Original Policy. A detailed Insurance Binder (ACORD or Manuscript Form) will be accepted pending issuance of the Original Policy, which must be provided within 30 days of the Binder Approval.

\$ 2,000,000 per occurrence

\$ 6,000,000 annual aggregate

Named Insureds:

1. the City of New York (as Owner) and all other indemnified parties.

[OTHER]

Art. 22.1.8

 Professional Liability

- A. The Contractor's Professional Engineer shall maintain and submit evidence of Professional Liability Insurance in the minimum amount of \$1,000,000 per claim. The policy or policies shall include an endorsement to cover the liability assumed by the Contractor under this Contract arising out of the negligent performance of professional services or caused by an error, omission or negligent act of the Contractor's Professional Engineer or anyone employed by the Contractor's Professional Engineer.
- B. Claims-made policies will be accepted for Professional Liability Insurance. All such policies shall have an extended reporting period option or automatic coverage of not less than two (2) years. If available as an option, the Contractor's Professional Engineer shall purchase extended reporting period coverage effective on cancellation or termination of such insurance unless a new policy is secured with a retroactive date, including at least the last policy year.

<p>[OTHER]</p> <p>■ Engineer's Field Office</p> <p>Section 6.40, Standard Highway Specifications</p>	<p>Art. 22.1.8</p>	<p>Fire insurance, extended coverage and vandalism, malicious mischief and burglary, and theft insurance coverage in the amount of <u>\$40,000</u></p>
<p>[OTHER]</p> <p>Art. 22.1.8</p> <p><input type="checkbox"/> The Following Additional Insurance Must Be Provided:</p> <p>Umbrella/Excess Liability Insurance - The Contractor shall provide Umbrella/Excess Liability Insurance in the minimum amount of \$10,000,000 per Occurrence and \$10,000,000 in Aggregate. The policy terms and condition should be at least as broad as the underlying policies. The underlying policies should comply with the insurance provision as outlined by the contract. Defense cost should be in addition to the limit of liability. The City of New York, including its officials and employees, should be included as additional insured as respects to the noted project.</p>		

Per **Article 22.2.5** of the **Standard Construction Contract**: The Contractor may satisfy its insurance obligations as defined in this Schedule A through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein.

SCHEDULE A
(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)
(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART III. CERTIFICATES OF INSURANCE

All certificates of insurance (except certificates of insurance solely evidencing Workers' Compensation Insurance, Employer's Liability Insurance, and/or Disability Benefits Insurance) must be accompanied by one of the following:

- (1) the Certification by Insurance Broker or Agent on the following page setting forth the required information and signatures;

-- OR --

- (2) copies of all policies as certified by an authorized representative of the issuing insurance carrier that are referenced in such certificate of insurance. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

CITY OF NEW YORK

CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

[Name of broker or agent (typewritten)]

[Address of broker or agent (typewritten)]

[Email address of broker or agent (typewritten)]

[Phone number/Fax number of broker or agent (typewritten)]

[Signature of authorized official, broker, or agent]

[Name and title of authorized official, broker, or agent (typewritten)]

State of)

) ss.:

County of)

Sworn to before me this _____ day of _____, 20____

NOTARY PUBLIC FOR THE STATE OF _____

SCHEDULE A

(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)

PART IV. ADDRESS OF COMMISSIONER

Wherever reference is made in Article 7 or Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth below or, in the absence of such address, to the **Commissioner's** address as provided elsewhere in this **Contract**.

DDC Director, Insurance Risk Manager

30 – 30 Thomson Avenue, 4th Floor (IDCNY Building)

Long Island City, NY 11101

(NO FURTHER TEXT ON THIS PAGE)

(NO TEXT ON THIS PAGE)

REVISIONS TO STANDARD SPECIFICATIONS

NOTICE

The Specification Bulletin(s) ("SB(s)") referenced in this Section (R-Pages) may consist of revisions to the following Standard Specifications:

- New York City Department of Transportation ("NYC DOT") Standard Highway Specifications, dated 8/1/2015;
- New York City Department of Environmental Protection ("NYC DEP") Standard Sewer and Water Main Specifications, dated 7/1/2014; and
- NYC DEP Specifications for Trunk Main Work, dated 7/2014.

The SB(s) modify and supersede portions of the applicable Standard Specifications. The provisions contained in this Contract's I-Pages, S-Pages and SW-Pages may further modify the applicable Standard Specifications.

The following SB(s) are included as part of this contract:

- SB 16-001 – REVISIONS TO THE NYC DOT STANDARD HIGHWAY SPECIFICATIONS.
- SB 16-002 – REVISIONS TO THE NYC DEP STANDARD SEWER AND WATER MAIN SPECIFICATIONS.
- SB 17-001 – UV CURED-IN-PLACE-PIPE (CIPP) LINING METHOD
- *SB 17-002 – SUPERSEDED BY SB 18-001*
- SB 17-003 – ENGINEERS FIELD OFFICE
- SB 17-004 – FIRE DEPARTMENT FACILITIES
- SB 17-005 – DIGITAL PHOTOGRAPHS
- SB 17-006 – RECORDS OF SUBSURFACE STRUCTURES
- SB 17-007 – MOBILIZATION
- SB 17-008 – QUALIFICATION CARDS
- SB 17-009 – SALVAGEABLE MATERIALS
- SB 17-010 – MILLED ASPHALTIC CONCRETE AGGREGATE
- SB 17-011 – DETECTABLE WARNING UNIT COLOR

- SB 17-012 – TEMPORARY HOUSE CONNECTION MATERIAL
- SB 18-001 – RODENT AND WATERBUG PEST CONTROL
- SB 18-002 – COLOR SURFACE TREATMENT FOR PAVEMENTS
- SB 18-003 – WATER AND SEWER GENERAL PROVISIONS
- SB 18-004 – CUTTING DUCTILE IRON PIPE
- SB 18-005 – STOCKPILES

The SB(s) are available online at:

<http://www1.nyc.gov/site/ddc/resources/specification-bulletins.page> or for pickup between 8:00 AM and 4:00 PM at 30-30 Thomson Avenue, 3rd Floor, Division of Infrastructure, Long Island City, NY 11101. Contacts:

- Mr. Richard Jones, (718) 391-1417
- Mr. Salman Macktoom, (718) 391-2041

(NO FURTHER TEXT THIS PAGE)

NOTICE

The Standard Sewer and Water Main Specifications of the Department of Environmental Protection (dated July 1, 2014), Sewer Design Standards of the Department of Environmental Protection (dated (September 2007) Revised January 5, 2009), Water Main Standard Drawings of the Department of Environmental Protection (latest revisions), and Specifications For Trunk Main Work of the Department of Environmental Protection (dated July 2014) shall be included as part of the contract documents. These said specifications and standard drawings are hereby revised under the following section headings:

- A. NOTICE TO BIDDERS
- B. REVISIONS TO THE STANDARD HIGHWAY SPECIFICATIONS
- C. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS
- D. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

(NO TEXT ON THIS PAGE)

A. NOTICE TO BIDDERS

- (1) The Contractor is notified that a Notice To Proceed (NTP) date will be issued for work to commence within twenty-one (21) to thirty (30) days of Contract Registration.
- (2) The Contractor shall furnish, install, maintain and subsequently remove temporary Protective Tree Barriers. Protective Tree Barriers shall be Type B, unless otherwise directed by the Engineer, and shall be constructed and installed as shown on the Protective Tree Barrier sketch in Department Of Transportation, Standard Highway Details Of Construction, Drawing No. H-1046A, as directed by the Engineer, and in accordance with Department of Parks and Recreation requirements.
- (3) All utility locations and invert elevations are not guaranteed, nor is there any guarantee that all existing utilities, whether functional or abandoned within the project area are shown.
- (4) The Contractor shall furnish lines and grades in accordance with Section 1.06.27 of the NYCDOT Standard Highway Specifications, except that survey controls established for this project may no longer exist and the Contractor shall be required to re-establish the survey control information using official Borough Survey Control Monuments and Bench Marks, where they exist. The Contractor shall check with Topographic Section of the Borough President's Office as to the reliability and accuracy of the data to be used for lines and grades.
- (5) There are not OCMC traffic stipulations for this project.
- (6) The Contractor shall submit construction schedule in the form of a bar chart using "Microsoft Project 2010", or in an approved equivalent program which shall be directly and fully translatable into Microsoft Project 2010 format, within seven days of the initial Pre-Construction Meeting. Each bar in the chart shall show dates the Contractor plans to start and complete each construction activity after the initial Pre-Construction Meeting. Bar chart shall show the order and interdependence of all activities necessary to complete the work and the sequence in which activity is to be accomplished as planned by the Contractor and in accordance with all subcontractors or suppliers whose work shall be shown on the bar chart. The Contractor shall submit the bar chart for the Engineer's review and revise it, if required, until approved by the Engineer.

The Contractor shall submit weekly progress status update reports or as otherwise directed by the Engineer. The Contractor shall submit updated bar chart every month. The revised bar chart shall be made in the same form and detail as the original submittal and shall be accompanied by an explanation of the reasons for the revisions all of which shall be subject to approval by the Engineer.

- (7) All excess excavated material, with the exception of contaminated material, shall become the property of the Contractor and shall be properly disposed of away from the site, at the Contractor's expense. Contaminated material shall be disposed of separately in accordance with contract requirements.
- (8) Private utility hardware adjustments will be performed by the owning utility company or its agent, at its expense. The Contractor shall notify the utility company 72 hours prior to start of work at each location where its hardware requires adjustment.
- (9) The Contractor shall be required to remove all form work. In planting strip areas, the Contractor shall be required to restore areas damaged as a result of his operations, to the satisfaction of the Engineer, with sod. The Contractor shall also, as directed by the Engineer, make safe adjacent areas to his work, such as: restoring missing or damaged pavement markings that were removed or damaged as a result of the Contractor's operations (as per requirements of Section 6.44 in the Standard Specifications); resetting granite blocks in tree pits; and, applying asphaltic concrete mixture (Item 4.02 CB) where badly broken sidewalk or curb may create a dangerous condition just outside his area of operation, where and when directed by the Engineer.

All restoration work shall be done to the satisfaction of the Engineer.

- (10) DPR Construction Permits are required for all work on parkland or on sidewalks adjacent to parks or other areas maintained by DPR.
- (11) All existing house connections shall be maintained and supported during construction. The Contractor shall replace any existing house connection damaged as a result of the Contractor's construction operations as ordered by the Engineer at no cost to the City.
- (12) The Contractor is advised that any City owned light poles, traffic signals, street name signs, traffic signs and encumbrances including, but not limited to, underground conduit displaced as the result of the installation of the new sewers, water mains, catch basins, catch basin connections and appurtenances shall be replaced in kind and as directed by the Engineer. The cost of such work shall be deemed included in the prices bid for all items of work under this contract.
- (13) The Contractor is notified that Victaulic Style 77 Coupling is no longer acceptable for use in any steel water main work. All reference to Victaulic Style 77 Coupling within the Standard Sewer And Water Main Specifications of the Department of Environmental Protection (dated July 1, 2014), the Water Main Standard Drawings of the Department of Environmental Protection (latest revisions), the Specifications For Trunk Main Work (dated July 2014), and the contract drawings, shall be replaced with Bolted Split-Sleeve Restrained Coupling.
- (14) The Contractor is notified that wherever the Item No. "6.52" and words "flagger", "flagperson" and "flagman" are used in the contract documents and drawings it shall mean the Item No. "6.52 CG" and the words "Crossing Guard", respectively. The Contractor is advised that until the Comptroller of the City of New York sets a prevailing wage rate for crossing guards, there are no prevailing wage rates for crossing guards.
- (15) The Contractor is notified that the fuel cost per gallon used in the formula under **Sub-Article 26.2.8** of the Standard Construction Contract for **Extra Work** will be derived from the fuel price index for the United States East Coast published weekly by the United States Energy Information Administration ("USEIA"), and available on its website at <http://www.eia.gov/petroleum/gasdiesel/>. The USEIA published cost per gallon for the applicable fuel on the East Coast for the week in which the first day of each calendar quarter during the contract term occurs (i.e., January 1st, April 1st, July 1st and September 1st) will be used in the reimbursement formula for all **Extra Work** invoiced that was performed during that calendar quarter. Should the USEIA stop publishing this fuel price index, the fuel cost per gallon will be determined by reference to a substitute index to be agreed upon by the Contractor and the City.
- (16) The Contractor is responsible for any damage to the existing street and traffic signal equipment, including underground conduits and the safety of both pedestrian and vehicular traffic for the duration of the contract.
- Should any conduits, cables or foundations need repair due to the Contractor's negligent operations during construction, all work shall be performed according to NYCDOT Bureau of Traffic's Standard Drawings and Specifications at the sole expense of the Contractor.
- It is the Contractor's responsibility to secure an approved electrical contractor to perform all traffic signal work (if any). For list of approved electrical contractors, contact Mr. Michael R. LeFosse of New York City Department of Transportation at (212) 839-3799.
- (17) The Contractor is advised that where the existing roadway pavement is designated to be replaced from curb to curb, then no full depth saw cutting of pavement for sewer and water main trenches will be required, except at the limits of full width pavement restoration. No separate or additional payment will be made for any saw cutting.
- (18) The Contractor shall submit a Preconstruction Report prior to start of construction to the construction to NYC Transit Authority, NYCDOT and NYCDDC in compliance with **New York City Department of Environmental Protection Standard Sewer and Water Main Standards Section 76.11**. No work may begin until NYCDDC has accepted the preconstruction report.

- (19) The Contractor is notified that at some locations there presently exists sewers, manholes, water mains, etc., which are to remain undisturbed and are in close proximity to the line of the proposed work. The Contractor shall exercise extreme care, minimize the trench width of the proposed sewers and take all necessary precautions in placing sheeting and during excavation of the trenches to prevent any damage to the existing structures, pavement, curbs, and sidewalks that are to remain while working adjacent to them. Should any damage occur to any portion of the existing structures that are to remain due to the Contractor's operations, the Contractor shall make all repairs to the existing structures to the satisfaction of and as directed by the Engineer. The cost of such repair shall be borne by the Contractor, at no cost to the City.
- (20) The Contractor is advised that he shall submit shop drawings and calculations detailing sheeting, shoring design steel sheet piling design grunting and dewatering system with supporting calculations to NYCDOT and NYCDDC for approval prior to excavation. Shop drawings and calculations shall include original seal and signature of NYS Licensed Professional Engineer.
- (21) The Contractor is advised that the Department of Design and Construction is in the process of filing permit application with the United States Army Corps of Engineers (USACE) for Nationwide Permit 7: Outfall structures and Associated Intake Structures and Nationwide Permit 33 : Temporary Construction, Access, and Dewatering pertaining to required permits needed to perform the proposed modification work for the proposed outfalls. No work shall commence until such permit has been obtained for this project by the Contractor. No additional or separate payment shall be made for the work of complying with USACE requirements; for the required updating of permits and obtaining of permits.
- (22) The Contractor is advised that the Department of Design and Construction is in the process of filing permit application with the New York State Department of Conservation (NYSDEC) under the Environmental Conservation Law, Article 25 for Tidal Wetland and 401 Water Quality Certification. No work shall commence until such permit has been obtained for this project by the Contractor. No additional or separate payment shall be made for the work of complying with NYSDEC requirements; for the required updating of permits and obtaining of permits. The cost of such work shall be deemed included in the prices for bid for all contract items of work.
- (23) The Contractor is advised that the Department of Design and Construction has contacted the New York State Department of State (NYSDOS) pertaining to required permits needed to perform the proposed modification work on the proposed outfall. No work shall commence until such permit has been obtained for this project by the Contractor. No additional or separate payment shall be made for the work of complying with NYSDOS requirements; for the required updating of permits and obtaining of permits. The cost of such work shall be deemed included in the prices for bid for all contract items of work.
- (24) The Contractor shall restore the areas/roadways in kind, as shown on contract drawings or as directed by the Engineer by placing sod, after sewer/water main installation work is completed. The cost of such work shall be deemed included under respective bid items. No additional or separate payment shall be made to the Contractor for the restoration of unpaved roadways and undeveloped areas.
- (25) There are no Traffic Stipulations required for this work as the project located on City of New York property. Acceptable work hours for the Contractor are between 9AM – 5PM Monday – Friday unless otherwise directed by the Engineer.

B. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS

(1) Refer to Subsection 10.21 - Contractor to Notify City Departments, Page I-13:

Add the following to **Subsection 10.21**:

(1) N.Y.C. D.E.P., BUREAU OF WATER AND SEWERS OPERATIONS

The Contractor shall notify Mr. Peter Gordon, P.E., Chief, Linear Capital Program Management Division at the Department of Environmental Protection, 59-17 Junction Blvd., 3rd floor low rise, Corona N.Y. 11368, at least thirty (30) days prior to the start of construction.

(2) NEW YORK CITY FIRE DEPARTMENT

The Contractor shall notify the Bureau of Fire Communications at least thirty (30) days prior to the start of construction by contacting Mr. Ed Durkin at (718) 624-3752 and/or Mr. Nick Varone at (718) 624-4194.

(3) N.Y.C. DEPARTMENT OF TRANSPORTATION

- a) The Contractor shall notify Mr. Michael Lofesse/ Ghanshyam Patel, Signal/Street Lighting Operations, 34-02 Queens Blvd., Long Island City, N.Y. 11101 at (212)-839-3799 / (212)-839-3359, at least seventy-two (72) hours prior to the start of construction.
- b) The Contractor shall notify Mr. Udaya Kumar Dommaraju, P.E., Director, NYCDOT Division of Bridges, 55 Water Street, 5th Floor, New York, N.Y. 10041 at (212) 839-4029 at least thirty (30) days prior to the start of construction.

(4) N.Y.C. DEPARTMENT OF PARKS AND RECREATION

The Contractor shall notify the Parks Department at least seventy-two (72) hours prior to the start of construction by contacting Mr. Daniel Grulich at (718) 760-6927.

(5) N.Y.C. TRANSIT AUTHORITY

The Contractor is advised that bus routes as well as bus stops, within the scope of this project may be affected during construction operations. The Contractor shall notify the Transit Authority at least two (2) weeks prior to the start of construction, in order to make the necessary arrangements.

Arrangements shall be made through:

Ms. Sarah Wyss
Director Of Short Range, Bus Service Planning (SRB)
New York City Transit
2 Broadway, 17th Floor
New York, N.Y. 10004
Telephone No. (646) 252-5517
sarah.wyss@nyct.com

(6) N.Y.C. DEPARTMENT OF SANITATION

- (2) **Refer** to **Subsection 40.02.15 - Disposal of Water from Trenches**, Page IV-9:
Add the following to **Subsection 40.02.15**:

(A) The Department of Design and Construction has **not** filed application for Dewatering Permit with the New York State Department of Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Title 15 of Article 15, for a Temporary Well Point System Permit. However, it is anticipated that the criteria for rate of pumping specified here before in this section will be exceeded in areas of construction; the Contractor shall be responsible for applying and obtaining the necessary dewatering permit prior to the dewatering of trenches within the scope of this project.

As part of the permit application the Contractor will be required to comply with all the requirements of **Section 40.14** of this SW-PAGES.

Copies of all materials submitted to NYSDEC shall be sent to the New York City Department of Design and Construction (NYCDDC), Infrastructure/Design.

The following minimum requirements set forth by the New York Department of Environmental Conservation shall be complied with prior to the start of work in areas of construction requiring dewatering permit:

- (1) An analysis must be made of water samples taken. The results are to be submitted to the Regional Permit Administrator. An analysis shall be made for Biological Oxygen Demand (BOD), salinity, oil, and grease. The samples shall be analyzed by a laboratory certified by the New York State Health Department and the results are to be submitted directed to the New York State Department of Environmental Conservation by the laboratory.
- (2) Prior to setting any wells, well points or header pipes, the Contractor shall submit to the NYSDEC a layout of the complete dewatering system including the location of the discharge point. When permitted by the NYSDEC, discharge of groundwater on the beach areas shall be done in such a manner as to eliminate any erosion or siltation and will require the installation of splash blocks and/or settling basins.

The Contractor is advised that all items required in obtaining a permit, must be submitted to, and approved by the NYSDEC prior to the commencement of any work in areas of construction requiring dewatering permit. No payment for any item of work will be made, and no shop drawing shall be approved for the areas of construction until such time that a written approval is obtained from the NYSDEC.

(B) The Contractor is advised that all work shall be governed by the provisions and requirements of the obtained permit, and their said provisions and requirements shall be made a part of the contract and the Contractor shall be responsible for strict adherence thereto.

The cost of all work required for applying, complying and obtaining required dewatering permits including the cost for any required updating of permits shall be deemed included in the prices bid for all item of this contract. No additional or separate payment will be made for any work required in order to comply with these requirements.

- (3) Refer to Page IV-34:
Add the following new **Section 40.14**:

**SECTION 40.14
DEWATERING PERMITS**

40.14.1 DESCRIPTION

Under this contract, and at locations where groundwater will be present in the trenches and excavations, the Contractor is required to install, maintain and operate a temporary dewatering system of sufficient size and capacity to control ground and surface water flow into the excavation and to allow all work to be accomplished in the "dry condition".

The Contractor shall be required to obtain the following permits in order to operate a temporary dewatering system.

- (A) A Dewatering/Discharge Permit from the New York City Department of Environmental Protection (NYCDEP);
- (B) A Long Island Well Permit from the New York State Department of Environmental Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Title 15 of Article 15, implemented by 6NYCRR Part 601 - Water Supply and Part 602 - Long Island Well. This permit is required only in the Boroughs of Brooklyn and Queens to withdraw water using a well point or deep well system where the total capacity of such well or wells is in excess of 45-gallons per minute (or 64,800-gallons per day); and,
- (C) An Industrial State Pollutant Discharge Elimination System (SPDES) or a Non-Jurisdictional Determination Letter in compliance with Title 8 and 7 of Article 17 of the Environmental Conservation Law of New York State, respectively.

The Contractor is advised that the provisions and requirements of the aforementioned permits shall govern all work, and the said provisions and requirements are hereby made a part of the sewer contract and the Contractor shall be responsible for strict adherence thereto.

No dewatering work shall commence until the above-mentioned Permits have been obtained for this project.

The Contractor is advised that in order to comply with all the permits requirements, the Contractor will be required to submit maps, test data, etc. prior to the start of work. In order to expedite the processing of the permit and its requirements, the Contractor shall be required to obtain the services of a dewatering/water treatment Specialist. as herein described below in **Subsection 40.14.2** to perform this work and act as liaison with NYSDEC and NYCDEP.

40.14.2 QUALIFICATIONS

The dewatering/water treatment Specialist utilized to perform the work required under this section must have adequate experience in work of this nature (obtaining Long Island Well Permit/Dewatering Permit) and must have previous experience in working with the NYSDEC and the NYCDEP, designing equivalent dewatering systems, and have successfully obtained the type of permits required under this contract. Prior to the start of work, the Contractor will be required to submit the name and resume of the dewatering/water treatment Specialist for approval.

40.14.3 NYSDEC DEWATERING PERMITS

The dewatering system shall be designed by the dewatering/water treatment Specialist using accepted and professional methods of design and engineering consistent with the best modern practices.

The material to be submitted shall include, but not be limited to the following:

- (1) Site Plan - Scaled, showing construction activity (e.g. excavation, pathway of the pipe, new outfalls, etc.) locations of well points, header pipes and pumps, and all staging and storage areas.

Also included herein shall be a layout of the complete dewatering system including the location of the discharge point. When permitted by the NYSDEC, discharge of groundwater on beach areas shall be done in such a manner as to prevent any erosion or siltation and will require the design and installation of splash blocks and/or settling basins.

- (2) Dewatering System Specifications:

- | | |
|-------------------------------|-----------------------------|
| (a) Number of Well Points | (h) Total Volume Pumped |
| (b) Diameter of Well Points | (i) Number of Pumps |
| (c) Spacing of Well Points | (j) Capacity of Pumps |
| (d) Length to Screen | (k) Duration of Pumping |
| (e) Depth to Bottom of Screen | (l) Initial and Average GPM |
| (f) Static Water Level | (m) Estimated Daily Pumpage |
| (g) Drawdown Required | (n) Flow Meter |

- (3) Cross Section - Scaled, showing well points, riser, header, annular material (if used) and other equipment associated with each point. A typical construction style drawing may be utilized. Should the Contractor be permitted to use a deep well system, all information regarding it must be submitted.
- (4) Drawdown Contour Map - Based upon a review of the surrounding area affected by the dewatering and upon boring within the project area and characteristics of the soils, the depth and pumping rate of dewatering system and the duration of the pumping, the dewatering/water treatment Specialist shall submit both a narrative and diagram showing the anticipated maximum cone of depression which shall be shown from both above and in cross section on scaled diagrams. Contour lines on diagrams shall be labeled to show depth from land surface.
- (5) Description of Site and Adjacent Areas - A short narrative shall be prepared describing the land use in the area paying attention to any potential sources of groundwater contamination that may migrate into the well's cone of depression, such as gas stations, chemical plants, wrecking yards, sanitary landfills, etc. Latest map of the area shall be included in the narrative.
- (6) Groundwater Analysis - The dewatering/water treatment Specialist shall develop and submit a sampling and analysis program subject to NYSDEC Approval (a minimum of one groundwater sample from a site well shall be collected and analyzed). A laboratory certified by the New York State Health Department shall analyze the samples. The sampling and analysis program must include but is not limited to the following:

NYSDEC REGION 2 - DEWATERING PROJECTS SAMPLING INFORMATION

NO.	PARAMETERS	TYPE	EPA METHOD	DETECTION
1	pH	Grab	150.1	EPA min
2	Temperature	°F	After Pumping	EPA min
3	Fecal Coliform	Grab	5-Tubes/3-Dilutions	2-MPN/100-ml
4	Oil & Grease	Grab	413.1	EPA min
5	BOD5	Grab	405.1	EPA min
6	Total Suspended Solids	Grab	160.2	EPA min
7	Settleable Solids	Grab	160.5	EPA min
8	Chlorides	Grab	325.1-325.3	EPA min
9	Benzene	Grab	602	EPA min
10	Toluene	Grab	602	EPA min
11	Xylenes	Grab	602	EPA min
12	Ethylbenzene	Grab	602	EPA min
13	PCB's	Grab	608	(See Note 1)
14	Pesticides	Grab	608	EPA min
15	13 Priority Metals	Grab	200 series	EPA min
16	Acids Base/Neutrals	Grab	625-GC/MS	EPA min
17	Halogenated Volatiles	Grab	601-GC	EPA min
18	Nitrate/Nitrite	Grab	300 or 353.3	EPA min
19	Aromatic Volatiles	Grab	602-GC	EPA min
20	Cyanide (total or amenable)	Grab	335.1/335.2	EPA min

NOTE:

- (1) List each individual aroclor found and report the concentration of each aroclor tested. Use the N.Y.S. detection limit, which is 0.065-µg/l.

Small dewatering projects with a total estimated pumped volume up to 15-Million Gallons (MG) require sampling analysis for parameters No.'s 1 through 12.

Medium dewatering projects with a total estimated pumped volume between 15-MG and 60-MG require sampling analysis for parameters No.'s 1 through 14.

Large dewatering projects with a total estimated pumped volume greater than 60-MG require sampling analysis for parameters No.'s 1 through 20.

Samples are to be collected after development of the well by a licensed well driller.

A laboratory certified by the NYS Department of Health must conduct all testing.

Irrespective of the aforementioned sampling requirements based on total estimated pumped volumes, the Department may require sampling of additional parameters if the proposed dewatering site is suspected of being contaminated.

40.14.4 SUBMISSION OF DEWATERING PLAN

The dewatering/water treatment Specialist will be required to submit two (2) copies of the Dewatering Plan (together with all reports, materials, designs, drawings, maps and plans) to the Infrastructure Engineering Support Unit for review and approval. Once approved the dewatering/water treatment Specialist shall submit in triplicate the Final Dewatering Plan to both the NYSDEC and the NYCDEP. The Dewatering Plan should be bound and bear the name of the Contractor, NYSDEC Application Number and the Signature of the preparer. All drawings and maps shall be on sheets 27-inches by 40-inches and to scale not less than 1"=30'.

40.14.5 DAMAGES

The Contractor shall be responsible for and shall repair at no cost to the City any damage caused by inadequate or improper design and operation of the dewatering system, and any mechanical or electrical failure of the dewatering system.

40.14.6 SYSTEM REMOVAL

The Contractor shall remove all dewatering equipment and temporary electrical service from the site. All wells shall be removed or cut off a minimum of three (3) feet below the final ground surface and capped. Holes left from pulling wells or wells that are capped shall be grouted in a manner approved by the Engineer.

40.14.7 PAYMENTS

No additional or separate payment will be made for any work described herein. The costs for all labor, materials, equipment, permit fees, samples, tests, reports, services and insurance required or necessary to perform all the work described herein shall be deemed included in the price bid for all items of work.

- (4) Refer to Page IV-34:
Add the following new **Section 40.15**:

**SECTION 40.15
OUTFALL PERMITS****40.15.1 DESCRIPTION**

Under this contract, at location(s) where outfall(s) are being constructed, and where work is being performed within area(s) of tidal wetlands, the Contractor shall be required to comply with the following permits while performing outfall work within navigable waters and/or work within tidal wetland areas.

- (A) A Protection of Waters Permit from the New York State Department of Environmental Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Title 5 of Article 15, implemented by 6NYCRR Part 608 - Protection of Waters: (i) For the Excavation and Fill In Navigable Waters; and, (ii) Part 401 - Water Quality Certification; and,
- (B) A Tidal Wetlands Permit from the New York State Department of Environmental Conservation (NYSDEC), under the Environmental Conservation Law (ECL), Article 25, implemented by 6NYCRR Part 661 - Tidal Wetlands,
- (C) A Department of The Army Permit from the U.S. Army Corps of Engineers, under Code of Federal Regulations, Title 7 - Outfall Structures and Associated Intake Structures, implemented by: (i) Section 10 of the Rivers and Harbors Act; (ii) Section 404 of the Clean Water Act; and,

- (D) A Department of The Army Permit from the U.S. Army Corps of Engineers, under Code of Federal Regulations, Title 33 - Temporary Construction, Access, and Dewatering, implemented by: (i) Section 10 of The Rivers and Harbors Act; and, (ii) Section 404 of the Clean Water Act; and,
- (E) A Coastal Consistency Concurrence Certification from the New York State Department of State (NYSDOS).

To expedite the Permit process, the Department of Design and Construction has filed a joint application for (A), (B), (C), (D) and (E) above. As the application is being processed it shall be the Contractor's responsibility to comply with the requirements of the said permits. The Application ID number will be provided to the Contractor at the Preconstruction meeting.

The Contractor is advised that the provisions and requirements of the aforementioned permits shall govern all work, and the said provisions and requirements are hereby made a part of the sewer contract and the Contractor shall be responsible for strict adherence thereto.

No work shall commence until the above-mentioned Permits have been obtained for this project, and a copy of each permit transmitted to the Engineer.

The Contractor is advised that in order to comply with all the permits requirements, the Contractor will be required to submit maps, test data, etc. prior to the start of work.

40.15.2 DAMAGES

The Contractor shall be responsible for and shall repair at no cost to the City any damage caused to the outfall location(s) and tidal wetland areas by inadequate or improper designs and construction operations by the Contractor.

40.15.3 AREAS TO BE LEFT CLEAN

The Contractor shall remove all material and equipment from the outfall location(s) and area(s) of tidal wetlands after completion of work at the site(s). The locations and areas shall be left in a clean and neat condition in accordance with the requirements and directions of the Engineer, the NYSDEC and the Army Corps of Engineers.

40.15.4 PAYMENTS

No additional or separate payment will be made for any work described herein. The costs for all labor, materials, equipment, permit fees, samples, tests, reports, services and insurance required or necessary to perform all the work described herein shall be deemed included in the price bid for all items of work.

- (5) **Refer to Subsection 71.41.4 - Specific Pavement Restoration Provisions, Page VII-67:**
Add the following to **Subsection 71.41.4:**

- (1) For all streets within the project limits, the restoration shall be as follows:
 - (a) As shown on contract drawings or as directed by the Engineer by placing sod, after sewer/water main installation work is completed. The cost of such work shall be deemed included under respective bid items. No additional or separate payment shall be made to the Contractor for the restoration of unpaved roadways and undeveloped areas.

- (2) The following requirements apply:

- (a) Before the top course is installed, an additional width of asphalt beyond the edge of new base course shall be saw-cut and removed from all edges of trenches to a depth to accommodate the specified top course and the entire area restored. This additional removal shall be in accordance with paragraph (b) below.
- (b) Pavement excavation along with saw cutting of pavements for sewer and water main trenches shall be in accordance with **Section 71.21 - Pavement Excavation** of the Standard Sewer and Water Main Specifications.
- (c) At locations requiring the installation of a concrete base course, a reflective cracking membrane shall be installed over joints prior to restoration, the cost of which shall be deemed included in the prices bid for all pavement restoration items. Additionally, appropriate pavement keys as described below shall be used.
- (d) Pavement keys **Type B-1** shall be used to insure a desired four (4) inch curb reveal (two and one-half (2-1/2) inch absolute minimum). Pavement key **Type A** shall be used in all intersections. Both keys are to be per Bureau of Highways Operations Specifications and Standard Details of Construction.
- (e) Unless otherwise specified, the cost for Proctor analyses, in-place soil density tests, tack coating, eradication of temporary roadway markings, stripping or milling of pavement keys and adjustment of city-owned castings for all roadway work shall be deemed included in the prices bid for all pavement restoration items.
- (f) Payment for placement of temporary pavement marking shall be made under Item No. 6.49 - TEMPORARY PAVEMENT MARKINGS (4" WIDE).
- (g) Payment for removal of existing pavement markings shall be made under Item No. 6.53 - REMOVE EXISTING LANE MARKINGS (4" WIDE).
- (h) Payment for placement of permanent pavement marking with thermoplastic reflectorized pavement markings (crosswalk and lane dividers) shall be made under Item No. 6.44 - THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE).
- (i) Payment for pavement restoration shall be made under the following items:

<u>Item No.</u>	<u>Item</u>	<u>Payment Description</u>
4.02 CA	Binder Mixture	(For binder mixture base course over trenches and cutbacks; binder mixture top filler course under asphaltic concrete wearing course when <u>no</u> overlay is required; binder mixture top course when overlay is required; binder mixture in Type A and B Keys; and binder mixture to fill in roadway depressions and to provide a leveling course prior to overlay where ordered.)
4.04 H	Concrete Base for Pavement, Variable Thickness for Trench Restoration (High-Early Strength)	(For concrete base course over trenches and cutbacks.)

C. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

- 1) **Refer** to **Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 Inches In Diameter And Larger, Section 11. Fabrication:**, Page 4;
Add the following to **Section 11:**

All steel water mains shall be spiral welded pipes, and all steel water main fittings shall be fabricated from qualified spiral welded pipe. Can type pipe is not acceptable.

- 2) **Refer** to **Part 1 – Furnishing And Delivering Steel Pipes And Appurtenances 30 Inches In Diameter And Larger, Section 13. Special Fittings:**, Page 5;
Add the following to **Section 13:**

The steel reducer shall have a length of seven (7) feet for every twelve (12) inches reduction in diameter.

END OF SECTION

This Section consists of twelve (12) pages.

HAZ - PAGES

**SPECIFICATIONS FOR HANDLING,
TRANSPORTATION AND DISPOSAL
OF NONHAZARDOUS AND POTENTIALLY
HAZARDOUS CONTAMINATED MATERIALS**

NOTICE

THE PAGES CONTAINED IN THIS SECTION ARE ISSUED FOR THE PURPOSE OF SPECIFYING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND HEREBY MADE PART OF SAID CONTRACT DOCUMENTS.

(NO TEXT ON THIS PAGE)

**SPECIFICATIONS FOR
HANDLING, TRANSPORTATION, AND DISPOSAL
OF POTENTIAL AND IDENTIFIED
CONTAMINATED AND HAZARDOUS MATERIALS**

**RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING 8'-0"W X 8'-0"H
OUTFALL STORM SEWERS AND APPURTENANCES IN 25TH AVENUE BETWEEN HUNTER
AVENUE AND GRAVESEND BAY**

**BOROUGH OF BROOKLYN
CITY OF NEW YORK**

Capital Project ID: SEK20070

Prepared By:



**30-30 Thomson Avenue
Long Island City, New York 11101**

December 6, 2018

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ITEM 8.01 C1 HANDLING, TRANSPORTING, AND DISPOSAL OF NON-HAZARDOUS, CONTAMINATED SOILS

8.01 C1.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of contaminated soils. The materials covered by this specification are soils that are contaminated with petroleum or chemical products but cannot be classified as hazardous waste. For the purpose of this specification, soil will be defined as any material excavated below the pavement (concrete and/or asphalt) and pavement base (concrete and/or asphalt).

Soil to be excavated can be classified as non-contaminated, contaminated, or hazardous soil. Non-contaminated soils are defined as soils not exhibiting any of the following characteristics.

- Exceedances of New York State Department of Environmental Conservation (NYSDEC) Part 375-6 Restricted Commercial Soil Cleanup Objectives (SCOs) for street work, Restricted Residential SCOs for work areas in parkland, or Residential SCOs for housing projects.
- Elevated Photo-Ionization Detector (PID) readings, subsequently confirmed by laboratory analysis and showed exceedances of applicable SCOs.
- Visual evidence of contamination, such as the presence of staining, discoloration.
- Petroleum and/or chemical odors, subsequently confirmed by laboratory analysis and showed exceedances of applicable SCOs.
- Physical evidence of coal ash, municipal solid waste, construction and demolition debris, or dredged spoils.

Contaminated soils are defined as soils exhibiting one or more of the above characteristics. Contaminated soils must be handled, transported, and disposed of in accordance with the specifications for Item 8.01 C1 – Handling, Transporting, and Disposal of Non-Hazardous Contaminated Soils.

Hazardous soils are defined as soils showing exceedances of Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels for Hazardous Waste published in Resource Conservation and Recovery Act (RCRA), 6 New York Codes, Rules, and Regulations (NYCRR) Part 371, or 40 Code of Federal Regulations (CFR) Section 261. Hazardous soils must be handled, transported, and disposed of in accordance with the specifications of this section.

This entire specification 8.01 covers the handling, transportation, and disposal of contaminated soils and hazardous soils only. Non-contaminated soil can be reused at the project site, provided it meets other contract requirements. Excess non-contaminated soil becomes the property of the Contractor.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of contaminated soils are in compliance with all applicable Federal, State, and City statutes and regulations.

The Contractor must supply all equipment, material and labor required to conduct the specified work of this Item. The Contractor must document the excavation, handling, transportation and disposal of contaminated soils.

B. Request for Approval of Subcontractors

A subcontractor/subconsultant, such as the independent Environmental Consultant and the waste hauler, is not permitted to start work until approved by the Engineer. If the Contractor performs work using a subcontractor/subconsultant prior to approval, the Contractor will not be paid for the work performed by that subcontractor/subconsultant and the Contractor may be subject to sanctions including, but not limited to, initiation of default proceedings.

The Contractor must submit a completed original Request for Approval of Subcontractors (RFAS) form and all required documents, such as legal identity, project reference list, Corporate Health and Safety Plan (HASP), waste transporter permits, Occupational Safety and Health Administration (OSHA) 10 certification, Hazardous Waste and Emergency Response (HAZWOPER) certification, etc., to the Engineer at least 30 days prior to the scheduled subcontract work start date. The Engineer must then submit the original RFAS to DDC Safety and Site Support, Office of Environmental and Geotechnical Services (OEGS) for review and approval. If the RFAS is denied by OEGS, OEGS will issue the final denial and return the original RFAS to the Engineer. If the RFAS is approved by OEGS, OEGS will forward the original RFAS package and an approval memo to the DDC ACCO for further review and approval. The ACCO's Vendor Integrity Unit and Office of Contract Opportunity (OCO) will review the subcontractor/subconsultant's overall business integrity and compliance with Vendor Exchange System (VENDEX), Executive Order 50, Local Law 1, and Minority- and Women-Owned Business Enterprise/ Disadvantaged Business Enterprise (MWBE/DBE) participation as per the contract. ACCO will issue the final Approval or Denial. The original RFAS will be returned to the Engineer, who will subsequently notify and return the original RFAS to the Contractor.

C. Independent Environmental Consultant

The Contractor must retain an independent Environmental Consultant to obtain all permits, prepare the plans required in the specification 8.01, and perform all field screening, sampling, air monitoring, and other health and safety services. The independent Environmental Consultant must be approved under the RFAS process and must demonstrate the minimum requirements as set forth below:

1. The independent Environmental Consultant project supervisor on site and other designated key personnel must have a minimum of three (3) years of experience in the environmental field dealing with issues associated with contaminated soils. Such experience must include oversight on environmental, specifically volatile organic compounds and dust monitoring services as a routine part of its daily operations.
2. The independent Environmental Consultant must be experienced in work of similar nature, size, and complexity and must have previous experience in working with DDC.
3. The independent Environmental Consultant must furnish a project listing identifying the location, nature of services provided, owner, owner's contact, contact's working telephone number, project duration and value for at least five (5) projects within the last 3 years.

D. Sampling and Analysis

Prior to the performance of soil sampling, the Contractor will submit a Field Sampling Plan (FSP). Soil sampling must not be conducted until OEGS has approved the FSP. The Contractor must conduct sampling and analysis of the impacted soils as specified under Item 8.01 C2 – In-Situ and Ex-Situ Soil Sampling and Analysis for Waste Disposal Parameters. The laboratory results must be forwarded to OEGS for review to determine if the soils would be handled and disposed of as contaminated soils or hazardous soils.

E. Material Handling Plan

At least 45 days prior to the commencement of work, the Contractor must submit to the OEGS for review a Material Handling Plan (MHP). The MHP must be approved by the OEGS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying contaminated soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling contaminated soils. The procedures must include personnel safety and health as well as environmental protection considerations.
3. For the proposed laboratory for analysis of representative soil samples, provide the following: (a) name, (b) address, (c) telephone number, and (d) New York State Department of Health's (NYSDOH) Environmental Laboratories Accreditation Program (ELAP) status.
4. Identification of the Contractor's proposed waste transporter(s) (hauler). This information must include:
 1. Name and Waste Transporter Permit Number
 2. Address
 3. Name of responsible contact for the waste transporter
 4. Telephone number for the contact
 5. All necessary permit authorizations for each type of waste transported
 6. Previous experience in performing the type of work specified herein
5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures on controlling trucks leaving the work site and en-route to the off-site scale.
6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.
7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area or presented by some other unforeseen difficulty.
8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for contaminated soils (primary and back-up) for final disposal of the soils. Both primary and backup TSD facilities must be currently state-licensed disposal facilities approved to receive contaminated soil. The information required for each facility must include:
 - a. General Information
 1. Facility name and the State identification number
 2. Facility location
 3. Name of responsible contact for the facility

4. Telephone number for contact
5. Signed letter of agreement to accept waste as specified in this contract. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary.
6. Unit of measure utilized at disposal facility for costing purposes
- b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.
- c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.
- d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.
- e. The Contractor must provide the date of the proposed facility's last compliance inspection.
- f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.
9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

8.01 C1.2 MATERIALS

- A. The Contractor must provide containers as specified in the United State Department of Transportation (USDOT) regulations.
- B. The Contractor must provide polyethylene sheeting, which is to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.
- C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of contaminated material during transportation.
- D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

8.01 C1.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of non-hazardous contaminated soil the Contractor must:
 - a. Load material directly onto trucks/tankers/roll offs for disposal off site; or
 - b. If interim stockpiling is required, place contaminated soil on a minimum of 20 mil. polyethylene sheeting and cover it securely by minimum of 10 mil. polyethylene

sheeting to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the DDC to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Contaminated soils must be stockpiled separately from uncontaminated and hazardous soil at an off-site location approved by DDC or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.

2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the public from contaminated materials as described in the approved MHP, Site HASP, and Item 8.01 S - Health and Safety.
3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the independent Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.
4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
5. Provide and operate field organic vapor test equipment, a photoionization detector (PID) or a flame ionization detector (FID), to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated and/or as directed by the independent Environmental Consultant.

B. Off-Site Transportation to Disposal Facility

1. General
 - a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport contaminated material from the work area to the off-site disposal facility, and any other items and services required for transporting contaminated material for disposal at an off-site facility.
 - b. The Contractor will be responsible for tracking all materials and vehicles from the site to the off-site scale.
 - c. The Contractor must submit to the Engineer the certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.
 - d. Contaminated soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.
 - e. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.
 - f. The Contractor must inspect all vehicles leaving the project site to ensure that contaminated soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.

- g. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments.
 - h. The Contractor must provide waste profile forms to OEGS for review and approval before transporting contaminated soil to the approved TSD facility.
2. Hauling
- a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two (2) records occurs, the matter is to be reported immediately to the Engineer and to be resolved by the Contractor to the satisfaction of the Engineer.
 - b. The Contractor will be held responsible, at its own cost for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.
 - c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptances of loads. Trucks with loaded contaminated soil must be covered securely with tarps before leaving the project site to prevent generation of airborne dust during hauling.
 - d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.
 - e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitute or additional transporters.
 - f. The Contractor must develop, document, and implement a policy for accident prevention.
 - g. The Contractor must not combine contaminated materials from other projects with material from this project.
 - h. No material will be transported until approval by the Engineer is obtained.
3. Off-Site Disposal
- a. The Contractor must use only the disposal facility(ies) identified in the approved MHP for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facility.
 - b. The Contractor must be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.
 - c. The City reserves the right to contact and visit the TSD facility and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.
 - d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same

manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.

- e. The Contractor must obtain manifest forms, and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.
4. Equipment and Vehicle Decontamination
- a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle contaminated soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.
 - b. Water generated during the decontamination process must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

8.01 C1.4 METHOD OF MEASUREMENT

Quantities for contaminated soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 C1(3)(B)(1), that are capable of generating load tickets.

8.01 C1.5 PRICE TO COVER

- A. The unit bid price per ton for Item 8.01 C1 must include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of non-hazardous contaminated soil.
- B. Final disposal of hazardous soil will be paid for under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils. Disposal of decontamination water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
- C. Backfill will be paid for under its respective item as specified in the contract document.
- D. The independent Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 C1	Handling, Transporting, and Disposal of Non-Hazardous Contaminated Soil	Tons

**ITEM 8.01 C2 IN-SITU AND EX-SITU SOIL SAMPLING AND
ANALYSIS FOR WASTE DISPOSAL PARAMETERS**

8.01 C2.1 WORK TO INCLUDE

A. Description

The work will consist of collecting and analyzing representative samples of soil to be excavated in-situ and/or ex-situ from stockpiles for parameters typically requested by the disposal facilities to determine if the soil to be excavated is suitable for reuse, or to be hauled off-site for disposal purposes as contaminated and/or hazardous soil.

B. Sampling and Laboratory Analysis

1. At least forty-five (45) days prior to the commencement of work, the Contractor's independent Environmental Consultant must submit an FSP and an Investigation Health and Safety Plan (Investigation HASP) to OEGS for review and approval, prior to conducting the field sampling. The FSP must include, at a minimum, the following information:

- a. Project information
- b. Description of sample collection methodology for soil to be excavated and soil which appears to contain unknown contaminants based on field observation
- c. Type of analyses
- d. Sample preservation and handling
- e. Training and experience of the personnel who will collect the samples
- f. Equipment Decontamination
- g. Analytical laboratory's name, address, New York State Department of Health's ELAP certification number, and telephone number
- h. Map of the project area
- i. Sample location plan
- j. Chain of Custody

The Investigation HASP must identify actual and potential hazards associated with planned sampling field activities and stipulate appropriate health and safety procedures, so as to minimize field personnel exposures to physical, biological, and chemical hazards that may be present in the sampling media. The Investigation HASP must include, at a minimum, the following information:

- a. Project information
- b. Description of work to be performed
- c. Names of responsible health and safety personnel
- d. Worker training
- e. Job hazard analysis
- f. Confined Space Entry Plan (if applicable)
- g. Personal monitoring (if applicable)
- h. Community Air Monitoring Plan (CAMP, if applicable)

- i. Personnel Protection Equipment (PPE)
 - j. Decontamination
 - k. Safety rules
 - l. Spill prevention and control, dust control, vapor/odor suppression procedures
 - m. Identification of nearest hospital and route
 - n. Emergency Incident Reporting
2. The Contractor's Environmental Consultant must collect one (1) grab and one (1) composite sample per 500 cubic yards of soil to be excavated in-situ and/or ex-situ from stockpiles. Sample locations must be placed throughout along the project area. For in-situ sampling, each grab soil sample must be collected from either the 6-inch interval above the water table (when encountered) or the 6-inch interval above the bottom of the proposed excavation depth (where recovery allowed), or from the 6-inch interval showing the highest potential for contamination based on field observation. For composite soil sampling, grid sampling must be performed for projects with excavation depth deeper than six (6) feet below grade. Each composite sample must consist of five (5) grab samples collected from various intervals along the depth of excavation at each sampling location. For stockpiled soils, each composite sample must consist of five (5) grab samples collected from various depths within each soil stockpile, at least two feet below the soil surface. For drummed soil, one (1) composite sample per 10 drums must be collected. Each composite soil sample must consist of one (1) grab sample from each of the 10 drums.
 3. The quality of the data from the sampling program is the Contractor's responsibility. The Contractor must furnish all qualified personnel, materials, equipment and instruments necessary to carry out the sampling. Unless directed otherwise, all sampling procedures must follow the NYSDEC sampling guidelines and protocols. All sampling must be conducted by a qualified person trained in sampling protocols using standard accepted practices for obtaining representative samples.
 4. Each grab and composite sample must be analyzed for all parameters required by disposal facilities accepting contaminated and hazardous soil.
 5. All sample containers must be marked and identified with legible sample labels, which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized and other information that may be useful in determining the character of the sample. Chain-of-custody must be tracked from laboratory issuance of sample containers through laboratory receipt of the samples.
 6. The Contractor must maintain a bound sample logbook. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, at a minimum, must be recorded to the log:
 - a. Sample identification number
 - b. Sample location
 - c. Field observation
 - d. Sample type
 - e. Analyses
 - f. Date/time of collection
 - g. Collector's name

- h. Sample procedures and equipment utilized
 - i. Date sent to laboratory and name of laboratory
7. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described in subsection 8.01 C2(1)(B)(4), if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described in subsection 8.01 C2(1)(B)(4), as determined by industry laboratory pricing standards.
 8. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the sampling location, and must be properly disposed after use.
 9. The Contractor's Environmental Consultant must prepare a Field Sampling Result Report (FSSR), tabulate the analytical results, and compare the data to the applicable NYSDEC Part 375.6 Soil Cleanup Objectives, and TCLP for Hazardous Waste published in RCRA and 6 NYCRR Part 371, or 40 CFR Section 261. If the soil is to be disposed of in a disposal facility outside of the State of New York, the soil sampling data must also be compared to the applicable regulatory criteria established by the state in which the disposal facility is located. The FSSR, with the tabulated tables and laboratory analytical data, must be submitted to OEGS for review and approval prior to any soil reuse or disposal activities.
 10. Soils exceeding any of the hazardous characteristic criteria meet the legal definition of hazardous soils (rather than non-hazardous contaminated soils) and must be transported or disposed of under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils. All analyses must be done by a laboratory that has received approval from the ELAP for the methods to be used. The Contractor must specify the laboratory in the MHP.
 11. The Contractor must contact the disposal facility where the waste will be sent for permanent disposal, and arrange to collect any additional samples required by the facility. The cost associated with additional sampling and testing must be included in the bid price of this Item.

8.01 C2.2 METHOD OF MEASUREMENT

Quantities for samples must be measured as the number of sets of samples that are tested. A set will be defined as one (1) grab and one (1) composite samples per 500 cubic yards to be analyzed for the full range of parameters as specified in subsection 8.01 C2(1)(B)(4).

8.01 C2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 C2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance necessary for sampling, handling, transporting, testing, documentation, fees, permits, and any other incidentals necessary to complete the work as specified herein for in-situ and ex-situ soil sampling and analysis for waste disposal parameters.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 C2	In-Situ and Ex-Situ Soil Sampling and Analysis for Waste Disposal Parameters	Set

ITEM 8.01 H HANDLING, TRANSPORTING, AND DISPOSAL OF HAZARDOUS SOILS

8.01 H.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of hazardous soils, which are defined as soils showing exceedances of TCLP for Hazardous Waste published in RCRA, 6 NYCRR Part 371, or 40 CFR Section 261. Hazardous soil can also be contaminated soils, as defined in Item 8.01 C1, but must be handled, transported, and disposed of as hazardous soil under Item 8.01 H, in accordance with the specifications herein. For the purpose of this specification, soils will be defined as any materials excavated below the pavement and base for pavement.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of hazardous materials are in compliance with the applicable Federal, State, and Local statutes and regulations. The Contractor must supply all equipment, material and labor required to conduct the specified work under this section.

The Contractor must document the excavation, handling, sampling, and testing, transportation, and disposal of hazardous soils. The City must be listed in the disposal documents as the waste generator.

The Contractor must decontaminate all equipment prior to its removal from the exclusion zone and/or following contact with hazardous materials, as detailed in Item 8.01 S - Health and Safety. Water generated during the decontamination process must be disposed of under Item 8.01 W1 - Removal, Treatment and Discharge/Disposal of Contaminated Water.

The Contractor must retain an independent Environmental Consultant, meeting the requirements specified in Section 8.01 C1. The independent Environmental Consultant must conduct sampling for laboratory analysis of soil to be excavated to determine whether the soil is contaminated and/or hazardous.

All work under Item 8.01 H must be performed under the direct supervision of the Contractor's Environmental Consultant, as approved by the OEGS.

B. Material Handling Plan:

At least 45 days prior to the commencement of work, the Contractor must submit to the OEGS for review a MHP. The MHP must be approved by the OEGS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying hazardous soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling hazardous soils or soils which have not yet been tested but are believed to be potentially hazardous. The procedures must include personnel safety and health as well as environmental protection considerations.
3. Name, address, NYSDOH ELAP status and telephone number of the proposed laboratory for analysis of representative soil samples.
4. Identification of the Contractor's proposed waste transporter(s). This information must include:
 1. Name and Waste Transporter Permit Number
 2. Address
 3. Name of responsible contact for the waste transporter

4. Telephone number for the contact
5. All necessary permit authorizations for each type of waste transported
6. Previous experience in performing the type of work specified herein
5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures on controlling trucks leaving the work site and en-route to the off-site scale.
6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.
7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.
8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for hazardous soils (primary and back-up) for final disposal of the hazardous soils. Both primary and backup TSD facilities must be currently USEPA or State-approved RCRA TSD facilities for hazardous soils. The information required for each facility must include:
 - a. General Information
 - (1) Facility name and the USEPA identification number
 - (2) Facility location
 - (3) Name of responsible contact for the facility
 - (4) Telephone number for contact
 - (5) Signed letter of agreement to accept waste as specified in this contract. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary.
 - (6) Unit of measure utilized at disposal facility for costing purposes.
 - (7) Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.
 - b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.
 - c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.
 - d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.
 - e. The Contractor must provide the date of the proposed facility's last compliance inspection under RCRA.

- f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.

8.01 H.2 MATERIALS

- A. The Contractor must provide containers as specified in the USDOT regulations.
- B. The Contractor must provide polyethylene sheeting, which is to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.
- C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of contaminated material during transportation.
- D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

8.01 H.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of hazardous soil the Contractor must:
 - a. Load material directly onto drums/trucks/tankers/roll offs for disposal off site. Containers must be labeled as hazardous soil while being held for disposal; or
 - b. If interim stockpiling is required, place hazardous soil on a minimum of 20 mil. polyethylene sheeting and cover it securely by minimum of 10 mil. polyethylene sheeting to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the Engineer to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Hazardous soils must be stockpiled separately from uncontaminated and contaminated soil at an off-site location approved by the Engineer or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be labelled as hazardous soil and situated at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.
2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the protection of the public from hazardous soils as described in the approved MHP, Site HASP, and Item 8.01 S - Health and Safety.
3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the independent Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.
4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with Item 8.01 W1 - Removal, Treatment and Discharge/Disposal of Contaminated Water.

5. Provide and operate field organic vapor test equipment, a PID or a FID, to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated and/or as directed by the independent Environmental Consultant.

C. Off-Site Transportation to Disposal Facility

1. General

- a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport contaminated material from the work area to the off-site disposal facility, and any other items and services required for transporting hazardous material for disposal at an off-site facility.
- b. The Contractor is responsible for obtaining the USEPA hazardous waste generator identification number for the City. The application must be submitted to OEGS for review and approval prior to submission to USEPA. The Contractor must prepare the annual hazardous waste report for the project and submit to the NYSDEC and USEPA.
- c. The Contractor will be responsible for tracking all material/vehicles from the site to the off-site scale and to the approved disposal facility.
- d. The Contractor must provide to the Engineer certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.
- e. Hazardous soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.
- f. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.
- g. The Contractor must inspect all vehicles leaving the project site to ensure that hazardous soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.
- h. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments.
- i. The Contractor must provide waste profile forms to OEGS for review and approval before transporting hazardous soil to the approved TSD facility.

2. Hauling

- a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and to be resolved by the Contractor to the satisfaction of the Engineer.
- b. The Contractor will be responsible, at its own cost for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.
- c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptances of loads. Trucks with loaded contaminated

soil must be covered securely with tarp before leaving the project site to prevent generation of airborne dust during hauling.

- d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.
 - e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYSDEC may transport hazardous soil. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitute or additional transporters.
 - f. The Contractor must develop, document, and implement a policy for accident prevention.
 - g. The Contractor must not combine hazardous materials from other projects with material from this project.
 - h. No material will be transported until approval by the Engineer is obtained.
3. Off-Site Disposal
- a. The Contractor must use only the disposal facility(ies) identified in the approved MPH for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facility.
 - b. The Contractor will be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.
 - c. The City reserves the right to contact and visit the TSD facility and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.
 - d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.
 - e. The Contractor must obtain manifest forms, and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.
 - f. The Contractor must submit all results and weights to the Engineer.
 - g. The Contractor is responsible to pay all fees associated with the generation and disposal of all excavated hazardous waste. These fees include, but are not limited to, the New York State Department of Finance and Taxation (DFT) quarterly fees for hazardous waste and the NYSDEC annual hazardous waste regulatory fee

program. The Contractor must submit a copy of proof of payment to the Engineer and OEGS.

4. Equipment and Vehicle Decontamination

- a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle contaminated soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.
- b. Water generated during the decontamination process must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment, and Discharge/Disposal of Contaminated Water.

8.01 H.4 METHOD OF MEASUREMENT

Quantities for hazardous soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 H1.3.B, that are capable of generating load tickets.

8.01 H.5 PRICE TO COVER

- B. The unit bid price bid per ton for Item 8.01 H will include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of hazardous soil.
- B. Final disposal of contaminated soil will be paid for under Item 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soils. Disposal of decontamination water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
- C. Backfill will be paid for under its respective item as specified in the contract document.
- D. The independent Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 H	Handling, Transporting, and Disposal of Hazardous Soil	Tons

ITEM 8.01 S HEALTH AND SAFETY

8.01 S.1 WORK TO INCLUDE

Health and Safety Requirements

A. Scope of Work

It is the Contractor's responsibility to stage and conduct the Contractor's work in a safe manner. The Contractor must implement a Health and Safety Plan (HASP) for contaminated/hazardous soil intrusive activities as set forth in OSHA Standards 1910.120 and 1926.650-652. The Contractor must ensure that all workers have at a minimum hazard awareness training. The Contractor must segregate contaminated work area in secured exclusion zones. These zones must limit access to Contractor personnel specifically trained to enter the work area. The exclusion zone must be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area. In addition, the Contractor must protect the public from on-site hazards, including subsurface contaminants associated with on-site activities. The HASP must be signed off by a Certified Industrial Hygienist and reviewed and approved by OEGS.

Work must include, but not be limited to:

1. Implementation of a baseline medical program.
2. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and providing all other health and safety measures.
3. Providing, installing, operating and maintaining on-site emergency medical first aid equipment as specified in this section for which payment is not provided under other pay items in this Contract.
4. Providing, installing, operating, maintaining and decommissioning all equipment and personnel decontamination facilities specified within this section, including, but not limited to, the decontamination pad, decontamination water supply, decontamination water collection equipment and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract.
5. Provide the minimum health and safety requirements for excavation activities within the limits of this Contract.
6. Implement and enforce a HASP: The HASP as presented in these specifications is dynamic with provisions for change to reflect new information, new practices or procedures, changing site environmental conditions or other situations which may affect site workers and the public. The HASP will also address measures for community protection, accident prevention, personnel protection, emergency response/contingency planning, air monitoring, odor control and hazardous chemicals expected on site. Providing a Confined Space Entry Program as defined in the Occupational Safety and Health Act, Confined Space Entry Standard, 29 CFR 1910.146.

B. Environmental Consulting Services

The Contractor must retain an independent Environmental Consultant to obtain all permits and perform all field screening, air monitoring, community air monitoring, soil and water sampling, and health and safety services.

4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its independent Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated materials must have completed a minimum of forty (40) hours of Health and Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the independent Environmental Consultant must provide site specific training.
5. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

C. Submittals

1. The Contractor must submit a written HASP, as specified herein, to OEGS for review and approval. The written HASP must be submitted, within thirty (30) calendar days after the availability of analytical results of the soil and groundwater testing, as required under Section 8.01 C2 and Section 8.01 W2. The Contractor must make all necessary revisions required by OEGS and resubmit the HASP to OEGS for acceptance. Start-up work for the project will not be permitted until written acceptance has been issued by OEGS.
2. Daily safety logs must be maintained by the Contractor and must be submitted to the Engineer either on request or on completion of the work. Training logs must be maintained by the Contractor and submitted to the Engineer either on request or on completion of the work. Daily logs on air monitoring during excavation activities must be prepared and maintained by the Contractor and submitted to the Engineer either on request or upon completion of the work.
3. A closeout report must be submitted by the Contractor to the Engineer upon completion of the work within the defined exclusion zones. This report must summarize the daily safety and monitoring logs and provides an overview of the Contractor's performance regarding environmental and safety issues. The report must carefully document all areas where contamination has been found including pictures, addresses of locations, and potential sources.
4. Medical Surveillance Examinations: The Contractor must submit to the Engineer the name, office address and telephone number of the medical consultant utilized. Evidence of baseline medical examinations together with the evidence of the ability to wear National Institute for Occupational Safety and Health (NIOSH) approved respirators (as specified in American National Standards Institute (ANSI) Z88.6) must be provided to the Engineer for all construction personnel who are to enter the exclusion zones.
5. Accident Reports: All accidents, spills, or other health and safety incidents must be reported to the Engineer.

D. Health and Safety Plan

The HASP must comply with OSHA regulations 29 CFR 1910.120/1926.65. This document must at a minimum contain the following:

1. Description of work to be performed
2. Site description
3. Key personnel
4. Worker training procedures

5. Work practices and segregation of work area
6. Hazardous substance evaluation
7. Hazard assessment
8. Personal and community air monitoring procedures and action levels
9. Personal protective equipment
10. Decontamination procedures
11. Safety rules
12. Emergency procedures
13. Spill prevention and control, as well as spill reporting procedures
14. Dust control, vapor/odor suppression procedures
15. Identification of the nearest hospital and route
16. Confined space procedures
17. Excavation safety procedures

8.01 S.2 MEASUREMENT

Health and Safety Requirements

- A. 25% of the lump sum price will be paid when the following items are implemented or mobilized:

- Medical surveillance program
- Health and safety training
- Health and safety plan
- Environmental and personnel monitoring
- Instrumentation
- Spill control
- Dust control
- Personnel and equipment decontamination facilities
- Personnel protective clothing
- Communications
- Mobilization

- B. 50% will be paid in proportional monthly amounts over the period of work.

- C. 25% will be paid when the operation is demobilized and removed from the project site.

8.01 S.3 PRICE TO COVER

Health and Safety Requirements

The lump sum price bid for the health and safety requirements will include all labor, materials, equipment, and insurance necessary to complete the work in accordance with these specifications. The price bid will include, but not be limited to, the following:

- A. Providing training, safety personnel, air monitoring and medical examinations as specified.
- B. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and all other health and safety activities or costs not paid for under other pay items in this Contract.
- C. Providing, installing, operating and maintaining on-site emergency medical and first aid equipment. This includes all furnishings, equipment, supplies and maintenance of all medical equipment, and all other health and safety items and services for which payment is not provided under other pay items in this Contract.
- D. Providing, installing, operating, maintaining, and decommissioning all personnel and equipment decontamination facilities, including decontamination pad, decontamination water supply, and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract. Vehicle decontamination pads will be included in the price of this item. Disposal of decontamination fluid will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.
- E. Spill Control
 - 1. Payment will account for furnishing, installing, and maintaining all spill control equipment and facilities. Payment will include equipment and personnel to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage during work within the exclusion zones and handling of excavated soils and liquids from these areas. This collected spill material will be properly disposed of.
 - 2. Payment under this item will not include testing, handling, transportation or disposal of petroleum-contaminated/potentially hazardous soils excavated during construction. The price for this work will be paid for under Items 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soils, 8.01 C2 – Sampling and Testing of Contaminated/Potentially Hazardous Soil for Disposal Parameters or 8.01 H – Handling, Transporting and Disposal of Hazardous Soils, as appropriate.
- F. Dust Control

Payment will account for furnishing, installing, and maintaining dust control equipment and facilities to be used whenever applicable dust levels are exceeded. Payment will include all necessary labor, equipment, clean water, foam, and all other materials required by the Dust Control Plan. The NYSDOH Community Air Monitoring Plan (CAMP) may be used as guidance.
- G. Vapor/Odor Suppression

Payment will account for furnishing, installing and maintaining vapor/odor control equipment and facilities to be used whenever organic vapor monitoring or the presence of odors indicates that vapor suppression is required to protect workers or the public. Payment will include all necessary labor, equipment, clean water, foam and all other materials required by the Vapor/Odor Suppression Plan.
- H. Mobilization/Demobilization
 - 1. Mobilization

Payment will include the following, but not be limited to:

 - a. All work required to furnish, install and maintain all signs, fencing, support zone facilities, parking areas and all temporary utilities;

- b. All work required to furnish, install, and maintain an office space with phone and utilities for health and safety personnel;
- c. All work required for complete preparation of lay down area for roll-off containers, including sampling, and any required fencing;
- d. All direct invoiced cost from bonding companies and government agencies for permits and costs of insurance; and
- e. All other items and services required for mobilization and site preparation.

2. Demobilization

Payment will include but not be limited to: All work required to sample the area; remove from the site all equipment, temporary utilities and supporting facilities; performance of necessary decontamination and repairs; disposal of disposable equipment and protective gear and other items and services required for complete demobilization.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 S	Health and Safety	Lump Sum

ITEM 8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER

8.01 W1.1 WORK TO INCLUDE

General: This work must consist of the proper removal and disposal of all contaminated groundwater and decontamination water generated during construction operations. The Contractor must be solely responsible for the proper disposal or discharge of all contaminated water generated at the job site. The Contractor will have the option of treating water on-site for discharge to the sewer system or removing contaminated water for off-site disposal. The Contractor must be responsible to choose a method compatible to the construction work and will be compensated on a per day basis regardless of method employed. The Contractor will be compensated for only those days where the system is in full operation.

The Contractor must retain a dewatering/water treatment Specialist (hereinafter the "Specialist") and laboratory as specified under Item 8.01 W2 – Sampling and Testing of Contaminated Water, to conduct any testing that may be required for disposal of impacted water.

The dewatering/water treatment Specialist is responsible to obtain all permits; perform all water sampling, testing; and provide ancillary services related to dewatering and water treatment. The Specialist must at a minimum provide documentation to OEGS demonstrating the minimum requirements as set forth below:

1. The Specialist must demonstrate that it has, at a minimum, three (3) years' experience in the design of dewatering plans. The Specialist should demonstrate expertise dealing with issues associated with contaminated water. During that three (3) year period, the Specialist must demonstrate that it provided dewatering and water treatment systems as a routine part of its daily operations.
2. The Specialist must be experienced in work of this nature, size, and complexity and must have previous experience in working with the NYCDEC.
3. The Specialist must furnish a project listing identifying the location, nature of services provided, owner, owner's contact, contact's telephone number, project duration and value for at least five (5) projects within the last three (3) years of a similar nature, size, and complexity to this one.
4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its independent Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated material must have completed a minimum of forty (40) hours of Health and Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Specialist will be responsible to provide site-specific training to its employees and other affected personnel.
5. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

The Contractor must document all operations associated with the handling, sampling and disposal of contaminated water, and ensure that they are in compliance with applicable Federal, State and Local statutes and regulations.

The Contractor must supply all labor, equipment, transport, plant, material, treatment, and other incidentals required to conduct the specified work of this section.

If water will be disposed of into the sewer system, the Contractor must ensure the Specialist treats the water to comply with the New York City Department of Environmental Protection (NYCDEP) Sewer Effluent Limit concentrations prior to discharge. The Contractor is responsible for providing settling or filtering tanks and any other apparatus required by NYCDEP. Alternatively, the Contractor can provide a plan for transport and disposal at an off-site waste disposal facility.

Within forty-five (45) calendar days after award of Contract, the Contractor must submit to OEGS for review and approval, a Water Handling Plan (WHP). The WHP must be approved by OEGS prior to the Contractor's commencement of work. The minimum requirements for the WHP are specified herein Item 8.01W 1.2, for each type of disposal (disposal into the sewer or off-site disposal). The Contractor must maintain a complete, up to date copy of the WHP on the job site at all times.

8.01 W1.2 CONSTRUCTION DETAILS

For each disposal method the Contractor proposes to utilize (disposal to sewer or off-site disposal), the WHP must include the information required in paragraphs A and B below, as appropriate.

A. On-site treatment and discharge into New York City sewers.

1. Regulations: The Contractor must comply with all applicable regulations. This includes but may not be limited to:
Title 15-New NYCDEP Sewer Use Regulations.
2. Permits: The Contractor is solely responsible to obtain all necessary and appropriate Federal, State and Local permits and approvals. The Contractor will be responsible for performing all and any system pilot tests required for permit approval. This includes but may not be limited to:
 - a. Industrial waste approval for the New York City sewer system.
 - b. Groundwater discharge permit for the New York City sewer system (NYCDEP Division of Sewer Regulation and Control), if discharge to sewer exceeds 10,000 gallons per day.
 - c. The Contractor must comply with NYCDEC State Pollutant Discharge Elimination System (SPDES) Permit Number GP-0-10-001, General Permit for Stormwater Discharges.
 - d. Long Island well permit for Brooklyn and Queens sites, if well points are used for dewatering.
 - e. Wastewater quality control application, NYCDEP.
3. The WHP for this portion of the work must include the following at a minimum:
 - a. Identification and design of Contractor's proposed treatment to assure that the water meets the NYCDEP sewer use guidelines prior to discharge to the sewer, including identification of all materials, procedures, settling or filtering tanks, filters and other appurtenances proposed for treatment and disposal of contaminated water.
 - b. The name, address and telephone number of the contact for the Contractor's proposed chemical laboratory, as well as the laboratory's certifications under Federal, State or non-governmental bodies.

- c. The name, address and telephone number of the contact for the Contractor's proposed independent Environmental Consultant.
- d. Copies of all submitted permit applications and approved permits the Contractor have received.

4. Materials

The Contractor must supply all settling or filtering tanks, pumps, filters, treatment devices and other appurtenances for treatment, temporary storage and disposal of contaminated water. All equipment must be suitable for the work described herein.

5. Execution

- a. The Contractor is solely responsible for disposal of all water, in accordance with all Federal, State and Local regulations.
- b. The Contractor is solely responsible for any treatment required to assure that water discharged into the sewer is in compliance with all permits and Federal, State and Local statutes and regulations.
- c. The Contractor is solely responsible for the quality of the water disposed of into the sewers.
- d. The Contractor is responsible for sampling and testing of water for the NYCDEP Sewer Effluent Limit concentrations. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.
- e. The Contractor will be responsible to maintain the discharge rate to the sewer such that all permit requirements are met, the capacity of the sewer is not exceeded and no surcharging occurs downstream due to the Contractor's actions. Dewatering by means of well points or deep wells will not be allowed in the Boroughs of Brooklyn or Queens where the rate of pumping exceeds forty-five (45) gallons per minute unless the appropriate permit has been secured from the NYCDEC.
- f. Disposal of Treatment Media
 - (1) The Contractor will be responsible for disposal or recycling of treatment media in accordance with all Federal, State and Local regulations.
 - (2) The Contractor must provide the Engineer with all relevant documentation concerning the disposal of treatment media, including manifests, bills of lading, certificates of recycling or destruction and other applicable documentation.
 - (3) **Disposal of treatment media will not be considered as a separate pay item; instead it will be considered as incidental work thereto and included in the unit price bid.**

B. Off-Site Disposal

- 1. Regulations: The Contractor must conform to all applicable Federal, State and Local regulations pertaining to the transportation, storage and disposal of any hazardous and/or non-hazardous materials as listed in Attachment 2.
- 2. The following must be submitted to the Engineer prior to initiating any off-site disposal:
 - a. (1) Name and waste transporter permit number

- (2) Address
 - (3) Name of responsible contact for the waste transporter
 - (4) Any and all necessary permit authorizations for each type of waste transported
 - (5) Previous experience in performing the type of work specified herein
- b. General information for each proposed treatment/disposal facility and at least one backup treatment/disposal facility
- (1) Facility name and USEPA identification number
 - (2) Facility location
 - (3) Name of responsible contact for the facility
 - (4) Telephone number for contact
 - (5) Unit of measure utilized at facility for costing purposes
- c. A listing of all permits, licenses, letters of approval and other authorizations to operate, which are currently held and valid for the proposed facility as they pertain to receipt and management of the wastes derived from this Contract.
- d. A listing of all permits, licenses, letters of approval and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued. Provide dates of application(s) submitted. Planned submittals must also be noted.
- e. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste and provide dates of construction and beginning of use, if applicable. Drawings may be provided. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.
- f. The Contractor must provide the date of the proposed facility's last compliance inspection.
- g. A list of all active (unresolved) compliance orders, agreements, enforcement notices or notices of violations issued to the proposed facility must be submitted. The source and nature of the cause of violation must be stated, if known. If groundwater contamination is noted, details of the facility's groundwater monitoring program must be provided.
- h. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.
3. Materials
- All vessels for temporary storage and transport to an off-site disposal facility must be as required in DOT regulations.
4. Execution
- a. General
- (1) The Contractor must organize and maintain the material shipment records/manifests required by Federal, State and Local laws. The Contractor must include all bills of lading, certificates of destruction, recycling or treatment and other applicable documents.

- (2) The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule must be compatible with the availability of equipment and personnel for material handling at the job site.
- (3) The Contractor must inspect all vehicles leaving the project site to ensure that contaminated liquids are not spilling and are contained for transport.
- (4) The Contractor must obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipment. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed as necessary.
- (5) The Contractor must verify the volume of each shipment of water from the site.
- (6) The Contractor is responsible for sampling and testing of water for off-site disposal. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.
- (7) The Contractor is responsible for any additional analyses required by the TSD facility, and for the acceptance of the water at an approved TSD facility.

b. Hauling

- (1) The Contractor must not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.
- (2) The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must also be measured and recorded upon arrival at the TSD facility(ies). If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and must be resolved by the Contractor to the satisfaction of the Engineer.
- (3) The Contractor will be responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site. This cleanup must be accomplished at the Contractor's expense.
- (4) The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance and weight restrictions.
- (5) The Contractor must only use the transporter(s) identified in the WHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYCDEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the Engineer at no additional cost to the City.
- (6) The Contractor must develop, document, and implement a policy for accident prevention.
- (7) The Contractor must not combine waste materials from other projects with material from this project.
- (8) The Contractor must obtain for the City a hazardous waste generator identification number and will sign the manifest as the generator, if necessary.

- (9) No material must be transported until approved by the Engineer.
- c. Disposal Facilities
 - (1) The Contractor must use only the TSD facility(ies) identified in the WHP for the performance of the work. Substitutions or additions must not be permitted without prior written approval from OEGS, and, if approved, must be at no extra cost to the City.
 - (2) The Contractor will be responsible for acceptance of the material at an approved TSD facility, for ensuring that the facility is properly permitted to accept the stated material, and that the facility provides the stated storage and/or disposal services.
 - (3) The City reserves the right to contact and visit the disposal facility and regulatory agencies to verify the agreement to accept the stated material and to verify any other information provided. This does not in any way relieve the Contractor of the Contractor's responsibilities under this Contract.
 - (4) In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The Contractor is responsible for making the necessary arrangements to utilize the facility(ies), and the alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done with no extra cost or delay to the City.
- d. Equipment and Vehicle Decontamination
 - (1) The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting the exclusion zone. The cost for this work will be paid under Item 8.01 S – Health and Safety.

8.01 W1.3 METHOD OF MEASUREMENT

The quantity for on-site treatment and discharge or off-site disposal will be on a per day basis.

8.01 W1.4 PRICE TO COVER

- A. The per day price bid for Item 8.01 W1 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transportation, disposal, documentation, permits, hauling, mobilization and demobilization, and any other incidentals thereto to complete the work.
- B. The Contractor will not be paid for water that is within the NYCDEP Sewer Discharge Limits.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 W1	Removal, Treatment and Disposal/Discharge of Contaminated Water	Day

ITEM 8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER

8.01 W2.1 WORK TO INCLUDE

A. Description

The work will consist of sampling and testing of potentially contaminated groundwater, surface runoff within the excavated area and all contaminated water generated during the decontamination process.

B. Sampling and Testing

1. The Contractor is responsible, at a minimum, for sampling and testing of contaminated water for the NYCDEP Sewer Effluent Limit concentrations as listed in Attachment 1, and in accordance with the Engineer-approved SSP/FSP and the Investigation HASP, as specified in 8.01 C2. The quality of the data is the Contractor's responsibility. Any additional testing required by the Federal, State and/or disposal facilities must be included in the bid price of this Item.
2. All sampling and testing must be conducted by a person trained in sampling protocols using accepted standard practices and/or the NYCDEC sampling guidelines and protocols.
3. All sample containers must be marked with legible sample labels which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized, how the sample was chilled to 4 degrees Celsius, and other information that may be useful in determining the character of the sample.
4. Chain-of-custody must be tracked from laboratory issuance of sample containers through receipt of the samples.
5. The Contractor must maintain a bound sample log book. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, as a minimum, must be recorded to the log:
 - a. Sample identification number
 - b. Sample location
 - c. Field observation
 - d. Sample type
 - e. Analyses
 - f. Date/time of collection
 - g. Collector's name
 - h. Sample procedures and equipment used
 - i. Date sent to laboratory/name of laboratory
6. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the site, and must be properly disposed of after use.
7. Samples must be submitted to the Contractor's laboratory within the holding times for the parameters analyzed.

8. All analyses must be done by a laboratory that has received approval from the NYSDOH's ELAP for the methods to be done. The Contractor must specify the laboratory in the WHP.
9. Analytical results for water discharged to the sewer and for off-site disposal must be submitted to the Engineer no later than five (5) days after sample collection.
10. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described above, if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described above, as determined by industry laboratory pricing standards.

8.01 W2.2 METHOD OF MEASUREMENT

Quantities for samples will be measured as the number of sets of samples that are tested for the NYCDEP Sewer Effluent Limit concentrations. A set will be defined as one (1) representative sample analyzed for the full range of NYCDEP parameters as specified in Attachment 1.

8.01 W2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 W2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transport, sampling, testing, documentation, permits, other incidentals necessary to complete the work of sampling and testing of contaminated water. Any additional costs incurred by the Contractor for sampling and testing of contaminated water will be included in the bid price of this Item.

Payment will be made under:

<u>ITEM NUMBER</u>	<u>ITEM</u>	<u>PAYMENT UNIT</u>
8.01 W2	Sampling and Testing of Contaminated Water	Set

ATTACHMENT 1: NYCDEP LIMITATIONS FOR DISCHARGE TO SEWER

**NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT**

Limitations for Effluent to Sanitary or Combined Sewers

Parameter ¹	Daily Limit	Units	Sample Type	Monthly Limit
Non-polar material ²	50	mg/l	Instantaneous	---
pH	5-11	SU's	Instantaneous	---
Temperature	< 150	Degree F	Instantaneous	---
Flash Point	> 140	Degree F	Instantaneous	---
Cadmium	2	mg/l	Instantaneous	---
	0.69	mg/l	Composite	---
Chromium (VI)	5	mg/l	Instantaneous	---
Copper	5	mg/l	Instantaneous	---
Lead	2	mg/l	Instantaneous	---
Mercury	0.05	mg/l	Instantaneous	---
Nickel	3	mg/l	Instantaneous	---
Zinc	5	mg/l	Instantaneous	---
Benzene	134	ppb	Instantaneous	57
Carbontetrachloride	---	---	Composite	---
Chloroform	---	---	Composite	---
1,4 Dichlorobenzene	---	---	Composite	---
Ethylbenzene	380	ppb	Instantaneous	142
MTBE (Methyl-Tert-Butyl-Ether)	50	ppb	Instantaneous	---
Naphthalene	47	ppb	Composite	19
Phenol	---	---	Composite	---
Tetrachloroethylene (Perc)	20	ppb	Instantaneous	---
Toluene	74	ppb	Instantaneous	28
1,2,4 Trichlorobenzene	---	---	Composite	---
1,1,1 Trichloroethane	---	---	Composite	---
Xylenes (Total)	74	ppb	Instantaneous	28
PCB's (Total) ³	1	ppb	Composite	---
Total Suspended Solids (TSS)	350 ⁴	mg/l	Instantaneous	---
CBOD ⁵	---	---	Composite	---
Chloride ⁵	---	---	Instantaneous	---
Total Nitrogen ⁵	---	---	Composite	---
Total Solids ⁵	---	---	Instantaneous	---

¹ All handling and preservation of collected samples and laboratory analyses of samples must be performed in accordance with 40 C.F.R. pt. 136. If 40 C.F.R. pt. 136 does not cover the

pollutant in question, the handling, preservation, and analysis must be performed in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater." All analyses must be performed using a detection level less than the lowest applicable regulatory discharge limit. If a parameter does not have a limit, then the detection level is defined as the least of the Practical Quantitation Limits identified in NYSDEC's Analytical Detectability and Quantitation Guidelines for Selected Environmental Parameters, December 1988

- 2 Analysis for *non-polar materials* must be done by USEPA method 1664 Rev. A. Non-Polar Material will mean that portion of the oil and grease that is not eliminated from a solution containing N-Hexane, or any other extraction solvent the USEPA will prescribe, by silica gel absorption.
- 3 Analysis for PCBs is required if *both* conditions listed below are met:
 - 1) if proposed discharge \geq 10,000 gpd;
 - 2) if duration of a discharge > 10 days.Analysis for PCBs must be done by USEPA method 608 with MDL= $<$ 65 ppt. PCB's (total) is the sum of PCB-1242 (Arochlor 1242), PCB-1254 (Arochlor 1254), PCB-1221 (Arochlor 1221), PCB-1232 (Arochlor 1232), PCB-1248 (Arochlor 1248), PCB-1260 (Arochlor 1260) and PCB-1016 (Arochlor 1016).
- 4 For discharge \geq 10,000 gpd, the TSS limit is 350 mg/l. For discharge < 10,000 gpd, the limit is determined on a case by case basis.
- 5 Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids and Total Nitrogen are required if proposed discharge \geq 10,000 gpd.

ATTACHMENT 2: APPLICABLE REGULATIONS

Applicable regulations include, but are not limited to:

1. 49 CFR 100 to 179 - DOT Hazardous Materials Transport and Manifest System Requirements
2. 6 NYCRR 375-6 - NYSDEC Remedial Program Soil Cleanup Objectives
3. 6 NYCRR 360-1 NYCDEC Solid Waste Management Facilities
4. 6 NYCRR 364- Waste Transporter permits
5. Local restrictions on transportation of waste/debris
6. 40 CFR 260 to 272 - Hazardous Waste Management (RCRA)
7. 6 NYCRR 371 - Identification and Listing of Hazardous Wastes
8. 6 NYCRR 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
9. 6 NYCRR 373-1 - Hazardous Waste Treatment, Storage and Disposal Facility Permitting Requirements
10. 6 NYCRR 376 - Land Disposal Restrictions
11. Posted weight limitations on roads or bridges
12. Transportation Skills Programs, Inc. 1985 - Hazardous Materials and Waste Shipping Papers and Manifests
13. Other local restrictions on transportation of waste/debris
14. Occupational Safety and Health Administration (OSHA), Standards and Regulations, 29 CFR 1910 (General Industry)
15. OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
16. OSHA Safety and Health Standards 29 CFR 1926 (Construction Industry)
17. OSHA 29 CFR 1910.146 Confined Space Entry Standard
18. Standard Operating Safety Guidelines, USEPA Office of Emergency and Remedial Response Publication, 9285.1-03
19. NIOSH / OSHA / USCG / USEPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1986)
20. U.S. Department of Health and Human Services (DHHS) "NIOSH Sampling and Analytical Methods," DHHS (NIOSH) Publication 84-100
21. ANSI, Practice for Respiratory Protection, Z88.2 (1980)
22. ANSI, Emergency Eyewash and Shower Equipment, Z41.1 (1983)
23. ANSI, Protective Footwear, Z358.1 (1981)
24. ANSI, Physical Qualifications for Respirator Use, Z88.6 (1984)
25. ANSI, Practice for Occupational and Educational Eye and Face Protection, Z87.1 (1968)
26. Water Pollution Control Federation "Manual of Practice No. 1, Safety in Wastewater Works"
27. NFPA No. 327 "Standard Procedures for Cleaning and Safeguarding Small Tanks and Containers"
28. Occupational Safety and Health Act Confined Space Entry Standard 29 CFR 1910.146.87

29. Department of Transportation 49 CFR 100 through 179
30. Department of Transportation 49 CFR 387 (46 FR 30974, 47073)
31. Environmental Protection Agency 40 CFR 136 (41 FR 52779)
32. Environmental Protection Agency 40 CFR 262 and 761
33. Resource Conservation and Recovery Act (RCRA)
34. Any transporter of hazardous or non-hazardous materials must be licensed in the State of New York and all other states traversed in accordance with all applicable regulations.

ATTACHMENT 3: DEFINITIONS

- Contaminated Groundwater and Decontamination Fluids:** Groundwater within the excavation trench or decontamination water that contains regulated compounds above the NYCDEP Discharge to Sewer Effluent limits.
- Disposal or Treatment Facility:** A facility licensed to accept either non-hazardous regulated waste or hazardous waste for either treatment or disposal.
- Exclusion Zone:** Work area that will be limited to access by Contractor personnel specifically trained to enter the work area only. The exclusion zone will be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area.
- Hazard Assessment:** An assessment of any physical hazards that may be encountered on a work site.
- Hazardous Soils:** Soils that exhibit any of the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and toxicity, as defined in 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.
- Hazardous Substance Evaluation:** An evaluation of the possible or known presence of any hazardous substances that may be encountered on a job site. This evaluation is included in the Health and Safety Plan and will include the identification and description of any hazardous substances expected to be encountered. Material Safety Data Sheets (MSDS) will be included for each substance.
- Health and Safety Plan:** A plan employed at a work site that describes all the measures that will be taken to assure that all work is conducted in a safe manner, and that the health of the workers and the public will be insured.
- Material Handling Plan:** A plan outlining the methods that will be employed to handle, transport and dispose of contaminated materials.
- Non-Hazardous Contaminated Soils:** Soils which exhibit a distinct chemical or petroleum odor, or exhibit elevated photoionization detector readings but are not classified as hazardous waste under 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.
- New York State Health Department's Environmental Laboratory Approval Program:** A program by which the state of New York approves and accredits environmental testing laboratories.
- PCBs:** Polychlorinated biphenyls are a group of toxic compounds commonly used as a coolant in transformers and other electrical components.
- Photoionization Detector:** A hand held instrument used to measure volatile organic compounds in air. The instrument ionizes the organic molecules through the use of an ultraviolet lamp.
- RCRA Hazardous Waste Characteristics:** Characteristics of a material which may indicate the material is hazardous. These include: ignitability corrosivity, reactivity, and toxicity.
- Total Petroleum Hydrocarbons:** An analytical procedure used to determine the total amount of petroleum compounds in a material.

ATTACHMENT 4: PHASE II SUBSURFACE CORRIDOR INVESTIGATION REPORT

-Final-
Phase II Subsurface Corridor Investigation Report
For
Reconstruction of Storm Sewer Outfall
25th Avenue between Hunter Avenue and Gravesend Bay
Brooklyn, NY

DDC PROJECT NO. SEK20070
WOL NO. 10886-LBA-4-10246
CONTRACT REGISTRATION NO. PW335ES15

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EXECUTIVE SUMMARY

On behalf of the New York City Department of Design and Construction (NYCDDC), Louis Berger & Assoc., P.C. (Louis Berger) conducted a Phase II Subsurface Corridor Investigation (SCI) of the SEK20070 Corridor in preparation for the reconstruction of the existing storm sewer outfall in 25th Avenue into Gravesend Bay in the Gravesend section of the Borough of Brooklyn, New York (herein referred to as the “Corridor”). The 255-foot long Corridor consists of 25th Avenue between Hunter Avenue (unimproved) and Gravesend Bay.

The Phase II SCI was conducted to determine if the Corridor’s environmental condition may potentially impact proposed construction activities. Excavation activities for the reconstruction of the existing storm sewer outfall in 25th Avenue into Gravesend Bay are proposed along the Corridor. The depth of excavations will range from approximately 11.5 to 14.5 feet below grade (ftbg), and will be mostly at 13 ftbg. However, it should be noted that a stockpile of presumed anthropogenic fill material is located on the Corridor. According to the project’s Plan and Profile drawing provided by the NYCDDC dated July 2, 2015, it is estimated that approximately 2,736 cubic yards of soil will be removed from the Corridor during construction. This includes material from both the excavation and the stockpile. In order to adequately characterize material along the Corridor, four (4) borings were proposed to assess soil to be excavated for waste characterization purposes. In order to characterize the sediments of Gravesend Bay in the vicinity of the proposed storm sewer outfall, two (2) sediment samples were proposed on either side of the existing outfall. Additionally, one (1) temporary well point (TWP) was proposed to collect a groundwater sample within the proposed project area.

This project is subject to additional review under the City Environmental Quality Review (CEQR) by the New York City Department of Environmental Protection (NYCDEP) since a portion of the project includes the reconstruction of the existing storm sewer outfall into Gravesend Bay. Prior to the performance of this Phase II SCI, the Phase I Corridor Assessment Report (CAR), a Phase II SCI Work Plan, and a site-specific Health and Safety Plan (HASP) were submitted to the NYCDDC on January 27, 2016 for NYCDEP approval and were approved by the NYCDEP on March 17, 2016.

The Phase II SCI was conducted on April 14 and April 28, 2016 and consisted of the following components:

Scope of Work

- The advancement of four (4) soil borings (SB01 through SB04) up to terminal depths of 5 ftbg and one (1) soil boring (TWP01) to a terminal depth of 15 ftbg. Soil borings SB01 through SB04 were advanced via hand augers while soil boring TWP01 was initially pre-cleared using hand tools such as a hand auger, post hole digger, shale bar, a vacuum device (i.e., Vactron®), and air-knife to 6 ftbg and then advanced using a Geoprobe® direct push drill rig. It should be noted that soil borings SB01 and SB02 were terminated at a depth of approximately 3.0 ftbg due to refusal. Additional step-out borings were conducted in an

attempt to advance the boring to a greater depth; however, all additional step-out borings encountered refusal at 3.0 ftbg;

- Field screening, classification and identification of soils from surface grade to the terminal depth of each boring. Soil samples were visually classified in the field using the Burmister Classification, Unified Soil Classification System (USCS), and Munsell Rock Color charts. Field screening of soils consisted of visual and olfactory indicators of impacts, as well as screening with a photoionization detector (PID);
- The collection of one (1) grab soil sample from each boring. The grab soil samples were collected from the bottom 2-foot interval of the boring (at approximately 1-3 ftbg at SB01 and SB02, and 3-5 ftbg at SB03 and SB04) since evidence of contamination was not observed. The soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260C, TCL Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270, Target Analyte List (TAL) metals by USEPA Method 6010B and 7471A, pesticides by USEPA Method 8081, and polychlorinated biphenyls (PCBs) by USEPA Method 8082;
- The collection of one (1) composite waste characterization soil sample (WC01 through WC04) from the entire soil column in each boring. The waste characterization samples were a composite from the 0-3 ftbg depth interval for soil borings SB01 and SB02 and from the 0-5 ftbg depth interval for soil borings SB03 and SB04. Each waste characterization sample was analyzed for Total Petroleum Hydrocarbons (TPH-DRO/GRO) by USEPA 8015B, TCLP Metals (RCRA 8) by USEPA Method 1311/6010B, and Resource Conservation and Recovery Act (RCRA) Characteristics, including ignitability reactivity and corrosivity, by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, as well as Paint Filter Test by USEPA Method 9095B, for waste classification purposes;
- The collection of one (1) groundwater sample (TWP-01) from a soil boring completed as a TWP (TWP01) installed during the advancement of borings. The groundwater sample was analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A (filtered and unfiltered), pesticides via USEPA Method 8081, PCBs via USEPA Method 8082, and the NYCDEP Sanitary and Combined Sewer Discharge Parameters;
- The collection of two (2) sediment samples (SS01 and SS02) from either side of the existing outfall to characterize the sediments of Gravesend Bay in the vicinity of the proposed storm sewer outfall. The sediment samples were collected from 0 to 6 inches using dedicated disposable plastic trowels and analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A, pesticides via EPA Method 8081, PCBs via USEPA Method 8082, TPH-DRO/GRO by USEPA 8015B, TCLP Metals (RCRA 8) by USEPA Method 1311/6010B, and RCRA Characteristics, including ignitability reactivity and corrosivity, by USEPA Methods

9012B/9034, 1030/1010A, and 9045C, as well as Paint Filter Test by USEPA Method 9095B, for waste classification purposes;

- The collection of one (1) soil field duplicate (DUP01), one (1) groundwater duplicate (DUP TWP-01), and one (1) field/rinsate blank (FB01). The soil field duplicate was analyzed for TCL VOCs by USEPA Method 8260C, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA Method 6010B and 7471A, pesticides by USEPA Method 8081, and PCBs by USEPA Method 8082. The groundwater field duplicate was analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A (filtered and unfiltered), pesticides via USEPA Method 8081, and PCBs via USEPA Method 8082. The field/rinsate blank was collected by pouring the laboratory supplied deionized water into the hand auger prior to commencement of boring activities. FB01 was analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A (filtered and unfiltered), pesticides via USEPA Method 8081, and PCBs via USEPA Method 8082; and,
- The preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting boring locations, significant site features and, if applicable, contamination occurrence and distribution.

In order to evaluate subsurface soil quality for waste characterization purposes, laboratory analytical results of grab and composite soil samples as well as the sediment samples were compared with regulatory standards identified in: (1) New York State Department of Environmental Conservation (NYSDEC) Subpart 375-6: Remedial Program Unrestricted, Restricted-Residential, and Commercial Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs); (2) NYSDEC CP-51 Soil Cleanup Guidance Residential Supplemental Soil Cleanup Objectives (SSCOs) to NYSDEC Subpart 375-6; and/or (3) Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and NYSDEC Part 371. The analytical results of the groundwater samples were compared to the NYCDEP Sewer Discharge Criteria and the NYSDEC Class GA Groundwater Standards and Guidance Values identified in the NYSDEC Technical and Operations Guidance Series (TOGS).

Based on the evaluation of the field screening data and the laboratory analytical results, and a comparison to applicable regulatory standards, the following findings are presented:

Findings

- No visual or olfactory evidence of contamination was observed in the soil and photoionization detector (PID) readings were not detected at any boring locations;
- The Corridor was found to be underlain by approximately 15 feet of anthropogenic fill material. The anthropogenic fill material was encountered in all four (4) of the soil borings and the TWP boring. The fill layer consists mostly of dark yellowish brown, coarse to fine sand with trace silt and little coarse to fine gravel. Construction debris in the form of brick and concrete was observed within the fill layer. Native soils were not encountered in any of

the soil borings. Groundwater was encountered in the temporary well point boring (TWP01) at a depth of approximately 7 ftbg. Bedrock was not encountered during this Phase II SCI;

- One (1) VOC, methylene chloride, was detected in soil samples SB02 and SB03 below regulatory standards. No other VOCs were detected above the laboratory's reporting limits in the soil or sediment samples collected as part of this Phase II SCI;
- Several SVOCs were detected above the laboratory's reporting limits in all of the soil and sediment samples, except for SB04, where no SVOCs were detected. However, only soil sample SB01 and sediment sample SS01 exhibited SVOCs concentrations above the regulatory standards. Sample SB01 exhibited detections of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene above their respective Unrestricted Use (Track 1), Restricted-Residential Use (Track 1) and Commercial Use (Track 2) SCOs; chrysene and indeno(1,2,3-cd)pyrene above the Unrestricted Use (Track 1) and Restricted-Residential Use (Track 2) SCOs, benzo(k)fluoranthene above the Unrestricted Use (Track 1) SCO, and 2-methylnaphthalene above the SSCO. Sediment sample SS01 exhibited detections of benzo(a)pyrene above the Unrestricted Use (Track 1), Restricted-Residential Use (Track 1) and Commercial Use (Track 2) SCOs; benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene above their respective Unrestricted Use (Track 1) and Restricted-Residential Use (Track 1) SCOs; and chrysene above the Unrestricted Use (Track 1) SCO;
- Several metals were detected above the regulatory standards in soil samples SB01 through SB03 and DUP01, and in the sediment samples. Barium was detected above the Unrestricted Use (Track 1), Restricted-Residential Use (Track 1) and Commercial Use (Track 2) SCOs in soil sample SB02, while lead was detected above both the Unrestricted Use (Track 1) and Commercial Use (Track 2) SCOs in soil sample SB02. Three (3) metals were detected only above the Unrestricted Use (Track 1) SCO: lead in soil sample SB01, mercury in soil samples SB01, SB02 and DUP01, and zinc in soil sample SB02. Iron was detected above the SSCO in all of the soil and sediment samples, except for SB04;
- No pesticides were detected above the laboratory's reporting limits in any of the soil and sediment samples collected as part of this Phase II SCI;
- No PCBs were detected above the laboratory's reporting limits in any of the soil and sediment samples collected as part of this Phase II SCI;
- Waste characterization laboratory results indicate that TCLP barium was detected in soil samples WC01 and WC02, and TCLP lead was detected in soil samples WC01 and WC03, as well as in sediment sample SS01, at concentrations below RCRA Hazardous Waste Levels;
- TPH-GRO concentrations were not detected in any of the samples. TPH-DRO concentrations were detected in soil sample SB01 at 580 parts per million (ppm) and sediment samples SS01 and SS02 at 160 ppm and 130 ppm, respectively; however, no regulatory standards exist for TPH;

- The analytical laboratory results of the soil samples show that none of the RCRA parameters (reactivity, ignitability, or corrosivity) were detected or exceeded;
- No VOCs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI;
- No SVOCs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI;
- Several metals were detected above the NYSDEC Class GA Groundwater Standards and Guidance Values in the unfiltered and filtered groundwater samples. Metals above the regulatory standards in the unfiltered sample include iron, magnesium and sodium, while metals above the regulatory standards in the filtered sample include magnesium and sodium. It should be noted that iron, magnesium, sodium, and lead were also detected above the respective regulatory standards in the duplicate unfiltered groundwater sample, and magnesium and sodium were detected in the duplicate filtered groundwater sample.;
- No pesticides were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI;
- No PCBs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI; and,
- Analytical results of groundwater sample TWP-01 showed that no exceedances of NYCDEP Sewer Discharge Criteria were detected.

Based on the results of the field investigation and laboratory analytical results, the following conclusions and recommendations are provided:

Conclusions

- The Corridor was found to be underlain by anthropogenic fill material in all of the boring locations and sediment sampling locations to a maximum depth of 15 ftbg, which was the terminal depth of temporary well point boring TWP01. The concentrations and types of SVOCs and metals detected in soil samples collected during this Phase II SCI are commonly found in anthropogenic fill, the product of incomplete combustion of fuels, and/or a result of diffuse anthropogenic pollution (DAP). SVOCs were detected above regulatory criteria at one (1) boring location (SB01) and one (1) sediment sampling location (SS01), and metals were detected above the regulatory criteria in all soil and sediment samples, except for SB04;
- TPH-DRO concentrations were detected in soil sample WC01, and sediment samples SS01 and SS02; however, no regulatory standards exist for TPH;
- Laboratory results indicate that the soil samples collected beneath the Corridor do not exhibit evidence of hazardous waste characteristics; and,

- Analytical results of the groundwater sample collected showed that no exceedances of the NYCDEP Sewer Discharge Criteria were detected.

Recommendations

- The Contract documents should identify provisions for managing, handling, transporting and disposing of contaminated non-hazardous soil. The Contractor should be required to submit a Material Handling Plan, to identify the specific protocol and procedures that will be employed to manage the waste in accordance with applicable regulations;
- Dust control procedures are recommended during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor may implement dust control measures to minimize potential airborne contaminants released into the ambient environment as a direct result of construction activities. A Community Air Monitoring Plan (CAMP) should be developed in accordance with NYSDEC DER-10 Regulations. The CAMP requires real-time monitoring for particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is intended to provide a measure of protection for the area of the surrounding community located downwind from the potential release of airborne contaminants. Specific requirements should be reviewed for each situation and coordinated with the New York State Department of Health (NYSDOH) to ensure proper applicability;
- Based on the observed depth to groundwater (approximately 7 ftbg), dewatering may be necessary for the proposed excavation activities. If dewatering is necessary, the contractor will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis prior to discharge into sanitary and combined sewers;
- In addition, if discharge into storm sewers, which ultimately discharge into a surface water body, is required during dewatering, it may be performed under the appropriate NYSDEC State Pollutant Discharge Elimination System (SPDES) permit. Additional sampling and laboratory analysis may be required to satisfy NYSDEC requirements prior to discharge into storm sewers; and
- Before beginning any excavation activity, the contractor should submit a site-specific health and safety plan (HASP) that will meet the requirements set forth by the Occupational, Safety and Health Administration (OSHA), the NYSDOH and any other applicable regulations. The HASP should identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that will be utilized to mitigate concerns (i.e., dust control procedures for SVOCs and metals).

1.0 INTRODUCTION

On behalf of the New York City Department of Design and Construction (NYCDDC), Louis Berger & Assoc., P.C. (Louis Berger) conducted a Phase II Subsurface Corridor Investigation (SCI) of the SEK20070 Corridor in preparation for the reconstruction of the existing storm sewer outfall in 25th Avenue into Gravesend Bay in the Gravesend section of the Borough of Brooklyn, New York (herein referred to as the “Corridor”). The 255-foot Corridor consists of 25th Avenue between Hunter Avenue (unimproved) and Gravesend Bay. The Corridor location is identified on the Topographic Corridor Location Map on Figure 1.

The Phase II SCI was conducted to determine if the Corridor’s environmental condition may potentially impact proposed construction activities. Excavation activities for the reconstruction of the existing storm sewer outfall in 25th Avenue into Gravesend Bay are proposed along the Corridor. The depth of excavations will range from approximately 11.5 to 14.5 feet below grade (ftbg), and will be mostly at 13 ftbg. However, it should be noted that a stockpile of presumed anthropogenic fill material is located on the Corridor. According to the project’s Plan and Profile drawing provided by the NYCDDC dated July 2, 2015, it is estimated that approximately 2,736 cubic yards of soil will be removed from the Corridor during construction. This includes material from both the excavation and the stockpile. In order to adequately characterize material along the Corridor, four (4) borings were proposed to assess soil to be excavated for waste characterization purposes. In order to characterize the sediments of Gravesend Bay in the vicinity of the proposed storm sewer outfall, two (2) sediment samples were proposed on either side of the existing outfall. Additionally, one (1) temporary well point (TWP) was proposed to collect a groundwater sample within the proposed project area.

This project is subject to additional review under the City Environmental Quality Review (CEQR) by the New York City Department of Environmental Protection (NYCDEP) since a portion of the project includes the reconstruction of the existing storm sewer outfall into Gravesend Bay. Prior to the performance of this Phase II SCI, the Phase I Corridor Assessment Report (CAR), a Phase II SCI Work Plan, and a site-specific Health and Safety Plan (HASP) were submitted to the NYCDDC on January 27, 2016 for NYCDEP approval and were approved by the NYCDEP on March 17, 2016.

1.1 Summary of Previous Environmental Investigations

Louis Berger prepared a Phase I Corridor Assessment Report (CAR) for the Corridor on September 8, 2015. The Corridor Assessment process involved conducting a Corridor reconnaissance to document current property use and conditions; a review of historical Sanborn Fire Insurance Maps to document historical property usage; and a review of a regulatory agency database report to identify Corridor properties and adjoining sites of potential environmental concern.

The Phase I CAR identified five (5) final “High” risk sites and two (2) final “Moderate” risk sites with respect to potential impact on the Corridor. The final “High” and “Moderate” risk sites are listed below:

“HIGH” RISK SITES

No.	Facility Name	Address	Map ID
1	Dead end of 25th Avenue at Gravesend Bay	Dead end of 25th Avenue at Gravesend Bay	Identified During Sanborn Maps Review
2	Southwest Brooklyn Incinerator / NYCDOS Southwest Brooklyn Incinerator / DSNY Southwest Brooklyn 11 Complex / NYC Dept Of Sanitation - A Malumed / NYC DOS Brooklyn West 11 /	41st Street & Gravesend Bay / 1824 Shore Parkway / Shore Parkway / 1824 Shore Parkway BK-W-11 / 360 Bay 41st Street / 400 Bay 41st Street / 1842 Shore Parkway	A1 (Also A3, B2, B4, B5, B6, B7, B8, E26 and 39)
3	Bayside Fuel Oil Corporation / Ted Cadillac Inc. / Sovereign Motor Car Ltd. / Bayside Fuel Oil Depot Corporation / Bayside Fuel Oil Depot Corp / Bayside Fuel Terminal	Off Shore Pkwy & Bay 38th	B9 (Also B10, B11, B12, B13, C14, D15, D16, D17, D18, D19, D20, D21, D24 and D25)
4	Getty S/S #58077 - Getty Properties / CITGO #58077 / Getty 2495 Cropsey Avenue / Getty Service Station / Getty #58077	2495 Cropsey Avenue	F27 (Also F28, F29, F30, F31, F32 and F33)
5	NYC MTA Ulmer Park Bus Depot	2457 Harway Avenue	11 (Also 12)

“MODERATE” RISK SITES

No.	Facility Name	Address	Map ID
1	Oxford Leasing L.P.	288 Bay 38th Street	C22 (Also C23)
2	Private Residence (historically coal storage)	1797 Shore Parkway	Identified During Sanborn Maps Review

The sites identified from site reconnaissance, historical map review and environmental database report evaluation were placed in a Risk Category of “High”, “Moderate”, or “Low”, in accordance with NYCDDC Risk Criteria. Based on modifying information, such as sites with spills that have been closed by the NYSDEC, sites identified on one or more databases with no evidence or records of spills, or older sites that were redeveloped or restored such that they no longer posed significant risks, Louis Berger reclassified 11 of 18 initial “High” risk sites and one (1) initial “Moderate” risk site to final “Low” risk sites, and reclassified two (2) of the initial “High” risk sites to “Moderate” risk sites. The remaining five (5) initial High risk sites were not reclassified and are considered final “High” risk sites with respect to the Corridor.

1.2 Scope of Work

The Phase II SCI consisted of a field investigation, laboratory analyses, and the preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting boring locations, significant site features and, if applicable, contamination occurrence and distribution. Soil borings and sample collection were performed by Mr. John Lacanlale, Project Scientist, and Mr. Omer Sohail, Environmental Technician, of Louis Berger. Laboratory analyses were provided by Hampton-Clarke/Veritech (HC-V) of Fairfield, New Jersey, which is a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified analytical laboratory (No. 11408). The field investigation was conducted on April 14 and April 28, 2016 and consisted of the following components:

- The advancement of four (4) soil borings (SB01 through SB04) up to terminal depths of 5 ftbg and one (1) soil boring (TWP01) to a terminal depth of 15 ftbg. Soil borings SB01 through SB04 were advanced via hand augers while soil boring TWP01 was initially pre-cleared using hand tools such as a hand auger, post hole digger, shale bar, a vacuum device (i.e., Vactron®), and air-knife to 6 ftbg and then advanced using a Geoprobe® direct push drill rig. It should be noted that soil borings SB01 and SB02 were terminated at a depth of approximately 3.0 ftbg due to refusal. Additional step-out borings were conducted in an attempt to advance the boring to a greater depth; however, all additional step-out borings encountered refusal at 3.0 ftbg;
- Field screening, classification and identification of soils from surface grade to the terminal depth of each boring. Soil samples were visually classified in the field using the Burmister Classification, Unified Soil Classification System (USCS), and Munsell Rock Color charts. Field screening of soils consisted of visual and olfactory indicators of impacts, as well as screening with a photoionization detector (PID);
- The collection of one (1) grab soil sample from each boring. The grab soil samples were collected from the bottom 2-foot interval of the boring (at approximately 1-3 ftbg at SB01 and SB02, and 3-5 ftbg at SB03 and SB04) since evidence of contamination was not observed. The soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260C, TCL Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270, Target Analyte List (TAL) metals by USEPA Method 6010B and 7471A, pesticides by USEPA Method 8081, and polychlorinated biphenyls (PCBs) by USEPA Method 8082;
- The collection of one (1) composite waste characterization soil sample (WC01 through WC04) from the entire soil column in each boring. The waste characterization samples were a composite from the 0-3 ftbg depth interval for soil borings SB01 and SB02 and from the 0-5 ftbg depth interval for soil borings SB03 and SB04. Each waste characterization sample was analyzed for Total Petroleum Hydrocarbons (TPH-DRO/GRO) by USEPA 8015B, TCLP Metals (RCRA 8) by USEPA Method 1311/6010B, and Resource Conservation and Recovery Act (RCRA) Characteristics, including ignitability reactivity and corrosivity by

USEPA Methods 9012B/9034, 1030/1010A, and 9045C, as well as Paint Filter Test by USEPA Method 9095B for waste classification purposes;

- The collection of one (1) groundwater sample (TWP-01) from a soil boring completed as a TWP (TWP01) installed during the advancement of borings. The groundwater sample was analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A (filtered and unfiltered), pesticides via USEPA Method 8081, PCBs via USEPA Method 8082, and the NYCDEP Sanitary and Combined Sewer Discharge Parameters;
- The collection of two (2) sediment samples (SS01 and SS02) from either side of the existing outfall to characterize the sediments of Gravesend Bay in the vicinity of the proposed storm sewer outfall. The sediment samples were collected from 0 to 6 inches using dedicated disposable plastic trowels and analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A, pesticides via EPA Method 8081, PCBs via USEPA Method 8082, TPH-DRO/GRO by USEPA 8015B, TCLP Metals (RCRA 8) by USEPA Method 1311/6010B, and RCRA Characteristics, including ignitability reactivity and corrosivity by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, as well as Paint Filter Test by USEPA Method 9095B, for waste classification purposes;
- The collection of one (1) soil field duplicate (DUP01), one (1) groundwater duplicate (DUP TWP-01), and one (1) field/rinsate blank (FB01). The soil field duplicate was analyzed for TCL VOCs by USEPA Method 8260C, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA Method 6010B and 7471A, pesticides by USEPA Method 8081, and PCBs by USEPA Method 8082. The groundwater field duplicate was analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A (filtered and unfiltered), pesticides via USEPA Method 8081, and PCBs via USEPA Method 8082. The field/rinsate blank was collected by pouring the laboratory supplied deionized water into the hand auger prior to commencement of boring activities. FB01 was analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A (filtered and unfiltered), pesticides via USEPA Method 8081, and PCBs via USEPA Method 8082; and,
- The preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting boring locations, significant site features and, if applicable, contamination occurrence and distribution.

2.0 CORRIDOR INFORMATION

2.1 Corridor Location, Description and Use

The Corridor is located in the Gravesend section in the Borough of Brooklyn, New York, and consists of a 255-foot segment in the western portion of 25th Avenue from the unimproved Hunter Avenue to Gravesend Bay. Nearly the entire southern length of the Corridor is developed with the Southwest Brooklyn Marine Transfer Station, which has a history of heavy industrial uses as an incinerator (which has since been demolished), and a NYC Department of Sanitation facility. An auto dealer occupies nearly the entire area north of the Corridor. An amusement park is situated at the northern extent of the Corridor, at the intersection of Shore Parkway and 25th Avenue. The Corridor terminates at Gravesend Bay to the west, which has presumably been filled over time to change the landscape of the shoreline. A stockpile of presumed anthropogenic fill material is located on the eastern end of the Corridor. The wooded area at the dead end of Gravesend Bay and 25th Avenue at the western end of the Corridor was historically occupied by Gravesend Bay. A map of the Corridor area is presented as Figure 2.

The Corridor, which is developed with paved roadways and existing infrastructure systems, exhibits evidence of utilities, such as manholes, pavement scars, utility mark-outs, and valve covers throughout the roadway. This indicates the presence of buried utilities, including gas, sewer, water, electric and communication. Additionally, overhead electrical lines are present along the Corridor.

2.2 Description of Surrounding Properties

Property usage within the area of 25th Avenue consists primarily of industrial and commercial operations, with some residential properties across Shore Parkway, east of the Corridor. The Southwest Brooklyn Marine Transfer Station and a NYC Department of Sanitation facility extend directly adjacent to the east-southeast of the Corridor. The Bayside Fuel Oil Corporation (“High Risk” Site No. 3) is located one block to the north of the Corridor, north of Bay 38th Street between Shore Parkway and Gravesend Bay. A Citgo filling station (“High Risk” Site No. 4) and the NYC MTA Ulmer Park Bus Depot (“High Risk” Site No. 5) were identified to the northeast of the Corridor across Shore Parkway in an assumed hydraulically upgradient location. The majority of the other properties east of the Corridor are multi-family residential buildings and apartment complexes.

2.3 Corridor and Regional Topographic Setting

Louis Berger reviewed the United States Geologic Survey (USGS) 7.5-minute Topographic Quadrangle for Coney Island, NY (USGS, 1995) (Figure 1) to determine regional topography at the Corridor. According to this source, the Corridor exhibits a vertical change of approximately 10 feet along its length: the approximate elevation of the Corridor ranges from 0 feet above mean sea level (msl) at Gravesend Bay and 10 feet above msl at the eastern end of the Corridor. However, due to the current presence of a stockpile of presumed anthropogenic fill material on the eastern end of the Corridor, the elevation at this point is estimated at over 20 feet msl. Under natural conditions, surface runoff would be expected to follow the topography and discharge into

Gravesend Bay. Storm runoff within the Corridor is currently managed by storm drains, which also discharge to Gravesend Bay.

2.4 Corridor and Regional Geology

Based on the *NYC Reconnaissance Soil Survey (2005)*, surficial soil is expected to consist of the Laguardia-Ebbets-Pavement & buildings, wet substratum complex. Generally, this complex consists of nearly level to gently sloping areas filled with a mixture of natural soil materials and construction debris over swamp, tidal marsh, or water. This fill is comprised of a mixture of anthropogenic soils which vary in coarse fragment content. Typically, 15 to 49 percent of the land surface associated with this complex is covered by impervious development.

Based on a review of the *Surficial Geologic Map of New York, Lower Hudson Sheet*, surficial soils along the Corridor are underlain mostly by manmade filled land and strip mines (Caldwell, 1991). According to *Ground-Water Resources of Kings and Queens Counties, Long Island, New York (Buxton, 1999)*, this manmade fill is underlain by Holocene beach deposits consisting of chiefly quartz sand, locally containing some plant debris, shell fragments, and scattered shells to a depth of approximately 80 ftbg. Underlying the beach deposits are Upper Pleistocene deposits consisting of till and outwash sand and gravel to a depth of approximately 120 ftbg, which are, in turn, underlain by approximately 70 feet of the Gardiners Clay. Gardiners Clay consists mostly of clay with some thin beds of sand and/or gravel. The Gardiners Clay is underlain by approximately 70 feet of Jameco Gravel, which may extend to depths of 220 ftbg, locally. Jameco deposits are mainly coarse sand and gravel. Underlying the Jameco Gravel is the Magothy Formation and Matawan Group which extends to approximately 80 ftbg and consists mostly of deltaic quartzose, very fine to coarse sand, and silty sand with interbedded clay and silt. The Magothy Formation and Matawan Group are underlain by the Upper Cretaceous aged Raritan Formation. The Raritan Formation consists of two members, the Clay Member and the Lloyd Sand Member. The Clay Member of the Raritan Formation consists of clay beds with inclusions of silty clay and clayey silts and is anticipated to be encountered at a depth of approximately 300 ftbg and extend to approximately 400 ftbg. The Lloyd Sand Member of the Raritan Formation, which consists of fine to coarse quartz sand, extends from approximately 550 ftbg. The Raritan Formation is underlain by gneiss and schist bedrock which is anticipated to occur at a depth of approximately 550 ftbg.

During this Phase II SCI, the Corridor was found to contain approximately 15 feet of anthropogenic fill material. The anthropogenic fill material was encountered in all four (4) of the soil borings and the temporary well point boring. The fill layer consists mostly of dark yellowish brown coarse to fine sand with trace silt and little coarse to fine gravel. Construction debris in the form of brick and concrete was observed within the fill layer. Native soils were not encountered in any of the soil borings. Groundwater was encountered in the temporary well point boring at a depth of approximately 7 ftbg. Bedrock was not encountered during this Phase II SCI.

2.5 Corridor and Regional Hydrogeology

As part of this Phase II SCI, groundwater was encountered at approximately 7 ftbg in the temporary well point soil boring (TWP01) along the Corridor. Based on the location and proximity of Gravesend Bay with respect to the Corridor, groundwater is anticipated to flow towards the west-southwest. Groundwater flow direction may also vary due to seasonal fluctuations in precipitation, local usage demands, local variation in geology, underground structures or local dewatering operations.

Based on information supplied by the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory, no wetlands are located along the Corridor; however, Gravesend Bay is mapped as estuarine and marine deep water (classification code) E1UBL (USFWS, 2015).

The closest major surface water feature to the Corridor is Gravesend Bay, located adjacent to the western portion of the Corridor. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 3604970353F (FEMA, 2007), the Corridor is located within of the 100-year flood zone. The Corridor is identified as within Flood Zone AE, which are areas with 1% chance of flooding. The base flood elevation is 11 feet above msl for the western portion of the Corridor and 10 feet above msl in the eastern portion of the Corridor.

3.0 CORRIDOR EVALUATION

Proposed construction activities within the Corridor include soil excavation, which, in turn, requires that soils at the site be characterized to identify material handling requirements, use of protective equipment and waste disposal requirements. Louis Berger advanced four (4) soil borings, one (1) temporary well point boring and collected two (2) sediment samples during the field investigation conducted on April 14 and April 28, 2016. The field investigation was performed at designated areas in the vicinity of the planned excavation area. A summary of the field observations, including the location of the sites and the details of the soil borings, is provided in Table 1.

3.1 Soil Quality Investigation

Soil borings SB01 and SB02 were advanced to terminal depths of 3 ftbg due to refusal, while soil borings SB03 and SB04 were advanced to terminal depths of 5 ftbg. Since the maximum depth of soil borings SB01 through SB04 were between 3 and 5 ftbg, it was deemed not necessary to clear these boring locations to a depth of 6 ftbg using a vacuum excavator (i.e., Vactron®) and air-knife, per discussion with the NYCDDC. Soil boring locations are depicted on Figure 2. The designations and sampling intervals for the samples that were submitted to the laboratory are included in Table 1. Maps depicting each boring location are included in Appendix A. Boring logs are provided in Appendix B. The location of each boring is described below:

- **SB01** – Located in an unpaved area south of the outflow, 149 feet and 9 inches southwest of the northwest corner of the dead end of 25th Avenue and then 15 feet and 8 inches southeast.
- **SB02** – Located in an unpaved area, 77 feet and 6 inches southwest of the northwest corner of the dead end of 25th Avenue and then 48 feet and 7 inches northwest.
- **SB03** – Located in an unpaved area, 27 feet and 0 inches southwest of the northwest corner of the dead end of 25th Avenue and then 48 feet and 7 inches northwest.
- **SB04** – Located in an unpaved area, 90 feet and 6 inches southwest of the northwest corner of the dead end of 25th Avenue and then 25 feet and 8 inches southeast.

Soil from each boring was classified and examined for visual evidence (i.e., staining, discoloration) and any olfactory indications (i.e., odors) of contamination. In addition, a PID was used to screen the soil for VOC vapors.

In order to identify representative conditions relative to the presence of TCLP metals, total petroleum hydrocarbons, RCRA characteristics, and conditions relative to waste disposal over the entire soil column in each boring, composite soil samples were collected by mixing the soil from the entire column in a stainless steel bowl. A composite soil sample was taken from each soil boring.

In order to identify representative conditions relative to the presence of VOCs, SVOCs, TAL metals, pesticides, and PCBs, grab samples were collected from the 2-foot interval at the bottom of the soil borings (where recovery allowed).

Soil classification information, including stratigraphy, is documented on the boring logs provided in Appendix B. All boring equipment was cleaned by rinsing with deionized water, scrubbed with Alconox®, and then rinsed with deionized water a second time between each sample location. Following the completion of each boring, the boreholes were backfilled with removed material and then sealed with ready mixed concrete, where appropriate.

3.2 Groundwater Quality Investigation

As the depth of excavation for the proposed projects ranges from approximately 11.5 to 14.5 ftbg within the Corridor, groundwater will be encountered during construction. During this Phase II SCI, the TWP could not be installed at any of the soil borings (SB01 through SB04) advanced on April 14, 2016, as originally proposed, due to refusal at SB01 and SB02, and the lack of sufficient groundwater flow at SB03 and SB04. For this reason and after discussions with the NYCDDC project manager, an alternate location was chosen for the advancement of the TWP soil boring using a Geoprobe® direct push drill rig at a later date.

Soil boring TWP01 was advanced on April 28, 2016 to a terminal depth of 15 ftbg. To ensure the clearance of sensitive subsurface utility lines and features, the soil boring location was pre-cleared to a depth of 6 ftbg via “soft dig” methods such as a Vactron®, air-knife, and hand tools. Groundwater was encountered in TWP01 at approximately 7 ftbg. One (1) groundwater sample (TWP-01) was collected from the soil boring finished to a temporary well point (TWP). The location of the TWP installed is described below:

- **TWP01** – Located in the asphalt area on 25th Avenue, 12 feet and 0 inches northeast of the dead end of 25th Avenue and 4 feet and 0 inches southeast of the northern curb line of 25th Avenue.

Groundwater samples were collected from the 1-inch diameter TWP for screening and laboratory analysis via dedicated Teflon® tubing and a peristaltic pump. The sampling tubing was new, clean, and unused, then properly disposed of after use. Upon extraction, the sample was examined for visual evidence (i.e., discoloration, sheen) and any olfactory indications (i.e., odors) of contamination and observations were noted in the field book.

3.3 Sediment Quality Investigation

Sediment samples (SS01 and SS02) were collected from either side of the existing outfall to characterize the sediments of Gravesend Bay in the vicinity of the proposed storm sewer outfall. The location of each boring is described below:

- **SS01** – Located in an unpaved area north of the outflow, 195 feet and 3 inches southwest of the northwest corner of the dead end of 25th Avenue and then 13 feet and 1 inch northwest.

- SS02 – Located in an unpaved area north of the outflow, 194 feet and 6 inches southwest of the northwest corner of the dead end of 25th Avenue and then 16 feet and 6 inches southeast.

The sediment samples were collected from 0 to 6 inches using dedicated disposable plastic trowels. Upon sample collection, the sample was examined for visual evidence (i.e., discoloration, sheen) and any olfactory indications (i.e., odors) of contamination and observations were noted in the field book.

3.4 Laboratory Analyses

Soil, groundwater and sediment samples as well as field-derived Quality Assurance/Quality Control samples (i.e., a groundwater duplicate, a soil blind duplicate, an equipment/rinsate blank, and a trip blank), were submitted to HC-V of Fairfield, New Jersey which is a NYSDOH ELAP-certified analytical laboratory (No. 11408). Laboratory analytical reports are included in Appendix C.

The grab soil samples SB01 through SB04 were analyzed for TCL VOCs by USEPA Method 8260C, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA Method 6010B and 7471A, pesticides by USEPA Method 8081, and PCBs by USEPA Method 8082. The composite soil samples WC01 through WC04 were analyzed for TPH-DRO/GRO by USEPA Method 8015B, TCLP Metals (RCRA 8) by USEPA Method 1311/6010B, and RCRA Characteristics, including ignitability reactivity and corrosivity, by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, as well as Paint Filter Test by USEPA Method 9095B for waste classification purposes.

The groundwater samples were analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A (filtered and unfiltered), pesticides via USEPA Method 8081, PCBs via USEPA Method 8082, and the NYCDEP Sewer Discharge Criteria for effluent to sanitary or combined sewers in New York City.

The sediment samples were analyzed for TCL VOCs via USEPA Method 8260C, TCL SVOCs via USEPA Method 8270, TAL Metals via USEPA Method 6010B and 7471A, pesticides via USEPA Method 8081, PCBs via USEPA Method 8082, TPH-DRO/GRO by USEPA 8015B, TCLP Metals (RCRA 8) by USEPA Method 1311/6010B, and RCRA Characteristics, including ignitability reactivity and corrosivity, by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, as well as Paint Filter Test by USEPA Method 9095B, for waste classification purposes

3.5 Data Evaluation

In order to evaluate subsurface soil quality for waste characterization purposes, laboratory analytical results of grab and composite soil samples, as well as the sediment samples, were compared with regulatory standards identified in: (1) New York State Department of Environmental Conservation (NYSDEC) Subpart 375-6: Remedial Program Unrestricted, Restricted-Residential, and Commercial Use (Track 1 and Track 2) Soil Cleanup Objectives (SCOs); (2) NYSDEC CP-51 Soil Cleanup Guidance Residential Supplemental Soil Cleanup

Objective (SSCO) to NYSDEC Subpart 375-6; and/or (3) Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and NYSDEC Part 371. The analytical results of the groundwater samples were compared to the NYCDEP Sewer Discharge Criteria and the NYSDEC Class GA Groundwater Standards and Guidance Values identified in the NYSDEC Technical and Operations Guidance Series (TOGS).

4.0 FINDINGS

This section discusses the analytical data and findings for activities discussed in Section 3.0. Boring logs can be found in Appendix B. A complete analytical data report is included in Appendix C.

4.1 Field Screening

Field screening consisted of identifying visual and olfactory indicators of potential impact, as well as screening soil for VOC vapors with a PID. No visual or olfactory evidence of contamination was observed and PID readings were not detected at any soil boring location. Refer to Table 1 for a summary of environmental boring data.

4.2 Soil and Sediment Laboratory Analytical Results

4.2.1 Target Compound List (TCL) Volatile Organic Compounds (VOCs) in Soil and Sediment

One (1) VOC, methylene chloride, was detected in soil samples SB02 and SB03 below regulatory standards. No other VOCs were detected above the laboratory's reporting limits in the soil or sediment samples collected as part of this Phase II SCI. Refer to Table 2 for a summary of VOC results.

4.2.2 TCL Semi-volatile Organic Compounds (SVOCs) in Soil and Sediment

Several SVOCs were detected above the laboratory's reporting limits in soil and sediment samples collected as part of this Phase II SCI. All concentration of SVOCs were below regulatory standards except in soil sample SB01 and in sediment sample SS01. Anthropogenic fill was observed in the soil column at soil borings SB01 through SB04, the TWP boring location, and in sediment samples SS01 and SS02:

Soil Sample SB01

- 2-Methylnaphthalene (1.3 parts per million [ppm]) was detected above the Residential Supplemental Soil Cleanup Objective (SSCO).
- Benzo(a)anthracene (7.0 ppm), benzo(a)pyrene (5.4 ppm), benzo(b)fluoranthene (6.7 ppm), and dibenzo(a,h)anthracene (1.1 ppm) were detected above their respective Unrestricted Use, Restricted-Residential Use and Commercial Use Soil Cleanup Objectives (SCOs).
- Chrysene (6.3 ppm) and indeno(1,2,3-cd)pyrene (2.9 ppm) were detected above the Unrestricted Use and Restricted-Residential Use SCOs.
- Benzo(k)fluoranthene (2.3 ppm) was detected above the Unrestricted Use SCO.

Sediment Sample SS01

- Benzo(a)pyrene (1.3 ppm) was detected above the Unrestricted Use, Restricted-Residential Use, and Commercial Use SCOs.

- Benzo(a)anthracene (1.7 ppm), benzo(b)fluoranthene (1.9 ppm), and indeno(1,2,3-cd)pyrene (0.72 ppm) were detected above their respective Unrestricted Use and Restricted-Residential Use SCOs.
- Chrysene (1.6 ppm) was detected above the Unrestricted Use SCO.

Refer to Table 3 for a summary of SVOCs results.

4.2.3 Target Analyte List (TAL) Metals in Soil and Sediment

Several metals were detected above the laboratory's reporting limits in soil and sediment samples collected as part of this Phase II SCI. Concentrations of metals were detected above the regulatory standards in soil samples SB01 through SB03 and in both sediment samples. Anthropogenic fill was observed in the soil column at soil borings SB01 through SB04 and the TWP boring, and in sediment samples SS01 and SS02:

Soil Sample SB01

- Iron (9,500 ppm) was detected above the SSCO.
- Lead (120 ppm) and mercury (0.4 ppm) were detected above their respective Unrestricted Use SCOs.

Soil Sample SB02

- Iron (15,000 ppm) was detected above the SSCO.
- Barium (1,900 ppm) was detected above the Unrestricted Use, Commercial Use, and Restricted-Residential Use SCOs.
- Lead (870 ppm) was detected above the Unrestricted Use and Restricted-Residential Use SCOs.
- Mercury (0.36 ppm) and zinc (340 ppm) were detected above their respective Unrestricted Use SCOs.

Soil Sample SB03

- Iron (2,400 ppm) was detected above the SSCO.

Soil Sample DUP01

- Iron (3,500 ppm) was detected above the SSCO.
- Mercury (0.21 ppm) was detected above the Unrestricted Use SCO.

Sediment Sample SS01

- Iron (4,600 ppm) was detected above the SSCO.

Sediment Sample SS02

- Iron (22,000 ppm) was detected above the SSCO.

Refer to Table 4 for a summary of TAL metals results.

4.2.4 Pesticides in Soil and Sediment

No pesticides were detected above the laboratory's reporting limits in any of the soil or sediment samples collected as part of this Phase II SCI. Refer to Table 5 for a summary of pesticide results.

4.2.5 Polychlorinated Biphenyls (PCBs) in Soil and Sediment

No PCBs were detected above the laboratory's reporting limits in any of the soil or sediment samples collected as part of this Phase II SCI. Refer to Table 6 for a summary of PCB results.

4.3 Waste Classification of Soil and Sediment

4.3.1 TCLP Metals

Waste characterization laboratory results indicate that TCLP barium was detected in soil samples WC01 and WC02, and TCLP lead was detected in soil samples WC01 and WC03 and sediment sample SS01. These concentrations were observed to be below RCRA Hazardous Waste Levels. Results of the TCLP metals analyses indicate that the soil samples collected from the Corridor do not exhibit evidence of the hazardous waste characteristic for toxicity. Refer to Table 7 for a summary of waste characterization parameters.

4.3.2 Total Petroleum Hydrocarbons (TPH)

No TPH-GRO concentrations were detected above the laboratory's reporting limits in any of the samples collected as part of this Phase II SCI.

TPH-DRO concentrations were detected in soil sample WC01 (580 ppm) and sediment samples SS01 (160 ppm) and SS02 (130 ppm); however, no regulatory standards exist for TPH. Refer to Table 7 for a summary of waste characterization results.

4.3.3 RCRA Parameters (Reactivity, Corrosivity, Ignitability)

The analytical laboratory results of the soil or sediment samples show that none of the RCRA parameters (reactivity, ignitability, or corrosivity) were detected or exceeded. The pH of the samples were found to be within the RCRA limits of 2 and 12.5. The flash point was greater than 140 degrees Fahrenheit in the soil beneath the Corridor and in the sediment samples; therefore, the RCRA characteristics for ignitability were negative. Reactive cyanide and reactive sulfide were not detected in any of the soil or sediment samples. Refer to Table 7 for a summary of RCRA parameters.

4.4 Groundwater Laboratory Analytical Results

4.4.1 TCL VOCs in Groundwater

No VOCs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI. Refer to Table 8 for a summary of VOC results.

4.4.2 TCL SVOCs in Groundwater

No SVOCs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI. Refer to Table 9 for a summary of VOC results.

4.4.3 TAL Metals in Groundwater

Several metals were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI. Concentrations of metals samples were detected above the regulatory standards in the unfiltered and filtered samples. Obvious anthropogenic fill was observed in the soil column at this soil boring:

Groundwater Sample TWP-01 (Unfiltered)

- Iron (900 ppm), magnesium (1,200,000 ppm), and sodium (9,400,000 ppm) were detected above the Class GA Standards.

Groundwater Sample TWP-01 (Filtered)

- Magnesium (780,000 ppm), and sodium (6,900,000 ppm) were detected above the Class GA Standards.

Groundwater Sample DUP TWP-01 (Unfiltered)

- Iron (4,500 ppm), magnesium (630,000 ppm), sodium (6,100,000 ppm), and lead (56 ppm) were detected above the Class GA Standards.

Groundwater Sample DUP TWP-01 (Filtered)

- Magnesium (620,000 ppm) and sodium (6,000,000 ppm) were detected above the Class GA Standards.

Refer to Table 10 for a summary of metals results.

4.4.4 Pesticides in Groundwater

No pesticides were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI. Refer to Table 11 for a summary of pesticide results.

4.4.5 PCBs in Groundwater

No PCBs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI. Refer to Table 12 for a summary of PCB results.

4.4.6 Analysis of NYCDEP Parameters in Groundwater

Analytical results of groundwater sample TWP-01 showed that no exceedances of NYCDEP Sewer Discharge Criteria were detected. Refer to Table 13 for a summary of groundwater quality results compared to NYCDEP Sewer Discharge Criteria.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the evaluation of the field screening data and the laboratory analytical results, and a comparison to applicable regulatory standards, the following conclusions and recommendations are presented:

Findings

- No visual or olfactory evidence of contamination was observed in the soil and photoionization detector (PID) readings were not detected at any boring locations;
- The Corridor was found to be underlain by approximately 15 feet of anthropogenic fill material. The anthropogenic fill material was encountered in all four (4) of the soil borings and the TWP boring. The fill layer consists mostly of dark yellowish brown, coarse to fine sand with trace silt and little coarse to fine gravel. Construction debris in the form of brick and concrete was observed within the fill layer. Native soils were not encountered in any of the soil borings. Groundwater was encountered in the temporary well point boring (TWP01) at a depth of approximately 7 ftbg. Bedrock was not encountered during this Phase II SCI;
- One (1) VOC, methylene chloride, was detected in soil samples SB02 and SB03 below regulatory standards. No other VOCs were detected above the laboratory's reporting limits in the soil or sediment samples collected as part of this Phase II SCI;
- Several SVOCs were detected above the laboratory's reporting limits in all of the soil and sediment samples, except for SB04, where no SVOCs were detected. However, only soil sample SB01 and sediment sample SS01 exhibited SVOCs concentrations above the regulatory standards. Sample SB01 exhibited detections of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene above their respective Unrestricted Use (Track 1), Restricted-Residential Use (Track 1) and Commercial Use (Track 2) SCOs; chrysene and indeno(1,2,3-cd)pyrene above the Unrestricted Use (Track 1) and Restricted-Residential Use (Track 2) SCOs, benzo(k)fluoranthene above the Unrestricted Use (Track 1) SCO, and 2-methylnaphthalene above the SSCO. Sediment sample SS01 exhibited detections of benzo(a)pyrene above the Unrestricted Use (Track 1), Restricted-Residential Use (Track 1) and Commercial Use (Track 2) SCOs; benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene above their respective Unrestricted Use (Track 1) and Restricted-Residential Use (Track 1) SCOs; and chrysene above the Unrestricted Use (Track 1) SCO;
- Several metals were detected above the regulatory standards in soil samples SB01 through SB03 and DUP01, and in the sediment samples. Barium was detected above the Unrestricted Use (Track 1), Restricted-Residential Use (Track 1) and Commercial Use (Track 2) SCOs in soil sample SB02, while lead was detected above both the Unrestricted Use (Track 1) and Commercial Use (Track 2) SCOs in soil sample SB02. Three (3) metals were detected only above the Unrestricted Use (Track 1) SCO: lead in soil sample SB01, mercury in soil

samples SB01, SB02 and DUP01, and zinc in soil sample SB02. Iron was detected above the SSC0 in all of the soil and sediment samples, except for SB04;

- No pesticides were detected above the laboratory's reporting limits in any of the soil and sediment samples collected as part of this Phase II SCI;
- No PCBs were detected above the laboratory's reporting limits in any of the soil and sediment samples collected as part of this Phase II SCI;
- Waste characterization laboratory results indicate that TCLP barium was detected in soil samples WC01 and WC02, and TCLP lead was detected in soil samples WC01 and WC03, as well as in sediment sample SS01, at concentrations below RCRA Hazardous Waste Levels;
- TPH-GRO concentrations were not detected in any of the samples. TPH-DRO concentrations were detected in soil sample SB01 at 580 ppm and sediment samples SS01 and SS02 at 160 ppm and 130 ppm, respectively; however, no regulatory standards exist for TPH;
- The analytical laboratory results of the soil samples show that none of the RCRA parameters (reactivity, ignitability, or corrosivity) were detected or exceeded;
- No VOCs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI;
- No SVOCs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI;
- Several metals were detected above the NYSDEC Class GA Groundwater Standards and Guidance Values in the unfiltered and filtered groundwater samples. Metals above the regulatory standards in the unfiltered sample include iron, magnesium and sodium, while metals above the regulatory standards in the filtered sample include magnesium and sodium. It should be noted that iron, magnesium, sodium, and lead were also detected above the respective regulatory standards in the duplicate unfiltered groundwater sample, and magnesium and sodium were detected in the duplicate filtered groundwater sample;
- No pesticides were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI;
- No PCBs were detected above the laboratory's reporting limits in the groundwater sample collected as part of this Phase II SCI; and,
- Analytical results of groundwater sample TWP-01 showed that no exceedances of NYCDEP Sewer Discharge Criteria were detected.

Based on the results of the field investigation and laboratory analytical results, the following conclusions and recommendations are provided:

Conclusions

- The Corridor was found to be underlain by anthropogenic fill material in all of the boring locations and sediment sampling locations to a maximum depth of 15 ftbg, which was the terminal depth of temporary well point boring TWP01. The concentrations and types of SVOCs and metals detected in soil samples collected during this Phase II SCI are commonly found in anthropogenic fill, the product of incomplete combustion of fuels, and/or a result of diffuse anthropogenic pollution (DAP). SVOCs were detected above regulatory criteria at one (1) boring location (SB01) and one (1) sediment sampling location (SS01), and metals were detected above the regulatory criteria in all soil and sediment samples, except for SB04;
- TPH-DRO concentrations were detected in soil sample WC01, and sediment samples SS01 and SS02; however, no regulatory standards exist for TPH;
- Laboratory results indicate that the soil samples collected beneath the Corridor do not exhibit evidence of hazardous waste characteristics; and,
- Analytical results of the groundwater sample collected showed that no exceedances of the NYCDEP Sewer Discharge Criteria were detected.

Recommendations

- The Contract documents should identify provisions for managing, handling, transporting and disposing of contaminated non-hazardous soil. The Contractor should be required to submit a Material Handling Plan, to identify the specific protocol and procedures that will be employed to manage the waste in accordance with applicable regulations;
- Dust control procedures are recommended during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor may implement dust control measures to minimize potential airborne contaminants released into the ambient environment as a direct result of construction activities. A Community Air Monitoring Plan (CAMP) should be developed in accordance with NYSDEC DER-10 Regulations. The CAMP requires real-time monitoring for particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is intended to provide a measure of protection for the area of the surrounding community located downwind from the potential release of airborne contaminants. Specific requirements should be reviewed for each situation and coordinated with the New York State Department of Health (NYSDOH) to ensure proper applicability;
- Based on the observed depth to groundwater (approximately 7 ftbg), dewatering may be necessary for the proposed excavation activities. If dewatering is necessary, the contractor

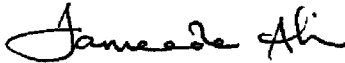
will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis prior to discharge into sanitary and combined sewers;

- In addition, if discharge into storm sewers, which ultimately discharge into a surface water body, is required during dewatering, it may be performed under the appropriate NYSDEC State Pollutant Discharge Elimination System (SPDES) permit. Additional sampling and laboratory analysis may be required to satisfy NYSDEC requirements prior to discharge into storm sewers; and
- Before beginning any excavation activity, the contractor should submit a site-specific health and safety plan (HASP) that will meet the requirements set forth by the Occupational, Safety and Health Administration (OSHA), the NYSDOH and any other applicable regulations. The HASP should identify the possible locations and risks associated with the potential contaminants that may be encountered, and the administrative and engineering controls that will be utilized to mitigate concerns (i.e., dust control procedures for SVOCs and metals).

6.0 STATEMENT OF LIMITATIONS

The data presented and the opinions expressed in this report are qualified as stated in the attachment to this section of the report.

Report Prepared By:



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QA/QC Manager

STATEMENT OF LIMITATIONS

The data presented and the opinions expressed in this report are qualified as follows:

The sole purpose of the investigation and of this report is to assess the physical characteristics of the Site with respect to the presence or absence in the environment of oil or hazardous materials and substances as defined in the applicable state and federal environmental laws and regulations and to gather information regarding current and past environmental conditions at the Site.

Louis Berger derived the data in this report primarily from visual inspections, examination of records in the public domain, interviews with individuals with information about the Site, and a limited number of subsurface explorations made on the dates indicated. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.

In preparing this report, Louis Berger has relied upon and presumed accurate certain information (or the absence thereof) about the Site and adjacent properties provided by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, Louis Berger has not attempted to verify the accuracy or completeness of any such information.

The data reported and the findings, observations, and conclusions expressed in the report are limited by the Scope of Services, including the extent of subsurface exploration and other tests. The Scope of Services was defined by the requests of the Client, the time and budgetary constraints imposed by the Client, and the availability of access to the Site.

Because of the limitations stated above, the findings, observations, and conclusions expressed by Louis Berger in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation. No warranty or guarantee, whether express or implied, is made with respect to the data reported or findings, observations, and conclusions expressed in this report. Further, such data, findings, observations, and conclusions are based solely upon site conditions in existence at the time of investigation.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the Agreement and the provisions thereof.

TABLES

- TABLE 1 – SUMMARY OF ENVIRONMENTAL BORING DATA**
TABLE 2 – SUMMARY OF TCL VOCS DETECTED IN SOIL AND SEDIMENT
TABLE 3 – SUMMARY OF TCL SVOCs DETECTED IN SOIL AND SEDIMENT
TABLE 4 – SUMMARY OF TAL METALS DETECTED IN SOIL AND SEDIMENT
TABLE 5 – SUMMARY OF PESTICIDES DETECTED IN SOIL AND SEDIMENT
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TABLE 7 – SUMMARY OF WASTE CLASSIFICATION RESULTS DETECTED IN SOIL AND SEDIMENT
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TABLE 13 – SUMMARY OF NYCDEP DISCHARGE PARAMETERS IN GROUNDWATER
TABLE 14 – SUMMARY OF QUALITY CONTROL/QUALITY ASSURANCE RESULTS

Table 1. Summary of Environmental Boring Data
Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
Brooklyn, New York

Boring No.	Sample ID	High PID (ppm)	Sample Interval (ftbg)	Total VOCs (mg/kg)	Total SVOCs (mg/kg)	TAL Metals Exceed (Yes/No) ¹	Depth to Water (ftbg)	Total Depth (ftbg)	Other Comments
SB01	SB01	<1	2.5 - 3.0	ND	--	Yes	NE	3.0	No visual/olfactory signs of contamination observed. Waste classification sample WC01 was collected from the entire soil boring depth interval (0 - 3.0 ftbg)
			1.0 - 3.0	--	99.2				
SB02	SB02	<1	2.5 - 3.0	0.0056	--	Yes	NE	3.0	No visual/olfactory signs of contamination observed. Waste classification sample WC02 was collected from the entire soil boring depth interval (0 - 3.0 ftbg)
			1.0 - 3.0	--	1.35				
SB03	SB03	<1	4.5 - 5.0	0.0052	--	No	NE	5.0	No visual/olfactory signs of contamination observed. Waste classification sample WC03 was collected from the entire soil boring depth interval (0 - 5.0 ftbg)
			3.0 - 5.0	--	0.97				
	DUP01		4.5 - 5.0	ND	--	Yes			
			3.0 - 5.0	--	4.71				
SB04	SB04	<1	4.5 - 5.0	ND	--	Yes	NE	5.0	No visual/olfactory signs of contamination observed. Waste classification sample WC04 was collected from the entire soil boring depth interval (0 - 5.0 ftbg)
			3.0 - 5.0	--	ND				
SS01	SS01	<1	0 - 0.5	ND	--	Yes	NE	0.5	No visual/olfactory signs of contamination observed.
			0 - 0.5	--	25.26				
SS02	SS02	<1	0 - 0.5	ND	--	Yes	NE	0.5	No visual/olfactory signs of contamination observed.
			0 - 0.5	--	0.62				
TWP01	TWP-01	<1	7.0 - 15.0	ND	--	Yes	7.56	15.0	No visual/olfactory signs of contamination observed.
			7.0 - 15.0	--	ND				

Notes:

1. TAL Metal(s) exceeds Unrestricted Use (Track 1) or Restricted-Residential Use (Track 2) SCOs.
 All soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs) Pesticides, Polychlorinated Biphenyls (PCBs) and Target Analyte List (TAL) Metals
 WC samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) Metals and Total Petroleum Hydrocarbons.
 PID = Photoionization detector
 ND = Not Detected
 NE = Not Encountered
 ftbg = feet below grade

Table 2. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Soil and Sediment
 Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 26th Avenue
 Brooklyn, New York

TCL VOCs	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Restricted- Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	CP-51/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth								
				Residential Supplemental Soil Cleanup Objectives	NS	SB01	SB02	SB03	DJP01	SB04	SS01	SS02		
Methylene chloride	0.05	500	100	NS	ND	4/14/2016 2.5 - 3.0	4/14/2016 2.5 - 3.0	4/14/2016 4.5 - 5.0	4/14/2016 4.5 - 5.0	4/14/2016 4.5 - 5.0	4/14/2016 0 - 0.5	4/14/2016 0 - 0.5	ND	ND

Notes:
 All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010
 NS = No Standard

DDC Project Number: SEK20070 Work Order Letter No. 10886-LBA-4-10246

Table 3. Summary of Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs) Detected in Soil and Sediment
Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
Brooklyn, New York

TCL SVOCs	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Restricted-Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	CP-51/Soil Cleanup Guidance	Sample ID, Date Collected, and Depth							
					SR01	SR02	SR03	DUP01	SB04	SS01	SS02	
					4/14/2016 1.0 - 3.0	4/14/2016 1.0 - 3.0	4/14/2016 3.0 - 6.0	4/14/2016 3.0 - 6.0	4/14/2016 3.0 - 6.0	4/14/2016 0 - 0.5	4/14/2016 0 - 0.5	
2-Methylnaphthalene	NS	NS	NS	0.41	1.3	ND	ND	ND	ND	ND	0.19	ND
Acenaphthene	20	500	100	NS	2.2	ND	ND	ND	ND	ND	0.53	ND
Acenaphthylene	100	500	100	NS	ND	ND	ND	0.11	ND	ND	ND	ND
Anthracene	100	500	100	NS	4.3	ND	ND	0.062	ND	1.1	ND	ND
Benzofluoranthene	1	5.6	1	NS	0.13	0.13	0.087	0.46	ND	1.7	ND	ND
Benzofluoranthene	1	5.6	1	NS	0.1	0.1	0.1	0.54	ND	ND	ND	ND
Benzofluoranthene	1	5.6	1	NS	0.17	0.17	0.13	0.72	ND	1.9	0.093	ND
Benzofluoranthene	100	500	100	NS	3.5	0.098	0.068	0.36	ND	0.74	ND	ND
Benzofluoranthene	0.8	56	3.9	NS	2.3	ND	0.05	0.21	ND	0.51	ND	ND
Carbazole	NS	NS	NS	NS	1.8	ND	ND	ND	ND	0.53	ND	ND
Chrysene	1	96	3.9	NS	5.3	0.11	0.098	0.49	ND	1.6	0.1	ND
Dibenzofluoranthene	0.33	0.56	0.33	NS	1.8	ND	ND	0.11	ND	0.24	ND	ND
Dibenzofuran	7	350	59	NS	1.8	ND	ND	0.16	ND	0.48	ND	ND
Fluoranthene	100	500	100	NS	16	0.24	0.16	0.53	ND	4.4	0.17	ND
Fluorene	30	500	100	NS	3	ND	ND	ND	ND	0.71	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	5.6	0.5	NS	2.9	0.075	0.059	0.33	ND	0.72	ND	ND
Naphthalene	12	500	100	NS	2.6	0.062	ND	ND	ND	0.51	ND	ND
Phenanthrene	100	500	100	NS	17	0.18	0.07	0.19	ND	4.6	0.12	ND
Pyrene	100	500	100	NS	14	0.19	0.15	0.6	ND	3.5	0.14	ND

Notes:

All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010
 NS = No Standard

Bold = Concentration exceeds Residential Use (Track 2) Soil Cleanup Objectives

Underline = Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

Double Underline = Concentration exceeds CP51/Soil Cleanup Guidance and Residential Supplemental Soil Cleanup Objective (SSCO)

DDC Project Number: SEK20070

Work Order Letter No. 10886-LBA-4-10246

Table 4. Summary of Target Analyte List (TAL) Metals Detected in Soil and Sediment
 Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
 Brooklyn, New York

TAL Metals	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Restricted- Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	CP-51/Soil Cleanup Guidance									
				Residential Supplemental Soil Cleanup Objectives									
				SB01 4/14/2016 1.0 - 3.0	SB02 4/14/2016 1.0 - 3.0	SB03 4/14/2016 3.0 - 5.0	DUP01 4/14/2016 3.0 - 5.0	SB04 4/14/2016 3.0 - 5.0	SS01 4/14/2016 0 - 0.5	SS02 4/14/2016 0 - 0.5			
Aluminum	NS	NS	NS	3,400	3,000	1,100	1,900	980	1,600	1,600	2,200		
Arsenic	13	16	16	4.7	6.2	1.3	2	0.57	4.9	4.9	4.8		
Barium	350	400	400	40	39	14	13	ND	ND	ND	ND		
Beryllium	7.2	590	72	0.25	0.33	ND	ND	ND	1.1	1.1	ND		
Calcium	NS	NS	NS	12,000	27,000	ND	1,100	ND	50,000	50,000	10,000		
Chromium	30	1,500	180	12	9.6	ND	ND	ND	ND	ND	15		
Cobalt	NS	NS	NS	3.5	5.3	ND	6	ND	ND	ND	2.8		
Copper	50	270	270	26	19	12	10	11	11	11	22		
Iron	NS	NS	NS	2,000	15,000	2,400	3,500	1,600	4,600	4,600	22,000		
Lead	63	1,000	400	120	870	29	49	ND	52	52	54		
Magnesium	NS	NS	NS	7,000	4,100	ND	850	ND	21,000	21,000	4,900		
Manganese	1,600	10,000	2,000	250	220	42	110	29	99	99	190		
Mercury	0.18	2.8	0.81	0.4	0.36	ND	0.21	ND	ND	ND	0.096		
Nickel	30	310	310	27	18	6.1	8.9	ND	7.7	7.7	18		
Potassium	NS	NS	NS	ND	670	ND	ND	ND	ND	ND	ND		
Sodium	NS	NS	NS	1,300	300	ND	ND	ND	1,800	1,800	960		
Vanadium	NS	NS	NS	17	ND	ND	ND	ND	ND	ND	12		
Zinc	109	10,000	10,000	87	340	57	66	ND	39	39	68		

Notes:

All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010
 NS = No Standard

Concentration exceeds Residential Use (Track 2) Soil Cleanup Objectives

Concentration exceeds Unrestricted Use (Track 1) Soil Cleanup Objectives

Concentration exceeds CP51/Soil Cleanup Guidance and Residential Supplemental Soil Cleanup Objective (SSCO)

DDC Project Number: SEK20070

Work Order Letter No. 10886-LBA-4-10246

Table 5. Summary of Pesticides Detected in Soil and Sediment
Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
Brooklyn, New York

Pesticides	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Restricted- Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	CP-51/Soil Cleanup Guidance		Sample ID, Date Collected, and Depth								
				Residential Soil Cleanup Objectives	Supplemental Soil Cleanup Objectives	SB01 4/14/2016 1.0 - 3.0	SB02 4/14/2016 1.0 - 3.0	SB03 4/14/2016 3.0 - 5.0	DUP01 4/14/2016 3.0 - 5.0	SB04 4/14/2016 3.0 - 5.0	SS01 4/14/2016 0 - 0.5	SS02 4/14/2016 0 - 0.5		
No Pesticides were detected	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010
 NS = No Standard

DDC Project Number: SEK20070

Work Order Letter No. 10886-LBA-4-10246

Table 6. Summary of Polychlorinated Biphenyls (PCBs) Detected in Soil and Sediment
 Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
 Brooklyn, New York

PCBs*	Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Restricted- Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth											
				CP-51/Soil Cleanup Guidance		Residential Supplemental Soil Cleanup Objectives		NS		NS					
				SB01	SB02	SB03	DUP01	SB04	SS01	SS02	SB01	SS01			
No PCBs were detected	0.1	1	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
				1.0 - 3.0	4/14/2016	1.0 - 3.0	4/14/2016	3.0 - 5.0	4/14/2016	3.0 - 5.0	4/14/2016	3.0 - 5.0	4/14/2016	0 - 0.5	4/14/2016

Notes:
 All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 * Refers to the total concentration of PCBs in the sample
 SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)
 CP51/Soil Cleanup Guidance = Supplemental Soil Cleanup Objectives, NYSDEC, October, 2010
 NS = No Standard

Table 7. Summary of Waste Classification Results in Soil and Sediment
Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
Brooklyn, New York

Analyte	Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels	Sample ID, Date Collected, and Depth					
		WC01	WC02	WC03	WC04	SS01	SS02
		4/14/2016 0 - 3.0	4/14/2016 0 - 3.0	4/14/2016 0 - 5.0	4/14/2016 0 - 5.0	4/14/2016 0 - 0.5	4/14/2016 0 - 0.5
RCRA (Including TCLP Metals)							
Ignitability	>140 °F*	NEG	NEG	NEG	NEG	NEG	NEG
Paint Filter Test	NS	NEG	NEG	NEG	NEG	NEG	NEG
pH	< 2 and > 12.5**	8.8	8.8	9.2	7.9	8.4	8.7
Arsenic (mg/L)	5	ND	ND	ND	ND	ND	ND
Barium (mg/L)	100	0.3	0.52	ND	ND	ND	ND
Cadmium (mg/L)	1	ND	ND	ND	ND	ND	ND
Chromium (mg/L)	5	ND	ND	ND	ND	ND	ND
Lead (mg/L)	5	0.33	ND	0.084	ND	0.056	ND
Mercury (mg/L)	0.2	ND	ND	ND	ND	ND	ND
Nickel (mg/L)	NS	ND	ND	ND	ND	ND	ND
Selenium (mg/L)	1	ND	ND	ND	ND	ND	ND
Silver (mg/L)	5	ND	ND	ND	ND	ND	ND
Reactive Cyanide (mg/L)	NS	ND	ND	ND	ND	ND	ND
Reactive Sulfide (mg/L)	NS	ND	ND	ND	ND	ND	ND
TPH DRO/GRO (mg/kg)							
TPH - Gasoline Range Organics	NS	ND	ND	ND	ND	ND	ND
TPH - Diesel Range Organics	NS	580	ND	ND	ND	160	130

Notes:

BOLD = Compound detected above the method detection limit (MDL)

TCLP = Toxicity Characteristic Leaching Procedure

NS = No Standard

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

*A solid waste exhibits the characteristic of ignitability if it has flash point less than 60 °C (140 °F)

**A solid waste exhibits the characteristic of corrosivity if it has a pH less than or equal to 2 or greater than or equal to 12.5.

°F = Degrees Fahrenheit

NEG = Negative (flash point was not detected below 140 °F) or Negative (Paint was not detected from Paint Filter Test)

**Table 8. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Groundwater
 Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
 Brooklyn, New York**

TCL VOC	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth	
		4/28/2016	4/28/2016
		7.0 - 15.0	7.0 - 15.0
No VOCs were detected	NS	ND	ND

Notes:
 All concentrations are reported in micrograms per liter (ug/L)
 U = Unfiltered sample
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 NS = No standard

DDC Project Number: SEK20070 Work Order Letter No. 10886-LBA-4-10246

Table 9. Summary of Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs) Detected in Groundwater
 Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
 Brooklyn, New York

TCL SVOCs	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth	
		No SVOCs were detected	NS

Notes:

All concentrations are reported in micrograms per liter (ug/L)

U = Unfiltered sample

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

NS = No standard

DDC Project Number: SEK20070

Work Order Letter No. 10886-LBA-4-10246

Table 10. Summary of Target Analyte List (TAL) Metals Detected in Groundwater
Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
Brooklyn, New York

TAL Metals	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth			
		TWP01 U	TWP01 F	DUP TWP-01 U	DUP TWP-01 F
		4/28/2016 7.0 - 15.0	4/28/2016 7.0 - 15.0	4/28/2016 7.0 - 15.0	4/28/2016 7.0 - 15.0
Aluminum	NS	690	540	2,800	ND
Antimony	3	ND	ND	ND	ND
Arsenic	25	6.1	4	9.5	2.3
Barium	1000	ND	ND	60	ND
Beryllium	3	ND	ND	ND	ND
Cadmium	5	ND	ND	ND	ND
Calcium	NS	410,000	260,000	220,000	220,000
Chromium	50	ND	ND	ND	ND
Cobalt	NS	ND	ND	ND	ND
Copper	200	ND	ND	ND	ND
Iron	300	ND	ND	ND	ND
Lead	25	ND	ND	ND	ND
Magnesium	35,000	ND	ND	ND	ND
Manganese	300	230	150	180	ND
Mercury	0.7	ND	ND	ND	ND
Nickel	100	ND	ND	ND	ND
Potassium	NS	410,000	300,000	270,000	270,000
Selenium	10	ND	ND	ND	ND
Silver	50	ND	ND	ND	ND
Sodium	20,000	9,400,000	6,000,000	6,100,000	6,000,000
Thallium	0.5	ND	ND	ND	ND
Vanadium	NS	ND	140	ND	ND
Zinc	2,000	ND	ND	100	ND

Notes:

All concentrations are reported in micrograms per liter (ug/L)

U = Unfiltered sample

F = Filtered sample

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

NS = No standard

Bold = Positive detection

Shading = Concentration exceeds NYSDEC Class GA Groundwater Standards and Guidance Values
 NYSDEC Class GA Groundwater Standards and Guidance Values as per NYSDEC Technical and
 Operational Guidance Series (TOGS), June 1998

**Table 11. Summary of Pesticides Detected in Groundwater
 Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
 Brooklyn, New York**

Pesticides	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth		
		No Pesticides were detected	NS	
			TWP-01 U	DUP TWP-01 U
			4/28/2016	4/28/2016
	7.0 - 15.0	7.0 - 15.0		
		ND	ND	

Notes:
 All concentrations are reported in micrograms per liter (ug/L)
 U = Unfiltered sample
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 NS = No standard

**Table 12. Summary of Polychlorinated Biphenyls (PCBs) Detected in Groundwater
 Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
 Brooklyn, New York**

PCBs*	NYSDEC Class GA Groundwater Standards and Guidance Values	Sample ID, Date Collected, and Depth	
		TWP-01 U	DUP TWP-01 U
		4/28/2016	4/28/2016
		7.0 - 15.0	7.0 - 15.0
No PCBs were Detected	NS	ND	ND

Notes:

All concentrations are reported in micrograms per liter (ug/L)

U = Unfiltered sample

* Refers to the total concentration of PCBs in the sample

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

NS = No standard

DDC Project Number: SEK20070

Work Order Letter No. 10886-LBA-4-10246

**Table 13. Groundwater Quality Compared to New York City Department of Environmental Protection
Limitations for Effluent to Sanitary or Combined Sewers
Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
Brooklyn, New York**

Parameter ¹	NYC DEP Limitations to Sanitary or Combined Sewers		Sample ID, Date Collected and Depth	
			TWP-01	
			4/28/2016	
				7.0 - 15.0
Non-Polar Material ²	50	mg/L	ND	mg/L
Flash Point - Liquid/Solid	> 140	°F	> 141	°F
pH	>2 and ≤10		7.6	
Cadmium (Instantaneous or Composite)	2 or 0.69	mg/L	ND	mg/L
Chromium Hexavalent (VI)	5	mg/L	ND	mg/L
Copper	5	mg/L	ND	mg/L
Lead	2	mg/L	ND	mg/L
Mercury	0.05	mg/L	ND	mg/L
Nickel	3	mg/L	ND	mg/L
Zinc	5	mg/L	ND	mg/L
Benzene	134	ug/L	ND	ug/L
Carbon tetrachloride	NS	ug/L	ND	ug/L
Chloroform	NS	ug/L	ND	ug/L
1,4-Dichlorobenzene	NS	ug/L	ND	ug/L
Ethylbenzene	380	ug/L	ND	ug/L
MTBE (Methyl-Tert-Butyl-Ether)	50	ug/L	ND	ug/L
Naphthalene	47	ug/L	ND	ug/L
Phenol	NS	ug/L	ND	ug/L
Tetrachloroethene	20	ug/L	ND	ug/L
Toluene	74	ug/L	ND	ug/L
1,2,4-Trichlorobenzene	NS	ug/L	ND	ug/L
1,1,1-Trichloroethane	NS	ug/L	ND	ug/L
Xylenes (Total)	74	ug/L	ND	ug/L
PCBs (Total) ³	1	ug/L	ND	ug/L
Total Suspended Solids ⁴	350	mg/L	48	mg/L
CBOD ⁵	NS	mg/L	ND	mg/L
Chloride ⁵	NS	mg/L	14,000	mg/L
Total Nitrogen ⁵	NS	mg/L	1.29	mg/L
Total Solids ⁵	NS	mg/L	33,000	mg/L

Notes:

NS = No Standard

ND = Compound not detected above method detection limit (see attached lab report for MDLs)

Bold = Positive detection

¹ All handling and preservation of collected samples and laboratory analyses of samples was performed in accordance with 40 CFR Part 136.

² Analysis for non-polar materials was performed by EPA method 1664.

³ Analysis for polychlorinated biphenyls (PCBs) was performed according to EPA method 608 with method detection limits 65 parts per trillion. Analysis for PCBs is required if discharge ≥ 10,000 gallons per day (gpd) and duration of discharge > 10 days.

⁴ For discharge ≥ 10,000 gpd, the total suspended solids (TSS) limit is 350 mg/l. For discharge < 10,000 gpd, the limit is determined on a case by case basis.

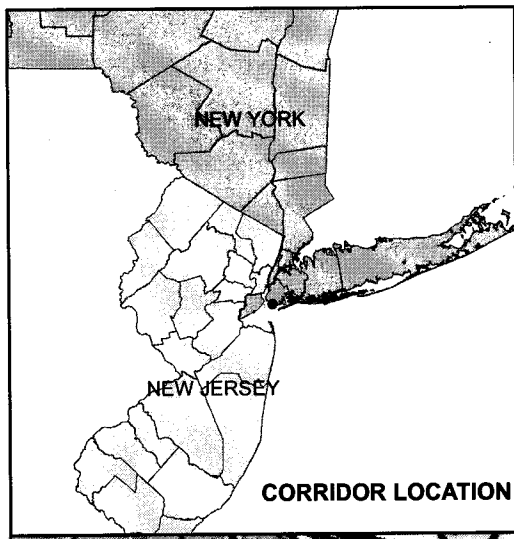
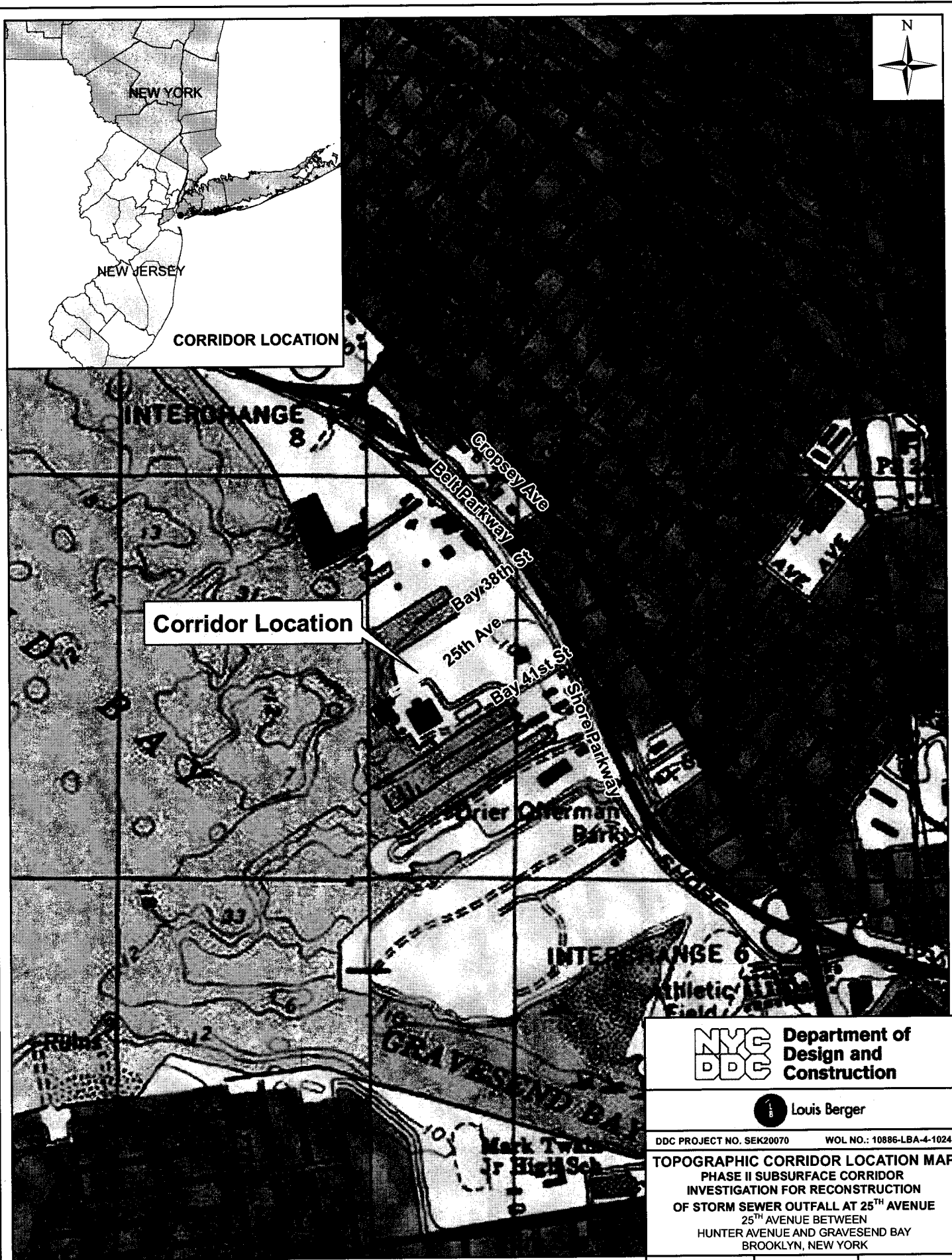
⁵ Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids, and Total Nitrogen are required if proposed discharge ≥ 10,000 gpd.

Table 14. Summary of Quality Control/Quality Assurance Results
 Phase II Subsurface Corridor Investigation for Reconstruction of Storm Sewer Outfall at 25th Avenue
 Brooklyn, New York

Analyte	Sample ID and Sampling Date		
	FB01 U 4/14/2016	FB01 F 4/14/2016	TRIP BLANK 4/14/2016
TCL VOCs			
No VOCs were Detected	ND	NA	ND
TCL SVOCs			
No SVOCs were Detected	ND	NA	NA
TAL Metals			
No Metals were Detected	ND	ND	NA
PCBs			
No PCBs were Detected	ND	NA	NA
Pesticides			
No Pesticides were Detected	ND	NA	NA

Notes:
 All concentrations are reported in micrograms per liter (ug/L)
 ND = Compound not detected above method detection limit (see attached lab report for MDLs)
 NA = Not Analyzed

FIGURE 1 – TOPOGRAPHIC CORRIDOR LOCATION MAP



Corridor Location

NYC DDC Department of Design and Construction

1 Louis Berger

DDC PROJECT NO. SEK20070 WOL NO.: 10886-LBA-4-10246

TOPOGRAPHIC CORRIDOR LOCATION MAP
 PHASE II SUBSURFACE CORRIDOR
 INVESTIGATION FOR RECONSTRUCTION
 OF STORM SEWER OUTFALL AT 25TH AVENUE
 BETWEEN HUNTER AVENUE AND GRAVESEND BAY
 BROOKLYN, NEW YORK

SCALE: 1" = 1000' DATE: 5/5/2016 FIGURE: 1

Source: USGS Quadrangles The Narrows and Coney Island, New York, 1995

FIGURE 2 – SOIL BORING LOCATION PLAN



25TH AVE

HUNTER AVE

GRAVESEND BAY



Department of
Design and
Construction



Louis Berger

DDC PROJECT NO.: BEK20070 WOL NO.: 10886-LBA-4-1-0246
BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR
INVESTIGATION FOR RECONSTRUCTION
OF STORM SEWER OUTFALL AT 26TH AVENUE
HUNTER AVENUE AND GRAVESEND BAY
BROOKLYN, NEW YORK

SCALE: 1" = 200' DATE: 5/5/2016 FIGURE: 2

Legend

- Soil Boring Location
- ⊗ Temporary Well Location
- Sediment Sample Location
- Approximate Corridor Area

APPENDIX A
BORING LOCATION PLAN



Parking Lot

25TH AVE

13'1"

195'3"

149'9"

15'8"

SS01

SB01

Legend

- Soil Boring Location
- Temporary Well Location
- Sediment Sample Location



Department of Design and Construction



Louis Berger

DDC PROJECT NO.: SEK20070

WOL NO.: 10886-LBA-4-10246

BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR
INVESTIGATION FOR RECONSTRUCTION
OF STORM SEWER OUTFALL AT 26TH AVENUE

HUNTER AVENUE BETWEEN
25TH AVENUE AND GRAVESEND BAY
BROOKLYN, NEW YORK

SCALE: 1" = 100'

DATE: 5/5/2016

APPENDIX A-1

HAZ -90



25TH AVE

48.7'

Parking Lot

77.6'

SB02

194.6'



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BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR
INVESTIGATION FOR RECONSTRUCTION
OF STORM SEWER OUTFALL AT 25TH AVENUE
HUNTER AVENUE AND GRAVESEND BAY
BROOKLYN, NEW YORK

SCALE: 1" = 100' DATE: 5/5/2016 APPENDIX A-2

Legend

- Soil Boring Location
- Temporary Well Location
- Sediment Sample Location

16.6'

SS02



Parking Lot

25TH AVE

47"

TWP01

120"

140"

270"

SB03

90'6"

25'8"

SB04

Legend

- Soil Boring Location
- ⊗ Temporary Well Location
- Sediment Sample Location



Department of Design and Construction

Louis Berger

DDC PROJECT NO. SEK20070 WOL NO.: 10886-LBA-4-10246

BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR
INVESTIGATION FOR RECONSTRUCTION
OF STORM SEWER OUTFALL AT 25TH AVENUE
 25TH AVENUE BETWEEN
 HUNTER AVENUE AND GRAVESEND BAY
 BROOKLYN, NEW YORK

SCALE: 1" = 100' DATE: 5/5/2016 APPENDIX A-3

APPENDIX B
GEOLOGIC BORING LOGS



Louis Berger

Drilling Log

Page 1 of 1

BORING NO.: SB01

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 3001040.053

PROJECT: Phase II SCI for Reconstruction of Storm Sewer Outfall at 25th Ave

FMS ID#: SEK20070

DRILLING CONTRACTOR: PAL Environmental Services, Corp.

WOL #: 10886-LBA-4-10246

DRILLING METHOD: Hand Auger

DATE STARTED: 4/14/2016

BOREHOLE DATA

WELL DATA

DATE FINISHED: 4/14/2016

Diameter (in): 3

Well Diameter (in): N/A

DRILLER: J. Portillo

Total Depth (ft.): 3

Total Depth (ft.): N/A

LBA INSPECTOR: J. Lacanlale

Depth to Refusal (ft): 3

Screen Length (ft): N/A

NORTHING (ft): 154173.2424

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 984711.7904

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0 1 2		FILL			<1	Dusky yellowish brown (10YR 2/2) coarse to fine SAND, trace Silt, some coarse to medium Gravel (40% fill material: bricks, concrete); moist.	Gravelly Sand (Fill), Collected grab sample SB01 from 1.0 to 3.0 ft bgs and composite sample WC01 from 0 to 3.0 ft bgs
	4						Total Depth of Boring 3 feet.	



Louis Berger

Drilling Log

Page 1 of 1

BORING NO.: SB02

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 3001040.053

PROJECT: Phase II SCI for Reconstruction of Storm Sewer Outfall at 25th Ave

FMS ID#: SEK20070

DRILLING CONTRACTOR: PAL Environmental Services, Corp.

WOL #: 10886-LBA-4-10246

DRILLING METHOD: Hand Auger

DATE STARTED: 4/14/2016

BOREHOLE DATA

WELL DATA

DATE FINISHED: 4/14/2016

Diameter (in): 3

Well Diameter (in): N/A

DRILLER: J. Portillo

Total Depth (ft.): 3

Total Depth (ft.): N/A

LBA INSPECTOR: J. Lacanlale

Depth to Refusal (ft.): 3

Screen Length (ft.): N/A

NORTHING (ft): 154266.4207

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 984734.7924

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Very pale orange (10YR 8/2) medium to fine SAND, trace Silt, little medium to fine Gravel; moist.	Sand (Fill)
			FILL			<1	Dusky yellowish brown (10YR 2/2) coarse to fine SAND, trace Silt, some coarse to fine Gravel (40% fill material - concrete, asphalt); moist.	Gravelly Sand (Fill), Collected grab sample SB02 from 1.0 to 3.0 ft bgs and composite sample WC02 from 0 to 3.0 ft bgs
	2		FILL			<1	Moderate yellowish brown (10YR 5/4) coarse to fine SAND, trace Silt, some coarse to fine Gravel (40% fill material - concrete); moist.	
							Total Depth of Boring 3 feet.	
	4							



Louis Berger

Drilling Log

Page 1 of 1

BORING NO.: SB04

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 3001040.053

PROJECT: Phase II SCI for Reconstruction of Storm Sewer Outfall at 25th Ave

FMS ID#: SEK20070

DRILLING CONTRACTOR: PAL Environmental Services, Corp.

WOL #: 10886-LBA-4-10246

DRILLING METHOD: Hand Auger

DATE STARTED: 4/14/2016

BOREHOLE DATA

WELL DATA

DATE FINISHED: 4/14/2016

Diameter (in): 3

Well Diameter (in): N/A

DRILLER: J. Portillo

Total Depth (ft.): 5

Total Depth (ft.): N/A

LBA INSPECTOR: J. Lacanlale

Depth to Refusal (ft.): N/A

Screen Length (ft.): N/A

NORTHING (ft): 154196.4787

Depth to Water (ft.): N/A

Depth to Water (ft.): N/A

EASTING (ft): 984765.3761

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			< 1	Dark yellowish orange (10YR 6/6) medium to fine SAND, trace Silt, trace fine Gravel; moist.	Sand (Fill), Collected grab sample SB04 from 3.0 to 5.0 ft bgs and composite sample WC04 from 0 to 5.0 ft bgs
	2							
	4							
	5						Total Depth of Boring 5 feet.	



Drilling Log

Page 1 of 3

BORING NO.: TWP01

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction		PROJECT NO.: 3001040.053
PROJECT: Phase II SCI for Reconstruction of Storm Sewer Outfall at 25th Ave		FMS ID#: SEK20070
DRILLING CONTRACTOR: PAL Environmental Services, Corp.		WOL #: 10886-LBA-4-10246
DRILLING METHOD: Geoprobe		DATE STARTED: 4/28/2016
BOREHOLE DATA		DATE FINISHED: 4/28/2016
Diameter (in): 2	Well Diameter (in): N/A	DRILLER: J. Brave
Total Depth (ft.): 15	Total Depth (ft.): N/A	LBA INSPECTOR: O. Sohail
Depth to Refusal (ft.): 15	Screen Length (ft.): N/A	NORTHING (ft): 154270.6262
Depth to Water (ft.): 7.56	Depth to Water (ft.): N/A	EASTING (ft): 984842.0772
Depth to Rock (ft.): N/A	Slot Size (in): N/A	SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.
Soil boring was pre-cleared to 6 ft bgs. Collected groundwater sample TWP01 and DUPTWP01 from temporary well.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			< 1	Dark gray (N3) coarse to medium GRAVEL, trace Silt, some coarse to fine Sand (40% fill material - brick, concrete); dry.	Sandy Gravel (Fill)
	2							
	4							
	6		FILL			< 1	Light bluish gray (5B 7/1) to dusky yellowish brown (10YR 2/2) coarse to fine SAND, trace Silt, some coarse to fine Gravel (40% fill material - brick, concrete); moist.	Gravelly Sand (Fill)



Louis Berger

Drilling Log

Page 2 of 3

BORING NO.: TWP01

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 3001040.053

PROJECT: Phase II SCI for Reconstruction of Storm Sewer Outfall at 25th Ave

FMS ID#: SEK20070

DRILLING CONTRACTOR: PAL Environmental Services, Corp.

WOL #: 10886-LBA-4-10246

DRILLING METHOD: Geoprobe

DATE STARTED: 4/28/2016

BOREHOLE DATA

WELL DATA

DATE FINISHED: 4/28/2016

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: J. Brave

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: O. Sohail

Depth to Refusal (ft.): 15

Screen Length (ft.): N/A

NORTHING (ft): 154270.6262

Depth to Water (ft.): 7.56

Depth to Water (ft.): N/A

EASTING (ft): 984842.0772

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ft bgs. Collected groundwater sample TWP01 and DUPTWP01 from temporary well.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	0		FILL			< 1	Light bluish gray (5B 7/1) to dusky yellowish brown (10YR 2/2) coarse to fine SAND, trace Silt, some coarse to fine Gravel (40% fill material - brick, concrete); moist.	Gravelly Sand (Fill) ▽ Water Level at 7.56 ft bgs
	8							
	10							
	12							



Louis Berger

Drilling Log

Page 3 of 3

BORING NO.: TWP01

LOCATION: Brooklyn, NY

CLIENT: New York City Department of Design and Construction

PROJECT NO.: 3001040.053

PROJECT: Phase II SCI for Reconstruction of Storm Sewer Outfall at 25th Ave

FMS ID#: SEK20070

DRILLING CONTRACTOR: PAL Environmental Services, Corp.

WOL #: 10886-LBA-4-10246

DRILLING METHOD: Geoprobe

DATE STARTED: 4/28/2016

BOREHOLE DATA

WELL DATA

DATE FINISHED: 4/28/2016

Diameter (in): 2

Well Diameter (in): N/A

DRILLER: J. Brave

Total Depth (ft.): 15

Total Depth (ft.): N/A

LBA INSPECTOR: O. Sohail

Depth to Refusal (ft): 15

Screen Length (ft): N/A

NORTHING (ft): 154270.6262

Depth to Water (ft.): 7.56

Depth to Water (ft.): N/A

EASTING (ft): 984842.0772

Depth to Rock (ft.): N/A

Slot Size (in): N/A

SURFACE ELEVATION (ft): N/A

NOTES: Soil description based on Unified Soil Classification System (USCS), Burmister Classification and Munsell Rock Color Chart.

Soil boring was pre-cleared to 6 ft bgs. Collected groundwater sample TWP01 and DUPTWP01 from temporary well.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		FILL			< 1	Light bluish gray (5B 7/1) to dusky yellowish brown (10YR 2/2) coarse to fine SAND, trace Silt, some coarse to fine Gravel (40% fill material - brick, concrete); moist.	Gravelly Sand (Fill)
	16						Total Depth of Boring 15 feet.	

APPENDIX C
LABORATORY ANALYTICAL RESULTS

Project: 25th Ave Ph II SCI

Client PO: 3001040.053.00

Report To: Louis Berger & Associates
48 Wall Street
16th Floor
New York, NY 10005

Attn: Breanna Gribble

Received Date: 4/14/2016

Report Date: 5/9/2016

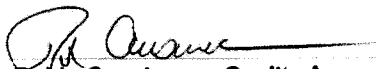
Deliverables: NYDOH-R

Lab ID: AC90773

Lab Project No: 6041514

This report is a true report of results obtained from our tests of this material. The report relates only to those samples received and analyzed by the laboratory. All results meet the requirements of the NELAC Institute standards. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

In lieu of a formal contract document, the total aggregate liability of Hampton-Clarke to all parties shall not exceed Hampton-Clarke's total fee for analytical services rendered.



Robin Cousineau - Quality Assurance Director

OR

Jean Revolus - Laboratory Director

NJ (07071)
PA (68-00463)

NY (ELAP11408)
KY (90124)

CT (PH-0671)





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Sample Summary

Client: Louis Berger & Associates
Project: 25th Ave Ph II SCI

HC Project #: 6041514

Lab#	SampleID	Matrix	Collection Date	Receipt Date
AC90773-001	SB-01	Soil/Encore	4/14/2016	4/14/2016
AC90773-002	SB-02	Soil/Encore	4/14/2016	4/14/2016
AC90773-003	SB-03	Soil	4/14/2016	4/14/2016
AC90773-004	SB-04	Soil	4/14/2016	4/14/2016
AC90773-005	WC01	Soil	4/14/2016	4/14/2016
AC90773-006	WC02	Soil	4/14/2016	4/14/2016
AC90773-007	WC03	Soil	4/14/2016	4/14/2016
AC90773-008	WC04	Soil	4/14/2016	4/14/2016
AC90773-009	SS-01	Soil	4/14/2016	4/14/2016
AC90773-010	SS-02	Soil	4/14/2016	4/14/2016
AC90773-011	DUP01	Soil	4/14/2016	4/14/2016
AC90773-012	FB01 U	Aqueous	4/14/2016	4/14/2016
AC90773-013	FB01 F	Aqueous	4/14/2016	4/14/2016
AC90773-014	Trip Blank	Aqueous	4/14/2016	4/14/2016

HC Case Narrative

Client: Louis Berger & Associates
Project: 25th Ave Ph II SCI

HC Project: 6041514

This case narrative is in the form of an exception report. Method specific and/or QA/QC anomalies related to this report only are detailed below.

Volatile Organic Analysis:

The VO soil samples were not collected as encores. Any reported sample concentrations below 200 ug/kg may be biased low due to the samples not being collected according to 5035A low-level specifications.

Methylene chloride was recovered in samples AC90773-002 and -003 due to possible laboratory contamination.

The Method Blank Spike for batches 52796, 52808, and 52816 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

The MS/MSD RPD, Matrix Spike and Matrix Spike Duplicate for batch 52808 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Base Neutral/Acid Extractable Analysis:

Samples AC90773-001 and -009 were analyzed at a dilution due to high concentration of target analytes.

The Method Blank Spike for batches 49884 and 49831 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

The MS/MSD RPD, Matrix Spike and Matrix Spike Duplicate for batch 49884 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

There is no surrogate recovery data for sample AC90773-001 due to high sample dilution. Please refer to the applicable Form 2 for the recoveries.

PCB Analysis:

Sample AC90773-001 was analyzed at a dilution due to high concentration of non-target analytes.

Sample AC90773-009 has a surrogate recovery outside QC limits due to interference peak. Please refer to the applicable Form 2 for the recoveries.

Pesticide Analysis:

Sample AC90773-001 was analyzed at a dilution due to high concentration of non-target analytes.

Total Petroleum Hydrocarbon Analysis:

Data conforms to method requirements.

Gasoline Range Organics Analysis:

Data conforms to method requirements.

Metals Analysis:

The Post Spike, Matrix Spike and/or Matrix Spike Duplicate for batches 52302 and 52309 had recoveries outside QC limits. Please refer to the applicable Form 5/7 for the recoveries.

The RPD between the QC sample and the Method Replicate had recoveries outside QC limits in batch 52302. Please refer to the applicable Form 6/9 for the recoveries.

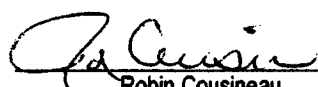
The serial dilution for batches 52301 and 52309 is outside QC limits for one or more analytes. Please refer to the applicable Form 6/9 for the recoveries.

TCLP Metals Analysis:

The serial dilution for batch 52300 is outside QC limits for one or more analytes. Please refer to the applicable Form 6/9 for the recoveries.

Wet Chemistry Analysis:

Samples AC90773-005 through -010 were analyzed for Reactivity using SW-846 7.3. SW-846 7.3 is not a NELAP accredited parameter.



Robin Cousineau
Quality Assurance Director

Or

Jean Revolus
Laboratory Director

5/9/2016

Date

HC Executive Summary

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-001

Sample ID: SB-01

Analyte	Units	RL	Result	Analytical Method
Aluminum	mg/kg	220	3400	EPA 6010C
Barium	mg/kg	11	40	EPA 6010C
Calcium	mg/kg	1100	12000	EPA 6010C
Chromium	mg/kg	5.4	12	EPA 6010C
Cobalt	mg/kg	2.7	3.5	EPA 6010C
Copper	mg/kg	5.4	26	EPA 6010C
Iron	mg/kg	220	9500	EPA 6010C
Lead	mg/kg	5.4	120	EPA 6010C
Magnesium	mg/kg	540	7000	EPA 6010C
Manganese	mg/kg	11	250	EPA 6010C
Nickel	mg/kg	5.4	27	EPA 6010C
Sodium	mg/kg	270	1300	EPA 6010C
Vanadium	mg/kg	11	17	EPA 6010C
Zinc	mg/kg	11	87	EPA 6010C
Arsenic	mg/kg	0.22	4.7	EPA 6020A
Beryllium	mg/kg	0.22	0.25	EPA 6020A
Mercury	mg/kg	0.090	0.40	EPA 7471B
2-Methylnaphthalene	mg/kg	1.1	1.3	EPA 8270D
Acenaphthene	mg/kg	1.1	2.2	EPA 8270D
Anthracene	mg/kg	1.1	4.3	EPA 8270D
Benzo[a]anthracene	mg/kg	1.1	7.0	EPA 8270D
Benzo[a]pyrene	mg/kg	1.1	5.4	EPA 8270D
Benzo[b]fluoranthene	mg/kg	1.1	6.7	EPA 8270D
Benzo[g,h,i]perylene	mg/kg	1.1	3.5	EPA 8270D
Benzo[k]fluoranthene	mg/kg	1.1	2.3	EPA 8270D
Carbazole	mg/kg	1.1	1.8	EPA 8270D
Chrysene	mg/kg	1.1	6.3	EPA 8270D
Dibenzo[a,h]anthracene	mg/kg	1.1	1.1	EPA 8270D
Dibenzofuran	mg/kg	0.27	1.8	EPA 8270D
Fluoranthene	mg/kg	1.1	16	EPA 8270D
Fluorene	mg/kg	1.1	3.0	EPA 8270D
Indeno[1,2,3-cd]pyrene	mg/kg	1.1	2.9	EPA 8270D
Naphthalene	mg/kg	0.27	2.6	EPA 8270D
Phenanthrene	mg/kg	1.1	17	EPA 8270D
Pyrene	mg/kg	1.1	14	EPA 8270D

HC Executive Summary

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-002

Sample ID: SB-02

Analyte	Units	RL	Result	Analytical Method
Aluminum	mg/kg	220	3000	EPA 6010C
Barium	mg/kg	11	1900	EPA 6010C
Calcium	mg/kg	1100	27000	EPA 6010C
Chromium	mg/kg	5.4	9.6	EPA 6010C
Cobalt	mg/kg	2.7	5.3	EPA 6010C
Copper	mg/kg	5.4	19	EPA 6010C
Iron	mg/kg	220	15000	EPA 6010C
Lead	mg/kg	5.4	870	EPA 6010C
Magnesium	mg/kg	540	4100	EPA 6010C
Manganese	mg/kg	11	220	EPA 6010C
Nickel	mg/kg	5.4	18	EPA 6010C
Potassium	mg/kg	540	670	EPA 6010C
Sodium	mg/kg	270	300	EPA 6010C
Zinc	mg/kg	11	340	EPA 6010C
Arsenic	mg/kg	0.22	6.2	EPA 6020A
Beryllium	mg/kg	0.22	0.33	EPA 6020A
Mercury	mg/kg	0.091	0.36	EPA 7471B
Methylene chloride	mg/kg	0.0021	0.0056	EPA 8260C
Benzo[a]anthracene	mg/kg	0.072	0.13	EPA 8270D
Benzo[a]pyrene	mg/kg	0.072	0.10	EPA 8270D
Benzo[b]fluoranthene	mg/kg	0.072	0.17	EPA 8270D
Benzo[g,h,i]perylene	mg/kg	0.072	0.098	EPA 8270D
Chrysene	mg/kg	0.072	0.11	EPA 8270D
Fluoranthene	mg/kg	0.072	0.24	EPA 8270D
Indeno[1,2,3-cd]pyrene	mg/kg	0.072	0.075	EPA 8270D
Naphthalene	mg/kg	0.018	0.052	EPA 8270D
Phenanthrene	mg/kg	0.072	0.18	EPA 8270D
Pyrene	mg/kg	0.072	0.19	EPA 8270D

HC Executive Summary

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-003

Sample ID: SB-03

Analyte	Units	RL	Result	Analytical Method
Aluminum	mg/kg	210	1100	EPA 6010C
Barium	mg/kg	11	14	EPA 6010C
Copper	mg/kg	5.3	12	EPA 6010C
Iron	mg/kg	210	2400	EPA 6010C
Lead	mg/kg	5.3	29	EPA 6010C
Manganese	mg/kg	11	42	EPA 6010C
Nickel	mg/kg	5.3	6.1	EPA 6010C
Zinc	mg/kg	11	57	EPA 6010C
Arsenic	mg/kg	0.21	1.3	EPA 6020A
Methylene chloride	mg/kg	0.0020	0.0052	EPA 8260C
Benzo[a]anthracene	mg/kg	0.035	0.087	EPA 8270D
Benzo[a]pyrene	mg/kg	0.035	0.10	EPA 8270D
Benzo[b]fluoranthene	mg/kg	0.035	0.13	EPA 8270D
Benzo[g,h,i]perylene	mg/kg	0.035	0.068	EPA 8270D
Benzo[k]fluoranthene	mg/kg	0.035	0.050	EPA 8270D
Chrysene	mg/kg	0.035	0.098	EPA 8270D
Fluoranthene	mg/kg	0.035	0.16	EPA 8270D
Indeno[1,2,3-cd]pyrene	mg/kg	0.035	0.059	EPA 8270D
Phenanthrene	mg/kg	0.035	0.070	EPA 8270D
Pyrene	mg/kg	0.035	0.15	EPA 8270D

Lab#: AC90773-004

Sample ID: SB-04

Analyte	Units	RL	Result	Analytical Method
Aluminum	mg/kg	200	980	EPA 6010C
Iron	mg/kg	200	1600	EPA 6010C
Manganese	mg/kg	10	29	EPA 6010C
Arsenic	mg/kg	0.20	0.57	EPA 6020A

Lab#: AC90773-005

Sample ID: WC01

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.8	9040C/9045D
Burning Rate (mm/sec)			NA	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability Screen (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.30	EPA 6010C
Lead	mg/l	0.050	0.33	EPA 6010C
Total Petroleum Hydrocarbons	mg/kg	64	580	EPA 8015D
Paint Filter Test			NEG	EPA 9095A

Lab#: AC90773-006

Sample ID: WC02

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.8	9040C/9045D
Burning Rate (mm/sec)			NA	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability Screen (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.52	EPA 6010C
Paint Filter Test			NEG	EPA 9095A

HC Executive Summary

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-007

Sample ID: WC03

Analyte	Units	RL	Result	Analytical Method
pH	ph		9.2	9040C/9045D
Burning Rate (mm/sec)			NA	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability Screen (POS/NEG)			NEG	EPA 1030
Lead	mg/l	0.050	0.084	EPA 6010C
Paint Filter Test			NEG	EPA 9095A

Lab#: AC90773-008

Sample ID: WC04

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.9	9040C/9045D
Burning Rate (mm/sec)			NA	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability Screen (POS/NEG)			NEG	EPA 1030
Paint Filter Test			NEG	EPA 9095A

HC Executive Summary

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-009

Sample ID: SS-01

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.4	9040C/9045D
Burning Rate (mm/sec)			NA	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability Screen (POS/NEG)			NEG	EPA 1030
Aluminum	mg/kg	240	1600	EPA 6010C
Calcium	mg/kg	1200	50000	EPA 6010C
Copper	mg/kg	5.9	11	EPA 6010C
Iron	mg/kg	240	4600	EPA 6010C
Lead	mg/kg	5.9	52	EPA 6010C
Lead	mg/l	0.050	0.056	EPA 6010C
Magnesium	mg/kg	590	21000	EPA 6010C
Manganese	mg/kg	12	99	EPA 6010C
Nickel	mg/kg	5.9	7.7	EPA 6010C
Sodium	mg/kg	290	1800	EPA 6010C
Zinc	mg/kg	12	39	EPA 6010C
Arsenic	mg/kg	0.24	4.9	EPA 6020A
Beryllium	mg/kg	0.24	1.1	EPA 6020A
Total Petroleum Hydrocarbons	mg/kg	71	160	EPA 8015D
2-Methylnaphthalene	mg/kg	0.12	0.19	EPA 8270D
Acenaphthene	mg/kg	0.12	0.53	EPA 8270D
Anthracene	mg/kg	0.12	1.1	EPA 8270D
Benzo[a]anthracene	mg/kg	0.12	1.7	EPA 8270D
Benzo[a]pyrene	mg/kg	0.12	1.3	EPA 8270D
Benzo[b]fluoranthene	mg/kg	0.12	1.9	EPA 8270D
Benzo[g,h,i]perylene	mg/kg	0.12	0.74	EPA 8270D
Benzo[k]fluoranthene	mg/kg	0.12	0.51	EPA 8270D
Carbazole	mg/kg	0.12	0.53	EPA 8270D
Chrysene	mg/kg	0.12	1.6	EPA 8270D
Dibenzo[a,h]anthracene	mg/kg	0.12	0.24	EPA 8270D
Dibenzofuran	mg/kg	0.029	0.48	EPA 8270D
Fluoranthene	mg/kg	0.12	4.4	EPA 8270D
Fluorene	mg/kg	0.12	0.71	EPA 8270D
Indeno[1,2,3-cd]pyrene	mg/kg	0.12	0.72	EPA 8270D
Naphthalene	mg/kg	0.029	0.51	EPA 8270D
Phenanthrene	mg/kg	0.12	4.6	EPA 8270D
Pyrene	mg/kg	0.12	3.5	EPA 8270D
Paint Filter Test			NEG	EPA 9095A

HC Executive Summary

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-010

Sample ID: SS-02

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.7	9040C/9045D
Burning Rate (mm/sec)			NA	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability Screen (POS/NEG)			NEG	EPA 1030
Aluminum	mg/kg	210	2200	EPA 6010C
Calcium	mg/kg	1100	10000	EPA 6010C
Chromium	mg/kg	5.3	15	EPA 6010C
Cobalt	mg/kg	2.7	2.8	EPA 6010C
Copper	mg/kg	5.3	22	EPA 6010C
Iron	mg/kg	210	22000	EPA 6010C
Lead	mg/kg	5.3	54	EPA 6010C
Magnesium	mg/kg	530	4900	EPA 6010C
Manganese	mg/kg	11	190	EPA 6010C
Nickel	mg/kg	5.3	18	EPA 6010C
Sodium	mg/kg	270	960	EPA 6010C
Vanadium	mg/kg	11	12	EPA 6010C
Zinc	mg/kg	11	68	EPA 6010C
Arsenic	mg/kg	0.21	4.8	EPA 6020A
Mercury	mg/kg	0.089	0.096	EPA 7471B
Total Petroleum Hydrocarbons	mg/kg	64	130	EPA 8015D
Benzo[b]fluoranthene	mg/kg	0.071	0.093	EPA 8270D
Chrysene	mg/kg	0.071	0.10	EPA 8270D
Fluoranthene	mg/kg	0.071	0.17	EPA 8270D
Phenanthrene	mg/kg	0.071	0.12	EPA 8270D
Pyrene	mg/kg	0.071	0.14	EPA 8270D
Paint Filter Test			NEG	EPA 9095A

HC Executive Summary

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-011

Sample ID: DUP01

Analyte	Units	RL	Result	Analytical Method
Aluminum	mg/kg	210	1900	EPA 6010C
Barium	mg/kg	11	13	EPA 6010C
Calcium	mg/kg	1100	1100	EPA 6010C
Cobalt	mg/kg	2.7	6.0	EPA 6010C
Copper	mg/kg	5.3	10	EPA 6010C
Iron	mg/kg	210	3500	EPA 6010C
Lead	mg/kg	5.3	49	EPA 6010C
Magnesium	mg/kg	530	850	EPA 6010C
Manganese	mg/kg	11	110	EPA 6010C
Nickel	mg/kg	5.3	8.9	EPA 6010C
Zinc	mg/kg	11	66	EPA 6010C
Arsenic	mg/kg	0.21	2.0	EPA 6020A
Mercury	mg/kg	0.089	0.21	EPA 7471B
Acenaphthylene	mg/kg	0.035	0.11	EPA 8270D
Anthracene	mg/kg	0.035	0.062	EPA 8270D
Benzo[a]anthracene	mg/kg	0.035	0.46	EPA 8270D
Benzo[a]pyrene	mg/kg	0.035	0.54	EPA 8270D
Benzo[b]fluoranthene	mg/kg	0.035	0.72	EPA 8270D
Benzo[g,h,i]perylene	mg/kg	0.035	0.36	EPA 8270D
Benzo[k]fluoranthene	mg/kg	0.035	0.21	EPA 8270D
Chrysene	mg/kg	0.035	0.49	EPA 8270D
Dibenzo[a,h]anthracene	mg/kg	0.035	0.11	EPA 8270D
Fluoranthene	mg/kg	0.035	0.53	EPA 8270D
Indeno[1,2,3-cd]pyrene	mg/kg	0.035	0.33	EPA 8270D
Phenanthrene	mg/kg	0.035	0.19	EPA 8270D
Pyrene	mg/kg	0.035	0.60	EPA 8270D

HC Report of Analysis

Client: Louis Berger & Associates
Project: 25th Ave Ph II SCI

HC Project #: 6041514

Sample ID: SB-01
Lab#: AC90773-001
Matrix: Soil/Encore

Collection Date: 4/14/2016
Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		93

Mercury (Soil/Waste) 7471A

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.090	0.40

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	5	mg/kg	0.027	ND
Aldrin	5	mg/kg	0.027	ND
Alpha-BHC	5	mg/kg	0.0054	ND
beta-BHC	5	mg/kg	0.0054	ND
Chlordane (Total)	5	mg/kg	0.027	ND
delta-BHC	5	mg/kg	0.027	ND
Dieldrin	5	mg/kg	0.0054	ND
Endosulfan I	5	mg/kg	0.027	ND
Endosulfan II	5	mg/kg	0.027	ND
Endosulfan Sulfate	5	mg/kg	0.027	ND
Endrin	5	mg/kg	0.027	ND
Endrin Aldehyde	5	mg/kg	0.027	ND
Endrin Ketone	5	mg/kg	0.027	ND
gamma-BHC	5	mg/kg	0.0054	ND
Heptachlor	5	mg/kg	0.027	ND
Heptachlor Epoxide	5	mg/kg	0.027	ND
Methoxychlor	5	mg/kg	0.027	ND
p,p'-DDD	5	mg/kg	0.013	ND
p,p'-DDE	5	mg/kg	0.013	ND
p,p'-DDT	5	mg/kg	0.013	ND
Toxaphene	5	mg/kg	0.13	ND
γ-Chlordane	5	mg/kg	0.027	ND

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	2	mg/kg	0.054	ND
Aroclor-1016	2	mg/kg	0.054	ND
Aroclor-1221	2	mg/kg	0.054	ND
Aroclor-1232	2	mg/kg	0.054	ND
Aroclor-1242	2	mg/kg	0.054	ND
Aroclor-1248	2	mg/kg	0.054	ND
Aroclor-1254	2	mg/kg	0.054	ND
Aroclor-1260	2	mg/kg	0.054	ND
Aroclor-1262	2	mg/kg	0.054	ND
Aroclor-1268	2	mg/kg	0.054	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	10	mg/kg	1.1	ND
1,2,4,5-Tetrachlorobenzene	10	mg/kg	1.1	ND
2,3,4,6-Tetrachlorophenol	10	mg/kg	1.1	ND

NOTE: Soil Results are reported to Dry Weigh

HAZ-116

Project #: 6041514

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Sample ID: SB-01
 Lab#: AC90773-001
 Matrix: Soil/Encore

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

2,4,5-Trichlorophenol	10	mg/kg	1.1	ND
2,4,6-Trichlorophenol	10	mg/kg	1.1	ND
2,4-Dichlorophenol	10	mg/kg	0.27	ND
2,4-Dimethylphenol	10	mg/kg	0.27	ND
2,4-Dinitrophenol	10	mg/kg	5.4	ND
2,4-Dinitrotoluene	10	mg/kg	1.1	ND
2,6-Dinitrotoluene	10	mg/kg	1.1	ND
2-Chloronaphthalene	10	mg/kg	1.1	ND
2-Chlorophenol	10	mg/kg	1.1	ND
2-Methylnaphthalene	10	mg/kg	1.1	1.3
2-Methylphenol	10	mg/kg	0.27	ND
2-Nitroaniline	10	mg/kg	1.1	ND
2-Nitrophenol	10	mg/kg	1.1	ND
3&4-Methylphenol	10	mg/kg	0.27	ND
3,3'-Dichlorobenzidine	10	mg/kg	1.1	ND
3-Nitroaniline	10	mg/kg	1.1	ND
4,6-Dinitro-2-methylphenol	10	mg/kg	5.4	ND
4-Bromophenyl-phenylether	10	mg/kg	1.1	ND
4-Chloro-3-methylphenol	10	mg/kg	1.1	ND
4-Chloroaniline	10	mg/kg	0.27	ND
4-Chlorophenyl-phenylether	10	mg/kg	1.1	ND
4-Nitroaniline	10	mg/kg	1.1	ND
4-Nitrophenol	10	mg/kg	1.1	ND
Acenaphthene	10	mg/kg	1.1	2.2
Acenaphthylene	10	mg/kg	1.1	ND
Acetophenone	10	mg/kg	1.1	ND
Anthracene	10	mg/kg	1.1	4.3
Atrazine	10	mg/kg	1.1	ND
Benzaldehyde	10	mg/kg	1.1	ND
Benzo[a]anthracene	10	mg/kg	1.1	7.0
Benzo[a]pyrene	10	mg/kg	1.1	5.4
Benzo[b]fluoranthene	10	mg/kg	1.1	6.7
Benzo[g,h,i]perylene	10	mg/kg	1.1	3.5
Benzo[k]fluoranthene	10	mg/kg	1.1	2.3
bis(2-Chloroethoxy)methane	10	mg/kg	1.1	ND
bis(2-Chloroethyl)ether	10	mg/kg	0.27	ND
bis(2-Chloroisopropyl)ether	10	mg/kg	1.1	ND
bis(2-Ethylhexyl)phthalate	10	mg/kg	1.1	ND
Butylbenzylphthalate	10	mg/kg	1.1	ND
Caprolactam	10	mg/kg	1.1	ND
Carbazole	10	mg/kg	1.1	1.8
Chrysene	10	mg/kg	1.1	6.3
Dibenzo[a,h]anthracene	10	mg/kg	1.1	1.1
Dibenzofuran	10	mg/kg	0.27	1.8
Diethylphthalate	10	mg/kg	1.1	ND
Dimethylphthalate	10	mg/kg	1.1	ND
Di-n-butylphthalate	10	mg/kg	0.27	ND
Di-n-octylphthalate	10	mg/kg	1.1	ND
Fluoranthene	10	mg/kg	1.1	16
Fluorene	10	mg/kg	1.1	3.0
Hexachlorobenzene	10	mg/kg	1.1	ND
Hexachlorobutadiene	10	mg/kg	1.1	ND
Hexachlorocyclopentadiene	10	mg/kg	2.1	ND
Hexachloroethane	10	mg/kg	1.1	ND
Indeno[1,2,3-cd]pyrene	10	mg/kg	1.1	2.9
Isophorone	10	mg/kg	1.1	ND
Naphthalene	10	mg/kg	0.27	2.8

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NOTE: Soil Results are reported to Dry Weigh

Project #: 6041514

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Sample ID: SB-01
 Lab#: AC90773-001
 Matrix: Soil/Encore

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Nitrobenzene	10	mg/kg	1.1	ND
N-Nitroso-di-n-propylamine	10	mg/kg	0.27	ND
N-Nitrosodiphenylamine	10	mg/kg	1.1	ND
Pentachlorophenol	10	mg/kg	1.4	ND
Phenanthrene	10	mg/kg	1.1	17
Phenol	10	mg/kg	1.1	ND
Pyrene	10	mg/kg	1.1	14

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	220	3400
Barium	1	mg/kg	11	40
Calcium	1	mg/kg	1100	12000
Chromium	1	mg/kg	5.4	12
Cobalt	1	mg/kg	2.7	3.5
Copper	1	mg/kg	5.4	26
Iron	1	mg/kg	220	9500
Lead	1	mg/kg	5.4	120
Magnesium	1	mg/kg	540	7000
Manganese	1	mg/kg	11	250
Nickel	1	mg/kg	5.4	27
Potassium	1	mg/kg	540	ND
Sodium	1	mg/kg	270	1300
Vanadium	1	mg/kg	11	17
Zinc	1	mg/kg	11	87

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	mg/kg	0.86	ND
Arsenic	1	mg/kg	0.22	4.7
Beryllium	1	mg/kg	0.22	0.25
Cadmium	1	mg/kg	0.43	ND
Selenium	1	mg/kg	2.2	ND
Silver	1	mg/kg	0.22	ND
Thallium	1	mg/kg	0.43	ND

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.929	mg/kg	0.0020	ND
1,1,2,2-Tetrachloroethane	0.929	mg/kg	0.0020	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.929	mg/kg	0.0020	ND
1,1,2-Trichloroethane	0.929	mg/kg	0.0020	ND
1,1-Dichloroethane	0.929	mg/kg	0.0020	ND
1,1-Dichloroethene	0.929	mg/kg	0.0020	ND
1,2,3-Trichlorobenzene	0.929	mg/kg	0.0020	ND
1,2,4-Trichlorobenzene	0.929	mg/kg	0.0020	ND
1,2-Dibromo-3-chloropropane	0.929	mg/kg	0.0020	ND
1,2-Dibromoethane	0.929	mg/kg	0.0020	ND
1,2-Dichlorobenzene	0.929	mg/kg	0.0020	ND
1,2-Dichloroethane	0.929	mg/kg	0.0020	ND
1,2-Dichloropropane	0.929	mg/kg	0.0020	ND
1,3-Dichlorobenzene	0.929	mg/kg	0.0020	ND
1,4-Dichlorobenzene	0.929	mg/kg	0.0020	ND
1,4-Dioxane	0.929	mg/kg	0.10	ND
2-Butanone	0.929	mg/kg	0.0020	ND
2-Hexanone	0.929	mg/kg	0.0020	ND
4-Methyl-2-pentanone	0.929	mg/kg	0.0020	ND
Acetone	0.929	mg/kg	0.010	ND

HAZ - 118

Sample ID: SB-01
 Lab#: AC90773-001
 Matrix: Soil/Encore

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Benzene	0.929	mg/kg	0.0010	ND
Bromochloromethane	0.929	mg/kg	0.0020	ND
Bromodichloromethane	0.929	mg/kg	0.0020	ND
Bromoform	0.929	mg/kg	0.0020	ND
Bromomethane	0.929	mg/kg	0.0020	ND
Carbon disulfide	0.929	mg/kg	0.0020	ND
Carbon tetrachloride	0.929	mg/kg	0.0020	ND
Chlorobenzene	0.929	mg/kg	0.0020	ND
Chloroethane	0.929	mg/kg	0.0020	ND
Chloroform	0.929	mg/kg	0.0020	ND
Chloromethane	0.929	mg/kg	0.0020	ND
cis-1,2-Dichloroethene	0.929	mg/kg	0.0020	ND
cis-1,3-Dichloropropene	0.929	mg/kg	0.0020	ND
Cyclohexane	0.929	mg/kg	0.0020	ND
Dibromochloromethane	0.929	mg/kg	0.0020	ND
Dichlorodifluoromethane	0.929	mg/kg	0.0020	ND
Ethylbenzene	0.929	mg/kg	0.0010	ND
Isopropylbenzene	0.929	mg/kg	0.0010	ND
m&p-Xylenes	0.929	mg/kg	0.0010	ND
Methyl Acetate	0.929	mg/kg	0.0020	ND
Methylcyclohexane	0.929	mg/kg	0.0020	ND
Methylene chloride	0.929	mg/kg	0.0020	ND
Methyl-t-butyl ether	0.929	mg/kg	0.0010	ND
o-Xylene	0.929	mg/kg	0.0010	ND
Styrene	0.929	mg/kg	0.0020	ND
t-Butyl Alcohol	0.929	mg/kg	0.010	ND
Tetrachloroethene	0.929	mg/kg	0.0020	ND
Toluene	0.929	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	0.929	mg/kg	0.0020	ND
trans-1,3-Dichloropropene	0.929	mg/kg	0.0020	ND
Trichloroethene	0.929	mg/kg	0.0020	ND
Trichlorofluoromethane	0.929	mg/kg	0.0020	ND
Vinyl chloride	0.929	mg/kg	0.0020	ND
Xylenes (Total)	0.929	mg/kg	0.0010	ND

Sample ID: SB-02
 Lab#: AC90773-002
 Matrix: Soil/Encore

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		92

Mercury (Soil/Waste) 7471A

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.091	0.36

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	mg/kg	0.0054	ND
Aldrin	1	mg/kg	0.0054	ND
Alpha-BHC	1	mg/kg	0.0011	ND
beta-BHC	1	mg/kg	0.0011	ND
Chlordane (Total)	1	mg/kg	0.0054	ND
delta-BHC	1	mg/kg	0.0054	ND
Dieldrin	1	mg/kg	0.0011	ND
Endosulfan I	1	mg/kg	0.0054	ND
Endosulfan II	1	mg/kg	0.0054	ND
Endosulfan Sulfate	1	mg/kg	0.0054	ND
Endrin	1	mg/kg	0.0054	ND
Endrin Aldehyde	1	mg/kg	0.0054	ND
Endrin Ketone	1	mg/kg	0.0054	ND
gamma-BHC	1	mg/kg	0.0011	ND
Heptachlor	1	mg/kg	0.0054	ND
Heptachlor Epoxide	1	mg/kg	0.0054	ND
Methoxychlor	1	mg/kg	0.0054	ND
p,p'-DDD	1	mg/kg	0.0027	ND
p,p'-DDE	1	mg/kg	0.0027	ND
p,p'-DDT	1	mg/kg	0.0027	ND
Toxaphene	1	mg/kg	0.027	ND
γ-Chlordane	1	mg/kg	0.0054	ND

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.027	ND
Aroclor-1016	1	mg/kg	0.027	ND
Aroclor-1221	1	mg/kg	0.027	ND
Aroclor-1232	1	mg/kg	0.027	ND
Aroclor-1242	1	mg/kg	0.027	ND
Aroclor-1248	1	mg/kg	0.027	ND
Aroclor-1254	1	mg/kg	0.027	ND
Aroclor-1260	1	mg/kg	0.027	ND
Aroclor-1262	1	mg/kg	0.027	ND
Aroclor-1268	1	mg/kg	0.027	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	mg/kg	0.072	ND
1,2,4,5-Tetrachlorobenzene	1	mg/kg	0.072	ND
2,3,4,6-Tetrachlorophenol	1	mg/kg	0.072	ND
2,4,5-Trichlorophenol	1	mg/kg	0.072	ND
2,4,6-Trichlorophenol	1	mg/kg	0.072	ND
2,4-Dichlorophenol	1	mg/kg	0.018	ND
2,4-Dimethylphenol	1	mg/kg	0.018	ND
2,4-Dinitrophenol	1	mg/kg	0.36	ND
2,4-Dinitrotoluene	1	mg/kg	0.072	ND

Sample ID: SB-02
 Lab#: AC90773-002
 Matrix: Soil/Encore

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

2,6-Dinitrotoluene	1	mg/kg	0.072	ND
2-Chloronaphthalene	1	mg/kg	0.072	ND
2-Chlorophenol	1	mg/kg	0.072	ND
2-Methylnaphthalene	1	mg/kg	0.072	ND
2-Methylphenol	1	mg/kg	0.018	ND
2-Nitroaniline	1	mg/kg	0.072	ND
2-Nitrophenol	1	mg/kg	0.072	ND
3,4-Methylphenol	1	mg/kg	0.018	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.072	ND
3-Nitroaniline	1	mg/kg	0.072	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.36	ND
4-Bromophenyl-phenylether	1	mg/kg	0.072	ND
4-Chloro-3-methylphenol	1	mg/kg	0.072	ND
4-Chloroaniline	1	mg/kg	0.018	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.072	ND
4-Nitroaniline	1	mg/kg	0.072	ND
4-Nitrophenol	1	mg/kg	0.072	ND
Acenaphthene	1	mg/kg	0.072	ND
Acenaphthylene	1	mg/kg	0.072	ND
Acetophenone	1	mg/kg	0.072	ND
Anthracene	1	mg/kg	0.072	ND
Atrazine	1	mg/kg	0.072	ND
Benzaldehyde	1	mg/kg	0.072	ND
Benzo[a]anthracene	1	mg/kg	0.072	0.13
Benzo[a]pyrene	1	mg/kg	0.072	0.10
Benzo[b]fluoranthene	1	mg/kg	0.072	0.17
Benzo[g,h,i]perylene	1	mg/kg	0.072	0.098
Benzo[k]fluoranthene	1	mg/kg	0.072	ND
bis(2-Chloroethoxy)methane	1	mg/kg	0.072	ND
bis(2-Chloroethyl)ether	1	mg/kg	0.018	ND
bis(2-Chloroisopropyl)ether	1	mg/kg	0.072	ND
bis(2-Ethylhexyl)phthalate	1	mg/kg	0.072	ND
Butylbenzylphthalate	1	mg/kg	0.072	ND
Caprolactam	1	mg/kg	0.072	ND
Carbazole	1	mg/kg	0.072	ND
Chrysene	1	mg/kg	0.072	0.11
Dibenzo[a,h]anthracene	1	mg/kg	0.072	ND
Dibenzofuran	1	mg/kg	0.018	ND
Diethylphthalate	1	mg/kg	0.072	ND
Dimethylphthalate	1	mg/kg	0.072	ND
Di-n-butylphthalate	1	mg/kg	0.018	ND
Di-n-octylphthalate	1	mg/kg	0.072	ND
Fluoranthene	1	mg/kg	0.072	0.24
Fluorene	1	mg/kg	0.072	ND
Hexachlorobenzene	1	mg/kg	0.072	ND
Hexachlorobutadiene	1	mg/kg	0.072	ND
Hexachlorocyclopentadiene	1	mg/kg	0.14	ND
Hexachloroethane	1	mg/kg	0.072	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.072	0.075
Isophorone	1	mg/kg	0.072	ND
Naphthalene	1	mg/kg	0.018	0.052
Nitrobenzene	1	mg/kg	0.072	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.018	ND
N-Nitrosodiphenylamine	1	mg/kg	0.072	ND
Pentachlorophenol	1	mg/kg	0.095	ND
Phenanthrene	1	mg/kg	0.072	0.18
Phenol	1	mg/kg	0.072	ND

HAZ - 121

NOTE: Soil Results are reported to Dry Weigh

Project #: 6041514

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Sample ID: SB-02
 Lab#: AC90773-002
 Matrix: Soil/Encore

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Pyrene	1	mg/kg	0.072	0.19
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TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	220	3000
Barium	1	mg/kg	11	1900
Calcium	1	mg/kg	1100	27000
Chromium	1	mg/kg	5.4	9.8
Cobalt	1	mg/kg	2.7	5.3
Copper	1	mg/kg	5.4	19
Iron	1	mg/kg	220	15000
Lead	1	mg/kg	5.4	870
Magnesium	1	mg/kg	540	4100
Manganese	1	mg/kg	11	220
Nickel	1	mg/kg	5.4	18
Potassium	1	mg/kg	540	670
Sodium	1	mg/kg	270	300
Vanadium	1	mg/kg	11	ND
Zinc	1	mg/kg	11	340

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	mg/kg	0.87	ND
Arsenic	1	mg/kg	0.22	6.2
Beryllium	1	mg/kg	0.22	0.33
Cadmium	1	mg/kg	0.43	ND
Selenium	1	mg/kg	2.2	ND
Silver	1	mg/kg	0.22	ND
Thallium	1	mg/kg	0.43	ND

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.956	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.956	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.956	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.956	mg/kg	0.0021	ND
1,1-Dichloroethane	0.956	mg/kg	0.0021	ND
1,1-Dichloroethene	0.956	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.956	mg/kg	0.0021	ND
1,2,4-Trichlorobenzene	0.956	mg/kg	0.0021	ND
1,2-Dibromo-3-chloropropane	0.956	mg/kg	0.0021	ND
1,2-Dibromoethane	0.956	mg/kg	0.0021	ND
1,2-Dichlorobenzene	0.956	mg/kg	0.0021	ND
1,2-Dichloroethane	0.956	mg/kg	0.0021	ND
1,2-Dichloropropane	0.956	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.956	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.956	mg/kg	0.0021	ND
1,4-Dioxane	0.956	mg/kg	0.10	ND
2-Butanone	0.956	mg/kg	0.0021	ND
2-Hexanone	0.956	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.956	mg/kg	0.0021	ND
Acetone	0.956	mg/kg	0.010	ND
Benzene	0.956	mg/kg	0.0010	ND
Bromochloromethane	0.956	mg/kg	0.0021	ND
Bromodichloromethane	0.956	mg/kg	0.0021	ND
Bromoform	0.956	mg/kg	0.0021	ND
Bromomethane	0.956	mg/kg	0.0021	ND
Carbon disulfide	0.956	mg/kg	0.0021	ND

HAZ - 122

Sample ID: SB-02
 Lab#: AC90773-002
 Matrix: Soil/Encore

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Carbon tetrachloride	0.956	mg/kg	0.0021	ND
Chlorobenzene	0.956	mg/kg	0.0021	ND
Chloroethane	0.956	mg/kg	0.0021	ND
Chloroform	0.956	mg/kg	0.0021	ND
Chloromethane	0.956	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.956	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.956	mg/kg	0.0021	ND
Cyclohexane	0.956	mg/kg	0.0021	ND
Dibromochloromethane	0.956	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.956	mg/kg	0.0021	ND
Ethylbenzene	0.956	mg/kg	0.0010	ND
Isopropylbenzene	0.956	mg/kg	0.0010	ND
m&p-Xylenes	0.956	mg/kg	0.0010	ND
Methyl Acetate	0.956	mg/kg	0.0021	ND
Methylcyclohexane	0.956	mg/kg	0.0021	ND
Methylene chloride	0.956	mg/kg	0.0021	0.0056
Methyl-t-butyl ether	0.956	mg/kg	0.0010	ND
o-Xylene	0.956	mg/kg	0.0010	ND
Styrene	0.956	mg/kg	0.0021	ND
t-Butyl Alcohol	0.956	mg/kg	0.010	ND
Tetrachloroethene	0.956	mg/kg	0.0021	ND
Toluene	0.956	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	0.956	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.956	mg/kg	0.0021	ND
Trichloroethene	0.956	mg/kg	0.0021	ND
Trichlorofluoromethane	0.956	mg/kg	0.0021	ND
Vinyl chloride	0.956	mg/kg	0.0021	ND
Xylenes (Total)	0.956	mg/kg	0.0010	ND

Sample ID: SB-03
 Lab#: AC90773-003
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		95

Mercury (Soil/Waste) 7471A

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.088	ND

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	mg/kg	0.0053	ND
Aldrin	1	mg/kg	0.0053	ND
Alpha-BHC	1	mg/kg	0.0011	ND
beta-BHC	1	mg/kg	0.0011	ND
Chlordane (Total)	1	mg/kg	0.0053	ND
delta-BHC	1	mg/kg	0.0053	ND
Dieldrin	1	mg/kg	0.0011	ND
Endosulfan I	1	mg/kg	0.0053	ND
Endosulfan II	1	mg/kg	0.0053	ND
Endosulfan Sulfate	1	mg/kg	0.0053	ND
Endrin	1	mg/kg	0.0053	ND
Endrin Aldehyde	1	mg/kg	0.0053	ND
Endrin Ketone	1	mg/kg	0.0053	ND
gamma-BHC	1	mg/kg	0.0011	ND
Heptachlor	1	mg/kg	0.0053	ND
Heptachlor Epoxide	1	mg/kg	0.0053	ND
Methoxychlor	1	mg/kg	0.0053	ND
p,p'-DDD	1	mg/kg	0.0026	ND
p,p'-DDE	1	mg/kg	0.0026	ND
p,p'-DDT	1	mg/kg	0.0026	ND
Toxaphene	1	mg/kg	0.026	ND
gamma-Chlordane	1	mg/kg	0.0053	ND

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.026	ND
Aroclor-1016	1	mg/kg	0.026	ND
Aroclor-1221	1	mg/kg	0.026	ND
Aroclor-1232	1	mg/kg	0.026	ND
Aroclor-1242	1	mg/kg	0.026	ND
Aroclor-1248	1	mg/kg	0.026	ND
Aroclor-1254	1	mg/kg	0.026	ND
Aroclor-1260	1	mg/kg	0.026	ND
Aroclor-1262	1	mg/kg	0.026	ND
Aroclor-1268	1	mg/kg	0.026	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	mg/kg	0.035	ND
1,2,4,5-Tetrachlorobenzene	1	mg/kg	0.035	ND
2,3,4,6-Tetrachlorophenol	1	mg/kg	0.035	ND
2,4,5-Trichlorophenol	1	mg/kg	0.035	ND
2,4,6-Trichlorophenol	1	mg/kg	0.035	ND
2,4-Dichlorophenol	1	mg/kg	0.0088	ND
2,4-Dimethylphenol	1	mg/kg	0.0088	ND
2,4-Dinitrophenol	1	mg/kg	0.18	ND
2,4-Dinitrotoluene	1	mg/kg	0.035	ND

Sample ID: SB-03
 Lab#: AC90773-003
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

2,6-Dinitrotoluene	1	mg/kg	0.035	ND
2-Chloronaphthalene	1	mg/kg	0.035	ND
2-Chlorophenol	1	mg/kg	0.035	ND
2-Methylnaphthalene	1	mg/kg	0.035	ND
2-Methylphenol	1	mg/kg	0.0088	ND
2-Nitroaniline	1	mg/kg	0.035	ND
2-Nitrophenol	1	mg/kg	0.035	ND
3&4-Methylphenol	1	mg/kg	0.0088	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.035	ND
3-Nitroaniline	1	mg/kg	0.035	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.18	ND
4-Bromophenyl-phenylether	1	mg/kg	0.035	ND
4-Chloro-3-methylphenol	1	mg/kg	0.035	ND
4-Chloroaniline	1	mg/kg	0.0088	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.035	ND
4-Nitroaniline	1	mg/kg	0.035	ND
4-Nitrophenol	1	mg/kg	0.035	ND
Acenaphthene	1	mg/kg	0.035	ND
Acenaphthylene	1	mg/kg	0.035	ND
Acetophenone	1	mg/kg	0.035	ND
Anthracene	1	mg/kg	0.035	ND
Atrazine	1	mg/kg	0.035	ND
Benzaldehyde	1	mg/kg	0.035	ND
Benzo[a]anthracene	1	mg/kg	0.035	0.087
Benzo[a]pyrene	1	mg/kg	0.035	0.10
Benzo[b]fluoranthene	1	mg/kg	0.035	0.13
Benzo[g,h,i]perylene	1	mg/kg	0.035	0.068
Benzo[k]fluoranthene	1	mg/kg	0.035	0.050
bis(2-Chloroethoxy)methane	1	mg/kg	0.035	ND
bis(2-Chloroethyl)ether	1	mg/kg	0.0088	ND
bis(2-Chloroisopropyl)ether	1	mg/kg	0.035	ND
bis(2-Ethylhexyl)phthalate	1	mg/kg	0.035	ND
Butylbenzylphthalate	1	mg/kg	0.035	ND
Caprolactam	1	mg/kg	0.035	ND
Carbazole	1	mg/kg	0.035	ND
Chrysene	1	mg/kg	0.035	0.098
Dibenzo[a,h]anthracene	1	mg/kg	0.035	ND
Dibenzofuran	1	mg/kg	0.0088	ND
Diethylphthalate	1	mg/kg	0.035	ND
Dimethylphthalate	1	mg/kg	0.035	ND
Di-n-butylphthalate	1	mg/kg	0.0088	ND
Di-n-octylphthalate	1	mg/kg	0.035	ND
Fluoranthene	1	mg/kg	0.035	0.16
Fluorene	1	mg/kg	0.035	ND
Hexachlorobenzene	1	mg/kg	0.035	ND
Hexachlorobutadiene	1	mg/kg	0.035	ND
Hexachlorocyclopentadiene	1	mg/kg	0.089	ND
Hexachloroethane	1	mg/kg	0.035	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.035	0.059
Isophorone	1	mg/kg	0.035	ND
Naphthalene	1	mg/kg	0.0088	ND
Nitrobenzene	1	mg/kg	0.035	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.0088	ND
N-Nitrosodiphenylamine	1	mg/kg	0.035	ND
Pentachlorophenol	1	mg/kg	0.046	ND
Phenanthrene	1	mg/kg	0.035	0.070
Phenol	1	mg/kg	0.035	ND

HAZ - 125

NOTE: Soil Results are reported to Dry Weigh

Project #: 6041514

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Sample ID: SB-03
 Lab#: AC90773-003
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Pyrene 1 mg/kg 0.035 0.15

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	210	1100
Barium	1	mg/kg	11	14
Calcium	1	mg/kg	1100	ND
Chromium	1	mg/kg	5.3	ND
Cobalt	1	mg/kg	2.6	ND
Copper	1	mg/kg	5.3	12
Iron	1	mg/kg	210	2400
Lead	1	mg/kg	5.3	29
Magnesium	1	mg/kg	530	ND
Manganese	1	mg/kg	11	42
Nickel	1	mg/kg	5.3	6.1
Potassium	1	mg/kg	530	ND
Sodium	1	mg/kg	260	ND
Vanadium	1	mg/kg	11	ND
Zinc	1	mg/kg	11	57

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	mg/kg	0.84	ND
Arsenic	1	mg/kg	0.21	1.3
Beryllium	1	mg/kg	0.21	ND
Cadmium	1	mg/kg	0.42	ND
Selenium	1	mg/kg	2.1	ND
Silver	1	mg/kg	0.21	ND
Thallium	1	mg/kg	0.42	ND

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.945	mg/kg	0.0020	ND
1,1,2,2-Tetrachloroethane	0.945	mg/kg	0.0020	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.945	mg/kg	0.0020	ND
1,1,2-Trichloroethane	0.945	mg/kg	0.0020	ND
1,1-Dichloroethane	0.945	mg/kg	0.0020	ND
1,1-Dichloroethane	0.945	mg/kg	0.0020	ND
1,2,3-Trichlorobenzene	0.945	mg/kg	0.0020	ND
1,2,4-Trichlorobenzene	0.945	mg/kg	0.0020	ND
1,2-Dibromo-3-chloropropane	0.945	mg/kg	0.0020	ND
1,2-Dibromoethane	0.945	mg/kg	0.0020	ND
1,2-Dichlorobenzene	0.945	mg/kg	0.0020	ND
1,2-Dichloroethane	0.945	mg/kg	0.0020	ND
1,2-Dichloropropane	0.945	mg/kg	0.0020	ND
1,3-Dichlorobenzene	0.945	mg/kg	0.0020	ND
1,4-Dichlorobenzene	0.945	mg/kg	0.0020	ND
1,4-Dioxane	0.945	mg/kg	0.099	ND
2-Butanone	0.945	mg/kg	0.0020	ND
2-Hexanone	0.945	mg/kg	0.0020	ND
4-Methyl-2-pentanone	0.945	mg/kg	0.0020	ND
Acetone	0.945	mg/kg	0.0099	ND
Benzene	0.945	mg/kg	0.00099	ND
Bromochloromethane	0.945	mg/kg	0.0020	ND
Bromodichloromethane	0.945	mg/kg	0.0020	ND
Bromoform	0.945	mg/kg	0.0020	ND
Bromomethane	0.945	mg/kg	0.0020	ND
Carbon disulfide	0.945	mg/kg	0.0020	ND

Sample ID: SB-03
 Lab#: AC90773-003
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Carbon tetrachloride	0.945	mg/kg	0.0020	ND
Chlorobenzene	0.945	mg/kg	0.0020	ND
Chloroethane	0.945	mg/kg	0.0020	ND
Chloroform	0.945	mg/kg	0.0020	ND
Chloromethane	0.945	mg/kg	0.0020	ND
cis-1,2-Dichloroethene	0.945	mg/kg	0.0020	ND
cis-1,3-Dichloropropene	0.945	mg/kg	0.0020	ND
Cyclohexane	0.945	mg/kg	0.0020	ND
Dibromochloromethane	0.945	mg/kg	0.0020	ND
Dichlorodifluoromethane	0.945	mg/kg	0.0020	ND
Ethylbenzene	0.945	mg/kg	0.00099	ND
Isopropylbenzene	0.945	mg/kg	0.00099	ND
m&p-Xylenes	0.945	mg/kg	0.00099	ND
Methyl Acetate	0.945	mg/kg	0.0020	ND
Methylcyclohexane	0.945	mg/kg	0.0020	ND
Methylene chloride	0.945	mg/kg	0.0020	0.0052
Methyl-t-butyl ether	0.945	mg/kg	0.00099	ND
o-Xylene	0.945	mg/kg	0.00099	ND
Styrene	0.945	mg/kg	0.0020	ND
t-Butyl Alcohol	0.945	mg/kg	0.0099	ND
Tetrachloroethene	0.945	mg/kg	0.0020	ND
Toluene	0.945	mg/kg	0.00099	ND
trans-1,2-Dichloroethene	0.945	mg/kg	0.0020	ND
trans-1,3-Dichloropropene	0.945	mg/kg	0.0020	ND
Trichloroethene	0.945	mg/kg	0.0020	ND
Trichlorofluoromethane	0.945	mg/kg	0.0020	ND
Vinyl chloride	0.945	mg/kg	0.0020	ND
Xylenes (Total)	0.945	mg/kg	0.00099	ND

Sample ID: SB-04
 Lab#: AC90773-004
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		98

Mercury (Soil/Waste) 7471A

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.085	ND

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	mg/kg	0.0051	ND
Aldrin	1	mg/kg	0.0051	ND
Alpha-BHC	1	mg/kg	0.0010	ND
beta-BHC	1	mg/kg	0.0010	ND
Chlordane (Total)	1	mg/kg	0.0051	ND
delta-BHC	1	mg/kg	0.0051	ND
Dieldrin	1	mg/kg	0.0010	ND
Endosulfan I	1	mg/kg	0.0051	ND
Endosulfan II	1	mg/kg	0.0051	ND
Endosulfan Sulfate	1	mg/kg	0.0051	ND
Endrin	1	mg/kg	0.0051	ND
Endrin Aldehyde	1	mg/kg	0.0051	ND
Endrin Ketone	1	mg/kg	0.0051	ND
gamma-BHC	1	mg/kg	0.0010	ND
Heptachlor	1	mg/kg	0.0051	ND
Heptachlor Epoxide	1	mg/kg	0.0051	ND
Methoxychlor	1	mg/kg	0.0051	ND
p,p'-DDD	1	mg/kg	0.0026	ND
p,p'-DDE	1	mg/kg	0.0026	ND
p,p'-DDT	1	mg/kg	0.0026	ND
Toxaphene	1	mg/kg	0.026	ND
gamma-Chlordane	1	mg/kg	0.0051	ND

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.026	ND
Aroclor-1016	1	mg/kg	0.026	ND
Aroclor-1221	1	mg/kg	0.026	ND
Aroclor-1232	1	mg/kg	0.026	ND
Aroclor-1242	1	mg/kg	0.026	ND
Aroclor-1248	1	mg/kg	0.026	ND
Aroclor-1254	1	mg/kg	0.026	ND
Aroclor-1260	1	mg/kg	0.026	ND
Aroclor-1262	1	mg/kg	0.026	ND
Aroclor-1268	1	mg/kg	0.026	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	mg/kg	0.034	ND
1,2,4,5-Tetrachlorobenzene	1	mg/kg	0.034	ND
2,3,4,6-Tetrachlorophenol	1	mg/kg	0.034	ND
2,4,5-Trichlorophenol	1	mg/kg	0.034	ND
2,4,6-Trichlorophenol	1	mg/kg	0.034	ND
2,4-Dichlorophenol	1	mg/kg	0.0085	ND
2,4-Dimethylphenol	1	mg/kg	0.0085	ND
2,4-Dinitrophenol	1	mg/kg	0.17	ND
2,4-Dinitrotoluene	1	mg/kg	0.034	ND

HAZ. - 128

Sample ID: SB-04
 Lab#: AC90773-004
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

2,6-Dinitrotoluene	1	mg/kg	0.034	ND
2-Chloronaphthalene	1	mg/kg	0.034	ND
2-Chlorophenol	1	mg/kg	0.034	ND
2-Methylnaphthalene	1	mg/kg	0.034	ND
2-Methylphenol	1	mg/kg	0.0085	ND
2-Nitroaniline	1	mg/kg	0.034	ND
2-Nitrophenol	1	mg/kg	0.034	ND
3&4-Methylphenol	1	mg/kg	0.0085	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.034	ND
3-Nitroaniline	1	mg/kg	0.034	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.17	ND
4-Bromophenyl-phenylether	1	mg/kg	0.034	ND
4-Chloro-3-methylphenol	1	mg/kg	0.034	ND
4-Chloroaniline	1	mg/kg	0.0085	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.034	ND
4-Nitroaniline	1	mg/kg	0.034	ND
4-Nitrophenol	1	mg/kg	0.034	ND
Acenaphthene	1	mg/kg	0.034	ND
Acenaphthylene	1	mg/kg	0.034	ND
Acetophenone	1	mg/kg	0.034	ND
Anthracene	1	mg/kg	0.034	ND
Atrazine	1	mg/kg	0.034	ND
Benzaldehyde	1	mg/kg	0.034	ND
Benzo[a]anthracene	1	mg/kg	0.034	ND
Benzo[a]pyrene	1	mg/kg	0.034	ND
Benzo[b]fluoranthene	1	mg/kg	0.034	ND
Benzo[g,h,i]perylene	1	mg/kg	0.034	ND
Benzo[k]fluoranthene	1	mg/kg	0.034	ND
bis(2-Chloroethoxy)methane	1	mg/kg	0.034	ND
bis(2-Chloroethyl)ether	1	mg/kg	0.0085	ND
bis(2-Chloroisopropyl)ether	1	mg/kg	0.034	ND
bis(2-Ethylhexyl)phthalate	1	mg/kg	0.034	ND
Butylbenzylphthalate	1	mg/kg	0.034	ND
Caprolactam	1	mg/kg	0.034	ND
Carbazole	1	mg/kg	0.034	ND
Chrysene	1	mg/kg	0.034	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.034	ND
Dibenzofuran	1	mg/kg	0.0085	ND
Diethylphthalate	1	mg/kg	0.034	ND
Dimethylphthalate	1	mg/kg	0.034	ND
Di-n-butylphthalate	1	mg/kg	0.0085	ND
Di-n-octylphthalate	1	mg/kg	0.034	ND
Fluoranthene	1	mg/kg	0.034	ND
Fluorene	1	mg/kg	0.034	ND
Hexachlorobenzene	1	mg/kg	0.034	ND
Hexachlorobutadiene	1	mg/kg	0.034	ND
Hexachlorocyclopentadiene	1	mg/kg	0.067	ND
Hexachloroethane	1	mg/kg	0.034	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.034	ND
Isophorone	1	mg/kg	0.034	ND
Naphthalene	1	mg/kg	0.0085	ND
Nitrobenzene	1	mg/kg	0.034	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.0085	ND
N-Nitrosodiphenylamine	1	mg/kg	0.034	ND
Pentachlorophenol	1	mg/kg	0.17	ND
Phenanthrene	1	mg/kg	0.034	ND
Phenol	1	mg/kg	0.034	ND

Sample ID: SB-04
 Lab#: AC90773-004
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Pyrene 1 mg/kg 0.034 ND

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	200	990
Barium	1	mg/kg	10	ND
Calcium	1	mg/kg	1000	ND
Chromium	1	mg/kg	5.1	ND
Cobalt	1	mg/kg	2.6	ND
Copper	1	mg/kg	5.1	ND
Iron	1	mg/kg	200	1600
Lead	1	mg/kg	5.1	ND
Magnesium	1	mg/kg	510	ND
Manganese	1	mg/kg	10	29
Nickel	1	mg/kg	5.1	ND
Potassium	1	mg/kg	510	ND
Sodium	1	mg/kg	260	ND
Vanadium	1	mg/kg	10	ND
Zinc	1	mg/kg	10	ND

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	mg/kg	0.82	ND
Arsenic	1	mg/kg	0.20	0.57
Beryllium	1	mg/kg	0.20	ND
Cadmium	1	mg/kg	0.41	ND
Selenium	1	mg/kg	2.0	ND
Silver	1	mg/kg	0.20	ND
Thallium	1	mg/kg	0.41	ND

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1.01	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	1.01	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1.01	mg/kg	0.0021	ND
1,1,2-Trichloroethane	1.01	mg/kg	0.0021	ND
1,1-Dichloroethane	1.01	mg/kg	0.0021	ND
1,1-Dichloroethene	1.01	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	1.01	mg/kg	0.0021	ND
1,2,4-Trichlorobenzene	1.01	mg/kg	0.0021	ND
1,2-Dibromo-3-chloropropane	1.01	mg/kg	0.0021	ND
1,2-Dibromoethane	1.01	mg/kg	0.0021	ND
1,2-Dichlorobenzene	1.01	mg/kg	0.0021	ND
1,2-Dichloroethane	1.01	mg/kg	0.0021	ND
1,2-Dichloropropane	1.01	mg/kg	0.0021	ND
1,3-Dichlorobenzene	1.01	mg/kg	0.0021	ND
1,4-Dichlorobenzene	1.01	mg/kg	0.0021	ND
1,4-Dioxane	1.01	mg/kg	0.10	ND
2-Butanone	1.01	mg/kg	0.0021	ND
2-Hexanone	1.01	mg/kg	0.0021	ND
4-Methyl-2-pentanone	1.01	mg/kg	0.0021	ND
Acetone	1.01	mg/kg	0.010	ND
Benzene	1.01	mg/kg	0.0010	ND
Bromochloromethane	1.01	mg/kg	0.0021	ND
Bromodichloromethane	1.01	mg/kg	0.0021	ND
Bromoform	1.01	mg/kg	0.0021	ND
Bromomethane	1.01	mg/kg	0.0021	ND
Carbon disulfide	1.01	mg/kg	0.0021	ND

HAZ 130

Sample ID: SB-04
 Lab#: AC90773-004
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Carbon tetrachloride	1.01	mg/kg	0.0021	ND
Chlorobenzene	1.01	mg/kg	0.0021	ND
Chloroethene	1.01	mg/kg	0.0021	ND
Chloroform	1.01	mg/kg	0.0021	ND
Chloromethane	1.01	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	1.01	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	1.01	mg/kg	0.0021	ND
Cyclohexane	1.01	mg/kg	0.0021	ND
Dibromochloromethane	1.01	mg/kg	0.0021	ND
Dichlorodifluoromethane	1.01	mg/kg	0.0021	ND
Ethylbenzene	1.01	mg/kg	0.0010	ND
Isopropylbenzene	1.01	mg/kg	0.0010	ND
m&p-Xylenes	1.01	mg/kg	0.0010	ND
Methyl Acetate	1.01	mg/kg	0.0021	ND
Methylcyclohexane	1.01	mg/kg	0.0021	ND
Methylene chloride	1.01	mg/kg	0.0021	ND
Methyl-t-butyl ether	1.01	mg/kg	0.0010	ND
o-Xylene	1.01	mg/kg	0.0010	ND
Styrene	1.01	mg/kg	0.0021	ND
t-Butyl Alcohol	1.01	mg/kg	0.010	ND
Tetrachloroethene	1.01	mg/kg	0.0021	ND
Toluene	1.01	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	1.01	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	1.01	mg/kg	0.0021	ND
Trichloroethene	1.01	mg/kg	0.0021	ND
Trichlorofluoromethane	1.01	mg/kg	0.0021	ND
Vinyl chloride	1.01	mg/kg	0.0021	ND
Xylenes (Total)	1.01	mg/kg	0.0010	ND

Sample ID: WC01
 Lab#: AC90773-005
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		94

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	83.9	mg/kg	22	ND

Ignitability

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NA
Flame Propagation (POS/NEG)	1			NA
Ignitability Screen (POS/NEG)	1			NEG

Mercury (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00070	ND

Paint Filter Test 9095A

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		8.8

Reactive Cyanide

Analyte	DF	Units	RL	Result
Cyanide (Reactive)	1	mg/kg	0.50	ND

Reactive Sulfide

Analyte	DF	Units	RL	Result
Sulfide (Reactive)	1	mg/kg	100	ND

TCLP Metals 6010

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.30
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.33
Nickel	1	mg/l	0.10	ND
Selenium	1	mg/l	0.10	ND
Silver	1	mg/l	0.050	ND

Total Petroleum Hydrocarbons 8015D(C8-C40)

Analyte	DF	Units	RL	Result
Total Petroleum Hydrocarbons	1	mg/kg	64	590

Sample ID: WC02
 Lab#: AC90773-006
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		89

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	90.9	mg/kg	26	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NA
Flame Propagation (POSNEG)	1			NA
Ignitability Screen (POSNEG)	1			NEG

Mercury (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00070	ND

Paint Filter Test 9095A

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		8.8

Reactive Cyanide

Analyte	DF	Units	RL	Result
Cyanide (Reactive)	1	mg/kg	0.50	ND

Reactive Sulfide

Analyte	DF	Units	RL	Result
Sulfide (Reactive)	1	mg/kg	100	ND

TCLP Metals 6010

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.52
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	ND
Nickel	1	mg/l	0.10	ND
Selenium	1	mg/l	0.10	ND
Silver	1	mg/l	0.050	ND

Total Petroleum Hydrocarbons 8015D(C8-C40)

Analyte	DF	Units	RL	Result
Total Petroleum Hydrocarbons	1	mg/kg	67	ND

Sample ID: WC03
 Lab#: AC90773-007
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		94

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	94.3	mg/kg	25	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NA
Flame Propagation (POS/NEG)	1			NA
Ignitability Screen (POS/NEG)	1			NEG

Mercury (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00070	ND

Paint Filter Test 9095A

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		9.2

Reactive Cyanide

Analyte	DF	Units	RL	Result
Cyanide (Reactive)	1	mg/kg	0.50	ND

Reactive Sulfide

Analyte	DF	Units	RL	Result
Sulfide (Reactive)	1	mg/kg	100	ND

TCLP Metals 6010

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	ND
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.084
Nickel	1	mg/l	0.10	ND
Selenium	1	mg/l	0.10	ND
Silver	1	mg/l	0.050	ND

Total Petroleum Hydrocarbons 8015D(C8-C40)

Analyte	DF	Units	RL	Result
Total Petroleum Hydrocarbons	1	mg/kg	64	ND

Sample ID: WC04
 Lab#: AC90773-008
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		97

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	69.4	mg/kg	23	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NA
Flame Propagation (POS/NEG)	1			NA
Ignitability Screen (POS/NEG)	1			NEG

Mercury (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00070	ND

Paint Filter Test 9095A

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		7.9

Reactive Cyanide

Analyte	DF	Units	RL	Result
Cyanide (Reactive)	1	mg/kg	0.50	ND

Reactive Sulfide

Analyte	DF	Units	RL	Result
Sulfide (Reactive)	1	mg/kg	100	ND

TCLP Metals 6010

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	ND
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	ND
Nickel	1	mg/l	0.10	ND
Selenium	1	mg/l	0.10	ND
Silver	1	mg/l	0.050	ND

Total PetroleumHydrocarbons8015D(C8-C40)

Analyte	DF	Units	RL	Result
Total Petroleum Hydrocarbons	1	mg/kg	62	ND

Sample ID: SS-01
 Lab#: AC90773-009
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	92.6	mg/kg	27	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NA
Flame Propagation (POS/NEG)	1			NA
Ignitability Screen (POS/NEG)	1			NEG

Mercury (Soil/Waste) 7471A

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.098	ND

Mercury (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00070	ND

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	mg/kg	0.0059	ND
Aldrin	1	mg/kg	0.0059	ND
Alpha-BHC	1	mg/kg	0.0012	ND
beta-BHC	1	mg/kg	0.0012	ND
Chlordane (Total)	1	mg/kg	0.0059	ND
delta-BHC	1	mg/kg	0.0059	ND
Dieldrin	1	mg/kg	0.0012	ND
Endosulfan I	1	mg/kg	0.0059	ND
Endosulfan II	1	mg/kg	0.0059	ND
Endosulfan Sulfate	1	mg/kg	0.0059	ND
Endrin	1	mg/kg	0.0059	ND
Endrin Aldehyde	1	mg/kg	0.0059	ND
Endrin Ketone	1	mg/kg	0.0059	ND
gamma-BHC	1	mg/kg	0.0012	ND
Heptachlor	1	mg/kg	0.0059	ND
Heptachlor Epoxide	1	mg/kg	0.0059	ND
Methoxychlor	1	mg/kg	0.0059	ND
p,p'-DDD	1	mg/kg	0.0029	ND
p,p'-DDE	1	mg/kg	0.0029	ND
p,p'-DDT	1	mg/kg	0.0029	ND
Toxaphene	1	mg/kg	0.029	ND
gamma-Chlordane	1	mg/kg	0.0059	ND

Paint Filter Test 9095A

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.029	ND
Aroclor-1016	1	mg/kg	0.029	ND
Aroclor-1221	1	mg/kg	0.029	ND
Aroclor-1232	1	mg/kg	0.029	ND
Aroclor-1242	1	mg/kg	0.029	ND

HAZ 136

Sample ID: SS-01
 Lab#: AC90773-009
 Matrix: Soil

Collection Date: 4/14/2016
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Aroclor-1248	1	mg/kg	0.029	ND
Aroclor-1254	1	mg/kg	0.029	ND
Aroclor-1260	1	mg/kg	0.029	ND
Aroclor-1262	1	mg/kg	0.029	ND
Aroclor-1268	1	mg/kg	0.029	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		6.4

Reactive Cyanide

Analyte	DF	Units	RL	Result
Cyanide (Reactive)	1	mg/kg	0.50	ND

Reactive Sulfide

Analyte	DF	Units	RL	Result
Sulfide (Reactive)	1	mg/kg	100	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	3	mg/kg	0.12	ND
1,2,4,5-Tetrachlorobenzene	3	mg/kg	0.12	ND
2,3,4,6-Tetrachlorophenol	3	mg/kg	0.12	ND
2,4,5-Trichlorophenol	3	mg/kg	0.12	ND
2,4,6-Trichlorophenol	3	mg/kg	0.12	ND
2,4-Dichlorophenol	3	mg/kg	0.029	ND
2,4-Dimethylphenol	3	mg/kg	0.029	ND
2,4-Dinitrophenol	3	mg/kg	0.59	ND
2,4-Dinitrotoluene	3	mg/kg	0.12	ND
2,6-Dinitrotoluene	3	mg/kg	0.12	ND
2-Chloronaphthalene	3	mg/kg	0.12	ND
2-Chlorophenol	3	mg/kg	0.12	ND
2-Methylnaphthalene	3	mg/kg	0.12	0.19
2-Methylphenol	3	mg/kg	0.029	ND
2-Nitroaniline	3	mg/kg	0.12	ND
2-Nitrophenol	3	mg/kg	0.12	ND
3,4-Methylphenol	3	mg/kg	0.029	ND
3,3'-Dichlorobenzidine	3	mg/kg	0.12	ND
3-Nitroaniline	3	mg/kg	0.12	ND
4,6-Dinitro-2-methylphenol	3	mg/kg	0.59	ND
4-Bromophenyl-phenylether	3	mg/kg	0.12	ND
4-Chloro-3-methylphenol	3	mg/kg	0.12	ND
4-Chloroaniline	3	mg/kg	0.029	ND
4-Chlorophenyl-phenylether	3	mg/kg	0.12	ND
4-Nitroaniline	3	mg/kg	0.12	ND
4-Nitrophenol	3	mg/kg	0.12	ND
Acenaphthene	3	mg/kg	0.12	0.53
Acenaphthylene	3	mg/kg	0.12	ND
Acetophenone	3	mg/kg	0.12	ND
Anthracene	3	mg/kg	0.12	1.1
Atrazine	3	mg/kg	0.12	ND
Benzaldehyde	3	mg/kg	0.12	ND
Benzo[a]anthracene	3	mg/kg	0.12	1.7
Benzo[a]pyrene	3	mg/kg	0.12	1.3
Benzo[b]fluoranthene	3	mg/kg	0.12	1.9
Benzo[g,h,i]perylene	3	mg/kg	0.12	0.74
Benzo[k]fluoranthene	3	mg/kg	0.12	0.51
bis(2-Chloroethoxy)methane	3	mg/kg	0.12	ND

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Sample ID: SS-01

Lab#: AC90773-009

Matrix: Soil

Collection Date: 4/14/2016

Receipt Date: 4/14/2016

bis(2-Chloroethyl)ether	3	mg/kg	0.029	ND
bis(2-Chloroisopropyl)ether	3	mg/kg	0.12	ND
bis(2-Ethylhexyl)phthalate	3	mg/kg	0.12	ND
Butylbenzylphthalate	3	mg/kg	0.12	ND
Caprolactam	3	mg/kg	0.12	ND
Carbazole	3	mg/kg	0.12	0.53
Chrysene	3	mg/kg	0.12	1.6
Dibenzo[a,h]anthracene	3	mg/kg	0.12	0.24
Dibenzofuran	3	mg/kg	0.029	0.48
Diethylphthalate	3	mg/kg	0.12	ND
Dimethylphthalate	3	mg/kg	0.12	ND
Di-n-butylphthalate	3	mg/kg	0.029	ND
Di-n-octylphthalate	3	mg/kg	0.12	ND
Fluoranthene	3	mg/kg	0.12	4.4
Fluorene	3	mg/kg	0.12	0.71
Hexachlorobenzene	3	mg/kg	0.12	ND
Hexachlorobutadiene	3	mg/kg	0.12	ND
Hexachlorocyclopentadiene	3	mg/kg	0.23	ND
Hexachloroethane	3	mg/kg	0.12	ND
Indeno[1,2,3-cd]pyrene	3	mg/kg	0.12	0.72
Isophorone	3	mg/kg	0.12	ND
Naphthalene	3	mg/kg	0.029	0.51
Nitrobenzene	3	mg/kg	0.12	ND
N-Nitroso-di-n-propylamine	3	mg/kg	0.029	ND
N-Nitrosodiphenylamine	3	mg/kg	0.12	ND
Pentachlorophenol	3	mg/kg	0.15	ND
Phenanthrene	3	mg/kg	0.12	4.6
Phenol	3	mg/kg	0.12	ND
Pyrene	3	mg/kg	0.12	3.5

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	240	1600
Barium	1	mg/kg	12	ND
Calcium	1	mg/kg	1200	50000
Chromium	1	mg/kg	5.9	ND
Cobalt	1	mg/kg	2.9	ND
Copper	1	mg/kg	5.9	11
Iron	1	mg/kg	240	4600
Lead	1	mg/kg	5.9	52
Magnesium	1	mg/kg	590	21000
Manganese	1	mg/kg	12	99
Nickel	1	mg/kg	5.9	7.7
Potassium	1	mg/kg	590	ND
Sodium	1	mg/kg	290	1800
Vanadium	1	mg/kg	12	ND
Zinc	1	mg/kg	12	39

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	mg/kg	0.94	ND
Arsenic	1	mg/kg	0.24	4.9
Beryllium	1	mg/kg	0.24	1.1
Cadmium	1	mg/kg	0.47	ND
Selenium	1	mg/kg	2.4	ND
Silver	1	mg/kg	0.24	ND
Thallium	1	mg/kg	0.47	ND

HAZ. - 138

Sample ID: SS-01
 Lab#: AC90773-009
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

TCLP Metals 6010

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	ND
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.056
Nickel	1	mg/l	0.10	ND
Selenium	1	mg/l	0.10	ND
Silver	1	mg/l	0.050	ND

Total Petroleum Hydrocarbons 8015D(C8-C40)

Analyte	DF	Units	RL	Result
Total Petroleum Hydrocarbons	1	mg/kg	71	160

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.852	mg/kg	0.0020	ND
1,1,2,2-Tetrachloroethane	0.852	mg/kg	0.0020	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.852	mg/kg	0.0020	ND
1,1,2-Trichloroethane	0.852	mg/kg	0.0020	ND
1,1-Dichloroethane	0.852	mg/kg	0.0020	ND
1,1-Dichloroethene	0.852	mg/kg	0.0020	ND
1,2,3-Trichlorobenzene	0.852	mg/kg	0.0020	ND
1,2,4-Trichlorobenzene	0.852	mg/kg	0.0020	ND
1,2-Dibromo-3-chloropropane	0.852	mg/kg	0.0020	ND
1,2-Dibromoethane	0.852	mg/kg	0.0020	ND
1,2-Dichlorobenzene	0.852	mg/kg	0.0020	ND
1,2-Dichloroethane	0.852	mg/kg	0.0020	ND
1,2-Dichloropropane	0.852	mg/kg	0.0020	ND
1,3-Dichlorobenzene	0.852	mg/kg	0.0020	ND
1,4-Dichlorobenzene	0.852	mg/kg	0.0020	ND
1,4-Dioxane	0.852	mg/kg	0.10	ND
2-Butanone	0.852	mg/kg	0.0020	ND
2-Hexanone	0.852	mg/kg	0.0020	ND
4-Methyl-2-pentanone	0.852	mg/kg	0.0020	ND
Acetone	0.852	mg/kg	0.010	ND
Benzene	0.852	mg/kg	0.0010	ND
Bromochloromethane	0.852	mg/kg	0.0020	ND
Bromodichloromethane	0.852	mg/kg	0.0020	ND
Bromoform	0.852	mg/kg	0.0020	ND
Bromomethane	0.852	mg/kg	0.0020	ND
Carbon disulfide	0.852	mg/kg	0.0020	ND
Carbon tetrachloride	0.852	mg/kg	0.0020	ND
Chlorobenzene	0.852	mg/kg	0.0020	ND
Chloroethane	0.852	mg/kg	0.0020	ND
Chloroform	0.852	mg/kg	0.0020	ND
Chloromethane	0.852	mg/kg	0.0020	ND
cis-1,2-Dichloroethene	0.852	mg/kg	0.0020	ND
cis-1,3-Dichloropropene	0.852	mg/kg	0.0020	ND
Cyclohexane	0.852	mg/kg	0.0020	ND
Dibromochloromethane	0.852	mg/kg	0.0020	ND
Dichlorodifluoromethane	0.852	mg/kg	0.0020	ND
Ethylbenzene	0.852	mg/kg	0.0010	ND
Isopropylbenzene	0.852	mg/kg	0.0010	ND
m&p-Xylenes	0.852	mg/kg	0.0010	ND
Methyl Acetate	0.852	mg/kg	0.0020	ND

NOTE: Soil Results are reported to Dry Weigh

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Project #: 6041514

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Sample ID: SS-01
Lab#: AC90773-009
Matrix: Soil

Collection Date: 4/14/2016
Receipt Date: 4/14/2016

Methylcyclohexane	0.852	mg/kg	0.0020	ND
Methylene chloride	0.852	mg/kg	0.0020	ND
Methyl-t-butyl ether	0.852	mg/kg	0.0010	ND
o-Xylene	0.852	mg/kg	0.0010	ND
Styrene	0.852	mg/kg	0.0020	ND
t-Butyl Alcohol	0.852	mg/kg	0.010	ND
Tetrachloroethene	0.852	mg/kg	0.0020	ND
Toluene	0.852	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	0.852	mg/kg	0.0020	ND
trans-1,3-Dichloropropene	0.852	mg/kg	0.0020	ND
Trichloroethene	0.852	mg/kg	0.0020	ND
Trichlorofluoromethane	0.852	mg/kg	0.0020	ND
Vinyl chloride	0.852	mg/kg	0.0020	ND
Xylenes (Total)	0.852	mg/kg	0.0010	ND

Sample ID: SS-02
 Lab#: AC90773-010
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		94

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99.4	mg/kg	26	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NA
Flame Propagation (POS/NEG)	1			NA
Ignitability Screen (POS/NEG)	1			NEG

Mercury (Soil/Waste) 7471A

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.009	0.006

Mercury (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00070	ND

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	mg/kg	0.0053	ND
Aldrin	1	mg/kg	0.0053	ND
Alpha-BHC	1	mg/kg	0.0011	ND
beta-BHC	1	mg/kg	0.0011	ND
Chlordane (Total)	1	mg/kg	0.0053	ND
delta-BHC	1	mg/kg	0.0053	ND
Dieldrin	1	mg/kg	0.0011	ND
Endosulfan I	1	mg/kg	0.0053	ND
Endosulfan II	1	mg/kg	0.0053	ND
Endosulfan Sulfate	1	mg/kg	0.0053	ND
Endrin	1	mg/kg	0.0053	ND
Endrin Aldehyde	1	mg/kg	0.0053	ND
Endrin Ketone	1	mg/kg	0.0053	ND
gamma-BHC	1	mg/kg	0.0011	ND
Heptachlor	1	mg/kg	0.0053	ND
Heptachlor Epoxide	1	mg/kg	0.0053	ND
Methoxychlor	1	mg/kg	0.0053	ND
p,p'-DDD	1	mg/kg	0.0027	ND
p,p'-DDE	1	mg/kg	0.0027	ND
p,p'-DDT	1	mg/kg	0.0027	ND
Toxaphene	1	mg/kg	0.027	ND
gamma-Chlordane	1	mg/kg	0.0053	ND

Paint Filter Test 9095A

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.027	ND
Aroclor-1016	1	mg/kg	0.027	ND
Aroclor-1221	1	mg/kg	0.027	ND
Aroclor-1232	1	mg/kg	0.027	ND
Aroclor-1242	1	mg/kg	0.027	ND

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Sample ID: SS-02
 Lab#: AC90773-010
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Aroclor-1248	1	mg/kg	0.027	ND
Aroclor-1254	1	mg/kg	0.027	ND
Aroclor-1260	1	mg/kg	0.027	ND
Aroclor-1262	1	mg/kg	0.027	ND
Aroclor-1268	1	mg/kg	0.027	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		8.7

Reactive Cyanide

Analyte	DF	Units	RL	Result
Cyanide (Reactive)	1	mg/kg	0.50	ND

Reactive Sulfide

Analyte	DF	Units	RL	Result
Sulfide (Reactive)	1	mg/kg	100	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	mg/kg	0.071	ND
1,2,4,5-Tetrachlorobenzene	1	mg/kg	0.071	ND
2,3,4,6-Tetrachlorophenol	1	mg/kg	0.071	ND
2,4,5-Trichlorophenol	1	mg/kg	0.071	ND
2,4,6-Trichlorophenol	1	mg/kg	0.071	ND
2,4-Dichlorophenol	1	mg/kg	0.018	ND
2,4-Dimethylphenol	1	mg/kg	0.018	ND
2,4-Dinitrophenol	1	mg/kg	0.35	ND
2,4-Dinitrotoluene	1	mg/kg	0.071	ND
2,6-Dinitrotoluene	1	mg/kg	0.071	ND
2-Chloronaphthalene	1	mg/kg	0.071	ND
2-Chlorophenol	1	mg/kg	0.071	ND
2-Methylnaphthalene	1	mg/kg	0.071	ND
2-Methylphenol	1	mg/kg	0.018	ND
2-Nitroaniline	1	mg/kg	0.071	ND
2-Nitrophenol	1	mg/kg	0.071	ND
3,4-Methylphenol	1	mg/kg	0.018	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.071	ND
3-Nitroaniline	1	mg/kg	0.071	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.35	ND
4-Bromophenyl-phenylether	1	mg/kg	0.071	ND
4-Chloro-3-methylphenol	1	mg/kg	0.071	ND
4-Chloroaniline	1	mg/kg	0.018	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.071	ND
4-Nitroaniline	1	mg/kg	0.071	ND
4-Nitrophenol	1	mg/kg	0.071	ND
Acenaphthene	1	mg/kg	0.071	ND
Acenaphthylene	1	mg/kg	0.071	ND
Acetophenone	1	mg/kg	0.071	ND
Anthracene	1	mg/kg	0.071	ND
Atrazine	1	mg/kg	0.071	ND
Benzaldehyde	1	mg/kg	0.071	ND
Benzo[a]anthracene	1	mg/kg	0.071	ND
Benzo[a]pyrene	1	mg/kg	0.071	ND
Benzo[b]fluoranthene	1	mg/kg	0.071	0.093
Benzo[g,h,i]perylene	1	mg/kg	0.071	ND
Benzo[k]fluoranthene	1	mg/kg	0.071	ND
bis(2-Chloroethoxy)methane	1	mg/kg	0.071	ND

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Sample ID: SS-02
 Lab#: AC90773-010
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

bis(2-Chloroethyl)ether	1	mg/kg	0.018	ND
bis(2-Chloroisopropyl)ether	1	mg/kg	0.071	ND
bis(2-Ethylhexyl)phthalate	1	mg/kg	0.071	ND
Butylbenzylphthalate	1	mg/kg	0.071	ND
Caprolactam	1	mg/kg	0.071	ND
Carbazole	1	mg/kg	0.071	ND
Chrysene	1	mg/kg	0.071	0.10
Dibenzo[a,h]anthracene	1	mg/kg	0.071	ND
Dibenzofuran	1	mg/kg	0.018	ND
Diethylphthalate	1	mg/kg	0.071	ND
Dimethylphthalate	1	mg/kg	0.071	ND
Di-n-butylphthalate	1	mg/kg	0.018	ND
Di-n-octylphthalate	1	mg/kg	0.071	ND
Fluoranthene	1	mg/kg	0.071	0.17
Fluorene	1	mg/kg	0.071	ND
Hexachlorobenzene	1	mg/kg	0.071	ND
Hexachlorobutadiene	1	mg/kg	0.071	ND
Hexachlorocyclopentadiene	1	mg/kg	0.14	ND
Hexachloroethane	1	mg/kg	0.071	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.071	ND
Isophorone	1	mg/kg	0.071	ND
Naphthalene	1	mg/kg	0.018	ND
Nitrobenzene	1	mg/kg	0.071	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.018	ND
N-Nitrosodiphenylamine	1	mg/kg	0.071	ND
Pentachlorophenol	1	mg/kg	0.093	ND
Phenanthrene	1	mg/kg	0.071	0.12
Phenol	1	mg/kg	0.071	ND
Pyrene	1	mg/kg	0.071	0.14

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	210	2200
Barium	1	mg/kg	11	ND
Calcium	1	mg/kg	1100	10000
Chromium	1	mg/kg	5.3	15
Cobalt	1	mg/kg	2.7	2.8
Copper	1	mg/kg	5.3	22
Iron	1	mg/kg	210	22000
Lead	1	mg/kg	5.3	54
Magnesium	1	mg/kg	530	4900
Manganese	1	mg/kg	11	190
Nickel	1	mg/kg	5.3	18
Potassium	1	mg/kg	530	ND
Sodium	1	mg/kg	270	960
Vanadium	1	mg/kg	11	12
Zinc	1	mg/kg	11	68

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	mg/kg	0.85	ND
Arsenic	1	mg/kg	0.21	4.8
Beryllium	1	mg/kg	0.21	ND
Cadmium	1	mg/kg	0.43	ND
Selenium	1	mg/kg	2.1	ND
Silver	1	mg/kg	0.21	ND
Thallium	1	mg/kg	0.43	ND

Sample ID: SS-02
 Lab#: AC90773-010
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

TCLP Metals 6010

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	ND
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	ND
Nickel	1	mg/l	0.10	ND
Selenium	1	mg/l	0.10	ND
Silver	1	mg/l	0.050	ND

Total PetroleumHydrocarbons8015D(C8-C40)

Analyte	DF	Units	RL	Result
Total Petroleum Hydrocarbons	1	mg/kg	64	130

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.971	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.971	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.971	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.971	mg/kg	0.0021	ND
1,1-Dichloroethane	0.971	mg/kg	0.0021	ND
1,1-Dichloroethene	0.971	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.971	mg/kg	0.0021	ND
1,2,4-Trichlorobenzene	0.971	mg/kg	0.0021	ND
1,2-Dibromo-3-chloropropane	0.971	mg/kg	0.0021	ND
1,2-Dibromoethane	0.971	mg/kg	0.0021	ND
1,2-Dichlorobenzene	0.971	mg/kg	0.0021	ND
1,2-Dichloroethane	0.971	mg/kg	0.0021	ND
1,2-Dichloropropane	0.971	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.971	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.971	mg/kg	0.0021	ND
1,4-Dioxane	0.971	mg/kg	0.10	ND
2-Butanone	0.971	mg/kg	0.0021	ND
2-Hexanone	0.971	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.971	mg/kg	0.0021	ND
Acetone	0.971	mg/kg	0.010	ND
Benzene	0.971	mg/kg	0.0010	ND
Bromochloromethane	0.971	mg/kg	0.0021	ND
Bromodichloromethane	0.971	mg/kg	0.0021	ND
Bromoform	0.971	mg/kg	0.0021	ND
Bromomethane	0.971	mg/kg	0.0021	ND
Carbon disulfide	0.971	mg/kg	0.0021	ND
Carbon tetrachloride	0.971	mg/kg	0.0021	ND
Chlorobenzene	0.971	mg/kg	0.0021	ND
Chloroethane	0.971	mg/kg	0.0021	ND
Chloroform	0.971	mg/kg	0.0021	ND
Chloromethane	0.971	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.971	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.971	mg/kg	0.0021	ND
Cyclohexane	0.971	mg/kg	0.0021	ND
Dibromochloromethane	0.971	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.971	mg/kg	0.0021	ND
Ethylbenzene	0.971	mg/kg	0.0010	ND
Isopropylbenzene	0.971	mg/kg	0.0010	ND
m&p-Xylenes	0.971	mg/kg	0.0010	ND
Methyl Acetate	0.971	mg/kg	0.0021	ND

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Sample ID: SS-02
Lab#: AC90773-010
Matrix: Soil

Collection Date: 4/14/2016
Receipt Date: 4/14/2016

Methylcyclohexane	0.971	mg/kg	0.0021	ND
Methylene chloride	0.971	mg/kg	0.0021	ND
Methyl-t-butyl ether	0.971	mg/kg	0.0010	ND
o-Xylene	0.971	mg/kg	0.0010	ND
Styrene	0.971	mg/kg	0.0021	ND
t-Butyl Alcohol	0.971	mg/kg	0.010	ND
Tetrachloroethene	0.971	mg/kg	0.0021	ND
Toluene	0.971	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	0.971	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.971	mg/kg	0.0021	ND
Trichloroethene	0.971	mg/kg	0.0021	ND
Trichlorofluoromethane	0.971	mg/kg	0.0021	ND
Vinyl chloride	0.971	mg/kg	0.0021	ND
Xylenes (Total)	0.971	mg/kg	0.0010	ND

Sample ID: DUP01
 Lab#: AC90773-011
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		94

Mercury (Soil/Waste) 7471A

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.009	0.21

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	mg/kg	0.0053	ND
Aldrin	1	mg/kg	0.0053	ND
Alpha-BHC	1	mg/kg	0.0011	ND
beta-BHC	1	mg/kg	0.0011	ND
Chlordane (Total)	1	mg/kg	0.0053	ND
delta-BHC	1	mg/kg	0.0053	ND
Dieldrin	1	mg/kg	0.0011	ND
Endosulfan I	1	mg/kg	0.0053	ND
Endosulfan II	1	mg/kg	0.0053	ND
Endosulfan Sulfate	1	mg/kg	0.0053	ND
Endrin	1	mg/kg	0.0053	ND
Endrin Aldehyde	1	mg/kg	0.0053	ND
Endrin Ketone	1	mg/kg	0.0053	ND
gamma-BHC	1	mg/kg	0.0011	ND
Heptachlor	1	mg/kg	0.0053	ND
Heptachlor Epoxide	1	mg/kg	0.0053	ND
Methoxychlor	1	mg/kg	0.0053	ND
p,p'-DDD	1	mg/kg	0.0027	ND
p,p'-DDE	1	mg/kg	0.0027	ND
p,p'-DDT	1	mg/kg	0.0027	ND
Toxaphene	1	mg/kg	0.027	ND
gamma-Chlordane	1	mg/kg	0.0053	ND

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.027	ND
Aroclor-1016	1	mg/kg	0.027	ND
Aroclor-1221	1	mg/kg	0.027	ND
Aroclor-1232	1	mg/kg	0.027	ND
Aroclor-1242	1	mg/kg	0.027	ND
Aroclor-1248	1	mg/kg	0.027	ND
Aroclor-1254	1	mg/kg	0.027	ND
Aroclor-1260	1	mg/kg	0.027	ND
Aroclor-1262	1	mg/kg	0.027	ND
Aroclor-1268	1	mg/kg	0.027	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	mg/kg	0.035	ND
1,2,4,5-Tetrachlorobenzene	1	mg/kg	0.035	ND
2,3,4,6-Tetrachlorophenol	1	mg/kg	0.035	ND
2,4,5-Trichlorophenol	1	mg/kg	0.035	ND
2,4,6-Trichlorophenol	1	mg/kg	0.035	ND
2,4-Dichlorophenol	1	mg/kg	0.0089	ND
2,4-Dimethylphenol	1	mg/kg	0.0089	ND
2,4-Dinitrophenol	1	mg/kg	0.18	ND
2,4-Dinitrotoluene	1	mg/kg	0.035	ND

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Sample ID: DUP01
 Lab#: AC90773-011
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

2,6-Dinitrotoluene	1	mg/kg	0.035	ND
2-Chloronaphthalene	1	mg/kg	0.035	ND
2-Chlorophenol	1	mg/kg	0.035	ND
2-Methylnaphthalene	1	mg/kg	0.035	ND
2-Methylphenol	1	mg/kg	0.0089	ND
2-Nitroaniline	1	mg/kg	0.035	ND
2-Nitrophenol	1	mg/kg	0.035	ND
3&4-Methylphenol	1	mg/kg	0.0089	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.035	ND
3-Nitroaniline	1	mg/kg	0.035	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.18	ND
4-Bromophenyl-phenylether	1	mg/kg	0.035	ND
4-Chloro-3-methylphenol	1	mg/kg	0.035	ND
4-Chloroaniline	1	mg/kg	0.0089	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.035	ND
4-Nitroaniline	1	mg/kg	0.035	ND
4-Nitrophenol	1	mg/kg	0.035	ND
Acenaphthene	1	mg/kg	0.035	ND
Acenaphthylene	1	mg/kg	0.035	0.11
Acetophenone	1	mg/kg	0.035	ND
Anthracene	1	mg/kg	0.035	0.062
Atrazine	1	mg/kg	0.035	ND
Benzaldehyde	1	mg/kg	0.035	ND
Benzo[a]anthracene	1	mg/kg	0.035	0.46
Benzo[a]pyrene	1	mg/kg	0.035	0.54
Benzo[b]fluoranthene	1	mg/kg	0.035	0.72
Benzo[g,h,i]perylene	1	mg/kg	0.035	0.36
Benzo[k]fluoranthene	1	mg/kg	0.035	0.21
bis(2-Chloroethoxymethane	1	mg/kg	0.035	ND
bis(2-Chloroethyl)ether	1	mg/kg	0.0089	ND
bis(2-Chloroisopropyl)ether	1	mg/kg	0.035	ND
bis(2-Ethylhexyl)phthalate	1	mg/kg	0.035	ND
Butylbenzylphthalate	1	mg/kg	0.035	ND
Caprolactam	1	mg/kg	0.035	ND
Carbazole	1	mg/kg	0.035	ND
Chrysene	1	mg/kg	0.035	0.49
Dibenzo[a,h]anthracene	1	mg/kg	0.035	0.11
Dibenzofuran	1	mg/kg	0.0089	ND
Diethylphthalate	1	mg/kg	0.035	ND
Dimethylphthalate	1	mg/kg	0.035	ND
Di-n-butylphthalate	1	mg/kg	0.0089	ND
Di-n-octylphthalate	1	mg/kg	0.035	ND
Fluoranthene	1	mg/kg	0.035	0.53
Fluorene	1	mg/kg	0.035	ND
Hexachlorobenzene	1	mg/kg	0.035	ND
Hexachlorobutadiene	1	mg/kg	0.035	ND
Hexachlorocyclopentadiene	1	mg/kg	0.070	ND
Hexachloroethane	1	mg/kg	0.035	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.035	0.33
Isophorone	1	mg/kg	0.035	ND
Naphthalene	1	mg/kg	0.0089	ND
Nitrobenzene	1	mg/kg	0.035	ND
N-Nitroso-di-n-propylamine	1	mg/kg	0.0089	ND
N-Nitrosodiphenylamine	1	mg/kg	0.035	ND
Pentachlorophenol	1	mg/kg	0.046	ND
Phenanthrene	1	mg/kg	0.035	0.19
Phenol	1	mg/kg	0.035	ND

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NOTE: Soil Results are reported to Dry Weigh

Project #: 6041514

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Sample ID: DUP01
 Lab#: AC90773-011
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Pyrene 1 mg/kg 0.035 0.60

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	210	1900
Barium	1	mg/kg	11	13
Calcium	1	mg/kg	1100	1100
Chromium	1	mg/kg	5.3	ND
Cobalt	1	mg/kg	2.7	6.0
Copper	1	mg/kg	5.3	10
Iron	1	mg/kg	210	3500
Lead	1	mg/kg	5.3	49
Magnesium	1	mg/kg	530	650
Manganese	1	mg/kg	11	110
Nickel	1	mg/kg	5.3	8.9
Potassium	1	mg/kg	530	ND
Sodium	1	mg/kg	270	ND
Vanadium	1	mg/kg	11	ND
Zinc	1	mg/kg	11	66

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	mg/kg	0.85	ND
Arsenic	1	mg/kg	0.21	2.0
Beryllium	1	mg/kg	0.21	ND
Cadmium	1	mg/kg	0.43	ND
Selenium	1	mg/kg	2.1	ND
Silver	1	mg/kg	0.21	ND
Thallium	1	mg/kg	0.43	ND

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.998	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.998	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.998	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.998	mg/kg	0.0021	ND
1,1-Dichloroethane	0.998	mg/kg	0.0021	ND
1,1-Dichloroethene	0.998	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.998	mg/kg	0.0021	ND
1,2,4-Trichlorobenzene	0.998	mg/kg	0.0021	ND
1,2-Dibromo-3-chloropropane	0.998	mg/kg	0.0021	ND
1,2-Dibromoethane	0.998	mg/kg	0.0021	ND
1,2-Dichlorobenzene	0.998	mg/kg	0.0021	ND
1,2-Dichloroethane	0.998	mg/kg	0.0021	ND
1,2-Dichloropropane	0.998	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.998	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.998	mg/kg	0.0021	ND
1,4-Dioxane	0.998	mg/kg	0.11	ND
2-Butanone	0.998	mg/kg	0.0021	ND
2-Hexanone	0.998	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.998	mg/kg	0.0021	ND
Acetone	0.998	mg/kg	0.011	ND
Benzene	0.998	mg/kg	0.0011	ND
Bromochloromethane	0.998	mg/kg	0.0021	ND
Bromodichloromethane	0.998	mg/kg	0.0021	ND
Bromoform	0.998	mg/kg	0.0021	ND
Bromomethane	0.998	mg/kg	0.0021	ND
Carbon disulfide	0.998	mg/kg	0.0021	ND

HAZ: 148

Sample ID: DUP01
 Lab#: AC90773-011
 Matrix: Soil

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Carbon tetrachloride	0.998	mg/kg	0.0021	ND
Chlorobenzene	0.998	mg/kg	0.0021	ND
Chloroethane	0.998	mg/kg	0.0021	ND
Chloroform	0.998	mg/kg	0.0021	ND
Chloromethane	0.998	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.998	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.998	mg/kg	0.0021	ND
Cyclohexane	0.998	mg/kg	0.0021	ND
Dibromochloromethane	0.998	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.998	mg/kg	0.0021	ND
Ethylbenzene	0.998	mg/kg	0.0011	ND
Isopropylbenzene	0.998	mg/kg	0.0011	ND
m&p-Xylenes	0.998	mg/kg	0.0011	ND
Methyl Acetate	0.998	mg/kg	0.0021	ND
Methylcyclohexane	0.998	mg/kg	0.0021	ND
Methylene chloride	0.998	mg/kg	0.0021	ND
Methyl-t-butyl ether	0.998	mg/kg	0.0011	ND
o-Xylene	0.998	mg/kg	0.0011	ND
Styrene	0.998	mg/kg	0.0021	ND
t-Butyl Alcohol	0.998	mg/kg	0.011	ND
Tetrachloroethene	0.998	mg/kg	0.0021	ND
Toluene	0.998	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	0.998	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.998	mg/kg	0.0021	ND
Trichloroethene	0.998	mg/kg	0.0021	ND
Trichlorofluoromethane	0.998	mg/kg	0.0021	ND
Vinyl chloride	0.998	mg/kg	0.0021	ND
Xylenes (Total)	0.998	mg/kg	0.0011	ND

Sample ID: FB01 U
 Lab#: AC90773-012
 Matrix: Aqueous

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Mercury (Water) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	ug/l	0.70	ND

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	ug/l	0.010	ND
Aldrin	1	ug/l	0.010	ND
Alpha-BHC	1	ug/l	0.010	ND
beta-BHC	1	ug/l	0.010	ND
Chlordane (Total)	1	ug/l	0.010	ND
delta-BHC	1	ug/l	0.010	ND
Dieldrin	1	ug/l	0.010	ND
Endosulfan I	1	ug/l	0.010	ND
Endosulfan II	1	ug/l	0.010	ND
Endosulfan Sulfate	1	ug/l	0.010	ND
Endrin	1	ug/l	0.010	ND
Endrin Aldehyde	1	ug/l	0.010	ND
Endrin Ketone	1	ug/l	0.010	ND
gamma-BHC	1	ug/l	0.010	ND
Heptachlor	1	ug/l	0.010	ND
Heptachlor Epoxide	1	ug/l	0.010	ND
Methoxychlor	1	ug/l	0.010	ND
p,p'-DDD	1	ug/l	0.010	ND
p,p'-DDE	1	ug/l	0.010	ND
p,p'-DDT	1	ug/l	0.010	ND
Toxaphene	1	ug/l	0.25	ND
gamma-Chlordane	1	ug/l	0.010	ND

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.25	ND
Aroclor-1016	1	ug/l	0.25	ND
Aroclor-1221	1	ug/l	0.25	ND
Aroclor-1232	1	ug/l	0.25	ND
Aroclor-1242	1	ug/l	0.25	ND
Aroclor-1248	1	ug/l	0.25	ND
Aroclor-1254	1	ug/l	0.25	ND
Aroclor-1260	1	ug/l	0.25	ND
Aroclor-1262	1	ug/l	0.25	ND
Aroclor-1268	1	ug/l	0.25	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	ug/l	2.0	ND
1,2,4,5-Tetrachlorobenzene	1	ug/l	2.0	ND
2,3,4,6-Tetrachlorophenol	1	ug/l	2.0	ND
2,4,5-Trichlorophenol	1	ug/l	2.0	ND
2,4,6-Trichlorophenol	1	ug/l	2.0	ND
2,4-Dichlorophenol	1	ug/l	0.50	ND
2,4-Dimethylphenol	1	ug/l	0.50	ND
2,4-Dinitrophenol	1	ug/l	10	ND
2,4-Dinitrotoluene	1	ug/l	2.0	ND
2,6-Dinitrotoluene	1	ug/l	2.0	ND
2-Chloronaphthalene	1	ug/l	2.0	ND
2-Chlorophenol	1	ug/l	2.0	ND
2-Methylnaphthalene	1	ug/l	2.0	ND

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Sample ID: FB01 U
 Lab#: AC90773-012
 Matrix: Aqueous

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

2-Methylphenol	1	ug/l	0.50	ND
2-Nitroaniline	1	ug/l	2.0	ND
2-Nitrophenol	1	ug/l	2.0	ND
3&4-Methylphenol	1	ug/l	0.50	ND
3,3'-Dichlorobenzidine	1	ug/l	2.0	ND
3-Nitroaniline	1	ug/l	2.0	ND
4,6-Dinitro-2-methylphenol	1	ug/l	10	ND
4-Bromophenyl-phenylether	1	ug/l	2.0	ND
4-Chloro-3-methylphenol	1	ug/l	2.0	ND
4-Chloroaniline	1	ug/l	0.50	ND
4-Chlorophenyl-phenylether	1	ug/l	2.0	ND
4-Nitroaniline	1	ug/l	2.0	ND
4-Nitrophenol	1	ug/l	2.0	ND
Acenaphthene	1	ug/l	2.0	ND
Acenaphthylene	1	ug/l	2.0	ND
Acetophenone	1	ug/l	2.0	ND
Anthracene	1	ug/l	2.0	ND
Atrazine	1	ug/l	2.0	ND
Benzaldehyde	1	ug/l	2.0	ND
Benzo[a]anthracene	1	ug/l	2.0	ND
Benzo[a]pyrene	1	ug/l	2.0	ND
Benzo[b]fluoranthene	1	ug/l	2.0	ND
Benzo[g,h,i]perylene	1	ug/l	2.0	ND
Benzo[k]fluoranthene	1	ug/l	2.0	ND
bis(2-Chloroethoxy)methane	1	ug/l	2.0	ND
bis(2-Chloroethyl)ether	1	ug/l	0.50	ND
bis(2-Chloroisopropyl)ether	1	ug/l	2.0	ND
bis(2-Ethylhexyl)phthalate	1	ug/l	2.0	ND
Butylbenzylphthalate	1	ug/l	2.0	ND
Caprolactam	1	ug/l	2.0	ND
Carbazole	1	ug/l	2.0	ND
Chrysene	1	ug/l	2.0	ND
Dibenzo[a,h]anthracene	1	ug/l	2.0	ND
Dibenzofuran	1	ug/l	0.50	ND
Diethylphthalate	1	ug/l	2.0	ND
Dimethylphthalate	1	ug/l	2.0	ND
Di-n-butylphthalate	1	ug/l	0.50	ND
Di-n-octylphthalate	1	ug/l	2.0	ND
Fluoranthene	1	ug/l	2.0	ND
Fluorene	1	ug/l	2.0	ND
Hexachlorobenzene	1	ug/l	2.0	ND
Hexachlorobutadiene	1	ug/l	2.0	ND
Hexachlorocyclopentadiene	1	ug/l	2.0	ND
Hexachloroethane	1	ug/l	2.0	ND
Indeno[1,2,3-cd]pyrene	1	ug/l	2.0	ND
Isophorone	1	ug/l	2.0	ND
Naphthalene	1	ug/l	0.50	ND
Nitrobenzene	1	ug/l	2.0	ND
N-Nitroso-di-n-propylamine	1	ug/l	0.50	ND
N-Nitrosodiphenylamine	1	ug/l	2.0	ND
Pentachlorophenol	1	ug/l	10	ND
Phenanthrene	1	ug/l	2.0	ND
Phenol	1	ug/l	2.0	ND
Pyrene	1	ug/l	2.0	ND

TAL Metals 6010

Analyte	DF	Units	RL	Result
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NOTE: Soil Results are reported to Dry Weigh

Project #: 6041514

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Sample ID: FB01 U
 Lab#: AC90773-012
 Matrix: Aqueous

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Aluminum	1	ug/l	200	ND
Barium	1	ug/l	50	ND
Calcium	1	ug/l	5000	ND
Chromium	1	ug/l	50	ND
Copper	1	ug/l	50	ND
Iron	1	ug/l	300	ND
Magnesium	1	ug/l	5000	ND
Manganese	1	ug/l	40	ND
Nickel	1	ug/l	50	ND
Potassium	1	ug/l	5000	ND
Silver	1	ug/l	20	ND
Sodium	1	ug/l	5000	ND
Vanadium	1	ug/l	50	ND
Zinc	1	ug/l	50	ND

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	ug/l	3.0	ND
Arsenic	1	ug/l	2.0	ND
Beryllium	1	ug/l	1.0	ND
Cadmium	1	ug/l	2.0	ND
Cobalt	1	ug/l	2.0	ND
Lead	1	ug/l	3.0	ND
Selenium	1	ug/l	10	ND
Thallium	1	ug/l	2.0	ND

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	1	ug/l	1.0	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	ug/l	1.0	ND
1,1,2-Trichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethane	1	ug/l	1.0	ND
1,2,3-Trichlorobenzene	1	ug/l	1.0	ND
1,2,4-Trichlorobenzene	1	ug/l	1.0	ND
1,2-Dibromo-3-chloropropane	1	ug/l	1.0	ND
1,2-Dibromoethane	1	ug/l	1.0	ND
1,2-Dichlorobenzene	1	ug/l	1.0	ND
1,2-Dichloroethane	1	ug/l	0.50	ND
1,2-Dichloropropane	1	ug/l	1.0	ND
1,3-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dioxane	1	ug/l	50	ND
2-Butanone	1	ug/l	1.0	ND
2-Hexanone	1	ug/l	1.0	ND
4-Methyl-2-pentanone	1	ug/l	1.0	ND
Acetone	1	ug/l	5.0	ND
Benzene	1	ug/l	0.50	ND
Bromochloromethane	1	ug/l	1.0	ND
Bromodichloromethane	1	ug/l	1.0	ND
Bromoform	1	ug/l	1.0	ND
Bromomethane	1	ug/l	5.0	ND
Carbon disulfide	1	ug/l	1.0	ND
Carbon tetrachloride	1	ug/l	1.0	ND
Chlorobenzene	1	ug/l	1.0	ND
Chloroethane	1	ug/l	1.0	ND

Sample ID: FB01 U
Lab#: AC90773-012
Matrix: Aqueous

Collection Date: 4/14/2016
Receipt Date: 4/14/2016

Chloroform	1	ug/l	1.0	ND
Chloromethane	1	ug/l	1.0	ND
cis-1,2-Dichloroethene	1	ug/l	1.0	ND
cis-1,3-Dichloropropene	1	ug/l	1.0	ND
Cyclohexane	1	ug/l	1.0	ND
Dibromochloromethane	1	ug/l	1.0	ND
Dichlorodifluoromethane	1	ug/l	1.0	ND
Ethylbenzene	1	ug/l	1.0	ND
Isopropylbenzene	1	ug/l	1.0	ND
m&p-Xylenes	1	ug/l	1.0	ND
Methyl Acetate	1	ug/l	1.0	ND
Methylcyclohexane	1	ug/l	1.0	ND
Methylene chloride	1	ug/l	1.0	ND
Methyl-t-butyl ether	1	ug/l	0.50	ND
o-Xylene	1	ug/l	1.0	ND
Styrene	1	ug/l	1.0	ND
t-Butyl Alcohol	1	ug/l	5.0	ND
Tetrachloroethene	1	ug/l	1.0	ND
Toluene	1	ug/l	1.0	ND
trans-1,2-Dichloroethene	1	ug/l	1.0	ND
trans-1,3-Dichloropropene	1	ug/l	1.0	ND
Trichloroethene	1	ug/l	1.0	ND
Trichlorofluoromethane	1	ug/l	1.0	ND
Vinyl chloride	1	ug/l	1.0	ND
Xylenes (Total)	1	ug/l	1.0	ND

Sample ID: FB01 F
 Lab#: AC90773-013
 Matrix: Aqueous

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Mercury (Water) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	ug/l	0.70	ND

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	1	ug/l	200	ND
Barium	1	ug/l	50	ND
Calcium	1	ug/l	5000	ND
Chromium	1	ug/l	50	ND
Copper	1	ug/l	50	ND
Iron	1	ug/l	300	ND
Magnesium	1	ug/l	5000	ND
Manganese	1	ug/l	40	ND
Nickel	1	ug/l	50	ND
Potassium	1	ug/l	5000	ND
Silver	1	ug/l	20	ND
Sodium	1	ug/l	5000	ND
Vanadium	1	ug/l	50	ND
Zinc	1	ug/l	50	ND

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	1	ug/l	3.0	ND
Arsenic	1	ug/l	2.0	ND
Beryllium	1	ug/l	1.0	ND
Cadmium	1	ug/l	2.0	ND
Cobalt	1	ug/l	2.0	ND
Lead	1	ug/l	3.0	ND
Selenium	1	ug/l	10	ND
Thallium	1	ug/l	2.0	ND

Sample ID: Trip Blank
 Lab#: AC90773-014
 Matrix: Aqueous

Collection Date: 4/14/2016
 Receipt Date: 4/14/2016

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	1	ug/l	1.0	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	ug/l	1.0	ND
1,1,2-Trichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethene	1	ug/l	1.0	ND
1,2,3-Trichlorobenzene	1	ug/l	1.0	ND
1,2,4-Trichlorobenzene	1	ug/l	1.0	ND
1,2-Dibromo-3-chloropropane	1	ug/l	1.0	ND
1,2-Dibromoethane	1	ug/l	1.0	ND
1,2-Dichlorobenzene	1	ug/l	1.0	ND
1,2-Dichloroethane	1	ug/l	0.50	ND
1,2-Dichloropropane	1	ug/l	1.0	ND
1,3-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dioxane	1	ug/l	50	ND
2-Butanone	1	ug/l	1.0	ND
2-Hexanone	1	ug/l	1.0	ND
4-Methyl-2-pentanone	1	ug/l	1.0	ND
Acetone	1	ug/l	5.0	ND
Benzene	1	ug/l	0.50	ND
Bromochloromethane	1	ug/l	1.0	ND
Bromodichloromethane	1	ug/l	1.0	ND
Bromoform	1	ug/l	1.0	ND
Bromomethane	1	ug/l	5.0	ND
Carbon disulfide	1	ug/l	1.0	ND
Carbon tetrachloride	1	ug/l	1.0	ND
Chlorobenzene	1	ug/l	1.0	ND
Chloroethane	1	ug/l	1.0	ND
Chloroform	1	ug/l	1.0	ND
Chloromethane	1	ug/l	1.0	ND
cis-1,2-Dichloroethene	1	ug/l	1.0	ND
cis-1,3-Dichloropropene	1	ug/l	1.0	ND
Cyclohexane	1	ug/l	1.0	ND
Dibromochloromethane	1	ug/l	1.0	ND
Dichlorodifluoromethane	1	ug/l	1.0	ND
Ethylbenzene	1	ug/l	1.0	ND
Isopropylbenzene	1	ug/l	1.0	ND
m&p-Xylenes	1	ug/l	1.0	ND
Methyl Acetate	1	ug/l	1.0	ND
Methylcyclohexane	1	ug/l	1.0	ND
Methylene chloride	1	ug/l	1.0	ND
Methyl-t-butyl ether	1	ug/l	0.50	ND
o-Xylene	1	ug/l	1.0	ND
Styrene	1	ug/l	1.0	ND
t-Butyl Alcohol	1	ug/l	5.0	ND
Tetrachloroethene	1	ug/l	1.0	ND
Toluene	1	ug/l	1.0	ND
trans-1,2-Dichloroethene	1	ug/l	1.0	ND
trans-1,3-Dichloropropene	1	ug/l	1.0	ND
Trichloroethene	1	ug/l	1.0	ND
Trichlorofluoromethane	1	ug/l	1.0	ND
Vinyl chloride	1	ug/l	1.0	ND
Xylenes (Total)	1	ug/l	1.0	ND

HC Reporting Limit Definitions/Data Qualifiers

REPORTING DEFINITIONS

DF = Dilution Factor

MDL = Method Detection Limit

RL* = Reporting Limit

ND = Not Detected

RT = Retention Time

NA = Not Applicable

**Samples with elevated Reporting Limits (RLs) as a result of a dilution may not achieve client reporting limits in some cases. The elevated RLs are unavoidable consequences of sample dilution required to quantitate target analytes that exceed the calibration range of the instrument.*

DATA QUALIFIERS

- A-** Indicates that the Tentatively Identified Compound (TIC) is suspected to be an aldol-condensation product. These compounds are by-products of acetone and methylene chloride used in the extraction process.
- B-** Indicates analyte was present in the Method Blank and sample.
- d-** For Pesticide and PCB analysis, the concentration between primary and secondary columns is greater than 40%. The lower concentration is generally reported.
- E-** Indicates the concentration exceeded the upper calibration range of the instrument.
- J-** Indicates the value is estimated because it is either a Tentatively Identified Compound (TIC) or the reported concentration is greater than the MDL but less than the RL. For samples results between the MDL and RL there is a possibility of false positives or misidentification at the quantitation levels. Additionally, the acceptance criteria for QC samples may not be met.
- R-** Retention Time is out.
- Y-** Indicates a contaminant found in the blank at less than 10% of the concentration of a contaminant found in the sample.

Laboratory Chronicle

Client: Louis Berger & Associates
Project: 25th Ave Ph II SCI

HC Project #: 6041514

Lab#: AC90773-001

Sample ID: SB-01

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Mercury (Soil/Waste) 7471A	EPA 7471B	04/16/16	snezana	EPA 7471B	4/19/16 12:10	CJA
Organochlorine Pesticides 8081	3510C/3550C	04/19/16	JKR	EPA 8081B	4/21/16 15:17	MS/ZM/MLC
PCB 8082	3510C/3550C	04/19/16	jkr	EPA 8082A	4/21/16 11:17	MAS/ZM/MLC
Semivolatile Organics (no search) 8270	3510C/3550C	04/19/16	marie	EPA 8270D	4/19/16 18:20	AH/JB
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 19:02	OA
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 22:08	OA
TAL Metals 6020	3005&10/3050	04/16/16	snezana	EPA 6020A	4/18/16 18:26	PC
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/18/16 18:10	SG

Lab#: AC90773-002

Sample ID: SB-02

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Mercury (Soil/Waste) 7471A	EPA 7471B	04/16/16	snezana	EPA 7471B	4/19/16 12:14	CJA
Organochlorine Pesticides 8081	3510C/3550C	04/19/16	JKR	EPA 8081B	4/21/16 13:32	MS/ZM/MLC
PCB 8082	3510C/3550C	04/19/16	jkr	EPA 8082A	4/19/16 22:16	MAS/ZM/MLC
Semivolatile Organics (no search) 8270	3510C/3550C	04/19/16	marie	EPA 8270D	4/20/16 14:08	AH/JB
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 19:05	OA
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 22:12	OA
TAL Metals 6020	3005&10/3050	04/16/16	snezana	EPA 6020A	4/18/16 18:32	PC
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/18/16 21:48	SG

Lab#: AC90773-003

Sample ID: SB-03

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Mercury (Soil/Waste) 7471A	EPA 7471B	04/16/16	snezana	EPA 7471B	4/19/16 12:16	CJA
Organochlorine Pesticides 8081	3510C/3550C	04/19/16	JKR	EPA 8081B	4/20/16 15:04	MS/ZM/MLC
PCB 8082	3510C/3550C	04/19/16	jkr	EPA 8082A	4/20/16 19:25	MAS/ZM/MLC
Semivolatile Organics (no search) 8270	3510C/3550C	04/19/16	marie	EPA 8270D	4/19/16 16:02	AH/JB
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 19:08	OA
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 22:16	OA
TAL Metals 6020	3005&10/3050	04/16/16	snezana	EPA 6020A	4/18/16 18:38	PC
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/18/16 22:04	SG

Laboratory Chronicle

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-004

Sample ID: SB-04

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Mercury (Soil/Waste) 7471A	EPA 7471B	04/16/16	snezana	EPA 7471B	4/19/16 12:17	CJA
Organochlorine Pesticides 8081	3510C/3550C	04/19/16	JKR	EPA 8081B	4/20/16 14:46	MS/ZM/MLC
PCB 8082	3510C/3550C	04/19/16	jkr	EPA 8082A	4/20/16 19:09	MAS/ZM/MLC
Semivolatile Organics (no search) 8270	3510C/3550C	04/19/16	inarie	EPA 8270D	4/19/16 15:23	AH/JB
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 19:11	OA
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 22:19	OA
TAL Metals 6020	3005&10/3050	04/16/16	snezana	EPA 6020A	4/18/16 18:44	PC
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/19/16 13:34	SG

Lab#: AC90773-005

Sample ID: WC01

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	4/19/16 18:35	SG
Ignitability		04/18/16	Anthony	EPA 1030	4/18/16 00:00	Anthony
Mercury (TCLP) 7470A	EPA 7470A	04/20/16	carmela	EPA 7470A	4/21/16 12:31	OA
Paint Filter Test 9095A				EPA 9095A	4/19/16 00:00	SDL
pH 9040C/9045D				9040C/9045D	4/19/16 11:30	SDL
Reactive Cyanide	SW846 7.3.3	04/18/16	hossain	SW846 7.3.3	4/18/16 15:19	af
Reactive Sulfide	SW846 7.3.4	04/18/16	HS	SW846 7.3.4	4/18/16 00:00	HS
TCLP Metals 6010	3005&10/3050	04/20/16	carmela	EPA 6010C	4/20/16 19:29	SRB
TCLP Metals Extraction 1311	EPA 1311	04/18/16	Ramos		4/19/16 00:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	04/19/16	lynda	EPA 8015D	4/19/16 23:49	AH/KD/ABM

Lab#: AC90773-006

Sample ID: WC02

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	4/19/16 18:55	SG
Ignitability (EPA 1030)		04/18/16	Anthony	EPA 1030	4/18/16 00:00	Anthony
Mercury (TCLP) 7470A	EPA 7470A	04/20/16	carmela	EPA 7470A	4/21/16 12:35	OA
Paint Filter Test 9095A				EPA 9095A	4/19/16 00:00	SDL
pH 9040C/9045D				9040C/9045D	4/19/16 11:30	SDL
Reactive Cyanide	SW846 7.3.3	04/18/16	hossain	SW846 7.3.3	4/18/16 15:21	af
Reactive Sulfide	SW846 7.3.4	04/18/16	HS	SW846 7.3.4	4/18/16 00:00	HS
TCLP Metals 6010	3005&10/3050	04/20/16	carmela	EPA 6010C	4/20/16 20:41	SRB
TCLP Metals Extraction 1311	EPA 1311	04/18/16	Ramos		4/19/16 00:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	04/19/16	lynda	EPA 8015D	4/19/16 20:09	AH/KD/ABM

Laboratory Chronicle

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-007

Sample ID: WC03

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	4/19/16 19:15	SG
Ignitability (EPA 1030)		04/18/16	Anthony	EPA 1030	4/18/16 00:00	Anthony
Mercury (TCLP) 7470A	EPA 7470A	04/20/16	carmela	EPA 7470A	4/21/16 12:37	OA
Paint Filter Test 9095A				EPA 9095A	4/19/16 00:00	SDL
pH 9040C/9045D				9040C/9045D	4/19/16 11:30	SDL
Reactive Cyanide	SW846 7.3.3	04/18/16	hossain	SW846 7.3.3	4/18/16 15:16	af
Reactive Sulfide	SW846 7.3.4	04/18/16	HS	SW846 7.3.4	4/18/16 00:00	HS
TCLP Metals 6010	3005&10/3050	04/20/16	carmela	EPA 6010C	4/20/16 20:44	SRB
TCLP Metals Extraction 1311	EPA 1311	04/18/16	Ramos		4/19/16 00:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	04/19/16	lynda	EPA 8015D	4/19/16 20:34	AH/KD/ABM

Lab#: AC90773-008

Sample ID: WC04

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	4/19/16 19:35	SG
Ignitability (EPA 1030)		04/18/16	Anthony	EPA 1030	4/18/16 00:00	Anthony
Mercury (TCLP) 7470A	EPA 7470A	04/20/16	carmela	EPA 7470A	4/21/16 12:38	OA
Paint Filter Test 9095A				EPA 9095A	4/19/16 00:00	SDL
pH 9040C/9045D				9040C/9045D	4/19/16 11:30	SDL
Reactive Cyanide	SW846 7.3.3	04/18/16	hossain	SW846 7.3.3	4/18/16 15:23	af
Reactive Sulfide	SW846 7.3.4	04/18/16	HS	SW846 7.3.4	4/18/16 00:00	HS
TCLP Metals 6010	3005&10/3050	04/20/16	carmela	EPA 6010C	4/20/16 20:48	SRB
TCLP Metals Extraction 1311	EPA 1311	04/18/16	Ramos		4/19/16 00:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	04/19/16	lynda	EPA 8015D	4/19/16 20:58	AH/KD/ABM

Laboratory Chronicle

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-009

Sample ID: SS-01

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	4/19/16 19:53	SG
Ignitability (EPA 1030)		04/18/16	Anthony	EPA 1030	4/18/16 00:00	Anthony
Mercury (Soil/Waste) 7471A	EPA 7471B	04/16/16	snezana	EPA 7471B	4/19/16 12:18	CJA
Mercury (TCLP) 7470A	EPA 7470A	04/20/16	carmela	EPA 7470A	4/21/16 12:40	OA
Organochlorine Pesticides 8081	3510C/3550C	04/19/16	JKR	EPA 8081B	4/21/16 14:07	MS/ZM/MLC
Paint Filter Test 9095A				EPA 9095A	4/19/16 00:00	SDL
PCB 8082	3510C/3550C	04/19/16	jkr	EPA 8082A	4/19/16 22:31	MAS/ZM/MLC
pH 9040C/9045D				9040C/9045D	4/19/16 11:30	SDL
Reactive Cyanide	SW846 7.3.3	04/18/16	hossain	SW846 7.3.3	4/18/16 15:26	af
Reactive Sulfide	SW846 7.3.4	04/18/16	HS	SW846 7.3.4	4/18/16 00:00	HS
Semivolatile Organics (no search) 8270	3510C/3550C	04/19/16	marie	EPA 8270D	4/19/16 18:43	AH/JB
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 19:13	OA
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 22:23	OA
TAL Metals 6020	3005&10/3050	04/16/16	snezana	EPA 6020A	4/18/16 18:49	PC
TCLP Metals 6010	3005&10/3050	04/20/16	carmela	EPA 6010C	4/20/16 21:09	SRB
TCLP Metals Extraction 1311	EPA 1311	04/18/16	Ramos		4/19/16 00:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	04/19/16	lynda	EPA 8015D	4/20/16 00:13	AH/KD/ABM
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/19/16 16:37	SG

Lab#: AC90773-010

Sample ID: SS-02

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	4/19/16 20:13	SG
Ignitability (EPA 1030)		04/18/16	Anthony	EPA 1030	4/18/16 00:00	Anthony
Mercury (Soil/Waste) 7471A	EPA 7471B	04/16/16	snezana	EPA 7471B	4/19/16 12:20	CJA
Mercury (TCLP) 7470A	EPA 7470A	04/20/16	carmela	EPA 7470A	4/21/16 12:44	OA
Organochlorine Pesticides 8081	3510C/3550C	04/19/16	JKR	EPA 8081B	4/21/16 14:25	MS/ZM/MLC
Paint Filter Test 9095A				EPA 9095A	4/19/16 00:00	SDL
PCB 8082	3510C/3550C	04/19/16	jkr	EPA 8082A	4/19/16 22:47	MAS/ZM/MLC
pH 9040C/9045D				9040C/9045D	4/19/16 11:30	SDL
Reactive Cyanide	SW846 7.3.3	04/18/16	hossain	SW846 7.3.3	4/18/16 15:28	af
Reactive Sulfide	SW846 7.3.4	04/18/16	HS	SW846 7.3.4	4/18/16 00:00	HS
Semivolatile Organics (no search) 8270	3510C/3550C	04/19/16	marie	EPA 8270D	4/20/16 14:31	AH/JB
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 22:46	OA
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 19:34	OA
TAL Metals 6020	3005&10/3050	04/16/16	snezana	EPA 6020A	4/18/16 18:55	PC
TCLP Metals 6010	3005&10/3050	04/20/16	carmela	EPA 6010C	4/20/16 21:12	SRB
TCLP Metals Extraction 1311	EPA 1311	04/18/16	Ramos		4/19/16 00:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	04/19/16	lynda	EPA 8015D	4/20/16 00:37	AH/KD/ABM
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/19/16 13:51	SG

Laboratory Chronicle

Client: Louis Berger & Associates

HC Project #: 6041514

Project: 25th Ave Ph II SCI

Lab#: AC90773-011

Sample ID: DUP01

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	4/16/16 00:00	hossain
Mercury (Soil/Waste) 7471A	EPA 7471B	04/16/16	snezana	EPA 7471B	4/19/16 12:21	CJA
Organochlorine Pesticides 8081	3510C/3550C	04/19/16	JKR	EPA 8081B	4/20/16 15:22	MS/ZM/MLC
PCB 8082	3510C/3550C	04/19/16	jkr	EPA 8082A	4/19/16 20:29	MAS/ZM/MLC
Semivolatile Organics (no search) 8270	3510C/3550C	04/19/16	marie	EPA 8270D	4/19/16 16:25	AH/JB
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 19:37	OA
TAL Metals 6010	3005&10/3050	04/18/16	olufemi	EPA 6010C	4/18/16 22:49	OA
TAL Metals 6020	3005&10/3050	04/16/16	snezana	EPA 6020A	4/18/16 19:01	PC
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/19/16 14:08	SG

Lab#: AC90773-012

Sample ID: FB01 U

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Mercury (Water) 7470A	EPA 7470A	04/20/16	snezana	EPA 7470A	4/21/16 12:19	OA
Organochlorine Pesticides 8081	3510C/3550C	04/18/16	lynda	EPA 8081B	4/19/16 05:47	MS/MLC/ZM
PCB 8082	3510C/3550C	04/18/16	lynda	EPA 8082A	4/19/16 10:44	MAS/ZM/MLC
Semivolatile Organics (no search) 8270	3510C/3550C	04/19/16	jir	EPA 8270D	4/20/16 17:20	AH/JB
TAL Metals 6010	3005&10/3050	04/20/16	snezana	EPA 6010C	4/21/16 14:38	SRB
TAL Metals 6010	3005&10/3050	04/20/16	snezana	EPA 6010C	4/21/16 00:10	SRB
TAL Metals 6010	3005&10/3050	04/20/16	snezana	EPA 6010C	4/20/16 18:59	SRB
TAL Metals 6020	3005&10/3050	04/20/16	snezana	EPA 6020A	4/20/16 13:52	PC
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/19/16 18:34	WP

Lab#: AC90773-013

Sample ID: FB01 F

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Mercury (Water) 7470A	EPA 7470A	04/20/16	snezana	EPA 7470A	4/21/16 12:20	OA
TAL Metals 6010	3005&10/3050	04/20/16	snezana	EPA 6010C	4/20/16 19:02	SRB
TAL Metals 6010	3005&10/3050	04/20/16	snezana	EPA 6010C	4/21/16 00:13	SRB
TAL Metals 6010	3005&10/3050	04/20/16	snezana	EPA 6010C	4/21/16 14:42	SRB
TAL Metals 6020	3005&10/3050	04/20/16	snezana	EPA 6020A	4/20/16 13:58	PC

Lab#: AC90773-014

Sample ID: Trip Blank

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/19/16 18:49	WP

Chain of Custody

1a) Customer: LEO'S BASKET
 Address: 412 MT KEMBLE AVE.
MORRISTOWN, NJ

1b) Email/Caller/Exp: FAMEDEA ALI

1c) Send Invoice to: FAMEDEA ALI

1d) Send Report to: BRUNNA GRIBBLE

Customer Information: NEIACNJ 007071 | PA 856-00463 | NY #11408 | CT #PH-0671 | KY #00124 | DE HSCA Approved

2a) Project: 25th Ave Ph II SCE

2b) Project Mgr: FAMEDEA ALI

2c) Project Location (City/State): BRONX, NY

2d) Order/PO # (if applicable):

When Available:
 1 Business Day (100%)*
 2 Business Days (75%)*
 3 Business Days (50%)*
 4 Business Days (35%)*
 5 Business Days (25%)*
 10 Business Days (Stand.)

Report Type: Full / Category B

Electronic Deliv.: Excel - NY Regulatory
Excel - PA Regulatory
EQUS (specify below):
4-Fiber/ZNYS/Reg. 2 or 5

FOR LAB USE ONLY

Matrix Codes: DW - Drinking Water, S - Soil, A - Air, GW - Ground Water, SL - Sludge, WW - Waste Water, OL - Oil, OT - Other (please specify under item 9, Comments)

Batch # AC90773

Check if Contingent

Lap Sample #	4) Customer Sample ID	5) Matrix	6) Sample		Composite (C)	Grab (G)	7) Analysis (specify methods & parameter lists)							8) # of Bottles						9) Comments						
			Date	Time			TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B	TPH-DEO/GRO 805B								
-061	SB01	S	4/14/16	1315		X	TCL VOC 8260C	TCL VOC 827D	TAL Metals 60103	Pest 8081	PCB 8082	TPH-DEO/GRO 805B	TCLP Metals (RCRA 9) 1311/6000	RCRA Characteristics	Cytotoxicity, lead, copper	Paint filter	None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:		
-002	SB02	S		1100		X											2									
-003	SB03	S		1110		X											2									
-004	SB04	S		1140		X											2									
-005	WC01	S		1315		X											1									
-006	WC02	S		1100		X											1									
-007	WC03	S		1110		X											1									
-008	WC04	S		1140		X											1									
-009	WC05	S		915		X											2									
-010	SS02	S		930		X											1									

Relinquished by: Althea Accepted by: Wesley

Date: 4/14/16 Time: 12:45

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):

BN or BNA (8270D SIM)

VOC (8260C SIM or 8011)

SPLP (BN, BNA, Metals)

Check if applicable:

Project-Specific Reporting Limits

High Contaminant Concentrations

NJ LSRP Project (also check boxes above/right)

11) Sampler (print name): S. L. Cavaliere Date: 4/14/16

Cooler Temperature: 8.1

FOR LAB USE ONLY

Check if Contingent

9) Comments

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CONDITION UPON RECEIPT

Batch Number AC90773

Entered By: Frantz

Date Entered 4/15/2016 8:18:00 AM

-
- 1 Yes Is there a corresponding COC included with the samples?
 - 2 Yes Are the samples in a container such as a cooler or Ice chest?
 - 3 Yes Are the COC seals intact?
 - 4 T0056 <--- Thermometer ID. Please specify the Temperature inside the container (in degC).
3.1.2.8
 - 5 Yes Are the samples refrigerated (where required)/have they arrived on ice?
 - 6 Yes Are the samples within the holding times for the parameters listed on the COC? IF no, list parameters and samples:
 - 7 Yes Are all of the sample bottles intact? If no, specify sample numbers broken/leaking
 - 8 Yes Are all of the sample labels or numbers legible? If no specify:
 - 9 Yes Do the contents match the COC? If no, specify
 - 10 Yes Is there enough sample sent for the analyses listed on the COC? If no, specify:
 - 11 Yes Are samples preserved correctly?
 - 12 Yes Was temperature blank present (Place comment below if not)? If not was temperature of samples verified?
 - 13 NA Other comments ...Specify
 - 14 NA Corrective actions (Specify item number and corrective action taken).

PRESERVATION DOCUMENT

Batch Number AC90773

Entered By: Frantz

Date Entered 4/15/2016 8:18:00 AM

Lab#	Container Siz	Container/Vial Check	Parameter	Preservative	PH
AC90773-001	NA	NA	NA	NA	NA
AC90773-002	NA	NA	NA	NA	NA
AC90773-003	NA	NA	NA	NA	NA
AC90773-004	NA	NA	NA	NA	NA
AC90773-005	NA	NA	NA	NA	NA
AC90773-006	NA	NA	NA	NA	NA
AC90773-007	NA	NA	NA	NA	NA
AC90773-008	NA	NA	NA	NA	NA
AC90773-009	NA	NA	NA	NA	NA
AC90773-010	NA	NA	NA	NA	NA
AC90773-011	NA	NA	NA	NA	NA
AC90773-012	1l	P	METALS	HNO3	1
AC90773-012	1L	G	PEST	NONE	7
AC90773-012	40ml	G	VO	HCL	1
AC90773-013	NA	NA	NA	NA	NA
AC90773-014	40ml	G	VO	HCL	1

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/ M	Analysis	Lab#:	DateTime:	Loc or User	Bot Nu	A/ M	Analysis
AC90773-001	04/14/16 17:46	FRANT0	M	Received		AC90773-005	04/18/16 09:06	AF	2	A	ignit 1030
AC90773-001	04/15/16 08:18	FRANT0	M	Login		AC90773-005	04/18/16 16:01	R12	2	A	NONE
AC90773-001	04/15/16 21:21	R12	1	A	NONE	AC90773-005	04/19/16 07:46	SDL	2	A	PAINT FILTER
AC90773-001	04/15/16 21:21	PA	1	A	mix	AC90773-005	04/19/16 07:51	SDL	2	A	PH
AC90773-001	04/16/16 06:04	SP	1	A	tdsi-hg	AC90773-005	04/19/16 12:38	LV	2	A	TPH
AC90773-001	04/16/16 06:05	SP	1	A	r12	AC90773-005	04/19/16 12:39	R12	2	A	NONE
AC90773-001	04/16/16 09:45	HS	1	A	%solids	AC90773-005	04/18/16 16:25	R31	3	A	NONE
AC90773-001	04/16/16 11:54	R12	1	A	NONE	AC90773-005	04/19/16 10:53	SG	3	M	GRO
AC90773-001	04/18/16 16:01	R12	1	A	NONE	AC90773-005	04/19/16 15:53	R31	3	A	NONE
AC90773-001	04/19/16 06:21	JKR	1	A	r12	AC90773-006	04/14/16 17:46	FRANT0	M	Received	
AC90773-001	04/19/16 06:21	JKR	1	A	P/P	AC90773-006	04/15/16 08:18	FRANT0	M	Login	
AC90773-001	04/19/16 07:17	MSL	1	A	bn	AC90773-006	04/16/16 07:01	R30	1	A	NONE
AC90773-001	04/19/16 07:18	R12	1	A	NONE	AC90773-006	04/18/16 15:49	SG	1	A	GRO
AC90773-001	04/16/16 07:01	R30	2	A	NONE	AC90773-006	04/18/16 16:25	R30	1	A	NONE
AC90773-001	04/18/16 15:48	SG	2	A	VOA	AC90773-006	04/15/16 21:21	R12	2	A	NONE
AC90773-001	04/18/16 16:25	R30	2	A	NONE	AC90773-006	04/15/16 21:21	PA	2	A	mix
AC90773-002	04/14/16 17:46	FRANT0	M	Received		AC90773-006	04/16/16 08:58	HS	2	A	%solids
AC90773-002	04/15/16 08:18	FRANT0	M	Login		AC90773-006	04/16/16 11:54	R12	2	A	NONE
AC90773-002	04/15/16 21:21	PA	1	A	mix	AC90773-006	04/18/16 09:06	AF	2	A	ignit 1030
AC90773-002	04/15/16 21:21	R12	1	A	NONE	AC90773-006	04/18/16 16:01	R12	2	A	NONE
AC90773-002	04/16/16 06:04	SP	1	A	tdsi-hg	AC90773-006	04/19/16 07:46	SDL	2	A	PAINT FILTER
AC90773-002	04/16/16 06:05	SP	1	A	r12	AC90773-006	04/19/16 07:51	SDL	2	A	PH
AC90773-002	04/16/16 09:45	HS	1	A	%solids	AC90773-006	04/19/16 12:38	LV	2	A	TPH
AC90773-002	04/16/16 11:54	R12	1	A	NONE	AC90773-006	04/19/16 12:39	R12	2	A	NONE
AC90773-002	04/18/16 16:01	R12	1	A	NONE	AC90773-006	04/18/16 16:25	R31	3	A	NONE
AC90773-002	04/19/16 06:21	JKR	1	A	r12	AC90773-006	04/19/16 10:53	SG	3	M	GRO
AC90773-002	04/19/16 06:21	JKR	1	A	P/P	AC90773-006	04/19/16 15:53	R31	3	A	NONE
AC90773-002	04/19/16 07:17	MSL	1	A	bn	AC90773-007	04/14/16 17:46	FRANT0	M	Received	
AC90773-002	04/19/16 07:18	R12	1	A	NONE	AC90773-007	04/15/16 08:18	FRANT0	M	Login	
AC90773-002	04/16/16 07:01	R30	2	A	NONE	AC90773-007	04/16/16 07:01	R30	1	A	NONE
AC90773-002	04/18/16 15:48	SG	2	A	VOA	AC90773-007	04/18/16 15:49	SG	1	A	GRO
AC90773-002	04/18/16 16:25	R30	2	A	NONE	AC90773-007	04/18/16 16:25	R30	1	A	NONE
AC90773-003	04/14/16 17:46	FRANT0	M	Received		AC90773-007	04/15/16 21:21	PA	2	A	mix
AC90773-003	04/15/16 08:18	FRANT0	M	Login		AC90773-007	04/15/16 21:21	R12	2	A	NONE
AC90773-003	04/15/16 21:21	R12	1	A	NONE	AC90773-007	04/16/16 08:58	HS	2	A	%solids
AC90773-003	04/15/16 21:21	PA	1	A	mix	AC90773-007	04/16/16 11:54	R12	2	A	NONE
AC90773-003	04/16/16 06:04	SP	1	A	tdsi-hg	AC90773-007	04/18/16 09:06	AF	2	A	ignit 1030
AC90773-003	04/16/16 06:05	SP	1	A	r12	AC90773-007	04/18/16 16:01	R12	2	A	NONE
AC90773-003	04/16/16 09:45	HS	1	A	%solids	AC90773-007	04/19/16 07:46	SDL	2	A	PAINT FILTER
AC90773-003	04/16/16 11:54	R12	1	A	NONE	AC90773-007	04/19/16 07:51	SDL	2	A	PH
AC90773-003	04/18/16 16:01	R12	1	A	NONE	AC90773-007	04/19/16 12:38	LV	2	A	TPH
AC90773-003	04/19/16 06:21	JKR	1	A	P/P	AC90773-007	04/19/16 12:39	R12	2	A	NONE
AC90773-003	04/19/16 06:21	JKR	1	A	r12	AC90773-007	04/18/16 16:25	R31	3	A	NONE
AC90773-003	04/19/16 07:17	MSL	1	A	bn	AC90773-007	04/19/16 10:53	SG	3	M	GRO
AC90773-003	04/19/16 07:18	R12	1	A	NONE	AC90773-007	04/19/16 15:53	R31	3	A	NONE
AC90773-003	04/16/16 07:01	R30	2	A	NONE	AC90773-008	04/14/16 17:46	FRANT0	M	Received	
AC90773-003	04/18/16 15:48	SG	2	A	VOA	AC90773-008	04/15/16 08:18	FRANT0	M	Login	
AC90773-003	04/18/16 16:25	R30	2	A	NONE	AC90773-008	04/16/16 07:01	R30	1	A	NONE
AC90773-004	04/14/16 17:46	FRANT0	M	Received		AC90773-008	04/18/16 15:49	SG	1	A	GRO
AC90773-004	04/15/16 08:18	FRANT0	M	Login		AC90773-008	04/18/16 16:25	R30	1	A	NONE
AC90773-004	04/15/16 21:21	PA	1	A	mix	AC90773-008	04/15/16 21:21	R12	2	A	NONE
AC90773-004	04/15/16 21:21	R12	1	A	NONE	AC90773-008	04/15/16 21:21	PA	2	A	mix
AC90773-004	04/16/16 06:04	SP	1	A	tdsi-hg	AC90773-008	04/16/16 08:58	HS	2	A	%solids
AC90773-004	04/16/16 06:05	SP	1	A	r12	AC90773-008	04/16/16 11:54	R12	2	A	NONE
AC90773-004	04/16/16 09:45	HS	1	A	%solids	AC90773-008	04/18/16 09:06	AF	2	A	ignit 1030
AC90773-004	04/16/16 11:54	R12	1	A	NONE	AC90773-008	04/18/16 16:01	R12	2	A	NONE
AC90773-004	04/18/16 16:01	R12	1	A	NONE	AC90773-008	04/19/16 07:46	SDL	2	A	PAINT FILTER
AC90773-004	04/19/16 06:21	JKR	1	A	P/P	AC90773-008	04/19/16 07:51	SDL	2	A	PH
AC90773-004	04/19/16 06:21	JKR	1	A	r12	AC90773-008	04/19/16 12:38	LV	2	A	TPH
AC90773-004	04/19/16 07:17	MSL	1	A	bn	AC90773-008	04/19/16 12:39	R12	2	A	NONE
AC90773-004	04/19/16 07:18	R12	1	A	NONE	AC90773-008	04/18/16 16:25	R31	3	A	NONE
AC90773-004	04/16/16 07:01	R30	2	A	NONE	AC90773-008	04/19/16 10:53	SG	3	M	GRO
AC90773-004	04/18/16 15:48	SG	2	A	VOA	AC90773-008	04/19/16 15:53	R31	3	A	NONE
AC90773-004	04/18/16 16:25	R30	2	A	NONE	AC90773-009	04/14/16 17:46	FRANT0	M	Received	
AC90773-004	04/19/16 13:01	WP	2	A	VOA	AC90773-009	04/15/16 08:18	FRANT0	M	Login	
AC90773-004	04/19/16 13:10	R30	2	A	NONE	AC90773-009	04/15/16 21:21	PA	1	A	mix
AC90773-005	04/14/16 17:46	FRANT0	M	Received		AC90773-009	04/15/16 21:21	R12	1	A	NONE
AC90773-005	04/15/16 08:18	FRANT0	M	Login		AC90773-009	04/16/16 06:04	SP	1	A	tdsi-hg
AC90773-005	04/16/16 07:01	R30	1	A	NONE	AC90773-009	04/16/16 06:05	SP	1	A	r12
AC90773-005	04/18/16 15:49	SG	1	A	GRO	AC90773-009	04/16/16 09:45	HS	1	A	%solids
AC90773-005	04/18/16 16:25	R30	1	A	NONE	AC90773-009	04/16/16 11:54	R12	1	A	NONE
AC90773-005	04/15/16 21:21	R12	2	A	NONE	AC90773-009	04/18/16 09:06	AF	1	A	ignit 1030
AC90773-005	04/15/16 21:21	PA	2	A	mix	AC90773-009	04/18/16 16:01	R12	1	A	NONE
AC90773-005	04/16/16 08:58	HS	2	A	%solids	AC90773-009	04/19/16 06:21	JKR	1	A	P/P
AC90773-005	04/16/16 11:54	R12	2	A	NONE	AC90773-009	04/19/16 06:21	JKR	1	A	r12

Samples marked as received are stored in coolers or refrigerator R12, or R24 at 4 deg C until Login

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/ M	Analysis	Lab#:	DateTime:	Loc or User	Bot Nu	A/ M	Analysis
AC90773-009	04/19/16 07:17	MSL	1	A	bn	AC90773-014	04/16/16 07:06	R31	3	A	NONE
AC90773-009	04/19/16 07:18	R12	1	A	NONE						
AC90773-009	04/19/16 12:38	LV	1	A	TPH						
AC90773-009	04/19/16 12:39	R12	1	A	NONE						
AC90773-009	04/16/16 07:01	R30	2	A	NONE						
AC90773-009	04/18/16 15:49	SG	2	A	GRO						
AC90773-009	04/18/16 16:25	R30	2	A	NONE						
AC90773-009	04/19/16 15:46	SG	2	A	VOA						
AC90773-009	04/19/16 15:49	R30	2	A	NONE						
AC90773-009	04/18/16 16:25	R31	3	A	NONE						
AC90773-009	04/19/16 10:53	SG	3	M	GRO						
AC90773-009	04/19/16 15:53	R31	3	A	NONE						
AC90773-010	04/14/16 17:46	FRANT0		M	Received						
AC90773-010	04/15/16 08:18	FRANT0		M	Login						
AC90773-010	04/15/16 21:21	R12	1	A	NONE						
AC90773-010	04/15/16 21:21	PA	1	A	mix						
AC90773-010	04/16/16 06:04	SP	1	A	tdsi-hg						
AC90773-010	04/16/16 06:05	SP	1	A	r12						
AC90773-010	04/16/16 09:45	HS	1	A	%solids						
AC90773-010	04/16/16 11:54	R12	1	A	NONE						
AC90773-010	04/18/16 09:06	AF	1	A	ignit 1030						
AC90773-010	04/18/16 16:01	R12	1	A	NONE						
AC90773-010	04/19/16 06:21	JKR	1	A	P/P						
AC90773-010	04/19/16 06:21	JKR	1	A	r12						
AC90773-010	04/19/16 07:17	MSL	1	A	bn						
AC90773-010	04/19/16 07:18	R12	1	A	NONE						
AC90773-010	04/19/16 12:38	LV	1	A	TPH						
AC90773-010	04/19/16 12:39	R12	1	A	NONE						
AC90773-010	04/16/16 07:01	R30	2	A	NONE						
AC90773-010	04/18/16 15:48	SG	2	A	VOA						
AC90773-010	04/18/16 16:25	R30	2	A	NONE						
AC90773-010	04/19/16 13:01	WP	2	A	VOA						
AC90773-010	04/19/16 13:10	R30	2	A	NONE						
AC90773-010	04/19/16 10:53	SG	5	M	GRO						
AC90773-010	04/19/16 13:10	R31	5	A	NONE						
AC90773-010	04/19/16 15:53	R31	5	A	NONE						
AC90773-011	04/14/16 17:46	FRANT0		M	Received						
AC90773-011	04/15/16 08:18	FRANT0		M	Login						
AC90773-011	04/15/16 21:21	PA	1	A	mix						
AC90773-011	04/15/16 21:21	R12	1	A	NONE						
AC90773-011	04/16/16 06:04	SP	1	A	tdsi-hg						
AC90773-011	04/16/16 06:05	SP	1	A	r12						
AC90773-011	04/16/16 09:45	HS	1	A	%solids						
AC90773-011	04/16/16 11:45	R12	1	A	NONE						
AC90773-011	04/18/16 16:01	R12	1	A	NONE						
AC90773-011	04/19/16 06:21	JKR	1	A	r12						
AC90773-011	04/19/16 06:21	JKR	1	A	P/P						
AC90773-011	04/19/16 07:17	MSL	1	A	bn						
AC90773-011	04/19/16 07:18	R12	1	A	NONE						
AC90773-011	04/16/16 07:01	R30	2	A	NONE						
AC90773-011	04/18/16 15:48	SG	2	A	VOA						
AC90773-011	04/18/16 16:25	R30	2	A	NONE						
AC90773-011	04/19/16 13:01	WP	2	A	VOA						
AC90773-011	04/19/16 13:10	R30	2	A	NONE						
AC90773-012	04/14/16 17:46	FRANT0		M	Received						
AC90773-012	04/15/16 08:18	FRANT0		M	Login						
AC90773-012	04/19/16 08:10	JIR	2	A	bn						
AC90773-012	04/18/16 11:21	LV	4	A	P/P						
AC90773-012	04/20/16 04:40	SP	5	A	tdwi-hg						
AC90773-012	04/20/16 04:41	SP	5	A	r12						
AC90773-012	04/16/16 07:06	R31	6	A	NONE						
AC90773-012	04/16/16 07:06	R31	7	A	NONE						
AC90773-012	04/19/16 17:35	WP	7	A	VOA						
AC90773-012	04/16/16 07:03	R31	8	A	PH/CHECK						
AC90773-013	04/14/16 17:46	FRANT0		M	Received						
AC90773-013	04/15/16 08:18	FRANT0		M	Login						
AC90773-013	04/15/16 17:08	OA	1	M	FILTRATION						
AC90773-013	04/15/16 19:08	R12	1	A	NONE						
AC90773-013	04/20/16 04:40	SP	1	A	tdwi-hg						
AC90773-013	04/20/16 04:41	SP	1	A	r12						
AC90773-014	04/14/16 17:46	FRANT0		M	Received						
AC90773-014	04/15/16 08:18	FRANT0		M	Login						
AC90773-014	04/16/16 07:06	R31	1	A	NONE						
AC90773-014	04/19/16 17:35	WP	1	A	VOA						
AC90773-014	04/16/16 07:03	R31	2	A	PH/CHECK						

Samples marked as received are stored in coolers or refrigerator R12, or R24 at 4 deg C until Login

Volatile Data

Form1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-001

Client Id: SB-01

Data File: 6M37908.D

Analysis Date: 04/18/16 18:10

Date Rec/Extracted: 04/14/16-NA

Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C

Matrix: Soil

Initial Vol: 5.38g

Final Vol: NA

Dilution: 0.929

Solids: 93

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0020	U	108-90-7	Chlorobenzene	0.0020	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0020	U	75-00-3	Chloroethane	0.0020	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0020	U	67-66-3	Chloroform	0.0020	U
79-00-5	1,1,2-Trichloroethane	0.0020	U	74-87-3	Chloromethane	0.0020	U
75-34-3	1,1-Dichloroethane	0.0020	U	156-59-2	cis-1,2-Dichloroethene	0.0020	U
75-35-4	1,1-Dichloroethene	0.0020	U	10061-01-5	cis-1,3-Dichloropropene	0.0020	U
87-61-6	1,2,3-Trichlorobenzene	0.0020	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0020	U	124-48-1	Dibromochloromethane	0.0020	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0020	U	75-71-8	Dichlorodifluoromethane	0.0020	U
106-93-4	1,2-Dibromoethane	0.0020	U	100-41-4	Ethylbenzene	0.0010	U
95-50-1	1,2-Dichlorobenzene	0.0020	U	98-82-8	Isopropylbenzene	0.0010	U
107-06-2	1,2-Dichloroethane	0.0020	U	79601-23-1	m&p-Xylenes	0.0010	U
78-87-5	1,2-Dichloropropane	0.0020	U	79-20-9	Methyl Acetate	0.0020	U
541-73-1	1,3-Dichlorobenzene	0.0020	U	108-87-2	Methylcyclohexane	0.0020	U
106-46-7	1,4-Dichlorobenzene	0.0020	U	75-09-2	Methylene Chloride	0.0020	U
123-91-1	1,4-Dioxane	0.10	U	1634-04-4	Methyl-t-butyl ether	0.0010	U
78-93-3	2-Butanone	0.0020	U	95-47-6	o-Xylene	0.0010	U
591-78-6	2-Hexanone	0.0020	U	100-42-5	Styrene	0.0020	U
108-10-1	4-Methyl-2-Pentanone	0.0020	U	75-65-0	t-Butyl Alcohol	0.010	U
67-64-1	Acetone	0.010	U	127-18-4	Tetrachloroethene	0.0020	U
71-43-2	Benzene	0.0010	U	108-88-3	Toluene	0.0010	U
74-97-5	Bromochloromethane	0.0020	U	156-60-5	trans-1,2-Dichloroethene	0.0020	U
75-27-4	Bromodichloromethane	0.0020	U	10061-02-6	trans-1,3-Dichloropropene	0.0020	U
75-25-2	Bromoform	0.0020	U	79-01-6	Trichloroethene	0.0020	U
74-83-9	Bromomethane	0.0020	U	75-69-4	Trichlorofluoromethane	0.0020	U
75-15-0	Carbon Disulfide	0.0020	U	75-01-4	Vinyl Chloride	0.0020	U
56-23-5	Carbon Tetrachloride	0.0020	U	1330-20-7	Xylenes (Total)	0.0010	U

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.*B* - Indicates the analyte was found in the blank as well as in the sample.*E* - Indicates the analyte concentration exceeds the calibration range of the instrument.*R* - Retention Time Out*J* - Indicates an estimated value when a compound is detected at less than the specified detection limit.*d* - Pesticide %Diff>40% between columns due to coelution. Lower concentration usesChlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-001
 Data File: 6M37908.D
 Acq On : 04/18/16 18:10

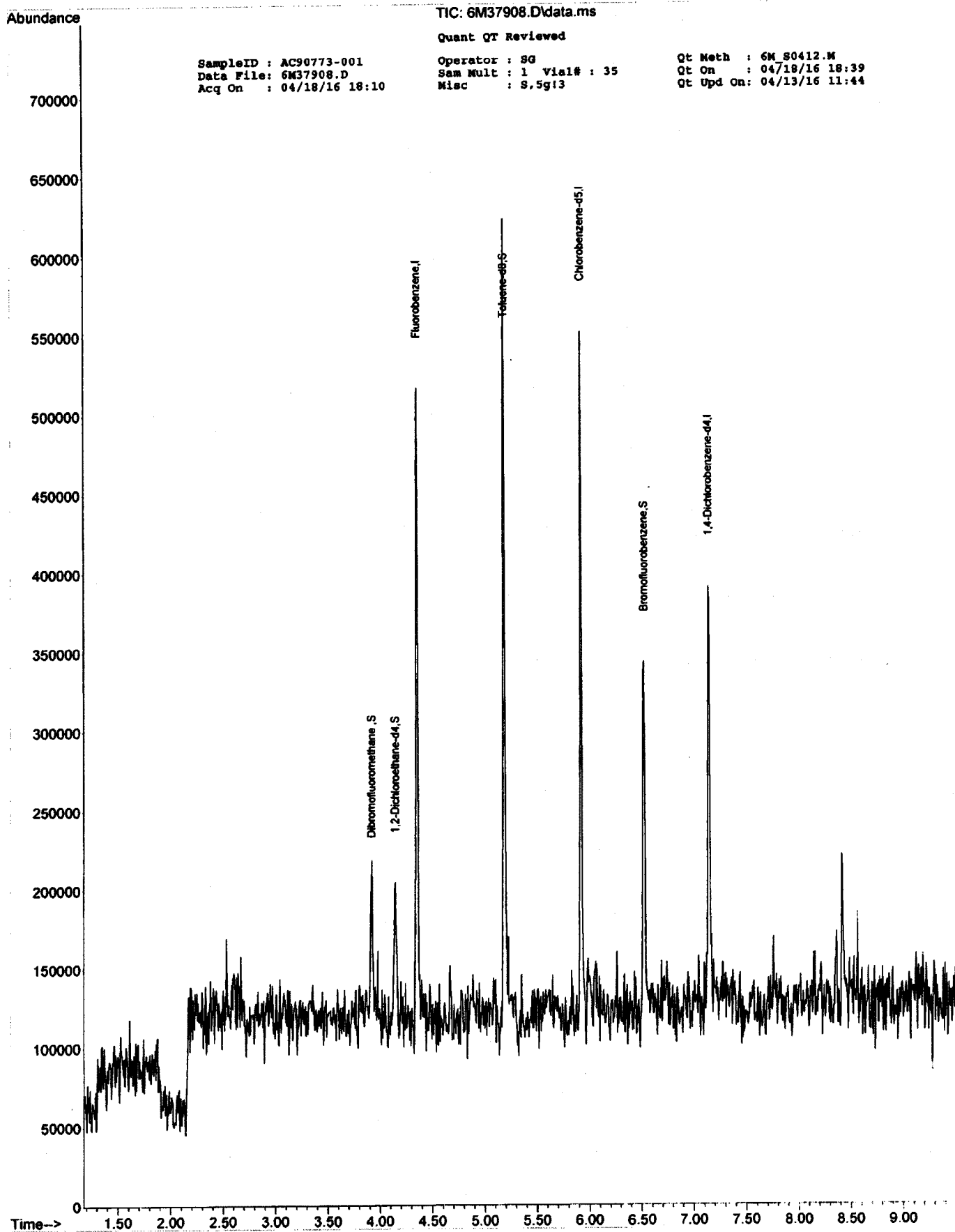
Operator : SG
 Sam Mult : 1 Vial# : 35
 Misc : S,5g!3

Qt Meth : 6M_S0412.M
 Qt On : 04/18/16 18:39
 Qt Upd On: 04/13/16 11:44

Data Path : G:\GcmsData\2016\GCMS_6\Data\04-18-16\
 Qt Path : G:\GcmsData\2016\GCMS_6\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.354	96	172278	30.00	ug/l	0.00
52) Chlorobenzene-d5	5.917	117	120372	30.00	ug/l	0.01
70) 1,4-Dichlorobenzene-d4	7.137	152	52109	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	3.916	111	39828	34.93	ug/l	0.00
Spiked Amount	30.000		Recovery	=	116.43%	
39) 1,2-Dichloroethane-d4	4.144	67	24716m	35.58	ug/l	0.01
Spiked Amount	30.000		Recovery	=	118.60%	
66) Toluene-d8	5.184	98	166925	23.12	ug/l	0.00
Spiked Amount	30.000		Recovery	=	77.07%	
76) Bromofluorobenzene	6.518	174	46569	29.85	ug/l	0.00
Spiked Amount	30.000		Recovery	=	99.50%	
Target Compounds						Qvalue

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



Form1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-002
Client Id: SB-02
Data File: 6M37921.D
Analysis Date: 04/18/16 21:48
Date Rec/Extracted: 04/14/16-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.23g
Final Vol: NA
Dilution: 0.956
Solids: 92

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0021	U	108-90-7	Chlorobenzene	0.0021	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0021	U	75-00-3	Chloroethane	0.0021	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0021	U	67-66-3	Chloroform	0.0021	U
79-00-5	1,1,2-Trichloroethane	0.0021	U	74-87-3	Chloromethane	0.0021	U
75-34-3	1,1-Dichloroethane	0.0021	U	156-59-2	cis-1,2-Dichloroethene	0.0021	U
75-35-4	1,1-Dichloroethene	0.0021	U	10061-01-5	cis-1,3-Dichloropropene	0.0021	U
87-61-6	1,2,3-Trichlorobenzene	0.0021	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0021	U	124-48-1	Dibromochloromethane	0.0021	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0021	U	75-71-8	Dichlorodifluoromethane	0.0021	U
106-93-4	1,2-Dibromoethane	0.0021	U	100-41-4	Ethylbenzene	0.0010	U
95-50-1	1,2-Dichlorobenzene	0.0021	U	98-82-8	Isopropylbenzene	0.0010	U
107-06-2	1,2-Dichloroethane	0.0021	U	79601-23-1	m&p-Xylenes	0.0010	U
78-87-5	1,2-Dichloropropane	0.0021	U	79-20-9	Methyl Acetate	0.0021	U
541-73-1	1,3-Dichlorobenzene	0.0021	U	108-87-2	Methylcyclohexane	0.0021	U
106-46-7	1,4-Dichlorobenzene	0.0021	U	75-09-2	Methylene Chloride	0.0021	0.0056
123-91-1	1,4-Dioxane	0.10	U	1634-04-4	Methyl-t-butyl ether	0.0010	U
78-93-3	2-Butanone	0.0021	U	95-47-6	o-Xylene	0.0010	U
591-78-6	2-Hexanone	0.0021	U	100-42-5	Styrene	0.0021	U
108-10-1	4-Methyl-2-Pentanone	0.0021	U	75-65-0	t-Butyl Alcohol	0.010	U
67-64-1	Acetone	0.010	U	127-18-4	Tetrachloroethene	0.0021	U
71-43-2	Benzene	0.0010	U	108-88-3	Toluene	0.0010	U
74-97-5	Bromochloromethane	0.0021	U	156-60-5	trans-1,2-Dichloroethene	0.0021	U
75-27-4	Bromodichloromethane	0.0021	U	10061-02-6	trans-1,3-Dichloropropene	0.0021	U
75-25-2	Bromoform	0.0021	U	79-01-6	Trichloroethene	0.0021	U
74-83-9	Bromomethane	0.0021	U	75-69-4	Trichlorofluoromethane	0.0021	U
75-15-0	Carbon Disulfide	0.0021	U	75-01-4	Vinyl Chloride	0.0021	U
56-23-5	Carbon Tetrachloride	0.0021	U	1330-20-7	Xylenes (Total)	0.0010	U

Worksheet #: 380474

Total Target Concentration 0.0056

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.*B* - Indicates the analyte was found in the blank as well as in the sample.*E* - Indicates the analyte concentration exceeds the calibration range of the instrument.*R* - Retention Time Out*J* - Indicates an estimated value when a compound is detected at less than the specified detection limit.*d* - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses.*Chlordane (Total)* is sum of *α-Chlordane* and *γ-Chlordane*.

SampleID : AC90773-002
 Data File: 6M37921.D
 Acq On : 04/18/16 21:48

Operator : SG
 Sam Mult : 1 Vial# : 48
 Misc : S,5g!3

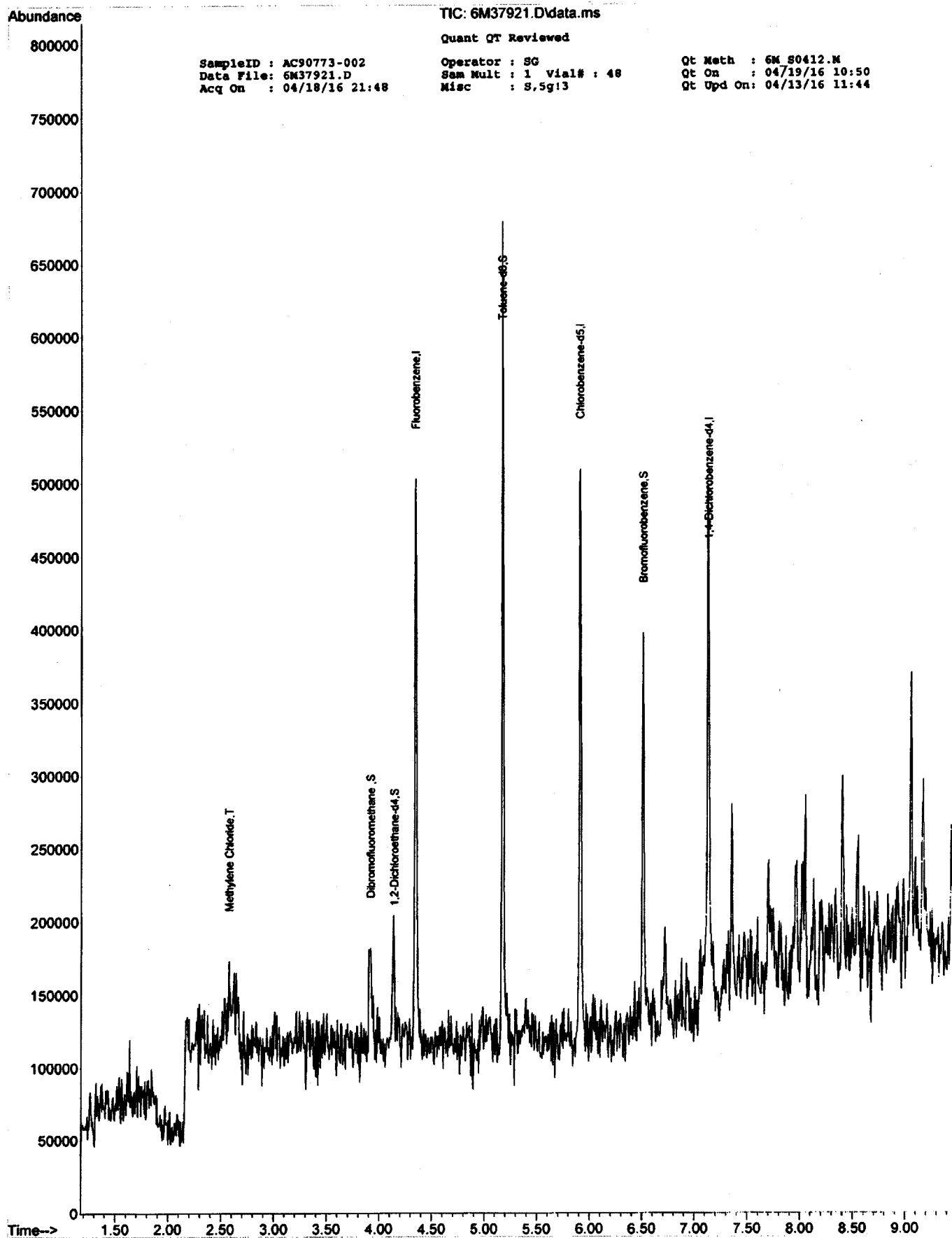
Qt Meth : 6M_S0412.M
 Qt On : 04/19/16 10:50
 Qt Upd On: 04/13/16 11:44

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-18-16\
 Qt Path : G:\GcMsData\2016\GCMS_6\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.344	96	193076	30.00	ug/l	0.00
52) Chlorobenzene-d5	5.907	117	120560	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.133	152	58011	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	3.917	111	42478	33.24	ug/l	0.00
Spiked Amount	30.000		Recovery	=	110.80%	
39) 1,2-Dichloroethane-d4	4.140	67	20634	26.50	ug/l	0.00
Spiked Amount	30.000		Recovery	=	88.33%	
66) Toluene-d8	5.174	98	186845	25.84	ug/l	0.00
Spiked Amount	30.000		Recovery	=	86.13%	
76) Bromofluorobenzene	6.508	174	44282	25.50	ug/l	0.00
Spiked Amount	30.000		Recovery	=	85.00%	
Target Compounds						
15) Methylene Chloride	2.577	84	12442	5.3865	ug/l	54

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

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Form 1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-003
Client Id: SB-03
Data File: 6M37922.D
Analysis Date: 04/18/16 22:04
Date Rec/Extracted: 04/14/16-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.29g
Final Vol: NA
Dilution: 0.945
Solids: 95

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0020	U	108-90-7	Chlorobenzene	0.0020	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0020	U	75-00-3	Chloroethane	0.0020	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0020	U	67-66-3	Chloroform	0.0020	U
79-00-5	1,1,2-Trichloroethane	0.0020	U	74-87-3	Chloromethane	0.0020	U
75-34-3	1,1-Dichloroethane	0.0020	U	156-59-2	cis-1,2-Dichloroethene	0.0020	U
75-35-4	1,1-Dichloroethene	0.0020	U	10061-01-5	cis-1,3-Dichloropropene	0.0020	U
87-61-6	1,2,3-Trichlorobenzene	0.0020	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0020	U	124-48-1	Dibromochloromethane	0.0020	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0020	U	75-71-8	Dichlorodifluoromethane	0.0020	U
106-93-4	1,2-Dibromoethane	0.0020	U	100-41-4	Ethylbenzene	0.00099	U
95-50-1	1,2-Dichlorobenzene	0.0020	U	98-82-8	Isopropylbenzene	0.00099	U
107-06-2	1,2-Dichloroethane	0.0020	U	79601-23-1	m&p-Xylenes	0.00099	U
78-87-5	1,2-Dichloropropane	0.0020	U	79-20-9	Methyl Acetate	0.0020	U
541-73-1	1,3-Dichlorobenzene	0.0020	U	108-87-2	Methylcyclohexane	0.0020	U
106-46-7	1,4-Dichlorobenzene	0.0020	U	75-09-2	Methylene Chloride	0.0020	0.0052
123-91-1	1,4-Dioxane	0.099	U	1634-04-4	Methyl-t-butyl ether	0.00099	U
78-93-3	2-Butanone	0.0020	U	95-47-6	o-Xylene	0.00099	U
591-78-6	2-Hexanone	0.0020	U	100-42-5	Styrene	0.0020	U
108-10-1	4-Methyl-2-Pentanone	0.0020	U	75-65-0	t-Butyl Alcohol	0.0099	U
67-64-1	Acetone	0.0099	U	127-18-4	Tetrachloroethene	0.0020	U
71-43-2	Benzene	0.00099	U	108-88-3	Toluene	0.00099	U
74-97-5	Bromochloromethane	0.0020	U	156-60-5	trans-1,2-Dichloroethene	0.0020	U
75-27-4	Bromodichloromethane	0.0020	U	10061-02-6	trans-1,3-Dichloropropene	0.0020	U
75-25-2	Bromoform	0.0020	U	79-01-6	Trichloroethene	0.0020	U
74-83-9	Bromomethane	0.0020	U	75-69-4	Trichlorofluoromethane	0.0020	U
75-15-0	Carbon Disulfide	0.0020	U	75-01-4	Vinyl Chloride	0.0020	U
56-23-5	Carbon Tetrachloride	0.0020	U	1330-20-7	Xylenes (Total)	0.00099	U

Worksheet #: 380474

Total Target Concentration 0.0052

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used.
Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-003
 Data File: 6M37922.D
 Acq On : 04/18/16 22:04

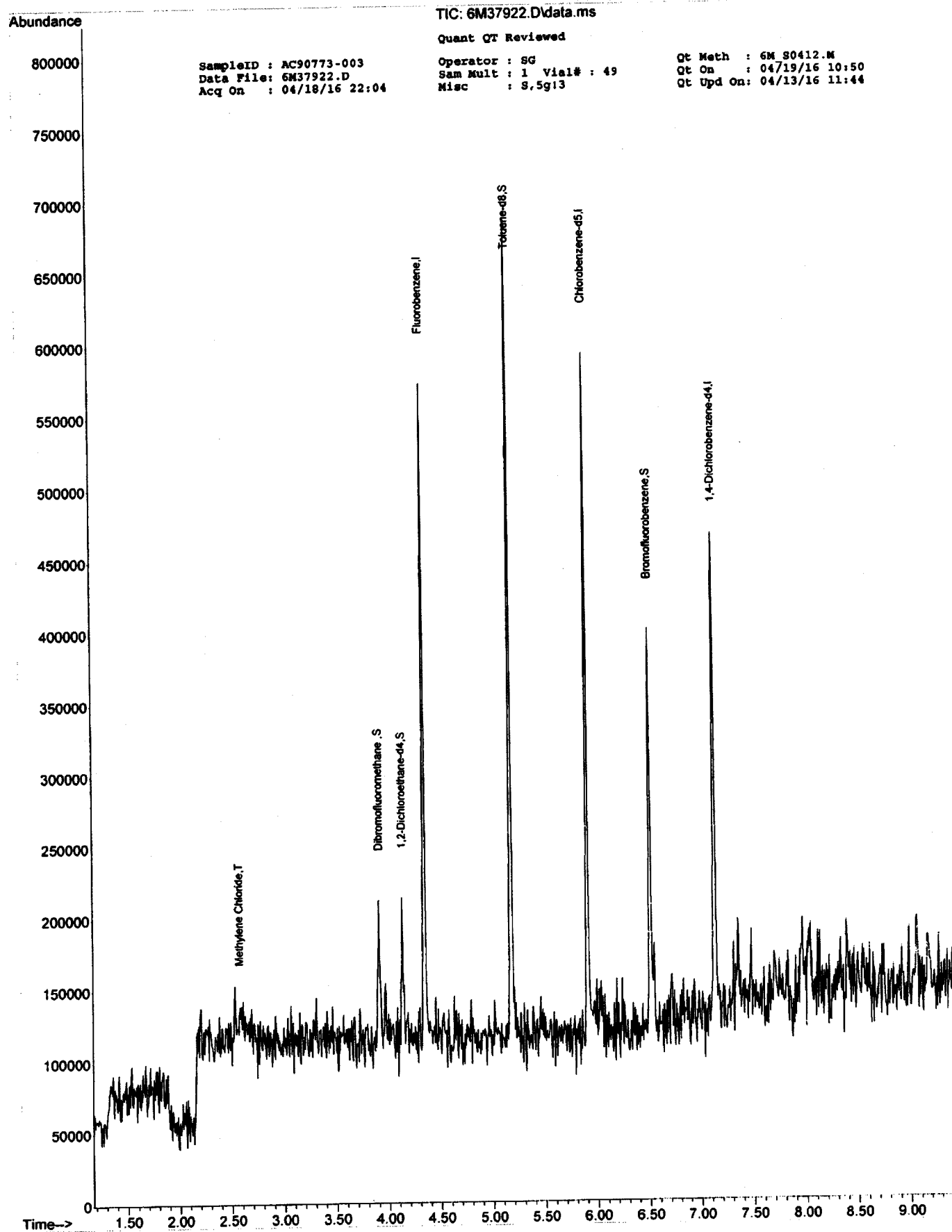
Operator : SG
 Sam Mult : 1 Vial# : 49
 Misc : S,5g!3

Qt Meth : 6M_S0412.M
 Qt On : 04/19/16 10:50
 Qt Upd On: 04/13/16 11:44

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-18-16\
 Qt Path : G:\GcMsData\2016\GCMS_6\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.343	96	191862	30.00	ug/l	0.00
52) Chlorobenzene-d5	5.906	117	128780	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.132	152	63143	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	3.910	111	40438	31.85	ug/l	0.00
Spiked Amount	30.000					
						Recovery = 106.17%
39) 1,2-Dichloroethane-d4	4.133	67	24230	31.32	ug/l	0.00
Spiked Amount	30.000					Recovery = 104.40%
66) Toluene-d8	5.178	98	201911	26.14	ug/l	0.00
Spiked Amount	30.000					Recovery = 87.13%
76) Bromofluorobenzene	6.507	174	49906	26.40	ug/l	0.00
Spiked Amount	30.000					Recovery = 88.00%
Target Compounds						
15) Methylene Chloride	2.576	84	12081m	5.2633	ug/l	Qvalue

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



Form1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-004
Client Id: SB-04
Data File: 6M37955.D
Analysis Date: 04/19/16 13:34
Date Rec/Extracted: 04/14/16-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 4.96g
Final Vol: NA
Dilution: 1.01
Solids: 98

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0021	U	108-90-7	Chlorobenzene	0.0021	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0021	U	75-00-3	Chloroethane	0.0021	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0021	U	67-66-3	Chloroform	0.0021	U
79-00-5	1,1,2-Trichloroethane	0.0021	U	74-87-3	Chloromethane	0.0021	U
75-34-3	1,1-Dichloroethane	0.0021	U	156-59-2	cis-1,2-Dichloroethene	0.0021	U
75-35-4	1,1-Dichloroethene	0.0021	U	10061-01-5	cis-1,3-Dichloropropene	0.0021	U
87-61-6	1,2,3-Trichlorobenzene	0.0021	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0021	U	124-48-1	Dibromochloromethane	0.0021	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0021	U	75-71-8	Dichlorodifluoromethane	0.0021	U
106-93-4	1,2-Dibromoethane	0.0021	U	100-41-4	Ethylbenzene	0.0010	U
95-50-1	1,2-Dichlorobenzene	0.0021	U	98-82-8	Isopropylbenzene	0.0010	U
107-06-2	1,2-Dichloroethane	0.0021	U	79601-23-1	m&p-Xylenes	0.0010	U
78-87-5	1,2-Dichloropropane	0.0021	U	79-20-9	Methyl Acetate	0.0021	U
541-73-1	1,3-Dichlorobenzene	0.0021	U	108-87-2	Methylcyclohexane	0.0021	U
106-46-7	1,4-Dichlorobenzene	0.0021	U	75-09-2	Methylene Chloride	0.0021	U
123-91-1	1,4-Dioxane	0.10	U	1634-04-4	Methyl-t-butyl ether	0.0010	U
78-93-3	2-Butanone	0.0021	U	95-47-6	o-Xylene	0.0010	U
591-78-6	2-Hexanone	0.0021	U	100-42-5	Styrene	0.0021	U
108-10-1	4-Methyl-2-Pentanone	0.0021	U	75-65-0	t-Butyl Alcohol	0.010	U
67-64-1	Acetone	0.010	U	127-18-4	Tetrachloroethene	0.0021	U
71-43-2	Benzene	0.0010	U	108-88-3	Toluene	0.0010	U
74-97-5	Bromochloromethane	0.0021	U	156-60-5	trans-1,2-Dichloroethene	0.0021	U
75-27-4	Bromodichloromethane	0.0021	U	10061-02-6	trans-1,3-Dichloropropene	0.0021	U
75-25-2	Bromoform	0.0021	U	79-01-6	Trichloroethene	0.0021	U
74-83-9	Bromomethane	0.0021	U	75-69-4	Trichlorofluoromethane	0.0021	U
75-15-0	Carbon Disulfide	0.0021	U	75-01-4	Vinyl Chloride	0.0021	U
56-23-5	Carbon Tetrachloride	0.0021	U	1330-20-7	Xylenes (Total)	0.0010	U

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.*B* - Indicates the analyte was found in the blank as well as in the sample.*E* - Indicates the analyte concentration exceeds the calibration range of the instrument.*R* - Retention Time Out*J* - Indicates an estimated value when a compound is detected at less than the specified detection limit.*d* - Pesticide %Diff > 40% between columns due to coelution. Lower concentration usesChlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-004
 Data File: 6M37955.D
 Acq On : 04/19/16 13:34

Operator : SG
 Sam Mult : 1 Vial# : 25
 Misc : S,5g!4

Qt Meth : 6M_S0412.M
 Qt On : 04/19/16 16:20
 Qt Upd On: 04/13/16 11:44

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-19-16\
 Qt Path : G:\GcMsData\2016\GCMS_6\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.348	96	196539	30.00	ug/l	0.00
52) Chlorobenzene-d5	5.911	117	145204m	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.131	152	60015	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	3.909	111	46355	35.64	ug/l	0.00
Spiked Amount			Recovery =	118.80%		
39) 1,2-Dichloroethane-d4	4.138	67	18325	23.12	ug/l	0.00
Spiked Amount			Recovery =	77.07%		
66) Toluene-d8	5.178	98	186208m	21.38	ug/l	0.00
Spiked Amount			Recovery =	71.27%		
76) Bromofluorobenzene	6.512	174	54297	30.22	ug/l	0.00
Spiked Amount			Recovery =	100.73%		
Target Compounds						Qvalue

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

Abundance

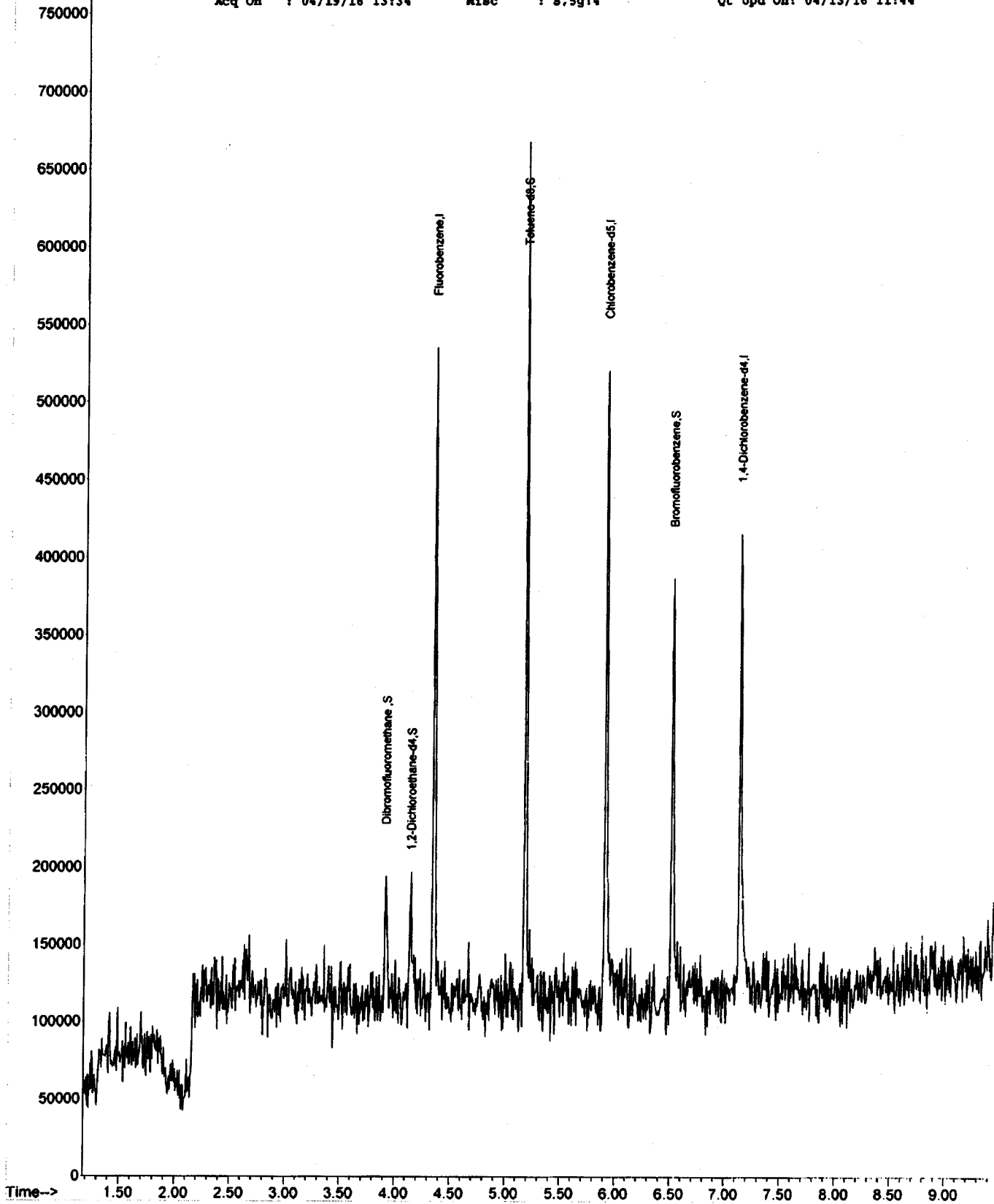
TIC: 6M37955.D\data.ms

Quant QT Reviewed

SampleID : AC90773-004
Data File: 6M37955.D
Acq On : 04/19/16 13:34

Operator : SG
Sam Mult : 1 Vial# : 25
Misc : 8.5g14

Qt Meth : 6M_S0412.M
Qt On : 04/19/16 16:20
Qt Upd On: 04/13/16 11:44



Form1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-009

Client Id: SS-01

Data File: 6M37966.D

Analysis Date: 04/19/16 16:37

Date Rec/Extracted: 04/14/16-NA

Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C

Matrix: Soil

Initial Vol: 5.87g

Final Vol: NA

Dilution: 0.852

Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0020	U	108-90-7	Chlorobenzene	0.0020	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0020	U	75-00-3	Chloroethane	0.0020	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0020	U	67-66-3	Chloroform	0.0020	U
79-00-5	1,1,2-Trichloroethane	0.0020	U	74-87-3	Chloromethane	0.0020	U
75-34-3	1,1-Dichloroethane	0.0020	U	156-59-2	cis-1,2-Dichloroethene	0.0020	U
75-35-4	1,1-Dichloroethene	0.0020	U	10061-01-5	cis-1,3-Dichloropropene	0.0020	U
87-61-6	1,2,3-Trichlorobenzene	0.0020	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0020	U	124-48-1	Dibromochloromethane	0.0020	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0020	U	75-71-8	Dichlorodifluoromethane	0.0020	U
106-93-4	1,2-Dibromoethane	0.0020	U	100-41-4	Ethylbenzene	0.0010	U
95-50-1	1,2-Dichlorobenzene	0.0020	U	98-82-8	Isopropylbenzene	0.0010	U
107-06-2	1,2-Dichloroethane	0.0020	U	79601-23-1	m&p-Xylenes	0.0010	U
78-87-5	1,2-Dichloropropane	0.0020	U	79-20-9	Methyl Acetate	0.0020	U
541-73-1	1,3-Dichlorobenzene	0.0020	U	108-87-2	Methylcyclohexane	0.0020	U
106-46-7	1,4-Dichlorobenzene	0.0020	U	75-09-2	Methylene Chloride	0.0020	U
123-91-1	1,4-Dioxane	0.10	U	1634-04-4	Methyl-t-butyl ether	0.0010	U
78-93-3	2-Butanone	0.0020	U	95-47-6	o-Xylene	0.0010	U
591-78-6	2-Hexanone	0.0020	U	100-42-5	Styrene	0.0020	U
108-10-1	4-Methyl-2-Pentanone	0.0020	U	75-65-0	t-Butyl Alcohol	0.010	U
67-64-1	Acetone	0.010	U	127-18-4	Tetrachloroethene	0.0020	U
71-43-2	Benzene	0.0010	U	108-88-3	Toluene	0.0010	U
74-97-5	Bromochloromethane	0.0020	U	156-60-5	trans-1,2-Dichloroethene	0.0020	U
75-27-4	Bromodichloromethane	0.0020	U	10061-02-6	trans-1,3-Dichloropropene	0.0020	U
75-25-2	Bromoform	0.0020	U	79-01-6	Trichloroethene	0.0020	U
74-83-9	Bromomethane	0.0020	U	75-69-4	Trichlorofluoromethane	0.0020	U
75-15-0	Carbon Disulfide	0.0020	U	75-01-4	Vinyl Chloride	0.0020	U
56-23-5	Carbon Tetrachloride	0.0020	U	1330-20-7	Xylenes (Total)	0.0010	U

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
 B - Indicates the analyte was found in the blank as well as in the sample.
 E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
 J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
 d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration used.
 Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-009
 Data File: 6M37966.D
 Acq On : 04/19/16 16:37

Operator : SG
 Sam Mult : 1 Vial# : 37
 Misc : S,5g!4

Qt Meth : 6M_S0412.M
 Qt On : 04/19/16 16:53
 Qt Upd On: 04/13/16 11:44

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-19-16\
 Qt Path : G:\GcMsData\2016\GCMS_6\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.344	96	190534	30.00	ug/l	0.00
52) Chlorobenzene-d5	5.907	117	120911	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.133	152	57387	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	3.917	111	44719	35.46	ug/l	0.00
Spiked Amount			Recovery	=	118.20%	
39) 1,2-Dichloroethane-d4	4.139	67	25394	33.05	ug/l	0.00
Spiked Amount	30.000		Recovery	=	110.17%	
66) Toluene-d8	5.179	98	190191	26.23	ug/l	0.00
Spiked Amount	30.000		Recovery	=	87.43%	
76) Bromofluorobenzene	6.514	174	50428	29.35	ug/l	0.00
Spiked Amount	30.000		Recovery	=	97.83%	
Target Compounds						Qvalue

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

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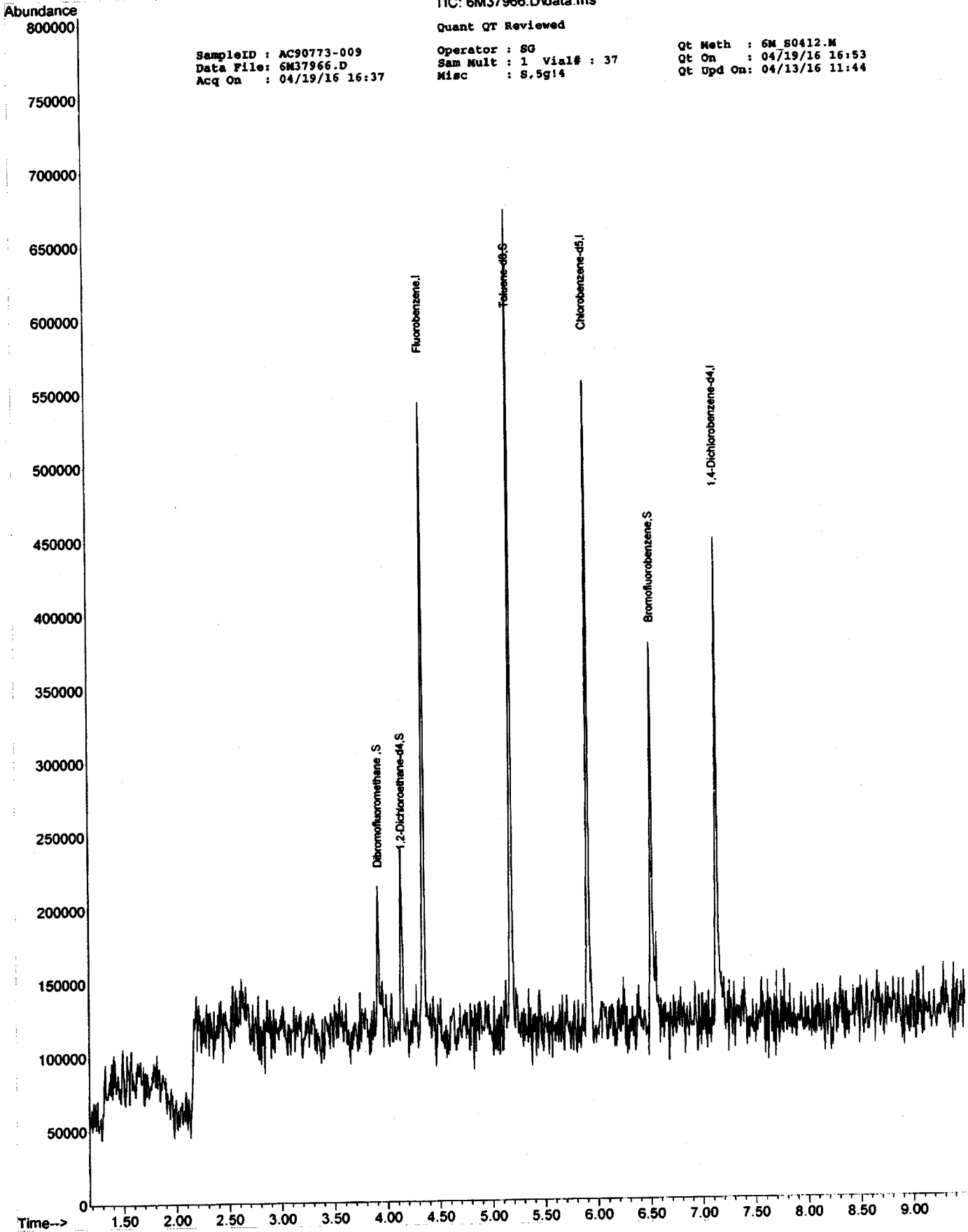
TIC: 6M37966.D\data.ms

Quant QT Reviewed

SampleID : AC90773-009
Data File: 6M37966.D
Acq On : 04/19/16 16:37

Operator : SG
Sam Mult : 1 Vial# : 37
Misc : S.5g14

Qt Meth : 6M_S0412.M
Qt On : 04/19/16 16:53
Qt Upd On: 04/13/16 11:44



Form1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-010
Client Id: SS-02
Data File: 6M37956.D
Analysis Date: 04/19/16 13:51
Date Rec/Extracted: 04/14/16-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.15g
Final Vol: NA
Dilution: 0.971
Solids: 94

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0021	U	108-90-7	Chlorobenzene	0.0021	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0021	U	75-00-3	Chloroethane	0.0021	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0021	U	67-66-3	Chloroform	0.0021	U
79-00-5	1,1,2-Trichloroethane	0.0021	U	74-87-3	Chloromethane	0.0021	U
75-34-3	1,1-Dichloroethane	0.0021	U	156-59-2	cis-1,2-Dichloroethene	0.0021	U
75-35-4	1,1-Dichloroethene	0.0021	U	10061-01-5	cis-1,3-Dichloropropene	0.0021	U
87-61-6	1,2,3-Trichlorobenzene	0.0021	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0021	U	124-48-1	Dibromochloromethane	0.0021	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0021	U	75-71-8	Dichlorodifluoromethane	0.0021	U
106-93-4	1,2-Dibromoethane	0.0021	U	100-41-4	Ethylbenzene	0.0010	U
95-50-1	1,2-Dichlorobenzene	0.0021	U	98-82-8	Isopropylbenzene	0.0010	U
107-06-2	1,2-Dichloroethane	0.0021	U	79601-23-1	m&p-Xylenes	0.0010	U
78-87-5	1,2-Dichloropropane	0.0021	U	79-20-9	Methyl Acetate	0.0021	U
541-73-1	1,3-Dichlorobenzene	0.0021	U	108-87-2	Methylcyclohexane	0.0021	U
106-46-7	1,4-Dichlorobenzene	0.0021	U	75-09-2	Methylene Chloride	0.0021	U
123-91-1	1,4-Dioxane	0.10	U	1634-04-4	Methyl-t-butyl ether	0.0010	U
78-93-3	2-Butanone	0.0021	U	95-47-6	o-Xylene	0.0010	U
591-78-6	2-Hexanone	0.0021	U	100-42-5	Styrene	0.0021	U
108-10-1	4-Methyl-2-Pentanone	0.0021	U	75-65-0	t-Butyl Alcohol	0.010	U
67-64-1	Acetone	0.010	U	127-18-4	Tetrachloroethene	0.0021	U
71-43-2	Benzene	0.0010	U	108-88-3	Toluene	0.0010	U
74-97-5	Bromochloromethane	0.0021	U	156-60-5	trans-1,2-Dichloroethene	0.0021	U
75-27-4	Bromodichloromethane	0.0021	U	10061-02-6	trans-1,3-Dichloropropene	0.0021	U
75-25-2	Bromoform	0.0021	U	79-01-6	Trichloroethene	0.0021	U
74-83-9	Bromomethane	0.0021	U	75-69-4	Trichlorofluoromethane	0.0021	U
75-15-0	Carbon Disulfide	0.0021	U	75-01-4	Vinyl Chloride	0.0021	U
56-23-5	Carbon Tetrachloride	0.0021	U	1330-20-7	Xylenes (Total)	0.0010	U

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration use.
Chlordane (Total) is sum of *α*-Chlordane and *γ*-Chlordane.

SampleID : AC90773-010
 Data File: 6M37956.D
 Acq On : 04/19/16 13:51

Operator : SG
 Sam Mult : 1 Vial# : 26
 Misc : S,5g!4

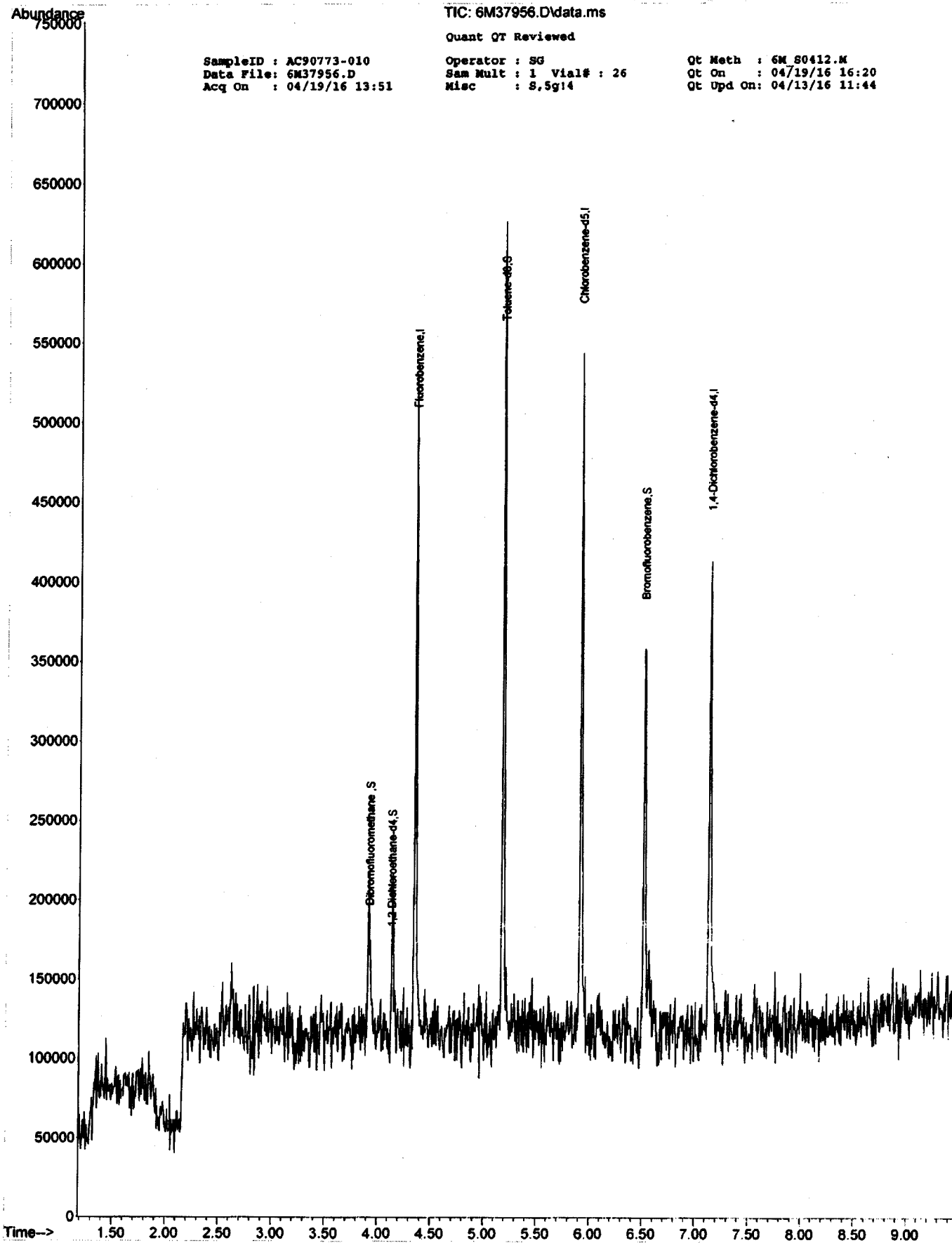
Qt Meth : 6M_S0412.M
 Qt On : 04/19/16 16:20
 Qt Upd On: 04/13/16 11:44

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-19-16\
 Qt Path : G:\GcMsData\2016\GCMS_6\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Qvalue
Internal Standards							
4) Fluorobenzene	4.350	96	187782	30.00	ug/l	0.00	
52) Chlorobenzene-d5	5.907	117	112841	30.00	ug/l	0.00	
70) 1,4-Dichlorobenzene-d4	7.133	152	55502	30.00	ug/l	0.00	
System Monitoring Compounds							
37) Dibromofluoromethane	3.917	111	43275	34.82	ug/l	0.00	
Spiked Amount	30.000		Recovery	=	116.07%		
39) 1,2-Dichloroethane-d4	4.127	67	20581	27.18	ug/l	0.00	
Spiked Amount	30.000		Recovery	=	90.60%		
66) Toluene-d8	5.179	98	195950	28.95	ug/l	0.00	
Spiked Amount	30.000		Recovery	=	96.50%		
76) Bromofluorobenzene	6.508	174	46401	27.93	ug/l	0.00	
Spiked Amount	30.000		Recovery	=	93.10%		
Target Compounds							Qvalue

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

lh



Form 1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-011
Client Id: DUP01
Data File: 6M37957.D
Analysis Date: 04/19/16 14:08
Date Rec/Extracted: 04/14/16-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.01g
Final Vol: NA
Dilution: 0.998
Solids: 94

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0021	U	108-90-7	Chlorobenzene	0.0021	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0021	U	75-00-3	Chloroethane	0.0021	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0021	U	67-66-3	Chloroform	0.0021	U
79-00-5	1,1,2-Trichloroethane	0.0021	U	74-87-3	Chloromethane	0.0021	U
75-34-3	1,1-Dichloroethane	0.0021	U	156-59-2	cis-1,2-Dichloroethene	0.0021	U
75-35-4	1,1-Dichloroethene	0.0021	U	10061-01-5	cis-1,3-Dichloropropene	0.0021	U
87-61-6	1,2,3-Trichlorobenzene	0.0021	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0021	U	124-48-1	Dibromochloromethane	0.0021	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0021	U	75-71-8	Dichlorodifluoromethane	0.0021	U
106-93-4	1,2-Dibromoethane	0.0021	U	100-41-4	Ethylbenzene	0.0011	U
95-50-1	1,2-Dichlorobenzene	0.0021	U	98-82-8	Isopropylbenzene	0.0011	U
107-06-2	1,2-Dichloroethane	0.0021	U	79601-23-1	m&p-Xylenes	0.0011	U
78-87-5	1,2-Dichloropropane	0.0021	U	79-20-9	Methyl Acetate	0.0021	U
541-73-1	1,3-Dichlorobenzene	0.0021	U	108-87-2	Methylcyclohexane	0.0021	U
106-46-7	1,4-Dichlorobenzene	0.0021	U	75-09-2	Methylene Chloride	0.0021	U
123-91-1	1,4-Dioxane	0.11	U	1634-04-4	Methyl-t-butyl ether	0.0011	U
78-93-3	2-Butanone	0.0021	U	95-47-6	o-Xylene	0.0011	U
591-78-6	2-Hexanone	0.0021	U	100-42-5	Styrene	0.0021	U
108-10-1	4-Methyl-2-Pentanone	0.0021	U	75-65-0	t-Butyl Alcohol	0.011	U
67-64-1	Acetone	0.011	U	127-18-4	Tetrachloroethene	0.0021	U
71-43-2	Benzene	0.0011	U	108-88-3	Toluene	0.0011	U
74-97-5	Bromochloromethane	0.0021	U	156-60-5	trans-1,2-Dichloroethene	0.0021	U
75-27-4	Bromodichloromethane	0.0021	U	10061-02-6	trans-1,3-Dichloropropene	0.0021	U
75-25-2	Bromoform	0.0021	U	79-01-6	Trichloroethene	0.0021	U
74-83-9	Bromomethane	0.0021	U	75-69-4	Trichlorofluoromethane	0.0021	U
75-15-0	Carbon Disulfide	0.0021	U	75-01-4	Vinyl Chloride	0.0021	U
56-23-5	Carbon Tetrachloride	0.0021	U	1330-20-7	Xylenes (Total)	0.0011	U

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses
Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-011
Data File: 6M37957.D
Acq On : 04/19/16 14:08

Operator : SG
Sam Mult : 1 Vial# : 27
Misc : S.5g!4

Qt Meth : 6M_S0412.M
Qt On : 04/19/16 16:20
Qt Upd On: 04/13/16 11:44

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-19-16\
Qt Path : G:\GcMsData\2016\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.350	96	221815	30.00	ug/l	0.00
52) Chlorobenzene-d5	5.912	117	136829	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.133	152	53739	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	3.911	111	52479m	35.75	ug/l	0.00
Spiked Amount						
						Recovery = 119.17%
39) 1,2-Dichloroethane-d4	4.139	67	23358	26.12	ug/l	0.00
Spiked Amount						Recovery = 87.07%
66) Toluene-d8	5.179	98	207189	25.25	ug/l	0.00
Spiked Amount						Recovery = 84.17%
76) Bromofluorobenzene	6.520	174	58804	36.55	ug/l	0.00
Spiked Amount						Recovery = 121.83%
Target Compounds						Qvalue

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

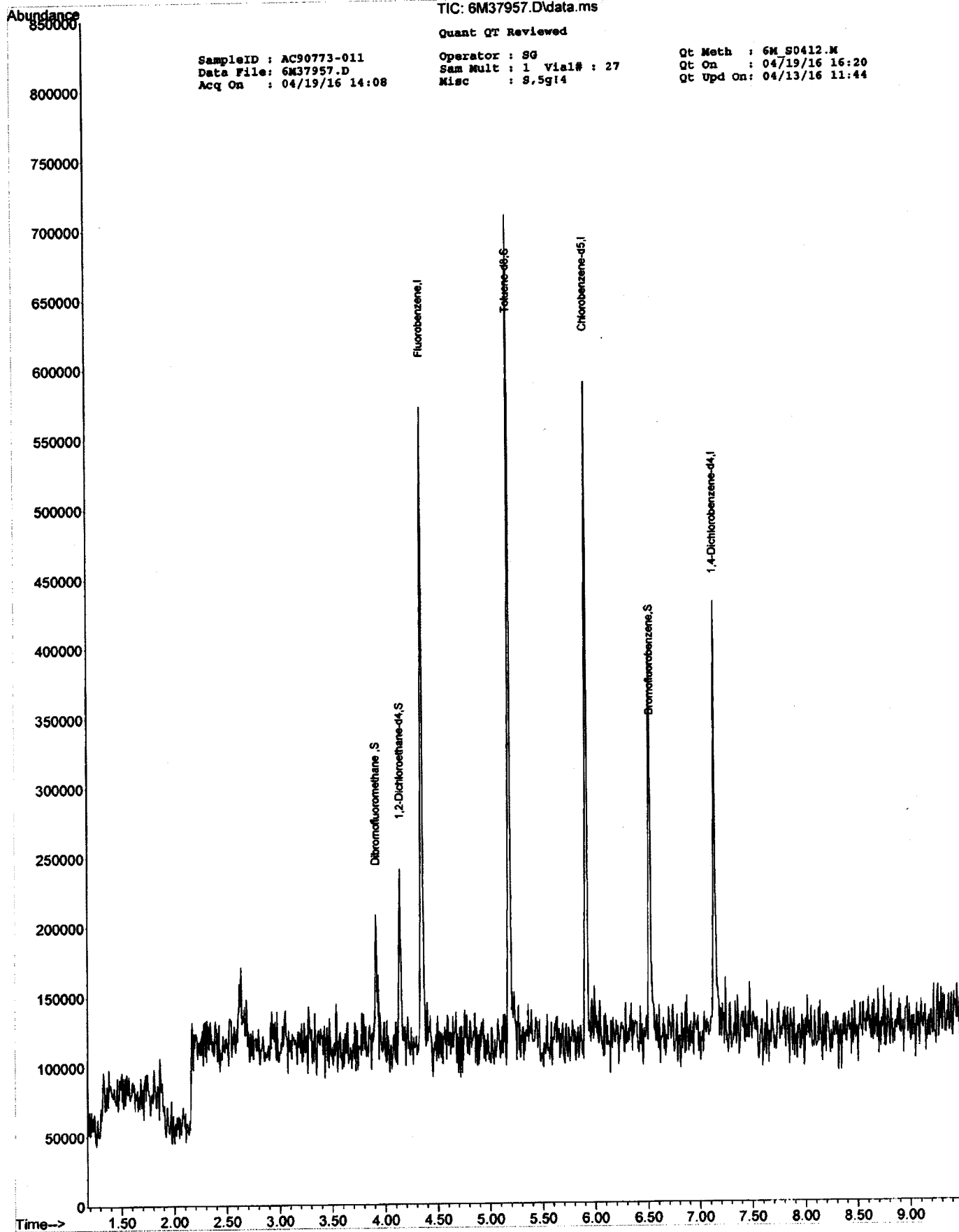
TIC: 6M37957.D\data.ms

Quant QT Reviewed

SampleID : AC90773-011
Data File: 6M37957.D
Acq On : 04/19/16 14:08

Operator : SG
Sam Mult : 1 Vial# : 27
Misc : 8.5g/4

Qt Meth : 6M_S0412.M
Qt On : 04/19/16 16:20
Qt Upd On: 04/13/16 11:44



Form 1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-012
 Client Id: FB01 U
 Data File: 3M89290.D
 Analysis Date: 04/19/16 18:34
 Date Rec/Extracted: 04/14/16-NA
 Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
 Matrix: Aqueous
 Initial Vol: 5ml
 Final Vol: NA
 Dilution: 1.00
 Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc.	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	1.0	U	108-90-7	Chlorobenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	75-00-3	Chloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	1.0	U	67-66-3	Chloroform	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U	74-87-3	Chloromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U	156-59-2	cis-1,2-Dichloroethene	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U	10061-01-5	cis-1,3-Dichloropropene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U	110-82-7	Cyclohexane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U	124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropa	1.0	U	75-71-8	Dichlorodifluoromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U	100-41-4	Ethylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U	98-82-8	Isopropylbenzene	1.0	U
107-06-2	1,2-Dichloroethane	0.50	U	79601-23-1	m&p-Xylenes	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U	79-20-9	Methyl Acetate	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U	108-87-2	Methylcyclohexane	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	75-09-2	Methylene Chloride	1.0	U
123-91-1	1,4-Dioxane	50	U	1634-04-4	Methyl-t-butyl ether	0.50	U
78-93-3	2-Butanone	1.0	U	95-47-6	o-Xylene	1.0	U
591-78-6	2-Hexanone	1.0	U	100-42-5	Styrene	1.0	U
108-10-1	4-Methyl-2-Pentanone	1.0	U	75-65-0	t-Butyl Alcohol	5.0	U
67-64-1	Acetone	5.0	U	127-18-4	Tetrachloroethene	1.0	U
71-43-2	Benzene	0.50	U	108-88-3	Toluene	1.0	U
74-97-5	Bromochloromethane	1.0	U	156-60-5	trans-1,2-Dichloroethene	1.0	U
75-27-4	Bromodichloromethane	1.0	U	10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U	79-01-6	Trichloroethene	1.0	U
74-83-9	Bromomethane	5.0	U	75-69-4	Trichlorofluoromethane	1.0	U
75-15-0	Carbon Disulfide	1.0	U	75-01-4	Vinyl Chloride	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	1330-20-7	Xylenes (Total)	1.0	U

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

SampleID : AC90773-012
 Data File: 3M89290.D
 Acq On : 04/19/16 18:34

Operator : WP
 Sam Mult : 1 Vial# : 7
 Misc : A,5ML:7

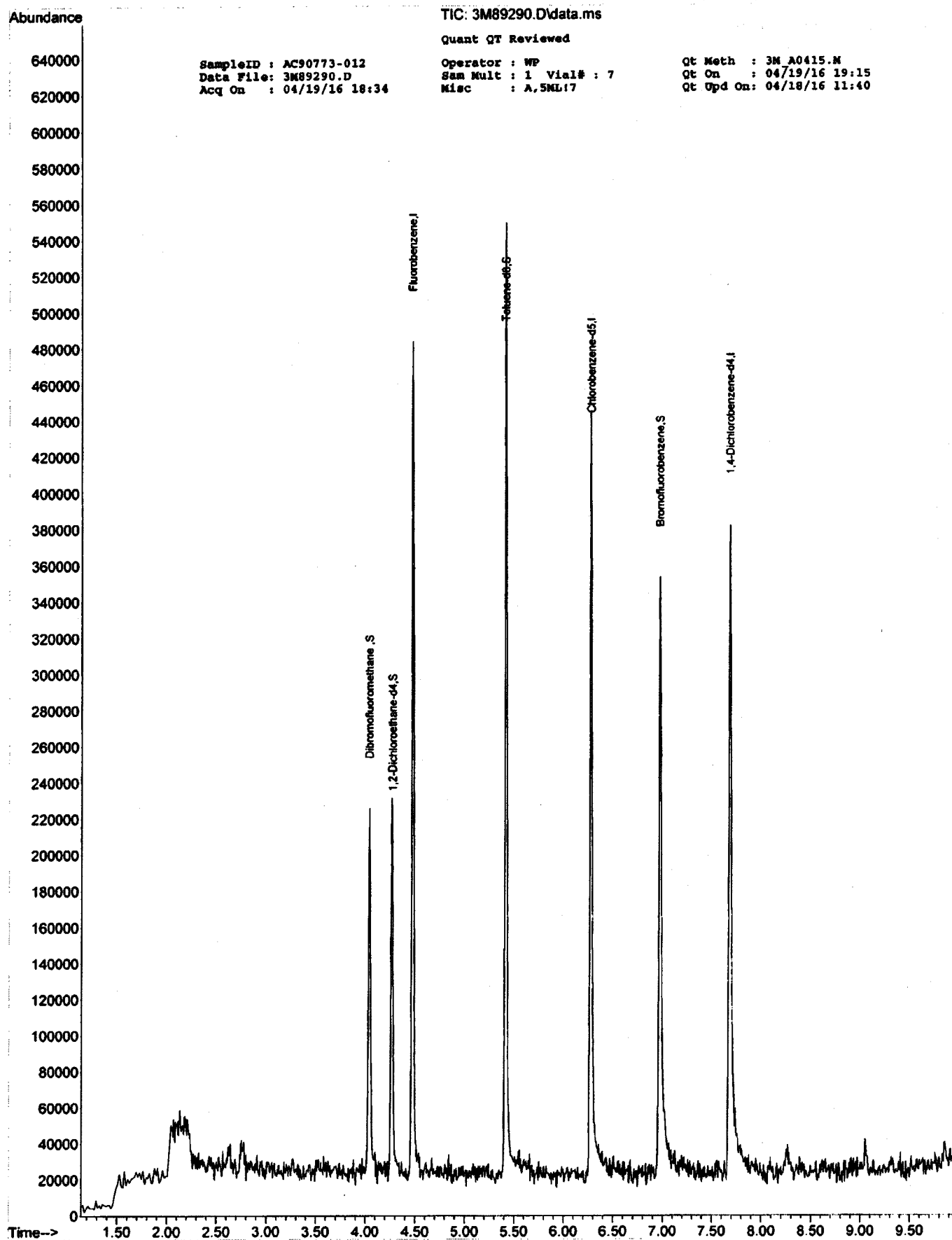
Qt Meth : 3M_A0415.M
 Qt On : 04/19/16 19:15
 Qt Upd On: 04/18/16 11:40

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-1916\
 Qt Path : G:\GcMsData\2016\GCMS_3\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Qvalue
Internal Standards							
4) Fluorobenzene	4.474	96	228310	30.00	ug/l	-0.02	
52) Chlorobenzene-d5	6.277	117	168687	30.00	ug/l	-0.02	
70) 1,4-Dichlorobenzene-d4	7.684	152	98715	30.00	ug/l	-0.02	
System Monitoring Compounds							
37) Dibromofluoromethane	4.035	111	83082	29.93	ug/l	-0.03	
Spiked Amount				30.000			
			Recovery	=	99.77%		
39) 1,2-Dichloroethane-d4	4.269	67	56401	30.47	ug/l	-0.02	
Spiked Amount				30.000			
			Recovery	=	101.57%		
66) Toluene-d8	5.418	98	231294	31.17	ug/l	-0.02	
Spiked Amount				30.000			
			Recovery	=	103.90%		
76) Bromofluorobenzene	6.968	174	98109	28.06	ug/l	-0.02	
Spiked Amount				30.000			
			Recovery	=	93.53%		
Target Compounds							Qvalue

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

1/2



Form1
ORGANICS VOLATILE REPORT

Sample Number: AC90773-014

Client Id: Trip Blank

Data File: 3M89291.D

Analysis Date: 04/19/16 18:49

Date Rec/Extracted: 04/14/16-NA

Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C

Matrix: Aqueous

Initial Vol: 5ml

Final Vol: NA

Dilution: 1.00

Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	1.0	U	108-90-7	Chlorobenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	75-00-3	Chloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	1.0	U	67-66-3	Chloroform	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U	74-87-3	Chloromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U	156-59-2	cis-1,2-Dichloroethene	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U	10061-01-5	cis-1,3-Dichloropropene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U	110-82-7	Cyclohexane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U	124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropa	1.0	U	75-71-8	Dichlorodifluoromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U	100-41-4	Ethylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U	98-82-8	Isopropylbenzene	1.0	U
107-06-2	1,2-Dichloroethane	0.50	U	79601-23-1	m&p-Xylenes	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U	79-20-9	Methyl Acetate	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U	108-87-2	Methylcyclohexane	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	75-09-2	Methylene Chloride	1.0	U
123-91-1	1,4-Dioxane	50	U	1634-04-4	Methyl-t-butyl ether	0.50	U
78-93-3	2-Butanone	1.0	U	95-47-6	o-Xylene	1.0	U
591-78-6	2-Hexanone	1.0	U	100-42-5	Styrene	1.0	U
108-10-1	4-Methyl-2-Pentanone	1.0	U	75-65-0	t-Butyl Alcohol	5.0	U
67-64-1	Acetone	5.0	U	127-18-4	Tetrachloroethene	1.0	U
71-43-2	Benzene	0.50	U	108-88-3	Toluene	1.0	U
74-97-5	Bromochloromethane	1.0	U	156-60-5	trans-1,2-Dichloroethene	1.0	U
75-27-4	Bromodichloromethane	1.0	U	10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U	79-01-6	Trichloroethene	1.0	U
74-83-9	Bromomethane	5.0	U	75-69-4	Trichlorofluoromethane	1.0	U
75-15-0	Carbon Disulfide	1.0	U	75-01-4	Vinyl Chloride	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	1330-20-7	Xylenes (Total)	1.0	U

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

SampleID : AC90773-014
 Data File: 3M89291.D
 Acq On : 04/19/16 18:49

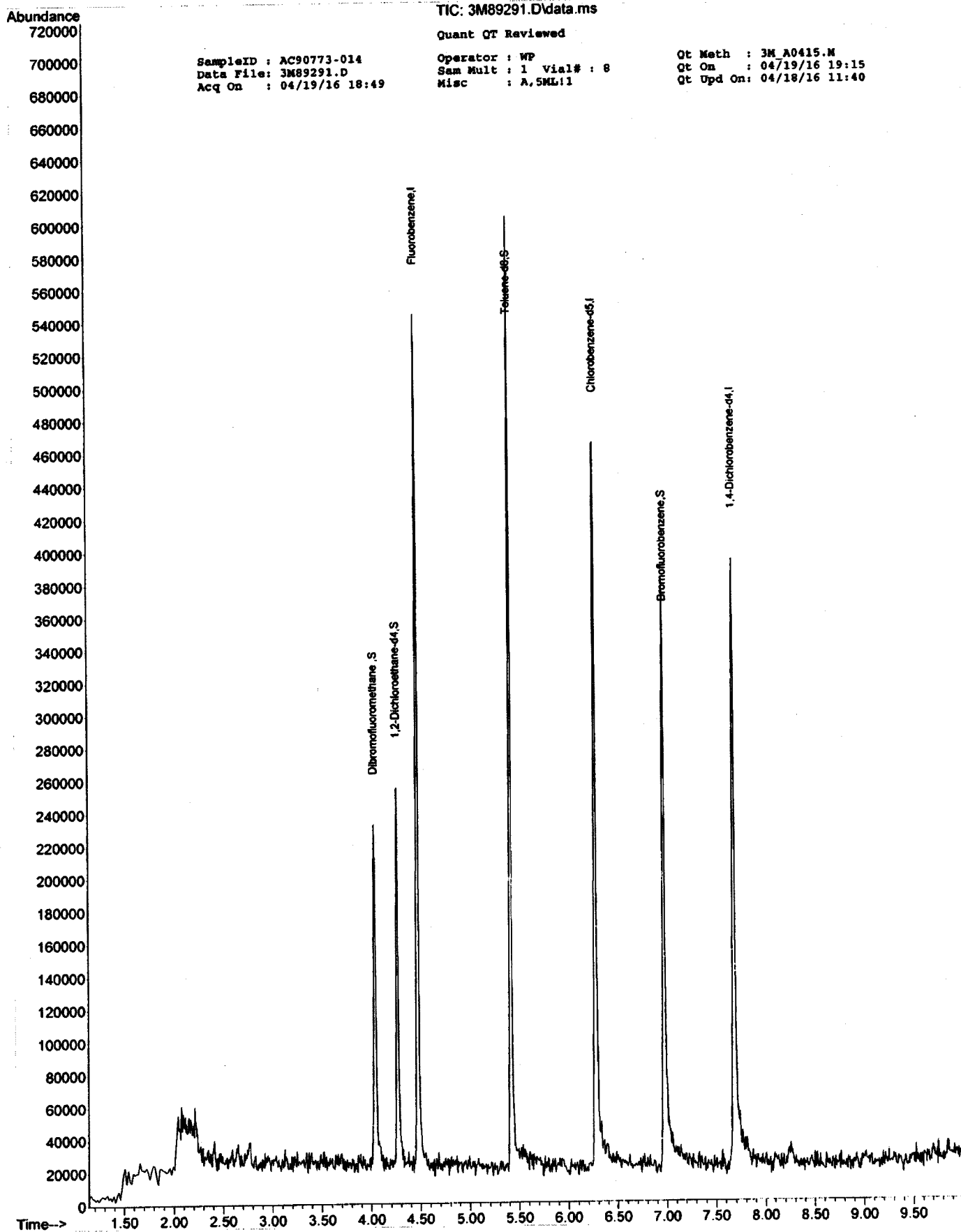
Operator : WP
 Sam Mult : 1 Vial# : 8
 Misc : A,SML11

Qt Meth : 3M A0415.M
 Qt On : 04/19/16 19:15
 Qt Upd On: 04/18/16 11:40

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-1916\
 Qt Path : G:\GcMsData\2016\GCMS_3\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.473	96	254956	30.00	ug/l	-0.03
52) Chlorobenzene-d5	6.276	117	173465	30.00	ug/l	-0.02
70) 1,4-Dichlorobenzene-d4	7.683	152	91663	30.00	ug/l	-0.03
System Monitoring Compounds						
37) Dibromofluoromethane	4.034	111	93104	30.03	ug/l	-0.03
Spiked Amount	30.000		Recovery	=	100.10%	
39) 1,2-Dichloroethane-d4	4.262	67	62297	30.14	ug/l	-0.03
Spiked Amount	30.000		Recovery	=	100.47%	
66) Toluene-d8	5.416	98	241176	31.61	ug/l	-0.03
Spiked Amount	30.000		Recovery	=	105.37%	
76) Bromofluorobenzene	6.973	174	104975	32.34	ug/l	-0.02
Spiked Amount	30.000		Recovery	=	107.80%	
Target Compounds						Qvalue

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



Form 1
ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 6M37884.D
Analysis Date: 04/18/16 11:26
Date Rec/Extracted:
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5g
Final Vol: NA
Dilution: 1.00
Solids: 100

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0020	U	108-90-7	Chlorobenzene	0.0020	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0020	U	75-00-3	Chloroethane	0.0020	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0020	U	67-66-3	Chloroform	0.0020	U
79-00-5	1,1,2-Trichloroethane	0.0020	U	74-87-3	Chloromethane	0.0020	U
75-34-3	1,1-Dichloroethane	0.0020	U	156-59-2	cis-1,2-Dichloroethene	0.0020	U
75-35-4	1,1-Dichloroethane	0.0020	U	10061-01-5	cis-1,3-Dichloropropene	0.0020	U
87-61-6	1,2,3-Trichlorobenzene	0.0020	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0020	U	124-48-1	Dibromochloromethane	0.0020	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0020	U	75-71-8	Dichlorodifluoromethane	0.0020	U
106-93-4	1,2-Dibromoethane	0.0020	U	100-41-4	Ethylbenzene	0.0010	U
95-50-1	1,2-Dichlorobenzene	0.0020	U	98-82-8	Isopropylbenzene	0.0010	U
107-06-2	1,2-Dichloroethane	0.0020	U	79601-23-1	m&p-Xylenes	0.0010	U
78-87-5	1,2-Dichloropropane	0.0020	U	79-20-9	Methyl Acetate	0.0020	U
541-73-1	1,3-Dichlorobenzene	0.0020	U	108-87-2	Methylcyclohexane	0.0020	U
106-46-7	1,4-Dichlorobenzene	0.0020	U	75-09-2	Methylene Chloride	0.0020	U
123-91-1	1,4-Dioxane	0.10	U	1634-04-4	Methyl-t-butyl ether	0.0010	U
78-93-3	2-Butanone	0.0020	U	95-47-6	o-Xylene	0.0010	U
591-78-6	2-Hexanone	0.0020	U	100-42-5	Styrene	0.0020	U
108-10-1	4-Methyl-2-Pentanone	0.0020	U	75-65-0	t-Butyl Alcohol	0.010	U
67-64-1	Acetone	0.010	U	127-18-4	Tetrachloroethene	0.0020	U
71-43-2	Benzene	0.0010	U	108-88-3	Toluene	0.0010	U
74-97-5	Bromochloromethane	0.0020	U	156-60-5	trans-1,2-Dichloroethene	0.0020	U
75-27-4	Bromodichloromethane	0.0020	U	10061-02-6	trans-1,3-Dichloropropene	0.0020	U
75-25-2	Bromoform	0.0020	U	79-01-6	Trichloroethene	0.0020	U
74-83-9	Bromomethane	0.0020	U	75-69-4	Trichlorofluoromethane	0.0020	U
75-15-0	Carbon Disulfide	0.0020	U	75-01-4	Vinyl Chloride	0.0020	U
56-23-5	Carbon Tetrachloride	0.0020	U				

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : DAILY BLANK
 Data File: 6M37884.D
 Acq On : 04/18/16 11:26

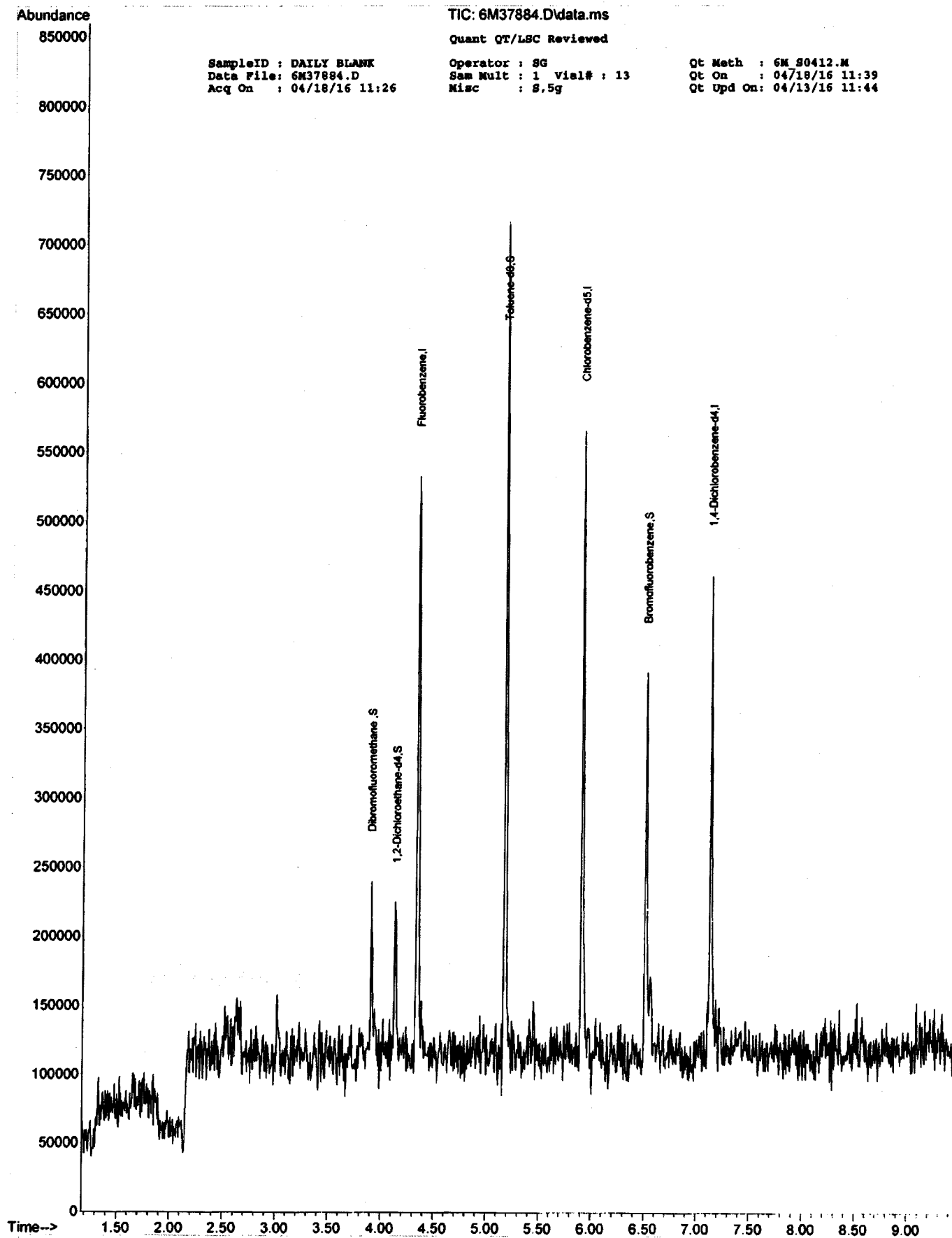
Operator : SG
 Sam Mult : 1 Vial# : 13
 Misc : S,5g

Qt Meth : 6M_S0412.M
 Qt On : 04/18/16 11:39
 Qt Upd On: 04/13/16 11:44

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-18-16\
 Qt Path : G:\GcMsData\2016\GCMS_6\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Qvalue
Internal Standards							
4) Fluorobenzene	4.337	96	210655	30.00	ug/l	-0.01	
52) Chlorobenzene-d5	5.906	117	126104	30.00	ug/l	0.00	
70) 1,4-Dichlorobenzene-d4	7.126	152	51815	30.00	ug/l	0.00	
System Monitoring Compounds							
37) Dibromofluoromethane	3.899	111	49168	35.27	ug/l	-0.01	
Spiked Amount							
							Recovery = 117.57%
39) 1,2-Dichloroethane-d4	4.133	67	26894	31.66	ug/l	0.00	
Spiked Amount							Recovery = 105.53%
66) Toluene-d8	5.173	98	202097	26.72	ug/l	0.00	
Spiked Amount							Recovery = 89.07%
76) Bromofluorobenzene	6.507	174	55698	35.91	ug/l	0.00	
Spiked Amount							Recovery = 119.70%
Target Compounds							

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



Form1
ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK

Client Id:

Data File: 6M37946.D

Analysis Date: 04/19/16 11:03

Date Rec/Extracted:

Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C

Matrix: Soil

Initial Vol: 5g

Final Vol: NA

Dilution: 1.00

Solids: 100

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0020	U	108-90-7	Chlorobenzene	0.0020	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0020	U	75-00-3	Chloroethane	0.0020	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0020	U	67-66-3	Chloroform	0.0020	U
79-00-5	1,1,2-Trichloroethane	0.0020	U	74-87-3	Chloromethane	0.0020	U
75-34-3	1,1-Dichloroethane	0.0020	U	156-59-2	cis-1,2-Dichloroethene	0.0020	U
75-35-4	1,1-Dichloroethene	0.0020	U	10061-01-5	cis-1,3-Dichloropropene	0.0020	U
87-61-6	1,2,3-Trichlorobenzene	0.0020	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0020	U	124-48-1	Dibromochloromethane	0.0020	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0020	U	75-71-8	Dichlorodifluoromethane	0.0020	U
106-93-4	1,2-Dibromoethane	0.0020	U	100-41-4	Ethylbenzene	0.0010	U
95-50-1	1,2-Dichlorobenzene	0.0020	U	98-82-8	Isopropylbenzene	0.0010	U
107-06-2	1,2-Dichloroethane	0.0020	U	79601-23-1	m&p-Xylenes	0.0010	U
78-87-5	1,2-Dichloropropane	0.0020	U	79-20-9	Methyl Acetate	0.0020	U
541-73-1	1,3-Dichlorobenzene	0.0020	U	108-87-2	Methylcyclohexane	0.0020	U
106-46-7	1,4-Dichlorobenzene	0.0020	U	75-09-2	Methylene Chloride	0.0020	U
123-91-1	1,4-Dioxane	0.10	U	1634-04-4	Methyl-t-butyl ether	0.0010	U
78-93-3	2-Butanone	0.0020	U	95-47-6	o-Xylene	0.0010	U
591-78-6	2-Hexanone	0.0020	U	100-42-5	Styrene	0.0020	U
108-10-1	4-Methyl-2-Pentanone	0.0020	U	75-65-0	t-Butyl Alcohol	0.010	U
67-64-1	Acetone	0.010	U	127-18-4	Tetrachloroethene	0.0020	U
71-43-2	Benzene	0.0010	U	108-88-3	Toluene	0.0010	U
74-97-5	Bromochloromethane	0.0020	U	156-60-5	trans-1,2-Dichloroethene	0.0020	U
75-27-4	Bromodichloromethane	0.0020	U	10061-02-6	trans-1,3-Dichloropropene	0.0020	U
75-25-2	Bromoform	0.0020	U	79-01-6	Trichloroethene	0.0020	U
74-83-9	Bromomethane	0.0020	U	75-69-4	Trichlorofluoromethane	0.0020	U
75-15-0	Carbon Disulfide	0.0020	U	75-01-4	Vinyl Chloride	0.0020	U
56-23-5	Carbon Tetrachloride	0.0020	U				

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration used.
 Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : DAILY BLANK
 Data File: 6M37946.D
 Acq On : 04/19/16 11:03

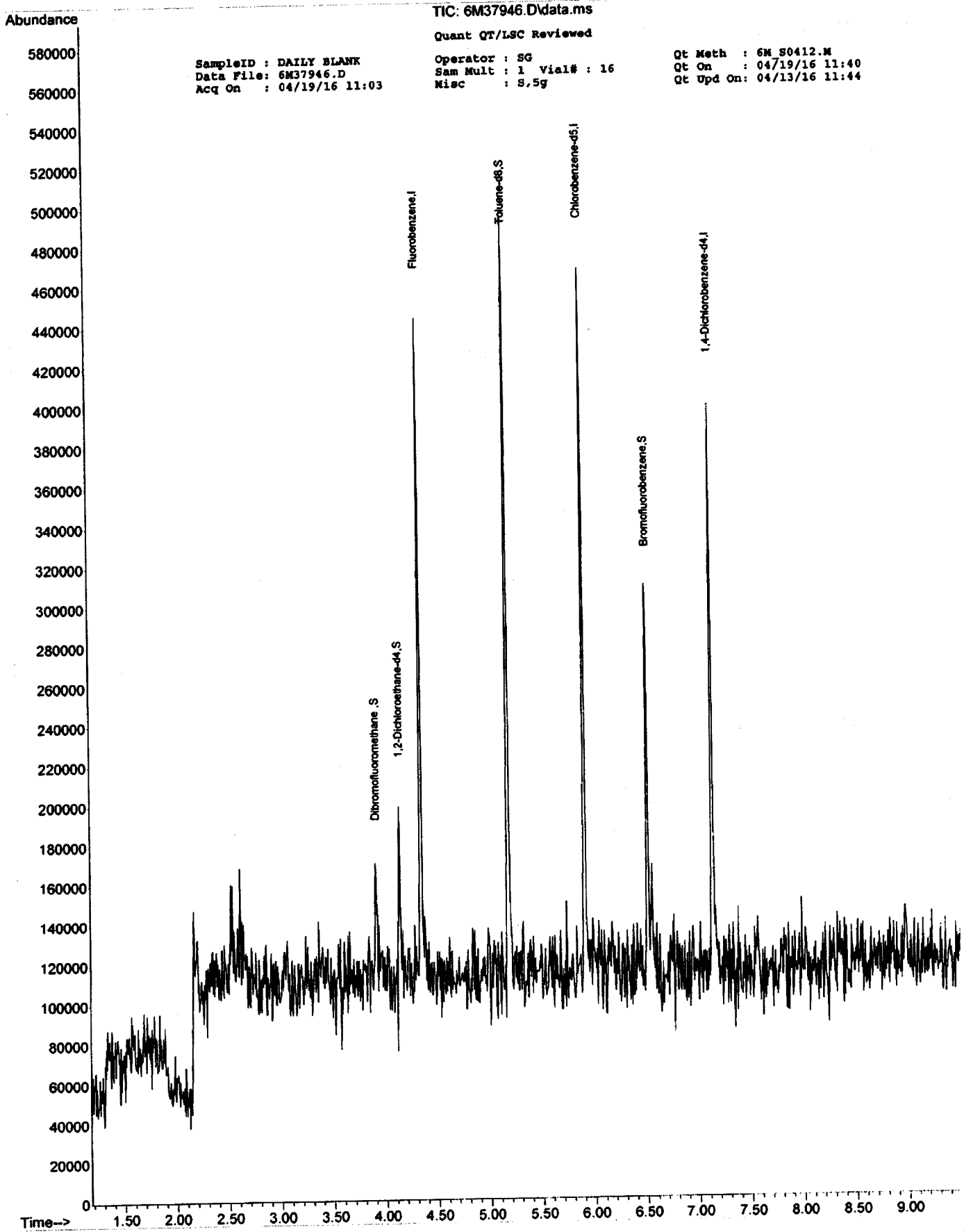
Operator : SG
 Sam Mult : 1 Vial# : 16
 Misc : S,5g

Qt Meth : 6M_S0412.M
 Qt On : 04/19/16 11:40
 Qt Upd On: 04/13/16 11:44

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-19-16\
 Qt Path : G:\GcMsData\2016\GCMS_6\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.343	96	142537	30.00	ug/l	0.00
52) Chlorobenzene-d5	5.906	117	90972	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.132	152	35446	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	3.910	111	27135m	28.76	ug/l	0.00
Spiked Amount						
						Recovery = 95.87%
39) 1,2-Dichloroethane-d4	4.138	67	18229	31.72	ug/l	0.00
Spiked Amount						
						Recovery = 105.73%
66) Toluene-d8	5.178	98	135139	24.77	ug/l	0.00
Spiked Amount						
						Recovery = 82.57%
76) Bromofluorobenzene	6.513	174	39381	37.11	ug/l	0.00
Spiked Amount						
						Recovery = 123.70%
Target Compounds						Qvalue

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



TIC: 6M37946.D\data.ms

Quant QT/LSC Reviewed

SampleID : DAILY BLANK
Data File: 6M37946.D
Acq On : 04/19/16 11:03

Operator : SG
Sam Mult : 1 Vial# : 16
Misc : S,5g

Qt Meth : 6M_S0412.M
Qt On : 04/19/16 11:40
Qt Upd On: 04/13/16 11:44

Form 1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK

Client Id:

Data File: 3M89286.D

Analysis Date: 04/19/16 17:30

Date Rec/Extracted:

Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C

Matrix: Aqueous

Initial Vol: 5ml

Final Vol: NA

Dilution: 1.00

Solids: 0

		Units: ug/L					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	1.0	U	108-90-7	Chlorobenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	75-00-3	Chloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	1.0	U	67-66-3	Chloroform	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U	74-87-3	Chloromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U	156-59-2	cis-1,2-Dichloroethene	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U	10061-01-5	cis-1,3-Dichloropropene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U	110-82-7	Cyclohexane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U	124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropa	1.0	U	75-71-8	Dichlorodifluoromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U	100-41-4	Ethylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U	98-82-8	Isopropylbenzene	1.0	U
107-06-2	1,2-Dichloroethane	0.50	U	79601-23-1	m&p-Xylenes	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U	79-20-9	Methyl Acetate	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U	108-87-2	Methylcyclohexane	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	75-09-2	Methylene Chloride	1.0	U
123-91-1	1,4-Dioxane	50	U	1634-04-4	Methyl-t-butyl ether	0.50	U
78-93-3	2-Butanone	1.0	U	95-47-6	o-Xylene	1.0	U
591-78-6	2-Hexanone	1.0	U	100-42-5	Styrene	1.0	U
108-10-1	4-Methyl-2-Pentanone	1.0	U	75-65-0	t-Butyl Alcohol	5.0	U
67-64-1	Acetone	5.0	U	127-18-4	Tetrachloroethene	1.0	U
71-43-2	Benzene	0.50	U	108-88-3	Toluene	1.0	U
74-97-5	Bromochloromethane	1.0	U	156-60-5	trans-1,2-Dichloroethene	1.0	U
75-27-4	Bromodichloromethane	1.0	U	10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U	79-01-6	Trichloroethene	1.0	U
74-83-9	Bromomethane	5.0	U	75-69-4	Trichlorofluoromethane	1.0	U
75-15-0	Carbon Disulfide	1.0	U	75-01-4	Vinyl Chloride	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U				

Worksheet #: 380474

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : DAILY BLANK
 Data File: 3M89286.D
 Acq On : 04/19/16 17:30

Operator : WP
 Sam Mult : 1 Vial# : 4
 Misc : A,SML

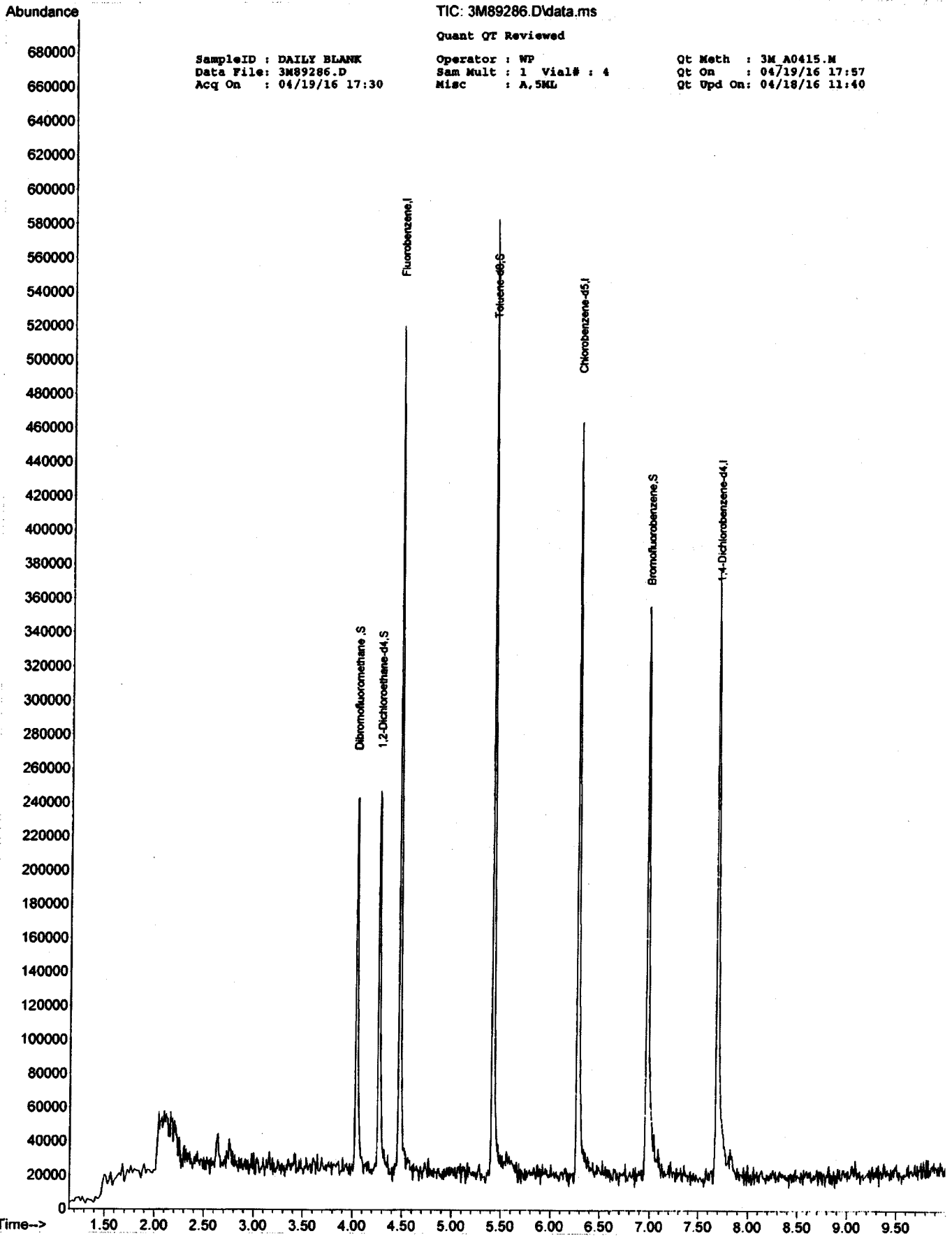
Qt Meth : 3M_A0415.M
 Qt On : 04/19/16 17:57
 Qt Upd On: 04/18/16 11:40

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-1916\
 Qt Path : G:\GcMsData\2016\GCMS_3\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.472	96	243854	30.00	ug/l	-0.03
52) Chlorobenzene-d5	6.276	117	161028	30.00	ug/l	-0.02
70) 1,4-Dichlorobenzene-d4	7.688	152	91831	30.00	ug/l	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	4.034	111	93389	31.49	ug/l	-0.03
Spiked Amount						
						Recovery = 104.97%
39) 1,2-Dichloroethane-d4	4.268	67	57960	29.32	ug/l	-0.03
Spiked Amount						Recovery = 97.73%
66) Toluene-d8	5.416	98	227459	32.11	ug/l	-0.03
Spiked Amount						Recovery = 107.03%
76) Bromofluorobenzene	6.973	174	94559	29.08	ug/l	-0.02
Spiked Amount						Recovery = 96.93%

Target Compounds Qvalue

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



TIC: 3M89286.D\data.ms

Quant QT Reviewed

SampleID : DAILY BLANK
Data File: 3M89286.D
Acq On : 04/19/16 17:30

Operator : WP
Sam Mult : 1 Vial# : 4
Misc : A,5ML

Qt Meth : 3M_A0415.M
Qt On : 04/19/16 17:57
Qt Upd On: 04/18/16 11:40

FORM2

Surrogate Recovery

Method: EPA 8260C

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1 S1 Recov	Column1 S2 Recov	Column1 S3 Recov	Column1 S4 Recov	Column0 S5 Recov	Column0 S6 Recov
3M89286.D	DAILY BLANK	A	04/19/16 17:30	1		105	98	107	97		
6M37884.D	DAILY BLANK	S	04/18/16 11:26	1		118	106	89	120		
6M37946.D	DAILY BLANK	S	04/19/16 11:03	1		96	106	83	124		
6M37908.D	AC90773-001	S	04/18/16 18:10	1		116	119	77	100		
6M37921.D	AC90773-002	S	04/18/16 21:48	1		111	88	86	85		
6M37922.D	AC90773-003	S	04/18/16 22:04	1		106	104	87	88		
6M37955.D	AC90773-004	S	04/19/16 13:34	1		119	77	71	101		
6M37966.D	AC90773-009	S	04/19/16 16:37	1		118	110	87	98		
6M37956.D	AC90773-010	S	04/19/16 13:51	1		116	91	97	93		
6M37957.D	AC90773-011	S	04/19/16 14:08	1		119	87	84	122		
3M89290.D	AC90773-012	A	04/19/16 18:34	1		100	102	104	94		
3M89291.D	AC90773-014	A	04/19/16 18:49	1		100	100	105	108		
3M89289.D	MBS52816	A	04/19/16 18:18	1		97	93	103	101		
6M37886.D	MBS52796	S	04/18/16 12:02	1		100	105	86	90		
6M37949.D	MBS52808	S	04/19/16 11:54	1		82	76	96	103		
6M37962.D	AC90773-004(MS)	S	04/19/16 15:31	1		95	82	84	97		
6M37963.D	AC90773-004(MSD)	S	04/19/16 15:47	1		99	70	81	88		

Flags: SD=Surrogate diluted out

*=Surrogate out

Method: EPA 8260C

Soil DKQP Limits

Compound	Spike Amt	Limits
S1=Dibromofluoromethane	30	70-130
S2=1,2-Dichloroethane-d4	30	70-130
S3=Toluene-d8	30	70-130
S4=Bromofluorobenzene	30	70-130

Aqueous DKQP Limits

Compound	Spike Amt	Limits
S1=Dibromofluoromethane	30	70-130
S2=1,2-Dichloroethane-d4	30	70-130
S3=Toluene-d8	30	70-130
S4=Bromofluorobenzene	30	70-130

Form3
Recovery Data
QC Batch: MBS52796

6041514 0102

Data File Spike or Dup: 6M37886.D	Sample ID: MBS52796	Analysis Date 4/18/2016 12:02:00 PM
Non Spike (If applicable):		
Inst Blank (If applicable):		
Method: 8260C	Matrix: Soil	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	76.9597	0	50	154 *	70	130
Dichlorodifluoromethane	1	52.5506	0	50	105	40	160
Chloromethane	1	38.019	0	50	76	40	160
Bromomethane	1	35.6614	0	50	71	40	160
Vinyl Chloride	1	44.18	0	50	88	70	130
Chloroethane	1	46.2176	0	50	92	40	160
Trichlorofluoromethane	1	52.575	0	50	105	40	160
Ethyl ether	1	36.1775	0	50	72	70	130
Furan	1	42.0688	0	50	84	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	57.0063	0	50	114	70	130
Methylene Chloride	1	46.614	0	50	93	70	130
Acrolein	1	353.8057	0	200	177 *	70	130
Acrylonitrile	1	48.2592	0	50	97	70	130
Iodomethane	1	41.1995	0	50	82	70	130
Acetone	1	199.0645	0	200	100	40	160
Carbon Disulfide	1	53.651	0	50	107	40	160
t-Butyl Alcohol	1	192.6251	0	200	96	70	130
n-Hexane	1	49.9746	0	50	100	70	130
Di-isopropyl-ether	1	39.6126	0	50	79	70	130
1,1-Dichloroethene	1	41.7561	0	50	84	70	130
Methyl Acetate	1	43.7152	0	50	87	70	130
Methyl-t-butyl ether	1	35.4427	0	50	71	70	130
1,1-Dichloroethane	1	45.5949	0	50	91	70	130
trans-1,2-Dichloroethene	1	33.6198	0	50	67 *	70	130
Ethyl-t-butyl ether	1	33.7735	0	50	68 *	70	130
cis-1,2-Dichloroethene	1	44.3245	0	50	89	70	130
Bromochloromethane	1	52.7427	0	50	105	70	130
2,2-Dichloropropane	1	42.6192	0	50	85	70	130
Ethyl acetate	1	30.9204	0	50	62 *	70	130
1,4-Dioxane	1	2528.406	0	2500	101	40	160
1,1-Dichloropropene	1	47.1501	0	50	94	70	130
Chloroform	1	42.6616	0	50	85	70	130
Cyclohexane	1	47.936	0	50	96	70	130
1,2-Dichloroethane	1	49.8411	0	50	100	70	130
2-Butanone	1	31.1633	0	50	62 *	70	130
1,1,1-Trichloroethane	1	46.3867	0	50	93	70	130
Carbon Tetrachloride	1	50.28	0	50	101	70	130
Vinyl Acetate	1	35.8298	0	50	72	70	130
Bromodichloromethane	1	44.0284	0	50	88	70	130
Methylcyclohexane	1	49.022	0	50	98	70	130
Dibromomethane	1	44.6166	0	50	89	70	130
1,2-Dichloropropane	1	54.5217	0	50	109	70	130
Trichloroethene	1	40.4403	0	50	81	70	130
Benzene	1	48.336	0	50	97	70	130
tert-Amyl methyl ether	1	36.8789	0	50	74	70	130
Iso-propylacetate	1	24.3311	0	50	49 *	70	130
Methyl methacrylate	1	25.6666	0	50	51 *	70	130
Dibromochloromethane	1	39.4591	0	50	79	70	130
2-Chloroethylvinylether	1	31.2361	0	50	62 *	70	130
cis-1,3-Dichloropropene	1	35.9737	0	50	72	70	130
trans-1,3-Dichloropropene	1	34.3471	0	50	69 *	70	130
Ethyl methacrylate	1	24.8996	0	50	50 *	70	130
1,1,2-Trichloroethane	1	38.0709	0	50	76	70	130
1,2-Dibromoethane	1	39.4599	0	50	79	70	130
1,3-Dichloropropane	1	35.6787	0	50	71	70	130
4-Methyl-2-Pentanone	1	32.3489	0	50	65	40	160
2-Hexanone	1	26.1275	0	50	52	40	160
Tetrachloroethene	1	39.1869	0	50	78	70	130
Toluene	1	34.1021	0	50	68 *	70	130
1,1,1,2-Tetrachloroethane	1	39.8428	0	50	80	70	130
Chlorobenzene	1	38.4834	0	50	77	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: MBS52796

n-Butyl acrylate	1	26.7089	0	50	53*	70	130
n-Amyl acetate	1	26.6041	0	50	53*	70	130
Bromoform	1	33.558	0	50	67*	70	130
Ethylbenzene	1	42.9664	0	50	86	70	130
1,1,2,2-Tetrachloroethane	1	48.0877	0	50	96	70	130
Styrene	1	41.7282	0	50	83	70	130
m&p-Xylenes	1	72.652	0	100	73	70	130
o-Xylene	1	39.1922	0	50	78	70	130
trans-1,4-Dichloro-2-butene	1	35.6147	0	50	71	70	130
1,3-Dichlorobenzene	1	41.6183	0	50	83	70	130
1,4-Dichlorobenzene	1	40.8492	0	50	82	70	130
1,2-Dichlorobenzene	1	40.1971	0	50	80	70	130
Isopropylbenzene	1	39.7705	0	50	80	70	130
Cyclohexanone	1	200.2055	0	250	80	70	130
Camphene	1	38.8014	0	50	78	70	130
1,2,3-Trichloropropane	1	40.1458	0	50	80	70	130
2-Chlorotoluene	1	38.8669	0	50	78	70	130
p-Ethyltoluene	1	44.852	0	50	90	70	130
4-Chlorotoluene	1	36.5977	0	50	73	70	130
n-Propylbenzene	1	43.6878	0	50	87	70	130
Bromobenzene	1	39.9092	0	50	80	70	130
1,3,5-Trimethylbenzene	1	38.4288	0	50	77	70	130
Butyl methacrylate	1	29.3036	0	50	59*	70	130
t-Butylbenzene	1	42.0108	0	50	84	70	130
1,2,4-Trimethylbenzene	1	35.3462	0	50	71	70	130
sec-Butylbenzene	1	38.9753	0	50	78	70	130
4-Isopropyltoluene	1	40.3997	0	50	81	70	130
n-Butylbenzene	1	41.8506	0	50	84	70	130
p-Diethylbenzene	1	37.907	0	50	76	70	130
1,2,4,5-Tetramethylbenzene	1	27.6762	0	50	55*	70	130
1,2-Dibromo-3-Chloropropane	1	44.9201	0	50	90	40	160
Camphor	1	188.887	0	500	38*	70	130
Hexachlorobutadiene	1	34.3751	0	50	69*	70	130
1,2,4-Trichlorobenzene	1	30.8185	0	50	62*	70	130
1,2,3-Trichlorobenzene	1	34.6472	0	50	69*	70	130
Naphthalene	1	25.2691	0	50	51	40	160

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS52808

6041514 0104

Data File Spike or Dup: 6M37949.D	Sample ID: MBS52808	Analysis Date 4/19/2016 11:54:00 AM
Non Spike (If applicable): Inst Blank (If applicable):		
Method: 8260C	Matrix: Soil	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	52.7308	0	50	105	70	130
Dichlorodifluoromethane	1	47.6754	0	50	95	40	160
Chloromethane	1	36.1255	0	50	72	40	160
Bromomethane	1	33.0219	0	50	66	40	160
Vinyl Chloride	1	33.0787	0	50	66*	70	130
Chloroethane	1	37.2517	0	50	75	40	160
Trichlorofluoromethane	1	42.4322	0	50	85	40	160
Ethyl ether	1	31.124	0	50	62*	70	130
Furan	1	49.0922	0	50	98	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	53.0591	0	50	106	70	130
Methylene Chloride	1	35.9941	0	50	72	70	130
Acrolein	1	259.1417	0	200	130	70	130
Acrylonitrile	1	38.4687	0	50	77	70	130
Iodomethane	1	38.9967	0	50	78	70	130
Acetone	1	224.1051	0	200	112	40	160
Carbon Disulfide	1	42.8228	0	50	86	40	160
t-Butyl Alcohol	1	208.9175	0	200	104	70	130
n-Hexane	1	50.2948	0	50	101	70	130
Di-isopropyl-ether	1	38.592	0	50	77	70	130
1,1-Dichloroethene	1	31.1308	0	50	62*	70	130
Methyl Acetate	1	49.0732	0	50	98	70	130
Methyl-t-butyl ether	1	41.5027	0	50	83	70	130
1,1-Dichloroethane	1	38.6234	0	50	77	70	130
trans-1,2-Dichloroethene	1	35.5538	0	50	71	70	130
Ethyl-t-butyl ether	1	32.4442	0	50	65*	70	130
cis-1,2-Dichloroethene	1	36.9971	0	50	74	70	130
Bromochloromethane	1	31.2323	0	50	62*	70	130
2,2-Dichloropropane	1	42.808	0	50	86	70	130
Ethyl acetate	1	32.744	0	50	65*	70	130
1,4-Dioxane	1	2590.525	0	2500	104	40	160
1,1-Dichloropropene	1	42.5849	0	50	85	70	130
Chloroform	1	41.7532	0	50	84	70	130
Cyclohexane	1	45.2555	0	50	91	70	130
1,2-Dichloroethane	1	36.1089	0	50	72	70	130
2-Butanone	1	30.0288	0	50	60*	70	130
1,1,1-Trichloroethane	1	44.5702	0	50	89	70	130
Carbon Tetrachloride	1	41.2483	0	50	82	70	130
Vinyl Acetate	1	31.367	0	50	63*	70	130
Bromodichloromethane	1	40.4821	0	50	81	70	130
Methylcyclohexane	1	47.7366	0	50	95	70	130
Dibromomethane	1	43.584	0	50	87	70	130
1,2-Dichloropropane	1	51.5801	0	50	103	70	130
Trichloroethene	1	40.1045	0	50	80	70	130
Benzene	1	43.1507	0	50	86	70	130
tert-Amyl methyl ether	1	37.322	0	50	75	70	130
Iso-propylacetate	1	23.4054	0	50	47*	70	130
Methyl methacrylate	1	32.9346	0	50	66*	70	130
Dibromochloromethane	1	51.1128	0	50	102	70	130
2-Chloroethylvinylether	1	26.1891	0	50	52*	70	130
cis-1,3-Dichloropropene	1	42.4751	0	50	85	70	130
trans-1,3-Dichloropropene	1	36.8479	0	50	74	70	130
Ethyl methacrylate	1	29.7854	0	50	60*	70	130
1,1,2-Trichloroethane	1	45.5741	0	50	91	70	130
1,2-Dibromoethane	1	45.8842	0	50	92	70	130
1,3-Dichloropropane	1	43.0211	0	50	86	70	130
4-Methyl-2-Pentanone	1	30.7809	0	50	62	40	160
2-Hexanone	1	29.9501	0	50	60	40	160
Tetrachloroethene	1	43.818	0	50	88	70	130
Toluene	1	37.0769	0	50	74	70	130
1,1,1,2-Tetrachloroethane	1	43.1135	0	50	86	70	130
Chlorobenzene	1	43.3229	0	50	87	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: MBS52808

n-Butyl acrylate	1	30.7233	0	50	61*	70	130
n-Amyl acetate	1	28.9474	0	50	58*	70	130
Bromoforn	1	39.5683	0	50	79	70	130
Ethylbenzene	1	41.9948	0	50	84	70	130
1,1,2,2-Tetrachloroethane	1	41.931	0	50	84	70	130
Styrene	1	45.2839	0	50	91	70	130
m&p-Xylenes	1	74.9946	0	100	75	70	130
o-Xylene	1	32.5957	0	50	65*	70	130
trans-1,4-Dichloro-2-butene	1	33.4141	0	50	67*	70	130
1,3-Dichlorobenzene	1	37.6694	0	50	75	70	130
1,4-Dichlorobenzene	1	39.1942	0	50	78	70	130
1,2-Dichlorobenzene	1	41.8476	0	50	84	70	130
Isopropylbenzene	1	41.0989	0	50	82	70	130
Cyclohexanone	1	174.0463	0	250	70	70	130
Camphene	1	39.0069	0	50	78	70	130
1,2,3-Trichloropropane	1	41.8906	0	50	84	70	130
2-Chlorotoluene	1	38.9101	0	50	78	70	130
p-Ethyltoluene	1	47.5465	0	50	95	70	130
4-Chlorotoluene	1	39.8182	0	50	80	70	130
n-Propylbenzene	1	41.9496	0	50	84	70	130
Bromobenzene	1	41.2454	0	50	82	70	130
1,3,5-Trimethylbenzene	1	35.1385	0	50	70	70	130
Butyl methacrylate	1	30.8199	0	50	62*	70	130
t-Butylbenzene	1	39.0569	0	50	78	70	130
1,2,4-Trimethylbenzene	1	38.6598	0	50	77	70	130
sec-Butylbenzene	1	37.2624	0	50	75	70	130
4-Isopropyltoluene	1	35.0961	0	50	70	70	130
n-Butylbenzene	1	35.9506	0	50	72	70	130
p-Diethylbenzene	1	38.046	0	50	76	70	130
1,2,4,5-Tetramethylbenzene	1	27.3056	0	50	55*	70	130
1,2-Dibromo-3-Chloropropane	1	37.7159	0	50	75	40	160
Camphor	1	156.0843	0	500	31*	70	130
Hexachlorobutadiene	1	24.2842	0	50	49*	70	130
1,2,4-Trichlorobenzene	1	30.9345	0	50	62*	70	130
1,2,3-Trichlorobenzene	1	32.5577	0	50	65*	70	130
Naphthalene	1	33.8611	0	50	68	40	160

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS52816

6041514 0106

Data File	Sample ID:	Analysis Date
Spike or Dup: 3M89289.D	MBS52816	4/19/2016 6:18:00 PM
Non Spike (If applicable):		
Inst Blank (If applicable):		
Method: 8260C	Matrix: Aqueous	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	12.813	0	20	64*	70	130
Dichlorodifluoromethane	1	10.1989	0	20	51	40	160
Chloromethane	1	13.9774	0	20	70	40	160
Bromomethane	1	13.6054	0	20	68	40	160
Vinyl Chloride	1	13.2021	0	20	66*	70	130
Chloroethane	1	18.0111	0	20	90	40	160
Trichlorofluoromethane	1	22.5849	0	20	113	40	160
Ethyl ether	1	17.5178	0	20	88	70	130
Furan	1	19.5376	0	20	98	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	16.0801	0	20	80	70	130
Methylene Chloride	1	14.5889	0	20	73	70	130
Acrolein	1	68.0109	0	100	68*	70	130
Acrylonitrile	1	12.5072	0	20	63*	70	130
Iodomethane	1	17.0768	0	20	85	70	130
Acetone	1	66.8421	0	100	67	40	160
Carbon Disulfide	1	17.4698	0	20	87	40	160
t-Butyl Alcohol	1	57.1328	0	100	57*	70	130
n-Hexane	1	13.9802	0	20	70	70	130
Di-isopropyl-ether	1	16.5499	0	20	83	70	130
1,1-Dichloroethene	1	16.0416	0	20	80	70	130
Methyl Acetate	1	16.6254	0	20	83	70	130
Methyl-t-butyl ether	1	14.4662	0	20	72	70	130
1,1-Dichloroethane	1	13.7692	0	20	69*	70	130
trans-1,2-Dichloroethene	1	17.7425	0	20	89	70	130
Ethyl-t-butyl ether	1	14.5614	0	20	73	70	130
cis-1,2-Dichloroethene	1	15.3623	0	20	77	70	130
Bromochloromethane	1	12.745	0	20	64*	70	130
2,2-Dichloropropane	1	12.7673	0	20	64*	70	130
Ethyl acetate	1	14.4685	0	20	72	70	130
1,4-Dioxane	1	646.3219	0	1000	65	40	160
1,1-Dichloropropene	1	16.4894	0	20	82	70	130
Chloroform	1	14.7123	0	20	74	70	130
Cyclohexane	1	14.8467	0	20	74	70	130
1,2-Dichloroethane	1	14.666	0	20	73	70	130
2-Butanone	1	11.4444	0	20	57*	70	130
1,1,1-Trichloroethane	1	15.5246	0	20	78	70	130
Carbon Tetrachloride	1	16.8656	0	20	84	70	130
Vinyl Acetate	1	11.6707	0	20	58*	70	130
Bromodichloromethane	1	14.2158	0	20	71	70	130
Methylcyclohexane	1	14.2521	0	20	71	70	130
Dibromomethane	1	13.6952	0	20	68*	70	130
1,2-Dichloropropane	1	15.7082	0	20	79	70	130
Trichloroethene	1	14.3856	0	20	72	70	130
Benzene	1	14.5617	0	20	73	70	130
tert-Amyl methyl ether	1	15.5781	0	20	78	70	130
Iso-propylacetate	1	11.7008	0	20	59*	70	130
Methyl methacrylate	1	13.9058	0	20	70	70	130
Dibromochloromethane	1	15.2863	0	20	76	70	130
2-Chloroethylvinylether	1	11.4031	0	20	57*	70	130
cis-1,3-Dichloropropene	1	14.7424	0	20	74	70	130
trans-1,3-Dichloropropene	1	14.8101	0	20	74	70	130
Ethyl methacrylate	1	11.4466	0	20	57*	70	130
1,1,2-Trichloroethane	1	14.2961	0	20	71	70	130
1,2-Dibromoethane	1	12.6163	0	20	63*	70	130
1,3-Dichloropropane	1	15.4798	0	20	77	70	130
4-Methyl-2-Pentanone	1	14.2519	0	20	71	40	160
2-Hexanone	1	8.955	0	20	45	40	160
Tetrachloroethene	1	16.6053	0	20	83	70	130
Toluene	1	14.3832	0	20	72	70	130
1,1,1,2-Tetrachloroethane	1	13.9504	0	20	70	70	130
Chlorobenzene	1	15.1412	0	20	76	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: MBS52816

n-Butyl acrylate	1	11.1218	0	20	56*	70	130
n-Amyl acetate	1	13.3214	0	20	67*	70	130
Bromoform	1	13.93	0	20	70	70	130
Ethylbenzene	1	14.3253	0	20	72	70	130
1,1,2,2-Tetrachloroethane	1	14.7189	0	20	74	70	130
Styrene	1	16.4542	0	20	82	70	130
m&p-Xylenes	1	31.7161	0	40	79	70	130
o-Xylene	1	15.5705	0	20	78	70	130
trans-1,4-Dichloro-2-butene	1	14.5492	0	20	73	70	130
1,3-Dichlorobenzene	1	14.8408	0	20	74	70	130
1,4-Dichlorobenzene	1	15.3904	0	20	77	70	130
1,2-Dichlorobenzene	1	15.8512	0	20	79	70	130
Isopropylbenzene	1	17.0981	0	20	85	70	130
Cyclohexanone	1	91.4922	0	100	91	70	130
Camphene	1	16.1171	0	20	81	70	130
1,2,3-Trichloropropane	1	13.0126	0	20	65*	70	130
2-Chlorotoluene	1	17.6469	0	20	88	70	130
p-Ethyltoluene	1	16.9602	0	20	85	70	130
4-Chlorotoluene	1	16.5585	0	20	83	70	130
n-Propylbenzene	1	15.9665	0	20	80	70	130
Bromobenzene	1	15.3097	0	20	77	70	130
1,3,5-Trimethylbenzene	1	16.5714	0	20	83	70	130
Butyl methacrylate	1	12.9197	0	20	65*	70	130
t-Butylbenzene	1	15.7725	0	20	79	70	130
1,2,4-Trimethylbenzene	1	15.677	0	20	78	70	130
sec-Butylbenzene	1	16.0295	0	20	80	70	130
4-Isopropyltoluene	1	15.4083	0	20	77	70	130
n-Butylbenzene	1	16.3686	0	20	82	70	130
p-Diethylbenzene	1	16.9703	0	20	85	70	130
1,2,4,5-Tetramethylbenzene	1	17.6591	0	20	88	70	130
1,2-Dibromo-3-Chloropropane	1	10.0662	0	20	50	40	160
Camphor	1	164.9468	0	200	82	70	130
Hexachlorobutadiene	1	15.3125	0	20	77	70	130
1,2,4-Trichlorobenzene	1	13.7044	0	20	69*	70	130
1,2,3-Trichlorobenzene	1	15.6147	0	20	78	70	130
Naphthalene	1	16.7579	0	20	84	40	160

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: MBS52808

Data File		Sample ID:		Analysis Date			
Spike or Dup: 6M37962.D		AC90773-004(MS)		4/19/2016 3:31:00 PM			
Non Spike(If applicable): 6M37955.D		AC90773-004		4/19/2016 1:34:00 PM			
Inst Blank(If applicable):							
Method: 8260C		Matrix: Soil		QC Type: MS			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	52.8263	0	50	106	70	130
Dichlorodifluoromethane	1	45.6305	0	50	91	40	160
Chloromethane	1	45.7432	0	50	91	40	160
Bromomethane	1	37.8149	0	50	76	40	160
Vinyl Chloride	1	35.9859	0	50	72	70	130
Chloroethane	1	44.0606	0	50	88	40	160
Trichlorofluoromethane	1	44.812	0	50	90	40	160
Ethyl ether	1	22.7407	0	50	45*	70	130
Furan	1	58.1165	0	50	116	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	56.542	0	50	113	70	130
Methylene Chloride	1	38.2555	0	50	77	70	130
Acrolein	1	158.2375	0	200	79	70	130
Acrylonitrile	1	43.971	0	50	88	70	130
Iodomethane	1	43.6732	0	50	87	70	130
Acetone	1	223.4548	0	200	112	40	160
Carbon Disulfide	1	44.0215	0	50	88	40	160
t-Butyl Alcohol	1	185.5449	0	200	93	70	130
n-Hexane	1	49.0668	0	50	98	70	130
Di-isopropyl-ether	1	37.5852	0	50	75	70	130
1,1-Dichloroethene	1	43.3404	0	50	87	70	130
Methyl Acetate	1	47.1632	0	50	94	70	130
Methyl-t-butyl ether	1	38.5072	0	50	77	70	130
1,1-Dichloroethane	1	35.8913	0	50	72	70	130
trans-1,2-Dichloroethene	1	42.9952	0	50	86	70	130
Ethyl-t-butyl ether	1	32.1235	0	50	64*	70	130
cis-1,2-Dichloroethene	1	41.8297	0	50	84	70	130
Bromochloromethane	1	51.183	0	50	102	70	130
2,2-Dichloropropane	1	43.1794	0	50	86	70	130
Ethyl acetate	1	26.3051	0	50	53*	70	130
1,4-Dioxane	1	2264.505	0	2500	90	40	160
1,1-Dichloropropene	1	46.5296	0	50	93	70	130
Chloroform	1	45.5149	0	50	91	70	130
Cyclohexane	1	42.1036	0	50	84	70	130
1,2-Dichloroethane	1	33.2774	0	50	67*	70	130
2-Butanone	1	36.2382	0	50	72	70	130
1,1,1-Trichloroethane	1	44.0196	0	50	88	70	130
Carbon Tetrachloride	1	44.9984	0	50	90	70	130
Vinyl Acetate	1	29.5669	0	50	59*	70	130
Bromodichloromethane	1	39.6901	0	50	79	70	130
Methylcyclohexane	1	45.1204	0	50	90	70	130
Dibromomethane	1	43.6676	0	50	87	70	130
1,2-Dichloropropane	1	57.4071	0	50	115	70	130
Trichloroethene	1	42.6431	0	50	85	70	130
Benzene	1	46.4715	0	50	93	70	130
tert-Amyl methyl ether	1	34.9448	0	50	70	70	130
Iso-propylacetate	1	17.8389	0	50	36*	70	130
Methyl methacrylate	1	36.5154	0	50	73	70	130
Dibromochloromethane	1	41.2517	0	50	83	70	130
2-Chloroethylvinylether	1	27.4684	0	50	55*	70	130
cis-1,3-Dichloropropene	1	32.8911	0	50	66*	70	130
trans-1,3-Dichloropropene	1	31.4561	0	50	63*	70	130
Ethyl methacrylate	1	18.2767	0	50	37*	70	130
1,1,2-Trichloroethane	1	39.0136	0	50	78	70	130
1,2-Dibromoethane	1	32.058	0	50	64*	70	130
1,3-Dichloropropane	1	33.2983	0	50	67*	70	130
4-Methyl-2-Pentanone	1	27.2065	0	50	54	40	160
2-Hexanone	1	21.1037	0	50	42	40	160
Tetrachloroethene	1	37.4392	0	50	75	70	130
Toluene	1	33.3753	0	50	67*	70	130
1,1,1,2-Tetrachloroethane	1	34.387	0	50	69*	70	130
Chlorobenzene	1	37.9764	0	50	76	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data

QC Batch: MBS52808

n-Butyl acrylate	1	14.3427	0	50	29*	70	130
n-Amyl acetate	1	11.4041	0	50	23*	70	130
Bromoform	1	29.4899	0	50	59*	70	130
Ethylbenzene	1	32.3342	0	50	65*	70	130
1,1,2,2-Tetrachloroethane	1	33.3641	0	50	67*	70	130
Styrene	1	34.5905	0	50	69*	70	130
m&p-Xylenes	1	65.2173	0	100	65*	70	130
o-Xylene	1	31.726	0	50	63*	70	130
trans-1,4-Dichloro-2-butene	1	29.9211	0	50	60*	70	130
1,3-Dichlorobenzene	1	31.1146	0	50	62*	70	130
1,4-Dichlorobenzene	1	33.3526	0	50	67*	70	130
1,2-Dichlorobenzene	1	31.9709	0	50	64*	70	130
Isopropylbenzene	1	31.1331	0	50	62*	70	130
Cyclohexanone	1	158.4129	0	250	63*	70	130
Camphene	1	28.3313	0	50	57*	70	130
1,2,3-Trichloropropane	1	32.061	0	50	64*	70	130
2-Chlorotoluene	1	29.8724	0	50	60*	70	130
p-Ethyltoluene	1	37.2643	0	50	75	70	130
4-Chlorotoluene	1	33.5245	0	50	67*	70	130
n-Propylbenzene	1	34.1342	0	50	68*	70	130
Bromobenzene	1	30.5826	0	50	61*	70	130
1,3,5-Trimethylbenzene	1	31.8641	0	50	64*	70	130
Butyl methacrylate	1	16.5041	0	50	33*	70	130
t-Butylbenzene	1	35.0773	0	50	70	70	130
1,2,4-Trimethylbenzene	1	30.941	0	50	62*	70	130
sec-Butylbenzene	1	31.5511	0	50	63*	70	130
4-Isopropyltoluene	1	29.3367	0	50	59*	70	130
n-Butylbenzene	1	29.3583	0	50	59*	70	130
p-Diethylbenzene	1	33.2481	0	50	66*	70	130
1,2,4,5-Tetramethylbenzene	1	18.4851	0	50	37*	70	130
1,2-Dibromo-3-Chloropropane	1	34.5857	0	50	69	40	160
Camphor	1	117.1358	0	500	23*	70	130
Hexachlorobutadiene	1	23.2891	0	50	47*	70	130
1,2,4-Trichlorobenzene	1	23.1135	0	50	46*	70	130
1,2,3-Trichlorobenzene	1	24.5495	0	50	49*	70	130
Naphthalene	1	20.5931	0	50	41	40	160

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: MBS62808

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M37963.D	AC90773-004(MSD)	4/19/2016 3:47:00 PM
Non Spike(If applicable): 6M37955.D	AC90773-004	4/19/2016 1:34:00 PM
Inst Blank(If applicable):		
Method: 8260C	Matrix: Soil	QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	55.5871	0	50	111	70	130
Dichlorodifluoromethane	1	39.3746	0	50	79	40	160
Chloromethane	1	41.8085	0	50	84	40	160
Bromomethane	1	33.4718	0	50	67	40	160
Vinyl Chloride	1	27.5515	0	50	55*	70	130
Chloroethane	1	35.6428	0	50	71	40	160
Trichlorofluoromethane	1	34.3064	0	50	69	40	160
Ethyl ether	1	19.6833	0	50	39*	70	130
Furan	1	46.0218	0	50	92	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	50.2931	0	50	101	70	130
Methylene Chloride	1	37.0844	0	50	74	70	130
Acrolein	1	141.7652	0	200	71	70	130
Acrylonitrile	1	47.154	0	50	94	70	130
Iodomethane	1	38.9723	0	50	78	70	130
Acetone	1	128.9512	0	200	64	40	160
Carbon Disulfide	1	38.331	0	50	77	40	160
t-Butyl Alcohol	1	160.899	0	200	80	70	130
n-Hexane	1	37.9811	0	50	76	70	130
Di-isopropyl-ether	1	32.3604	0	50	65*	70	130
1,1-Dichloroethene	1	37.6008	0	50	75	70	130
Methyl Acetate	1	68.2633	0	50	137*	70	130
Methyl-t-butyl ether	1	29.5406	0	50	59*	70	130
1,1-Dichloroethane	1	36.2099	0	50	72	70	130
trans-1,2-Dichloroethene	1	38.6455	0	50	77	70	130
Ethyl-t-butyl ether	1	29.2946	0	50	59*	70	130
cis-1,2-Dichloroethene	1	29.9139	0	50	60*	70	130
Bromochloromethane	1	42.6583	0	50	85	70	130
2,2-Dichloropropane	1	38.5601	0	50	77	70	130
Ethyl acetate	1	26.8743	0	50	54*	70	130
1,4-Dioxane	1	2233.513	0	2500	89	40	160
1,1-Dichloropropene	1	37.3321	0	50	75	70	130
Chloroform	1	35.9835	0	50	72	70	130
Cyclohexane	1	36.4297	0	50	73	70	130
1,2-Dichloroethane	1	36.958	0	50	74	70	130
2-Butanone	1	34.0396	0	50	68*	70	130
1,1,1-Trichloroethane	1	37.036	0	50	74	70	130
Carbon Tetrachloride	1	38.6227	0	50	77	70	130
Vinyl Acetate	1	24.2831	0	50	49*	70	130
Bromodichloromethane	1	36.6608	0	50	73	70	130
Methylcyclohexane	1	36.7191	0	50	73	70	130
Dibromomethane	1	41.3828	0	50	83	70	130
1,2-Dichloropropane	1	45.4081	0	50	91	70	130
Trichloroethene	1	35.9717	0	50	72	70	130
Benzene	1	41.9838	0	50	84	70	130
tert-Amyl methyl ether	1	28.0271	0	50	56*	70	130
Iso-propylacetate	1	17.059	0	50	34*	70	130
Methyl methacrylate	1	26.778	0	50	54*	70	130
Dibromochloromethane	1	32.9063	0	50	66*	70	130
2-Chloroethylvinylether	1	23.1432	0	50	46*	70	130
cis-1,3-Dichloropropene	1	23.1638	0	50	46*	70	130
trans-1,3-Dichloropropene	1	25.4204	0	50	51*	70	130
Ethyl methacrylate	1	16.2489	0	50	32*	70	130
1,1,2-Trichloroethane	1	35.4616	0	50	71	70	130
1,2-Dibromoethane	1	31.1137	0	50	62*	70	130
1,3-Dichloropropane	1	29.1555	0	50	58*	70	130
4-Methyl-2-Pentanone	1	21.3643	0	50	43	40	160
2-Hexanone	1	12.4024	0	50	25*	40	160
Tetrachloroethene	1	30.5745	0	50	61*	70	130
Toluene	1	27.4222	0	50	55*	70	130
1,1,1,2-Tetrachloroethane	1	35.1554	0	50	70	70	130
Chlorobenzene	1	29.7698	0	50	60*	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: MBS52808

n-Butyl acrylate	1	8.5948	0	50	17*	70	130
n-Amyl acetate	1	7.7541	0	50	16*	70	130
Bromoform	1	30.0502	0	50	60*	70	130
Ethylbenzene	1	25.9046	0	50	52*	70	130
1,1,2,2-Tetrachloroethane	1	29.9659	0	50	60*	70	130
Styrene	1	26.953	0	50	54*	70	130
m&p-Xylenes	1	52.9516	0	100	53*	70	130
o-Xylene	1	22.4633	0	50	45*	70	130
trans-1,4-Dichloro-2-butene	1	19.5299	0	50	39*	70	130
1,3-Dichlorobenzene	1	24.6429	0	50	49*	70	130
1,4-Dichlorobenzene	1	24.9455	0	50	50*	70	130
1,2-Dichlorobenzene	1	25.6148	0	50	51*	70	130
Isopropylbenzene	1	25.1688	0	50	50*	70	130
Cyclohexanone	1	136.8891	0	250	55*	70	130
Camphene	1	22.4301	0	50	45*	70	130
1,2,3-Trichloropropane	1	25.0086	0	50	50*	70	130
2-Chlorotoluene	1	28.0548	0	50	56*	70	130
p-Ethyltoluene	1	27.3	0	50	55*	70	130
4-Chlorotoluene	1	25.7	0	50	51*	70	130
n-Propylbenzene	1	27.311	0	50	55*	70	130
Bromobenzene	1	24.3955	0	50	49*	70	130
1,3,5-Trimethylbenzene	1	27.0398	0	50	54*	70	130
Butyl methacrylate	1	12.0638	0	50	24*	70	130
t-Butylbenzene	1	27.1079	0	50	54*	70	130
1,2,4-Trimethylbenzene	1	23.6878	0	50	47*	70	130
sec-Butylbenzene	1	23.9229	0	50	48*	70	130
4-Isopropyltoluene	1	25.4304	0	50	51*	70	130
n-Butylbenzene	1	23.5965	0	50	47*	70	130
p-Diethylbenzene	1	25.7512	0	50	52*	70	130
1,2,4,5-Tetramethylbenzene	1	17.2144	0	50	34*	70	130
1,2-Dibromo-3-Chloropropane	1	30.4372	0	50	61	40	160
Camphor	1	125.5103	0	500	25*	70	130
Hexachlorobutadiene	1	16.2793	0	50	33*	70	130
1,2,4-Trichlorobenzene	1	18.4121	0	50	37*	70	130
1,2,3-Trichlorobenzene	1	19.6235	0	50	39*	70	130
Naphthalene	1	18.2727	0	50	37*	40	160

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

**Form3
RPD Data**

QC Batch: MBS52808

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M37963.D	AC90773-004(MSD)	4/19/2016 3:47:00 PM
Duplicate(If applicable): 6M37962.D	AC90773-004(MS)	4/19/2016 3:31:00 PM
Inst Blank(If applicable):		
Method: 8260C	Matrix: Soil	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD	Sample/MS/MBS	RPD	Limit
		Conc	Conc		
Chlorodifluoromethane	1	55.5871	52.8263	5.1	30
Dichlorodifluoromethane	1	39.3746	45.6305	15	30
Chloromethane	1	41.8085	45.7432	9	30
Bromomethane	1	33.4718	37.8149	12	30
Vinyl Chloride	1	27.5515	35.9859	27	30
Chloroethane	1	35.6428	44.0606	21	30
Trichlorofluoromethane	1	34.3064	44.812	27	30
Ethyl ether	1	19.6833	22.7407	14	30
Furan	1	46.0218	58.1165	23	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1	50.2931	56.542	12	30
Methylene Chloride	1	37.0844	38.2555	3.1	30
Acrolein	1	141.7652	158.2375	11	30
Acrylonitrile	1	47.154	43.971	7	30
Iodomethane	1	38.9723	43.6732	11	30
Acetone	1	128.9512	223.4548	54*	30
Carbon Disulfide	1	38.331	44.0215	14	30
t-Butyl Alcohol	1	160.899	185.5449	14	30
n-Hexane	1	37.9811	49.0668	25	30
Di-isopropyl-ether	1	32.3604	37.5852	15	30
1,1-Dichloroethene	1	37.6008	43.3404	14	30
Methyl Acetate	1	68.2633	47.1632	37*	30
Methyl-t-butyl ether	1	29.5406	38.5072	26	30
1,1-Dichloroethane	1	36.2099	35.8913	0.88	30
trans-1,2-Dichloroethene	1	38.6455	42.9952	11	30
Ethyl-t-butyl ether	1	29.2946	32.1235	9.2	30
cis-1,2-Dichloroethene	1	29.9139	41.8297	33*	30
Bromochloromethane	1	42.6583	51.183	18	30
2,2-Dichloropropane	1	38.5601	43.1794	11	30
Ethyl acetate	1	26.8743	26.3051	2.1	30
1,4-Dioxane	1	2233.513	2254.505	0.94	30
1,1-Dichloropropene	1	37.3321	46.5296	22	30
Chloroform	1	35.9835	45.5149	23	30
Cyclohexane	1	36.4297	42.1036	14	30
1,2-Dichloroethane	1	36.958	33.2774	10	30
2-Butanone	1	34.0396	36.2382	6.3	30
1,1,1-Trichloroethane	1	37.036	44.0196	17	30
Carbon Tetrachloride	1	38.6227	44.9984	15	30
Vinyl Acetate	1	24.2831	29.5669	20	30
Bromodichloromethane	1	36.6608	39.6901	7.9	30
Methylcyclohexane	1	36.7191	45.1204	21	30
Dibromomethane	1	41.3828	43.6676	5.4	30
1,2-Dichloropropane	1	45.4081	57.4071	23	30
Trichloroethene	1	35.9717	42.6431	17	30
Benzene	1	41.9838	46.4715	10	30
tert-Amyl methyl ether	1	28.0271	34.9448	22	30
Iso-propylacetate	1	17.059	17.8389	4.5	30
Methyl methacrylate	1	26.778	36.5154	31*	30
Dibromochloromethane	1	32.9063	41.2517	23	30
2-Chloroethylvinylether	1	23.1432	27.4684	17	30
cis-1,3-Dichloropropene	1	23.1638	32.8911	35*	30
trans-1,3-Dichloropropene	1	25.4204	31.4561	21	30
Ethyl methacrylate	1	16.2489	18.2767	12	30
1,1,2-Trichloroethane	1	35.4616	39.0136	9.5	30
1,2-Dibromoethane	1	31.1137	32.058	3	30
1,3-Dichloropropane	1	29.1555	33.2983	13	30
4-Methyl-2-Pentanone	1	21.3643	27.2065	24	30
2-Hexanone	1	12.4024	21.1037	52*	30
Tetrachloroethene	1	30.5745	37.4392	20	30
Toluene	1	27.4222	33.3753	20	30
1,1,1,2-Tetrachloroethane	1	35.1554	34.387	2.2	30
Chlorobenzene	1	29.7698	37.9764	24	30
n-Butyl acrylate	1	8.5948	14.3427	50*	30
n-Amyl acetate	1	7.7541	11.4041	38*	30

Form3
RPD Data

QC Batch: MBS52808

Bromoform	1	30.0502	29.4899	1.9	30
Ethylbenzene	1	25.9046	32.3342	22	30
1,1,2,2-Tetrachloroethane	1	29.9659	33.3641	11	30
Styrene	1	26.953	34.5905	25	30
m&p-Xylenes	1	52.9516	65.2173	21	30
o-Xylene	1	22.4633	31.726	34*	30
trans-1,4-Dichloro-2-butene	1	19.5299	29.9211	42*	30
1,3-Dichlorobenzene	1	24.6429	31.1146	23	30
1,4-Dichlorobenzene	1	24.9455	33.3526	29	30
1,2-Dichlorobenzene	1	25.6148	31.9709	22	30
Isopropylbenzene	1	25.1688	31.1331	21	30
Cyclohexanone	1	136.8891	158.4129	15	30
Camphene	1	22.4301	28.3313	23	30
1,2,3-Trichloropropane	1	25.0086	32.061	25	30
2-Chlorotoluene	1	28.0548	29.8724	6.3	30
p-Ethyltoluene	1	27.3	37.2643	31*	30
4-Chlorotoluene	1	25.7	33.5245	26	30
n-Propylbenzene	1	27.311	34.1342	22	30
Bromobenzene	1	24.3955	30.5826	23	30
1,3,5-Trimethylbenzene	1	27.0398	31.8641	16	30
Butyl methacrylate	1	12.0638	16.5041	31*	30
t-Butylbenzene	1	27.1079	35.0773	26	30
1,2,4-Trimethylbenzene	1	23.6878	30.941	27	30
sec-Butylbenzene	1	23.9229	31.5511	28	30
4-Isopropyltoluene	1	25.4304	29.3367	14	30
n-Butylbenzene	1	23.5965	29.3583	22	30
p-Diethylbenzene	1	25.7512	33.2481	25	30
1,2,4,5-Tetramethylbenzene	1	17.2144	18.4851	7.1	30
1,2-Dibromo-3-Chloropropane	1	30.4372	34.5857	13	30
Camphor	1	125.5103	117.1358	6.9	30
Hexachlorobutadiene	1	16.2793	23.2891	35*	30
1,2,4-Trichlorobenzene	1	18.4121	23.1135	23	30
1,2,3-Trichlorobenzene	1	19.6235	24.5495	22	30
Naphthalene	1	18.2727	20.5931	12	30

* - Indicates outside of limits

NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 6M37884.D
Matrix: Soil

Blank Analysis Date: 04/18/16 11:28
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
AC90773-001	6M37908.D	04/18/16 18:10
AC90773-002	6M37921.D	04/18/16 21:48
AC90773-003	6M37922.D	04/18/16 22:04
MBS52796	6M37886.D	04/18/16 12:02

FORM 4
Blank SummaryBlank Number: DAILY BLANK
Blank Data File: 6M37946.D
Matrix: SoilBlank Analysis Date: 04/19/16 11:03
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
AC90773-004	6M37955.D	04/19/16 13:34
AC90773-009	6M37966.D	04/19/16 16:37
AC90773-010	6M37956.D	04/19/16 13:51
AC90773-011	6M37957.D	04/19/16 14:08
AC90773-004(MSD)	6M37963.D	04/19/16 15:47
AC90773-004(MS)	6M37962.D	04/19/16 15:31
MBS52808	6M37949.D	04/19/16 11:54

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 3M89286.D
Matrix: Aqueous

Blank Analysis Date: 04/19/16 17:30
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
AC90773-012	3M89290.D	04/19/16 18:34
AC90773-014	3M89291.D	04/19/16 18:49
MBS52816	3M89289.D	04/19/16 18:18

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M37635A.D
Analysis Date: 04/12/16 15:32
Method: EPA 8260C

Tune Scan/Time Range: Average of 3.693 to 3.732 min

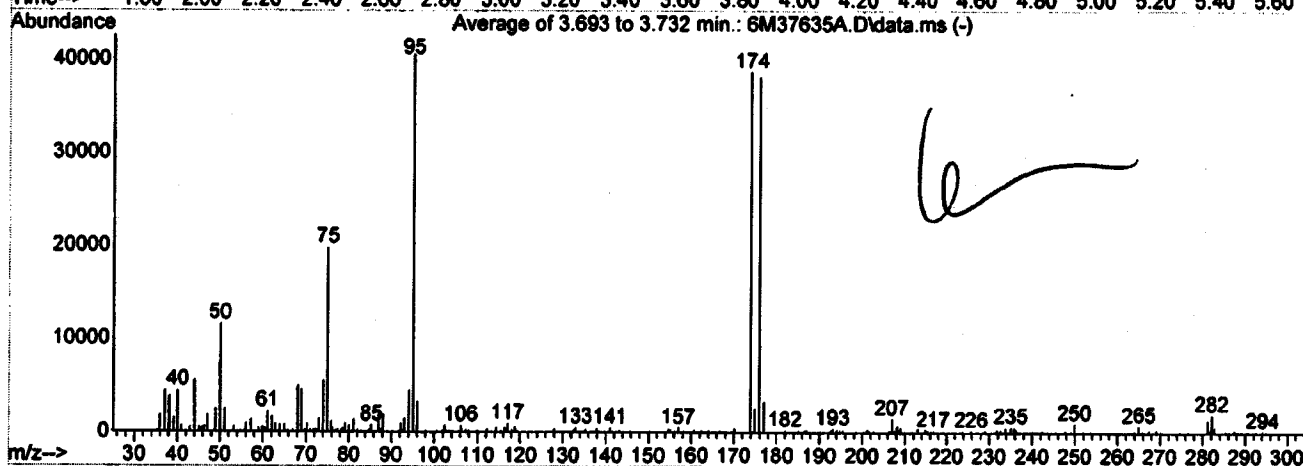
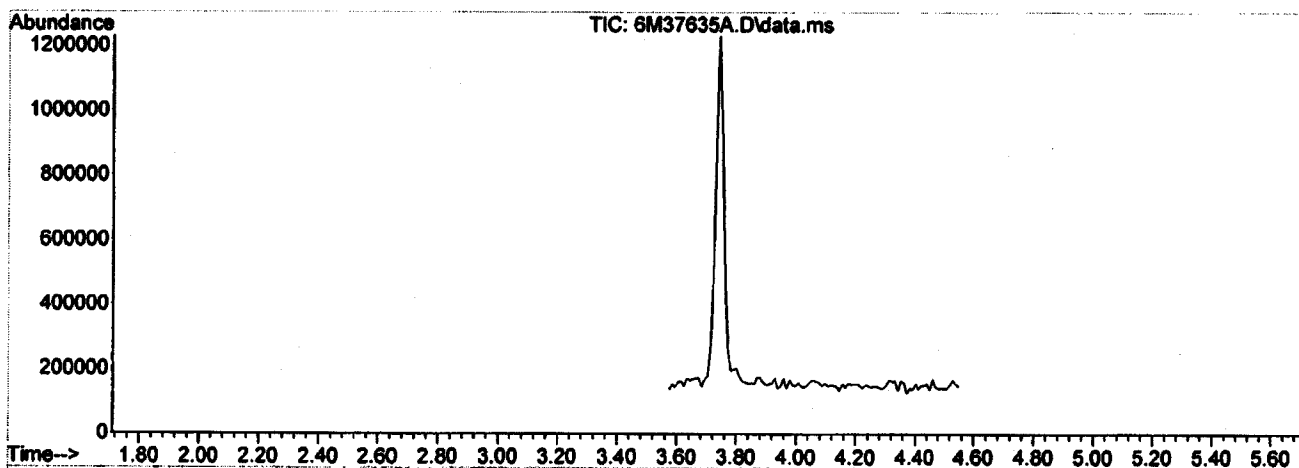
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	28.6	11582	PASS
75	95	30	60	48.8	19789	PASS
95	95	100	100	100.0	40547	PASS
96	95	5	9	8.1	3267	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	95.3	38653	PASS
175	174	5	9	6.5	2529	PASS
176	174	95	101	98.5	38086	PASS
177	176	5	9	8.7	3300	PASS

Data File	Sample Number	Analysis Date:
6M37636.D	CAL@ 0.5 PPB	04/12/16 15:42
6M37637.D	CAL@ 1 PPB	04/12/16 15:59
6M37638.D	CAL@ 2 PPB	04/12/16 16:16
6M37639.D	CAL@ 5 PPB	04/12/16 16:33
6M37640.D	CAL@ 20 PPB	04/12/16 16:49
6M37641.D	CAL@ 50 PPB	04/12/16 17:06
6M37642.D	CAL@ 500 PPB	04/12/16 17:23
6M37643.D	CAL@ 250 PPB	04/12/16 17:39
6M37644.D	CAL@ 100 PPB	04/12/16 17:56
6M37645.D	BLK	04/12/16 18:09
6M37646.D	ICV	04/12/16 18:29

Data Path : G:\GcMsData\2016\GCMS_6\Data\04-12-16\
 Data File : 6M37635A.D
 Acq On : 12 Apr 2016 15:32
 Operator : WP
 Sample : BFB TUNE
 Misc : S,5g
 ALS Vial : 7 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2016\GCMS_6\MethodQt\6M_S0405.M
 Title : @GCMS_6,ug,624,8260
 Last Update : Tue Apr 05 21:08:30 2016



Spectrum Information: Average of 3.693 to 3.732 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	28.6	11582	PASS
75	95	30	60	48.8	19789	PASS
95	95	100	100	100.0	40547	PASS
96	95	5	9	8.1	3267	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	95.3	38653	PASS
175	174	5	9	6.5	2529	PASS
176	174	95	101	98.5	38086	PASS
177	176	5	9	8.7	3300	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 3

Data File: 3M89149.D
Analysis Date: 04/15/16 17:47
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.369 to 4.369 min

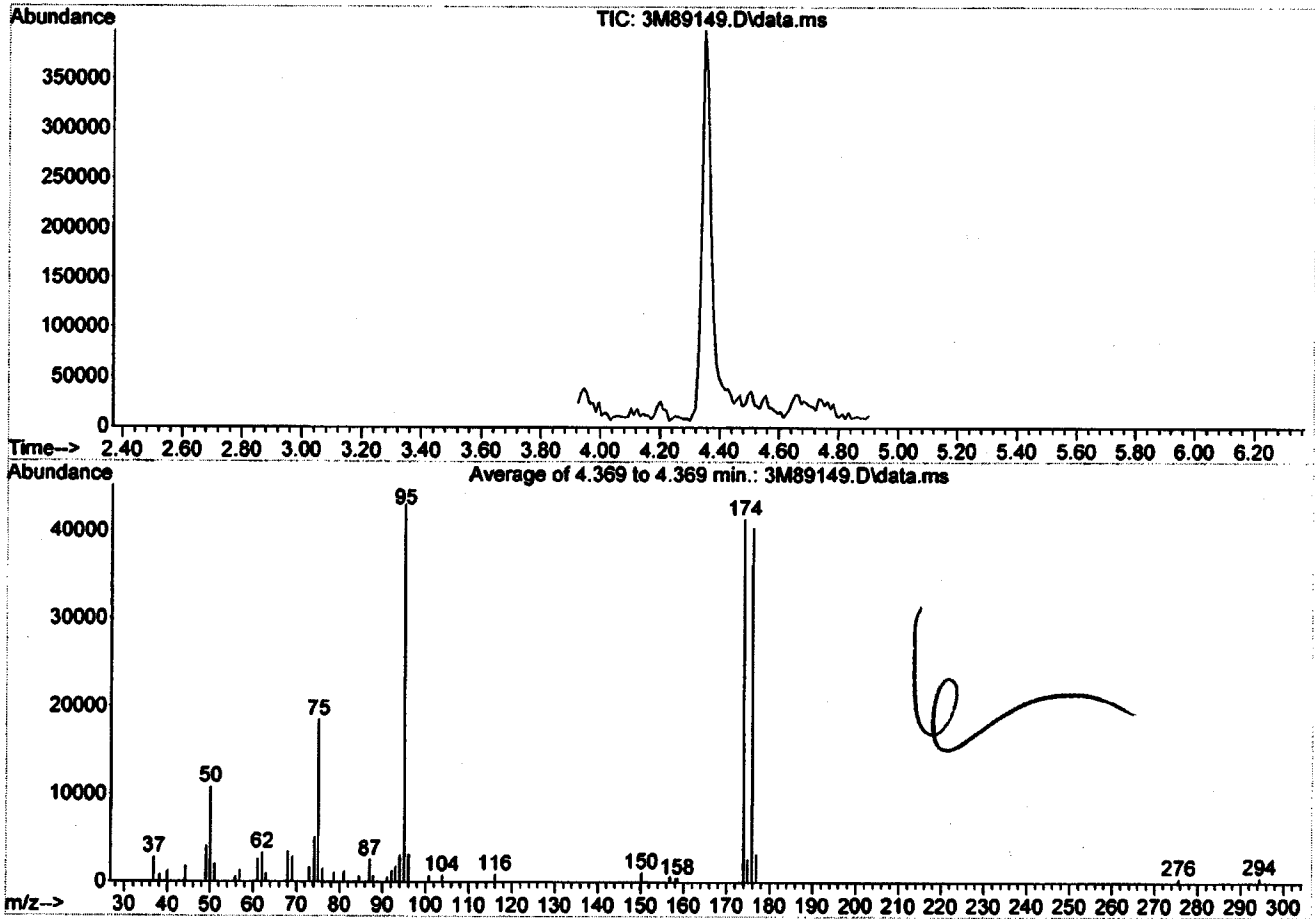
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	25.1	10815	PASS
75	95	30	60	42.9	18456	PASS
95	95	100	100	100.0	43048	PASS
96	95	5	9	7.4	3201	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.1	41368	PASS
175	174	5	9	6.4	2654	PASS
176	174	95	101	97.7	40432	PASS
177	176	5	9	8.0	3218	PASS

Data File	Sample Number	Analysis Date:
3M89150.D	1 PPB	04/15/16 18:02
3M89151.D	0.5 PPB	04/15/16 18:21
3M89152.D	CAL @ 0.5 PPB	04/15/16 18:41
3M89153.D	CAL @ 1 PPB	04/15/16 18:57
3M89154.D	CAL @ 5 PPB	04/15/16 19:13
3M89155.D	CAL @ 10 PPB	04/15/16 19:29
3M89156.D	CAL @ 20 PPB	04/15/16 19:45
3M89157.D	CAL @ 500 PPB	04/15/16 20:01
3M89160.D	CAL @ 250 PPB	04/15/16 20:48
3M89163.D	CAL @ 100 PPB	04/15/16 21:36
3M89165.D	CAL @ 50 PPB	04/15/16 22:08
3M89167.D	ICV	04/15/16 22:40
3M89168.D	ICV	04/15/16 22:56
3M89169.D	BLK	04/15/16 23:11
3M89170.D	DAILY BLANK	04/15/16 23:27
3M89171.D	DAILY BLANK	04/15/16 23:43
3M89172.D	90778-001	04/15/16 23:59
3M89173.D	90778-006	04/16/16 00:15
3M89174.D	90778-008	04/16/16 00:31
3M89175.D	90778-009	04/16/16 00:47
3M89176.D	90778-010	04/16/16 01:03
3M89177.D	90778-016	04/16/16 01:18
3M89178.D	MBS52795	04/16/16 01:34
3M89179.D	BLK	04/16/16 01:50

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-15-16\
 Data File : 3M89149.D
 Acq On : 15 Apr 2016 17:47
 Operator : WP
 Sample : BFB TUNE
 Misc : A,5ML
 ALS Vial : 11 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2016\GCMS_3\MethodQt\3M_A0406.M
 Title : @GCMS_3,ug,624,8260
 Last Update : Wed Apr 06 18:51:30 2016



Spectrum Information: Average of 4.369 to 4.369 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.1	10815	PASS
75	95	30	60	42.9	18456	PASS
95	95	100	100	100.0	43048	PASS
96	95	5	9	7.4	3201	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.1	41368	PASS
175	174	5	9	6.4	2654	PASS
176	174	95	101	97.7	40432	PASS
177	176	5	9	8.0	3218	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M37879.D
Analysis Date: 04/18/16 10:08
Method: EPA 8260C

Tune Scan/Time Range: Average of 3.724 to 3.734 min

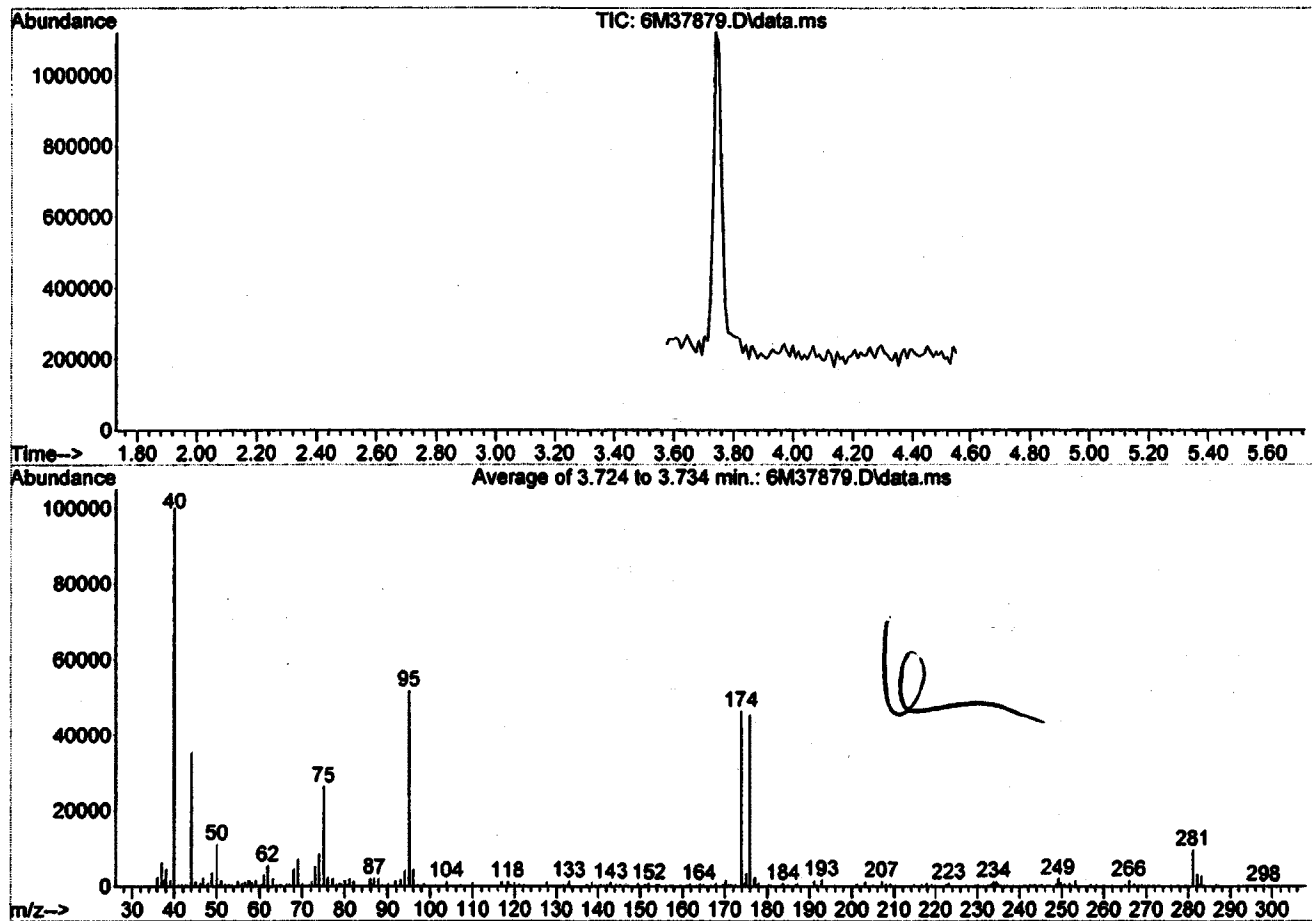
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	21.4	11088	PASS
75	95	30	60	50.7	26275	PASS
95	95	100	100	100.0	51780	PASS
96	95	5	9	8.6	4460	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	89.4	46296	PASS
175	174	5	9	7.3	3397	PASS
176	174	95	101	97.8	45298	PASS
177	176	5	9	5.1	2317	PASS

Data File	Sample Number	Analysis Date:
6M37880.D	BLK	04/18/16 10:18
6M37881.D	CAL @ 50 PPB	04/18/16 10:35
6M37883.D	BLK	04/18/16 11:08
6M37884.D	DAILY BLANK	04/18/16 11:26
6M37885.D	BLK	04/18/16 11:42
6M37886.D	MBS52796	04/18/16 12:02
6M37887.D	BLK	04/18/16 12:19
6M37888.D	AC90778-001	04/18/16 12:35
6M37889.D	AC90778-008	04/18/16 12:52
6M37890.D	AC90778-009	04/18/16 13:09
6M37891.D	AC90778-010	04/18/16 13:25
6M37892.D	AC90778-016	04/18/16 13:42
6M37893.D	AC90778-006	04/18/16 13:59
6M37894.D	AC90745-002	04/18/16 14:18
6M37895.D	AC90791-001	04/18/16 14:35
6M37896.D	AC90791-002(5X)	04/18/16 14:51
6M37897.D	AC90711-003(5X)	04/18/16 15:08
6M37898.D	AC90778-002(MS)	04/18/16 15:25
6M37899.D	AC90778-003(MSD)	04/18/16 15:41
6M37900.D	AC90797-004	04/18/16 15:58
6M37901.D	AC90797-005	04/18/16 16:15
6M37902.D	AC90797-006	04/18/16 16:32
6M37903.D	BLK	04/18/16 16:48
6M37904.D	AC90797-009	04/18/16 17:05
6M37905.D	AC90797-010	04/18/16 17:22
6M37906.D	AC90778-033	04/18/16 17:38
6M37907.D	MBS52805	04/18/16 17:55
6M37908.D	AC90773-001	04/18/16 18:10
6M37909.D	AC90778-019	04/18/16 18:28
6M37910.D	AC90778-022	04/18/16 18:45
6M37911.D	AC90778-029	04/18/16 19:02
6M37912.D	AC90778-030	04/18/16 19:18
6M37913.D	AC90778-032	04/18/16 19:35
6M37914.D	AC90778-035	04/18/16 19:51
6M37915.D	AC90778-038	04/18/16 20:08
6M37916.D	AC90789-008(5X)	04/18/16 20:25
6M37917.D	AC90789-011(5X)	04/18/16 20:41
6M37918.D	AC90789-009	04/18/16 20:58
6M37919.D	AC90781-001(5X)	04/18/16 21:14
6M37920.D	MBS52806	04/18/16 21:31
6M37921.D	AC90773-002	04/18/16 21:48
6M37922.D	AC90773-003	04/18/16 22:04
6M37923.D	AC90773-004	04/18/16 22:18
6M37924.D	AC90773-010	04/18/16 22:34
6M37925.D	AC90773-011	04/18/16 22:51
6M37926.D	MBS52807	04/18/16 23:10
6M37927.D	BLK	04/18/16 23:27
6M37928.D	BLK	04/18/16 23:44
6M37929.D	BLK	04/19/16 00:01
6M37930.D	BLK	04/19/16 00:17

Data Path : G:\GCMSDATA\2016\GCMS_6\DATA\04-18-16\
 Data File : 6M37879.D
 Acq On : 18 Apr 2016 10:08
 Operator : SG
 Sample : BFB TUNE
 Misc : S,5g
 ALS Vial : 8 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2016\GCMS_6\MethodQt\6M_S0412.M
 Title : @GCMS_6,ug,624,8260
 Last Update : Tue Apr 12 19:00:01 2016



Spectrum Information: Average of 3.724 to 3.734 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.4	11088	PASS
75	95	30	60	50.7	26275	PASS
95	95	100	100	100.0	51780	PASS
96	95	5	9	8.6	4460	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	89.4	46296	PASS
175	174	5	9	7.3	3397	PASS
176	174	95	101	97.8	45298	PASS
177	176	5	9	5.1	2317	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M37941.D
Analysis Date: 04/19/16 09:35
Method: EPA 8260C

Tune Scan/Time Range: Average of 3.749 to 3.759 min

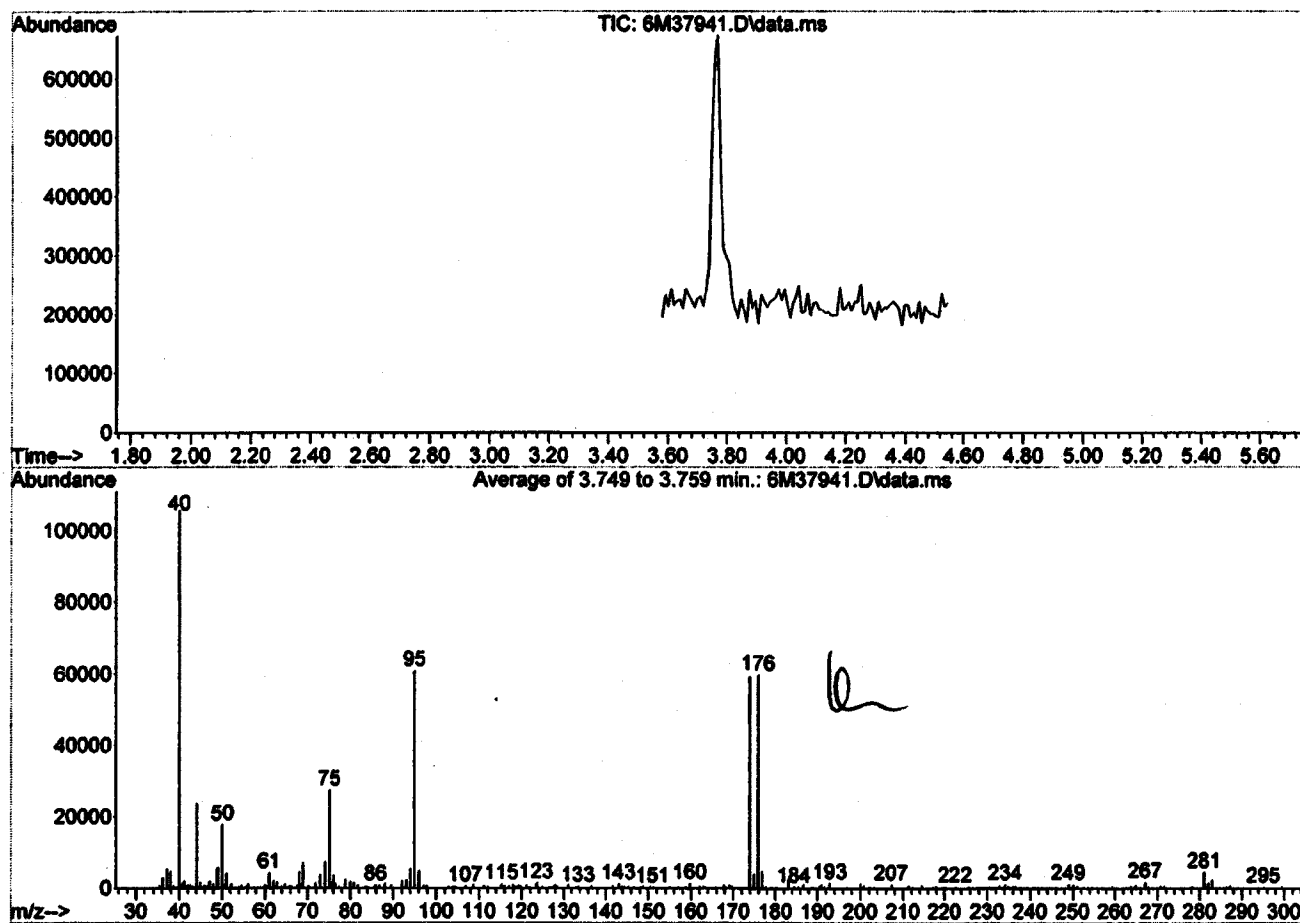
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	29.1	17730	PASS
75	95	30	60	44.9	27352	PASS
95	95	100	100	100.0	60900	PASS
96	95	5	9	8.3	5029	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	97.5	59364	PASS
175	174	5	9	6.7	3961	PASS
176	174	95	101	100.7	59796	PASS
177	176	5	9	8.0	4755	PASS

Data File	Sample Number	Analysis Date:
6M37942.D	BLK	04/19/16 09:48
6M37943.D	50 PPB	04/19/16 10:04
6M37944.D	CAL @ 50 PPB	04/19/16 10:21
6M37945.D	BLK	04/19/16 10:38
6M37946.D	DAILY BLANK	04/19/16 11:03
6M37947.D	BLK	04/19/16 11:20
6M37948.D	AC90789-011	04/19/16 11:37
6M37949.D	MBS52808	04/19/16 11:54
6M37950.D	AC90789-004	04/19/16 12:10
6M37951.D	AC90766-001	04/19/16 12:27
6M37952.D	AC90751-002	04/19/16 12:44
6M37953.D	AC90751-001	04/19/16 13:01
6M37954.D	AC90789-005	04/19/16 13:17
6M37955.D	AC90773-004	04/19/16 13:34
6M37956.D	AC90773-010	04/19/16 13:51
6M37957.D	AC90773-011	04/19/16 14:08
6M37958.D	AC90778-039	04/19/16 14:24
6M37959.D	AC90778-041	04/19/16 14:41
6M37960.D	AC90778-044	04/19/16 14:58
6M37961.D	AC90778-045	04/19/16 15:14
6M37962.D	AC90773-004(MS)	04/19/16 15:31
6M37963.D	AC90773-004(MSD)	04/19/16 15:47
6M37964.D	AC90625-005	04/19/16 16:04
6M37965.D	BLK	04/19/16 16:21
6M37966.D	AC90773-009	04/19/16 16:37
6M37967.D	AC90799-002	04/19/16 16:54
6M37968.D	AC90799-004	04/19/16 17:10
6M37969.D	AC90799-005	04/19/16 17:27
6M37970.D	AC90799-006	04/19/16 17:44
6M37971.D	BLK	04/19/16 18:01
6M37972.D	AC90625-005	04/19/16 18:17
6M37973.D	AC90778-050	04/19/16 18:34
6M37974.D	MBS52818	04/19/16 18:51
6M37975.D	STD	04/19/16 19:09
6M37976.D	AC90773-011(MS)	04/19/16 19:25
6M37977.D	AC90773-011(MSD)	04/19/16 19:42
6M37978.D	BLK	04/19/16 19:59
6M37979.D	BLK	04/19/16 20:15
6M37980.D	BLK	04/19/16 20:32

Data Path : G:\GCMSDATA\2016\GCMS_6\DATA\04-19-16\
 Data File : 6M37941.D
 Acq On : 19 Apr 2016 9:35
 Operator : SG
 Sample : BFB TUNE
 Misc : S,5g
 ALS Vial : 11 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2016\GCMS_6\MethodQt\6M_S0412.M
 Title : @GCMS_6,ug,624,8260
 Last Update : Tue Apr 12 19:00:01 2016



Spectrum Information: Average of 3.749 to 3.759 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.1	17730	PASS
75	95	30	60	44.9	27352	PASS
95	95	100	100	100.0	60900	PASS
96	95	5	9	8.3	5029	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	97.5	59364	PASS
175	174	5	9	6.7	3961	PASS
176	174	95	101	100.7	59796	PASS
177	176	5	9	8.0	4755	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 3

Data File: 3M89281.D
Analysis Date: 04/19/16 16:16
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.265 to 4.344 min

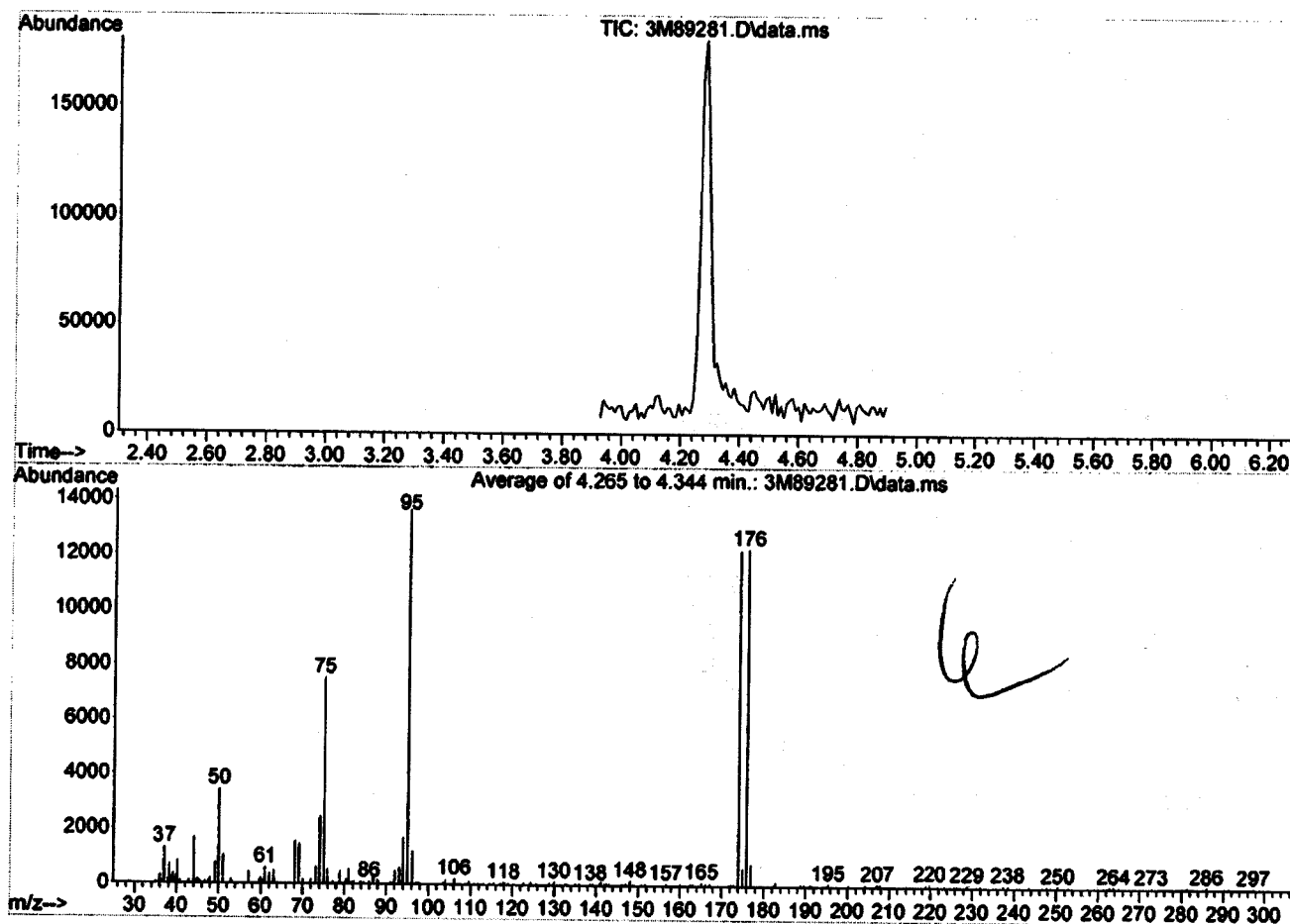
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	25.2	3432	PASS
75	95	30	60	55.1	7513	PASS
95	95	100	100	100.0	13634	PASS
96	95	5	9	8.9	1216	PASS
173	174	0.00	2	0.6	72	PASS
174	95	50	100	89.6	12211	PASS
175	174	5	9	5.4	658	PASS
176	174	95	101	100.4	12258	PASS
177	176	5	9	6.6	805	PASS

Data File	Sample Number	Analysis Date:
3M89282.D	CAL @ 20 PPB	04/19/16 16:28
3M89283.D	20 PPB	04/19/16 16:42
3M89284.D	BLK	04/19/16 16:58
3M89285.D	DAILY BLANK	04/19/16 17:14
3M89286.D	DAILY BLANK	04/19/16 17:30
3M89287.D	AC90767-003	04/19/16 17:46
3M89288.D	MBS52815	04/19/16 18:02
3M89289.D	MBS52816	04/19/16 18:18
3M89290.D	AC90773-012	04/19/16 18:34
3M89291.D	AC90773-014	04/19/16 18:49
3M89292.D	AC90777-005	04/19/16 19:05
3M89293.D	AC90777-006	04/19/16 19:21
3M89294.D	AC90767-004	04/19/16 19:37
3M89295.D	AC90774-002	04/19/16 19:53
3M89296.D	AC90774-003	04/19/16 20:09
3M89297.D	AC90780-002	04/19/16 20:25
3M89298.D	AC90780-003	04/19/16 20:41
3M89299.D	AC90770-001	04/19/16 20:57
3M89300.D	BLK	04/19/16 21:13
3M89301.D	AC90771-008	04/19/16 21:28
3M89302.D	AC90771-009	04/19/16 21:44
3M89303.D	AC90771-010	04/19/16 22:00
3M89304.D	AC90771-011	04/19/16 22:16
3M89305.D	AC90771-012	04/19/16 22:32
3M89306.D	AC90771-013	04/19/16 22:48
3M89307.D	AC90771-014	04/19/16 23:04
3M89308.D	AC90771-015	04/19/16 23:20
3M89309.D	AC90771-016	04/19/16 23:35
3M89310.D	AC90771-017	04/19/16 23:51
3M89311.D	AC90795-001(MS)	04/20/16 00:07
3M89312.D	AC90795-001(MSD)	04/20/16 00:23
3M89313.D	MBS52817	04/20/16 00:39
3M89314.D	AC90780-001	04/20/16 00:55
3M89315.D	AC90777-001	04/20/16 01:11
3M89316.D	AC90777-003	04/20/16 01:27
3M89317.D	AC90777-004	04/20/16 01:42
3M89318.D	AC90777-002	04/20/16 01:58
3M89319.D	AC90793-001	04/20/16 02:14
3M89320.D	AC90774-001	04/20/16 02:30
3M89321.D	AC90797-003	04/20/16 02:46
3M89322.D	AC90797-001	04/20/16 03:02
3M89323.D	AC90797-007(400u)	04/20/16 03:17
3M89324.D	AC90797-008(400u)	04/20/16 03:33
3M89325.D	AC90797-002(80uL)	04/20/16 03:49
3M89326.D	AC90797-011(80uL)	04/20/16 04:05
3M89327.D	AC90767-002	04/20/16 04:20
3M89328.D	STD	04/20/16 04:36
3M89329.D	STD	04/20/16 04:52
3M89330.D	BLK	04/20/16 05:08
3M89331.D	BLK	04/20/16 05:24

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-1916\
 Data File : 3M89281.D
 Acq On : 19 Apr 2016 16:16
 Operator : WP
 Sample : BFB TUNE
 Misc : A,5ML
 ALS Vial : 34 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2016\GCMS_3\MethodQt\3M_A0415.M
 Title : @GCMS_3,ug,624,8260
 Last Update : Mon Apr 18 11:36:30 2016



Spectrum Information: Average of 4.265 to 4.344 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.2	3432	PASS
75	95	30	60	55.1	7513	PASS
95	95	100	100	100.0	13634	PASS
96	95	5	9	8.9	1216	PASS
173	174	0.00	2	0.6	72	PASS
174	95	50	100	89.6	12211	PASS
175	174	5	9	5.4	658	PASS
176	174	95	101	100.4	12258	PASS
177	176	5	9	6.6	805	PASS

Form 6

Initial Calibration

Method: EPA 8260C

Instrument: GCMS_6

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Calibration Level Concentrations																					
1	6M37640.D	CAL@ 20 PPB	04/12/16 16:49	2	6M37639.D	CAL@ 5 PPB	04/12/16 16:33	Lvl1 Lvl2 Lvl3 Lvl4 Lvl5 Lvl6 Lvl7 Lvl8 Lvl9																					
3	6M37638.D	CAL@ 2 PPB	04/12/16 16:16	4	6M37641.D	CAL@ 50 PPB	04/12/16 17:06																						
5	6M37644.D	CAL@ 100 PPB	04/12/16 17:56	6	6M37643.D	CAL@ 250 PPB	04/12/16 17:39																						
7	6M37642.D	CAL@ 500 PPB	04/12/16 17:23	8	6M37637.D	CAL@ 1 PPB	04/12/16 15:59																						
9	6M37636.D	CAL@ 0.5 PPB	04/12/16 15:42																										
Compound	Col	Mf	Fit	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9			
p-Ethyltoluene	1	0	Avg	6.1555	4.3804	5.7346	6.7222	6.3178	6.0940	4.9167	---	---	5.76	6.70	0.986	1.00	14	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	500.0			
4-Chlorotoluene	1	0	Avg	4.4421	3.3689	4.4505	4.8591	4.5905	4.3577	3.3516	---	---	4.20	6.75	0.979	1.00	14	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	500.0			
n-Propylbenzene	1	0	Avg	8.7648	7.0725	7.9005	9.0654	8.3899	8.5525	6.6475	6.9670	---	---	7.92	6.64	0.983	0.999	12	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0			
Bromobenzene	1	0	Avg	3.0969	2.5263	3.5073	3.2167	2.9627	3.3597	2.8005	---	---	---	---	3.07	6.60	0.991	0.998	11	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0		
1,3,5-Trimethylbenzen	1	0	Avg	4.7514	4.9618	5.3796	5.3594	5.0084	5.0729	4.1413	3.4457	---	---	---	---	4.77	6.73	0.989	0.999	14	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
Butyl methacrylate	1	0	Qua	1.7563	1.6812	1.0278	2.4621	2.5695	2.7360	2.2588	---	---	---	---	2.07	6.75	0.990	0.999	29	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0		
n-Butylbenzene	1	0	Avg	4.0983	3.2055	4.6430	4.9989	4.7234	4.7216	3.9112	3.5755	---	---	---	---	4.23	6.91	0.990	1.00	15	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
1,2,4-Trimethylbenzen	1	0	Avg	4.3590	3.8515	6.0042	4.8820	4.7313	4.8594	4.1060	4.4133	---	---	---	---	4.65	6.93	0.993	0.999	14	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
sec-Butylbenzene	1	0	Avg	6.4313	6.2060	6.9967	7.6876	6.8841	7.1276	5.8282	6.4697	---	---	---	---	6.70	7.02	0.989	0.999	8.8	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
4-Isopropyltoluene	1	0	Avg	4.9168	3.6853	4.4812	5.4079	5.3330	5.1124	3.8797	4.6696	---	---	---	---	4.69	7.10	0.978	0.999	14	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
n-Butylbenzene	1	0	Avg	7.4862	5.9841	5.6642	8.2367	7.5239	7.3486	5.7744	5.2474	---	---	---	---	6.66	7.32	0.984	1.00	17	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
p-Diethylbenzene	1	0	Avg	2.4367	2.6151	2.2743	3.1415	2.8813	2.9996	2.4158	---	---	---	---	---	2.68	7.31	0.987	0.999	12	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
1,2,4,5-Tetramethylbe	1	0	Qua	2.0446	2.1014	2.1498	2.6946	3.3686	3.5278	2.9846	---	---	---	---	---	2.70	7.75	0.982	0.998	23	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
1,2-Dibromo-3-Chloro	1	0	Qua	0.0538	0.0754	0.0316	0.1125	0.0889	0.0709	---	---	---	---	---	---	0.07	48.778	0.982	0.998	35	0.05	a	20.00	5.00	2.00	50.00	100.0	250.0	500.0
Camphor	1	0	Qua	0.0286	0.0403	0.0858	0.0452	0.0753	0.0724	0.0513	---	---	---	---	---	0.05	70.820	0.960	0.994	37	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
Hexachlorobutadiene	1	0	Avg	1.4951	1.4797	2.1348	1.6873	1.5437	1.6128	1.2036	---	---	---	---	---	1.59	8.35	0.976	0.998	18	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
1,2,4-Trichlorobenzen	1	0	Avg	1.1579	0.9900	1.1296	1.1608	1.0961	1.1005	0.9643	---	---	---	---	---	1.09	8.27	0.995	1.00	7.2	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0	
1,2,3-Trichlorobenzen	1	0	Avg	0.6104	0.7087	0.8427	0.7753	0.9019	0.8570	0.7207	---	---	---	---	---	0.77	4.854	0.991	0.999	13	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	
Naphthalene	1	0	Avg	0.8598	0.8059	1.2614	1.0369	1.2432	1.2588	0.9909	1.0638	---	---	---	---	1.07	8.41	0.984	0.998	17	20.00	5.00	2.00	50.00	100.0	250.0	500.0	500.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria (if applicable)

Note:
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.
Fit = Indicates whether Avg Rt, Linear, or Quadratic Curve was used for compound.

Level #:	Data File:	Analysis Date/Time										Level #:	Data File:	Analysis Date/Time															
		Cal Identifier:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9			AvgRt	RT	Corr1	Corr2	%Rsd	Cal Identifier:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRt	RT	Corr1	Corr2	%Rsd
1	3M89156.D	CAL @ 20 PPB										2	3M89154.D	CAL @ 5 PPB															
3	3M89155.D	CAL @ 10 PPB										4	3M89165.D	CAL @ 50 PPB															
5	3M89163.D	CAL @ 100 PPB										6	3M89160.D	CAL @ 250 PPB															
7	3M89157.D	CAL @ 500 PPB										8	3M89153.D	CAL @ 1 PPB															
9	3M89152.D	CAL @ 0.5 PPB																											

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria (if applicable)

Note:
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.
Flg = Indicates whether Avg Rf, Linear, or Quadratic Curve was used for compound

Level #	Data File	Cal Identifier	Analysis Date/Time	Level #	Data File	Cal Identifier	Analysis Date/Time	Calibration Level Concentrations								
1	3M89156.D	CAL @ 20 PPB	04/15/16 19:45	2	3M89154.D	CAL @ 5 PPB	04/15/16 19:13	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
1	3M89156.D	CAL @ 20 PPB	04/15/16 19:45	2	3M89154.D	CAL @ 5 PPB	04/15/16 19:13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1.00
3	3M89155.D	CAL @ 10 PPB	04/15/16 19:29	4	3M89165.D	CAL @ 50 PPB	04/15/16 22:08	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1.00
5	3M89163.D	CAL @ 100 PPB	04/15/16 21:36	6	3M89160.D	CAL @ 250 PPB	04/15/16 20:48	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1.00
7	3M89157.D	CAL @ 500 PPB	04/15/16 20:01	8	3M89153.D	CAL @ 1 PPB	04/15/16 18:57	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1.00
9	3M89152.D	CAL @ 0.5 PPB	04/15/16 18:41					20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1.00

Notes:
 Corr 1 = Correlation Coefficient for linear Eq.
 Corr 2 = Correlation Coefficient for quad Eq.
 Fh = Indicates whether Avg. R², Linear, or Quadratic Curve was used for compound.
 Avg Rsd: 16.1
 Page 2 of 3

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	3M89156.D	CAL @ 20 PPB	04/15/16 19:45	2	3M89154.D	CAL @ 5 PPB	04/15/16 19:13
3	3M89155.D	CAL @ 10 PPB	04/15/16 19:29	4	3M89165.D	CAL @ 50 PPB	04/15/16 22:08
5	3M89163.D	CAL @ 100 PPB	04/15/16 21:36	6	3M89160.D	CAL @ 250 PPB	04/15/16 20:48
7	3M89157.D	CAL @ 500 PPB	04/15/16 20:01	8	3M89153.D	CAL @ 1 PPB	04/15/16 18:57
9	3M89152.D	CAL @ 0.5 PPB	04/15/16 18:41				

Compound	Col Mfr	F1	F2	F3	F4	F5	F6	F7	F8	F9	AvgRt	RT	Corr1	Corr2	%Red	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
d-Ethyltoluene	1	0	Avg	2.2207	1.9947	1.9478	1.9298	1.8856	1.6120	1.4595	1.9709	1.887.20	0.996	0.999	13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
4-Chlorotoluene	1	0	Avg	1.3420	1.2463	1.1702	1.3040	1.2274	1.2341	1.0670	1.1171	1.217.27	0.995	1.00	7.6	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
n-Propylbenzene	1	0	Avg	2.3278	2.0845	2.2388	2.2699	2.2081	2.1162	1.9235	2.4760	2.217.13	0.998	1.00	7.6	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
Bromobenzene	1	0	Avg	1.8979	1.5054	1.8207	1.8228	1.7474	1.5889	1.2961	1.3054	1.627.10	0.987	1.00	15	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
1,3,5-Trimethylbenzen	1	0	Avg	1.9338	1.9697	1.6113	1.6405	1.6027	1.4637	1.2291	1.5765	1.637.23	0.991	1.00	15	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
Butyl methacrylate	1	0	Qua	1.1991	1.1077	0.8366	1.2248	1.2536	1.2991	1.1842	0.4657	1.077.25	0.998	1.00	26	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
t-Butylbenzene	1	0	Avg	1.6404	1.3723	1.2550	1.4446	1.4160	1.3411	1.2510	1.0441	1.357.44	0.998	1.00	13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
1,2,4-Trimethylbenzen	1	0	Avg	1.9908	2.0038	1.7561	1.8036	1.7954	1.6644	1.4745	1.6104	1.767.47	0.996	1.00	10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
sec-Butylbenzene	1	0	Avg	1.7366	1.5064	1.4861	1.6407	1.6239	1.5428	1.4669	1.9573	1.627.58	0.999	1.00	10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
4-Isopropyltoluene	1	0	Avg	1.6482	1.2307	1.2887	1.4746	1.3582	1.2423	1.1058	1.4497	1.357.65	0.996	1.00	13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
n-Butylbenzene	1	0	Avg	1.5476	1.3826	1.3704	1.5588	1.5201	1.4652	1.4130	1.1218	1.427.91	1.00	1.00	10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
p-Diethylbenzene	1	0	Avg	0.9041	0.7658	0.7030	0.8153	0.7987	0.7648	0.7066	0.8276	0.7867.89	0.998	1.00	8.4	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
1,2,4,5-Tetramethylbe	1	0	Avg	1.4946	1.0220	1.0634	1.3938	1.2738	1.3719	1.2523	1.1689	1.258.40	0.998	0.999	13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
1,2-Dibromo-3-Chloro	1	0	Avg	0.1987	0.1258	0.1814	0.1910	0.1785	0.2166	0.2303	0.1821	0.1888.46	0.998	0.999	17	0.05	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
Camphor	1	0	Avg	0.1395	0.1121	0.1241	0.1309	0.1185	0.1290	0.1064	0.0708	0.1454	0.1208.93	0.991	0.999	18	200.0	50.00	100.0	500.0	1000.0	2500.0	5000.0	10.00
Hexachlorobutadiene	1	0	Avg	0.4751	0.4949	0.4486	0.4484	0.3979	0.3943	0.3846	0.6647	0.4629.08	1.00	1.00	20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
1,2,4-Trichlorobenzan	1	0	Avg	0.8165	0.6993	0.6502	0.7249	0.7094	0.7135	0.6752	0.8558	0.7319.00	0.989	1.00	9.6	0.20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
1,2,3-Trichlorobenzen	1	0	Avg	0.7306	0.6691	0.6178	0.6953	0.6391	0.6650	0.6290	0.5529	0.6509.33	0.999	1.00	8.3		20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
Naphthalene	1	0	Avg	1.5411	1.1014	1.0489	1.5230	1.2484	1.5427	1.3953	0.8780	1.289.17	0.997	0.998	20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	

Flags
 a - failed the min of criteria
 c - failed the minimum correlation coeff criteria (if applicable)

Note:
 Corr 1 = Correlation Coefficient for linear Eq.
 Corr 2 = Correlation Coefficient for quad Eq.
 Fit = Indicates whether Avg Rf, Linear, or Quadratic Curve was used for compound

Form 7

Continuing Calibration

Calibration Name: CAL @ 50 PPB
Cont Calibration Date/Time 4/18/2016 10:35:00Data File: 6M37881.D
Method: EPA 8260C

Instrument: GCMS 6

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.34	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.19	56.97	50	20	0.1	0.604	0.688	13.93	
Dichlorodifluoromethane	1	0		1.19	47.63	50	20	0.1	0.426	0.406	4.75	
Chloromethane	1	0		1.31	54.50	50	20	0.1	0.689	0.751	8.99	
Bromomethane	1	0		1.62	48.51	50	20	0.1	0.277	0.269	2.98	
Vinyl Chloride	1	0		1.39	59.12	50	20	0.1	0.590	0.698	18.24	
Chloroethane	1	0		1.69	57.41	50	20	0.1	0.313	0.360	14.82	
Trichlorofluoromethane	1	0		1.88	53.37	50	20	0.1	0.608	0.649	6.74	
Ethyl ether	1	0		2.07	49.10	50	20	0.5	0.177	0.232	1.80	
Furan	1	0		2.17	42.42	50	20	0.5	0.180	0.148	15.15	
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0		2.25	64.80	50	20	0.1	0.377	0.488	29.61	C1
Methylene Chloride	1	0		2.57	51.91	50	20	0.1	0.359	0.373	3.82	
Acrolein	1	0		2.15	232.02	250	20		0.019	0.015	7.19	
Acrylonitrile	1	0		2.76	50.43	50	20		0.059	0.059	0.86	
Iodomethane	1	0		2.35	49.81	50	20		0.480	0.479	0.38	
Acetone	1	0		2.26	268.13	250	20	0.1	0.050	0.054	7.25	
Carbon Disulfide	1	0		2.41	50.39	50	20	0.1	1.675	1.688	0.79	
t-Butyl Alcohol	1	0		2.63	230.87	250	20		0.014	0.008	7.65	
n-Hexane	1	0		3.01	70.24	50	20		0.866	1.216	40.48	C1
Di-isopropyl-ether	1	0		3.15	53.64	50	20		1.782	1.911	7.27	
1,1-Dichloroethene	1	0		2.24	50.17	50	20	0.1	0.821	0.943	0.34	
Methyl Acetate	1	0		2.50	56.86	50	20	0.1	0.199	0.212	13.72	
Methyl-t-butyl ether	1	0		2.79	49.70	50	20	0.1	0.459	0.431	0.59	
1,1-Dichloroethane	1	0		3.10	57.47	50	20	0.2	0.911	1.047	14.93	
trans-1,2-Dichloroethene	1	0		2.79	57.79	50	20	0.1	0.343	0.480	15.57	
Ethyl-t-butyl ether	1	0		3.44	49.17	50	20	0.5	0.848	0.834	1.65	
cis-1,2-Dichloroethene	1	0		3.55	54.99	50	20	0.1	0.895	0.985	9.97	
Bromochloromethane	1	0		3.74	44.32	50	20		0.422	0.374	11.36	
2,2-Dichloropropane	1	0		3.56	53.74	50	20		0.614	0.659	7.49	
Ethyl acetate	1	0		3.60	51.08	50	20		0.188	0.227	2.15	
1,4-Dioxane	1	0		4.72	5163.76	2500	20		0.001	0.002	106.55	C1
1,1-Dichloropropene	1	0		4.05	58.47	50	20		0.749	0.875	16.93	
Chloroform	1	0		3.79	59.18	50	20	0.2	0.685	0.794	18.37	
Dibromofluoromethane	1	0	S	3.90	26.15	75	**		0.199	0.173	12.84	
Cyclohexane	1	0		3.99	60.10	50	20	0.1	1.095	1.316	20.20	
1,2-Dichloroethane-d4	1	0	S	4.13	24.56	75	**		0.121	0.099	18.14	
1,2-Dichloroethane	1	0		4.17	57.06	50	20	0.1	0.416	0.475	14.13	
2-Butanone	1	0		3.56	56.87	50	20	0.1	0.118	0.139	13.75	
1,1,1-Trichloroethane	1	0		3.94	59.67	50	20	0.1	0.701	0.837	19.35	
Carbon Tetrachloride	1	0		4.05	62.65	50	20	0.1	0.526	0.659	25.30	C1
Vinyl Acetate	1	0		3.15	53.03	50	20		1.252	1.328	6.05	
Bromodichloromethane	1	0		4.79	59.67	50	20	0.2	0.462	0.551	19.34	
Methylcyclohexane	1	0		4.66	60.09	50	20	0.1	0.727	0.874	20.19	
Dibromomethane	1	0		4.72	56.74	50	20		0.140	0.136	13.48	
1,2-Dichloropropane	1	0		4.66	72.84	50	20	0.1	0.353	0.515	45.68	C1
Trichloroethene	1	0		4.55	54.97	50	20	0.2	0.374	0.411	9.94	
Benzene	1	0		4.18	62.68	50	20	0.5	1.599	2.005	25.36	C1
tert-Amyl methyl ether	1	0		4.25	52.53	50	20		0.418	0.439	5.05	
Chlorobenzene-d5	1	0	I	5.90	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.20	41.73	50	20	0.5	0.840	0.681	16.53	
Methyl methacrylate	1	0		4.71	41.33	50	20	0.5	0.425	0.418	17.34	
Dibromochloromethane	1	0		5.60	59.64	50	20	0.1	0.363	0.397	19.28	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 1 of 2

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 238625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL @ 50 PPB
Cont Calibration Date/Time 4/18/2016 10:35:00Data File: 6M37881.D
Method: EPA 8260C

Instrument: GCMS 6

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		4.94	44.43	50	20	0.126	0.115	11.14		
cis-1,3-Dichloropropene	1	0		5.02	51.06	50	20	0.2 0.788	0.883	2.11		
trans-1,3-Dichloropropene	1	0		5.30	51.96	50	20	0.1 0.581	0.604	3.93		
Ethyl methacrylate	1	0		5.34	40.97	50	20	0.5 0.566	0.504	18.06		
1,1,2-Trichloroethane	1	0		5.39	58.51	50	20	0.1 0.282	0.330	17.02		
1,2-Dibromoethane	1	0		5.67	64.53	50	20	0.1 0.237	0.306	29.06	C1	
1,3-Dichloropropane	1	0		5.48	54.48	50	20	0.622	0.678	8.96		
4-Methyl-2-Pentanone	1	0		5.09	44.88	50	20	0.1 0.346	0.311	10.25		
2-Hexanone	1	0		5.51	45.68	50	20	0.1 0.218	0.199	8.64		
Tetrachloroethene	1	0		5.48	52.75	50	20	0.2 0.617	0.651	5.51		
Toluene-d8	1	0	S	5.17	24.04	75	**	1.799	1.442	19.87		
Toluene	1	0		5.20	51.83	50	20	0.4 1.732	1.794	3.65		
1,1,1,2-Tetrachloroethane	1	0		5.95	53.32	50	20	0.428	0.456	6.65		
Chlorobenzene	1	0		5.92	54.74	50	20	0.5 1.412	1.546	9.47		
1,4-Dichlorobenzene-d4	1	0	I	7.12	30.00	30	**	0.000	0.000	0.00		
n-Butyl acrylate	1	0		6.18	40.99	50	20	0.5 1.323	1.590	18.02		
n-Amyl acetate	1	0		6.29	40.82	50	20	0.5 1.342	1.530	18.36		
Bromoform	1	0		6.33	54.99	50	20	0.1 0.496	0.545	9.98		
Ethylbenzene	1	0		5.97	59.98	50	20	0.1 1.714	2.056	19.96		
1,1,2,2-Tetrachloroethane	1	0		6.55	59.83	50	20	0.1 0.683	0.818	19.66		
Bromofluorobenzene	1	0	S	6.50	28.70	75	**	0.898	0.859	4.35		
Styrene	1	0		6.24	70.88	50	20	0.3 2.689	3.812	41.76	C1	
m&p-Xylenes	1	0		6.03	114.62	100	20	0.1 2.174	2.528	14.62		
o-Xylene	1	0		6.23	58.88	50	20	0.3 2.179	2.498	17.75		
trans-1,4-Dichloro-2-butene	1	0		6.57	54.99	50	20	0.794	1.032	9.98		
1,3-Dichlorobenzene	1	0		7.09	56.58	50	20	0.6 2.032	2.299	13.16		
1,4-Dichlorobenzene	1	0		7.14	57.43	50	20	0.5 2.056	2.362	14.86		
1,2-Dichlorobenzene	1	0		7.34	55.87	50	20	0.4 1.618	1.808	11.75		
Isopropylbenzene	1	0		6.42	61.99	50	20	0.1 6.003	7.443	23.99	C1	
Cyclohexanone	1	0		6.57	261.35	250	20	0.076	0.080	4.54		
Camphene	1	0		6.57	60.46	50	20	2.573	3.111	20.92	C1	
1,2,3-Trichloropropane	1	0		6.58	59.83	50	20	0.896	1.072	19.65		
2-Chlorotoluene	1	0		6.69	66.04	50	20	4.967	6.560	32.08	C1	
p-Ethyltoluene	1	0		6.69	66.70	50	20	5.760	7.684	33.40	C1	
4-Chlorotoluene	1	0		6.74	64.37	50	20	4.203	5.410	28.73	C1	
n-Propylbenzene	1	0		6.63	65.97	50	20	7.920	10.449	31.93	C1	
Bromobenzene	1	0		6.59	59.99	50	20	3.067	3.680	19.97		
1,3,5-Trimethylbenzene	1	0		6.72	59.33	50	20	4.766	5.656	18.66		
Butyl methacrylate	1	0		6.74	45.95	50	20	0.5 2.070	2.672	8.10		
t-Butylbenzene	1	0		6.90	57.02	50	20	4.235	4.829	14.04		
1,2,4-Trimethylbenzene	1	0		6.92	59.03	50	20	4.651	5.491	18.06		
sec-Butylbenzene	1	0		7.02	67.85	50	20	6.704	9.097	35.70	C1	
4-Isopropyltoluene	1	0		7.09	64.75	50	20	4.686	6.068	29.49	C1	
n-Butylbenzene	1	0		7.32	66.27	50	20	6.659	8.827	32.55	C1	
p-Diethylbenzene	1	0		7.30	65.95	50	20	2.681	3.536	31.91	C1	
1,2,4,5-Tetramethylbenzene	1	0		7.74	50.15	50	20	2.696	3.686	0.29		
1,2-Dibromo-3-Chloropropane	1	0		7.78	42.58	50	20	0.05 0.075	0.086	14.83		
Camphor	1	0		8.19	237.87	500	20	0.057	0.040	52.43	C1	
Hexachlorobutadiene	1	0		8.35	54.62	50	20	1.594	1.741	9.24		
1,2,4-Trichlorobenzene	1	0		8.25	56.25	50	20	0.2 1.086	1.221	12.49		
1,2,3-Trichlorobenzene	1	0		8.54	48.51	50	20	0.774	0.751	2.98		
Naphthalene	1	0		8.40	41.92	50	20	1.068	0.895	16.16		

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 2 of 2

Note: 8260/8270 limits are compared against the %DIFF/R.F.

625 limits are compared against the %DIFF.

624 limits are compared against the concentration found. HAZ. - 239

524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL @ 50 PPB
Cont Calibration Date/Time 4/19/2016 10:21:00Data File: 6M37944.D
Method: EPA 8260C

Instrument: GCMS 6

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.34	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.20	52.57	50	20	0.1	0.604	0.635	5.15	
Dichlorodifluoromethane	1	0		1.20	51.95	50	20	0.1	0.426	0.443	3.89	
Chloromethane	1	0		1.32	54.99	50	20	0.1	0.689	0.757	9.98	
Bromomethane	1	0		1.63	49.81	50	20	0.1	0.277	0.276	0.38	
Vinyl Chloride	1	0		1.39	56.24	50	20	0.1	0.590	0.664	12.49	
Chloroethane	1	0		1.69	58.23	50	20	0.1	0.313	0.365	16.47	
Trichlorofluoromethane	1	0		1.88	58.73	50	20	0.1	0.608	0.714	17.46	
Ethyl ether	1	0		2.08	40.33	50	20	0.5	0.177	0.191	19.34	
Furan	1	0		2.17	56.45	50	20	0.5	0.180	0.197	12.90	
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		2.25	93.55	50	20	0.1	0.377	0.705	87.10	C1
Methylene Chloride	1	0		2.58	51.34	50	20	0.1	0.359	0.369	2.68	
Acrolein	1	0		2.17	264.62	250	20		0.019	0.017	5.85	
Acrylonitrile	1	0		2.77	47.52	50	20		0.059	0.056	4.96	
Iodomethane	1	0		2.36	54.19	50	20		0.480	0.521	8.38	
Acetone	1	0		2.26	293.73	250	20	0.1	0.050	0.059	17.49	
Carbon Disulfide	1	0		2.41	57.01	50	20	0.1	1.675	1.909	14.01	
t-Butyl Alcohol	1	0		2.64	257.18	250	20		0.014	0.009	2.87	
n-Hexane	1	0		3.02	76.49	50	20		0.866	1.325	52.99	C1
Di-isopropyl-ether	1	0		3.16	58.93	50	20		1.782	2.100	17.86	
1,1-Dichloroethene	1	0		2.25	45.88	50	20	0.1	0.821	0.863	8.24	
Methyl Acetate	1	0		2.52	57.60	50	20	0.1	0.199	0.215	15.20	
Methyl-t-butyl ether	1	0		2.79	53.26	50	20	0.1	0.459	0.462	6.53	
1,1-Dichloroethane	1	0		3.10	59.29	50	20	0.2	0.911	1.080	18.58	
trans-1,2-Dichloroethene	1	0		2.80	52.53	50	20	0.1	0.343	0.437	5.07	
Ethyl-t-butyl ether	1	0		3.45	52.72	50	20	0.5	0.848	0.894	5.44	
cis-1,2-Dichloroethene	1	0		3.56	51.29	50	20	0.1	0.895	0.918	2.57	
Bromochloromethane	1	0		3.74	41.73	50	20		0.422	0.353	16.53	
2,2-Dichloropropane	1	0		3.57	73.22	50	20		0.614	0.899	46.45	C1
Ethyl acetate	1	0		3.62	46.80	50	20		0.188	0.208	6.41	
1,4-Dioxane	1	0		4.73	3915.10	2500	20		0.001	0.002	56.60	C1
1,1-Dichloropropene	1	0		4.05	75.07	50	20		0.749	1.124	50.15	C1
Chloroform	1	0		3.80	55.51	50	20	0.2	0.685	0.745	11.03	
Dibromofluoromethane	1	0	S	3.92	28.54	75	**		0.199	0.189	4.86	
Cyclohexane	1	0		3.99	75.93	50	20	0.1	1.095	1.663	51.87	C1
1,2-Dichloroethane-d4	1	0	S	4.13	24.24	75	**		0.121	0.098	19.21	
1,2-Dichloroethane	1	0		4.18	53.75	50	20	0.1	0.416	0.447	7.51	
2-Butanone	1	0		3.57	53.61	50	20	0.1	0.118	0.131	7.21	
1,1,1-Trichloroethane	1	0		3.95	70.39	50	20	0.1	0.701	0.987	40.79	C1
Carbon Tetrachloride	1	0		4.07	77.07	50	20	0.1	0.526	0.811	54.15	C1
Vinyl Acetate	1	0		3.16	53.79	50	20		1.252	1.347	7.59	
Bromodichloromethane	1	0		4.80	64.97	50	20	0.2	0.462	0.600	29.93	C1
Methylcyclohexane	1	0		4.67	83.04	50	20	0.1	0.727	1.207	66.07	C1
Dibromomethane	1	0		4.72	55.29	50	20		0.140	0.133	10.57	
1,2-Dichloropropane	1	0		4.66	78.19	50	20	0.1	0.353	0.553	56.38	C1
Trichloroethene	1	0		4.55	70.21	50	20	0.2	0.374	0.525	40.41	C1
Benzene	1	0		4.19	72.69	50	20	0.5	1.599	2.325	45.38	C1
tert-Amyl methyl ether	1	0		4.25	53.89	50	20		0.418	0.450	7.79	
Chlorobenzene-d5	1	0	I	5.91	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.22	28.86	50	20	0.5	0.840	0.471	42.29	C1
Methyl methacrylate	1	0		4.72	44.18	50	20	0.5	0.425	0.447	11.65	
Dibromochloromethane	1	0		5.61	59.52	50	20	0.1	0.363	0.396	19.04	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

Page 1 of 2

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 240625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB
Coat Calibration Date/Time 4/19/2016 10:21:00Data File: 6M37944.D
Method: EPA 8260C

Instrument: GCMS 6

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lm	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		4.95	49.00	50	20	0.126	0.127		2.00	
cis-1,3-Dichloropropene	1	0		5.03	50.05	50	20	0.2 0.788	0.866		0.10	
trans-1,3-Dichloropropene	1	0		5.30	52.62	50	20	0.1 0.581	0.612		5.23	
Ethyl methacrylate	1	0		5.34	40.36	50	20	0.5 0.566	0.496		19.29	
1,1,2-Trichloroethane	1	0		5.39	52.89	50	20	0.1 0.282	0.298		5.77	
1,2-Dibromoethane	1	0		5.67	58.26	50	20	0.1 0.237	0.277		16.52	
1,3-Dichloropropane	1	0		5.48	53.22	50	20	0.622	0.662		6.43	
4-Methyl-2-Pentanone	1	0		5.10	46.52	50	20	0.1 0.346	0.322		6.97	
2-Hexanone	1	0		5.52	46.04	50	20	0.1 0.218	0.201		7.91	
Tetrachloroethene	1	0		5.49	59.61	50	20	0.2 0.617	0.736		19.22	
Toluene-d8	1	0	S	5.18	24.35	75	**	1.799	1.461		18.82	
Toluene	1	0		5.21	51.58	50	20	0.4 1.732	1.786		3.15	
1,1,1,2-Tetrachloroethane	1	0		5.95	54.86	50	20	0.428	0.469		9.71	
Chlorobenzene	1	0		5.92	59.24	50	20	0.5 1.412	1.673		18.47	
1,4-Dichlorobenzene-d4	1	0	I	7.13	30.00	30	**		0.000		0.00	
n-Butyl acrylate	1	0		6.18	27.71	50	20	0.5 1.323	1.078		44.58	C1
n-Amyl acetate	1	0		6.30	29.41	50	20	0.5 1.342	1.103		41.18	C1
Bromoform	1	0		6.34	40.78	50	20	0.1 0.496	0.404		18.43	
Ethylbenzene	1	0		5.97	46.92	50	20	0.1 1.714	1.609		6.17	
1,1,2,2-Tetrachloroethane	1	0		6.55	49.95	50	20	0.1 0.683	0.683		0.09	
Bromofluorobenzene	1	0	S	6.51	24.51	75	**	0.898	0.734		18.30	
Styrene	1	0		6.24	47.28	50	20	0.3 2.689	2.543		5.44	
m&p-Xylenes	1	0		6.03	96.92	100	20	0.1 2.174	2.146		3.08	
o-Xylene	1	0		6.24	46.60	50	20	0.3 2.179	1.988		6.80	
trans-1,4-Dichloro-2-butene	1	0		6.58	42.80	50	20	0.794	0.808		14.40	
1,3-Dichlorobenzene	1	0		7.10	46.99	50	20	0.6 2.032	1.909		6.01	
1,4-Dichlorobenzene	1	0		7.14	48.05	50	20	0.5 2.056	1.976		3.90	
1,2-Dichlorobenzene	1	0		7.35	48.62	50	20	0.4 1.618	1.573		2.76	
Isopropylbenzene	1	0		6.42	50.49	50	20	0.1 6.003	6.062		0.99	
Cyclohexanone	1	0		6.57	228.55	250	20	0.076	0.070		8.58	
Camphene	1	0		6.58	48.55	50	20	2.573	2.498		2.90	
1,2,3-Trichloropropane	1	0		6.58	50.07	50	20	0.896	0.897		0.14	
2-Chlorotoluene	1	0		6.69	50.31	50	20	4.967	4.997		0.61	
p-Ethyltoluene	1	0		6.69	54.02	50	20	5.760	6.223		8.04	
4-Chlorotoluene	1	0		6.75	52.36	50	20	4.203	4.401		4.71	
n-Propylbenzene	1	0		6.63	51.11	50	20	7.920	8.095		2.21	
Bromobenzene	1	0		6.60	50.63	50	20	3.067	3.106		1.25	
1,3,5-Trimethylbenzene	1	0		6.72	47.35	50	20	4.766	4.514		5.31	
Butyl methacrylate	1	0		6.75	44.81	50	20	0.5 2.070	2.607		10.38	
t-Butylbenzene	1	0		6.90	51.82	50	20	4.235	4.389		3.64	
1,2,4-Trimethylbenzene	1	0		6.93	48.38	50	20	4.651	4.500		3.23	
sec-Butylbenzene	1	0		7.02	47.41	50	20	6.704	6.356		5.19	
4-Isopropyltoluene	1	0		7.10	53.05	50	20	4.686	4.971		6.09	
n-Butylbenzene	1	0		7.32	51.77	50	20	6.659	6.895		3.53	
p-Diethylbenzene	1	0		7.31	48.36	50	20	2.681	2.593		3.28	
1,2,4,5-Tetramethylbenzene	1	0		7.75	34.52	50	20	2.696	2.554		30.96	C1
1,2-Dibromo-3-Chloropropane	1	0		7.78	43.40	50	20	0.05 0.075	0.088		13.20	
Camphor	1	0		8.20	269.91	500	20	0.057	0.045		46.02	C1
Hexachlorobutadiene	1	0		8.35	41.41	50	20	1.594	1.320		17.18	
1,2,4-Trichlorobenzene	1	0		8.26	43.91	50	20	0.2 1.086	0.954		12.17	
1,2,3-Trichlorobenzene	1	0		8.54	44.98	50	20	0.774	0.696		10.04	
Naphthalene	1	0		8.41	35.73	50	20	1.068	0.763		28.55	C1

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
C1-Compound %Diff exceeds limits** - No limit specified in method
Page 2 of 2Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 241625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL @ 20 PPB
Cont Calibration Date/Time 4/19/2016 4:26:00 PData File: 3M89282.D
Method: EPA 8260C

Instrument: GCMS 3

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.47	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.34	13.83	20	20	0.1	0.563	0.390	30.83	C1
Dichlorodifluoromethane	1	0		1.33	20.70	20	20	0.1	0.405	0.419	3.52	
Chloromethane	1	0		1.46	16.39	20	20	0.1	0.429	0.351	18.03	
Bromomethane	1	0		1.76	18.48	20	20	0.1	0.171	0.161	7.60	
Vinyl Chloride	1	0		1.53	20.51	20	20	0.1	0.317	0.325	2.53	
Chloroethane	1	0		1.83	22.91	20	20	0.1	0.175	0.180	14.57	
Trichlorofluoromethane	1	0		1.99	22.67	20	20	0.1	0.310	0.253	13.34	
Ethyl ether	1	0		2.20	23.26	20	20	0.5	0.199	0.232	16.31	
Furan	1	0		2.23	22.38	20	20	0.5	0.556	0.545	11.89	
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0		2.36	21.39	20	20	0.1	0.207	0.221	6.95	
Methylene Chloride	1	0		2.71	19.45	20	20	0.1	0.271	0.264	2.74	
Acrolein	1	0		2.30	87.03	100	20		0.059	0.052	12.97	
Acrylonitrile	1	0		2.89	18.70	20	20		0.100	0.114	6.51	
Iodomethane	1	0		2.48	18.56	20	20		0.437	0.406	7.20	
Acetone	1	0		2.40	90.01	100	20	0.1	0.131	0.118	9.99	
Carbon Disulfide	1	0		2.53	19.75	20	20	0.1	0.601	0.593	1.26	
t-Butyl Alcohol	1	0		2.79	91.60	100	20		0.035	0.033	8.40	
n-Hexane	1	0		3.11	20.10	20	20		0.191	0.192	0.48	
Di-isopropyl-ether	1	0		3.27	19.33	20	20		1.071	1.035	3.35	
1,1-Dichloroethene	1	0		2.36	20.99	20	20	0.1	0.469	0.492	4.96	
Methyl Acetate	1	0		2.63	19.78	20	20	0.1	0.366	0.363	1.09	
Methyl-t-butyl ether	1	0		2.91	19.06	20	20	0.1	0.763	0.727	4.70	
1,1-Dichloroethane	1	0		3.23	18.31	20	20	0.2	0.541	0.495	8.43	
trans-1,2-Dichloroethene	1	0		2.91	18.69	20	20	0.1	0.239	0.223	6.56	
Ethyl-t-butyl ether	1	0		3.56	19.18	20	20	0.5	1.028	0.986	4.09	
cis-1,2-Dichloroethene	1	0		3.69	19.42	20	20	0.1	0.538	0.522	2.92	
Bromochloromethane	1	0		3.88	17.89	20	20		0.340	0.288	10.55	
2,2-Dichloropropane	1	0		3.69	19.71	20	20		0.482	0.475	1.47	
Ethyl acetate	1	0		3.75	20.20	20	20		0.398	0.402	1.00	
1,4-Dioxane	1	0		4.91	927.33	1000	20		0.003	0.003	7.27	
1,1-Dichloropropene	1	0		4.17	22.35	20	20		0.358	0.400	11.74	
Chloroform	1	0		3.92	20.76	20	20	0.2	0.525	0.545	3.80	
Dibromofluoromethane	1	0	S	4.04	30.31	30	**		0.365	0.369	1.02	
Cyclohexane	1	0		4.10	20.85	20	20	0.1	0.338	0.352	4.24	
1,2-Dichloroethane-d4	1	0	S	4.26	27.11	30	**		0.243	0.220	9.63	
1,2-Dichloroethane	1	0		4.31	20.30	20	20	0.1	0.558	0.566	1.51	
2-Butanone	1	0		3.71	17.26	20	20	0.1	0.173	0.169	13.72	
1,1,1-Trichloroethane	1	0		4.06	20.22	20	20	0.1	0.491	0.497	1.12	
Carbon Tetrachloride	1	0		4.17	20.80	20	20	0.1	0.406	0.423	4.02	
Vinyl Acetate	1	0		3.27	18.87	20	20		1.076	1.015	5.63	
Bromodichloromethane	1	0		4.99	17.80	20	20	0.2	0.478	0.425	10.98	
Methylcyclohexane	1	0		4.81	22.19	20	20	0.1	0.219	0.243	10.94	
Dibromomethane	1	0		4.91	20.30	20	20		0.294	0.298	1.50	
1,2-Dichloropropane	1	0		4.83	19.74	20	20	0.1	0.276	0.273	1.28	
Trichloroethene	1	0		4.70	20.32	20	20	0.2	0.274	0.278	1.61	
Benzene	1	0		4.31	20.19	20	20	0.5	0.910	0.919	0.97	
tert-Amyl methyl ether	1	0		4.37	19.96	20	20		0.742	0.740	0.21	
Chlorobenzene-d5	1	0	I	6.27	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.33	20.08	20	20	0.5	1.030	1.035	0.42	
Methyl methacrylate	1	0		4.88	18.76	20	20	0.5	0.451	0.523	6.18	
Dibromochloromethane	1	0		5.93	19.29	20	20	0.1	0.501	0.483	3.54	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

Page 1 of 2

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 242625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL @ 20 PPB
Cont Calibration Date/Time 4/19/2016 4:26:00 PData File: 3M89282.D
Method: EPA 8260C

Instrument: GCMS 3

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.16	16.87	20	20	0.253	0.260	0.260	15.67	
cis-1,3-Dichloropropene	1	0		5.26	21.10	20	20	0.2 0.572	0.603	0.603	5.49	
trans-1,3-Dichloropropene	1	0		5.57	21.59	20	20	0.1 0.535	0.577	0.577	7.93	
Ethyl methacrylate	1	0		5.62	17.20	20	20	0.5 0.459	0.501	0.501	13.98	
1,1,2-Trichloroethane	1	0		5.69	20.67	20	20	0.1 0.326	0.337	0.337	3.34	
1,2-Dibromoethane	1	0		6.01	19.65	20	20	0.1 0.388	0.417	0.417	1.75	
1,3-Dichloropropane	1	0		5.79	23.57	20	20	0.569	0.671	0.671	17.83	
4-Methyl-2-Pentanone	1	0		5.34	18.01	20	20	0.1 0.505	0.530	0.530	9.96	
2-Hexanone	1	0		5.85	12.35	20	20	0.1 0.262	0.248	0.248	38.24	C1
Tetrachloroethene	1	0		5.78	24.67	20	20	0.2 0.329	0.379	0.379	23.34	C1
Toluene-d8	1	0	S	5.42	30.57	30	**	1.320	1.345	1.345	1.91	
Toluene	1	0		5.46	21.61	20	20	0.4 0.720	0.778	0.778	8.07	
1,1,1,2-Tetrachloroethane	1	0		6.33	22.21	20	20	0.412	0.417	0.417	11.06	
Chlorobenzene	1	0		6.29	19.63	20	20	0.5 0.839	0.823	0.823	1.85	
1,4-Dichlorobenzene-d4	1	0	I	7.68	30.00	30	**		0.000	0.000	0.00	
n-Butyl acrylate	1	0		6.59	15.54	20	20	0.5 1.180	1.280	1.280	22.31	C1
n-Amyl acetate	1	0		6.72	17.13	20	20	0.5 1.191	1.374	1.374	14.33	
Bromoform	1	0		6.79	21.41	20	20	0.1 0.753	0.806	0.806	7.06	
Ethylbenzene	1	0		6.34	21.18	20	20	0.1 0.525	0.556	0.556	5.88	
1,1,2,2-Tetrachloroethane	1	0		7.04	19.74	20	20	0.1 0.734	0.725	0.725	1.31	
Bromofluorobenzene	1	0	S	6.97	30.11	30	**	1.062	1.066	1.066	0.37	
Styrene	1	0		6.66	22.33	20	20	0.3 1.321	1.475	1.475	11.63	
m&p-Xylenes	1	0		6.41	42.36	40	20	0.1 0.774	0.819	0.819	5.91	
o-Xylene	1	0		6.65	22.18	20	20	0.3 0.834	0.925	0.925	10.89	
trans-1,4-Dichloro-2-butene	1	0		7.07	18.64	20	20	0.309	0.363	0.363	6.80	
1,3-Dichlorobenzene	1	0		7.65	19.76	20	20	0.6 1.068	1.055	1.055	1.20	
1,4-Dichlorobenzene	1	0		7.70	19.21	20	20	0.5 1.177	1.131	1.131	3.97	
1,2-Dichlorobenzene	1	0		7.94	20.10	20	20	0.4 1.073	1.079	1.079	0.49	
Isopropylbenzene	1	0		6.86	21.58	20	20	0.1 1.917	2.068	2.068	7.88	
Cyclohexanone	1	0		6.94	62.69	100	20	0.038	0.021	0.021	37.31	C1
Camphene	1	0		7.04	19.45	20	20	0.447	0.489	0.489	2.76	
1,2,3-Trichloropropane	1	0		7.07	18.34	20	20	0.973	0.951	0.951	8.31	
2-Chlorotoluene	1	0		7.18	23.71	20	20	1.250	1.481	1.481	18.53	
p-Ethyltoluene	1	0		7.17	20.82	20	20	1.878	1.954	1.954	4.08	
4-Chlorotoluene	1	0		7.25	20.42	20	20	1.214	1.239	1.239	2.11	
n-Propylbenzene	1	0		7.11	20.22	20	20	2.206	2.230	2.230	1.10	
Bromobenzene	1	0		7.07	19.09	20	20	1.623	1.549	1.549	4.54	
1,3,5-Trimethylbenzene	1	0		7.20	20.81	20	20	1.628	1.694	1.694	4.05	
Butyl methacrylate	1	0		7.23	16.09	20	20	0.5 1.071	1.085	1.085	19.55	
t-Butylbenzene	1	0		7.41	22.97	20	20	1.346	1.546	1.546	14.86	
1,2,4-Trimethylbenzene	1	0		7.44	20.41	20	20	1.762	1.799	1.799	2.05	
sec-Butylbenzene	1	0		7.55	20.93	20	20	1.620	1.696	1.696	4.67	
4-Isopropyltoluene	1	0		7.63	21.85	20	20	1.350	1.475	1.475	9.26	
n-Butylbenzene	1	0		7.89	20.83	20	20	1.422	1.482	1.482	4.17	
p-Diethylbenzene	1	0		7.87	19.31	20	20	0.786	0.758	0.758	3.47	
1,2,4,5-Tetramethylbenzene	1	0		8.37	18.25	20	20	1.251	1.142	1.142	8.74	
1,2-Dibromo-3-Chloropropane	1	0		8.44	20.57	20	20	0.05 0.188	0.193	0.193	2.86	
Camphor	1	0		8.90	232.65	200	20	0.120	0.139	0.139	16.33	
Hexachlorobutadiene	1	0		9.06	19.04	20	20	0.462	0.440	0.440	4.78	
1,2,4-Trichlorobenzene	1	0		8.97	19.11	20	20	0.2 0.731	0.698	0.698	4.44	
1,2,3-Trichlorobenzene	1	0		9.31	19.78	20	20	0.650	0.643	0.643	1.10	
Naphthalene	1	0		9.15	19.58	20	20	1.285	1.258	1.258	2.10	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 2 of 2

Note: 8260/8270 limits are compared against the %DIFF/R.F.

624 limits are compared against the concentration found. HAZ. - 243

625 limits are compared against the %DIFF.

524.2 limits are compared against the %DIFF.

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M37640.D

Method: EPA 8260C

Analysis Date/Time: 04/12/16 16:49

Lab File ID: CAL@ 20 PPB

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	214020	4.34	108470	5.91	55197	7.13						
Eval File Area Limit:	107010-428040		54235-216940		27598-110394							
Eval File Rt Limit:	3.84-4.84		5.41-6.41		6.63-7.63							

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
6M37636.D	CAL@ 0.5 PP	254297	4.34	104402	5.91	46520	7.13				
6M37637.D	CAL@ 1 PPB	177215	4.34	84493	5.91	49235	7.13				
6M37638.D	CAL@ 2 PPB	185195	4.34	96500	5.90	44961	7.13				
6M37639.D	CAL@ 5 PPB	222888	4.35	120271	5.91	54782	7.13				
6M37640.D	CAL@ 20 PP	214020	4.34	108470	5.91	55197	7.13				
6M37641.D	CAL@ 50 PP	229813	4.34	118496	5.90	54412	7.13				
6M37642.D	CAL@ 500 PF	253114	4.34	135187	5.90	64683	7.13				
6M37643.D	CAL@ 250 PF	237733	4.34	138792	5.91	57615	7.13				
6M37644.D	CAL@ 100 PF	230599	4.34	112792	5.90	62366	7.13				
6M37645.D	BLK	181576	4.34	86164	5.91	43216	7.13				
6M37646.D	ICV	199276	4.34	108471	5.91	54725	7.12				

I1 = Fluorobenzene
 I2 = Chlorobenzene-d5
 I3 = 1,4-Dichlorobenzene-d4

I4 =
 I5 =
 I6 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
 624/8260 Internal Standard concentration = 30ug/L
 524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.**Flags:**

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 3M89156.D

Method: EPA 8260C

Analysis Date/Time: 04/15/16 19:45

Lab File ID: CAL @ 20 PPB

Eval File Area/RT:	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
	227264	4.47	179543	6.27	106900	7.67						
Eval File Area Limit:	113632-454528		89772-359086		53450-213800							
Eval File Rt Limit:	3.97-4.97		5.77-6.77		7.17-8.17							

Data File Sample

3M89150.D 1 PPB	242140	4.47	180842	6.27	103225	7.67
3M89151.D 0.5 PPB	237988	4.46	178758	6.26	110807	7.67
3M89152.D CAL @ 0.5 PF	245490	4.47	170708	6.26	107236	7.67
3M89153.D CAL @ 1 PPB	241594	4.47	179330	6.27	107688	7.67
3M89154.D CAL @ 5 PPB	239185	4.47	167435	6.27	116944	7.67
3M89155.D CAL @ 10 PP	240594	4.47	185802	6.26	116824	7.67
3M89156.D CAL @ 20 PP	227264	4.47	179543	6.27	106900	7.67
3M89157.D CAL @ 500 P	242721	4.47	172390	6.26	90948	7.67
3M89160.D CAL @ 250 P	241744	4.47	177385	6.26	101924	7.67
3M89163.D CAL @ 100 P	248900	4.47	188873	6.26	109634	7.67
3M89165.D CAL @ 50 PP	266030	4.47	204769	6.26	113809	7.67
3M89167.D ICV	255246	4.47	188179	6.26	112615	7.67
3M89168.D ICV	254885	4.47	188064	6.27	113888	7.67
3M89169.D BLK	208999	4.47	134065	6.26	79231	7.67
3M89170.D DAILY BLANK	217756	4.46	140378	6.26	81821	7.67
3M89171.D DAILY BLANK	233326	4.47	162414	6.26	104031	7.67
3M89172.D 90778-001	203584	4.46	148931	6.27	76740	7.68
3M89173.D 90778-006	212000	4.46	139816	6.26	86553	7.68
3M89174.D 90778-008	194176	4.46	129456	6.26	75581	7.68
3M89175.D 90778-009	208521	4.46	140651	6.27	77083	7.68
3M89176.D 90778-010	206435	4.46	135018	6.27	69562	7.68
3M89177.D 90778-016	186392	4.46	134840	6.27	77708	7.67
3M89178.D MBS52795	196457	4.46	143639	6.26	89741	7.67
3M89179.D BLK	217771	4.47	146981	6.27	83445	7.68

I1 = Fluorobenzene
 I2 = Chlorobenzene-d5
 I3 = 1,4-Dichlorobenzene-d4

I4 =
 I5 =
 I6 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
 624/8260 Internal Standard concentration = 30ug/L
 524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM 8

Internal Standard Areas

Evaluation Std Data File: 6M37881.D

Method: EPA 8260C

Analysis Date/Time: 04/18/16 10:35

Lab File ID: CAL @ 50 PPB

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	219406	4.34	137378	5.90	60021	7.12						
Eval File Area Limit:	109703-438812		68689-274756		30010-120042							
Eval File Rt Limit:	3.84-4.84		5.4-6.4		6.62-7.62							

Data File Sample

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
6M37880.D	BLK	185980	4.34	115273	5.91	55037	7.13				
6M37883.D	BLK	222098	4.34	120664	5.90	53613	7.13				
6M37884.D	DAILY BLANK	210655	4.34	126104	5.91	51815	7.13				
6M37885.D	BLK	193361	4.36	110346	5.92	46039	7.14				
6M37886.D	MBS52796	229662	4.34	157301	5.90	74107	7.12				
6M37887.D	BLK	173142	4.34	107393	5.91	56975	7.13				
6M37888.D	AC90778-001	176600	4.34	108357	5.91	47765	7.13				
6M37889.D	AC90778-008	160271	4.34	110360	5.91	51378	7.13				
6M37890.D	AC90778-009	183929	4.36	118900	5.92	61132	7.14				
6M37891.D	AC90778-010	211765	4.34	126253	5.91	60892	7.13				
6M37892.D	AC90778-016	197702	4.34	105855	5.91	59026	7.13				
6M37893.D	AC90778-006	204627	4.34	126595	5.91	55646	7.13				
6M37894.D	AC90745-002	169324	4.34	119172	5.91	42355	7.13				
6M37895.D	AC90791-001	212355	4.34	134436	5.91	52768	7.13				
6M37896.D	AC90791-002	177634	4.34	117243	5.91	49020	7.13				
6M37897.D	AC90711-003	195127	4.34	138345	5.91	89206	7.13				
6M37898.D	AC90778-002	260617	4.34	150785	5.90	79634	7.13				
6M37899.D	AC90778-003	233319	4.34	123261	5.90	71178	7.13				
6M37900.D	AC90797-004	174571	4.34	132403	5.91	62008	7.13				
6M37901.D	AC90797-005	221852	4.34	123477	5.91	73408	7.13				
6M37902.D	AC90797-006	184073	4.34	113043	5.90	62278	7.13				
6M37903.D	BLK	228611	4.35	135518	5.91	62118	7.13				
6M37904.D	AC90797-009	228647	4.34	131407	5.91	62051	7.13				
6M37905.D	AC90797-010	196930	4.34	130924	5.91	64658	7.13				
6M37906.D	AC90778-033	162852	4.34	112105	5.91	70488	7.13				
6M37907.D	MBS52805	216403	4.34	138185	5.91	84979	7.13				
6M37908.D	AC90773-001	172278	4.35	120372	5.92	52109	7.14				
6M37909.D	AC90778-019	203959	4.35	130833	5.91	68170	7.13				
6M37910.D	AC90778-022	190807	4.35	116936	5.91	53288	7.13				
6M37911.D	AC90778-029	224337	4.34	126548	5.91	59401	7.13				
6M37912.D	AC90778-030	190007	4.34	112271	5.91	48557	7.13				
6M37913.D	AC90778-032	209952	4.34	128900	5.91	46638	7.13				
6M37914.D	AC90778-035	164577	4.34	126956	5.91	59203	7.13				
6M37915.D	AC90778-038	189000	4.34	111689	5.91	51202	7.13				
6M37916.D	AC90789-008	189231	4.34	117618	5.91	47577	7.13				
6M37917.D	AC90789-011	180491	4.35	135229	5.91	81413	7.13				
6M37918.D	AC90789-009	190806	4.34	115195	5.91	46182	7.13				
6M37919.D	AC90781-001	205465	4.34	116405	5.91	48804	7.13				
6M37920.D	MBS52806	245069	4.34	140112	5.91	72165	7.13				
6M37921.D	AC90773-002	193076	4.34	120560	5.91	58011	7.13				
6M37922.D	AC90773-003	191862	4.34	128780	5.91	63143	7.13				
6M37923.D	AC90773-004	189325	4.34	127779	5.91	59477	7.13				
6M37924.D	AC90773-010	167709	4.34	137085	5.91	61903	7.13				
6M37925.D	AC90773-011	192520	4.34	125117	5.91	58629	7.13				
6M37926.D	MBS52807	266084	4.34	150154	5.91	73193	7.13				
6M37927.D	BLK	199467	4.34	127228	5.91	59252	7.13				
6M37928.D	BLK	217384	4.34	116335	5.91	57673	7.13				
6M37929.D	BLK	210086	4.34	133817	5.91	59329	7.13				
6M37930.D	BLK	173364	4.34	116595	5.91	57193	7.14				

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4

I4 =
I5 =
I6 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration = 5ug/L

QC Limits:

Internal Standard Areas

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M37944.D

Method: EPA 8260C

Analysis Date/Time: 04/19/16 10:21

Lab File ID: CAL @ 50 PPB

Eval File Area/RT:	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
	166965	4.34	116205	5.91	67938	7.13						
Eval File Area Limit:	83482-333930		58102-232410		33969-135876							
Eval File Rt Limit:	3.84-4.84		5.41-6.41		6.63-7.63							

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
6M37942.D	BLK	155476	4.34	108169	5.91	48104	7.13				
6M37943.D	50 PPB	207401	4.34	141710	5.91	69937	7.13				
6M37945.D	BLK	162357	4.34	112245	5.91	46287	7.13				
6M37946.D	DAILY BLANK	142537	4.34	90972	5.91	35446	7.13				
6M37947.D	BLK	189015	4.34	120449	5.91	48362	7.13				
6M37948.D	AC90789-011	241531	4.34	135316	5.91	60523	7.13				
6M37949.D	MBS52808	261950	4.34	140981	5.91	70683	7.13				
6M37950.D	AC90789-004	238329	4.34	163979	5.91	63936	7.13				
6M37951.D	AC90766-001	224686	4.35	136406	5.91	67875	7.13				
6M37952.D	AC90751-002	190692	4.35	101459	5.91	65617	7.13				
6M37953.D	AC90751-001	194886	4.34	148447	5.91	78332	7.13				
6M37954.D	AC90789-005	204190	4.34	120683	5.91	60433	7.13				
6M37955.D	AC90773-004	196539	4.35	145204	5.91	60015	7.13				
6M37956.D	AC90773-010	187782	4.35	112841	5.91	55502	7.13				
6M37957.D	AC90773-011	221815	4.35	136829	5.91	53739	7.13				
6M37958.D	AC90778-039	177373	4.35	106610	5.91	53859	7.13				
6M37959.D	AC90778-041	223202	4.35	129530	5.91	58181	7.13				
6M37960.D	AC90778-044	195432	4.35	135792	5.92	53878	7.14				
6M37961.D	AC90778-045	217657	4.34	119139	5.91	65587	7.13				
6M37962.D	AC90773-004	218237	4.34	147599	5.91	78385	7.13				
6M37963.D	AC90773-004	228298	4.34	159499	5.91	89089	7.13				
6M37964.D	AC90625-005	194300	4.34	113720	5.91	58558	7.13				
6M37965.D	BLK	198399	4.35	125846	5.91	59078	7.13				
6M37966.D	AC90773-009	190534	4.34	120911	5.91	57387	7.13				
6M37967.D	AC90799-002	192681	4.34	130463	5.91	63661	7.13				
6M37968.D	AC90799-004	201470	4.34	122774	5.91	60427	7.13				
6M37969.D	AC90799-005	194075	4.35	124557	5.91	59749	7.13				
6M37970.D	AC90799-006	182496	4.34	121897	5.91	63413	7.13				
6M37971.D	BLK	181302	4.34	105634	5.91	52150	7.13				
6M37972.D	AC90625-005	172631	4.34	123492	5.91	53094	7.13				
6M37973.D	AC90778-050	187092	4.34	112709	5.91	54671	7.14				
6M37974.D	MBS52818	243304	4.34	134579	5.91	76086	7.13				
6M37975.D	STD	230580	4.34	150660	5.91	86264	7.13				
6M37976.D	AC90773-011	247220	4.34	137544	5.91	79163	7.13				
6M37977.D	AC90773-011	253235	4.34	164260	5.91	70948	7.13				
6M37978.D	BLK	191491	4.34	123624	5.91	58345	7.13				
6M37979.D	BLK	207824	4.34	114406	5.91	67699	7.13				
6M37980.D	BLK	183197	4.34	116733	5.91	55186	7.13				

I1 = Fluorobenzene	I4 =	625/8270 Internal Standard concentration = 40 mg/L (in final extract)
I2 = Chlorobenzene-d5	I5 =	624/8260 Internal Standard concentration = 30ug/L
I3 = 1,4-Dichlorobenzene-d4	I6 =	524 Internal Standard concentration = 5ug/L

QC Limits:

Internal Standard Areas

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 3M89282.D

Method: EPA 8260C

Analysis Date/Time: 04/19/16 16:26

Lab File ID: CAL @ 20 PPB

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	264316	4.47	184139	6.27	112756	7.68						
Eval File Area Limit:	132158-528632		92070-368278		56378-225512							
Eval File Rt Limit:	3.97-4.97		5.77-6.77		7.18-8.18							

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
3M89283.D	20 PPB	207819	4.47	154232	6.28	91277	7.68				
3M89284.D	BLK	172477	4.47	127968	6.27	67623	7.68				
3M89285.D	DAILY BLANK	206164	4.47	137735	6.27	87450	7.68				
3M89286.D	DAILY BLANK	243854	4.47	161028	6.28	91831	7.69				
3M89287.D	AC90767-003	232028	4.47	179007	6.27	103401	7.68				
3M89288.D	MBS52815	229223	4.47	162776	6.27	99406	7.68				
3M89289.D	MBS52816	244123	4.48	183293	6.28	103971	7.69				
3M89290.D	AC90773-012	228310	4.47	168687	6.28	98715	7.68				
3M89291.D	AC90773-014	254956	4.47	173465	6.28	91663	7.68				
3M89292.D	AC90777-005	242363	4.47	185167	6.28	99780	7.68				
3M89293.D	AC90777-006	231571	4.47	180536	6.27	100945	7.68				
3M89294.D	AC90767-004	231168	4.47	176119	6.27	95976	7.68				
3M89295.D	AC90774-002	217128	4.47	158968	6.28	81843	7.69				
3M89296.D	AC90774-003	243447	4.47	177372	6.27	97971	7.68				
3M89297.D	AC90780-002	237592	4.47	174373	6.27	99239	7.68				
3M89298.D	AC90780-003	230227	4.47	184646	6.27	102955	7.68				
3M89299.D	AC90770-001	188456	4.46	136536	6.27	92556	7.68				
3M89300.D	BLK	231703	4.47	163933	6.27	87509	7.68				
3M89301.D	AC90771-008	232126	4.47	157720	6.27	97439	7.68				
3M89302.D	AC90771-009	245975	4.47	163389	6.28	91246	7.69				
3M89303.D	AC90771-010	233704	4.47	166882	6.27	95713	7.68				
3M89304.D	AC90771-011	207596	4.47	150575	6.27	83675	7.68				
3M89305.D	AC90771-012	233644	4.47	181030	6.27	98864	7.68				
3M89306.D	AC90771-013	261751	4.47	183152	6.27	109007	7.68				
3M89307.D	AC90771-014	150421	4.47	88802 A	6.27	49270 A	7.68				
3M89308.D	AC90771-015	222920	4.47	159854	6.27	87766	7.68				
3M89309.D	AC90771-016	225730	4.47	168264	6.27	102821	7.68				
3M89310.D	AC90771-017	231275	4.47	174876	6.27	101151	7.68				
3M89311.D	AC90795-001i	184090	4.47	141171	6.27	82155	7.68				
3M89312.D	AC90795-001i	243162	4.47	181111	6.27	114510	7.68				
3M89313.D	MBS52817	175254	4.47	132470	6.26	85139	7.68				
3M89314.D	AC90780-001	233563	4.47	167893	6.27	96872	7.68				
3M89315.D	AC90777-001	234389	4.47	178737	6.27	106963	7.68				
3M89316.D	AC90777-003	230869	4.47	161125	6.27	96668	7.68				
3M89317.D	AC90777-004	236793	4.47	175956	6.27	106328	7.68				
3M89318.D	AC90777-002	232758	4.47	174448	6.26	101052	7.68				
3M89319.D	AC90793-001	154483	4.47	97120	6.27	60673	7.68				
3M89320.D	AC90774-001	249530	4.47	188252	6.27	113468	7.68				
3M89321.D	AC90797-003	211844	4.46	156767	6.27	96151	7.68				
3M89322.D	AC90797-001	219424	4.46	156940	6.26	103636	7.68				
3M89323.D	AC90797-007i	213708	4.46	160284	6.27	100509	7.68				
3M89324.D	AC90797-008i	243494	4.46	173361	6.27	99180	7.68				
3M89325.D	AC90797-002i	255111	4.47	181218	6.27	105708	7.68				
3M89326.D	AC90797-011i	248924	4.47	169996	6.27	102681	7.68				
3M89327.D	AC90767-002	217686	4.46	151849	6.27	84989	7.68				
3M89328.D	STD	217645	4.46	151879	6.26	92663	7.68				
3M89329.D	STD	213969	4.46	160030	6.26	90521	7.68				
3M89330.D	BLK	208465	4.47	149873	6.27	77480	7.67				
3M89331.D	BLK	226453	4.47	167293	6.27	85782	7.68				

I1 = Fluorobenzene	I4 =	625/8270 Internal Standard concentration = 40 mg/L (in final extract) 624/8260 Internal Standard concentration = 30ug/L 524 Internal Standard concentration = 5ug/L
I2 = Chlorobenzene-d5	I5 =	
I3 = 1,4-Dichlorobenzene-d4	I6 =	

QC Limits:

Internal Standard Areas

Upper Limit = + 100% of internal standard area from daily cal or mid pt.
Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria
R - Indicates the compound failed the internal standard retention time criteria.

Semi-Volatile Data

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AC90773-001(10X)

Client Id: SB-01

Data File: 7M76352.D

Analysis Date: 04/19/16 18:20

Date Rec/Extracted: 04/14/16-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Soil

Initial Vol: 30g

Final Vol: 1.5ml

Dilution: 10

Solids: 93

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	1.1	U	205-99-2	Benzo[b]fluoranthene	1.1	6.7
95-94-3	1,2,4,5-Tetrachlorobenzene	1.1	U	191-24-2	Benzo[g,h,i]perylene	1.1	3.5
58-90-2	2,3,4,6-Tetrachlorophenol	1.1	U	207-08-9	Benzo[k]fluoranthene	1.1	2.3
95-95-4	2,4,5-Trichlorophenol	1.1	U	111-91-1	bis(2-Chloroethoxy)methan	1.1	U
88-06-2	2,4,6-Trichlorophenol	1.1	U	111-44-4	bis(2-Chloroethyl)ether	0.27	U
120-83-2	2,4-Dichlorophenol	0.27	U	108-60-1	bis(2-chloroisopropyl)ether	1.1	U
105-67-9	2,4-Dimethylphenol	0.27	U	117-81-7	bis(2-Ethylhexyl)phthalate	1.1	U
51-28-5	2,4-Dinitrophenol	5.4	U	85-68-7	Butylbenzylphthalate	1.1	U
121-14-2	2,4-Dinitrotoluene	1.1	U	105-60-2	Caprolactam	1.1	U
606-20-2	2,6-Dinitrotoluene	1.1	U	86-74-8	Carbazole	1.1	1.8
91-58-7	2-Chloronaphthalene	1.1	U	218-01-9	Chrysene	1.1	6.3
95-57-8	2-Chlorophenol	1.1	U	53-70-3	Dibenzo[a,h]anthracene	1.1	1.1
91-57-6	2-Methylnaphthalene	1.1	1.3	132-64-9	Dibenzofuran	0.27	1.8
95-48-7	2-Methylphenol	0.27	U	84-66-2	Diethylphthalate	1.1	U
88-74-4	2-Nitroaniline	1.1	U	131-11-3	Dimethylphthalate	1.1	U
88-75-5	2-Nitrophenol	1.1	U	84-74-2	Di-n-butylphthalate	0.27	U
106-44-5	3&4-Methylphenol	0.27	U	117-84-0	Di-n-octylphthalate	1.1	U
91-94-1	3,3'-Dichlorobenzidine	1.1	U	206-44-0	Fluoranthene	1.1	16
99-09-2	3-Nitroaniline	1.1	U	86-73-7	Fluorene	1.1	3.0
534-52-1	4,6-Dinitro-2-methylphenol	5.4	U	118-74-1	Hexachlorobenzene	1.1	U
101-55-3	4-Bromophenyl-phenylether	1.1	U	87-68-3	Hexachlorobutadiene	1.1	U
59-50-7	4-Chloro-3-methylphenol	1.1	U	77-47-4	Hexachlorocyclopentadiene	2.1	U
106-47-8	4-Chloroaniline	0.27	U	67-72-1	Hexachloroethane	1.1	U
7005-72-3	4-Chlorophenyl-phenylether	1.1	U	193-39-5	Indeno[1,2,3-cd]pyrene	1.1	2.9
100-01-6	4-Nitroaniline	1.1	U	78-59-1	Isophorone	1.1	U
100-02-7	4-Nitrophenol	1.1	U	91-20-3	Naphthalene	0.27	2.6
83-32-9	Acenaphthene	1.1	2.2	98-95-3	Nitrobenzene	1.1	U
208-96-8	Acenaphthylene	1.1	U	621-64-7	N-Nitroso-di-n-propylamine	0.27	U
98-86-2	Acetophenone	1.1	U	86-30-6	n-Nitrosodiphenylamine	1.1	U
120-12-7	Anthracene	1.1	4.3	87-86-5	Pentachlorophenol	1.4	U
1912-24-9	Atrazine	1.1	U	85-01-8	Phenanthrene	1.1	17
100-52-7	Benzaldehyde	1.1	U	108-95-2	Phenol	1.1	U
56-55-3	Benzo[a]anthracene	1.1	7.0	129-00-0	Pyrene	1.1	14
50-32-8	Benzo[a]pyrene	1.1	5.4				

Worksheet #: 380499

Total Target Concentration 99

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used.

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-001(10X)
 Data File: 7M76352.D
 Acq On : 04/19/16 18:20

Operator : AH/JB
 Sam Mult : 1 Vial# : 19
 Misc : S,BNA:30

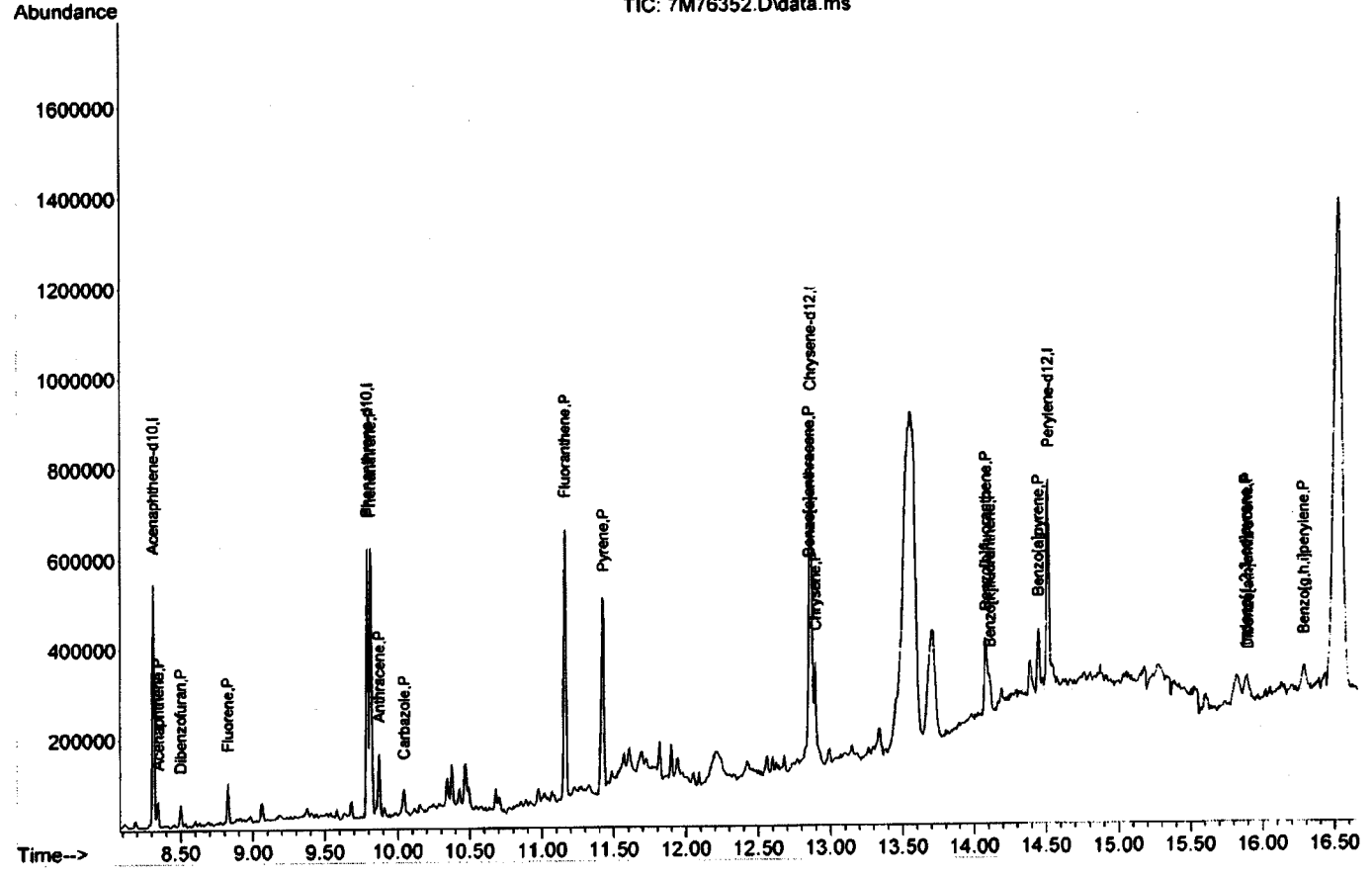
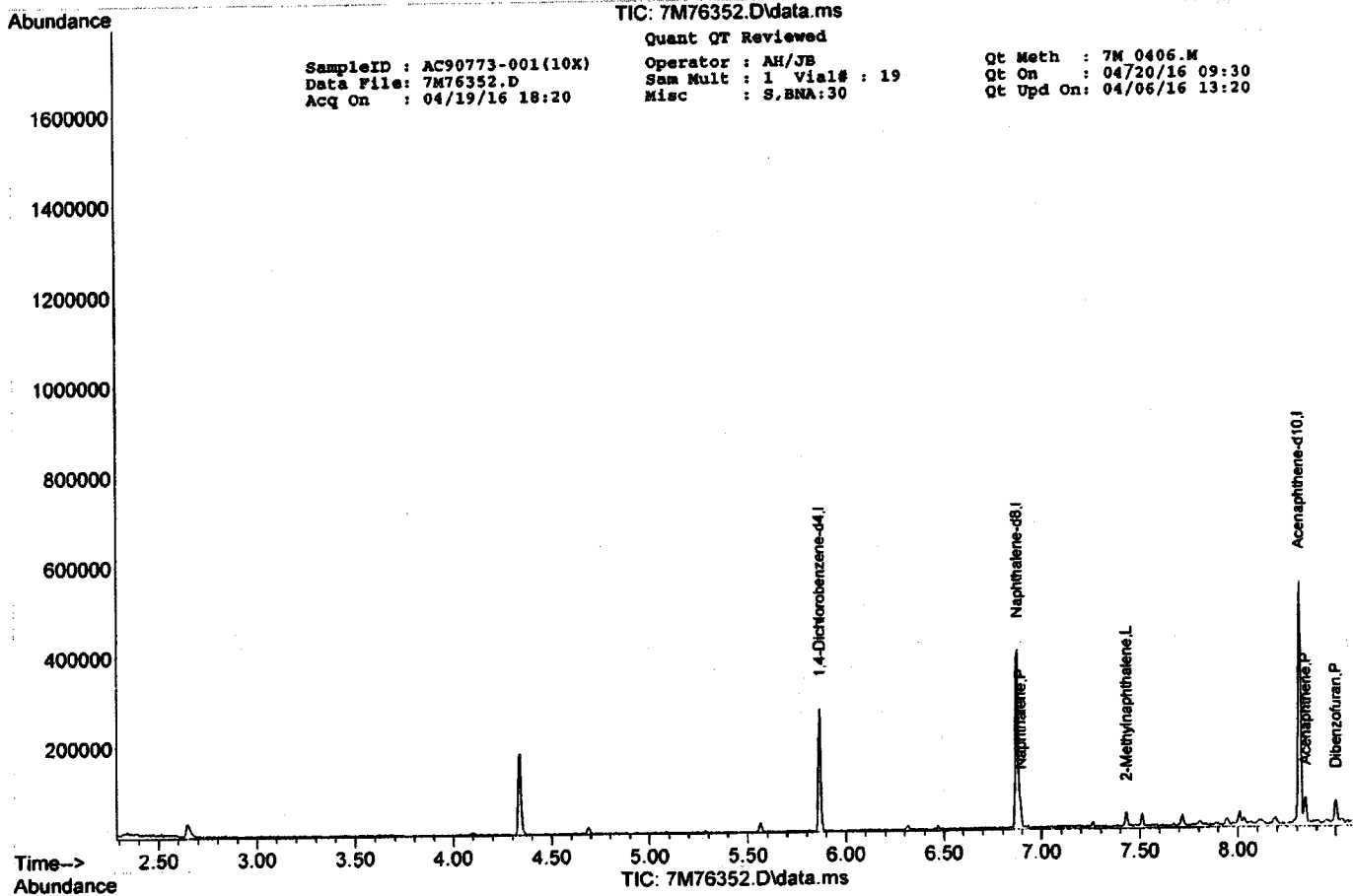
Qt Meth : 7M 0406.M
 Qt On : 04/20/16 09:30
 Qt Upd On: 04/06/16 13:20

Data Path : G:\GcMsData\2016\GCMS_7\Data\04-1916\
 Qt Path : G:\GCMSDATA\2016\GCMS_7\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
7) 1,4-Dichlorobenzene-d4	5.867	152	32460	40.00	ng	0.00	
29) Naphthalene-d8	6.876	136	150288	40.00	ng	-0.02	
48) Acenaphthene-d10	8.313	164	112749	40.00	ng	-0.04	
75) Phenanthrene-d10	9.793	188	232584	40.00	ng	-0.03	
89) Chrysene-d12	12.865	240	261821	40.00	ng	0.00	
101) Perylene-d12	14.516	264	204788	40.00	ng	-0.02	
System Monitoring Compounds							
10) 2-Fluorophenol	0.000	112	0d	0.00	ng		
Spiked Amount	100.000		Recovery	=	0.00%		
15) Phenol-d5	0.000	99	0d	0.00	ng		
Spiked Amount	100.000		Recovery	=	0.00%		
30) Nitrobenzene-d5	0.000	128	0d	0.00	ng		
Spiked Amount	50.000		Recovery	=	0.00%		
53) 2-Fluorobiphenyl	0.000	172	0d	0.00	ng		
Spiked Amount	50.000		Recovery	=	0.00%		
78) 2,4,6-Tribromophenol	0.000	330	0d	0.00	ng		
Spiked Amount	100.000		Recovery	=	0.00%		
92) Terphenyl-d14	0.000	244	0d	0.00	ng		
Spiked Amount	50.000		Recovery	=	0.00%		
Target Compounds							
39) Naphthalene	6.892	128	22365	4.8487	ng		97
44) 2-Methylnaphthalene	7.432	142	7333	2.3422	ng		91
63) Acenaphthene	8.345	153	14599	4.1605	ng		98
66) Dibenzofuran	8.500	168	16611	3.4049	ng		93
70) Fluorene	8.826	166	24364	5.5739	ng		97
84) Phenanthrene	9.814	178	235598	31.8824	ng		98
85) Anthracene	9.873	178	59086	7.9202	ng		97
86) Carbazole	10.044	167	22646	3.3167	ng		89
88) Fluoranthene	11.161	202	256697	30.6635	ng		81
90) Pyrene	11.428	202	209293	25.4380	ng		77
98) Benzo[a]anthracene	12.854	228	109759	13.1030	ng		99
99) Chrysene	12.897	228	87436	11.6608	ng		93
103) Benzo[b]fluoranthene	14.083	252	86297m	12.4167	ng		
104) Benzo[k]fluoranthene	14.110	252	28556m	4.2854	ng		
105) Benzo[a]pyrene	14.446	252	65873	9.9774	ng		89
106) Indeno[1,2,3-cd]pyrene	15.883	276	37060	5.3258	ng		64
107) Dibenzo[a,h]anthracene	15.899	278	12538m	2.1291	ng		
108) Benzo[g,h,i]perylene	16.284	276	37595	6.4187	ng		73

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

16



Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AC90773-002

Client Id: SB-02

Data File: 7M76370.D

Analysis Date: 04/20/16 14:08

Date Rec/Extracted: 04/14/16-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Soil

Initial Vol: 30g

Final Vol: 1ml

Dilution: 1

Solids: 92

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	0.072	U	205-99-2	Benzo[b]fluoranthene	0.072	0.17
95-94-3	1,2,4,5-Tetrachlorobenzene	0.072	U	191-24-2	Benzo[g,h,i]perylene	0.072	0.098
58-90-2	2,3,4,6-Tetrachlorophenol	0.072	U	207-08-9	Benzo[k]fluoranthene	0.072	U
95-95-4	2,4,5-Trichlorophenol	0.072	U	111-91-1	bis(2-Chloroethoxy)methan	0.072	U
88-06-2	2,4,6-Trichlorophenol	0.072	U	111-44-4	bis(2-Chloroethyl)ether	0.018	U
120-83-2	2,4-Dichlorophenol	0.018	U	108-60-1	bis(2-chloroisopropyl)ether	0.072	U
105-67-9	2,4-Dimethylphenol	0.018	U	117-81-7	bis(2-Ethylhexyl)phthalate	0.072	U
51-28-5	2,4-Dinitrophenol	0.36	U	85-68-7	Butylbenzylphthalate	0.072	U
121-14-2	2,4-Dinitrotoluene	0.072	U	105-60-2	Caprolactam	0.072	U
606-20-2	2,6-Dinitrotoluene	0.072	U	86-74-8	Carbazole	0.072	U
91-58-7	2-Chloronaphthalene	0.072	U	218-01-9	Chrysene	0.072	0.11
95-57-8	2-Chlorophenol	0.072	U	53-70-3	Dibenzo[a,h]anthracene	0.072	U
91-57-6	2-Methylnaphthalene	0.072	U	132-64-9	Dibenzofuran	0.018	U
95-48-7	2-Methylphenol	0.018	U	84-66-2	Diethylphthalate	0.072	U
88-74-4	2-Nitroaniline	0.072	U	131-11-3	Dimethylphthalate	0.072	U
88-75-5	2-Nitrophenol	0.072	U	84-74-2	Di-n-butylphthalate	0.018	U
106-44-5	3,4-Methylphenol	0.018	U	117-84-0	Di-n-octylphthalate	0.072	U
91-94-1	3,3'-Dichlorobenzidine	0.072	U	206-44-0	Fluoranthene	0.072	0.24
99-09-2	3-Nitroaniline	0.072	U	86-73-7	Fluorene	0.072	U
534-52-1	4,6-Dinitro-2-methylphenol	0.36	U	118-74-1	Hexachlorobenzene	0.072	U
101-55-3	4-Bromophenyl-phenylether	0.072	U	87-68-3	Hexachlorobutadiene	0.072	U
59-50-7	4-Chloro-3-methylphenol	0.072	U	77-47-4	Hexachlorocyclopentadiene	0.14	U
106-47-8	4-Chloroaniline	0.018	U	67-72-1	Hexachloroethane	0.072	U
7005-72-3	4-Chlorophenyl-phenylether	0.072	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.072	0.075
100-01-6	4-Nitroaniline	0.072	U	78-59-1	Isophorone	0.072	U
100-02-7	4-Nitrophenol	0.072	U	91-20-3	Naphthalene	0.018	0.052
83-32-9	Acenaphthene	0.072	U	98-95-3	Nitrobenzene	0.072	U
208-96-8	Acenaphthylene	0.072	U	621-64-7	N-Nitroso-di-n-propylamine	0.018	U
98-86-2	Acetophenone	0.072	U	86-30-6	n-Nitrosodiphenylamine	0.072	U
120-12-7	Anthracene	0.072	U	87-86-5	Pentachlorophenol	0.095	U
1912-24-9	Atrazine	0.072	U	85-01-8	Phenanthrene	0.072	0.18
100-52-7	Benzaldehyde	0.072	U	108-95-2	Phenol	0.072	U
56-55-3	Benzo[a]anthracene	0.072	0.13	129-00-0	Pyrene	0.072	0.19
50-32-8	Benzo[a]pyrene	0.072	0.10				

Worksheet #: 380499

Total Target Concentration 1.3

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

N-Nitrosodiphenylamine decomposes in the GC Inlet and is detected as diphenylamine

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used.

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-002
 Data File: 7M76370.D
 Acq On : 04/20/16 14:08

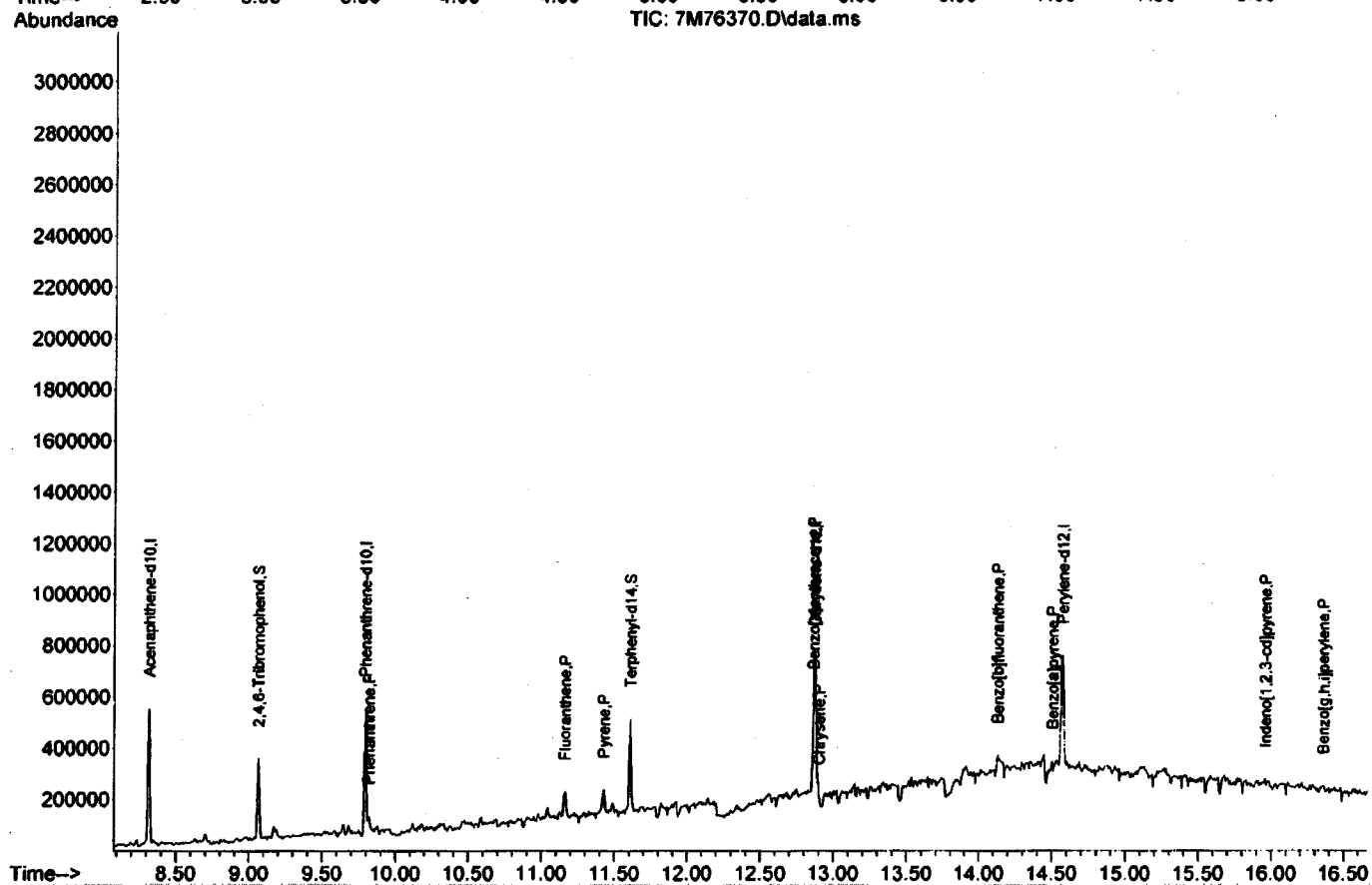
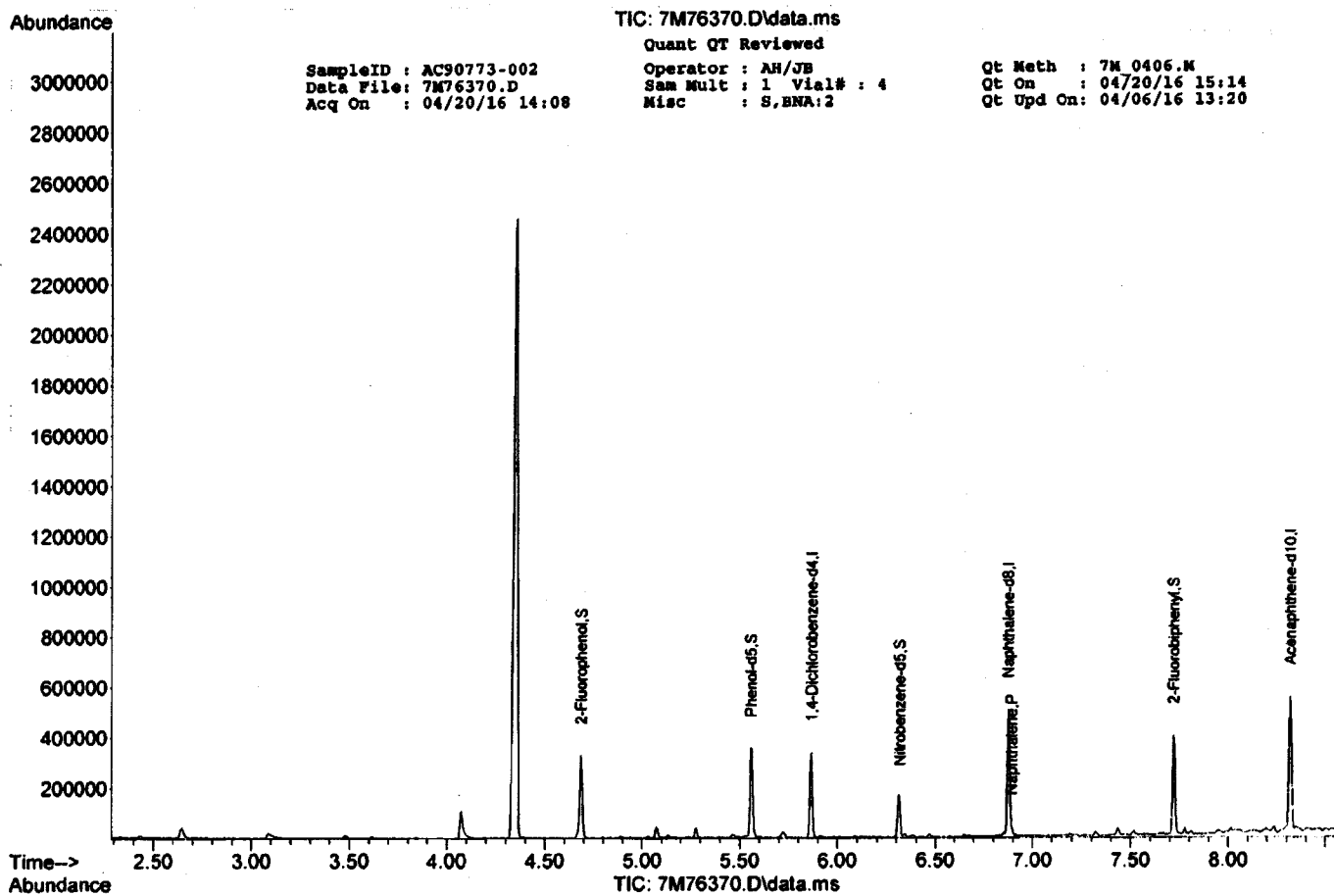
Operator : AH/JB
 Sam Mult : 1 Vial# : 4
 Misc : S.BNA:2

Qt Meth : 7M_0406.M
 Qt On : 04/20/16 15:14
 Qt Upd On: 04/06/16 13:20

Data Path : G:\GcmsData\2016\GCMS_7\Data\04-20-16\
 Qt Path : G:\GCMSDATA\2016\GCMS_7\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
7) 1,4-Dichlorobenzene-d4	5.867	152	43505	40.00	ng	0.00	
29) Naphthalene-d8	6.876	136	180427	40.00	ng	-0.02	
48) Acenaphthene-d10	8.319	164	116511	40.00	ng	-0.04	
75) Phenanthrene-d10	9.793	188	193163	40.00	ng	-0.03	
89) Chrysene-d12	12.876	240	241341	40.00	ng	0.00	
101) Perylene-d12	14.574	264	216330	40.00	ng	0.04	
System Monitoring Compounds							
10) 2-Fluorophenol	4.686	112	75338	47.77	ng	0.00	
Spiked Amount	100.000		Recovery	=	47.77%		
15) Phenol-d5	5.557	99	108672	49.05	ng	0.00	
Spiked Amount	100.000		Recovery	=	49.05%		
30) Nitrobenzene-d5	6.315	128	19487	22.44	ng	0.00	
Spiked Amount	50.000		Recovery	=	44.88%		
53) 2-Fluorobiphenyl	7.720	172	104601	26.09	ng	-0.04	
Spiked Amount	50.000		Recovery	=	52.18%		
78) 2,4,6-Tribromophenol	9.067	330	29667	53.64	ng	-0.03	
Spiked Amount	100.000		Recovery	=	53.64%		
92) Terphenyl-d14	11.610	244	103739	26.93	ng	-0.01	
Spiked Amount	50.000		Recovery	=	53.86%		
Target Compounds							
39) Naphthalene	6.892	128	7993	1.4434	ng	96	Qvalue
84) Phenanthrene	9.820	178	29818	4.8586	ng	95	
88) Fluoranthene	11.161	202	45269	6.5112	ng	85	
90) Pyrene	11.428	202	40092	5.2864	ng	81	
98) Benzo[a]anthracene	12.865	228	26992	3.4957	ng	95	
99) Chrysene	12.902	228	20444	2.9579	ng	89	
103) Benzo[b]fluoranthene	14.131	252	34284m	4.6697	ng		
105) Benzo[a]pyrene	14.505	252	19993	2.8667	ng	84	
106) Indeno[1,2,3-cd]pyrene	15.958	276	15301	2.0816	ng	99	
108) Benzo[g,h,i]perylene	16.359	276	16688	2.6972	ng	72	

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



Form 1
ORGANICS SEMIVOLATILE REPORT

Sample Number: AC90773-003
Client Id: SB-03
Data File: 7M76346.D
Analysis Date: 04/19/16 16:02
Date Rec/Extracted: 04/14/16-04/19/16
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 95

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	0.035	U	205-99-2	Benzo[b]fluoranthene	0.035	0.13
95-94-3	1,2,4,5-Tetrachlorobenzene	0.035	U	191-24-2	Benzo[g,h,i]perylene	0.035	0.068
58-90-2	2,3,4,6-Tetrachlorophenol	0.035	U	207-08-9	Benzo[k]fluoranthene	0.035	0.050
95-95-4	2,4,5-Trichlorophenol	0.035	U	111-91-1	bis(2-Chloroethoxy)methan	0.035	U
88-06-2	2,4,6-Trichlorophenol	0.035	U	111-44-4	bis(2-Chloroethyl)ether	0.0088	U
120-83-2	2,4-Dichlorophenol	0.0088	U	108-60-1	bis(2-chloroisopropyl)ether	0.035	U
105-67-9	2,4-Dimethylphenol	0.0088	U	117-81-7	bis(2-Ethylhexyl)phthalate	0.035	U
51-28-5	2,4-Dinitrophenol	0.18	U	85-68-7	Butylbenzylphthalate	0.035	U
121-14-2	2,4-Dinitrotoluene	0.035	U	105-60-2	Caprolactam	0.035	U
606-20-2	2,6-Dinitrotoluene	0.035	U	86-74-8	Carbazole	0.035	U
91-58-7	2-Chloronaphthalene	0.035	U	218-01-9	Chrysene	0.035	0.098
95-57-8	2-Chlorophenol	0.035	U	53-70-3	Dibenzo[a,h]anthracene	0.035	U
91-57-6	2-Methylnaphthalene	0.035	U	132-64-9	Dibenzofuran	0.0088	U
95-48-7	2-Methylphenol	0.0088	U	84-66-2	Diethylphthalate	0.035	U
88-74-4	2-Nitroaniline	0.035	U	131-11-3	Dimethylphthalate	0.035	U
88-75-5	2-Nitrophenol	0.035	U	84-74-2	Di-n-butylphthalate	0.0088	U
106-44-5	3,4-Methylphenol	0.0088	U	117-84-0	Di-n-octylphthalate	0.035	U
91-94-1	3,3'-Dichlorobenzidine	0.035	U	206-44-0	Fluoranthene	0.035	0.16
99-09-2	3-Nitroaniline	0.035	U	86-73-7	Fluorene	0.035	U
534-52-1	4,6-Dinitro-2-methylphenol	0.18	U	118-74-1	Hexachlorobenzene	0.035	U
101-55-3	4-Bromophenyl-phenylether	0.035	U	87-68-3	Hexachlorobutadiene	0.035	U
59-50-7	4-Chloro-3-methylphenol	0.035	U	77-47-4	Hexachlorocyclopentadiene	0.069	U
106-47-8	4-Chloroaniline	0.0088	U	67-72-1	Hexachloroethane	0.035	U
7005-72-3	4-Chlorophenyl-phenylether	0.035	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.035	0.059
100-01-6	4-Nitroaniline	0.035	U	78-59-1	Isophorone	0.035	U
100-02-7	4-Nitrophenol	0.035	U	91-20-3	Naphthalene	0.0088	U
83-32-9	Acenaphthene	0.035	U	98-95-3	Nitrobenzene	0.035	U
208-96-8	Acenaphthylene	0.035	U	621-64-7	N-Nitroso-di-n-propylamine	0.0088	U
98-86-2	Acetophenone	0.035	U	86-30-6	n-Nitrosodiphenylamine	0.035	U
120-12-7	Anthracene	0.035	U	87-86-5	Pentachlorophenol	0.046	U
1912-24-9	Atrazine	0.035	U	85-01-8	Phenanthrene	0.035	0.070
100-52-7	Benzaldehyde	0.035	U	108-95-2	Phenol	0.035	U
56-55-3	Benzo[a]anthracene	0.035	0.087	129-00-0	Pyrene	0.035	0.15
50-32-8	Benzo[a]pyrene	0.035	0.10				

Worksheet #: 380499

Total Target Concentration 0.97

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration used.

N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-003
 Data File: 7M76346.D
 Acq On : 04/19/16 16:02

Operator : AH/JB
 Sam Mult : 1 Vial# : 13
 Misc : S,BNA

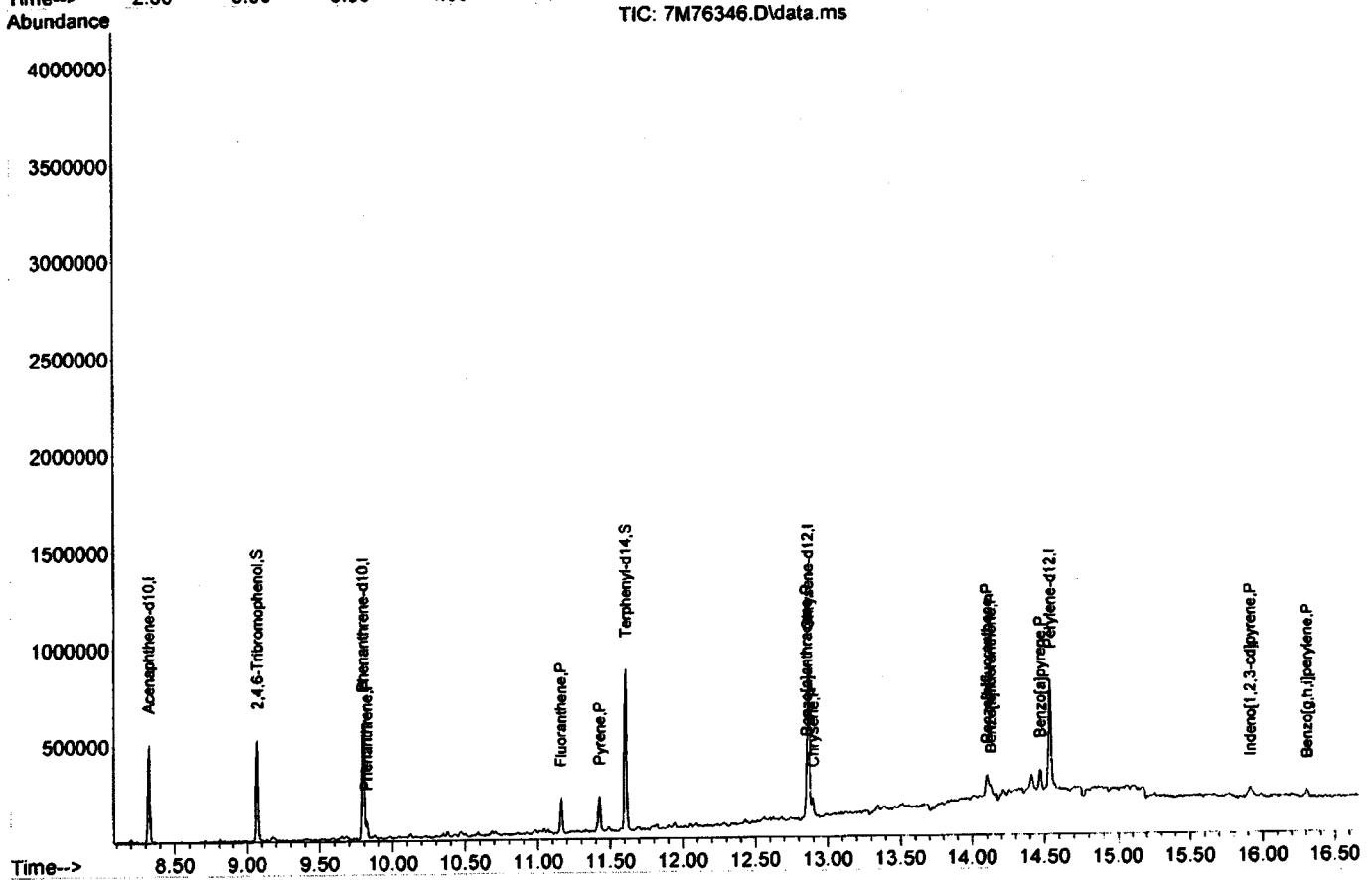
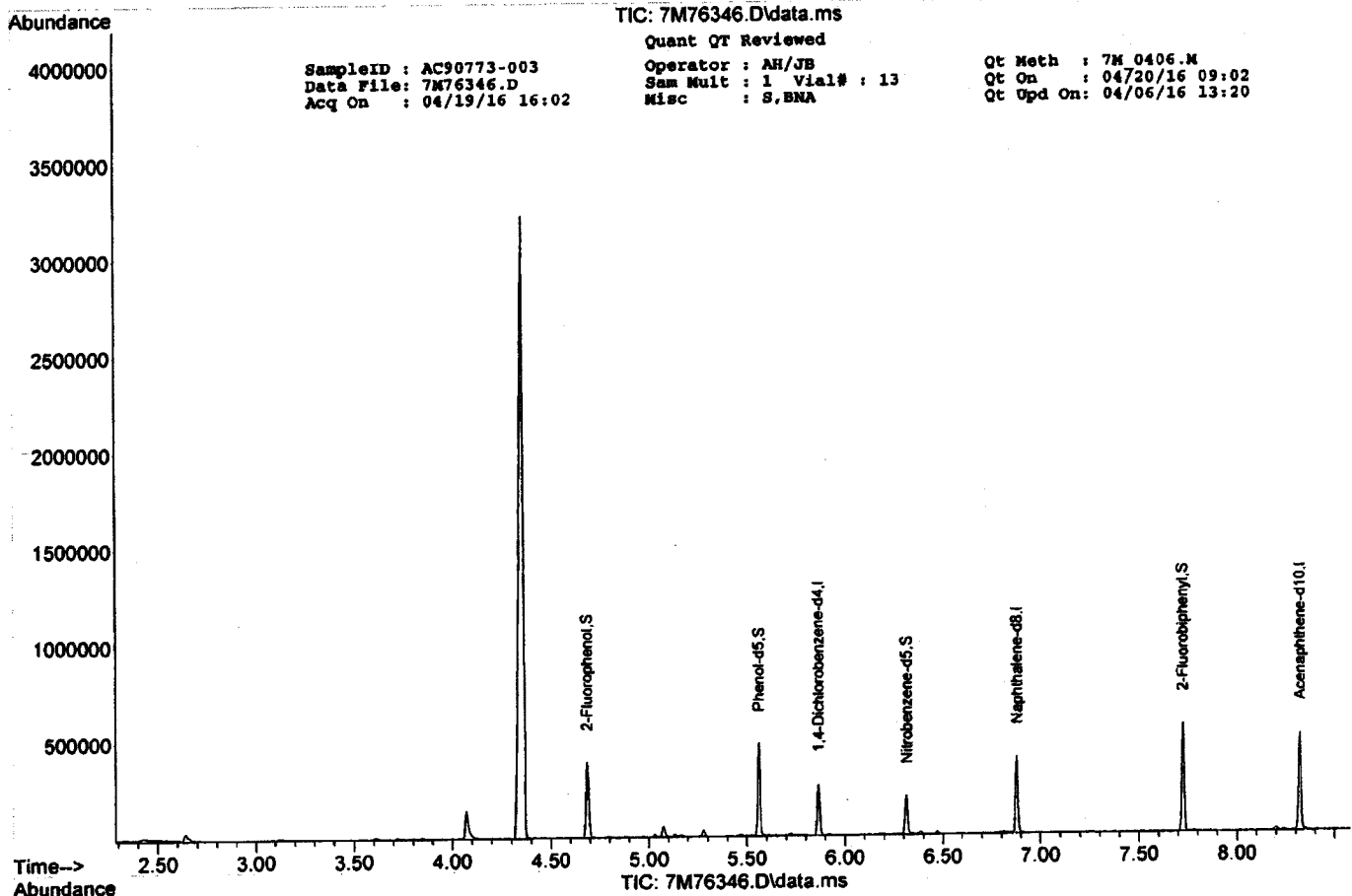
Qt Meth : 7M 0406.M
 Qt On : 04/20/16 09:02
 Qt Upd On: 04/06/16 13:20

Data Path : G:\GCMSData\2016\GCMS_7\Data\04-1916\
 Qt Path : G:\GCMSData\2016\GCMS_7\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
7) 1,4-Dichlorobenzene-d4	5.867	152	32749	40.00	ng	0.00	
29) Naphthalene-d8	6.882	136	144767	40.00	ng	-0.02	
48) Acenaphthene-d10	8.324	164	112037	40.00	ng	-0.03	
75) Phenanthrene-d10	9.793	188	243246	40.00	ng	-0.03	
89) Chrysene-d12	12.865	240	321345	40.00	ng	0.00	
101) Perylene-d12	14.537	264	254978	40.00	ng	0.00	
System Monitoring Compounds							
10) 2-Fluorophenol	4.686	112	94844	79.89	ng	0.00	
Spiked Amount	100.000		Recovery	=	79.89%		
15) Phenol-d5	5.562	99	132778	79.62	ng	0.00	
Spiked Amount	100.000		Recovery	=	79.62%		
30) Nitrobenzene-d5	6.315	128	25672	36.84	ng	0.00	
Spiked Amount	50.000		Recovery	=	73.68%		
53) 2-Fluorobiphenyl	7.726	172	147271	38.20	ng	-0.03	
Spiked Amount	50.000		Recovery	=	76.40%		
78) 2,4,6-Tribromophenol	9.072	330	57974	83.24	ng	-0.03	
Spiked Amount	100.000		Recovery	=	83.24%		
92) Terphenyl-d14	11.609	244	246254	48.01	ng	-0.01	
Spiked Amount	50.000		Recovery	=	96.02%		
Target Compounds							
84) Phenanthrene	9.820	178	30838	3.9903	ng	96	Qvalue
88) Fluoranthene	11.161	202	80661	9.2129	ng	89	
90) Pyrene	11.428	202	85671	8.4839	ng	78	
98) Benzo[a]anthracene	12.854	228	50960	4.9567	ng	92	
99) Chrysene	12.897	228	51513	5.5974	ng	94	
103) Benzo[b]fluoranthene	14.104	252	64010m	7.3971	ng		
104) Benzo[k]fluoranthene	14.131	252	23425m	2.8234	ng		
105) Benzo[a]pyrene	14.473	252	46907	5.7062	ng	88	
106) Indeno[1,2,3-cd]pyrene	15.915	276	29197	3.3699	ng	66	
108) Benzo[g,h,i]perylene	16.311	276	28255	3.8745	ng	66	

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

ku



Form 1
ORGANICS SEMIVOLATILE REPORT

Sample Number: AC90773-004
Client Id: SB-04
Data File: 9M70510.D
Analysis Date: 04/19/16 15:23
Date Rec/Extracted: 04/14/16-04/19/16
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 98

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	0.034	U	205-99-2	Benzo[b]fluoranthene	0.034	U
95-94-3	1,2,4,5-Tetrachlorobenzene	0.034	U	191-24-2	Benzo[g,h,i]perylene	0.034	U
58-90-2	2,3,4,6-Tetrachlorophenol	0.034	U	207-08-9	Benzo[k]fluoranthene	0.034	U
95-95-4	2,4,5-Trichlorophenol	0.034	U	111-91-1	bis(2-Chloroethoxy)methan	0.034	U
88-06-2	2,4,6-Trichlorophenol	0.034	U	111-44-4	bis(2-Chloroethyl)ether	0.0085	U
120-83-2	2,4-Dichlorophenol	0.0085	U	108-60-1	bis(2-chloroisopropyl)ether	0.034	U
105-67-9	2,4-Dimethylphenol	0.0085	U	117-81-7	bis(2-Ethylhexyl)phthalate	0.034	U
51-28-5	2,4-Dinitrophenol	0.17	U	85-68-7	Butylbenzylphthalate	0.034	U
121-14-2	2,4-Dinitrotoluene	0.034	U	105-60-2	Caprolactam	0.034	U
606-20-2	2,6-Dinitrotoluene	0.034	U	86-74-8	Carbazole	0.034	U
91-58-7	2-Chloronaphthalene	0.034	U	218-01-9	Chrysene	0.034	U
95-57-8	2-Chlorophenol	0.034	U	53-70-3	Dibenzo[a,h]anthracene	0.034	U
91-57-6	2-Methylnaphthalene	0.034	U	132-64-9	Dibenzofuran	0.0085	U
95-48-7	2-Methylphenol	0.0085	U	84-66-2	Diethylphthalate	0.034	U
88-74-4	2-Nitroaniline	0.034	U	131-11-3	Dimethylphthalate	0.034	U
88-75-5	2-Nitrophenol	0.034	U	84-74-2	Di-n-butylphthalate	0.0085	U
106-44-5	3&4-Methylphenol	0.0085	U	117-84-0	Di-n-octylphthalate	0.034	U
91-94-1	3,3'-Dichlorobenzidine	0.034	U	206-44-0	Fluoranthene	0.034	U
99-09-2	3-Nitroaniline	0.034	U	86-73-7	Fluorene	0.034	U
534-52-1	4,6-Dinitro-2-methylphenol	0.17	U	118-74-1	Hexachlorobenzene	0.034	U
101-55-3	4-Bromophenyl-phenylether	0.034	U	87-68-3	Hexachlorobutadiene	0.034	U
59-50-7	4-Chloro-3-methylphenol	0.034	U	77-47-4	Hexachlorocyclopentadiene	0.067	U
106-47-8	4-Chloroaniline	0.0085	U	67-72-1	Hexachloroethane	0.034	U
7005-72-3	4-Chlorophenyl-phenylether	0.034	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.034	U
100-01-6	4-Nitroaniline	0.034	U	78-59-1	Isophorone	0.034	U
100-02-7	4-Nitrophenol	0.034	U	91-20-3	Naphthalene	0.0085	U
83-32-9	Acenaphthene	0.034	U	98-95-3	Nitrobenzene	0.034	U
208-96-8	Acenaphthylene	0.034	U	621-64-7	N-Nitroso-di-n-propylamine	0.0085	U
98-86-2	Acetophenone	0.034	U	86-30-6	n-Nitrosodiphenylamine	0.034	U
120-12-7	Anthracene	0.034	U	87-86-5	Pentachlorophenol	0.17	U
1912-24-9	Atrazine	0.034	U	85-01-8	Phenanthrene	0.034	U
100-52-7	Benzaldehyde	0.034	U	108-95-2	Phenol	0.034	U
56-55-3	Benzo[a]anthracene	0.034	U	129-00-0	Pyrene	0.034	U
50-32-8	Benzo[a]pyrene	0.034	U				

Worksheet #: 380499

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.*B* - Indicates the analyte was found in the blank as well as in the sample.*E* - Indicates the analyte concentration exceeds the calibration range of the instrument.*N*-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine*R* - Retention Time Out*J* - Indicates an estimated value when a compound is detected at less than the specified detection limit.*d* - Pesticide %Diff>40% between columns due to coelution. Lower concentration use.*Chlordane (Total)* is sum of *α*-Chlordane and *γ*-Chlordane.

SampleID : AC90773-004
 Data File: 9M70510.D
 Acq On : 04/19/16 15:23

Operator : AH/JB
 Sam Mult : 1 Vial# : 12
 Misc : S,BNA

Qt Meth : 9M_0406M.M
 Qt On : 04/20/16 09:05
 Qt Upd On: 04/07/16 08:36

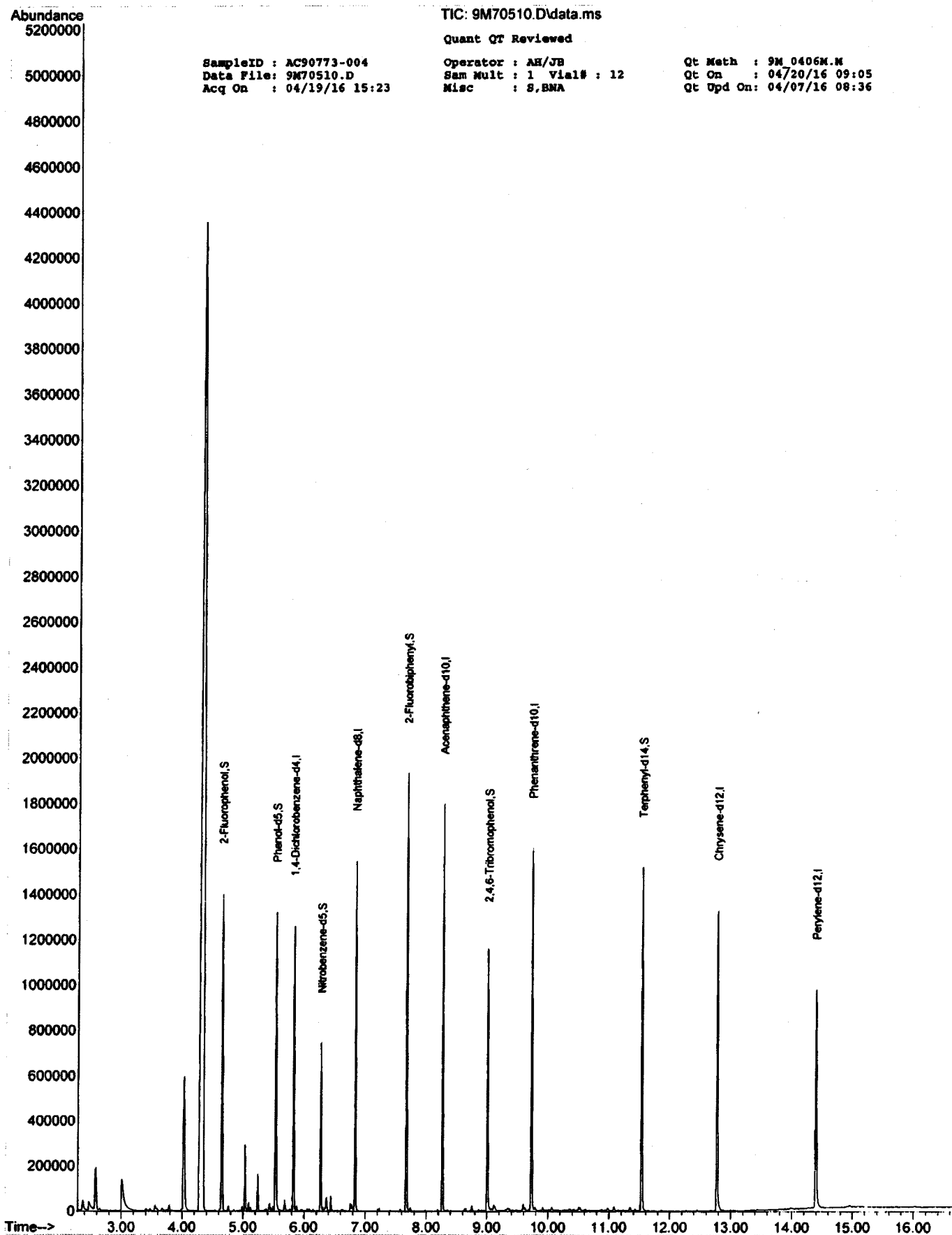
Data Path : G:\GCMSData\2016\GCMS_9\Data\04-19-16\
 Qt Path : G:\GCMSData\2016\GCMS_9\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dichlorobenzene-d4	5.828	152	182174	40.00	ng	0.00
29) Naphthalene-d8	6.833	136	674618	40.00	ng	0.00
48) Acenaphthene-d10	8.267	164	393503	40.00	ng	0.00
75) Phenanthrene-d10	9.727	188	651847	40.00	ng	0.00
89) Chrysene-d12	12.781	240	581671	40.00	ng	-0.01
101) Perylene-d12	14.396	264	439307	40.00	ng	-0.01

System Monitoring Compounds						
10) 2-Fluorophenol	4.651	112	448726	67.05	ng	0.03
Spiked Amount	100.000		Recovery	=	67.05%	
15) Phenol-d5	5.533	99	594655	67.69	ng	0.03
Spiked Amount	100.000		Recovery	=	67.69%	
30) Nitrobenzene-d5	6.277	128	117213	41.03	ng	0.00
Spiked Amount	50.000		Recovery	=	82.06%	
53) 2-Fluorobiphenyl	7.678	172	569841	40.46	ng	0.00
Spiked Amount	50.000		Recovery	=	80.92%	
78) 2,4,6-Tribromophenol	9.010	330	163986	85.60	ng	0.00
Spiked Amount	100.000		Recovery	=	85.60%	
92) Terphenyl-d14	11.535	244	470934	49.14	ng	0.00
Spiked Amount	50.000		Recovery	=	98.28%	

Target Compounds Qvalue

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



SampleID : AC90773-004
Data File: 9M70510.D
Acq On : 04/19/16 15:23

TIC: 9M70510.D\data.ms
Quant QT Reviewed
Operator : AH/JB
Sam Mult : 1 Vial# : 12
Misc : S,BNA

Qt Meth : 9M 0406M.M
Qt On : 04/20/16 09:05
Qt Upd On: 04/07/16 08:36

Form 1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AC90773-009(3X)

Client Id: SS-01

Data File: 7M76353.D

Analysis Date: 04/19/16 18:43

Date Rec/Extracted: 04/14/16-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Soil

Initial Vol: 30g

Final Vol: 0.5ml

Dilution: 3

Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	0.12	U	205-99-2	Benzo[b]fluoranthene	0.12	1.9
95-94-3	1,2,4,5-Tetrachlorobenzene	0.12	U	191-24-2	Benzo[g,h,i]perylene	0.12	0.74
58-90-2	2,3,4,6-Tetrachlorophenol	0.12	U	207-08-9	Benzo[k]fluoranthene	0.12	0.51
95-95-4	2,4,5-Trichlorophenol	0.12	U	111-91-1	bis(2-Chloroethoxy)methan	0.12	U
88-06-2	2,4,6-Trichlorophenol	0.12	U	111-44-4	bis(2-Chloroethyl)ether	0.029	U
120-83-2	2,4-Dichlorophenol	0.029	U	108-60-1	bis(2-chloroisopropyl)ether	0.12	U
105-67-9	2,4-Dimethylphenol	0.029	U	117-81-7	bis(2-Ethylhexyl)phthalate	0.12	U
51-28-5	2,4-Dinitrophenol	0.59	U	85-68-7	Butylbenzylphthalate	0.12	U
121-14-2	2,4-Dinitrotoluene	0.12	U	105-60-2	Caprolactam	0.12	U
606-20-2	2,6-Dinitrotoluene	0.12	U	86-74-8	Carbazole	0.12	0.53
91-58-7	2-Chloronaphthalene	0.12	U	218-01-9	Chrysene	0.12	1.6
95-57-8	2-Chlorophenol	0.12	U	53-70-3	Dibenzo[a,h]anthracene	0.12	0.24
91-57-6	2-Methylnaphthalene	0.12	0.19	132-64-9	Dibenzofuran	0.029	0.48
95-48-7	2-Methylphenol	0.029	U	84-66-2	Diethylphthalate	0.12	U
88-74-4	2-Nitroaniline	0.12	U	131-11-3	Dimethylphthalate	0.12	U
88-75-5	2-Nitrophenol	0.12	U	84-74-2	Di-n-butylphthalate	0.029	U
106-44-5	3&4-Methylphenol	0.029	U	117-84-0	Di-n-octylphthalate	0.12	U
91-94-1	3,3'-Dichlorobenzidine	0.12	U	206-44-0	Fluoranthene	0.12	4.4
99-09-2	3-Nitroaniline	0.12	U	86-73-7	Fluorene	0.12	0.71
534-52-1	4,6-Dinitro-2-methylphenol	0.59	U	118-74-1	Hexachlorobenzene	0.12	U
101-55-3	4-Bromophenyl-phenylether	0.12	U	87-68-3	Hexachlorobutadiene	0.12	U
59-50-7	4-Chloro-3-methylphenol	0.12	U	77-47-4	Hexachlorocyclopentadiene	0.23	U
106-47-8	4-Chloroaniline	0.029	U	67-72-1	Hexachloroethane	0.12	U
7005-72-3	4-Chlorophenyl-phenylether	0.12	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.12	0.72
100-01-6	4-Nitroaniline	0.12	U	78-59-1	Isophorone	0.12	U
100-02-7	4-Nitrophenol	0.12	U	91-20-3	Naphthalene	0.029	0.51
83-32-9	Acenaphthene	0.12	0.53	98-95-3	Nitrobenzene	0.12	U
208-96-8	Acenaphthylene	0.12	U	621-64-7	N-Nitroso-di-n-propylamine	0.029	U
98-86-2	Acetophenone	0.12	U	86-30-6	n-Nitrosodiphenylamine	0.12	U
120-12-7	Anthracene	0.12	1.1	87-86-5	Pentachlorophenol	0.15	U
1912-24-9	Atrazine	0.12	U	85-01-8	Phenanthrene	0.12	4.6
100-52-7	Benzaldehyde	0.12	U	108-95-2	Phenol	0.12	U
56-55-3	Benzo[a]anthracene	0.12	1.7	129-00-0	Pyrene	0.12	3.5
50-32-8	Benzo[a]pyrene	0.12	1.3				

Worksheet #: 380499

Total Target Concentration 25

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

R - Retention Time Out

B - Indicates the analyte was found in the blank as well as in the sample.

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration use a

N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-009(3X)
 Data File: 7M76353.D
 Acq On : 04/19/16 18:43

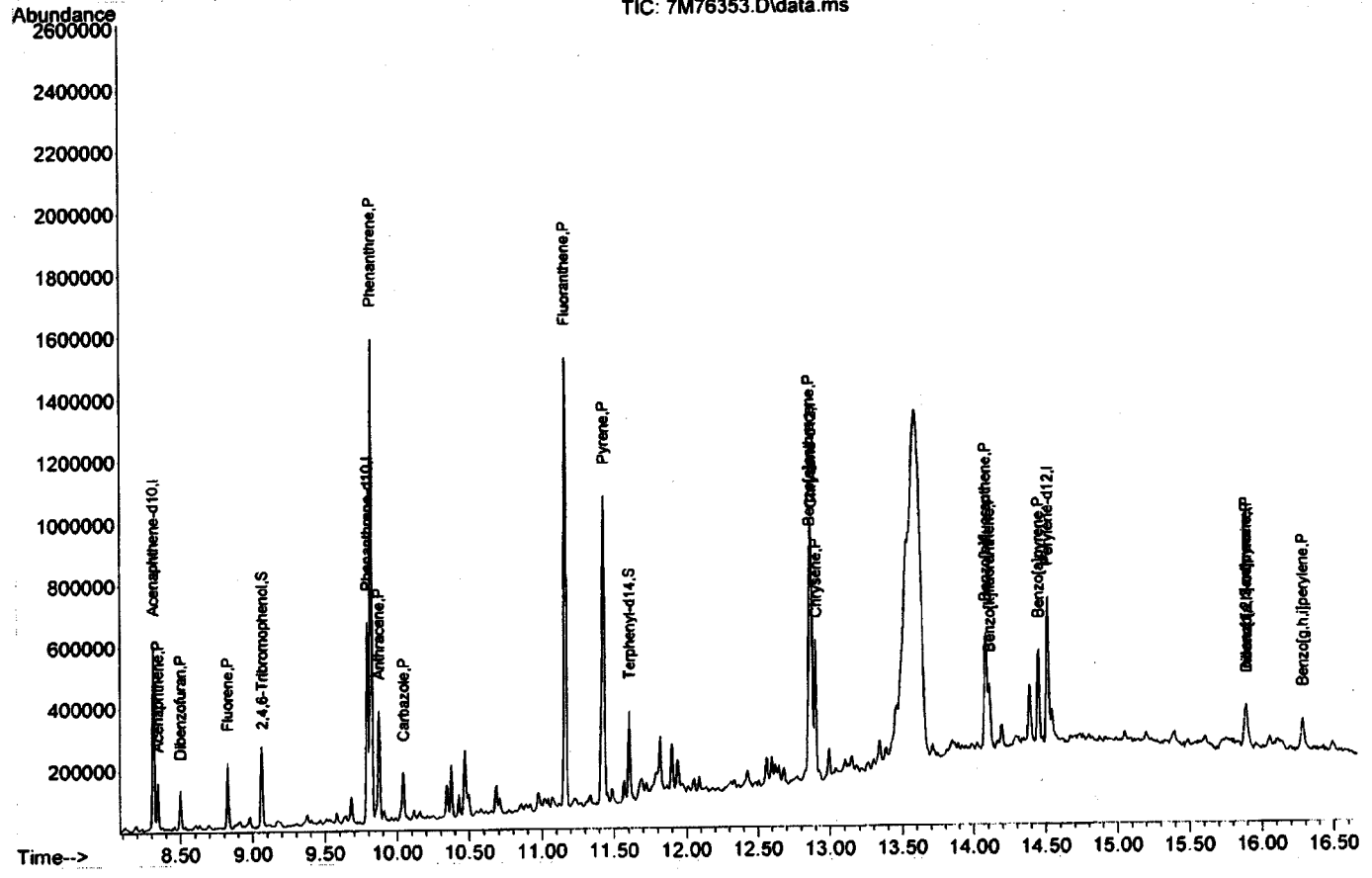
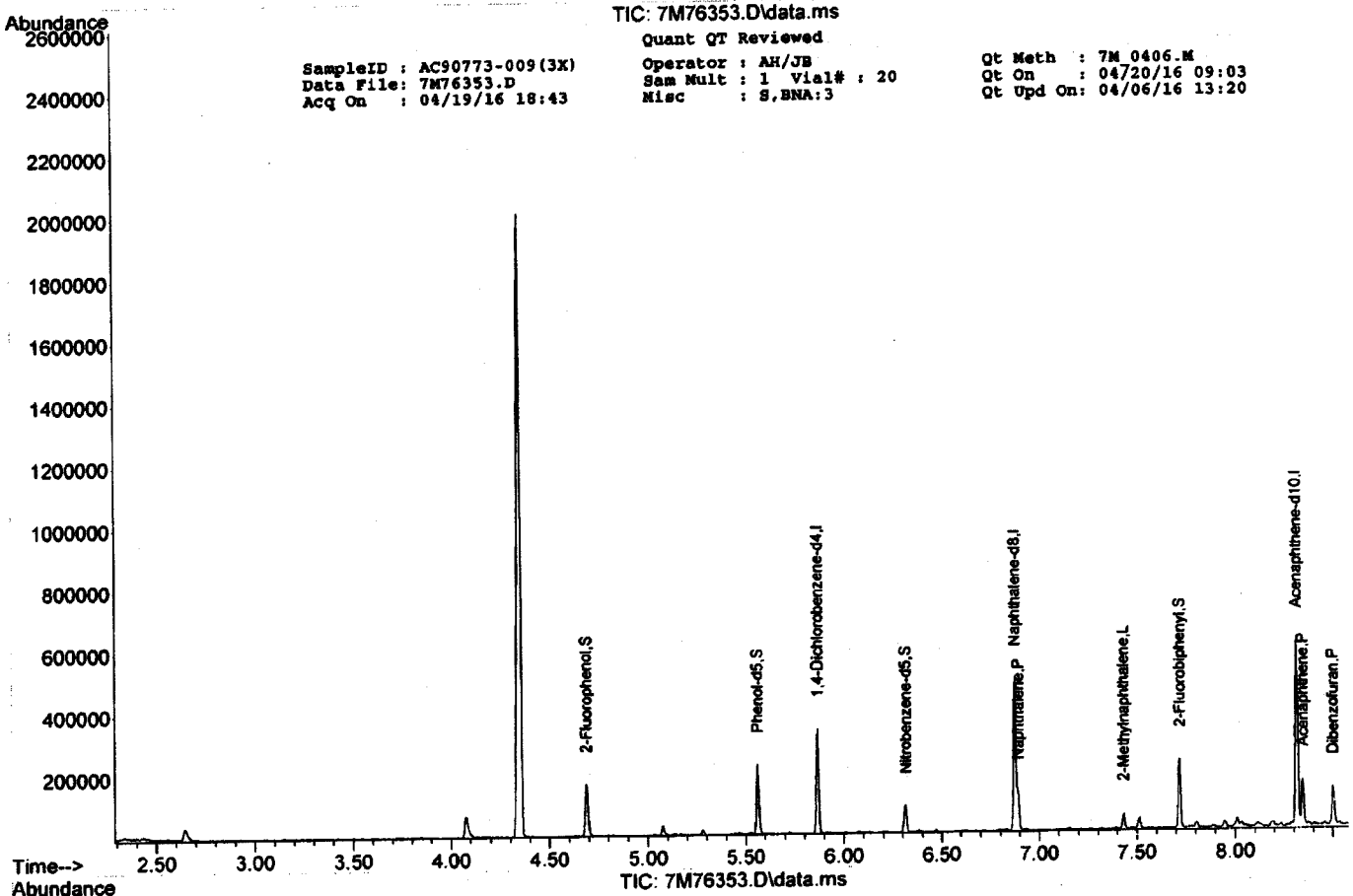
Operator : AH/JB
 Sam Mult : 1 Vial# : 20
 Misc : S,BNA:3

Qt Meth : 7M 0406.M
 Qt On : 04/20/16 09:03
 Qt Upd On: 04/06/16 13:20

Data Path : G:\GCMSData\2016\GCMS_7\Data\04-1916\
 Qt Path : G:\GCMSDATA\2016\GCMS_7\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
7) 1,4-Dichlorobenzene-d4	5.867	152	40011	40.00	ng	0.00	
29) Naphthalene-d8	6.876	136	168908	40.00	ng	-0.02	
48) Acenaphthene-d10	8.313	164	125118	40.00	ng	-0.04	
75) Phenanthrene-d10	9.793	188	245540	40.00	ng	-0.03	
89) Chrysene-d12	12.870	240	261832	40.00	ng	0.00	
101) Perylene-d12	14.516	264	203533	40.00	ng	-0.02	
System Monitoring Compounds							
10) 2-Fluorophenol	4.686	112	41429	28.56	ng	0.00	
Spiked Amount	100.000		Recovery	=	28.56%		
15) Phenol-d5	5.562	99	62281	30.57	ng	0.00	
Spiked Amount	100.000		Recovery	=	30.57%		
30) Nitrobenzene-d5	6.315	128	10886	13.39	ng	0.00	
Spiked Amount	50.000		Recovery	=	26.78%		
53) 2-Fluorobiphenyl	7.720	172	59700	13.86	ng	-0.04	
Spiked Amount	50.000		Recovery	=	27.72%		
78) 2,4,6-Tribromophenol	9.067	330	23169	32.95	ng	-0.03	
Spiked Amount	100.000		Recovery	=	32.95%		
92) Terphenyl-d14	11.609	244	73029	17.47	ng	-0.01	
Spiked Amount	50.000		Recovery	=	34.94%		
Target Compounds							
39) Naphthalene	6.892	128	44763	8.6347	ng	98	Qvalue
44) 2-Methylnaphthalene	7.432	142	11136	3.1648	ng	93	
63) Acenaphthene	8.345	153	34903	8.9635	ng	95	
66) Dibenzofuran	8.500	168	44097	8.1310	ng	84	
70) Fluorene	8.826	166	58815	12.1254	ng	93	
84) Phenanthrene	9.820	178	608317	77.9772	ng	98	
85) Anthracene	9.873	178	148978	18.9160	ng	99	
86) Carbazole	10.044	167	65119	9.0341	ng	96	
88) Fluoranthene	11.161	202	657076	74.3488	ng	85	
90) Pyrene	11.428	202	488770	59.4038	ng	81	
98) Benzo[a]anthracene	12.860	228	237099	28.3037	ng	100	
99) Chrysene	12.902	228	205470	27.4011	ng	96	
103) Benzo[b]fluoranthene	14.083	252	223449m	32.3487	ng		
104) Benzo[k]fluoranthene	14.110	252	57717m	8.7150	ng		
105) Benzo[a]pyrene	14.451	252	148008	22.5561	ng	88	
106) Indeno[1,2,3-cd]pyrene	15.894	276	84160	12.1691	ng	84	
107) Dibenz[a,h]anthracene	15.894	278	24178	4.1311	ng	64	
108) Benzo[g,h,i]perylene	16.284	276	73540	12.6331	ng	73	

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



Form 1
ORGANICS SEMIVOLATILE REPORT

Sample Number: AC90773-010
Client Id: SS-02
Data File: 7M76371.D
Analysis Date: 04/20/16 14:31
Date Rec/Extracted: 04/14/16-04/19/16
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D
Matrix: Soil
Initial Vol: 30g
Final Vol: 1ml
Dilution: 1
Solids: 94

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	0.071	U	205-99-2	Benzo[b]fluoranthene	0.071	0.093
95-94-3	1,2,4,5-Tetrachlorobenzene	0.071	U	191-24-2	Benzo[g,h,i]perylene	0.071	U
58-90-2	2,3,4,6-Tetrachlorophenol	0.071	U	207-08-9	Benzo[k]fluoranthene	0.071	U
95-95-4	2,4,5-Trichlorophenol	0.071	U	111-91-1	bis(2-Chloroethoxy)methan	0.071	U
88-06-2	2,4,6-Trichlorophenol	0.071	U	111-44-4	bis(2-Chloroethyl)ether	0.018	U
120-83-2	2,4-Dichlorophenol	0.018	U	108-60-1	bis(2-chloroisopropyl)ether	0.071	U
105-67-9	2,4-Dimethylphenol	0.018	U	117-81-7	bis(2-Ethylhexyl)phthalate	0.071	U
51-28-5	2,4-Dinitrophenol	0.35	U	85-68-7	Butylbenzylphthalate	0.071	U
121-14-2	2,4-Dinitrotoluene	0.071	U	105-60-2	Caprolactam	0.071	U
606-20-2	2,6-Dinitrotoluene	0.071	U	86-74-8	Carbazole	0.071	U
91-58-7	2-Chloronaphthalene	0.071	U	218-01-9	Chrysene	0.071	0.10
95-57-8	2-Chlorophenol	0.071	U	53-70-3	Dibenzo[a,h]anthracene	0.071	U
91-57-6	2-Methylnaphthalene	0.071	U	132-64-9	Dibenzofuran	0.018	U
95-48-7	2-Methylphenol	0.018	U	84-66-2	Diethylphthalate	0.071	U
88-74-4	2-Nitroaniline	0.071	U	131-11-3	Dimethylphthalate	0.071	U
88-75-5	2-Nitrophenol	0.071	U	84-74-2	Di-n-butylphthalate	0.018	U
106-44-5	3,4-Methylphenol	0.018	U	117-84-0	Di-n-octylphthalate	0.071	U
91-94-1	3,3'-Dichlorobenzidine	0.071	U	206-44-0	Fluoranthene	0.071	0.17
99-09-2	3-Nitroaniline	0.071	U	86-73-7	Fluorene	0.071	U
534-52-1	4,6-Dinitro-2-methylphenol	0.35	U	118-74-1	Hexachlorobenzene	0.071	U
101-55-3	4-Bromophenyl-phenylether	0.071	U	87-68-3	Hexachlorobutadiene	0.071	U
59-50-7	4-Chloro-3-methylphenol	0.071	U	77-47-4	Hexachlorocyclopentadiene	0.14	U
106-47-8	4-Chloroaniline	0.018	U	67-72-1	Hexachloroethane	0.071	U
7005-72-3	4-Chlorophenyl-phenylether	0.071	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.071	U
100-01-6	4-Nitroaniline	0.071	U	78-59-1	Isophorone	0.071	U
100-02-7	4-Nitrophenol	0.071	U	91-20-3	Naphthalene	0.018	U
83-32-9	Acenaphthene	0.071	U	98-95-3	Nitrobenzene	0.071	U
208-96-8	Acenaphthylene	0.071	U	621-64-7	N-Nitroso-di-n-propylamine	0.018	U
98-86-2	Acetophenone	0.071	U	86-30-6	n-Nitrosodiphenylamine	0.071	U
120-12-7	Anthracene	0.071	U	87-86-5	Pentachlorophenol	0.093	U
1912-24-9	Atrazine	0.071	U	85-01-8	Phenanthrene	0.071	0.12
100-52-7	Benzaldehyde	0.071	U	108-95-2	Phenol	0.071	U
56-55-3	Benzo[a]anthracene	0.071	U	129-00-0	Pyrene	0.071	0.14
50-32-8	Benzo[a]pyrene	0.071	U				

Worksheet #: 380499

Total Target Concentration 0.62

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.*B* - Indicates the analyte was found in the blank as well as in the sample.*E* - Indicates the analyte concentration exceeds the calibration range of the instrument.*N*-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine*R* - Retention Time Out*J* - Indicates an estimated value when a compound is detected at less than the specified detection limit.*d* - Pesticide %Diff > 40% between columns due to coelution. Lower concentration usesChlordane (Total) is sum of *α*-Chlordane and *γ*-Chlordane.

SampleID : AC90773-010
 Data File: 7M76371.D
 Acq On : 04/20/16 14:31

Operator : AH/JB
 Sam Mult : 1 Vial# : 5
 Misc : S,BNA:2

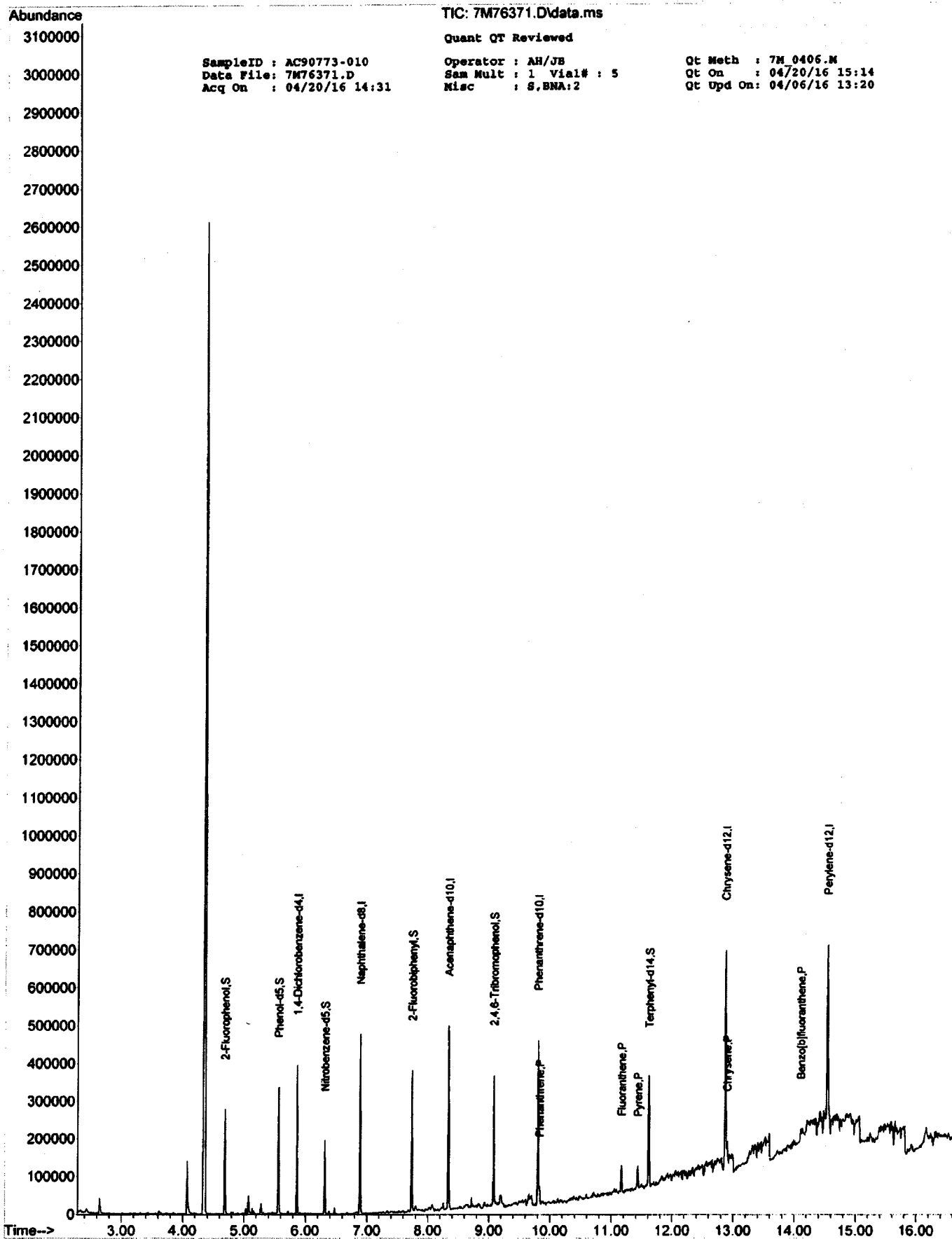
Qt Meth : 7M_0406.M
 Qt On : 04/20/16 15:14
 Qt Upd On: 04/06/16 13:20

Data Path : G:\GcMsData\2016\GCMS_7\Data\04-20-16\
 Qt Path : G:\GCMSDATA\2016\GCMS_7\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
7) 1,4-Dichlorobenzene-d4	5.866	152	49060	40.00	ng	0.00	
29) Naphthalene-d8	6.887	136	163582	40.00	ng	-0.01	
48) Acenaphthene-d10	8.335	164	104953	40.00	ng	-0.02	
75) Phenanthrene-d10	9.804	188	178109	40.00	ng	-0.02	
89) Chrysene-d12	12.870	240	222851	40.00	ng	0.00	
101) Perylene-d12	14.542	264	207065	40.00	ng	0.00	
System Monitoring Compounds							
10) 2-Fluorophenol	4.686	112	70412	39.59	ng	0.00	
Spiked Amount	100.000		Recovery	=	39.59%		
15) Phenol-d5	5.562	99	99464	39.81	ng	0.00	
Spiked Amount	100.000		Recovery	=	39.81%		
30) Nitrobenzene-d5	6.315	128	19526	24.80	ng	0.00	
Spiked Amount	50.000		Recovery	=	49.60%		
53) 2-Fluorobiphenyl	7.742	172	108953	30.16	ng	-0.02	
Spiked Amount	50.000		Recovery	=	60.32%		
78) 2,4,6-Tribromophenol	9.082	330	32629	63.98	ng	-0.02	
Spiked Amount	100.000		Recovery	=	63.98%		
92) Terphenyl-d14	11.615	244	90866	25.55	ng	0.00	
Spiked Amount	50.000		Recovery	=	51.10%		
Target Compounds							
84) Phenanthrene	9.830	178	19145	3.3832	ng	98	
88) Fluoranthene	11.166	202	30628	4.7776	ng	82	
90) Pyrene	11.433	202	28624	4.0874	ng	81	
99) Chrysene	12.902	228	17987	2.8183	ng	99	
103) Benzo [b] fluoranthene	14.110	252	18421m	2.6213	ng		

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

h



Form1
ORGANICS SEMIVOLATILE REPORT

Sample Number: AC90773-011

Client Id: DUP01

Data File: 7M76347.D

Analysis Date: 04/19/16 16:25

Date Rec/Extracted: 04/14/16-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Soil

Initial Vol: 30g

Final Vol: 0.5ml

Dilution: 1

Solids: 94

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	0.035	U	205-99-2	Benzo[b]fluoranthene	0.035	0.72
95-94-3	1,2,4,5-Tetrachlorobenzene	0.035	U	191-24-2	Benzo[g,h,i]perylene	0.035	0.36
58-90-2	2,3,4,6-Tetrachlorophenol	0.035	U	207-08-9	Benzo[k]fluoranthene	0.035	0.21
95-95-4	2,4,5-Trichlorophenol	0.035	U	111-91-1	bis(2-Chloroethoxy)methan	0.035	U
88-06-2	2,4,6-Trichlorophenol	0.035	U	111-44-4	bis(2-Chloroethyl)ether	0.0089	U
120-83-2	2,4-Dichlorophenol	0.0089	U	108-60-1	bis(2-chloroisopropyl)ether	0.035	U
105-67-9	2,4-Dimethylphenol	0.0089	U	117-81-7	bis(2-Ethylhexyl)phthalate	0.035	U
51-28-5	2,4-Dinitrophenol	0.18	U	85-68-7	Butylbenzylphthalate	0.035	U
121-14-2	2,4-Dinitrotoluene	0.035	U	105-60-2	Caprolactam	0.035	U
606-20-2	2,6-Dinitrotoluene	0.035	U	86-74-8	Carbazole	0.035	U
91-58-7	2-Chloronaphthalene	0.035	U	218-01-9	Chrysene	0.035	0.49
95-57-8	2-Chlorophenol	0.035	U	53-70-3	Dibenzo[a,h]anthracene	0.035	0.11
91-57-6	2-Methylnaphthalene	0.035	U	132-64-9	Dibenzofuran	0.0089	U
95-48-7	2-Methylphenol	0.0089	U	84-66-2	Diethylphthalate	0.035	U
88-74-4	2-Nitroaniline	0.035	U	131-11-3	Dimethylphthalate	0.035	U
88-75-5	2-Nitrophenol	0.035	U	84-74-2	Di-n-butylphthalate	0.0089	U
106-44-5	3&4-Methylphenol	0.0089	U	117-84-0	Di-n-octylphthalate	0.035	U
91-94-1	3,3'-Dichlorobenzidine	0.035	U	206-44-0	Fluoranthene	0.035	0.53
99-09-2	3-Nitroaniline	0.035	U	86-73-7	Fluorene	0.035	U
534-52-1	4,6-Dinitro-2-methylphenol	0.18	U	118-74-1	Hexachlorobenzene	0.035	U
101-55-3	4-Bromophenyl-phenylether	0.035	U	87-68-3	Hexachlorobutadiene	0.035	U
59-50-7	4-Chloro-3-methylphenol	0.035	U	77-47-4	Hexachlorocyclopentadiene	0.070	U
106-47-8	4-Chloroaniline	0.0089	U	67-72-1	Hexachloroethane	0.035	U
7005-72-3	4-Chlorophenyl-phenylether	0.035	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.035	0.33
100-01-6	4-Nitroaniline	0.035	U	78-59-1	Isophorone	0.035	U
100-02-7	4-Nitrophenol	0.035	U	91-20-3	Naphthalene	0.0089	U
83-32-9	Acenaphthene	0.035	U	98-95-3	Nitrobenzene	0.035	U
208-96-8	Acenaphthylene	0.035	0.11	621-64-7	N-Nitroso-di-n-propylamine	0.0089	U
98-86-2	Acetophenone	0.035	U	86-30-6	n-Nitrosodiphenylamine	0.035	U
120-12-7	Anthracene	0.035	0.062	87-86-5	Pentachlorophenol	0.046	U
1912-24-9	Atrazine	0.035	U	85-01-8	Phenanthrene	0.035	0.19
100-52-7	Benzaldehyde	0.035	U	108-95-2	Phenol	0.035	U
56-55-3	Benzo[a]anthracene	0.035	0.46	129-00-0	Pyrene	0.035	0.60
50-32-8	Benzo[a]pyrene	0.035	0.54				

Worksheet #: 380499

Total Target Concentration 4.7

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses

Chlordane (Total) is sum of a-Chlordane and γ-Chlordane.

SampleID : AC90773-011
 Data File: 7M76347.D
 Acq On : 04/19/16 16:25

Operator : AH/JB
 Sam Mult : 1 Vial# : 14
 Misc : S.BNA

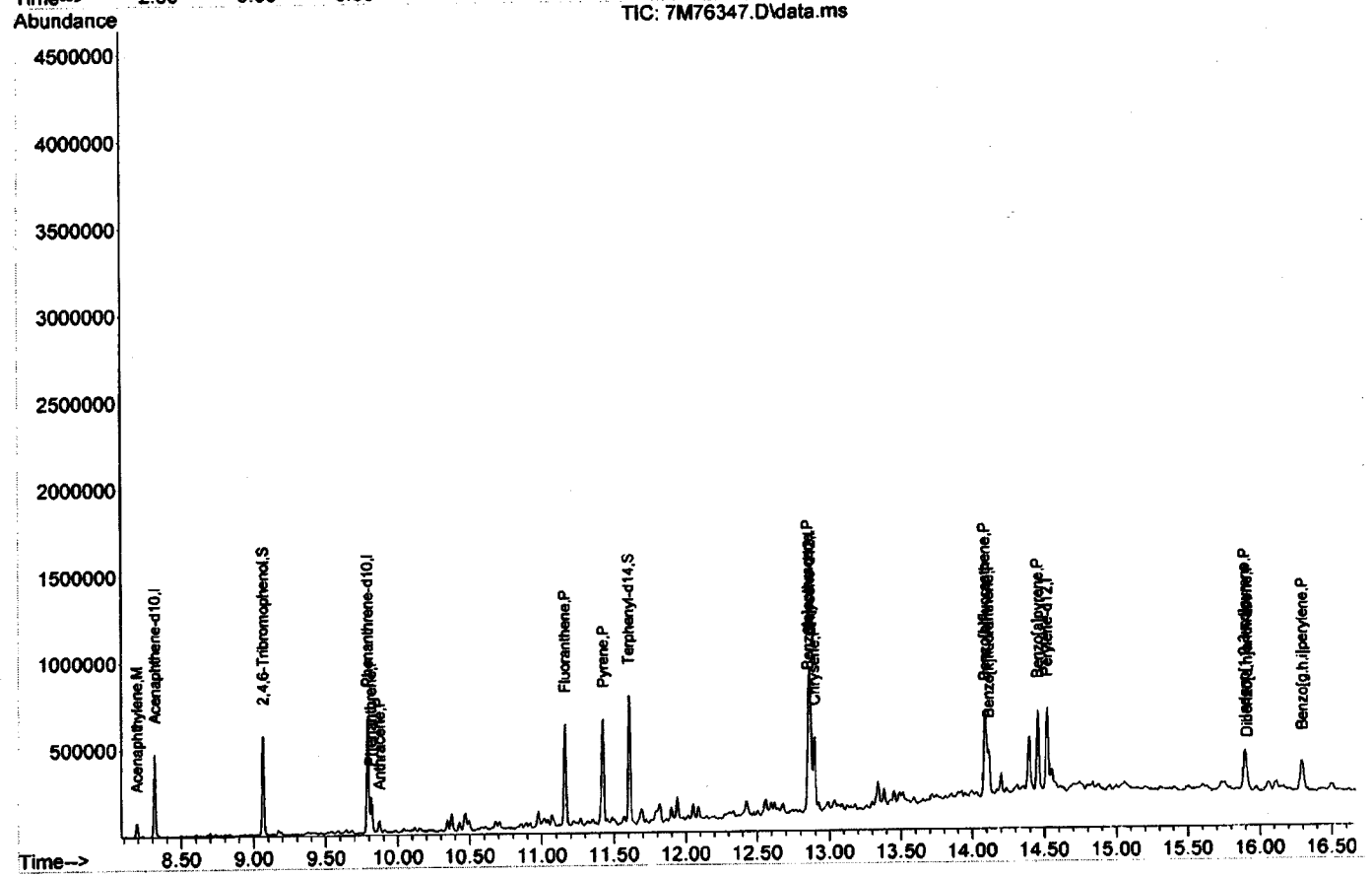
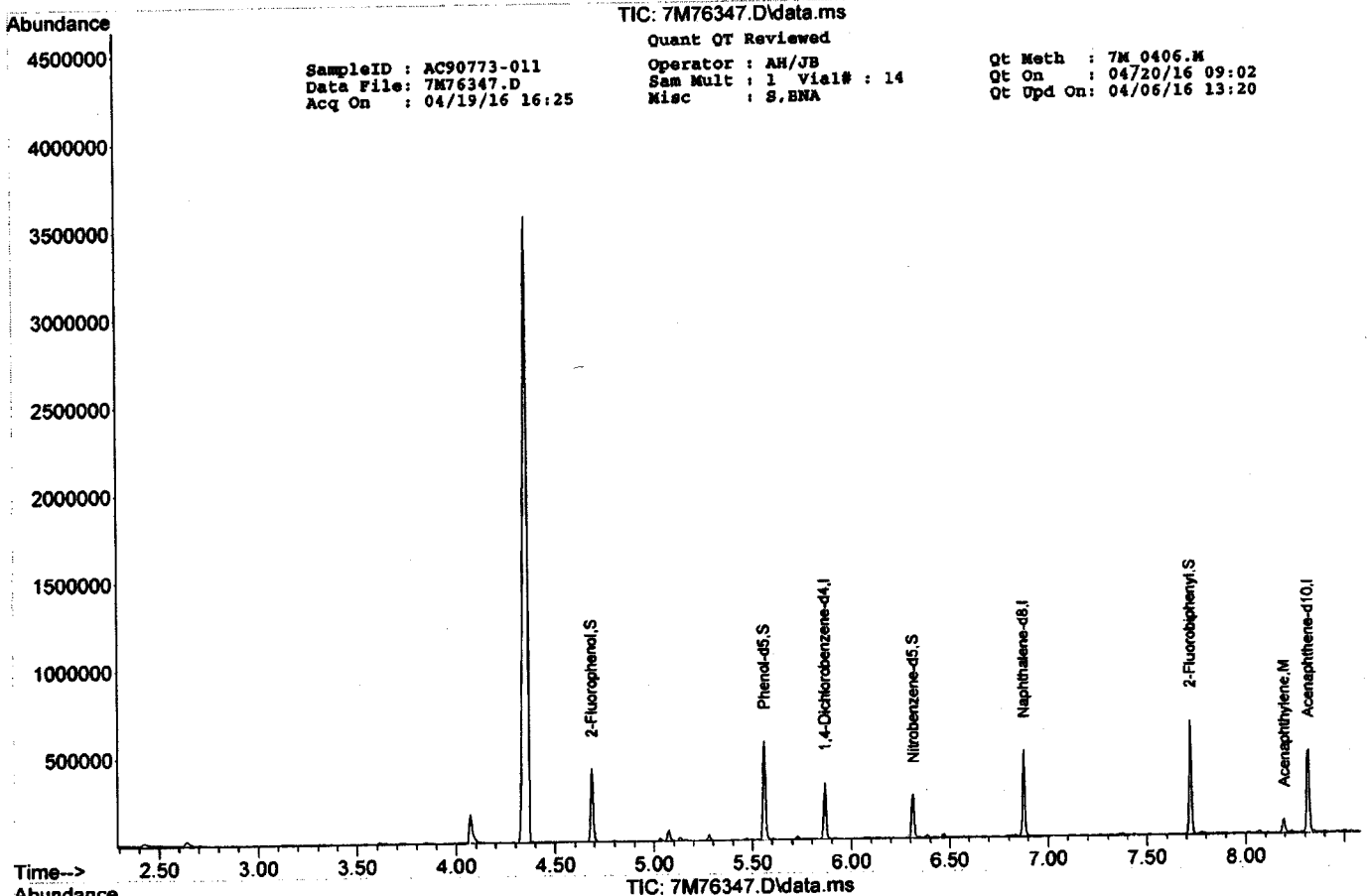
Qt Meth : 7M 0406.M
 Qt On : 04/20/16 09:02
 Qt Upd On: 04/06/16 13:20

Data Path : G:\GCMSData\2016\GCMS_7\Data\04-1916\
 Qt Path : G:\GCMSDATA\2016\GCMS_7\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
7) 1,4-Dichlorobenzene-d4	5.866	152	39504	40.00	ng	0.00	
29) Naphthalene-d8	6.876	136	164875	40.00	ng	-0.02	
48) Acenaphthene-d10	8.319	164	109296	40.00	ng	-0.04	
75) Phenanthrene-d10	9.793	188	246650	40.00	ng	-0.03	
89) Chrysene-d12	12.865	240	270567	40.00	ng	0.00	
101) Perylene-d12	14.521	264	209773	40.00	ng	-0.02	
System Monitoring Compounds							
10) 2-Fluorophenol	4.686	112	100457	70.15	ng	0.00	
Spiked Amount							Recovery = 70.15%
15) Phenol-d5	5.562	99	157557	78.32	ng	0.00	
Spiked Amount							Recovery = 78.32%
30) Nitrobenzene-d5	6.315	128	30290	38.17	ng	0.00	
Spiked Amount							Recovery = 76.34%
53) 2-Fluorobiphenyl	7.720	172	167746	44.60	ng	-0.04	
Spiked Amount							Recovery = 89.20%
78) 2,4,6-Tribromophenol	9.066	330	60764	86.04	ng	-0.03	
Spiked Amount							Recovery = 86.04%
92) Terphenyl-d14	11.604	244	216437	50.12	ng	-0.02	
Spiked Amount							Recovery = 100.24%
Target Compounds							
60) Acenaphthylene	8.196	152	32948	6.2418	ng		Qvalue 99
84) Phenanthrene	9.814	178	83092	10.6032	ng		95
85) Anthracene	9.873	178	27885	3.5247	ng		97
88) Fluoranthene	11.161	202	264074	29.7458	ng		80
90) Pyrene	11.428	202	288753	33.9613	ng		77
98) Benzo[a]anthracene	12.854	228	225943	26.1012	ng		89
99) Chrysene	12.897	228	212079	27.3694	ng		98
103) Benzo[b]fluoranthene	14.088	252	288233m	40.4863	ng		
104) Benzo[k]fluoranthene	14.115	252	80721m	11.8259	ng		
105) Benzo[a]pyrene	14.457	252	204862	30.2919	ng		89
106) Indeno[1,2,3-cd]pyrene	15.894	276	132017	18.5211	ng		72
107) Dibenzo[a,h]anthracene	15.910	278	37451	6.2086	ng		90
108) Benzo[g,h,i]perylene	16.295	276	122920	20.4877	ng		69

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

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Form 1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AC90773-012

Client Id: FB01 U

Data File: 10M56272.D

Analysis Date: 04/20/16 17:20

Date Rec/Extracted: 04/14/16-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Aqueous

Initial Vol: 1000ml

Final Vol: 1ml

Dilution: 1

Solids: 0

				Units: ug/L			
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	2.0	U	205-99-2	Benzo[b]fluoranthene	2.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	2.0	U	191-24-2	Benzo[g,h,i]perylene	2.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	2.0	U	207-08-9	Benzo[k]fluoranthene	2.0	U
95-95-4	2,4,5-Trichlorophenol	2.0	U	111-91-1	bis(2-Chloroethoxy)methan	2.0	U
88-06-2	2,4,6-Trichlorophenol	2.0	U	111-44-4	bis(2-Chloroethyl)ether	0.50	U
120-83-2	2,4-Dichlorophenol	0.50	U	108-60-1	bis(2-chloroisopropyl)ether	2.0	U
105-67-9	2,4-Dimethylphenol	0.50	U	117-81-7	bis(2-Ethylhexyl)phthalate	2.0	U
51-28-5	2,4-Dinitrophenol	10	U	85-68-7	Butylbenzylphthalate	2.0	U
121-14-2	2,4-Dinitrotoluene	2.0	U	105-60-2	Caprolactam	2.0	U
606-20-2	2,6-Dinitrotoluene	2.0	U	86-74-8	Carbazole	2.0	U
91-58-7	2-Chloronaphthalene	2.0	U	218-01-9	Chrysene	2.0	U
95-57-8	2-Chlorophenol	2.0	U	53-70-3	Dibenzo[a,h]anthracene	2.0	U
91-57-6	2-Methylnaphthalene	2.0	U	132-64-9	Dibenzofuran	0.50	U
95-48-7	2-Methylphenol	0.50	U	84-66-2	Diethylphthalate	2.0	U
88-74-4	2-Nitroaniline	2.0	U	131-11-3	Dimethylphthalate	2.0	U
88-75-5	2-Nitrophenol	2.0	U	84-74-2	Di-n-butylphthalate	0.50	U
106-44-5	3,4-Methylphenol	0.50	U	117-84-0	Di-n-octylphthalate	2.0	U
91-94-1	3,3'-Dichlorobenzidine	2.0	U	206-44-0	Fluoranthene	2.0	U
99-09-2	3-Nitroaniline	2.0	U	86-73-7	Fluorene	2.0	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U	118-74-1	Hexachlorobenzene	2.0	U
101-55-3	4-Bromophenyl-phenylether	2.0	U	87-68-3	Hexachlorobutadiene	2.0	U
59-50-7	4-Chloro-3-methylphenol	2.0	U	77-47-4	Hexachlorocyclopentadiene	2.0	U
106-47-8	4-Chloroaniline	0.50	U	67-72-1	Hexachloroethane	2.0	U
7005-72-3	4-Chlorophenyl-phenylether	2.0	U	193-39-5	Indeno[1,2,3-cd]pyrene	2.0	U
100-01-6	4-Nitroaniline	2.0	U	78-59-1	Isophorone	2.0	U
100-02-7	4-Nitrophenol	2.0	U	91-20-3	Naphthalene	0.50	U
83-32-9	Acenaphthene	2.0	U	98-95-3	Nitrobenzene	2.0	U
208-96-8	Acenaphthylene	2.0	U	621-64-7	N-Nitroso-di-n-propylamine	0.50	U
98-86-2	Acetophenone	2.0	U	86-30-6	n-Nitrosodiphenylamine	2.0	U
120-12-7	Anthracene	2.0	U	87-86-5	Pentachlorophenol	10	U
1912-24-9	Atrazine	2.0	U	85-01-8	Phenanthrene	2.0	U
100-52-7	Benzaldehyde	2.0	U	108-95-2	Phenol	2.0	U
56-55-3	Benzo[a]anthracene	2.0	U	129-00-0	Pyrene	2.0	U
50-32-8	Benzo[a]pyrene	2.0	U				

Worksheet #: 380499

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration use a

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC90773-012
 Data File: 10M56272.D
 Acq On : 04/20/16 17:20

Operator : AH/JB
 Sam Mult : 1 Vial# : 18
 Misc : A,BNA

Qt Meth : 10M_0328M.M
 Qt On : 04/21/16 09:41
 Qt Upd On: 04/06/16 07:37

Data Path : G:\GCMSData\2016\GCMS_10\Data\04-20-16\
 Qt Path : G:\GCMSDATA\2016\GCMS_10\METHODQT\
 Qt Resp Via : Initial Calibration

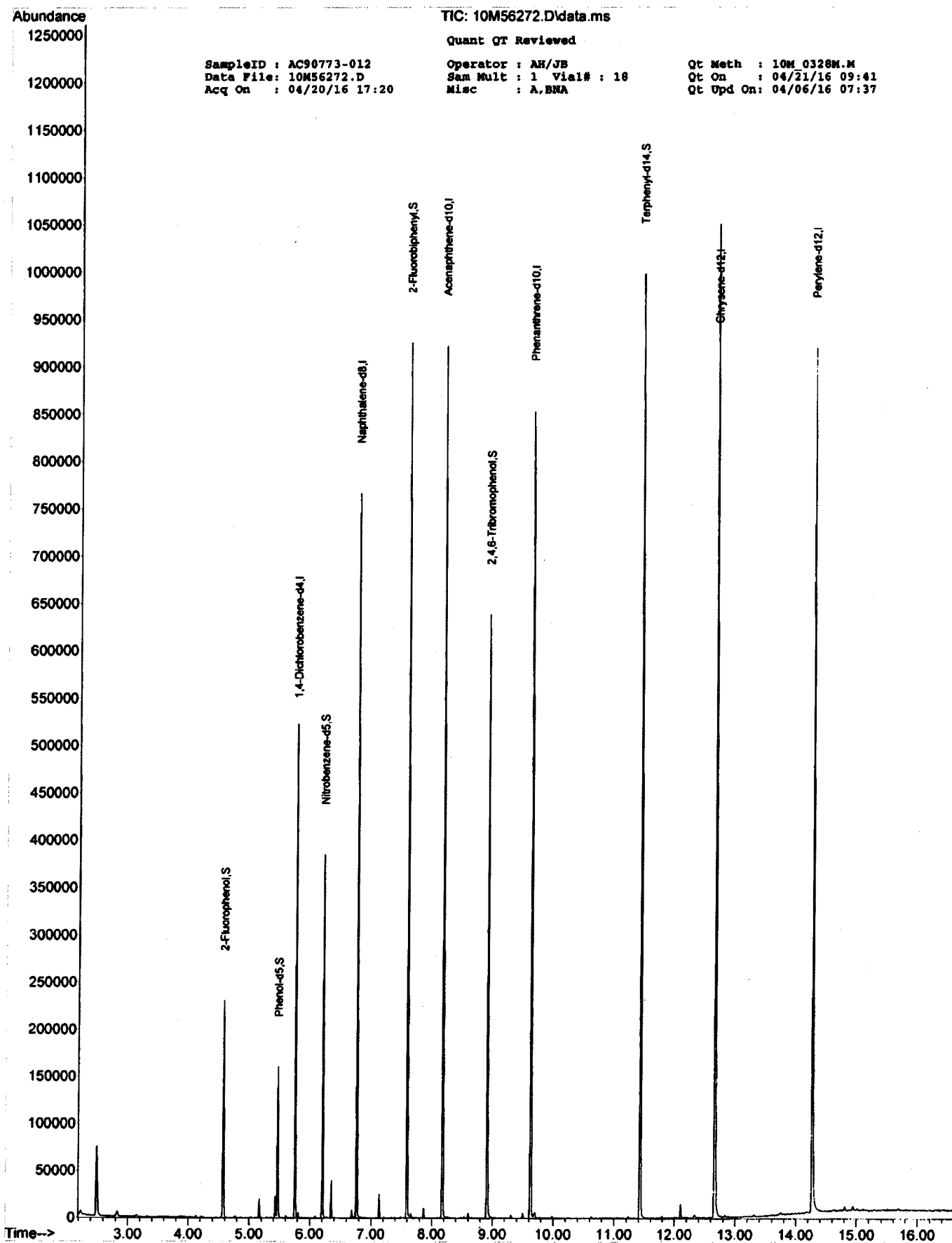
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dichlorobenzene-d4	5.760	152	80072	40.00	ng	-0.03
29) Naphthalene-d8	6.765	136	313342	40.00	ng	-0.03
48) Acenaphthene-d10	8.177	164	190378	40.00	ng	-0.04
75) Phenanthrene-d10	9.627	188	351588	40.00	ng	-0.04
89) Chrysene-d12	12.665	240	413409	40.00	ng	-0.05
101) Perylene-d12	14.269	264	379726	40.00	ng	-0.05

System Monitoring Compounds						
10) 2-Fluorophenol	4.572	112	71671	26.14	ng	0.00
Spiked Amount	100.000		Recovery	=	26.14%	
15) Phenol-d5	5.471	99	57200	15.37	ng	0.01
Spiked Amount	100.000		Recovery	=	15.37%	
30) Nitrobenzene-d5	6.209	128	52344	38.07	ng	-0.03
Spiked Amount	50.000		Recovery	=	76.14%	
53) 2-Fluorobiphenyl	7.594	172	256447	37.29	ng	-0.04
Spiked Amount	50.000		Recovery	=	74.58%	
78) 2,4,6-Tribromophenol	8.915	330	73411	69.65	ng	-0.04
Spiked Amount	100.000		Recovery	=	69.65%	
92) Terphenyl-d14	11.424	244	303232	46.48	ng	-0.04
Spiked Amount	50.000		Recovery	=	92.96%	

Target Compounds Qvalue

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

lc



Form1
ORGANICS SEMIVOLATILE REPORT

Sample Number: WMB49891

Client Id:

Data File: 10M56271.D

Analysis Date: 04/20/16 16:59

Date Rec/Extracted: NA-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Aqueous

Initial Vol: 1000ml

Final Vol: 1ml

Dilution: 1

Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	2.0	U	205-99-2	Benzo[b]fluoranthene	2.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	2.0	U	191-24-2	Benzo[g,h,i]perylene	2.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	2.0	U	207-08-9	Benzo[k]fluoranthene	2.0	U
95-95-4	2,4,5-Trichlorophenol	2.0	U	111-91-1	bis(2-Chloroethoxy)methan	2.0	U
88-06-2	2,4,6-Trichlorophenol	2.0	U	111-44-4	bis(2-Chloroethyl)ether	0.50	U
120-83-2	2,4-Dichlorophenol	0.50	U	108-60-1	bis(2-chloroisopropyl)ether	2.0	U
105-67-9	2,4-Dimethylphenol	0.50	U	117-81-7	bis(2-Ethylhexyl)phthalate	2.0	U
51-28-5	2,4-Dinitrophenol	10	U	85-68-7	Butylbenzylphthalate	2.0	U
121-14-2	2,4-Dinitrotoluene	2.0	U	105-60-2	Caprolactam	2.0	U
606-20-2	2,6-Dinitrotoluene	2.0	U	86-74-8	Carbazole	2.0	U
91-58-7	2-Chloronaphthalene	2.0	U	218-01-9	Chrysene	2.0	U
95-57-8	2-Chlorophenol	2.0	U	53-70-3	Dibenzo[a,h]anthracene	2.0	U
91-57-6	2-Methylnaphthalene	2.0	U	132-64-9	Dibenzofuran	0.50	U
95-48-7	2-Methylphenol	0.50	U	84-66-2	Diethylphthalate	2.0	U
88-74-4	2-Nitroaniline	2.0	U	131-11-3	Dimethylphthalate	2.0	U
88-75-5	2-Nitrophenol	2.0	U	84-74-2	Di-n-butylphthalate	0.50	U
106-44-5	3&4-Methylphenol	0.50	U	117-84-0	Di-n-octylphthalate	2.0	U
91-94-1	3,3'-Dichlorobenzidine	2.0	U	206-44-0	Fluoranthene	2.0	U
99-09-2	3-Nitroaniline	2.0	U	86-73-7	Fluorene	2.0	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U	118-74-1	Hexachlorobenzene	2.0	U
101-55-3	4-Bromophenyl-phenylether	2.0	U	87-68-3	Hexachlorobutadiene	2.0	U
59-50-7	4-Chloro-3-methylphenol	2.0	U	77-47-4	Hexachlorocyclopentadiene	2.0	U
106-47-8	4-Chloroaniline	0.50	U	67-72-1	Hexachloroethane	2.0	U
7005-72-3	4-Chlorophenyl-phenylether	2.0	U	193-39-5	Indeno[1,2,3-cd]pyrene	2.0	U
100-01-6	4-Nitroaniline	2.0	U	78-59-1	Isophorone	2.0	U
100-02-7	4-Nitrophenol	2.0	U	91-20-3	Naphthalene	0.50	U
83-32-9	Acenaphthene	2.0	U	98-95-3	Nitrobenzene	2.0	U
208-96-8	Acenaphthylene	2.0	U	621-64-7	N-Nitroso-di-n-propylamine	0.50	U
98-86-2	Acetophenone	2.0	U	86-30-6	n-Nitrosodiphenylamine	2.0	U
120-12-7	Anthracene	2.0	U	87-86-5	Pentachlorophenol	10	U
1912-24-9	Atrazine	2.0	U	85-01-8	Phenanthrene	2.0	U
100-52-7	Benzaldehyde	2.0	U	108-95-2	Phenol	2.0	U
56-55-3	Benzo[a]anthracene	2.0	U	129-00-0	Pyrene	2.0	U
50-32-8	Benzo[a]pyrene	2.0	U				

Worksheet #: 380499

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : WMB49891
 Data File: 10M56271.D
 Acq On : 04/20/16 16:59

Operator : AH/JB
 Sam Mult : 1 Vial# : 3
 Misc : A.BNA

Qt Meth : 10M_0328M.M
 Qt On : 04/21/16 09:41
 Qt Upd On: 04/06/16 07:37

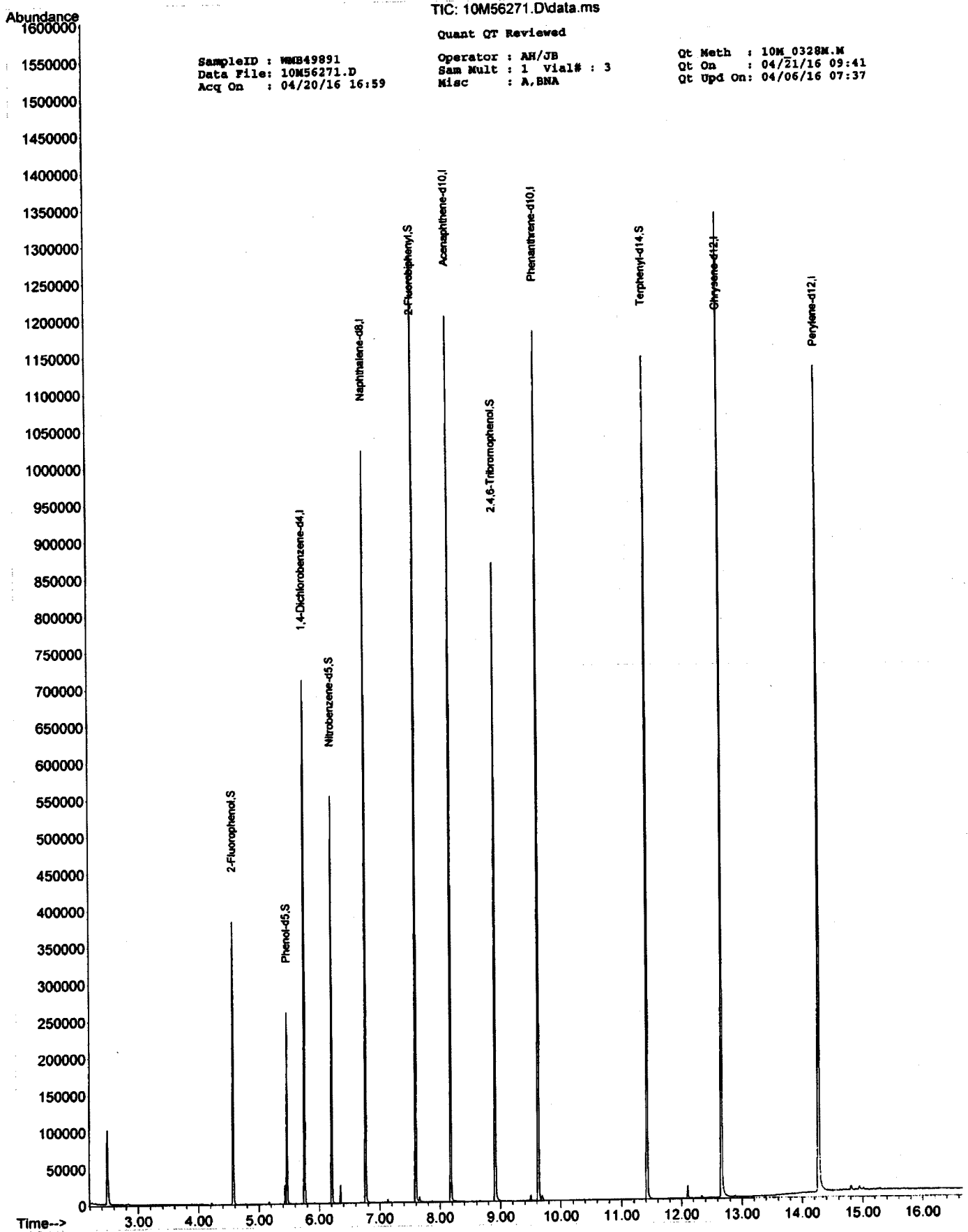
Data Path : G:\GCMSData\2016\GCMS_10\Data\04-20-16\
 Qt Path : G:\GCMSDATA\2016\GCMS_10\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QI	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dichlorobenzene-d4	5.754	152	107176	40.00	ng	-0.03
29) Naphthalene-d8	6.765	136	423436	40.00	ng	-0.03
48) Acenaphthene-d10	8.177	164	255142	40.00	ng	-0.04
75) Phenanthrene-d10	9.632	188	476521	40.00	ng	-0.04
89) Chrysene-d12	12.665	240	539691	40.00	ng	-0.05
101) Perylene-d12	14.275	264	495145	40.00	ng	-0.05
System Monitoring Compounds						
10) 2-Fluorophenol	4.572	112	119149	32.47	ng	0.00
Spiked Amount	100.000		Recovery	=	32.47%	
15) Phenol-d5	5.465	99	94524	18.97	ng	0.00
Spiked Amount	100.000		Recovery	=	18.97%	
30) Nitrobenzene-d5	6.209	128	73845	39.74	ng	-0.03
Spiked Amount	50.000		Recovery	=	79.48%	
53) 2-Fluorobiphenyl	7.594	172	364719	39.57	ng	-0.04
Spiked Amount	50.000		Recovery	=	79.14%	
78) 2,4,6-Tribromophenol	8.915	330	102534	71.60	ng	-0.04
Spiked Amount	100.000		Recovery	=	71.60%	
92) Terphenyl-d14	11.424	244	361403	42.44	ng	-0.04
Spiked Amount	50.000		Recovery	=	84.88%	

Target Compounds Qvalue

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

h



Form 1

ORGANICS SEMIVOLATILE REPORT

Sample Number: SMB49884

Client Id:

Data File: 7M76345.D

Analysis Date: 04/19/16 15:39

Date Rec/Extracted: NA-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Soil

Initial Vol: 30g

Final Vol: 0.5ml

Dilution: 1

Solids: 100

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	0.033	U	205-99-2	Benzo[b]fluoranthene	0.033	U
95-94-3	1,2,4,5-Tetrachlorobenzene	0.033	U	191-24-2	Benzo[g,h,i]perylene	0.033	U
58-90-2	2,3,4,6-Tetrachlorophenol	0.033	U	207-08-9	Benzo[k]fluoranthene	0.033	U
95-95-4	2,4,5-Trichlorophenol	0.033	U	111-91-1	bis(2-Chloroethoxy)methan	0.033	U
88-06-2	2,4,6-Trichlorophenol	0.033	U	111-44-4	bis(2-Chloroethyl)ether	0.0083	U
120-83-2	2,4-Dichlorophenol	0.0083	U	108-60-1	bis(2-chloroisopropyl)ether	0.033	U
105-67-9	2,4-Dimethylphenol	0.0083	U	117-81-7	bis(2-Ethylhexyl)phthalate	0.033	U
51-28-5	2,4-Dinitrophenol	0.17	U	85-68-7	Butylbenzylphthalate	0.033	U
121-14-2	2,4-Dinitrotoluene	0.033	U	105-60-2	Caprolactam	0.033	U
606-20-2	2,6-Dinitrotoluene	0.033	U	86-74-8	Carbazole	0.033	U
91-58-7	2-Chloronaphthalene	0.033	U	218-01-9	Chrysene	0.033	U
95-57-8	2-Chlorophenol	0.033	U	53-70-3	Dibenzo[a,h]anthracene	0.033	U
91-57-6	2-Methylnaphthalene	0.033	U	132-64-9	Dibenzofuran	0.0083	U
95-48-7	2-Methylphenol	0.0083	U	84-66-2	Diethylphthalate	0.033	U
88-74-4	2-Nitroaniline	0.033	U	131-11-3	Dimethylphthalate	0.033	U
88-75-5	2-Nitrophenol	0.033	U	84-74-2	Di-n-butylphthalate	0.0083	U
106-44-5	3&4-Methylphenol	0.0083	U	117-84-0	Di-n-octylphthalate	0.033	U
91-94-1	3,3'-Dichlorobenzidine	0.033	U	206-44-0	Fluoranthene	0.033	U
99-09-2	3-Nitroaniline	0.033	U	86-73-7	Fluorene	0.033	U
534-52-1	4,6-Dinitro-2-methylphenol	0.17	U	118-74-1	Hexachlorobenzene	0.033	U
101-55-3	4-Bromophenyl-phenylether	0.033	U	87-68-3	Hexachlorobutadiene	0.033	U
59-50-7	4-Chloro-3-methylphenol	0.033	U	77-47-4	Hexachlorocyclopentadiene	0.065	U
106-47-8	4-Chloroaniline	0.0083	U	67-72-1	Hexachloroethane	0.033	U
7005-72-3	4-Chlorophenyl-phenylether	0.033	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.033	U
100-01-6	4-Nitroaniline	0.033	U	78-59-1	Isophorone	0.033	U
100-02-7	4-Nitrophenol	0.033	U	91-20-3	Naphthalene	0.0083	U
83-32-9	Acenaphthene	0.033	U	98-95-3	Nitrobenzene	0.033	U
208-96-8	Acenaphthylene	0.033	U	621-64-7	N-Nitroso-di-n-propylamine	0.0083	U
98-86-2	Acetophenone	0.033	U	86-30-6	n-Nitrosodiphenylamine	0.033	U
120-12-7	Anthracene	0.033	U	87-86-5	Pentachlorophenol	0.044	U
1912-24-9	Atrazine	0.033	U	85-01-8	Phenanthrene	0.033	U
100-52-7	Benzaldehyde	0.033	U	108-95-2	Phenol	0.033	U
56-55-3	Benzo[a]anthracene	0.033	U	129-00-0	Pyrene	0.033	U
50-32-8	Benzo[a]pyrene	0.033	U				

Worksheet #: 380499

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used.

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : SMB49884
 Data File: 7M76345.D
 Acq On : 04/19/16 15:39

Operator : AH/JB
 Sam Mult : 1 Vial# : 12
 Misc : S,BNA

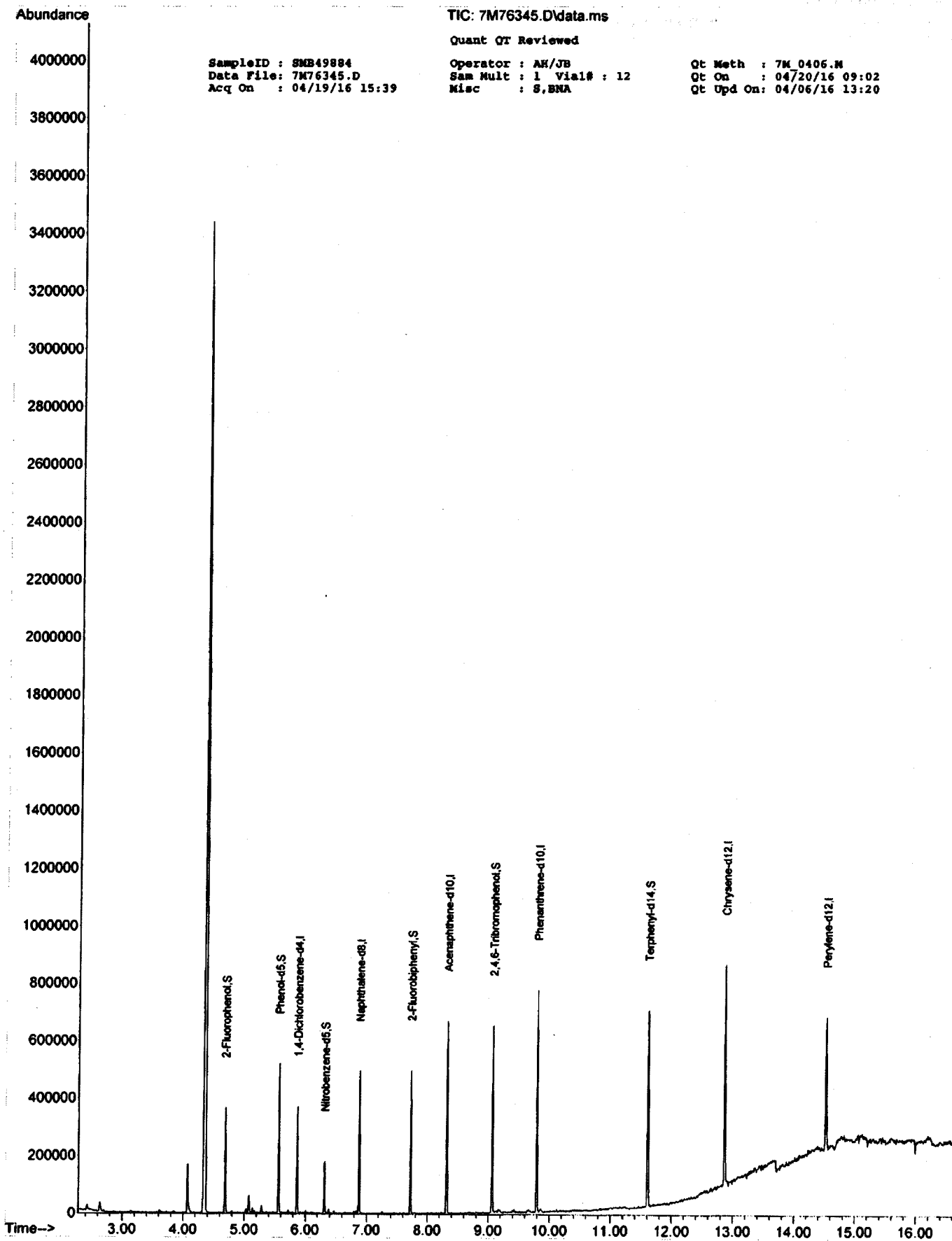
Qt Meth : 7M_0406.M
 Qt On : 04/20/16 09:02
 Qt Upd On: 04/06/16 13:20

Data Path : G:\GcMsData\2016\GCMS_7\Data\04-1916\
 Qt Path : G:\GCMSDATA\2016\GCMS_7\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dichlorobenzene-d4	5.867	152	44882	40.00	ng	0.00
29) Naphthalene-d8	6.876	136	171660	40.00	ng	-0.02
48) Acenaphthene-d10	8.319	164	140306	40.00	ng	-0.04
75) Phenanthrene-d10	9.793	188	295704	40.00	ng	-0.03
89) Chrysene-d12	12.865	240	311853	40.00	ng	0.00
101) Perylene-d12	14.526	264	214318	40.00	ng	-0.01
System Monitoring Compounds						
10) 2-Fluorophenol	4.686	112	91335	56.14	ng	0.00
Spiked Amount	100.000		Recovery	=	56.14%	
15) Phenol-d5	5.562	99	140564	61.50	ng	0.00
Spiked Amount	100.000		Recovery	=	61.50%	
30) Nitrobenzene-d5	6.315	128	22333	27.03	ng	0.00
Spiked Amount	50.000		Recovery	=	54.06%	
53) 2-Fluorobiphenyl	7.720	172	136937	28.36	ng	-0.04
Spiked Amount	50.000		Recovery	=	56.72%	
78) 2,4,6-Tribromophenol	9.066	330	65680	77.57	ng	-0.03
Spiked Amount	100.000		Recovery	=	77.57%	
92) Terphenyl-d14	11.604	244	216580	43.51	ng	-0.02
Spiked Amount	50.000		Recovery	=	87.02%	
Target Compounds						Qvalue

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

h



FORM2

Surrogate Recovery

Method: EPA 8270D

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1	Column1	Column1	Column1	Column1	Column1
						S1 Recov	S2 Recov	S3 Recov	S4 Recov	S5 Recov	S6 Recov
10M56271.D	WMB49891	A	04/20/16 16:59	1		32	19	79	79	72	85
7M76345.D	SMB49884	S	04/19/16 15:39	1		56	62	54	57	78	87
7M76352.D	AC90773-001(10X)	S	04/19/16 18:20	30	SD	0*	0*	0*	0*	0*	0*
7M76370.D	AC90773-002	S	04/20/16 14:08	2		96	98	90	104	107	108
7M76346.D	AC90773-003	S	04/19/16 16:02	1		80	80	74	76	83	96
9M70510.D	AC90773-004	S	04/19/16 15:23	1		67	68	82	81	86	98
7M76353.D	AC90773-009(3X)	S	04/19/16 18:43	3		86	92	80	83	99	105
7M76371.D	AC90773-010	S	04/20/16 14:31	2		79	80	99	121	128	102
7M76347.D	AC90773-011	S	04/19/16 16:25	1		70	78	76	89	86	100
10M56272.D	AC90773-012	A	04/20/16 17:20	1		26	15	76	75	70	93
9M70509.D	SMB49884(MS)	S	04/19/16 15:00	1		77	75	90	85	108	113
9M70511.D	AC90773-004(MS)	S	04/19/16 15:46	1		73	72	85	80	96	101
9M70512.D	AC90773-004(MSD)	S	04/19/16 16:08	1		70	68	83	78	95	104
9M70513.D	WMB49891(MS)	A	04/19/16 16:31	1		45	25	105	91	105	112

Flags: SD=Surrogate diluted out

*=Surrogate out

Method: EPA 8270D

Soil DKQP Limits

Compound	Spike Amt	Limits
S1=2-Fluorophenol	100	30-130
S2=Phenol-d5	100	30-130
S3=Nitrobenzene-d5	50	30-130
S4=2-Fluorobiphenyl	50	30-130
S5=2,4,6-Tribromophenol	100	30-130
S6=Terphenyl-d14	50	30-130

Aqueous DKQP Limits

Compound	Spike Amt	Limits
S1=2-Fluorophenol	100	15-110
S2=Phenol-d5	100	15-110
S3=Nitrobenzene-d5	50	30-130
S4=2-Fluorobiphenyl	50	30-130
S5=2,4,6-Tribromophenol	100	15-110
S6=Terphenyl-d14	50	30-130

Form3
Recovery Data
QC Batch: SMB49884

6041514 0176

Data File Spike or Dup: 9M70509.D	Sample ID: SMB49884(MS)	Analysis Date 4/19/2016 3:00:00 PM
Non Spike (If applicable):		
Inst Blank (If applicable):		
Method: 8270D	Matrix: Soil	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	28.0737	0	50	56	20	160
N-Nitrosodimethylamine	1	35.1671	0	50	70	20	160
Benzaldehyde	1	33.7742	0	50	68	20	160
Aniline	1	27.444	0	50	55	20	160
Pentachloroethane	1	33.2078	0	50	66	20	160
bis(2-Chloroethyl)ether	1	36.7744	0	50	74	70	130
Phenol	1	56.3978	0	100	56	20	160
2-Chlorophenol	1	65.5372	0	100	66*	70	130
N-Decane	1	26.9627	0	50	54	20	160
1,3-Dichlorobenzene	1	34.251	0	50	69*	70	130
1,4-Dichlorobenzene	1	35.4613	0	50	71	70	130
1,2-Dichlorobenzene	1	34.2597	0	50	69*	70	130
Benzyl alcohol	1	36.2833	0	50	73	20	160
bis(2-chloroisopropyl)ether	1	27.0699	0	50	54*	70	130
2-Methylphenol	1	61.4584	0	100	61*	70	130
Acetophenone	1	31.498	0	50	63*	70	130
Hexachloroethane	1	34.5608	0	50	69	20	160
N-Nitroso-di-n-propylamine	1	29.6237	0	50	59*	70	130
3&4-Methylphenol	1	62.0362	0	100	62	20	160
Nitrobenzene	1	40.6975	0	50	81	70	130
Isophorone	1	29.4553	0	50	59*	70	130
2-Nitrophenol	1	76.1373	0	100	76	70	130
2,4-Dimethylphenol	1	66.1413	0	100	66*	70	130
Benzoic Acid	1	68.117	0	100	68	20	160
bis(2-Chloroethoxy)methane	1	38.6958	0	50	77	70	130
2,4-Dichlorophenol	1	71.8865	0	100	72	70	130
1,2,4-Trichlorobenzene	1	37.8093	0	50	76	70	130
Naphthalene	1	36.7358	0	50	73	70	130
4-Chloroaniline	1	20.3281	0	50	41*	70	130
Hexachlorobutadiene	1	38.5822	0	50	77	70	130
Caprolactam	1	30.9388	0	50	62	20	160
4-Chloro-3-methylphenol	1	72.9083	0	100	73	70	130
2-Methylnaphthalene	1	37.5635	0	50	75	70	130
1,1'-Biphenyl	1	35.213	0	50	70	70	130
1,2,4,5-Tetrachlorobenzene	1	35.8963	0	50	72	70	130
Hexachlorocyclopentadiene	1	42.6108	0	50	85	20	160
2,4,6-Trichlorophenol	1	75.3978	0	100	75	70	130
2,4,5-Trichlorophenol	1	80.9471	0	100	81	70	130
2-Chloronaphthalene	1	40.4007	0	50	81	70	130
1,4-Dimethylnaphthalene	1	36.1595	0	50	72	70	130
Diphenyl Ether	1	35.9398	0	50	72	70	130
2-Nitroaniline	1	39.0056	0	50	78	70	130
Coumarin	1	35.93	0	50	72	70	130
Acenaphthylene	1	44.2639	0	50	89	70	130
Dimethylphthalate	1	43.8059	0	50	88	70	130
2,6-Dinitrotoluene	1	46.1538	0	50	92	70	130
Acenaphthene	1	39.9689	0	50	80	70	130
3-Nitroaniline	1	27.6608	0	50	55*	70	130
2,4-Dinitrophenol	1	87.3322	0	100	87	20	160
Dibenzofuran	1	40.3712	0	50	81	70	130
2,4-Dinitrotoluene	1	41.356	0	50	83	70	130
4-Nitrophenol	1	2.2386	0	100	2.2*	20	160
2,3,4,6-Tetrachlorophenol	1	72.6532	0	100	73	70	130
Fluorene	1	39.6099	0	50	79	70	130
4-Chlorophenyl-phenylether	1	41.4877	0	50	83	70	130
Diethylphthalate	1	40.0531	0	50	80	70	130
4-Nitroaniline	1	35.436	0	50	71	70	130
Atrazine	1	33.1006	0	50	66*	70	130
4,6-Dinitro-2-methylphenol	1	98.2872	0	100	98	70	130
n-Nitrosodiphenylamine	1	33.513	0	50	67*	70	130
1,2-Diphenylhydrazine	1	43.0027	0	50	86	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: SMB49884

4-Bromophenyl-phenylether	1	49.7372	0	50	99	70	130
Hexachlorobenzene	1	44.4186	0	50	89	70	130
N-Octadecane	1	42.7093	0	50	85	70	130
Pentachlorophenol	1	79.4001	0	100	79	20	160
Phenanthrene	1	40.8313	0	50	82	70	130
Anthracene	1	42.0639	0	50	84	70	130
Carbazole	1	36.5061	0	50	73	70	130
Di-n-butylphthalate	1	47.6216	0	50	95	70	130
Fluoranthene	1	40.6559	0	50	81	70	130
Pyrene	1	48.8426	0	50	98	70	130
Benzidine	1	3.5429	0	50	7.1*	20	160
Butylbenzylphthalate	1	49.5357	0	50	99	70	130
3,3'-Dichlorobenzidine	1	26.5145	0	50	53*	70	130
Benzo[a]anthracene	1	42.9175	0	50	86	70	130
Chrysene	1	44.0456	0	50	88	70	130
bis(2-Ethylhexyl)phthalate	1	50.2513	0	50	101	70	130
Di-n-octylphthalate	1	48.0802	0	50	96	70	130
Benzo[b]fluoranthene	1	47.5375	0	50	95	70	130
Benzo[k]fluoranthene	1	44.443	0	50	89	70	130
Benzo[a]pyrene	1	43.5698	0	50	87	70	130
Indeno[1,2,3-cd]pyrene	1	40.7381	0	50	81	70	130
Dibenzo[a,h]anthracene	1	40.6554	0	50	81	70	130
Benzo[g,h,i]perylene	1	38.2556	0	50	77	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: WMB49891

6041514 0178

Data File	Sample ID:	Analysis Date
Spike or Dup: 9M70513.D	WMB49891(MS)	4/19/2016 4:31:00 PM
Non Spike(If applicable):		
Inst Blank(If applicable):		
Method: 8270D	Matrix: Aqueous	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	61.4588	0	100	61	20	160
N-Nitrosodimethylamine	1	56.5372	0	100	57	20	160
Benzaldehyde	1	113.0373	0	100	113	20	160
Aniline	1	84.1909	0	100	84	20	160
Pentachloroethane	1	95.8298	0	100	96	20	160
bis(2-Chloroethyl)ether	1	96.5632	0	100	97	70	130
Phenol	1	29.9412	0	100	30	20	160
2-Chlorophenol	1	76.8387	0	100	77	70	130
N-Decane	1	81.5025	0	100	82	20	160
1,3-Dichlorobenzene	1	89.7763	0	100	90	70	130
1,4-Dichlorobenzene	1	93.8436	0	100	94	70	130
1,2-Dichlorobenzene	1	89.1467	0	100	89	70	130
Benzyl alcohol	1	75.7153	0	100	76	20	160
bis(2-chloroisopropyl)ether	1	72.151	0	100	72	70	130
2-Methylphenol	1	58.4429	0	100	58*	70	130
Acetophenone	1	90.0175	0	100	90	70	130
Hexachloroethane	1	90.6531	0	100	91	20	160
N-Nitroso-di-n-propylamine	1	75.5685	0	100	76	70	130
3&4-Methylphenol	1	52.4832	0	100	52	20	160
Nitrobenzene	1	98.8631	0	100	99	70	130
Isophorone	1	73.6393	0	100	74	70	130
2-Nitrophenol	1	100.3448	0	100	100	70	130
2,4-Dimethylphenol	1	76.2914	0	100	76	70	130
Benzoic Acid	1	21.0566	0	100	21	20	160
bis(2-Chloroethoxy)methane	1	93.238	0	100	93	70	130
2,4-Dichlorophenol	1	91.5717	0	100	92	70	130
1,2,4-Trichlorobenzene	1	92.99	0	100	93	70	130
Naphthalene	1	95.9602	0	100	96	70	130
4-Chloroaniline	1	82.7376	0	100	83	70	130
Hexachlorobutadiene	1	93.7732	0	100	94	70	130
Caprolactam	1	32.5695	0	100	33	20	160
4-Chloro-3-methylphenol	1	88.0709	0	100	88	70	130
2-Methylnaphthalene	1	91.2127	0	100	91	70	130
1,1'-Biphenyl	1	91.1975	0	100	91	70	130
1,2,4,5-Tetrachlorobenzene	1	87.3907	0	100	87	70	130
Hexachlorocyclopentadiene	1	113.4697	0	100	113	20	160
2,4,6-Trichlorophenol	1	94.5232	0	100	95	70	130
2,4,5-Trichlorophenol	1	102.402	0	100	102	70	130
2-Chloronaphthalene	1	89.6466	0	100	90	70	130
1,4-Dimethylnaphthalene	1	85.6475	0	100	86	70	130
Diphenyl Ether	1	88.7235	0	100	89	70	130
2-Nitroaniline	1	93.587	0	100	94	70	130
Coumarin	1	92.6678	0	100	93	70	130
Acenaphthylene	1	102.1923	0	100	102	70	130
Dimethylphthalate	1	102.6636	0	100	103	70	130
2,6-Dinitrotoluene	1	109.0723	0	100	109	70	130
Acenaphthene	1	91.8419	0	100	92	70	130
3-Nitroaniline	1	98.2046	0	100	98	70	130
2,4-Dinitrophenol	1	117.3877	0	100	117	20	160
Dibenzofuran	1	95.8462	0	100	96	70	130
2,4-Dinitrotoluene	1	103.2939	0	100	103	70	130
4-Nitrophenol	1	4.3101	0	100	4.3*	20	160
2,3,4,6-Tetrachlorophenol	1	99.6431	0	100	100	70	130
Fluorene	1	90.1721	0	100	90	70	130
4-Chlorophenyl-phenylether	1	98.9029	0	100	97	70	130
Diethylphthalate	1	96.089	0	100	96	70	130
4-Nitroaniline	1	94.5279	0	100	95	70	130
Atrazine	1	94.003	0	100	94	70	130
4,6-Dinitro-2-methylphenol	1	121.0969	0	100	121	70	130
n-Nitrosodiphenylamine	1	70.8218	0	100	71	70	130
1,2-Diphenylhydrazine	1	89.1028	0	100	89	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data

QC Batch: WMB49891

4-Bromophenyl-phenylether	1	105.7588	0	100	106	70	130
Hexachlorobenzene	1	97.4632	0	100	97	70	130
N-Octadecane	1	89.4858	0	100	89	70	130
Pentachlorophenol	1	105.3688	0	100	105	20	160
Phenanthrene	1	89.4412	0	100	89	70	130
Anthracene	1	92.7839	0	100	93	70	130
Carbazole	1	90.948	0	100	91	70	130
Di-n-butylphthalate	1	107.1467	0	100	107	70	130
Fluoranthene	1	96.305	0	100	96	70	130
Pyrene	1	98.115	0	100	98	70	130
Benzidine	1	76.0139	0	100	76	20	160
Butylbenzylphthalate	1	111.5143	0	100	112	70	130
3,3'-Dichlorobenzidine	1	115.107	0	100	115	70	130
Benzo[a]anthracene	1	96.3016	0	100	96	70	130
Chrysene	1	100.0238	0	100	100	70	130
bis(2-Ethylhexyl)phthalate	1	108.0897	0	100	108	70	130
Di-n-octylphthalate	1	100.9216	0	100	101	70	130
Benzo[b]fluoranthene	1	101.9185	0	100	102	70	130
Benzo[k]fluoranthene	1	93.4505	0	100	93	70	130
Benzo[a]pyrene	1	102.1071	0	100	102	70	130
Indeno[1,2,3-cd]pyrene	1	103.7233	0	100	104	70	130
Dibenzo[a,h]anthracene	1	103.2593	0	100	103	70	130
Benzo[g,h,i]perylene	1	98.1518	0	100	98	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: SMB49884

Data File		Sample ID:		Analysis Date			
Spike or Dup: 9M70511.D		AC90773-004(MS)		4/19/2016 3:46:00 PM			
Non Spike(if applicable): 9M70510.D		AC90773-004		4/19/2016 3:23:00 PM			
Inst Blank(if applicable):							
Method: 8270D		Matrix: Soil		QC Type: MS			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	28.9482	0	50	58	20	160
N-Nitrosodimethylamine	1	32.1943	0	50	64	20	160
Benzaldehyde	1	42.4718	0	50	85	20	160
Aniline	1	23.7546	0	50	48	20	160
Pentachloroethane	1	33.7218	0	50	67	20	160
bis(2-Chloroethyl)ether	1	34.2195	0	50	68*	70	130
Phenol	1	54.0863	0	100	54	20	160
2-Chlorophenol	1	62.1058	0	100	62*	70	130
N-Decane	1	28.6582	0	50	57	20	160
1,3-Dichlorobenzene	1	32.5485	0	50	65*	70	130
1,4-Dichlorobenzene	1	34.0253	0	50	68*	70	130
1,2-Dichlorobenzene	1	32.5215	0	50	65*	70	130
Benzyl alcohol	1	32.5737	0	50	65	20	160
bis(2-chloroisopropyl)ether	1	25.5344	0	50	51*	70	130
2-Methylphenol	1	58.2478	0	100	58*	70	130
Acetophenone	1	32.0056	0	50	64*	70	130
Hexachloroethane	1	32.4683	0	50	65	20	160
N-Nitroso-di-n-propylamine	1	27.8463	0	50	56*	70	130
3&4-Methylphenol	1	58.1642	0	100	58	20	160
Nitrobenzene	1	37.7712	0	50	76	70	130
Isophorone	1	26.7537	0	50	54*	70	130
2-Nitrophenol	1	70.7525	0	100	71	70	130
2,4-Dimethylphenol	1	62.2233	0	100	62*	70	130
Benzoic Acid	1	23.2463	0	100	23	20	160
bis(2-Chloroethoxy)methane	1	35.9283	0	50	72	70	130
2,4-Dichlorophenol	1	67.9959	0	100	68*	70	130
1,2,4-Trichlorobenzene	1	35.1642	0	50	70	70	130
Naphthalene	1	34.8209	0	50	70	70	130
4-Chloroaniline	1	21.6206	0	50	43*	70	130
Hexachlorobutadiene	1	35.4458	0	50	71	70	130
Caprolactam	1	29.7411	0	50	59	20	160
4-Chloro-3-methylphenol	1	67.4294	0	100	67*	70	130
2-Methylnaphthalene	1	35.0529	0	50	70	70	130
1,1'-Biphenyl	1	35.0928	0	50	70	70	130
1,2,4,5-Tetrachlorobenzene	1	35.1542	0	50	70	70	130
Hexachlorocyclopentadiene	1	37.2257	0	50	74	20	160
2,4,6-Trichlorophenol	1	68.3565	0	100	68*	70	130
2,4,5-Trichlorophenol	1	73.0581	0	100	73	70	130
2-Chloronaphthalene	1	36.6057	0	50	73	70	130
1,4-Dimethylnaphthalene	1	35.8431	0	50	72	70	130
Diphenyl Ether	1	35.4879	0	50	71	70	130
2-Nitroaniline	1	35.7991	0	50	72	70	130
Coumarin	1	35.54	0	50	71	70	130
Acenaphthylene	1	40.8972	0	50	82	70	130
Dimethylphthalate	1	39.8521	0	50	80	70	130
2,6-Dinitrotoluene	1	41.2355	0	50	82	70	130
Acenaphthene	1	36.8573	0	50	74	70	130
3-Nitroaniline	1	29.2767	0	50	59*	70	130
2,4-Dinitrophenol	1	57.9135	0	100	58	20	160
Dibenzofuran	1	36.6041	0	50	73	70	130
2,4-Dinitrotoluene	1	36.7484	0	50	73	70	130
4-Nitrophenol	1	0	0	100	0*	20	160
2,3,4,6-Tetrachlorophenol	1	63.7051	0	100	64*	70	130
Fluorene	1	36.7861	0	50	74	70	130
4-Chlorophenyl-phenylether	1	37.6546	0	50	75	70	130
Diethylphthalate	1	35.9896	0	50	72	70	130
4-Nitroaniline	1	32.9899	0	50	66*	70	130
Atrazine	1	32.6981	0	50	65*	70	130
4,6-Dinitro-2-methylphenol	1	78.5019	0	100	79	70	130
n-Nitrosodiphenylamine	1	29.7633	0	50	60*	70	130
1,2-Diphenylhydrazine	1	39.2452	0	50	78	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: SMB49884

4-Bromophenyl-phenylether	1	43.5625	0	50	87	70	130
Hexachlorobenzene	1	39.1262	0	50	78	70	130
N-Octadecane	1	41.588	0	50	83	70	130
Pentachlorophenol	1	59.8666	0	100	60	20	160
Phenanthrene	1	37.3761	0	50	75	70	130
Anthracene	1	38.421	0	50	77	70	130
Carbazole	1	35.553	0	50	71	70	130
Di-n-butylphthalate	1	43.594	0	50	87	70	130
Fluoranthene	1	37.4654	0	50	75	70	130
Pyrene	1	43.6474	0	50	87	70	130
Benzidine	1	5.7759	0	50	12*	20	160
Butylbenzylphthalate	1	43.3287	0	50	87	70	130
3,3'-Dichlorobenzidine	1	27.03	0	50	54*	70	130
Benzo[a]anthracene	1	39.1971	0	50	78	70	130
Chrysene	1	38.8287	0	50	78	70	130
bis(2-Ethylhexyl)phthalate	1	45.4834	0	50	91	70	130
Di-n-octylphthalate	1	42.0445	0	50	84	70	130
Benzo[b]fluoranthene	1	43.1754	0	50	86	70	130
Benzo[k]fluoranthene	1	42.2463	0	50	84	70	130
Benzo[a]pyrene	1	40.0147	0	50	80	70	130
Indeno[1,2,3-cd]pyrene	1	40.1333	0	50	80	70	130
Dibenzo[a,h]anthracene	1	39.8637	0	50	80	70	130
Benzo[g,h,i]perylene	1	38.5252	0	50	77	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: SMB49884

Data File	Sample ID:	Analysis Date
Spike or Dup: 9M70512.D	AC90773-004(MSD)	4/19/2016 4:08:00 PM
Non Spike(If applicable): 9M70510.D	AC90773-004	4/19/2016 3:23:00 PM
Inst Blank(If applicable):		
Method: 8270D	Matrix: Soil	QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	32.882	0	50	66	20	160
N-Nitrosodimethylamine	1	34.8423	0	50	70	20	160
Benzaldehyde	1	44.5076	0	50	89	20	160
Aniline	1	24.191	0	50	48	20	160
Pentachloroethane	1	35.3862	0	50	71	20	160
bis(2-Chloroethyl)ether	1	33.728	0	50	67*	70	130
Phenol	1	51.3168	0	100	51	20	160
2-Chlorophenol	1	60.1056	0	100	60*	70	130
N-Decane	1	31.6677	0	50	63	20	160
1,3-Dichlorobenzene	1	33.3257	0	50	67*	70	130
1,4-Dichlorobenzene	1	34.4082	0	50	69*	70	130
1,2-Dichlorobenzene	1	32.8933	0	50	66*	70	130
Benzyl alcohol	1	31.6358	0	50	63	20	160
bis(2-chloroisopropyl)ether	1	24.6766	0	50	49*	70	130
2-Methylphenol	1	55.248	0	100	55*	70	130
Acetophenone	1	31.8238	0	50	64*	70	130
Hexachloroethane	1	34.0665	0	50	68	20	160
N-Nitroso-di-n-propylamine	1	26.7731	0	50	54*	70	130
3&4-Methylphenol	1	56.2066	0	100	56	20	160
Nitrobenzene	1	36.8139	0	50	74	70	130
Isophorone	1	26.2212	0	50	52*	70	130
2-Nitrophenol	1	70.2787	0	100	70	70	130
2,4-Dimethylphenol	1	59.1749	0	100	59*	70	130
Benzoic Acid	1	24.0976	0	100	24	20	160
bis(2-Chloroethoxy)methane	1	34.5851	0	50	69*	70	130
2,4-Dichlorophenol	1	65.8848	0	100	66*	70	130
1,2,4-Trichlorobenzene	1	34.287	0	50	69*	70	130
Naphthalene	1	33.1197	0	50	66*	70	130
4-Chloroaniline	1	19.5791	0	50	39*	70	130
Hexachlorobutadiene	1	35.1889	0	50	70	70	130
Caprolactam	1	29.5574	0	50	59	20	160
4-Chloro-3-methylphenol	1	64.7465	0	100	65*	70	130
2-Methylnaphthalene	1	33.4121	0	50	67*	70	130
1,1'-Biphenyl	1	34.2746	0	50	69*	70	130
1,2,4,5-Tetrachlorobenzene	1	35.5637	0	50	71	70	130
Hexachlorocyclopentadiene	1	39.6533	0	50	79	20	160
2,4,6-Trichlorophenol	1	67.3137	0	100	67*	70	130
2,4,5-Trichlorophenol	1	71.012	0	100	71	70	130
2-Chloronaphthalene	1	36.3056	0	50	73	70	130
1,4-Dimethylnaphthalene	1	36.0707	0	50	72	70	130
Diphenyl Ether	1	35.7373	0	50	71	70	130
2-Nitroaniline	1	35.6186	0	50	71	70	130
Coumarin	1	35.2948	0	50	71	70	130
Acenaphthylene	1	40.1607	0	50	80	70	130
Dimethylphthalate	1	39.3446	0	50	79	70	130
2,6-Dinitrotoluene	1	41.3676	0	50	83	70	130
Acenaphthene	1	35.8931	0	50	72	70	130
3-Nitroaniline	1	28.8022	0	50	58*	70	130
2,4-Dinitrophenol	1	49.112	0	100	49	20	160
Dibenzofuran	1	35.9357	0	50	72	70	130
2,4-Dinitrotoluene	1	36.2774	0	50	73	70	130
4-Nitrophenol	1	0	0	100	0*	20	160
2,3,4,6-Tetrachlorophenol	1	60.824	0	100	61*	70	130
Fluorene	1	35.7165	0	50	71	70	130
4-Chlorophenyl-phenylether	1	36.9522	0	50	74	70	130
Diethylphthalate	1	35.0617	0	50	70	70	130
4-Nitroaniline	1	31.2197	0	50	62*	70	130
Atrazine	1	32.4513	0	50	65*	70	130
4,6-Dinitro-2-methylphenol	1	73.9447	0	100	74	70	130
n-Nitrosodiphenylamine	1	30.0339	0	50	60*	70	130
1,2-Diphenylhydrazine	1	39.4047	0	50	79	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data

QC Batch: SMB49884

4-Bromophenyl-phenylether	1	44.0546	0	50	88	70	130
Hexachlorobenzene	1	39.1834	0	50	78	70	130
N-Octadecane	1	42.8732	0	50	86	70	130
Pentachlorophenol	1	54.7681	0	100	55	20	160
Phenanthrene	1	36.8525	0	50	74	70	130
Anthracene	1	37.8857	0	50	76	70	130
Carbazole	1	35.7626	0	50	72	70	130
Di-n-butylphthalate	1	42.2706	0	50	85	70	130
Fluoranthene	1	36.1183	0	50	72	70	130
Pyrene	1	44.7942	0	50	90	70	130
Benzidine	1	0	0	50	0*	20	160
Butylbenzylphthalate	1	44.6711	0	50	89	70	130
3,3'-Dichlorobenzidine	1	27.7436	0	50	55*	70	130
Benzo[a]anthracene	1	38.9118	0	50	78	70	130
Chrysene	1	38.72	0	50	77	70	130
bis(2-Ethylhexyl)phthalate	1	45.9825	0	50	92	70	130
Di-n-octylphthalate	1	44.7486	0	50	89	70	130
Benzo[b]fluoranthene	1	43.8961	0	50	88	70	130
Benzo[k]fluoranthene	1	42.6939	0	50	85	70	130
Benzo[a]pyrene	1	38.953	0	50	78	70	130
Indeno[1,2,3-cd]pyrene	1	36.4045	0	50	73	70	130
Dibenzo[a,h]anthracene	1	36.2086	0	50	72	70	130
Benzo[g,h,i]perylene	1	34.133	0	50	68*	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data

QC Batch: SMB49884

Data File	Sample ID:	Analysis Date
Spike or Dup: 9M70512.D	AC90773-004(MSD)	4/19/2016 4:08:00 PM
Duplicate(If applicable): 9M70511.D	AC90773-004(MS)	4/19/2016 3:46:00 PM
Inst Blank(If applicable):		
Method: 8270D	Matrix: Soil	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD	Sample/MS/MBS	RPD	Limit
		Conc	Conc		
Pyridine	1	32.882	28.9462	13	30
N-Nitrosodimethylamine	1	34.8423	32.1943	7.9	30
Benzaldehyde	1	44.5076	42.4718	4.7	30
Aniline	1	24.191	23.7546	1.8	30
Pentachloroethane	1	35.3862	33.7218	4.8	30
bis(2-Chloroethyl)ether	1	33.728	34.2195	1.4	30
Phenol	1	51.3168	54.0863	5.3	30
2-Chlorophenol	1	60.1056	62.1058	3.3	30
N-Decane	1	31.6677	28.6582	10	30
1,3-Dichlorobenzene	1	33.3257	32.5485	2.4	30
1,4-Dichlorobenzene	1	34.4082	34.0253	1.1	30
1,2-Dichlorobenzene	1	32.8933	32.5215	1.1	30
Benzyl alcohol	1	31.6358	32.5737	2.9	30
bis(2-chloroisopropyl)ether	1	24.6766	25.5344	3.4	30
2-Methylphenol	1	55.248	58.2478	5.3	30
Acetophenone	1	31.8238	32.0056	0.57	30
Hexachloroethane	1	34.0665	32.4683	4.8	30
N-Nitroso-di-n-propylamine	1	26.7731	27.8463	3.9	30
3&4-Methylphenol	1	56.2066	58.1642	3.4	30
Nitrobenzene	1	36.8139	37.7712	2.6	30
Isophorone	1	26.2212	26.7537	2	30
2-Nitrophenol	1	70.2787	70.7525	0.67	30
2,4-Dimethylphenol	1	59.1749	62.2233	5	30
Benzoic Acid	1	24.0976	23.2463	3.6	30
bis(2-Chloroethoxy)methane	1	34.5851	35.9283	3.8	30
2,4-Dichlorophenol	1	65.8848	67.9959	3.2	30
1,2,4-Trichlorobenzene	1	34.287	35.1642	2.5	30
Naphthalene	1	33.1197	34.8209	5	30
4-Chloroaniline	1	19.5791	21.6206	9.9	30
Hexachlorobutadiene	1	35.1889	35.4458	0.73	30
Caprolactam	1	29.5574	29.7411	0.62	30
4-Chloro-3-methylphenol	1	64.7465	67.4284	4.1	30
2-Methylnaphthalene	1	33.4121	35.0529	4.8	30
1,1'-Biphenyl	1	34.2746	35.0928	2.4	30
1,2,4,5-Tetrachlorobenzene	1	35.5637	35.1542	1.2	30
Hexachlorocyclopentadiene	1	39.6533	37.2257	6.3	30
2,4,6-Trichlorophenol	1	67.3137	68.3565	1.5	30
2,4,5-Trichlorophenol	1	71.012	73.0581	2.8	30
2-Chloronaphthalene	1	36.3056	36.6057	0.82	30
1,4-Dimethylnaphthalene	1	36.0707	35.8431	0.63	30
Diphenyl Ether	1	35.7373	35.4879	0.7	30
2-Nitroaniline	1	35.6186	35.7991	0.51	30
Coumarin	1	35.2948	35.54	0.69	30
Acenaphthylene	1	40.1607	40.8972	1.8	30
Dimethylphthalate	1	39.3446	39.8521	1.3	30
2,6-Dinitrotoluene	1	41.3676	41.2355	0.32	30
Acenaphthene	1	35.8931	36.8573	2.7	30
3-Nitroaniline	1	28.8022	29.2767	1.6	30
2,4-Dinitrophenol	1	49.112	57.9135	16	30
Dibenzofuran	1	35.9357	36.6041	1.8	30
2,4-Dinitrotoluene	1	36.2774	36.7484	1.3	30
4-Nitrophenol	1	0	0	NA	30
2,3,4,6-Tetrachlorophenol	1	60.824	63.7051	4.6	30
Fluorene	1	35.7165	36.7861	3	30
4-Chlorophenyl-phenylether	1	36.9522	37.6546	1.9	30
Diethylphthalate	1	35.0617	35.9896	2.6	30
4-Nitroaniline	1	31.2197	32.9899	5.5	30
Atrazine	1	32.4513	32.6981	0.76	30
4,6-Dinitro-2-methylphenol	1	73.9447	78.5019	6	30
n-Nitrosodiphenylamine	1	30.0339	29.7633	0.91	30
1,2-Diphenylhydrazine	1	39.4047	39.2452	0.41	30
4-Bromophenyl-phenylether	1	44.0546	43.5625	1.1	30
Hexachlorobenzene	1	39.1834	39.1262	0.15	30

Form3
RPD Data

QC Batch: SMB49884

N-Octadecane	1	42.8732	41.588	3	30
Pentachlorophenol	1	54.7681	59.8666	8.9	30
Phenanthrene	1	36.8525	37.3761	1.4	30
Anthracene	1	37.8857	38.421	1.4	30
Carbazole	1	35.7626	35.553	0.59	30
Di-n-butylphthalate	1	42.2706	43.594	3.1	30
Fluoranthene	1	36.1183	37.4654	3.7	30
Pyrene	1	44.7942	43.6474	2.6	30
Benzidine	1	0	5.7759	200*	30
Butylbenzylphthalate	1	44.6711	43.3287	3.1	30
3,3'-Dichlorobenzidine	1	27.7436	27.03	2.6	30
Benzo[a]anthracene	1	38.9118	39.1971	0.73	30
Chrysene	1	38.72	38.8287	0.28	30
bis(2-Ethylhexyl)phthalate	1	45.9825	45.4834	1.1	30
Di-n-octylphthalate	1	44.7486	42.0445	6.2	30
Benzo[b]fluoranthene	1	43.8961	43.1754	1.7	30
Benzo[k]fluoranthene	1	42.6939	42.2463	1.1	30
Benzo[a]pyrene	1	38.953	40.0147	2.7	30
Indeno[1,2,3-cd]pyrene	1	36.4045	40.1333	9.7	30
Dibenzo[a,h]anthracene	1	36.2086	39.8637	9.6	30
Benzo[g,h,i]perylene	1	34.133	38.5252	12	30

* - Indicates outside of limits

NA - Both concentrations=0... no result can be calculated

FORM 4
Blank SummaryBlank Number: SMB49884
Blank Data File: 7M76345.D
Matrix: SoilBlank Analysis Date: 04/19/16 15:39
Blank Extraction Date: 04/19/16
(If Applicable)
Method: EPA 8270D

Sample Number	Data File	Analysis Date
AC90773-001(10X)	7M76352.D	04/19/16 18:20
AC90773-002	7M76370.D	04/20/16 14:08
AC90773-003	7M76346.D	04/19/16 16:02
AC90773-004	9M70510.D	04/19/16 15:23
AC90773-009(3X)	7M76353.D	04/19/16 18:43
AC90773-010	7M76371.D	04/20/16 14:31
AC90773-011	7M76347.D	04/19/16 16:25
AC90773-004(MSD)	9M70512.D	04/19/16 16:08
AC90773-004(MS)	9M70511.D	04/19/16 15:46
SMB49884(MS)	9M70509.D	04/19/16 15:00

FORM 4
Blank Summary

Blank Number: WMB49891
Blank Data File: 10M56271.D
Matrix: Aqueous

Blank Analysis Date: 04/20/16 16:59
Blank Extraction Date: 04/19/16
(If Applicable)
Method: EPA 8270D

Sample Number	Data File	Analysis Date
AC90773-012	10M56272.D	04/20/16 17:20
WMB49891(MS)	9M70513.D	04/19/16 16:31

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10

Data File: 10M55766.D
Analysis Date: 03/28/16 09:02
Method: EPA 8270D

Tune Scan/Time Range: Scan 1450

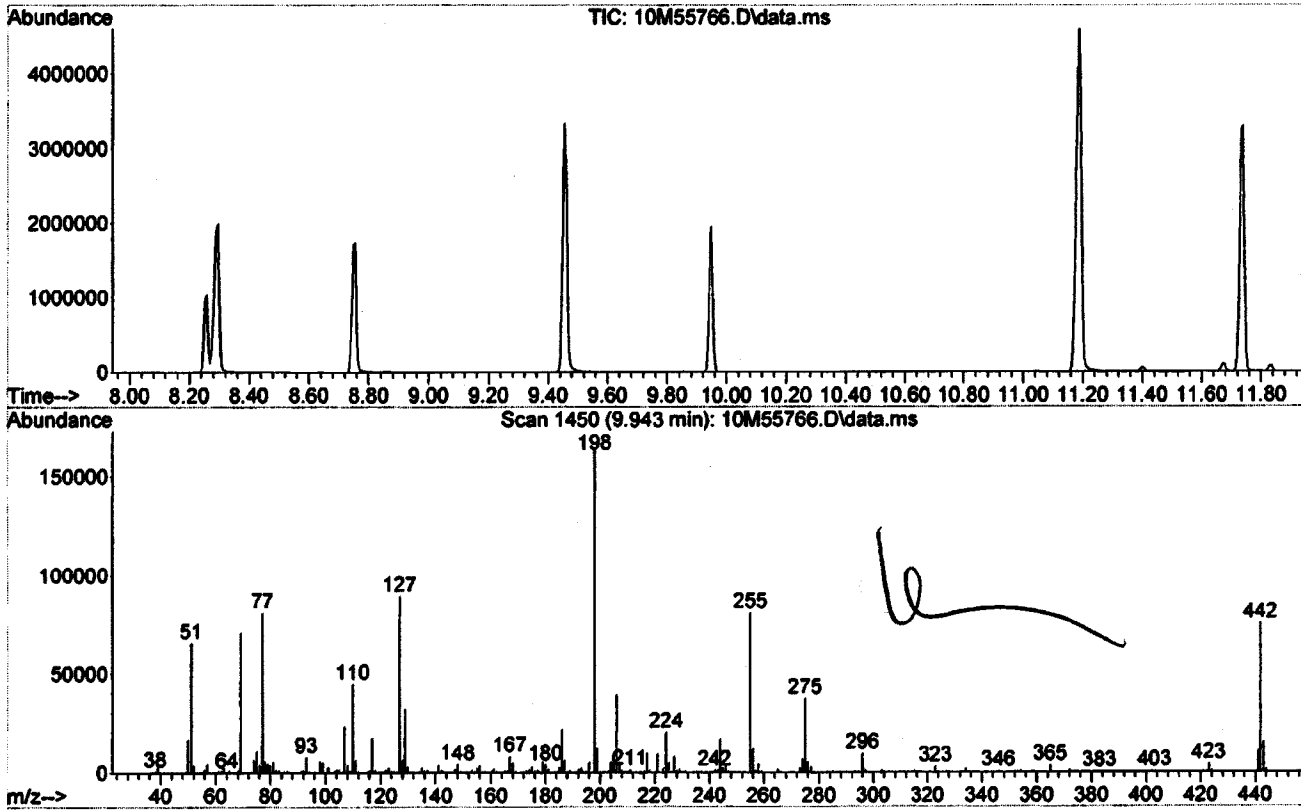
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	39.9	65768	PASS
68	69	0.00	2	1.7	1177	PASS
69	198	0.00	100	43.1	71112	PASS
70	69	0.00	2	0.5	372	PASS
127	198	40	60	54.3	89632	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	164928	PASS
199	198	5	9	7.4	12146	PASS
275	198	10	30	22.7	37392	PASS
365	198	1	100	2.2	3591	PASS
441	443	0.01	100	71.0	10661	PASS
442	198	40	100	45.7	75416	PASS
443	442	17	23	19.9	15014	PASS

Data File	Sample Number	Analysis Date:
10M55767.D	CAL BNA@10PPM	03/28/16 09:30
10M55768.D	CAL BNA@50PPM	03/28/16 10:03
10M55769.D	CAL BNA@196PP	03/28/16 10:31
10M55770.D	CAL BNA@160PP	03/28/16 10:53
10M55771.D	CAL BNA@120PP	03/28/16 11:16
10M55772.D	CAL BNA@80PPM	03/28/16 11:38
10M55773.D	CAL BNA@10PPM	03/28/16 12:00
10M55774.D	CAL BNA@20PPM	03/28/16 12:22
10M55775.D	CAL BNA@2PPM	03/28/16 12:44
10M55776.D	CAL BNA@.5PPM	03/28/16 13:07
10M55777.D	ICV BNA@50PPM	03/28/16 13:29

Data Path : G:\GcMsData\2016\GCMS_10\Data\03-28-16\
 Data File : 10M55766.D
 Acq On : 28 Mar 2016 9:02
 Operator : AH/JB/KD
 Sample : CAL DFTPP
 Misc : A,BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_10\METHODQT\10M_0328M.M
 Title : @GCMS_10,mg,625,8270
 Last Update : Mon Mar 28 14:17:59 2016



Spectrum Information: Scan 1450

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.9	65768	PASS
68	69	0.00	2	1.7	1177	PASS
69	198	0.00	100	43.1	71112	PASS
70	69	0.00	2	0.5	372	PASS
127	198	40	60	54.3	89632	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	164928	PASS
199	198	5	9	7.4	12146	PASS
275	198	10	30	22.7	37392	PASS
365	198	1	100	2.2	3591	PASS
441	443	0.01	100	71.0	10661	PASS
442	198	40	100	45.7	75416	PASS
443	442	17	23	19.9	15014	PASS

Form 5

Tune Name: CAL.DFTPP
Instrument: GCMS 9

Data File: 9M70239.D
Analysis Date: 04/06/16 09:05
Method: EPA 8270D

Tune Scan/Time Range: Scan 1446

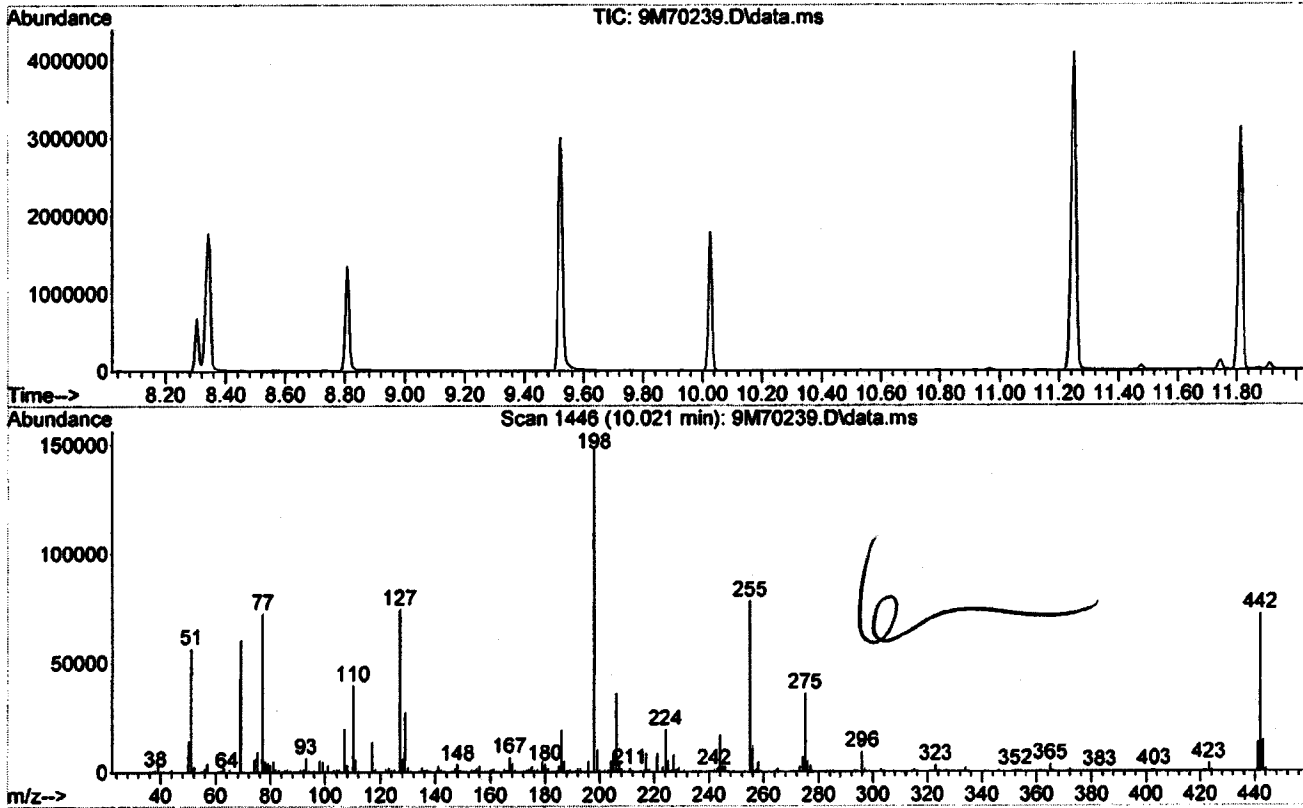
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	38.0	56640	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	40.6	60608	PASS
70	69	0.00	2	0.5	288	PASS
127	198	40	60	49.8	74344	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	149248	PASS
199	198	5	9	6.8	10123	PASS
275	198	10	30	24.2	36072	PASS
365	198	1	100	2.3	3423	PASS
441	443	0.01	100	96.0	13564	PASS
442	198	40	100	48.2	71984	PASS
443	442	17	23	19.6	14136	PASS

Data File	Sample Number	Analysis Date:
9M70240.D	CAL BNA@50PPM	04/06/16 09:29
9M70241.D	CAL BNA@10PPM	04/06/16 10:14
9M70242.D	CAL BNA@196PP	04/06/16 10:41
9M70243.D	CAL BNA@160PP	04/06/16 11:04
9M70244.D	CAL BNA@120PP	04/06/16 11:27
9M70245.D	CAL BNA@80PPM	04/06/16 11:50
9M70246.D	CAL BNA@20PPM	04/06/16 12:14
9M70247.D	CAL BNA@2PPM	04/06/16 12:37
9M70248.D	CAL BNA@.5PPM	04/06/16 12:59
9M70249.D	CAL BNA@50PPM	04/06/16 13:22
9M70250.D	CAL BNA@10PPM	04/06/16 13:45
9M70251.D	ICV BNA@50PPM	04/06/16 14:09

Data Path : G:\GcMsData\2016\GCMS_9\Data\04-06-16\
 Data File : 9M70239.D
 Acq On : 6 Apr 2016 9:05
 Operator : AH/JB
 Sample : CAL DFTPP
 Misc : A, BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_9\METHODQT\9M_0405M.M
 Title : @GCMS_9,mg,625,8270
 Last Update : Tue Mar 15 12:19:24 2016



Spectrum Information: Scan 1446

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	38.0	56640	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	40.6	60608	PASS
70	69	0.00	2	0.5	288	PASS
127	198	40	60	49.8	74344	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	149248	PASS
199	198	5	9	6.8	10123	PASS
275	198	10	30	24.2	36072	PASS
365	198	1	100	2.3	3423	PASS
441	443	0.01	100	96.0	13564	PASS
442	198	40	100	48.2	71984	PASS
443	442	17	23	19.6	14136	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7Data File: 7M75949.D
Analysis Date: 04/06/16 09:06
Method: EPA 8270D

Tune Scan/Time Range: Scan 1462

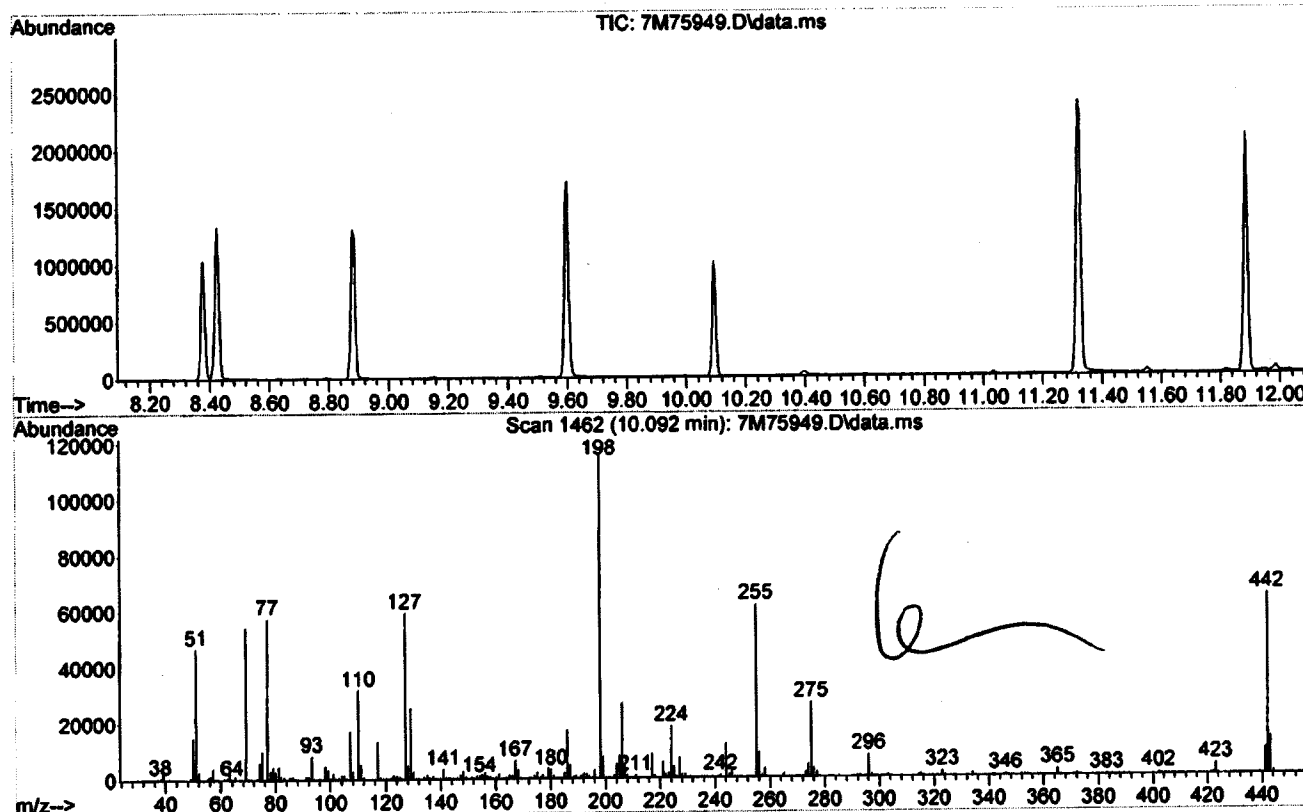
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	40.2	46736	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	46.6	54224	PASS
70	69	0.00	2	0.8	418	PASS
127	198	40	60	51.0	59312	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	116296	PASS
199	198	5	9	6.6	7720	PASS
275	198	10	30	22.8	26544	PASS
365	198	1	100	2.0	2309	PASS
441	443	0.01	100	70.3	9395	PASS
442	198	40	100	55.4	64376	PASS
443	442	17	23	20.8	13366	PASS

Data File	Sample Number	Analysis Date:
7M75950.D	CAL BNA@50PPM	04/06/16 09:32
7M75951.D	CAL BNA@10PPM	04/06/16 10:11
7M75952.D	CAL BNA@196PP	04/06/16 10:36
7M75953.D	CAL BNA@160PP	04/06/16 10:59
7M75954.D	CAL BNA@120PP	04/06/16 11:22
7M75955.D	CAL BNA@80PPM	04/06/16 11:45
7M75956.D	CAL BNA@20PPM	04/06/16 12:08
7M75957.D	CAL BNA@2PPM	04/06/16 12:31
7M75958.D	CAL BNA@.5PPM	04/06/16 12:54
7M75959.D	ICV BNA@50PPM	04/06/16 13:19

Data Path : G:\GcMsData\2016\GCMS_7\Data\04-06-16\
 Data File : 7M75949.D
 Acq On : 6 Apr 2016 9:06
 Operator : AH/JB
 Sample : CAL DFTPP
 Misc : A,BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_7\METHODQT\7M_0329.M
 Title : @GCMS_7,mg,625,8270D
 Last Update : Tue Mar 29 17:02:45 2016



Spectrum Information: Scan 1462

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.2	46736	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	46.6	54224	PASS
70	69	0.00	2	0.8	418	PASS
127	198	40	60	51.0	59312	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	116296	PASS
199	198	5	9	6.6	7720	PASS
275	198	10	30	22.8	26544	PASS
365	198	1	100	2.0	2309	PASS
441	443	0.01	100	70.3	9395	PASS
442	198	40	100	55.4	64376	PASS
443	442	17	23	20.8	13366	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 9

Data File: 9M70499.D
Analysis Date: 04/19/16 07:57
Method: EPA 8270D

Tune Scan/Time Range: Scan 1445

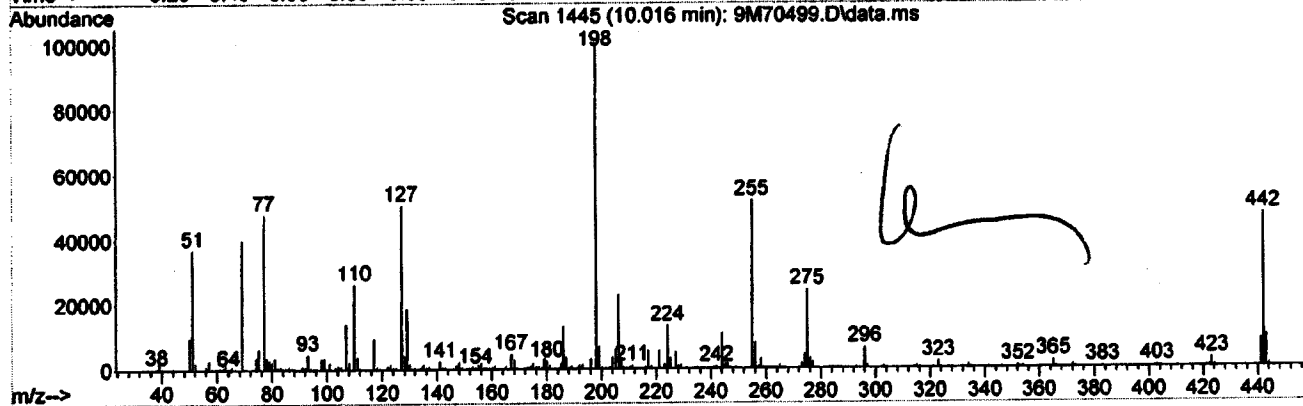
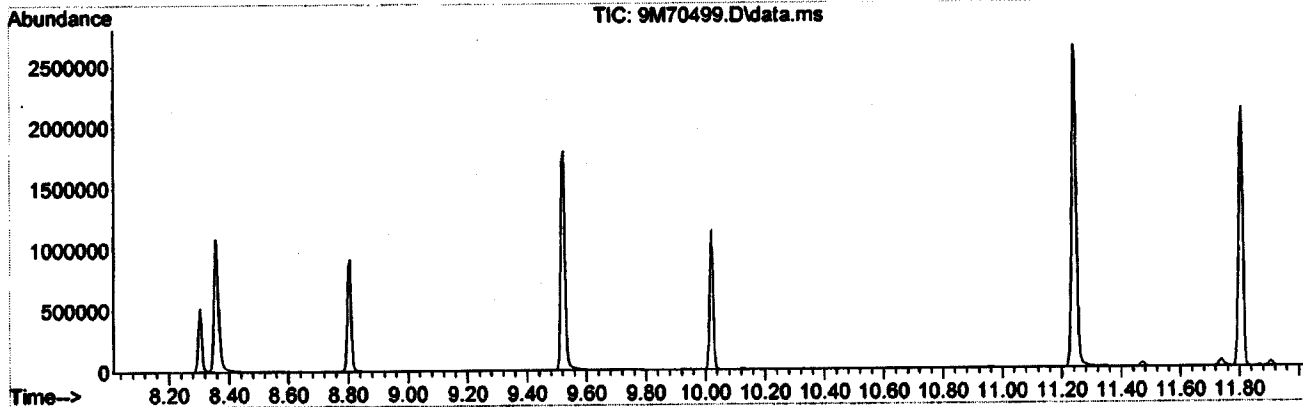
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	36.7	36864	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	39.9	39992	PASS
70	69	0.00	2	0.6	254	PASS
127	198	40	60	50.3	50464	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	100328	PASS
199	198	5	9	6.8	6842	PASS
275	198	10	30	24.1	24192	PASS
365	198	1	100	2.2	2208	PASS
441	443	0.01	100	85.5	8331	PASS
442	198	40	100	47.1	47232	PASS
443	442	17	23	20.6	9746	PASS

Data File	Sample Number	Analysis Date:
9M70500.D	CAL BNA@50PPM	04/19/16 08:35
9M70501.D	WMB49871(MS)	04/19/16 09:19
9M70502.D	AC90756-005(T)	04/19/16 09:42
9M70503.D	AC90755-001(3XY)	04/19/16 10:05
9M70504.D	AC90755-001(3XY)	04/19/16 10:28
9M70505.D	AC90755-001(3XY)	04/19/16 10:51
9M70506.D	OMB49880(MS)	04/19/16 11:14
9M70507.D	OMB49880	04/19/16 11:37
9M70508.D	SMB49884	04/19/16 14:37
9M70509.D	SMB49884(MS)	04/19/16 15:00
9M70510.D	AC90773-004	04/19/16 15:23
9M70511.D	AC90773-004(MS)	04/19/16 15:46
9M70512.D	AC90773-004(MSD)	04/19/16 16:08
9M70513.D	WMB49891(MS)	04/19/16 16:31
9M70514.D	WMB49891	04/19/16 16:54
9M70515.D	EF-SPLP V-230937	04/19/16 17:17
9M70516.D	AC90611-002(T)	04/19/16 17:40
9M70517.D	AC90611-002(TVM)	04/19/16 18:03
9M70518.D	AC90611-002(TVM)	04/19/16 18:26
9M70519.D	AC90747-005	04/19/16 18:49
9M70520.D	AC90747-013	04/19/16 19:12
9M70521.D	AC90767-003	04/19/16 19:34
9M70522.D	AC90749-001	04/19/16 19:57
9M70523.D	AC90749-002	04/19/16 20:20
9M70524.D	AC90749-004	04/19/16 20:43
9M70525.D	AC90749-006	04/19/16 21:06
9M70526.D	AC90749-008	04/19/16 21:29
9M70527.D	AC90749-011	04/19/16 21:52

Data Path : G:\GcMsData\2016\GCMS_9\Data\04-19-16\
 Data File : 9M70499.D
 Acq On : 19 Apr 2016 7:57
 Operator : AH/JB
 Sample : CAL DFTPP
 Misc : A,BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_9\METHODQT\9M_0406M.M
 Title : @GCMS_9,mg,625,8270
 Last Update : Wed Apr 06 14:12:25 2016



Spectrum Information: Scan 1445

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	36.7	36864	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	39.9	39992	PASS
70	69	0.00	2	0.6	254	PASS
127	198	40	60	50.3	50464	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	100328	PASS
199	198	5	9	6.8	6842	PASS
275	198	10	30	24.1	24192	PASS
365	198	1	100	2.2	2208	PASS
441	443	0.01	100	85.5	8331	PASS
442	198	40	100	47.1	47232	PASS
443	442	17	23	20.6	9746	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7Data File: 7M76334.D
Analysis Date: 04/19/16 11:27
Method: EPA 8270D

Tune Scan/Time Range: Average of 10.076 to 10.082 min

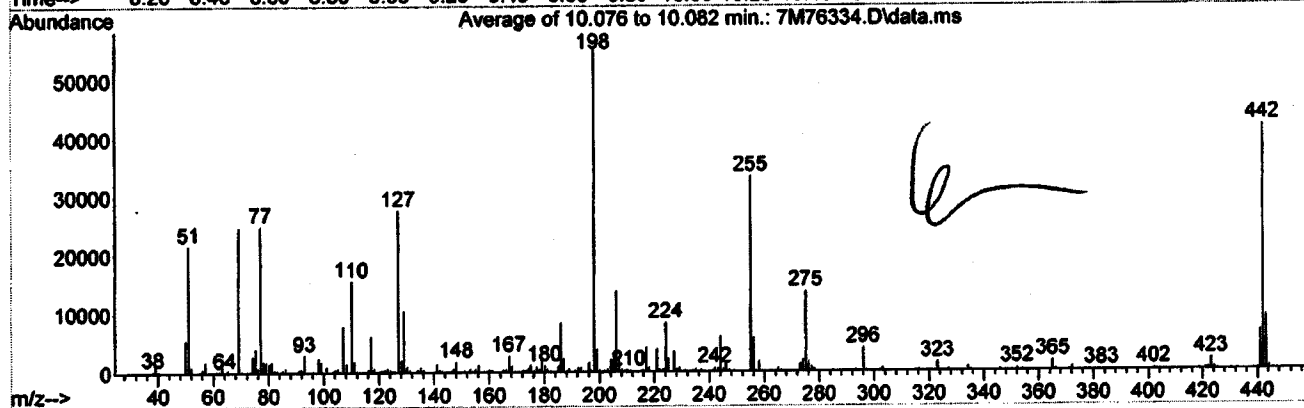
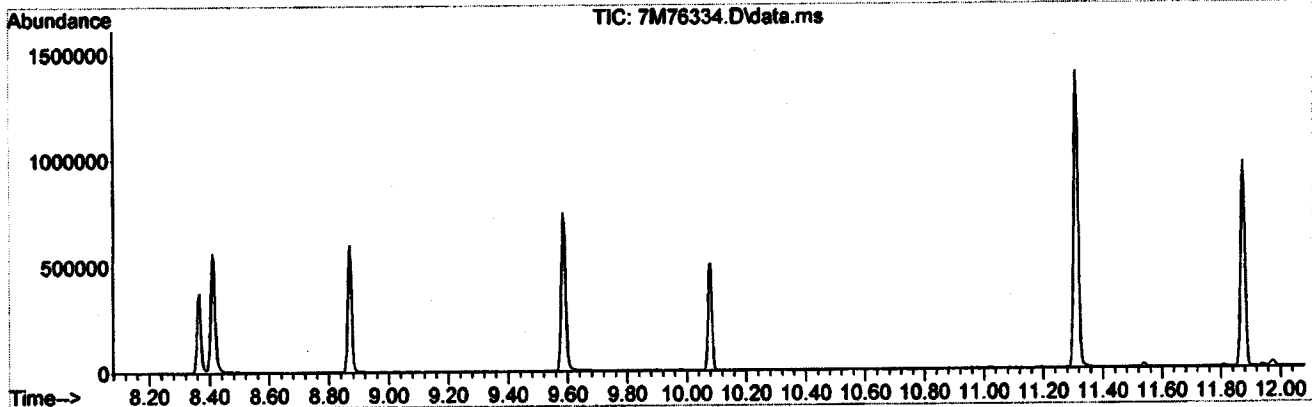
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	38.9	21652	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.5	24792	PASS
70	69	0.00	2	0.9	231	PASS
127	198	40	60	49.7	27652	PASS
197	198	0.00	1	0.8	441	PASS
198	198	100	100	100.0	55652	PASS
199	198	5	9	6.8	3812	PASS
275	198	10	30	24.6	13680	PASS
365	198	1	100	3.0	1684	PASS
441	443	0.01	100	71.6	6624	PASS
442	198	40	100	75.4	41940	PASS
443	442	17	23	22.1	9253	PASS

Data File	Sample Number	Analysis Date:
7M76335.D	CAL BNA@50PPM	04/19/16 11:50
7M76336.D	AC90756-001(3X)	04/19/16 12:13
7M76337.D	AC90756-002(3X)	04/19/16 12:36
7M76338.D	AC90756-003(3X)	04/19/16 12:59
7M76339.D	AC90756-004(3X)	04/19/16 13:22
7M76340.D	OMB49880	04/19/16 13:44
7M76341.D	AC90756-001(3X)(	04/19/16 14:07
7M76342.D	AC90756-001(3X)(	04/19/16 14:30
7M76343.D	AC90747-001(5X)	04/19/16 14:53
7M76344.D	AC90670-002(5X)	04/19/16 15:16
7M76345.D	SMB49884	04/19/16 15:39
7M76346.D	AC90773-003	04/19/16 16:02
7M76347.D	AC90773-011	04/19/16 16:25
7M76348.D	AC90749-003	04/19/16 16:48
7M76349.D	AC90749-005	04/19/16 17:11
7M76350.D	AC90749-007	04/19/16 17:34
7M76351.D	AC90749-009	04/19/16 17:57
7M76352.D	AC90773-001(10X)	04/19/16 18:20
7M76353.D	AC90773-009(3X)	04/19/16 18:43
7M76354.D	AC90773-002(3X)	04/19/16 19:06
7M76355.D	AC90773-010(3X)	04/19/16 19:28
7M76356.D	AC90662-007(3X)	04/19/16 19:51
7M76357.D	AC90625-005(3X)	04/19/16 20:14
7M76358.D	AC90662-003(3X)	04/19/16 20:37
7M76359.D	AC90719-007(5X)	04/19/16 21:00
7M76360.D	AC90719-002	04/19/16 21:23
7M76361.D	AC90719-003	04/19/16 21:46
7M76362.D	AC90719-004	04/19/16 22:09
7M76363.D	AC90719-005	04/19/16 22:32
7M76364.D	AC90719-006	04/19/16 22:55

Data Path : G:\GcMsData\2016\GCMS_7\Data\04-1916\
 Data File : 7M76334.D
 Acq On : 19 Apr 2016 11:27
 Operator : AH/JB
 Sample : CAL DFTPP
 Misc : A, BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_7\METHODQT\7M_0406.M
 Title : @GCMS_7,mg,625,8270D
 Last Update : Wed Apr 06 13:14:50 2016



Spectrum Information: Average of 10.076 to 10.082 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	38.9	21652	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.5	24792	PASS
70	69	0.00	2	0.9	231	PASS
127	198	40	60	49.7	27652	PASS
197	198	0.00	1	0.8	441	PASS
198	198	100	100	100.0	55652	PASS
199	198	5	9	6.8	3812	PASS
275	198	10	30	24.6	13680	PASS
365	198	1	100	3.0	1684	PASS
441	443	0.01	100	71.6	6624	PASS
442	198	40	100	75.4	41940	PASS
443	442	17	23	22.1	9253	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10Data File: 10M56254.D
Analysis Date: 04/20/16 10:29
Method: EPA 8270D

Tune Scan/Time Range: Scan 1443

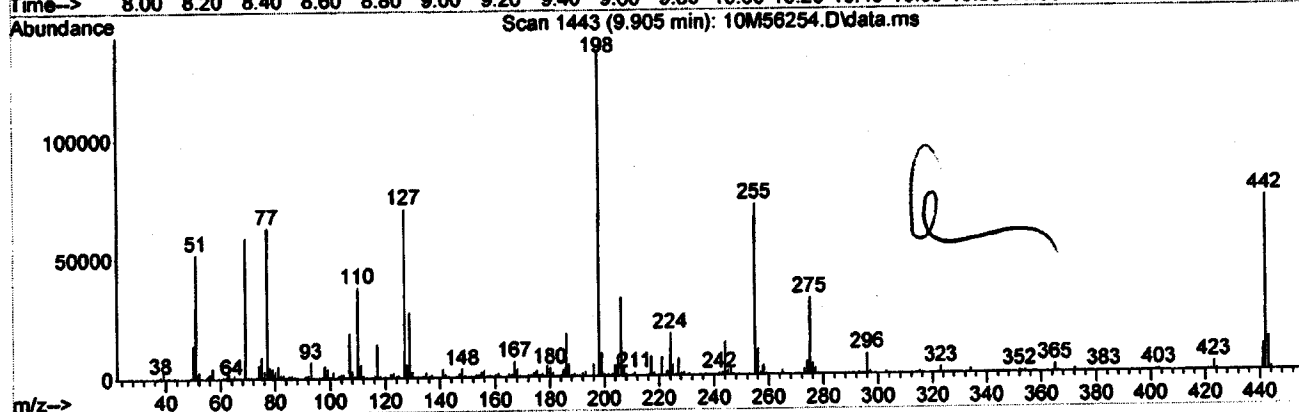
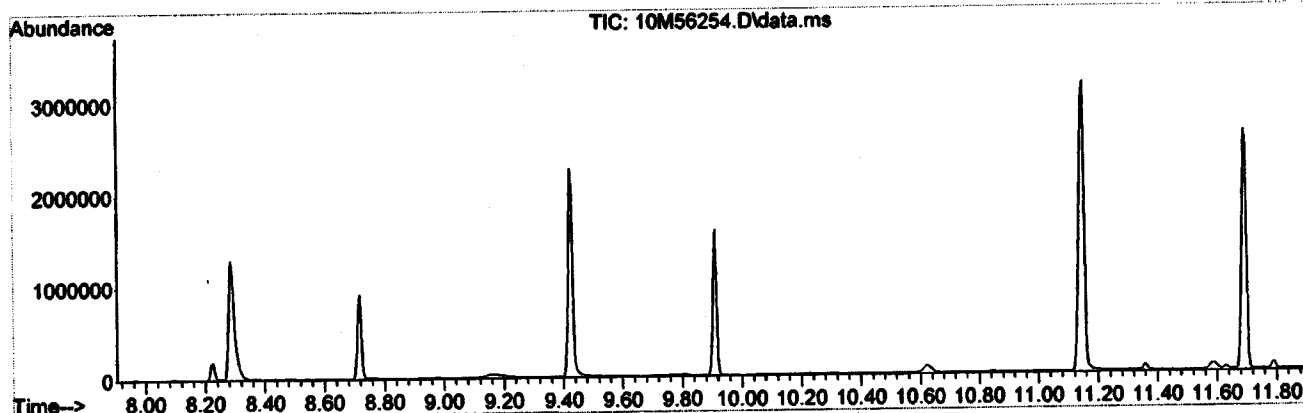
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	38.0	51920	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.1	58792	PASS
70	69	0.00	2	1.1	630	PASS
127	198	40	60	51.8	70752	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	138512	PASS
199	198	5	9	7.1	9628	PASS
275	198	10	30	23.5	32016	PASS
365	198	1	100	2.4	3261	PASS
441	443	0.01	100	78.8	10959	PASS
442	198	40	100	53.7	73336	PASS
443	442	17	23	19.0	13913	PASS

Data File	Sample Number	Analysis Date:
10M56255.D	CAL BNA@50PPM	04/20/16 10:52
10M56256.D	WMB49891	04/20/16 11:28
10M56257.D	AC90803-001	04/20/16 11:50
10M56258.D	AC90803-007	04/20/16 12:12
10M56259.D	AC90803-008	04/20/16 12:34
10M56260.D	AC90803-009	04/20/16 12:56
10M56261.D	AC90803-001(3X)	04/20/16 13:18
10M56262.D	AC90774-001	04/20/16 13:40
10M56263.D	AC90774-002	04/20/16 14:02
10M56264.D	AC90780-001	04/20/16 14:24
10M56265.D	AC90780-002	04/20/16 14:46
10M56266.D	AC90811-001	04/20/16 15:08
10M56267.D	AC90811-002	04/20/16 15:30
10M56268.D	AC90811-003	04/20/16 15:52
10M56269.D	WMB49906(MS)	04/20/16 16:14
10M56270.D	WMB49906	04/20/16 16:36
10M56271.D	WMB49891	04/20/16 16:59
10M56272.D	AC90773-012	04/20/16 17:20
10M56273.D	EF-1 V-230538(04/	04/20/16 17:42
10M56274.D	AC90764-001(T)	04/20/16 18:04
10M56275.D	AC90765-001(T)	04/20/16 18:26
10M56276.D	AC90763-001(T)	04/20/16 18:48
10M56277.D	AC90763-001(T)M	04/20/16 19:10
10M56278.D	AC90763-001(T)M	04/20/16 19:32
10M56279.D	AC90793-001	04/20/16 19:54
10M56280.D	AC90793-002	04/20/16 20:16
10M56281.D	AC90813-001	04/20/16 20:38
10M56282.D	AC90813-002	04/20/16 21:00
10M56283.D	AC90813-003	04/20/16 21:22
10M56284.D	AC90813-004	04/20/16 21:44
10M56285.D	AC90813-005	04/20/16 22:06
10M56286.D	AC90813-006	04/20/16 22:28

Data Path : G:\GcMsData\2016\GCMS_10\Data\04-20-16\
 Data File : 10M56254.D
 Acq On : 20 Apr 2016 10:29
 Operator : AH/JB
 Sample : CAL DFTPP
 Misc : A,BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_10\METHODQT\10M_0328M.M
 Title : @GCMS_10,mg,625,8270
 Last Update : Mon Mar 28 14:17:59 2016



Spectrum Information: Scan 1443

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	38.0	51920	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.1	58792	PASS
70	69	0.00	2	1.1	630	PASS
127	198	40	60	51.8	70752	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	136512	PASS
199	198	5	9	7.1	9628	PASS
275	198	10	30	23.5	32016	PASS
365	198	1	100	2.4	3261	PASS
441	443	0.01	100	78.8	10959	PASS
442	198	40	100	53.7	73336	PASS
443	442	17	23	19.0	13913	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7Data File: 7M76367.D
Analysis Date: 04/20/16 13:00
Method: EPA 8270D

Tune Scan/Time Range: Average of 10.108 to 10.114 min

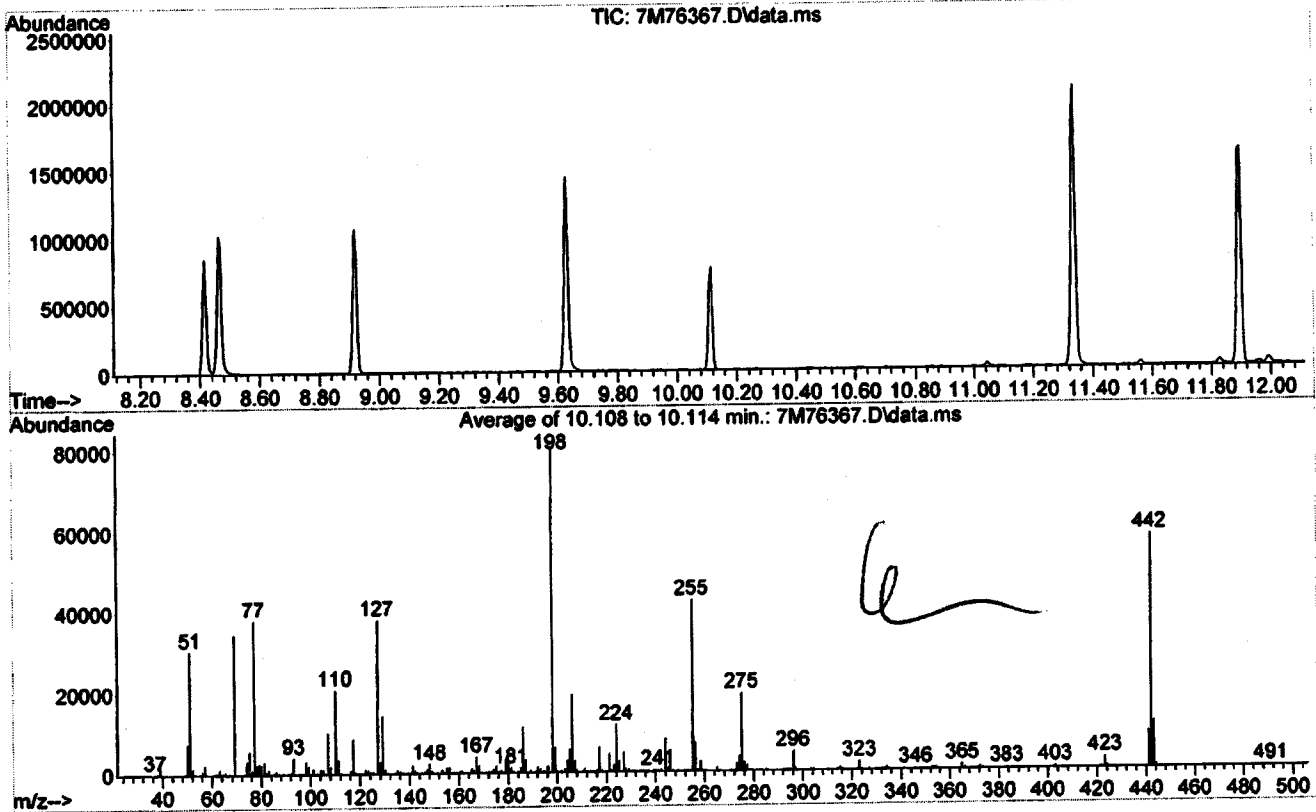
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	37.6	30340	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	42.9	34572	PASS
70	69	0.00	2	0.2	78	PASS
127	198	40	60	47.1	38004	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	80644	PASS
199	198	5	9	7.6	6157	PASS
275	198	10	30	23.8	19184	PASS
365	198	1	100	1.5	1204	PASS
441	443	0.01	100	78.6	8975	PASS
442	198	40	100	71.8	57912	PASS
443	442	17	23	19.7	11416	PASS

Data File	Sample Number	Analysis Date:
7M76368.D	CAL BNA@50PPM	04/20/16 13:23
7M76369.D	OMB49880	04/20/16 13:46
7M76370.D	AC90773-002	04/20/16 14:08
7M76371.D	AC90773-010	04/20/16 14:31
7M76372.D	AC90719-007(10X)	04/20/16 14:54
7M76373.D	SMB49905(MS)	04/20/16 15:17
7M76374.D	SMB49905	04/20/16 15:41
7M76375.D	AC90817-005	04/20/16 16:04
7M76376.D	AC90817-005(MS)	04/20/16 16:27
7M76377.D	AC90817-005(MSD)	04/20/16 16:50
7M76378.D	AC90817-006	04/20/16 17:13
7M76379.D	AC90817-008	04/20/16 17:36
7M76380.D	AC90818-003	04/20/16 17:59
7M76381.D	AC90818-004	04/20/16 18:22
7M76382.D	AC90818-005	04/20/16 18:45
7M76383.D	AC90818-006	04/20/16 19:08
7M76384.D	AC90818-007	04/20/16 19:31
7M76385.D	AC90684-011(3X)	04/20/16 19:54
7M76386.D	AC90787-001	04/20/16 20:17
7M76387.D	AC90787-002	04/20/16 20:40
7M76388.D	AC90787-003	04/20/16 21:03
7M76389.D	AC90787-004	04/20/16 21:26
7M76390.D	AC90787-005	04/20/16 21:49

Data Path : G:\GcMsData\2016\GCMS_7\Data\04-20-16\
 Data File : 7M76367.D
 Acq On : 20 Apr 2016 13:00
 Operator : AH/JB
 Sample : CAL DFTPP
 Misc : A,BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_7\METHODQT\7M_0406.M
 Title : @GCMS_7,mg,625,8270D
 Last Update : Wed Apr 06 13:14:50 2016



Spectrum Information: Average of 10.108 to 10.114 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.6	30340	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	42.9	34572	PASS
70	69	0.00	2	0.2	78	PASS
127	198	40	60	47.1	38004	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	80644	PASS
199	198	5	9	7.6	6157	PASS
275	198	10	30	23.8	19184	PASS
365	198	1	100	1.5	1204	PASS
441	443	0.01	100	78.6	8975	PASS
442	198	40	100	71.8	57912	PASS
443	442	17	23	19.7	11416	PASS

Level #:	Date File:	Cal Identifier:	Analysis Date/Time									Level #:	Date File:	Cal Identifier:	Analysis Date/Time										
			RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9				AvgRt	RT	Cor1	Cor2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
1	10M55766.D	CAL BNA@50PPM	0.3562	0.2783	0.3361	0.3398	0.3785	0.3772	0.3785	0.4041	---	0.356	11.80	0.998	1.00	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
3	10M55773.D	CAL BNA@10PPM	0.5089	0.3532	0.4748	0.4847	0.5302	0.5191	0.5202	0.5496	---	0.493	12.06	0.999	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
5	10M55772.D	CAL BNA@80PPM	0.3140	0.2286	0.2842	0.2894	0.3231	0.3072	0.2860	0.3165	---	0.295	12.16	0.999	0.999	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
7	10M55770.D	CAL BNA@160PPM	0.3600	0.2785	0.3623	0.3692	0.3632	0.3523	0.3311	0.3416	---	0.345	12.68	0.998	1.00	8.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
9	10M55776.D	CAL BNA@5PPM	1.1288	1.2509	1.1799	1.1225	1.1379	1.1008	1.0745	1.1468	---	1.14	12.70	0.998	0.998	4.7	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
10	1.0917	1.3258	1.1605	1.0895	1.0347	0.9726	0.9517	0.9658	---	1.08	12.75	0.998	0.999	12	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0		
11	0.7328	0.5058	0.7028	0.7001	0.7231	0.6691	0.6507	0.6696	---	0.669	12.75	0.998	0.999	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0		
12	1.2858	0.7043	1.1088	1.1757	1.3518	1.3377	1.3691	1.4217	---	1.22	13.49	0.999	1.00	19	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0		
13	1.2015	1.1004	1.1995	1.1510	1.1840	1.1906	1.1751	1.2974	---	1.19	13.91	0.998	0.999	4.7	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0		
14	1.1938	1.3797	1.2554	1.1628	1.1978	1.1638	1.2161	1.1988	---	1.22	13.94	1.00	1.00	5.8	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0		
15	1.1541	1.0450	1.0973	1.1236	1.1696	1.1648	1.1780	1.2275	---	1.15	14.26	0.999	1.00	4.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0		
16	1.2251	1.2175	1.2149	1.1793	1.2278	1.2836	1.3553	---	1.24	15.62	0.998	1.00	4.3	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0			
17	0.9849	0.9336	0.9886	0.9563	1.0058	1.0172	1.0704	1.1347	---	1.01	15.64	0.996	1.00	6.4	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0		
18	1.0736	1.1276	1.0782	1.0486	1.0637	1.0751	1.0898	1.1577	---	1.09	15.99	0.998	0.999	3.3	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0		

Flags
 a - failed the min of criteria
 c - failed the minimum correlation coeff criteria (if applicable)

Note:
 Corr 1 = Correlation Coefficient for linear Eq.
 Corr 2 = Correlation Coefficient for quad Eq.
 FR = Indicates whether Avg Rt, Linear, or Quadratic Curve was used for compound

Avg Rsd: 8.49

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M75950.D	CAL BNA@50PPM	04/06/16 09:32	2	7M75957.D	CAL BNA@2PPM	04/06/16 12:31
3	7M75951.D	CAL BNA@10PPM	04/06/16 10:11	4	7M75956.D	CAL BNA@20PPM	04/06/16 12:08
5	7M75955.D	CAL BNA@80PPM	04/06/16 11:45	6	7M75954.D	CAL BNA@120PPM	04/06/16 11:22
7	7M75953.D	CAL BNA@160PPM	04/06/16 10:59	8	7M75952.D	CAL BNA@196PPM	04/06/16 10:36
9	7M75958.D	CAL BNA@.5PPM	04/06/16 12:54				

Compound	Col	Mr	Fit	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRt	RT	Cor1	Cor2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8	LV9
4,4-DDD	1	0	Avg	0.4087	0.4769	0.4026	0.3917	0.4350	0.4240	0.4318	0.4621	---	0.429	11.95	0.998	0.999	6.8	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
BuBybenzophthalate	1	0	Avg	0.5846	0.5948	0.5763	0.5221	0.6111	0.5768	0.6027	0.6441	---	0.589	12.21	0.997	0.999	5.9	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
4,4-DDT	1	0	Avg	0.3780	0.2871	0.3360	0.3256	0.3830	0.3775	0.3787	0.4124	---	0.360	12.31	0.996	0.998	1.1	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
3,3-Dichlorobenzidine	1	0	Avg	0.3862	0.4146	0.3876	0.4099	0.3912	0.3591	0.3667	0.3713	---	0.386	12.83	0.999	0.999	5.1	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzolanthracene	1	0	Avg	1.2381	1.4753	1.2463	1.1574	1.2707	1.2322	1.2689	1.3487	---	1.28	12.86	0.997	0.999	7.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Chrysene	1	0	Avg	1.1094	1.3278	1.1063	1.0039	1.1415	1.1165	1.1483	1.2104	---	1.15	12.90	0.998	0.999	8.2	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzo(a)anthracene	1	0	Avg	0.8197	0.8910	0.8172	0.7397	0.8607	0.8251	0.8365	0.8993	---	0.836	12.91	0.998	0.999	6.0	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Di-n-octylphthalate	1	0	Avg	1.6903	1.9925	1.6272	1.5871	1.7101	1.6992	1.7144	1.8769	---	1.74	13.67	0.997	0.999	7.7	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzol(b)fluoranthene	1	0	Avg	1.2844	1.5635	1.2668	1.2736	1.3171	1.3436	1.3854	1.4254	---	1.36	14.10	0.998	1.00	7.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzol(k)fluoranthene	1	0	Avg	1.1987	1.4740	1.3310	1.2166	1.3239	1.2254	1.2590	1.3836	---	1.30	14.14	0.994	0.997	7.3	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzol(a)pyrene	1	0	Avg	1.2421	1.4292	1.2297	1.1963	1.2757	1.2574	1.2990	1.3869	---	1.29	14.47	0.997	0.999	6.2	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Indeno(1,2,3-cd)pyren	1	0	Avg	1.3252	1.4563	1.3069	1.2714	1.3458	1.3389	1.3845	1.4440	---	1.38	15.91	0.998	1.00	4.8	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Dibenzof(a,h)anthracen	1	0	Avg	1.1169	1.2471	1.1265	1.0624	1.1330	1.1101	1.1799	1.2255	---	1.15	15.94	0.998	1.00	5.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzol(a,h)liverene	1	0	Avg	1.1184	1.2921	1.1226	1.0621	1.1338	1.0858	1.1479	1.2092	---	1.14	16.31	0.997	0.999	6.5	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0

Flags
a - failed the min rj criteria
c - failed the minimum correlation coeff criteria (if applicable)

Note:
Avg Rsd: 8.32
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.
Fit = Indicates whether Avg Rf, Linear, or Quadratic Curve was used for compound.

Level #:	1	2	3	4	5	6	7	8	9					
Compound	Calibration Level Concentrations													
	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8	LV9					
Level #:	1	2	3	4	5	6	7	8	9					
Data File:	9M70249.D	9M70247.D	9M70250.D	9M70246.D	9M70245.D	9M70244.D	9M70243.D	9M70242.D	9M70248.D					
Call Identifier:	CAL BNA@50PPM	CAL BNA@20PPM	CAL BNA@10PPM	CAL BNA@20PPM	CAL BNA@60PPM	CAL BNA@120PPM	CAL BNA@160PPM	CAL BNA@198PPM	CAL BNA@51PPM					
Analysis Date/Time	04/06/16 13:22	04/06/16 12:37	04/06/16 13:45	04/06/16 12:14	04/06/16 11:50	04/06/16 11:27	04/06/16 11:04	04/06/16 10:41	04/06/16 12:59					
Col M#	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRT	RT	Corr1	Corr2	%Red
Pyridine	1	0	1.6705	1.5130	1.5811	1.6131	1.8223	1.7205	1.8059	1.8601	1.70306	0.998	0.999	7.4
N-Nitrosodimethylamine	1	0	0.9854	0.9532	0.9578	0.9428	1.0787	1.0408	1.0907	1.1235	1.02298	0.998	1.000	6.9
2-Fluorophenol	1	0	1.4294	1.4061	1.3344	1.3475	1.5709	1.5136	1.5609	1.5921	1.47462	0.998	0.999	7.0
Benzaldehyde	1	0	0.8597	1.2290	1.1302	1.0543	0.7576	0.6180	---	---	0.942545	0.998	1.000	25
Aniline	1	0	2.1556	1.8955	2.0741	2.2449	2.1998	2.0043	1.9907	2.0501	2.11554	0.998	0.999	6.7
Pentachloroethane	1	0	0.4410	0.5271	0.4859	0.4358	0.4679	0.4344	0.4438	0.4534	0.459559	0.999	0.999	6.6
Bis(2-Chloroethyl)ether	1	0	1.4329	1.6813	1.5310	1.4466	1.4550	1.3485	1.3577	1.3972	1.53560	0.999	0.999	17
Phenol-d5	1	0	1.8650	1.9686	1.8644	1.8423	2.0084	1.9146	1.9417	1.9970	1.93551	0.999	0.999	3.1
Phenol	1	0	2.1134	2.2696	2.1757	2.0899	2.1828	2.0580	2.0554	2.1118	2.13552	1.000	1.000	3.4
2-Chlorophenol	1	0	1.4343	1.5878	1.5132	1.4394	1.5377	1.4516	1.4740	1.5171	1.49565	0.999	0.999	3.6
N-Desane	1	0	1.3227	1.5534	1.4373	1.3198	1.3533	1.2341	1.2549	1.2378	1.34570	0.999	0.999	8.2
1,3-Dichlorobenzene	1	0	1.6165	1.9203	1.7356	1.6105	1.5712	1.5572	1.6002	---	1.66578	0.999	0.999	7.2
1,4-Dichlorobenzene	1	0	1.6118	1.9942	1.7164	1.6085	1.6592	1.5472	1.5668	1.5947	1.66584	0.999	0.998	8.7
1,2-Dichlorobenzene	1	0	1.5453	1.8994	1.6564	1.5382	1.5941	1.4861	1.4898	1.5097	1.59597	0.999	0.999	8.6
Benzyl alcohol	1	0	1.0075	1.0528	1.0149	0.9857	1.0253	1.0456	1.0780	---	1.04594	0.999	0.999	3.4
Bis(2-chloroisopropyl) ether	1	0	1.6287	2.0197	1.7456	1.6378	1.6851	1.5499	1.5722	1.6188	1.68606	0.999	0.999	8.9
2-Methylphenol	1	0	1.9756	2.1550	2.2169	2.0459	1.9980	1.7778	1.7366	1.7109	1.46603	0.999	0.999	10
Acetophenone	1	0	0.5656	0.6359	0.5844	0.5436	0.5638	0.5756	0.5838	---	0.580624	1.000	1.000	4.6
Hexachloroethane	1	0	0.9725	1.1790	1.0878	1.0309	0.9948	0.8884	0.8805	0.8822	1.05615	0.998	0.998	19
N-Nitroso-di-n-propylamine	1	0	1.4082	1.5920	1.5349	1.4403	1.4611	1.3101	1.2657	1.2508	1.46615	0.997	0.999	14
3,4-Methyldiphenol	1	0	0.1650	0.1535	0.1502	0.1588	0.1841	0.1749	0.1810	0.1871	0.169628	0.998	0.999	8.5
Nitrobenzene-d5	1	0	0.3656	0.3685	0.3561	0.3557	0.3853	0.3571	0.3585	0.3691	0.365629	0.999	0.999	2.8
Nitrobenzene	1	0	0.7418	0.8156	0.7433	0.7271	0.7848	0.7210	0.7308	0.7502	0.752648	0.999	0.999	4.3
Isophorone	1	0	0.1787	0.1228	0.1488	0.1610	0.2061	0.1951	0.2028	0.2079	0.178654	0.999	0.999	17
2-Nitrophenol	1	0	0.3851	0.3924	0.3891	0.3751	0.4021	0.3644	0.3680	0.4596	0.330657	0.999	0.999	7.3
2,4-Dimethylphenol	1	0	0.1736	---	0.0653	0.1226	0.2495	0.2581	0.2737	0.2846	0.244663	0.998	0.998	4.2
Benzoic Acid	1	0	0.4373	0.5039	0.4520	0.4343	0.4513	0.4127	0.4165	0.4219	0.441665	0.999	0.999	6.6
Bis(2-Chloroethoxy)methane	1	0	0.3253	0.3163	0.3156	0.3186	0.3442	0.3224	0.3245	0.3309	0.330673	0.999	0.999	5.4
2,4-Dichlorophenol	1	0	0.3530	0.4144	0.3668	0.3441	0.3690	0.3408	0.3421	0.3509	0.360679	0.999	0.999	6.8
1,2,4-Trichlorobenzene	1	0	1.1106	1.4168	1.2384	1.1592	1.1816	1.0581	1.0494	1.0514	1.24685	0.998	0.999	23
Naphthalene	1	0	0.4411	0.4178	0.5748	0.4452	0.4446	0.3728	0.3432	0.4780	0.452689	0.980	0.980	16
4-Chloroaniline	1	0	0.2023	0.2255	0.2065	0.1959	0.2145	0.1994	0.2044	0.2072	0.207695	0.999	0.999	4.5
Hexachlorobutadiene	1	0	0.1456	0.1135	0.1307	0.1389	0.1596	0.1518	0.1668	0.1770	0.148716	0.995	0.999	14
Carbazolene	1	0	0.3398	0.3236	0.3203	0.3245	0.3597	0.3338	0.3406	0.3506	0.337725	0.999	0.999	4.1
4-Chloro-3-methylphenol	1	0	0.8232	0.9313	0.8532	0.8188	0.8154	0.7507	0.7388	0.7474	0.813739	0.997	0.998	8.1
2-Methylnaphthalene	1	0	0.7216	0.8495	0.7584	0.7154	0.7354	0.6636	0.6658	0.6779	0.723747	0.998	0.999	8.5
Methylnaphthalenes (1+2)	1	0	0.7718	0.8604	0.8058	0.7671	0.7902	0.7082	0.7004	0.7119	0.768739	0.998	0.998	8.3
1,1'-Biphenyl	1	0	0.9693	1.1412	1.0300	0.9594	0.9872	0.8973	0.8913	0.9124	0.974776	0.998	0.999	8.5
1,2,4,5-Tetrachlorobenzene	1	0	0.6334	0.7684	0.6788	0.6531	0.6463	0.5933	0.5847	0.5944	0.643752	0.999	0.999	9.6
Hexachlorocyclopentadiene	1	0	0.2516	0.1976	0.2113	0.2333	0.2870	0.2746	0.2839	0.2887	0.254752	0.998	0.999	14

Flags:
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Fit = Indicates whether Avg R.F. Linear, or Quadratic Curve was used for compound.

Level #:	Date File:	Analysis Date/Time										Level #:	Date File:	Analysis Date/Time																
		Cal Identifier:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9			AVGR1	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9			
1	9M70249.D	CAL BNA@50PPM	0.3961	0.3392	0.4389	0.4165	0.4150	0.3939	0.3936	0.4044	0.4007	6.1	0.999	0.999	7.2	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	
3	9M70250.D	CAL BNA@10PPM	0.3879	0.3741	0.4028	0.3436	0.4192	0.4015	0.4100	0.4207	0.3967	6.4	0.999	0.999	6.6	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	
5	9M70245.D	CAL BNA@80PPM	1.4103	1.6436	1.4816	1.4137	1.4428	1.3459	1.3387	1.3772	1.4378	6.8	0.999	0.999	6.8	0.80	25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	98.00	98.00	98.00	98.00	98.00	
7	9M70243.D	CAL BNA@160PPM	1.1640	1.3767	1.2610	1.2767	1.1636	1.0792	1.0507	1.0652	1.1877	9.9	0.998	0.999	9.9	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
9	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
10	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
10	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
10	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
10	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
10	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
10	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
10	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0
10	9M70248.D	CAL BNA@5PPM	0.8923	1.1265	1.0117	0.9465	0.9009	0.8002	0.7807	0.7558	0.9028	14	0.995	0.999	14	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0	196.0	196.0	196.0	196.0

Flags: a - failed the min of criteria

HAZ 31

Note: Avg Rsd: 9.73

Corr 1 = Correlation Coefficient for linear Eq.

Corr 2 = Correlation Coefficient for quad Eq.

Fit = Indicates whether Avg Rf, Linear, or Quadratic Curve was used for compound.

c - failed the minimum correlation coeff criteria (if applicable)

Page 2 of 3

ID	Compound	Col	Mtr	File	Cal Identifier									Level #	Data File	Analysis Date/Time	Level #	Data File	Cal Identifier	Analysis Date/Time	Calibration Level Concentrations						
					RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9								AvgRt	RT	Corr1	Corr2	%Red	Lvl1	Lvl2
1	4,4'-DDD	1	0	Avg	0.3749	0.2941	0.3248	0.3332	0.4006	0.3991	0.4107	0.4320	---	0.371	11.88	0.987	1.00	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
3	Butylbenzothialate	1	0	Avg	0.4865	0.3343	0.4101	0.4357	0.5246	0.5108	0.5201	0.5360	---	0.470	12.13	0.989	0.999	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
4	4,4'-DDT	1	0	Avg	0.2835	---	0.2121	0.2352	0.3058	0.3076	0.3121	0.3226	---	0.283	12.24	0.989	1.00	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
5	3,3'-Dichlorobenzidine	1	0	Qus	0.3833	0.2802	0.3421	0.3810	0.3997	0.3835	0.3843	0.3883	---	0.368	12.75	1.00	1.00	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
7	Benzofluoranthene	1	0	Avg	1.1638	1.2873	1.1677	1.1268	1.1981	1.1653	1.1510	1.1970	---	1.18	12.78	0.999	0.999	4.1	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
9	Chrysene	1	0	Avg	1.0495	1.2301	1.0867	1.0228	1.0678	0.9888	0.9671	0.9563	---	1.05	12.82	0.998	1.00	8.2	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
11	bis(2-Ethylhexyl)phthal	1	0	Avg	0.6239	0.4592	0.5599	0.5802	0.6441	0.6040	0.5914	0.5804	---	0.580	12.83	0.988	0.989	9.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
15	Di-n-octylththalate	1	0	Qus	1.1938	0.7183	0.9150	1.0551	1.3061	1.2551	1.2785	1.2975	---	1.13	13.58	0.999	0.989	19	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
17	Benzofluoranthene	1	0	Avg	1.2444	1.1470	1.1390	1.1358	1.2691	1.2425	1.2477	1.2881	---	1.21	13.99	0.999	1.00	5.2	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
19	Benzofluoranthene	1	0	Avg	1.2009	1.3715	1.2638	1.2149	1.2567	1.1570	1.1145	1.1980	---	1.22	14.02	0.997	0.997	6.3	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
21	Benzofluoranthene	1	0	Avg	1.2043	1.0737	1.1745	1.1424	1.2513	1.1983	1.2234	1.2580	---	1.19	14.35	0.999	1.00	5.1	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
23	Indenofluoranthene	1	0	Avg	1.3602	1.2454	1.2697	1.2532	1.4326	1.3686	1.4170	1.4292	---	1.35	15.73	0.999	1.00	5.9	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
25	Dibenzofluoranthene	1	0	Avg	1.1261	1.0223	1.0436	1.0454	1.1801	1.1224	1.1503	1.1658	---	1.11	15.75	0.989	1.00	5.5	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
27	Benzofluoranthene	1	0	Avg	1.1231	1.1124	1.1226	1.0752	1.1862	1.1310	1.1699	1.1674	---	1.14	16.11	1.00	1.00	3.2	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0

Flags

a - failed the min of criteria

c - failed the minimum correlation coeff criteria (if applicable)

Note:

Corr 1 = Correlation Coefficient for linear Eq.

Corr 2 = Correlation Coefficient for quad Eq.

Fl = Indicates whether Avg Rf, Linear, or Quadratic Curve was used for compound.

Avg Rsd: 9.73

Form 7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/19/2016 8:35:00 AData File: 9M70500.D
Method: EPA 8270D

Instrument: GCMS 9

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dichlorobenzene-d4	1	0	I	5.83	40.00	40	**			0.000	0.00	
Pyridine	1	0		3.06	52.45	50	**	1.698	1.782		4.90	
N-Nitrosodimethylamine	1	0		2.99	52.11	50	**	1.022	1.065		4.22	
2-Fluorophenol	1	0	S	4.64	51.87	50	**	1.469	1.524		3.73	
Benzaldehyde	1	0		5.45	41.01	50	20	0.01	0.942	0.744	17.98	
Aniline	1	0		5.54	49.12	50	**	2.106	2.069		1.76	
Pentachloroethane	1	0		5.59	50.47	50	**	0.05	0.459	0.463	0.94	
bis(2-Chloroethyl)ether	1	0		5.60	50.68	50	20	0.7	1.535	1.414	1.36	
Phenol-d5	1	0	S	5.52	51.26	50	**	1.929	1.978		2.53	
Phenol	1	0		5.53	49.94	50	20	0.8	2.132	2.130	0.12	
2-Chlorophenol	1	0		5.65	50.56	50	20	0.8	1.494	1.511	1.12	
N-Decane	1	0		5.69	49.65	50	**	0.05	1.339	1.330	0.70	
1,3-Dichlorobenzene	1	0		5.78	49.86	50	**	1.661	1.657		0.28	
1,4-Dichlorobenzene	1	0		5.84	48.91	50	20	1.662	1.626		2.18	
1,2-Dichlorobenzene	1	0		5.97	49.23	50	**	1.590	1.566		1.54	
Benzyl alcohol	1	0		5.94	48.68	50	**	1.037	1.010		2.65	
bis(2-chloroisopropyl)ether	1	0		6.06	45.72	50	20	0.01	1.682	1.538	8.56	
2-Methylphenol	1	0		6.04	47.29	50	20	0.7	1.462	1.383	5.41	
Acetophenone	1	0		6.15	49.68	50	20	0.01	1.998	1.985	0.63	
Hexachloroethane	1	0		6.24	48.92	50	20	0.3	0.580	0.568	2.15	
N-Nitroso-di-n-propylamine	1	0		6.15	46.96	50	20	0.5	1.047	0.984	6.08	
3&4-Methylphenol	1	0		6.16	47.81	50	20	1.462	1.399		4.37	
Naphthalene-d8	1	0	I	6.84	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.28	26.34	25	**	0.169	0.178		5.34	
Nitrobenzene	1	0		6.29	50.56	50	20	0.2	0.365	0.369	1.11	
Isophorone	1	0		6.48	50.89	50	20	0.4	0.752	0.765	1.78	
2-Nitrophenol	1	0		6.54	49.13	50	20	0.1	0.178	0.186	1.74	
2,4-Dimethylphenol	1	0		6.58	50.64	50	20	0.2	0.390	0.395	1.28	
Benzoic Acid	1	0		6.64	30.74	50	**	0.204	0.128		38.53	
bis(2-Chloroethoxy)methane	1	0		6.64	50.60	50	20	0.3	0.441	0.447	1.19	
2,4-Dichlorophenol	1	0		6.74	52.12	50	20	0.2	0.330	0.344	4.24	
1,2,4-Trichlorobenzene	1	0		6.79	51.35	50	**	0.360	0.370		2.69	
Naphthalene	1	0		6.85	52.33	50	20	0.7	1.243	1.183	4.66	
4-Chloroaniline	1	0		6.89	49.36	50	20	0.01	0.452	0.446	1.27	
Hexachlorobutadiene	1	0		6.95	52.00	50	20	0.01	0.207	0.215	4.01	
Caprolactam	1	0		7.16	51.25	50	20	0.01	0.148	0.152	2.50	
4-Chloro-3-methylphenol	1	0		7.26	51.90	50	20	0.2	0.337	0.349	3.81	
2-Methylnaphthalene	1	0		7.39	52.36	50	**	0.4	0.813	0.852	4.72	
1-Methylnaphthalene	1	0		7.47	51.36	50	**	0.723	0.743		2.72	
Methylnaphthalenes	1	0		7.39	103.67	100	**		0.796		3.67	
1,1'-Biphenyl	1	0		7.76	51.21	50	20	0.01	0.974	0.997	2.42	
Acenaphthene-d10	1	0	I	8.27	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.52	50.92	50	20	0.01	0.643	0.655	1.83	
Hexachlorocyclopentadiene	1	0		7.52	53.47	50	20	0.05	0.254	0.271	6.93	
2,4,6-Trichlorophenol	1	0		7.61	49.16	50	20	0.2	0.400	0.393	1.68	
2,4,5-Trichlorophenol	1	0		7.66	52.79	50	20	0.2	0.395	0.417	5.58	
2-Fluorobiphenyl	1	0	S	7.68	25.00	25	**	1.432	1.432		0.01	
2-Chloronaphthalene	1	0		7.79	48.72	50	20	0.8	1.180	1.150	2.56	
1,4-Dimethylnaphthalene	1	0		8.07	50.35	50	**	0.902	0.908		0.71	
Dimethylnaphthalenes	1	0		8.07	50.35	50	20		0.908		0.71	
Diphenyl Ether	1	0		7.85	49.46	50	**	0.915	0.906		1.08	
2-Nitroaniline	1	0		7.87	49.36	50	20	0.01	0.351	0.346	1.28	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 1 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 316625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/19/2016 8:35:00 AData File: 9M70500.D
Method: EPA 8270D

Instrument: GCMS 9

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Coumarin	1	0		8.05	49.47		**	0.492				
Acenaphthylene	1	0		8.15	50.02	50	20	0.9	1.851	1.852	0.05	
Dimethylphthalate	1	0		8.01	50.69	50	20	0.01	1.366	1.385	1.38	
2,6-Dinitrotoluene	1	0		8.06	55.20	50	20	0.2	0.260	0.288	10.40	
Acenaphthene	1	0		8.30	50.07	50	20	0.9	1.222	1.223	0.14	
3-Nitroaniline	1	0		8.22	55.10	50	20	0.01	0.318	0.350	10.21	
2,4-Dinitrophenol	1	0		8.31	57.96	50	20	0.01	0.074	0.085	15.93	
Dibenzofuran	1	0		8.45	51.92	50	20	0.8	1.860	1.765	3.83	
2,4-Dinitrotoluene	1	0		8.42	53.49	50	20	0.2	0.357	0.409	6.98	
4-Nitrophenol	1	0		8.36	47.01	50	20	0.01	0.215	0.214	5.98	
2,3,4,6-Tetrachlorophenol	1	0		8.56	52.28	50	20	0.01	0.370	0.387	4.56	
Fluorene	1	0		8.78	51.43	50	20	0.9	1.400	1.440	2.86	
4-Chlorophenyl-phenylether	1	0		8.77	51.19	50	20	0.4	0.736	0.754	2.37	
Diethylphthalate	1	0		8.65	50.52	50	20	0.01	1.338	1.352	1.04	
4-Nitroaniline	1	0		8.78	54.14	50	20	0.01	0.356	0.385	8.27	
Atrazine	1	0		9.41	51.76	50	20	0.01	0.433	0.448	3.53	
Phenanthrene-d10	1	0	I	9.73	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.81	59.36	50	20	0.01	0.073	0.087	18.72	
n-Nitrosodiphenylamine	1	0		8.88	49.88	50	20	0.01	0.656	0.654	0.24	
2,4,6-Tribromophenol	1	0	S	9.01	53.57	50	**		0.112	0.121	7.15	
1,2-Diphenylhydrazine	1	0		8.92	47.62	50	**		0.677	0.645	4.77	
4-Bromophenyl-phenylether	1	0		9.26	52.22	50	20	0.1	0.249	0.260	4.43	
Hexachlorobenzene	1	0		9.33	50.91	50	20	0.1	0.271	0.276	1.82	
N-Octadecane	1	0		9.59	50.42	50	**	0.05	0.378	0.381	0.84	
Pentachlorophenol	1	0		9.52	51.12	50	20	0.05	0.149	0.152	2.24	
Phenanthrene	1	0		9.76	49.70	50	20	0.7	1.117	1.110	0.60	
Anthracene	1	0		9.81	50.41	50	20	0.7	1.109	1.118	0.82	
Carbazole	1	0		9.98	51.63	50	20	0.01	1.072	1.107	3.27	
Di-n-butylphthalate	1	0		10.36	53.81	50	20	0.01	1.177	1.267	7.61	
Fluoranthene	1	0		11.09	54.19	50	20	0.6	1.299	1.408	8.37	
Chrysene-d12	1	0	I	12.79	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.35	52.22	50	20	0.6	1.180	1.233	4.45	
Benzidine	1	0		11.24	45.01	50	**		0.283	0.308	9.98	
Terphenyl-d14	1	0	S	11.53	25.62	25	**		0.659	0.675	2.46	
4,4'-DDE	1	0		11.48	51.01		**		0.226			
4,4'-DDD	1	0		11.87	53.36		**		0.371			
Butylbenzylphthalate	1	0		12.13	53.28	50	20	0.01	0.470	0.501	6.57	
4,4'-DDT	1	0		12.23	54.34		**		0.283			
3,3'-Dichlorobenzidine	1	0		12.74	57.27	50	20	0.01	0.368	0.444	14.54	
Benzo[a]anthracene	1	0		12.78	50.07	50	20	0.8	1.182	1.184	0.14	
Chrysene	1	0		12.82	51.03	50	20	0.7	1.049	1.070	2.07	
bis(2-Ethylhexyl)phthalate	1	0		12.82	52.35	50	20	0.01	0.580	0.608	4.69	
Perylene-d12	1	0	I	14.41	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.57	47.90	50	20	0.01	1.127	1.181	4.20	
Benzo[b]fluoranthene	1	0		13.99	54.17	50	20	0.7	1.214	1.316	8.34	
Benzo[k]fluoranthene	1	0		14.02	52.49	50	20	0.7	1.222	1.283	4.98	
Benzo[a]pyrene	1	0		14.34	52.44	50	20	0.7	1.191	1.249	4.87	
Indeno[1,2,3-cd]pyrene	1	0		15.72	53.40	50	20	0.5	1.347	1.439	6.80	
Dibenzo[a,h]anthracene	1	0		15.75	53.53	50	20	0.4	1.107	1.185	7.06	
Benzo[g,h,i]perylene	1	0		16.10	52.72	50	20	0.5	1.136	1.198	5.43	
1,4-Dioxane	1	100		0.00	0.00	51	**			0.000	100.00	
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 2 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.

625 limits are compared against the %DIFF.

624 limits are compared against the concentration found. HAZ. - 317

524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
 Cont Calibration Date/Time 4/19/2016 8:35:00 A

Data File: 9M70500.D
 Method: EPA 8270D

Instrument: GCMS 9

TxtCompd:	Co#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8(INT)	1	100		0.00	0.00	40	**			0.000	100.00	
4-Methylphenol	1	100		0.00	0.00	50	**	0.6		0.000	100.00	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
Toluene Diisocyanate	1	100		0.00	0.00	50	**			0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
Endrin	1	100		0.00	0.00	50	**			0.000	100.00	
Heptachlor	1	100		0.00	0.00	10	**			0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	
gamma-BHC	1	100		0.00	0.00	10	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**	0.768		0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**	0.902		0.000	100.00	
Heptachlor epoxide	1	100		0.00	0.00	10	**			0.000	100.00	

S-Surrogate Compound
 N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
 CI-Compound %Diff exceeds limits

** - No limit specified in method
 Page 3 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.
 624 limits are compared against the concentration found

625 limits are compared against the %DIFF.
 524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/19/2016 11:50:00Data File: 7M76335.D
Method: EPA 8270D

Instrument: GCMS 7

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dichlorobenzene-d4	1	0	I	5.87	40.00	40	**			0.000	0.00	
Pyridine	1	0		3.17	49.85	50	**	1.589		1.585	0.29	
N-Nitrosodimethylamine	1	0		3.08	50.39	50	**	0.902		0.909	0.79	
2-Fluorophenol	1	0	S	4.69	48.84	50	**	1.450		1.416	2.32	
Benzaldehyde	1	0		5.49	45.08	50	20	0.01	1.014	0.832	9.84	
Aniline	1	0		5.58	49.96	50	**	2.164		2.163	0.07	
Pentachloroethane	1	0		5.63	50.53	50	**	0.05	0.492	0.497	1.07	
bis(2-Chloroethyl)ether	1	0		5.64	51.35	50	20	0.7	1.708	1.477	2.70	
Phenol-d5	1	0	S	5.56	50.68	50	**	2.037		2.064	1.35	
Phenol	1	0		5.57	48.61	50	20	0.8	2.253	2.190	2.78	
2-Chlorophenol	1	0		5.69	49.45	50	20	0.8	1.590	1.563	1.10	
N-Decane	1	0		5.73	46.12	50	**	0.05	1.444	1.332	7.75	
1,3-Dichlorobenzene	1	0		5.82	48.56	50	**	1.660		1.613	2.89	
1,4-Dichlorobenzene	1	0		5.88	48.52	50	20		1.738	1.687	2.97	
1,2-Dichlorobenzene	1	0		6.01	48.96	50	**	1.678		1.643	2.07	
Benzyl alcohol	1	0		5.98	50.61	50	**	1.073		1.086	1.22	
bis(2-chloroisopropyl)ether	1	0		6.09	48.18	50	20	0.01	1.756	1.692	3.65	
2-Methylphenol	1	0		6.07	51.62	50	20	0.7	1.542	1.592	3.25	
Acetophenone	1	0		6.19	50.63	50	20	0.01	2.465	2.496	1.26	
Hexachloroethane	1	0		6.28	50.76	50	20	0.3	0.669	0.679	1.52	
N-Nitroso-di-n-propylamine	1	0		6.19	52.01	50	20	0.5	1.360	1.304	4.03	
3&4-Methylphenol	1	0		6.20	48.45	50	20		1.674	1.622	3.10	
Naphthalene-d8	1	0	I	6.88	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.31	24.95	25	**	0.193		0.192	0.21	
Nitrobenzene	1	0		6.33	48.14	50	20	0.2	0.487	0.469	3.72	
Isophorone	1	0		6.51	49.91	50	20	0.4	0.908	0.906	0.18	
2-Nitrophenol	1	0		6.58	48.44	50	20	0.1	0.226	0.219	3.13	
2,4-Dimethylphenol	1	0		6.61	48.83	50	20	0.2	0.484	0.473	2.35	
Benzoic Acid	1	0		6.67	61.05	50	**	0.264		0.303	22.11	
bis(2-Chloroethoxy)methane	1	0		6.68	49.37	50	20	0.3	0.481	0.475	1.25	
2,4-Dichlorophenol	1	0		6.77	47.93	50	20	0.2	0.395	0.378	4.13	
1,2,4-Trichlorobenzene	1	0		6.83	47.94	50	**	0.387		0.372	4.12	
Naphthalene	1	0		6.89	46.65	50	20	0.7	1.228	1.145	6.71	
4-Chloroaniline	1	0		6.93	57.49	50	20	0.01	0.424	0.487	14.98	
Hexachlorobutadiene	1	0		6.98	49.14	50	20	0.01	0.241	0.236	1.71	
Caprolactam	1	0		7.20	58.31	50	20	0.01	0.158	0.185	16.61	
4-Chloro-3-methylphenol	1	0		7.30	51.70	50	20	0.2	0.418	0.433	3.40	
2-Methylnaphthalene	1	0		7.43	49.62	50	**	0.4	0.833	0.827	0.76	
1-Methylnaphthalene	1	0		7.51	48.39	50	**	0.756		0.732	3.22	
Methylnaphthalenes	1	0		7.43	98.04	100	**			0.779	1.96	
1,1'-Biphenyl	1	0		7.81	50.92	50	20	0.01	1.049	1.068	1.84	
Acenaphthene-d10	1	0	I	8.32	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.57	50.42	50	20	0.01	0.682	0.688	0.85	
Hexachlorocyclopentadiene	1	0		7.55	29.52	50	20	0.05	0.268	0.158	40.97	C1
2,4,6-Trichlorophenol	1	0		7.66	52.63	50	20	0.2	0.442	0.465	5.26	
2,4,5-Trichlorophenol	1	0		7.69	49.95	50	20	0.2	0.474	0.474	0.10	
2-Fluorobiphenyl	1	0	S	7.72	24.27	25	**	1.377		1.336	2.92	
2-Chloronaphthalene	1	0		7.83	49.08	50	20	0.8	1.255	1.232	1.83	
1,4-Dimethylnaphthalene	1	0		8.12	49.93	50	**	0.965		0.964	0.14	
Dimethylnaphthalenes	1	0		8.12	49.93	50	20			0.964	0.14	
Diphenyl Ether	1	0		7.90	48.85	50	**	0.956		0.934	2.30	
2-Nitroaniline	1	0		7.91	50.64	50	20	0.01	0.526	0.533	1.29	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 1 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.

624 limits are compared against the concentration found. HAZ. - 319

625 limits are compared against the %DIFF.

524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/19/2016 11:50:00Data File: 7M76335.D
Method: EPA 8270D

Instrument: GCMS 7

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Coumarin	1	0		8.10	53.34		**	0.530				
Acenaphthylene	1	0		8.20	49.12	50	20	0.9	1.932	1.898	1.77	
Dimethylphthalate	1	0		8.06	50.41	50	20	0.01	1.563	1.576	0.81	
2,6-Dinitrotoluene	1	0		8.12	52.31	50	20	0.2	0.354	0.370	4.63	
Acenaphthene	1	0		8.35	51.12	50	20	0.9	1.245	1.273	2.23	
3-Nitroaniline	1	0		8.27	55.53	50	20	0.01	0.343	0.381	11.06	
2,4-Dinitrophenol	1	0		8.36	54.03	50	20	0.01	0.181	0.188	8.06	
Dibenzofuran	1	0		8.51	52.29	50	20	0.8	1.980	1.843	4.58	
2,4-Dinitrotoluene	1	0		8.48	54.46	50	20	0.2	0.497	0.541	8.93	
4-Nitrophenol	1	0		8.41	50.01	50	20	0.01	0.350	0.350	0.01	
2,3,4,6-Tetrachlorophenol	1	0		8.61	51.00	50	20	0.01	0.404	0.412	2.00	
Fluorene	1	0		8.83	50.89	50	20	0.9	1.551	1.578	1.79	
4-Chlorophenyl-phenylether	1	0		8.82	51.68	50	20	0.4	0.746	0.771	3.36	
Diethylphthalate	1	0		8.69	50.22	50	20	0.01	1.601	1.608	0.44	
4-Nitroaniline	1	0		8.84	55.11	50	20	0.01	0.403	0.444	10.22	
Atrazine	1	0		9.46	53.36	50	20	0.01	0.505	0.539	6.71	
Phenanthrene-d10	1	0	I	9.79	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.87	51.08	50	20	0.01	0.152	0.155	2.15	
n-Nitrosodiphenylamine	1	0		8.93	46.95	50	20	0.01	0.707	0.664	6.09	
2,4,6-Tribromophenol	1	0	S	9.07	49.75	50	**	0.115	0.114	0.114	0.51	
1,2-Diphenylhydrazine	1	0		8.98	50.70	50	**	0.845	0.857	0.857	1.39	
4-Bromophenyl-phenylether	1	0		9.31	48.55	50	20	0.1	0.249	0.241	2.90	
Hexachlorobenzene	1	0		9.38	51.48	50	20	0.1	0.241	0.248	2.97	
N-Octadecane	1	0		9.64	44.99	50	**	0.05	0.462	0.415	10.01	
Pentachlorophenol	1	0		9.58	48.16	50	20	0.05	0.133	0.133	3.67	
Phenanthrene	1	0		9.82	48.55	50	20	0.7	1.271	1.234	2.90	
Anthracene	1	0		9.87	50.04	50	20	0.7	1.283	1.284	0.09	
Carbazole	1	0		10.04	49.45	50	20	0.01	1.174	1.161	1.11	
Di-n-butylphthalate	1	0		10.42	50.66	50	20	0.01	1.561	1.475	1.31	
Fluoranthene	1	0		11.16	52.35	50	20	0.6	1.440	1.507	4.70	
Chrysene-d12	1	0	I	12.86	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.42	46.16	50	20	0.6	1.257	1.161	7.67	
Benzidine	1	0		11.30	40.59	50	**	0.384	0.312	0.312	18.83	
Terphenyl-d14	1	0	S	11.60	23.56	25	**	0.638	0.602	0.602	5.75	
4,4'-DDE	1	0		11.54	45.30		**	0.239				
4,4'-DDD	1	0		11.94	46.94		**	0.429				
Butylbenzylphthalate	1	0		12.19	47.91	50	20	0.01	0.589	0.565	4.17	
4,4'-DDT	1	0		12.30	50.08		**	0.360				
3,3'-Dichlorobenzidine	1	0		12.82	59.42	50	20	0.01	0.386	0.459	18.84	
Benzo[a]anthracene	1	0		12.85	49.41	50	20	0.8	1.280	1.265	1.18	
Chrysene	1	0		12.90	49.84	50	20	0.7	1.146	1.142	0.31	
bis(2-Ethylhexyl)phthalate	1	0		12.89	47.51	50	20	0.01	0.836	0.795	4.98	
Perylene-d12	1	0	I	14.53	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.65	44.57	50	20	0.01	1.737	1.549	10.86	
Benzo[b]fluoranthene	1	0		14.10	47.10	50	20	0.7	1.358	1.279	5.79	
Benzo[k]fluoranthene	1	0		14.13	45.85	50	20	0.7	1.302	1.193	8.31	
Benzo[a]pyrene	1	0		14.47	49.32	50	20	0.7	1.290	1.272	1.37	
Indeno[1,2,3-cd]pyrene	1	0		15.91	51.29	50	20	0.5	1.359	1.394	2.58	
Dibenzo[a,h]anthracene	1	0		15.93	51.82	50	20	0.4	1.150	1.192	3.64	
Benzo[g,h,i]perylene	1	0		16.31	49.75	50	20	0.5	1.144	1.138	0.49	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8(INT)	1	100		0.00	0.00	40	**			0.000	100.00	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found.625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

HAZ. - 320

Form 7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/19/2016 11:50:00Data File: 7M76335.D
Method: EPA 8270D

Instrument: GCMS 7

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8	1	100		0.00	0.00	40	**		0.000	100.00		
1,4-Dioxane	1	100		0.00	0.00	51	**		0.000	100.00		
Toluene Diisocyanate	1	100		0.00	0.00	50	**		0.000	100.00		
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**		0.000	100.00		
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**	0.795	0.000	100.00		
Methoxychlor	1	100		0.00	0.00	10	**		0.000	100.00		
Heptachlor epoxide	1	100		0.00	0.00	10	**		0.000	100.00		
Heptachlor	1	100		0.00	0.00	10	**		0.000	100.00		
gamma-BHC	1	100		0.00	0.00	10	**		0.000	100.00		
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**		0.000	100.00		
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**	0.965	0.000	100.00		
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**		0.000	100.00		
4-Methylphenol	1	100		0.00	0.00	50	**	0.6	0.000	100.00		
Endrin	1	100		0.00	0.00	50	**		0.000	100.00		

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

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Note: 8260/8270 limits are compared against the %DIFF/R.F.

624 limits are compared against the concentration found. HAZ. - 321

625 limits are compared against the %DIFF.

524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/20/2016 10:52:00Data File: 10M56255.D
Method: EPA 8270D

Instrument: GCMS 10

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dichlorobenzene-d4	1	0	I	5.75	40.00	40	**			0.000	0.00	
Pyridine	1	0		2.97	47.10	50	**	1.539	1.450		5.81	
N-Nitrosodimethylamine	1	0		2.91	49.35	50	**	0.891	0.879		1.30	
2-Fluorophenol	1	0	S	4.57	50.55	50	**	1.370	1.385		1.09	
Benzaldehyde	1	0		5.38	39.35	50	20	0.01	0.898	0.707	21.29	C1
Aniline	1	0		5.48	38.28	50	**	1.963	1.503		23.43	
Pentachloroethane	1	0		5.52	49.63	50	**	0.05	0.475	0.471	0.75	
bis(2-Chloroethyl)ether	1	0		5.54	48.50	50	20	0.7	1.558	1.466	3.01	
Phenol-d5	1	0	S	5.46	51.47	50	**	1.859	1.914		2.94	
Phenol	1	0		5.47	50.71	50	20	0.8	2.090	2.120	1.42	
2-Chlorophenol	1	0		5.58	50.08	50	20	0.8	1.598	1.601	0.16	
N-Decane	1	0		5.62	48.06	50	**	0.05	1.337	1.285	3.89	
1,3-Dichlorobenzene	1	0		5.71	49.47	50	**	1.665	1.647		1.07	
1,4-Dichlorobenzene	1	0		5.77	48.80	50	20	1.714	1.673		2.40	
1,2-Dichlorobenzene	1	0		5.89	49.71	50	**	1.661	1.652		0.58	
Benzyl alcohol	1	0		5.87	50.49	50	**	1.046	1.056		0.98	
bis(2-chloroisopropyl)ether	1	0		5.98	45.37	50	20	0.01	1.898	1.713	9.26	
2-Methylphenol	1	0		5.98	50.08	50	20	0.7	1.461	1.464	0.16	
Acetophenone	1	0		6.09	50.77	50	20	0.01	2.068	2.100	1.54	
Hexachloroethane	1	0		6.17	49.94	50	20	0.3	0.621	0.620	0.13	
N-Nitroso-di-n-propylamine	1	0		6.09	51.15	50	20	0.5	1.044	1.068	2.31	
3,4-Methylphenol	1	0		6.10	53.09	50	20	1.475	1.566		6.18	
Naphthalene-d8	1	0	I	6.77	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.21	27.28	25	**	0.176	0.192		9.10	
Nitrobenzene	1	0		6.23	50.96	50	20	0.2	0.367	0.374	1.92	
Isophorone	1	0		6.41	50.22	50	20	0.4	0.713	0.716	0.43	
2-Nitrophenol	1	0		6.47	52.74	50	20	0.1	0.196	0.215	5.49	
2,4-Dimethylphenol	1	0		6.51	52.00	50	20	0.2	0.374	0.389	4.00	
Benzoic Acid	1	0		6.57	14.55	50	**	0.198	0.057		70.90	
bis(2-Chloroethoxy)methane	1	0		6.57	49.56	50	20	0.3	0.444	0.441	0.89	
2,4-Dichlorophenol	1	0		6.67	52.54	50	20	0.2	0.321	0.337	5.07	
1,2,4-Trichlorobenzene	1	0		6.72	49.54	50	**	0.349	0.346		0.93	
Naphthalene	1	0		6.78	47.35	50	20	0.7	1.231	1.165	5.31	
4-Chloroaniline	1	0		6.82	50.94	50	20	0.01	0.418	0.431	1.87	
Hexachlorobutadiene	1	0		6.87	50.30	50	20	0.01	0.187	0.188	0.61	
Caprolactam	1	0		7.09	53.28	50	20	0.01	0.148	0.157	6.55	
4-Chloro-3-methylphenol	1	0		7.19	53.13	50	20	0.2	0.328	0.348	6.25	
2-Methylnaphthalene	1	0		7.31	50.27	50	**	0.4	0.813	0.818	0.54	
1-Methylnaphthalene	1	0		7.39	50.67	50	**	0.731	0.741		1.34	
Methylnaphthalenes	1	0		7.31	100.55	100	**			0.776	0.55	
1,1'-Biphenyl	1	0		7.68	51.13	50	20	0.01	0.975	0.997	2.26	
Acenaphthene-d10	1	0	I	8.18	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.44	47.46	50	20	0.01	0.639	0.606	5.08	
Hexachlorocyclopentadiene	1	0		7.43	49.97	50	20	0.05	0.108	0.104	0.06	
2,4,6-Trichlorophenol	1	0		7.54	49.80	50	20	0.2	0.400	0.399	0.41	
2,4,5-Trichlorophenol	1	0		7.58	49.67	50	20	0.2	0.416	0.413	0.65	
2-Fluorobiphenyl	1	0	S	7.59	24.54	25	**	1.445	1.419		1.82	
2-Chloronaphthalene	1	0		7.71	50.53	50	20	0.8	1.309	1.190	1.07	
1,4-Dimethylnaphthalene	1	0		7.98	49.85	50	**	0.944	0.941		0.31	
Dimethylnaphthalenes	1	0		7.98	49.85	50	20		0.941		0.31	
Diphenyl Ether	1	0		7.77	47.51	50	**	0.959	0.911		4.98	
2-Nitroaniline	1	0		7.79	49.88	50	20	0.01	0.401	0.400	0.25	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

Page 1 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 322625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/20/2016 10:52:00Data File: 10M56255.D
Method: EPA 8270D

Instrument: GCMS 10

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Coumarin	1	0		7.97	50.18		**	0.515				
Acenaphthylene	1	0		8.06	50.33	50	20	0.9	1.959	1.972	0.66	
Dimethylphthalate	1	0		7.93	50.47	50	20	0.01	1.425	1.438	0.94	
2,6-Dinitrotoluene	1	0		7.98	48.71	50	20	0.2	0.307	0.316	2.58	
Acenaphthene	1	0		8.21	50.04	50	20	0.9	1.280	1.281	0.09	
3-Nitroaniline	1	0		8.13	54.97	50	20	0.01	0.356	0.392	9.95	
2,4-Dinitrophenol	1	0		8.23	39.98	50	20	0.01	0.139	0.103	20.03	
Dibenzofuran	1	0		8.36	52.40	50	20	0.8	1.915	1.863	4.81	
2,4-Dinitrotoluene	1	0		8.34	52.79	50	20	0.2	0.430	0.474	5.59	
4-Nitrophenol	1	0		8.30	49.92	50	20	0.01	0.248	0.269	0.16	
2,3,4,6-Tetrachlorophenol	1	0		8.47	51.58	50	20	0.01	0.373	0.384	3.16	
Fluorene	1	0		8.69	48.47	50	20	0.9	1.492	1.446	3.06	
4-Chlorophenyl-phenylether	1	0		8.67	48.21	50	20	0.4	0.714	0.688	3.58	
Diethylphthalate	1	0		8.55	50.26	50	20	0.01	1.430	1.437	0.51	
4-Nitroaniline	1	0		8.70	49.82	50	20	0.01	0.423	0.430	0.36	
Atrazine	1	0		9.31	32.15	50	20	0.01	0.427	0.275	35.70	C1
Phenanthrene-d10	1	0	I	9.63	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.72	49.30	50	20	0.01	0.117	0.114	1.40	
n-Nitrosodiphenylamine	1	0		8.79	48.70	50	20	0.01	0.701	0.682	2.60	
2,4,6-Tribromophenol	1	0	S	8.92	50.08	50	**		0.118	0.117	0.15	
1,2-Diphenylhydrazine	1	0		8.82	49.79	50	**		0.761	0.757	0.42	
4-Bromophenyl-phenylether	1	0		9.16	47.79	50	20	0.1	0.239	0.228	4.41	
Hexachlorobenzene	1	0		9.22	47.63	50	20	0.1	0.267	0.255	4.75	
N-Octadecane	1	0		9.48	50.97	50	**	0.05	0.402	0.409	1.95	
Pentachlorophenol	1	0		9.42	46.41	50	20	0.05	0.161	0.143	7.19	
Phenanthrene	1	0		9.66	48.51	50	20	0.7	1.226	1.190	2.97	
Anthracene	1	0		9.71	49.54	50	20	0.7	1.226	1.215	0.93	
Carbazole	1	0		9.88	50.09	50	20	0.01	1.166	1.168	0.18	
Di-n-butylphthalate	1	0		10.26	51.26	50	20	0.01	1.210	1.330	2.53	
Fluoranthene	1	0		10.98	52.42	50	20	0.6	1.281	1.343	4.85	
Chrysene-d12	1	0	I	12.67	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.24	51.64	50	20	0.6	1.205	1.245	3.28	
Benzidine	1	0		11.14	32.49	50	**		0.210	0.136	35.01	
Terphenyl-d14	1	0	S	11.42	25.81	25	**		0.631	0.652	3.23	
4,4'-DDE	1	0		11.36	52.50		**		0.215			
4,4'-DDD	1	0		11.76	54.46		**		0.356			
Butylbenzylphthalate	1	0		12.01	56.74	50	20	0.01	0.493	0.559	13.48	
4,4'-DDT	1	0		12.11	54.87		**		0.295			
3,3'-Dichlorobenzidine	1	0		12.63	58.38	50	20	0.01	0.345	0.419	16.77	
Benzo[a]anthracene	1	0		12.66	50.83	50	20	0.8	1.143	1.162	1.65	
Chrysene	1	0		12.70	49.90	50	20	0.7	1.075	1.073	0.21	
bis(2-Ethylhexyl)phthalate	1	0		12.70	56.30	50	20	0.01	0.669	0.754	12.60	
Perylene-d12	1	0	I	14.27	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.45	53.27	50	20	0.01	1.219	1.371	6.54	
Benzo[b]fluoranthene	1	0		13.86	49.54	50	20	0.7	1.187	1.177	0.91	
Benzo[k]fluoranthene	1	0		13.90	50.89	50	20	0.7	1.221	1.243	1.78	
Benzo[a]pyrene	1	0		14.22	52.48	50	20	0.7	1.145	1.202	4.96	
Indeno[1,2,3-cd]pyrene	1	0		15.55	52.81	50	20	0.5	1.244	1.314	5.62	
Dibenzo[a,h]anthracene	1	0		15.57	54.20	50	20	0.4	1.011	1.096	8.40	
Benzo[g,h,i]perylene	1	0		15.92	50.63	50	20	0.5	1.089	1.103	1.26	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8(INT)	1	100		0.00	0.00	40	**			0.000	100.00	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 2 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.

625 limits are compared against the %DIFF.

624 limits are compared against the concentration found. HAZ. - 323

524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/20/2016 10:52:00Data File: 10M56255.D
Method: EPA 8270D

Instrument: GCMS 10

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	
1,4-Dioxane	1	100		0.00	0.00	51	**			0.000	100.00	
Toluene Diisocyanate	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**	0.771		0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
Heptachlor epoxide	1	100		0.00	0.00	10	**			0.000	100.00	
Heptachlor	1	100		0.00	0.00	10	**			0.000	100.00	
gamma-BHC	1	100		0.00	0.00	10	**			0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**	0.944		0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**			0.000	100.00	
4-Methylphenol	1	100		0.00	0.00	50	**	0.6		0.000	100.00	
Endrin	1	100		0.00	0.00	50	**			0.000	100.00	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 324625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/20/2016 1:23:00 PData File: 7M76368.D
Method: EPA 8270D

Instrument: GCMS 7

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dichlorobenzene-d4	1	0	I	5.87	40.00	40	**			0.000	0.00	
Pyridine	1	0		3.16	45.92	50	**	1.589	1.460		8.16	
N-Nitrosodimethylamine	1	0		3.09	48.05	50	**	0.902	0.866		3.89	
2-Fluorophenol	1	0	S	4.69	50.41	50	**	1.450	1.462		0.82	
Benzaldehyde	1	0		5.49	38.54	50	20	0.01	1.014	0.732	22.92	C1
Aniline	1	0		5.58	45.68	50	**	2.164	1.977		8.65	
Pentachloroethane	1	0		5.63	51.14	50	**	0.05	0.492	0.503	2.27	
bis(2-Chloroethyl)ether	1	0		5.64	51.37	50	20	0.7	1.708	1.477	2.75	
Phenol-d5	1	0	S	5.56	44.67	50	**	2.037	1.820		10.67	
Phenol	1	0		5.57	44.21	50	20	0.8	2.253	1.992	11.59	
2-Chlorophenol	1	0		5.69	49.01	50	20	0.8	1.580	1.549	1.98	
N-Decane	1	0		5.73	49.01	50	**	0.05	1.444	1.415	1.97	
1,3-Dichlorobenzene	1	0		5.82	51.31	50	**	1.660	1.704		2.61	
1,4-Dichlorobenzene	1	0		5.88	50.24	50	20		1.738	1.747	0.49	
1,2-Dichlorobenzene	1	0		6.01	49.37	50	**	1.678	1.657		1.27	
Benzyl alcohol	1	0		5.98	52.38	50	**	1.073	1.124		4.76	
bis(2-chloroisopropyl)ether	1	0		6.09	50.41	50	20	0.01	1.756	1.770	0.83	
2-Methylphenol	1	0		6.07	50.88	50	20	0.7	1.542	1.569	1.77	
Acetophenone	1	0		6.19	54.30	50	20	0.01	2.465	2.677	8.59	
Hexachloroethane	1	0		6.28	53.80	50	20	0.3	0.669	0.720	7.60	
N-Nitroso-di-n-propylamine	1	0		6.19	53.38	50	20	0.5	1.360	1.339	6.76	
3&4-Methylphenol	1	0		6.20	51.09	50	20		1.674	1.711	2.19	
Naphthalene-d8	1	0	I	6.89	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.32	25.12	25	**		0.193	0.193	0.49	
Nitrobenzene	1	0		6.33	48.59	50	20	0.2	0.487	0.474	2.81	
Isophorone	1	0		6.52	49.40	50	20	0.4	0.908	0.897	1.21	
2-Nitrophenol	1	0		6.58	48.22	50	20	0.1	0.226	0.218	3.55	
2,4-Dimethylphenol	1	0		6.61	46.65	50	20	0.2	0.484	0.452	6.70	
Benzoic Acid	1	0		6.68	61.65	50	**		0.264	0.306	23.31	
bis(2-Chloroethoxy)methane	1	0		6.68	49.82	50	20	0.3	0.481	0.480	0.37	
2,4-Dichlorophenol	1	0		6.77	48.56	50	20	0.2	0.395	0.383	2.89	
1,2,4-Trichlorobenzene	1	0		6.84	50.94	50	**		0.387	0.395	1.89	
Naphthalene	1	0		6.90	48.41	50	20	0.7	1.228	1.189	3.19	
4-Chloroaniline	1	0		6.93	56.98	50	20	0.01	0.424	0.483	13.95	
Hexachlorobutadiene	1	0		6.99	48.69	50	20	0.01	0.241	0.234	2.62	
Caprolactam	1	0		7.21	51.90	50	20	0.01	0.158	0.164	3.80	
4-Chloro-3-methylphenol	1	0		7.31	53.75	50	20	0.2	0.418	0.450	7.51	
2-Methylnaphthalene	1	0		7.44	53.38	50	**	0.4	0.833	0.890	6.77	
1-Methylnaphthalene	1	0		7.52	48.15	50	**		0.756	0.729	3.69	
Methylnaphthalenes	1	0		7.44	101.61	100	**			0.807	1.61	
1,1'-Biphenyl	1	0		7.82	42.11	50	20	0.01	1.049	0.893	15.77	
Acenaphthene-d10	1	0	I	8.33	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.58	51.84	50	20	0.01	0.682	0.707	3.68	
Hexachlorocyclopentadiene	1	0		7.57	31.37	50	20	0.05	0.268	0.168	37.25	C1
2,4,6-Trichlorophenol	1	0		7.67	51.63	50	20	0.2	0.442	0.456	3.27	
2,4,5-Trichlorophenol	1	0		7.70	49.15	50	20	0.2	0.474	0.466	1.70	
2-Fluorobiphenyl	1	0	S	7.73	25.49	25	**		1.377	1.403	1.94	
2-Chloronaphthalene	1	0		7.84	46.95	50	20	0.8	1.255	1.178	6.10	
1,4-Dimethylnaphthalene	1	0		8.13	49.54	50	**		0.965	0.956	0.92	
Dimethylnaphthalenes	1	0		8.13	49.54	50	20			0.956	0.92	
Diphenyl Ether	1	0		7.91	46.85	50	**		0.956	0.895	6.30	
2-Nitroaniline	1	0		7.92	47.19	50	20	0.01	0.526	0.496	5.62	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

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Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found.

HAZ. - 325

625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/20/2016 1:23:00 PData File: 7M76368.D
Method: EPA 8270D

Instrument: GCMS 7

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Coumarin	1	0		8.11	49.05		**	0.530				
Acenaphthylene	1	0		8.21	49.70	50	20	0.9	1.932	1.920	0.60	
Dimethylphthalate	1	0		8.07	49.15	50	20	0.01	1.563	1.537	1.70	
2,6-Dinitrotoluene	1	0		8.13	51.76	50	20	0.2	0.354	0.366	3.52	
Acenaphthene	1	0		8.36	48.82	50	20	0.9	1.245	1.216	2.36	
3-Nitroaniline	1	0		8.28	53.11	50	20	0.01	0.343	0.364	6.23	
2,4-Dinitrophenol	1	0		8.38	46.87	50	20	0.01	0.181	0.159	6.25	
Dibenzofuran	1	0		8.52	51.80	50	20	0.8	1.980	1.826	3.61	
2,4-Dinitrotoluene	1	0		8.49	52.21	50	20	0.2	0.497	0.519	4.42	
4-Nitrophenol	1	0		8.42	47.38	50	20	0.01	0.350	0.332	5.23	
2,3,4,6-Tetrachlorophenol	1	0		8.63	51.69	50	20	0.01	0.404	0.417	3.38	
Fluorene	1	0		8.84	51.04	50	20	0.9	1.551	1.583	2.07	
4-Chlorophenyl-phenylether	1	0		8.83	52.88	50	20	0.4	0.746	0.789	5.77	
Diethylphthalate	1	0		8.70	52.16	50	20	0.01	1.601	1.670	4.32	
4-Nitroaniline	1	0		8.85	49.65	50	20	0.01	0.403	0.400	0.70	
Alrazine	1	0		9.47	50.93	50	20	0.01	0.505	0.514	1.85	
Phenanthrene-d10	1	0	I	9.80	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.88	55.49	50	20	0.01	0.152	0.168	10.99	
n-Nitrosodiphenylamine	1	0		8.94	54.02	50	20	0.01	0.707	0.764	8.03	
2,4,6-Tribromophenol	1	0	S	9.08	57.14	50	**	0.115	0.131	0.131	14.27	
1,2-Diphenylhydrazine	1	0		8.99	56.25	50	**	0.845	0.951	0.951	12.50	
4-Bromophenyl-phenylether	1	0		9.32	58.05	50	20	0.1	0.249	0.289	16.10	
Hexachlorobenzene	1	0		9.39	60.08	50	20	0.1	0.241	0.290	20.16	
N-Octadecane	1	0		9.65	56.24	50	**	0.05	0.462	0.519	12.49	
Pentachlorophenol	1	0		9.60	53.93	50	20	0.05	0.133	0.150	7.86	
Phenanthrene	1	0		9.83	55.06	50	20	0.7	1.271	1.399	10.12	
Anthracene	1	0		9.88	57.35	50	20	0.7	1.283	1.472	14.69	
Carbazole	1	0		10.05	56.65	50	20	0.01	1.174	1.330	13.29	
Di-n-butylphthalate	1	0		10.43	55.06	50	20	0.01	1.561	1.606	10.12	
Fluoranthene	1	0		11.17	58.06	50	20	0.6	1.440	1.672	16.13	
Chrysene-d12	1	0	I	12.87	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.43	48.94	50	20	0.6	1.257	1.230	2.11	
Benzidine	1	0		11.32	38.50	50	**	0.384	0.296	0.296	23.01	
Terphenyl-d14	1	0	S	11.61	24.58	25	**	0.638	0.628	0.628	1.69	
4,4'-DDE	1	0		11.55	51.40		**	0.239				
4,4'-DDD	1	0		11.95	49.39		**	0.429				
Butylbenzylphthalate	1	0		12.20	49.64	50	20	0.01	0.589	0.585	0.73	
4,4'-DDT	1	0		12.30	51.40		**	0.360				
3,3'-Dichlorobenzidine	1	0		12.83	55.37	50	20	0.01	0.386	0.427	10.74	
Benzo[a]anthracene	1	0		12.86	50.70	50	20	0.8	1.280	1.298	1.39	
Chrysene	1	0		12.90	46.43	50	20	0.7	1.146	1.064	7.14	
bis(2-Ethylhexyl)phthalate	1	0		12.89	46.79	50	20	0.01	0.836	0.783	6.42	
Perylene-d12	1	0	I	14.53	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.65	46.01	50	20	0.01	1.737	1.599	7.98	
Benzo[b]fluoranthene	1	0		14.09	49.05	50	20	0.7	1.358	1.332	1.89	
Benzo[k]fluoranthene	1	0		14.13	49.38	50	20	0.7	1.302	1.286	1.23	
Benzo[a]pyrene	1	0		14.47	49.83	50	20	0.7	1.290	1.285	0.34	
Indeno[1,2,3-cd]pyrene	1	0		15.91	49.20	50	20	0.5	1.359	1.338	1.59	
Dibenzo[a,h]anthracene	1	0		15.93	49.04	50	20	0.4	1.150	1.128	1.93	
Benzo[g,h,i]perylene	1	0		16.31	45.93	50	20	0.5	1.144	1.051	8.14	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8(INT)	1	100		0.00	0.00	40	**			0.000	100.00	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 2 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 326625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 4/20/2016 1:23:00 PData File: 7M76368.D
Method: EPA 8270D

Instrument: GCMS 7

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	
1,4-Dioxane	1	100		0.00	0.00	51	**			0.000	100.00	
Toluene Diisocyanate	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**	0.795		0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
Heptachlor epoxide	1	100		0.00	0.00	10	**			0.000	100.00	
Heptachlor	1	100		0.00	0.00	10	**			0.000	100.00	
gamma-BHC	1	100		0.00	0.00	10	**			0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**	0.965		0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**			0.000	100.00	
4-Methylphenol	1	100		0.00	0.00	50	**	0.6		0.000	100.00	
Endrin	1	100		0.00	0.00	50	**			0.000	100.00	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 3 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.

624 limits are compared against the concentration found. HAZ. - 327

625 limits are compared against the %DIFF.

524.2 limits are compared against the %DIFF

FORM8

Internal Standard Areas

Evaluation Std Data File: 10M55768.D

Method: EPA 8270D

Analysis Date/Time: 03/28/16 10:03

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	96616	5.79	405925	6.80	252590	8.21	468210	9.67	538637	12.71	478497	14.32
Eval File Area Limit:	48308-193232		202962-811850		126295-505180		234105-936420		269318-1077274		239248-956994	
Eval File Rt Limit:	5.29-6.29		6.3-7.3		7.71-8.71		9.17-10.17		12.21-13.21		13.82-14.82	

Data File	Sample	I1 Area	I1 RT	I2 Area	I2 RT	I3 Area	I3 RT	I4 Area	I4 RT	I5 Area	I5 RT	I6 Area	I6 RT
10M55768	CAL BNA@5C	96616	5.79	405925	6.80	252590	8.21	468210	9.67	538637	12.71	478497	14.32
10M55769	CAL BNA@1S	97082	5.79	386727	6.80	235104	8.22	419396	9.68	442464	12.72	389300	14.33
10M55770	CAL BNA@1E	94375	5.79	387002	6.80	241865	8.22	444683	9.67	497092	12.72	428649	14.32
10M55771	CAL BNA@12	99990	5.79	416955	6.80	261149	8.22	478961	9.67	545505	12.72	482239	14.32
10M55772	CAL BNA@8C	98609	5.79	413782	6.80	257157	8.21	479463	9.67	533520	12.72	472580	14.32
10M55773	CAL BNA@1C	87510	5.79	358689	6.79	220020	8.21	414819	9.67	476264	12.71	426626	14.32
10M55774	CAL BNA@2C	88637	5.79	374143	6.79	228881	8.21	430023	9.67	486366	12.71	434299	14.32
10M55775	CAL BNA@2F	93057	5.79	380808	6.79	230360	8.21	428665	9.67	487393	12.71	435499	14.32
10M55776	CAL BNA@.5	91220	5.79	357863	6.79	205214	8.21	372921	9.67	396980	12.71	362986	14.32
10M55777	ICV BNA@50	91581	5.79	375610	6.79	222984	8.21	407818	9.67	440886	12.71	383019	14.32

I1 = 1,4-Dichlorobenzene-d4	I4 = Phenanthrene-d10
I2 = Naphthalene-d8	I5 = Chrysene-d12
I3 = Acenaphthene-d10	I6 = Perylene-d12

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.
Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M75950.D

Method: EPA 8270D

Analysis Date/Time: 04/06/16 09:32

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	46636	5.87	183028	6.90	120568	8.36	230789	9.82	262303	12.87	224868	14.54
Eval File Area Limit:	23318-93272		91514-366056		60284-241136		115394-461578		131152-524606		112434-449736	
Eval File Rt Limit:	5.37-6.37		6.4-7.4		7.86-8.86		9.32-10.32		12.37-13.37		14.04-15.04	

Data File Sample

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
7M75950.D	CAL BNA@5C	46636	5.87	183028	6.90	120568	8.36	230789	9.82	262303	12.87	224868	14.54
7M75951.D	CAL BNA@1C	43098	5.87	174954	6.90	119108	8.36	228903	9.83	274920	12.88	238787	14.54
7M75952.D	CAL BNA@1S	40515	5.87	154705	6.89	107850	8.33	201311	9.80	221720	12.88	189610	14.52
7M75953.D	CAL BNA@1E	36844	5.87	142589	6.89	97296	8.33	186739	9.80	221797	12.88	199081	14.55
7M75954.D	CAL BNA@12	43439	5.87	173498	6.89	115750	8.33	221573	9.80	256131	12.87	221857	14.52
7M75955.D	CAL BNA@8C	41059	5.87	162974	6.89	106674	8.32	210652	9.80	249002	12.86	219275	14.51
7M75956.D	CAL BNA@2C	40962	5.87	164193	6.88	113981	8.32	216447	9.79	271873	12.87	231190	14.54
7M75957.D	CAL BNA@2F	41402	5.87	169541	6.88	115502	8.32	226293	9.79	271004	12.86	236483	14.52
7M75958.D	CAL BNA@.5	43554	5.87	171070	6.88	122575	8.32	238693	9.80	273949	12.87	237966	14.53
7M75959.D	ICV BNA@50	40553	5.87	160604	6.89	108163	8.33	207570	9.80	240297	12.87	210929	14.54

I1 = 1,4-Dichlorobenzene-d4
 I2 = Naphthalene-d8
 I3 = Acenaphthene-d10

I4 = Phenanthrene-d10
 I5 = Chrysene-d12
 I6 = Perylene-d12

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
 624/8260 Internal Standard concentration = 30ug/L
 524 Internal Standard concentration = 3ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 9M70249.D

Method: EPA 8270D

Analysis Date/Time: 04/06/16 13:22

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	90486	5.83	347992	6.84	218773	8.27	421217	9.73	484212	12.79	456572	14.41
Eval File Area Limit:	45243-180972		173996-695984		109386-437546		210608-842434		242106-968424		228286-913144	
Eval File Rt Limit:	5.33-6.33		6.34-7.34		7.77-8.77		9.23-10.23		12.29-13.29		13.91-14.91	

Data File Sample

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
9M70242.D	CAL BNA@1E	72118	5.83	287662	6.84	190083	8.28	373560	9.74	396695	12.80	378944	14.41
9M70243.D	CAL BNA@1E	78120	5.83	307169	6.84	198716	8.27	383535	9.74	408837	12.80	388858	14.41
9M70244.D	CAL BNA@12	85218	5.83	335083	6.84	213277	8.27	412833	9.74	444464	12.79	424053	14.41
9M70245.D	CAL BNA@8C	82649	5.83	319434	6.84	203968	8.27	389591	9.73	443984	12.79	418571	14.41
9M70246.D	CAL BNA@2C	90998	5.83	353345	6.84	214814	8.27	416337	9.73	491055	12.79	450504	14.41
9M70247.D	CAL BNA@2F	91141	5.83	358630	6.84	221633	8.27	416883	9.73	485804	12.79	437634	14.41
9M70248.D	CAL BNA@.5	88107	5.83	347550	6.84	215995	8.27	406396	9.73	469898	12.79	424447	14.41
9M70249.D	CAL BNA@5C	90486	5.83	347992	6.84	218773	8.27	421217	9.73	484212	12.79	456572	14.41
9M70250.D	CAL BNA@1C	94051	5.83	369332	6.84	226311	8.27	433194	9.73	517012	12.79	476672	14.41
9M70251.D	ICV BNA@5C	81505	5.83	316758	6.84	196996	8.27	379411	9.73	431716	12.79	400647	14.41

I1 = 1,4-Dichlorobenzene-d4
I2 = Naphthalene-d8
I3 = Acenaphthene-d10

I4 = Phenanthrene-d10
I5 = Chrysene-d12
I6 = Perylene-d12

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 9M70500.D

Method: EPA 8270D

Analysis Date/Time: 04/19/16 08:35

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	99434	5.83	368886	6.84	234639	8.27	459505	9.73	528533	12.79	514128	14.41
Eval File Area Limit:	49717-198868		184443-737772		117320-469278		229752-919010		264266-1057066		257064-1028256	
Eval File Rt Limit:	5.33-6.33		6.34-7.34		7.77-8.77		9.23-10.23		12.29-13.29		13.91-14.91	

Data File	Sample												
9M70501.D	WMB49871/M	116856	5.83	437291	6.84	280843	8.28	545311	9.74	564003	12.79	530926	14.42
9M70502.D	AC90756-005	112801	5.83	428761	6.83	267641	8.27	495511	9.73	561387	12.78	413957	14.40
9M70503.D	AC90755-001	124178	5.83	456935	6.83	293428	8.27	555058	9.73	650885	12.78	588517	14.40
9M70504.D	AC90755-001	113026	5.83	421924	6.84	262016	8.27	501197	9.73	571240	12.78	517691	14.40
9M70505.D	AC90755-001	114763	5.83	429357	6.84	268792	8.27	516801	9.73	587068	12.78	533542	14.40
9M70506.D	OMB49880/M	104894	5.83	390709	6.84	249394	8.27	485511	9.73	532606	12.79	494131	14.40
9M70507.D	OMB49880	104004	5.83	396873	6.83	241264	8.27	452661	9.73	535332	12.78	486148	14.40
9M70508.D	SMB49884	218756 A	5.83	793871 A	6.84	456458	8.27	769568	9.73	697374	12.79	539672	14.40
9M70509.D	SMB49884/M	186216	5.83	670658	6.84	400202	8.27	685934	9.73	610719	12.79	494327	14.40
9M70510.D	AC90773-004	182174	5.83	674618	6.83	393503	8.27	651847	9.73	581671	12.78	439307	14.40
9M70511.D	AC90773-004	150790	5.83	538820	6.84	324161	8.27	563887	9.73	523150	12.78	435215	14.40
9M70512.D	AC90773-004	178725	5.83	641896	6.84	374210	8.27	631117	9.73	544726	12.78	427094	14.40
9M70513.D	WMB49891/M	100249	5.83	379908	6.84	242341	8.27	474707	9.73	503940	12.79	480223	14.40
9M70514.D	WMB49891	126477	5.83	481402	6.83	294713	8.27	546871	9.73	631903	12.78	565802	14.40
9M70515.D	EF-SPLP V-2	111050	5.83	417891	6.83	253104	8.27	473895	9.73	554191	12.78	498441	14.40
9M70516.D	AC90611-002	112254	5.83	429873	6.83	263809	8.27	498604	9.73	593661	12.78	528678	14.40
9M70517.D	AC90611-002	99135	5.83	374248	6.84	239019	8.27	461922	9.73	478774	12.79	453199	14.40
9M70518.D	AC90611-002	98023	5.83	370944	6.84	235236	8.27	453168	9.73	478068	12.79	445755	14.40
9M70519.D	AC90747-005	123628	5.83	464356	6.83	285081	8.27	531359	9.73	607191	12.78	534723	14.40
9M70520.D	AC90747-013	100077	5.83	374984	6.83	226913	8.27	432575	9.73	506384	12.78	450912	14.40
9M70521.D	AC90767-003	100331	5.83	264463	6.84	246066	8.28	408039	9.74	547696	12.78	536998	14.40

I1 =	1,4-Dichlorobenzene-d4	I4 =	Phenanthrene-d10
I2 =	Naphthalene-d8	I5 =	Chrysene-d12
I3 =	Acenaphthene-d10	I6 =	Perylene-d12

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.**Flags:**

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M76335.D

Method: EPA 8270D

Analysis Date/Time: 04/19/16 11:50

Lab File ID: CAL BNA@50PPM

Eval File Area/RT:	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
	30418	5.87	122640	6.88	85669	8.32	177108	9.79	239295	12.86	227421	14.53
Eval File Area Limit:	15209-60836		61320-245280		42834-171338		88554-354216		119648-478590		113710-454842	
Eval File Rt Limit:	5.37-6.37		6.38-7.38		7.82-8.82		9.29-10.29		12.36-13.36		14.03-15.03	

Data File	Sample												
7M76336.D	AC90756-001i	33081	5.87	135242	6.88	99106	8.32	194037	9.80	250179	12.86	208127	14.54
7M76337.D	AC90756-002i	40033	5.87	157293	6.88	107845	8.32	218277	9.79	241170	12.87	186385	14.55
7M76338.D	AC90756-003i	44591	5.87	174389	6.89	123508	8.33	225088	9.80	230331	12.88	185723	14.57
7M76339.D	AC90756-004i	41072	5.87	159862	6.88	115896	8.32	224915	9.80	242872	12.87	191331	14.56
7M76340.D	OMB49880	28081	5.87	115442	6.88	84145	8.33	172284	9.80	243656	12.86	213110	14.52
7M76341.D	AC90756-001i	34571	5.87	144535	6.88	107442	8.32	214747	9.80	292345	12.87	233198	14.53
7M76342.D	AC90756-001i	38903	5.87	170272	6.88	125059	8.32	243785	9.80	253969	12.87	189967	14.53
7M76343.D	AC90747-001i	44600	5.87	170377	6.88	122686	8.32	253394	9.80	258470	12.88	217490	14.55
7M76344.D	AC90670-002i	37537	5.87	147321	6.88	101897	8.32	233605	9.80	258736	12.86	227574	14.54
7M76345.D	SMB49884	44882	5.87	171660	6.88	140306	8.32	295704	9.79	311853	12.86	214318	14.53
7M76346.D	AC90773-003	32749	5.87	144767	6.88	112037	8.32	243246	9.79	321345	12.86	254978	14.54
7M76347.D	AC90773-011	39504	5.87	164875	6.88	109296	8.32	246650	9.79	270567	12.86	209773	14.52
7M76348.D	AC90749-003	43976	5.87	183178	6.88	136044	8.32	239199	9.79	283720	12.86	192706	14.53
7M76349.D	AC90749-005	48436	5.87	200341	6.88	135481	8.32	280302	9.79	222653	12.86	185553	14.52
7M76350.D	AC90749-007	44361	5.87	192213	6.88	139267	8.32	282580	9.79	228186	12.86	183811	14.52
7M76351.D	AC90749-009	30425	5.87	142136	6.88	99560	8.31	231542	9.79	241211	12.86	193627	14.52
7M76352.D	AC90773-001i	32460	5.87	150288	6.88	112749	8.31	232584	9.79	261821	12.86	204788	14.52
7M76353.D	AC90773-009i	40011	5.87	168908	6.88	125118	8.31	245540	9.79	261832	12.87	203533	14.52
7M76354.D	AC90773-002i	28870	5.87	129839	6.88	98662	8.31	205919	9.79	224409	12.87	185213	14.52
7M76355.D	AC90773-010i	41204	5.87	163298	6.88	132796	8.31	267808	9.79	279767	12.86	213419	14.51
7M76356.D	AC90662-007i	32712	5.87	136681	6.88	104545	8.31	237729	9.79	267430	12.86	203728	14.52
7M76357.D	AC90625-005i	33106	5.87	142992	6.88	106140	8.31	224993	9.79	236018	12.86	184699	14.51
7M76358.D	AC90662-003i	51326	5.87	224406	6.88	134258	8.32	270265	9.80	221724	12.88	220679	14.53
7M76359.D	AC90719-007i	38775	5.87	165800	6.88	107415	8.31	267173	9.80	273667	12.88	177222	14.53
7M76360.D	AC90719-002	49676	5.87	150225	6.88	152312	8.31	303073	9.79	269371	12.86	227921	14.52
7M76361.D	AC90719-003	45250	5.87	183727	6.88	135576	8.31	272394	9.79	238886	12.86	195944	14.51
7M76362.D	AC90719-004	50059	5.87	217541	6.88	151034	8.31	320401	9.79	270222	12.86	216734	14.51
7M76363.D	AC90719-005	46619	5.87	206730	6.88	154413	8.31	297812	9.79	262347	12.86	219190	14.51
7M76364.D	AC90719-006	50828	5.87	218888	6.88	151392	8.31	292338	9.79	266472	12.86	212787	14.51

I1 =	1,4-Dichlorobenzene-d4	I4 =	Phenanthrene-d10	625/8270 Internal Standard concentration = 40 µg/L (in final extract)
I2 =	Naphthalene-d8	I5 =	Chrysene-d12	624/8260 Internal Standard concentration = 30µg/L
I3 =	Acenaphthene-d10	I6 =	Perylene-d12	524 Internal Standard concentration =5µg/L

QC Limits:

Internal Standard Areas

Upper Limit = + 100% of internal standard area from daily cal or mid pt.
 Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M76368.D

Method: EPA 8270D

Analysis Date/Time: 04/20/16 13:23

Lab File ID: CAL BNA@50PPM

Eval File Area/RT:	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
	42116	5.87	178814	6.89	124791	8.33	216570	9.80	305888	12.87	261633	14.53
Eval File Area Limit:	21058-84232		89407-357628		62396-249582		108285-433140		152944-611776		130816-523266	
Eval File Rt Limit:	5.37-6.37		6.39-7.39		7.83-8.83		9.3-10.3		12.37-13.37		14.03-15.03	

Data File	Sample												
7M76369.D	OMB49880	43309	5.87	176159	6.88	115821	8.33	246220	9.80	302659	12.88	261757	14.57
7M76370.D	AC90773-002	43505	5.87	180427	6.88	116511	8.32	193163	9.79	241341	12.88	216330	14.57
7M76371.D	AC90773-010	49060	5.87	163582	6.89	104953	8.33	178109	9.80	222851	12.87	207065	14.54
7M76372.D	AC90719-007	37401	5.87	165346	6.88	119751	8.33	218030	9.80	237571	12.88	199655	14.54
7M76373.D	SMB49905/M	32500	5.87	153120	6.89	78725	8.33	204001	9.80	165058	12.87	131617	14.52
7M76374.D	SMB49905	28252	5.87	154760	6.88	104785	8.32	190463	9.80	205237	12.87	132427	14.53
7M76375.D	AC90817-005	34303	5.87	165061	6.89	110459	8.35	217551	9.81	164816	12.87	152962	14.53
7M76376.D	AC90817-005	38993	5.87	150817	6.88	123006	8.33	247569	9.80	261408	12.87	174271	14.53
7M76377.D	AC90817-005	34618	5.87	128370	6.88	87000	8.32	167090	9.80	175991	12.87	147319	14.53
7M76378.D	AC90817-006	36719	5.87	145654	6.88	100279	8.33	184526	9.80	199835	12.86	165702	14.52
7M76379.D	AC90817-008	44885	5.87	161153	6.88	103109	8.32	197929	9.79	219218	12.86	178948	14.53
7M76380.D	AC90818-003	45432	5.87	178439	6.88	109176	8.32	215439	9.79	219374	12.86	189567	14.52
7M76381.D	AC90818-004	37948	5.87	145635	6.88	98204	8.32	190391	9.80	196833	12.86	168516	14.53
7M76382.D	AC90818-005	44861	5.87	176769	6.88	117978	8.32	249805	9.79	237427	12.87	204006	14.52
7M76383.D	AC90818-006	39999	5.87	148488	6.88	99556	8.32	181410	9.79	187536	12.87	162430	14.52
7M76384.D	AC90818-007	40771	5.87	161204	6.88	107269	8.32	195212	9.79	200289	12.86	174192	14.52
7M76385.D	AC90684-011	39394	5.87	156762	6.88	107845	8.32	195084	9.80	197957	12.87	176210	14.52
7M76386.D	AC90787-001	32530	5.87	125080	6.88	81895	8.32	151294	9.79	153779	12.87	137336	14.51
7M76387.D	AC90787-002	37518	5.87	146302	6.88	93926	8.32	171981	9.79	172527	12.86	151310	14.51
7M76388.D	AC90787-003	36183	5.87	136186	6.88	89989	8.32	162962	9.79	166187	12.86	147418	14.51
7M76389.D	AC90787-004	33720	5.87	128088	6.87	86427	8.31	163058	9.79	180287	12.86	151944	14.51
7M76390.D	AC90787-005	32087	5.87	126857	6.87	87710	8.31	172913	9.79	178126	12.86	151434	14.51

I1 = 1,4-Dichlorobenzene-d4
I2 = Naphthalene-d8
I3 = Acenaphthene-d10

I4 = Phenanthrene-d10
I5 = Chrysene-d12
I6 = Perylene-d12

625/8270 Internal Standard concentration = 40 ng/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 10M56255.D

Method: EPA 8270D

Analysis Date/Time: 04/20/16 10:52

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	82041	5.75	338363	6.77	215604	8.18	407703	9.63	461734	12.67	453138	14.27
Eval File Area Limit:	41020-164082		169182-676726		107802-431208		203852-815406		230867-923468		226569-906276	
Eval File Rt Limit:	5.25-6.25		6.27-7.27		7.68-8.68		9.13-10.13		12.17-13.17		13.77-14.77	

Data File	Sample	I1		I2		I3		I4		I5		I6	
10M56256	WMB49891	101036	5.75	403890	6.77	244455	8.18	466810	9.63	515630	12.66	494754	14.27
10M56262	AC90774-001	93623	5.76	371138	6.77	220904	8.18	431256	9.63	529820	12.66	504736	14.27
10M56263	AC90774-002	85323	5.75	345850	6.77	210258	8.18	400406	9.63	473552	12.66	443592	14.27
10M56264	AC90780-001	78408	5.75	303330	6.77	175205	8.18	320871	9.63	367005	12.66	339981	14.27
10M56265	AC90780-002	82288	5.75	322702	6.77	192684	8.18	355478	9.63	387896	12.66	355987	14.27
10M56266	AC90811-001	82081	5.75	338904	6.77	204955	8.18	383034	9.63	424642	12.66	381442	14.27
10M56267	AC90811-002	71058	5.75	283679	6.77	172673	8.18	317532	9.63	356361	12.66	325993	14.27
10M56268	AC90811-003	77658	5.76	308139	6.77	186795	8.18	349495	9.63	396939	12.66	363245	14.27
10M56269	WMB49906(M	79517	5.76	310106	6.77	185274	8.18	348266	9.63	376408	12.67	353369	14.27
10M56270	WMB49906	69624	5.75	280071	6.77	165436	8.18	324371	9.63	379179	12.66	348437	14.27
10M56271	WMB49891	107176	5.75	423436	6.77	255142	8.18	476521	9.63	539691	12.66	495145	14.27
10M56272	AC90773-012	80072	5.76	313342	6.77	190378	8.18	351588	9.63	413409	12.66	379726	14.27
10M56273	EF-1 V-23053	75725	5.75	274703	6.77	167839	8.18	308677	9.63	348607	12.66	318306	14.27
10M56274	AC90764-001i	75578	5.75	299492	6.76	177273	8.18	339651	9.63	394232	12.66	366141	14.27
10M56275	AC90765-001i	77401	5.75	299606	6.77	175393	8.18	329457	9.63	379018	12.66	346255	14.27
10M56276	AC90763-001i	71814	5.75	277097	6.77	164430	8.18	302155	9.63	335548	12.66	304683	14.27
10M56277	AC90763-001i	77697	5.76	314257	6.77	188516	8.18	346993	9.63	385445	12.67	360815	14.27
10M56278	AC90763-001i	82447	5.75	329107	6.77	200945	8.18	370249	9.63	408937	12.67	379402	14.27
10M56279	AC90793-001	84532	5.76	221262	6.77	167459	8.21	246259	9.67	385040	12.68	345198	14.27
10M56280	AC90793-002	67655	5.75	265103	6.77	160967	8.18	295375	9.63	340659	12.66	316714	14.27
10M56281	AC90813-001	82059	5.75	321398	6.77	204402	8.18	390887	9.63	426865	12.66	392202	14.27
10M56282	AC90813-002	69323	5.75	268455	6.76	161095	8.18	297131	9.63	344302	12.66	321714	14.27
10M56283	AC90813-003	77657	5.75	309142	6.77	183794	8.18	338812	9.63	390730	12.66	362870	14.27
10M56284	AC90813-004	75117	5.75	297373	6.77	175079	8.18	321610	9.63	360784	12.66	334322	14.27
10M56285	AC90813-005	77220	5.75	304130	6.77	182952	8.18	337884	9.63	372565	12.66	333537	14.27
10M56286	AC90813-006	78258	5.75	318499	6.77	190478	8.18	359762	9.63	396697	12.66	355364	14.27

I1 = 1,4-Dichlorobenzene-d4
 I2 = Naphthalene-d8
 I3 = Acenaphthene-d10

I4 = Phenanthrene-d10
 I5 = Chrysene-d12
 I6 = Perylene-d12

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
 624/8260 Internal Standard concentration = 30ug/L
 524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

PCB Data

Form1
ORGANICS PCB REPORT

Sample Number: AC90773-001(2X)
 Client Id: SB-01
 Data File: 2G112321.D
 Analysis Date: 04/21/16 11:17
 Date Rec/Extracted: 04/14/16-04/19/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Soil
 Initial Vol: 20g
 Final Vol: 10ml
 Dilution: 2
 Solids: 93

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.054	U	11097-69-1	Aroclor-1254	0.054	U
11104-28-2	Aroclor-1221	0.054	U	11096-82-5	Aroclor-1260	0.054	U
11141-16-5	Aroclor-1232	0.054	U	37324-23-5	Aroclor-1262	0.054	U
53469-21-9	Aroclor-1242	0.054	U	11100-14-4	Aroclor-1268	0.054	U
12672-29-6	Aroclor-1248	0.054	U	1336-36-3	Aroclor (Total)	0.054	U

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of a-Chlordane and y-Chlordane.*

Data Path : G:\Gcdata\2016\GC_2\Data\04-21-16\
 Data File : 2G112321.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 21 Apr 2016 11:17
 Operator : MAS/ZM/MLC
 Sample : AC90773-001(2X)
 Misc : S,PCB:2
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 21 11:46:13 2016
 Quant Method : G:\GC\DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

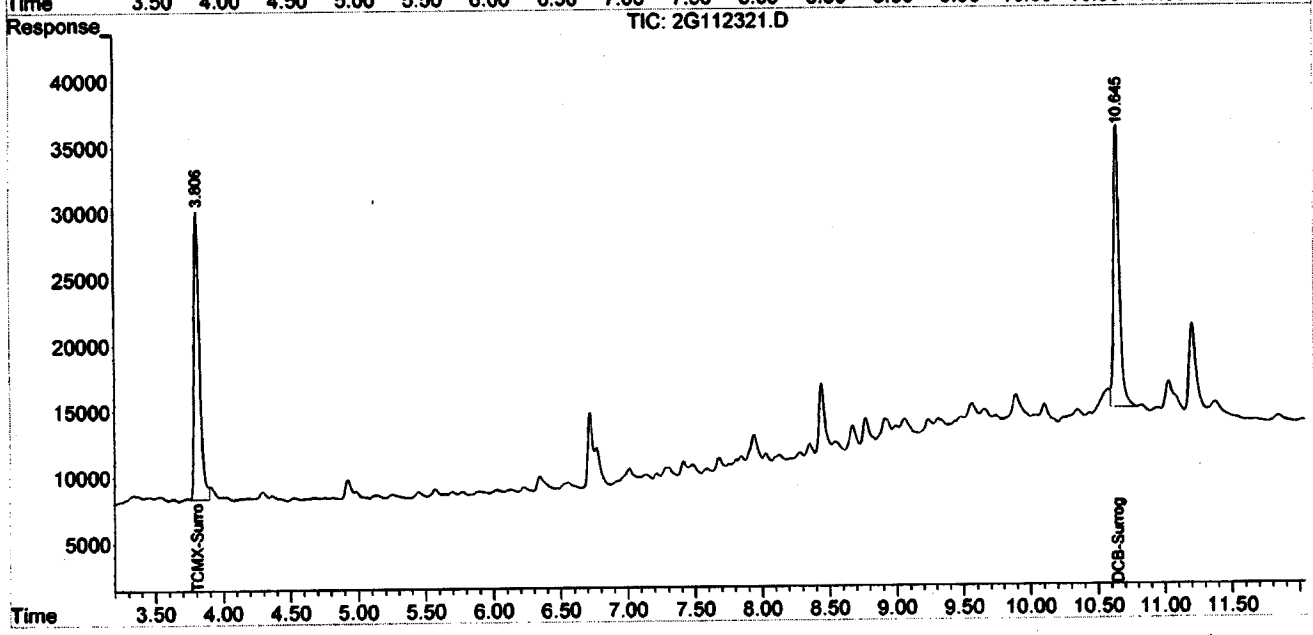
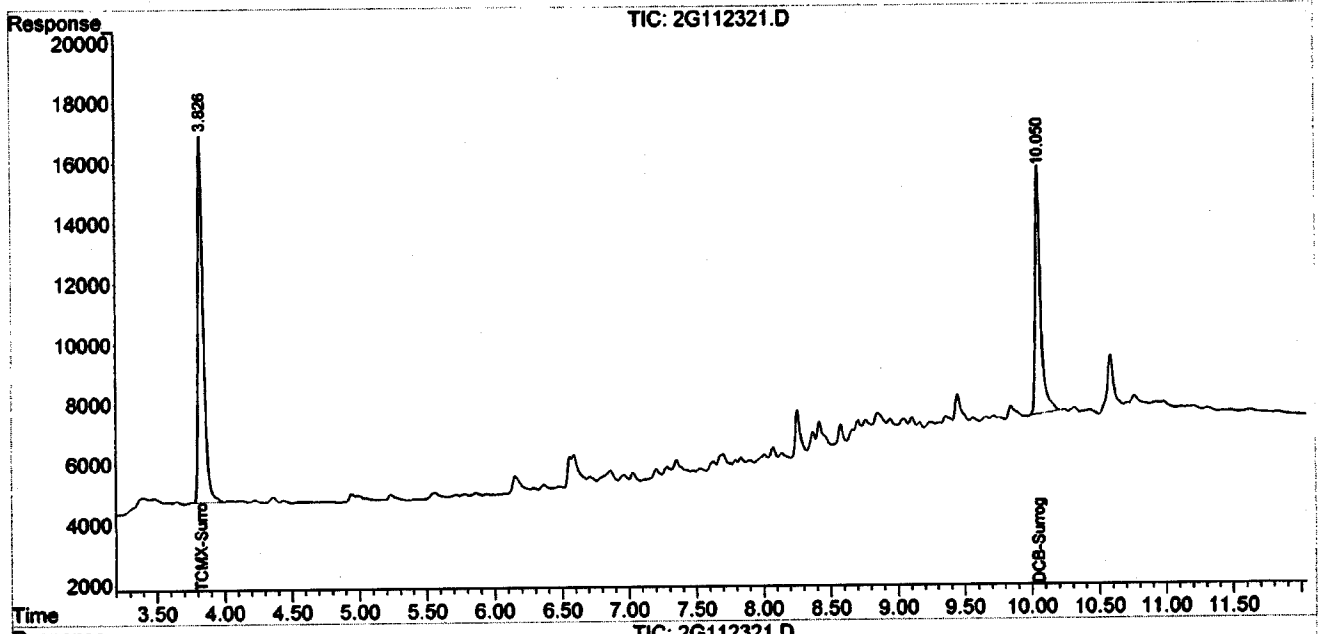
Target Compounds						
1)TCMX-Surrogate	3.827	3.806	336265	600004	83.172	65.725m
45)DCB-Surrogate	10.051	10.645	224049	638643	72.492	62.075m

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-21-16\
 Data File : 2G112321.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 21 Apr 2016 11:17
 Operator : MAS/ZM/MLC
 Sample : AC90773-001(2X)
 Misc : S,PCB:2
 ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 21 11:46:13 2016
 Quant Method : G:\GC\DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase : db-17
 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: AC90773-002	Method: EPA 8082A
Client Id: SB-02	Matrix: Soil
Data File: 2G112245.D	Initial Vol: 20g
Analysis Date: 04/19/16 22:16	Final Vol: 10ml
Date Rec/Extracted: 04/14/16-04/19/16	Dilution: 1
Column: DB-17/1701P 30M 0.32mm ID 0.25um film	Solids: 92

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.027	U	11097-69-1	Aroclor-1254	0.027	U
11104-28-2	Aroclor-1221	0.027	U	11096-82-5	Aroclor-1260	0.027	U
11141-16-5	Aroclor-1232	0.027	U	37324-23-5	Aroclor-1262	0.027	U
53469-21-9	Aroclor-1242	0.027	U	11100-14-4	Aroclor-1268	0.027	U
12672-29-6	Aroclor-1248	0.027	U	1336-36-3	Aroclor (Total)	0.027	U

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112245.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 22:16
 Operator : MAS/ZM/MLC
 Sample : AC90773-002
 Misc : S,PCB
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 20 11:22:27 2016
 Quant Method : G:\GC DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

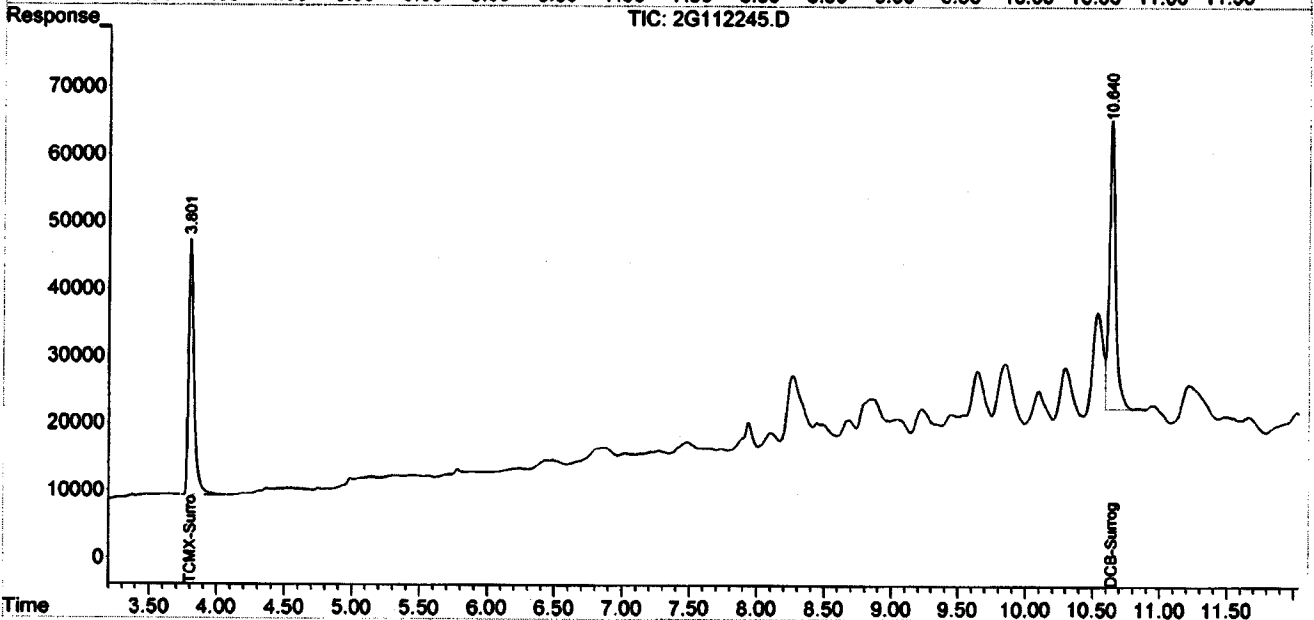
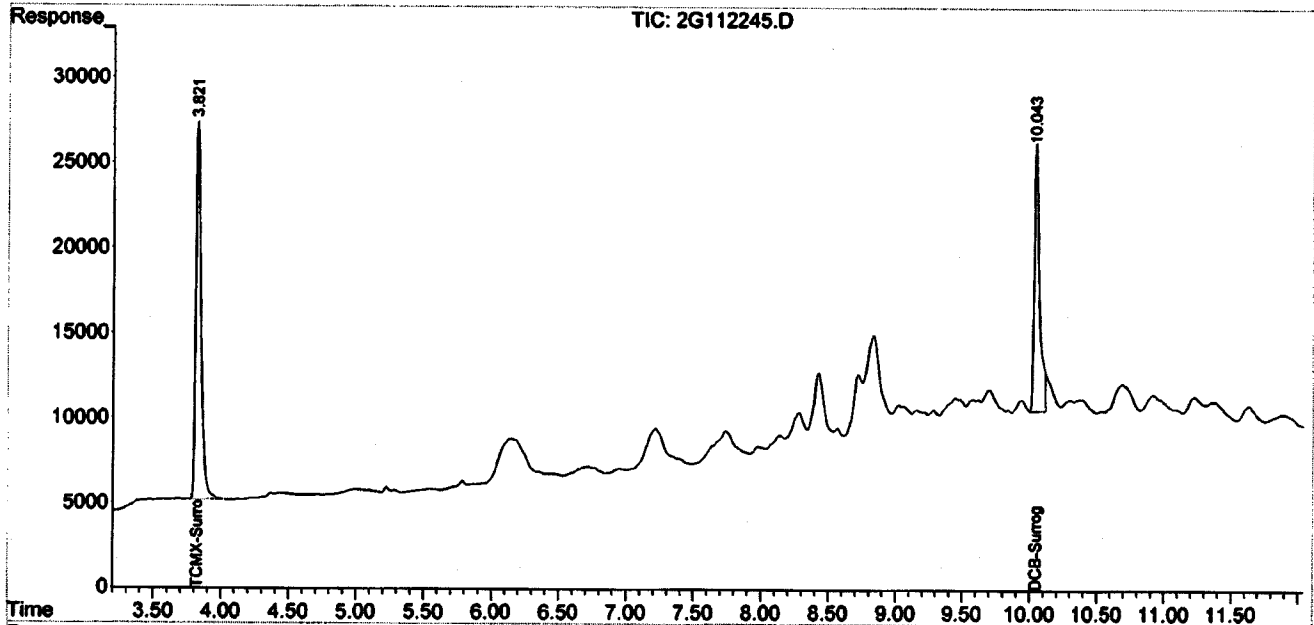
Target Compounds						
1)TCMX-Surrogate	3.821	3.802	614659	1058341	152.030	115.932
45)DCB-Surrogate	10.043	10.640	427970	1396353	143.712m	139.661m

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112245.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 22:16
 Operator : MAS/ZM/MLC
 Sample : AC90773-002
 Misc : S,PCB
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 20 11:22:27 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: AC90773-003
 Client Id: SB-03
 Data File: 2G112290.D
 Analysis Date: 04/20/16 19:25
 Date Rec/Extracted: 04/14/16-04/19/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Soil
 Initial Vol: 20g
 Final Vol: 10ml
 Dilution: 1
 Solids: 95

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.026	U	11097-69-1	Aroclor-1254	0.026	U
11104-28-2	Aroclor-1221	0.026	U	11096-82-5	Aroclor-1260	0.026	U
11141-16-5	Aroclor-1232	0.026	U	37324-23-5	Aroclor-1262	0.026	U
53469-21-9	Aroclor-1242	0.026	U	11100-14-4	Aroclor-1268	0.026	U
12672-29-6	Aroclor-1248	0.026	U	1336-36-3	Aroclor (Total)	0.026	U

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

Data Path : G:\Gcdata\2016\GC_2\Data\04-20-16\
 Data File : 2G112290.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 19:25
 Operator : MAS/ZM/MLC
 Sample : AC90773-003
 Misc : S,PCB
 ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 21 10:01:51 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

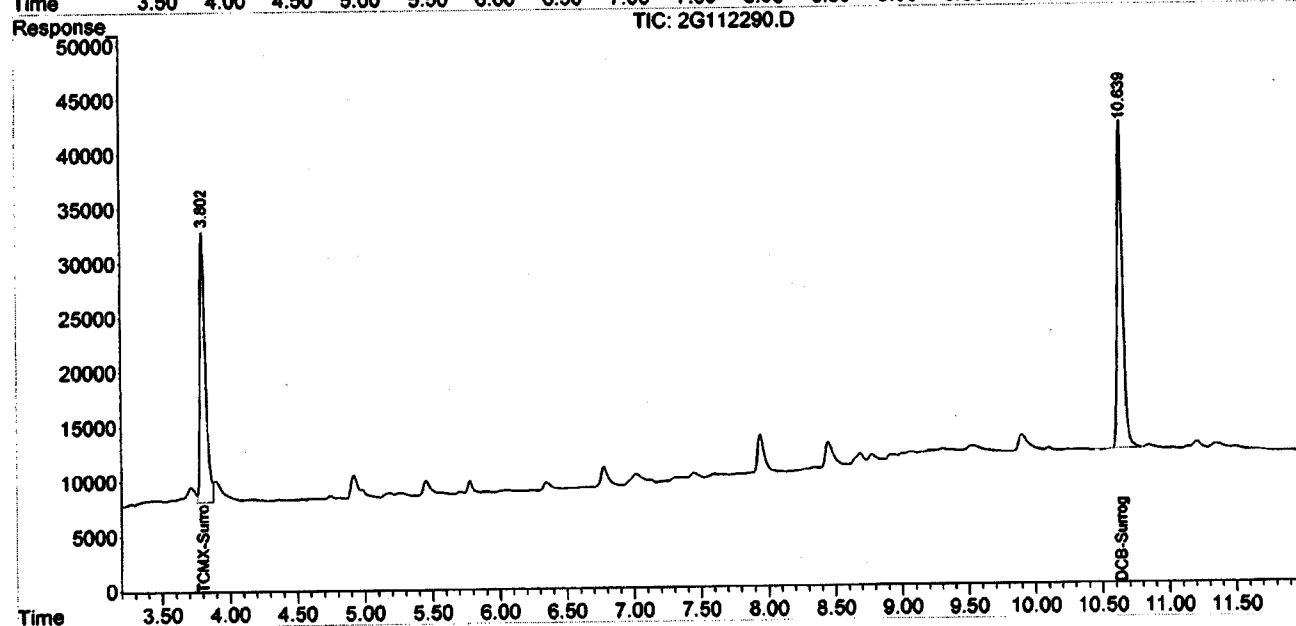
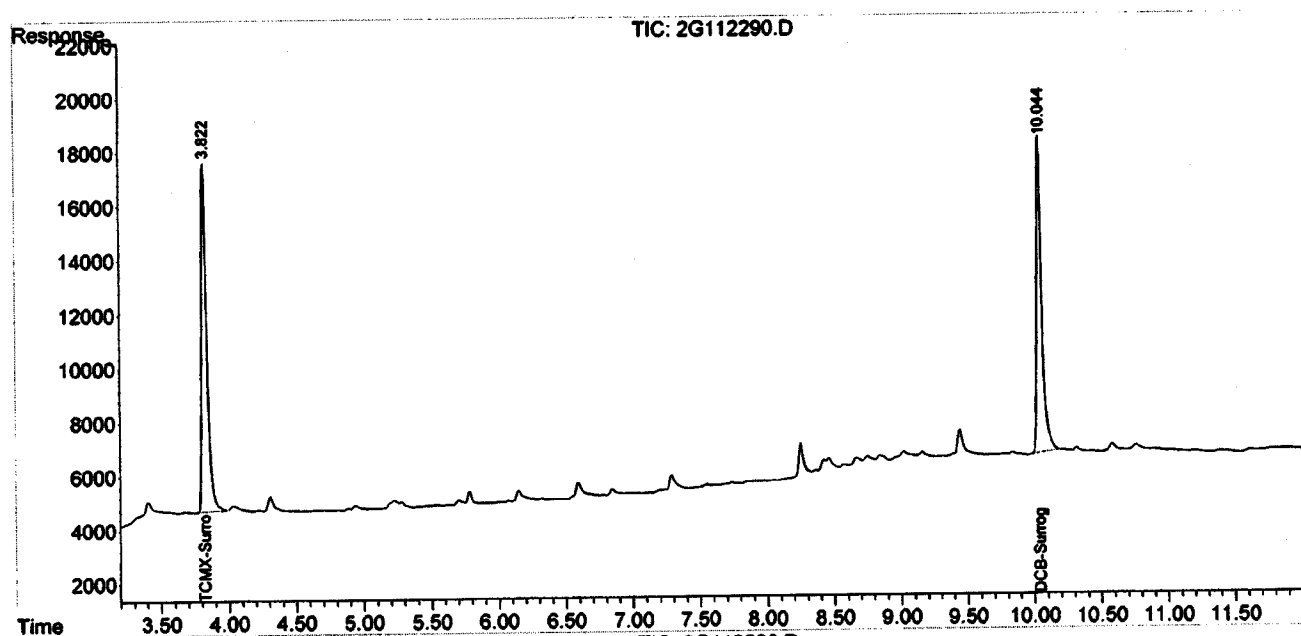
Target Compounds						
1)TCMX-Surrogate	3.823	3.803	352516	700323	87.192	76.714
45)DCB-Surrogate	10.045	10.640	309790	854492	101.759	83.714

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-20-16\
Data File : 2G112290.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Apr 2016 19:25
Operator : MAS/ZM/MLC
Sample : AC90773-003
Misc : S,PCB
ALS Vial : 2 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Apr 21 10:01:51 2016
Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Apr 01 13:01:30 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701 Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: AC90773-004	Method: EPA 8082A
Client Id: SB-04	Matrix: Soil
Data File: 2G112289.D	Initial Vol: 20g
Analysis Date: 04/20/16 19:09	Final Vol: 10ml
Date Rec/Extracted: 04/14/16-04/19/16	Dilution: 1
Column: DB-17/1701P 30M 0.32mm ID 0.25um film	Solids: 98

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.026	U	11097-69-1	Aroclor-1254	0.026	U
11104-28-2	Aroclor-1221	0.026	U	11096-82-5	Aroclor-1260	0.026	U
11141-16-5	Aroclor-1232	0.026	U	37324-23-5	Aroclor-1262	0.026	U
53469-21-9	Aroclor-1242	0.026	U	11100-14-4	Aroclor-1268	0.026	U
12672-29-6	Aroclor-1248	0.026	U	1336-36-3	Aroclor (Total)	0.026	U

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_2\Data\04-20-16\
 Data File : 2G112289.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 19:09
 Operator : MAS/ZM/MLC
 Sample : AC90773-004
 Misc : S,PCB
 ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 21 10:01:36 2016
 Quant Method : G:\GC DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

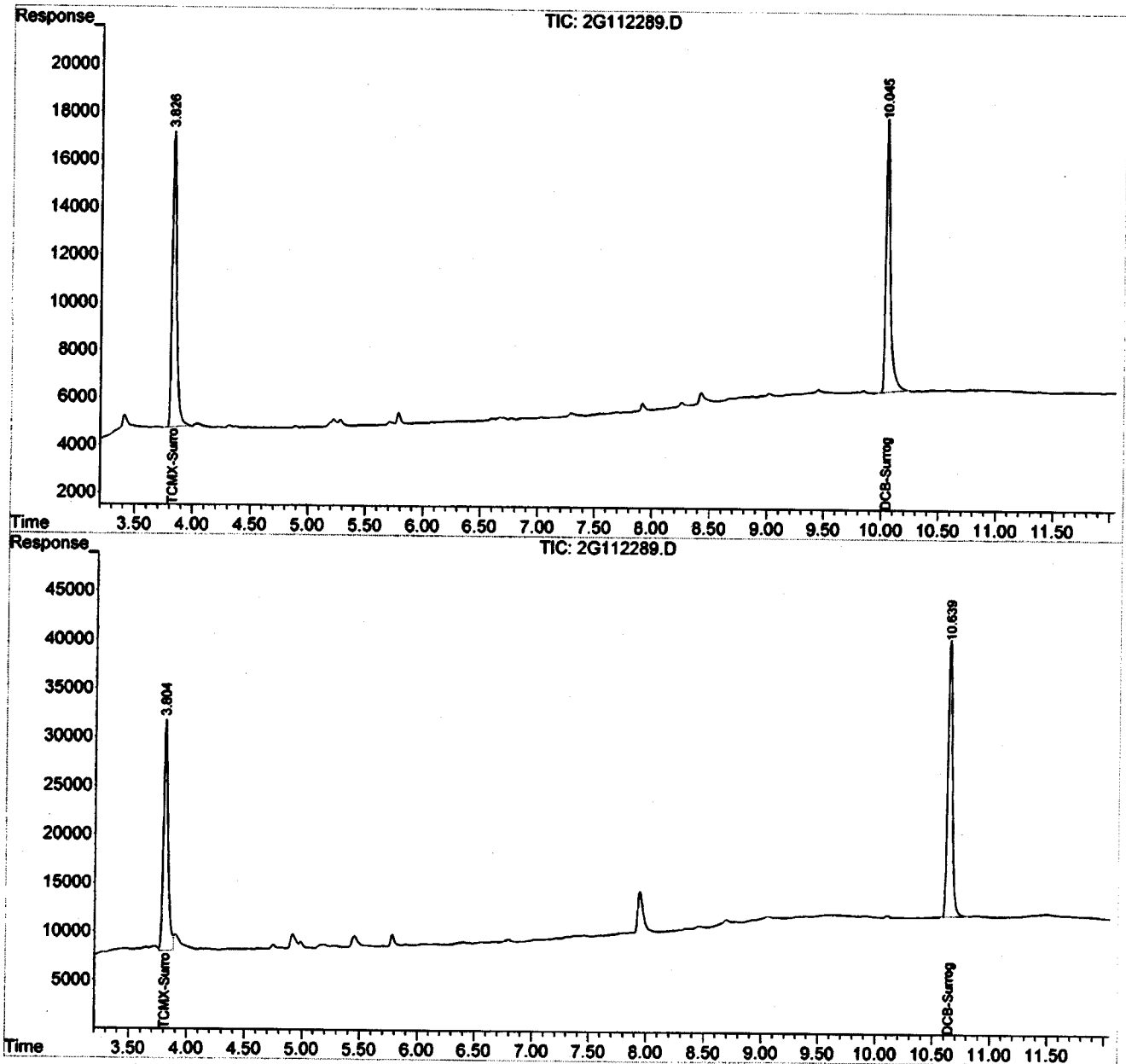
Target Compounds						
1)TCMX-Surrogate	3.827	3.805	331910	653196	82.095	71.552
45)DCB-Surrogate	10.046	10.640	310975	812467	102.170	79.473

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-20-16\
 Data File : 2G112289.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 19:09
 Operator : MAS/ZM/MLC
 Sample : AC90773-004
 Misc : S,PCB
 ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 21 10:01:36 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: AC90773-009
 Client Id: SS-01
 Data File: 2G112246.D
 Analysis Date: 04/19/16 22:31
 Date Rec/Extracted: 04/14/16-04/19/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Soil
 Initial Vol: 20g
 Final Vol: 10ml
 Dilution: 1
 Solids: 85

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.029	U	11097-69-1	Aroclor-1254	0.029	U
11104-28-2	Aroclor-1221	0.029	U	11096-82-5	Aroclor-1260	0.029	U
11141-16-5	Aroclor-1232	0.029	U	37324-23-5	Aroclor-1262	0.029	U
53469-21-9	Aroclor-1242	0.029	U	11100-14-4	Aroclor-1268	0.029	U
12672-29-6	Aroclor-1248	0.029	U	1336-36-3	Aroclor (Total)	0.029	U

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses
 Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112246.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 22:31
 Operator : MAS/ZM/MLC
 Sample : AC90773-009
 Misc : S,PCB
 ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 21 13:43:46 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

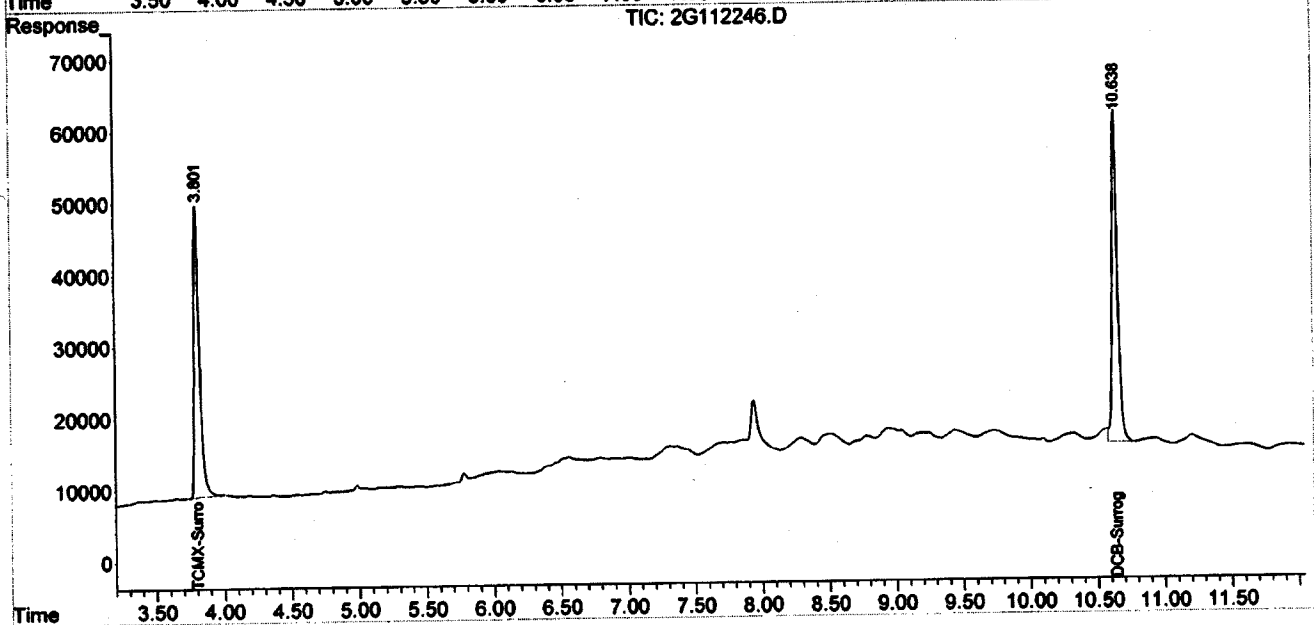
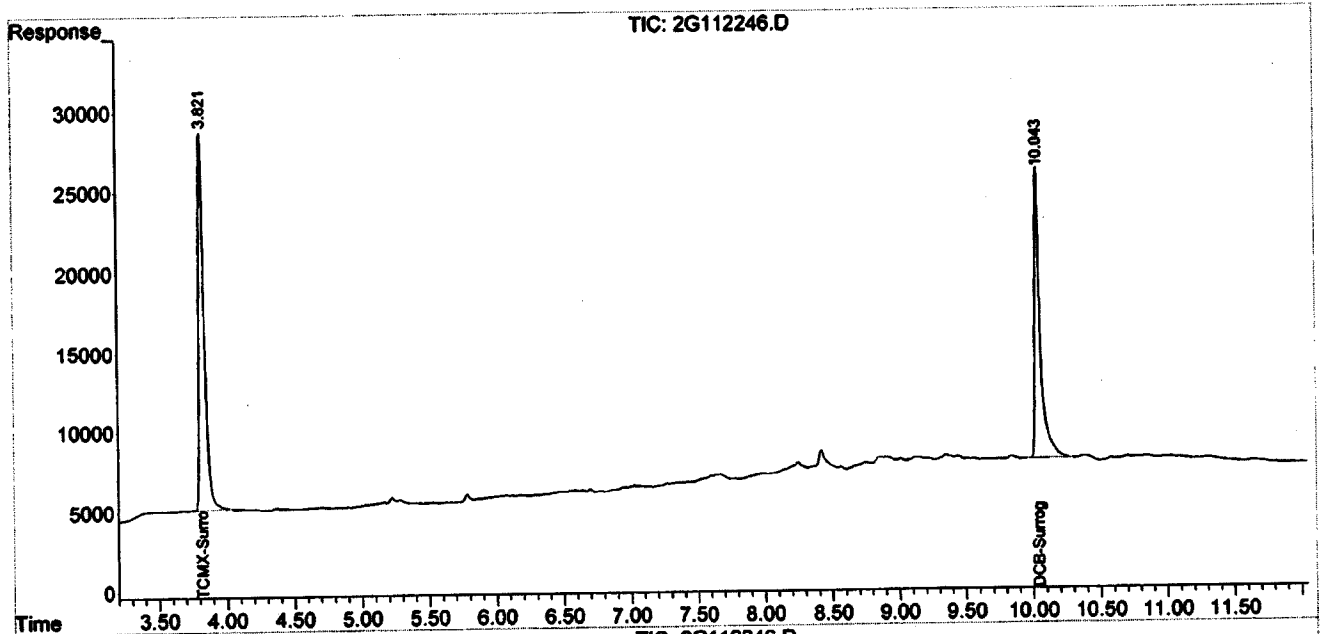
Target Compounds						
1)TCMX-Surrogate	3.821	3.802	664559	1122377	164.373	122.946 #
45)DCB-Surrogate	10.043	10.638	522973	1331749	178.966	132.862m#

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112246.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 22:31
 Operator : MAS/ZM/MLC
 Sample : AC90773-009
 Misc : S,PCB
 ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 21 13:43:46 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form 1
ORGANICS PCB REPORT

Sample Number: AC90773-010
 Client Id: SS-02
 Data File: 2G112247.D
 Analysis Date: 04/19/16 22:47
 Date Rec/Extracted: 04/14/16-04/19/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Soil
 Initial Vol: 20g
 Final Vol: 10ml
 Dilution: 1
 Solids: 94

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.027	U	11097-69-1	Aroclor-1254	0.027	U
11104-28-2	Aroclor-1221	0.027	U	11096-82-5	Aroclor-1260	0.027	U
11141-16-5	Aroclor-1232	0.027	U	37324-23-5	Aroclor-1262	0.027	U
53469-21-9	Aroclor-1242	0.027	U	11100-14-4	Aroclor-1268	0.027	U
12672-29-6	Aroclor-1248	0.027	U	1336-36-3	Aroclor (Total)	0.027	U

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112247.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 22:47
 Operator : MAS/ZM/MLC
 Sample : AC90773-010
 Misc : S,PCB
 ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 20 11:23:00 2016
 Quant Method : G:\GC DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

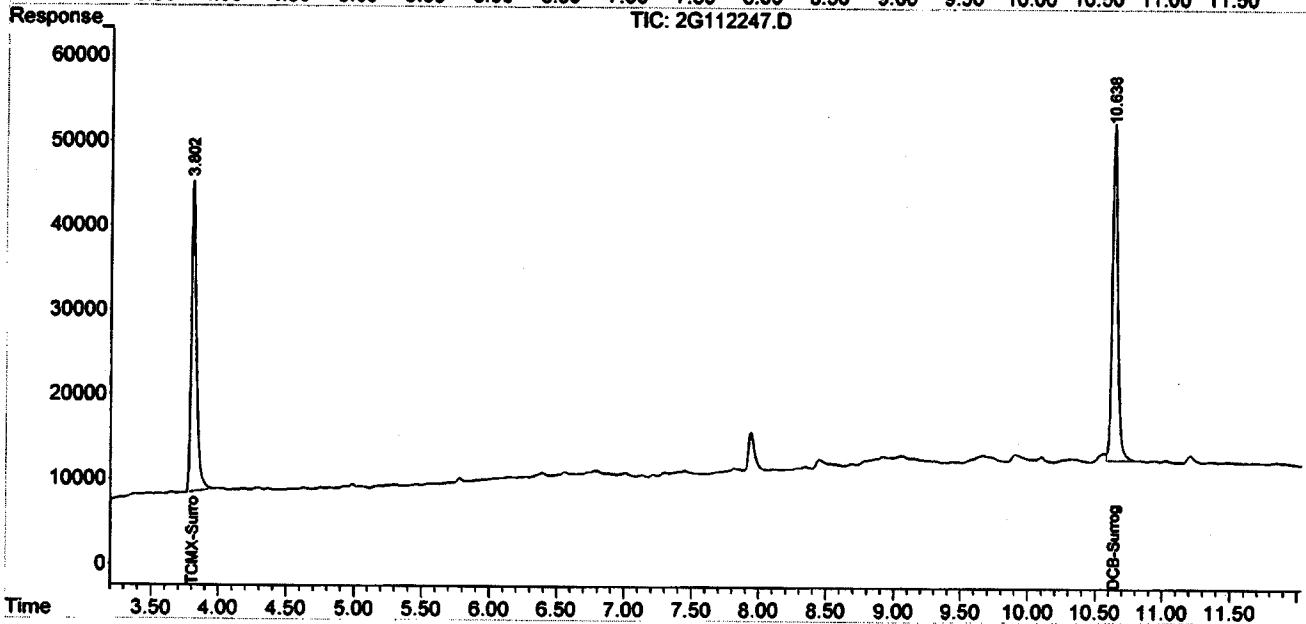
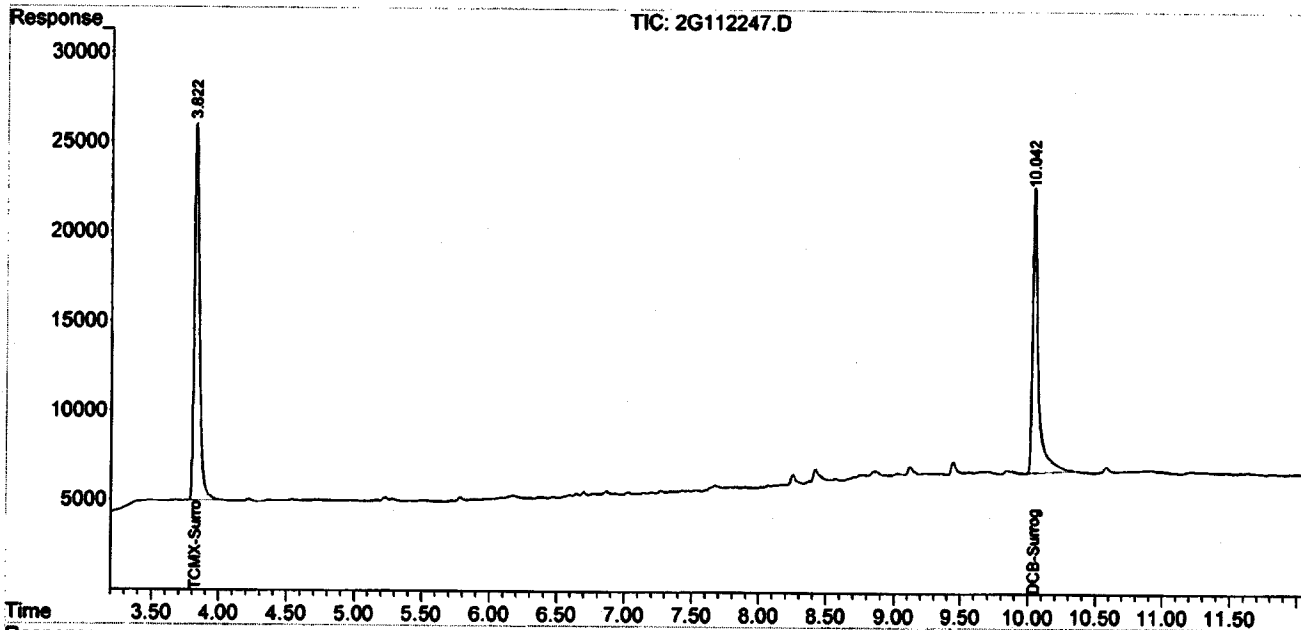
Target Compounds						
1)TCMX-Surrogate	3.822	3.804	567360	988560	140.331	108.288
45)DCB-Surrogate	10.043	10.638	464440	1145863	157.074	113.497m#

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112247.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 22:47
 Operator : MAS/ZM/MLC
 Sample : AC90773-010
 Misc : S,PCB
 ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 20 11:23:00 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: AC90773-011
 Client Id: DUP01
 Data File: 2G112238.D
 Analysis Date: 04/19/16 20:29
 Date Rec/Extracted: 04/14/16-04/19/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Soil
 Initial Vol: 20g
 Final Vol: 10ml
 Dilution: 1
 Solids: 94

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.027	U	11097-69-1	Aroclor-1254	0.027	U
11104-28-2	Aroclor-1221	0.027	U	11096-82-5	Aroclor-1260	0.027	U
11141-16-5	Aroclor-1232	0.027	U	37324-23-5	Aroclor-1262	0.027	U
53469-21-9	Aroclor-1242	0.027	U	11100-14-4	Aroclor-1268	0.027	U
12672-29-6	Aroclor-1248	0.027	U	1336-36-3	Aroclor (Total)	0.027	U

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration use a
 Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112238.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 20:29
 Operator : MAS/ZM/MLC
 Sample : AC90773-011
 Misc : S, PCB
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 20 11:12:22 2016
 Quant Method : G:\GC DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

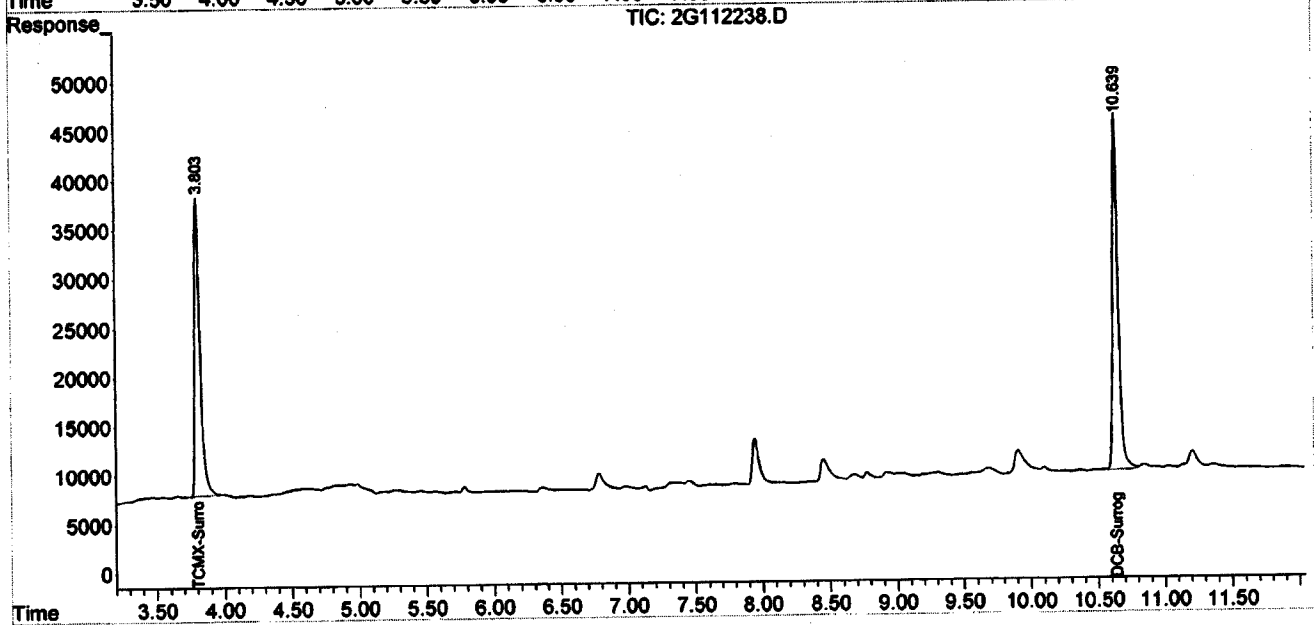
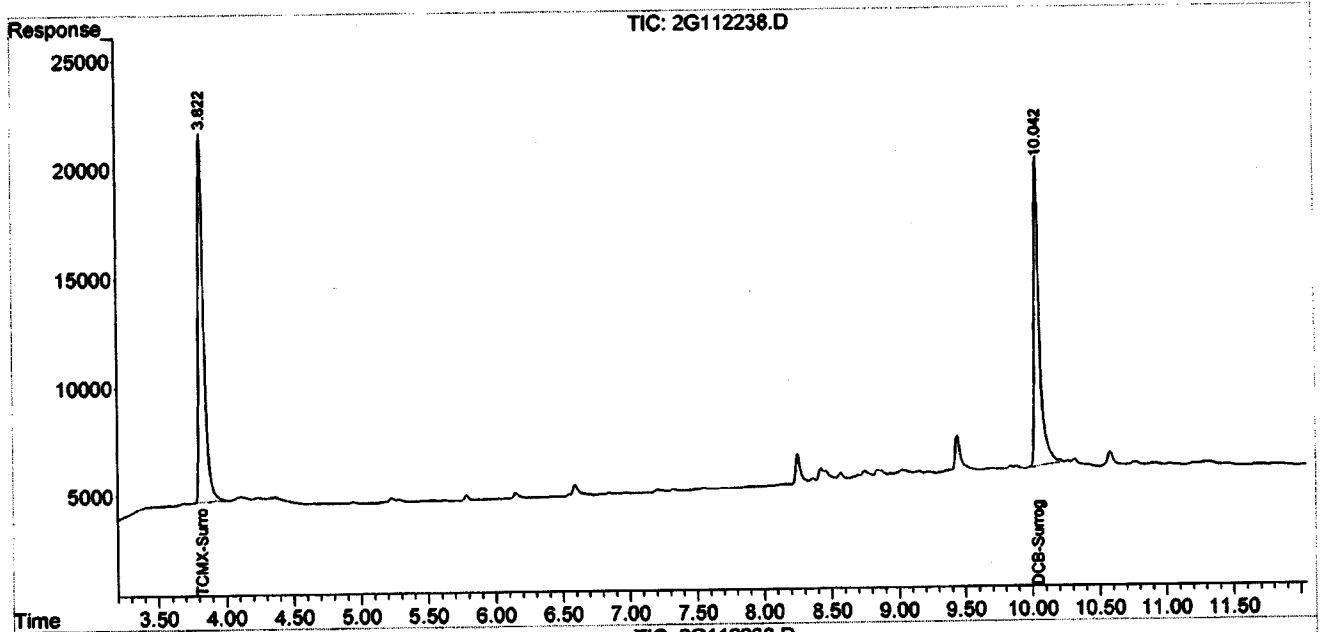
Target Compounds						
1)TCMX-Surrogate	3.822	3.804	470829	852002	116.455	93.329
45)DCB-Surrogate	10.043	10.640	380654	1068060	126.677	105.477

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112238.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 20:29
 Operator : MAS/ZM/MLC
 Sample : AC90773-011
 Misc : S,PCB
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 20 11:12:22 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase : db-17
 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: AC90773-012
 Client Id: FB01 U
 Data File: 2G112209.D
 Analysis Date: 04/19/16 10:44
 Date Rec/Extracted: 04/14/16-04/18/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Aqueous
 Initial Vol: 1000ml
 Final Vol: 5ml
 Dilution: 1
 Solids: 0

		Units: ug/L					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.25	U	11097-69-1	Aroclor-1254	0.25	U
11104-28-2	Aroclor-1221	0.25	U	11096-82-5	Aroclor-1260	0.25	U
11141-16-5	Aroclor-1232	0.25	U	37324-23-5	Aroclor-1262	0.25	U
53469-21-9	Aroclor-1242	0.25	U	11100-14-4	Aroclor-1268	0.25	U
12672-29-6	Aroclor-1248	0.25	U	1336-36-3	Aroclor (Total)	0.25	U

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112209.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 10:44
 Operator : MAS/ZM/MLC
 Sample : AC90773-012
 Misc : A,PCB
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 19 13:15:15 2016
 Quant Method : G:\GC\DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

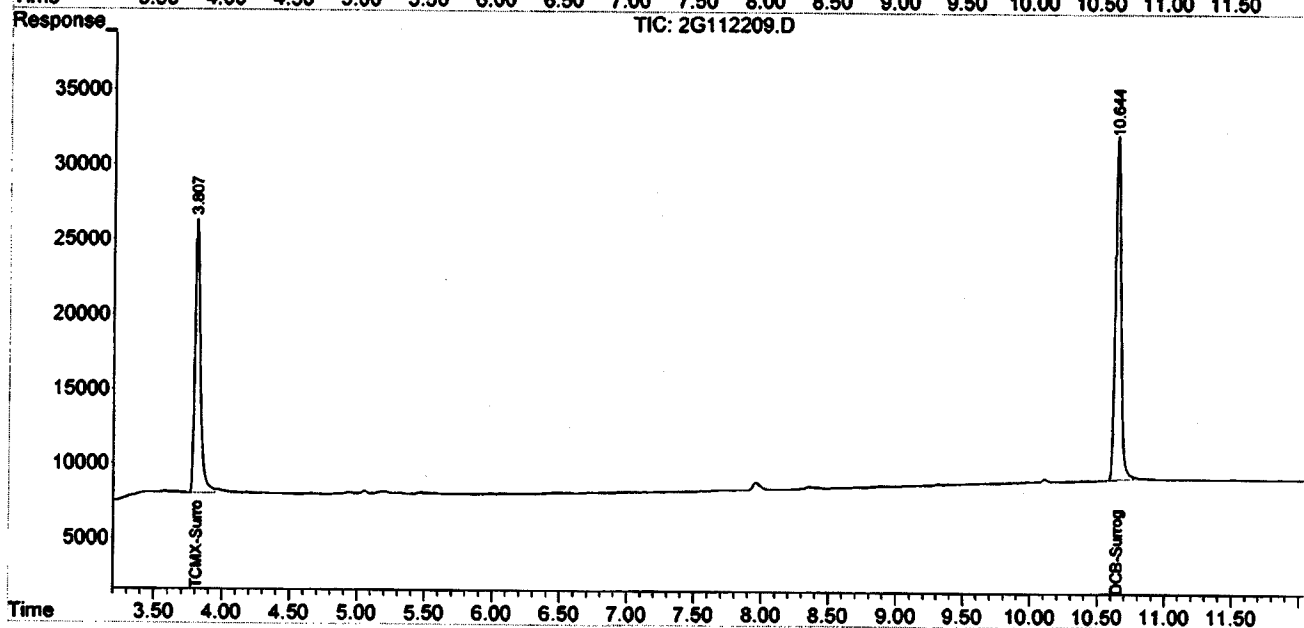
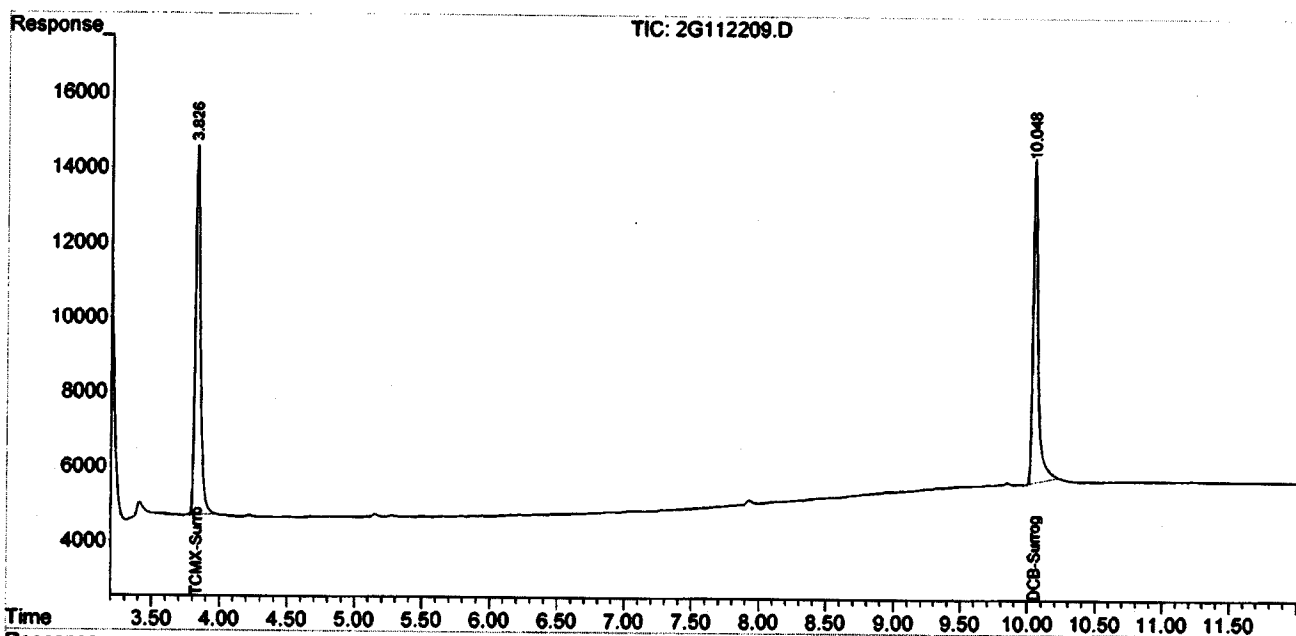
Target Compounds						
1)TCMX-Surrogate	3.827	3.807	268855	522869	66.499	57.276m
45)DCB-Surrogate	10.048	10.644	226875	675429	73.442	65.738

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
Data File : 2G112209.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2016 10:44
Operator : MAS/ZM/MLC
Sample : AC90773-012
Misc : A,PCB
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Apr 19 13:15:15 2016
Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Apr 01 13:01:30 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701
Signal #1 Info : .32
Signal #2 Phase: db-17
Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: WMB49873
 Client Id:
 Data File: 2G112206.D
 Analysis Date: 04/19/16 09:58
 Date Rec/Extracted: NA-04/18/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Aqueous
 Initial Vol: 1000ml
 Final Vol: 5ml
 Dilution: 1
 Solids: 0

		Units: ug/L					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.25	U	11097-69-1	Aroclor-1254	0.25	U
11104-28-2	Aroclor-1221	0.25	U	11096-82-5	Aroclor-1260	0.25	U
11141-16-5	Aroclor-1232	0.25	U	37324-23-5	Aroclor-1262	0.25	U
53469-21-9	Aroclor-1242	0.25	U	11100-14-4	Aroclor-1268	0.25	U
12672-29-6	Aroclor-1248	0.25	U				

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
 B - Indicates the analyte was found in the blank as well as in the sample.
 E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
 J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
 d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration used.
 Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112206.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 9:58
 Operator : MAS/ZM/MLC
 Sample : WMB49873
 Misc : A, PCB
 ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 19 11:47:25 2016
 Quant Method : G:\GC DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

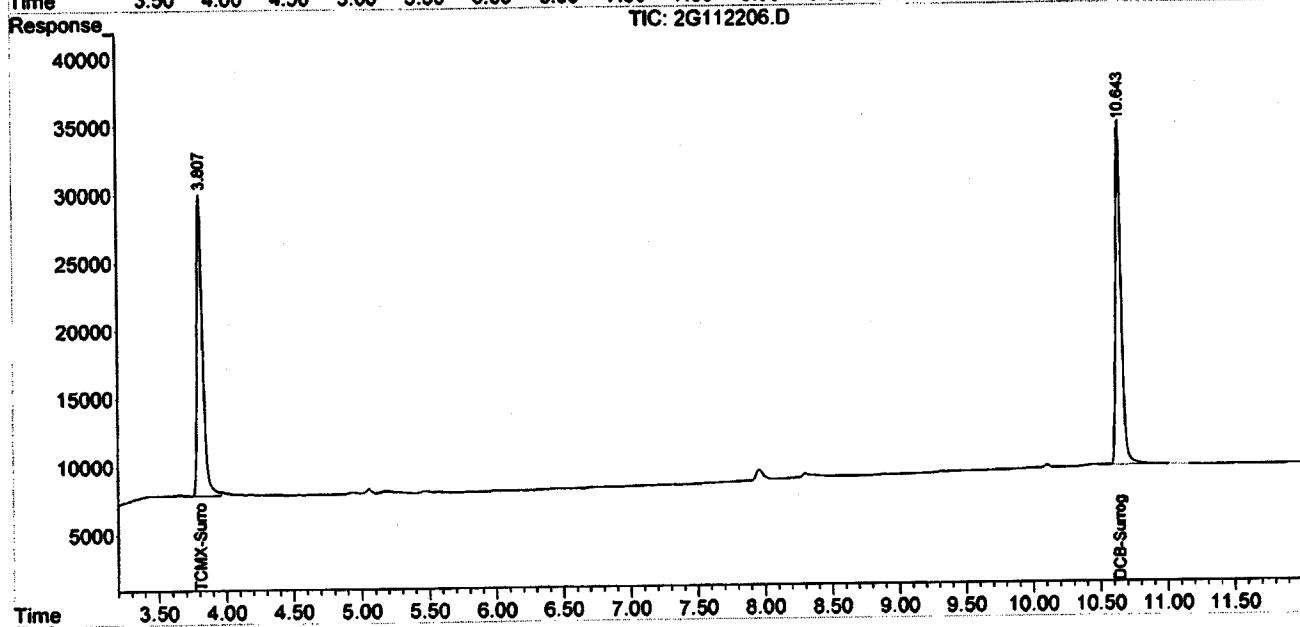
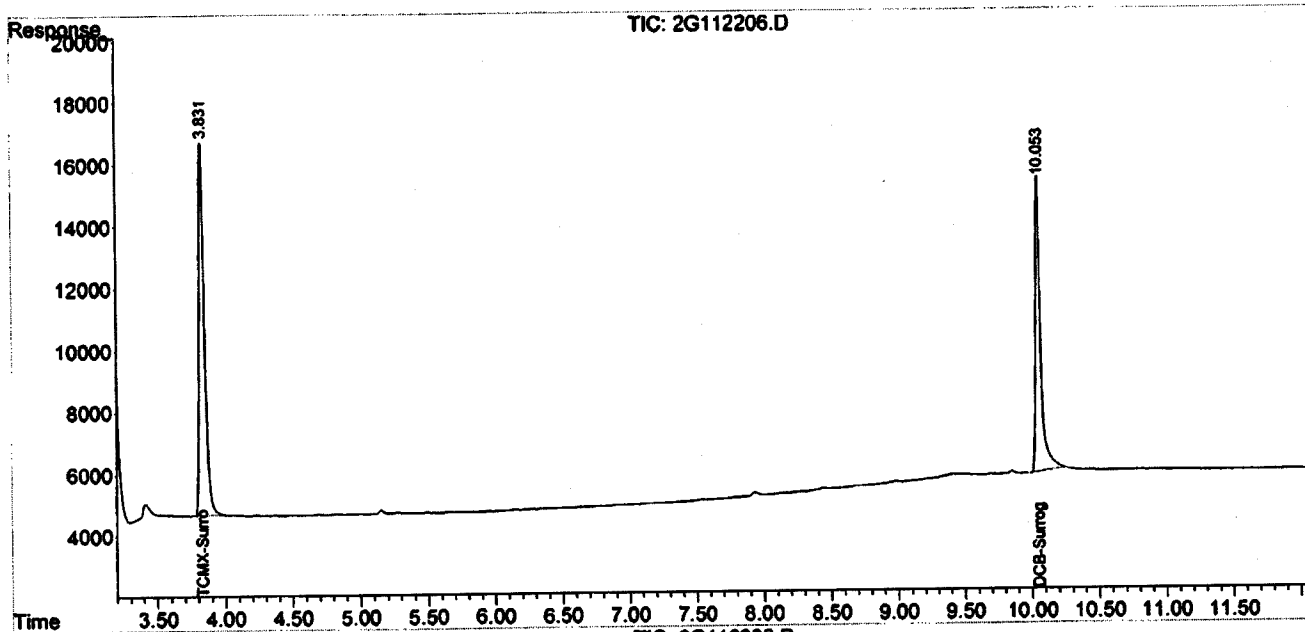
Target Compounds						
1)TCMX-Surrogate	3.832	3.807	341691	647718	84.514	70.952m
45)DCB-Surrogate	10.054	10.643	249087	737764	80.944	71.968m

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112206.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 9:58
 Operator : MAS/ZM/MLC
 Sample : WMB49873
 Misc : A,PCB
 ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 19 11:47:25 2016
 Quant Method : G:\GC DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC 2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: SMB49883	Method: EPA 8082A
Client Id:	Matrix: Soil
Data File: 2G112225.D	Initial Vol: 20g
Analysis Date: 04/19/16 17:09	Final Vol: 10ml
Date Rec/Extracted: NA-04/19/16	Dilution: 1
Column: DB-17/1701P 30M 0.32mm ID 0.25um film	Solids: 100

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.025	U	11097-69-1	Aroclor-1254	0.025	U
11104-28-2	Aroclor-1221	0.025	U	11096-82-5	Aroclor-1260	0.025	U
11141-16-5	Aroclor-1232	0.025	U	37324-23-5	Aroclor-1262	0.025	U
53469-21-9	Aroclor-1242	0.025	U	11100-14-4	Aroclor-1268	0.025	U
12672-29-6	Aroclor-1248	0.025	U				

Worksheet #: 380543

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %DIJ > 40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
 Data File : 2G112225.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 17:09
 Operator : MAS/ZM/MLC
 Sample : SMB49883
 Misc : S,PCB
 ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: Apr 20 11:08:15 2016
 Quant Method : G:\GC\DATA\2016\GC_2\METHODQT\2G_C0401.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Fri Apr 01 13:01:30 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

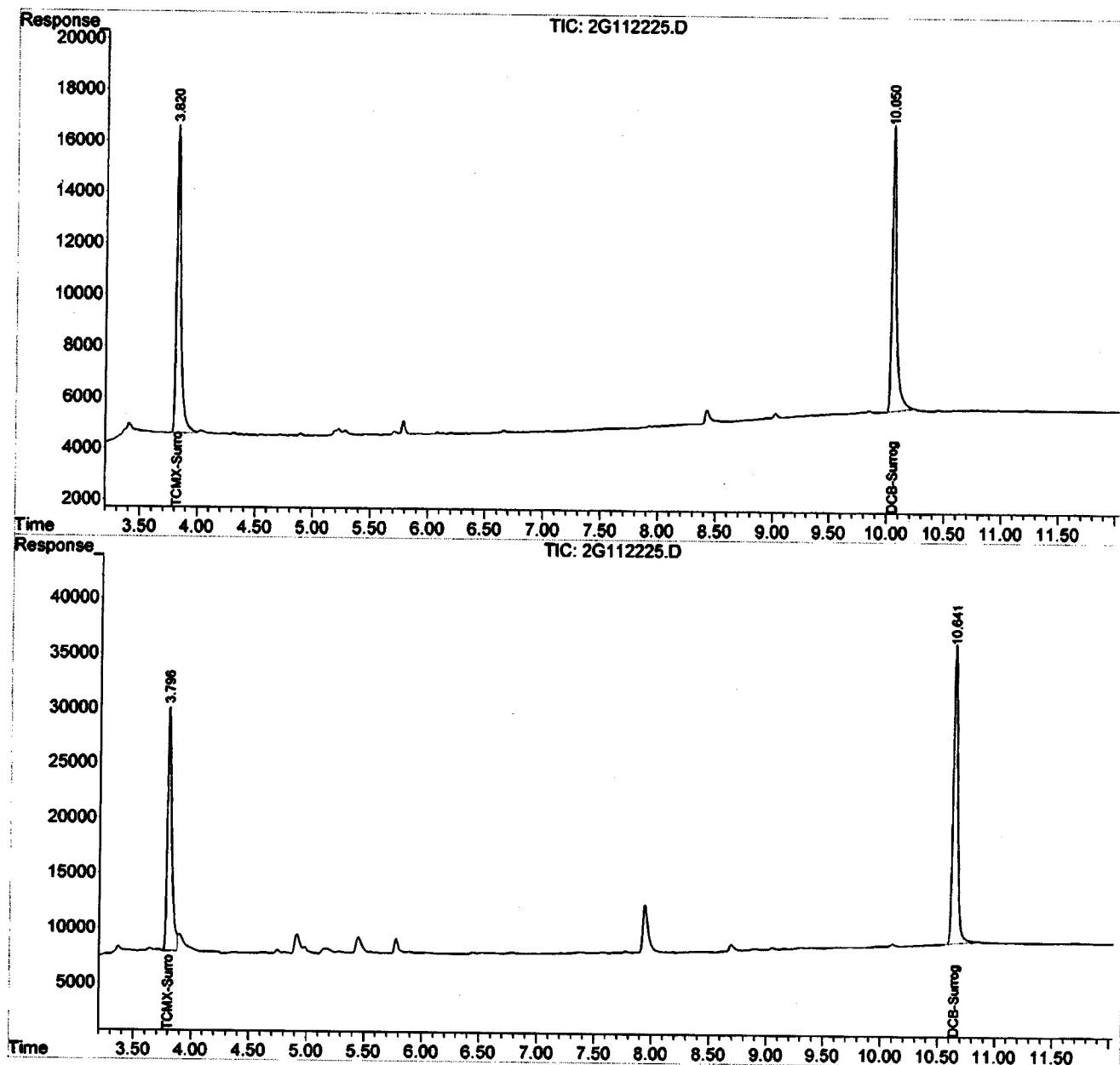
Target Compounds						
1)TCMX-Surrogate	3.820	3.796	316297	581105	78.233m	63.655m
45)DCB-Surrogate	10.051	10.642	293253	770684	96.042	75.270

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

Data Path : G:\Gcdata\2016\GC_2\Data\04-19-16\
Data File : 2G112225.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2016 17:09
Operator : MAS/ZM/MLC
Sample : SMB49883
Misc : S,PCB
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Apr 20 11:08:15 2016
Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0401.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Apr 01 13:01:30 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701
Signal #1 Info : .32
Signal #2 Phase: db-17
Signal #2 Info : .32



FORM2

Surrogate Recovery

Method: EPA 8082A

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1 S1 Recov	Column2 S2 Recov	Column1 S3 Recov	Column2 S4 Recov	Column0 S5 Recov	Column0 S6 Recov
2G112206.D	WMB49873	A	04/19/16 09:58	1		85	71	81	72		
2G112225.D	SMB49883	S	04/19/16 17:09	1		78	64	96	75		
2G112321.D	AC90773-001(2X)	S	04/21/16 11:17	2		166*	131	145	124		
2G112245.D	AC90773-002	S	04/19/16 22:16	1		152*	116	144	140		
2G112290.D	AC90773-003	S	04/20/16 19:25	1		87	77	102	84		
2G112289.D	AC90773-004	S	04/20/16 19:09	1		82	72	102	79		
2G112246.D	AC90773-009	S	04/19/16 22:31	1		164*	123	179*	133		
2G112247.D	AC90773-010	S	04/19/16 22:47	1		140	108	157*	114		
2G112238.D	AC90773-011	S	04/19/16 20:29	1		116	93	127	105		
2G112209.D	AC90773-012	A	04/19/16 10:44	1		66	57	73	66		
2G112207.D	WMB49873(MS)	A	04/19/16 10:13	1		72	63	76	68		
2G112226.D	SMB49883(MS)	S	04/19/16 17:24	1		89	73	98	77		
2G112227.D	AC90773-004(MS)	S	04/19/16 17:40	1		95	80	103	81		
2G112228.D	AC90773-004(MSD)	S	04/19/16 17:55	1		97	81	104	84		

Flags: SD=Surrogate diluted out

*=Surrogate out

Method: EPA 8082A

Soil DKQP Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	30-150
S2=TCMX-Surrogate	100	30-150
S3=DCB-Surrogate	100	30-150
S4=DCB-Surrogate	100	30-150

Aqueous DKQP Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	30-150
S2=TCMX-Surrogate	100	30-150
S3=DCB-Surrogate	100	30-150
S4=DCB-Surrogate	100	30-150

Form3
Recovery Data
QC Batch: WMB49873

Data File Spike or Dup: 2G112207.D	Sample ID: WMB49873(MS)	Analysis Date 4/19/2016 10:13:00 AM
Non Spike(if applicable):		
Inst Blank(if applicable):		
Method: 8082	Matrix: Aqueous	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	899.446	0	1000	90	40	140
Aroclor-1260 -Total	2	917.374	0	1000	92	40	140

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: SMB49883

Data File		Sample ID:		Analysis Date			
Spike or Dup: 2G112226.D		SMB49883(MS)		4/19/2016 5:24:00 PM			
Non Spike(If applicable):							
Inst Blank(If applicable):							
Method: 8082		Matrix: Soil		QC Type: MBS			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	879.222	0	1000	88	40	140
Aroclor-1260 -Total	2	932.458	0	1000	93	40	140

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: SMB49883

Data File	Sample ID:	Analysis Date
Spike or Dup: 2G112227.D	AC90773-004(MS)	4/19/2016 5:40:00 PM
Non Spike(If applicable): 2G112289.D	AC90773-004	4/20/2016 7:09:00 PM
Inst Blank(If applicable):		
Method: 8082	Matrix: Soil	QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	903.458	0	1000	90	40	140
Aroclor-1260 -Total	2	874.324	0	1000	87	40	140

Data File	Sample ID:	Analysis Date
Spike or Dup: 2G112228.D	AC90773-004(MSD)	4/19/2016 5:55:00 PM
Non Spike(If applicable): 2G112289.D	AC90773-004	4/20/2016 7:09:00 PM
Inst Blank(If applicable):		
Method: 8082	Matrix: Soil	QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	933.376	0	1000	93	40	140
Aroclor-1260 -Total	2	909.392	0	1000	91	40	140

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

**Form3
RPD Data**

QC Batch: SMB49883

Data File	Sample ID:	Analysis Date
Spike or Dup: 2G112228.D	AC90773-004(MSD)	4/19/2016 5:55:00 PM
Duplicate(if applicable): 2G112227.D	AC90773-004(MS)	4/19/2016 5:40:00 PM
Inst Blank(if applicable):		
Method: 8082	Matrix: Soil	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD	Sample/MS/MBS	RPD	Limit
		Conc	Conc		
Aroclor-1016 -Total	2	933.376	903.458	3.3	30
Aroclor-1280 -Total	2	909.392	874.324	3.9	30

* - Indicates outside of limits

NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: WMB49873
Blank Data File: 2G112206.D
Matrix: Aqueous

Blank Analysis Date: 04/19/16 09:58
Blank Extraction Date: 04/18/16
(If Applicable)
Method: EPA 8082A

Sample Number	Data File	Analysis Date
AC90773-012	2G112209.D	04/19/16 10:44
WMB49873(MS)	2G112207.D	04/19/16 10:13

FORM 4
Blank SummaryBlank Number: SMB49883
Blank Data File: 2G112225.D
Matrix: SoilBlank Analysis Date: 04/19/16 17:09
Blank Extraction Date: 04/19/16
(If Applicable)
Method: EPA 8082A

Sample Number	Data File	Analysis Date
AC90773-001(2X)	2G112321.D	04/21/16 11:17
AC90773-002	2G112245.D	04/19/16 22:16
AC90773-003	2G112290.D	04/20/16 19:25
AC90773-004	2G112289.D	04/20/16 19:09
AC90773-009	2G112246.D	04/19/16 22:31
AC90773-010	2G112247.D	04/19/16 22:47
AC90773-011	2G112238.D	04/19/16 20:29
AC90773-004(MSD)	2G112228.D	04/19/16 17:55
AC90773-004(MS)	2G112227.D	04/19/16 17:40
SMB49883(MS)	2G112226.D	04/19/16 17:24

Form 5

Method: EPA 8082A

Instrument: GC_2

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
2G111511.D	1000PPB	04/01/16 08:19	Soil					
2G111512.D	CAL 3268@500PPB	04/01/16 09:40	Aqueous	2G11151	10.0665	0.0358	10.6431	0.015
2G111513.D	CAL 1242@500PPB	04/01/16 09:56	Aqueous	2G11151	10.0673	0.0278	10.6436	0.0103
2G111514.D	CAL 1248@500PPB	04/01/16 10:11	Aqueous	2G11151	10.0670	0.0308	10.6433	0.0132
2G111515.D	CAL 2154@500PPB	04/01/16 10:27	Aqueous	2G11151	10.0681	0.0199	10.6435	0.0113
2G111516.D	CAL 1262@500PPB	04/01/16 10:42	Aqueous	2G11151	10.0682	0.0189	10.6442	0.0047
2G111517.D	CAL 1660@500PPB	04/01/16 10:58	Aqueous	2G11151	10.0701	0	10.6447	0
2G111518.D	CAL 1660@200PPB	04/01/16 11:13	Aqueous	2G11151	10.0687	0.0139	10.6444	0.0028
2G111519.D	CAL 1660@500PPB	04/01/16 11:29	Aqueous	2G11151	10.0676	0.0248	10.6440	0.0066
2G111520.D	CAL 1660@1000PPB	04/01/16 11:44	Aqueous	2G11151	10.0686	0.0149	10.6453	0.0056
2G111521.D	CAL 1660@2000PPB	04/01/16 12:00	Aqueous	2G11151	10.0670	0.0308	10.6450	0.0028
2G111522.D	CAL 1660@4000PPB	04/01/16 12:15	Aqueous	2G11151	10.0656	0.0447	10.6451	0.0038
2G111523.D	ICV	04/01/16 12:31	Aqueous	2G11151	10.0665	0.0358	10.6433	0.0132
2G111524.D	PEST WS	04/01/16 12:46	Aqueous	2G11151	0.0000	200*	0.0000	200*
2G111525.D	SMB49716	04/01/16 13:02	Soil	2G11151	10.0661	0.0397	10.6449	0.0019
2G111526.D	SMB49718	04/01/16 13:17	Soil	2G11151	10.0662	0.0387	10.6448	0.0009
2G111527.D	SMB49716(MS)	04/01/16 13:33	Soil	2G11151	10.0670	0.0308	10.6444	0.0028
2G111528.D	SMB49718(MS)	04/01/16 13:48	Soil	2G11151	10.0680	0.0209	10.6455	0.0075
2G111529.D	AC90472-013(MS)	04/01/16 14:04	Soil	2G11151	10.0685	0.0159	10.6452	0.0047
2G111530.D	AC90472-012	04/01/16 14:19	Soil	2G11151	10.0693	0.0079	10.6464	0.016
2G111531.D	AC90472-014(MSD)	04/01/16 14:35	Soil	2G11151	10.0685	0.0159	10.6449	0.0019
2G111532.D	AC90472-011	04/01/16 14:50	Soil	2G11151	10.0707	0.006	10.6459	0.0113
2G111533.D	AC90472-010	04/01/16 15:05	Soil	2G11151	10.0688	0.0129	10.6443	0.0038
2G111534.D	AC90472-009	04/01/16 15:21	Soil	2G11151	10.0677	0.0238	10.6421	0.0244
2G111535.D	AC90472-011(100X)	04/01/16 15:37	Soil	2G11151	0.0000	200*	0.0000	200*
2G111536.D	AC90472-010(10X)	04/01/16 15:52	Soil	2G11151	10.0695	0.006	10.6433	0.0132
2G111537.D	AC90472-009(10X)	04/01/16 16:07	Soil	2G11151	10.0682	0.0189	10.6411	0.0338
2G111538.D	AC90472-013(10X)MS	04/01/16 16:23	Soil	2G11151	10.0692	0.0089	10.6424	0.0216
2G111539.D	AC90472-014(10X)MSD	04/01/16 16:38	Soil	2G11151	10.0664	0.0368	10.6437	0.0094
2G111540.D	CAL 1660@2000PPB	04/01/16 16:54	Soil	2G11151	10.0671	0.0298	10.6445	0.0019
2G111541.D	AC90472-013(50X)MS	04/01/16 17:12	Soil	2G11154	0.0000	200*	0.0000	200*
2G111542.D	AC90472-014(50X)MSD	04/01/16 17:27	Soil	2G11154	0.0000	200*	0.0000	200*
2G111543.D	CAL 1660@2000PPB	04/01/16 17:43	Soil	2G11154	10.0661	0.0099	10.6438	0.0066
2G111544.D	SMB49715	04/01/16 18:03	OIL/OTHER	2G11154	10.0714	0.0526	10.6456	0.0169
2G111545.D	SMB49715(MS)	04/01/16 18:18	OIL/OTHER	2G11154	10.0670	0.0089	10.6430	0.0075
2G111546.D	SMB49715(MS)DUP	04/01/16 18:33	OIL/OTHER	2G11154	10.0650	0.0109	10.6423	0.0141
2G111547.D	AC90376-002(10X)	04/01/16 18:49	Soil	2G11154	10.0685	0.0238	10.6438	0
2G111548.D	AC90357-010	04/01/16 19:04	Soil	2G11154	10.0655	0.006	10.6441	0.0028
2G111549.D	AC90357-014	04/01/16 19:19	Soil	2G11154	10.0665	0.004	10.6447	0.0085
2G111550.D	AC90357-018	04/01/16 19:35	Soil	2G11154	10.0660	0.001	10.6435	0.0028
2G111551.D	AC90376-003	04/01/16 19:50	Soil	2G11154	10.0667	0.006	10.6439	0.0009
2G111552.D	AC90380-004	04/01/16 20:06	Soil	2G11154	10.0672	0.0109	10.6457	0.0179
2G111553.D	AC90484-016	04/01/16 20:21	Soil	2G11154	10.0673	0.0119	10.6452	0.0132
2G111554.D	AC90484-017	04/01/16 20:36	Soil	2G11154	10.0664	0.003	10.6437	0.0009
2G111555.D	AC90484-018	04/01/16 20:52	Soil	2G11154	10.0663	0.002	10.6437	0.0009
2G111556.D	AC90484-015	04/01/16 21:07	Soil	2G11154	10.0667	0.006	10.6431	0.0066
2G111557.D	CAL 1660@1000PPB	04/01/16 21:22	Soil	2G11154	10.0658	0.003	10.6431	0.0066
2G111558.D	2000PPB	04/01/16 21:38	Soil	2G11155	10.0650	0.0079	10.6436	0.0047
2G111559.D	AC90484-005(MS)	04/01/16 21:53	Soil	2G11155	10.0664	0.006	10.6438	0.0066
2G111560.D	AC90484-006(MSD)	04/01/16 22:09	Soil	2G11155	10.0665	0.007	10.6429	0.0019
2G111561.D	AC90484-004	04/01/16 22:24	Soil	2G11155	10.0656	0.002	10.6417	0.0132
2G111562.D	AC90484-001	04/01/16 22:39	Soil	2G11155	10.0661	0.003	10.6434	0.0028
2G111563.D	AC90484-011	04/01/16 22:54	Soil	2G11155	10.0654	0.004	10.6437	0.0056
2G111564.D	AC90484-012	04/01/16 23:10	Soil	2G11155	10.0650	0.0079	10.6423	0.0075
2G111565.D	AC90484-007	04/01/16 23:25	Soil	2G11155	10.0662	0.004	10.6414	0.016
2G111566.D	AC90484-008	04/01/16 23:41	Soil	2G11155	10.0671	0.0129	10.6433	0.0019
2G111567.D	AC90484-009	04/01/16 23:56	Soil	2G11155	10.0668	0.0099	10.6429	0.0019
2G111568.D	AC90484-014	04/02/16 00:11	Soil	2G11155	10.0654	0.004	10.6418	0.0122
2G111569.D	AC90484-010	04/02/16 00:27	Soil	2G11155	10.0640	0.0179	10.6416	0.0141
2G111570.D	AC90484-002	04/02/16 00:42	Soil	2G11155	10.0646	0.0119	10.6412	0.0179
2G111571.D	AC90484-003	04/02/16 00:57	Soil	2G11155	10.0631	0.0268	10.6390	0.0385
2G111572.D	AC90484-013	04/02/16 01:13	Soil	2G11155	10.0661	0.003	10.6420	0.0103
2G111573.D	CAL 1660@1000PPB	04/02/16 01:28	Soil	2G11155	10.0639	0.0189	10.6418	0.0122
2G111574.D	2000PPB	04/02/16 01:43	Soil	2G11157	10.0632	0.007	10.6432	0.0132

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)

HAZ. - 373

* - Values outside of limits for this column/run

Form 5

Method: EPA 8082A

Instrument: GC_2

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
2G112205.D	CAL 1660@1000PPB	04/19/16 09:31	Soil	2G11220	10.0477	0	10.6426	0
2G112206.D	WMB49873	04/19/16 09:58	Aqueous	2G11220	10.0542	0.0647	10.6429	0.0028
2G112207.D	WMB49873(MS)	04/19/16 10:13	Aqueous	2G11220	10.0484	0.007	10.6419	0.0066
2G112208.D	WMB49873(MS)(DUP)	04/19/16 10:29	Aqueous	2G11220	10.0485	0.008	10.6435	0.0085
2G112209.D	AC90773-012	04/19/16 10:44	Aqueous	2G11220	10.0483	0.006	10.6444	0.0169
2G112210.D	AC90756-007	04/19/16 11:00	Aqueous	2G11220	10.0486	0.009	10.6432	0.0056
2G112211.D	AC90756-005	04/19/16 11:15	Aqueous	2G11220	10.0512	0.0348	10.6446	0.0188
2G112212.D	AC90785-002	04/19/16 11:31	Soil	2G11220	10.0516	0.0388	10.6466	0.0376
2G112213.D	AC90623-003(10X)	04/19/16 11:46	Soil	2G11220	10.0485	0.008	10.6451	0.0235
2G112214.D	AC90623-002(5X)	04/19/16 12:02	Soil	2G11220	10.0467	0.01	10.6423	0.0028
2G112215.D	OMB49879	04/19/16 12:17	OIL/OTHER	2G11220	10.0475	0.002	10.6418	0.0075
2G112216.D	OMB49879(MS)	04/19/16 12:33	OIL/OTHER	2G11220	10.0487	0.01	10.6440	0.0132
2G112217.D	AC90756-004(5X)	04/19/16 12:48	OIL/OTHER	2G11220	10.0567	0.0895	10.6486	0.0564
2G112218.D	AC90756-003(5X)	04/19/16 13:04	OIL/OTHER	2G11220	10.0569	0.0915	10.6487	0.0573
2G112219.D	AC90756-001(5X)	04/19/16 13:19	OIL/OTHER	2G11220	10.0573	0.0955	10.6500	0.0695
2G112220.D	AC90756-001(5X)(MS)	04/19/16 13:35	OIL/OTHER	2G11220	10.0571	0.0935	10.6497	0.0667
2G112221.D	AC90756-001(5X)(MSD)	04/19/16 13:50	OIL/OTHER	2G11220	10.0583	0.1054	10.6497	0.0667
2G112222.D	AC90756-002(5X)	04/19/16 14:06	OIL/OTHER	2G11220	10.0553	0.0756	10.6471	0.0423
2G112223.D	1000PPB	04/19/16 15:58	OIL/OTHER	2G11220	10.0501	0.0239	10.6436	0.0094
2G112224.D	CAL 1660@500PPB	04/19/16 16:17	OIL/OTHER	2G11220	10.0473	0.004	10.6420	0.0056
2G112225.D	SMB49883	04/19/16 17:09	Soil	2G11222	10.0510	0.0368	10.6421	0.0009
2G112226.D	SMB49883(MS)	04/19/16 17:24	Soil	2G11222	10.0452	0.0209	10.6406	0.0132
2G112227.D	AC90773-004(MS)	04/19/16 17:40	Soil	2G11222	10.0442	0.0309	10.6394	0.0244
2G112228.D	AC90773-004(MSD)	04/19/16 17:55	Soil	2G11222	10.0435	0.0378	10.6397	0.0216
2G112229.D	AC90773-004	04/19/16 18:11	Soil	2G11222	10.0432	0.0408	10.6399	0.0197
2G112230.D	AC90773-003	04/19/16 18:26	Soil	2G11222	10.0418	0.0548	10.6381	0.0367
2G112231.D	AC90747-006	04/19/16 18:41	Soil	2G11222	10.0417	0.0558	10.6378	0.0395
2G112232.D	AC90747-001	04/19/16 18:57	Soil	2G11222	10.0428	0.0448	10.6384	0.0338
2G112233.D	AC90762-003	04/19/16 19:12	Soil	2G11222	10.0429	0.0438	10.6395	0.0235
2G112234.D	AC90762-001	04/19/16 19:27	Soil	2G11222	10.0444	0.0289	10.6397	0.0216
2G112235.D	AC90761-005	04/19/16 19:43	Soil	2G11222	10.0423	0.0498	10.6393	0.0254
2G112236.D	AC90761-003	04/19/16 19:58	Soil	2G11222	10.0417	0.0558	10.6370	0.047
2G112237.D	AC90761-001	04/19/16 20:13	Soil	2G11222	10.0432	0.0408	10.6384	0.0338
2G112238.D	AC90773-011	04/19/16 20:29	Soil	2G11222	10.0427	0.0458	10.6400	0.0188
2G112239.D	AC90747-014	04/19/16 20:44	Soil	2G11222	10.0416	0.0567	10.6384	0.0338
2G112240.D	CAL 1660@1000PPB	04/19/16 20:59	Soil	2G11222	10.0426	0.0468	10.6384	0.0338
2G112241.D	2000PPB	04/19/16 21:15	Soil	2G11224	10.0420	0.006	10.6397	0.0122
2G112242.D	AC90747-011	04/19/16 21:30	Soil	2G11224	10.0412	0.0139	10.6378	0.0056
2G112243.D	AC90760-001	04/19/16 21:45	Soil	2G11224	10.0415	0.0109	10.6380	0.0038
2G112244.D	AC90760-003	04/19/16 22:01	Soil	2G11224	10.0399	0.0269	10.6375	0.0085
2G112245.D	AC90773-002	04/19/16 22:16	Soil	2G11224	10.0429	0.003	10.6396	0.0113
2G112246.D	AC90773-009	04/19/16 22:31	Soil	2G11224	10.0434	0.008	10.6384	0
2G112247.D	AC90773-010	04/19/16 22:47	Soil	2G11224	10.0431	0.005	10.6379	0.0047
2G112248.D	AC90719-001(10X)	04/19/16 23:02	OIL/OTHER	2G11224	10.0434	0.008	10.6373	0.0103
2G112249.D	BLK	04/19/16 23:17	OIL/OTHER	2G11224	10.0420	0.006	10.6377	0.0066
2G112250.D	BLK	04/19/16 23:33	OIL/OTHER	2G11224	10.0421	0.005	10.6381	0.0028
2G112251.D	BLK	04/19/16 23:48	OIL/OTHER	2G11224	10.0422	0.004	10.6386	0.0019
2G112252.D	CAL 1660@1000PPB	04/20/16 00:03	OIL/OTHER	2G11224	10.0429	0.003	10.6385	0.0009
2G112253.D	2000PPB	04/20/16 00:19	OIL/OTHER	2G11225	10.0412	0.0169	10.6382	0.0028

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)
HAZ. - 374

* - Values outside of limits for this column/run

Form 5

Method: EPA 8082A

Instrument: GC_2

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
2G112254.D	CAL 1660@1000PPB	04/20/16 09:53	Soil	2G11225	10.0396	0	10.6359	0
2G112255.D	WMB49893	04/20/16 10:10	Aqueous	2G11225	10.0414	0.0179	10.6362	0.0028
2G112256.D	OMB49899	04/20/16 10:26	OIL/OTHER	2G11225	10.0421	0.0249	10.6388	0.0273
2G112257.D	AC90826-001(5X)	04/20/16 10:41	OIL/OTHER	2G11225	10.0597	0.2	10.6486	0.1193
2G112258.D	1000PPB	04/20/16 10:58	OIL/OTHER	2G11225	10.0459	0.0627	10.6395	0.0338
2G112259.D	CAL 1660@1000PPB	04/20/16 11:20	OIL/OTHER	2G11225	10.0463	0.0667	10.6390	0.0291
2G112260.D	AC90826-001(5X)(MS)	04/20/16 11:35	OIL/OTHER	2G11225	10.0580	0.1164	10.6485	0.0893
2G112261.D	AC90826-001(5X)(MSD)	04/20/16 11:50	OIL/OTHER	2G11225	10.0593	0.1293	10.6496	0.0996
2G112262.D	AC90814-001	04/20/16 12:05	Soil	2G11225	10.0460	0.003	10.6435	0.0423
2G112263.D	AC90810-013(MS:AC90)	04/20/16 12:21	Soil	2G11225	10.0443	0.0199	10.6398	0.0075
2G112264.D	AC90810-014(MSD:AC9)	04/20/16 12:36	Soil	2G11225	10.0416	0.0468	10.6393	0.0028
2G112265.D	AC90810-012	04/20/16 12:51	Soil	2G11225	10.0421	0.0418	10.6378	0.0113
2G112266.D	AC90810-046	04/20/16 13:06	Soil	2G11225	10.0475	0.0119	10.6438	0.0451
2G112267.D	AC90810-024	04/20/16 13:22	Soil	2G11225	10.0609	0.1452	10.6505	0.108
2G112268.D	AC90810-025(MS:AC90)	04/20/16 13:37	Soil	2G11225	10.0605	0.1412	10.6498	0.1015
2G112269.D	AC90810-026(MSD:AC9)	04/20/16 13:53	Soil	2G11225	10.0588	0.1243	10.6477	0.0817
2G112270.D	AC90810-027	04/20/16 14:08	Soil	2G11225	10.0455	0.008	10.6409	0.0179
2G112271.D	AC90810-029	04/20/16 14:24	Soil	2G11225	10.0444	0.0189	10.6385	0.0047
2G112272.D	AC90810-030	04/20/16 14:39	Soil	2G11225	10.0437	0.0259	10.6383	0.0066
2G112273.D	AC90810-031(MS:AC90)	04/20/16 14:54	Soil	2G11225	10.0422	0.0408	10.6384	0.0056
2G112274.D	AC90810-032(MSD:AC9)	04/20/16 15:10	Soil	2G11225	10.0449	0.0139	10.6394	0.0038
2G112275.D	AC90810-034	04/20/16 15:25	Soil	2G11225	10.0439	0.0239	10.6398	0.0075
2G112276.D	AC90810-035	04/20/16 15:40	Soil	2G11225	10.0438	0.0249	10.6408	0.0169
2G112277.D	AC90810-036	04/20/16 15:56	Soil	2G11225	10.0442	0.0209	10.6393	0.0028
2G112278.D	AC90810-037	04/20/16 16:11	Soil	2G11225	10.0447	0.0159	10.6417	0.0254
2G112279.D	AC90729-012	04/20/16 16:26	Soil	2G11225	10.0434	0.0289	10.6386	0.0038
2G112280.D	CAL 1660@1000PPB	04/20/16 16:42	Soil	2G11225	10.0435	0.0279	10.6385	0.0047
2G112281.D	AC90810-038	04/20/16 17:03	Soil	2G11228	10.0458	0.0229	10.6723	0.3172
2G112282.D	AC90810-016	04/20/16 17:18	Soil	2G11228	10.0429	0.006	10.6348	0.0348
2G112283.D	AC90810-023	04/20/16 17:34	Soil	2G11228	10.0585	0.1492	10.6424	0.0366
2G112284.D	AC90810-018	04/20/16 17:49	Soil	2G11228	10.0455	0.0199	10.6400	0.0141
2G112285.D	AC90810-016	04/20/16 18:05	Soil	2G11228	10.0440	0.005	10.6390	0.0047
2G112286.D	AC90810-023	04/20/16 18:20	Soil	2G11228	10.0580	0.1443	10.6434	0.046
2G112287.D	1000PPB	04/20/16 18:35	Soil	2G11228	10.0450	0.0149	10.6399	0.0132
2G112288.D	CAL 1660@500PPB	04/20/16 18:52	Soil	2G11228	10.0466	0.0309	10.6409	0.0226
2G112289.D	AC90773-004	04/20/16 19:09	Soil	2G11228	10.0460	0.006	10.6400	0.0085
2G112290.D	AC90773-003	04/20/16 19:25	Soil	2G11228	10.0447	0.0189	10.6397	0.0113
2G112291.D	AC90762-001	04/20/16 19:40	Soil	2G11228	10.0447	0.0189	10.6397	0.0113
2G112292.D	AC90762-003	04/20/16 19:56	Soil	2G11228	10.0452	0.0139	10.6393	0.015
2G112293.D	AC90829-002	04/20/16 20:11	Soil	2G11228	10.0451	0.0149	10.6413	0.0038
2G112294.D	AC90816-002	04/20/16 20:26	Soil	2G11228	10.0447	0.0189	10.6405	0.0038
2G112295.D	AC90816-003	04/20/16 20:42	Soil	2G11228	10.0449	0.0169	10.6402	0.0066
2G112296.D	AC90825-005	04/20/16 20:57	Soil	2G11228	10.0444	0.0219	10.6397	0.0113
2G112297.D	AC90830-004	04/20/16 21:12	Soil	2G11228	10.0451	0.0149	10.6382	0.0254
2G112298.D	AC90830-003	04/20/16 21:28	Soil	2G11228	10.0447	0.0189	10.6390	0.0179
2G112299.D	AC90830-005	04/20/16 21:43	Soil	2G11228	10.0448	0.0179	10.6399	0.0094
2G112300.D	AC90830-002	04/20/16 21:58	Soil	2G11228	10.0445	0.0209	10.6398	0.0103
2G112301.D	AC90830-006	04/20/16 22:14	Soil	2G11228	10.0445	0.0209	10.6390	0.0179
2G112302.D	AC90829-001	04/20/16 22:29	Soil	2G11228	10.0440	0.0259	10.6411	0.0019
2G112303.D	AC90830-008	04/20/16 22:44	OIL/OTHER	2G11228	10.0444	0.0219	10.6365	0.0414
2G112304.D	AC90830-009	04/20/16 23:00	OIL/OTHER	2G11228	10.0443	0.0229	10.6388	0.0197
2G112305.D	CAL 1660@1000PPB	04/20/16 23:15	Soil	2G11228	10.0430	0.0358	10.6376	0.031
2G112306.D	2000PPB	04/20/16 23:31	Soil	2G11230	10.0428	0.002	10.6391	0.0141
2G112307.D	AC90773-001(5X)	04/20/16 23:46	Soil	2G11230	10.0455	0.0249	10.6409	0.031
2G112308.D	AC90830-001	04/21/16 00:01	Soil	2G11230	10.0442	0.0119	10.6389	0.0122
2G112309.D	AC90830-007	04/21/16 00:17	Soil	2G11230	10.0434	0.004	10.6384	0.0075
2G112310.D	AC90816-001	04/21/16 00:32	Soil	2G11230	10.0457	0.0269	10.6384	0.0075
2G112311.D	BLK	04/21/16 00:47	Soil	2G11230	10.0452	0.0219	10.6405	0.0273
2G112312.D	BLK	04/21/16 01:03	Soil	2G11230	10.0451	0.0209	10.6399	0.0216
2G112313.D	BLK	04/21/16 01:18	Soil	2G11230	10.0454	0.0239	10.6406	0.0282
2G112314.D	CAL 1660@1000PPB	04/21/16 01:33	Soil	2G11230	10.0438	0.008	10.6402	0.0244
2G112315.D	CAL 1660@2000PPB	04/21/16 01:49	Soil	2G11230	10.0457	0.0269	10.6410	0.032

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Thp)
HAZ. - 375

* - Values outside of limits for this column/run

Form 5

Method: EPA 8082A

Instrument: GC_2

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
2G112316.D	CAL 1660@1000PPB	04/21/16 09:52	Soil	2G11231	10.0462	0	10.6387	0
2G112317.D	AC90830-006	04/21/16 10:15	Soil	2G11231	10.0489	0.0269	10.6399	0.0113
2G112318.D	AC90830-001	04/21/16 10:31	Soil	2G11231	10.0450	0.0119	10.6415	0.0263
2G112319.D	AC90816-001	04/21/16 10:47	Soil	2G11231	10.0481	0.0189	10.6420	0.031
2G112320.D	AC90830-007(10X)	04/21/16 11:02	Soil	2G11231	10.0481	0.0189	10.6420	0.031
2G112321.D	AC90773-001(2X)	04/21/16 11:17	Soil	2G11231	10.0512	0.0498	10.6447	0.0564
2G112322.D	AC90816-001	04/21/16 11:33	Soil	2G11231	10.0503	0.0408	10.6443	0.0526
2G112323.D	CAL 1660@1000PPB	04/21/16 13:16	Soil	2G11231	10.0554	0.0915	10.6449	0.0583
2G112324.D	1000PPB	04/21/16 15:05	Soil	2G11232	10.0467	0.0866	10.6371	0.0733
2G112325.D	SMB49909	04/21/16 16:52	Soil	2G11232	10.0475	0.0786	10.6376	0.0686
2G112326.D	SMB49909(MS)	04/21/16 17:08	Soil	2G11232	10.0426	0.1274	10.6378	0.0667
2G112327.D	AC90832-001(MS)	04/21/16 17:23	Soil	2G11232	10.0409	0.1443	10.6359	0.0846
2G112328.D	AC90832-001(MSD)	04/21/16 17:38	Soil	2G11232	10.0415	0.1383	10.6365	0.0789
2G112329.D	AC90832-001	04/21/16 17:54	Soil	2G11232	10.0412	0.1413	10.6376	0.0686
2G112330.D	AC90832-003	04/21/16 18:09	Soil	2G11232	10.0416	0.1373	10.6377	0.0677
2G112331.D	AC90832-005	04/21/16 18:25	Soil	2G11232	10.0410	0.1433	10.6375	0.0695
2G112332.D	AC90831-001	04/21/16 18:40	Soil	2G11232	10.0424	0.1294	10.6373	0.0714
2G112333.D	AC90831-003	04/21/16 18:55	Soil	2G11232	10.0424	0.1294	10.6388	0.0573
2G112334.D	AC90831-005	04/21/16 19:11	Soil	2G11232	10.0416	0.1373	10.6386	0.0592
2G112335.D	AC90848-017	04/21/16 19:26	Soil	2G11232	10.0420	0.1334	10.6371	0.0733
2G112336.D	AC90848-018	04/21/16 19:42	Soil	2G11232	10.0402	0.1513	10.6367	0.0771
2G112337.D	AC90843-002	04/21/16 19:57	Soil	2G11232	10.0416	0.1373	10.6377	0.0677
2G112338.D	AC90844-003	04/21/16 20:12	Soil	2G11232	10.0429	0.1244	10.6404	0.0423
2G112339.D	CAL 1660@1000PPB	04/21/16 20:28	Soil	2G11232	10.0420	0.1334	10.6385	0.0601
2G112340.D	2000PPB	04/21/16 20:43	Soil	2G11233	10.0404	0.0159	10.6381	0.0038
2G112341.D	AC90848-019	04/21/16 20:58	Soil	2G11233	10.0416	0.004	10.6377	0.0075
2G112342.D	AC90848-020	04/21/16 21:14	Soil	2G11233	10.0433	0.0129	10.6389	0.0038
2G112343.D	AC90848-021	04/21/16 21:29	Soil	2G11233	10.0416	0.004	10.6387	0.0019
2G112344.D	AC90848-022	04/21/16 21:44	Soil	2G11233	10.0455	0.0348	10.6409	0.0226
2G112345.D	AC90835-007	04/21/16 22:00	Soil	2G11233	10.0424	0.004	10.6378	0.0066
2G112346.D	AC90844-001	04/21/16 22:15	Soil	2G11233	10.0445	0.0249	10.6382	0.0028
2G112347.D	AC90844-005	04/21/16 22:31	Soil	2G11233	10.0429	0.009	10.6389	0.0038
2G112348.D	AC90851-002	04/21/16 22:46	Soil	2G11233	10.0447	0.0269	10.6401	0.015
2G112349.D	AC90719-001(5X)	04/21/16 23:01	OIL/OTHER	2G11233	10.0459	0.0388	10.6402	0.016
2G112350.D	BLK	04/21/16 23:17	OIL/OTHER	2G11233	10.0446	0.0259	10.6395	0.0094
2G112351.D	BLK	04/21/16 23:32	OIL/OTHER	2G11233	10.0442	0.0219	10.6409	0.0226
2G112352.D	CAL 1660@1000PPB	04/21/16 23:47	OIL/OTHER	2G11233	10.0431	0.011	10.6395	0.0094
2G112353.D	2000PPB	04/22/16 00:03	OIL/OTHER	2G11235	10.0433	0.002	10.6383	0.0113

0272

Level #: 2 Data File: 2G111518.D CAL 1660@200PPB 04/01/16 11:13

1514

Level #: 4 Data File: 2G111520.D CAL 1660@1000PPB 04/01/16 11:44

4

Level #: 6 Data File: 2G111522.D CAL 1660@4000PPB 04/01/16 12:15

1514

Level #: 8 Data File: 2G111513.D CAL 1242@500PPB 04/01/16 09:56

1

Level #: 10 Data File: 2G111515.D CAL 2154@500PPB 04/01/16 10:27

Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	2G111517.D	CAL 1660@500PPB	04/01/16 10:59
3	2G111519.D	CAL 1660@500PPB	04/01/16 11:29
5	2G111521.D	CAL 1660@2000PPB	04/01/16 12:00
7	2G111512.D	CAL 3268@500PPB	04/01/16 09:40
9	2G111514.D	CAL 1248@500PPB	04/01/16 10:11

Compound	Col Mf. File:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AVGR	RT	Corr1	Corr2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8
LT-CMX-Surrogate	1 0 Avg	0.3923	0.3930	0.4152	0.4117	0.4092	0.4041	---	---	0.404	3.82	1.00	1.00	2.4	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1016	1 1 Avg	0.0121	0.0134	0.0136	0.0125	0.0114	0.0104	---	---	0.0123	4.35	0.996	1.00	9.9	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1016	1 2 Qua	0.0270	0.0251	0.0242	0.0219	0.0196	0.0175	---	---	0.0226	4.71	0.995	1.00	16	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1016	1 3 Qua	0.0459	0.0415	0.0396	0.0358	0.0320	0.0288	---	---	0.0373	5.17	0.995	1.00	17	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1016	1 4 Avg	0.0134	0.0135	0.0136	0.0129	0.0120	0.0112	---	---	0.0128	5.42	0.998	1.00	7.7	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1016	1 5 Avg	0.0323	0.0317	0.0319	0.0305	0.0283	0.0264	---	---	0.0302	5.53	0.998	1.00	7.8	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1260	1 1 Qua	0.0276	0.0241	0.0232	0.0212	0.0192	0.0175	---	---	0.0222	7.04	0.996	1.00	16	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1260	1 2 Qua	0.0295	0.0264	0.0254	0.0231	0.0208	0.0188	---	---	0.0240	7.29	0.996	1.00	16	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1260	1 3 Avg	0.0143	0.0142	0.0148	0.0146	0.0139	0.0133	---	---	0.0142	7.49	0.999	1.00	3.6	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1260	1 4 Qua	0.0184	0.0167	0.0160	0.0146	0.0130	0.0118	---	---	0.0151	8.07	0.995	1.00	16	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1260	1 5 Qua	0.0305	0.0261	0.0257	0.0243	0.0221	0.0205	---	---	0.0249	8.80	0.998	1.00	14	50.0	20.0	50.0	100.0	200.0	400.0		
Atroclor-1221	1 1 Avg	---	---	---	---	---	---	---	---	0.0064	1.14	-1	-1		50.0							
Atroclor-1221	1 2 Avg	---	---	---	---	---	---	---	---	0.00354	4.29	-1	-1		50.0							
Atroclor-1221	1 3 Avg	---	---	---	---	---	---	---	---	0.0183	4.35	-1	-1		50.0							
Atroclor-1232	1 1 Avg	---	---	---	---	---	---	---	---	0.0114	4.35	-1	-1		50.0							
Atroclor-1232	1 2 Avg	---	---	---	---	---	---	---	---	0.00928	4.71	-1	-1		50.0							
Atroclor-1232	1 3 Avg	---	---	---	---	---	---	---	---	0.0151	5.17	-1	-1		50.0							
Atroclor-1232	1 4 Avg	---	---	---	---	---	---	---	---	0.00682	5.31	-1	-1		50.0							
Atroclor-1232	1 5 Avg	---	---	---	---	---	---	---	---	0.00693	5.78	-1	-1		50.0							
Atroclor-1242	1 1 Avg	---	---	---	---	---	---	---	---	0.0119	4.34	-1	-1		50.0							
Atroclor-1242	1 2 Avg	---	---	---	---	---	---	---	---	0.0196	4.71	-1	-1		50.0							
Atroclor-1242	1 3 Avg	---	---	---	---	---	---	---	---	0.0321	5.17	-1	-1		50.0							
Atroclor-1242	1 4 Avg	---	---	---	---	---	---	---	---	0.0238	5.53	-1	-1		50.0							
Atroclor-1242	1 5 Avg	---	---	---	---	---	---	---	---	0.0139	5.77	-1	-1		50.0							
Atroclor-1248	1 1 Avg	---	---	---	---	---	---	---	---	0.00952	4.71	-1	-1		50.0							
Atroclor-1248	1 2 Avg	---	---	---	---	---	---	---	---	0.0199	5.17	-1	-1		50.0							
Atroclor-1248	1 3 Avg	---	---	---	---	---	---	---	---	0.0363	5.52	-1	-1		50.0							
Atroclor-1248	1 4 Avg	---	---	---	---	---	---	---	---	0.0197	5.87	-1	-1		50.0							
Atroclor-1248	1 5 Avg	---	---	---	---	---	---	---	---	0.0207	6.47	-1	-1		50.0							
Atroclor-1254	1 1 Avg	---	---	---	---	---	---	---	---	0.00842	6.67	-1	-1		50.0							
Atroclor-1254	1 2 Avg	---	---	---	---	---	---	---	---	0.0271	6.88	-1	-1		50.0							
Atroclor-1254	1 3 Avg	---	---	---	---	---	---	---	---	0.0174	7.04	-1	-1		50.0							
Atroclor-1254	1 4 Avg	---	---	---	---	---	---	---	---	0.0227	7.15	-1	-1		50.0							
Atroclor-1254	1 5 Avg	---	---	---	---	---	---	---	---	0.0105	7.54	-1	-1		50.0							
Atroclor-1262	1 1 Avg	---	---	---	---	---	---	---	---	0.0251	7.71	-1	-1		50.0							
Atroclor-1262	1 2 Avg	---	---	---	---	---	---	---	---	0.0145	8.72	-1	-1		50.0							
Avg Rsd Col 1: 11.87											Avg Rsd Col 2: 15.15											

Flags
c - failed the initial calibration criteria (if applicable)

Note:

Col = Column Number
Mf = MultiPeak Analyte (0=single peak analyte >0=multi peak analyte (i.e. nychlorfane etc.))
Fit = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear fit.
Corr 2 = Correlation Coefficient for quad fit.
LVn: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
Initial Calibration Criteria: either %RSD <=20 or Corr >= .995
Columns: Signal #1 dh-1701; Signal #2 dh-608

Level #:	Data File:	Cal Identifier:	Analysis Date/Time					Level #:	Data File:	Cal Identifier:	Analysis Date/Time													
1	2G111517.D	CAL 1660@500PPB	04/01/16	10:58			2	2G111518.D	CAL 1660@200PPB	04/01/16	11:13													
3	2G111519.D	CAL 1660@500PPB	04/01/16	11:29			4	2G111520.D	CAL 1660@1000PPB	04/01/16	11:44													
5	2G111521.D	CAL 1660@2000PPB	04/01/16	12:00			6	2G111522.D	CAL 1660@4000PPB	04/01/16	12:15													
7	2G111512.D	CAL 3268@500PPB	04/01/16	09:40			8	2G111513.D	CAL 1242@500PPB	04/01/16	09:56													
9	2G111514.D	CAL 1248@500PPB	04/01/16	10:11			10	2G111515.D	CAL 2154@500PPB	04/01/16	10:27													
Compound	Col Nr	Flt:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	
Atroclor-1262	1	3	Avg	---	---	---	---	---	---	---	0.0322	8.78	-1	-1	Lvl=11	500.0								
Atroclor-1262	1	4	Avg	---	---	---	---	---	---	---	0.0138	9.51	-1	-1	Lvl=11	500.0								
Atroclor-1262	1	5	Avg	---	---	---	---	---	---	---	0.00530	9.86	-1	-1	Lvl=11	500.0								
Atroclor-1268	1	1	Avg	---	---	---	---	---	---	---	0.00589	8.06	-1	-1	Lvl=7	500.0								
Atroclor-1268	1	2	Avg	---	---	---	---	---	---	---	0.00729	8.39	-1	-1	Lvl=7	500.0								
Atroclor-1268	1	3	Avg	---	---	---	---	---	---	---	0.0304	8.95	-1	-1	Lvl=7	500.0								
Atroclor-1268	1	4	Avg	---	---	---	---	---	---	---	0.0114	9.05	-1	-1	Lvl=7	500.0								
Atroclor-1268	1	5	Avg	---	---	---	---	---	---	---	0.0827	9.86	-1	-1	Lvl=7	500.0								
DCB-Surrogate	1	0	Qua	0.3948	0.3563	0.3428	0.3155	0.2807	0.2580	---	0.325	10.07	0.997	0.989	16	5.00	20.00	50.00	100.0	200.0	400.0			
TCLM-Surrogate	2	0	Avg	0.9525	0.9208	0.9302	0.8879	0.9435	0.8423	---	0.913	3.80	0.997	0.999	4.5	5.00	20.00	50.00	100.0	200.0	400.0			
Atroclor-1016	2	1	Qua	0.0255	0.0236	0.0235	0.0214	0.0198	0.0196	---	0.0223	4.40	0.999	1.00	11	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1016	2	2	Qua	0.0531	0.0471	0.0434	0.0398	0.0349	0.0312	---	0.0416	4.82	0.995	0.999	19	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1016	2	3	Qua	0.1140	0.0891	0.0913	0.0850	0.0765	0.0697	---	0.0893	5.21	0.997	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1016	2	4	Qua	0.0468	0.0424	0.0393	0.0361	0.0324	0.0292	---	0.0377	5.53	0.996	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1016	2	5	Qua	0.0329	0.0296	0.0280	0.0258	0.0224	0.0213	---	0.0289	5.90	0.997	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1260	2	1	Qua	0.0745	0.0656	0.0599	0.0522	0.0455	0.0402	---	0.0563	7.21	0.993	0.999	23	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1260	2	2	Qua	0.0808	0.0716	0.0658	0.0577	0.0507	0.0454	---	0.0621	7.29	0.995	0.999	21	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1260	2	3	Qua	0.0389	0.0320	0.0312	0.0281	0.0254	0.0238	---	0.0299	7.93	0.998	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1260	2	4	Qua	0.0596	0.0501	0.0579	0.0523	0.0476	0.0446	---	0.0537	8.28	0.998	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1260	2	5	Qua	0.0581	0.0522	0.0510	0.0484	0.0444	0.0428	---	0.0495	8.98	0.999	1.00	11	50.00	200.0	500.0	1000.	2000.	4000.			
Atroclor-1221	2	1	Avg	---	---	---	---	---	---	---	0.0124	4.18	-1	-1	Lvl=10	500.0								
Atroclor-1221	2	2	Avg	---	---	---	---	---	---	---	0.00806	4.33	-1	-1	Lvl=10	500.0								
Atroclor-1221	2	3	Avg	---	---	---	---	---	---	---	0.0278	4.40	-1	-1	Lvl=10	500.0								
Atroclor-1232	2	1	Avg	---	---	---	---	---	---	---	0.0174	4.40	-1	-1	Lvl=7	500.0								
Atroclor-1232	2	2	Avg	---	---	---	---	---	---	---	0.0164	4.82	-1	-1	Lvl=7	500.0								
Atroclor-1232	2	3	Avg	---	---	---	---	---	---	---	0.0344	5.20	-1	-1	Lvl=7	500.0								
Atroclor-1232	2	4	Avg	---	---	---	---	---	---	---	0.0137	5.53	-1	-1	Lvl=7	500.0								
Atroclor-1232	2	5	Avg	---	---	---	---	---	---	---	0.0128	6.04	-1	-1	Lvl=7	500.0								
Atroclor-1242	2	1	Avg	---	---	---	---	---	---	---	0.0206	4.40	-1	-1	Lvl=8	500.0								
Atroclor-1242	2	2	Avg	---	---	---	---	---	---	---	0.0347	4.82	-1	-1	Lvl=8	500.0								
Atroclor-1242	2	3	Avg	---	---	---	---	---	---	---	0.0724	5.20	-1	-1	Lvl=8	500.0								
Atroclor-1242	2	4	Avg	---	---	---	---	---	---	---	0.0313	5.53	-1	-1	Lvl=8	500.0								
Atroclor-1242	2	5	Avg	---	---	---	---	---	---	---	0.0252	5.90	-1	-1	Lvl=8	500.0								
Atroclor-1248	2	1	Avg	---	---	---	---	---	---	---	0.0176	4.82	-1	-1	Lvl=9	500.0								
Atroclor-1248	2	2	Avg	---	---	---	---	---	---	---	0.0476	5.20	-1	-1	Lvl=9	500.0								
Atroclor-1248	2	3	Avg	---	---	---	---	---	---	---	0.0340	5.53	-1	-1	Lvl=9	500.0								

Avg Rsd Col 1: 11.87 Avg Rsd Col 2: 15.15

Flags

c - failed the initial calibration criteria(if applicable)

Note:

Col = Column Number

Nr = MultiPeak Analyte (s=single peak analyte, >=multi peak analyte (i.e. ncb/chlordane etc.))

Ft = Indicates whether Avg Rf: Linear, or Quadratic (curve was used for compound)

Corr 1 = Correlation Coefficient for linear Fa.

Corr 2 = Correlation Coefficient for quad Fa.

Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000

Initial Calibration Criteria: either %RSD <=20 or Corr >= .995

Columns: Stenal #1 dh-1701 ; Stenal #2 dh-608

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
1	2G111517.D	CAL 1660@500PPB	04/01/16 10:58	2	2G111518.D	CAL 1660@200PPB	04/01/16 11:13	3	2G111519.D	CAL 1660@1000PPB	04/01/16 11:44	4	2G111520.D	CAL 1660@4000PPB	04/01/16 12:15	5	2G111521.D	CAL 3268@500PPB	04/01/16 09:40	6	2G111522.D	CAL 1242@500PPB	04/01/16 09:56																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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<table border="1"> <thead> <tr> <th>Compound</th> <th>Col</th> <th>Mt</th> <th>Flt:</th> <th>RF1</th> <th>RF2</th> <th>RF3</th> <th>RF4</th> <th>RF5</th> <th>RF6</th> <th>RF7</th> <th>RF8</th> <th>ANGRT</th> <th>RT</th> <th>Corr1</th> <th>Corr2</th> <th>%Rsd</th> <th>LV1</th> <th>LV2</th> <th>LV3</th> <th>LV4</th> <th>LV5</th> <th>LV6</th> <th>LV7</th> <th>LV8</th> </tr> </thead> <tbody> <tr> <td>Aroclor-1248</td> <td>2</td> <td>4</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0353</td> <td>6.04</td> <td>-1</td> <td>-1</td> <td>LV#9</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1248</td> <td>2</td> <td>5</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0424</td> <td>6.18</td> <td>-1</td> <td>-1</td> <td>LV#9</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1254</td> <td>2</td> <td>1</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0583</td> <td>6.40</td> <td>-1</td> <td>-1</td> <td>LV#10</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1254</td> <td>2</td> <td>2</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0182</td> <td>6.74</td> <td>-1</td> <td>-1</td> <td>LV#10</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1254</td> <td>2</td> <td>3</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0498</td> <td>7.14</td> <td>-1</td> <td>-1</td> <td>LV#10</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1254</td> <td>2</td> <td>4</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0241</td> <td>7.65</td> <td>-1</td> <td>-1</td> <td>LV#10</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1254</td> <td>2</td> <td>5</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0252</td> <td>8.34</td> <td>-1</td> <td>-1</td> <td>LV#10</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1262</td> <td>2</td> <td>1</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0543</td> <td>7.71</td> <td>-1</td> <td>-1</td> <td>LV#11</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1262</td> <td>2</td> <td>2</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0452</td> <td>8.88</td> <td>-1</td> <td>-1</td> <td>LV#11</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1262</td> <td>2</td> <td>3</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0533</td> <td>8.98</td> <td>-1</td> <td>-1</td> <td>LV#11</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1262</td> <td>2</td> <td>4</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0574</td> <td>9.57</td> <td>-1</td> <td>-1</td> <td>LV#11</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1262</td> <td>2</td> <td>5</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0166</td> <td>10.10</td> <td>-1</td> <td>-1</td> <td>LV#11</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1268</td> <td>2</td> <td>1</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0126</td> <td>8.38</td> <td>-1</td> <td>-1</td> <td>LV#7</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1268</td> <td>2</td> <td>2</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0219</td> <td>8.42</td> <td>-1</td> <td>-1</td> <td>LV#7</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1268</td> <td>2</td> <td>3</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0930</td> <td>9.31</td> <td>-1</td> <td>-1</td> <td>LV#7</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1268</td> <td>2</td> <td>4</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0268</td> <td>9.47</td> <td>-1</td> <td>-1</td> <td>LV#7</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1268</td> <td>2</td> <td>5</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.273</td> <td>10.10</td> <td>-1</td> <td>-1</td> <td>LV#7</td> <td>500.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DCB-Surrogate</td> <td>2</td> <td>0</td> <td>Qua</td> <td>1.2211</td> <td>1.1253</td> <td>1.1063</td> <td>1.0306</td> <td>0.9615</td> <td>0.9040</td> <td>---</td> <td>---</td> <td>1.06</td> <td>10.64</td> <td>0.998</td> <td>1.00</td> <td>11</td> <td>5.00</td> <td>20.00</td> <td>50.00</td> <td>100.0</td> <td>200.0</td> <td>400.0</td> <td></td> <td></td> </tr> </tbody> </table>																					Compound	Col	Mt	Flt:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	ANGRT	RT	Corr1	Corr2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8	Aroclor-1248	2	4	Avg	---	---	---	---	---	---	---	---	0.0353	6.04	-1	-1	LV#9	500.0									Aroclor-1248	2	5	Avg	---	---	---	---	---	---	---	---	0.0424	6.18	-1	-1	LV#9	500.0									Aroclor-1254	2	1	Avg	---	---	---	---	---	---	---	---	0.0583	6.40	-1	-1	LV#10	500.0									Aroclor-1254	2	2	Avg	---	---	---	---	---	---	---	---	0.0182	6.74	-1	-1	LV#10	500.0									Aroclor-1254	2	3	Avg	---	---	---	---	---	---	---	---	0.0498	7.14	-1	-1	LV#10	500.0									Aroclor-1254	2	4	Avg	---	---	---	---	---	---	---	---	0.0241	7.65	-1	-1	LV#10	500.0									Aroclor-1254	2	5	Avg	---	---	---	---	---	---	---	---	0.0252	8.34	-1	-1	LV#10	500.0									Aroclor-1262	2	1	Avg	---	---	---	---	---	---	---	---	0.0543	7.71	-1	-1	LV#11	500.0									Aroclor-1262	2	2	Avg	---	---	---	---	---	---	---	---	0.0452	8.88	-1	-1	LV#11	500.0									Aroclor-1262	2	3	Avg	---	---	---	---	---	---	---	---	0.0533	8.98	-1	-1	LV#11	500.0									Aroclor-1262	2	4	Avg	---	---	---	---	---	---	---	---	0.0574	9.57	-1	-1	LV#11	500.0									Aroclor-1262	2	5	Avg	---	---	---	---	---	---	---	---	0.0166	10.10	-1	-1	LV#11	500.0									Aroclor-1268	2	1	Avg	---	---	---	---	---	---	---	---	0.0126	8.38	-1	-1	LV#7	500.0									Aroclor-1268	2	2	Avg	---	---	---	---	---	---	---	---	0.0219	8.42	-1	-1	LV#7	500.0									Aroclor-1268	2	3	Avg	---	---	---	---	---	---	---	---	0.0930	9.31	-1	-1	LV#7	500.0									Aroclor-1268	2	4	Avg	---	---	---	---	---	---	---	---	0.0268	9.47	-1	-1	LV#7	500.0									Aroclor-1268	2	5	Avg	---	---	---	---	---	---	---	---	0.273	10.10	-1	-1	LV#7	500.0									DCB-Surrogate	2	0	Qua	1.2211	1.1253	1.1063	1.0306	0.9615	0.9040	---	---	1.06	10.64	0.998	1.00	11	5.00	20.00	50.00	100.0	200.0	400.0		
Compound	Col	Mt	Flt:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	ANGRT	RT	Corr1	Corr2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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DCB-Surrogate	2	0	Qua	1.2211	1.1253	1.1063	1.0306	0.9615	0.9040	---	---	1.06	10.64	0.998	1.00	11	5.00	20.00	50.00	100.0	200.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

Avg Rsd Col 1: 11.87 Avg Rsd Col 2: 15.15

Flags
c - failed the initial calibration criteria (if applicable)

Notes:

Col = Column Number
M# = MultiPeak Analyte (single peak analyte -> multi peak analyte (i.e. n-hexachlorane etc.))
Fit = Indicates whether Ave RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear fit.
Corr 2 = Correlation Coefficient for quad fit.

All Response Factors = Response Factors / 10000
Initial Calibration Criteria: either %RSD <= 20 or Corr >= .995
Columns: Signal #1 dh-1701 ; Signal #2 dh-608

^Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

Form 7
 Continuing Calibration

Method: EPA 8082A

			2G112205.D 8082 CAL 1660@1000PP 04/19/16 09:31			2G112224.D 8082 CAL 1660@500PP 04/19/16 16:17			2G112240.D 8082 CAL 1660@1000PP 04/19/16 20:59			2G112252.D 8082 CAL 1660@1000PP 04/20/16 00:03			2G112288.D 8082 CAL 1660@500PP 04/20/16 18:52		
Compound	Limit	Col Mr	Conc			Conc			Conc			Conc			Conc		
			Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1 0	110.9	100	10.9	52.41	50	4.8	111.3	100	11.3	108.7	100	8.7	52.24	50	4.5
Aroclor-1016	20	1 1	1054	1000	5.4	551.5	500	10.3	1064	1000	6.4	1032	1000	3.2	514.8	500	3.0
Aroclor-1016	20	1 2	1132	1000	13.2	583.6	500	16.7	1136	1000	13.6	1106	1000	10.6	552.2	500	10.4
Aroclor-1016	20	1 3	1168	1000	16.8	627.7	500	25.5*	1233	1000	23.3*	1209	1000	20.9*	609.1	500	21.8*
Aroclor-1016	20	1 4	1090	1000	9.0	557.2	500	11.4	1096	1000	9.6	1067	1000	6.7	522.9	500	4.6
Aroclor-1016	20	1 5	1039	1000	3.9	526.4	500	5.3	1026	1000	2.6	995.0	1000	0.5	487.3	500	2.5
Aroclor-1260	20	1 1	1175	1000	17.5	592.8	500	18.6	1212	1000	21.2*	1172	1000	17.2	583.1	500	16.6
Aroclor-1260	20	1 2	1181	1000	18.1	613.1	500	22.6*	1254	1000	25.4*	1216	1000	21.6*	609.8	500	22.0*
Aroclor-1260	20	1 3	1096	1000	9.6	519.4	500	3.9	1093	1000	9.3	1050	1000	5.0	484.1	500	3.2
Aroclor-1260	20	1 4	1123	1000	12.3	602.0	500	20.4	1228	1000	22.8*	1182	1000	18.2	588	500	17.6
Aroclor-1260	20	1 5	1027	1000	2.7	554.8	500	11.0	1153	1000	15.3	1106	1000	10.6	542.4	500	8.5
DCB-Surrogate	20	1 0	102.1	100	2.1	59.13	50	18.3	123.2	100	23.2*	116.4	100	16.4	55.69	50	11.4
Average Difference	20	1 0			10.1			14.1			15.3			11.6			10.5
TCMX-Surrogate	20	2 0	95.54	100	4.5	46.96	50	6.1	90.26	100	9.7	89.39	100	10.6	44.47	50	11.1
Aroclor-1016	20	2 1	1042	1000	4.2	570.8	500	14.2	1007	1000	0.7	990.4	1000	1.0	498.8	500	0.2
Aroclor-1016	20	2 2	986.9	1000	1.3	524.1	500	4.8	999.7	1000	0.0	987.3	1000	1.3	512.2	500	2.4
Aroclor-1016	20	2 3	965.6	1000	3.4	510.1	500	2.0	990.3	1000	1.0	972.5	1000	2.8	497.8	500	0.5
Aroclor-1016	20	2 4	959.9	1000	4.0	488.9	500	2.2	975.8	1000	2.4	958.3	1000	4.2	489.5	500	2.1
Aroclor-1016	20	2 5	966.5	1000	3.4	477.3	500	4.5	992.2	1000	0.8	956.9	1000	4.3	496	500	0.8
Aroclor-1260	20	2 1	955.8	1000	4.4	481.5	500	3.7	990.3	1000	1.0	965.3	1000	3.5	486.2	500	2.8
Aroclor-1260	20	2 2	953.7	1000	4.6	486.1	500	2.8	989.9	1000	1.0	964.5	1000	3.5	480.7	500	3.9
Aroclor-1260	20	2 3	935.1	1000	6.5	462.6	500	7.5	1005	1000	0.5	948.9	1000	5.1	539.5	500	7.9
Aroclor-1260	20	2 4	935.9	1000	6.4	440.7	500	11.9	988.6	1000	1.1	939.1	1000	6.1	469.2	500	6.2
Aroclor-1260	20	2 5	923.2	1000	7.7	422.4	500	15.5	990.3	1000	1.0	921.3	1000	7.9	456.5	500	8.7
DCB-Surrogate	20	2 0	84.52	100	15.5	43.91	50	12.2	99.02	100	1.0	93.54	100	6.5	47.28	50	5.4
Average Difference	20	2 0			5.5			7.3			1.7			4.7			4.3

Flags/Notes:

* - Values outside of limits for this column/run

HAZ. - 380

Form7
 Continuing Calibration

Method: EPA 8082A

		Data File:		2G112305.D			2G112316.D			2G112323.D								
		Method:		8082			8082			8082								
		Calibration Name:		CAL 1660@1000PP			CAL 1660@1000PP			CAL 1660@1000PP								
		Calibration Date/Time		04/20/16 23:15			04/21/16 09:52			04/21/16 13:16								
Compound	Limit	Col	Mr	Conc			Conc			Conc			Conc			Conc		
				Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1	0	107.6	100	7.6	106.9	100	6.9	111.2	100	11.2						
Aroclor-1016	20	1	1	1053	1000	5.3	1065	1000	6.5	1095	1000	9.5						
Aroclor-1016	20	1	2	1134	1000	13.4	1131	1000	13.1	1166	1000	16.6						
Aroclor-1016	20	1	3	1242	1000	24.2*	1217	1000	21.7*	1283	1000	28.3*						
Aroclor-1016	20	1	4	997.7	1000	0.2	1081	1000	8.1	1110	1000	11.0						
Aroclor-1016	20	1	5	915.7	1000	8.4	1008	1000	0.8	1023	1000	2.3						
Aroclor-1260	20	1	1	1198	1000	19.8	1157	1000	15.7	1169	1000	16.9						
Aroclor-1260	20	1	2	1260	1000	26.0*	1184	1000	18.4	1207	1000	20.7*						
Aroclor-1260	20	1	3	1046	1000	4.6	1031	1000	3.1	1020	1000	2.0						
Aroclor-1260	20	1	4	1234	1000	23.4*	1105	1000	10.5	1128	1000	12.8						
Aroclor-1260	20	1	5	1169	1000	16.9	1020	1000	2.0	1023	1000	2.3						
DCB-Surrogate	20	1	0	116.1	100	16.1	101.7	100	1.7	91.46	100	8.5						
Average Difference	20	1	0			13.8			9.1			11.8						
TCMX-Surrogate	20	2	0	93.42	100	6.6	91.7	100	8.3	94.26	100	5.7						
Aroclor-1016	20	2	1	1015	1000	1.5	970.9	1000	2.9	999.0	1000	0.1						
Aroclor-1016	20	2	2	1009	1000	0.9	956.7	1000	4.3	984.5	1000	1.6						
Aroclor-1016	20	2	3	1002	1000	0.2	929.9	1000	7.0	953.0	1000	4.7						
Aroclor-1016	20	2	4	996.0	1000	0.4	921.4	1000	7.9	941.9	1000	5.8						
Aroclor-1016	20	2	5	991.3	1000	0.9	916.7	1000	8.3	939.4	1000	6.1						
Aroclor-1260	20	2	1	995.8	1000	0.4	891.7	1000	10.8	863.4	1000	13.7						
Aroclor-1260	20	2	2	980.9	1000	1.9	882.3	1000	11.8	852.2	1000	14.8						
Aroclor-1260	20	2	3	1035	1000	3.5	840.8	1000	15.9	787.6	1000	21.2*						
Aroclor-1260	20	2	4	903.9	1000	9.6	852.3	1000	14.8	806.6	1000	19.3						
Aroclor-1260	20	2	5	939.1	1000	6.1	815.3	1000	18.5	749.3	1000	25.1*						
DCB-Surrogate	20	2	0	97.81	100	2.2	80.26	100	19.7	66.67	100	33.3*						
Average Difference	20	2	0			2.9			10.9			12.6						

Flags/Notes:

* - Values outside of limits for this column/run HAZ. - 381

Form 7
 RtWindow Summary

Method: EPA 8082A

		Data File: 2G111517.D		2G112205.D		2G112224.D		2G112240.D		2G112288.D	
Calibration Name:		CAL 1660@50PPB		CAL 1660@1000PPB		CAL 1660@500PPB		CAL 1660@1000PPB		CAL 1660@500PPB	
Calibration Date/Time		4/1/2016 10:58:00 AM		4/19/2016 9:31:00 AM		4/19/2016 4:17:00 PM		4/19/2016 8:59:00 PM		4/20/2016 6:52:00 PM	
Compound	Col Mr	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
TCMX-Surrogate	1 0	3.82	(3.76 - 3.88)	3.83	(3.77 - 3.89)	3.82	(3.76 - 3.88)	3.82	(3.76 - 3.88)	3.82	(3.76 - 3.88)
Aroclor-1016	1 1	4.35	(4.31 - 4.39)	4.34	(4.30 - 4.38)	4.34	(4.30 - 4.38)	4.34	(4.30 - 4.38)	4.34	(4.30 - 4.38)
Aroclor-1016	1 2	4.71	(4.67 - 4.75)	4.70	(4.66 - 4.74)	4.70	(4.66 - 4.74)	4.70	(4.66 - 4.74)	4.70	(4.66 - 4.74)
Aroclor-1016	1 3	5.17	(5.13 - 5.21)	5.16	(5.12 - 5.20)	5.16	(5.12 - 5.20)	5.16	(5.12 - 5.20)	5.16	(5.12 - 5.20)
Aroclor-1016	1 4	5.42	(5.38 - 5.46)	5.41	(5.37 - 5.45)	5.41	(5.37 - 5.45)	5.41	(5.37 - 5.45)	5.41	(5.37 - 5.45)
Aroclor-1016	1 5	5.53	(5.49 - 5.57)	5.52	(5.48 - 5.56)	5.52	(5.48 - 5.56)	5.52	(5.48 - 5.56)	5.52	(5.48 - 5.56)
Aroclor-1260	1 1	7.04	(7.00 - 7.08)	7.03	(6.99 - 7.07)	7.03	(6.99 - 7.07)	7.02	(6.98 - 7.06)	7.02	(6.98 - 7.06)
Aroclor-1260	1 2	7.29	(7.25 - 7.33)	7.27	(7.23 - 7.31)	7.27	(7.23 - 7.31)	7.27	(7.23 - 7.31)	7.27	(7.23 - 7.31)
Aroclor-1260	1 3	7.49	(7.45 - 7.53)	7.47	(7.43 - 7.51)	7.47	(7.43 - 7.51)	7.47	(7.43 - 7.51)	7.47	(7.43 - 7.51)
Aroclor-1260	1 4	8.07	(8.03 - 8.11)	8.06	(8.02 - 8.10)	8.06	(8.02 - 8.10)	8.05	(8.01 - 8.09)	8.06	(8.02 - 8.10)
Aroclor-1260	1 5	8.80	(8.76 - 8.84)	8.78	(8.74 - 8.82)	8.78	(8.74 - 8.82)	8.78	(8.74 - 8.82)	8.78	(8.74 - 8.82)
Aroclor-1221	1 1	4.14	(4.10 - 4.18)								
Aroclor-1221	1 2	4.29	(4.25 - 4.33)								
Aroclor-1221	1 3	4.35	(4.31 - 4.39)								
Aroclor-1232	1 1	4.35	(4.31 - 4.39)								
Aroclor-1232	1 2	4.71	(4.67 - 4.75)								
Aroclor-1232	1 3	5.17	(5.13 - 5.21)								
Aroclor-1232	1 4	5.31	(5.27 - 5.35)								
Aroclor-1232	1 5	5.78	(5.74 - 5.82)								
Aroclor-1242	1 1	4.34	(4.30 - 4.38)								
Aroclor-1242	1 2	4.71	(4.67 - 4.75)								
Aroclor-1242	1 3	5.17	(5.13 - 5.21)								
Aroclor-1242	1 4	5.53	(5.49 - 5.57)								
Aroclor-1242	1 5	5.78	(5.74 - 5.82)								
Aroclor-1248	1 1	4.71	(4.67 - 4.75)								
Aroclor-1248	1 2	5.17	(5.13 - 5.21)								
Aroclor-1248	1 3	5.52	(5.48 - 5.56)								
Aroclor-1248	1 4	5.87	(5.83 - 5.91)								
Aroclor-1248	1 5	6.47	(6.43 - 6.51)								
Aroclor-1254	1 1	6.67	(6.63 - 6.71)								
Aroclor-1254	1 2	6.88	(6.84 - 6.92)								
Aroclor-1254	1 3	7.04	(7.00 - 7.08)								
Aroclor-1254	1 4	7.15	(7.11 - 7.19)								
Aroclor-1254	1 5	7.56	(7.51 - 7.59)								
Aroclor-1262	1 1	7.71	(7.67 - 7.75)								
Aroclor-1262	1 2	8.72	(8.68 - 8.76)								
Aroclor-1262	1 3	8.76	(8.74 - 8.82)								
Aroclor-1262	1 4	9.51	(9.47 - 9.55)								
Aroclor-1262	1 5	9.86	(9.82 - 9.90)								
Aroclor-1268	1 1	8.06	(8.02 - 8.10)								
Aroclor-1268	1 2	8.39	(8.35 - 8.43)								
Aroclor-1268	1 3	8.85	(8.81 - 8.89)								
Aroclor-1268	1 4	9.05	(9.01 - 9.09)								
Aroclor-1268	1 5	9.86	(9.82 - 9.90)								
DCB-Surrogate	1 0	10.07	(10.01 - 10.13)	10.05	(9.99 - 10.11)	10.05	(9.99 - 10.11)	10.04	(9.98 - 10.10)	10.05	(9.99 - 10.11)
TCMX-Surrogate	2 0	3.80	(3.74 - 3.86)	3.81	(3.75 - 3.87)	3.80	(3.74 - 3.86)	3.80	(3.74 - 3.86)	3.80	(3.74 - 3.86)
Aroclor-1016	2 1	4.40	(4.36 - 4.44)	4.40	(4.36 - 4.44)	4.40	(4.36 - 4.44)	4.40	(4.36 - 4.44)	4.40	(4.36 - 4.44)
Aroclor-1016	2 2	4.82	(4.78 - 4.86)	4.82	(4.78 - 4.86)	4.82	(4.78 - 4.86)	4.82	(4.78 - 4.86)	4.82	(4.78 - 4.86)
Aroclor-1016	2 3	5.20	(5.16 - 5.24)	5.21	(5.17 - 5.25)	5.20	(5.16 - 5.24)	5.20	(5.16 - 5.24)	5.20	(5.16 - 5.24)
Aroclor-1016	2 4	5.53	(5.49 - 5.57)	5.53	(5.49 - 5.57)	5.53	(5.49 - 5.57)	5.53	(5.49 - 5.57)	5.53	(5.49 - 5.57)
Aroclor-1016	2 5	5.90	(5.86 - 5.94)	5.90	(5.86 - 5.94)	5.90	(5.86 - 5.94)	5.90	(5.86 - 5.94)	5.90	(5.86 - 5.94)
Aroclor-1260	2 1	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)
Aroclor-1260	2 2	7.29	(7.25 - 7.33)	7.29	(7.25 - 7.33)	7.29	(7.25 - 7.33)	7.29	(7.25 - 7.33)	7.29	(7.25 - 7.33)
Aroclor-1260	2 3	7.92	(7.88 - 7.96)	7.92	(7.88 - 7.96)	7.92	(7.88 - 7.96)	7.92	(7.88 - 7.96)	7.92	(7.88 - 7.96)
Aroclor-1260	2 4	8.29	(8.25 - 8.33)	8.28	(8.24 - 8.32)	8.28	(8.24 - 8.32)	8.28	(8.24 - 8.32)	8.28	(8.24 - 8.32)
Aroclor-1260	2 5	8.98	(8.94 - 9.02)	8.98	(8.94 - 9.02)	8.98	(8.94 - 9.02)	8.98	(8.94 - 9.02)	8.98	(8.94 - 9.02)
Aroclor-1221	2 1	4.18	(4.14 - 4.22)								
Aroclor-1221	2 2	4.33	(4.29 - 4.37)								
Aroclor-1221	2 3	4.40	(4.36 - 4.44)								
Aroclor-1232	2 1	4.40	(4.36 - 4.44)								
Aroclor-1232	2 2	4.82	(4.78 - 4.86)								
Aroclor-1232	2 3	5.20	(5.16 - 5.24)								
Aroclor-1232	2 4	5.53	(5.49 - 5.57)								
Aroclor-1232	2 5	6.04	(6.00 - 6.08)								
Aroclor-1242	2 1	4.40	(4.36 - 4.44)								
Aroclor-1242	2 2	4.82	(4.78 - 4.86)								
Aroclor-1242	2 3	5.20	(5.16 - 5.24)								
Aroclor-1242	2 4	5.53	(5.49 - 5.57)								
Aroclor-1242	2 5	5.90	(5.86 - 5.94)								
Aroclor-1248	2 1	4.82	(4.78 - 4.86)								
Aroclor-1248	2 2	5.20	(5.16 - 5.24)								
Aroclor-1248	2 3	5.53	(5.49 - 5.57)								
Aroclor-1248	2 4	6.04	(6.00 - 6.08)								
Aroclor-1248	2 5	6.18	(6.14 - 6.22)								
Aroclor-1254	2 1	6.40	(6.36 - 6.44)								
Aroclor-1254	2 2	6.74	(6.70 - 6.78)								
Aroclor-1254	2 3	7.14	(7.10 - 7.18)								
Aroclor-1254	2 4	7.65	(7.61 - 7.69)								
Aroclor-1254	2 5	8.34	(8.30 - 8.38)								
Aroclor-1262	2 1	7.71	(7.67 - 7.75)								
Aroclor-1262	2 2	8.88	(8.84 - 8.92)								
Aroclor-1262	2 3	8.98	(8.94 - 9.02)								
Aroclor-1262	2 4	9.57	(9.53 - 9.61)								
Aroclor-1262	2 5	10.10	(10.06 - 10.14)								
Aroclor-1268	2 1	8.38	(8.34 - 8.42)								
Aroclor-1268	2 2	8.42	(8.38 - 8.46)								
Aroclor-1268	2 3	9.31	(9.27 - 9.35)								
Aroclor-1268	2 4	9.47	(9.43 - 9.51)								
Aroclor-1268	2 5	10.10	(10.06 - 10.14)								
DCB-Surrogate	2 0	10.64	(10.58 - 10.70)	10.64	(10.58 - 10.70)	10.64	(10.58 - 10.70)	10.64	(10.58 - 10.70)	10.64	(10.58 - 10.70)

Form 7

RtWindow Summary

Method: EPA 8082A

Data File: 2G112316.D
 Calibration Name: CAL 1660@1000PPB
 Calibration Date/Time: 4/21/2016 9:52:00 AM

Compound	Col	Mr	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
TCMX-Surrogate	1	0	3.83	(3.77 - 3.89)						
Aroclor-1016	1	1	4.34	(4.30 - 4.38)						
Aroclor-1016	1	2	4.70	(4.66 - 4.74)						
Aroclor-1016	1	3	5.16	(5.12 - 5.20)						
Aroclor-1016	1	4	5.41	(5.37 - 5.45)						
Aroclor-1016	1	5	5.52	(5.48 - 5.56)						
Aroclor-1260	1	1	7.02	(6.98 - 7.06)						
Aroclor-1260	1	2	7.27	(7.23 - 7.31)						
Aroclor-1260	1	3	7.47	(7.43 - 7.51)						
Aroclor-1260	1	4	8.06	(8.02 - 8.10)						
Aroclor-1260	1	5	8.78	(8.74 - 8.82)						
Aroclor-1221	1	1								
Aroclor-1221	1	2								
Aroclor-1221	1	3								
Aroclor-1232	1	1								
Aroclor-1232	1	2								
Aroclor-1232	1	3								
Aroclor-1232	1	4								
Aroclor-1232	1	5								
Aroclor-1242	1	1								
Aroclor-1242	1	2								
Aroclor-1242	1	3								
Aroclor-1242	1	4								
Aroclor-1242	1	5								
Aroclor-1248	1	1								
Aroclor-1248	1	2								
Aroclor-1248	1	3								
Aroclor-1248	1	4								
Aroclor-1248	1	5								
Aroclor-1254	1	1								
Aroclor-1254	1	2								
Aroclor-1254	1	3								
Aroclor-1254	1	4								
Aroclor-1254	1	5								
Aroclor-1262	1	1								
Aroclor-1262	1	2								
Aroclor-1262	1	3								
Aroclor-1262	1	4								
Aroclor-1262	1	5								
Aroclor-1268	1	1								
Aroclor-1268	1	2								
Aroclor-1268	1	3								
Aroclor-1268	1	4								
Aroclor-1268	1	5								
DCB-Surrogate	1	0	10.05	(9.99 - 10.11)						
TCMX-Surrogate	2	0	3.80	(3.74 - 3.86)						
Aroclor-1016	2	1	4.40	(4.36 - 4.44)						
Aroclor-1016	2	2	4.82	(4.78 - 4.86)						
Aroclor-1016	2	3	5.20	(5.16 - 5.24)						
Aroclor-1016	2	4	5.53	(5.49 - 5.57)						
Aroclor-1016	2	5	5.90	(5.86 - 5.94)						
Aroclor-1260	2	1	7.21	(7.17 - 7.25)						
Aroclor-1260	2	2	7.29	(7.25 - 7.33)						
Aroclor-1260	2	3	7.92	(7.88 - 7.96)						
Aroclor-1260	2	4	8.28	(8.24 - 8.32)						
Aroclor-1260	2	5	8.98	(8.94 - 9.02)						
Aroclor-1221	2	1								
Aroclor-1221	2	2								
Aroclor-1221	2	3								
Aroclor-1232	2	1								
Aroclor-1232	2	2								
Aroclor-1232	2	3								
Aroclor-1232	2	4								
Aroclor-1232	2	5								
Aroclor-1242	2	1								
Aroclor-1242	2	2								
Aroclor-1242	2	3								
Aroclor-1242	2	4								
Aroclor-1242	2	5								
Aroclor-1248	2	1								
Aroclor-1248	2	2								
Aroclor-1248	2	3								
Aroclor-1248	2	4								
Aroclor-1248	2	5								
Aroclor-1254	2	1								
Aroclor-1254	2	2								
Aroclor-1254	2	3								
Aroclor-1254	2	4								
Aroclor-1254	2	5								
Aroclor-1262	2	1								
Aroclor-1262	2	2								
Aroclor-1262	2	3								
Aroclor-1262	2	4								
Aroclor-1262	2	5								
Aroclor-1268	2	1								
Aroclor-1268	2	2								
Aroclor-1268	2	3								
Aroclor-1268	2	4								
Aroclor-1268	2	5								
DCB-Surrogate	2	0	10.64	(10.58 - 10.70)						

Pesticide Data

Form1
ORGANICS PESTICIDE REPORT

Sample Number: AC90773-001(5X)	Method: EPA 8081B
Client Id: SB-01	Matrix: Soil
Data File: 6G65810.D	Initial Vol: 20g
Analysis Date: 04/21/16 15:17	Final Vol: 10ml
Date Rec/Extracted: 04/14/16-04/19/16	Dilution: 5
Column: DB-17/1701P 30M 0.32mm ID 0.25um film	Solids: 93

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.027	U	53494-70-5	Endrin Ketone	0.027	U
309-00-2	Aldrin	0.027	U	58-89-9	gamma-BHC	0.0054	U
319-84-6	alpha-BHC	0.0054	U	76-44-8	Heptachlor	0.027	U
319-85-7	beta-BHC	0.0054	U	1024-57-3	Heptachlor Epoxide	0.027	U
319-86-8	delta-BHC	0.027	U	72-43-5	Methoxychlor	0.027	U
60-57-1	Dieldrin	0.0054	U	72-54-8	p,p'-DDD	0.013	U
959-98-8	Endosulfan I	0.027	U	72-55-9	p,p'-DDE	0.013	U
33213-65-9	Endosulfan II	0.027	U	50-29-3	p,p'-DDT	0.013	U
1031-07-8	Endosulfan Sulfate	0.027	U	8001-35-2	Toxaphene	0.13	U
72-20-8	Endrin	0.027	U	5103-74-2	y-chlordane	0.027	U
7421-93-4	Endrin Aldehyde	0.027	U	57-74-9	Chlordane (Total)	0.027	U

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of a-Chlordane and y-Chlordane.*

Data Path : G:\Gcdata\2016\GC_6\Data\04-2116\
 Data File : 6G65810.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 21 Apr 2016 15:17
 Operator : MS/ZM/MLC
 Sample : AC90773-001(5X)
 Misc : S,PEST:5
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 21 15:36:27 2016
 Quant Method : G:\GCDATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

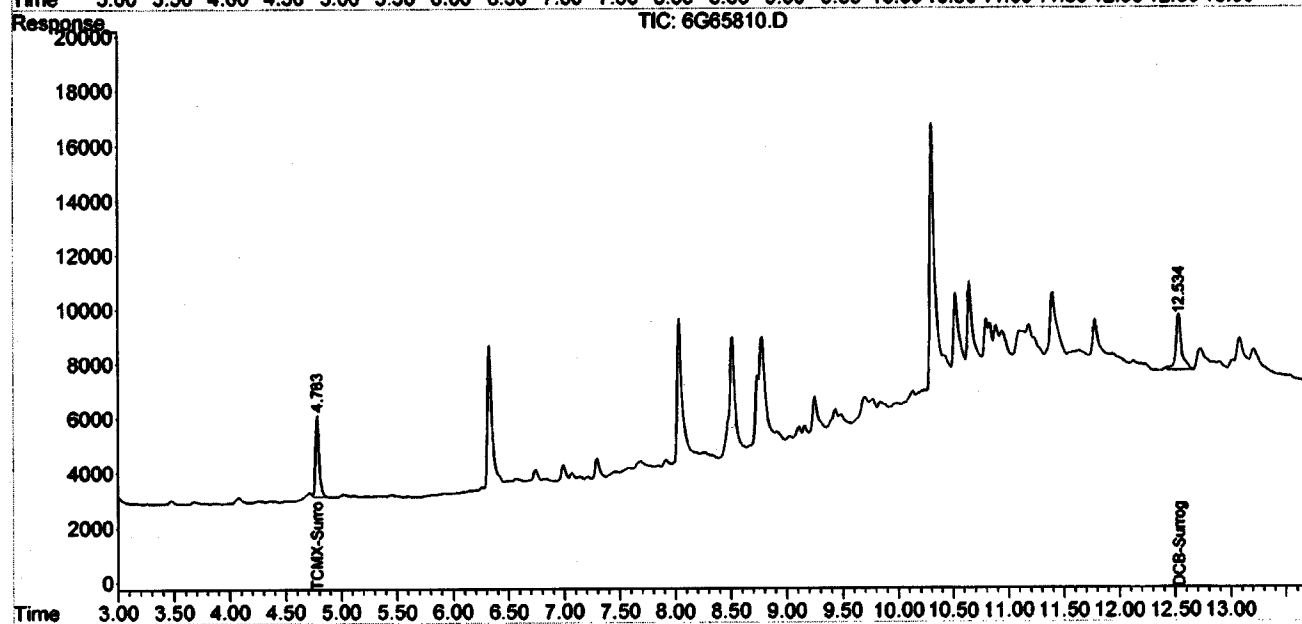
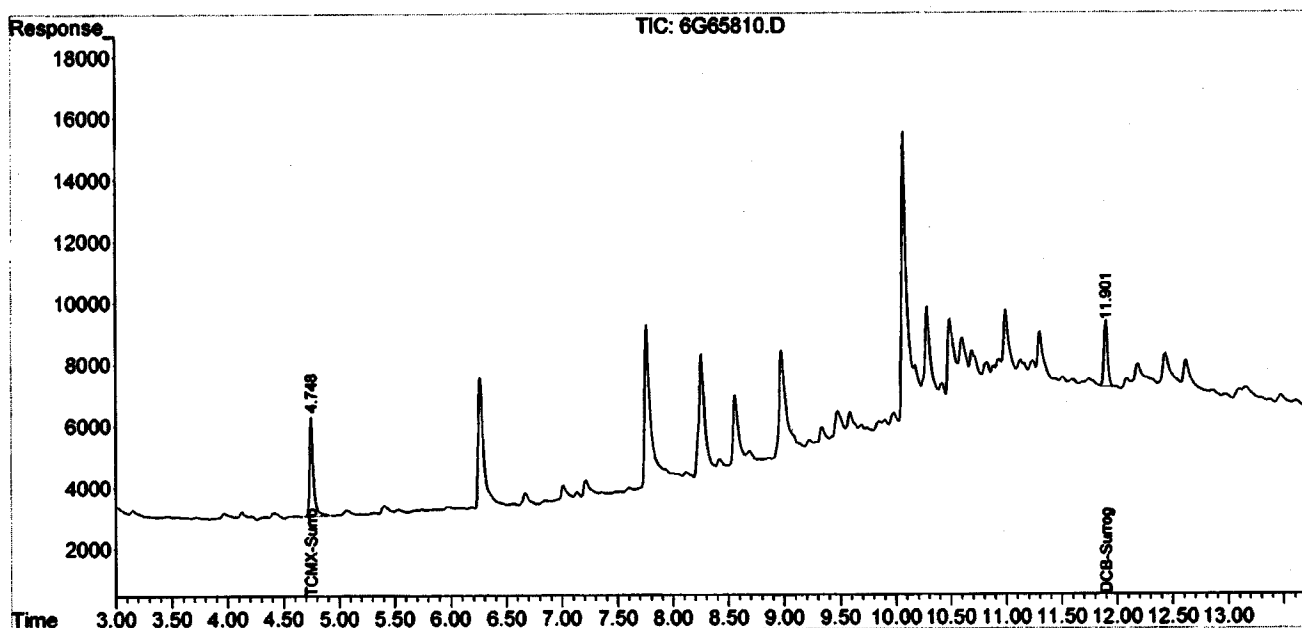
Target Compounds						
1)TCMX-Surrogate	4.748	4.783	79075	65634	15.580m	15.211m
22)DCB-Surrogate	11.901	12.534	50724	68337	9.867m	15.441m#

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-2116\
Data File : 6G65810.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Apr 2016 15:17
Operator : MS/ZM/MLC
Sample : AC90773-001(5X)
Misc : S,PEST:5
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 15:36:27 2016
Quant Method : G:\GCDATA\2016\GC_6\METHODQT\6G_P0413ABC.M
Quant Title : @GC_6,ug,608,8081
QLast Update : Thu Apr 14 10:36:21 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701
Signal #1 Info : .32
Signal #2 Phase: db-17
Signal #2 Info : .32



Form 1
ORGANICS PESTICIDE REPORT

Sample Number: AC90773-002
 Client Id: SB-02
 Data File: 6G65804.D
 Analysis Date: 04/21/16 13:32
 Date Rec/Extracted: 04/14/16-04/19/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B
 Matrix: Soil
 Initial Vol: 20g
 Final Vol: 10ml
 Dilution: 1
 Solids: 92

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.0054	U	53494-70-5	Endrin Ketone	0.0054	U
309-00-2	Aldrin	0.0054	U	58-89-9	gamma-BHC	0.0011	U
319-84-6	alpha-BHC	0.0011	U	76-44-8	Heptachlor	0.0054	U
319-85-7	beta-BHC	0.0011	U	1024-57-3	Heptachlor Epoxide	0.0054	U
319-86-8	delta-BHC	0.0054	U	72-43-5	Methoxychlor	0.0054	U
60-57-1	Dieldrin	0.0011	U	72-54-8	p,p'-DDD	0.0027	U
959-98-8	Endosulfan I	0.0054	U	72-55-9	p,p'-DDE	0.0027	U
33213-65-9	Endosulfan II	0.0054	U	50-29-3	p,p'-DDT	0.0027	U
1031-07-8	Endosulfan Sulfate	0.0054	U	8001-35-2	Toxaphene	0.027	U
72-20-8	Endrin	0.0054	U	5103-74-2	y-chlordane	0.0054	U
7421-93-4	Endrin Aldehyde	0.0054	U	57-74-9	Chlordane (Total)	0.0054	U

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Data Path : G:\Gcdata\2016\GC_6\Data\04-2116\
 Data File : 6G65804.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 21 Apr 2016 13:32
 Operator : MS/ZM/MLC
 Sample : AC90773-002
 Misc : S,PEST
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 21 14:32:32 2016
 Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

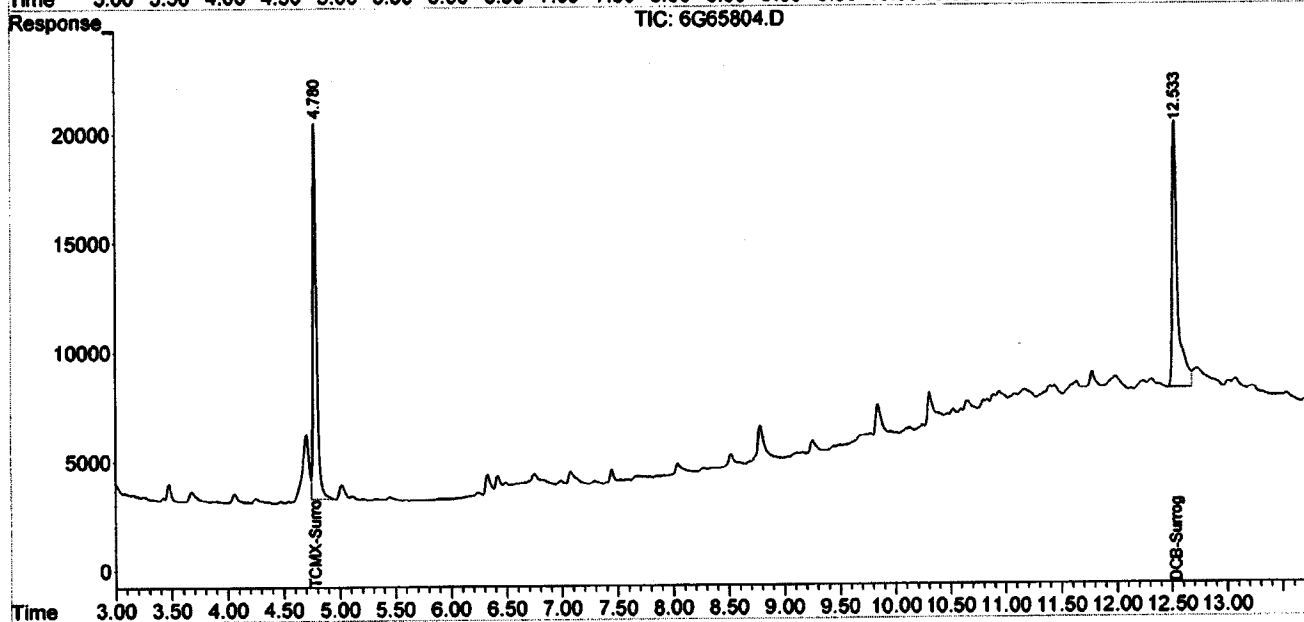
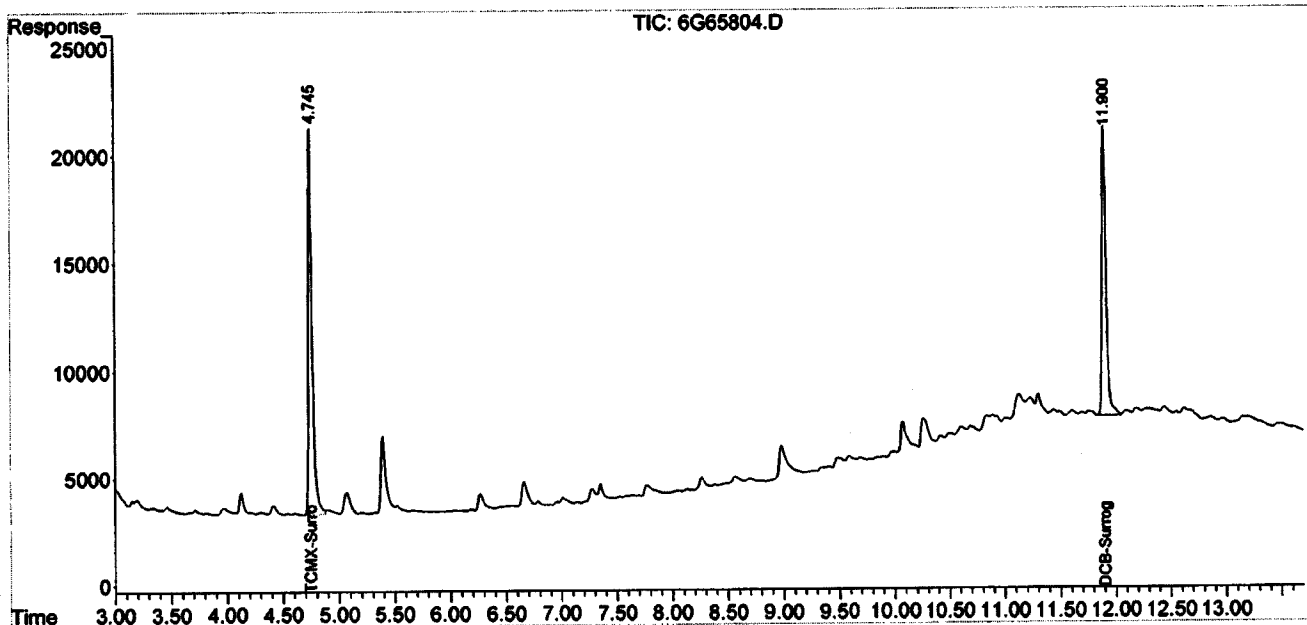
Target Compounds						
1)TCMX-Surrogate	4.746	4.780	431226	383560	84.964	88.891m
22)DCB-Surrogate	11.900	12.533	348906	395170	68.253m	90.672m#

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-2116\
 Data File : 6G65804.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 21 Apr 2016 13:32
 Operator : MS/ZM/MLC
 Sample : AC90773-002
 Misc : S,PEST
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 21 14:32:32 2016
 Quant Method : G:\GCDATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form1
ORGANICS PESTICIDE REPORT

Sample Number: AC90773-003	Method: EPA 8081B
Client Id: SB-03	Matrix: Soil
Data File: 6G65770.D	Initial Vol: 20g
Analysis Date: 04/20/16 15:04	Final Vol: 10ml
Date Rec/Extracted: 04/14/16-04/19/16	Dilution: 1
Column: DB-17/1701P 30M 0.32mm ID 0.25um film	Solids: 95

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.0053	U	53494-70-5	Endrin Ketone	0.0053	U
309-00-2	Aldrin	0.0053	U	58-89-9	gamma-BHC	0.0011	U
319-84-6	alpha-BHC	0.0011	U	76-44-8	Heptachlor	0.0053	U
319-85-7	beta-BHC	0.0011	U	1024-57-3	Heptachlor Epoxide	0.0053	U
319-86-8	delta-BHC	0.0053	U	72-43-5	Methoxychlor	0.0053	U
60-57-1	Dieldrin	0.0011	U	72-54-8	p,p'-DDD	0.0026	U
959-98-8	Endosulfan I	0.0053	U	72-55-9	p,p'-DDE	0.0026	U
33213-65-9	Endosulfan II	0.0053	U	50-29-3	p,p'-DDT	0.0026	U
1031-07-8	Endosulfan Sulfate	0.0053	U	8001-35-2	Toxaphene	0.026	U
72-20-8	Endrin	0.0053	U	5103-74-2	y-chlordane	0.0053	U
7421-93-4	Endrin Aldehyde	0.0053	U	57-74-9	Chlordane (Total)	0.0053	U

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of a-Chlordane and y-Chlordane.*

Data Path : G:\Gcdata\2016\GC_6\Data\04-20-16\
 Data File : 6G65770.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 15:04
 Operator : MS/ZM/MLC
 Sample : AC90773-003
 Misc : S,PEST
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 20 18:49:00 2016
 Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

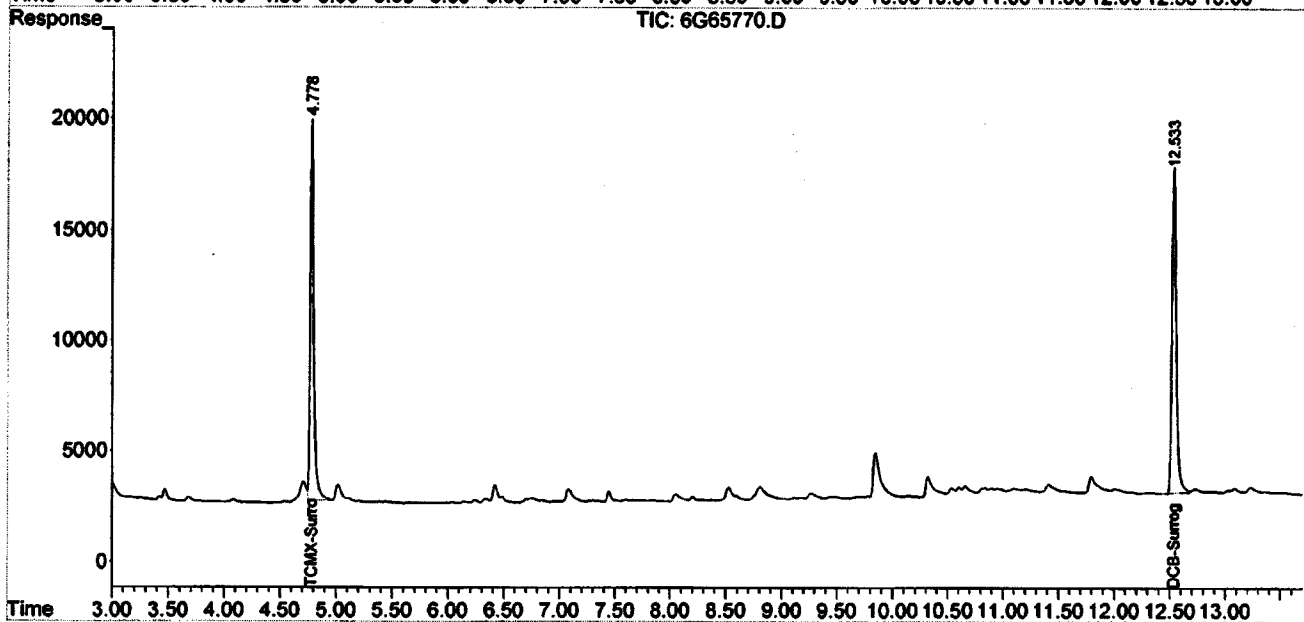
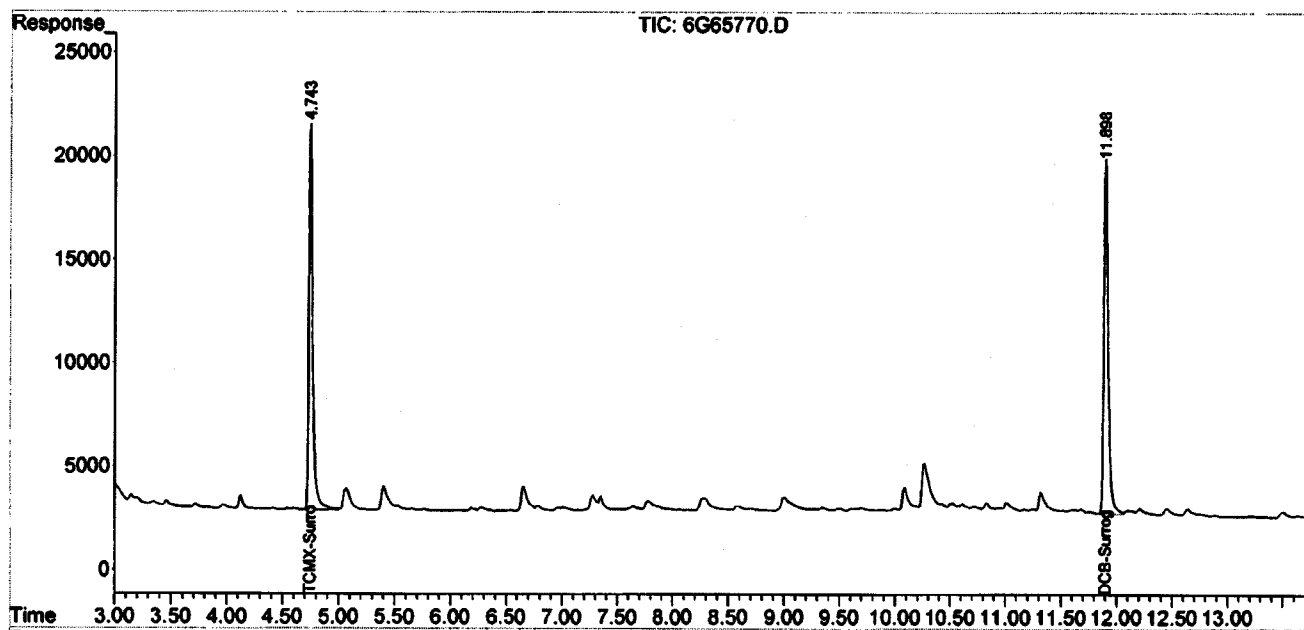
Target Compounds						
1)TCMX-Surrogate	4.744	4.778	430335	371825	84.788	86.171m
22)DCB-Surrogate	11.899	12.534	463491	402340	90.865	92.349

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-20-16\
Data File : 6G65770.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 20 Apr 2016 15:04
Operator : MS/ZM/MLC
Sample : AC90773-003
Misc : S, PEST
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 20 18:49:00 2016
Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
Quant Title : @GC_6,ug,608,8081
QLast Update : Thu Apr 14 10:36:21 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701
Signal #1 Info : .32
Signal #2 Phase: db-17
Signal #2 Info : .32



Form1
ORGANICS PESTICIDE REPORT

Sample Number: AC90773-004
 Client Id: SB-04
 Data File: 6G65769.D
 Analysis Date: 04/20/16 14:46
 Date Rec/Extracted: 04/14/16-04/19/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B
 Matrix: Soil
 Initial Vol: 20g
 Final Vol: 10ml
 Dilution: 1
 Solids: 98

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.0051	U	53494-70-5	Endrin Ketone	0.0051	U
309-00-2	Aldrin	0.0051	U	58-89-9	gamma-BHC	0.0010	U
319-84-6	alpha-BHC	0.0010	U	76-44-8	Heptachlor	0.0051	U
319-85-7	beta-BHC	0.0010	U	1024-57-3	Heptachlor Epoxide	0.0051	U
319-86-8	delta-BHC	0.0051	U	72-43-5	Methoxychlor	0.0051	U
60-57-1	Dieldrin	0.0010	U	72-54-8	p,p'-DDD	0.0026	U
959-98-8	Endosulfan I	0.0051	U	72-55-9	p,p'-DDE	0.0026	U
33213-65-9	Endosulfan II	0.0051	U	50-29-3	p,p'-DDT	0.0026	U
1031-07-8	Endosulfan Sulfate	0.0051	U	8001-35-2	Toxaphene	0.026	U
72-20-8	Endrin	0.0051	U	5103-74-2	gamma-chlordane	0.0051	U
7421-93-4	Endrin Aldehyde	0.0051	U	57-74-9	Chlordane (Total)	0.0051	U

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of alpha-Chlordane and gamma-Chlordane.*

Data Path : G:\Gcdata\2016\GC_6\Data\04-20-16\
 Data File : 6G65769.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 14:46
 Operator : MS/ZM/MLC
 Sample : AC90773-004
 Misc : S,PEST
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 20 15:16:35 2016
 Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

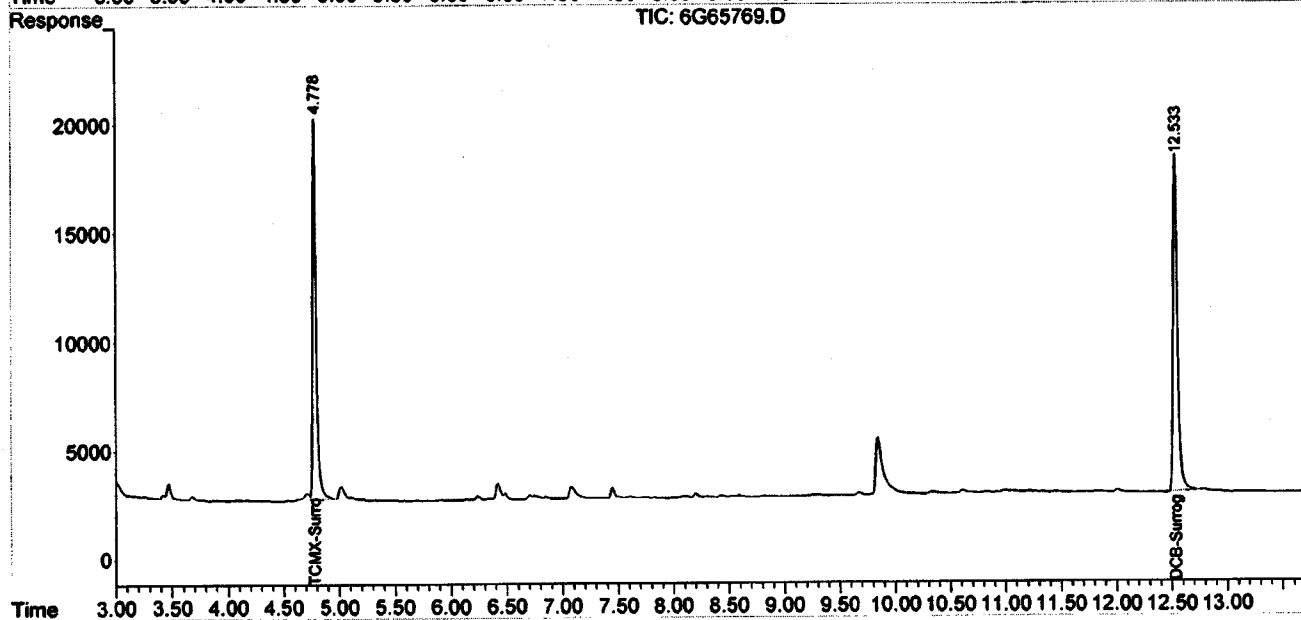
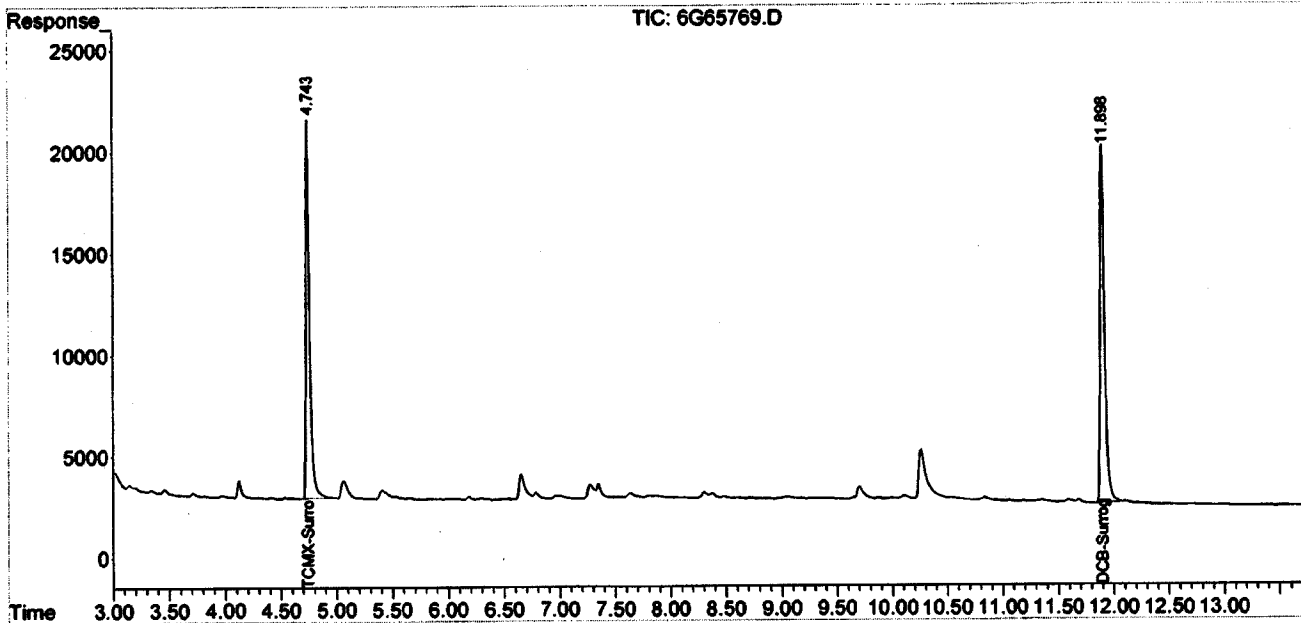
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	4.744	4.778	432071	376350	85.130	87.220
22)DCB-Surrogate	11.900	12.534	478123	428418	93.759	98.458

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-20-16\
 Data File : 6G65769.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 14:46
 Operator : MS/ZM/MLC
 Sample : AC90773-004
 Misc : S,PEST
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 20 15:16:35 2016
 Quant Method : G:\GCDATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32



Form1
ORGANICS PESTICIDE REPORT

Sample Number: AC90773-009	Method: EPA 8081B
Client Id: SS-01	Matrix: Soil
Data File: 6G65806.D	Initial Vol: 20g
Analysis Date: 04/21/16 14:07	Final Vol: 10ml
Date Rec/Extracted: 04/14/16-04/19/16	Dilution: 1
Column: DB-17/1701P 30M 0.32mm ID 0.25um film	Solids: 85

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.0059	U	53494-70-5	Endrin Ketone	0.0059	U
309-00-2	Aldrin	0.0059	U	58-89-9	gamma-BHC	0.0012	U
319-84-6	alpha-BHC	0.0012	U	76-44-8	Heptachlor	0.0059	U
319-85-7	beta-BHC	0.0012	U	1024-57-3	Heptachlor Epoxide	0.0059	U
319-86-8	delta-BHC	0.0059	U	72-43-5	Methoxychlor	0.0059	U
60-57-1	Dieldrin	0.0012	U	72-54-8	p,p'-DDD	0.0029	U
959-98-8	Endosulfan I	0.0059	U	72-55-9	p,p'-DDE	0.0029	U
33213-65-9	Endosulfan II	0.0059	U	50-29-3	p,p'-DDT	0.0029	U
1031-07-8	Endosulfan Sulfate	0.0059	U	8001-35-2	Toxaphene	0.029	U
72-20-8	Endrin	0.0059	U	5103-74-2	gamma-chlordane	0.0059	U
7421-93-4	Endrin Aldehyde	0.0059	U	57-74-9	Chlordane (Total)	0.0059	U

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of alpha-Chlordane and gamma-Chlordane.*

Data Path : G:\Gcdata\2016\GC_6\Data\04-2116\
 Data File : 6G65806.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 21 Apr 2016 14:07
 Operator : MS/ZM/MLC
 Sample : AC90773-009
 Misc : S,PEST
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 21 15:00:10 2016
 Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

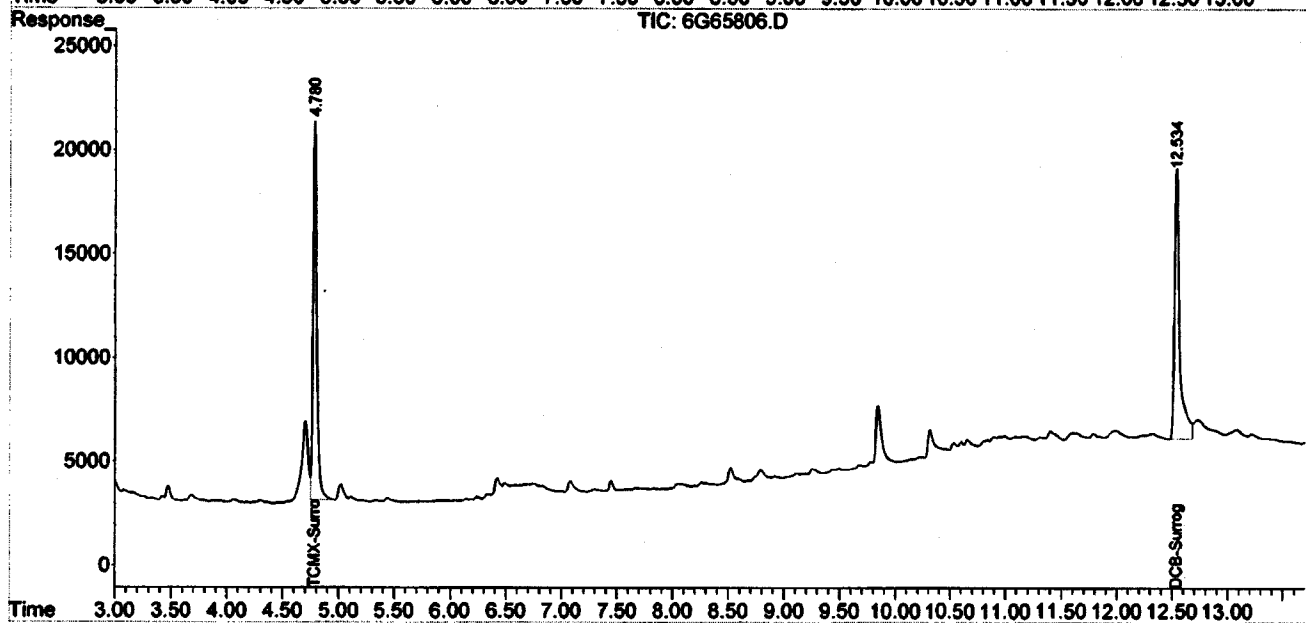
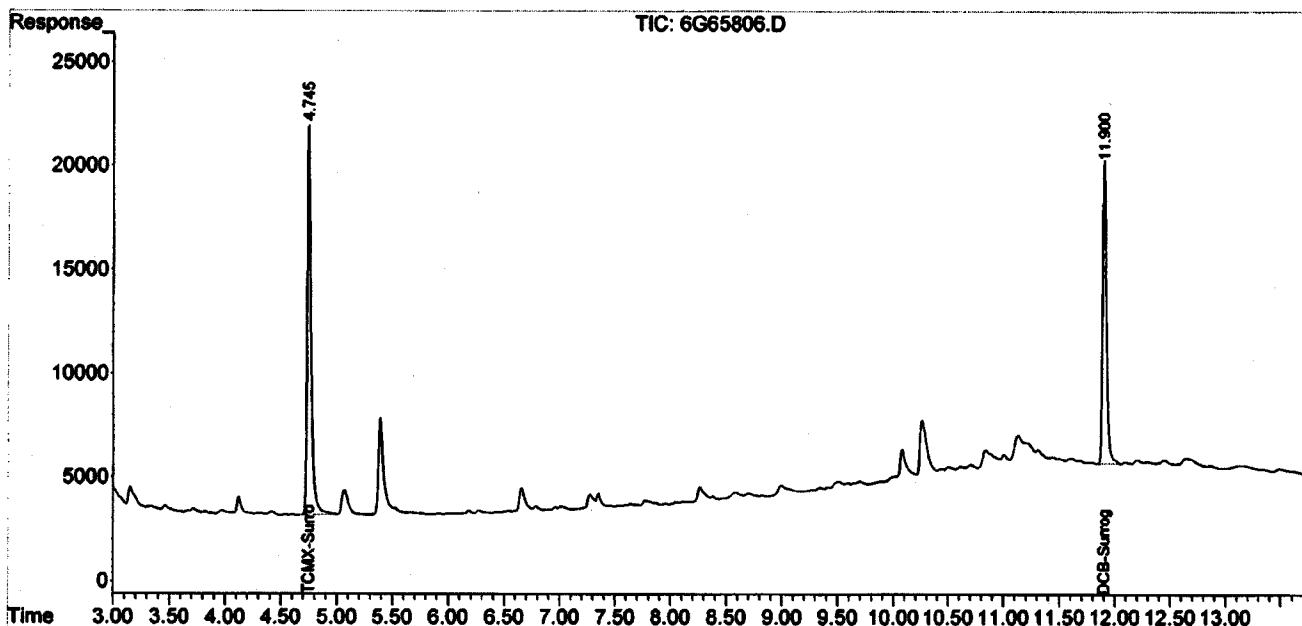
Target Compounds						
1)TCMX-Surrogate	4.747	4.780	458547	408771	90.346	94.734m
22)DCB-Surrogate	11.900	12.534	367242	420409	71.865m	96.580m#

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-2116\
 Data File : 6G65806.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 21 Apr 2016 14:07
 Operator : MS/ZM/MLC
 Sample : AC90773-009
 Misc : S,PEST
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 21 15:00:10 2016
 Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form1
ORGANICS PESTICIDE REPORT

Sample Number: AC90773-010
Client Id: SS-02
Data File: 6G65807.D
Analysis Date: 04/21/16 14:25
Date Rec/Extracted: 04/14/16-04/19/16
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B
Matrix: Soil
Initial Vol: 20g
Final Vol: 10ml
Dilution: 1
Solids: 94

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.0053	U	53494-70-5	Endrin Ketone	0.0053	U
309-00-2	Aldrin	0.0053	U	58-89-9	gamma-BHC	0.0011	U
319-84-6	alpha-BHC	0.0011	U	76-44-8	Heptachlor	0.0053	U
319-85-7	beta-BHC	0.0011	U	1024-57-3	Heptachlor Epoxide	0.0053	U
319-86-8	delta-BHC	0.0053	U	72-43-5	Methoxychlor	0.0053	U
60-57-1	Dieldrin	0.0011	U	72-54-8	p,p'-DDD	0.0027	U
959-98-8	Endosulfan I	0.0053	U	72-55-9	p,p'-DDE	0.0027	U
33213-65-9	Endosulfan II	0.0053	U	50-29-3	p,p'-DDT	0.0027	U
1031-07-8	Endosulfan Sulfate	0.0053	U	8001-35-2	Toxaphene	0.027	U
72-20-8	Endrin	0.0053	U	5103-74-2	gamma-chlordane	0.0053	U
7421-93-4	Endrin Aldehyde	0.0053	U	57-74-9	Chlordane (Total)	0.0053	U

Worksheet #: 380611

Total Target Concentration 0

ColumnID:(^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of alpha-Chlordane and gamma-Chlordane.*

Data Path : G:\Gcdata\2016\GC_6\Data\04-2116\
 Data File : 6G65807.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 21 Apr 2016 14:25
 Operator : MS/ZM/MLC
 Sample : AC90773-010
 Misc : S,PEST
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 21 15:04:36 2016
 Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

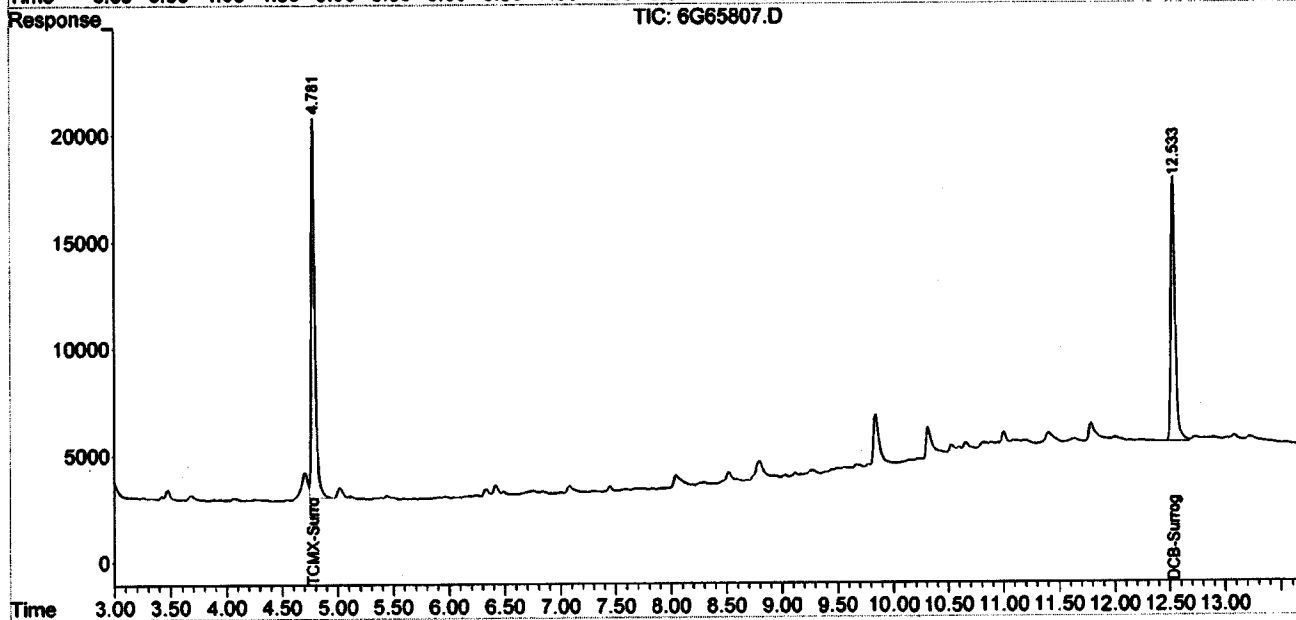
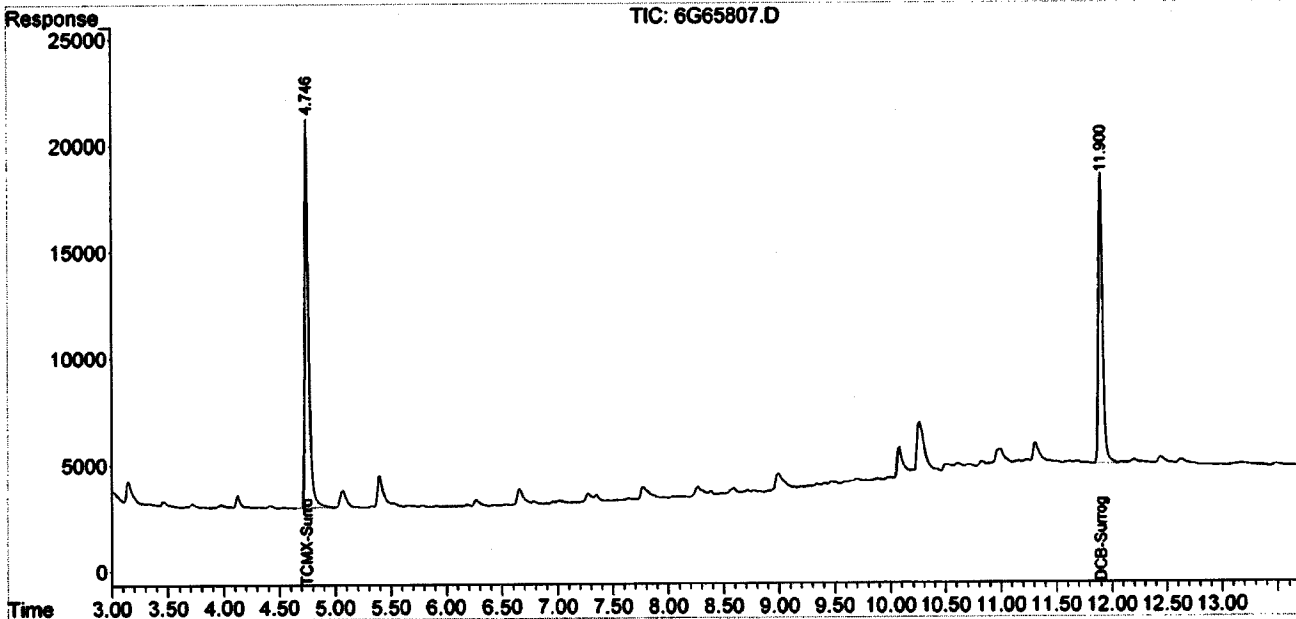
Target Compounds						
1)TCMX-Surrogate	4.748	4.781	447506	397393	88.171	92.097m
22)DCB-Surrogate	11.900	12.533	348982	322055	68.268m	73.638m

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-2116\
Data File : 6G65807.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 21 Apr 2016 14:25
Operator : MS/ZM/MLC
Sample : AC90773-010
Misc : S,PEST
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 21 15:04:36 2016
Quant Method : G:\GCDATA\2016\GC_6\METHODQT\6G_P0413ABC.M
Quant Title : @GC_6,ug,608,8081
QLast Update : Thu Apr 14 10:36:21 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701 Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32



Form1

ORGANICS PESTICIDE REPORT

Sample Number: AC90773-011

Client Id: DUP01

Data File: 6G65771.D

Analysis Date: 04/20/16 15:22

Date Rec/Extracted: 04/14/16-04/19/16

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B

Matrix: Soil

Initial Vol: 20g

Final Vol: 10ml

Dilution: 1

Solids: 94

Units: mg/Kg							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.0053	U	53494-70-5	Endrin Ketone	0.0053	U
309-00-2	Aldrin	0.0053	U	58-89-9	gamma-BHC	0.0011	U
319-84-6	alpha-BHC	0.0011	U	76-44-8	Heptachlor	0.0053	U
319-85-7	beta-BHC	0.0011	U	1024-57-3	Heptachlor Epoxide	0.0053	U
319-86-8	delta-BHC	0.0053	U	72-43-5	Methoxychlor	0.0053	U
60-57-1	Dieldrin	0.0011	U	72-54-8	p,p'-DDD	0.0027	U
959-98-8	Endosulfan I	0.0053	U	72-55-9	p,p'-DDE	0.0027	U
33213-65-9	Endosulfan II	0.0053	U	50-29-3	p,p'-DDT	0.0027	U
1031-07-8	Endosulfan Sulfate	0.0053	U	8001-35-2	Toxaphene	0.027	U
72-20-8	Endrin	0.0053	U	5103-74-2	gamma-chlordane	0.0053	U
7421-93-4	Endrin Aldehyde	0.0053	U	57-74-9	Chlordane (Total)	0.0053	U

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses

Chlordane (Total) is sum of alpha-Chlordane and gamma-Chlordane.

Data Path : G:\Gcdata\2016\GC_6\Data\04-20-16\
 Data File : 6G65771.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 15:22
 Operator : MS/ZM/MLC
 Sample : AC90773-011
 Misc : S,PEST
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 20 18:50:48 2016
 Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

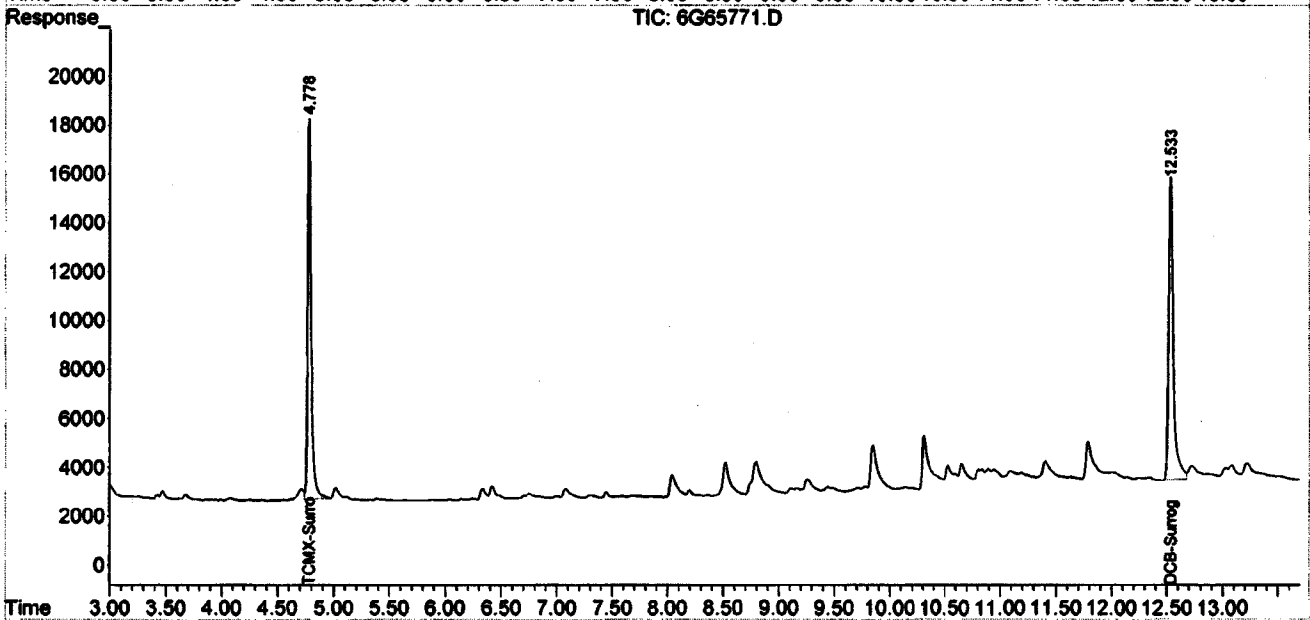
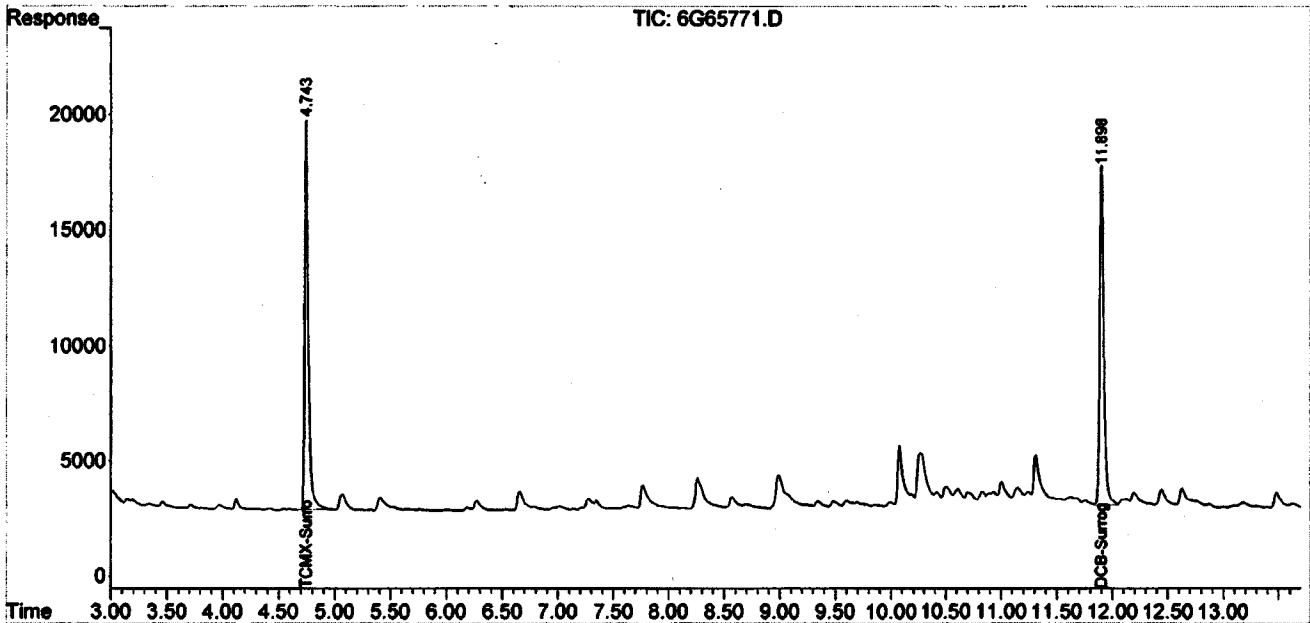
Target Compounds						
1)TCMX-Surrogate	4.744	4.779	383034	332959	75.468	77.164
22)DCB-Surrogate	11.899	12.534	386938	362206	75.747	82.977

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-20-16\
 Data File : 6G65771.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 15:22
 Operator : MS/ZM/MLC
 Sample : AC90773-011
 Misc : S,PEST
 ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 20 18:50:48 2016
 Quant Method : G:\GCDATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form 1
ORGANICS PESTICIDE REPORT

Sample Number: AC90773-012
 Client Id: FB01 U
 Data File: 5G64370.D
 Analysis Date: 04/19/16 05:47
 Date Rec/Extracted: 04/14/16-04/18/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B
 Matrix: Aqueous
 Initial Vol: 1000ml
 Final Vol: 5ml
 Dilution: 1
 Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.010	U	53494-70-5	Endrin Ketone	0.010	U
309-00-2	Aldrin	0.010	U	58-89-9	gamma-BHC	0.010	U
319-84-6	alpha-BHC	0.010	U	76-44-8	Heptachlor	0.010	U
319-85-7	beta-BHC	0.010	U	1024-57-3	Heptachlor Epoxide	0.010	U
319-86-8	delta-BHC	0.010	U	72-43-5	Methoxychlor	0.010	U
60-57-1	Dieldrin	0.010	U	72-54-8	p,p'-DDD	0.010	U
959-98-8	Endosulfan I	0.010	U	72-55-9	p,p'-DDE	0.010	U
33213-65-9	Endosulfan II	0.010	U	50-29-3	p,p'-DDT	0.010	U
1031-07-8	Endosulfan Sulfate	0.010	U	8001-35-2	Toxaphene	0.25	U
72-20-8	Endrin	0.010	U	5103-74-2	gamma-chlordane	0.010	U
7421-93-4	Endrin Aldehyde	0.010	U	57-74-9	Chlordane (Total)	0.010	U

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.
 B - Indicates the analyte was found in the blank as well as in the sample.
 E - Indicates the analyte concentration exceeds the calibration range of the instrument.*

*R - Retention Time Out
 J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
 d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration use a
 Chlordane (Total) is sum of alpha-Chlordane and gamma-Chlordane.*

Data Path : G:\Gcdata\2016\GC_5\Data\04-19-16\
 Data File : 5G64370.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19-Apr-16, 05:47:45
 Operator : MS/MLC/ZM
 Sample : AC90773-012
 Misc : A,PEST
 ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: PEST1.E
 Integration File signal 2: Pest2.e
 Quant Time: Apr 20 16:06:59 2016
 Quant Method : G:\GCDATA\2016\GC_5\METHODQT\5G_PEST413ABC.M
 Quant Title : @GC_5,ug,608,8081
 QLast Update : Thu Apr 14 09:29:37 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

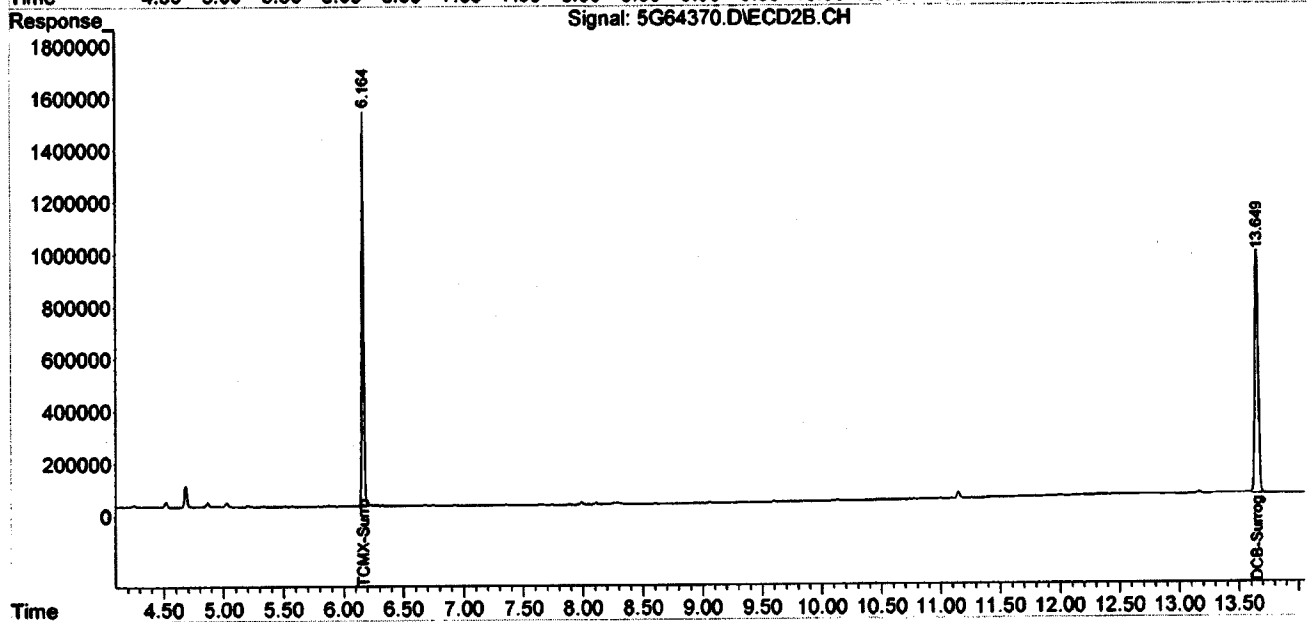
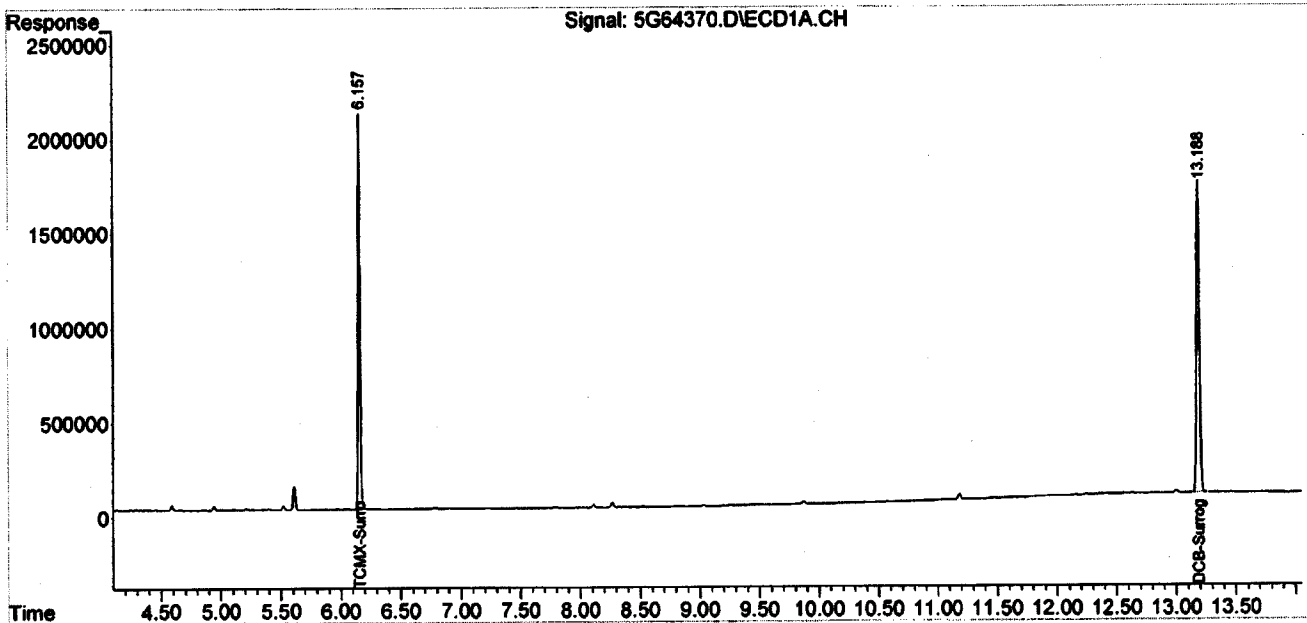
Target Compounds						
1)TCMX-Surrogate	6.157	6.164	25573404	18474237	65.486m	64.274m
22)DCB-Surrogate	13.188	13.649	27895213	18567529	80.914m	89.210m

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

Data Path : G:\Gcdata\2016\GC_5\Data\04-19-16\
 Data File : 5G64370.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19-Apr-16, 05:47:45
 Operator : MS/MLC/ZM
 Sample : AC90773-012
 Misc : A, PEST
 ALS Vial : 17 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: PEST1.E
 Integration File signal 2: Pest2.e
 Quant Time: Apr 20 16:06:59 2016
 Quant Method : G:\GC DATA\2016\GC_5\METHODQT\5G_PEST413ABC.M
 Quant Title : @GC_5,ug,608,8081
 QLast Update : Thu Apr 14 09:29:37 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase : db-17
 Signal #2 Info : .32



Form1
ORGANICS PESTICIDE REPORT

Sample Number: WMB49872	Method: EPA 8081B
Client Id:	Matrix: Aqueous
Data File: 6G65718.D	Initial Vol: 1000ml
Analysis Date: 04/19/16 04:41	Final Vol: 5ml
Date Rec/Extracted: NA-04/18/16	Dilution: 1
Column: DB-17/1701P 30M 0.32mm ID 0.25um film	Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.010	U	53494-70-5	Endrin Ketone	0.010	U
309-00-2	Aldrin	0.010	U	58-89-9	gamma-BHC	0.010	U
319-84-6	alpha-BHC	0.010	U	76-44-8	Heptachlor	0.010	U
319-85-7	beta-BHC	0.010	U	1024-57-3	Heptachlor Epoxide	0.010	U
319-86-8	delta-BHC	0.010	U	72-43-5	Methoxychlor	0.010	U
60-57-1	Dieldrin	0.010	U	72-54-8	p,p'-DDD	0.010	U
959-98-8	Endosulfan I	0.010	U	72-55-9	p,p'-DDE	0.010	U
33213-65-9	Endosulfan II	0.010	U	50-29-3	p,p'-DDT	0.010	U
1031-07-8	Endosulfan Sulfate	0.010	U	8001-35-2	Toxaphene	0.25	U
72-20-8	Endrin	0.010	U	5103-74-2	y-chlordane	0.010	U
7421-93-4	Endrin Aldehyde	0.010	U				

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**R - Retention Time Out**B - Indicates the analyte was found in the blank as well as in the sample.**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of a-Chlordane and y-Chlordane.*

Data Path : G:\Gcdata\2016\GC_6\Data\04-19-16\
 Data File : 6G65718.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 19 Apr 2016 4:41
 Operator : MS/ZM/MLC
 Sample : WMB49872
 Misc : A, PEST
 ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 19 15:37:20 2016
 Quant Method : G:\GC DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

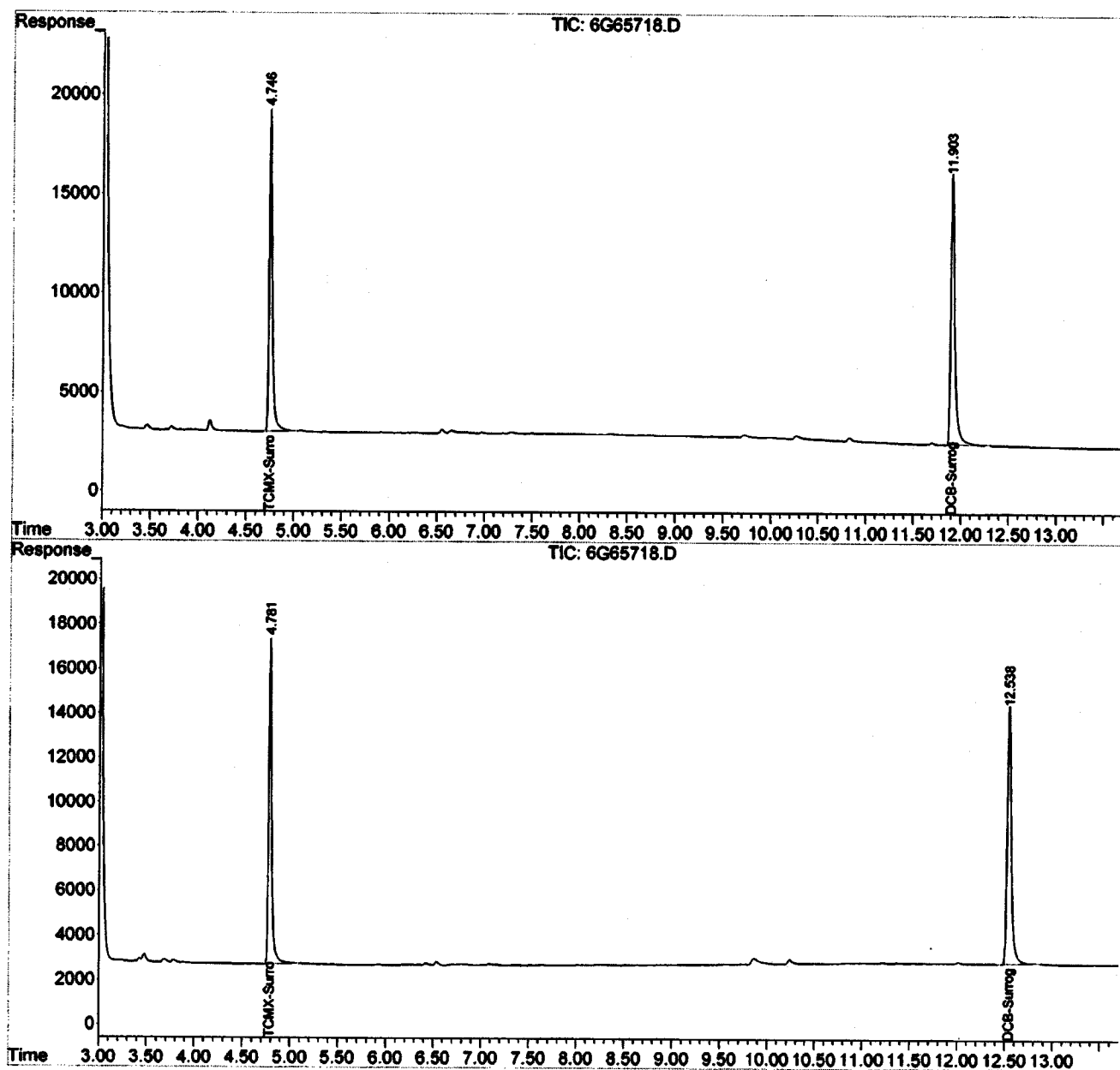
Target Compounds						
1)TCMX-Surrogate	4.747	4.783	376679	320635	74.216	74.308
22)DCB-Surrogate	11.905	12.539	409574	347405	80.213	79.530

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-19-16\
Data File : 6G65718.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 19 Apr 2016 4:41
Operator : MS/ZM/MLC
Sample : WMB49872
Misc : A, PEST
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Apr 19 15:37:20 2016
Quant Method : G:\GCDATA\2016\GC_6\METHODQT\6G_P0413ABC.M
Quant Title : @GC_6,ug,608,8081
QLast Update : Thu Apr 14 10:36:21 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701
Signal #1 Info : .32
Signal #2 Phase: db-17
Signal #2 Info : .32



Form1
ORGANICS PESTICIDE REPORT

Sample Number: SMB49882
 Client Id:
 Data File: 6G65765.D
 Analysis Date: 04/20/16 13:36
 Date Rec/Extracted: NA-04/19/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B
 Matrix: Soil
 Initial Vol: 20g
 Final Vol: 10ml
 Dilution: 1
 Solids: 100

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.0050	U	53494-70-5	Endrin Ketone	0.0050	U
309-00-2	Aldrin	0.0050	U	58-89-9	gamma-BHC	0.0010	U
319-84-6	alpha-BHC	0.0010	U	76-44-8	Heptachlor	0.0050	U
319-85-7	beta-BHC	0.0010	U	1024-57-3	Heptachlor Epoxide	0.0050	U
319-86-8	delta-BHC	0.0050	U	72-43-5	Methoxychlor	0.0050	U
60-57-1	Dieldrin	0.0010	U	72-54-8	p,p'-DDD	0.0025	U
959-98-8	Endosulfan I	0.0050	U	72-55-9	p,p'-DDE	0.0025	U
33213-65-9	Endosulfan II	0.0050	U	50-29-3	p,p'-DDT	0.0025	U
1031-07-8	Endosulfan Sulfate	0.0050	U	8001-35-2	Toxaphene	0.025	U
72-20-8	Endrin	0.0050	U	5103-74-2	gamma-chlordane	0.0050	U
7421-93-4	Endrin Aldehyde	0.0050	U				

Worksheet #: 380611

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses Chlordane (Total) is sum of alpha-Chlordane and gamma-Chlordane.

Data Path : G:\Gcdata\2016\GC_6\Data\04-20-16\
 Data File : 6G65765.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 13:36
 Operator : MS/ZM/MLC
 Sample : SMB49882
 Misc : S,PEST
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 20 15:13:26 2016
 Quant Method : G:\GC\DATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

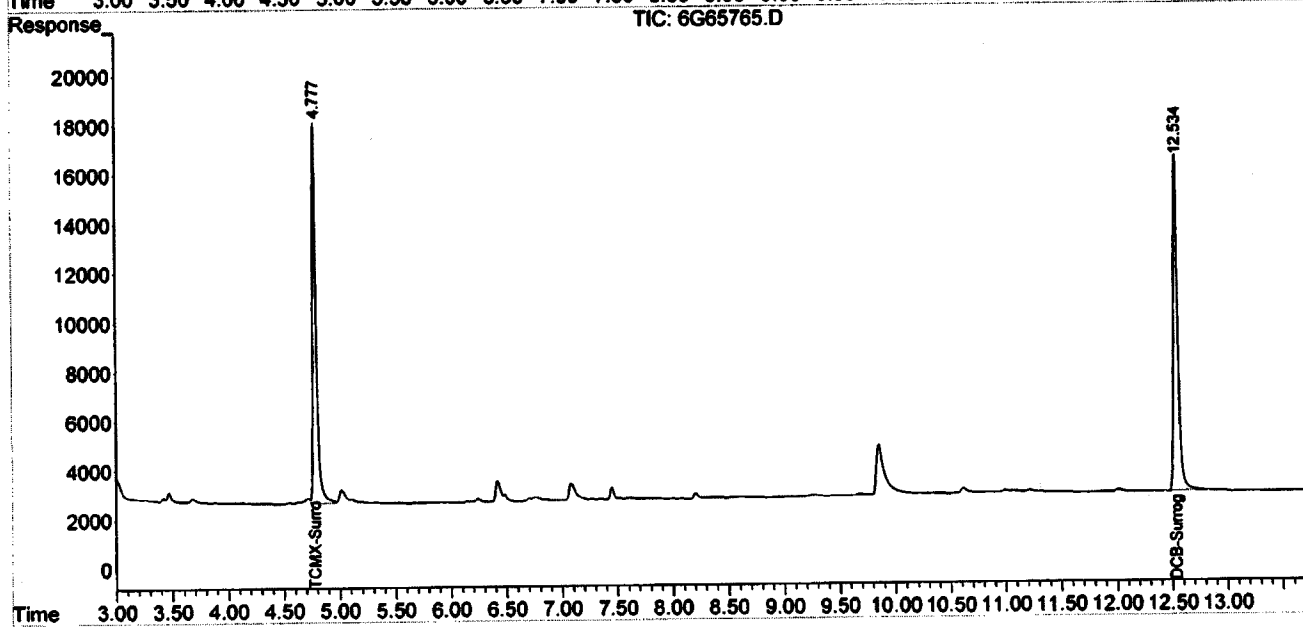
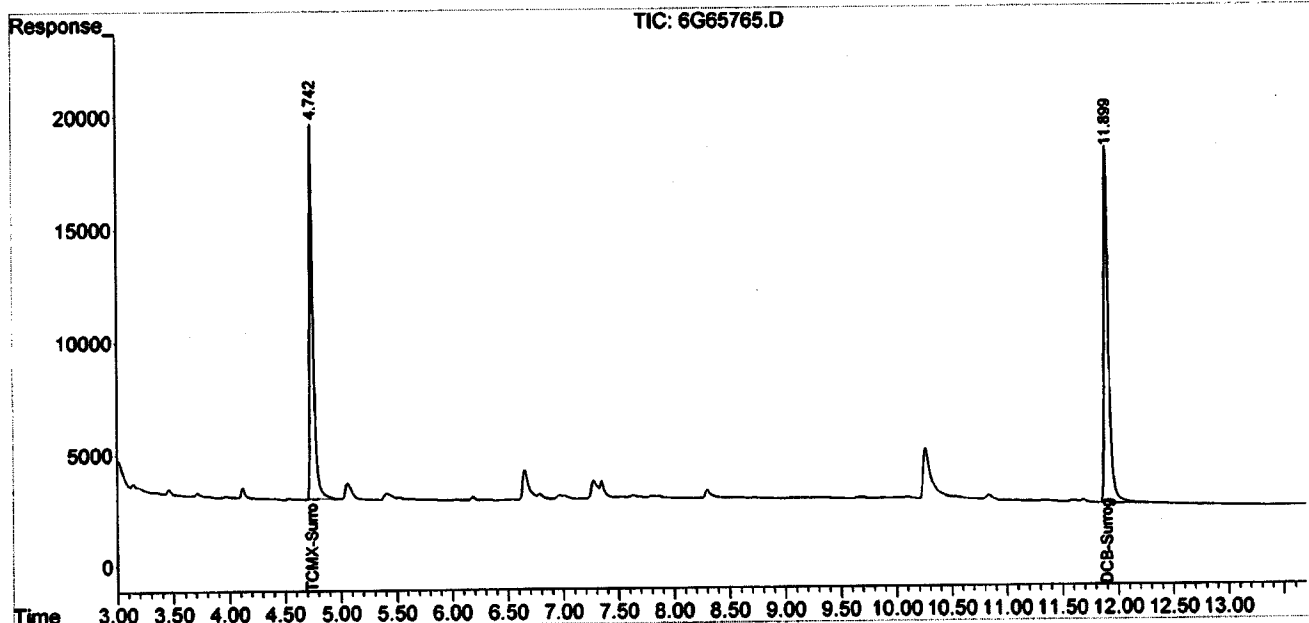
Target Compounds						
1)TCMX-Surrogate	4.743	4.779	389008	337467	76.645	78.209
22)DCB-Surrogate	11.900	12.535	442495	383998	86.714	88.062

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

Data Path : G:\Gcdata\2016\GC_6\Data\04-20-16\
 Data File : 6G65765.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 20 Apr 2016 13:36
 Operator : MS/ZM/MLC
 Sample : SMB49882
 Misc : S,PEST
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
 Integration File signal 2: autoint2.e
 Quant Time: Apr 20 15:13:26 2016
 Quant Method : G:\GCDATA\2016\GC_6\METHODQT\6G_P0413ABC.M
 Quant Title : @GC_6,ug,608,8081
 QLast Update : Thu Apr 14 10:36:21 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase : db-17
 Signal #2 Info : .32



FORM2

Surrogate Recovery

Method: EPA 8081B

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1 S1 Recov	Column2 S2 Recov	Column1 S3 Recov	Column2 S4 Recov	Column0 S5 Recov	Column0 S6 Recov
6G65718.D	WMB49872	A	04/19/16 04:41	1		74	74	80	80		
6G65765.D	SMB49882	S	04/20/16 13:36	1		77	78	87	88		
6G65810.D	AC90773-001(5X)	S	04/21/16 15:17	5		78	76	49	77		
6G65804.D	AC90773-002	S	04/21/16 13:32	1		85	89	68	91		
6G65770.D	AC90773-003	S	04/20/16 15:04	1		85	86	91	92		
6G65769.D	AC90773-004	S	04/20/16 14:46	1		85	87	94	98		
6G65806.D	AC90773-009	S	04/21/16 14:07	1		90	95	72	97		
6G65807.D	AC90773-010	S	04/21/16 14:25	1		88	92	68	74		
6G65771.D	AC90773-011	S	04/20/16 15:22	1		75	77	76	83		
5G64370.D	AC90773-012	A	04/19/16 05:47	1		65	64	81	89		
6G65719.D	WMB49872(MS)	A	04/19/16 04:58	1		67	69	80	81		
6G65766.D	SMB49882(MS)	S	04/20/16 13:54	1		73	75	77	79		
6G65767.D	AC90773-004(MS)	S	04/20/16 14:11	1		92	94	93	96		
6G65768.D	AC90773-004(MSD)	S	04/20/16 14:29	1		87	88	88	91		

Flags: SD=Surrogate diluted out

*=Surrogate out

Method: EPA 8081B

Soil DKQP Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	30-150
S2=TCMX-Surrogate	100	30-150
S3=DCB-Surrogate	100	30-150
S4=DCB-Surrogate	100	30-150

Aqueous DKQP Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	30-150
S2=TCMX-Surrogate	100	30-150
S3=DCB-Surrogate	100	30-150
S4=DCB-Surrogate	100	30-150

Form3
Recovery Data
QC Batch: WMB49872

Data File		Sample ID:		Analysis Date			
Spike or Dup: 6G65719.D		WMB49872(MS)		4/19/2016 4:58:00 AM			
Non Spike (If applicable):							
Inst Blank (If applicable):							
Method: 8081		Matrix: Aqueous		QC Type: MBS			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
alpha-BHC	1	68.81	0	100	69	40	140
gamma-BHC	1	68.57	0	100	69	40	140
beta-BHC	1	78	0	100	78	40	140
Heptachlor	1	79.23	0	100	79	40	140
delta-BHC	1	63.27	0	100	63	40	140
Aldrin	1	65.18	0	100	65	40	140
Heptachlor Epoxide	1	73.34	0	100	73	40	140
Endosulfan I	1	80.11	0	100	80	40	140
p,p'-DDE	1	67.92	0	100	68	40	140
Dieldrin	1	75.43	0	100	75	40	140
Endrin	1	68.44	0	100	68	40	140
p,p'-DDD	1	67.39	0	100	67	40	140
Endosulfan II	1	75.33	0	100	75	40	140
p,p'-DDT	1	77.98	0	100	78	40	140
Endrin Aldehyde	1	72.33	0	100	72	40	140
Endosulfan Sulfate	1	83.19	0	100	83	40	140
Methoxychlor	1	66.4	0	100	66	40	140
Endrin Ketone	1	76.3	0	100	76	40	140

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: SMB49882

Data File	Sample ID:	Analysis Date
Spike or Dup: 6G65766.D	SMB49882(MS)	4/20/2016 1:54:00 PM
Non Spike(If applicable):		
Inst Blank(If applicable):		
Method: 8081	Matrix: Soil	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
alpha-BHC	1	62.16	0	100	62	40	140
gamma-BHC	1	60.58	0	100	61	40	140
beta-BHC	1	70.75	0	100	71	40	140
Heptachlor	1	79.78	0	100	80	40	140
deta-BHC	1	56.74	0	100	57	40	140
Aldrin	1	63.59	0	100	64	40	140
Heptachlor Epoxide	1	65.19	0	100	65	40	140
Endosulfan I	1	72.72	0	100	73	40	140
p,p'-DDE	1	64.41	0	100	64	40	140
Dieldrin	1	67.87	0	100	68	40	140
Endrin	1	70.86	0	100	71	40	140
p,p'-DDD	1	64.88	0	100	65	40	140
Endosulfan II	1	67.58	0	100	68	40	140
p,p'-DDT	1	69.85	0	100	70	40	140
Endrin Aldehyde	1	59.92	0	100	60	40	140
Endosulfan Sulfate	1	75.49	0	100	75	40	140
Methoxychlor	1	86.63	0	100	87	40	140
Endrin Ketone	1	69.5	0	100	70	40	140

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: SMB49882

Data File		Sample ID:		Analysis Date			
Spike or Dup: 6G65767.D		AC90773-004(MS)		4/20/2016 2:11:00 PM			
Non Spike(If applicable): 6G65769.D		AC90773-004		4/20/2016 2:46:00 PM			
Inst Blank(If applicable):							
Method: 8081		Matrix: Soil		QC Type: MS			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
alpha-BHC	1	83.83	0	100	84	30	150
gamma-BHC	1	81.26	0	100	81	30	150
beta-BHC	1	92.64	0	100	93	30	150
Heptachlor	1	101.53	0	100	102	30	150
delta-BHC	1	75.96	0	100	76	30	150
Aldrin	1	85.82	0	100	86	30	150
Heptachlor Epoxide	1	87.21	0	100	87	30	150
Endosulfan I	1	95.39	0	100	95	30	150
p,p'-DDE	1	86.05	0	100	86	30	150
Dieldrin	1	89.68	0	100	90	30	150
Endrin	1	94.38	0	100	94	30	150
p,p'-DDD	1	84.53	0	100	85	30	150
Endosulfan II	1	87.27	0	100	87	30	150
p,p'-DDT	1	91.75	0	100	92	30	150
Endrin Aldehyde	1	77.68	0	100	78	30	150
Endosulfan Sulfate	1	96.65	0	100	97	30	150
Methoxychlor	1	112.36	0	100	112	30	150
Endrin Ketone	1	90.02	0	100	90	30	150

Data File		Sample ID:		Analysis Date			
Spike or Dup: 6G65768.D		AC90773-004(MSD)		4/20/2016 2:29:00 PM			
Non Spike(If applicable): 6G65769.D		AC90773-004		4/20/2016 2:46:00 PM			
Inst Blank(If applicable):							
Method: 8081		Matrix: Soil		QC Type: MSD			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
alpha-BHC	1	79.32	0	100	79	30	150
gamma-BHC	1	77.71	0	100	78	30	150
beta-BHC	1	89.76	0	100	90	30	150
Heptachlor	1	97.33	0	100	97	30	150
delta-BHC	1	74.43	0	100	74	30	150
Aldrin	1	81.51	0	100	82	30	150
Heptachlor Epoxide	1	82	0	100	82	30	150
Endosulfan I	1	90.45	0	100	90	30	150
p,p'-DDE	1	82.43	0	100	82	30	150
Dieldrin	1	86	0	100	86	30	150
Endrin	1	90.65	0	100	91	30	150
p,p'-DDD	1	81.6	0	100	82	30	150
Endosulfan II	1	84.12	0	100	84	30	150
p,p'-DDT	1	88.85	0	100	89	30	150
Endrin Aldehyde	1	75.1	0	100	75	30	150
Endosulfan Sulfate	1	94.33	0	100	94	30	150
Methoxychlor	1	115.27	0	100	115	30	150
Endrin Ketone	1	87.27	0	100	87	30	150

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

**Form3
RPD Data**

QC Batch: SMB49882

Data File	Sample ID:	Analysis Date
Spike or Dup: 6G65768.D	AC90773-004(MSD)	4/20/2016 2:29:00 PM
Duplicate(If applicable): 6G65767.D	AC90773-004(MS)	4/20/2016 2:11:00 PM
Inst Blank(If applicable):		
Method: 8081	Matrix: Soil	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD		Sample/MS/MBS	RPD	Limit
		Conc	Conc	Conc		
alpha-BHC	1	79.32	83.83	83.83	5.5	30
gamma-BHC	1	77.71	81.26	81.26	4.5	30
beta-BHC	1	89.76	92.64	92.64	3.2	30
Heptachlor	1	97.33	101.53	101.53	4.2	30
delta-BHC	1	74.43	75.96	75.96	2	30
Aldrin	1	81.51	85.82	85.82	5.2	30
Heptachlor Epoxide	1	82	87.21	87.21	6.2	30
Endosulfan I	1	90.45	95.39	95.39	5.3	30
p,p'-DDE	1	82.43	86.05	86.05	4.3	30
Dieldrin	1	86	89.68	89.68	4.2	30
Endrin	1	90.65	94.38	94.38	4	30
p,p'-DDD	1	81.6	84.53	84.53	3.5	30
Endosulfan II	1	84.12	87.27	87.27	3.7	30
p,p'-DDT	1	88.85	91.75	91.75	3.2	30
Endrin Aldehyde	1	75.1	77.68	77.68	3.4	30
Endosulfan Sulfate	1	94.33	96.65	96.65	2.4	30
Methoxychlor	1	115.27	112.36	112.36	2.6	30
Endrin Ketone	1	87.27	90.02	90.02	3.1	30

* - Indicates outside of limits

NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: WMB49872
Blank Data File: 6G65718.D
Matrix: Aqueous

Blank Analysis Date: 04/19/16 04:41
Blank Extraction Date: 04/18/16
(If Applicable)
Method: EPA 8081B

Sample Number	Data File	Analysis Date
AC90773-012	5G64370.D	04/19/16 05:47
WMB49872(MS)	6G65719.D	04/19/16 04:58

FORM 4
Blank SummaryBlank Number: SMB49882
Blank Data File: 6G65765.D
Matrix: SoilBlank Analysis Date: 04/20/16 13:36
Blank Extraction Date: 04/19/16
(If Applicable)
Method: EPA 8081B

Sample Number	Data File	Analysis Date
AC90773-001(5X)	6G65610.D	04/21/16 15:17
AC90773-002	6G65604.D	04/21/16 13:32
AC90773-003	6G65770.D	04/20/16 15:04
AC90773-004	6G65769.D	04/20/16 14:46
AC90773-009	6G65806.D	04/21/16 14:07
AC90773-010	6G65807.D	04/21/16 14:25
AC90773-011	6G65771.D	04/20/16 15:22
AC90773-004(MSD)	6G65768.D	04/20/16 14:29
AC90773-004(MS)	6G65767.D	04/20/16 14:11
SMB49882(MS)	6G65766.D	04/20/16 13:54

Form 5

Method: EPA 8081B

Instrument: GC_5

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
5G64277.D	CAL EVAL	04/13/16 17:09	Soil					
5G64278.D	CAL PEST@50PPB	04/13/16 17:31	Soil	5G64280.	13.2059	0.028	13.6526	0.0139
5G64279.D	CAL PEST@10PPB	04/13/16 17:48	Soil	5G64280.	13.2024	0.0015	13.6503	0.0029
5G64280.D	CAL PEST@2PPB	04/13/16 18:06	Soil	5G64280.	13.2022	0	13.6507	0
5G64281.D	CAL PEST@100PPB	04/13/16 18:24	Soil	5G64280.	13.2022	0	13.6510	0.0022
5G64282.D	2PPB	04/13/16 18:42	Soil	5G64280.	13.2009	0.0098	13.6509	0.0015
5G64283.D	CAL PEST@200PPB	04/13/16 19:00	Soil	5G64280.	13.2023	0.0008	13.6518	0.0081
5G64284.D	CAL PEST@400PPB	04/13/16 19:18	Soil	5G64280.	13.2017	0.0038	13.6511	0.0029
5G64285.D	CAL CHLOR@100PPB	04/13/16 19:36	Soil	5G64280.	13.2010	0.0091	13.6500	0.0051
5G64286.D	CAL TOX@500PPB	04/13/16 19:54	Soil	5G64280.	13.2004	0.0136	13.6500	0.0051
5G64287.D	ICV	04/13/16 20:12	Soil	5G64280.	13.2006	0.0121	13.6511	0.0029
5G64301.D	100	04/14/16 00:22	Soil	5G64280.	13.1974	0.0364	13.6499	0.0059
5G64302.D	200	04/14/16 00:40	Soil	5G64280.	13.1967	0.0417	13.6493	0.0103

Form 5

Method: EPA 8081B

Instrument: GC_6

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
6G65606.D	CAL EVAL	04/13/16 17:54	Soil					
6G65607.D	CAL PEST@2PPB	04/13/16 18:12	Soil	6G65607.	11.9058	0	12.5375	0
6G65608.D	CAL PEST@10PPB	04/13/16 18:29	Soil	6G65607.	11.9053	0.0042	12.5370	0.004
6G65609.D	CAL PEST@50PPB	04/13/16 18:47	Soil	6G65607.	11.9045	0.0109	12.5363	0.0086
6G65610.D	CAL PEST@100PPB	04/13/16 19:05	Soil	6G65607.	11.9050	0.0067	12.5362	0.0104
6G65611.D	CAL PEST@200PPB	04/13/16 19:22	Soil	6G65607.	11.9041	0.0143	12.5365	0.008
6G65612.D	CAL PEST@400PPB	04/13/16 19:40	Soil	6G65607.	11.9050	0.0067	12.5357	0.0144
6G65613.D	CAL CHLOR@100PPB	04/13/16 19:57	Soil	6G65607.	11.9043	0.0126	12.5359	0.0128
6G65614.D	CAL TOX@500PPB	04/13/16 20:15	Soil	6G65607.	11.9049	0.0076	12.5367	0.0064
6G65615.D	ICV	04/13/16 20:32	Soil	6G65607.	11.9050	0.0067	12.5365	0.008

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)
HAZ. - 423

* - Values outside of limits for this column/run

Form 5

Method: EPA 8081B

Instrument: GC_6

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
6G65710.D	CAL EVAL	04/18/16 23:42	Soil					
6G65711.D	EVAL	04/19/16 00:00	Soil					
6G65712.D	100PPB	04/19/16 02:55	Soil					
6G65713.D	CAL PEST@200PPB	04/19/16 03:13	Soil	6G65713.	11.9041	0	12.5382	0
6G65714.D	AC90725-016	04/19/16 03:30	Aqueous	6G65713.	11.9046	0.0042	12.5385	0.0024
6G65715.D	AC90725-015	04/19/16 03:48	Aqueous	6G65713.	11.9053	0.0101	12.5398	0.0128
6G65716.D	AC90725-014	04/19/16 04:06	Aqueous	6G65713.	11.9024	0.0143	12.5363	0.0152
6G65717.D	AC90725-013	04/19/16 04:23	Aqueous	6G65713.	11.9021	0.0168	12.5359	0.0183
6G65718.D	WMB49872	04/19/16 04:41	Aqueous	6G65713.	11.9047	0.005	12.5386	0.0032
6G65719.D	WMB49872(MS)	04/19/16 04:58	Aqueous	6G65713.	11.9043	0.0017	12.5390	0.0064
6G65720.D	SMB49867	04/19/16 05:16	Soil	6G65713.	11.9029	0.0101	12.5369	0.0104
6G65721.D	SMB49867(MS)	04/19/16 05:33	Soil	6G65713.	11.9021	0.0168	12.5364	0.0144
6G65722.D	AC90729-007(MS)	04/19/16 05:51	Soil	6G65713.	11.9010	0.026	12.5345	0.0295
6G65723.D	AC90729-007(MSD)	04/19/16 06:08	Soil	6G65713.	11.9004	0.0311	12.5344	0.0303
6G65724.D	AC90729-007	04/19/16 06:26	Soil	6G65713.	11.9014	0.0227	12.5347	0.0279
6G65725.D	AC90729-001	04/19/16 06:43	Soil	6G65713.	11.9029	0.0101	12.5344	0.0303
6G65726.D	AC90729-009	04/19/16 07:01	Soil	6G65713.	11.8994	0.0395	12.5341	0.0327
6G65727.D	AC90729-012	04/19/16 07:19	Soil	6G65713.	11.9004	0.0311	12.5332	0.0399
6G65728.D	AC90729-013	04/19/16 07:36	Soil	6G65713.	11.9000	0.0345	12.5326	0.0447
6G65729.D	AC90736-001	04/19/16 07:54	Soil	6G65713.	11.9014	0.0227	12.5355	0.0215
6G65730.D	AC90743-003	04/19/16 08:11	Soil	6G65713.	11.9024	0.0143	12.5343	0.0311
6G65731.D	AC90743-001	04/19/16 08:29	Soil	6G65713.	11.9017	0.0202	12.5350	0.0255
6G65732.D	AC90742-001	04/19/16 08:46	Soil	6G65713.	11.9004	0.0311	12.5331	0.0407
6G65733.D	AC90649-001	04/19/16 09:04	Soil	6G65713.	11.9023	0.0151	12.5340	0.0335
6G65734.D	CAL EVAL	04/19/16 09:47	Soil					
6G65735.D	CAL PEST@100PPB	04/19/16 10:11	Soil	6G65713.	11.9062	0.0176	12.5378	0.0032
6G65736.D	49879	04/19/16 10:50	OIL/OTHER	6G65735.	11.9083	0.0176	12.5369	0.0072
6G65737.D	49879(MS)	04/19/16 11:08	OIL/OTHER	6G65735.	11.9046	0.0134	12.5366	0.0096
6G65738.D	OMB49878	04/19/16 11:26	OIL/OTHER	6G65735.	11.9037	0.021	12.5373	0.004
6G65739.D	OMB49878(MS)	04/19/16 11:43	OIL/OTHER	6G65735.	11.9027	0.0294	12.5364	0.0112
6G65740.D	AC90756-001(5X)	04/19/16 12:01	OIL/OTHER	6G65735.	11.9046	0.0134	12.5374	0.0032
6G65741.D	AC90756-002(5X)	04/19/16 12:18	OIL/OTHER	6G65735.	11.9031	0.026	12.5360	0.0144
6G65742.D	AC90756-003(5X)	04/19/16 12:36	OIL/OTHER	6G65735.	11.9031	0.026	12.5368	0.008
6G65743.D	AC90756-004(5X)	04/19/16 12:53	OIL/OTHER	6G65735.	11.9031	0.026	12.5369	0.0072
6G65744.D	AC90756-001(5X)(MS)	04/19/16 13:19	OIL/OTHER	6G65735.	11.9073	0.0092	12.5378	0
6G65745.D	AC90756-001(5X)(MSD)	04/19/16 13:37	OIL/OTHER	6G65735.	11.9054	0.0067	12.5371	0.0056
6G65746.D	CAL PEST@100PPB	04/19/16 14:19	OIL/OTHER	6G65735.	11.9021	0.0344	12.5342	0.0287
6G65747.D	WMB49886	04/19/16 14:54	Aqueous	6G65746.	11.9062	0.0344	12.5355	0.0104
6G65748.D	WMB49886(MS)	04/19/16 15:12	Aqueous	6G65746.	11.9029	0.0067	12.5361	0.0152
6G65749.D	AC90563-002(T)(MS)	04/19/16 15:29	Aqueous	6G65746.	11.9034	0.0109	12.5360	0.0144
6G65750.D	AC90563-002(T)(MSD)	04/19/16 15:47	Aqueous	6G65746.	11.9027	0.005	12.5363	0.0168
6G65751.D	CAL PEST@100PPB	04/19/16 16:04	Aqueous	6G65746.	11.9035	0.0118	12.5369	0.0215

Form 5

Method: EPA 8081B

Instrument: GC_5

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
5G64354.D	CAL EVAL	04/19/16 01:01	Soil					
5G64355.D	100PPB	04/19/16 01:19	Soil					
5G64356.D	CAL PEST@200PPB	04/19/16 01:37	Soil	5G64356.	13.1919	0	13.6524	0
5G64357.D	AC90754-002(TY)(MS)	04/19/16 01:55	Aqueous	5G64356.	13.1903	0.0121	13.6509	0.011
5G64358.D	AC90754-002(TY)(MSD)	04/19/16 02:13	Aqueous	5G64356.	13.1902	0.0129	13.6509	0.011
5G64359.D	AC90754-002(T)	04/19/16 02:30	Aqueous	5G64356.	13.1891	0.0212	13.6519	0.0037
5G64360.D	AC90755-001(T)	04/19/16 02:48	Aqueous	5G64356.	13.1890	0.022	13.6511	0.0095
5G64361.D	AC90755-002(T)	04/19/16 03:06	Aqueous	5G64356.	13.1885	0.0258	13.6497	0.0198
5G64362.D	AC90757-002(T)	04/19/16 03:24	Aqueous	5G64356.	13.1881	0.0288	13.6504	0.0146
5G64363.D	AC90757-004(T)	04/19/16 03:42	Aqueous	5G64356.	13.1881	0.0288	13.6499	0.0183
5G64364.D	EF-V-1-220538(4/15)	04/19/16 04:00	Aqueous	5G64356.	13.1892	0.0205	13.6506	0.0132
5G64365.D	AC90756-005(T)	04/19/16 04:18	Aqueous	5G64356.	13.1867	0.0394	13.6491	0.0242
5G64366.D	AC90756-007(T)	04/19/16 04:36	Aqueous	5G64356.	13.1884	0.0265	13.6501	0.0169
5G64367.D	AC90777-003	04/19/16 04:54	Aqueous	5G64356.	13.1881	0.0288	13.6489	0.0256
5G64368.D	AC90777-004	04/19/16 05:11	Aqueous	5G64356.	13.1873	0.0349	13.6504	0.0146
5G64369.D	AC90777-005	04/19/16 05:29	Aqueous	5G64356.	13.1885	0.0258	13.6504	0.0146
5G64370.D	AC90773-012	04/19/16 05:47	Aqueous	5G64356.	13.1876	0.0326	13.6493	0.0227
5G64371.D	AC90777-001	04/19/16 06:05	Aqueous	5G64356.	13.1878	0.0311	13.6500	0.0176
5G64372.D	AC90777-002	04/19/16 06:23	Aqueous	5G64356.	13.1892	0.0205	13.6502	0.0161
5G64373.D	AC90649-001(MS)	04/19/16 06:41	Soil	5G64356.	13.1878	0.0311	13.6494	0.022
5G64374.D	AC90649-001(MSD)	04/19/16 06:59	Soil	5G64356.	13.1880	0.0296	13.6506	0.0132
5G64375.D	AC90710-001	04/19/16 07:17	Soil	5G64356.	13.1876	0.0326	13.6497	0.0198
5G64376.D	CAL EVAL	04/19/16 09:44	Soil					
5G64377.D	CAL PEST@100PPB	04/19/16 10:11	Soil	5G64356.	13.1931	0.0091	13.6510	0.0103
5G64378.D	AC90563-002(T)	04/19/16 13:47	Aqueous	5G64377.	13.1989	0.044	13.6530	0.0146
5G64379.D	AC90563-003(T)	04/19/16 14:05	Aqueous	5G64377.	13.1905	0.0197	13.6509	0.0007
5G64380.D	AC90564-002(T)	04/19/16 14:23	Aqueous	5G64377.	13.1889	0.0318	13.6508	0.0015
5G64381.D	EF-SPLP-V-230937(4/14)	04/19/16 14:41	Aqueous	5G64377.	13.1870	0.0462	13.6509	0.0007
5G64382.D	CAL PEST@100PPB	04/19/16 15:03	Aqueous	5G64377.	13.1909	0.0167	13.6511	0.0007

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)
HAZ. - 425

* - Values outside of limits for this column/run

Form 5

Method: EPA 8081B

Instrument: GC_6

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
6G65752.D	TEST	04/20/16 01:01	Aqueous					
6G65753.D	100PPB	04/20/16 09:41	Aqueous					
6G65754.D	CAL EVAL	04/20/16 10:15	Aqueous					
6G65755.D	CAL PEST@200PPB	04/20/16 10:36	Aqueous	6G65755.	11.9024	0	12.5355	0
6G65756.D	WMB49892	04/20/16 10:58	Aqueous	6G65755.	11.9025	0.0008	12.5345	0.008
6G65757.D	WMB49892(MS)	04/20/16 11:16	Aqueous	6G65755.	11.9009	0.0126	12.5352	0.0024
6G65758.D	AC90763-001(T)(MS)	04/20/16 11:33	Aqueous	6G65755.	11.9009	0.0126	12.5352	0.0024
6G65759.D	AC90763-001(T)(MSD)	04/20/16 11:51	Aqueous	6G65755.	11.9001	0.0193	12.5346	0.0072
6G65760.D	AC90763-001(T)	04/20/16 12:08	Aqueous	6G65755.	11.9003	0.0176	12.5347	0.0064
6G65761.D	AC90764-001(T)	04/20/16 12:26	Aqueous	6G65755.	11.9009	0.0126	12.5355	0
6G65762.D	AC90765-001(T)	04/20/16 12:43	Aqueous	6G65755.	11.9006	0.0151	12.5350	0.004
6G65763.D	AC90719-007(T)	04/20/16 13:01	Aqueous	6G65755.	11.9013	0.0092	12.5359	0.0032
6G65764.D	EF-1-V-230538/04/19/20	04/20/16 13:19	Aqueous	6G65755.	11.8994	0.0252	12.5344	0.0088
6G65765.D	SMB49882	04/20/16 13:36	Soil	6G65755.	11.9001	0.0193	12.5353	0.0016
6G65766.D	SMB49882(MS)	04/20/16 13:54	Soil	6G65755.	11.9013	0.0092	12.5349	0.0048
6G65767.D	AC90773-004(MS)	04/20/16 14:11	Soil	6G65755.	11.9000	0.0202	12.5350	0.004
6G65768.D	AC90773-004(MSD)	04/20/16 14:29	Soil	6G65755.	11.9002	0.0185	12.5342	0.0104
6G65769.D	AC90773-004	04/20/16 14:46	Soil	6G65755.	11.8995	0.0244	12.5339	0.0128
6G65770.D	AC90773-003	04/20/16 15:04	Soil	6G65755.	11.8993	0.0261	12.5344	0.0088
6G65771.D	AC90773-011	04/20/16 15:22	Soil	6G65755.	11.8992	0.0269	12.5342	0.0104
6G65772.D	AC90760-001	04/20/16 15:39	Soil	6G65755.	11.8996	0.0235	12.5330	0.0199
6G65773.D	AC90761-005	04/20/16 15:57	Soil	6G65755.	11.8983	0.0345	12.5327	0.0223
6G65774.D	AC90761-003	04/20/16 16:14	Soil	6G65755.	11.9001	0.0193	12.5332	0.0183
6G65775.D	CAL PEST@200PPB	04/20/16 17:19	Soil	6G65755.	11.9034	0.0084	12.5358	0.0024

Form 5

Method: EPA 8081B

Instrument: GC_6

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
6G65793.D	CAL EVAL	04/21/16 09:52	Soil					
6G65794.D	200PPB	04/21/16 10:11	Soil					
6G65795.D	CAL PEST@100PPB	04/21/16 10:51	Soil	6G65795.	11.9016	0	12.5332	0
6G65796.D	SMB49902	04/21/16 11:12	Soil	6G65795.	11.9026	0.0084	12.5335	0.0024
6G65797.D	SMB49902(MS)	04/21/16 11:29	Soil	6G65795.	11.9002	0.0118	12.5335	0.0024
6G65798.D	AC90816-002(MS)	04/21/16 11:47	Soil	6G65795.	11.8990	0.0218	12.5304	0.0223
6G65799.D	AC90816-002(MSD)	04/21/16 12:04	Soil	6G65795.	11.8985	0.026	12.5315	0.0136
6G65800.D	AC90816-002	04/21/16 12:22	Soil	6G65795.	11.8983	0.0277	12.5313	0.0152
6G65801.D	AC90761-001	04/21/16 12:39	Soil	6G65795.	11.8979	0.0311	12.5318	0.0112
6G65802.D	AC90762-003	04/21/16 12:57	Soil	6G65795.	11.8978	0.0319	12.5318	0.0112
6G65803.D	AC90762-001	04/21/16 13:14	Soil	6G65795.	11.8988	0.0235	12.5317	0.012
6G65804.D	AC90773-002	04/21/16 13:32	Soil	6G65795.	11.8997	0.016	12.5328	0.0032
6G65805.D	AC90816-003	04/21/16 13:49	Soil	6G65795.	11.8991	0.021	12.5341	0.0072
6G65806.D	AC90773-009	04/21/16 14:07	Soil	6G65795.	11.9001	0.0126	12.5343	0.0088
6G65807.D	AC90773-010	04/21/16 14:25	Soil	6G65795.	11.9004	0.0101	12.5331	0.0008
6G65808.D	AC90760-003	04/21/16 14:42	Soil	6G65795.	11.8963	0.0445	12.5325	0.0056
6G65809.D	AC90816-001(5X)	04/21/16 15:00	Soil	6G65795.	11.8990	0.0218	12.5353	0.0168
6G65810.D	AC90773-001(5X)	04/21/16 15:17	Soil	6G65795.	11.9005	0.0092	12.5339	0.0056
6G65811.D	CAL PEST@100PPB	04/21/16 16:07	Soil	6G65795.	11.9002	0.0118	12.5334	0.0016

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)
HAZ. - 427

* - Values outside of limits for this column/run

Form 6

Initial Calibration

Method: EPA 8081B

Compound	Level #	Data File:	Cal Identifier:	Analysis Date/Time	Level #	Data File:	Cal Identifier:	Analysis Date/Time	Avg RI	RT	Corr1	Corr2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8
1 CMX-Surrogate	1	5G64280.D	CAL PEST@2PPB	04/13/16 18:06	2	5G64279.D	CAL PEST@10PPB	04/13/16 17:48	39.1	6.17	1.00	1.00	1.9	2.00	10.00	50.00	100.0	200.0	400.0		
1 alpha-BHC	1	5G64278.D	CAL PEST@50PPB	04/13/16 17:31	4	5G64281.D	CAL PEST@100PPB	04/13/16 18:24	54.6	7.46	1.00	1.00	9.7	2.00	10.00	50.00	100.0	200.0	400.0		
1 gamma-BHC	1	5G64283.D	CAL PEST@200PPB	04/13/16 19:00	6	5G64284.D	CAL PEST@400PPB	04/13/16 19:18	50.1	7.99	1.00	1.00	6.9	2.00	10.00	50.00	100.0	200.0	400.0		
1 beta-BHC	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36	8	5G64286.D	CAL TOX@500PPB	04/13/16 19:54	23.9	8.90	1.00	1.00	9.7	2.00	10.00	50.00	100.0	200.0	400.0		
1 delta-BHC	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					54.9	8.26	1.00	1.00	19	2.00	10.00	50.00	100.0	200.0	400.0		
1 Heptachlor	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					49.8	9.22	1.00	1.00	6.2	2.00	10.00	50.00	100.0	200.0	400.0		
1 delta-BHC	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					45.9	8.62	1.00	1.00	6.8	2.00	10.00	50.00	100.0	200.0	400.0		
1 Aldrin	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					41.8	9.44	1.00	1.00	4.1	2.00	10.00	50.00	100.0	200.0	400.0		
1 Heptachlor Epoxide	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					42.5	9.83	1.00	1.00	5.8	2.00	10.00	50.00	100.0	200.0	400.0		
1 gamma-BHC	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					49.9	9.89	1.00	1.00	3.2	2.00	10.00	50.00	100.0	200.0	400.0		
1 Endosulfan I	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					37.9	9.78	1.00	1.00	5.0	2.00	10.00	50.00	100.0	200.0	400.0		
1 Endosulfan II	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					39.9	9.98	1.00	1.00	8.8	2.00	10.00	50.00	100.0	200.0	400.0		
1 DDE	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					41.4	10.21	1.00	1.00	7.2	2.00	10.00	50.00	100.0	200.0	400.0		
1 Dieldrin	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					33.5	10.46	0.999	1.00	6.4	2.00	10.00	50.00	100.0	200.0	400.0		
1 Endrin	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					33.0	10.90	1.00	1.00	6.7	2.00	10.00	50.00	100.0	200.0	400.0		
1 DDD	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					36.9	11.01	1.00	1.00	3.7	2.00	10.00	50.00	100.0	200.0	400.0		
1 Endosulfan II	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					32.1	11.10	1.00	1.00	10	2.00	10.00	50.00	100.0	200.0	400.0		
1 DDT	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					27.3	11.49	0.999	1.00	9.2	2.00	10.00	50.00	100.0	200.0	400.0		
1 Aldrin	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					31.1	11.84	1.00	1.00	5.0	2.00	10.00	50.00	100.0	200.0	400.0		
1 Endosulfan Sulfate	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					17.8	11.77	1.00	1.00	4.7	2.00	10.00	50.00	100.0	200.0	400.0		
1 Methoxychlor	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					36.4	12.32	0.999	1.00	10	2.00	10.00	50.00	100.0	200.0	400.0		
1 Endrin Ketone	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					34.5	13.21	1.00	1.00	7.1	2.00	10.00	50.00	100.0	200.0	400.0		
1 DGB-Surrogate	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					1.80	8.06	-1	-1	LV#7	100.0							
1 Chloroform (Technical)	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					5.06	9.82	-1	-1	LV#7	100.0							
1 Chloroform (Technical)	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					8.68	9.88	-1	-1	LV#7	100.0							
1 Toxaphene	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					0.149	10.04	-1	-1	LV#8	500.0							
1 Toxaphene	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					0.587	10.58	-1	-1	LV#8	500.0							
1 Toxaphene	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					0.612	11.03	-1	-1	LV#8	500.0							
1 Toxaphene	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					0.491	11.34	-1	-1	LV#8	500.0							
1 Toxaphene	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					0.744	11.77	-1	-1	LV#8	500.0							
1 CMX-Surrogate	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					28.7	6.16	1.00	1.00	5.4	2.00	10.00	50.00	100.0	200.0	400.0		
1 alpha-BHC	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					40.2	7.18	1.00	1.00	4.7	2.00	10.00	50.00	100.0	200.0	400.0		
1 gamma-BHC	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					35.0	7.72	1.00	1.00	2.4	2.00	10.00	50.00	100.0	200.0	400.0		
1 beta-BHC	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					16.6	7.80	1.00	1.00	13	2.00	10.00	50.00	100.0	200.0	400.0		
1 Heptachlor	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					25.6	8.15	1.00	1.00	8.2	2.00	10.00	50.00	100.0	200.0	400.0		
1 delta-BHC	1	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36					35.9	8.29	1.00	1.00	2.9	2.00	10.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 8.44

Avg Rsd Col 2: 7.19

Flags

c - failed the initial calibration
 criteria(if applicable)

Note:

Col = Column Number
 M# = MultiPeak Analyte (s=single peak analyte, >0=multi peak analyte (i.e. ncb/chloroform etc...))
 Fit = Indicates whether Avg RF: Linear or Quadratic Curve was used for compound.
 Corr 1 = Correlation Coefficient for linear Fit.
 Corr 2 = Correlation Coefficient for quad Fit.

Note:

All Response Factors = Response Factors / 10000
 Initial Calibration Criteria: either %RSD <=20 or Corr >= .995
 Columns: Signal #1 dh-1701 ; Signal #2 dh-608

LV1: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	5G64280.D	CAL PEST@2PPB	04/13/16 18:06	2	5G64279.D	CAL PEST@10PPB	04/13/16 17:48
3	5G64278.D	CAL PEST@50PPB	04/13/16 17:31	4	5G64281.D	CAL PEST@100PPB	04/13/16 18:24
5	5G64283.D	CAL PEST@200PPB	04/13/16 19:00	6	5G64284.D	CAL PEST@400PPB	04/13/16 19:18
7	5G64285.D	CAL CHLOR@100PP	04/13/16 19:36	8	5G64286.D	CAL TOX@500PPB	04/13/16 19:54

Compound	Col Mtr. Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
Heptachlor Epoxide	2 0 Avg	33.313	30.832	31.560	32.536	32.707	31.955	---	---	32.2	8.59	1.00	1.00	2.8	2.00	10.00	50.00	100.0	200.0	400.0		
γ-chlordane	2 0 Avg	32.492	27.933	27.777	28.795	29.377	28.987	---	---	28.6	9.29	1.00	1.00	7.5	2.00	10.00	50.00	100.0	200.0	400.0		
α-chlordane	2 0 Avg	32.429	27.215	26.302	27.239	27.851	27.443	---	---	29.2	9.49	1.00	1.00	5.9	2.00	10.00	50.00	100.0	200.0	400.0		
Endosulfan I	2 0 Avg	30.436	25.928	25.187	26.175	26.657	26.207	---	---	28.1	9.69	1.00	1.00	7.8	2.00	10.00	50.00	100.0	200.0	400.0		
Dieldrin	2 0 Avg	28.082	25.192	26.021	27.135	28.171	27.639	---	---	26.8	9.73	1.00	1.00	7.0	2.00	10.00	50.00	100.0	200.0	400.0		
Endrin	2 0 Avg	28.169	25.691	26.318	27.584	28.513	28.272	---	---	27.1	9.97	1.00	1.00	4.5	2.00	10.00	50.00	100.0	200.0	400.0		
p,p'-DDD	2 0 Avg	25.542	22.057	22.506	21.157	20.515	19.310	---	---	21.8	10.56	0.999	1.00	9.8	2.00	10.00	50.00	100.0	200.0	400.0		
p,p'-DDT	2 0 Avg	23.027	19.914	20.173	20.940	22.176	22.140	---	---	21.4	10.64	1.00	1.00	5.8	2.00	10.00	50.00	100.0	200.0	400.0		
Endrin Aldehyde	2 0 Avg	17.234	14.891	15.410	15.713	17.246	17.633	---	---	25.4	10.76	1.00	1.00	9.0	2.00	10.00	50.00	100.0	200.0	400.0		
Endosulfan Sulfate	2 0 Avg	25.302	19.364	18.451	19.882	21.632	22.046	---	---	16.4	11.00	0.999	1.00	7.3	2.00	10.00	50.00	100.0	200.0	400.0		
Methoxychlor	2 0 Avg	25.778	20.973	19.777	20.290	21.677	21.457	---	---	21.1	11.15	0.999	1.00	12	2.00	10.00	50.00	100.0	200.0	400.0		
Endrin Kelone	2 0 Avg	9.4562	8.8774	8.1812	7.7972	8.5234	8.7115	---	---	8.59	12.00	0.999	1.00	6.7	2.00	10.00	50.00	100.0	200.0	400.0		
DCB-Surrogate	2 0 QUA	27.812	22.616	20.018	20.302	21.187	21.088	---	---	24.1	12.21	0.999	1.00	7.8	2.00	10.00	50.00	100.0	200.0	400.0		
Chlordane (Technical)	2 1 Avg	---	---	---	---	---	---	---	---	22.2	13.65	1.00	1.00	13	2.00	10.00	50.00	100.0	200.0	400.0		
Chlordane (Technical)	2 2 Avg	---	---	---	---	---	---	---	---	1.45	8.02	-1	-1	---	2.00	10.00	50.00	100.0	200.0	400.0		
Chlordane (Technical)	2 3 Avg	---	---	---	---	---	---	---	---	3.94	9.52	-1	-1	---	2.00	10.00	50.00	100.0	200.0	400.0		
Toxaphene	2 1 Avg	---	---	---	---	---	---	---	---	3.21	9.70	-1	-1	---	2.00	10.00	50.00	100.0	200.0	400.0		
Toxaphene	2 2 Avg	---	---	---	---	---	---	---	---	0.191	9.85	-1	-1	---	2.00	10.00	50.00	100.0	200.0	400.0		
Toxaphene	2 3 Avg	---	---	---	---	---	---	---	---	0.375	10.78	-1	-1	---	2.00	10.00	50.00	100.0	200.0	400.0		
Toxaphene	2 4 Avg	---	---	---	---	---	---	---	---	0.389	11.04	-1	-1	---	2.00	10.00	50.00	100.0	200.0	400.0		
Toxaphene	2 5 Avg	---	---	---	---	---	---	---	---	0.380	11.75	-1	-1	---	2.00	10.00	50.00	100.0	200.0	400.0		
Toxaphene	2 5 Avg	---	---	---	---	---	---	---	---	0.307	11.82	-1	-1	---	2.00	10.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 8.44 Avg Rsd Col 2: 7.19

Flags
c - failed the initial calibration criteria (if applicable)

Note:

Col = Column Number
Mtr = MultiPeak Analyte (0=single peak analyte, >0=multi peak analyte (i.e. nch/chlordane etc.))
Fit = Indicates whether Avg Rf, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Fn.
Corr 2 = Correlation Coefficient for quad Fn.
Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
Initial Calibration Criteria: either %RSD <= 20 or Corr >= .995
Columns: Signal #1 dh-1701 ; Signal #2 dh-608

LN	Method: EPA 8081B														
	Compound	Col Mtr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	CMX-Surrogate		1	0	0.4998	0.4761	0.4969	0.5192	0.5346	0.5186		2	6G65608.D	CAL PEST@10PPB	04/13/16 18:29
2			1	0	0.4130	0.4082	0.5218	0.6108	0.6844	0.7039		4	6G65610.D	CAL PEST@100PPB	04/13/16 19:05
3	alpha-BHC		1	0	0.4250	0.4221	0.5275	0.5982	0.6490	0.6550		6	6G65612.D	CAL PEST@400PPB	04/13/16 19:40
4	gamma-BHC		1	0	0.4125	0.3514	0.3416	0.3538	0.3572	0.3456		8	6G65614.D	CAL TOX@500PPB	04/13/16 20:15
5	beta-BHC		1	0	0.2258	0.2102	0.1988	0.2069	0.2273	0.2430					
6	Heptachlor		1	0	0.4078	0.3736	0.4623	0.5373	0.5699	0.6095					
7	delta-BHC		1	0	0.4377	0.4160	0.4813	0.5464	0.6039	0.6156					
8	Aldrin		1	0	0.4611	0.4213	0.4552	0.4956	0.5381	0.5435					
9	Heptachlor Epoxide		1	0	0.7570	0.5624	0.5787	0.6832	0.7537	0.7708					
10	gamma-chlorane		1	0	0.5765	0.4940	0.5131	0.5600	0.6029	0.6296					
11	Endosulfan I		1	0	0.3154	0.2980	0.3274	0.3549	0.3714	0.3278					
12	p,p'-DDE		1	0	0.4688	0.3989	0.4542	0.5199	0.5802	0.5996					
13	Dieldrin		1	0	0.4863	0.3810	0.4217	0.4783	0.5255	0.5418					
14	Endrin		1	0	0.3605	0.3289	0.3567	0.3895	0.4312	0.4190					
15	p,p'-DDD		1	0	0.4193	0.3733	0.3747	0.4043	0.4376	0.4480					
16	Endosulfan II		1	0	0.4150	0.4194	0.4366	0.4718	0.5074	0.5130					
17	p,p'-DDT		1	0	0.0512	0.1385	0.1998	0.2294	0.2615	0.2789					
18	Endrin Alketyde		1	0	0.3938	0.3780	0.3725	0.3963	0.4095	0.4193					
19	Endosulfan Sulfate		1	0	0.3724	0.3433	0.3676	0.3924	0.4253	0.4447					
20	Methoxychlor		1	0	0.0568	0.0678	0.0892	0.0981	0.1059	0.1008					
21	Endrin Ketone		1	0	0.2847	0.3185	0.3826	0.4248	0.4606	0.4685					
22	DCB-Surrogate		1	0	0.5707	0.5438	0.5065	0.5054	0.5067	0.4947					
23	Chlordane (Technical)		1	1	1	1	1	1	1	1					
24	Chlordane (Technical)		1	2	1	1	1	1	1	1					
25	Chlordane (Technical)		1	3	1	1	1	1	1	1					
26	Toxaphene		1	1	1	1	1	1	1	1					
27	Toxaphene		1	2	1	1	1	1	1	1					
28	Toxaphene		1	3	1	1	1	1	1	1					
29	Toxaphene		1	4	1	1	1	1	1	1					
30	Toxaphene		1	5	1	1	1	1	1	1					
31	TCMX-Surrogate		2	0	0.4571	0.3983	0.4194	0.4383	0.4458	0.4299					
32	alpha-BHC		2	0	0.3500	0.3510	0.4509	0.5263	0.5837	0.5955					
33	gamma-BHC		2	0	0.3636	0.3537	0.4272	0.4856	0.5278	0.5310					
34	beta-BHC		2	0	0.2932	0.3039	0.2948	0.3018	0.3063	0.2933					
35	Heptachlor		2	0	0.2492	0.2242	0.2279	0.2463	0.2767	0.2922					
36	delta-BHC		2	0	0.3289	0.3250	0.4032	0.4690	0.5218	0.5296					

Avg Rsd Col 1: 13.66 Avg Rsd Col 2: 12.08

Flags
c - failed the initial calibration criteria (if applicable)

Note:
Cal = Column Number
Mr = MultiPeak Analyte (single peak analyte, >0=multi peak analyte (i.e. nch/chlordane etc.))
Fig = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Fn.
Corr 2 = Correlation Coefficient for quad Fn.
*Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
Initial Calibration Criteria: either %RSD <= 20 or Corr >= .995
Columns: Signal #1 dh-1701 : Signal #2 dh-508

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6G65607.D	CAL PEST@2PPB	04/13/16 18:12	2	6G65608.D	CAL PEST@10PPB	04/13/16 18:29	3	6G65609.D	CAL PEST@50PPB	04/13/16 18:47	4	6G65610.D	CAL PEST@100PPB	04/13/16 19:05
3	6G65611.D	CAL PEST@200PPB	04/13/16 19:22	6	6G65612.D	CAL PEST@400PPB	04/13/16 19:40	5	6G65613.D	CAL CHLOR@100PP	04/13/16 19:57	8	6G65614.D	CAL TOX@500PPB	04/13/16 20:15
7	6G65613.D	CAL CHLOR@100PP	04/13/16 19:57	8	6G65614.D	CAL TOX@500PPB	04/13/16 20:15								

Compound	Col Nr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Red	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
DDAldrin	2	0	0.3696	0.3486	0.3961	0.4490	0.4960	0.5042	---	---	0.427	7.16	0.999	0.999	15	2.00	10.00	50.00	100.0	200.0	400.0		
Heptachlor Epoxide	2	0	0.3870	0.3528	0.3734	0.4070	0.4363	0.4354	---	---	0.399	7.88	1.00	1.00	8.5	2.00	10.00	50.00	100.0	200.0	400.0		
γ-chlordane	2	0	0.3997	0.3672	0.3916	0.4312	0.4721	0.4779	---	---	0.423	8.09	0.999	1.00	11	2.00	10.00	50.00	100.0	200.0	400.0		
α-chlordane	2	0	0.3753	0.3525	0.3821	0.4193	0.4465	0.4365	---	---	0.402	8.29	1.00	1.00	9.3	2.00	10.00	50.00	100.0	200.0	400.0		
Endosulfan I	2	0	0.4015	0.3717	0.3875	0.4205	0.4589	0.4735	---	---	0.419	8.35	0.999	1.00	9.6	2.00	10.00	50.00	100.0	200.0	400.0		
β,β'-DDE	2	0	0.3531	0.3289	0.3666	0.4162	0.4597	0.4669	---	---	0.389	8.59	0.999	0.999	14	2.00	10.00	50.00	100.0	200.0	400.0		
Dieldrin	2	0	0.3303	0.3229	0.3559	0.4012	0.4376	0.4419	---	---	0.382	8.74	0.999	0.999	14	2.00	10.00	50.00	100.0	200.0	400.0		
Endrin	2	0	0.2707	0.2601	0.2707	0.2922	0.3217	0.3102	---	---	0.288	9.21	0.999	0.999	8.5	2.00	10.00	50.00	100.0	200.0	400.0		
β,β'-DDD	2	0	0.2566	0.2744	0.2969	0.3246	0.3552	0.3587	---	---	0.311	9.29	0.999	1.00	14	2.00	10.00	50.00	100.0	200.0	400.0		
Endosulfan II	2	0	0.3534	0.3445	0.3807	0.4013	0.4276	0.4215	---	---	0.388	9.43	1.00	1.00	8.9	2.00	10.00	50.00	100.0	200.0	400.0		
β,β'-DDT	2	0	0.1491	0.1798	0.2129	0.2281	0.2535	0.2581	---	---	0.214	9.67	0.999	1.00	20	2.00	10.00	50.00	100.0	200.0	400.0		
Endrin Aldehyde	2	0	0.3850	0.3312	0.3281	0.3387	0.3527	0.3486	---	---	0.347	9.83	1.00	1.00	6.0	2.00	10.00	50.00	100.0	200.0	400.0		
Endosulfan Sulfate	2	0	0.2832	0.2884	0.2985	0.3139	0.3424	0.3420	---	---	0.311	9.98	1.00	1.00	8.4	2.00	10.00	50.00	100.0	200.0	400.0		
Methoxychlor	2	0	0.0752	0.0979	0.1191	0.1255	0.1310	0.1286	---	---	0.113	10.73	1.00	1.00	19	2.00	10.00	50.00	100.0	200.0	400.0		
Endrin Ketone	2	0	0.3593	0.3385	0.3718	0.4001	0.4224	0.4186	---	---	0.385	10.95	1.00	1.00	8.8	2.00	10.00	50.00	100.0	200.0	400.0		
DCB-Surrogate	2	0	0.5449	0.4629	0.4290	0.4268	0.4301	0.4077	---	---	0.450	12.54	0.999	1.00	11	2.00	10.00	50.00	100.0	200.0	400.0		
Chlordane (Technical)	2	1	Avg	---	---	---	---	---	---	---	0.0172	6.49	-1	-1	Lvl=7	100.0							
Chlordane (Technical)	2	2	Avg	---	---	---	---	---	---	---	0.0813	8.09	-1	-1	Lvl=7	100.0							
Chlordane (Technical)	2	3	Avg	---	---	---	---	---	---	---	0.0489	8.29	-1	-1	Lvl=7	100.0							
Toxaphene	2	1	Avg	---	---	---	---	---	---	---	0.00377	8.98	-1	-1	Lvl=8	500.0							
Toxaphene	2	2	Avg	---	---	---	---	---	---	---	0.00431	9.23	-1	-1	Lvl=8	500.0							
Toxaphene	2	3	Avg	---	---	---	---	---	---	---	0.00406	9.72	-1	-1	Lvl=8	500.0							
Toxaphene	2	4	Avg	---	---	---	---	---	---	---	0.00642	10.47	-1	-1	Lvl=8	500.0							
Toxaphene	2	5	Avg	---	---	---	---	---	---	---	0.00506	10.54	-1	-1	Lvl=8	500.0							

Avg Rsd Col 1: 13.66 Avg Rsd Col 2: 12.08

Flags
 c - failed the initial calibration criteria(if applicable)

Note:
 Col = Column Number
 Mr = MultiPeak Analyte 0=single peak analyte, >0=multi peak analyte (i.e. nch/chlordane etc.)
 Fit = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.
 Corr 1 = Correlation Coefficient for main Fa.
 Corr 2 = Correlation Coefficient for main Fa.
 Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
 Initial Calibration Criteria: either %RSD <= 20 or Corr >= .995
 Columns: Signal #1 dh-1701 : Signal #2 dh-608

Form 7

Continuing Calibration

Method: EPA 8081B

			Data File: 5G64356.D			5G64377.D			6G65713.D			6G65735.D			6G65755.D			
			8081			8081			8081			8081			8081			
			CAL PEST@200PP			CAL PEST@100PP			CAL PEST@200PP			CAL PEST@100PP			CAL PEST@200PP			
			04/19/16 01:37			04/19/16 10:11			04/19/16 03:13			04/19/16 10:11			04/20/16 10:36			
Compound	Limit	Col	Mr	Conc			Conc			Conc			Conc			Conc		
				Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1	0	220.9	200	10.5	102.2	100	2.2	201.9	200	0.9	96.52	100	3.5	216.8	200	8.4
alpha-BHC	20	1	0	239.1	200	19.5	106.7	100	6.7	198.5	200	0.7	90.12	100	9.9	209.4	200	4.7
gamma-BHC	20	1	0	235.0	200	17.5	105.7	100	5.7	191.5	200	4.3	89.53	100	10.5	200.8	200	0.4
beta-BHC	20	1	0	211.3	200	5.6	97.02	100	3.0	188.8	200	5.6	91.28	100	8.7	198.3	200	0.8
Heptachlor	20	1	0	221.2	200	10.6	94.48	100	5.5	199.4	200	0.3	98.61	100	1.4	218.3	200	9.2
delta-BHC	20	1	0	226.6	200	13.3	104.6	100	4.6	187.6	200	6.2	88.39	100	11.6	198.1	200	1.0
Aldrin	20	1	0	239	200	19.5	107.9	100	7.9	203.9	200	1.9	91.34	100	8.7	214.5	200	7.3
Heptachlor Epoxide	20	1	0	232.7	200	16.3	105.6	100	5.6	200.7	200	0.4	92.06	100	7.9	210.5	200	5.3
gamma-chlordane	20	1	0	233.6	200	16.8	106.7	100	6.7	203.5	200	1.7	91.26	100	8.7	224.9	200	12.4
alpha-chlordane	20	1	0	218.8	200	9.4	100.4	100	0.4	204.1	200	2.1	93.03	100	7.0	212.9	200	6.5
Endosulfan I	20	1	0	234.8	200	17.4	106.9	100	6.9	202.5	200	1.3	96.11	100	3.9	200.1	200	0.0
p,p'-DDE	20	1	0	240.9	200	20.4	110.5	100	10.5	188.7	200	5.7	89.52	100	10.5	200.7	200	0.3
Dieldrin	20	1	0	236.1	200	18.0	108.3	100	8.3	199.9	200	0.0	92.59	100	7.4	207.5	200	3.7
Endrin	20	1	0	233.2	200	16.6	111.8	100	11.8	186.2	200	6.9	96.05	100	3.9	220.8	200	10.4
p,p'-DDD	20	1	0	231.0	200	15.5	109.8	100	9.8	168.9	200	15.5	85.54	100	14.5	171.0	200	14.5
Endosulfan II	20	1	0	232.2	200	16.1	107.6	100	7.6	200.7	200	0.4	92.77	100	7.2	207.6	200	3.8
p,p'-DDT	20	1	0	230.6	200	15.3	105.3	100	5.3	180.9	200	9.6	90.9	100	9.1	194.6	200	2.7
Endrin Aldehyde	20	1	0	221.9	200	10.9	109.6	100	9.6	187.1	200	6.5	87.76	100	12.2	183.9	200	8.1
Endosulfan Sulfate	20	1	0	224.8	200	12.4	108.1	100	8.1	239.2	200	19.6	93.61	100	6.4	198.6	200	0.7
Methoxychlor	20	1	0	226.8	200	13.4	105.7	100	5.7	179.9	200	10.0	85.4	100	14.6	178.3	200	10.8
Endrin Ketone	20	1	0	225.8	200	12.9	112	100	12.0	194.2	200	2.9	91.35	100	8.7	196.2	200	1.9
DCB-Surrogate	20	1	0	215.1	200	7.6	103.3	100	3.3	199.2	200	0.4	95.28	100	4.7	202.5	200	1.2
Average Difference	20	1	0			14.3			6.7			4.7			8.2			5.2
TCMX-Surrogate	20	2	0	202.6	200	1.3	97.76	100	2.2	207.5	200	3.8	98.92	100	1.1	211.7	200	5.8
alpha-BHC	20	2	0	208.9	200	4.4	104.8	100	4.8	199.5	200	0.3	91.62	100	8.4	204.5	200	2.3
gamma-BHC	20	2	0	202.5	200	1.3	103.5	100	3.5	192.1	200	3.9	89.62	100	10.4	197.1	200	1.5
beta-BHC	20	2	0	199.8	200	0.1	102.4	100	2.4	196.5	200	1.7	95.68	100	4.3	204.3	200	2.1
Heptachlor	20	2	0	163.9	200	18.1	71.93	100	28.1*	176.9	200	11.6	94.25	100	5.8	200.1	200	0.0
delta-BHC	20	2	0	198.8	200	0.6	103.7	100	3.7	191.1	200	4.4	90.74	100	9.3	198.7	200	0.7
Aldrin	20	2	0	204.9	200	2.4	103.9	100	3.9	207.3	200	3.6	94.88	100	5.1	212.7	200	6.3
Heptachlor Epoxide	20	2	0	200.0	200	0.0	102.5	100	2.5	202.2	200	1.1	94.67	100	5.3	207.4	200	3.7
gamma-chlordane	20	2	0	200.3	200	0.2	103	100	2.9	205	200	2.5	94.54	100	5.5	209.7	200	4.8
alpha-chlordane	20	2	0	196.8	200	1.6	102.3	100	2.3	203.9	200	1.9	94.37	100	5.6	209	200	4.5
Endosulfan I	20	2	0	201.8	200	0.9	103.5	100	3.5	204.9	200	2.5	94.63	100	5.4	210.8	200	5.4
p,p'-DDE	20	2	0	208.5	200	4.2	107.5	100	7.5	201	200	0.5	93.14	100	6.9	209.0	200	4.5
Dieldrin	20	2	0	208.6	200	4.3	106.4	100	6.4	200.8	200	0.4	93.54	100	6.5	204.9	200	2.5
Endrin	20	2	0	193.6	200	3.2	105	100	4.9	183.8	200	8.1	99.18	100	0.8	219.8	200	9.9
p,p'-DDD	20	2	0	202.6	200	1.3	106.6	100	6.6	181.8	200	9.1	90.35	100	9.7	190.8	200	4.6
Endosulfan II	20	2	0	209.4	200	4.7	103.1	100	3.1	201.6	200	0.8	95.11	100	4.9	206.3	200	3.1
p,p'-DDT	20	2	0	179.8	200	10.1	96.09	100	3.9	169.9	200	15.0	90.15	100	9.8	181.5	200	9.2
Endrin Aldehyde	20	2	0	203.8	200	1.9	103.4	100	3.4	191.4	200	4.3	91.57	100	8.4	186.1	200	6.9
Endosulfan Sulfate	20	2	0	202.2	200	1.1	102.4	100	2.4	185.4	200	7.3	90.87	100	9.1	192.2	200	3.9
Methoxychlor	20	2	0	168.7	200	15.6	88.85	100	11.2	165.5	200	17.3	95.28	100	4.7	182.7	200	8.7
Endrin Ketone	20	2	0	205.6	200	2.8	109.2	100	9.2	188.6	200	5.7	92.94	100	7.1	194.1	200	2.9
DCB-Surrogate	20	2	0	219.9	200	9.9	107.9	100	7.9	199.4	200	0.3	98.28	100	1.7	204.5	200	2.2
Average Difference	20	2	0			4.1			5.7			4.8			6.2			4.3

Flags/Notes:

* - Values outside of limits for this column/run HAZ. - 432

Form7
 Continuing Calibration

Method: EPA 8081B

 Data File:
 Method:
 Calibration Name:
 Calibration Date/Time

Compound	Limit	Col	Mr	6G65775.D 8081 CAL PEST@200PP 04/20/16 17:19			6G65795.D 8081 CAL PEST@100PP 04/21/16 10:51			6G65811.D 8081 CAL PEST@100PP 04/21/16 16:07			Conc			Conc		
				Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1	0	211.4	200	5.7	98.41	100	1.6	108.9	100	8.9						
alpha-BHC	20	1	0	209.5	200	4.7	93	100	7.0	103.6	100	3.6						
gamma-BHC	20	1	0	205.3	200	2.7	93	100	7.0	103.2	100	3.2						
beta-BHC	20	1	0	201.8	200	0.9	94	100	6.0	102.3	100	2.3						
Heptachlor	20	1	0	226.4	200	13.2	107.6	100	7.6	118.9	100	18.9						
delta-BHC	20	1	0	201.8	200	0.9	89.95	100	10.1	99.06	100	0.9						
Aldrin	20	1	0	213.7	200	6.8	93.99	100	6.0	103.8	100	3.8						
Heptachlor Epoxide	20	1	0	208.2	200	4.1	93.64	100	6.4	103.2	100	3.2						
gamma-chlordane	20	1	0	213.8	200	6.9	94.62	100	5.4	103.2	100	3.2						
alpha-chlordane	20	1	0	207.4	200	3.7	94.57	100	5.4	102.6	100	2.6						
Endosulfan I	20	1	0	200.6	200	0.3	97.91	100	2.1	108	100	7.9						
p,p'-DDE	20	1	0	208	200	4.0	92.4	100	7.6	102.4	100	2.4						
Dieldrin	20	1	0	209.9	200	4.9	95.32	100	4.7	103.5	100	3.5						
Endrin	20	1	0	227.8	200	13.9	97.94	100	2.1	111.2	100	11.2						
p,p'-DDD	20	1	0	196.9	200	1.5	88.14	100	11.9	102.4	100	2.4						
Endosulfan II	20	1	0	208.0	200	4.0	92.83	100	7.2	100.7	100	0.7						
p,p'-DDT	20	1	0	202.3	200	1.1	85.6	100	14.4	99.54	100	0.5						
Endrin Aldehyde	20	1	0	187.2	200	6.4	85.44	100	14.6	95.66	100	4.3						
Endosulfan Sulfate	20	1	0	201.9	200	0.9	91.58	100	8.4	98.1	100	1.9						
Methoxychlor	20	1	0	189.2	200	5.4	80.07	100	19.9	103.4	100	3.4						
Endrin Ketone	20	1	0	202.1	200	1.0	89.33	100	10.7	97.71	100	2.3						
DCB-Surrogate	20	1	0	197.1	200	1.4	92.49	100	7.5	101.3	100	1.3						
Average Difference	20	1	0			4.3			7.9			4.2						
TCMX-Surrogate	20	2	0	209.1	200	4.6	98.09	100	1.9	103.5	100	3.5						
alpha-BHC	20	2	0	204.6	200	2.3	92.02	100	8.0	98.42	100	1.6						
gamma-BHC	20	2	0	204.3	200	2.1	91.14	100	8.9	98.11	100	1.9						
beta-BHC	20	2	0	224.1	200	12.1	96.78	100	3.2	100.9	100	0.9						
Heptachlor	20	2	0	214.9	200	7.5	103.1	100	3.1	97.85	100	2.2						
delta-BHC	20	2	0	200.3	200	0.2	90.4	100	9.6	95.62	100	4.4						
Aldrin	20	2	0	209.0	200	4.5	93.55	100	6.4	98.48	100	1.5						
Heptachlor Epoxide	20	2	0	207.1	200	3.6	93.83	100	6.2	98.79	100	1.2						
gamma-chlordane	20	2	0	207.0	200	3.5	93.68	100	6.3	98.04	100	2.0						
alpha-chlordane	20	2	0	206.8	200	3.4	93.68	100	6.3	98.32	100	1.7						
Endosulfan I	20	2	0	207.4	200	3.7	93.22	100	6.8	97.79	100	2.2						
p,p'-DDE	20	2	0	207.9	200	3.9	92.28	100	7.7	96.05	100	3.9						
Dieldrin	20	2	0	208.3	200	4.2	92.29	100	7.7	97.03	100	3.0						
Endrin	20	2	0	228.2	200	14.1	100.1	100	0.1	109.8	100	9.8						
p,p'-DDD	20	2	0	200.3	200	0.1	89.35	100	10.7	97.62	100	2.4						
Endosulfan II	20	2	0	204.2	200	2.1	92.38	100	7.6	93.2	100	6.8						
p,p'-DDT	20	2	0	191.2	200	4.4	86.84	100	13.2	82.71	100	17.3						
Endrin Aldehyde	20	2	0	193.1	200	3.4	89.5	100	10.5	95.91	100	4.1						
Endosulfan Sulfate	20	2	0	197.5	200	1.2	89.79	100	10.2	94.88	100	5.1						
Methoxychlor	20	2	0	200.3	200	0.2	89.38	100	10.6	82.93	100	17.1						
Endrin Ketone	20	2	0	197.3	200	1.4	88.39	100	11.6	90.48	100	9.5						
DCB-Surrogate	20	2	0	203.3	200	1.6	92.87	100	7.1	91.42	100	8.6						
Average Difference	20	2	0			3.8			7.4			5.0						

Flags/Notes:

* - Values outside of limits for this column/run

HAZ. - 433

Form 7

RetWindow Summary

Method: EPA 8081B

Data File:
 Calibration Name:
 Calibration Date/Time

Compound	Col	Mr	5G64280.D		6G65607.D		5G64356.D		6G65713.D		6G65755.D	
			Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
TCMX-Surrogate	1	0	6.16	(6.10 - 6.22)	4.75	(4.69 - 4.81)	6.16	(6.10 - 6.22)	4.75	(4.69 - 4.81)	4.74	(4.68 - 4.80)
alpha-BHC	1	0	7.46	(7.42 - 7.50)	5.89	(5.85 - 5.93)	7.46	(7.42 - 7.50)	5.89	(5.85 - 5.93)	5.89	(5.85 - 5.93)
gamma-BHC	1	0	7.99	(7.95 - 8.03)	6.41	(6.37 - 6.45)	7.98	(7.94 - 8.02)	6.41	(6.37 - 6.45)	6.41	(6.37 - 6.45)
beta-BHC	1	0	8.90	(8.82 - 8.98)	7.28	(7.20 - 7.36)	8.89	(8.81 - 8.97)	7.27	(7.19 - 7.35)	7.27	(7.19 - 7.35)
Heptachlor	1	0	8.26	(8.22 - 8.30)	6.73	(6.69 - 6.77)	8.25	(8.21 - 8.29)	6.73	(6.69 - 6.77)	6.73	(6.69 - 6.77)
delta-BHC	1	0	9.21	(9.13 - 9.29)	7.62	(7.54 - 7.70)	9.21	(9.13 - 9.29)	7.61	(7.53 - 7.69)	7.61	(7.53 - 7.69)
Aldrin	1	0	8.62	(8.54 - 8.70)	7.10	(7.02 - 7.18)	8.61	(8.53 - 8.69)	7.10	(7.02 - 7.18)	7.10	(7.02 - 7.18)
Heptachlor Epoxide	1	0	9.44	(9.40 - 9.48)	7.92	(7.88 - 7.96)	9.44	(9.40 - 9.48)	7.92	(7.87 - 7.95)	7.91	(7.87 - 7.95)
v-chlordane	1	0	9.83	(9.79 - 9.87)	8.31	(8.27 - 8.35)	9.82	(9.78 - 9.86)	8.31	(8.27 - 8.35)	8.31	(8.27 - 8.35)
a-chlordane	1	0	9.89	(9.85 - 9.93)	8.38	(8.34 - 8.42)	9.88	(9.84 - 9.92)	8.38	(8.34 - 8.42)	8.38	(8.34 - 8.42)
Endosulfan I	1	0	9.78	(9.74 - 9.82)	8.28	(8.24 - 8.32)	9.77	(9.73 - 9.81)	8.28	(8.24 - 8.32)	8.28	(8.24 - 8.32)
o,o'-DDE	1	0	9.98	(9.90 - 10.06)	8.48	(8.40 - 8.56)	9.97	(9.89 - 10.05)	8.48	(8.40 - 8.56)	8.48	(8.40 - 8.56)
Dieldrin	1	0	10.21	(10.13 - 10.29)	8.72	(8.64 - 8.80)	10.20	(10.12 - 10.28)	8.72	(8.64 - 8.80)	8.72	(8.64 - 8.80)
Endrin	1	0	10.46	(10.42 - 10.50)	9.98	(9.94 - 10.02)	10.45	(10.41 - 10.49)	9.98	(9.94 - 10.02)	9.98	(9.94 - 10.02)
o,o'-DDD	1	0	10.90	(10.82 - 10.98)	9.41	(9.33 - 9.49)	10.89	(10.81 - 10.97)	9.41	(9.33 - 9.49)	9.41	(9.33 - 9.49)
Endosulfan II	1	0	11.01	(10.93 - 11.09)	9.53	(9.45 - 9.61)	11.00	(10.92 - 11.08)	9.52	(9.44 - 9.60)	9.52	(9.44 - 9.60)
o,o'-DDT	1	0	11.09	(11.01 - 11.17)	9.63	(9.55 - 9.71)	11.08	(11.00 - 11.16)	9.63	(9.55 - 9.71)	9.63	(9.55 - 9.71)
Endrin Aldehyde	1	0	11.49	(11.41 - 11.57)	10.00	(9.92 - 10.08)	11.48	(11.40 - 11.56)	10.00	(9.92 - 10.08)	10.00	(9.92 - 10.08)
Endosulfan Sulfate	1	0	11.84	(11.80 - 11.88)	10.36	(10.32 - 10.40)	11.83	(11.79 - 11.87)	10.35	(10.31 - 10.39)	10.35	(10.31 - 10.39)
Methoxychlor	1	0	11.76	(11.72 - 11.80)	10.32	(10.28 - 10.36)	11.75	(11.71 - 11.79)	10.31	(10.27 - 10.35)	10.31	(10.27 - 10.35)
Endrin Ketone	1	0	12.31	(12.23 - 12.39)	10.87	(10.79 - 10.95)	12.31	(12.23 - 12.39)	10.87	(10.79 - 10.95)	10.87	(10.79 - 10.95)
DCB-Surrogate	1	0	13.20	(13.14 - 13.26)	11.90	(11.84 - 11.96)	13.19	(13.13 - 13.25)	11.90	(11.84 - 11.96)	11.90	(11.84 - 11.96)
Chlordane (Technical	1	1										
Chlordane (Technical	1	2										
Chlordane (Technical	1	3										
Toxaphene	1	1	10.04	(10.00 - 10.08)	9.10	(9.06 - 9.14)						
Toxaphene	1	2	10.58	(10.54 - 10.62)	9.23	(9.19 - 9.27)						
Toxaphene	1	3	11.03	(10.99 - 11.07)	9.56	(9.52 - 9.60)						
Toxaphene	1	4	11.34	(11.30 - 11.38)	9.88	(9.84 - 9.92)						
Toxaphene	1	5	11.77	(11.73 - 11.81)	10.35	(10.31 - 10.39)						
TCMX-Surrogate	2	0	6.17	(6.11 - 6.23)	4.78	(4.72 - 4.84)	6.17	(6.11 - 6.23)	4.78	(4.72 - 4.84)	4.78	(4.72 - 4.84)
alpha-BHC	2	0	7.18	(7.14 - 7.22)	5.72	(5.68 - 5.76)	7.18	(7.14 - 7.22)	5.72	(5.68 - 5.76)	5.72	(5.68 - 5.76)
gamma-BHC	2	0	7.72	(7.68 - 7.76)	6.26	(6.22 - 6.30)	7.72	(7.68 - 7.76)	6.26	(6.22 - 6.30)	6.26	(6.22 - 6.30)
beta-BHC	2	0	7.80	(7.72 - 7.88)	6.35	(6.27 - 6.43)	7.80	(7.72 - 7.88)	6.35	(6.27 - 6.43)	6.34	(6.26 - 6.42)
Heptachlor	2	0	8.15	(8.11 - 8.19)	6.71	(6.67 - 6.75)	8.15	(8.11 - 8.19)	6.71	(6.67 - 6.75)	6.70	(6.66 - 6.74)
delta-BHC	2	0	8.29	(8.21 - 8.37)	6.85	(6.77 - 6.93)	8.29	(8.21 - 8.37)	6.85	(6.77 - 6.93)	6.84	(6.76 - 6.92)
Aldrin	2	0	8.59	(8.51 - 8.67)	7.16	(7.08 - 7.24)	8.59	(8.51 - 8.67)	7.16	(7.08 - 7.24)	7.15	(7.07 - 7.23)
Heptachlor Epoxide	2	0	9.29	(9.25 - 9.33)	7.88	(7.84 - 7.92)	9.29	(9.25 - 9.33)	7.88	(7.84 - 7.92)	7.88	(7.84 - 7.92)
v-chlordane	2	0	9.49	(9.45 - 9.53)	8.09	(8.05 - 8.13)	9.49	(9.45 - 9.53)	8.09	(8.05 - 8.13)	8.09	(8.05 - 8.13)
a-chlordane	2	0	9.69	(9.65 - 9.73)	8.29	(8.25 - 8.33)	9.69	(9.65 - 9.73)	8.29	(8.25 - 8.33)	8.29	(8.25 - 8.33)
Endosulfan I	2	0	9.74	(9.70 - 9.78)	8.34	(8.30 - 8.38)	9.74	(9.69 - 9.77)	8.34	(8.30 - 8.38)	8.34	(8.30 - 8.38)
o,o'-DDE	2	0	9.97	(9.89 - 10.05)	8.59	(8.51 - 8.67)	9.97	(9.89 - 10.05)	8.59	(8.51 - 8.67)	8.59	(8.51 - 8.67)
Dieldrin	2	0	10.11	(10.03 - 10.19)	8.74	(8.66 - 8.82)	10.11	(10.03 - 10.19)	8.74	(8.66 - 8.82)	8.73	(8.65 - 8.81)
Endrin	2	0	10.56	(10.52 - 10.60)	9.21	(9.17 - 9.25)	10.56	(10.52 - 10.60)	9.21	(9.17 - 9.25)	9.20	(9.16 - 9.24)
o,o'-DDD	2	0	10.84	(10.80 - 10.88)	9.29	(9.21 - 9.37)	10.84	(10.80 - 10.88)	9.29	(9.21 - 9.37)	9.29	(9.21 - 9.37)
Endosulfan II	2	0	10.76	(10.68 - 10.84)	9.43	(9.35 - 9.51)	10.76	(10.68 - 10.84)	9.43	(9.35 - 9.51)	9.42	(9.34 - 9.50)
o,o'-DDT	2	0	11.00	(10.92 - 11.08)	9.67	(9.59 - 9.75)	11.00	(10.92 - 11.08)	9.67	(9.59 - 9.75)	9.67	(9.59 - 9.75)
Endrin Aldehyde	2	0	11.15	(11.07 - 11.23)	9.83	(9.75 - 9.91)	11.15	(11.07 - 11.23)	9.83	(9.75 - 9.91)	9.83	(9.75 - 9.91)
Endosulfan Sulfate	2	0	11.29	(11.25 - 11.33)	9.98	(9.94 - 10.02)	11.29	(11.25 - 11.33)	9.98	(9.94 - 10.02)	9.98	(9.94 - 10.02)
Methoxychlor	2	0	12.00	(11.96 - 12.04)	10.73	(10.69 - 10.77)	12.00	(11.96 - 12.04)	10.73	(10.69 - 10.77)	10.72	(10.68 - 10.76)
Endrin Ketone	2	0	12.21	(12.13 - 12.29)	10.96	(10.88 - 11.04)	12.21	(12.13 - 12.29)	10.96	(10.88 - 11.04)	10.96	(10.88 - 11.04)
DCB-Surrogate	2	0	13.65	(13.59 - 13.71)	12.54	(12.48 - 12.60)	13.65	(13.59 - 13.71)	12.54	(12.48 - 12.60)	12.54	(12.48 - 12.60)
Chlordane (Technical	2	1										
Chlordane (Technical	2	2										
Chlordane (Technical	2	3										
Toxaphene	2	1	9.85	(9.81 - 9.89)	8.98	(8.94 - 9.02)						
Toxaphene	2	2	10.77	(10.73 - 10.81)	9.23	(9.19 - 9.27)						
Toxaphene	2	3	11.04	(11.00 - 11.08)	9.72	(9.68 - 9.76)						
Toxaphene	2	4	11.75	(11.71 - 11.79)	10.47	(10.43 - 10.51)						
Toxaphene	2	5	11.82	(11.78 - 11.86)	10.54	(10.50 - 10.58)						

Form 7
RtWindow Summary

Method: EPA 8081B

Data File:
Calibration Name:
Calibration Date/Time

6G65795.D
CAL PEST@100PPB
4/21/2016 10:51:00 AM

Compound	Col	Mr	6G65795.D		Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
			Cal RT	Limit								
TCMX-Surrogate	1	0	4.75	(4.69 - 4.81)								
alpha-BHC	1	0	5.89	(5.85 - 5.93)								
gamma-BHC	1	0	6.41	(6.37 - 6.45)								
beta-BHC	1	0	7.27	(7.19 - 7.35)								
Heptachlor	1	0	6.73	(6.69 - 6.77)								
delta-BHC	1	0	7.61	(7.53 - 7.69)								
Aldrin	1	0	7.10	(7.02 - 7.18)								
Heptachlor Epoxide	1	0	7.91	(7.87 - 7.95)								
v-chlordane	1	0	8.31	(8.27 - 8.35)								
a-chlordane	1	0	8.38	(8.34 - 8.42)								
Endosulfan I	1	0	8.28	(8.24 - 8.32)								
p,p'-DDE	1	0	8.48	(8.40 - 8.56)								
Dieldrin	1	0	8.72	(8.64 - 8.80)								
Endrin	1	0	8.98	(8.94 - 9.02)								
o,p'-DDD	1	0	9.41	(9.33 - 9.49)								
Endosulfan II	1	0	9.52	(9.44 - 9.60)								
o,p'-DDT	1	0	9.63	(9.55 - 9.71)								
Endrin Aldehyde	1	0	9.99	(9.91 - 10.07)								
Endosulfan Sulfate	1	0	10.35	(10.31 - 10.39)								
Methoxychlor	1	0	10.31	(10.27 - 10.35)								
Endrin Ketone	1	0	10.87	(10.79 - 10.95)								
DCB-Surrogate	1	0	11.90	(11.84 - 11.96)								
Chlordane (Technical	1	1										
Chlordane (Technical	1	2										
Chlordane (Technical	1	3										
Toxachene	1	1										
Toxachene	1	2										
Toxachene	1	3										
Toxachene	1	4										
Toxachene	1	5										
TCMX-Surrogate	2	0	4.78	(4.72 - 4.84)								
alpha-BHC	2	0	5.72	(5.68 - 5.76)								
gamma-BHC	2	0	6.26	(6.22 - 6.30)								
beta-BHC	2	0	6.34	(6.28 - 6.42)								
Heptachlor	2	0	6.70	(6.66 - 6.74)								
delta-BHC	2	0	6.84	(6.76 - 6.92)								
Aldrin	2	0	7.15	(7.07 - 7.23)								
Heptachlor Epoxide	2	0	7.88	(7.84 - 7.92)								
v-chlordane	2	0	8.09	(8.05 - 8.13)								
a-chlordane	2	0	8.29	(8.25 - 8.33)								
Endosulfan I	2	0	8.34	(8.30 - 8.38)								
p,p'-DDE	2	0	8.59	(8.51 - 8.67)								
Dieldrin	2	0	8.73	(8.65 - 8.81)								
Endrin	2	0	9.21	(9.17 - 9.25)								
o,p'-DDD	2	0	9.29	(9.21 - 9.37)								
Endosulfan II	2	0	9.42	(9.34 - 9.50)								
o,p'-DDT	2	0	9.67	(9.59 - 9.75)								
Endrin Aldehyde	2	0	9.83	(9.75 - 9.91)								
Endosulfan Sulfate	2	0	9.98	(9.94 - 10.02)								
Methoxychlor	2	0	10.72	(10.68 - 10.76)								
Endrin Ketone	2	0	10.96	(10.88 - 11.04)								
DCB-Surrogate	2	0	12.53	(12.47 - 12.59)								
Chlordane (Technical	2	1										
Chlordane (Technical	2	2										
Chlordane (Technical	2	3										
Toxachene	2	1										
Toxachene	2	2										
Toxachene	2	3										
Toxachene	2	4										
Toxachene	2	5										

TPH Data

Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AC90773-005 Method: EPA 8015D
 Client Id: WC01 Matrix: Soil
 Data File: 4G53697.D Initial Vol: 5g
 Analysis Date: 04/19/16 23:49 Final Vol: 1ml
 Date Rec/Extracted: 04/14/16-04/19/16 Dilution: 1
 Column: DB-5MS 30M 0.250mm ID 0.25um film Solids: 94

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	64	580				

Worksheet #: 380272

Total Target Concentration 580

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration use a Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53697.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 23:49
 Operator : AH/KD/ABM
 Sample : AC90773-005
 Misc : S.TPH
 ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:07:07 2016
 Quant Method : G:\GC\DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1)mt C8	0.000	0	N.D.	d
2)mte C9	0.000	0	N.D.	d
3)mdte C10	0.000	0	N.D.	d
4)mdte C12	0.000	0	N.D.	d
5)mdte C14	0.000	0	N.D.	d
6)dte C16	0.000	0	N.D.	d
7)dte C17	0.000	0	N.D.	d
8)dte Pristane	0.000	0	N.D.	d
9)dte C18	0.000	0	N.D.	d
10)dte Phytane	0.000	0	N.D.	d
11)dte C20	0.000	0	N.D.	d
12)dte C22	0.000	0	N.D.	d
13)dte C24	0.000	0	N.D.	d
14)dte C26	0.000	0	N.D.	d
15)dte C28	0.000	0	N.D.	d
16)te C30	0.000	0	N.D.	d
17)te C32	0.000	0	N.D.	d
18)te C34	0.000	0	N.D.	d
19)te C36	0.000	0	N.D.	d
20)t C40	0.000	0	N.D.	d
21) Chlorobenzene	2.794	87634	6.259	m
22) O-Terphenyl	8.165	375640	8.328	m
23)d Diesel Range Organics(T	0.000	0	N.D.	d
24)t Total Petroleum Hydroca	8.826f	112494561	2825.055	m
25)e Ext. Petroleum Hydrocar	0.000	0	N.D.	d
26)m Mineral Spirits(TOTAL)	0.000	0	N.D.	d
27)m Stoddard Solvent(TOTAL)	0.000	0	N.D.	d

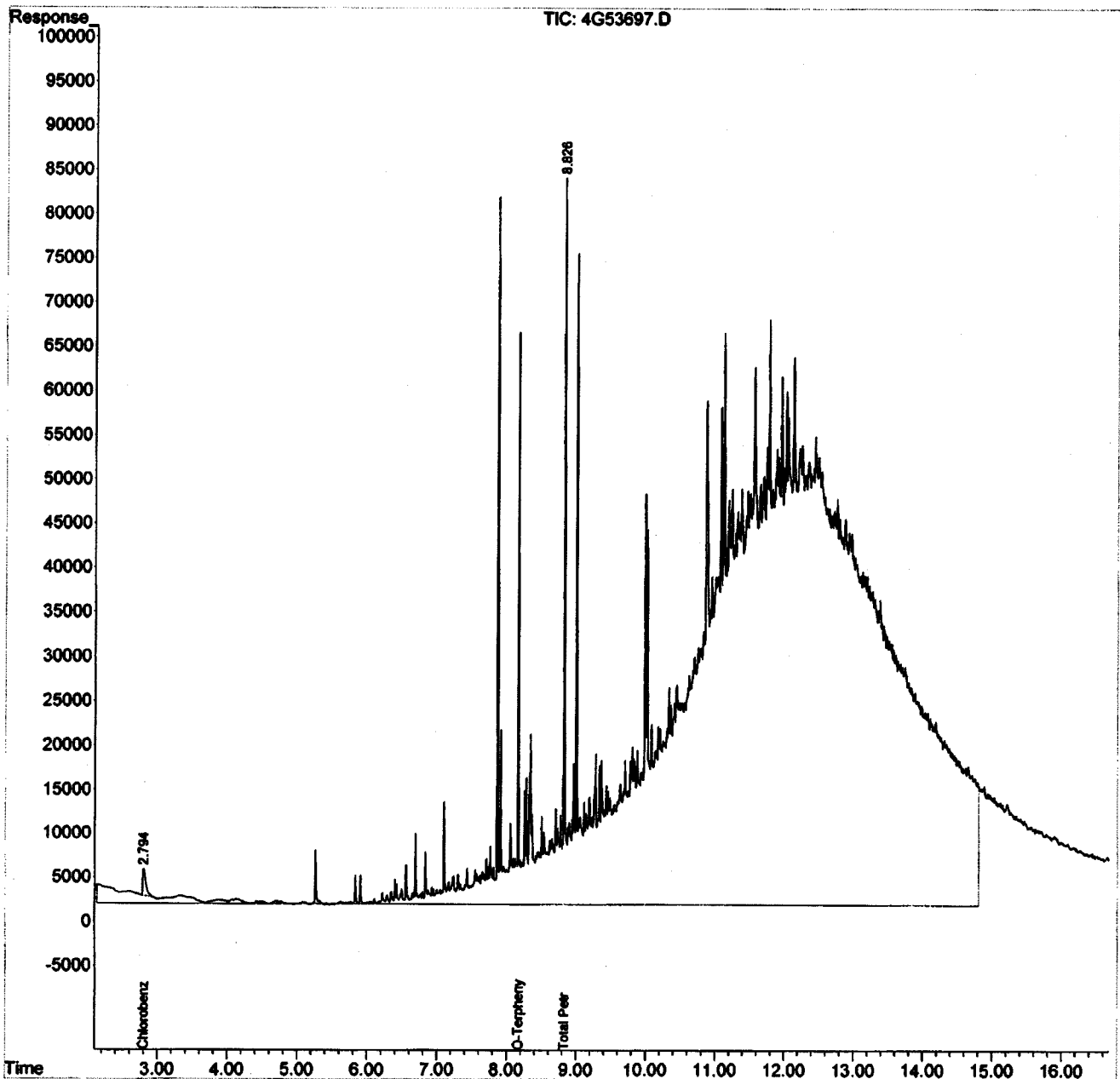
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53697.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 23:49
 Operator : AH/KD/ABM
 Sample : AC90773-005
 Misc : S.TPH
 ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:07:07 2016
 Quant Method : G:\GC\DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AC90773-006

Client Id: WC02

Data File: 4G53688.D

Analysis Date: 04/19/16 20:09

Date Rec/Extracted: 04/14/16-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D

Matrix: Soil

Initial Vol: 5g

Final Vol: 1ml

Dilution: 1

Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	67	U				

Worksheet #: 380272

Total Target Concentration 0

ColumnID:(^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration use a**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53688.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 20:09
 Operator : AH/KD/ABM
 Sample : AC90773-006
 Misc : S.TPH
 ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:02:41 2016
 Quant Method : G:\GC DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4.mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1)mt C8	0.000	0	N.D.	d
2)mte C9	0.000	0	N.D.	d
3)mdte C10	0.000	0	N.D.	d
4)mdte C12	0.000	0	N.D.	d
5)mdte C14	0.000	0	N.D.	d
6)dte C16	0.000	0	N.D.	d
7)dte C17	0.000	0	N.D.	d
8)dte Pristane	0.000	0	N.D.	d
9)dte C18	0.000	0	N.D.	d
10)dte Phytane	0.000	0	N.D.	d
11)dte C20	0.000	0	N.D.	d
12)dte C22	0.000	0	N.D.	d
13)dte C24	0.000	0	N.D.	d
14)dte C26	0.000	0	N.D.	d
15)dte C28	0.000	0	N.D.	d
16)te C30	0.000	0	N.D.	d
17)te C32	0.000	0	N.D.	d
18)te C34	0.000	0	N.D.	d
19)te C36	0.000	0	N.D.	d
20)t C40	0.000	0	N.D.	
21) Chlorobenzene	2.825	184472	13.174	
22) O-Terphenyl	8.173	601474	13.335	
23)d Diesel Range Organics(T	0.000	0	N.D.	d
24)t Total Petroleum Hydroca	8.172f	8532471	214.274	m
25)e Ext. Petroleum Hydrocar	0.000	0	N.D.	d
26)m Mineral Spirits(TOTAL)	0.000	0	N.D.	d
27)m Stoddard Solvent(TOTAL)	0.000	0	N.D.	d

(f) = RT Delta > 1/2 Window

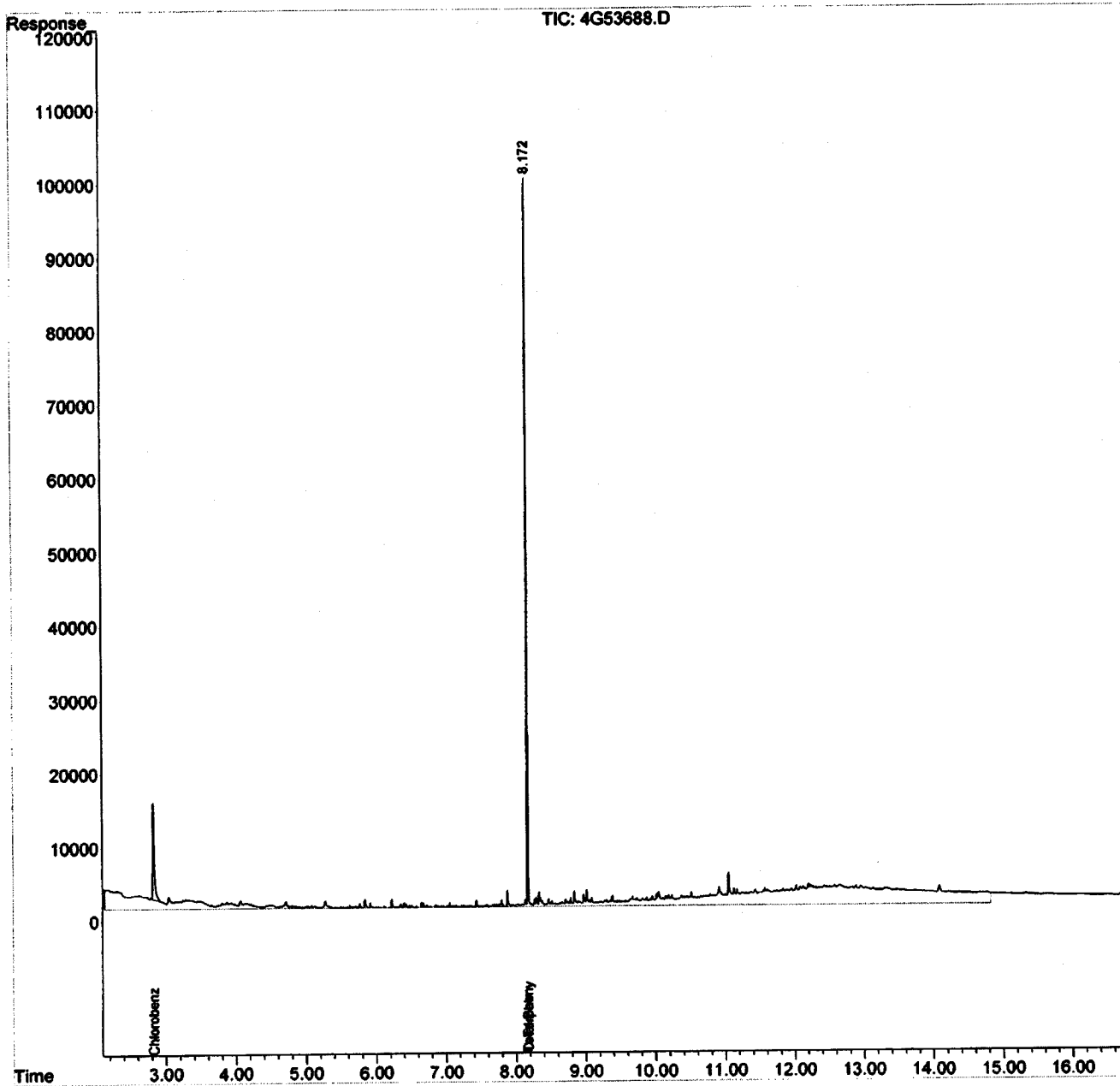
(m) = manual int.

pi

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
Data File : 4G53688.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 20:09
Operator : AH/KD/ABM
Sample : AC90773-006
Misc : S.TPH
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:02:41 2016
Quant Method : G:\GC DATA\2016\GC_4\MethodQt\4G_T0401.M
Quant Title : @GC_4,mg,8015
QLast Update : Tue Apr 19 10:12:06 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AC90773-007 Method: EPA 8015D
 Client Id: WC03 Matrix: Soil
 Data File: 4G53689.D Initial Vol: 5g
 Analysis Date: 04/19/16 20:34 Final Vol: 1ml
 Date Rec/Extracted: 04/14/16-04/19/16 Dilution: 1
 Column: DB-5MS 30M 0.250mm ID 0.25um film Solids: 94

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	64	U				

Worksheet #: 380272

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**R - Retention Time Out**B - Indicates the analyte was found in the blank as well as in the sample.**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration use a**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53689.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 20:34
 Operator : AH/KD/ABM
 Sample : AC90773-007
 Misc : S.TPH
 ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:03:17 2016
 Quant Method : G:\GC\DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1)mt C8	0.000	0	N.D.	d
2)mt C9	0.000	0	N.D.	d
3)mdte C10	0.000	0	N.D.	d
4)mdte C12	0.000	0	N.D.	d
5)mdte C14	0.000	0	N.D.	d
6)dte C16	0.000	0	N.D.	d
7)dte C17	0.000	0	N.D.	d
8)dte Pristane	0.000	0	N.D.	d
9)dte C18	0.000	0	N.D.	d
10)dte Phytane	0.000	0	N.D.	d
11)dte C20	0.000	0	N.D.	d
12)dte C22	0.000	0	N.D.	d
13)dte C24	0.000	0	N.D.	d
14)dte C26	0.000	0	N.D.	d
15)dte C28	0.000	0	N.D.	d
16)te C30	0.000	0	N.D.	d
17)te C32	0.000	0	N.D.	d
18)te C34	0.000	0	N.D.	d
19)te C36	0.000	0	N.D.	d
20)t C40	0.000	0	N.D.	d
21) Chlorobenzene	2.827	198556	14.180	
22) O-Terphenyl	8.172	634212	14.061	
23)d Diesel Range Organics(T	0.000	0	N.D.	d
24)t Total Petroleum Hydroca	8.171f	5697602	143.083	m
25)e Ext. Petroleum Hydrocar	0.000	0	N.D.	d
26)m Mineral Spirits(TOTAL)	0.000	0	N.D.	d
27)m Stoddard Solvent(TOTAL)	0.000	0	N.D.	d

(f)=RT Delta > 1/2 Window

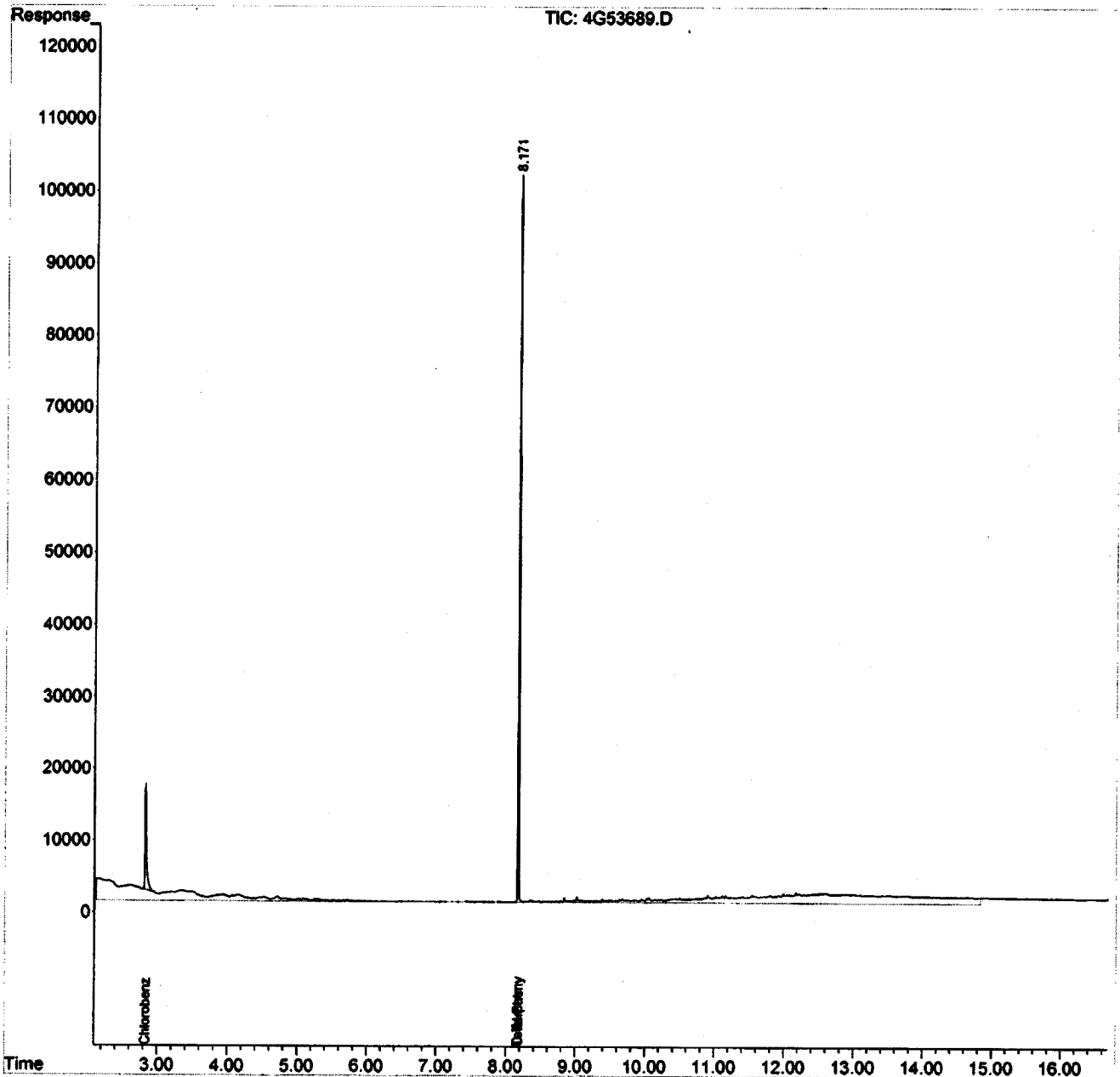
(m)=manual int.

pei

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53689.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 20:34
 Operator : AH/KD/ABM
 Sample : AC90773-007
 Misc : S.TPH
 ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:03:17 2016
 Quant Method : G:\GC\DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Form 1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AC90773-008

Method: EPA 8015D

Client Id: WC04

Matrix: Soil

Data File: 4G53690.D

Initial Vol: 5g

Analysis Date: 04/19/16 20:58

Final Vol: 1ml

Date Rec/Extracted: 04/14/16-04/19/16

Dilution: 1

Column: DB-5MS 30M 0.250mm ID 0.25um film

Solids: 97

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	62	U				

Worksheet #: 380272

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration use a**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53690.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 20:58
 Operator : AH/KD/ABM
 Sample : AC90773-008
 Misc : S.TPH
 ALS Vial : 14 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:04:11 2016
 Quant Method : G:\GC\DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1)mt C8	0.000	0	N.D.	
2)mte C9	0.000	0	N.D.	
3)mdte C10	0.000	0	N.D.	d
4)mdte C12	0.000	0	N.D.	d
5)mdte C14	0.000	0	N.D.	d
6)dte C16	0.000	0	N.D.	d
7)dte C17	0.000	0	N.D.	d
8)dte Pristane	0.000	0	N.D.	d
9)dte C18	0.000	0	N.D.	d
10)dte Phytane	0.000	0	N.D.	d
11)dte C20	0.000	0	N.D.	d
12)dte C22	0.000	0	N.D.	d
13)dte C24	0.000	0	N.D.	d
14)dte C26	0.000	0	N.D.	d
15)dte C28	0.000	0	N.D.	d
16)te C30	0.000	0	N.D.	d
17)te C32	0.000	0	N.D.	d
18)te C34	0.000	0	N.D.	d
19)te C36	0.000	0	N.D.	d
20)t C40	0.000	0	N.D.	
21) Chlorobenzene	2.826	193501	13.819	
22) O-Terphenyl	8.172	641337	14.219	
23)d Diesel Range Organics(T	0.000	0	N.D.	d
24)t Total Petroleum Hydroca	8.172f	5665893	142.287	m
25)e Ext. Petroleum Hydrocar	0.000	0	N.D.	d
26)m Mineral Spirits(TOTAL)	0.000	0	N.D.	d
27)m Stoddard Solvent(TOTAL)	0.000	0	N.D.	d

(f)=RT Delta > 1/2 Window

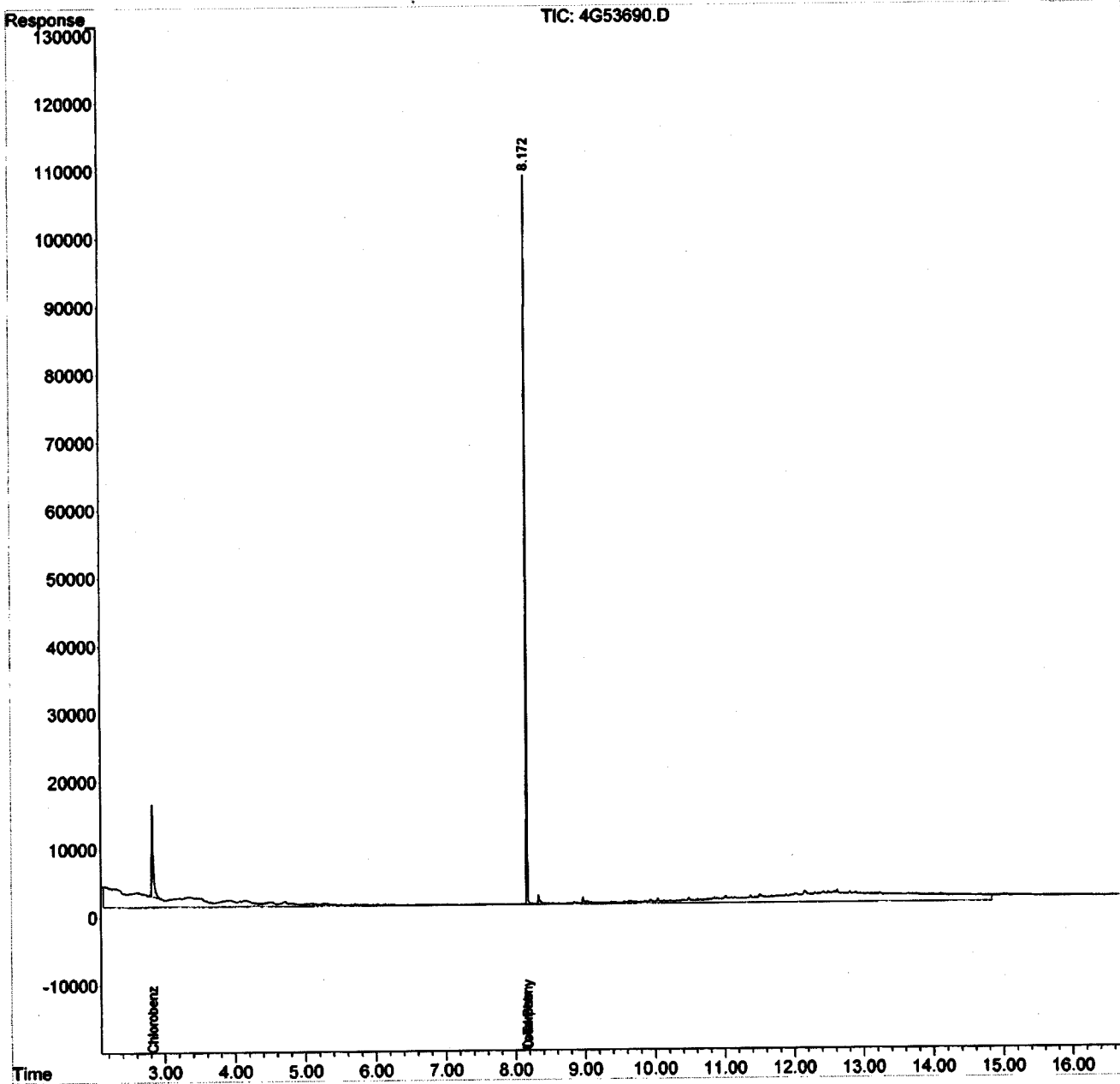
(m)=manual int.

per

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
Data File : 4G53690.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 20:58
Operator : AH/KD/ABM
Sample : AC90773-008
Misc : S.TPH
ALS Vial : 14 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:04:11 2016
Quant Method : G:\GC DATA\2016\GC_4\MethodQt\4G_T0401.M
Quant Title : @GC_4,mg,8015
QLast Update : Tue Apr 19 10:12:06 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AC90773-009 Method: EPA 8015D
 Client Id: SS-01 Matrix: Soil
 Data File: 4G53698.D Initial Vol: 5g
 Analysis Date: 04/20/16 00:13 Final Vol: 1ml
 Date Rec/Extracted: 04/14/16-04/19/16 Dilution: 1
 Column: DB-5MS 30M 0.250mm ID 0.25um film Solids: 85

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	71	160				

Worksheet #: 380272

Total Target Concentration 160

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**R - Retention Time Out**B - Indicates the analyte was found in the blank as well as in the sample.**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53698.D
 Signal(s) : FID1A.CH
 Acq On : 20 Apr 2016 00:13
 Operator : AH/KD/ABM
 Sample : AC90773-009
 Misc : S.TPH
 ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:07:51 2016
 Quant Method : G:\GC DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1)mt C8	0.000	0	N.D.	d
2)mte C9	0.000	0	N.D.	d
3)mdte C10	0.000	0	N.D.	d
4)mdte C12	0.000	0	N.D.	d
5)mdte C14	0.000	0	N.D.	d
6)dte C16	0.000	0	N.D.	d
7)dte C17	0.000	0	N.D.	d
8)dte Pristane	0.000	0	N.D.	d
9)dte C18	0.000	0	N.D.	d
10)dte Phytane	0.000	0	N.D.	d
11)dte C20	0.000	0	N.D.	d
12)dte C22	0.000	0	N.D.	d
13)dte C24	0.000	0	N.D.	d
14)dte C26	0.000	0	N.D.	d
15)dte C28	0.000	0	N.D.	d
16)te C30	0.000	0	N.D.	d
17)te C32	0.000	0	N.D.	d
18)te C34	0.000	0	N.D.	d
19)te C36	0.000	0	N.D.	d
20)t C40	0.000	0	N.D.	d
21) Chlorobenzene	2.807	186002	13.284	
22) O-Terphenyl	8.172	708219	15.702	
23)d Diesel Range Organics(T	0.000	0	N.D.	
24)t Total Petroleum Hydrocar	8.171f	31728154	796.783	m
25)e Ext. Petroleum Hydrocar	0.000	0	N.D.	d
26)m Mineral Spirits(TOTAL)	0.000	0	N.D.	d
27)m Stoddard Solvent(TOTAL)	0.000	0	N.D.	d

(f)=RT Delta > 1/2 Window

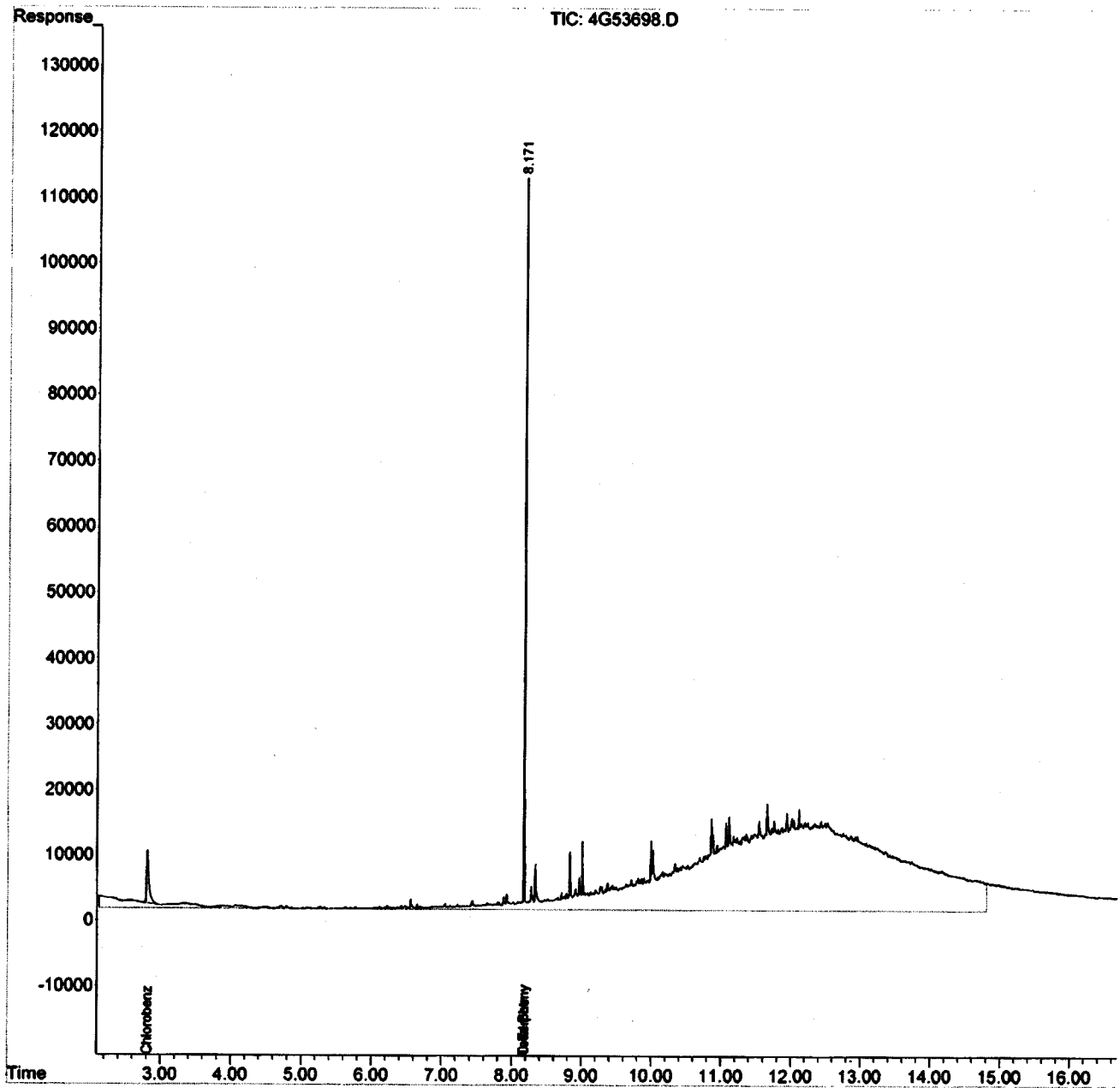
(m)=manual int.

per

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
Data File : 4G53698.D
Signal(s) : FID1A.CH
Acq On : 20 Apr 2016 00:13
Operator : AH/KD/ABM
Sample : AC90773-009
Misc : S.TPH
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:07:51 2016
Quant Method : G:\GC\DATA\2016\GC_4\MethodQt\4G_T0401.M
Quant Title : @GC_4,mg,8015
QLast Update : Tue Apr 19 10:12:06 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AC90773-010

Client Id: SS-02

Data File: 4G53699.D

Analysis Date: 04/20/16 00:37

Date Rec/Extracted: 04/14/16-04/19/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D

Matrix: Soil

Initial Vol: 5g

Final Vol: 1ml

Dilution: 1

Solids: 94

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	64	130				

Worksheet #: 380272

Total Target Concentration 130

ColumnID: (*) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration use a**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53699.D
 Signal(s) : FID1A.CH
 Acq On : 20 Apr 2016 00:37
 Operator : AH/KD/ABM
 Sample : AC90773-010
 Misc : S.TPH
 ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:08:32 2016
 Quant Method : G:\GC DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1)mt C8	0.000	0	N.D.	
2)mt C9	0.000	0	N.D.	
3)mdte C10	0.000	0	N.D.	
4)mdte C12	0.000	0	N.D.	
5)mdte C14	0.000	0	N.D.	d
6)dte C16	0.000	0	N.D.	d
7)dte C17	0.000	0	N.D.	d
8)dte Pristane	0.000	0	N.D.	d
9)dte C18	0.000	0	N.D.	d
10)dte Phytane	0.000	0	N.D.	d
11)dte C20	0.000	0	N.D.	d
12)dte C22	0.000	0	N.D.	d
13)dte C24	0.000	0	N.D.	d
14)dte C26	0.000	0	N.D.	d
15)dte C28	0.000	0	N.D.	d
16)te C30	0.000	0	N.D.	d
17)te C32	0.000	0	N.D.	d
18)te C34	0.000	0	N.D.	d
19)te C36	0.000	0	N.D.	d
20)t C40	0.000	0	N.D.	d
21) Chlorobenzene	2.791	125937	8.994	
22) O-Terphenyl	8.166	634119	14.059	
23)d Diesel Range Organics(T	0.000	0	N.D.	
24)t Total Petroleum Hydroca	8.166f	28076982	705.092	m
25)e Ext. Petroleum Hydrocar	0.000	0	N.D.	d
26)m Mineral Spirits(TOTAL)	0.000	0	N.D.	d
27)m Stoddard Solvent(TOTAL)	0.000	0	N.D.	d

(f)=RT Delta > 1/2 Window

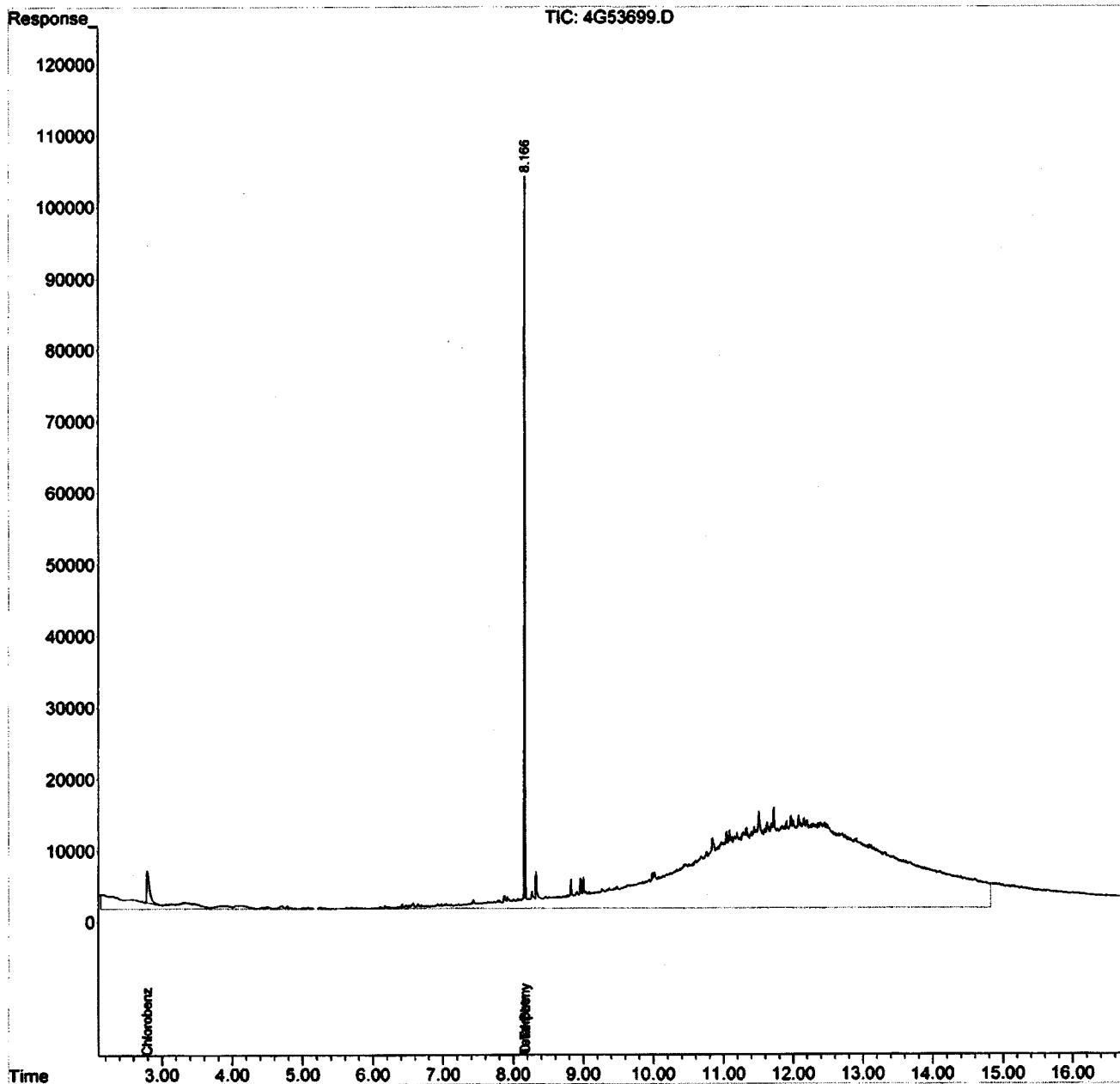
(m)=manual int.

pu

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53699.D
 Signal(s) : FID1A.CH
 Acq On : 20 Apr 2016 00:37
 Operator : AH/KD/ABM
 Sample : AC90773-010
 Misc : S.TPH
 ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:08:32 2016
 Quant Method : G:\GC DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: SMB49885 Method: EPA 8015D
 Client Id: Matrix: Soil
 Data File: 4G53679.D Initial Vol: 5g
 Analysis Date: 04/19/16 16:31 Final Vol: 1ml
 Date Rec/Extracted: NA-04/19/16 Dilution: 1
 Column: DB-5MS 30M 0.250mm ID 0.25um film Solids: 100

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	60	U				

Worksheet #: 380272

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration use a**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
 Data File : 4G53679.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 16:31
 Operator : AH/KD/ABM
 Sample : SMB49885
 Misc : S.TPH
 ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 09:59:17 2016
 Quant Method : G:\GC DATA\2016\GC_4\MethodQt\4G_T0401.M
 Quant Title : @GC_4,mg,8015
 QLast Update : Tue Apr 19 10:12:06 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds				
1)mt C8	0.000	0	N.D.	
2)mt C9	0.000	0	N.D.	
3)mdte C10	0.000	0	N.D.	
4)mdte C12	0.000	0	N.D.	
5)mdte C14	0.000	0	N.D.	
6)dte C16	0.000	0	N.D.	
7)dte C17	0.000	0	N.D.	
8)dte Pristane	0.000	0	N.D.	
9)dte C18	0.000	0	N.D.	
10)dte Phytane	0.000	0	N.D.	
11)dte C20	0.000	0	N.D.	
12)dte C22	0.000	0	N.D.	
13)dte C24	0.000	0	N.D.	
14)dte C26	0.000	0	N.D.	
15)dte C28	0.000	0	N.D.	
16)te C30	0.000	0	N.D.	
17)te C32	0.000	0	N.D.	
18)te C34	0.000	0	N.D.	
19)te C36	0.000	0	N.D.	
20)t C40	0.000	0	N.D.	
21) Chlorobenzene	2.828	160274	11.446	
22) O-Terphenyl	8.178	541835	12.013	
23)d Diesel Range Organics(T	8.178f	776993	19.351	m
24)t Total Petroleum Hydroca	8.178f	2163719	54.337	m
25)e Ext. Petroleum Hydrocar	0.000	0	N.D.	d
26)m Mineral Spirits(TOTAL)	0.000	0	N.D.	d
27)m Stoddard Solvent(TOTAL)	0.000	0	N.D.	d

(f)=RT Delta > 1/2 Window

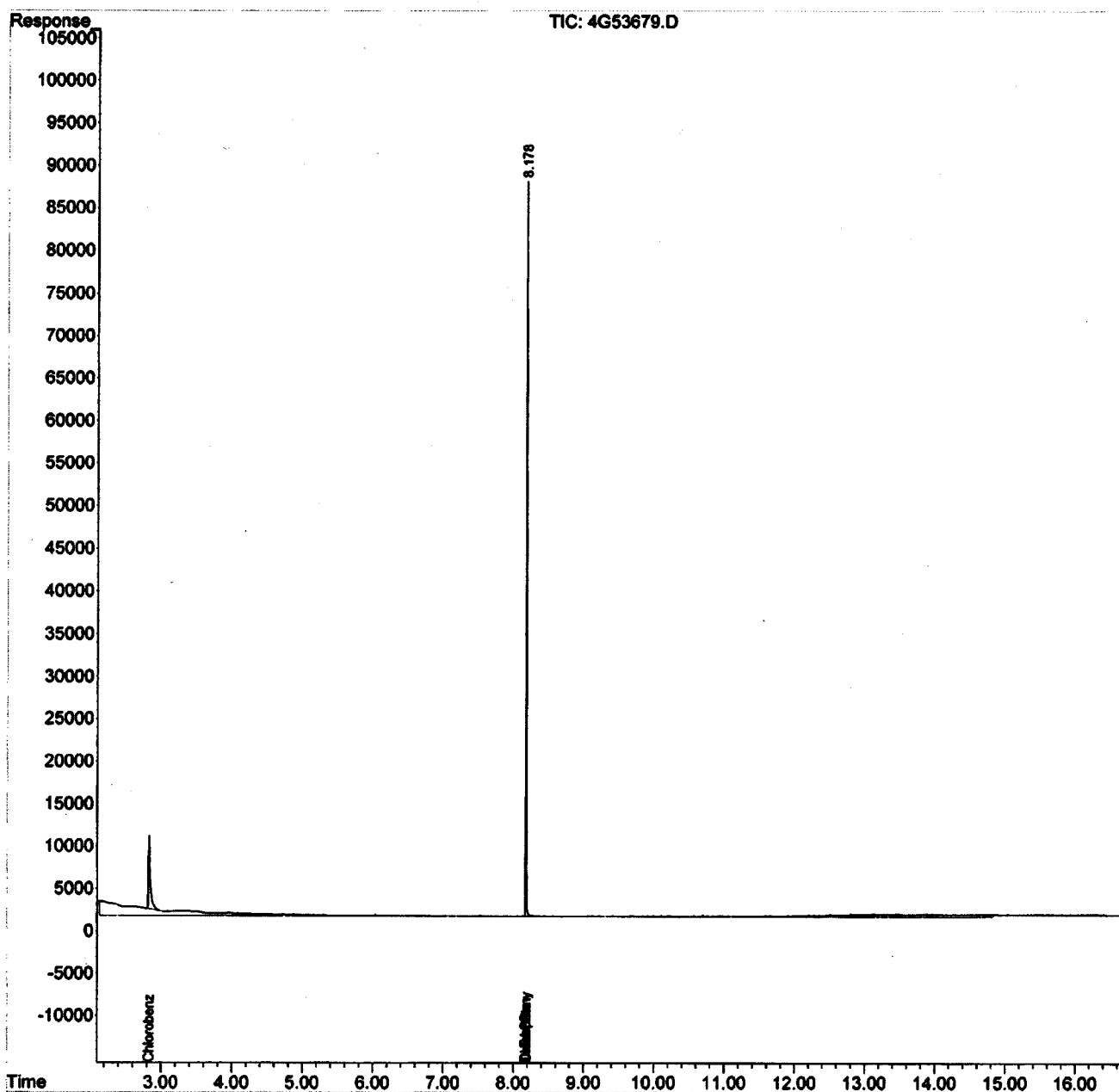
(m)=manual int.

Doc

Data Path : G:\Gcdata\2016\GC_4\Data\04-19-16\
Data File : 4G53679.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 16:31
Operator : AH/KD/ABM
Sample : SMB49885
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 09:59:17 2016
Quant Method : G:\GC\DATA\2016\GC_4\MethodQt\4G_T0401.M
Quant Title : @GC_4,mg,8015
QLast Update : Tue Apr 19 10:12:06 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FORM2

Surrogate Recovery

Method: EPA 8015D

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1 S1 Recov	Column1 S2 Recov	Column0 S3 Recov	Column0 S4 Recov	Column0 S5 Recov	Column0 S6 Recov
4G53679.D	SMB49885	S	04/19/16 16:31	1		57	60				
4G53697.D	DAC90773-005	S	04/19/16 23:49	1		31	42				
4G53688.D	DAC90773-006	S	04/19/16 20:09	1		66	67				
4G53689.D	DAC90773-007	S	04/19/16 20:34	1		71	70				
4G53690.D	DAC90773-008	S	04/19/16 20:58	1		69	71				
4G53698.D	DAC90773-009	S	04/20/16 00:13	1		66	78				
4G53699.D	DAC90773-010	S	04/20/16 00:37	1		45	70				
4G53680.D	SMB49885(MS)	S	04/19/16 16:55	1		58	74				
4G53681.D	DAC90625-003	S	04/19/16 17:20	1		47	58				
4G53682.D	DAC90625-003(MS)	S	04/19/16 17:44	1		79	87				
4G53683.D	DAC90625-003(MSD)	S	04/19/16 18:08	1		58	84				

Flags: SD=Surrogate diluted out

*=Surrogate out

Method: EPA 8015D

Soil DKQP Limits

Compound	Spike Amt	Limits
S1=Chlorobenzene	20	20-117
S2=O-Terphenyl	20	30-146

Form3
Recovery Data
 QC Batch: SMB49885

Data File	Sample ID:	Analysis Date
Spike or Dup: 4G53680.D	SMB49885(MS)	4/19/2016 4:55:00 PM
Non Spike(If applicable):		
Inst Blank(If applicable): 4G53678.D	INST BLK	4/19/2016 4:07:00 PM
Method: 8015	Matrix: Soil	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	1736.85	0	3000	58	40	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: SMB49885

Data File		Sample ID:		Analysis Date			
Spike or Dup: 4G53682.D		AC90625-003(MS)		4/19/2016 5:44:00 PM			
Non Spike(If applicable): 4G53681.D		AC90625-003		4/19/2016 5:20:00 PM			
Inst Blank(If applicable): 4G53678.D		INST BLK		4/19/2016 4:07:00 PM			
Method: 8015		Matrix: Soil		QC Type: MS			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	2174.67	0	3000	72	40	130

Data File		Sample ID:		Analysis Date			
Spike or Dup: 4G53683.D		AC90625-003(MSD)		4/19/2016 6:08:00 PM			
Non Spike(If applicable): 4G53681.D		AC90625-003		4/19/2016 5:20:00 PM			
Inst Blank(If applicable): 4G53678.D		INST BLK		4/19/2016 4:07:00 PM			
Method: 8015		Matrix: Soil		QC Type: MSD			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	1898.97	0	3000	63	40	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

**Form3
RPD Data**

QC Batch: SMB49885

Data File	Sample ID:	Analysis Date
Spike or Dup: 4G53683.D	AC90625-003(MSD)	4/19/2016 6:08:00 PM
Duplicate(If applicable): 4G53682.D	AC90625-003(MS)	4/19/2016 5:44:00 PM
Inst Blank(If applicable): 4G53678.D	INST BLK	4/19/2016 4:07:00 PM
Method: 8015	Matrix: Soil	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Diesel Range Organics	1	1898.97	2174.67	14	40
* - Indicates outside of limits		NA - Both concentrations=0... no result can be calculated			

FORM 4
Blank SummaryBlank Number: SMB49885
Blank Data File: 4G53679.D
Matrix: SoilBlank Analysis Date: 04/19/16 16:31
Blank Extraction Date: 04/19/16
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AC90773-005	4G53697.D	04/19/16 23:49
AC90773-006	4G53688.D	04/19/16 20:09
AC90773-007	4G53689.D	04/19/16 20:34
AC90773-008	4G53690.D	04/19/16 20:58
AC90773-009	4G53698.D	04/20/16 00:13
AC90773-010	4G53699.D	04/20/16 00:37
AC90625-003(MSD)	4G53683.D	04/19/16 18:08
AC90625-003(MS)	4G53682.D	04/19/16 17:44
AC90625-003	4G53681.D	04/19/16 17:20
SMB49885(MS)	4G53680.D	04/19/16 16:55

Form 5

Method: EPA 8015D

Instrument: GC_4

Column: DB-5MS 30M 0.250mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
4G53550.D	INST BLK	04/01/16 10:53	Soil					
4G53551.D	CAL TPH@500PPM	04/01/16 11:18	Soil	4G53556.	8.2329	0.8049		
4G53552.D	CAL TPH@100PPM	04/01/16 11:43	Soil	4G53556.	8.1905	0.2886		
4G53553.D	CAL TPH@40PPM	04/01/16 12:28	Soil	4G53556.	8.1819	0.1835		
4G53554.D	CAL TPH@20PPM	04/01/16 12:53	Soil	4G53556.	8.1721	0.0637		
4G53555.D	CAL TPH@10PPM	04/01/16 13:18	Soil	4G53556.	8.1717	0.0588		
4G53556.D	CAL TPH@5PPM	04/01/16 13:42	Soil	4G53556.	8.1669	0		
4G53557.D	ICV@20PPM	04/01/16 14:07	Soil	4G53556.	8.1717	0.0588		
4G53558.D	INST BLK	04/01/16 14:32	Soil	4G53556.	0.0000	200		
4G53559.D	SMB49714	04/01/16 15:07	Soil	4G53556.	8.1845	0.2153		
4G53560.D	SMB49714(MS)	04/01/16 15:31	Soil	4G53556.	8.1787	0.1444		
4G53561.D	AC90400-001(MS)	04/01/16 15:56	Soil	4G53556.	8.1784	0.1407		
4G53562.D	AC90400-001(MSD)	04/01/16 16:21	Soil	4G53556.	8.1787	0.1444		
4G53563.D	AC90400-001	04/01/16 16:46	Soil	4G53556.	8.1728	0.0722		
4G53564.D	AC90400-003	04/01/16 17:11	Soil	4G53556.	8.1700	0.038		
4G53565.D	AC90400-005	04/01/16 17:36	Soil	4G53556.	8.1735	0.0808		
4G53566.D	AC90447-001	04/01/16 18:01	Soil	4G53556.	8.1716	0.0575		
4G53567.D	AC90447-002	04/01/16 18:26	Soil	4G53556.	8.1663	0.0073		
4G53568.D	AC90436-016	04/01/16 18:50	Soil	4G53556.	8.1666	0.0037		
4G53569.D	AC90436-018	04/01/16 19:15	Soil	4G53556.	8.1730	0.0747		
4G53570.D	AC90436-006	04/01/16 19:40	Soil	4G53556.	8.1706	0.0453		
4G53571.D	AC90436-010	04/01/16 20:04	Soil	4G53556.	8.1728	0.0722		
4G53572.D	AC90436-012	04/01/16 20:29	Soil	4G53556.	8.1736	0.082		
4G53573.D	AC90436-014	04/01/16 20:54	Soil	4G53556.	8.1766	0.1187		
4G53574.D	AC90495-002	04/01/16 21:18	Soil	4G53556.	8.1727	0.071		
4G53575.D	CAL TPH@20PPM	04/01/16 22:08	Soil	4G53556.	8.1775	0.1297		
4G53576.D	20PPM	04/01/16 22:57	Soil	4G53575.	8.1729	0.0563		
4G53577.D	TEST	04/01/16 23:47	Soil	4G53575.	8.1721	0.0661		

Form 5

Method: EPA 8015D

Instrument: GC_4

Column: DB-5MS 30M 0.250mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
4G53676.D	INST BLK	04/19/16 09:20	Soil					
4G53677.D	CAL TPH@20PPM	04/19/16 09:45	Soil	4G53677.	8.1852	0		
4G53678.D	INST BLK	04/19/16 16:07	Soil	4G53677.	0.0000	200		
4G53679.D	SMB49885	04/19/16 16:31	Soil	4G53677.	8.1778	0.0904		
4G53680.D	SMB49885(MS)	04/19/16 16:55	Soil	4G53677.	8.1796	0.0684		
4G53681.D	AC90625-003	04/19/16 17:20	Soil	4G53677.	8.1735	0.143		
4G53682.D	AC90625-003(MS)	04/19/16 17:44	Soil	4G53677.	8.1768	0.1027		
4G53683.D	AC90625-003(MSD)	04/19/16 18:08	Soil	4G53677.	8.1779	0.0892		
4G53684.D	AC90734-002	04/19/16 18:32	Soil	4G53677.	8.1753	0.121		
4G53685.D	AC90625-002	04/19/16 18:57	Soil	4G53677.	8.1695	0.192		
4G53686.D	AC90625-004	04/19/16 19:21	Soil	4G53677.	8.1751	0.1235		
4G53687.D	AC90625-005	04/19/16 19:45	Soil	4G53677.	8.1728	0.1516		
4G53688.D	AC90773-006	04/19/16 20:09	Soil	4G53677.	8.1727	0.1528		
4G53689.D	AC90773-007	04/19/16 20:34	Soil	4G53677.	8.1717	0.1651		
4G53690.D	AC90773-008	04/19/16 20:58	Soil	4G53677.	8.1718	0.1638		
4G53691.D	AC90787-002	04/19/16 21:22	Soil	4G53677.	8.1723	0.1577		
4G53692.D	CAL TPH@20PPM	04/19/16 21:47	Soil	4G53677.	8.1711	0.1724		
4G53693.D	20PPM	04/19/16 22:11	Soil	4G53692.	8.1738	0.033		
4G53694.D	INST BLK	04/19/16 22:36	Soil	4G53692.	0.0000	200		
4G53695.D	AC90737-001	04/19/16 23:00	Soil	4G53692.	8.1728	0.0208		
4G53696.D	AC90625-001	04/19/16 23:24	Soil	4G53692.	8.1711	0		
4G53697.D	AC90773-005	04/19/16 23:49	Soil	4G53692.	8.1655	0.0686		
4G53698.D	AC90773-009	04/20/16 00:13	Soil	4G53692.	8.1716	0.0061		
4G53699.D	AC90773-010	04/20/16 00:37	Soil	4G53692.	8.1662	0.06		
4G53700.D	CAL TPH@20PPM	04/20/16 01:01	Soil	4G53692.	8.1724	0.0159		
4G53701.D	20PPM	04/20/16 01:26	Soil	4G53700.	8.1729	0.0061		

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	4G53556.D	CAL TPH@sPPM	04/01/16 13:42	2	4G53555.D	CAL TPH@10PPM	04/01/16 13:18
3	4G53554.D	CAL TPH@20PPM	04/01/16 12:53	4	4G53553.D	CAL TPH@40PPM	04/01/16 12:28
5	4G53552.D	CAL TPH@100PPM	04/01/16 11:43	6	4G53551.D	CAL TPH@500PPM	04/01/16 11:18

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
U08	1	0	Avg	1.7320	1.6274	1.6791	1.7233	1.6745	1.9686	---	---	1.73232	3.2	0.999	1.00	7.0	5.00	10.00	20.00	40.00	100.0	500.0	---	---
C9	1	0	Avg	2.2510	2.0631	2.1022	2.1082	2.0558	2.3418	---	---	2.15327	0.998	1.00	5.4	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C10	1	0	Avg	2.2299	2.2138	2.3877	2.4445	2.4297	2.7237	---	---	2.40406	1.00	1.00	7.7	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C12	1	0	Avg	2.6780	2.7258	2.9376	2.9734	2.9652	3.1674	---	---	2.91526	1.00	1.00	6.2	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C14	1	0	Avg	3.2915	3.2760	3.5976	3.6081	3.598	3.6581	---	---	3.50622	1.00	1.00	4.8	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C16	1	0	Avg	3.8385	3.7717	3.9922	3.9741	3.8839	3.9110	---	---	3.90705	1.00	1.00	2.1	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C17	1	0	Avg	4.9691	3.7027	4.4142	4.1074	5.5539	5.3630	---	---	4.69743	1.00	1.00	16	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
Pristane	1	0	Qua	3.7901	3.5794	3.9347	4.4573	2.9563	2.2640	---	---	3.50744	0.994	0.998	22	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C18	1	0	Avg	4.2936	4.1473	4.3379	4.3114	4.2366	5.3277	---	---	4.44780	0.999	1.00	9.9	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
Phytane	1	0	Avg	4.2128	3.9481	4.0617	3.9778	3.7947	2.5161	---	---	3.75782	0.964	1.00	17	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C20	1	0	Avg	4.6412	4.4355	4.6031	4.5383	4.3916	4.3894	---	---	4.50848	1.00	1.00	2.5	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C22	1	0	Avg	4.5921	4.3857	4.5669	4.5014	4.3686	4.3542	---	---	4.46912	1.00	1.00	2.4	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C24	1	0	Avg	4.7323	4.5450	4.7494	4.6913	4.5697	4.5649	---	---	4.64974	1.00	1.00	2.0	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C26	1	0	Avg	4.7748	4.5999	4.8271	4.7759	4.6893	4.5852	---	---	4.711035	1.00	1.00	2.1	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C28	1	0	Avg	4.9026	4.6844	4.8564	4.8909	4.8218	4.6688	---	---	4.801094	1.00	1.00	2.1	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C30	1	0	Avg	4.9219	4.7765	5.0138	4.9332	4.8923	4.6884	---	---	4.871153	1.00	1.00	2.4	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C32	1	0	Avg	5.1594	4.9228	5.1305	4.9437	4.9481	4.8313	---	---	4.991210	1.00	1.00	2.6	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C34	1	0	Avg	4.9973	4.6519	4.8643	4.5757	4.6187	4.6360	---	---	4.721266	1.00	1.00	3.5	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
C36	1	0	Avg	5.1593	4.6710	4.8106	4.3549	4.3753	4.5380	---	---	4.651322	1.00	1.00	6.5	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
CA0	1	0	Avg	4.9121	4.3555	4.5068	3.9103	4.0197	4.2112	---	---	4.321467	1.00	1.00	8.4	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
Chlorobenzene	1	0	Avg	1.4418	1.3197	1.3595	1.3688	1.3257	1.5846	---	---	1.40281	0.999	1.00	7.2	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
O-Toluenol	1	0	Avg	4.6620	4.3714	4.5321	4.4678	4.3266	4.7023	---	---	4.51817	1.00	1.00	3.4	5.00	10.00	20.00	40.00	100.0	500.0	---	---	
Diesel Range Organics(TO	1	0	Avg	4.0728	3.8473	4.0974	4.0963	4.0162	3.9607	---	---	4.02406	1.00	1.00	2.4	5.00	130.0	260.0	520.0	1300.	6500.	---	---	
Total Petroleum Hydrocarb	1	0	Avg	4.1040	3.8542	4.0687	3.9901	3.9398	3.9353	---	---	3.98231	1.00	1.00	2.3	5.00	200.0	400.0	800.0	2000.	10000.	---	---	
Ext. Petroleum Hydrocarb	1	0	Avg	4.1808	3.9500	4.1771	4.1204	4.0612	4.0282	---	---	4.09327	1.00	1.00	2.3	5.00	180.0	360.0	720.0	1800.	9000.	---	---	
Mineral Spirits(TOTAL)	1	0	Avg	2.4365	2.3812	2.5408	2.5715	2.5350	2.7719	---	---	2.54286	1.00	1.00	5.3	5.00	50.00	100.0	200.0	500.0	2500.	---	---	
Standard Solvent(TOTAL)	1	0	Avg	2.4365	2.3812	2.5408	2.5715	2.5350	2.7719	---	---	2.54286	1.00	1.00	5.3	5.00	50.00	100.0	200.0	500.0	2500.	---	---	

Avg Rsd Col 1: 6.48 Avg Rsd Col 2: -1.00

Flags
c - failed the initial calibration criteria(if applicable)

Note:
Col = Column Number
Mr = MultiPeak Analyte 0=single peak analyte, >0=multi peak analyte (i.e. nchchlorane etc.)
Fit = Indicates whether Avg RF: Linear or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.
Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
Initial Calibration Criteria: either %RSD <= 20 or Corr >= .995
Columns: Signal #1 dh-1701 : Signal #2 dh-608

Form7
 Continuing Calibration

Method: EPA 8015D

Compound	Limit	Col	Mr	4G53677.D			4G53692.D			4G53700.D											
				Data File:			Conc			Conc			Conc			Conc			Conc		
				Method:			Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
				8015			8015			8015											
				CAL TPH@20PPM			CAL TPH@20PPM			CAL TPH@20PPM											
				04/19/16 09:45			04/19/16 21:47			04/20/16 01:01											
				Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff			
C8	20	1	0	24.14	20	20.7*	25.58	20	27.9*	18.92	20	5.4									
C9	20	1	0	23.01	20	15.1	25.17	20	25.9*	19.74	20	1.3									
C10	20	1	0	23.12	20	15.6	24.69	20	23.5*	20.75	20	3.8									
C12	20	1	0	22.15	20	10.8	24.31	20	21.6*	21.3	20	6.5									
C14	20	1	0	21.65	20	8.2	23.32	20	16.6	20.37	20	1.9									
C16	20	1	0	21.07	20	5.3	22.6	20	13.0	19.74	20	1.3									
C17	20	1	0	17.51	20	12.5	19.41	20	3.0	17.49	20	12.6									
Pristane	20	1	0	26.45	20	32.3*	24.14	20	20.7*	24.22	20	21.1*									
C18	20	1	0	19.74	20	1.3	21.17	20	5.9	18.37	20	8.1									
Phytane	20	1	0	21.68	20	8.4	23.09	20	15.5	20.13	20	0.6									
C20	20	1	0	20.27	20	1.4	21.7	20	8.5	19.11	20	4.4									
C22	20	1	0	20	20	0.0	21.4	20	7.0	19.48	20	2.6									
C24	20	1	0	19.79	20	1.0	21.01	20	5.1	20.13	20	0.6									
C26	20	1	0	19.66	20	1.7	20.74	20	3.7	20.87	20	4.4									
C28	20	1	0	19.5	20	2.5	20.49	20	2.4	21.18	20	5.9									
C30	20	1	0	19.41	20	3.0	20.55	20	2.7	21.38	20	6.9									
C32	20	1	0	19.38	20	3.1	20.18	20	0.9	20.8	20	4.0									
C34	20	1	0	19.31	20	3.5	20.04	20	0.2	19.86	20	0.7									
C36	20	1	0	19.63	20	1.9	20.08	20	0.4	19.04	20	4.8									
C40	20	1	0	19.86	20	0.7	19.65	20	1.8	16.45	20	17.8									
Chlorobenzene	20	1	0	23.88	20	19.4	25.73	20	28.7*	19.51	20	2.4									
O-Terphenyl	20	1	0	20.56	20	2.8	22.12	20	10.6	20.3	20	1.5									
Average Difference	20	1	0			7.8			11.1			5.4									

Flags/Notes:

* - Values outside of limits for this column/run

HAZ. - 466

GRO Data

Form1
ORGANICS REPORT

Sample Number: AC90773-005

Client Id: WC01

Data File: 13M01873.D

Analysis Date: 04/19/16 18:35

Date Rec/Extracted: 04/14/16-NA

Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D

Matrix: Methanol

Initial Vol: 5.96g:10ml

Final Vol: NA

Dilution: 83.9

Solids: 94

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	22	U				

Worksheet #: 380475

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used*

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01873.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 18:35
Operator : SG
Sample : AC90773-005
Misc : M,MEXT!3
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:28:47 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1)S 1,4-Dichlorobenzene-d4	9.499	30199	34.056
Target Compounds			

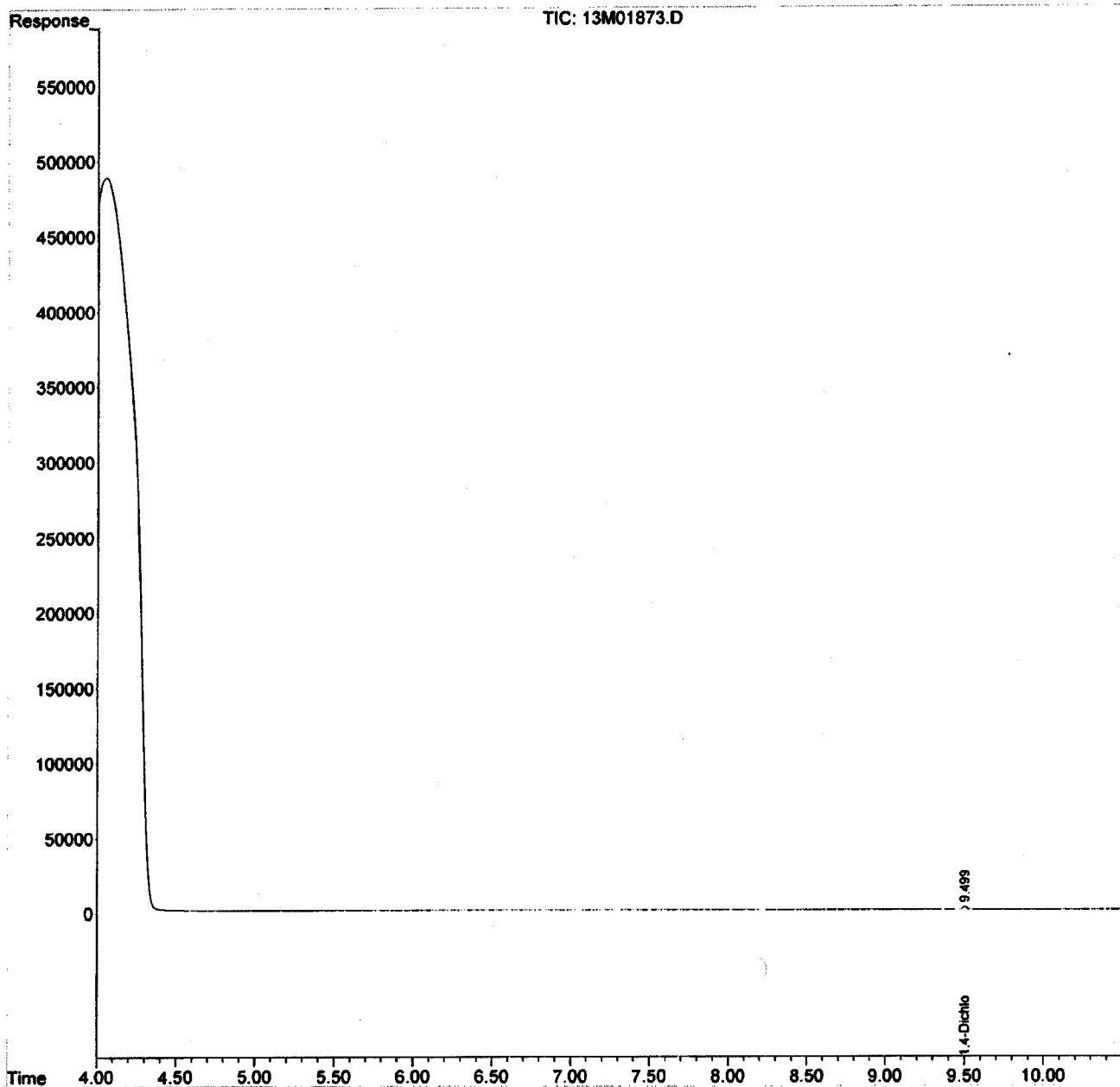
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01873.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 18:35
Operator : SG
Sample : AC90773-005
Misc : M,MEXT13
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:28:47 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1
ORGANICS REPORT

Sample Number: AC90773-006

Client Id: WC02

Data File: 13M01874.D

Analysis Date: 04/19/16 18:55

Date Rec/Extracted: 04/14/16-NA

Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D

Matrix: Methanol

Initial Vol: 5.5g:10ml

Final Vol: NA

Dilution: 90.9

Solids: 89

Cas #		Compound	RL	Units: mg/Kg	Cas #		Compound	RL	Conc
phcg		Gasoline Range Organics	26	Conc U					

Worksheet #: 380475

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used*

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01874.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 18:55
Operator : SG
Sample : AC90773-006
Misc : M,MEXT!3
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 21 10:38:03 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1)S 1,4-Dichlorobenzene-d4	9.505	31129	35.105
Target Compounds			

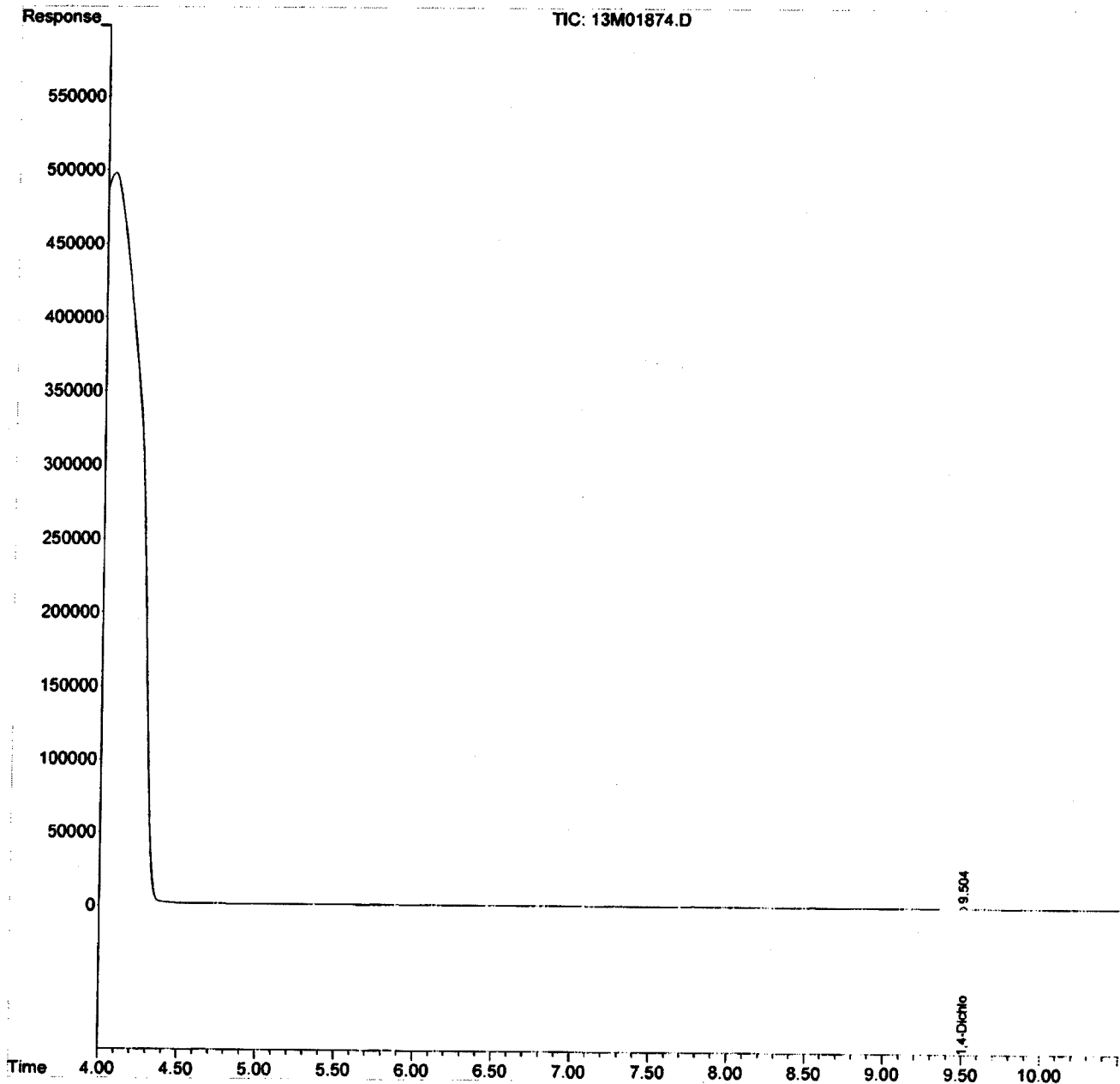
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01874.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 18:55
Operator : SG
Sample : AC90773-006
Misc : M,MEXT!3
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 21 10:38:03 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1
ORGANICS REPORT

Sample Number: AC90773-007
 Client Id: WC03
 Data File: 13M01875.D
 Analysis Date: 04/19/16 19:15
 Date Rec/Extracted: 04/14/16-NA
 Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
 Matrix: Methanol
 Initial Vol: 5.3g:10ml
 Final Vol: NA
 Dilution: 94.3
 Solids: 94

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	25	U				

Worksheet #: 380475

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01875.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 19:15
Operator : SG
Sample : AC90773-007
Misc : M,MEXT!3
ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:28:51 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1)S 1,4-Dichlorobenzene-d4	9.505	29665	33.455
Target Compounds			

(f)=RT Delta > 1/2 Window

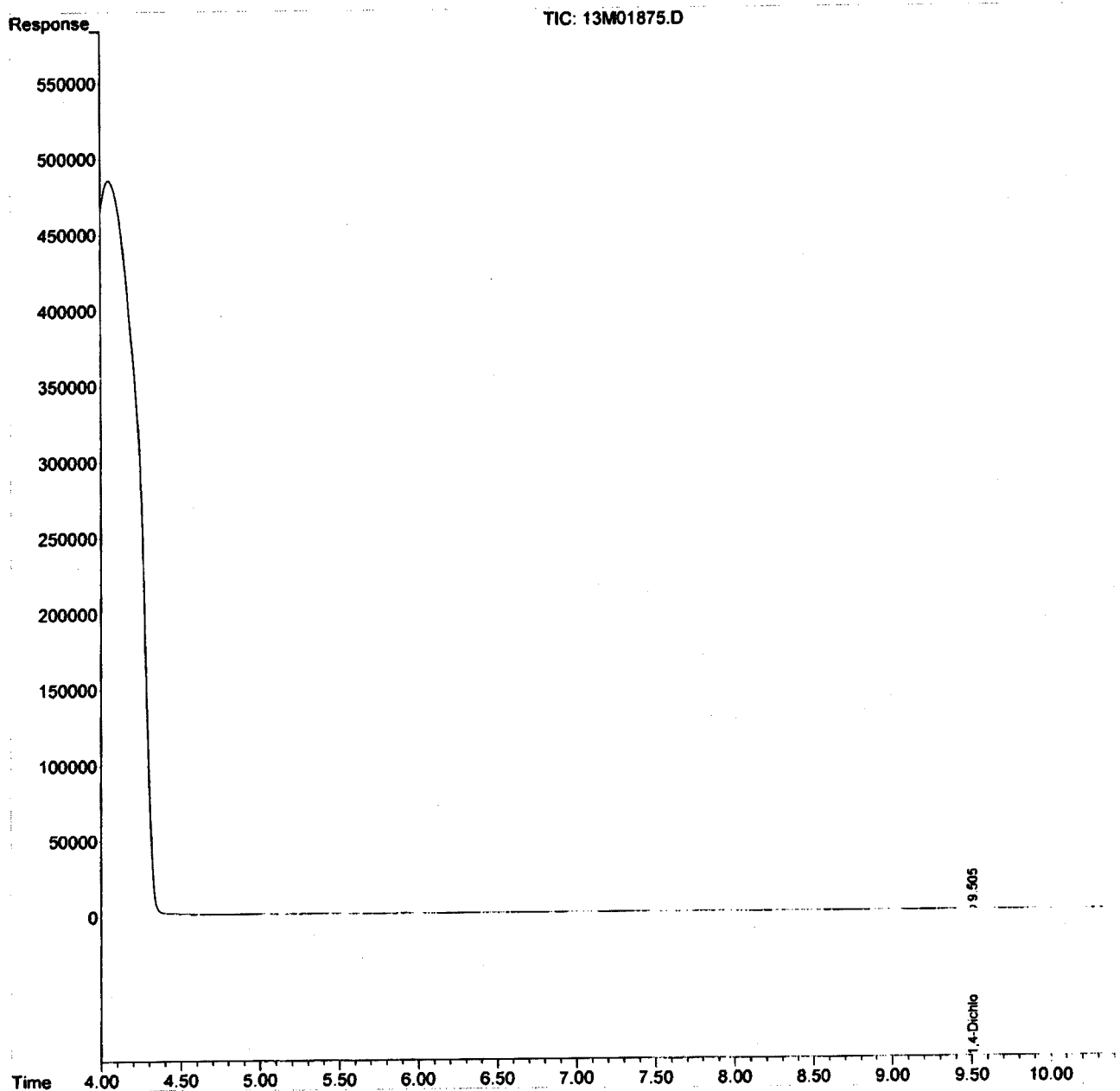
(m)=manual int.

lh

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01875.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 19:15
Operator : SG
Sample : AC90773-007
Misc : M,MEXT!3
ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:28:51 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1
ORGANICS REPORT

Sample Number: AC90773-008
 Client Id: WC04
 Data File: 13M01876.D
 Analysis Date: 04/19/16 19:35
 Date Rec/Extracted: 04/14/16-NA
 Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
 Matrix: Methanol
 Initial Vol: 5.59g:10ml
 Final Vol: NA
 Dilution: 89.4
 Solids: 97

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	23	U				

Worksheet #: 380475

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses*

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01876.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 19:35
Operator : SG
Sample : AC90773-008
Misc : M,MEXT!3
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:34:42 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units

System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.511	29522	33.294	m
Target Compounds				

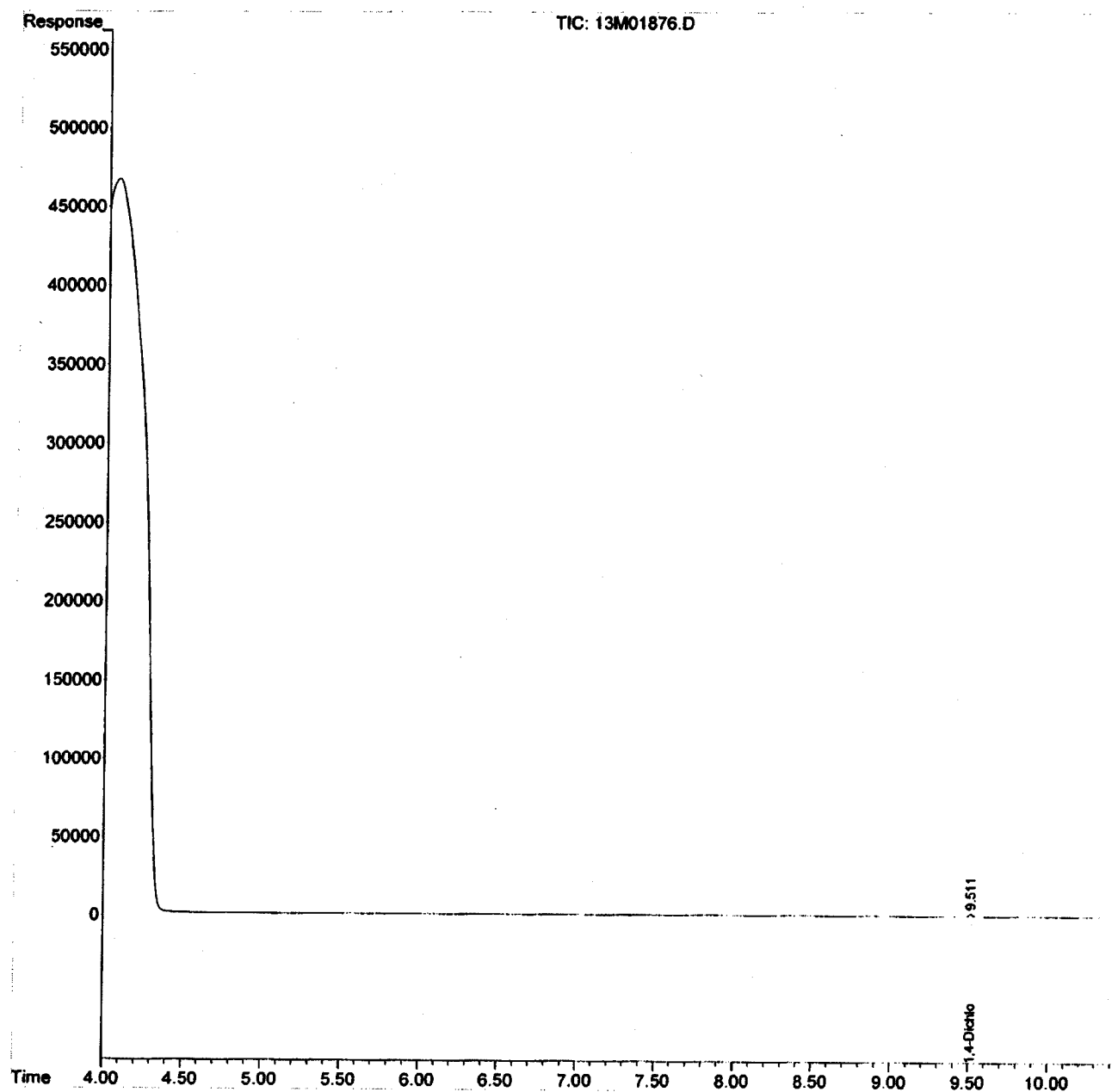
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01876.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 19:35
Operator : SG
Sample : AC90773-008
Misc : M,MEXT!3
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:34:42 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1
ORGANICS REPORT

Sample Number: AC90773-009
 Client Id: SS-01
 Data File: 13M01877.D
 Analysis Date: 04/19/16 19:53
 Date Rec/Extracted: 04/14/16-NA
 Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
 Matrix: Methanol
 Initial Vol: 5.4g:10ml
 Final Vol: NA
 Dilution: 92.6
 Solids: 85

		Units: mg/Kg					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	27	U				

Worksheet #: 380475

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used.*

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01877.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 19:53
Operator : SG
Sample : AC90773-009
Misc : M,MEXT!3
ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 21 10:38:32 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units

System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.512	28055	31.639	m
Target Compounds				

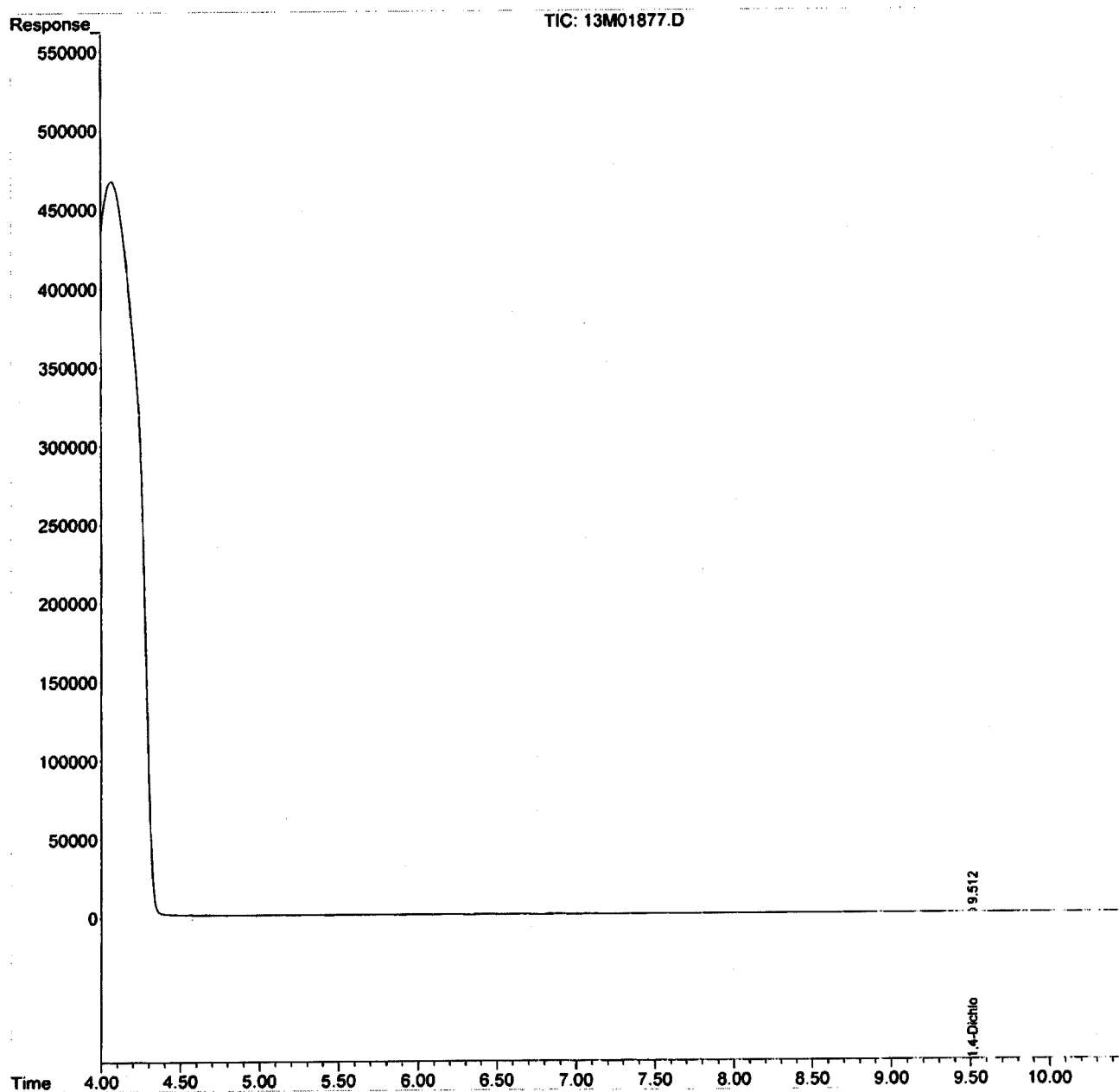
(f)=RT Delta > 1/2 Window

(m)=manual int.

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
 Data File : 13M01877.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 19:53
 Operator : SG
 Sample : AC90773-009
 Misc : M,MEXT:3
 ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 21 10:38:32 2016
 Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
 Quant Title : @GC_13,ug,8015
 QLast Update : Wed Feb 24 12:21:46 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :



Form1
ORGANICS REPORT

Sample Number: AC90773-010
 Client Id: SS-02
 Data File: 13M01878.D
 Analysis Date: 04/19/16 20:13
 Date Rec/Extracted: 04/14/16-NA
 Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
 Matrix: Methanol
 Initial Vol: 5.03g:10ml
 Final Vol: NA
 Dilution: 99.4
 Solids: 94

Cas #		Compound	RL	Units: mg/Kg		Cas #	Compound	RL	Conc
phcg		Gasoline Range Organics	26	Conc	U				

Worksheet #: 380475

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used.*

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
 Data File : 13M01878.D
 Signal(s) : FID1A.CH
 Acq On : 19 Apr 2016 20:13
 Operator : SG
 Sample : AC90773-010
 Misc : M,MEXT!5
 ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
 Quant Time: Apr 20 10:35:07 2016
 Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
 Quant Title : @GC_13,ug,8015
 QLast Update : Wed Feb 24 12:21:46 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. :
 Signal Phase :
 Signal Info :

Compound	R.T.	Response	Conc	Units

System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.534f	29138	32.861	m
Target Compounds				

(f)=RT Delta > 1/2 Window

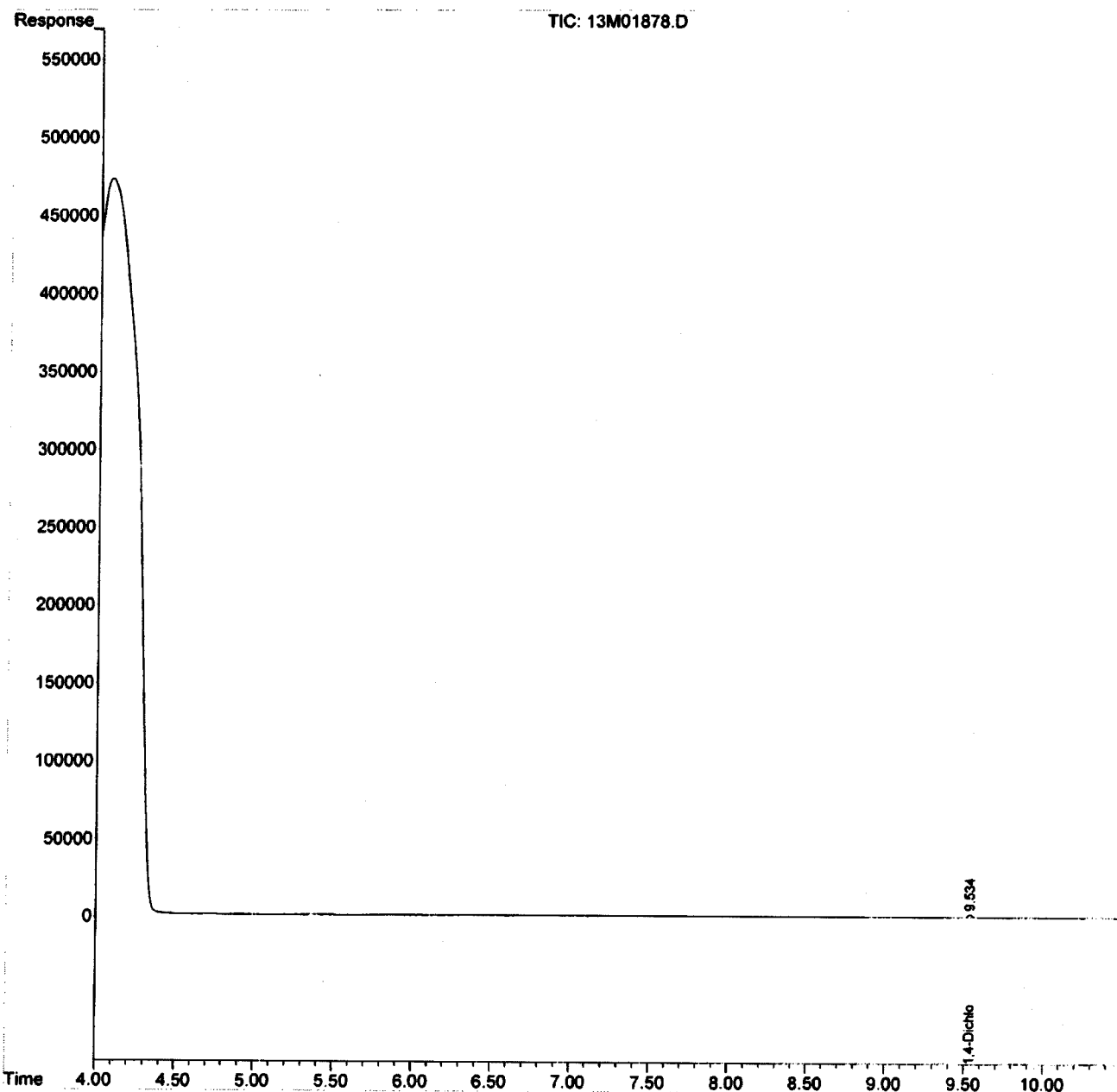
(m)=manual int.

lk

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01878.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 20:13
Operator : SG
Sample : AC90773-010
Misc : M,MEXT!5
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 20 10:35:07 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1
ORGANICS REPORT

Sample Number: DAILY BLANK
 Client Id:
 Data File: 13M01863.D
 Analysis Date: 04/19/16 15:22
 Date Rec/Extracted:
 Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
 Matrix: Methanol
 Initial Vol: 5g:10ml
 Final Vol: NA
 Dilution: 100
 Solids: 100

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	25	U				

Worksheet #: 380475

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01863.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 15:22
Operator : SG
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 19 15:54:40 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1)S 1,4-Dichlorobenzene-d4	9.502	28211	31.815
Target Compounds			

(f)=RT Delta > 1/2 Window

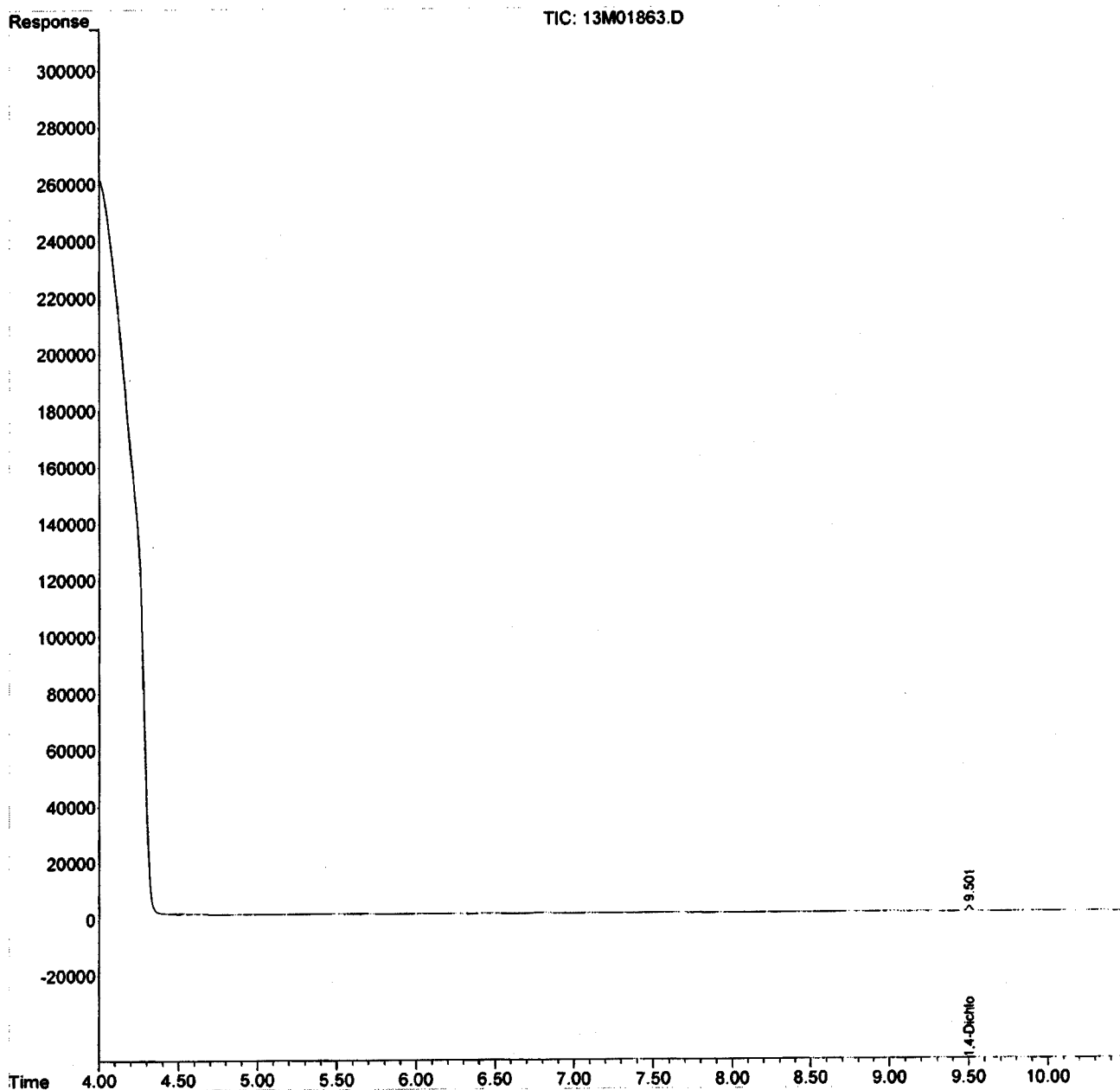
(m)=manual int.

h

Data Path : G:\GcMsData\2016\GC_13\Data\04-19-16\
Data File : 13M01863.D
Signal(s) : FID1A.CH
Acq On : 19 Apr 2016 15:22
Operator : SG
Sample : DAILY BLANK
Misc : M, MEOH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Apr 19 15:54:40 2016
Quant Method : G:\GcMsData\2016\GC_13\MethodQt\13M_G0224.M
Quant Title : @GC_13,ug,8015
QLast Update : Wed Feb 24 12:21:46 2016
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FORM2

Surrogate Recovery

Method: EPA 8015D

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1 S1 Recov	Column0 S2 Recov	Column0 S3 Recov	Column0 S4 Recov	Column0 S5 Recov	Column0 S6 Recov
13M01796.D	DAILY BLANK	M	04/05/16 09:22	1		85					
13M01863.D	DAILY BLANK	M	04/19/16 15:22	1		106					
13M01873.D	DAC90773-005	M	04/19/16 18:35	1		114					
13M01874.D	DAC90773-006	M	04/19/16 18:55	1		117					
13M01875.D	DAC90773-007	M	04/19/16 19:15	1		112					
13M01876.D	DAC90773-008	M	04/19/16 19:35	1		111					
13M01877.D	DAC90773-009	M	04/19/16 19:53	1		105					
13M01878.D	DAC90773-010	M	04/19/16 20:13	1		110					
13M01797.D	MBS52675	M	04/05/16 09:41	1		123					
13M01799.D	DAC90518-003	M	04/05/16 10:17	1		103					
13M01804.D	DAC90518-003(MS)	M	04/05/16 11:53	1		137					
13M01805.D	DAC90518-003(MSD)	M	04/05/16 12:11	1		135					
13M01864.D	MBS52813	M	04/19/16 15:40	1		140					

Flags: SD=Surrogate diluted out

* = Surrogate out

Method: EPA 8015D

Soil Limits

Compound	Spike Amt	Limits
S1=1,4-Dichlorobenzene-d4	30	50-150

Form3
Recovery Data
 QC Batch: MBS52675

6041514 0385

Data File	Sample ID:	Analysis Date
Spike or Dup: 13M01797.D	MBS52675	4/5/2016 9:41:00 AM
Non Spike(If applicable):		
Inst Blank(If applicable):		
Method: 8015	Matrix: Methanol	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	1730.25	0	2000	87	11	181

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS52813

6041514 0386

Data File Spike or Dup: 13M01864.D	Sample ID: MBS52813	Analysis Date 4/19/2016 3:40:00 PM
Non Spike(If applicable):		
Inst Blank(If applicable):		
Method: 8015	Matrix: Methanol	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	2340.17	0	2000	117	11	181

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS52675

6041514 0387

Data File	Sample ID:	Analysis Date
Spike or Dup: 13M01804.D	AC90518-003(MS)	4/5/2016 11:53:00 AM
Non Spike(If applicable): 13M01799.D	AC90518-003	4/5/2016 10:17:00 AM
Inst Blank(If applicable):		
Method: 8015	Matrix: Methanol	QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	2626.25	0	2000	131	11	181

Data File	Sample ID:	Analysis Date
Spike or Dup: 13M01805.D	AC90518-003(MSD)	4/5/2016 12:11:00 PM
Non Spike(If applicable): 13M01799.D	AC90518-003	4/5/2016 10:17:00 AM
Inst Blank(If applicable):		
Method: 8015	Matrix: Methanol	QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	2653.7	0	2000	133	11	181

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

**Form3
RPD DATA**

6041514 0388

QC Batch: MBS52675

Data File	Sample ID:	Analysis Date
Spike or Dup: 13M01805.D	AC90518-003(MSD)	4/5/2016 12:11:00 PM
Duplicate(if applicable): 13M01804.D	AC90518-003(MS)	4/5/2016 11:53:00 AM
Inst Blank(if applicable):		
Method: 8015	Matrix: Methanol	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Gasoline Range Organics	1	2653.7	2626.25	1	40

* - Indicates outside of limits

NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 13M01796.D
Matrix: Methanol

Blank Analysis Date: 04/05/16 09:22
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AC90518-003(MSD)	13M01805.D	04/05/16 12:11
AC90518-003(MS)	13M01804.D	04/05/16 11:53
AC90518-003	13M01799.D	04/05/16 10:17
MBS52675	13M01797.D	04/05/16 09:41

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 13M01863.D
Matrix: Methanol

Blank Analysis Date: 04/19/16 15:22
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AC90773-005	13M01873.D	04/19/16 18:35
AC90773-006	13M01874.D	04/19/16 18:55
AC90773-007	13M01875.D	04/19/16 19:15
AC90773-008	13M01876.D	04/19/16 19:35
AC90773-009	13M01877.D	04/19/16 19:53
AC90773-010	13M01878.D	04/19/16 20:13
MBS52813	13M01864.D	04/19/16 15:40

Form 5

Method: EPA 8015D

Instrument: GC_13

Column: DB-624 25M 0.200mm ID 1.12um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
13M01451.D	BLK	02/23/16 13:28	Aqueous					
13M01452.D	CAL @ 250 PPB	02/23/16 13:51	Aqueous	13M0145	9.4968	0.1539		
13M01453.D	CAL @ 500 PPB	02/23/16 14:11	Aqueous	13M0145	9.4902	0.0843		
13M01454.D	CAL @ 750 PPB	02/23/16 14:30	Aqueous	13M0145	9.4875	0.0559		
13M01455.D	CAL @ 1000 PPB	02/23/16 14:49	Aqueous	13M0145	9.4871	0.0517		
13M01456.D	CAL @ 1500 PPB	02/23/16 15:08	Aqueous	13M0145	9.4824	0.0021		
13M01457.D	CAL @ 2000 PPB	02/23/16 15:27	Aqueous	13M0145	9.4853	0.0327		
13M01458.D	CAL @ 4000 PPB	02/23/16 15:47	Aqueous	13M0145	9.4822	0		
13M01460.D	STD	02/23/16 16:27	Aqueous	13M0145	9.4754	0.0717		
13M01461.D	ICV	02/23/16 16:47	Aqueous	13M0145	9.4758	0.0675		

Form 5

Method: EPA 8015D

Instrument: GC_13

Column: DB-624 25M 0.200mm ID 1.12um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
13M01793.D	CAL @ 2000 PPB	04/05/16 08:26	Aqueous	13M0179	9.5204	0		
13M01796.D	DAILY BLANK	04/05/16 09:22	Methanol	13M0179	9.5078	0.1324		
13M01797.D	MBS52675	04/05/16 09:41	Methanol	13M0179	9.5069	0.1419		
13M01799.D	AC90518-003	04/05/16 10:17	Methanol	13M0179	9.5040	0.1724		
13M01800.D	AC90518-001	04/05/16 10:36	Methanol	13M0179	9.5081	0.1293		
13M01801.D	AC90488-002(400uL)	04/05/16 10:57	Methanol	13M0179	9.4994	0.2208		
13M01803.D	AC90488-002	04/05/16 11:34	Methanol	13M0179	9.5051	0.1608		
13M01804.D	AC90518-003(MS)	04/05/16 11:53	Methanol	13M0179	9.5059	0.1524		
13M01805.D	AC90518-003(MSD)	04/05/16 12:11	Methanol	13M0179	9.5053	0.1587		
13M01806.D	CAL @ 2000 PPB	04/05/16 12:29	Aqueous	13M0179	9.5024	0.1892		

Drift Compound: 1,4-Dichloroben

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)
HAZ. - 497

* - Values outside of limits for this column/run

Form 5

Method: EPA 8015D
Instrument: GC_13

Column: DB-624 25M 0.200mm ID 1.12um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
13M01860.D	2000 PPB	04/19/16 14:16	Aqueous	13M0188	9.5219	0.1398		
13M01861.D	CAL @ 2000 PPB	04/19/16 14:38	Aqueous	13M0186	9.5214	0		
13M01862.D	BLK	04/19/16 15:03	Methanol	13M0186	9.5087	0.1335		
13M01863.D	DAILY BLANK	04/19/16 15:22	Methanol	13M0186	9.5016	0.2082		
13M01864.D	MBS52813	04/19/16 15:40	Methanol	13M0186	9.5015	0.2092		
13M01866.D	AC90625-001	04/19/16 16:20	Methanol	13M0186	9.4998	0.2271		
13M01867.D	AC90625-002	04/19/16 16:39	Methanol	13M0186	9.4974	0.2524		
13M01868.D	AC90625-003	04/19/16 16:58	Methanol	13M0186	9.5251	0.0388		
13M01869.D	AC90625-004	04/19/16 17:17	Methanol	13M0186	9.5220	0.0063		
13M01870.D	AC90625-005	04/19/16 17:36	Methanol	13M0186	9.5137	0.0809		
13M01871.D	2000 PPB	04/19/16 17:56	Aqueous	13M0186	9.5101	0.1188		
13M01872.D	BLK	04/19/16 18:16	Methanol	13M0186	9.5002	0.2229		
13M01873.D	AC90773-005	04/19/16 18:35	Methanol	13M0186	9.4994	0.2313		
13M01874.D	AC90773-006	04/19/16 18:55	Methanol	13M0186	9.5050	0.1724		
13M01875.D	AC90773-007	04/19/16 19:15	Methanol	13M0186	9.5054	0.1682		
13M01876.D	AC90773-008	04/19/16 19:35	Methanol	13M0186	9.5111	0.1082		
13M01877.D	AC90773-009	04/19/16 19:53	Methanol	13M0186	9.5118	0.1009		
13M01878.D	AC90773-010	04/19/16 20:13	Methanol	13M0186	9.5337	0.1291		
13M01879.D	AC90789-003	04/19/16 20:32	Methanol	13M0186	9.5382	0.1763		
13M01880.D	AC90790-003	04/19/16 20:51	Methanol	13M0186	9.5208	0.0063		
13M01881.D	MBS52819	04/19/16 21:11	Methanol	13M0186	9.5213	0.0011		
13M01882.D	AC90789-003(MS)	04/19/16 21:30	Methanol	13M0186	9.5172	0.0441		
13M01883.D	AC90789-003(MSD)	04/19/16 21:48	Methanol	13M0186	9.5103	0.1167		
13M01884.D	BLK	04/19/16 22:08	Aqueous	13M0186	9.5018	0.2061		
13M01885.D	CAL @ 2000 PPB	04/19/16 22:28	Aqueous	13M0186	9.5086	0.1345		
13M01886.D	2000 PPB	04/19/16 22:48	Aqueous	13M0188	0.0000	200		
13M01887.D	2000 PPB	04/19/16 23:06	Aqueous	13M0188	9.5019	0.0705		
13M01888.D	STD	04/19/16 23:23	Aqueous	13M0188	9.4991	0.1		
13M01889.D	BLK	04/19/16 23:40	Aqueous	13M0188	9.4903	0.1926		

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	13M01458.	CAL @ 4000 PPB	02/23/16 15:47	2	13M01457.	CAL @ 2000 PPB	02/23/16 15:27
3	13M01456.	CAL @ 1500 PPB	02/23/16 15:08	4	13M01455.	CAL @ 1000 PPB	02/23/16 14:49
5	13M01454.	CAL @ 750 PPB	02/23/16 14:30	6	13M01453.	CAL @ 500 PPB	02/23/16 14:11
7	13M01452.	CAL @ 250 PPB	02/23/16 13:51				

Compound	Col	Mt	Ft:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Calibration Level Concentrations							
1,4-Dichlorobenzene-d4	1	0	Avg	---	---	0.1038	0.0963	0.0891	0.0854	0.0685	---	0.0887	9.48	-1	-1	15			30.00	30.00	30.00	30.00	30.00	30.00		
2-Methylbentane	1	0	Avg	0.0024	0.0024	0.0022	0.0024	0.0022	0.0021	0.0014	---	0.0022	5.50	0.998	0.999	16			4000.	2000.	1500.	1000.	750.0	500.0	250.0	
1,2,4-Trimethylbenzene	1	0	Avg	0.0036	0.0035	0.0032	0.0032	0.0032	0.0034	0.0034	---	0.0033	9.28	0.999	0.999	3.8			4000.	2000.	1500.	1000.	750.0	500.0	250.0	
Gasoline Range Organics	1	0	Avg	0.0965	0.0977	0.0914	0.0927	0.0899	0.1070	0.1209	---	0.101	7.77	0.999	0.999	10			4000.	2000.	1500.	1000.	750.0	500.0	250.0	

Avg Rsd Col 1: 22.6 Avg Rsd Col 2: -1

Flags
c - failed the initial calibration criteria (if applicable)

Note:
 Col = Column Number
 Mt = MultiPeak Analyte (0=single peak analyte, >0=multi peak analyte (i.e. nch/chlordane etc.))
 Ft = Indicates whether Avg RF: Linear, or Quadratic Curve was used for compound.
 Corr 1 = Correlation Coefficient for linear Fn.
 Corr 2 = Correlation Coefficient for quad Fn.
 Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
 Initial Calibration Criteria: either %RSD <=20 or Corr >= .995
 Columns: Signal #1 dh-1701 ; Signal #2 dh-508

Form 7

Continuing Calibration

Method: EPA 8015D

Compound	Limit	Col	Mr	13M01793.D			13M01806.D			13M01861.D			13M01885.D					
				Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
Gasoline Range Orga	20	1	0	1861	2000	6.9	1967	2000	1.6	2100	2000	5.0	1868	2000	6.6			

Flags/Notes:

* - Values outside of limits for this column/run

HAZ. - 500

Metal Data

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-001
Client Id: SB-01
Matrix: SOIL
Level: LOW

% Solid: 93
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	220	3400	1	0.5	50	04/18/16	52301	S19266B4	23	P	PEICPRAD4A
7440-39-3	Barium	11	40	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A
7440-70-2	Calcium	1100	12000	1	0.5	50	04/18/16	52301	S19266B4	23	P	PEICPRAD4A
7440-47-3	Chromium	5.4	12	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A
7440-48-4	Cobalt	2.7	3.5	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A
7440-50-8	Copper	5.4	26	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A
7439-89-6	Iron	220	9500	1	0.5	50	04/18/16	52301	S19266B4	23	P	PEICPRAD4A
7439-92-1	Lead	5.4	120	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A
7439-95-4	Magnesium	540	7000	1	0.5	50	04/18/16	52301	S19266B4	23	P	PEICPRAD4A
7439-96-5	Manganese	11	250	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A
7439-97-6	Mercury	0.090	0.40	1	0.15	25	04/19/16	52301	H19266S	20	CV	HGCV2A
7440-02-0	Nickel	5.4	27	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A
7440-09-7	Potassium	540	ND	1	0.5	50	04/18/16	52301	S19266B4	23	P	PEICPRAD4A
7440-23-5	Sodium	270	1300	1	0.5	50	04/18/16	52301	S19266B4	23	P	PEICPRAD4A
7440-62-2	Vanadium	11	17	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A
7440-66-6	Zinc	11	87	1	0.5	50	04/18/16	52301	S19266C3	24	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-001
Client Id: SB-01
Matrix: SOIL
Level: LOW

% Solid: 93
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-36-0	Antimony	0.86	ND	1	0.5	100	04/18/16	52302	S041816A	30		MSMS2_7500SWA
7440-38-2	Arsenic	0.22	4.7	1	0.5	100	04/18/16	52302	S041816A	30		MSMS2_7500SWA
7440-41-7	Beryllium	0.22	0.25	1	0.5	100	04/18/16	52302	S041816A	30		MSMS2_7500SWA
7440-43-9	Cadmium	0.43	ND	1	0.5	100	04/18/16	52302	S041816A	30		MSMS2_7500SWA
7782-49-2	Selenium	2.2	ND	1	0.5	100	04/18/16	52302	S041816A	30		MSMS2_7500SWA
7440-22-4	Silver	0.22	ND	1	0.5	100	04/18/16	52302	S041816A	30		MSMS2_7500SWA
7440-28-0	Thallium	0.43	ND	1	0.5	100	04/18/16	52302	S041816A	30		MSMS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-002
Client Id: SB-02
Matrix: SOIL
Level: LOW

% Solid: 92
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	220	3000	1	0.5	50	04/18/16	52301	S19266B4	24	P	PEICPRAD4A
7440-39-3	Barium	11	1900	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A
7440-70-2	Calcium	1100	27000	1	0.5	50	04/18/16	52301	S19266B4	24	P	PEICPRAD4A
7440-47-3	Chromium	5.4	9.6	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A
7440-48-4	Cobalt	2.7	5.3	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A
7440-50-8	Copper	5.4	19	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A
7439-89-6	Iron	220	15000	1	0.5	50	04/18/16	52301	S19266B4	24	P	PEICPRAD4A
7439-92-1	Lead	5.4	870	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A
7439-95-4	Magnesium	540	4100	1	0.5	50	04/18/16	52301	S19266B4	24	P	PEICPRAD4A
7439-96-5	Manganese	11	220	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A
7439-97-6	Mercury	0.091	0.36	1	0.15	25	04/19/16	52301	H19266S	23	CV	HGCV2A
7440-02-0	Nickel	5.4	18	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A
7440-09-7	Potassium	540	670	1	0.5	50	04/18/16	52301	S19266B4	24	P	PEICPRAD4A
7440-23-5	Sodium	270	300	1	0.5	50	04/18/16	52301	S19266B4	24	P	PEICPRAD4A
7440-62-2	Vanadium	11	ND	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A
7440-66-6	Zinc	11	340	1	0.5	50	04/18/16	52301	S19266C3	25	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-002
Client Id: SB-02
Matrix: SOIL
Level: LOW

% Solid: 92
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-36-0	Antimony	0.87	ND	1	0.5	100	04/18/16	52302	S041816A	31		MSMS2_7500SWA
7440-38-2	Arsenic	0.22	6.2	1	0.5	100	04/18/16	52302	S041816A	31		MSMS2_7500SWA
7440-41-7	Beryllium	0.22	0.33	1	0.5	100	04/18/16	52302	S041816A	31		MSMS2_7500SWA
7440-43-9	Cadmium	0.43	ND	1	0.5	100	04/18/16	52302	S041816A	31		MSMS2_7500SWA
7782-49-2	Selenium	2.2	ND	1	0.5	100	04/18/16	52302	S041816A	31		MSMS2_7500SWA
7440-22-4	Silver	0.22	ND	1	0.5	100	04/18/16	52302	S041816A	31		MSMS2_7500SWA
7440-28-0	Thallium	0.43	ND	1	0.5	100	04/18/16	52302	S041816A	31		MSMS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit

P - ICP-AES

CV - ColdVapor

MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-003
Client Id: SB-03
Matrix: SOIL
Level: LOW

% Solid: 95
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc.	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	210	1100	1	0.5	50	04/18/16	52301	S19266B4	25	P	PEICPRAD4A
7440-39-3	Barium	11	14	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A
7440-70-2	Calcium	1100	ND	1	0.5	50	04/18/16	52301	S19266B4	25	P	PEICPRAD4A
7440-47-3	Chromium	5.3	ND	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A
7440-48-4	Cobalt	2.6	ND	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A
7440-50-8	Copper	5.3	12	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A
7439-89-6	Iron	210	2400	1	0.5	50	04/18/16	52301	S19266B4	25	P	PEICPRAD4A
7439-92-1	Lead	5.3	29	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A
7439-95-4	Magnesium	530	ND	1	0.5	50	04/18/16	52301	S19266B4	25	P	PEICPRAD4A
7439-96-5	Manganese	11	42	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A
7439-97-6	Mercury	0.088	ND	1	0.15	25	04/19/16	52301	H19266S	24	CV	HGCV2A
7440-02-0	Nickel	5.3	6.1	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A
7440-09-7	Potassium	530	ND	1	0.5	50	04/18/16	52301	S19266B4	25	P	PEICPRAD4A
7440-23-5	Sodium	260	ND	1	0.5	50	04/18/16	52301	S19266B4	25	P	PEICPRAD4A
7440-62-2	Vanadium	11	ND	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A
7440-66-6	Zinc	11	57	1	0.5	50	04/18/16	52301	S19266C3	26	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-003
Client Id: SB-03
Matrix: SOIL
Level: LOW

% Solid: 95
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-36-0	Antimony	0.84	ND	1	0.5	100	04/18/16	52302	S041816A	32		MSMS2_7500SWA
7440-38-2	Arsenic	0.21	1.3	1	0.5	100	04/18/16	52302	S041816A	32		MSMS2_7500SWA
7440-41-7	Beryllium	0.21	ND	1	0.5	100	04/18/16	52302	S041816A	32		MSMS2_7500SWA
7440-43-9	Cadmium	0.42	ND	1	0.5	100	04/18/16	52302	S041816A	32		MSMS2_7500SWA
7782-49-2	Selenium	2.1	ND	1	0.5	100	04/18/16	52302	S041816A	32		MSMS2_7500SWA
7440-22-4	Silver	0.21	ND	1	0.5	100	04/18/16	52302	S041816A	32		MSMS2_7500SWA
7440-28-0	Thallium	0.42	ND	1	0.5	100	04/18/16	52302	S041816A	32		MSMS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-004
Client Id: SB-04
Matrix: SOIL
Level: LOW

% Solid: 98
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7429-90-5	Aluminum	200	980	1	0.5	50	04/18/16	52301	S19266B4	26	P	PEICPRAD4A
7440-39-3	Barium	10	ND	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A
7440-70-2	Calcium	1000	ND	1	0.5	50	04/18/16	52301	S19266B4	26	P	PEICPRAD4A
7440-47-3	Chromium	5.1	ND	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A
7440-48-4	Cobalt	2.6	ND	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A
7440-50-8	Copper	5.1	ND	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A
7439-89-6	Iron	200	1600	1	0.5	50	04/18/16	52301	S19266B4	26	P	PEICPRAD4A
7439-92-1	Lead	5.1	ND	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A
7439-95-4	Magnesium	510	ND	1	0.5	50	04/18/16	52301	S19266B4	26	P	PEICPRAD4A
7439-96-5	Manganese	10	29	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A
7439-97-6	Mercury	0.085	ND	1	0.15	25	04/19/16	52301	H19266S	25	CV	HGCV2A
7440-02-0	Nickel	5.1	ND	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A
7440-09-7	Potassium	510	ND	1	0.5	50	04/18/16	52301	S19266B4	26	P	PEICPRAD4A
7440-23-5	Sodium	260	ND	1	0.5	50	04/18/16	52301	S19266B4	26	P	PEICPRAD4A
7440-62-2	Vanadium	10	ND	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A
7440-66-6	Zinc	10	ND	1	0.5	50	04/18/16	52301	S19266C3	27	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-004
Client Id: SB-04
Matrix: SOIL
Level: LOW

% Solid: 98
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-36-0	Antimony	0.82	ND	1	0.5	100	04/18/16	52302	S041816A	33		MSMS2_7500SWA
7440-38-2	Arsenic	0.20	0.57	1	0.5	100	04/18/16	52302	S041816A	33		MSMS2_7500SWA
7440-41-7	Beryllium	0.20	ND	1	0.5	100	04/18/16	52302	S041816A	33		MSMS2_7500SWA
7440-43-9	Cadmium	0.41	ND	1	0.5	100	04/18/16	52302	S041816A	33		MSMS2_7500SWA
7782-49-2	Selenium	2.0	ND	1	0.5	100	04/18/16	52302	S041816A	33		MSMS2_7500SWA
7440-22-4	Silver	0.20	ND	1	0.5	100	04/18/16	52302	S041816A	33		MSMS2_7500SWA
7440-28-0	Thallium	0.41	ND	1	0.5	100	04/18/16	52302	S041816A	33		MSMS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-009
Client Id: SS-01
Matrix: SOIL
Level: LOW

% Solid: 85
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	240	1600	1	0.5	50	04/18/16	52301	S19266B4	27	P	PEICPRAD4A
7440-39-3	Barium	12	ND	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A
7440-70-2	Calcium	1200	50000	1	0.5	50	04/18/16	52301	S19266B4	27	P	PEICPRAD4A
7440-47-3	Chromium	5.9	ND	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A
7440-48-4	Cobalt	2.9	ND	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A
7440-50-8	Copper	5.9	11	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A
7439-89-6	Iron	240	4600	1	0.5	50	04/18/16	52301	S19266B4	27	P	PEICPRAD4A
7439-92-1	Lead	5.9	52	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A
7439-95-4	Magnesium	590	21000	1	0.5	50	04/18/16	52301	S19266B4	27	P	PEICPRAD4A
7439-96-5	Manganese	12	99	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A
7439-97-6	Mercury	0.098	ND	1	0.15	25	04/19/16	52301	H19266S	26	CV	HGCV2A
7440-02-0	Nickel	5.9	7.7	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A
7440-09-7	Potassium	590	ND	1	0.5	50	04/18/16	52301	S19266B4	27	P	PEICPRAD4A
7440-23-5	Sodium	290	1800	1	0.5	50	04/18/16	52301	S19266B4	27	P	PEICPRAD4A
7440-62-2	Vanadium	12	ND	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A
7440-66-6	Zinc	12	39	1	0.5	50	04/18/16	52301	S19266C3	28	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-009
Client Id: SS-01
Matrix: SOIL
Level: LOW

% Solid: 85
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num:	M	Instr
7440-36-0	Antimony	0.94	ND	1	0.5	100	04/18/16	52302	S041816A	34		MSMS2_7500SWA
7440-38-2	Arsenic	0.24	4.9	1	0.5	100	04/18/16	52302	S041816A	34		MSMS2_7500SWA
7440-41-7	Beryllium	0.24	1.1	1	0.5	100	04/18/16	52302	S041816A	34		MSMS2_7500SWA
7440-43-9	Cadmium	0.47	ND	1	0.5	100	04/18/16	52302	S041816A	34		MSMS2_7500SWA
7782-49-2	Selenium	2.4	ND	1	0.5	100	04/18/16	52302	S041816A	34		MSMS2_7500SWA
7440-22-4	Silver	0.24	ND	1	0.5	100	04/18/16	52302	S041816A	34		MSMS2_7500SWA
7440-28-0	Thallium	0.47	ND	1	0.5	100	04/18/16	52302	S041816A	34		MSMS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-010
Client Id: SS-02
Matrix: SOIL
Level: LOW

% Solid: 94
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	210	2200	1	0.5	50	04/18/16	52301	S19266B4	33	P	PEICPRAD4A
7440-39-3	Barium	11	ND	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A
7440-70-2	Calcium	1100	10000	1	0.5	50	04/18/16	52301	S19266B4	33	P	PEICPRAD4A
7440-47-3	Chromium	5.3	15	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A
7440-48-4	Cobalt	2.7	2.8	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A
7440-50-8	Copper	5.3	22	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A
7439-89-6	Iron	210	22000	1	0.5	50	04/18/16	52301	S19266B4	33	P	PEICPRAD4A
7439-92-1	Lead	5.3	54	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A
7439-95-4	Magnesium	530	4900	1	0.5	50	04/18/16	52301	S19266B4	33	P	PEICPRAD4A
7439-96-5	Manganese	11	190	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A
7439-97-6	Mercury	0.089	0.096	1	0.15	25	04/19/16	52301	H19266S	27	CV	HGCV2A
7440-02-0	Nickel	5.3	18	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A
7440-09-7	Potassium	530	ND	1	0.5	50	04/18/16	52301	S19266B4	33	P	PEICPRAD4A
7440-23-5	Sodium	270	960	1	0.5	50	04/18/16	52301	S19266B4	33	P	PEICPRAD4A
7440-62-2	Vanadium	11	12	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A
7440-66-6	Zinc	11	68	1	0.5	50	04/18/16	52301	S19266C3	34	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-010
Client Id: SS-02
Matrix: SOIL
Level: LOW

% Solid: 94
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-36-0	Antimony	0.85	ND	1	0.5	100	04/18/16	52302	S041816A	35		MSMS2_7500SWA
7440-38-2	Arsenic	0.21	4.8	1	0.5	100	04/18/16	52302	S041816A	35		MSMS2_7500SWA
7440-41-7	Beryllium	0.21	ND	1	0.5	100	04/18/16	52302	S041816A	35		MSMS2_7500SWA
7440-43-9	Cadmium	0.43	ND	1	0.5	100	04/18/16	52302	S041816A	35		MSMS2_7500SWA
7782-49-2	Selenium	2.1	ND	1	0.5	100	04/18/16	52302	S041816A	35		MSMS2_7500SWA
7440-22-4	Silver	0.21	ND	1	0.5	100	04/18/16	52302	S041816A	35		MSMS2_7500SWA
7440-28-0	Thallium	0.43	ND	1	0.5	100	04/18/16	52302	S041816A	35		MSMS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-011
Client Id: DUP01
Matrix: SOIL
Level: LOW

% Solid: 94
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	210	1900	1	0.5	50	04/18/16	52301	S19266B4	34	P	PEICPRAD4A
7440-39-3	Barium	11	13	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A
7440-70-2	Calcium	1100	1100	1	0.5	50	04/18/16	52301	S19266B4	34	P	PEICPRAD4A
7440-47-3	Chromium	5.3	ND	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A
7440-48-4	Cobalt	2.7	6.0	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A
7440-50-8	Copper	5.3	10	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A
7439-89-6	Iron	210	3500	1	0.5	50	04/18/16	52301	S19266B4	34	P	PEICPRAD4A
7439-92-1	Lead	5.3	49	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A
7439-95-4	Magnesium	530	850	1	0.5	50	04/18/16	52301	S19266B4	34	P	PEICPRAD4A
7439-96-5	Manganese	11	110	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A
7439-97-6	Mercury	0.089	0.21	1	0.15	25	04/19/16	52301	H19266S	28	CV	HGCV2A
7440-02-0	Nickel	5.3	8.9	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A
7440-09-7	Potassium	530	ND	1	0.5	50	04/18/16	52301	S19266B4	34	P	PEICPRAD4A
7440-23-5	Sodium	270	ND	1	0.5	50	04/18/16	52301	S19266B4	34	P	PEICPRAD4A
7440-62-2	Vanadium	11	ND	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A
7440-66-6	Zinc	11	66	1	0.5	50	04/18/16	52301	S19266C3	35	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-011
Client Id: DUP01
Matrix: SOIL
Level: LOW

% Solid: 94
Units: MG/KG
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num:	M	Instr
7440-36-0	Antimony	0.85	ND	1	0.5	100	04/18/16	52302	S041816A	36		MSMS2_7500SWA
7440-38-2	Arsenic	0.21	2.0	1	0.5	100	04/18/16	52302	S041816A	36		MSMS2_7500SWA
7440-41-7	Beryllium	0.21	ND	1	0.5	100	04/18/16	52302	S041816A	36		MSMS2_7500SWA
7440-43-9	Cadmium	0.43	ND	1	0.5	100	04/18/16	52302	S041816A	36		MSMS2_7500SWA
7782-49-2	Selenium	2.1	ND	1	0.5	100	04/18/16	52302	S041816A	36		MSMS2_7500SWA
7440-22-4	Silver	0.21	ND	1	0.5	100	04/18/16	52302	S041816A	36		MSMS2_7500SWA
7440-28-0	Thallium	0.43	ND	1	0.5	100	04/18/16	52302	S041816A	36		MSMS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-012
Client Id: FB01 U
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	200	ND	1	50	50	04/21/16	52309	W19272E4	27	P	PEICP4A
7440-39-3	Barium	50	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7440-70-2	Calcium	5000	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7440-47-3	Chromium	50	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7440-50-8	Copper	50	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7439-89-6	Iron	300	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7439-95-4	Magnesium	5000	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7439-96-5	Manganese	40	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7439-97-6	Mercury	0.70	ND	1	25	25	04/21/16	52309	H19272SW	18	CV	HGCV1A
7440-02-0	Nickel	50	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7440-09-7	Potassium	5000	ND	1	50	50	04/21/16	52309	W19272C2	23	P	PEICPRAD2A
7440-22-4	Silver	20	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7440-23-5	Sodium	5000	ND	1	50	50	04/21/16	52309	W19272C2	23	P	PEICPRAD2A
7440-62-2	Vanadium	50	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A
7440-66-6	Zinc	50	ND	1	50	50	04/20/16	52309	W19272B2	27	P	PEICP2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-012
Client Id: FB01 U
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7440-36-0	Antimony	3.0	ND	1	50	100	04/20/16	52309	SW42016A	30	MSMS2_7500SWA	
7440-38-2	Arsenic	2.0	ND	1	50	100	04/20/16	52309	SW42016A	30	MSMS2_7500SWA	
7440-41-7	Beryllium	1.0	ND	1	50	100	04/20/16	52309	SW42016A	30	MSMS2_7500SWA	
7440-43-9	Cadmium	2.0	ND	1	50	100	04/20/16	52309	SW42016A	30	MSMS2_7500SWA	
7440-48-4	Cobalt	2.0	ND	1	50	100	04/20/16	52309	SW42016A	30	MSMS2_7500SWA	
7439-92-1	Lead	3.0	ND	1	50	100	04/20/16	52309	SW42016A	30	MSMS2_7500SWA	
7782-49-2	Selenium	10	ND	1	50	100	04/20/16	52309	SW42016A	30	MSMS2_7500SWA	
7440-28-0	Thallium	2.0	ND	1	50	100	04/20/16	52309	SW42016A	30	MSMS2_7500SWA	

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit

P - ICP-AES

CV - Cold Vapor

MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-013
Client Id: FB01 F
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	200	ND	1	50	50	04/21/16	52309	W19272E4	28	P	PEICP4A
7440-39-3	Barium	50	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7440-70-2	Calcium	5000	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7440-47-3	Chromium	50	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7440-50-8	Copper	50	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7439-89-6	Iron	300	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7439-95-4	Magnesium	5000	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7439-96-5	Manganese	40	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7439-97-6	Mercury	0.70	ND	1	25	25	04/21/16	52309	H19272SW	19	CV	HGCV1A
7440-02-0	Nickel	50	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7440-09-7	Potassium	5000	ND	1	50	50	04/21/16	52309	W19272C2	24	P	PEICPRAD2A
7440-22-4	Silver	20	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7440-23-5	Sodium	5000	ND	1	50	50	04/21/16	52309	W19272C2	24	P	PEICPRAD2A
7440-62-2	Vanadium	50	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A
7440-66-6	Zinc	50	ND	1	50	50	04/20/16	52309	W19272B2	28	P	PEICP2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-013
Client Id: FB01 F
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-36-0	Antimony	3.0	ND	1	50	100	04/20/16	52309	SW42016A	31		MSMS2_7500SWA
7440-38-2	Arsenic	2.0	ND	1	50	100	04/20/16	52309	SW42016A	31		MSMS2_7500SWA
7440-41-7	Beryllium	1.0	ND	1	50	100	04/20/16	52309	SW42016A	31		MSMS2_7500SWA
7440-43-9	Cadmium	2.0	ND	1	50	100	04/20/16	52309	SW42016A	31		MSMS2_7500SWA
7440-48-4	Cobalt	2.0	ND	1	50	100	04/20/16	52309	SW42016A	31		MSMS2_7500SWA
7439-92-1	Lead	3.0	ND	1	50	100	04/20/16	52309	SW42016A	31		MSMS2_7500SWA
7782-49-2	Selenium	10	ND	1	50	100	04/20/16	52309	SW42016A	31		MSMS2_7500SWA
7440-28-0	Thallium	2.0	ND	1	50	100	04/20/16	52309	SW42016A	31		MSMS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: MB 52301 (100)
Client Id: MB 52301 (100)
Matrix: SOIL
Level: LOW

% Solid: 0
Units: MG/KG

Lab Name: Veritech
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7429-90-5	Aluminum	200	ND	1	0.5	50	04/18/16	52301	S19266B4	11	P	PEICPRAD4A
7440-36-0	Antimony	4.0	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-38-2	Arsenic	4.0	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-39-3	Barium	10	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-41-7	Beryllium	1.2	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-43-9	Cadmium	1.2	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-70-2	Calcium	1000	ND	1	0.5	50	04/18/16	52301	S19266B4	11	P	PEICPRAD4A
7440-47-3	Chromium	5.0	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-48-4	Cobalt	2.5	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-50-8	Copper	5.0	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7439-89-6	Iron	200	ND	1	0.5	50	04/18/16	52301	S19266B4	11	P	PEICPRAD4A
7439-92-1	Lead	5.0	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7439-95-4	Magnesium	500	ND	1	0.5	50	04/18/16	52301	S19266B4	11	P	PEICPRAD4A
7439-96-5	Manganese	10	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7439-98-7	Molybdenum	2.5	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-02-0	Nickel	5.0	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-09-7	Potassium	500	ND	1	0.5	50	04/18/16	52301	S19266B4	11	P	PEICPRAD4A
7782-49-2	Selenium	3.0	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-22-4	Silver	1.5	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-23-5	Sodium	250	ND	1	0.5	50	04/18/16	52301	S19266B4	11	P	PEICPRAD4A
7440-28-0	Thallium	1.5	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-31-5	Tin	20	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-32-6	Titanium	10	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-62-2	Vanadium	10	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A
7440-66-6	Zinc	10	ND	1	0.5	50	04/18/16	52301	S19266C3	12	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit

P - ICP-AES

CV - Cold Vapor

MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: MB 52302
Client Id: MB 52302
Matrix: SOIL
Level: LOW

% Solid: 0
Units: MG/KG

Lab Name: Veritech
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-36-0	Antimony	0.80	ND	1	0.5	100	04/18/16	52302	S041816A	17	MS	MS2_7500SWA
7440-38-2	Arsenic	0.20	ND	1	0.5	100	04/18/16	52302	S041816A	17	MS	MS2_7500SWA
7440-41-7	Beryllium	0.20	ND	1	0.5	100	04/18/16	52302	S041816A	17	MS	MS2_7500SWA
7440-43-9	Cadmium	0.40	ND	1	0.5	100	04/18/16	52302	S041816A	17	MS	MS2_7500SWA
7782-49-2	Selenium	2.0	ND	1	0.5	100	04/18/16	52302	S041816A	17	MS	MS2_7500SWA
7440-22-4	Silver	0.20	ND	1	0.5	100	04/18/16	52302	S041816A	17	MS	MS2_7500SWA
7440-28-0	Thallium	0.40	ND	1	0.5	100	04/18/16	52302	S041816A	17	MS	MS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: MB 52309 (1)
Client Id: MB 52309 (1)
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L

Lab Name: Veritech
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7429-90-5	Aluminum	200	ND	1	50	50	04/21/16	52309SW19272E4		15	P	PEICP4A
7440-39-3	Barium	50	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-70-2	Calcium	5000	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-47-3	Chromium	50	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-50-8	Copper	50	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7439-89-6	Iron	300	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7439-95-4	Magnesium	5000	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7439-96-5	Manganese	40	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7439-97-6	Mercury	0.70	ND	1	25	25	04/21/16	52309H19272SW		11	CV	HGCV1A
7439-98-7	Molybdenum	20	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-02-0	Nickel	50	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-09-7	Potassium	5000	ND	1	50	50	04/20/16	52309SW19272C2		11	P	PEICPRAD2A
7440-22-4	Silver	20	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-23-5	Sodium	5000	ND	1	50	50	04/20/16	52309SW19272C2		11	P	PEICPRAD2A
7440-31-5	Tin	50	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-32-6	Titanium	50	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-62-2	Vanadium	50	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A
7440-66-6	Zinc	50	ND	1	50	50	04/20/16	52309SW19272B2		15	P	PEICP2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: MB 52309
Client Id: MB 52309
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L

Lab Name: Veritech
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7440-36-0	Antimony	3.0	ND	1	50	100	04/20/16	52309	SW42016A	17	MS	MS2_7500SWA
7440-38-2	Arsenic	2.0	ND	1	50	100	04/20/16	52309	SW42016A	17	MS	MS2_7500SWA
7440-41-7	Beryllium	1.0	ND	1	50	100	04/20/16	52309	SW42016A	17	MS	MS2_7500SWA
7440-43-9	Cadmium	2.0	ND	1	50	100	04/20/16	52309	SW42016A	17	MS	MS2_7500SWA
7440-48-4	Cobalt	2.0	ND	1	50	100	04/20/16	52309	SW42016A	17	MS	MS2_7500SWA
7439-92-1	Lead	3.0	ND	1	50	100	04/20/16	52309	SW42016A	17	MS	MS2_7500SWA
7782-49-2	Selenium	10	ND	1	50	100	04/20/16	52309	SW42016A	17	MS	MS2_7500SWA
7440-28-0	Thallium	2.0	ND	1	50	100	04/20/16	52309	SW42016A	17	MS	MS2_7500SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data SheetSample ID: MB 52301 (167)
Client Id: MB 52301 (167)
Matrix: SOIL
Level: LOW% Solid: 0
Units: MG/KGLab Name: Veritech
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M:	Instr
7439-97-6	Mercury	0.083	ND	1	0.15	25	04/19/16	52301	H19266S	11	CV	HGCV2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/18/16
 Data File: S19266B4
 Prep Batch: 52301
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV V- 230237- 6		CCV V- 230237- 19		CCV V- 230237- 30		CCV V- 230237- 42		CCV V- 230237- 54		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec						
Aluminum	10/5	5.38445	108	5.08818	102	4.97076	99	5.08800	102	4.88660	98				
Calcium	100/50	53.67120	107	50.39920	101	49.55280	99	50.42940	101	47.72040	95				
Iron	10/5	5.29389	106	5.04349	101	4.89286	98	4.99245	100	4.77088	95				
Magnesium	100/50	54.57410	109	51.75240	104	50.22960	100	51.27870	103	48.89140	98				
Potassium	100/50	52.76670	106	49.64060	99	48.71880	97	49.50110	99	47.04990	94				
Sodium	100/50	54.28980	109	51.16110	102	50.35050	101	51.27900	103	48.61470	97				

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2
(LLICV/LLCCV Summary)

Date Analyzed: 04/18/16
 Data File: S19266B4
 Prep Batch: 52301
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV	Rec	LLCCV	Rec	LLCCV	Rec	LLCCV	Rec	LLCCV	Rec	Rec	Rec	Rec
		[soil] V- 231029- 7		[soil] V- 231029- 20		[soil] V- 231029- 31		[soil] V- 231029- 43		[soil] V- 231029- 55				
Aluminum	2.00/2	2.28535	114	2.08268	104	2.07507	104	2.09757	105	2.00511	100			
Calcium	10.00/10	11.8311	118	10.5755	106	10.5149	105	10.5859	106	10.1085	101			
Iron	2.00/2	2.27191	114	2.05906	103	2.05040	103	2.05815	103	1.97082	99			
Magnesium	5.00/5	5.44320	109	4.92309	98	4.85932	97	4.92779	99	4.68289	94			
Potassium	5.00/5	5.97292	119	5.30610	106	5.24040	105	5.24113	105	5.02040	100			
Sodium	2.50/2.5	2.85904	114	2.55730	102	2.52016	101	2.54096	102	2.42955	97			

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/18/16
 Data File: S19266C3
 Prep Batch: 52301
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP3A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CCV Amt	ICV (1)	CCV V-	CCV V-	CCV V-	CCV V-											
		V-230237-7	230237-20	230237-31	230237-43	230237-55	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	
Barium	1/5	0.49019	98	0.48888	97	0.48413	97	0.49017	98	0.47757	98						
Chromium	1/5	0.49287	99	0.47831	96	0.47335	95	0.46292	93	0.45620	91						
Cobalt	1/5	0.50915	102	0.50221	100	0.50162	100	0.49781	100	0.49429	99						
Copper	1/5	0.49866	100	0.49828	100	0.48675	99	0.49350	99	0.49105	98						
Lead	1/5	0.49180	98	0.48211	96	0.48385	97	0.47717	95	0.46727	93						
Manganese	1/5	0.49166	98	0.49063	98	0.48907	98	0.48384	97	0.48121	96						
Nickel	1/5	0.51672	103	0.50967	102	0.50998	102	0.50551	101	0.50342	101						
Vanadium	1/5	0.49862	97	0.47494	95	0.47136	94	0.46231	92	0.45798	92						
Zinc	1/5	0.51695	103	0.50547	101	0.50228	100	0.49261	99	0.48886	98						

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 04/18/16
 Data File: S19266C3
 Prep Batch: 52301
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP3A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/LLCCV Amt		LLICV V-231029-8 Rec		LLCCV V-231029-21 Rec		LLCCV V-231029-32 Rec		LLCCV V-231029-44 Rec		LLCCV V-231029-56 Rec		Rec	Rec	Rec
Barium	0.1/0.1	0.107069	107	0.106304	106	0.106013	106	0.105158	105	0.105229	105				
Chromium	0.05/0.05	0.0532760	107	0.0524395	105	0.0515373	103	0.0504834	101	0.0500307	100				
Cobalt	0.025/0.025	0.0237184	95	0.0236539	95	0.0236213	94	0.0233360	93	0.0230047	92				
Copper	0.05/0.05	0.0513296	103	0.0507162	101	0.0511114	102	0.0502392	100	0.0500310	100				
Lead	0.05/0.05	0.0520958	104	0.0525834	105	0.0521856	104	0.0494729	99	0.0505071	101				
Manganese	0.1/0.1	0.101936	102	0.102236	102	0.101571	102	0.100606	101	0.0996989	100				
Nickel	0.05/0.05	0.0483445	97	0.0485701	97	0.0482283	96	0.0481301	96	0.0482567	97				
Vanadium	0.1/0.1	0.105374	105	0.103234	103	0.102742	103	0.100551	101	0.0996925	100				
Zinc	0.1/0.1	0.0986237	99	0.0988482	97	0.0958816	96	0.0939583	94	0.0937030	94				

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/18/16
 Data File: S041816A
 Prep Batch: 52302
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS2_7500SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CCV Amt	ICV V-230801-8		CCV V-230805-14		CCV V-230805-27		CCV V-230805-40		CCV V-230805-53		CCV V-230805-58		Rec	Rec	Rec
		V Amt	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec					
Antimony	50/30	48.99000	98	51.76000	104	51.98000	104	51.19000	102	50.85000	102	51.01000	102			
Arsenic	50/30	48.82000	98	50.40000	101	49.81000	100	50.70000	101	48.64000	97	48.03000	96			
Beryllium	50/30	49.81000	100	52.34000	105	53.67000	107	52.38000	105	52.21000	104	51.73000	103			
Cadmium	50/30	49.01000	98	51.33000	103	52.07000	104	51.58000	103	51.80000	104	51.55000	103			
Selenium	50/30	50.32000	101	252.20000	101	246.80000	99	246.00000	99	245.50000	98	245.90000	98			
Silver	10/6	9.96300	100	51.83000	104	52.52000	105	51.63000	103	50.88000	102	50.68000	101			
Thallium	50/30	48.94000	98	49.31000	99	48.77000	98	48.10000	96	49.00000	98	48.81000	98			

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV - 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 04/18/16
 Data File: S041816A
 Prep Batch: 52302
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS2_7500SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV	LLICV V- 230806- 9		LLCCV V- 230806- 15		LLCCV V- 230806- 28		LLCCV V- 230806- 41		LLCCV V- 230806- 54		LLCCV V- 230806- 59		Rec	Rec
	Amt	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec				
Antimony	4/4	3.880	97	3.968	99	3.878	97	3.970	99	3.935	98	3.931	98		
Arsenic	1/1	9.963E-01	100	1.078	108	1.048	105	9.580E-01	96	9.269E-01	93	9.554E-01	96		
Beryllium	1/1	1.036	104	1.070	107	1.078	108	1.031	103	1.005	100	1.020	102		
Cadmium	2/2	1.924	96	1.940	97	1.973	99	2.019	101	2.028	101	1.933	97		
Selenium	10/10	9.444	94	9.893	99	9.799	98	9.320	93	9.561	96	9.444	94		
Silver	1/1	9.963E-01	100	1.007	101	1.011	101	9.927E-01	99	9.819E-01	98	9.987E-01	100		
Thallium	2/2	1.861	93	1.867	93	1.881	94	1.849	92	1.865	93	1.873	94		

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/20/16
 Data File: SW19272B2
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV V- 231075- 7		CCV V- 231075- 12		CCV V- 231075- 23		CCV V- 231075- 33		CCV V- 231075- 43		CCV V- 231075- 55		Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec				
Barium	1/5	0.50316	101	0.50393	101	0.51189	102	0.51222	102	0.50962	102	0.52424	105		
Calcium	100/50	51.32590	103	51.36810	103	52.15040	104	52.20710	104	51.99060	104	52.26040	105		
Chromium	1/5	0.50866	101	0.50566	101	0.51517	103	0.51513	103	0.51328	103	0.52850	106		
Copper	1/5	0.51278	103	0.50884	102	0.52031	104	0.52176	104	0.51977	104	0.53655	107		
Iron	10/5	5.08293	102	5.09792	102	5.17085	103	5.18146	104	5.14936	103	5.30444	106		
Magnesium	100/50	51.58140	103	51.59420	103	52.33100	105	52.38150	105	52.05290	104	52.21470	104		
Manganese	1/5	0.50326	101	0.50396	101	0.51274	103	0.51319	103	0.51096	102	0.52578	105		
Nickel	1/5	0.50392	101	0.50398	101	0.51129	102	0.51311	103	0.50866	102	0.52054	104		
Silver	0.2/0.1	0.09977	100	0.09965	100	0.10159	102	0.10148	101	0.10100	101	0.10376	104		
Vanadium	1/5	0.49861	100	0.49995	100	0.50720	101	0.50759	102	0.50905	102	0.52157	104		
Zinc	1/5	0.50826	102	0.50939	102	0.51544	103	0.51707	103	0.51140	102	0.52300	105		

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV - 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 04/20/16
 Data File: SW19272B2
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV [aq] V- 231028- 8	Rec	LLCCV [aq] V- 231028- 13	Rec	LLCCV [aq] V- 231028- 24	Rec	LLCCV [aq] V- 231028- 34	Rec	LLCCV [aq] V- 231028- 44	Rec	LLCCV [aq] V- 231028- 56	Rec	Rec	Rec
Barium	0.05/0.05	0.0513755	103	0.0520000	104	0.0527872	106	0.0529613	106	0.0522729	105	0.0528054	106		
Calcium	5.0/5	5.31516	106	5.37353	107	5.45251	109	5.45693	109	5.43108	109	5.47791	110		
Chromium	0.05/0.05	0.0507962	102	0.0514491	103	0.0520161	104	0.0524131	105	0.0515239	103	0.0526642	105		
Copper	0.05/0.05	0.0512057	102	0.0517526	104	0.0521786	104	0.0523331	105	0.0525199	105	0.0529689	106		
Iron	0.30/3	0.291781	97	0.296755	99	0.300198	100	0.302427	101	0.298649	100	0.304050	101		
Magnesium	5.0/5	5.29958	106	5.37009	107	5.42209	108	5.43084	109	5.39860	108	5.44051	109		
Manganese	0.04/0.04	0.0395920	99	0.0399943	100	0.0408478	102	0.0408693	102	0.0405698	101	0.0409841	102		
Nickel	0.05/0.05	0.0500471	100	0.0514978	103	0.0515822	103	0.0522553	105	0.0507907	102	0.0517723	104		
Silver	0.02/0.02	0.0197064	99	0.0202881	101	0.0203072	102	0.0205984	103	0.0204565	102	0.0205158	103		
Vanadium	0.05/0.05	0.0504049	101	0.0508152	102	0.0521646	104	0.0525881	105	0.0521321	104	0.0531182	106		
Zinc	0.05/0.05	0.0512506	103	0.0519355	104	0.0521707	104	0.0525405	105	0.0513613	103	0.0519756	104		

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/20/16
 Data File: SW19272C2
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-rs in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CCV Amt	ICV V-231075-8		CCV V-231075-19		CCV V-231075-29		CCV V-231075-39		CCV V-231075-51							
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Potassium	100/50	50.55700	101	51.87380	104	51.12610	102	51.33340	103	50.80570	102						
Sodium	100/50	52.00570	104	53.30960	107	52.45400	105	52.43780	105	51.82380	104						

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV - 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 04/20/16
 Data File: SW19272C2
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV [aq] V- 231028- 7 Rec	LLCCV [aq] V- 231028- 20 Rec	LLCCV [aq] V- 231028- 30 Rec	LLCCV [aq] V- 231028- 40 Rec	LLCCV [aq] V- 231028- 52 Rec	LLCCV [aq] V- 231028- 104 Rec	Rec	Rec	Rec	Rec						
Potassium	5.0/5	5.16754	103	5.33580	107	5.22557	105	5.23083	105	5.22251	104						
Sodium	5.0/5	5.20402	104	5.48393	110	5.21536	104	5.28725	106	5.26840	105						

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/20/16
 Data File: SW42016A
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS2_7500SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CCV Amt	ICV V-231351-8		CCV V-231355-14		CCV V-231355-27		CCV V-231355-40		CCV V-231355-53		CCV V-231355-58		Rec	Rec	Rec
		V Amt	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec					
Antimony	50/30	48.24000	96	49.92000	100	49.71000	99	49.43000	99	49.13000	98	49.34000	99			
Arsenic	50/30	47.65000	95	49.14000	98	51.33000	103	49.11000	98	48.17000	98	50.05000	100			
Beryllium	50/30	49.29000	99	50.06000	100	50.24000	100	48.13000	98	48.05000	96	48.05000	96			
Cadmium	50/30	47.57000	95	50.30000	101	49.74000	99	49.93000	100	49.57000	99	49.19000	98			
Cobalt	50/30	49.47000	99	50.99000	102	50.03000	100	47.64000	95	47.31000	95	47.42000	95			
Lead	50/30	47.47000	95	48.88000	98	47.57000	95	48.76000	98	48.95000	98	48.33000	97			
Selenium	50/30	50.07000	100	248.00000	99	255.30000	102	247.10000	99	248.20000	99	250.40000	100			
Thallium	50/30	48.56000	97	47.08000	94	45.94000	92	46.93000	94	47.56000	95	46.61000	93			

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV - 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 04/20/16
 Data File: SW42016A
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS2_7500SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV	LLICV V- 231357- 9	LLCCV V- 231357- 15	LLCCV V- 231357- 28	LLCCV V- 231357- 41	LLCCV V- 231357- 54	LLCCV V- 231357- 59	Rec									
	Amt	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec			
Antimony	1.5/1.5	1.410	94	1.346	90	1.335	89	1.314	88	1.316	88	1.318	88				
Arsenic	1/1	9.761E-01	98	9.710E-01	97	1.098	110	1.002	100	1.041	104	9.942E-01	99				
Beryllium	0.5/0.5	5.365E-01	107	5.077E-01	102	5.402E-01	108	5.198E-01	104	5.232E-01	105	4.945E-01	99				
Cadmium	1/1	1.006	101	9.766E-01	98	9.803E-01	98	9.575E-01	96	9.600E-01	96	9.822E-01	98				
Cobalt	1/1	1.092	109	1.065	106	1.081	108	1.018	102	1.050	105	9.973E-01	100				
Lead	1.5/1.5	1.480	99	1.393	93	1.464	98	1.389	93	1.376	92	1.339	89				
Selenium	5/5	5.332	107	4.867	97	5.552	111	5.189	104	5.177	104	5.151	103				
Thallium	1/1	9.524E-01	95	8.934E-01	89	9.814E-01	98	8.909E-01	89	8.942E-01	89	8.669E-01	87				

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/21/16
 Data File: SW19272E4
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP4A
 Units: All units in ppm except Hg and icp-rs in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV V-	CCV V-	CCV V-	CCV V-	CCV V-									
		230237- 7	230237- 12	230237- 23	230237- 33	230237- 46	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Aluminum	10/5	4.61837	92	5.08994	102	4.82628	97	5.12345	102	5.07980	102				

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470A/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470A/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110

CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2
(LLICV/LLCCV Summary)

Date Analyzed: 04/21/16
 Data File: SW19272E4
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV [aq] V- 228954- 8		LLCCV [aq] V- 228954- 13		LLCCV [aq] V- 228954- 24		LLCCV [aq] V- 228954- 34		LLCCV [aq] V- 228954- 47		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec						
Aluminum	0.2/0.2	0.250770	125	0.168251	84	0.141932	71	0.215255	108	0.432189	216 c				

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/19/16
 Data File: H19266S
 Prep Batch: 52301
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: HGCV2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV (2)-9		CCV-21		CCV-33		CCV-43		Rec	Rec	Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec						
Mercury	20/10	20.08000	100	10.18000	102	10.26000	103	10.35000	104						

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470A/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105 CLP ICP ICV/CCV: 90-110
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470A/7471A/7471B=80-120) CLP Hg ICV/CCV: 80-120
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110

FORM 2
(ICV/CCV Summary)

Date Analyzed: 04/21/16
 Data File: H19272SW
 Prep Batch: 52309
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: HGCV1A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV (2)-9		CCV-21		CCV-33		CCV-40		Rec	Rec	Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec						
Mercury	20/10	20.40567	102	10.22405	102	10.06911	101	10.05139	101						

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV - 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/18/16
 Data File: S19266B4
 Prep Batch: 52301
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB V-228950- 8	CCB-21	CCB-32	CCB-44	CCB-56	MB 52301 (100)-11
Aluminum	2 U	2 U	2 U	2 U	2 U	200 U
Calcium	10 U	10 U	10 U	10 U	10 U	1000 U
Iron	2 U	2 U	2 U	2 U	2 U	200 U
Magnesium	5 U	5 U	5 U	5 U	5 U	500 U
Potassium	5 U	5 U	5 U	5 U	5 U	500 U
Sodium	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	250 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/18/16
 Data File: S19266C3
 Prep Batch: 52301
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP3A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB V-228950-9	CCB V-228950-22	CCB V-228950-33	CCB V-228950-45	CCB V-228950-57	MB 52301 (100)-12
Barium	.1 U	.1 U	.1 U	.1 U	.1 U	10 U
Chromium	.05 U	.05 U	.05 U	.05 U	.05 U	5 U
Cobalt	.025 U	.025 U	.025 U	.025 U	.025 U	2.5 U
Copper	.05 U	.05 U	.05 U	.05 U	.05 U	5 U
Lead	.05 U	.05 U	.05 U	.05 U	.05 U	5 U
Manganese	.1 U	.1 U	.1 U	.1 U	.1 U	10 U
Nickel	.05 U	.05 U	.05 U	.05 U	.05 U	5 U
Vanadium	.1 U	.1 U	.1 U	.1 U	.1 U	10 U
Zinc	.1 U	.1 U	.1 U	.1 U	.1 U	10 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/18/16
 Data File: S041816A
 Prep Batch: 52302
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS2_7500SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB V-230802-10	CCB V-230802-16	CCB V-230802-29	CCB V-230802-42	CCB V-230802-55	CCB V-230802-60	MB 52302-17
Antimony	4 U	4 U	4 U	4 U	4 U	4 U	800 U
Arsenic	1 U	1 U	1 U	1 U	1 U	1 U	200 U
Beryllium	1 U	1 U	1 U	1 U	1 U	1 U	200 U
Cadmium	2 U	2 U	2 U	2 U	2 U	2 U	400 U
Selenium	10 U	10 U	10 U	10 U	10 U	10 U	2000 U
Silver	1 U	1 U	1 U	1 U	1 U	1 U	200 U
Thallium	2 U	2 U	2 U	2 U	2 U	2 U	400 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/20/16
 Data File: SW19272B2
 Prep Batch: 52309
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB V-228950- 9	CCB-14	CCB-25	CCB-35	CCB-45	CCB-57	MB 52309 (1)- 15
Barium	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Calcium	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chromium	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Copper	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Iron	.3 U	.3 U	.3 U	.3 U	.3 U	.3 U	.3 U
Magnesium	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Manganese	.04 U	.04 U	.04 U	.04 U	.04 U	.04 U	.04 U
Nickel	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Silver	.02 U	.02 U	.02 U	.02 U	.02 U	.02 U	.02 U
Vanadium	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Zinc	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 3 (ICB/CCB/MB Summary)

Date Analyzed: 04/20/16

Data File: SW19272C2

Prep Batch: 52309

Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A

Instrument: PEICPRAD2A

Units: All units in ppm except Hg and icp-ms in ppb

Project Number: 6041514

Lab Name: Veritech

Lab Code:

Contract:

Nras No:

Sdg No:

Case No:

Analyte	ICB V-228950- 8	CCB-21	CCB-31	CCB-41	CCB-53	MB 52309 (1)- 11
Potassium	5 U	5 U	5 U	5 U	5 U	5 U
Sodium	5 U	5 U	5 U	5 U	5 U	5 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/20/16
 Data File: SW42016A
 Prep Batch: 52309
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS2_7500SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB V-231352-10	CCB V-231352-16	CCB V-231352-29	CCB V-231352-42	CCB V-231352-55	CCB V-231352-60	MB 52309-17
Antimony	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	3U
Arsenic	1 U	1 U	1 U	1 U	1 U	1 U	2U
Beryllium	.5 U	.5 U	.5 U	.5 U	.5 U	.5 U	1U
Cadmium	1 U	1 U	1 U	1 U	1 U	1 U	2U
Cobalt	1 U	1 U	1 U	1 U	1 U	1 U	2U
Lead	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	3U
Selenium	5 U	5 U	5 U	5 U	5 U	5 U	10U
Thallium	1 U	1 U	1 U	1 U	1 U	1 U	2U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

**FORM 3
(ICB/CCB/MB Summary)**

Date Analyzed: 04/21/16

Data File: SW19272E4

Prep Batch: 52309

Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A

Instrument: PEICP4A

Units: All units in ppm except Hg and icp-ms in ppb

Project Number: 6041514

Lab Name: Veritech

Lab Code:

Contract:

Nras No:

Sdg No:

Case No:

Analyte	ICB V-228950-9	CCB-14	CCB-25	CCB-35	CCB-48	MB 52309 (1)-15
Aluminum	.2 U	.2 U	.2 U	.2 U	.2 U	.2 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/19/16
 Data File: H19266S
 Prep Batch: 52301
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: HGCV2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB-10	CCB-22	CCB-34	CCB-44	MB 52301 (167)-11
Mercury	.5 U	.5 U	.5 U	.5 U	83 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/21/16
 Data File: H19272SW
 Prep Batch: 52309
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: HGCV1A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB-10	CCB-22	CCB-34	CCB-41	MB 52309 (1)- 11
Mercury	.7 U	.7 U	.7 U	.7 U	.7 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 04/18/16
 Data File: S19266B4
 Prep Batch: 52301
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 231003-9		ICSAB V- 230459-10		ICSA V- 231003-28		ICSAB V- 230459-29		ICSA V- 231003-40		ICSAB V- 230459-41		ICSA V- 231003-52		ICSAB V- 230459-53	
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	
Aluminum	500	521.713	104	554.88300	111	516.73	103	532.33800	106	532.751	107	517.08300	103	530.701	106	547.32500	109
Calcium	500	507.203	101	540.49300	108	501.785	100	516.43700	103	515.21	103	499.49100	100	511.85	102	526.47900	105
Iron	200	192.005	96	205.03300	103	190.187	95	195.93100	98	195.612	98	189.98900	95	194.59	97	200.40200	100
Magnesium	500	517.183	103	552.09900	110	512.506	103	528.04200	106	526.419	105	511.02000	102	524.018	105	539.61900	108

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits in the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 04/18/16
 Data File: S19266C3
 Prep Batch: 52301
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP3A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V-231003-10		ICSAB V-230459-11		ICSA V-231003-29		ICSAB V-230459-30		ICSA V-231003-41		ICSAB V-230459-42		ICSA V-231003-53		ICSAB V-230459-54	
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	
Aluminum	500	511.5	102	525.42000	105	513.713	103	526.98600	105	510.015	102	520.08400	104	510.278	102	517.42100	103
Barium	.5	U		0.55313	111	U		0.55047	110	U		0.54635	109	U		0.54128	108
Calcium	500	492.482	98	504.05200	101	504.727	101	502.64100	101	486.423	97	485.43700	97	486.414	97	491.28100	98
Chromium	.5	U		0.53871	108	U		0.52689	105	U		0.51435	103	U		0.50453	101
Cobalt	.5	U		0.50550	101	U		0.50284	101	U		0.49731	99	U		0.49491	99
Copper	.5	U		0.53983	108	U		0.54238	108	U		0.53603	107	U		0.53503	107
Iron	200	194.784	97	199.34600	100	202.107	101	199.90000	100	193.599	97	197.18700	99	193.878	97	196.78000	98
Lead	1	U		0.98812	99	U		0.98431	98	U		0.97264	97	U		0.95581	96
Magnesium	500	508.862	102	522.32700	104	528.977	106	523.93100	105	506.474	101	516.99900	103	507.105	101	515.42700	103
Manganese	.5	U		0.50218	100	U		0.50455	101	U		0.49726	99	U		0.49540	99
Nickel	1	U		1.03101	103	U		1.02590	103	U		1.02217	102	U		1.00891	101
Vanadium	.5	U		0.50355	101	U		0.49762	100	U		0.48691	97	U		0.47841	96
Zinc	1	U		1.06281	106	U		1.04588	105	U		1.02794	103	U		1.01130	101

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

**FORM 4
(ICSA/ICSAB Summary)**

Date Analyzed: 04/18/16
 Data File: S041816A
 Prep Batch: 52302
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS2_7500SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 230803-11		ICSAB V- 230804-12		Rec	Rec	Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec						
Aluminum	50000	45020	90	49600.00000	99						
Arsenic	100	U		97.03000	97						
Cadmium	100	U		92.24000	92						
Calcium	150000	141700	94	55700.00000	104						
Iron	125000	109200	87	19300.00000	95						
Magnesium	50000	44170	88	49150.00000	98						
Selenium	100	U		87.87000	88						
Silver	50	U		44.23000	88						

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 04/20/16
 Data File: SW19272B2
 Prep Batch: 52309
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V-231003-10		ICSAB V-231005-11		ICSA V-231003-31		ICSAB V-231005-32		ICSA V-231003-53		ICSAB V-231005-54		Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec				
Aluminum	500	513.337	103	510.10100	102	518.238	104	518.28100	104	518.181	104	519.45300	104		
Barium	.5	U		0.51793	104	U		0.52933	106	U		0.53165	106		
Calcium	500	495.054	99	492.39500	98	499.05	100	498.53300	100	497.769	100	498.26600	100		
Chromium	.5	U		0.51227	102	U		0.52586	105	U		0.52661	105		
Copper	.5	U		0.54353	109	U		0.55548	111	U		0.56103	112		
Iron	200	195.336	98	194.02400	97	198.57	99	197.79200	99	198.489	99	198.19900	99		
Magnesium	500	508.717	102	505.86100	101	511.417	102	510.93100	102	510.088	102	510.31700	102		
Manganese	.5	U		0.49780	100	U		0.50912	102	U		0.51371	103		
Nickel	1	U		0.97472	97	U		1.00291	100	U		0.99976	100		
Silver	1	U		1.08867	109	U		1.11242	111	U		1.11958	112		
Vanadium	.5	U		0.49782	100	U		0.50591	101	U		0.51371	103		
Zinc	1	U		0.98290	98	U		1.01123	101	U		1.00577	101		

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits in the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 04/20/16
 Data File: SW19272C2
 Prep Batch: 52309
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V-231003-9		ICSAB V-231005-10		ICSA V-231003-27		ICSAB V-231005-28		ICSA V-231003-49		ICSAB V-231005-50		Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec				
Aluminum	500	516.942	103	516.85900	103	519.596	104	510.88900	102	522.147	104	511.18000	102		
Calcium	500	499.099	100	497.50200	100	499.012	100	490.71500	98	501.877	100	494.75500	99		
Iron	200	196.582	98	196.67500	98	198.036	99	195.14300	98	199.252	100	196.68300	98		
Magnesium	500	504.993	101	503.36400	101	505.634	101	497.87700	100	508.98	102	505.01400	101		

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 04/20/16
 Data File: SW42016A
 Prep Batch: 52309
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS2_7500SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 231353-11		ICSAB V- 231354-12		Rec	Rec	Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec						
Aluminum	50000	43110	86	8050.00000	96						
Arsenic	100	U		94.72000	95						
Cadmium	100	1.735b		90.47000	90						
Calcium	150000	140300	94	55500.00000	104						
Cobalt	200	U		182.90000	91						
Iron	125000	106900	86	17500.00000	94						
Magnesium	50000	42680	85	8030.00000	96						
Selenium	100	U		91.79000	92						

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

**FORM 4
(ICSA/ICSAB Summary)**

Date Analyzed: 04/21/16
 Data File: SW19272E4
 Prep Batch: 52309
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 231003-10		ICSAB V- 230459-11		ICSA V- 231003-31		ICSAB V- 230459-32		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec						
Aluminum	500	549.025	110	574.75800	115	559.539	112	573.89800	115				
Calcium	500	501.441	100	515.10300	103	500.181	100	516.45800	103				
Iron	200	184.388	92	192.34500	96	187.39	94	189.97300	95				
Magnesium	500	458.269	92	491.92900	98	474.468	95	489.21400	98				

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52301

6041514 0452

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR		Matrix: SOIL		SampleID: LCS MR 52301								
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim		
Aluminum	52301	1	S19266B4	13	55.6299	80.8	69		51	149		
Barium	52301	1	S19266C3	14	1.7913	2.09	86		83	127		
Calcium	52301	1	S19266B4	13	54.6785	56.9	96		81	119		
Chromium	52301	1	S19266C3	14	1.2217	1.43	85		80	120		
Cobalt	52301	1	S19266C3	14	1.3798	1.54	90		84	116		
Copper	52301	1	S19266C3	14	1.6365	1.73	95		82	118		
Iron	52301	1	S19266B4	13	127.1570	150.00	85		47	154		
Lead	52301	1	S19266C3	14	1.3281	1.46	91		82	118		
Magnesium	52301	1	S19266B4	13	23.5177	26.40	89		77	123		
Manganese	52301	1	S19266C3	14	2.5877	3.09	84		82	119		
Mercury	52301	5	H19266S	15	13.4000	73.8	91		72	128		
Nickel	52301	1	S19266C3	14	1.1748	1.29	91		83	117		
Potassium	52301	1	S19266B4	13	20.2448	24.00	84		72	128		
Sodium	52301	1	S19266B4	13	7.8957	8.69	91		72	127		
Vanadium	52301	1	S19266C3	14	0.9687	1.15	84		78	123		
Zinc	52301	1	S19266C3	14	1.6896	1.94	87		82	118		

TxtQcType: LCS		Matrix: SOIL		SampleID: LCS 52301								
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim		
Aluminum	52301	1	S19266B4	12	59.1814	80.8	73		51	149		
Barium	52301	1	S19266C3	13	1.9927	2.09	95		83	127		
Calcium	52301	1	S19266B4	12	60.5100	56.9	106		81	119		
Chromium	52301	1	S19266C3	13	1.3912	1.43	97		80	120		
Cobalt	52301	1	S19266C3	13	1.6158	1.54	105		84	116		
Copper	52301	1	S19266C3	13	1.8392	1.73	106		82	118		
Iron	52301	1	S19266B4	12	133.1830	150.00	89		47	154		
Lead	52301	1	S19266C3	13	1.4479	1.46	99		82	118		
Magnesium	52301	1	S19266B4	12	25.5822	26.40	97		77	123		
Manganese	52301	1	S19266C3	13	2.8817	3.09	93		82	119		
Mercury	52301	5	H19266S	14	13.3400	73.8	90		72	128		
Nickel	52301	1	S19266C3	13	1.3842	1.29	107		83	117		
Potassium	52301	1	S19266B4	12	21.5603	24.00	90		72	128		
Sodium	52301	1	S19266B4	12	8.5614	8.69	99		72	127		
Vanadium	52301	1	S19266C3	13	1.0641	1.15	93		78	123		
Zinc	52301	1	S19266C3	13	1.8879	1.94	97		82	118		

TxtQcType: MSD		Matrix: SOIL		SampleID: AC90760-003									
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Aluminum	52301	1	S19266B4	17	S19266B4	14	84.8608	65.9857	5.0	378	b	75	125
Barium	52301	1	S19266C3	18	S19266C3	15	0.7929	0.3004	0.5	99		75	125
Calcium	52301	1	S19266B4	17	S19266B4	14	55.7328	10U	50	111		75	125
Chromium	52301	1	S19266C3	18	S19266C3	15	0.5421	0.0981	0.5	89		75	125
Cobalt	52301	1	S19266C3	18	S19266C3	15	0.5384	0.0550	0.5	97		75	125
Copper	52301	1	S19266C3	18	S19266C3	15	0.5897	0.1055	0.5	97		75	125
Iron	52301	1	S19266B4	17	S19266B4	14	146.1680	137.7470	5.0	168	b	75	125
Lead	52301	1	S19266C3	18	S19266C3	15	0.5510	0.0804	0.5	94		75	125
Magnesium	52301	1	S19266B4	17	S19266B4	14	73.6783	21.5873	50	104		75	125
Manganese	52301	1	S19266C3	18	S19266C3	15	3.6655	2.7208	0.5	189	b	75	125
Mercury	52301	1	H19266S	19	H19266S	16	11.2900	.5U	10	113		75	125
Nickel	52301	1	S19266C3	18	S19266C3	15	0.6035	0.1061	0.5	99		75	125
Potassium	52301	1	S19266B4	17	S19266B4	14	57.0747	6.9831	50	100		75	125
Sodium	52301	1	S19266B4	17	S19266B4	14	56.5078	5.9799	50	101		75	125
Vanadium	52301	1	S19266C3	18	S19266C3	15	0.5855	0.1298	0.5	91		75	125
Zinc	52301	1	S19266C3	18	S19266C3	15	0.7456	0.2701	0.5	95		75	125

a-Indicates Recovery Failed the criteria b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52301

6041514 0453

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: MS		Matrix: SOIL		SampleID: AC90760-003									
Analyte	BatchId	DF	Data Fil	Seq#	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Aluminum	52301	1	S19266B4	16	S19266B4	14	78.6456	65.9857	5.0	253	b	75	125
Barium	52301	1	S19266C3	17	S19266C3	15	0.7570	0.3004	0.5	91		75	125
Calcium	52301	1	S19266B4	16	S19266B4	14	55.2296	10U	50	110		75	125
Chromium	52301	1	S19266C3	17	S19266C3	15	0.5349	0.0981	0.5	87		75	125
Cobalt	52301	1	S19266C3	17	S19266C3	15	0.5286	0.0550	0.5	95		75	125
Copper	52301	1	S19266C3	17	S19266C3	15	0.5835	0.1055	0.5	96		75	125
Iron	52301	1	S19266B4	16	S19266B4	14	132.0690	137.7470	5.0	-110	b	75	125
Lead	52301	1	S19266C3	17	S19266C3	15	0.5410	0.0804	0.5	92		75	125
Magnesium	52301	1	S19266B4	16	S19266B4	14	70.9222	21.5873	50	99		75	125
Manganese	52301	1	S19266C3	17	S19266C3	15	3.1547	2.7208	0.5	87		75	125
Mercury	52301	1	H19266S	18	H19266S	16	10.8000	.5U	10	108		75	125
Nickel	52301	1	S19266C3	17	S19266C3	15	0.5877	0.1061	0.5	96		75	125
Potassium	52301	1	S19266B4	16	S19266B4	14	55.9436	6.9831	50	98		75	125
Sodium	52301	1	S19266B4	16	S19266B4	14	55.5200	5.9799	50	99		75	125
Vanadium	52301	1	S19266C3	17	S19266C3	15	0.5812	0.1298	0.5	90		75	125
Zinc	52301	1	S19266C3	17	S19266C3	15	0.7217	0.2701	0.5	90		75	125

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52302

6041514 0454

Instrument Type: ICPMS

Analytical Method(s):6020/200.8

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR		Matrix: SOIL		SampleID: LCS MR 52302						
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52302	1	S041816A	19	59.3400	123	48		1	200
Arsenic	52302	1	S041816A	19	129.8000	145	90		79	121
Beryllium	52302	1	S041816A	19	87.3500	97.3	90		83	117
Cadmium	52302	1	S041816A	19	84.0700	87.6	96		83	118
Selenium	52302	1	S041816A	19	157.1000	178	88		79	121
Silver	52302	1	S041816A	19	29.5200	31.3	94		75	125
Thallium	52302	1	S041816A	19	135.1000	141	96		79	121

TxtQcType: LCS		Matrix: SOIL		SampleID: LCS 52302						
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52302	1	S041816A	18	59.5000	123	48		1	200
Arsenic	52302	1	S041816A	18	130.2000	145	90		79	121
Beryllium	52302	1	S041816A	18	85.9500	97.3	88		83	117
Cadmium	52302	1	S041816A	18	84.6500	87.6	97		83	118
Selenium	52302	1	S041816A	18	154.3000	178	87		79	121
Silver	52302	1	S041816A	18	29.7500	31.3	95		75	125
Thallium	52302	1	S041816A	18	135.7000	141	96		79	121

TxtQcType: MSD		Matrix: SOIL		SampleID: AC90760-003									
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52302	1	S041816A	24	S041816A	20	33.5000	4U	250	13	a	75	125
Arsenic	52302	1	S041816A	24	S041816A	20	215.2000	9.4330	250	82		75	125
Beryllium	52302	1	S041816A	24	S041816A	20	197.5000	2.1410	250	78		75	125
Cadmium	52302	1	S041816A	24	S041816A	20	225.9000	2U	250	90		75	125
Selenium	52302	1	S041816A	24	S041816A	20	179.3000	10U	250	72	a	75	125
Silver	52302	1	S041816A	24	S041816A	20	41.8700	1U	50	84		75	125
Thallium	52302	1	S041816A	24	S041816A	20	216.2000	2U	250	86		75	125

TxtQcType: MS		Matrix: SOIL		SampleID: AC90760-003									
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52302	1	S041816A	23	S041816A	20	34.4500	4U	250	14	a	75	125
Arsenic	52302	1	S041816A	23	S041816A	20	204.5000	9.4330	250	78		75	125
Beryllium	52302	1	S041816A	23	S041816A	20	185.3000	2.1410	250	73	a	75	125
Cadmium	52302	1	S041816A	23	S041816A	20	216.8000	2U	250	87		75	125
Selenium	52302	1	S041816A	23	S041816A	20	175.5000	10U	250	70	a	75	125
Silver	52302	1	S041816A	23	S041816A	20	40.2200	1U	50	80		75	125
Thallium	52302	1	S041816A	23	S041816A	20	209.5000	2U	250	84		75	125

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52302

6041514 0455

Instrument Type: ICPMS
 Analytical Method(s):6020/200.8

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: PS		Matrix: SOIL		SampleID: AC90760-003								
Analyte	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	1	S041816A	25	S041816A	20	49.1800	4U	50	98		80	120
Arsenic	1	S041816A	25	S041816A	20	56.0800	9.4330	50	93		80	120
Beryllium	1	S041816A	25	S041816A	20	40.8400	2.1410	50	77	a	80	120
Cadmium	1	S041816A	25	S041816A	20	48.8500	2U	50	98		80	120
Selenium	1	S041816A	25	S041816A	20	234.5000	10U	250	94		80	120
Silver	1	S041816A	25	S041816A	20	48.8400	1U	50	98		80	120
Thallium	1	S041816A	25	S041816A	20	45.8700	2U	50	92		80	120

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52309

6041514 0456

Instrument Type: ICP/HG

Analytical Method(s):6010/200.77470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCS		Matrix: AQUEOUS		SampleID: LCSW 52309						
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Aluminum	52309	1	SW19272	16	4.6303	5.00	93		80	120
Barium	52309	1	SW19272	16	0.4769	0.500	95		80	120
Calcium	52309	1	SW19272	16	49.5202	50.00	99		80	120
Chromium	52309	1	SW19272	16	0.4758	0.500	95		80	120
Copper	52309	1	SW19272	16	0.4776	0.500	96		80	120
Iron	52309	1	SW19272	16	4.8039	5.000	96		80	120
Magnesium	52309	1	SW19272	16	49.2705	50.00	99		80	120
Manganese	52309	1	SW19272	16	0.4766	0.500	95		80	120
Mercury	52309	1	H19272S	12	10.1442	10	101		80	120
Nickel	52309	1	SW19272	16	0.4790	0.500	96		80	120
Potassium	52309	1	SW19272	12	49.1973	50	98		80	120
Silver	52309	1	SW19272	16	0.0899	0.100	90		80	120
Sodium	52309	1	SW19272	12	50.0274	50	100		80	120
Vanadium	52309	1	SW19272	16	0.4776	0.500	96		80	120
Zinc	52309	1	SW19272	16	0.4853	0.500	97		80	120

TxtQcType: LCSMR		Matrix: AQUEOUS		SampleID: LCSW MR 52309						
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Aluminum	52309	1	SW19272	17	4.5574	5.00	91		80	120
Barium	52309	1	SW19272	17	0.4738	0.500	95		80	120
Calcium	52309	1	SW19272	17	49.3420	50.00	99		80	120
Chromium	52309	1	SW19272	17	0.4727	0.500	95		80	120
Copper	52309	1	SW19272	17	0.4734	0.500	95		80	120
Iron	52309	1	SW19272	17	4.7659	5.000	95		80	120
Magnesium	52309	1	SW19272	17	49.1757	50.00	98		80	120
Manganese	52309	1	SW19272	17	0.4737	0.500	95		80	120
Mercury	52309	1	H19272S	13	10.1007	10	101		80	120
Nickel	52309	1	SW19272	17	0.4752	0.500	95		80	120
Potassium	52309	1	SW19272	13	47.9599	50	96		80	120
Silver	52309	1	SW19272	17	0.0892	0.100	89		80	120
Sodium	52309	1	SW19272	13	48.4878	50	97		80	120
Vanadium	52309	1	SW19272	17	0.4777	0.500	96		80	120
Zinc	52309	1	SW19272	17	0.4779	0.500	96		80	120

TxtQcType: MS		Matrix: AQUEOUS		SampleID: AC90815-001									
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Aluminum	52309	1	SW19272	20	SW19272	18	7.1663	1.6547	5.0	110		75	125
Barium	52309	1	SW19272	20	SW19272	18	0.6025	0.1390	0.50	93		75	125
Calcium	52309	1	SW19272	20	SW19272	18	224.7810	186.7640	50.0	76		75	125
Chromium	52309	1	SW19272	20	SW19272	18	0.4737	0.05U	0.50	95		75	125
Copper	52309	1	SW19272	20	SW19272	18	0.4814	0.05U	0.50	96		75	125
Iron	52309	1	SW19272	20	SW19272	18	21.6746	18.2112	5.00	69	a	75	125
Magnesium	52309	1	SW19272	20	SW19272	18	116.8940	73.1964	50.0	87		75	125
Manganese	52309	1	SW19272	20	SW19272	18	9.3258	9.3433	0.50	-3.5	b	75	125
Mercury	52309	1	H19272S	16	H19272S	14	9.6467	.70U	10	96		75	125
Nickel	52309	1	SW19272	20	SW19272	18	0.4694	0.05U	0.50	94		75	125
Potassium	52309	1	SW19272	16	SW19272	14	54.9912	5.0707	50.00	100		75	125
Silver	52309	1	SW19272	20	SW19272	18	0.0927	0.02U	100	93		75	125
Sodium	52309	1	SW19272	16	SW19272	14	304.4710	274.2550	50.00	60	b	75	125
Vanadium	52309	1	SW19272	20	SW19272	18	0.5044	0.0593	0.50	89		75	125
Zinc	52309	1	SW19272	20	SW19272	18	0.4785	0.05U	0.50	96		75	125

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52309

6041514 0457

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: MSD		Matrix: AQUEOUS		SampleID: AC90815-001									
Analyte	BatchId	DF	Data Fil	Seq#	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Aluminum	52309	1	SW19272	21	SW19272	18	7.4634	1.6547	5.0	116		75	125
Barium	52309	1	SW19272	21	SW19272	18	0.6288	0.1390	0.50	98		75	125
Calcium	52309	1	SW19272	21	SW19272	18	238.4900	186.7640	50.0	103		75	125
Chromium	52309	1	SW19272	21	SW19272	18	0.4901	0.05U	0.50	98		75	125
Copper	52309	1	SW19272	21	SW19272	18	0.4969	0.05U	0.50	99		75	125
Iron	52309	1	SW19272	21	SW19272	18	23.0955	18.2112	5.00	98		75	125
Magnesium	52309	1	SW19272	21	SW19272	18	124.0810	73.1964	50.0	102		75	125
Manganese	52309	1	SW19272	21	SW19272	18	9.9442	9.3433	0.50	120		75	125
Mercury	52309	1	H19272S	17	H19272S	14	9.4985	.70U	10	95		75	125
Nickel	52309	1	SW19272	21	SW19272	18	0.4819	0.05U	0.50	96		75	125
Potassium	52309	1	SW19272	17	SW19272	14	57.2015	5.0707	50.0	104		75	125
Silver	52309	1	SW19272	21	SW19272	18	0.0965	0.02U	0.100	96		75	125
Sodium	52309	1	SW19272	17	SW19272	14	324.3220	274.2550	50	100		75	125
Vanadium	52309	1	SW19272	21	SW19272	18	0.5206	0.0593	0.50	92		75	125
Zinc	52309	1	SW19272	21	SW19272	18	0.4972	0.05U	0.50	99		75	125

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52309

6041514 0458

Instrument Type: ICPMS
 Analytical Method(s):6020/200.8

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCS		Matrix: AQUEOUS			SampleID: LCS 52309					
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52309	1	SW42016	18	234.5000	250	94	80	120	
Arsenic	52309	1	SW42016	18	227.7000	250	91	80	120	
Beryllium	52309	1	SW42016	18	237.3000	250	95	80	120	
Cadmium	52309	1	SW42016	18	229.5000	250	92	80	120	
Cobalt	52309	1	SW42016	18	220.2000	250	88	80	120	
Lead	52309	1	SW42016	18	237.6000	250	95	80	120	
Selenium	52309	1	SW42016	18	227.5000	250	91	80	120	
Thallium	52309	1	SW42016	18	230.3000	250	92	80	120	

TxtQcType: LCSMR		Matrix: AQUEOUS			SampleID: LCS MR 52309					
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52309	1	SW42016	19	233.6000	250	93	80	120	
Arsenic	52309	1	SW42016	19	230.2000	250	92	80	120	
Beryllium	52309	1	SW42016	19	243.9000	250	98	80	120	
Cadmium	52309	1	SW42016	19	228.7000	250	91	80	120	
Cobalt	52309	1	SW42016	19	222.0000	250	89	80	120	
Lead	52309	1	SW42016	19	234.3000	250	94	80	120	
Selenium	52309	1	SW42016	19	231.0000	250	92	80	120	
Thallium	52309	1	SW42016	19	227.1000	250	91	80	120	

TxtQcType: MS		Matrix: AQUEOUS			SampleID: AC90815-001								
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52309	1	SW42016	23	SW42016	20	222.1000	1.5U	250	89	75	125	
Arsenic	52309	1	SW42016	23	SW42016	20	224.2000	1.8330	250	89	75	125	
Beryllium	52309	1	SW42016	23	SW42016	20	200.0000	0.5U	250	80	75	125	
Cadmium	52309	1	SW42016	23	SW42016	20	209.2000	1U	250	84	75	125	
Cobalt	52309	1	SW42016	23	SW42016	20	198.6000	1.2230	250	79	75	125	
Lead	52309	1	SW42016	23	SW42016	20	210.7000	1.5U	250	84	75	125	
Selenium	52309	1	SW42016	23	SW42016	20	217.6000	5U	250	87	75	125	
Thallium	52309	1	SW42016	23	SW42016	20	209.9000	1U	250	84	75	125	

TxtQcType: MSD		Matrix: AQUEOUS			SampleID: AC90815-001								
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52309	1	SW42016	24	SW42016	20	216.1000	1.5U	250	86	75	125	
Arsenic	52309	1	SW42016	24	SW42016	20	217.2000	1.8330	250	86	75	125	
Beryllium	52309	1	SW42016	24	SW42016	20	196.2000	0.5U	250	78	75	125	
Cadmium	52309	1	SW42016	24	SW42016	20	204.9000	1U	250	82	75	125	
Cobalt	52309	1	SW42016	24	SW42016	20	197.0000	1.2230	250	78	75	125	
Lead	52309	1	SW42016	24	SW42016	20	206.8000	1.5U	250	83	75	125	
Selenium	52309	1	SW42016	24	SW42016	20	207.3000	5U	250	83	75	125	
Thallium	52309	1	SW42016	24	SW42016	20	206.9000	1U	250	83	75	125	

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52309

6041514 0459

Instrument Type: ICPMS

Analytical Method(s):6020/200.8

ICP units in ppm, ICPMS and Hg in ppb

Tx/QcType: PS		Matrix: AQUEOUS		SampleID: AC90815-001								
Analyte	DF	Data Fil	Seq#	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	1	SW42016	25	SW42016	20	49.0300	1.5U	50	98		80	120
Arsenic	1	SW42016	25	SW42016	20	50.5900	1.8330	50	98		80	120
Beryllium	1	SW42016	25	SW42016	20	42.6500	0.5U	50	85		80	120
Cadmium	1	SW42016	25	SW42016	20	46.5300	1U	50	93		80	120
Cobalt	1	SW42016	25	SW42016	20	46.3000	1.2230	50	90		80	120
Lead	1	SW42016	25	SW42016	20	46.5400	1.5U	50	93		80	120
Selenium	1	SW42016	25	SW42016	20	235.3000	5U	250	94		80	120
Thallium	1	SW42016	25	SW42016	20	44.7900	1U	50	90		80	120

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM6/FORM9
RPD/%Difference Data
 PREP BATCH: 52301

6041514 0460

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR		Matrix: SOIL		SampleID: LCS MR 52301					
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52301	S19266B4	13	S19266B4	12	55.6299	59.1814	6.2	20
Barium	52301	S19266C3	14	S19266C3	13	1.7913	1.9927	11	20
Calcium	52301	S19266B4	13	S19266B4	12	54.6785	60.5100	10	20
Chromium	52301	S19266C3	14	S19266C3	13	1.2217	1.3912	13	20
Cobalt	52301	S19266C3	14	S19266C3	13	1.3798	1.6158	16	20
Copper	52301	S19266C3	14	S19266C3	13	1.6365	1.8392	12	20
Iron	52301	S19266B4	13	S19266B4	12	127.1570	133.1830	4.6	20
Lead	52301	S19266C3	14	S19266C3	13	1.3281	1.4479	8.6	20
Magnesium	52301	S19266B4	13	S19266B4	12	23.5177	25.5822	8.4	20
Manganese	52301	S19266C3	14	S19266C3	13	2.5877	2.8817	11	20
Mercury	52301	H19266S	15	H19266S	14	13.4000	13.3400	.45	20
Nickel	52301	S19266C3	14	S19266C3	13	1.1748	1.3842	16	20
Potassium	52301	S19266B4	13	S19266B4	12	20.2448	21.5603	6.3	20
Sodium	52301	S19266B4	13	S19266B4	12	7.8957	8.5614	8.1	20
Vanadium	52301	S19266C3	14	S19266C3	13	0.9687	1.0641	9.4	20
Zinc	52301	S19266C3	14	S19266C3	13	1.6896	1.8879	11	20

TxtQcType: MR		Matrix: SOIL		SampleID: AC90760-003					
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52301	S19266B4	15	S19266B4	14	71.7565	65.9857	8.4	20
Barium	52301	S19266C3	16	S19266C3	15	0.4013	0.3004	29	b 20
Calcium	52301	S19266B4	15	S19266B4	14	10U	10U	—	20
Chromium	52301	S19266C3	16	S19266C3	15	0.1176	0.0981	18	20
Cobalt	52301	S19266C3	16	S19266C3	15	0.0595	0.0550	8	20
Copper	52301	S19266C3	16	S19266C3	15	0.1854	0.1055	55	b 20
Iron	52301	S19266B4	15	S19266B4	14	149.0420	137.7470	7.9	20
Lead	52301	S19266C3	16	S19266C3	15	0.1845	0.0804	79	b 20
Magnesium	52301	S19266B4	15	S19266B4	14	23.7098	21.5873	9.4	20
Manganese	52301	S19266C3	16	S19266C3	15	3.1370	2.7208	14	20
Mercury	52301	H19266S	17	H19266S	16	.5U	.5U	—	20
Nickel	52301	S19266C3	16	S19266C3	15	0.1197	0.1061	12	20
Potassium	52301	S19266B4	15	S19266B4	14	6.7540	6.9831	3.3	20
Sodium	52301	S19266B4	15	S19266B4	14	6.9848	5.9799	16	20
Vanadium	52301	S19266C3	16	S19266C3	15	0.1569	0.1298	19	20
Zinc	52301	S19266C3	16	S19266C3	15	0.4947	0.2701	59	b 20

a-Indicates Rpd Failed the criteria

b-Method Rep Out but concentrations < 5*RL

c-Serial dilution Out but conc < 10 * IDL

FORM6/FORM9
RPD/%Difference Data
 PREP BATCH: 52301

6041514 0461

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: MSD		Matrix: SOIL		SampleID: AC90760-003					
Analyte	BatchId	Data File	Seq#:	MS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52301	S19266B4	17	S19266B4	16	84.8608	78.6456	7.6	20
Barium	52301	S19266C3	18	S19266C3	17	0.7929	0.7570	4.6	20
Calcium	52301	S19266B4	17	S19266B4	16	55.7328	55.2296	.91	20
Chromium	52301	S19266C3	18	S19266C3	17	0.5421	0.5349	1.3	20
Cobalt	52301	S19266C3	18	S19266C3	17	0.5384	0.5286	1.8	20
Copper	52301	S19266C3	18	S19266C3	17	0.5897	0.5835	1.1	20
Iron	52301	S19266B4	17	S19266B4	16	146.1680	132.0690	10	20
Lead	52301	S19266C3	18	S19266C3	17	0.5510	0.5410	1.8	20
Magnesium	52301	S19266B4	17	S19266B4	16	73.6783	70.9222	3.8	20
Manganese	52301	S19266C3	18	S19266C3	17	3.6655	3.1547	15	20
Mercury	52301	H19266S	19	H19266S	18	11.2900	10.8000	4.4	20
Nickel	52301	S19266C3	18	S19266C3	17	0.6035	0.5877	2.7	20
Potassium	52301	S19266B4	17	S19266B4	16	57.0747	55.9436	2	20
Sodium	52301	S19266B4	17	S19266B4	16	56.5078	55.5200	1.8	20
Vanadium	52301	S19266C3	18	S19266C3	17	0.5855	0.5812	.74	20
Zinc	52301	S19266C3	18	S19266C3	17	0.7456	0.7217	3.3	20

TxtQcType: SD		Matrix: SOIL		SampleID: AC90760-003					
Analyte	BatchId	Data File	Seq#:	NS File	Seq# DF	Result 1	Result 2	%Diff	Limit
Aluminum	52301	S19266B4	22	S19266B4	14 5	13.1320	65.9857	0.49	10
Barium	52301	S19266C3	23	S19266C3	15 5	0.0625	0.3004	4	10
Calcium	52301	S19266B4	22	S19266B4	14 5	0.6503	4.0063	19 a	10
Chromium	52301	S19266C3	23	S19266C3	15 5	0.0189	0.0981	3.6	10
Cobalt	52301	S19266C3	23	S19266C3	15 5	0.0089	0.0550	19 a	10
Copper	52301	S19266C3	23	S19266C3	15 5	0.0206	0.1055	2.6	10
Iron	52301	S19266B4	22	S19266B4	14 5	27.2594	137.7470	1.1	10
Lead	52301	S19266C3	23	S19266C3	15 5	0.0152	0.0804	5.7	10
Magnesium	52301	S19266B4	22	S19266B4	14 5	3.8931	21.5873	9.8	10
Manganese	52301	S19266C3	23	S19266C3	15 5	0.5483	2.7208	0.77	10
Nickel	52301	S19266C3	23	S19266C3	15 5	0.0171	0.1061	19 a	10
Potassium	52301	S19266B4	22	S19266B4	14 5	1.3804	6.9831	1.2	10
Sodium	52301	S19266B4	22	S19266B4	14 5	1.0835	5.9799	9.4	10
Vanadium	52301	S19266C3	23	S19266C3	15 5	0.0274	0.1298	5.5	10
Zinc	52301	S19266C3	23	S19266C3	15 5	0.0500	0.2701	7.3	10

a-Indicates Rpd Failed the criteria
 b-Method Rep Out but concentrations < 5*RL
 c-Serial dilution Out but conc < 10 * IDL

FORM6/FORM9
RPD/%Difference Data
 PREP BATCH: 52302

6041514 0462

Instrument Type: ICPMS

Analytical Method(s):6020/200.8

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR		Matrix: SOIL		SampleID: LCS MR 52302					
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52302	S041816A	19	S041816A	18	59.3400	59.5000	.27	20
Arsenic	52302	S041816A	19	S041816A	18	129.8000	130.2000	.31	20
Beryllium	52302	S041816A	19	S041816A	18	87.3500	85.9500	1.6	20
Cadmium	52302	S041816A	19	S041816A	18	84.0700	84.6500	.69	20
Selenium	52302	S041816A	19	S041816A	18	157.1000	154.3000	1.8	20
Silver	52302	S041816A	19	S041816A	18	29.5200	29.7500	.78	20
Thallium	52302	S041816A	19	S041816A	18	135.1000	135.7000	.44	20

TxtQcType: MR		Matrix: SOIL		SampleID: AC90760-003					
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52302	S041816A	21	S041816A	20	4U	4U	---	20
Arsenic	52302	S041816A	21	S041816A	20	11.6500	9.4330	21 a	20
Beryllium	52302	S041816A	21	S041816A	20	2.8730	2.1410	29 b	20
Cadmium	52302	S041816A	21	S041816A	20	2U	2U	---	20
Selenium	52302	S041816A	21	S041816A	20	10U	10U	---	20
Silver	52302	S041816A	21	S041816A	20	1U	1U	---	20
Thallium	52302	S041816A	21	S041816A	20	2U	2U	---	20

TxtQcType: MSD		Matrix: SOIL		SampleID: AC90760-003					
Analyte	BatchId	Data Fil	Seq#:	MS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52302	S041816A	24	S041816A	23	33.5000	34.4500	2.8	20
Arsenic	52302	S041816A	24	S041816A	23	215.2000	204.5000	5.1	20
Beryllium	52302	S041816A	24	S041816A	23	197.5000	185.3000	6.4	20
Cadmium	52302	S041816A	24	S041816A	23	225.9000	216.8000	4.1	20
Selenium	52302	S041816A	24	S041816A	23	179.3000	175.5000	2.1	20
Silver	52302	S041816A	24	S041816A	23	41.8700	40.2200	4	20
Thallium	52302	S041816A	24	S041816A	23	216.2000	209.5000	3.1	20

TxtQcType: SD		Matrix: SOIL		SampleID: AC90760-003						
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff	Limit
Antimony	52302	S041816A	22	S041816A	20	5	0.0259	0.1825	29 c	10
Arsenic	52302	S041816A	22	S041816A	20	5	1.9200	9.4330	1.8	10
Beryllium	52302	S041816A	22	S041816A	20	5	0.5814	2.1410	36 c	10
Cadmium	52302	S041816A	22	S041816A	20	5	0.1011	0.4617	9.5	10
Selenium	52302	S041816A	22	S041816A	20	5	0.4543	3.9390	---	10
Silver	52302	S041816A	22	S041816A	20	5	0.0421	0.2118	0.73	10
Thallium	52302	S041816A	22	S041816A	20	5	0.1010	0.4678	8	10

a-Indicates Rpd Failed the criteria

b-Method Rep Out but concentrations < 5*RL

c-Serial dilution Out but conc < 10 * IDL

FORM6/FORM9
RPD/%Difference Data
 PREP BATCH: 52309

6041514 0463

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR Matrix: AQUEOUS SampleID: LCSW MR 52309									
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52309	SW19272	17	SW19272	16	4.5574	4.6303	1.6	20
Barium	52309	SW19272	17	SW19272	16	0.4738	0.4769	.65	20
Calcium	52309	SW19272	17	SW19272	16	49.3420	49.5202	.36	20
Chromium	52309	SW19272	17	SW19272	16	0.4727	0.4758	.67	20
Copper	52309	SW19272	17	SW19272	16	0.4734	0.4776	.88	20
Iron	52309	SW19272	17	SW19272	16	4.7659	4.8039	.8	20
Magnesium	52309	SW19272	17	SW19272	16	49.1757	49.2705	.19	20
Manganese	52309	SW19272	17	SW19272	16	0.4737	0.4766	.6	20
Mercury	52309	H19272S	13	H19272S	12	10.1007	10.1442	.43	20
Nickel	52309	SW19272	17	SW19272	16	0.4752	0.4790	.8	20
Potassium	52309	SW19272	13	SW19272	12	47.9599	49.1973	2.5	20
Silver	52309	SW19272	17	SW19272	16	0.0892	0.0899	.74	20
Sodium	52309	SW19272	13	SW19272	12	48.4878	50.0274	3.1	20
Vanadium	52309	SW19272	17	SW19272	16	0.4777	0.4776	.0036	20
Zinc	52309	SW19272	17	SW19272	16	0.4779	0.4853	1.5	20

TxtQcType: MR Matrix: AQUEOUS SampleID: AC90815-001									
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52309	SW19272	19	SW19272	18	1.9652	1.6547	17	20
Barium	52309	SW19272	19	SW19272	18	0.1346	0.1390	3.3	20
Calcium	52309	SW19272	19	SW19272	18	180.3640	186.7640	3.5	20
Chromium	52309	SW19272	19	SW19272	18	0.05U	0.05U	---	20
Copper	52309	SW19272	19	SW19272	18	0.05U	0.05U	---	20
Iron	52309	SW19272	19	SW19272	18	17.5177	18.2112	3.9	20
Magnesium	52309	SW19272	19	SW19272	18	70.8077	73.1964	3.3	20
Manganese	52309	SW19272	19	SW19272	18	9.0320	9.3433	3.4	20
Mercury	52309	H19272S	15	H19272S	14	.70U	.70U	---	20
Nickel	52309	SW19272	19	SW19272	18	0.05U	0.05U	---	20
Potassium	52309	SW19272	15	SW19272	14	5U	5.0707	---	20
Silver	52309	SW19272	19	SW19272	18	0.02U	0.02U	---	20
Sodium	52309	SW19272	15	SW19272	14	261.8310	274.2550	4.6	20
Vanadium	52309	SW19272	19	SW19272	18	0.0546	0.0593	8.2	20
Zinc	52309	SW19272	19	SW19272	18	0.05U	0.05U	---	20

TxtQcType: MSD Matrix: AQUEOUS SampleID: AC90815-001									
Analyte	BatchId	Data Fil	Seq#:	MS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52309	SW19272	21	SW19272	20	7.4634	7.1663	4.1	20
Barium	52309	SW19272	21	SW19272	20	0.6288	0.6025	4.3	20
Calcium	52309	SW19272	21	SW19272	20	238.4900	224.7810	5.9	20
Chromium	52309	SW19272	21	SW19272	20	0.4901	0.4737	3.4	20
Copper	52309	SW19272	21	SW19272	20	0.4969	0.4814	3.2	20
Iron	52309	SW19272	21	SW19272	20	23.0955	21.6746	6.3	20
Magnesium	52309	SW19272	21	SW19272	20	124.0810	116.8940	6	20
Manganese	52309	SW19272	21	SW19272	20	9.9442	9.3258	6.4	20
Mercury	52309	H19272S	17	H19272S	16	9.4985	9.6467	1.5	20
Nickel	52309	SW19272	21	SW19272	20	0.4819	0.4694	2.6	20
Potassium	52309	SW19272	17	SW19272	16	57.2015	54.9912	3.9	20
Silver	52309	SW19272	21	SW19272	20	0.0965	0.0927	4	20
Sodium	52309	SW19272	17	SW19272	16	324.3220	304.4710	6.3	20
Vanadium	52309	SW19272	21	SW19272	20	0.5206	0.5044	3.2	20
Zinc	52309	SW19272	21	SW19272	20	0.4972	0.4785	3.8	20

a-Indicates Rpd Failed the criteria
 b-Method Rep Out but concentrations < 5*RL
 c-Serial dilution Out but conc < 10 * IDL

FORM6/FORM9
 RPD/%Difference Data
 PREP BATCH: 52309

6041514 0464

Instrument Type: ICP/HG

Analytical Method(s):6010/200.77470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: SD		Matrix: AQUEOUS		SampleID: AC90815-001							
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff		Limit
Aluminum	52309	SW19272	26	SW19272	18	5	0.2802	1.6547	15	c	10
Barium	52309	SW19272	26	SW19272	18	5	0.0275	0.1390	0.98		10
Calcium	52309	SW19272	26	SW19272	18	5	38.7039	186.7640	3.6		10
Chromium	52309	SW19272	26	SW19272	18	5	0.0002	0.0020	—		10
Copper	52309	SW19272	26	SW19272	18	5	-0.0010	0.0014	—		10
Iron	52309	SW19272	26	SW19272	18	5	3.7462	18.2112	2.9		10
Magnesium	52309	SW19272	26	SW19272	18	5	15.2751	73.1964	4.3		10
Manganese	52309	SW19272	26	SW19272	18	5	1.9585	9.3433	4.8		10
Nickel	52309	SW19272	26	SW19272	18	5	0.0002	0.0047	—		10
Potassium	52309	SW19272	22	SW19272	14	5	1.2489	5.0707	23	a	10
Silver	52309	SW19272	26	SW19272	18	5	0.0008	0.0017	122	c	10
Sodium	52309	SW19272	22	SW19272	14	5	55.4540	274.2550	1.1		10
Vanadium	52309	SW19272	26	SW19272	18	5	0.0184	0.0593	55	a	10
Zinc	52309	SW19272	26	SW19272	18	5	0.0032	0.0124	30	c	10

a-Indicates Rpd Failed the criteria

b-Method Rep Out but concentrations < 5*RL

c-Serial dilution Out but conc < 10 * IDL

FORM6/FORM9
RPD/%Difference Data
 PREP BATCH: 52309

6041514 0465

Instrument Type: ICPMS

Analytical Method(s):6020/200.8

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR Matrix: AQUEOUS SampleID: LCS MR 52309									
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52309	SW42016	19	SW42016	18	233.6000	234.5000	.38	20
Arsenic	52309	SW42016	19	SW42016	18	230.2000	227.7000	1.1	20
Beryllium	52309	SW42016	19	SW42016	18	243.9000	237.3000	2.7	20
Cadmium	52309	SW42016	19	SW42016	18	228.7000	229.5000	.35	20
Cobalt	52309	SW42016	19	SW42016	18	222.0000	220.2000	.81	20
Lead	52309	SW42016	19	SW42016	18	234.3000	237.6000	1.4	20
Selenium	52309	SW42016	19	SW42016	18	231.0000	227.5000	1.5	20
Thallium	52309	SW42016	19	SW42016	18	227.1000	230.3000	1.4	20

TxtQcType: MR Matrix: AQUEOUS SampleID: AC90815-001									
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52309	SW42016	21	SW42016	20	1.5U	1.5U	---	20
Arsenic	52309	SW42016	21	SW42016	20	1.6460	1.8330	11	20
Beryllium	52309	SW42016	21	SW42016	20	0.5U	0.5U	---	20
Cadmium	52309	SW42016	21	SW42016	20	1U	1U	---	20
Cobalt	52309	SW42016	21	SW42016	20	1.1430	1.2230	6.8	20
Lead	52309	SW42016	21	SW42016	20	1.5U	1.5U	---	20
Selenium	52309	SW42016	21	SW42016	20	5U	5U	---	20
Thallium	52309	SW42016	21	SW42016	20	1U	1U	---	20

TxtQcType: MSD Matrix: AQUEOUS SampleID: AC90815-001									
Analyte	BatchId	Data Fil	Seq#:	MS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52309	SW42016	24	SW42016	23	216.1000	222.1000	2.7	20
Arsenic	52309	SW42016	24	SW42016	23	217.2000	224.2000	3.2	20
Beryllium	52309	SW42016	24	SW42016	23	196.2000	200.0000	1.9	20
Cadmium	52309	SW42016	24	SW42016	23	204.9000	209.2000	2.1	20
Cobalt	52309	SW42016	24	SW42016	23	197.0000	198.6000	.81	20
Lead	52309	SW42016	24	SW42016	23	206.8000	210.7000	1.9	20
Selenium	52309	SW42016	24	SW42016	23	207.3000	217.6000	4.8	20
Thallium	52309	SW42016	24	SW42016	23	206.9000	209.9000	1.4	20

TxtQcType: SD Matrix: AQUEOUS SampleID: AC90815-001										
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff	Limit
Antimony	52309	SW42016	22	SW42016	20	5	-0.0352	0.3156	---	10
Arsenic	52309	SW42016	22	SW42016	20	5	0.3408	1.8330	7	10
Beryllium	52309	SW42016	22	SW42016	20	5	0.0633	0.1386	---	10
Cadmium	52309	SW42016	22	SW42016	20	5	0.0774	0.1567	147	c 10
Cobalt	52309	SW42016	22	SW42016	20	5	0.3053	1.2230	25	c 10
Lead	52309	SW42016	22	SW42016	20	5	0.2154	0.7648	41	c 10
Selenium	52309	SW42016	22	SW42016	20	5	0.1230	0.3724	---	10
Thallium	52309	SW42016	22	SW42016	20	5	0.0831	0.3570	16	c 10

a-Indicates Rpd Failed the criteria
 b-Method Rep Out but concentrations < 5*RL
 c-Serial dilution Out but conc < 10 * IDL

Hampton-Clarka/Vertech

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 3010A 3005A 3050B (6020) 200.7/200.8 OTHER _____

Batch No.: 19266
 QC Number: 52301
 Matrix: SOIL

Analyst: DA
 Prep Date: 04/18/2016
 Reviewed By: DA

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	0.5g	50ml				--	
LCS	↓	↓				--	
LCSD	↓	↓				--	
1. AC90760-003	1.0g	100ml					
MR AC90760-003	0.5g	50ml					
MS AC90760-003							
MSD AC90760-003							
2. AC90773-001							
3. AC90773-002							
4. AC90773-003							
5. AC90773-004							
6. AC90773-009							
7. AC90773-010							
8. AC90773-011							
9. AC90789-004							
10. AC90789-005							
11. AC90789-008							
12. AC90789-009							
13. AC90789-011							
14. AC90751-001							
15. AC90751-002							
16. AC90751-002							
17. AC90761-001							
18. AC90761-003							
19. AC90761-005							
20. AC90760-001	↓	↓					

Hot Plate Temperature: 93.7°C (90-95°C)

Volume	Lot #
LCS, LCSD 0.5g	V-9938
LLCS, LLLCSU	V-
MS, MSD 0.25g	V-10074, 10075
LLMS, LLMSD	V-

Acid	Vol mL	Lot #
HNO ₃	2.5	V-10138
HCl	5.0	V-10016
H ₂ O ₂	1.5	V-10117

Acid	Vol mL	Lot #
1:1 HNO ₃	5.0	V-231909
1:1 HCl		V-

Relinquished By: DA
 Received By: DA

Date: 04/18/2016
 Date: 04/18/2016

Hampton-Clarke/Veritek

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 3010A 3005A 3050B (6020) 200.7/200.8 OTHER
 Batch No.: 19962 Analyst: Jane
 QC Number: 52302 Prep Date: 04.16.16
 Matrix: SOIL Reviewed By: R

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	50ul	50ul	45ul	50ul		--	
LCS	0.1g					--	
LCS D	↓					--	
1. 90760-003	0.5g						
MR ↓ 003							
MS ↓ 003							
MSD ↓ 003							
2. 90773-001							
3. ↓ 002							
4. ↓ 003							
5. ↓ 004							
6. ↓ 009							
7. ↓ 010							
8. ↓ 011							
9. 90789-004							
10. ↓ 005							
11. ↓ 008							
12. ↓ 009							
13. ↓ 011							
14. 90751-001							
15. ↓ 002							
16. 90737-002							
17. 90761-001							
18. ↓ 003							
19. ↓ 005							
20. 90760-001	↓	↓	↓	↓			

Hot Plate Temperature: 95 C (90-95° C)

	Volume mL	Lot #
LCS, LCS D	0.1g	V-0933
LLCS, LLCS D		V-
MS, MSD	0.5g	V-9324, 10235
LLMS, LLMS D		V-

Acid	Vol mL	Lot#
HNO ₃	0.5ul	V-10065
HCl		V-
H ₂ O ₂	1.5ul	V-10117

Acid	Vol mL	Lot#
1:1 HNO ₃	5ul	V-502129
1:1 HCl		V-

Relinquished By: Jane Date: 04.16.16
 Received By: R Date: 4/16/16

Hampton-Clarke/VerTech

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 3010A 3005A 3050B (6020) 200.7/200.8 OTHER

Batch No.: 19272
 QC Number: 502309
 Matrix: SW846

Analyst: Jaul
 Prep Date: 04.20.16
 Reviewed By: R

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	50ul	50ul	10ul	10ul		--	
LCS	↓	↓				--	
LCS D	↓	↓				--	
1. 10A0815-001	100ul	100ul					
MR 001	50ul	50ul					
MS 001							
MSD 001							
2. 90783-012							FB
3. 013							FB+P
4. 90815-002							
5. 003							
6. 004							
7. 005							
8. 006							
9. 007							
10. 008							
11. 009							
12. 010							
13. 011							
14. 012							
15. 013							
16. 014							
17. 015							
18. 016							
19. 017							
20. 018	↓	↓	↓	↓			

Hot Plate Temperature: 92.2 C (90-95°C)

	Volume mL	Lot #
LCS, LCS D	0.25ul	V-100PA, 10015
LLCS, LLCS D		V-
MS, MSD	0.25ul	V-100PA, 10025
LLMS, LLMS D		V-

Acid	Vol mL	Lot#
HNO ₃	3ul	V-10128
HCl		V-
H ₂ O ₂		V-

Acid	Vol mL	Lot#
1:1 HNO ₃		V-
1:1 HCl	5ul	V-10120

Relinquished By Jaul Date 04.20.16
 Received By J. m Date 4/20/16

8887

HG SAMPLE PREPARATION LOG

6041514 0469

ANALYTICAL METHOD: 245.1 7470A 7471B OTHER _____
 19200
 21301
 sp. 208L 201Z

Analyst: Jave
 Prep Date: 04-16-11
 Review By: Jave

LAB ID#	MERCURY		COMMENTS	STANDARDS
	INITIAL	FINAL		
	25ml	25ml		CAL CURVE BLK 0ppb V- 231251
	0.15g			
003				STD 0.2 ppb V- 231252
003				STD 0.5 ppb V- 253
003				STD 1.0 ppb V- 254
003				STD 2.0 ppb V- 255
003				STD 5.0 ppb V- 256
001				STD 10.0 ppb V- 257
002				STD 25.0 ppb V- 258
003				ICV 10.0 ppb V- 231249
004				CCV 10.0 ppb V- 231250
009				
010				
011				
004				
005				
008				
009				
011				
001				
002				
002				
001				
003				
005				
001				

Lab Number	Acid	Volume (mL)	Lot #
19200	HNO ₃		V-
21301	HCl		V-
21301	H ₂ SO ₄		V-
21301	Agua Regia	1. 25 ml	V- 231248

**Block 93.7
 Time In 8:00
 Time Out 8:30

245.1 / 7470A: 0.15g / 0.25 ml
 7471B: 0.250 ml
 B: 21064

**Temperature
 245.1 / 7470A: 90-95C
 7471B: 92°C

Relinquished By: Jave

Each ml of each standard was digested with this batch using the same reagents and at the same time as the above samples. The preparation of each standard may be referenced in Veriproq using the standard batch number and the corresponding V #s.

METHOD: 245.1 (7470A) 7471B OTHER _____

19272
52309
SN8AC

Analyst: Jane
Prep Date: 01.20.16
Review By: JM

LAB #	MERCURY		COMMENTS	STANDARDS
	INITIAL	FINAL		
	25ul	25ul		CAL CURVE BLK 0ppb V-231409
				STD 0.2 ppb V-231410
				STD 0.5 ppb V-411
				STD 1.0 ppb V-412
				STD 2.0 ppb V-413
				STD 5.0 ppb V-414
			fb	STD 10.0 ppb V-415
			fb + f	STD 25.0 ppb V-416
				ICV 20.0 ppb V-231407
				CCV 40.0 ppb V-231408
90815-001				
001				
001				
001				
90813-012				
013				
90815-002				
008				
004				
005				
006				
007				
008				
009				
010				
011				
012				
013				
014				
015				
016				
017				
018				
017				
018				

Lot Numbers	Acid	Volume (ml)	Lot #
K ₂ Cr ₂ O ₇ V- 230556	HNO ₃	0.625 ml	V- 10065
K ₂ S ₂ O ₈ V- 230558	HCl		V-
NH ₄ OH V- 230557	H ₂ SO ₄	1.25 ml	V- 9964
	Aqua Regia		V-

**Block #: 02.2
Time in Block: 0.30
Time Out of Block: 0.30

- Spike Volume & Lot #
- LCS v- 231406 0.15 ml (0.25 ml)
 - MS v- 231406 0.250 ml
 - Standards/Control Batch R- 2107

**Temperature
245.1 / 7470A: 90-95C
7471B : 92-98C

Retiniquished By: Jane

*25 mLs of each standard was digested with this batch using the same reagents and at the same time as the above samples. The preparation of each standard may be referenced in Veriprolog using the standard batch number and the corresponding V #s.

Run Log

Data File: W:\METALS.FRM\NCPDATA\New\PEICPRAD4A\IS19266B4.txt

Analysis Date: 04/18/16

Instrument: PEICPRAD4A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	17:54	1							V-228950(ICB/CCB)
CALST2 V-230756	1	CAL	17:57	2							V-230756(ICS2 - Low Std)
CALST3 V-230758	1	CAL	18:01	3							V-230758(ICS3 - Middle Std)
CALST4 V-230760	1	CAL	18:04	4							V-230760(ICS4 - High Std)
ICS3 V-230758	1	ICS	18:07	5							V-230758(ICS3 - Middle Std)
ICV V-230237	1	ICV	18:09	6							V-230237(CCV)
LLICV [soil] V-231029	1	LLICV	18:12	7		SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
ICB V-228950	1	ICB	18:15	8							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	18:18	9							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	18:23	10							V-230459(ICSAB)
MB 52301 (100)	1	MB	18:27	11		SOIL	SOIL	SW846	52301		0
LCS 52301	1	LCS	18:30	12		SOIL	SOIL	SW846	52301		0
LCS MR 52301	1	LCS	18:34	13		SOIL	SOIL	SW846	52301		0
AC90760-003	1	SMP	18:36	14	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MR	18:39	15	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MS	18:42	16	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MSD	18:45	17	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	PS	18:47	18	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
CCV V-230237	1	CCV	18:50	19							V-230237(CCV)
LLCCV [soil] V-231029	1	LLCCV	18:53	20		SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
CCB	1	CCB	18:56	21							0
AC90760-003	5	SD	18:59	22	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-001	1	SMP	19:02	23	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-002	1	SMP	19:05	24	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-003	1	SMP	19:08	25	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-004	1	SMP	19:11	26	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-009	1	SMP	19:13	27	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
ICSA V-231003	1	ICSA	19:16	28							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	19:20	29							V-230459(ICSAB)
CCV V-230237	1	CCV	19:25	30							V-230237(CCV)
LLCCV [soil] V-231029	1	LLCCV	19:27	31		SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
CCB	1	CCB	19:30	32							0
AC90773-010	1	SMP	19:34	33	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-011	1	SMP	19:37	34	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90789-004	1	SMP	19:39	35	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
AC90789-005	1	SMP	19:42	36	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
AC90789-008	1	SMP	19:45	37	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
AC90789-009	1	SMP	19:47	38	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
AC90789-011	1	SMP	19:50	39	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
ICSA V-231003	1	ICSA	19:53	40							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	19:57	41							V-230459(ICSAB)
CCV V-230237	1	CCV	20:01	42							V-230237(CCV)
LLCCV [soil] V-231029	1	LLCCV	20:04	43		SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
CCB	1	CCB	20:07	44							0
AC90751-001	1	SMP	20:10	45	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90751-002	1	SMP	20:13	46	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90737-002	1	SMP	20:16	47	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90761-001	1	SMP	20:19	48	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90761-003	1	SMP	20:21	49	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90761-005	1	SMP	20:24	50	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-001	1	SMP	20:27	51	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
ICSA V-231003	1	ICSA	20:30	52							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	20:34	53							V-230459(ICSAB)
CCV V-230237	1	CCV	20:38	54							V-230237(CCV)
LLCCV [soil] V-231029	1	LLCCV	20:41	55		SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
CCB	1	CCB	20:44	56							0

Comments/Reviewed by:

olufemi
192.168.1.85 4/19/2016 10:32:17 AM

RUN IS OK
Earth elements reported

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

4/20/16

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP3A\IS19266C3.txt

Analysis Date: 04/18/16

Instrument: PEICP3A

Sample Id	Qc DF	Type	Run Time	Test #	Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	20:42	1							V-228950(ICB/CCB)
CALST1 V-229370	1	CAL	20:46	2							V-229370(ICS1 - Lowest Std)
CALST2 V-230756	1	CAL	20:49	3							V-230756(ICS2 - Low Std)
CALST3 V-230758	1	CAL	20:52	4							V-230758(ICS3 - Middle Std)
CALST4 V-230760	1	CAL	20:56	5							V-230760(ICS4 - High Std)
ICS3 V-230758	1	ICS	21:00	6							V-230758(ICS3 - Middle Std)
ICV (1) V-230237	1	ICV	21:04	7							V-230237(CCV)
LLICV V-231029	1	LLICV	21:08	8	MET-TAL6010S	SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
ICB V-228950	1	ICB	21:12	9							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	21:15	10							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	21:20	11							V-230459(ICSAB)
MB 52301 (100)	1	MB	21:23	12	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
LCS 52301	1	LCS	21:27	13	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
LCS MR 52301	1	LCS	21:30	14	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	SMP	21:34	15	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MR	21:38	16	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MS	21:42	17	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MSD	21:46	18	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-003	1	PS	21:50	19	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
CCV V-230237	1	CCV	21:54	20							V-230237(CCV)
LLCCV V-231029	1	LLCCV	21:58	21	MET-TAL6010S	SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
CCB V-228950	1	CCB	22:01	22							V-228950(ICB/CCB)
AC90760-003	5	SD	22:05	23	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-001	1	SMP	22:08	24	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-002	1	SMP	22:12	25	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-003	1	SMP	22:16	26	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-004	1	SMP	22:19	27	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-009	1	SMP	22:23	28	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
ICSA V-231003	1	ICSA	22:26	29							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	22:31	30							V-230459(ICSAB)
CCV V-230237	1	CCV	22:35	31							V-230237(CCV)
LLCCV V-231029	1	LLCCV	22:39	32	MET-TAL6010S	SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
CCB V-228950	1	CCB	22:42	33							V-228950(ICB/CCB)
AC90773-010	1	SMP	22:46	34	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90773-011	1	SMP	22:49	35	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90789-004	1	SMP	22:53	36	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
AC90789-005	1	SMP	22:56	37	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
AC90789-008	1	SMP	23:00	38	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
AC90789-009	1	SMP	23:03	39	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
AC90789-011	1	SMP	23:07	40	SRSMETALS-S	SOIL	SOIL	SW846	52301		0
ICSA V-231003	1	ICSA	23:11	41							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	23:15	42							V-230459(ICSAB)
CCV V-230237	1	CCV	23:19	43							V-230237(CCV)
LLCCV V-231029	1	LLCCV	23:23	44	MET-TAL6010S	SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
CCB V-228950	1	CCB	23:26	45							V-228950(ICB/CCB)
AC90751-001	1	SMP	23:30	46	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90751-002	1	SMP	23:33	47	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90737-002	1	SMP	23:37	48	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90761-001	1	SMP	23:40	49	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90761-003	1	SMP	23:44	50	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90761-005	1	SMP	23:48	51	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
AC90760-001	1	SMP	23:51	52	MET-TAL6010S	SOIL	SOIL	SW846	52301		0
ICSA V-231003	1	ICSA	23:55	53							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	23:59	54							V-230459(ICSAB)
CCV V-230237	1	CCV	00:03	55							V-230237(CCV)
LLCCV V-231029	1	LLCCV	00:07	56	MET-TAL6010S	SOIL	SOIL	SW846	52301		V-231029(LLICV/CCV soil)
CCB V-228950	1	CCB	00:11	57							V-228950(ICB/CCB)

Comments/Reviewedby:

ohu/fmi
192.168.1.85 4/19/2016 9:59:30 AM

RUN IS OK
All elements reported except earth elements

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

Handwritten signature 4/20/16

Run Log

Data File: W:\METALS.FRM\CPDATA\New\MS2_7500SW\MS041816A.b\MS041816A.TXT

Analysis Date: 04/18/16

Instrument: MS2_7500SWA

Sample Id	Qc DF Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
Rinse	1 NA	15:40	1		SOIL	SOIL	SW846	52302		0
CalBlk V-230795	1 ISBLK	15:45	2		SOIL	SOIL				V-230795(Cal Blk)
CalStd1 V-230796	1 CAL	15:49	3							V-230796(Cal Std-1)
CalStd2 V-230797	1 CAL	15:55	4							V-230797(Cal Std-2)
CalStd3 V-230798	1 CAL	16:01	5							V-230798(Cal Std-3)
CalStd4 V-230799	1 CAL	16:07	6							V-230799(Cal Std-4)
CalStd5 V-230800	1 CAL	16:12	7							V-230800(Cal Std-5)
ICV V-230801	1 ICV	16:18	8							V-230801(ICV)
LLICV V-230806	1 LLICV	16:24	9		SOIL	SOIL	SW846	52302		V-230806(LL-ICV/CCV SOIL)
ICB V-230802	1 ICB	16:30	10							V-230802(ICB/CCB)
ICSA V-230803	1 ICSA	16:36	11							V-230803(ICSA)
ICSAB V-230804	1 ICSAB	16:41	12							V-230804(ICSAB)
RINSE	1 NA	16:47	13		SOIL	SOIL	SW846	52302		0
CCV V-230805	1 CCV	16:53	14							V-230805(CCV)
LLCCV V-230806	1 LLCCV	16:59	15		SOIL	SOIL	SW846	52302		V-230806(LL-ICV/CCV SOIL)
CCB V-230802	1 CCB	17:05	16							V-230802(ICB/CCB)
MB 52302	1 MB	17:11	17		SOIL	SOIL	SW846	52302		0
LCS 52302	1 LCS	17:17	18		SOIL	SOIL	SW846	52302		0
LCS MR 52302	1 LCS	17:22	19		SOIL	SOIL	SW846	52302		0
AC90760-003	1 SMP	17:28	20	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90760-003	1 MR	17:34	21	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90760-003	5 SD	17:40	22	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90760-003	1 MS	17:46	23	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90760-003	1 MSD	17:51	24	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90760-003	1 PS	17:57	25	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
RINSE	1 NA	18:03	26		SOIL	SOIL	SW846	52302		0
CCV V-230805	1 CCV	18:09	27							V-230805(CCV)
LLCCV V-230806	1 LLCCV	18:15	28		SOIL	SOIL	SW846	52302		V-230806(LL-ICV/CCV SOIL)
CCB V-230802	1 CCB	18:21	29							V-230802(ICB/CCB)
AC90773-001	1 SMP	18:26	30	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90773-002	1 SMP	18:32	31	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90773-003	1 SMP	18:38	32	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90773-004	1 SMP	18:44	33	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90773-009	1 SMP	18:49	34	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90773-010	1 SMP	18:55	35	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90773-011	1 SMP	19:01	36	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90789-004	1 SMP	19:07	37	MET-5-6020	SOIL	SOIL	SW846	52302	Revan Be.	0
AC90789-005	1 SMP	19:13	38	MET-5-6020	SOIL	SOIL	SW846	52302		0
RINSE	1 NA	19:19	39		SOIL	SOIL	SW846	52302		0
CCV V-230805	1 CCV	19:24	40							V-230805(CCV)
LLCCV V-230806	1 LLCCV	19:30	41		SOIL	SOIL	SW846	52302		V-230806(LL-ICV/CCV SOIL)
CCB V-230802	1 CCB	19:36	42							V-230802(ICB/CCB)
AC90789-008	1 SMP	19:42	43	MET-5-6020	SOIL	SOIL	SW846	52302	Revan Be.	0
AC90789-009	1 SMP	19:48	44	MET-5-6020	SOIL	SOIL	SW846	52302		0
AC90789-011	1 SMP	19:53	45	MET-5-6020	SOIL	SOIL	SW846	52302		0
AC90751-001	1 SMP	19:59	46	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90751-002	1 SMP	20:05	47	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90737-002	1 SMP	20:11	48	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90761-001	1 SMP	20:17	49	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90761-003	1 SMP	20:22	50	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
AC90761-005	1 SMP	20:28	51	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
RINSE	1 NA	20:34	52		SOIL	SOIL	SW846	52302		0
CCV V-230805	1 CCV	20:40	53							V-230805(CCV)
LLCCV V-230806	1 LLCCV	20:46	54		SOIL	SOIL	SW846	52302		V-230806(LL-ICV/CCV SOIL)
CCB V-230802	1 CCB	20:52	55							V-230802(ICB/CCB)
AC90760-001	1 SMP	20:57	56	MET-TAL6020S	SOIL	SOIL	SW846	52302		0
RINSE	1 NA	21:04	57		SOIL	SOIL	SW846	52302		0
CCV V-230805	1 CCV	21:09	58							V-230805(CCV)
LLCCV V-230806	1 LLCCV	21:15	59		SOIL	SOIL	SW846	52302		V-230806(LL-ICV/CCV SOIL)
CCB V-230802	1 CCB	21:21	60							V-230802(ICB/CCB)

Comments/Reviewed by:

pcousineu
192.168.1.123 4/19/2016 11:20:45 AM

Run ok. Report Ag, As, Be, Cd, Sb, Se, Tl. Revan 99789-004, 008 for Be (int. std. Fail). PC.

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: 2x 4/19/16

Standard/Batch/SnCl2 Lot #:

9 4/19/16

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\HGCV2A\H19266S.txt

Analysis Date: 04/19/16

Instrument: HGCV2A

Sample Id	Qc DF	Type	Run Time	Test #	Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
Calibration Blank	1	CAL	11:41	1							0
2 PPB	1	CAL	11:43	2							0
5 PPB	1	CAL	11:44	3							0
1 PPB	1	CAL	11:45	4							0
2 PPB	1	CAL	11:47	5							0
5 PPB	1	CAL	11:48	6							0
10 PPB	1	CAL	11:49	7							0
25 PPB	1	CAL	11:51	8							0
ICV (2)	1	ICV	11:53	9							0
ICB	1	ICB	11:54	10							0
MB 52301 (167)	1	MB	11:56	11	HG-SOIL	SOIL	SOIL	SW846	52301		0
LCS 52301	1	NA	11:57	12	HG-SOIL	SOIL	SOIL	SW846	52301	CONC.HIGH	0
LCS MR 52301	1	NA	11:59	13	HG-SOIL	SOIL	SOIL	SW846	52301	CONC.HIGH	0
LCS 5D	5	LCS	12:00	14	HG-SOIL	SOIL	SOIL	SW846	52301		0
LCS MR 5D	5	LCS	12:02	15	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90760-003	1	SMP	12:04	16	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MR	12:05	17	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MS	12:07	18	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90760-003	1	MSD	12:08	19	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90773-001	1	SMP	12:10	20	HG-SOIL	SOIL	SOIL	SW846	52301		0
CCV	1	CCV	12:11	21							0
CCB	1	CCB	12:13	22							0
AC90773-002	1	SMP	12:14	23	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90773-003	1	SMP	12:16	24	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90773-004	1	SMP	12:17	25	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90773-009	1	SMP	12:18	26	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90773-010	1	SMP	12:20	27	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90773-011	1	SMP	12:21	28	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90789-004	1	SMP	12:22	29	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90789-005	1	SMP	12:24	30	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90789-008	1	SMP	12:25	31	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90789-009	1	SMP	12:26	32	HG-SOIL	SOIL	SOIL	SW846	52301		0
CCV	1	CCV	12:28	33							0
CCB	1	CCB	12:29	34							0
AC90789-011	1	SMP	12:31	35	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90751-001	1	SMP	12:32	36	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90751-002	1	SMP	12:33	37	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90737-002	1	SMP	12:35	38	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90761-001	1	SMP	12:36	39	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90761-003	1	SMP	12:37	40	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90761-005	1	SMP	12:39	41	HG-SOIL	SOIL	SOIL	SW846	52301		0
AC90760-001	1	SMP	12:40	42	HG-SOIL	SOIL	SOIL	SW846	52301		0
CCV	1	CCV	12:41	43							0
CCB	1	CCB	12:43	44							0

Comments/Reviewed by:

carmela
192.168.1.25 4/19/2016 12:48:11 PM

OK

Handwritten signature and date: 4/19/16

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:
V-231385

Run Log

Data File: W\METALS\FRM\ICPDATA\New\MS2_7500SWA\SW42016A.B\SW42016A.TXT

Analysis Date: 04/20/16

Instrument: MS2_7500SWA

Sample Id	Qc DF	Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
Rinse	1	NA	11:03	1		AOUEO	AOUEO	SW846	52309		0
CalBlk V-231345	1	ISBLK	11:08	2		SOIL	SOIL				V-231345(Cal Blk)
CalStd1 V-231346	1	CAL	11:13	3							V-231346(Cal Std-1)
CalStd2 V-231347	1	CAL	11:18	4							V-231347(Cal Std-2)
CalStd3 V-231348	1	CAL	11:24	5							V-231348(Cal Std-3)
CalStd4 V-231349	1	CAL	11:30	6							V-231349(Cal Std-4)
CalStd5 V-231350	1	CAL	11:36	7							V-231350(Cal Std-5)
ICV V-231351	1	ICV	11:42	8							V-231351(ICV)
LLCV V-231357	1	LLCV	11:48	9		AOUEO	AOUEO	SW846	52309		V-231357(LL-ICV/OCV AQ.)
ICB V-231352	1	ICB	11:54	10							V-231352(ICB/OCB)
ICSA V-231353	1	ICSA	12:00	11							V-231353(ICSA)
ICSAB V-231354	1	ICSAB	12:05	12							V-231354(ICSAB)
RINSE	1	NA	12:12	13		AOUEO	AOUEO	SW846	52309		0
OCV V-231355	1	OCV	12:17	14							V-231355(OCV)
LLCCV V-231357	1	LLCCV	12:23	15		AOUEO	AOUEO	SW846	52309		V-231357(LL-ICV/OCV AQ.)
OCB V-231352	1	OCB	12:29	16							V-231352(ICB/OCB)
MB 52309	1	MB	12:35	17		AOUEO	AOUEO	SW846	52309		0
LCS 52309	1	LCS	12:41	18		AOUEO	AOUEO	SW846	52309		0
LCS MR 52309	1	LCS	12:47	19		AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	SMP	12:53	20	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	MR	12:59	21	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	5	SD	13:05	22	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	MS	13:10	23	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	MSD	13:16	24	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	PS	13:22	25	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
RINSE	1	NA	13:28	26		AOUEO	AOUEO	SW846	52309		0
OCV V-231355	1	OCV	13:34	27							V-231355(OCV)
LLCCV V-231357	1	LLCCV	13:40	28		AOUEO	AOUEO	SW846	52309		V-231357(LL-ICV/OCV AQ.)
OCB V-231352	1	OCB	13:46	29							V-231352(ICB/OCB)
AC90773-012	1	SMP	13:52	30	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90773-013	1	SMP	13:58	31	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-002	1	SMP	14:04	32	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-003	1	SMP	14:10	33	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-004	1	SMP	14:15	34	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-005	1	SMP	14:21	35	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-006	1	SMP	14:27	36	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-007	1	SMP	14:33	37	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-008	1	SMP	14:39	38	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
RINSE	1	NA	14:45	39		AOUEO	AOUEO	SW846	52309		0
OCV V-231355	1	OCV	14:51	40							V-231355(OCV)
LLCCV V-231357	1	LLCCV	14:57	41		AOUEO	AOUEO	SW846	52309		V-231357(LL-ICV/OCV AQ.)
OCB V-231352	1	OCB	15:03	42							V-231352(ICB/OCB)
AC90815-009	1	SMP	15:09	43	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-010	1	SMP	15:15	44	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-011	1	SMP	15:21	45	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-012	1	SMP	15:27	46	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-013	1	SMP	15:33	47	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-014	1	SMP	15:39	48	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-015	1	SMP	15:45	49	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-016	1	SMP	15:50	50	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
AC90815-017	1	SMP	15:57	51	MET-TAL6020W	AOUEO	AOUEO	SW846	52309		0
RINSE	1	NA	16:03	52		AOUEO	AOUEO	SW846	52309		0
OCV V-231355	1	OCV	16:08	53							V-231355(OCV)
LLCCV V-231357	1	LLCCV	16:14	54		AOUEO	AOUEO	SW846	52309		V-231357(LL-ICV/OCV AQ.)
OCB V-231352	1	OCB	16:20	55							V-231352(ICB/OCB)
AC90815-018	1	NA	16:26	56	MET-TAL6020W	AOUEO	AOUEO	SW846	52309	Not used.	0
RINSE	1	NA	16:33	57		AOUEO	AOUEO	SW846	52309		0
OCV V-231355	1	OCV	16:38	58							V-231355(OCV)
LLCCV V-231357	1	LLCCV	16:44	59		AOUEO	AOUEO	SW846	52309		V-231357(LL-ICV/OCV AQ.)
OCB V-231352	1	OCB	16:50	60							V-231352(ICB/OCB)

Comments/Reviewed by:

peosineau
192.168.1.123 4/21/2016 11:25:10 AM

Run ok. Report As, Ba, Cd, Co, Pb, Sb, Se, Tl
Do not Report 90815-018.

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: 4/20/16 2x R

Standard/Batch/SnCl2 Lot #:

S 4/21/16

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP2A\SW19272B2.txt

Analysis Date: 04/20/16

Instrument: PEICP2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	17:14	1							V-228950(ICB/CCB)
CALST1 V-229370	1	CAL	17:26	2							V-229370(ICS1 - Lowest std)
CALST2 V-230757	1	CAL	17:29	3							V-230757(ICS2 - Low Std)
CALST3 V-230758	1	CAL	17:32	4							V-230758(ICS3 - Middle Std)
CALST4 V-231080	1	CAL	17:36	5							V-231080(ICS4 - High std)
ICS3 V-230758	1	ICS	17:41	6							V-230758(ICS3 - Middle Std)
ICV V-231075	1	ICV	17:44	7							V-231075(CCV)
LLICV [aq] V-231028	1	LLICV	17:48	8		AOUEO	AOUEO	SW846	52309		V-231028(LLICV/LLCCV aq)
ICB V-228950	1	ICB	17:51	9							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	17:54	10							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	18:00	11							V-231005(ICSAB)
CCV V-231075	1	CCV	18:05	12							V-231075(CCV)
LLCCV [aq] V-231028	1	LLCCV	18:09	13		AOUEO	AOUEO	SW846	52309	AI failed	V-231028(LLICV/LLCCV aq)
CCB	1	CCB	18:12	14							0
MB 52309 (1)	1	MB	18:15	15		AOUEO	AOUEO	SW846	52309		0
LCSW 52309	1	LCS	18:19	16		AOUEO	AOUEO	SW846	52309		0
LCSW MR 52309	1	LCS	18:22	17		AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	SMP	18:26	18	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	MR	18:30	19	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	MS	18:34	20	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	MSD	18:37	21	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-001	1	PS	18:41	22	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
CCV V-231075	1	CCV	18:45	23							V-231075(CCV)
LLCCV [aq] V-231028	1	LLCCV	18:49	24		AOUEO	AOUEO	SW846	52309	AI failed	V-231028(LLICV/LLCCV aq)
CCB	1	CCB	18:52	25							0
AC90815-001	5	SD	18:55	26	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90773-012	1	SMP	18:59	27	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90773-013	1	SMP	19:02	28	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-002	1	SMP	19:06	29	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-003	1	SMP	19:09	30	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
ICSA V-231003	1	ICSA	19:13	31							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	19:18	32							V-231005(ICSAB)
CCV V-231075	1	CCV	19:23	33							V-231075(CCV)
LLCCV [aq] V-231028	1	LLCCV	19:27	34		AOUEO	AOUEO	SW846	52309	AI failed	V-231028(LLICV/LLCCV aq)
CCB	1	CCB	19:30	35							0
AC90815-004	1	SMP	19:33	36	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-005	1	SMP	19:37	37	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-006	1	SMP	19:41	38	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-007	1	SMP	19:44	39	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-008	1	SMP	19:48	40	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-009	1	SMP	19:51	41	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-010	1	SMP	19:55	42	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
CCV V-231075	1	CCV	19:59	43							V-231075(CCV)
LLCCV [aq] V-231028	1	LLCCV	20:02	44		AOUEO	AOUEO	SW846	52309	AI failed	V-231028(LLICV/LLCCV aq)
CCB	1	CCB	20:06	45							0
AC90815-011	1	SMP	20:09	46	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-012	1	SMP	20:13	47	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-013	1	SMP	20:16	48	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-014	1	SMP	20:20	49	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-015	1	SMP	20:23	50	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-016	1	SMP	20:27	51	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
AC90815-017	1	SMP	20:31	52	MET-TAL6010W	AOUEO	AOUEO	SW846	52309		0
ICSA V-231003	1	ICSA	20:34	53							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	20:40	54							V-231005(ICSAB)
CCV V-231075	1	CCV	20:45	55							V-231075(CCV)
LLCCV [aq] V-231028	1	LLCCV	20:48	56		AOUEO	AOUEO	SW846	52309	AI failed	V-231028(LLICV/LLCCV aq)
CCB	1	CCB	20:52	57							0

Comments/Reviewedby:

192.168.1.78 4/21/2016 3:13:44 PM

OK except AI

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

2 - 5/2/16

Run Log

Data File: W:\METALS.FRM\ICPDAT\New\PEICPRAD2A\SW19272C2.txt

Analysis Date: 04/20/16

Instrument: PEICPRAD2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	23:03	1							V-228950(ICB/CCB)
CALST2 V-230757	1	CAL	23:06	2							V-230757(ICS2- Low Std)
CALST3 V-230758	1	CAL	23:10	3							V-230758(ICS3 - Middle Std)
CALST4 V-231080	1	CAL	23:12	4							V-231080(ICS4 High std)
ICS3 V-230758	1	ICS	23:15	5							V-230758(ICS3 - Middle Std)
ICV V-231075	1	ICV	23:18	6							V-231075(CCV)
LLICV [aal] V-231028	1	LLICV	23:21	7		AQUEO	AQUEO	SW846	52309		V-231028(LLICV/LLCCV aq)
ICB V-228950	1	ICB	23:24	8							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	23:27	9							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	23:31	10							V-231005(ICSAB)
MB 52309 (1)	1	MB	23:35	11		AQUEO	AQUEO	SW846	52309		0
LCSW 52309	1	LCS	23:38	12		AQUEO	AQUEO	SW846	52309		0
LCSW MR 52309	1	LCS	23:41	13		AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	SMP	23:44	14	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MR	23:46	15	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MS	23:49	16	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MSD	23:52	17	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	PS	23:55	18	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
CCV V-231075	1	CCV	23:58	19							V-231075(CCV)
LLCCV [aal] V-231028	1	LLCCV	00:00	20		AQUEO	AQUEO	SW846	52309		V-231028(LLICV/LLCCV aq)
CCB	1	CCB	00:04	21							0
AC90815-001	5	SD	00:07	22	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90773-012	1	SMP	00:10	23	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90773-013	1	SMP	00:13	24	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-002	1	SMP	00:16	25	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-003	1	SMP	00:21	26	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
ICSA V-231003	1	ICSA	00:23	27							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	00:27	28							V-231005(ICSAB)
CCV V-231075	1	CCV	00:31	29							V-231075(CCV)
LLCCV [aal] V-231028	1	LLCCV	00:34	30		AQUEO	AQUEO	SW846	52309		V-231028(LLICV/LLCCV aq)
CCB	1	CCB	00:37	31							0
AC90815-004	1	SMP	00:40	32	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-005	1	SMP	00:43	33	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-006	1	SMP	00:46	34	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-007	1	SMP	00:48	35	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-008	1	SMP	00:52	36	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-009	1	SMP	00:55	37	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-010	1	SMP	00:59	38	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
CCV V-231075	1	CCV	01:01	39							V-231075(CCV)
LLCCV [aal] V-231028	1	LLCCV	01:04	40		AQUEO	AQUEO	SW846	52309		V-231028(LLICV/LLCCV aq)
CCB	1	CCB	01:07	41							0
AC90815-011	1	SMP	01:11	42	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-012	1	SMP	01:14	43	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-013	1	SMP	01:17	44	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-014	1	SMP	01:20	45	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-015	1	SMP	01:23	46	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-016	1	SMP	01:26	47	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-017	1	SMP	01:31	48	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
ICSA V-231003	1	ICSA	01:34	49							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	01:38	50							V-231005(ICSAB)
CCV V-231075	1	CCV	01:41	51							V-231075(CCV)
LLCCV [aal] V-231028	1	LLCCV	01:44	52		AQUEO	AQUEO	SW846	52309		V-231028(LLICV/LLCCV aq)
CCB	1	CCB	01:47	53							0

Comments/Reviewedby:

192.168.1.78 4/21/2016 10:11:03 AM

OK

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

2-5/2/16

Run Log

6041514 0478
Page 1 of 1

Data File: W:\METALS.FRM\ICPDATA\New\PEICP4A\SW19272E4.txt

Analysis Date: 04/21/16

Instrument: PEICP4A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Std:
CALBLK V-228950	1	CAL	13:07	1							V-228950(ICB/CCB)
CALST1 V-229370	1	CAL	13:10	2							V-229370(ICS1 - Lowest std)
CALST2 V-230756	1	CAL	13:13	3							V-230756(ICS2 - Low Std)
CALST3 V-230758	1	CAL	13:17	4							V-230758(ICS3 - Middle Std)
CALST4 V-230760	1	CAL	13:20	5							V-230760(ICS4 - High std)
ICS3 V-230758	1	ICS	13:25	6							V-230758(ICS3 - Middle Std)
ICV V-230237	1	ICV	13:28	7							V-230237(CCV)
LLICV [aal] V-228954	1	LLICV	13:31	8		AQUEO	AQUEO	SW846	52309		V-228954(LLICV/LLCCV aq)
ICB V-228950	1	ICB	13:35	9							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	13:38	10							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	13:43	11							V-230459(ICSAB)
CCV V-230237	1	CCV	13:47	12							V-230237(CCV)
LLCCV [aal] V-228954	1	LLCCV	13:51	13		AQUEO	AQUEO	SW846	52309		V-228954(LLICV/LLCCV aq)
CCB	1	CCB	13:54	14							0
MB 52309 (1)	1	MB	13:57	15		AQUEO	AQUEO	SW846	52309		0
LCSW 52309	1	LCS	14:01	16		AQUEO	AQUEO	SW846	52309		0
LCSW MR 52309	1	LCS	14:04	17		AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	SMP	14:08	18	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MR	14:11	19	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MS	14:14	20	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MSD	14:18	21	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	PS	14:21	22	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
CCV V-230237	1	CCV	14:25	23							V-230237(CCV)
LLCCV [aal] V-228954	1	LLCCV	14:28	24		AQUEO	AQUEO	SW846	52309		V-228954(LLICV/LLCCV aq)
CCB	1	CCB	14:32	25							0
AC90815-001	5	SD	14:35	26	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90773-012	1	SMP	14:38	27	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90773-013	1	SMP	14:42	28	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-017	1	NA	14:45	29	MET-TAL6010W	AQUEO	AQUEO	SW846	52309	AI hit	0
AC90815-002	1	SMP	14:49	30	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
ICSA V-231003	1	ICSA	14:52	31							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	14:57	32							V-230459(ICSAB)
CCV V-230237	1	CCV	15:01	33							V-230237(CCV)
LLCCV [aal] V-228954	1	LLCCV	15:05	34		AQUEO	AQUEO	SW846	52309		V-228954(LLICV/LLCCV aq)
CCB	1	CCB	15:08	35							0
AC90815-017	1	NA	15:11	36	MET-TAL6010W	AQUEO	AQUEO	SW846	52309	unprepped smp- no AI	0
AC90815-003	1	NA	15:15	37	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-004	1	NA	15:18	38	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-005	1	NA	15:22	39	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-006	1	NA	15:25	40	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-007	1	NA	15:28	41	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-008	1	NA	15:32	42	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
AC90815-009	1	NA	15:35	43	MET-TAL6010W	AQUEO	AQUEO	SW846	52309		0
ICSA V-231003	1	ICSA	15:39	44							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	15:43	45						internal std failed	V-230459(ICSAB)
CCV V-230237	1	CCV	15:48	46							V-230237(CCV)
LLCCV [aal] V-228954	1	LLCCV	15:51	47		AQUEO	AQUEO	SW846	52309	AI failed	V-228954(LLICV/LLCCV aq)
CCB	1	CCB	15:55	48							0

Comments/Reviewedby:

scan
192.168.1.78 4/21/2016 4:12:42 PM

first half AI OK
second half ICSAB failed

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

5/2/16

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\HGCV1A\H19272SW.txt

Analysis Date: 04/21/16

Instrument: HGCV1A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
Calibration Blank	1	CAL	11:56	1							0
2 PPB	1	CAL	11:57	2							0
5 PPB	1	CAL	11:58	3							0
1 PPB	1	CAL	12:00	4							0
2 PPB	1	CAL	12:01	5							0
5 PPB	1	CAL	12:03	6							0
10 PPB	1	CAL	12:04	7							0
25 PPB	1	CAL	12:05	8							0
ICV (2)	1	ICV	12:07	9							0
ICB	1	ICB	12:08	10							0
MB 52309 (1)	1	MB	12:09	11		AQUEO	AQUEO	SW846	52309		0
LCSW 52309	1	LCS	12:11	12		AQUEO	AQUEO	SW846	52309		0
LCSW MR 52309	1	LCS	12:12	13		AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	SMP	12:13	14	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MR	12:15	15	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MS	12:16	16	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-001	1	MSD	12:18	17	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90773-012	1	SMP	12:19	18	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90773-013	1	SMP	12:20	19	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-002	1	SMP	12:22	20	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
CCV	1	CCV	12:23	21							0
CCB	1	CCB	12:24	22							0
AC90815-003	1	SMP	12:26	23	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-004	1	SMP	12:27	24	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-005	1	SMP	12:28	25	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-006	1	SMP	12:30	26	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-007	1	SMP	12:31	27	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-008	1	SMP	12:33	28	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-009	1	SMP	12:34	29	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-010	1	SMP	12:35	30	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-011	1	SMP	12:37	31	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-012	1	SMP	12:38	32	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
CCV	1	CCV	12:39	33							0
CCB	1	CCB	12:41	34							0
AC90815-013	1	SMP	12:42	35	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-014	1	SMP	12:44	36	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-015	1	SMP	12:45	37	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-016	1	SMP	12:46	38	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
AC90815-017	1	SMP	12:48	39	HG-W-7470	AQUEO	AQUEO	SW846	52309		0
CCV	1	CCV	12:49	40							0
CCB	1	CCB	12:50	41							0

Comments/Reviewed by:

okufemi
192.168.1.25 4/21/2016 1:00:30 PM

RUN IS OK

Handwritten signature

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

V-231535

ICPMS Internal Standard Summary Report

TunelD: 1

Batch/FileID: S041816A Sample ID: CalBlk V-230795 Sample Date 04/18/16 Sample Time: 15:45

IS ID:	Area	Area Limit	
Ho-1	398374.5	278862.15	- 597960.1245
In-1	132371.2	92659.84	- 198689.1712
Sc-1	47027.91	32919.537	- 70588.89291
Tb-1	385734.6	270014.22	- 578987.6346

QcType	btSamId:	Pos	Ho-1 Area	In-1 Area	Sc-1 Area	Tb-1 Area	Area	Area	Area	Area
ISBLK	CalBlk V-230795	2	398374.5	132371.2	47027.91	385734.6				
SMP	Rinse	1	379905.1	122191.9	43831.05	368456.8				
CAL	CalStd1 V-23079	3	401033.2	134255.8	47428.00	393706.5				
CAL	CalStd2 V-23079	4	405934.9	134662.7	47687.16	391797.3				
CAL	CalStd3 V-23079	5	402298.1	135150.8	47611.20	392557.2				
CAL	CalStd4 V-23079	6	396676.8	132519.3	48834.66	385673.0				
CAL	CalStd5 V-23080	7	391562.5	128527.3	48421.71	382042.1				
ICV	ICV V-230801	8	393348.2	131123.7	46089.67	384933.5				
LLICV	LLICV V-230806	9	395089.1	133036.5	46220.13	385501.3				
ICB	ICB V-230802	10	392705.3	131581.4	45801.24	382864.8				
ICSA	ICSA V-230803	11	359199.8	117172.6	48922.29	350721.4				
ICSAB	ICSAB V-230804	12	374604.6	121363.2	46124.44	366668.3				
SMP	RINSE	13	413558.3	134180.8	44919.79	401768.3				
CCV	CCV V-230805	14	408173.6	133702.3	48083.53	398255.4				
LLCCV	LLCCV V-230806	15	408119.5	134394.3	46446.28	397971.4				
CCB	CCB V-230802	16	404379.5	133264.3	45835.64	392812.8				
MB	MB 52302	17	397329.8	130459.7	45987.27	383960.4				
LCS	LCS 52302	18	386452.6	125311.5	48568.05	375936.2				
MR	LCS MR 52302	19	391579.5	126735.1	47345.11	380311.1				
SMP	AC90760-003	20	398947.9	125675.6	61090.14	384448.0				
MR	AC90760-003	21	395870.9	123978.7	63920.47	384421.9				
SD	AC90760-003	22	391419.6	124356.8	45408.96	377650.5				
MS	AC90760-003	23	373092.6	116795.0	53175.14	360145.2				
MSD	AC90760-003	24	379200.1	120749.7	54149.60	367734.0				
PS	AC90760-003	25	385859.6	121357.0	56740.50	375148.3				
SMP	RINSE	26	406949.3	132719.3	44897.45	393410.5				
CCV	CCV V-230805	27	416700.5	137120.3	49871.11	406234.0				
LLCCV	LLCCV V-230806	28	413494.9	136544.4	47116.96	402487.7				
CCB	CCB V-230802	29	408940.2	136291.9	46913.73	399115.1				
SMP	AC90773-001	30	381520.5	120643.3	54900.23	368649.7				
SMP	AC90773-002	31	386026.3	124064.3	50880.75	373349.2				
SMP	AC90773-003	32	398482.5	129640.8	47723.86	386557.0				
SMP	AC90773-004	33	414684.0	134919.2	49782.24	399483.3				
SMP	AC90773-009	34	377411.9	120864.3	55296.96	364794.2				
SMP	AC90773-010	35	384669.7	123510.6	50262.13	372509.6				
SMP	AC90773-011	36	404332.2	131350.1	49373.36	390500.6				
SMP	AC90789-004	37	416501.1	123800.6	83354.97	406583.1				
SMP	AC90789-005	38	411982.7	133328.5	53943.63	399747.2				
SMP	RINSE	39	440902.9	144260.5	49440.33	427229.8				
CCV	CCV V-230805	40	437859.1	145425.8	53282.09	428774.4				
LLCCV	LLCCV V-230806	41	431303.7	143179.6	49387.35	418681.0				
CCB	CCB V-230802	42	425337.7	142184.9	49278.82	414674.4				
SMP	AC90789-008	43	407000.5	124166.9	81978.70	394238.0				
SMP	AC90789-009	44	412001.9	127234.4	64694.23	402096.4				
SMP	AC90789-011	45	405755.7	129961.8	58061.27	394687.0				
SMP	AC90751-001	46	412481.5	131693.3	52597.42	400651.4				
SMP	AC90751-002	47	406065.2	130309.2	55158.56	394479.1				
SMP	AC90737-002	48	408794.3	129489.7	53030.34	394439.0				

* Indicates Internal Standard Area outside of limits

ICPMS Internal Standard Summary Report

Tunnel: 1

SMP	AC90761-001	49	417949.7	128180.8	57975.14	407889.0
SMP	AC90761-003	50	385934.2	118846.9	60751.36	376632.8
SMP	AC90761-005	51	378426.1	113943.7	54247.34	365682.0
SMP	RINSE	52	372036.8	118275.8	38856.02	359963.6
CCV	CCV V-230805	53	377759.3	121613.1	42600.32	364856.1
LLCCV	LLCCV V-230806	54	384906.2	125251.9	42196.05	374670.2
CCB	CCB V-230802	55	380853.9	124260.9	41890.39	368584.2
SMP	AC90760-001	56	380887.8	118426.1	62951.95	369296.3
SMP	RINSE	57	365675.5	115061.8	38352.73	353489.2
CCV	CCV V-230805	58	378429.0	121345.0	43194.05	365081.9
LLCCV	LLCCV V-230806	59	387821.9	125748.8	42781.55	374249.5
CCB	CCB V-230802	60	385585.1	125671.1	42683.24	370841.8

ICPMS Internal Standard Summary Report

TuneID: 2

Batch/FileID: S041816A Sample ID: CalBlk V-230795 Sample Date 04/18/16 Sample Time: 15:45

IS ID:	Area	Area Limit
Ho-2	843146.4	590202.48 - 1265562.7464
In-2	466723.9	326706.73 - 700552.5739
Sc-2	435152.8	304606.96 - 653164.3528
Tb-2	823014.1	576109.87 - 1235344.1641

QcType	btSamId:	Pos	Ho-2 Area	In-2 Area	Sc-2 Area	Tb-2 Area	Area	Area	Area	Area
ISBLK	CalBlk V-230795	2	843146.4	466723.9	435152.8	823014.1				
SMP	Rinse	1	838381.1	463783.6	433803.2	815215.1				
CAL	CalStd1 V-23079	3	840646.3	463070.5	431407.6	818494.1				
CAL	CalStd2 V-23079	4	840363.5	463368.3	435501.4	821465.1				
CAL	CalStd3 V-23079	5	838103.1	461117.8	435248.6	820775.2				
CAL	CalStd4 V-23079	6	822708.9	442994.1	434908.1	798371.6				
CAL	CalStd5 V-23080	7	809659.3	440610.5	429980.8	785784.3				
ICV	ICV V-230801	8	812864.4	443952.0	421920.6	792006.0				
LLICV	LLICV V-230806	9	832972.6	454396.6	414808.5	806822.8				
ICB	ICB V-230802	10	815299.7	450977.1	413930.0	793344.4				
ICSA	ICSA V-230803	11	785854.2	417085.5	436188.0	764683.3				
ICSAB	ICSAB V-230804	12	799482.6	428392.1	427226.8	784889.1				
SMP	RINSE	13	870350.2	466811.4	415582.8	839364.4				
CCV	CCV V-230805	14	840643.6	453214.5	429490.2	821845.8				
LLCCV	LLCCV V-230806	15	843276.8	458228.8	418080.6	830544.1				
CCB	CCB V-230802	16	840225.7	454687.4	418081.7	818483.1				
MB	MB 52302	17	821226.8	448291.9	413680.8	805765.1				
LCS	LCS 52302	18	803640.9	426208.2	430837.7	777673.4				
MR	LCS MR 52302	19	811726.1	432480.1	430847.6	789607.6				
SMP	AC90760-003	20	816485.3	424425.7	539212.3	795797.1				
MR	AC90760-003	21	832565.6	430122.1	594793.9	809418.8				
SD	AC90760-003	22	810100.7	425561.6	419872.6	786983.1				
MS	AC90760-003	23	786234.2	409492.0	494018.6	769670.8				
MSD	AC90760-003	24	799942.3	419637.5	505107.0	780200.7				
PS	AC90760-003	25	811061.4	420545.5	524545.4	797071.0				
SMP	RINSE	26	844314.6	455131.9	415701.1	819376.4				
CCV	CCV V-230805	27	849163.3	451526.7	433671.3	826081.9				
LLCCV	LLCCV V-230806	28	856082.0	465153.8	430858.5	832588.0				
CCB	CCB V-230802	29	851026.4	464255.8	431723.7	832393.9				
SMP	AC90773-001	30	787899.6	414267.2	478650.5	767995.1				
SMP	AC90773-002	31	803908.7	423332.6	463894.4	778440.4				
SMP	AC90773-003	32	832096.5	445738.3	439124.8	805635.7				
SMP	AC90773-004	33	848675.1	458826.0	454770.8	828925.4				
SMP	AC90773-009	34	788949.2	413739.3	515643.1	770202.9				
SMP	AC90773-010	35	801306.1	420408.9	461312.3	783279.8				
SMP	AC90773-011	36	858084.1	459924.8	463306.2	839414.6				
SMP	AC90789-004	37	870680.9	422213.3	751594.6	853492.0				
SMP	AC90789-005	38	864349.2	458051.4	493967.3	838643.8				
SMP	RINSE	39	913964.6	491420.3	452697.8	892213.6				
CCV	CCV V-230805	40	888427.6	482726.4	462659.4	867099.9				
LLCCV	LLCCV V-230806	41	887636.8	482965.8	449166.1	862888.6				
CCB	CCB V-230802	42	880575.9	480619.6	449202.3	858474.7				
SMP	AC90789-008	43	848678.2	423055.1	715043.1	828451.9				
SMP	AC90789-009	44	859553.6	433752.2	583460.3	841126.1				
SMP	AC90789-011	45	842662.9	437623.3	519083.2	817923.5				
SMP	AC90751-001	46	849627.0	449248.0	475616.4	830393.4				
SMP	AC90751-002	47	834566.4	438184.1	497732.7	815878.8				
SMP	AC90737-002	48	854380.6	445268.4	478858.7	832308.9				

* Indicates Internal Standard Area outside of limits

ICPMS Internal Standard Summary Report

TuneID: 2

SMP	AC90761-001	49	841875.0	421885.5	511865.7	833961.2
SMP	AC90761-003	50	795092.1	400201.1	547670.4	778549.1
SMP	AC90761-005	51	785882.3	389671.7	494851.3	765278.8
SMP	RINSE	52	764000.3	403992.6	354052.4	742112.3
CCV	CCV V-230805	53	788359.4	419204.1	387000.8	769903.8
LLCCV	LLCCV V-230806	54	788066.8	424605.3	383070.4	765560.5
CCB	CCB V-230802	55	782226.5	418580.7	377857.2	758409.9
SMP	AC90760-001	56	794263.9	406146.8	560241.8	778850.9
SMP	RINSE	57	757729.9	402235.6	353679.4	740551.1
CCV	CCV V-230805	58	784379.0	416608.8	387913.0	756879.8
LLCCV	LLCCV V-230806	59	794040.7	427614.7	384867.1	769080.6
CCB	CCB V-230802	60	792166.8	425344.8	384249.7	766778.8

ICPMS Internal Standard Summary Report

TuneID: 1

Batch/FileID: SW42016A Sample ID: CalBlk V-231345 Sample Date 04/20/16 Sample Time: 11:08

IS ID:	Area	Area Limit
Ho-1	448735.5	314114.85 - 673551.9855
In-1	142191.2	99533.84 - 213428.9912
Sc-1	48158.83	33711.181 - 72286.40383
Tb-1	435056.6	304539.62 - 653019.9566

QcType	btSamId:	Pos	Ho-1 Area	In-1 Area	Sc-1 Area	Tb-1 Area	Area	Area	Area	Area
ISBLK	CalBlk V-231345	2	448735.5	142191.2	48158.83	435056.6				
SMP	Rinse	1	419580.7	125642.0	41167.54	407353.2				
CAL	CalStd1 V-23134	3	453137.7	144110.5	49723.95	437976.1				
CAL	CalStd2 V-23134	4	451852.7	147136.9	50565.00	440657.8				
CAL	CalStd3 V-23134	5	456340.4	148913.0	51378.35	446436.2				
CAL	CalStd4 V-23134	6	453631.3	148002.1	53312.24	444711.2				
CAL	CalStd5 V-23135	7	458741.8	146656.4	53180.40	442558.9				
ICV	ICV V-231351	8	457424.6	146514.7	50553.86	443759.3				
LLICV	LLICV V-231357	9	455924.8	148865.0	49409.11	443428.7				
ICB	ICB V-231352	10	452870.8	148679.1	50315.96	438402.1				
ICSA	ICSA V-231353	11	416743.6	132913.1	53711.27	408222.2				
ICSAB	ICSAB V-231354	12	427780.9	134876.5	49463.07	417356.6				
SMP	RINSE	13	505395.7	158881.3	50534.20	486757.3				
CCV	CCV V-231355	14	487115.4	153945.9	53597.54	472663.4				
LLCCV	LLCCV V-231357	15	486842.1	156612.7	51444.12	472328.3				
CCB	CCB V-231352	16	487817.3	155717.7	52812.25	470908.2				
MB	MB 52309	17	454872.8	140708.0	47927.86	438528.5				
LCS	LCS 52309	18	447935.3	134687.0	49535.47	431241.4				
MR	LCS MR 52309	19	452719.1	136886.5	50421.54	434905.7				
SMP	AC90815-001	20	438511.2	132139.7	50888.29	426230.1				
MR	AC90815-001	21	430233.2	129783.3	49031.04	413635.8				
SD	AC90815-001	22	485906.3	156272.2	54632.45	473010.0				
MS	AC90815-001	23	424129.0	126068.9	49680.41	410147.4				
MSD	AC90815-001	24	434589.1	131616.8	51008.55	420920.3				
PS	AC90815-001	25	438995.8	132779.4	51184.98	423653.6				
SMP	RINSE	26	508494.9	168896.3	57135.63	499843.2				
CCV	CCV V-231355	27	485343.3	157604.6	57982.74	469069.0				
LLCCV	LLCCV V-231357	28	466397.8	154711.8	51999.11	451568.7				
CCB	CCB V-231352	29	456970.8	152696.8	52193.43	448700.8				
SMP	AC90773-012	30	454730.3	145720.0	51607.32	441293.8				
SMP	AC90773-013	31	459140.8	146944.5	52233.48	444715.2				
SMP	AC90815-002	32	431631.0	132606.9	50881.83	416033.4				
SMP	AC90815-003	33	440319.0	134572.8	54472.61	427262.3				
SMP	AC90815-004	34	465192.4	143856.0	53012.48	449277.6				
SMP	AC90815-005	35	446667.4	135498.7	49847.14	430590.2				
SMP	AC90815-006	36	440310.0	134316.5	49424.46	425239.5				
SMP	AC90815-007	37	420019.9	126790.6	47919.39	404767.4				
SMP	AC90815-008	38	438614.3	134685.4	49414.27	421321.9				
SMP	RINSE	39	478335.8	157661.3	51944.56	461813.7				
CCV	CCV V-231355	40	460236.7	150414.6	56215.37	447442.3				
LLCCV	LLCCV V-231357	41	472300.6	156128.2	53553.90	459381.9				
CCB	CCB V-231352	42	455741.7	149964.0	50986.32	442381.3				
SMP	AC90815-009	43	427170.9	132638.5	49101.96	409045.6				
SMP	AC90815-010	44	422312.3	128009.0	49471.65	407063.7				
SMP	AC90815-011	45	418383.0	125473.2	47383.16	404870.8				
SMP	AC90815-012	46	426559.3	128880.7	47813.70	411538.5				
SMP	AC90815-013	47	431419.9	131436.3	48719.01	413387.0				
SMP	AC90815-014	48	437233.0	133259.5	52092.89	424367.4				

* Indicates Internal Standard Area outside of limits

ICPMS Internal Standard Summary Report

TuneID: 1

SMP	AC90815-015	49	444650.4	137354.8	47534.84	425377.1
SMP	AC90815-016	50	419309.7	126452.5	47999.44	403399.8
SMP	AC90815-017	51	431819.6	133663.7	47813.30	417209.2
SMP	RINSE	52	476089.0	156433.0	51598.55	464394.8
CCV	CCV V-231355	53	466088.0	152519.4	57186.46	452864.5
LLCCV	LLCCV V-231357	54	465929.9	153386.3	52358.22	455462.4
CCB	CCB V-231352	55	465726.1	155803.8	53289.20	452433.7
SMP	AC90815-018	56	433441.8	136239.8	49345.61	418740.6
SMP	RINSE	57	483362.3	159089.7	52530.72	466099.9
CCV	CCV V-231355	58	462508.8	151924.0	57623.86	448860.4
LLCCV	LLCCV V-231357	59	462813.5	153702.2	53450.25	451301.2
CCB	CCB V-231352	60	461351.9	152856.4	52996.17	449926.3

ICPMS Internal Standard Summary Report

TuneID: 2

Batch/FileID: SW42016A Sample ID: CalBlk V-231345 Sample Date 04/20/16 Sample Time: 11:08

IS ID:	Area	Area Limit
Ho-2	1001169	700818.3 - 1502754.669
In-2	531303.3	371912.31 - 797486.2533
Sc-2	489088.8	342362.16 - 734122.2888
Tb-2	958905.6	671163.92 - 1439167.2056

QcType	btSamid:	Pos	Ho-2 Area	In-2 Area	Sc-2 Area	Tb-2 Area	Area	Area	Area	Area
ISBLK	CalBlk V-231345	2	1001169	531303.3	489088.8	958905.6				
SMP	Rinse	1	974926.6	527720.3	481616.1	960193.1				
CAL	CalStd1 V-23134	3	969598.2	524328.3	487875.3	943026.8				
CAL	CalStd2 V-23134	4	981471.9	533019.7	496461.6	963499.6				
CAL	CalStd3 V-23134	5	1018362	541000.9	508011.3	1000096				
CAL	CalStd4 V-23134	6	996706.4	528530.1	515320.1	959335.4				
CAL	CalStd5 V-23135	7	972155.2	516501.7	505333.4	939334.1				
ICV	ICV V-231351	8	987993.6	526706.4	492509.3	964544.9				
LLICV	LLICV V-231357	9	984048.4	529687.6	477580.3	964645.5				
ICB	ICB V-231352	10	964505.5	518248.4	476435.8	939845.3				
ICSA	ICSA V-231353	11	922740.1	483883.1	490643.8	903568.9				
ICSAB	ICSAB V-231354	12	936423.0	488740.3	472728.7	922618.3				
SMP	RINSE	13	1105612	564232.4	483986.0	1074155				
CCV	CCV V-231355	14	1051782	534377.2	500188.8	1007586				
LLCCV	LLCCV V-231357	15	1059435	545453.3	484989.5	1024755				
CCB	CCB V-231352	16	1049027	546804.0	490607.3	999869.7				
MB	MB 52309	17	960426.9	491000.9	438975.2	921893.5				
LCS	LCS 52309	18	945857.5	474412.6	453308.3	912728.3				
MR	LCS MR 52309	19	958393.8	483533.5	460112.2	924342.9				
SMP	AC90815-001	20	932594.9	468131.1	514134.8	900560.9				
MR	AC90815-001	21	920620.0	460753.3	497225.3	892768.0				
SD	AC90815-001	22	1042799	537856.4	510395.9	1023328				
MS	AC90815-001	23	914132.5	452447.2	500091.5	883307.2				
MSD	AC90815-001	24	927497.9	465090.6	515349.8	901465.7				
PS	AC90815-001	25	936352.6	474362.8	515232.8	898681.3				
SMP	RINSE	26	1135988	601937.0	548702.3	1111407				
CCV	CCV V-231355	27	1063813	551186.7	536829.0	1031323				
LLCCV	LLCCV V-231357	28	1016178	549478.9	505822.2	969958.8				
CCB	CCB V-231352	29	1023213	541300.8	503546.9	974416.9				
SMP	AC90773-012	30	970901.6	513754.4	476227.3	939881.3				
SMP	AC90773-013	31	977788.3	522367.4	482390.6	966413.1				
SMP	AC90815-002	32	932235.7	476346.1	492296.6	910169.9				
SMP	AC90815-003	33	954114.9	481095.0	560668.7	918931.3				
SMP	AC90815-004	34	1023470	511267.3	525437.6	991826.6				
SMP	AC90815-005	35	924008.4	471776.7	490015.5	898878.8				
SMP	AC90815-006	36	914390.9	461703.0	455138.4	885927.4				
SMP	AC90815-007	37	891108.8	448604.0	458079.9	865638.4				
SMP	AC90815-008	38	923453.4	473012.1	462496.9	891299.4				
SMP	RINSE	39	1047069	554898.9	502581.9	1018587				
CCV	CCV V-231355	40	994815.1	526379.2	525821.5	971134.3				
LLCCV	LLCCV V-231357	41	1015058	538430.5	496141.3	958123.6				
CCB	CCB V-231352	42	964644.9	533310.4	495172.0	949403.0				
SMP	AC90815-009	43	891052.6	455400.1	453122.6	864583.6				
SMP	AC90815-010	44	899657.6	454240.4	480246.1	881064.1				
SMP	AC90815-011	45	880806.1	442455.5	438119.5	850506.9				
SMP	AC90815-012	46	902995.4	456224.6	451541.6	873036.8				
SMP	AC90815-013	47	918569.6	470056.4	474224.5	883433.8				
SMP	AC90815-014	48	908699.1	463157.0	492636.0	880981.3				

* Indicates Internal Standard Area outside of limits

ICPMS Internal Standard Summary Report

TuneID: 2

SMP	AC90815-015	49	923124.3	479673.7	448198.2	896551.9
SMP	AC90815-016	50	886684.8	445479.6	450946.6	855406.2
SMP	AC90815-017	51	900723.4	470027.1	437490.2	871716.6
SMP	RINSE	52	1043784	552017.5	506256.6	1020238
CCV	CCV V-231355	53	978626.8	523958.9	524034.4	958045.7
LLCCV	LLCCV V-231357	54	1019597	546534.8	505610.5	1000199
CCB	CCB V-231352	55	998842.3	537866.8	501486.2	970394.3
SMP	AC90815-018	56	909471.3	477854.3	448535.3	883424.8
SMP	RINSE	57	1053681	560103.1	512307.7	1011552
CCV	CCV V-231355	58	995995.5	529632.2	530790.8	967815.9
LLCCV	LLCCV V-231357	59	1029603	544945.8	508179.9	990515.5
CCB	CCB V-231352	60	1007902	541298.9	501555.5	949172.4

TCLP Metal Data

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-005
Client Id: WC01
Matrix: TCLP
Level: LOW

% Solid: 0
Units: MG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-38-2	Arsenic	0.10	ND	1	50	50	04/20/16	52300	T19265A4	15	P	PEICP4A
7440-39-3	Barium	0.25	0.30	1	50	50	04/20/16	52300	T19265A4	15	P	PEICP4A
7440-43-9	Cadmium	0.050	ND	1	50	50	04/20/16	52300	T19265A4	15	P	PEICP4A
7440-47-3	Chromium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	15	P	PEICP4A
7439-92-1	Lead	0.050	0.33	1	50	50	04/20/16	52300	T19265A4	15	P	PEICP4A
7439-97-6	Mercury	0.00070	ND	1	25	25	04/21/16	52300	H19265T	14	CV	HGCV2A
7440-02-0	Nickel	0.10	ND	1	50	50	04/20/16	52300	T19265A4	15	P	PEICP4A
7782-49-2	Selenium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	15	P	PEICP4A
7440-22-4	Silver	0.050	ND	1	50	50	04/20/16	52300	T19265A4	15	P	PEICP4A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-006
Client Id: WC02
Matrix: TCLP
Level: LOW

% Solid: 0
Units: MG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-38-2	Arsenic	0.10	ND	1	50	50	04/20/16	52300	T19265A4	35	P	PEICP4A
7440-39-3	Barium	0.25	0.52	1	50	50	04/20/16	52300	T19265A4	35	P	PEICP4A
7440-43-9	Cadmium	0.050	ND	1	50	50	04/20/16	52300	T19265A4	35	P	PEICP4A
7440-47-3	Chromium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	35	P	PEICP4A
7439-92-1	Lead	0.050	ND	1	50	50	04/20/16	52300	T19265A4	35	P	PEICP4A
7439-97-6	Mercury	0.00070	ND	1	25	25	04/21/16	52300	H19265T	17	CV	HGCV2A
7440-02-0	Nickel	0.10	ND	1	50	50	04/20/16	52300	T19265A4	35	P	PEICP4A
7782-49-2	Selenium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	35	P	PEICP4A
7440-22-4	Silver	0.050	ND	1	50	50	04/20/16	52300	T19265A4	35	P	PEICP4A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-007
Client Id: WC03
Matrix: TCLP
Level: LOW

% Solid: 0
Units: MG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-38-2	Arsenic	0.10	ND	1	50	50	04/20/16	52300	T19265A4	36	P	PEICP4A
7440-39-3	Barium	0.25	ND	1	50	50	04/20/16	52300	T19265A4	36	P	PEICP4A
7440-43-9	Cadmium	0.050	ND	1	50	50	04/20/16	52300	T19265A4	36	P	PEICP4A
7440-47-3	Chromium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	36	P	PEICP4A
7439-92-1	Lead	0.050	0.084	1	50	50	04/20/16	52300	T19265A4	36	P	PEICP4A
7439-97-6	Mercury	0.00070	ND	1	25	25	04/21/16	52300	H19265T	18	CV	HGCV2A
7440-02-0	Nickel	0.10	ND	1	50	50	04/20/16	52300	T19265A4	36	P	PEICP4A
7782-49-2	Selenium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	36	P	PEICP4A
7440-22-4	Silver	0.050	ND	1	50	50	04/20/16	52300	T19265A4	36	P	PEICP4A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-008
Client Id: WC04
Matrix: TCLP
Level: LOW

% Solid: 0
Units: MG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-38-2	Arsenic	0.10	ND	1	50	50	04/20/16	52300	T19265A4	37	P	PEICP4A
7440-39-3	Barium	0.25	ND	1	50	50	04/20/16	52300	T19265A4	37	P	PEICP4A
7440-43-9	Cadmium	0.050	ND	1	50	50	04/20/16	52300	T19265A4	37	P	PEICP4A
7440-47-3	Chromium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	37	P	PEICP4A
7439-92-1	Lead	0.050	ND	1	50	50	04/20/16	52300	T19265A4	37	P	PEICP4A
7439-97-6	Mercury	0.00070	ND	1	25	25	04/21/16	52300	H19265T	19	CV	HGCV2A
7440-02-0	Nickel	0.10	ND	1	50	50	04/20/16	52300	T19265A4	37	P	PEICP4A
7782-49-2	Selenium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	37	P	PEICP4A
7440-22-4	Silver	0.050	ND	1	50	50	04/20/16	52300	T19265A4	37	P	PEICP4A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC90773-009
Client Id: SS-01
Matrix: TCLP
Level: LOW

% Solid: 0
Units: MG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-38-2	Arsenic	0.10	ND	1	50	50	04/20/16	52300	T19265A4	43	P	PEICP4A
7440-39-3	Barium	0.25	ND	1	50	50	04/20/16	52300	T19265A4	43	P	PEICP4A
7440-43-9	Cadmium	0.050	ND	1	50	50	04/20/16	52300	T19265A4	43	P	PEICP4A
7440-47-3	Chromium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	43	P	PEICP4A
7439-92-1	Lead	0.050	0.056	1	50	50	04/20/16	52300	T19265A4	43	P	PEICP4A
7439-97-6	Mercury	0.00070	ND	1	25	25	04/21/16	52300	H19265T	20	CV	HGCV2A
7440-02-0	Nickel	0.10	ND	1	50	50	04/20/16	52300	T19265A4	43	P	PEICP4A
7782-49-2	Selenium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	43	P	PEICP4A
7440-22-4	Silver	0.050	ND	1	50	50	04/20/16	52300	T19265A4	43	P	PEICP4A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC90773-010
Client Id: SS-02
Matrix: TCLP
Level: LOW

% Solid: 0
Units: MG/L
Date Rec: 4/15/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-38-2	Arsenic	0.10	ND	1	50	50	04/20/16	52300	T19265A4	44	P	PEICP4A
7440-39-3	Barium	0.25	ND	1	50	50	04/20/16	52300	T19265A4	44	P	PEICP4A
7440-43-9	Cadmium	0.050	ND	1	50	50	04/20/16	52300	T19265A4	44	P	PEICP4A
7440-47-3	Chromium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	44	P	PEICP4A
7439-92-1	Lead	0.050	ND	1	50	50	04/20/16	52300	T19265A4	44	P	PEICP4A
7439-97-6	Mercury	0.00070	ND	1	25	25	04/21/16	52300	H19265T	23	CV	HGCV2A
7440-02-0	Nickel	0.10	ND	1	50	50	04/20/16	52300	T19265A4	44	P	PEICP4A
7782-49-2	Selenium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	44	P	PEICP4A
7440-22-4	Silver	0.050	ND	1	50	50	04/20/16	52300	T19265A4	44	P	PEICP4A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: MB 52300 (1)
Client Id: MB 52300 (1)
Matrix: TCLP
Level: LOW

% Solid: 0
Units: MG/L

Lab Name: Veritech
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	1.0	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-36-0	Antimony	0.070	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-38-2	Arsenic	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-39-3	Barium	0.25	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-41-7	Beryllium	0.012	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-43-9	Cadmium	0.050	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-70-2	Calcium	5.0	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-47-3	Chromium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-48-4	Cobalt	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-50-8	Copper	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7439-89-6	Iron	1.0	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7439-92-1	Lead	0.050	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7439-95-4	Magnesium	5.0	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7439-96-5	Manganese	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7439-97-6	Mercury	0.00070	ND	1	25	25	04/21/16	52300	H19265T	11	CV	HGCV2A
7439-98-7	Molybdenum	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-02-0	Nickel	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7782-49-2	Selenium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-22-4	Silver	0.050	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-28-0	Thallium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-31-5	Tin	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-32-6	Titanium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-62-2	Vanadium	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A
7440-66-6	Zinc	0.10	ND	1	50	50	04/20/16	52300	T19265A4	12	P	PEICP4A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

FORM 2 (ICV/CCV Summary)

Date Analyzed: 04/20/16
 Data File: T19265A4
 Prep Batch: 52300
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV V- 230237- 7		CCV V- 230237- 19		CCV V- 230237- 28		CCV V- 230237- 40		CCV V- 230237- 52		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec						
Arsenic	1/5	0.49734	99	0.48524	97	0.48368	97	0.46589	93	0.47006	94				
Barium	1/5	0.52120	104	0.51099	102	0.51248	102	0.49901	100	0.51890	104				
Cadmium	1/5	0.52329	105	0.49266	99	0.49428	99	0.50746	101	0.50287	101				
Chromium	1/5	0.52459	105	0.51209	102	0.51672	103	0.50849	101	0.52669	105				
Lead	1/5	0.51303	103	0.50826	102	0.51577	103	0.49856	100	0.52179	104				
Nickel	1/5	0.53442	107	0.50210	100	0.50219	100	0.51357	103	0.50378	101				
Selenium	1/5	0.49779	100	0.49934	100	0.49828	100	0.49164	98	0.51076	102				
Silver	0.2/0.1	0.10629	106	0.09856	99	0.09981	100	0.10452	105	0.10174	102				

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV - 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 04/20/16
 Data File: T19265A4
 Prep Batch: 52300
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV [leach] V- 228957- Rec	LLCCV [leach] V- 228957- 20 Rec	LLCCV [leach] V- 228957- 29 Rec	LLCCV [leach] V- 228957- 41 Rec	LLCCV [leach] V- 228957- 53 Rec	Rec	Rec	Rec	Rec	Rec						
	Arsenic	0.1/0.1	0.0929091	93	0.0925701	93	0.0870592	87	0.0910653	91	0.0889376	87					
Barium	0.25/0.25	0.255171	102	0.248573	99	0.250482	100	0.249158	100	0.252236	101						
Cadmium	0.05/0.05	0.0487288	97	0.0476085	95	0.0473831	95	0.0477190	95	0.0482363	96						
Chromium	0.1/0.1	0.105920	106	0.103575	104	0.103610	104	0.105034	105	0.105828	106						
Lead	0.05/0.05	0.0493233	99	0.0479614	96	0.0490547	98	0.0492372	98	0.0501363	100						
Nickel	0.1/0.1	0.100468	100	0.0982261	98	0.0971319	97	0.0979436	98	0.0982215	98						
Selenium	0.1/0.1	0.0904040	90	0.0908410	91	0.0906283	91	0.0943797	94	0.0914163	91						
Silver	0.05/0.05	0.0479256	96	0.0463329	93	0.0470539	94	0.0464773	93	0.0480216	96						

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2
(ICV/CCV Summary)

Date Analyzed: 04/21/16
 Data File: H19265T
 Prep Batch: 52300
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: HGCV2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV (2)-9		CCV-21		CCV-28										
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec							
Mercury	20/10	20.49000	102	9.54400	95	9.47700	95									

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/20/16
 Data File: T19265A4
 Prep Batch: 52300
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB V-228850- 9	CCB-21	CCB-30	CCB-42	CCB-54	MB 52300 (1)- 12	EF-V-230538- 49
Arsenic	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U
Barium	.25 U	.25 U	.25 U	.25 U	.25 U	.25 U	.25 U
Cadmium	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Chromium	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U
Lead	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Nickel	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U
Selenium	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U
Silver	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 04/21/16
 Data File: H19265T
 Prep Batch: 52300
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: HGCV2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB-10	CCB-22	CCB-29	MB 52300 (1)- 11	EF-V-230538- 27
Mercury	.7 U	.7 U	.7 U	.7 U	.7 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 04/20/16
 Data File: T19265A4
 Prep Batch: 52300
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP4A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6041514

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 231003-10		ICSAB V- 230459-11		ICSA V- 231003-26		ICSAB V- 230459-27		ICSA V- 231003-38		ICSAB V- 230459-39		ICSA V- 231003-50		ICSAB V- 230459-51	
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec		
Aluminum	500	547.441	109	522.89100	105	535.919	107	526.12100	105	562.007	112	546.53900	109	528.179	106	523.06300	105
Arsenic	1	U		0.98149	98	U		0.97458	97	U		0.93120	93	U		0.93161	93
Barium	.5	U		0.49719	99	U		0.49611	99	U		0.49651	99	U		0.49445	99
Cadmium	1	U		1.05522	106	U		1.01565	102	U		1.06035	106	U		1.01591	102
Calcium	500	492.269	98	471.08700	94	481.816	96	472.09800	94	483.348	97	474.60100	95	472.408	94	466.98000	93
Chromium	.5	U		0.51751	104	U		0.49480	99	U		0.52633	105	U		0.49823	100
Iron	200	195.679	98	187.73900	94	189.286	95	185.54000	93	192.408	96	186.85900	93	187.008	94	185.17900	93
Lead	1	U		0.88781	89	U		0.91340	91	U		0.91175	91	U		0.91331	91
Magnesium	500	521.243	104	499.92100	100	504.32	101	494.03800	99	513.496	103	498.36400	100	497.139	99	491.80400	98
Nickel	1	U		0.93544	94	U		0.95565	96	U		0.93049	93	U		0.94355	94
Selenium	1	U		1.05284	105	U		1.05573	106	U		1.05204	105	U		1.03725	104
Silver	1	U		1.07546	108	U		1.08723	109	U		1.08883	109	U		1.09471	109

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits in the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52300

6041514 0502

Instrument Type: ICP/HG

Analytical Method(s):6010/200.77470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR		Matrix: TCLP		SampleID: LCSW MR 52300							
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim	
Arsenic	52300	1	T19265A4	14	0.4765	0.50	95	80	120		
Barium	52300	1	T19265A4	14	0.5020	0.50	100	80	120		
Cadmium	52300	1	T19265A4	14	0.4859	0.50	97	80	120		
Chromium	52300	1	T19265A4	14	0.4973	0.50	99	80	120		
Lead	52300	1	T19265A4	14	0.4947	0.50	99	80	120		
Mercury	52300	1	H19265T	13	10.8700	10	109	80	120		
Nickel	52300	1	T19265A4	14	0.4926	0.50	99	80	120		
Selenium	52300	1	T19265A4	14	0.4804	0.50	96	80	120		
Silver	52300	1	T19265A4	14	0.0917	0.100	92	80	120		

TxtQcType: LCS		Matrix: TCLP		SampleID: LCSW 52300							
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim	
Arsenic	52300	1	T19265A4	13	0.4623	0.50	92	80	120		
Barium	52300	1	T19265A4	13	0.4835	0.50	97	80	120		
Cadmium	52300	1	T19265A4	13	0.4902	0.50	98	80	120		
Chromium	52300	1	T19265A4	13	0.4839	0.50	97	80	120		
Lead	52300	1	T19265A4	13	0.4733	0.50	95	80	120		
Mercury	52300	1	H19265T	12	10.9500	10	110	80	120		
Nickel	52300	1	T19265A4	13	0.4972	0.50	99	80	120		
Selenium	52300	1	T19265A4	13	0.4681	0.50	94	80	120		
Silver	52300	1	T19265A4	13	0.0943	0.100	94	80	120		

TxtQcType: MS		Matrix: TCLP		SampleID: AC90773-005									
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	52300	1	T19265A4	17	T19265A4	15	0.5063	.1U	0.50	101	50		
Barium	52300	1	T19265A4	17	T19265A4	15	0.7774	0.3019	0.50	95	50		
Cadmium	52300	1	T19265A4	17	T19265A4	15	0.5203	.05U	0.50	104	50		
Chromium	52300	1	T19265A4	17	T19265A4	15	0.4790	.1U	0.50	96	50		
Lead	52300	1	T19265A4	17	T19265A4	15	0.7789	0.3278	0.50	90	50		
Mercury	52300	1	H19265T	16	H19265T	14	10.7000	.70U	10	107	50		
Nickel	52300	1	T19265A4	17	T19265A4	15	0.4993	.1U	0.50	100	50		
Selenium	52300	1	T19265A4	17	T19265A4	15	0.5284	.1U	0.50	106	50		
Silver	52300	1	T19265A4	17	T19265A4	15	0.1054	0.05U	0.10	105	50		

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM6/FORM9
RPD/%Difference Data
 PREP BATCH: 52300

6041514 0503

Instrument Type: ICP/HG

Analytical Method(s):6010/200.77470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR		Matrix: TCLP		SampleID: LCSW MR 52300					
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	52300	T19265A4	14	T19265A4	13	0.4765	0.4623	3	20
Barium	52300	T19265A4	14	T19265A4	13	0.5020	0.4835	3.8	20
Cadmium	52300	T19265A4	14	T19265A4	13	0.4859	0.4902	.88	20
Chromium	52300	T19265A4	14	T19265A4	13	0.4973	0.4839	2.7	20
Lead	52300	T19265A4	14	T19265A4	13	0.4947	0.4733	4.4	20
Mercury	52300	H19265T	13	H19265T	12	10.8700	10.9500	.73	20
Nickel	52300	T19265A4	14	T19265A4	13	0.4926	0.4972	.92	20
Selenium	52300	T19265A4	14	T19265A4	13	0.4804	0.4681	2.6	20
Silver	52300	T19265A4	14	T19265A4	13	0.0917	0.0943	2.8	20

TxtQcType: MR		Matrix: TCLP		SampleID: AC90773-005					
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	52300	T19265A4	16	T19265A4	15	.1U	.1U	---	20
Barium	52300	T19265A4	16	T19265A4	15	0.3116	0.3019	3.2	20
Cadmium	52300	T19265A4	16	T19265A4	15	.05U	.05U	---	20
Chromium	52300	T19265A4	16	T19265A4	15	.1U	.1U	---	20
Lead	52300	T19265A4	16	T19265A4	15	0.3410	0.3278	4	20
Mercury	52300	H19265T	15	H19265T	14	.70U	.70U	---	20
Nickel	52300	T19265A4	16	T19265A4	15	.1U	.1U	---	20
Selenium	52300	T19265A4	16	T19265A4	15	.1U	.1U	---	20
Silver	52300	T19265A4	16	T19265A4	15	0.05U	0.05U	---	20

TxtQcType: SD		Matrix: TCLP		SampleID: AC90773-005						
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff	Limit
Arsenic	52300	T19265A4	22	T19265A4	15	5	0.0014	-0.0041	---	10
Barium	52300	T19265A4	22	T19265A4	15	5	0.0597	0.3019	1.1	10
Cadmium	52300	T19265A4	22	T19265A4	15	5	-0.0017	-0.0010	---	10
Chromium	52300	T19265A4	22	T19265A4	15	5	0.0040	0.0270	25	a 10
Lead	52300	T19265A4	22	T19265A4	15	5	0.0740	0.3278	13	a 10
Nickel	52300	T19265A4	22	T19265A4	15	5	0.0005	0.0245	---	10
Selenium	52300	T19265A4	22	T19265A4	15	5	0.0009	-0.0066	---	10
Silver	52300	T19265A4	22	T19265A4	15	5	-0.0012	-0.0006	---	10

a-Indicates Rpd Failed the criteria
 b-Method Rep Out but concentrations < 5*RL
 c-Serial dilution Out but conc < 10 * IDL

Hampton-Clarke/Vertech

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 6010A 3005A 3050B (6020) 200.7/200.8 OTHER
 Batch No.: 19265 Analyst: JA
 QC Number: 572300 Prep Date: 4/20/16
 Matrix: TCLP Reviewed By: JCS

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	50ML	90ML				--	
LCS						--	
LCSD						--	
1. 90773-005							
MR ↓ -005							
MS ↓ -005							
MSD							
2. 90782-001							
3. ↓ -002							
4. ↓ -003							
5. ↓ -004							
6. ↓ -005							
7. ↓ -010							
8. ↓ -013							
9. 90773-006							
10. ↓ -007							
11. ↓ -008							
12. ↓ -009							
13. ↓ -010							
14. 90764-001							
15. 90763-001							
16. 90765-001							
17. 90745-002							
18. CF-1-230538	↓	↓					4/19
19.							
20.							

Hot Plate Temperature: 924 C (90-95°C)

	Volume mL	Lot #
LCS, LCSD	0.25	V-10074, 10075
LLCS, LLLCS		V-
MS, MSD	0.25	V-10074, 10075
LLMS, LLMSD		V-

Acid	Vol mL	Lot#
HNO ₃	3	V-10138
HCl		V-
H ₂ O ₂		V-

Acid	Vol mL	Lot#
1:1 HNO ₃		V-
1:1 HCl	5	V-228280

Relinquished By: JA Date: 4/20/16
 Received By: [Signature] Date: 4/20/16

METHOD: 245.1 (7470A) 7471B OTHER _____
 19205
 2200
 TOLP

Analyst: JM
 Prep Date: 4/20/16
 Review By: CB

LINES	MERCURY		COMMENTS	STANDARDS
	INITIAL	FINAL		
	25ml	25ml		CAL CURVE BLK Oppb V- 231430
				STD 0.2 ppb V- 231431
				STD 0.5 ppb V- 432
				STD 1.0 ppb V- 433
				STD 2.0 ppb V- 434
				STD 5.0 ppb V- 435
				STD 10.0 ppb V- 436
				STD 25.0 ppb V- 437
				ICV 10.0 ppb V- 231428
				CCV 20.0 ppb V- 231429
90773-005				
-005				
-005				
90773-006				
-007				
-008				
-009				
-010				
90774-001				
90773-001				
90775-001				
90645-002				
BT-1-230938			4/19	
12				
13				
14				
15				
16				
17				
18				
19				
20				

Lot Number	Acid	Volume (mL)	Lot #
K ₂ Cr ₂ O ₇ V- 230956	HNO ₃	0.025ml	V- 10065
K ₂ S ₂ O ₈ V- 230958	HCl		V-
NH ₄ OH V- 230957	H ₂ SO ₄	1.25ml	V- 9964
	Aqua Regia		V-

**Block 92.7 C
 Time in Block 10:00
 Time Out of Block 12:00

Split Volume & Lot #
 LCS V- 231406 0.15x (25 ml)
 MS V- 231406 0.250 ml
 Standards/Control Batch B- 21080

**Temperature
 245.1 / 7470A: 90-95C
 7471B : 92-98C

Relinquished By: JM

*25 mLs of each standard was digested with this batch using the same reagents and at the same time as the above samples. The preparation of each standard may be referenced in Veriproq using the standard batch number and the corresponding V #s.

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP4A\IT19265A4.txt

Analysis Date: 04/20/16

Instrument: PEICP4A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	18:40	1							V-228950(ICB/CCB)
CALST1 V-229370	1	CAL	18:43	2							V-229370(ICS1 - Lowest std)
CALST2 V-230756	1	CAL	18:47	3							V-230756(ICS2 - Low Std)
CALST3 V-230758	1	CAL	18:50	4							V-230758(ICS3 - Middle Std)
CALST4 V-230760	1	CAL	18:53	5							V-230760(ICS4 - High std)
ICS3 V-230758	1	ICS	18:57	6							V-230758(ICS3 - Middle Std)
ICV V-230237	1	ICV	19:01	7							V-230237(CCV)
LLICV (leach) V-228957	1	LLICV	19:04	8		TCLP	TCLP	SW846	52300		V-228957(LLICV/CCV leachate)
ICB V-228950	1	ICB	19:07	9							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	19:11	10							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	19:15	11							V-230459(ICSAB)
MB 52300 (1)	1	MB	19:18	12		TCLP	TCLP	SW846	52300		0
LCSW 52300	1	LCS	19:22	13		TCLP	TCLP	SW846	52300		0
LCSW MR 52300	1	LCS	19:25	14		TCLP	TCLP	SW846	52300		0
AC90773-005	1	SMP	19:29	15	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-005	1	MR	19:32	16	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-005	1	MS	19:36	17	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-005	1	PS	19:39	18	METALS-TCLP	TCLP	TCLP	SW846	52300		0
CCV V-230237	1	CCV	19:43	19							V-230237(CCV)
LLCCV (leach) V-228957	1	LLCCV	19:46	20		TCLP	TCLP	SW846	52300		V-228957(LLICV/CCV leachate)
CCB	1	CCB	19:50	21							0
AC90773-005	5	SD	19:53	22	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90782-001	1	SMP	19:56	23	PB-TCLP	TCLP	TCLP	SW846	52300		0
AC90782-002	1	SMP	20:00	24	PB-TCLP	TCLP	TCLP	SW846	52300		0
AC90782-003	1	SMP	20:04	25	PB-TCLP	TCLP	TCLP	SW846	52300		0
ICSA V-231003	1	ICSA	20:08	26							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	20:12	27							V-230459(ICSAB)
CCV V-230237	1	CCV	20:16	28							V-230237(CCV)
LLCCV (leach) V-228957	1	LLCCV	20:19	29		TCLP	TCLP	SW846	52300		V-228957(LLICV/CCV leachate)
CCB	1	CCB	20:23	30							0
AC90782-004	1	SMP	20:26	31	PB-TCLP	TCLP	TCLP	SW846	52300		0
AC90782-007	1	SMP	20:30	32	PB-TCLP	TCLP	TCLP	SW846	52300		0
AC90782-010	1	SMP	20:33	33	PB-TCLP	TCLP	TCLP	SW846	52300		0
AC90782-013	1	SMP	20:37	34	PB-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-006	1	SMP	20:41	35	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-007	1	SMP	20:44	36	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-008	1	SMP	20:48	37	METALS-TCLP	TCLP	TCLP	SW846	52300		0
ICSA V-231003	1	ICSA	20:51	38							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	20:55	39							V-230459(ICSAB)
CCV V-230237	1	CCV	20:59	40							V-230237(CCV)
LLCCV (leach) V-228957	1	LLCCV	21:02	41		TCLP	TCLP	SW846	52300		V-228957(LLICV/CCV leachate)
CCB	1	CCB	21:05	42							0
AC90773-009	1	SMP	21:09	43	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-010	1	SMP	21:12	44	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90764-001	1	SMP	21:16	45	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90763-001	1	SMP	21:19	46	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90765-001	1	SMP	21:23	47	METALS-TCLP	TCLP	TCLP	SW846	52300		0
AC90645-002	1	SMP	21:26	48	PB-TCLP	TCLP	TCLP	SW846	52300		0
EF-V-230538	1	EF	21:30	49		TCLP	TCLP	SW846	52300		V-230538(EF-1)
ICSA V-231003	1	ICSA	21:34	50							V-231003(ICSA)
ICSAB V-230459	1	ICSAB	21:38	51							V-230459(ICSAB)
CCV V-230237	1	CCV	21:42	52							V-230237(CCV)
LLCCV (leach) V-228957	1	LLCCV	21:46	53		TCLP	TCLP	SW846	52300		V-228957(LLICV/CCV leachate)
CCB	1	CCB	21:49	54							0

Comments/Reviewed by:

192.168.1.78 4/21/2016 10:45:52 AM

OK

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

4/21/16

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\HGCV2A\HI9265T.txt

Analysis Date: 04/21/16

Instrument: HGCV2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
Calibration Blank	1	CAL	12:11	1							0
.2 PPB	1	CAL	12:13	2							0
.5 PPB	1	CAL	12:14	3							0
1 PPB	1	CAL	12:16	4							0
2 PPB	1	CAL	12:17	5							0
5 PPB	1	CAL	12:19	6							0
10 PPB	1	CAL	12:20	7							0
25 PPB	1	CAL	12:22	8							0
ICV (2)	1	ICV	12:23	9							0
ICB	1	ICB	12:25	10							0
MB 52300 (1)	1	MB	12:26	11		TCLP	TCLP	SW846	52300		0
LCSW 52300	1	LCS	12:28	12		TCLP	TCLP	SW846	52300		0
LCSW MR 52300	1	LCS	12:29	13		TCLP	TCLP	SW846	52300		0
AC90773-005	1	SMP	12:31	14	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-005	1	MR	12:32	15	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-005	1	MS	12:34	16	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-006	1	SMP	12:35	17	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-007	1	SMP	12:37	18	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-008	1	SMP	12:38	19	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90773-009	1	SMP	12:40	20	HG-TCLP	TCLP	TCLP	SW846	52300		0
CCV	1	CCV	12:41	21							0
CCB	1	CCB	12:43	22							0
AC90773-010	1	SMP	12:44	23	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90764-001	1	SMP	12:46	24	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90763-001	1	SMP	12:47	25	HG-TCLP	TCLP	TCLP	SW846	52300		0
AC90765-001	1	SMP	12:49	26	HG-TCLP	TCLP	TCLP	SW846	52300		0
EF-V-230538	1	EF	12:50	27		TCLP	TCLP	SW846	52300		V-230538(EF-1)
CCV	1	CCV	12:52	28							0
CCB	1	CCB	12:53	29							0

Comments/Reviewed by:

olufemi
192.168.1.25 4/21/2016 1:07:21 PM

RUN IS OK

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

V-231535

Wet Chemistry Data

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AC90773-005
 Matrix Soil
 Client SampleID: WC01

Project Number: 6041514
 Received Date: 4/14/2016
 Collect Date: 4/14/2016

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	04/18/16	04/18/16
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			04/18/16	04/18/16
Burning Rate (mm/sec)	IGNIT-1030	1	NA			04/18/16	04/18/16
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			04/18/16	04/18/16
Paint Filter Test	PAINT FILTER	1	NEG				04/19/16
pH	PH-SOIL	1	8.8	pH			04/19/16
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	04/18/16	04/18/16

Lab#: AC90773-006
 Matrix Soil
 Client SampleID: WC02

Project Number: 6041514
 Received Date: 4/14/2016
 Collect Date: 4/14/2016

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	04/18/16	04/18/16
Burning Rate (mm/sec)	IGNIT-1030	1	NA			04/18/16	04/18/16
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			04/18/16	04/18/16
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			04/18/16	04/18/16
Paint Filter Test	PAINT FILTER	1	NEG				04/19/16
pH	PH-SOIL	1	8.8	pH			04/19/16
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	04/18/16	04/18/16

Lab#: AC90773-007
 Matrix Soil
 Client SampleID: WC03

Project Number: 6041514
 Received Date: 4/14/2016
 Collect Date: 4/14/2016

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	04/18/16	04/18/16
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			04/18/16	04/18/16
Burning Rate (mm/sec)	IGNIT-1030	1	NA			04/18/16	04/18/16
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			04/18/16	04/18/16
Paint Filter Test	PAINT FILTER	1	NEG				04/19/16
pH	PH-SOIL	1	9.2	pH			04/19/16
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	04/18/16	04/18/16

Lab#: AC90773-008
 Matrix Soil
 Client SampleID: WC04

Project Number: 6041514
 Received Date: 4/14/2016
 Collect Date: 4/14/2016

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	04/18/16	04/18/16
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			04/18/16	04/18/16
Burning Rate (mm/sec)	IGNIT-1030	1	NA			04/18/16	04/18/16
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			04/18/16	04/18/16
Paint Filter Test	PAINT FILTER	1	NEG				04/19/16
pH	PH-SOIL	1	7.9	pH			04/19/16
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	04/18/16	04/18/16

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AC90773-009	Project Number: 6041514
Matrix Soil	Received Date: 4/14/2016
Client SampleID: SS-01	Collect Date: 4/14/2016

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	04/18/16	04/18/16
Burning Rate (mm/sec)	IGNIT-1030	1	NA			04/18/16	04/18/16
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			04/18/16	04/18/16
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			04/18/16	04/18/16
Paint Filter Test	PAINT FILTER	1	NEG				04/19/16
pH	PH-SOIL	1	8.4	pH			04/19/16
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	04/18/16	04/18/16

Lab#: AC90773-010	Project Number: 6041514
Matrix Soil	Received Date: 4/14/2016
Client SampleID: SS-02	Collect Date: 4/14/2016

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	04/18/16	04/18/16
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			04/18/16	04/18/16
Burning Rate (mm/sec)	IGNIT-1030	1	NA			04/18/16	04/18/16
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			04/18/16	04/18/16
Paint Filter Test	PAINT FILTER	1	NEG				04/19/16
pH	PH-SOIL	1	8.7	pH			04/19/16
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	04/18/16	04/18/16

VERITECH Wet Chem Form1 Analysis Summary
% Solids**TestGroupName: % Solids SM2540G****Project #: 6041514****TestGroup: %SOLIDS**

Lab#	Client SampleID	Matrix	Dilution:	Result	Units:	RL	Prep Date	Analysis Date	Received Date	Collect Date
AC90773-001	SB-01	Soil/Encore	1	93	Percent			04/16/16	04/14/16	04/14/16
AC90773-002	SB-02	Soil/Encore	1	92	Percent			04/16/16	04/14/16	04/14/16
AC90773-003	SB-03	Soil	1	95	Percent			04/16/16	04/14/16	04/14/16
AC90773-004	SB-04	Soil	1	98	Percent			04/16/16	04/14/16	04/14/16
AC90773-005	WC01	Soil	1	94	Percent			04/16/16	04/14/16	04/14/16
AC90773-006	WC02	Soil	1	89	Percent			04/16/16	04/14/16	04/14/16
AC90773-007	WC03	Soil	1	94	Percent			04/16/16	04/14/16	04/14/16
AC90773-008	WC04	Soil	1	97	Percent			04/16/16	04/14/16	04/14/16
AC90773-009	SS-01	Soil	1	85	Percent			04/16/16	04/14/16	04/14/16
AC90773-010	SS-02	Soil	1	94	Percent			04/16/16	04/14/16	04/14/16
AC90773-011	DUP01	Soil	1	94	Percent			04/16/16	04/14/16	04/14/16

% Solids Report

Analysis Type: SOLIDS-SS

BatchID: SOLIDS-SS-5355

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AC90773-004	98	97.75910	Percent	1.38	12.09	11.85		hossain	0.18	5
Sample	AC90760-001	88	87.80261	Percent	1.38	12.12	10.81	04/16/16	hossain		
Sample	AC90760-003	86	86.45343	Percent	1.39	12.02	10.58	04/16/16	hossain		
Sample	AC90761-001	82	82.19306	Percent	1.37	12.04	10.14	04/16/16	hossain		
Sample	AC90761-003	83	83.13027	Percent	1.37	12.04	10.24	04/16/16	hossain		
Sample	AC90761-005	82	82.14286	Percent	1.39	12.03	10.13	04/16/16	hossain		
Sample	AC90762-001	94	93.86047	Percent	1.38	12.13	11.47	04/16/16	hossain		
Sample	AC90762-003	94	94.22719	Percent	1.38	12.12	11.60	04/16/16	hossain		
Sample	AC90766-001	91	91.04478	Percent	1.38	12.10	11.14	04/16/16	hossain		
Sample	AC90767-002	91	91.30028	Percent	1.38	12.07	11.14	04/16/16	hossain		
Sample	AC90773-001	93	93.38235	Percent	1.38	12.26	11.54	04/16/16	hossain		
Sample	AC90773-002	92	91.93698	Percent	1.38	12.17	11.30	04/16/16	hossain		
Sample	AC90773-003	95	94.66292	Percent	1.39	12.07	11.50	04/16/16	hossain		
Sample	AC90773-004	98	97.93814	Percent	1.40	12.07	11.85	04/16/16	hossain		
Sample	AC90773-005	94	94.39338	Percent	1.38	12.26	11.65	04/16/16	hossain		
Sample	AC90773-006	89	89.32584	Percent	1.39	12.07	10.93	04/16/16	hossain		
Sample	AC90773-007	94	94.44444	Percent	1.36	12.16	11.56	04/16/16	hossain		
Sample	AC90773-008	97	97.31978	Percent	1.39	12.21	11.93	04/16/16	hossain		
Sample	AC90773-009	85	84.80300	Percent	1.38	12.04	10.42	04/16/16	hossain		
Sample	AC90773-010	94	94.47048	Percent	1.39	12.06	11.47	04/16/16	hossain		
Sample	AC90779-001	59	58.79630	Percent	1.38	12.18	7.74	04/16/16	hossain		

* - Indicates Failed Rpd Criteria

% Solids Report

Analysis Type: SOLIDS-SS
 BatchID: SOLIDS-SS-5356

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AC90773-011	95	94.69767	Percent	1.38	12.13	11.56	04/16/16	hossain	0.39	5
Sample	AC90773-011	94	94.32558	Percent	1.39	12.14	11.53	04/16/16	hossain		
Sample	AC90776-001	79	79.16279	Percent	1.39	12.14	9.90	04/16/16	hossain		
Sample	AC90776-002	85	84.69484	Percent	1.38	12.03	10.41	04/16/16	hossain		
Sample	AC90784-001	84	83.79888	Percent	1.38	12.12	10.38	04/16/16	hossain		
Sample	AC90784-002	89	89.48864	Percent	1.40	11.96	10.85	04/16/16	hossain		
Sample	AC90784-003	96	95.73679	Percent	1.38	12.17	11.71	04/16/16	hossain		
Sample	AC90784-004	76	76.40449	Percent	1.39	12.07	9.55	04/16/16	hossain		
Sample	AC90784-005	94	94.30147	Percent	1.37	12.25	11.63	04/16/16	hossain		
Sample	AC90784-006	91	90.90909	Percent	1.38	11.94	10.98	04/16/16	hossain		
Sample	AC90784-007	90	89.56767	Percent	1.39	12.03	10.92	04/16/16	hossain		
Sample	AC90784-008	82	82.12606	Percent	1.39	12.02	10.12	04/16/16	hossain		
Sample	AC90784-009	78	78.03959	Percent	1.39	12.00	9.67	04/16/16	hossain		
Sample	AC90784-010	90	90.08341	Percent	1.38	12.17	11.10	04/16/16	hossain		
Sample	AC90784-011	90	90.35250	Percent	1.36	12.14	11.10	04/16/16	hossain		
Sample	AC90784-012	91	91.01852	Percent	1.37	12.17	11.20	04/16/16	hossain		
Sample	AC90784-013	95	95.03745	Percent	1.39	12.07	11.54	04/16/16	hossain		
Sample	AC90784-014	87	87.48850	Percent	1.37	12.24	10.88	04/16/16	hossain		
Sample	AC90784-015	94	93.76719	Percent	1.35	12.26	11.58	04/16/16	hossain		
Sample	AC90784-016	82	81.82665	Percent	1.36	12.09	10.14	04/16/16	hossain		
Sample	AC90784-017	84	84.36063	Percent	1.36	12.23	10.53	04/16/16	hossain		

* - Indicates Failed Rpd Criteria

MS/MSD/DUP Recovery

6041514 0514

Prep Batch: S-910 Method: SW846 7.3.3	Sample ID: AC90773-007 Matrix: Soil
--	--

Qc Type: MS										MS/MSD/DUP			Non Spike		
Analyte	Amt	Limits		Dil	MS Conc	Sample Conc		% Rec	Flag	Batch	RunID	Analysis Date	Batch	RunID	Analysis Date
Cyanide (Reactive)	0.4	75-125		1	0.4015	0		100		20160418144	13	04/18/16 15:12	20160418144	15	04/18/16 15:16

Qc Type: MSD											MS/MSD/DUP			Non Spike		
Analyte	Amt	Limits		Dil	MSD Conc	Sample Conc		% Rec	Rpd	Flag	Batch	RunID	Analysis Date	Batch	RunID	Analysis Date
Cyanide (Reactive)	0.4	75-125	20	1	0.404	0		101	0.6		20160418144	14	04/18/16 15:14	20160418144	15	04/18/16 15:16

LCS Recoveries

BatchRunID/RunID: → 201604181444-12
QcBatchID: → LCSS-910
Date/Time: → 04/18/16 15:09
Analytical Method: → SW846 7.3.3
Matrix: → Soil

Soil		Soil		Soil		Soil	
% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags

Analyte	SW846 7.3.	Amt	Limits	Amt	Limits	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags
Cyanide (Rea	0.4	75-125				100									

Calibration Summary:

6041514 0516

Instrument: DA1

Analysis Meth: SW846 7.3.3

Analyte	Batch ID	Run#	Qc Type	Recov	Spk Amt	Limit
Cyanide (Reactive)	20160418144	9	ICV	97	0.4	90-110
Cyanide (Reactive)	20160418144	21	CCV	99	0.4	90-110
Cyanide (Reactive)	20160418144	30	CCV	101	0.4	90-110

Blank Summary

Instrument: DA1

Qc Type: Method Blank Summary Prep Date: 4/18/16

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20160418144	4/18/16 15:07	MBS-910	11	Cyanide (	ND	0.50

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20160418144	4/18/16 15:05	CCB	10	Cyanide (	ND	0.020

Qc Type: CCB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20160418144	4/18/16 15:33	CCB	22	Cyanide (	ND	0.020
20160418144	4/18/16 15:50	CCB	31	Cyanide (	ND	0.020

Batch Number: RS-910

Units: mg/kg

Qc Summary Results

Calibration Curve Information

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-04/18/16	16	90-110	NA	15.2285	95	NA	
LCS	LCS	400	75-125	NA	410.76875	103	NA	
MS	AC90773-007	400	75-125	NA	420.7875	105	NA	
MSD	AC90773-007	400	75-125	20	420.7875	105	0	

Analytical Method(s)

SW846 7.3.4

Sam #	Type	MB	Result	RL	Per Sol	Full Titr Result	Vol	Vol	DF	Sam Wt (g)	Scrb Vol (ml)	Prep Date	Prep By	Anal Date	Anal By
CAL-01-04/18/16	CAL-01		15		100	15.228	6.2	10	1	250	250			04/18/16	HS
MB-1-04/18/16	MB	MB-1-04/18/16	ND	100	100	10.019	9.9	10	1	10	250	04/18/16	HS	04/18/16	HS
LCS	LCS	MB-1-04/18/16	410	100	100	410.77	5.9	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90773-007	MS	MB-1-04/18/16	420	100	94	420.79	5.8	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90773-007	MSD	MB-1-04/18/16	420	100	94	420.79	5.8	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90773-007	Sample	MB-1-04/18/16	ND	100	94	20.038	9.8	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90773-005	Sample	MB-1-04/18/16	ND	100	94	20.038	9.8	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90773-006	Sample	MB-1-04/18/16	ND	100	89	20.038	9.8	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90773-008	Sample	MB-1-04/18/16	ND	100	97	10.019	9.9	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90773-009	Sample	MB-1-04/18/16	ND	100	85	40.075	9.6	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90773-010	Sample	MB-1-04/18/16	ND	100	94	30.056	9.7	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90756-001	Sample	MB-1-04/18/16	ND	100	100	10.019	9.9	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90756-002	Sample	MB-1-04/18/16	ND	100	100	50.094	9.5	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90756-003	Sample	MB-1-04/18/16	ND	100	100	30.056	9.7	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90756-004	Sample	MB-1-04/18/16	ND	100	100	40.075	9.6	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90756-005	Sample	MB-1-04/18/16	ND	200	100	60.112	9.7	10	1	5	250	04/18/16	HS	04/18/16	HS
AC90756-007	Sample	MB-1-04/18/16	ND	100	100	50.094	9.5	10	1	10	250	04/18/16	HS	04/18/16	HS
AC90625-005	Sample	MB-1-04/18/16	ND	100	87	40.075	9.6	10	1	10	250	04/18/16	HS	04/18/16	HS

HS
4/20/16

HS
4/21/16

Batch Number: PAINT FILT-693

Units:

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AC90789-008	0	NA	NA	#Error	NA	NA	

Analytical Method(s)

EPA 9095A

Sam #	Type	MB	Result	RL	Per Sol	Full Pos/Neg Results	Prep Date	Prep By	Anal Date	Anal By
AC90789-008	DUP		NEG	100	0	NEG			04/19/16	SDL
AC90789-008	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90789-009	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90789-011	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90741-001	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90773-005	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90773-006	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90773-007	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90773-008	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90773-009	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90773-010	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90767-002	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90789-004	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90789-005	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90790-003	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90800-001	Sample		NEG	100	0	NEG			04/19/16	SDL
AC90661-001	Sample		NEG	100	0	NEG			04/19/16	SDL

SPK
4/19/16

DW
4/19/16

Batch Number: PH-S-1308

Units: pH

Qc Summary Results

Calibration Curve Information

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AC90773-008	0	NA	20	7.89	NA	0.51	
LCS	LCS	4.4	75-125	NA	4.35	99	NA	

Analytical Method(s)

9040C/9045D

Sam #	Type	MB	Result	RL	Per Sol	Full PH Result	Prep Date	Prep By	Anal Date	Anal By
LCS	LCS		4.4		100	4.35 4.35			04/19/16	SDL
AC90773-008	DUP		7.9		100	7.89 7.89			04/19/16	SDL
AC90773-008	Sample		7.9		100	7.93 7.93			04/19/16	SDL
AC90756-001	Sample		5		100	5 5.0			04/19/16	SDL
AC90756-002	Sample		5		100	5 5.0			04/19/16	SDL
AC90756-003	Sample		5		100	5 5.0			04/19/16	SDL
AC90756-004	Sample		4		100	4 4.0			04/19/16	SDL
AC90773-005	Sample		8.8		100	8.75 8.75			04/19/16	SDL
AC90773-006	Sample		8.8		100	8.83 8.83			04/19/16	SDL
AC90773-007	Sample		9.2		100	9.23 9.23			04/19/16	SDL
AC90773-009	Sample		8.4		100	8.41 8.41			04/19/16	SDL
AC90773-010	Sample		8.7		100	8.67 8.67			04/19/16	SDL
AC90800-001	Sample		13		100	13 13.0			04/19/16	SDL

SDL
4/19/16

DW
4/19/16

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCSMSMSD/CV/CAL)

Rp - RPD failed specified criteria.

Na - Not Applicable

Nc - Not Checked ..either one or both values =ND

Miscellaneous Data

LEACHATE PREPARATION LOG
(TCLP, SPLP)

Start Date: 4/18/16

Finish Date: 4/19/16

TCLP Ex. Fluid pH: 4.89 (tolerance: 4.88 ± 0.5)
 TCLP Ex. Fluid #2 pH: (tolerance: 2.88 ± 0.25)
 SPLP Ex. Fluid #3 pH: (tolerance: 4.20 ± 0.9)

Sample #	pH (number)	pH in HCL (number)	Final pH (number)	Ext. Fluid (number)	Wt/Vol of Sample (g or mL)	Start Time	Finish Time	Analyst (s)	Ext. Type	Comments
AC 90645-002	8.62	1.60	5.19	27637	100g 2L	16:00	8:30	BE	T	Metals only
AC 90782-001	7.59	1.55	5.01							
AC 90782-002	7.75	1.49	5.80							
AC 90782-003	7.16	1.53	5.01							
AC 90782-004	7.84	1.52	5.06							
AC 90782-007	7.12	1.50	5.00							
AC 90782-010	7.40	1.53	5.03							
AC 90782-013	7.94	1.54	5.11							
AC 90773-005	8.32	1.66	5.14							
AC 90773-006	8.98	1.67	5.05							
AC 90773-007	8.74	1.66	5.20							
AC 90773-008	8.56	1.65	5.15							
AC 90773-009	8.14	1.62	5.09							
AC 90773-010	8.09	1.60	5.10							
AC 90764-001	7.60	1.59	5.04		150g 2L					Metals and Organics
AC 90765-001	7.28	1.59	5.04							
AC 90763-001	7.73	1.57	5.01							
EF 1230538	4.89	-	4.99		3L					

Ext. Type: TCLP = T (Method 1311) LAMP = L (Method 1311/ANSURENA CRILL 1285-2003)
 SPLP = P (Method 1312) MEPM = M (Method 1320)
 DE = Z (Method 1311/1312)

The pH of the extraction fluid must be checked prior to use and must be within limits specified above

Leachate prep log 2016.16



Analytical & Field Services

Last Page of Report

Project: 25th Ave Ph II

Client PO: 3001040.053.00

Report To: Louis Berger & Associates
48 Wall Street
16th Floor
New York, NY 10005

Attn: Breanna Gribble

Received Date: 4/28/2016

Report Date: 5/13/2016

Deliverables: NYDOH-R

Lab ID: AC91036

Lab Project No: 6042811

This report is a true report of results obtained from our tests of this material. The report relates only to those samples received and analyzed by the laboratory. All results meet the requirements of the NELAC Institute standards. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

In lieu of a formal contract document, the total aggregate liability of Hampton-Clarke to all parties shall not exceed Hampton-Clarke's total fee for analytical services rendered.


Robin Cousineau - Quality Assurance Director

OR

Jean Revolus - Laboratory Director

NJ (07071)
PA (68-00463)

NY (ELAP11408)
KY (90124)

CT (PH-0671)

HAZ. - 629





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- Form 1 Sample and Blank Results
- Form 2 Surrogate Recovery
- Form 3 Spike Recovery
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Sample Summary

Client: Louis Berger & Associates
Project: 25th Ave Ph II

HC Project #: 6042811

Lab#	SampleID	Matrix	Collection Date	Receipt Date
AC91036-001	TWP-01 U	Aqueous	4/28/2016	4/28/2016
AC91036-002	TWP-01 F	Aqueous	4/28/2016	4/28/2016
AC91036-003	DUP TWP-01 U	Aqueous	4/28/2016	4/28/2016
AC91036-004	DUP TWP-01 F	Aqueous	4/28/2016	4/28/2016
AC91036-005	TB-02	Aqueous	4/28/2016	4/28/2016

HC Case Narrative

Client: Louis Berger & Associates
Project: 25th Ave Ph II

HC Project: 6042811

This case narrative is in the form of an exception report. Method specific and/or QA/QC anomalies related to this report only are detailed below.

Volatile Organic Analysis:

The Method Blank Spike for batches 52804 and 52940 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

The MS/MSD RPD, Matrix Spike and Matrix Spike Duplicate for batch 52804 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Base Neutral/Acid Extractable Analysis:

The Method Blank Spike for batch 50006 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

The MS/MSD RPD and Matrix Spike for batch 50006 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Samples AC91036-001, AC90940-001 (MS), and -001 (MSD) has a surrogate recovery outside QC limits, but the recovery is greater than 10%, therefore, no corrective action was necessary. Please refer to the applicable Form 2 for the recoveries.

PCB Analysis:

Data conforms to method requirements.

Pesticide Analysis:

The MS/MSD RPD for batch 50024 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Metals Analysis:

Sample AC91036-001 through -004: Al, Ba, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Ag, V, and Zn reported at dilution due to Internal Standard Interference.

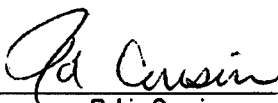
Sample AC91036-001 through -004: Na reported at dilution due to Matrix Interference.

Sample AC91036-001 through -004: Sb, As, Be, Cd, Co, Pb, Se, and Tl reported at dilution due to Internal Standard Interference.

The Matrix Spike Duplicate for batch 52214 had recoveries outside QC limits. Please refer to the applicable Form 5/7 for the recoveries.

The serial dilution for batch 52214 is outside QC limits for one or more analytes. Please refer to the applicable Form 6/9 for the recoveries.

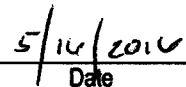
Samples AC91036-002 and -004 were filtered and preserved in the laboratory per client's request.



Robin Cousineau
Quality Assurance Director

Or

Jean Revokus
Laboratory Director


Date

HC Executive Summary

Client: Louis Berger & Associates
Project: 25th Ave Ph II

HC Project #: 6042811

Lab#: AC91036-001

Sample ID: TWP-01 U

Analyte	Units	RL	Result	Analytical Method
Aluminum	ug/l	400	690	EPA 6010C
Calcium	ug/l	10000	410000	EPA 6010C
Iron	ug/l	600	900	EPA 6010C
Magnesium	ug/l	10000	1200000	EPA 6010C
Manganese	ug/l	80	230	EPA 6010C
Potassium	ug/l	5000	410000	EPA 6010C
Sodium	ug/l	250000	9400000	EPA 6010C
Arsenic	ug/l	4.0	6.1	EPA 6020A

Lab#: AC91036-002

Sample ID: TWP-01 F

Analyte	Units	RL	Result	Analytical Method
Aluminum	ug/l	400	540	EPA 6010C
Calcium	ug/l	10000	260000	EPA 6010C
Magnesium	ug/l	10000	780000	EPA 6010C
Manganese	ug/l	80	150	EPA 6010C
Potassium	ug/l	5000	300000	EPA 6010C
Sodium	ug/l	250000	6900000	EPA 6010C
Vanadium	ug/l	100	140	EPA 6010C
Arsenic	ug/l	4.0	4.0	EPA 6020A

Lab#: AC91036-003

Sample ID: DUP TWP-01 U

Analyte	Units	RL	Result	Analytical Method
Aluminum	ug/l	400	680	EPA 6010C
Calcium	ug/l	10000	280000	EPA 6010C
Iron	ug/l	600	840	EPA 6010C
Magnesium	ug/l	10000	850000	EPA 6010C
Manganese	ug/l	80	160	EPA 6010C
Potassium	ug/l	5000	340000	EPA 6010C
Sodium	ug/l	250000	7700000	EPA 6010C
Vanadium	ug/l	100	130	EPA 6010C
Arsenic	ug/l	4.0	4.9	EPA 6020A

Lab#: AC91036-004

Sample ID: DUP TWP-01 F

Analyte	Units	RL	Result	Analytical Method
Aluminum	ug/l	400	4100	EPA 6010C
Calcium	ug/l	10000	350000	EPA 6010C
Iron	ug/l	600	6900	EPA 6010C
Magnesium	ug/l	10000	1000000	EPA 6010C
Manganese	ug/l	80	300	EPA 6010C
Potassium	ug/l	5000	380000	EPA 6010C
Sodium	ug/l	250000	8500000	EPA 6010C
Vanadium	ug/l	100	130	EPA 6010C
Zinc	ug/l	100	160	EPA 6010C
Arsenic	ug/l	4.0	14	EPA 6020A
Lead	ug/l	6.0	83	EPA 6020A

HC Report of Analysis

Client: Louis Berger & Associates

HC Project #: 6042811

Project: 25th Ave Ph II

Sample ID: TWP-01 U
 Lab#: AC91036-001
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

Mercury (Water) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	ug/l	0.70	ND

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	ug/l	0.010	ND
Aldrin	1	ug/l	0.010	ND
Alpha-BHC	1	ug/l	0.010	ND
beta-BHC	1	ug/l	0.010	ND
Chlordane (Total)	1	ug/l	0.010	ND
delta-BHC	1	ug/l	0.010	ND
Dieldrin	1	ug/l	0.010	ND
Endosulfan I	1	ug/l	0.010	ND
Endosulfan II	1	ug/l	0.010	ND
Endosulfan Sulfate	1	ug/l	0.010	ND
Endrin	1	ug/l	0.010	ND
Endrin Aldehyde	1	ug/l	0.010	ND
Endrin Ketone	1	ug/l	0.010	ND
gamma-BHC	1	ug/l	0.010	ND
Heptachlor	1	ug/l	0.010	ND
Heptachlor Epoxide	1	ug/l	0.010	ND
Methoxychlor	1	ug/l	0.010	ND
p,p'-DDD	1	ug/l	0.010	ND
p,p'-DDE	1	ug/l	0.010	ND
p,p'-DDT	1	ug/l	0.010	ND
Toxaphene	1	ug/l	0.25	ND
gamma-Chlordane	1	ug/l	0.010	ND

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.25	ND
Aroclor-1016	1	ug/l	0.25	ND
Aroclor-1221	1	ug/l	0.25	ND
Aroclor-1232	1	ug/l	0.25	ND
Aroclor-1242	1	ug/l	0.25	ND
Aroclor-1248	1	ug/l	0.25	ND
Aroclor-1254	1	ug/l	0.25	ND
Aroclor-1260	1	ug/l	0.25	ND
Aroclor-1262	1	ug/l	0.25	ND
Aroclor-1268	1	ug/l	0.25	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	ug/l	2.0	ND
1,2,4,5-Tetrachlorobenzene	1	ug/l	2.0	ND
2,3,4,6-Tetrachlorophenol	1	ug/l	2.0	ND
2,4,5-Trichlorophenol	1	ug/l	2.0	ND
2,4,6-Trichlorophenol	1	ug/l	2.0	ND
2,4-Dichlorophenol	1	ug/l	0.51	ND

Sample ID: TWP-01 U
 Lab#: AC91036-001
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

2,4-Dimethylphenol	1	ug/l	0.51	ND
2,4-Dinitrophenol	1	ug/l	10	ND
2,4-Dinitrotoluene	1	ug/l	2.0	ND
2,6-Dinitrotoluene	1	ug/l	2.0	ND
2-Chloronaphthalene	1	ug/l	2.0	ND
2-Chlorophenol	1	ug/l	2.0	ND
2-Methylnaphthalene	1	ug/l	2.0	ND
2-Methylphenol	1	ug/l	0.51	ND
2-Nitroaniline	1	ug/l	2.0	ND
2-Nitrophenol	1	ug/l	2.0	ND
3&4-Methylphenol	1	ug/l	0.51	ND
3,3'-Dichlorobenzidine	1	ug/l	2.0	ND
3-Nitroaniline	1	ug/l	2.0	ND
4,6-Dinitro-2-methylphenol	1	ug/l	10	ND
4-Bromophenyl-phenylether	1	ug/l	2.0	ND
4-Chloro-3-methylphenol	1	ug/l	2.0	ND
4-Chloroaniline	1	ug/l	0.51	ND
4-Chlorophenyl-phenylether	1	ug/l	2.0	ND
4-Nitroaniline	1	ug/l	2.0	ND
4-Nitrophenol	1	ug/l	2.0	ND
Acenaphthene	1	ug/l	2.0	ND
Acenaphthylene	1	ug/l	2.0	ND
Acetophenone	1	ug/l	2.0	ND
Anthracene	1	ug/l	2.0	ND
Atrazine	1	ug/l	2.0	ND
Benzaldehyde	1	ug/l	2.0	ND
Benzo[a]anthracene	1	ug/l	2.0	ND
Benzo[a]pyrene	1	ug/l	2.0	ND
Benzo[b]fluoranthene	1	ug/l	2.0	ND
Benzo[g,h,i]perylene	1	ug/l	2.0	ND
Benzo[k]fluoranthene	1	ug/l	2.0	ND
bis(2-Chloroethoxy)methane	1	ug/l	2.0	ND
bis(2-Chloroethyl)ether	1	ug/l	0.51	ND
bis(2-Chloroisopropyl)ether	1	ug/l	2.0	ND
bis(2-Ethylhexyl)phthalate	1	ug/l	2.0	ND
Butylbenzylphthalate	1	ug/l	2.0	ND
Caprolactam	1	ug/l	2.0	ND
Carbazole	1	ug/l	2.0	ND
Chrysene	1	ug/l	2.0	ND
Dibenzo[a,h]anthracene	1	ug/l	2.0	ND
Dibenzofuran	1	ug/l	0.51	ND
Diethylphthalate	1	ug/l	2.0	ND
Dimethylphthalate	1	ug/l	2.0	ND
Di-n-butylphthalate	1	ug/l	0.51	ND
Di-n-octylphthalate	1	ug/l	2.0	ND
Fluoranthene	1	ug/l	2.0	ND
Fluorene	1	ug/l	2.0	ND
Hexachlorobenzene	1	ug/l	2.0	ND
Hexachlorobutadiene	1	ug/l	2.0	ND
Hexachlorocyclopentadiene	1	ug/l	2.0	ND
Hexachloroethane	1	ug/l	2.0	ND
Indeno[1,2,3-cd]pyrene	1	ug/l	2.0	ND
Isophorone	1	ug/l	2.0	ND
Naphthalene	1	ug/l	0.51	ND
Nitrobenzene	1	ug/l	2.0	ND
N-Nitroso-di-n-propylamine	1	ug/l	0.51	ND
N-Nitrosodiphenylamine	1	ug/l	2.0	ND

HAZ - 636

Sample ID: TWP-01 U
 Lab#: AC91036-001
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

Pentachlorophenol	1	ug/l	2.0	ND
Phenanthrene	1	ug/l	2.0	ND
Phenol	1	ug/l	2.0	ND
Pyrene	1	ug/l	2.0	ND

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	2	ug/l	400	690
Barium	2	ug/l	100	ND
Calcium	2	ug/l	10000	410000
Chromium	2	ug/l	100	ND
Copper	2	ug/l	100	ND
Iron	2	ug/l	600	900
Magnesium	2	ug/l	10000	1200000
Manganese	2	ug/l	80	230
Nickel	2	ug/l	100	ND
Potassium	1	ug/l	5000	410000
Silver	2	ug/l	40	ND
Sodium	50	ug/l	250000	9400000
Vanadium	2	ug/l	100	ND
Zinc	2	ug/l	100	ND

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	2	ug/l	6.0	ND
Arsenic	2	ug/l	4.0	6.1
Beryllium	2	ug/l	2.0	ND
Cadmium	2	ug/l	4.0	ND
Cobalt	2	ug/l	4.0	ND
Lead	2	ug/l	6.0	ND
Selenium	2	ug/l	20	ND
Thallium	2	ug/l	4.0	ND

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	1	ug/l	1.0	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	ug/l	1.0	ND
1,1,2-Trichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethene	1	ug/l	1.0	ND
1,2,3-Trichlorobenzene	1	ug/l	1.0	ND
1,2,4-Trichlorobenzene	1	ug/l	1.0	ND
1,2-Dibromo-3-chloropropane	1	ug/l	1.0	ND
1,2-Dibromoethane	1	ug/l	1.0	ND
1,2-Dichlorobenzene	1	ug/l	1.0	ND
1,2-Dichloroethane	1	ug/l	0.50	ND
1,2-Dichloropropane	1	ug/l	1.0	ND
1,3-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dioxane	1	ug/l	50	ND
2-Butanone	1	ug/l	1.0	ND
2-Hexanone	1	ug/l	1.0	ND
4-Methyl-2-pentanone	1	ug/l	1.0	ND
Acetone	1	ug/l	5.0	ND
Benzene	1	ug/l	0.50	ND
Bromochloromethane	1	ug/l	1.0	ND
Bromodichloromethane	1	ug/l	1.0	ND

HAZ-637

Sample ID: TWP-01 U
 Lab#: AC91036-001
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

Bromoform	1	ug/l	1.0	ND
Bromomethane	1	ug/l	5.0	ND
Carbon disulfide	1	ug/l	1.0	ND
Carbon tetrachloride	1	ug/l	1.0	ND
Chlorobenzene	1	ug/l	1.0	ND
Chloroethane	1	ug/l	1.0	ND
Chloroform	1	ug/l	1.0	ND
Chloromethane	1	ug/l	1.0	ND
cis-1,2-Dichloroethene	1	ug/l	1.0	ND
cis-1,3-Dichloropropene	1	ug/l	1.0	ND
Cyclohexane	1	ug/l	1.0	ND
Dibromochloromethane	1	ug/l	1.0	ND
Dichlorodifluoromethane	1	ug/l	1.0	ND
Ethylbenzene	1	ug/l	1.0	ND
Isopropylbenzene	1	ug/l	1.0	ND
m&p-Xylenes	1	ug/l	1.0	ND
Methyl Acetate	1	ug/l	1.0	ND
Methylcyclohexane	1	ug/l	1.0	ND
Methylene chloride	1	ug/l	1.0	ND
Methyl-t-butyl ether	1	ug/l	0.50	ND
o-Xylene	1	ug/l	1.0	ND
Styrene	1	ug/l	1.0	ND
t-Butyl Alcohol	1	ug/l	5.0	ND
Tetrachloroethene	1	ug/l	1.0	ND
Toluene	1	ug/l	1.0	ND
trans-1,2-Dichloroethene	1	ug/l	1.0	ND
trans-1,3-Dichloropropene	1	ug/l	1.0	ND
Trichloroethene	1	ug/l	1.0	ND
Trichlorofluoromethane	1	ug/l	1.0	ND
Vinyl chloride	1	ug/l	1.0	ND
Xylenes (Total)	1	ug/l	1.0	ND

Sample ID: TWP-01 F
 Lab#: AC91036-002
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

Mercury (Water) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	ug/l	0.70	ND

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	2	ug/l	400	540
Barium	2	ug/l	100	ND
Calcium	2	ug/l	10000	260000
Chromium	2	ug/l	100	ND
Copper	2	ug/l	100	ND
Iron	2	ug/l	600	ND
Magnesium	2	ug/l	10000	780000
Manganese	2	ug/l	80	150
Nickel	2	ug/l	100	ND
Potassium	1	ug/l	5000	300000
Silver	2	ug/l	40	ND
Sodium	30	ug/l	250000	6900000
Vanadium	2	ug/l	100	140
Zinc	2	ug/l	100	ND

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	2	ug/l	6.0	ND
Arsenic	2	ug/l	4.0	4.0
Beryllium	2	ug/l	2.0	ND
Cadmium	2	ug/l	4.0	ND
Cobalt	2	ug/l	4.0	ND
Lead	2	ug/l	6.0	ND
Selenium	2	ug/l	20	ND
Thallium	2	ug/l	4.0	ND

Sample ID: DUP TWP-01 U

Lab#: AC91036-003

Matrix: Aqueous

Collection Date: 4/28/2016

Receipt Date: 4/28/2016

Mercury (Water) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	ug/l	0.70	ND

Organochlorine Pesticides 8081

Analyte	DF	Units	RL	Result
a-Chlordane	1	ug/l	0.010	ND
Aldrin	1	ug/l	0.010	ND
Alpha-BHC	1	ug/l	0.010	ND
beta-BHC	1	ug/l	0.010	ND
Chlordane (Total)	1	ug/l	0.010	ND
delta-BHC	1	ug/l	0.010	ND
Dieldrin	1	ug/l	0.010	ND
Endosulfan I	1	ug/l	0.010	ND
Endosulfan II	1	ug/l	0.010	ND
Endosulfan Sulfate	1	ug/l	0.010	ND
Endrin	1	ug/l	0.010	ND
Endrin Aldehyde	1	ug/l	0.010	ND
Endrin Ketone	1	ug/l	0.010	ND
gamma-BHC	1	ug/l	0.010	ND
Heptachlor	1	ug/l	0.010	ND
Heptachlor Epoxide	1	ug/l	0.010	ND
Methoxychlor	1	ug/l	0.010	ND
p,p'-DDD	1	ug/l	0.010	ND
p,p'-DDE	1	ug/l	0.010	ND
p,p'-DDT	1	ug/l	0.010	ND
Toxaphene	1	ug/l	0.25	ND
γ-Chlordane	1	ug/l	0.010	ND

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.25	ND
Aroclor-1016	1	ug/l	0.25	ND
Aroclor-1221	1	ug/l	0.25	ND
Aroclor-1232	1	ug/l	0.25	ND
Aroclor-1242	1	ug/l	0.25	ND
Aroclor-1248	1	ug/l	0.25	ND
Aroclor-1254	1	ug/l	0.25	ND
Aroclor-1260	1	ug/l	0.25	ND
Aroclor-1262	1	ug/l	0.25	ND
Aroclor-1268	1	ug/l	0.25	ND

Semivolatile Organics (no search) 8270

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	ug/l	2.1	ND
1,2,4,5-Tetrachlorobenzene	1	ug/l	2.1	ND
2,3,4,6-Tetrachlorophenol	1	ug/l	2.1	ND
2,4,5-Trichlorophenol	1	ug/l	2.1	ND
2,4,6-Trichlorophenol	1	ug/l	2.1	ND
2,4-Dichlorophenol	1	ug/l	0.53	ND
2,4-Dimethylphenol	1	ug/l	0.53	ND
2,4-Dinitrophenol	1	ug/l	11	ND
2,4-Dinitrotoluene	1	ug/l	2.1	ND
2,6-Dinitrotoluene	1	ug/l	2.1	ND
2-Chloronaphthalene	1	ug/l	2.1	ND
2-Chlorophenol	1	ug/l	2.1	ND
2-Methylnaphthalene	1	ug/l	2.1	ND

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Sample ID: DUP TWP-01 U

Lab#: AC91036-003

Matrix: Aqueous

Collection Date: 4/28/2016

Receipt Date: 4/28/2016

2-Methylphenol	1	ug/l	0.53	ND
2-Nitroaniline	1	ug/l	2.1	ND
2-Nitrophenol	1	ug/l	2.1	ND
3&4-Methylphenol	1	ug/l	0.53	ND
3,3'-Dichlorobenzidine	1	ug/l	2.1	ND
3-Nitroaniline	1	ug/l	2.1	ND
4,6-Dinitro-2-methylphenol	1	ug/l	11	ND
4-Bromophenyl-phenylether	1	ug/l	2.1	ND
4-Chloro-3-methylphenol	1	ug/l	2.1	ND
4-Chloroaniline	1	ug/l	0.53	ND
4-Chlorophenyl-phenylether	1	ug/l	2.1	ND
4-Nitroaniline	1	ug/l	2.1	ND
4-Nitrophenol	1	ug/l	2.1	ND
Acenaphthene	1	ug/l	2.1	ND
Acenaphthylene	1	ug/l	2.1	ND
Acetophenone	1	ug/l	2.1	ND
Anthracene	1	ug/l	2.1	ND
Atrazine	1	ug/l	2.1	ND
Benzaldehyde	1	ug/l	2.1	ND
Benzo[a]anthracene	1	ug/l	2.1	ND
Benzo[a]pyrene	1	ug/l	2.1	ND
Benzo[b]fluoranthene	1	ug/l	2.1	ND
Benzo[g,h,i]perylene	1	ug/l	2.1	ND
Benzo[k]fluoranthene	1	ug/l	2.1	ND
bis(2-Chloroethoxy)methane	1	ug/l	2.1	ND
bis(2-Chloroethyl)ether	1	ug/l	0.53	ND
bis(2-Chloroisopropyl)ether	1	ug/l	2.1	ND
bis(2-Ethylhexyl)phthalate	1	ug/l	2.1	ND
Butylbenzylphthalate	1	ug/l	2.1	ND
Caprolactam	1	ug/l	2.1	ND
Carbazole	1	ug/l	2.1	ND
Chrysene	1	ug/l	2.1	ND
Dibenzo[a,h]anthracene	1	ug/l	2.1	ND
Dibenzofuran	1	ug/l	0.53	ND
Diethylphthalate	1	ug/l	2.1	ND
Dimethylphthalate	1	ug/l	2.1	ND
Di-n-butylphthalate	1	ug/l	0.53	ND
Di-n-octylphthalate	1	ug/l	2.1	ND
Fluoranthene	1	ug/l	2.1	ND
Fluorene	1	ug/l	2.1	ND
Hexachlorobenzene	1	ug/l	2.1	ND
Hexachlorobutadiene	1	ug/l	2.1	ND
Hexachlorocyclopentadiene	1	ug/l	2.1	ND
Hexachloroethane	1	ug/l	2.1	ND
Indeno[1,2,3-cd]pyrene	1	ug/l	2.1	ND
Isophorone	1	ug/l	2.1	ND
Naphthalene	1	ug/l	0.53	ND
Nitrobenzene	1	ug/l	2.1	ND
N-Nitroso-di-n-propylamine	1	ug/l	0.53	ND
N-Nitrosodiphenylamine	1	ug/l	2.1	ND
Pentachlorophenol	1	ug/l	2.1	ND
Phenanthrene	1	ug/l	2.1	ND
Phenol	1	ug/l	2.1	ND
Pyrene	1	ug/l	2.1	ND

TAL Metals 6010

Analyte	DF	Units	RL	Result
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HAZ - 641

NOTE: Soil Results are reported to Dry Weigh

Project #: 6042811

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Sample ID: DUP TWP-01 U
 Lab#: AC91036-003
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

Aluminum	2	ug/l	400	600
Barium	2	ug/l	100	ND
Calcium	2	ug/l	10000	280000
Chromium	2	ug/l	100	ND
Copper	2	ug/l	100	ND
Iron	2	ug/l	600	840
Magnesium	2	ug/l	10000	850000
Manganese	2	ug/l	80	160
Nickel	2	ug/l	100	ND
Potassium	1	ug/l	5000	340000
Silver	2	ug/l	40	ND
Sodium	50	ug/l	250000	7700000
Vanadium	2	ug/l	100	130
Zinc	2	ug/l	100	ND

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	2	ug/l	6.0	ND
Arsenic	2	ug/l	4.0	4.9
Beryllium	2	ug/l	2.0	ND
Cadmium	2	ug/l	4.0	ND
Cobalt	2	ug/l	4.0	ND
Lead	2	ug/l	6.0	ND
Selenium	2	ug/l	20	ND
Thallium	2	ug/l	4.0	ND

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	1	ug/l	1.0	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	ug/l	1.0	ND
1,1,2-Trichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethene	1	ug/l	1.0	ND
1,2,3-Trichlorobenzene	1	ug/l	1.0	ND
1,2,4-Trichlorobenzene	1	ug/l	1.0	ND
1,2-Dibromo-3-chloropropane	1	ug/l	1.0	ND
1,2-Dibromoethane	1	ug/l	1.0	ND
1,2-Dichlorobenzene	1	ug/l	1.0	ND
1,2-Dichloroethane	1	ug/l	0.50	ND
1,2-Dichloropropane	1	ug/l	1.0	ND
1,3-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dioxane	1	ug/l	50	ND
2-Butanone	1	ug/l	1.0	ND
2-Hexanone	1	ug/l	1.0	ND
4-Methyl-2-pentanone	1	ug/l	1.0	ND
Acetone	1	ug/l	5.0	ND
Benzene	1	ug/l	0.50	ND
Bromochloromethane	1	ug/l	1.0	ND
Bromodichloromethane	1	ug/l	1.0	ND
Bromoform	1	ug/l	1.0	ND
Bromomethane	1	ug/l	5.0	ND
Carbon disulfide	1	ug/l	1.0	ND
Carbon tetrachloride	1	ug/l	1.0	ND
Chlorobenzene	1	ug/l	1.0	ND
Chloroethane	1	ug/l	1.0	ND

Sample ID: DUP TWP-01 U
 Lab#: AC91036-003
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

Chloroform	1	ug/l	1.0	ND
Chloromethane	1	ug/l	1.0	ND
cis-1,2-Dichloroethene	1	ug/l	1.0	ND
cis-1,3-Dichloropropene	1	ug/l	1.0	ND
Cyclohexane	1	ug/l	1.0	ND
Dibromochloromethane	1	ug/l	1.0	ND
Dichlorodifluoromethane	1	ug/l	1.0	ND
Ethylbenzene	1	ug/l	1.0	ND
Isopropylbenzene	1	ug/l	1.0	ND
m&p-Xylenes	1	ug/l	1.0	ND
Methyl Acetate	1	ug/l	1.0	ND
Methylcyclohexane	1	ug/l	1.0	ND
Methylene chloride	1	ug/l	1.0	ND
Methyl-t-butyl ether	1	ug/l	0.50	ND
o-Xylene	1	ug/l	1.0	ND
Styrene	1	ug/l	1.0	ND
t-Butyl Alcohol	1	ug/l	5.0	ND
Tetrachloroethene	1	ug/l	1.0	ND
Toluene	1	ug/l	1.0	ND
trans-1,2-Dichloroethene	1	ug/l	1.0	ND
trans-1,3-Dichloropropene	1	ug/l	1.0	ND
Trichloroethene	1	ug/l	1.0	ND
Trichlorofluoromethane	1	ug/l	1.0	ND
Vinyl chloride	1	ug/l	1.0	ND
Xylenes (Total)	1	ug/l	1.0	ND

Sample ID: DUP TWP-01 F
 Lab#: AC91036-004
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

Mercury (Water) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	ug/l	0.70	ND

TAL Metals 6010

Analyte	DF	Units	RL	Result
Aluminum	2	ug/l	400	4100
Barium	2	ug/l	100	ND
Calcium	2	ug/l	10000	350000
Chromium	2	ug/l	100	ND
Copper	2	ug/l	100	ND
Iron	2	ug/l	600	6900
Magnesium	2	ug/l	10000	1000000
Manganese	2	ug/l	80	300
Nickel	2	ug/l	100	ND
Potassium	1	ug/l	5000	380000
Silver	2	ug/l	40	ND
Sodium	50	ug/l	250000	8500000
Vanadium	2	ug/l	100	130
Zinc	2	ug/l	100	160

TAL Metals 6020

Analyte	DF	Units	RL	Result
Antimony	2	ug/l	6.0	ND
Arsenic	2	ug/l	4.0	14
Beryllium	2	ug/l	2.0	ND
Cadmium	2	ug/l	4.0	ND
Cobalt	2	ug/l	4.0	ND
Lead	2	ug/l	6.0	83
Selenium	2	ug/l	20	ND
Thallium	2	ug/l	4.0	ND

Sample ID: TB-02
 Lab#: AC91036-005
 Matrix: Aqueous

Collection Date: 4/28/2016
 Receipt Date: 4/28/2016

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.0	ND
1,1,2,2-Tetrachloroethane	1	ug/l	1.0	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	ug/l	1.0	ND
1,1,2-Trichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethane	1	ug/l	1.0	ND
1,1-Dichloroethene	1	ug/l	1.0	ND
1,2,3-Trichlorobenzene	1	ug/l	1.0	ND
1,2,4-Trichlorobenzene	1	ug/l	1.0	ND
1,2-Dibromo-3-chloropropane	1	ug/l	1.0	ND
1,2-Dibromoethane	1	ug/l	1.0	ND
1,2-Dichlorobenzene	1	ug/l	1.0	ND
1,2-Dichloroethane	1	ug/l	0.50	ND
1,2-Dichloropropane	1	ug/l	1.0	ND
1,3-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dichlorobenzene	1	ug/l	1.0	ND
1,4-Dioxane	1	ug/l	50	ND
2-Butanone	1	ug/l	1.0	ND
2-Hexanone	1	ug/l	1.0	ND
4-Methyl-2-pentanone	1	ug/l	1.0	ND
Acetone	1	ug/l	5.0	ND
Benzene	1	ug/l	0.50	ND
Bromochloromethane	1	ug/l	1.0	ND
Bromodichloromethane	1	ug/l	1.0	ND
Bromoform	1	ug/l	1.0	ND
Bromomethane	1	ug/l	5.0	ND
Carbon disulfide	1	ug/l	1.0	ND
Carbon tetrachloride	1	ug/l	1.0	ND
Chlorobenzene	1	ug/l	1.0	ND
Chloroethane	1	ug/l	1.0	ND
Chloroform	1	ug/l	1.0	ND
Chloromethane	1	ug/l	1.0	ND
cis-1,2-Dichloroethene	1	ug/l	1.0	ND
cis-1,3-Dichloropropene	1	ug/l	1.0	ND
Cyclohexane	1	ug/l	1.0	ND
Dibromochloromethane	1	ug/l	1.0	ND
Dichlorodifluoromethane	1	ug/l	1.0	ND
Ethylbenzene	1	ug/l	1.0	ND
Isopropylbenzene	1	ug/l	1.0	ND
m&p-Xylenes	1	ug/l	1.0	ND
Methyl Acetate	1	ug/l	1.0	ND
Methylcyclohexane	1	ug/l	1.0	ND
Methylene chloride	1	ug/l	1.0	ND
Methyl-t-butyl ether	1	ug/l	0.50	ND
o-Xylene	1	ug/l	1.0	ND
Styrene	1	ug/l	1.0	ND
t-Butyl Alcohol	1	ug/l	5.0	ND
Tetrachloroethene	1	ug/l	1.0	ND
Toluene	1	ug/l	1.0	ND
trans-1,2-Dichloroethene	1	ug/l	1.0	ND
trans-1,3-Dichloropropene	1	ug/l	1.0	ND
Trichloroethene	1	ug/l	1.0	ND
Trichlorofluoromethane	1	ug/l	1.0	ND
Vinyl chloride	1	ug/l	1.0	ND
Xylenes (Total)	1	ug/l	1.0	ND

HAZ. - 645

HC Reporting Limit Definitions/Data Qualifiers

REPORTING DEFINITIONS

DF = Dilution Factor

MDL = Method Detection Limit

RL* = Reporting Limit

ND = Not Detected

RT = Retention Time

NA = Not Applicable

**Samples with elevated Reporting Limits (RLs) as a result of a dilution may not achieve client reporting limits in some cases. The elevated RLs are unavoidable consequences of sample dilution required to quantitate target analytes that exceed the calibration range of the instrument.*

DATA QUALIFIERS

- A- Indicates that the Tentatively Identified Compound (TIC) is suspected to be an aldol-condensation product. These compounds are by-products of acetone and methylene chloride used in the extraction process.
- B- Indicates analyte was present in the Method Blank and sample.
- d- For Pesticide and PCB analysis, the concentration between primary and secondary columns is greater than 40%. The lower concentration is generally reported.
- E- Indicates the concentration exceeded the upper calibration range of the instrument.
- J- Indicates the value is estimated because it is either a Tentatively Identified Compound (TIC) or the reported concentration is greater than the MDL but less than the RL. For samples results between the MDL and RL there is a possibility of false positives or misidentification at the quantitation levels. Additionally, the acceptance criteria for QC samples may not be met.
- R- Retention Time is out.
- Y- Indicates a contaminant found in the blank at less than 10% of the concentration of a contaminant found in the sample.

Laboratory Chronicle

Client: Louis Berger & Associates
Project: 25th Ave Ph II

HC Project #: 6042811

Lab#: AC91036-001

Sample ID: TWP-01 U

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Mercury (Water) 7470A	EPA 7470A	05/04/16	snezana	EPA 7470A	5/5/16 12:05	CJA
Organochlorine Pesticides 8081	3510C/3550C	05/04/16	lynda	EPA 8081B	5/5/16 16:17	MS/MLC/ZM
PCB 8082	3510C/3550C	05/04/16	lynda	EPA 8082A	5/4/16 19:07	MAS/ZM/MLC
Semivolatile Organics (no search) 8270	3510C/3550C	05/02/16	smarwala	EPA 8270D	5/2/16 22:12	AH/JP
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/4/16 21:46	SRB
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/5/16 14:01	SRB
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/5/16 15:22	SRB
TAL Metals 6020	3005&10/3050	05/04/16	snezana	EPA 6020A	5/5/16 13:45	SRB
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/30/16 02:03	WP

Lab#: AC91036-002

Sample ID: TWP-01 F

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Mercury (Water) 7470A	EPA 7470A	05/04/16	snezana	EPA 7470A	5/5/16 12:09	CJA
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/4/16 21:50	SRB
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/5/16 14:06	SRB
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/5/16 15:26	SRB
TAL Metals 6020	3005&10/3050	05/04/16	snezana	EPA 6020A	5/5/16 13:49	SRB

Lab#: AC91036-003

Sample ID: DUP TWP-01 U

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Mercury (Water) 7470A	EPA 7470A	05/04/16	snezana	EPA 7470A	5/5/16 12:11	CJA
Organochlorine Pesticides 8081	3510C/3550C	05/04/16	lynda	EPA 8081B	5/5/16 15:59	MS/MLC/ZM
PCB 8082	3510C/3550C	05/04/16	lynda	EPA 8082A	5/5/16 11:25	MAS/ZM/MLC
Semivolatile Organics (no search) 8270	3510C/3550C	05/02/16	smarwala	EPA 8270D	5/2/16 22:36	AH/JP
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/4/16 21:54	SRB
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/5/16 14:10	SRB
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/5/16 15:29	SRB
TAL Metals 6020	3005&10/3050	05/04/16	snezana	EPA 6020A	5/5/16 13:53	SRB
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/30/16 01:47	WP

Laboratory Chronicle

6042811 0017

Client: Louis Berger & Associates

HC Project #: 6042811

Project: 25th Ave Ph II

Lab#: AC91036-004

Sample ID: DUP TWP-01 F

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Mercury (Water) 7470A	EPA 7470A	05/04/16	snezana	EPA 7470A	5/5/16 12:12	CJA
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/4/16 21:59	SRB
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/5/16 14:15	SRB
TAL Metals 6010	3005&10/3050	05/04/16	snezana	EPA 6010C	5/5/16 15:33	SRB
TAL Metals 6020	3005&10/3050	05/04/16	snezana	EPA 6020A	5/5/16 13:58	SRB

Lab#: AC91036-005

Sample ID: TB-02

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	4/29/16 22:05	WP

Chain of Custody

Hampton-Clarke, Inc. (WB/ED/BE/SBE)
 175 Route 46 West and 2 Madison Road, Fairfield, New Jersey 07004
 Ph: 800-426-9992 | 973-244-9770 Fax: 973-244-9787 | 973-439-1458
 Service Center: 137-D Galter Drive, Mount Laurel, New Jersey 08054
 Ph (Service Center): 856-780-6957 Fax: 856-780-6956



CHAIN OF CUSTODY RECORD

Project # (Lab Use Only)
6042811

Page 1 of 1

A Women-Owned, Disadvantaged, Small Business Enterprise

3) Reporting Requirements (Please Circle)

Turnaround
 When Available:
 1 Business Day (100%)*
 2 Business Days (75%)*
 3 Business Days (50%)*
 4 Business Days (35%)*
 5 Business Days (25%)*
 10 Business Days (Stand.)
 Other: _____

Report Type
 Data Summary
 Results + QC (Waste)
 NU Reduced
 NY Reduced
 PA Reduced
 Full / Category B
 Category X
 Electronic (PDF)
 Other: _____

Electronic Deliv.
 HazMat/CSV
 EnviroData
 Excel - NJ Regulatory
 Excel - NY Regulatory
 Excel - PA Regulatory
 EQUIS (specify below):
 4-Field/EZ/MS/Reg. 2 or 5
 Other: _____

Customer Information
 1a) Customer: 13015 BESEE GROUP
 Address: 48 WALL STREET
NEW YORK, NY 10005
 1b) Email/Cell/Fax/Ph: _____
 1c) Send Invoice to: BREANNA GRIBBLE
 1d) Send Report to: _____

Project Information
 2a) Project: 25th AVE PHASE II
 2b) Project Mgr: BREANNA GRIBBLE
 2c) Project Location (City/State): BROOKLYN, NY
 2d) Quote/PO # (If Applicable): 30010401053

* Expedited TAT Not Always Available. Please Check with Lab.

FOR LAB USE ONLY	Matrix Codes DW - Drinking Water S - Soil A - Air GW - Ground Water SL - Sludge WW - Waste Water OL - Oil OT - Other (please specify under item 9, Comments)	6) Sample		Composite (C) Grab (G)	7) Analysis (specify methods & parameter lists)					8) # of Bottles					9) Comments			
		Date	Time		VO	TAL METALS	BNA (LAB FILT)	METALS - DISS	PEST/PCB-AQ	VO(TB)	None	MeOH	En Core	NaOH		HCl	H2SO4	HNO3	Other:
Lab Sample #	4) Customer Sample ID	Matrix	Date	Time														
-001/-002	TWP-01	GW	4/18	145	X	X	X	X	X	5								
-003/-004	DUP TWP-01				X	X	X	X	X	5								
-005	TB-02				X	X	X	X	X	3								

10) Relinquished by: Omega Sarah Dan Jim Accepted by: [Signature] Date: 4/24/16 Time: 15:18

Comments, Notes, Special Requirements, HAZARDS
 Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
 BN or BNA (8270D SIM)
 VOC (8260C SIM or 8011)
 SPLP (BN, BNA, Metals)
 Check if applicable:
 Project-Specific Reporting Limits
 High Contaminant Concentrations
 NJ LSRP Project (also check boxes above/right)
 11) Sampler (print name): Omega Sarah Date: 4/28/16
 Please note NUMBERED items. If not completed your analytical work may be delayed.
 A fee of \$3/sample will be assessed for storage should sample not be activated for any analysis.

For NMJ LSRP projects, indicate which standards need to be met:
 NJDEP GWQS
 NJDEP SRS
 NJDEP SPLP
 Other (specify): _____
 Cooler Temperature
2.6

PROJECT MODIFICATIONS

Client: BERGER-NYC
Project: 25th Ave Ph II

HC Project #:6042811

melissa192.168.1.42
5/16/2016 12:19:45 PM

NY-Reduced deliverable required for this project.

CONDITION UPON RECEIPT

Batch Number AC91036

Entered By: Ricardo

Date Entered 4/28/2016 3:32:00 PM

-
- 1 Yes Is there a corresponding COC included with the samples?
- 2 Yes Are the samples in a container such as a cooler or ice chest?
- 3 NO Are the COC seals intact?
- 4 T0054 <--- Thermometer ID. Please specify the Temperature inside the container (in degC).
2.6
- 5 Yes Are the samples refrigerated (where required)/have they arrived on ice?
- 6 Yes Are the samples within the holding times for the parameters listed on the COC? IF no, list parameters and samples:
- 7 Yes Are all of the sample bottles intact? If no, specify sample numbers broken/leaking
- 8 Yes Are all of the sample labels or numbers legible? If no specify:
- 9 Yes Do the contents match the COC? If no, specify
- 10 Yes Is there enough sample sent for the analyses listed on the COC? If no, specify:
- 11 Yes Are samples preserved correctly?
- 12 Yes Was temperature blank present (Place comment below if not)? If not was temperature of samples verified?
- 13 NA Other comments ...Specify
- 14 NA Corrective actions (Specify item number and corrective action taken).

PRESERVATION DOCUMENT

Batch Number AC91036

Entered By: Ricardo

Date Entered 4/28/2016 3:37:00 PM

Lab#:	Container Size	Container/Vial Check	Parameter	Preservative	Preservative Lot#	PH	pH Lot#
AC91036-001	40ML	G	VO	HCL	119768	1	HC57767
AC91036-001	1L	P	HNO3	HNO3	117003	1	HC57767
AC91036-002	NA	NA	NA	NA	NA	NA	NA
AC91036-002	NA	NA	NA	NA	NA	NA	NA
AC91036-003	40ML	G	VO	HCL	119768	1	HC57767
AC91036-003	1L	P	HNO3	HNO3	117003	1	HC57767
AC91036-004	NA	NA	NA	NA	NA	NA	NA
AC91036-004	NA	NA	NA	NA	NA	NA	NA
AC91036-005	40ML	G	VO	HCL	119768	1	HC57767
AC91036-005	NA	NA	NA	NA	NA	NA	NA

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/ M	Analysis
AC91036-001	04/28/16 15:18	RICAR	0	M	Received
AC91036-001	04/28/16 15:31	RICAR	0	M	Login
AC91036-001	04/29/16 09:06	R31	1	A	PH/CHECK
AC91036-001	04/29/16 09:10	R31	2	A	NONE
AC91036-001	04/29/16 09:10	R31	3	A	NONE
AC91036-001	04/29/16 20:05	WP	3	A	voa
AC91036-001	04/28/16 15:46	R12	4	A	NONE
AC91036-001	04/28/16 17:05	R12	4	A	NONE
AC91036-001	05/02/16 09:26	SMAR	4	A	bnr
AC91036-001	04/28/16 15:46	R12	5	A	NONE
AC91036-001	04/28/16 17:05	R12	5	A	NONE
AC91036-001	04/28/16 15:46	R12	6	A	NONE
AC91036-001	04/28/16 17:05	R12	6	A	NONE
AC91036-001	05/04/16 10:27	LV	6	A	p/p
AC91036-001	04/28/16 15:46	R12	7	A	NONE
AC91036-001	04/28/16 17:05	R12	7	A	NONE
AC91036-001	04/28/16 15:46	R12	8	A	NONE
AC91036-001	04/28/16 17:05	R12	8	A	NONE
AC91036-001	05/04/16 04:36	SP	8	A	tdwi-hg
AC91036-001	05/04/16 04:37	SP	8	A	r12
AC91036-002	04/28/16 15:18	RICAR	0	M	Received
AC91036-002	04/28/16 15:31	RICAR	0	M	Login
AC91036-002	04/28/16 15:46	R12	1	A	NONE
AC91036-002	04/28/16 17:05	R12	1	A	NONE
AC91036-002	05/02/16 15:30	SRB	1	A	FILTER
AC91036-002	05/02/16 15:57	R12	1	A	NONE
AC91036-002	05/04/16 04:36	SP	1	A	tdwi-hg
AC91036-002	05/04/16 04:37	SP	1	A	r12
AC91036-003	04/28/16 15:18	RICAR	0	M	Received
AC91036-003	04/28/16 15:31	RICAR	0	M	Login
AC91036-003	04/29/16 09:06	R31	1	A	PH/CHECK
AC91036-003	04/29/16 09:10	R31	2	A	NONE
AC91036-003	04/29/16 09:10	R31	3	A	NONE
AC91036-003	04/29/16 20:05	WP	3	A	voa
AC91036-003	04/28/16 15:46	R12	4	A	NONE
AC91036-003	04/28/16 17:05	R12	4	A	NONE
AC91036-003	05/02/16 09:26	SMAR	4	A	bnr
AC91036-003	04/28/16 15:46	R12	5	A	NONE
AC91036-003	04/28/16 17:05	R12	5	A	NONE
AC91036-003	04/28/16 15:46	R12	6	A	NONE
AC91036-003	04/28/16 17:05	R12	6	A	NONE
AC91036-003	05/04/16 10:27	LV	6	A	p/p
AC91036-003	04/28/16 15:46	R12	7	A	NONE
AC91036-003	04/28/16 17:05	R12	7	A	NONE
AC91036-003	04/28/16 15:46	R12	8	A	NONE
AC91036-003	04/28/16 17:05	R12	8	A	NONE
AC91036-003	05/04/16 04:36	SP	8	A	tdwi-hg
AC91036-003	05/04/16 04:37	SP	8	A	r12
AC91036-004	04/28/16 15:18	RICAR	0	M	Received
AC91036-004	04/28/16 15:31	RICAR	0	M	Login
AC91036-004	04/28/16 15:46	R12	1	A	NONE
AC91036-004	04/28/16 17:05	R12	1	A	NONE
AC91036-004	05/02/16 15:30	SRB	1	A	FILTER
AC91036-004	05/02/16 15:57	R12	1	A	NONE
AC91036-004	05/04/16 04:36	SP	1	A	tdwi-hg
AC91036-004	05/04/16 04:37	SP	1	A	r12
AC91036-005	04/28/16 15:18	RICAR	0	M	Received
AC91036-005	04/28/16 15:31	RICAR	0	M	Login
AC91036-005	04/29/16 09:06	R31	1	A	PH/CHECK
AC91036-005	04/29/16 09:10	R31	2	A	NONE
AC91036-005	04/29/16 09:10	R31	3	A	NONE
AC91036-005	04/29/16 20:05	WP	3	A	voa

Samples marked as received are stored in coolers or refrigerator R12, or R24 at 4 deg C until Login

Volatile Data

Form1
ORGANICS VOLATILE REPORT

Sample Number: AC91036-001
Client Id: TWP-01 U
Data File: 3M89965.D
Analysis Date: 04/30/16 02:03
Date Rec/Extracted: 04/28/16-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Aqueous
Initial Vol: 5ml
Final Vol: NA
Dilution: 1.00
Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	1.0	U	108-90-7	Chlorobenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	75-00-3	Chloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	1.0	U	67-66-3	Chloroform	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U	74-87-3	Chloromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U	156-59-2	cis-1,2-Dichloroethene	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U	10061-01-5	cis-1,3-Dichloropropene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U	110-82-7	Cyclohexane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U	124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropa	1.0	U	75-71-8	Dichlorodifluoromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U	100-41-4	Ethylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U	98-82-8	Isopropylbenzene	1.0	U
107-06-2	1,2-Dichloroethane	0.50	U	79601-23-1	m&p-Xylenes	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U	79-20-9	Methyl Acetate	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U	108-87-2	Methylcyclohexane	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	75-09-2	Methylene Chloride	1.0	U
123-91-1	1,4-Dioxane	50	U	1634-04-4	Methyl-t-butyl ether	0.50	U
78-93-3	2-Butanone	1.0	U	95-47-6	o-Xylene	1.0	U
591-78-6	2-Hexanone	1.0	U	100-42-5	Styrene	1.0	U
108-10-1	4-Methyl-2-Pentanone	1.0	U	75-65-0	t-Butyl Alcohol	5.0	U
67-64-1	Acetone	5.0	U	127-18-4	Tetrachloroethene	1.0	U
71-43-2	Benzene	0.50	U	108-88-3	Toluene	1.0	U
74-97-5	Bromochloromethane	1.0	U	156-80-5	trans-1,2-Dichloroethene	1.0	U
75-27-4	Bromodichloromethane	1.0	U	10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U	79-01-6	Trichloroethene	1.0	U
74-83-9	Bromomethane	5.0	U	75-69-4	Trichlorofluoromethane	1.0	U
75-15-0	Carbon Disulfide	1.0	U	75-01-4	Vinyl Chloride	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	1330-20-7	Xylenes (Total)	1.0	U

Worksheet #: 382208

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.*B* - Indicates the analyte was found in the blank as well as in the sample.*E* - Indicates the analyte concentration exceeds the calibration range of the instrument.*R* - Retention Time Out*J* - Indicates an estimated value when a compound is detected at less than the specified detection limit.*d* - Pesticide %Diff>40% between columns due to coelution. Lower concentration use a*Chlordane (Total)* is sum of *α-Chlordane* and *γ-Chlordane*.

SampleID : AC91036-001
 Data File: 3M89965.D
 Acq On : 04/30/16 02:03

Operator : WP
 Sam Mult : 1 Vial# : 24
 Misc : A,5ML13

Qt Meth : 3M_A0415.M
 Qt On : 05/02/16 10:03
 Qt Upd On: 04/18/16 11:40

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-2916\
 Qt Path : G:\GcMsData\2016\GCMS_3\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Qvalue

Internal Standards							
4) Fluorobenzene	4.473	96	231076	30.00	ug/l	-0.02	
52) Chlorobenzene-d5	6.270	117	196535	30.00	ug/l	-0.02	
70) 1,4-Dichlorobenzene-d4	7.683	152	88017	30.00	ug/l	-0.02	
System Monitoring Compounds							
37) Dibromofluoromethane	4.040	111	78824	28.05	ug/l	-0.02	
Spiked Amount			Recovery	=	93.50%		
39) 1,2-Dichloroethane-d4	4.269	67	47263	25.23	ug/l	-0.02	
Spiked Amount			Recovery	=	84.10%		
66) Toluene-d8	5.417	98	245213	28.37	ug/l	-0.02	
Spiked Amount			Recovery	=	94.57%		
76) Bromofluorobenzene	6.974	174	73802	23.68	ug/l	-0.02	
Spiked Amount			Recovery	=	78.93%		

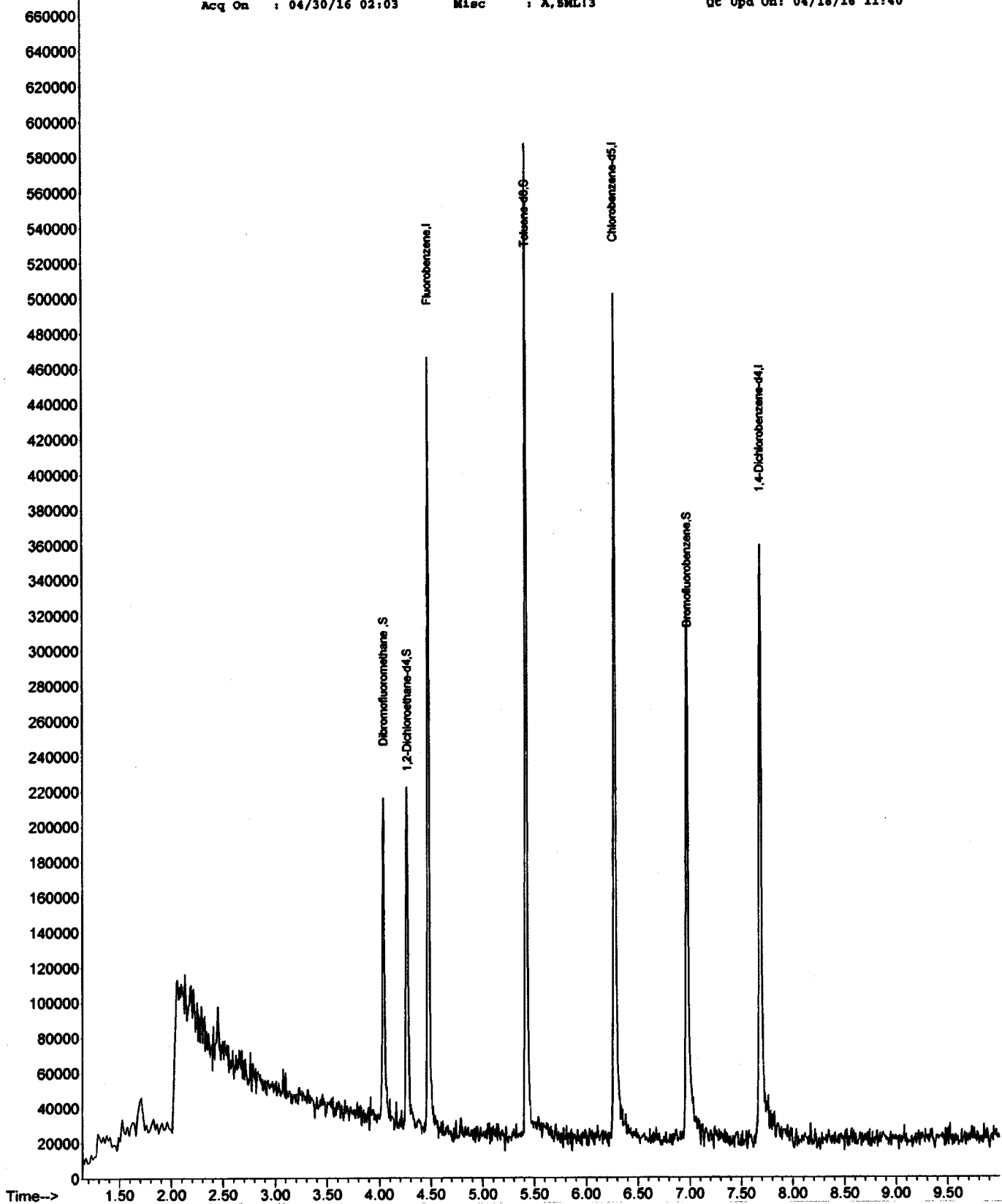
Target Compounds							Qvalue

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

Abundance
700000

TIC: 3M89965.D\data.ms

Quant QT Reviewed

SampleID : AC91036-001
Data File: 3M89965.D
Acq On : 04/30/16 02:03Operator : WP
Sam Mult : 1 Vial# : 24
Misc : A.SML13Qt Meth : 3M A0415.M
Qt On : 05/02/16 10:03
Qt Upd On: 04/18/16 11:40

Form1
ORGANICS VOLATILE REPORT

Sample Number: AC91036-003
Client Id: DUP TWP-01 U
Data File: 3M89964.D
Analysis Date: 04/30/16 01:47
Date Rec/Extracted: 04/28/16-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Aqueous
Initial Vol: 5ml
Final Vol: NA
Dilution: 1.00
Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	1.0	U	108-90-7	Chlorobenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	75-00-3	Chloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	1.0	U	67-66-3	Chloroform	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U	74-87-3	Chloromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U	156-59-2	cis-1,2-Dichloroethene	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U	10061-01-5	cis-1,3-Dichloropropene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U	110-82-7	Cyclohexane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U	124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropa	1.0	U	75-71-8	Dichlorodifluoromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U	100-41-4	Ethylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U	98-82-8	Isopropylbenzene	1.0	U
107-06-2	1,2-Dichloroethane	0.50	U	79601-23-1	m&p-Xylenes	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U	79-20-9	Methyl Acetate	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U	108-87-2	Methylcyclohexane	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	75-09-2	Methylene Chloride	1.0	U
123-91-1	1,4-Dioxane	50	U	1634-04-4	Methyl-t-butyl ether	0.50	U
78-93-3	2-Butanone	1.0	U	95-47-6	o-Xylene	1.0	U
591-78-6	2-Hexanone	1.0	U	100-42-5	Styrene	1.0	U
108-10-1	4-Methyl-2-Pentanone	1.0	U	75-65-0	t-Butyl Alcohol	5.0	U
67-64-1	Acetone	5.0	U	127-18-4	Tetrachloroethene	1.0	U
71-43-2	Benzene	0.50	U	108-88-3	Toluene	1.0	U
74-97-5	Bromochloromethane	1.0	U	156-60-5	trans-1,2-Dichloroethene	1.0	U
75-27-4	Bromodichloromethane	1.0	U	10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U	79-01-6	Trichloroethene	1.0	U
74-83-9	Bromomethane	5.0	U	75-69-4	Trichlorofluoromethane	1.0	U
75-15-0	Carbon Disulfide	1.0	U	75-01-4	Vinyl Chloride	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	1330-20-7	Xylenes (Total)	1.0	U

Worksheet #: 382208

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses
Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC91036-003
 Data File: 3M89964.D
 Acq On : 04/30/16 01:47

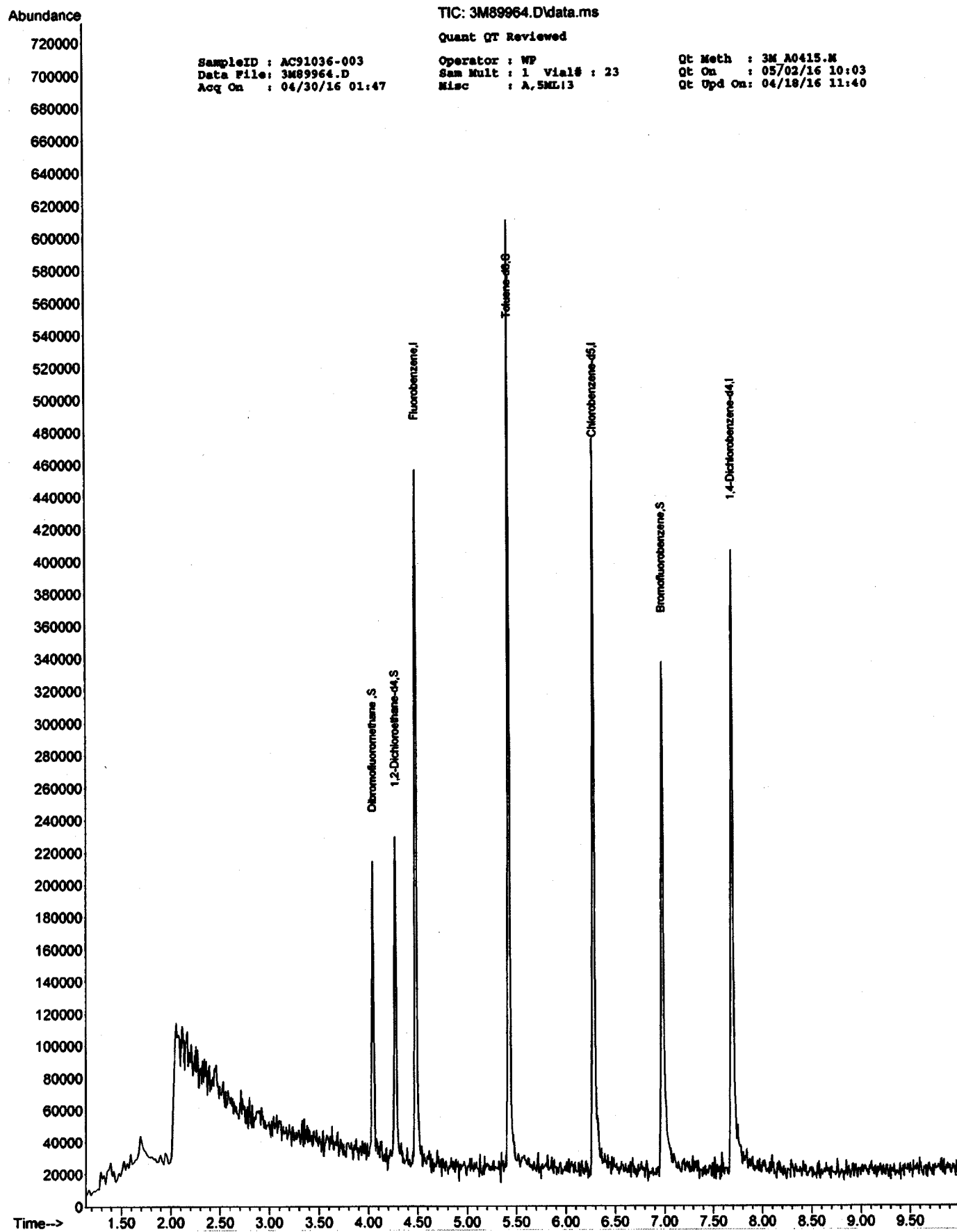
Operator : WP
 Sam Mult : 1 Vial# : 23
 Misc : A,SML!3

Qt Meth : 3M A0415.M
 Qt On : 05/02/16 10:03
 Qt Upd On: 04/18/16 11:40

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-2916\
 Qt Path : G:\GcMsData\2016\GCMS_3\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Qvalue
Internal Standards							
4) Fluorobenzene	4.480	96	231026	30.00	ug/l	-0.02	
52) Chlorobenzene-d5	6.283	117	189090	30.00	ug/l	-0.01	
70) 1,4-Dichlorobenzene-d4	7.690	152	93322	30.00	ug/l	-0.02	
System Monitoring Compounds							
37) Dibromofluoromethane	4.041	111	74954	26.68	ug/l	-0.02	
Spiked Amount							Recovery = 88.93%
39) 1,2-Dichloroethane-d4	4.269	67	52694	28.14	ug/l	-0.02	
Spiked Amount							Recovery = 93.80%
66) Toluene-d8	5.424	98	246330	29.62	ug/l	-0.02	
Spiked Amount							Recovery = 98.73%
76) Bromofluorobenzene	6.974	174	86553	26.19	ug/l	-0.02	
Spiked Amount							Recovery = 87.30%
Target Compounds							Qvalue

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



Form1
ORGANICS VOLATILE REPORT

Sample Number: AC91036-005
Client Id: TB-02
Data File: 3M89950.D
Analysis Date: 04/29/16 22:05
Date Rec/Extracted: 04/28/16-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Aqueous
Initial Vol: 5ml
Final Vol: NA
Dilution: 1.00
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	1.0	U	108-90-7	Chlorobenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	75-00-3	Chloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	1.0	U	67-66-3	Chloroform	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U	74-87-3	Chloromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U	156-59-2	cis-1,2-Dichloroethene	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U	10061-01-5	cis-1,3-Dichloropropene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U	110-82-7	Cyclohexane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U	124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropa	1.0	U	75-71-8	Dichlorodifluoromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U	100-41-4	Ethylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U	98-82-8	Isopropylbenzene	1.0	U
107-06-2	1,2-Dichloroethane	0.50	U	79601-23-1	m&p-Xylenes	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U	79-20-9	Methyl Acetate	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U	108-87-2	Methylcyclohexane	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	75-09-2	Methylene Chloride	1.0	U
123-91-1	1,4-Dioxane	50	U	1634-04-4	Methyl-t-butyl ether	0.50	U
78-93-3	2-Butanone	1.0	U	95-47-6	o-Xylene	1.0	U
591-78-6	2-Hexanone	1.0	U	100-42-5	Styrene	1.0	U
108-10-1	4-Methyl-2-Pentanone	1.0	U	75-65-0	t-Butyl Alcohol	5.0	U
67-64-1	Acetone	5.0	U	127-18-4	Tetrachloroethene	1.0	U
71-43-2	Benzene	0.50	U	108-88-3	Toluene	1.0	U
74-97-5	Bromochloromethane	1.0	U	156-60-5	trans-1,2-Dichloroethene	1.0	U
75-27-4	Bromodichloromethane	1.0	U	10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U	79-01-6	Trichloroethene	1.0	U
74-83-9	Bromomethane	5.0	U	75-69-4	Trichlorofluoromethane	1.0	U
75-15-0	Carbon Disulfide	1.0	U	75-01-4	Vinyl Chloride	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	1330-20-7	Xylenes (Total)	1.0	U

Worksheet #: 382208

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration use a**Chlordane (Total) is sum of a-Chlordane and y-Chlordane.*

SampleID : AC91036-005
 Data File: 3M89950.D
 Acq On : 04/29/16 22:05

Operator : WP
 Sam Mult : 1 Vial# : 9
 Misc : A,5ML13

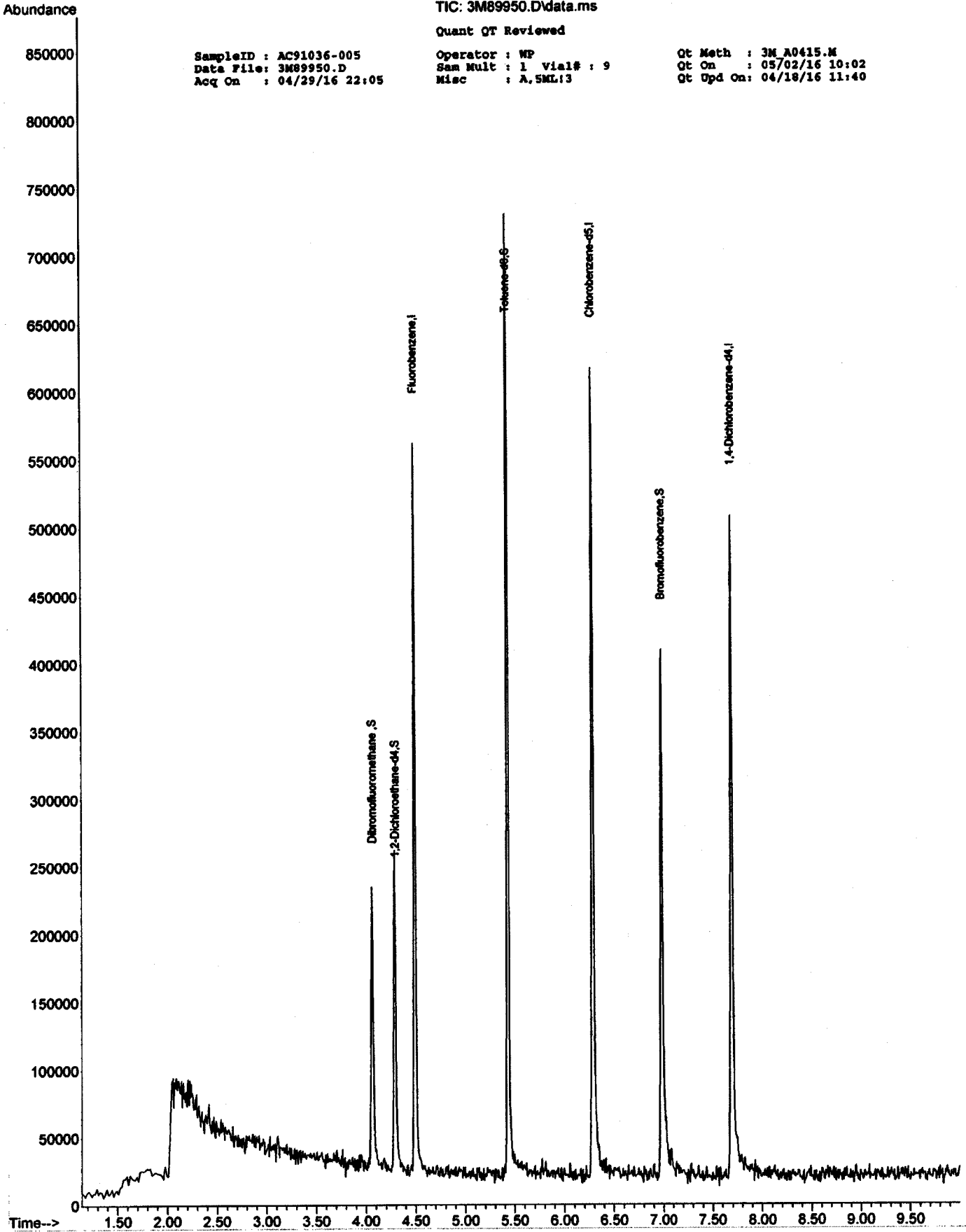
Qt Meth : 3M_A0415.M
 Qt On : 05/02/16 10:02
 Qt Upd On: 04/18/16 11:40

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-2916\
 Qt Path : G:\GcMsData\2016\GCMS_3\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QI on	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.491	96	274430	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.283	117	244241	30.00	ug/l	-0.01
70) 1,4-Dichlorobenzene-d4	7.689	152	126104	30.00	ug/l	-0.02
System Monitoring Compounds						
37) Dibromofluoromethane	4.064	111	91922	27.55	ug/l	0.00
Spiked Amount			Recovery	=	91.83%	
39) 1,2-Dichloroethane-d4	4.293	67	61311	27.56	ug/l	0.00
Spiked Amount			Recovery	=	91.87%	
66) Toluene-d8	5.429	98	314640	29.29	ug/l	-0.01
Spiked Amount			Recovery	=	97.63%	
76) Bromofluorobenzene	6.980	174	112492	25.19	ug/l	-0.01
Spiked Amount			Recovery	=	83.97%	

Target Compounds Qvalue

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



TIC: 3M89950.D\data.ms
Quant QT Reviewed
Operator : WP
Sam Mult : 1 Vial# : 9
Misc : A.SML13

SampleID : AC91036-005
Data File: 3M89950.D
Acq On : 04/29/16 22:05

Qt Meth : 3M A0415.M
Qt On : 05/02/16 10:02
Qt Upd On: 04/18/16 11:40

Form1
ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
 Client Id:
 Data File: 3M89945.D
 Analysis Date: 04/29/16 20:45
 Date Rec/Extracted:
 Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
 Matrix: Aqueous
 Initial Vol: 5ml
 Final Vol: NA
 Dilution: 1.00
 Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	1.0	U	108-90-7	Chlorobenzene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U	75-00-3	Chloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	1.0	U	67-66-3	Chloroform	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U	74-87-3	Chloromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U	156-59-2	cis-1,2-Dichloroethene	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U	10061-01-5	cis-1,3-Dichloropropene	1.0	U
87-61-6	1,2,3-Trichlorobenzene	1.0	U	110-82-7	Cyclohexane	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U	124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-Chloropropa	1.0	U	75-71-8	Dichlorodifluoromethane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U	100-41-4	Ethylbenzene	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U	98-82-8	Isopropylbenzene	1.0	U
107-06-2	1,2-Dichloroethane	0.50	U	79601-23-1	m&p-Xylenes	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U	79-20-9	Methyl Acetate	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U	108-87-2	Methylcyclohexane	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	75-09-2	Methylene Chloride	1.0	U
123-91-1	1,4-Dioxane	50	U	1634-04-4	Methyl-t-butyl ether	0.50	U
78-93-3	2-Butanone	1.0	U	95-47-6	o-Xylene	1.0	U
591-78-6	2-Hexanone	1.0	U	100-42-5	Styrene	1.0	U
108-10-1	4-Methyl-2-Pentanone	1.0	U	75-65-0	t-Butyl Alcohol	5.0	U
67-64-1	Acetone	5.0	U	127-18-4	Tetrachloroethene	1.0	U
71-43-2	Benzene	0.50	U	108-88-3	Toluene	1.0	U
74-97-5	Bromochloromethane	1.0	U	156-60-5	trans-1,2-Dichloroethene	1.0	U
75-27-4	Bromodichloromethane	1.0	U	10061-02-6	trans-1,3-Dichloropropene	1.0	U
75-25-2	Bromoform	1.0	U	79-01-6	Trichloroethene	1.0	U
74-83-9	Bromomethane	5.0	U	75-69-4	Trichlorofluoromethane	1.0	U
75-15-0	Carbon Disulfide	1.0	U	75-01-4	Vinyl Chloride	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U				

Worksheet #: 382208

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

SampleID : DAILY BLANK
 Data File: 3M89945.D
 Acq On : 04/29/16 20:45

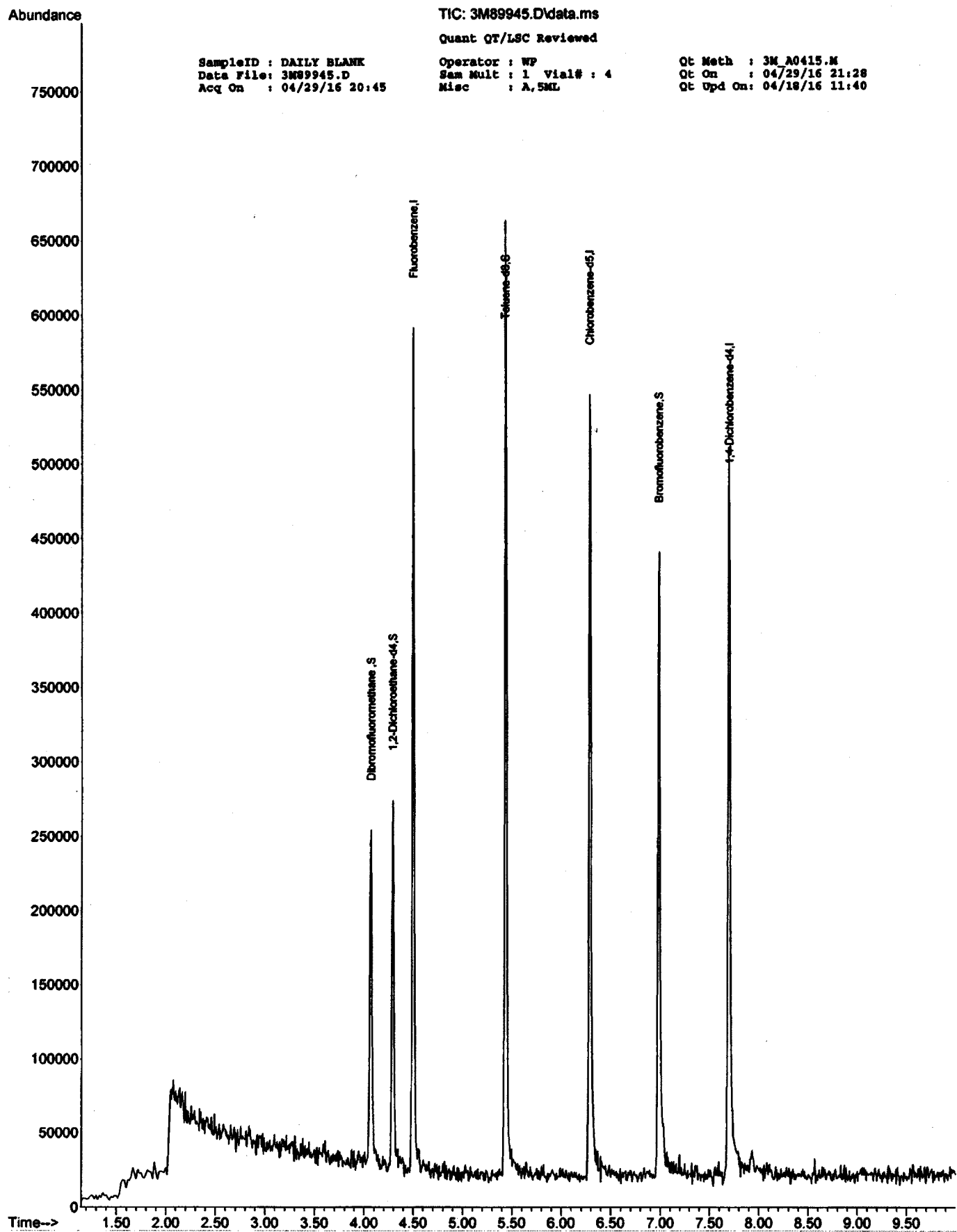
Operator : WP
 Sam Mult : 1 Vial# : 4
 Misc : A,5ML

Qt Meth : 3M A0415.M
 Qt On : 04/29/16 21:28
 Qt Upd On: 04/18/16 11:40

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-2916\
 Qt Path : G:\GcMsData\2016\GCMS_3\MethodQt\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.498	96	305485	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.284	117	234748	30.00	ug/l	-0.01
70) 1,4-Dichlorobenzene-d4	7.696	152	120435	30.00	ug/l	-0.01
System Monitoring Compounds						
37) Dibromofluoromethane	4.065	111	101549	27.34	ug/l	0.00
Spiked Amount						30.000
						Recovery = 91.13%
39) 1,2-Dichloroethane-d4	4.288	67	63004	25.44	ug/l	0.00
Spiked Amount						30.000
						Recovery = 84.80%
66) Toluene-d8	5.430	98	282242	27.33	ug/l	-0.01
Spiked Amount						30.000
						Recovery = 91.10%
76) Bromofluorobenzene	6.981	174	102200	23.96	ug/l	-0.01
Spiked Amount						30.000
						Recovery = 79.87%
Target Compounds						Qvalue

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



SampleID : DAILY BLANK
Data File: 3M89945.D
Acq On : 04/29/16 20:45

TIC: 3M89945.D\data.ms
Quant QT/LSC Reviewed
Operator : WP
Sam Mult : 1 Vial# : 4
Misc : A,5ML

Qt Meth : 3M_A0415.M
Qt On : 04/29/16 21:28
Qt Upd On: 04/18/16 11:40

FORM2

Surrogate Recovery

Method: EPA 8260C

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1	Column1	Column1	Column1	Column0	Column0
						S1 Recov	S2 Recov	S3 Recov	S4 Recov	S5 Recov	S6 Recov
3M89254.D	DAILY BLANK	A	04/19/16 09:03	1		97	98	100	103		
3M89945.D	DAILY BLANK	A	04/29/16 20:45	1		91	85	91	80		
3M89965.D	AC91036-001	A	04/30/16 02:03	1		94	84	95	79		
3M89964.D	AC91036-003	A	04/30/16 01:47	1		89	94	99	87		
3M89950.D	AC91036-005	A	04/29/16 22:05	1		92	92	98	84		
3M89256.D	AC90754-002(T)	A	04/19/16 09:35	1		107	102	99	102		
3M89259.D	MBS52904	A	04/19/16 10:23	1		107	98	108	99		
3M89264.D	AC90754-002(T:MS)	A	04/19/16 11:45	1		99	98	101	101		
3M89265.D	AC90754-002(T:MSD)	A	04/19/16 12:01	1		93	94	103	106		
3M89947.D	MBS52940	A	04/29/16 21:17	1		98	97	96	85		

Flags: SD=Surrogate diluted out

*=Surrogate out

Method: EPA 8260C

Aqueous DKQP Limits

Compound	Spike Amt	Limits
S1=Dibromofluoromethane	30	70-130
S2=1,2-Dichloroethane-d4	30	70-130
S3=Toluene-d8	30	70-130
S4=Bromofluorobenzene	30	70-130

Form3
Recovery Data
 QC Batch: MBS52804

Data File	Sample ID:	Analysis Date
Spike or Dup: 3M89259.D	MBS52804	4/19/2016 10:23:00 AM
Non Spike (If applicable):		
Inst Blank (If applicable):		
Method: 8260C	Matrix: Aqueous	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	16.7748	0	20	84	70	130
Dichlorodifluoromethane	1	20.9406	0	20	105	40	160
Chloromethane	1	18.3181	0	20	92	40	160
Bromomethane	1	21.6429	0	20	108	40	160
Vinyl Chloride	1	22.6573	0	20	113	70	130
Chloroethane	1	24.5001	0	20	123	40	160
Trichlorofluoromethane	1	28.9361	0	20	145	40	160
Ethyl ether	1	21.9739	0	20	110	70	130
Furan	1	24.754	0	20	124	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	23.5753	0	20	118	70	130
Methylene Chloride	1	18.3301	0	20	92	70	130
Acrolein	1	80.6594	0	100	81	70	130
Acrylonitrile	1	14.5951	0	20	73	70	130
Iodomethane	1	22.0065	0	20	110	70	130
Acetone	1	86.4378	0	100	86	40	160
Carbon Disulfide	1	26.0152	0	20	130	40	160
t-Butyl Alcohol	1	81.6991	0	100	82	70	130
n-Hexane	1	20.4941	0	20	102	70	130
Di-isopropyl-ether	1	19.8862	0	20	99	70	130
1,1-Dichloroethene	1	20.4064	0	20	102	70	130
Methyl Acetate	1	23.5961	0	20	118	70	130
Methyl-t-butyl ether	1	20.3609	0	20	102	70	130
1,1-Dichloroethane	1	17.8873	0	20	89	70	130
trans-1,2-Dichloroethene	1	20.0422	0	20	100	70	130
Ethyl-t-butyl ether	1	17.5758	0	20	88	70	130
cis-1,2-Dichloroethene	1	19.7757	0	20	99	70	130
Bromochloromethane	1	17.1842	0	20	86	70	130
2,2-Dichloropropane	1	18.6588	0	20	93	70	130
Ethyl acetate	1	19.4232	0	20	97	70	130
1,4-Dioxane	1	592.9779	0	1000	59	40	160
1,1-Dichloropropene	1	22.5907	0	20	113	70	130
Chloroform	1	20.7698	0	20	104	70	130
Cyclohexane	1	20.0396	0	20	100	70	130
1,2-Dichloroethane	1	20.0133	0	20	100	70	130
2-Butanone	1	10.3589	0	20	52*	70	130
1,1,1-Trichloroethane	1	20.6207	0	20	103	70	130
Carbon Tetrachloride	1	22.0722	0	20	110	70	130
Vinyl Acetate	1	15.7564	0	20	79	70	130
Bromodichloromethane	1	18.2013	0	20	91	70	130
Methylcyclohexane	1	20.5679	0	20	103	70	130
Dibromomethane	1	20.5435	0	20	103	70	130
1,2-Dichloropropane	1	19.813	0	20	99	70	130
Trichloroethene	1	19.5173	0	20	98	70	130
Benzene	1	17.3667	0	20	87	70	130
tert-Amyl methyl ether	1	19.5355	0	20	98	70	130
Iso-propylacetate	1	19.2159	0	20	96	70	130
Methyl methacrylate	1	14.6592	0	20	73	70	130
Dibromochloromethane	1	21.0324	0	20	105	70	130
2-Chloroethylvinylether	1	14.8259	0	20	74	70	130
cis-1,3-Dichloropropene	1	21.1069	0	20	106	70	130
trans-1,3-Dichloropropene	1	22.3409	0	20	112	70	130
Ethyl methacrylate	1	15.7764	0	20	79	70	130
1,1,2-Trichloroethane	1	19.658	0	20	98	70	130
1,2-Dibromoethane	1	17.9897	0	20	90	70	130
1,3-Dichloropropane	1	20.2269	0	20	101	70	130
4-Methyl-2-Pentanone	1	13.4157	0	20	67	40	160
2-Hexanone	1	6.193	0	20	31*	40	160
Tetrachloroethene	1	23.1947	0	20	116	70	130
Toluene	1	20.9058	0	20	105	70	130
1,1,1,2-Tetrachloroethane	1	23.0071	0	20	115	70	130
Chlorobenzene	1	20.8803	0	20	104	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data

QC Batch: MBS52804

n-Butyl acrylate	1	13.6237	0	20	68*	70	130
n-Amyl acetate	1	14.0012	0	20	70	70	130
Bromoform	1	17.4523	0	20	87	70	130
Ethylbenzene	1	19.062	0	20	95	70	130
1,1,2,2-Tetrachloroethane	1	17.9782	0	20	90	70	130
Styrene	1	20.0485	0	20	100	70	130
m&p-Xylenes	1	37.2713	0	40	93	70	130
o-Xylene	1	20.0236	0	20	100	70	130
trans-1,4-Dichloro-2-butene	1	8.5499	0	20	43*	70	130
1,3-Dichlorobenzene	1	20.5975	0	20	103	70	130
1,4-Dichlorobenzene	1	19.8033	0	20	99	70	130
1,2-Dichlorobenzene	1	19.7879	0	20	99	70	130
Isopropylbenzene	1	20.3293	0	20	102	70	130
Cyclohexanone	1	40.3945	0	100	40*	70	130
Camphene	1	20.5736	0	20	103	70	130
1,2,3-Trichloropropane	1	17.1659	0	20	86	70	130
2-Chlorotoluene	1	23.1552	0	20	116	70	130
p-Ethyltoluene	1	22.0232	0	20	110	70	130
4-Chlorotoluene	1	19.3275	0	20	97	70	130
n-Propylbenzene	1	19.004	0	20	95	70	130
Bromobenzene	1	17.4634	0	20	87	70	130
1,3,5-Trimethylbenzene	1	21.1857	0	20	106	70	130
Butyl methacrylate	1	15.7271	0	20	79	70	130
t-Butylbenzene	1	21.32	0	20	107	70	130
1,2,4-Trimethylbenzene	1	19.3017	0	20	97	70	130
sec-Butylbenzene	1	18.5285	0	20	93	70	130
4-Isopropyltoluene	1	18.7146	0	20	94	70	130
n-Butylbenzene	1	19.8113	0	20	99	70	130
p-Diethylbenzene	1	19.2336	0	20	96	70	130
1,2,4,5-Tetramethylbenzene	1	21.3723	0	20	107	70	130
1,2-Dibromo-3-Chloropropane	1	18.4918	0	20	92	40	160
Camphor	1	197.4275	0	200	99	70	130
Hexachlorobutadiene	1	16.374	0	20	82	70	130
1,2,4-Trichlorobenzene	1	19.8821	0	20	99	70	130
1,2,3-Trichlorobenzene	1	19.2744	0	20	96	70	130
Naphthalene	1	21.1184	0	20	106	40	160

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: MBS52940

Data File Spike or Dup: 3M89947.D	Sample ID: MBS52940	Analysis Date 4/29/2016 9:17:00 PM
Non Spike (If applicable):		
Inst Blank (If applicable):		
Method: 8260C	Matrix: Aqueous	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	10.6528	0	20	53*	70	130
Dichlorodifluoromethane	1	13.5734	0	20	68	40	160
Chloromethane	1	10.6955	0	20	53	40	160
Bromomethane	1	12.5779	0	20	63	40	160
Vinyl Chloride	1	12.9363	0	20	65*	70	130
Chloroethane	1	13.1468	0	20	66	40	160
Trichlorofluoromethane	1	26.8125	0	20	134	40	160
Ethyl ether	1	14.3895	0	20	72	70	130
Furan	1	18.4484	0	20	92	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	12.6593	0	20	63*	70	130
Methylene Chloride	1	15.9116	0	20	80	70	130
Acrolein	1	67.6968	0	100	68*	70	130
Acrylonitrile	1	15.404	0	20	77	70	130
Iodomethane	1	15.4165	0	20	77	70	130
Acetone	1	74.4691	0	100	74	40	160
Carbon Disulfide	1	20.7244	0	20	104	40	160
t-Butyl Alcohol	1	59.1798	0	100	59*	70	130
n-Hexane	1	17.1023	0	20	86	70	130
Di-isopropyl-ether	1	15.3606	0	20	77	70	130
1,1-Dichloroethene	1	14.4895	0	20	72	70	130
Methyl Acetate	1	16.7791	0	20	84	70	130
Methyl-t-butyl ether	1	13.6982	0	20	68*	70	130
1,1-Dichloroethane	1	14.9994	0	20	75	70	130
trans-1,2-Dichloroethene	1	17.0636	0	20	85	70	130
Ethyl-t-butyl ether	1	13.0847	0	20	65*	70	130
cis-1,2-Dichloroethene	1	14.1307	0	20	71	70	130
Bromochloromethane	1	15.0905	0	20	75	70	130
2,2-Dichloropropane	1	12.973	0	20	65*	70	130
Ethyl acetate	1	17.0752	0	20	85	70	130
1,4-Dioxane	1	805.5238	0	1000	81	40	160
1,1-Dichloropropene	1	18.3508	0	20	92	70	130
Chloroform	1	16.7291	0	20	84	70	130
Cyclohexane	1	15.3488	0	20	77	70	130
1,2-Dichloroethane	1	15.3277	0	20	77	70	130
2-Butanone	1	11.0419	0	20	55*	70	130
1,1,1-Trichloroethane	1	15.1618	0	20	76	70	130
Carbon Tetrachloride	1	16.2493	0	20	81	70	130
Vinyl Acetate	1	11.9131	0	20	60*	70	130
Bromodichloromethane	1	15.6916	0	20	78	70	130
Methylcyclohexane	1	14.9411	0	20	75	70	130
Dibromomethane	1	14.5258	0	20	73	70	130
1,2-Dichloropropane	1	17.3415	0	20	87	70	130
Trichloroethene	1	17.1069	0	20	86	70	130
Benzene	1	16.8036	0	20	84	70	130
tert-Amyl methyl ether	1	15.0404	0	20	75	70	130
Iso-propylacetate	1	12.2005	0	20	61*	70	130
Methyl methacrylate	1	12.3043	0	20	62*	70	130
Dibromochloromethane	1	16.8774	0	20	84	70	130
2-Chloroethylvinylether	1	10.729	0	20	54*	70	130
cis-1,3-Dichloropropene	1	16.1837	0	20	81	70	130
trans-1,3-Dichloropropene	1	16.2897	0	20	81	70	130
Ethyl methacrylate	1	10.8933	0	20	54*	70	130
1,1,2-Trichloroethane	1	15.0316	0	20	75	70	130
1,2-Dibromoethane	1	13.7579	0	20	69*	70	130
1,3-Dichloropropane	1	15.5539	0	20	78	70	130
4-Methyl-2-Pentanone	1	9.6674	0	20	48	40	160
2-Hexanone	1	3.8688	0	20	19*	40	160
Tetrachloroethene	1	15.8599	0	20	79	70	130
Toluene	1	15.696	0	20	78	70	130
1,1,1,2-Tetrachloroethane	1	16.1963	0	20	81	70	130
Chlorobenzene	1	15.7596	0	20	79	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: MBS52940

n-Butyl acrylate	1	11.3125	0	20	57*	70	130
n-Amyl acetate	1	9.9564	0	20	50*	70	130
Bromoform	1	13.9166	0	20	70	70	130
Ethylbenzene	1	16.5773	0	20	83	70	130
1,1,2,2-Tetrachloroethane	1	15.9141	0	20	80	70	130
Styrene	1	18.6075	0	20	93	70	130
m&p-Xylenes	1	35.3085	0	40	88	70	130
o-Xylene	1	17.5086	0	20	88	70	130
trans-1,4-Dichloro-2-butene	1	9.9492	0	20	50*	70	130
1,3-Dichlorobenzene	1	16.5022	0	20	83	70	130
1,4-Dichlorobenzene	1	15.2638	0	20	76	70	130
1,2-Dichlorobenzene	1	16.5292	0	20	83	70	130
Isopropylbenzene	1	17.3771	0	20	87	70	130
Cyclohexanone	1	135.5018	0	100	136*	70	130
Camphene	1	15.2837	0	20	76	70	130
1,2,3-Trichloropropane	1	13.4429	0	20	67*	70	130
2-Chlorotoluene	1	17.279	0	20	86	70	130
p-Ethyltoluene	1	16.6879	0	20	83	70	130
4-Chlorotoluene	1	16.0832	0	20	80	70	130
n-Propylbenzene	1	15.2125	0	20	76	70	130
Bromobenzene	1	14.187	0	20	71	70	130
1,3,5-Trimethylbenzene	1	16.1516	0	20	81	70	130
Butyl methacrylate	1	10.6867	0	20	53*	70	130
t-Butylbenzene	1	16.7451	0	20	84	70	130
1,2,4-Trimethylbenzene	1	15.3565	0	20	77	70	130
sec-Butylbenzene	1	15.7014	0	20	79	70	130
4-Isopropyltoluene	1	16.3201	0	20	82	70	130
n-Butylbenzene	1	16.1393	0	20	81	70	130
p-Diethylbenzene	1	15.0298	0	20	75	70	130
1,2,4,5-Tetramethylbenzene	1	12.1355	0	20	61*	70	130
1,2-Dibromo-3-Chloropropane	1	17.5256	0	20	88	40	160
Camphor	1	181.1005	0	200	91	70	130
Hexachlorobutadiene	1	10.873	0	20	54*	70	130
1,2,4-Trichlorobenzene	1	11.4244	0	20	57*	70	130
1,2,3-Trichlorobenzene	1	12.1486	0	20	61*	70	130
Naphthalene	1	13.0434	0	20	65	40	160

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: MBS52804

Data File	Sample ID:	Analysis Date
Spike or Dup: 3M89264.D	AC90754-002(T:MS)	4/19/2016 11:45:00 AM
Non Spike (If applicable): 3M89256.D	AC90754-002(T)	4/19/2016 9:35:00 AM
Inst Blank (If applicable):		
Method: 8260C	Matrix: Aqueous	QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	16.7997	0	20	84	70	130
Dichlorodifluoromethane	1	18.8061	0	20	94	40	160
Chloromethane	1	15.2707	0	20	76	40	160
Bromomethane	1	18.1661	0	20	91	40	160
Vinyl Chloride	1	19.6086	0	20	98	70	130
Chloroethane	1	19.6999	0	20	98	40	160
Trichlorofluoromethane	1	27.4486	0	20	137	40	160
Ethyl ether	1	36.0917	0	20	180*	70	130
Furan	1	24.4704	0	20	122	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	18.5954	0	20	93	70	130
Methylene Chloride	1	76.5149	0	20	383*	70	130
Acrolein	1	75.6534	0	100	76	70	130
Acrylonitrile	1	15.3754	0	20	77	70	130
Iodomethane	1	18.2654	0	20	91	70	130
Acetone	1	170.0302	0	100	170*	40	160
Carbon Disulfide	1	23.2595	0	20	116	40	160
t-Butyl Alcohol	1	74.7926	0	100	75	70	130
n-Hexane	1	21.7079	0	20	109	70	130
Di-isopropyl-ether	1	19.4205	0	20	97	70	130
1,1-Dichloroethene	1	17.8365	0	20	89	70	130
Methyl Acetate	1	40.5874	0	20	203*	70	130
Methyl-t-butyl ether	1	19.0267	0	20	95	70	130
1,1-Dichloroethane	1	18.0566	0	20	90	70	130
trans-1,2-Dichloroethene	1	19.3406	0	20	97	70	130
Ethyl-t-butyl ether	1	16.053	0	20	80	70	130
cis-1,2-Dichloroethene	1	17.5092	0	20	88	70	130
Bromochloromethane	1	15.6879	0	20	78	70	130
2,2-Dichloropropane	1	17.8713	0	20	89	70	130
Ethyl acetate	1	18.9904	0	20	95	70	130
1,4-Dioxane	1	685.0966	0	1000	69	40	160
1,1-Dichloropropene	1	20.4814	0	20	102	70	130
Chloroform	1	19.7513	0	20	99	70	130
Cyclohexane	1	20.1159	0	20	101	70	130
1,2-Dichloroethane	1	18.8367	0	20	94	70	130
2-Butanone	1	22.4286	13.3414	20	45*	70	130
1,1,1-Trichloroethane	1	18.8843	0	20	94	70	130
Carbon Tetrachloride	1	17.989	0	20	90	70	130
Vinyl Acetate	1	15.7039	0	20	79	70	130
Bromodichloromethane	1	15.1604	0	20	76	70	130
Methylcyclohexane	1	19.0032	0	20	95	70	130
Dibromomethane	1	15.91	0	20	80	70	130
1,2-Dichloropropane	1	19.6967	0	20	98	70	130
Trichloroethene	1	19.604	0	20	98	70	130
Benzene	1	36.7095	28.5867	20	41*	70	130
tert-Amyl methyl ether	1	18.9659	0	20	95	70	130
Iso-propylacetate	1	16.6422	0	20	83	70	130
Methyl methacrylate	1	12.7432	0	20	64*	70	130
Dibromochloromethane	1	17.8257	0	20	89	70	130
2-Chloroethylvinylether	1	13.4204	0	20	67*	70	130
cis-1,3-Dichloropropene	1	18.6852	0	20	93	70	130
trans-1,3-Dichloropropene	1	20.0449	0	20	100	70	130
Ethyl methacrylate	1	13.7961	0	20	69*	70	130
1,1,2-Trichloroethane	1	15.9183	0	20	80	70	130
1,2-Dibromoethane	1	14.1167	0	20	71	70	130
1,3-Dichloropropane	1	19.8309	0	20	99	70	130
4-Methyl-2-Pentanone	1	14.4649	0	20	72	40	160
2-Hexanone	1	11.3042	0	20	57	40	160
Tetrachloroethene	1	19.7478	0	20	99	70	130
Toluene	1	30.029	0	20	150*	70	130
1,1,1,2-Tetrachloroethane	1	17.2739	0	20	86	70	130
Chlorobenzene	1	18.1315	0	20	91	70	130

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Form3
Recovery Data
QC Batch: MBS52804

n-Butyl acrylate	1	14.9959	0	20	75	70	130
n-Amyl acetate	1	14.9823	0	20	75	70	130
Bromoform	1	14.1402	0	20	71	70	130
Ethylbenzene	1	22.7735	0	20	114	70	130
1,1,2,2-Tetrachloroethane	1	17.7031	0	20	89	70	130
Styrene	1	20.1579	0	20	101	70	130
m&p-Xylenes	1	52.8365	0	40	132*	70	130
o-Xylene	1	25.1203	0	20	126	70	130
trans-1,4-Dichloro-2-butene	1	12.6412	0	20	63*	70	130
1,3-Dichlorobenzene	1	18.0061	0	20	90	70	130
1,4-Dichlorobenzene	1	17.7719	0	20	89	70	130
1,2-Dichlorobenzene	1	18.6373	0	20	93	70	130
Isopropylbenzene	1	20.0749	0	20	100	70	130
Cyclohexanone	1	162.0049	0	100	162*	70	130
Camphene	1	18.5885	0	20	93	70	130
1,2,3-Trichloropropane	1	18.0256	0	20	90	70	130
2-Chlorotoluene	1	18.5762	0	20	93	70	130
p-Ethyltoluene	1	22.059	0	20	110	70	130
4-Chlorotoluene	1	17.6462	0	20	88	70	130
n-Propylbenzene	1	19.9643	0	20	100	70	130
Bromobenzene	1	21.5543	0	20	108	70	130
1,3,5-Trimethylbenzene	1	20.7205	0	20	104	70	130
Butyl methacrylate	1	14.7047	0	20	74	70	130
t-Butylbenzene	1	20.2089	0	20	101	70	130
1,2,4-Trimethylbenzene	1	21.7414	0	20	109	70	130
sec-Butylbenzene	1	20.2097	0	20	101	70	130
4-Isopropyltoluene	1	18.8991	0	20	94	70	130
n-Butylbenzene	1	20.4049	0	20	102	70	130
p-Diethylbenzene	1	20.6566	0	20	103	70	130
1,2,4,5-Tetramethylbenzene	1	21.8255	0	20	109	70	130
1,2-Dibromo-3-Chloropropane	1	16.0585	0	20	80	40	160
Camphor	1	233.282	0	200	117	70	130
Hexachlorobutadiene	1	15.7568	0	20	79	70	130
1,2,4-Trichlorobenzene	1	14.9964	0	20	75	70	130
1,2,3-Trichlorobenzene	1	17.2287	0	20	86	70	130
Naphthalene	1	30.4903	0	20	152	40	160

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Form3
Recovery Data
 QC Batch: MBS52804

Data File		Sample ID:		Analysis Date			
Spike or Dup: 3M89265.D		AC90754-002(T:MSD)		4/19/2016 12:01:00 PM			
Non Spike (If applicable): 3M89256.D		AC90754-002(T)		4/19/2016 9:35:00 AM			
Inst Blank (If applicable):							
Method: 8260C		Matrix: Aqueous		QC Type: MSD			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	14.3609	0	20	72	70	130
Dichlorodifluoromethane	1	15.5634	0	20	78	40	160
Chloromethane	1	12.9143	0	20	65	40	160
Bromomethane	1	16.263	0	20	81	40	160
Vinyl Chloride	1	15.2794	0	20	76	70	130
Chloroethane	1	18.0432	0	20	90	40	160
Trichlorofluoromethane	1	18.8301	0	20	94	40	160
Ethyl ether	1	33.4787	0	20	167*	70	130
Furan	1	21.4931	0	20	107	70	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	15.2603	0	20	76	70	130
Methylene Chloride	1	65.905	0	20	330*	70	130
Acrolein	1	71.0332	0	100	71	70	130
Acrylonitrile	1	15.4121	0	20	77	70	130
Iodomethane	1	15.9736	0	20	80	70	130
Acetone	1	165.2777	0	100	165*	40	160
Carbon Disulfide	1	18.7757	0	20	94	40	160
t-Butyl Alcohol	1	83.23	0	100	83	70	130
n-Hexane	1	18.0472	0	20	90	70	130
Di-isopropyl-ether	1	15.9417	0	20	80	70	130
1,1-Dichloroethene	1	16.1195	0	20	81	70	130
Methyl Acetate	1	36.7876	0	20	184*	70	130
Methyl-t-butyl ether	1	15.9176	0	20	80	70	130
1,1-Dichloroethane	1	13.415	0	20	67*	70	130
trans-1,2-Dichloroethene	1	16.116	0	20	81	70	130
Ethyl-t-butyl ether	1	14.5807	0	20	73	70	130
cis-1,2-Dichloroethene	1	15.4077	0	20	77	70	130
Bromochloromethane	1	14.8897	0	20	74	70	130
2,2-Dichloropropane	1	14.97	0	20	75	70	130
Ethyl acetate	1	16.5891	0	20	83	70	130
1,4-Dioxane	1	532.2883	0	1000	53	40	160
1,1-Dichloropropene	1	17.1679	0	20	86	70	130
Chloroform	1	15.9231	0	20	80	70	130
Cyclohexane	1	15.4095	0	20	77	70	130
1,2-Dichloroethane	1	16.2975	0	20	81	70	130
2-Butanone	1	22.9636	13.3414	20	48*	70	130
1,1,1-Trichloroethane	1	16.0976	0	20	80	70	130
Carbon Tetrachloride	1	16.7154	0	20	84	70	130
Vinyl Acetate	1	11.9717	0	20	60*	70	130
Bromodichloromethane	1	13.7628	0	20	69*	70	130
Methylcyclohexane	1	14.9064	0	20	75	70	130
Dibromomethane	1	13.1217	0	20	66*	70	130
1,2-Dichloropropane	1	16.6758	0	20	83	70	130
Trichloroethene	1	15.1977	0	20	76	70	130
Benzene	1	32.9239	28.5867	20	22*	70	130
tert-Amyl methyl ether	1	17.5362	0	20	88	70	130
Iso-propylacetate	1	15.9952	0	20	80	70	130
Methyl methacrylate	1	13.6993	0	20	68*	70	130
Dibromochloromethane	1	15.7176	0	20	79	70	130
2-Chloroethylvinylether	1	14.186	0	20	71	70	130
cis-1,3-Dichloropropene	1	16.9699	0	20	85	70	130
trans-1,3-Dichloropropene	1	16.347	0	20	82	70	130
Ethyl methacrylate	1	13.127	0	20	66*	70	130
1,1,2-Trichloroethane	1	15.4286	0	20	77	70	130
1,2-Dibromoethane	1	14.1759	0	20	71	70	130
1,3-Dichloropropane	1	16.2563	0	20	81	70	130
4-Methyl-2-Pentanone	1	13.152	0	20	66	40	160
2-Hexanone	1	8.8045	0	20	44	40	160
Tetrachloroethene	1	16.6241	0	20	83	70	130
Toluene	1	25.4495	0	20	127	70	130
1,1,1,2-Tetrachloroethane	1	15.7475	0	20	79	70	130
Chlorobenzene	1	16.3301	0	20	82	70	130

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Form3

Recovery Data

QC Batch: MBS52804

n-Butyl acrylate	1	16.689	0	20	83	70	130
n-Amyl acetate	1	12.1038	0	20	61*	70	130
Bromoform	1	16.1101	0	20	81	70	130
Ethylbenzene	1	19.8759	0	20	99	70	130
1,1,2,2-Tetrachloroethane	1	18.1259	0	20	91	70	130
Styrene	1	19.7335	0	20	99	70	130
m&p-Xylenes	1	49.0443	0	40	123	70	130
o-Xylene	1	22.0009	0	20	110	70	130
trans-1,4-Dichloro-2-butene	1	17.6688	0	20	88	70	130
1,3-Dichlorobenzene	1	15.933	0	20	80	70	130
1,4-Dichlorobenzene	1	17.9405	0	20	90	70	130
1,2-Dichlorobenzene	1	17.4276	0	20	87	70	130
Isopropylbenzene	1	18.9152	0	20	95	70	130
Cyclohexanone	1	165.1128	0	100	165*	70	130
Camphene	1	19.0767	0	20	95	70	130
1,2,3-Trichloropropane	1	16.9038	0	20	85	70	130
2-Chlorotoluene	1	19.8191	0	20	99	70	130
p-Ethyltoluene	1	19.9044	0	20	100	70	130
4-Chlorotoluene	1	17.2761	0	20	86	70	130
n-Propylbenzene	1	17.2715	0	20	86	70	130
Bromobenzene	1	18.064	0	20	90	70	130
1,3,5-Trimethylbenzene	1	19.5308	0	20	98	70	130
Butyl methacrylate	1	15.3029	0	20	77	70	130
t-Butylbenzene	1	19.718	0	20	99	70	130
1,2,4-Trimethylbenzene	1	19.6009	0	20	98	70	130
sec-Butylbenzene	1	16.7576	0	20	84	70	130
4-Isopropyltoluene	1	17.639	0	20	88	70	130
n-Butylbenzene	1	19.5477	0	20	98	70	130
p-Diethylbenzene	1	18.0993	0	20	90	70	130
1,2,4,5-Tetramethylbenzene	1	18.6707	0	20	93	70	130
1,2-Dibromo-3-Chloropropane	1	15.1758	0	20	76	40	160
Camphor	1	253.6014	0	200	127	70	130
Hexachlorobutadiene	1	14.6468	0	20	73	70	130
1,2,4-Trichlorobenzene	1	13.7832	0	20	69*	70	130
1,2,3-Trichlorobenzene	1	17.1366	0	20	86	70	130
Naphthalene	1	26.3886	0	20	132	40	160

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Form3
RPD Data

QC Batch: MBS62804

Data File	Sample ID:	Analysis Date
Spike or Dup: 3M89265.D	AC90754-002(T:MSD)	4/19/2016 12:01:00 PM
Duplicate(if applicable): 3M89264.D	AC90754-002(T:MS)	4/19/2016 11:45:00 AM
Inst Blank(if applicable):		
Method: 8260C	Matrix: Aqueous	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD		Sample/MS/MBS	RPD	Limit
		Conc	Conc			
Chlorodifluoromethane	1	14.3609	16.7997	16	20	
Dichlorodifluoromethane	1	15.5634	18.8061	19	20	
Chloromethane	1	12.9143	15.2707	17	20	
Bromomethane	1	16.263	18.1661	11	20	
Vinyl Chloride	1	15.2794	19.6086	25*	20	
Chloroethane	1	18.0432	19.6999	8.8	20	
Trichlorofluoromethane	1	18.8301	27.4486	37*	20	
Ethyl ether	1	33.4787	36.0917	7.5	20	
Furan	1	21.4931	24.4704	13	20	
1,1,2-Trichloro-1,2,2-trifluoroethane	1	15.2603	18.5954	20	20	
Methylene Chloride	1	65.905	76.5149	15	20	
Acrolein	1	71.0332	75.6534	6.3	20	
Acrylonitrile	1	15.4121	15.3754	0.24	20	
Iodomethane	1	15.9736	18.2654	13	20	
Acetone	1	165.2777	170.0302	2.8	20	
Carbon Disulfide	1	18.7757	23.2595	21*	20	
t-Butyl Alcohol	1	83.23	74.7926	11	20	
n-Hexane	1	18.0472	21.7079	18	20	
Di-isopropyl-ether	1	15.9417	19.4205	20	20	
1,1-Dichloroethene	1	16.1195	17.8365	10	20	
Methyl Acetate	1	36.7876	40.5874	9.8	20	
Methyl-t-butyl ether	1	15.9176	19.0267	18	20	
1,1-Dichloroethane	1	13.415	18.0566	29*	20	
trans-1,2-Dichloroethene	1	16.116	19.3406	18	20	
Ethyl-t-butyl ether	1	14.5807	16.053	9.6	20	
cis-1,2-Dichloroethene	1	15.4077	17.5092	13	20	
Bromochloromethane	1	14.8897	15.6879	5.2	20	
2,2-Dichloropropane	1	14.97	17.8713	18	20	
Ethyl acetate	1	16.5891	18.9904	13	20	
1,4-Dioxane	1	532.2883	685.0966	25*	20	
1,1-Dichloropropene	1	17.1679	20.4814	18	20	
Chloroform	1	15.9231	19.7513	21*	20	
Cyclohexane	1	15.4095	20.1159	26*	20	
1,2-Dichloroethane	1	16.2975	18.8367	14	20	
2-Butanone	1	22.9636	22.4286	2.4	20	
1,1,1-Trichloroethane	1	16.0976	18.8843	16	20	
Carbon Tetrachloride	1	16.7154	17.989	7.3	20	
Vinyl Acetate	1	11.9717	15.7039	27*	20	
Bromodichloromethane	1	13.7628	15.1604	9.7	20	
Methylcyclohexane	1	14.9064	19.0032	24*	20	
Dibromomethane	1	13.1217	15.91	19	20	
1,2-Dichloropropane	1	16.6758	19.6967	17	20	
Trichloroethene	1	15.1977	19.604	25*	20	
Benzene	1	32.9239	36.7095	11	20	
tert-Amyl methyl ether	1	17.5362	18.9659	7.8	20	
Iso-propylacetate	1	15.9952	16.6422	4	20	
Methyl methacrylate	1	13.6993	12.7432	7.2	20	
Dibromochloromethane	1	15.7176	17.8257	13	20	
2-Chloroethylvinylether	1	14.186	13.4204	5.5	20	
cis-1,3-Dichloropropene	1	16.9699	18.6852	9.6	20	
trans-1,3-Dichloropropene	1	16.347	20.0449	20	20	
Ethyl methacrylate	1	13.127	13.7961	5	20	
1,1,2-Trichloroethane	1	15.4286	15.9183	3.1	20	
1,2-Dibromoethane	1	14.1759	14.1167	0.42	20	
1,3-Dichloropropane	1	16.2563	19.8309	20	20	
4-Methyl-2-Pentanone	1	13.152	14.4649	9.5	20	
2-Hexanone	1	8.8045	11.3042	25*	20	
Tetrachloroethene	1	16.6241	19.7478	17	20	
Toluene	1	25.4495	30.029	17	20	
1,1,1,2-Tetrachloroethane	1	15.7475	17.2739	9.2	20	
Chlorobenzene	1	16.3301	18.1315	10	20	
n-Butyl acrylate	1	16.689	14.9959	11	20	
n-Amyl acetate	1	12.1038	14.9823	21*	20	

Form3
RPD Data

QC Batch: MBS52804

Bromoform	1	16.1101	14.1402	13	20
Ethylbenzene	1	19.8759	22.7735	14	20
1,1,2,2-Tetrachloroethane	1	18.1259	17.7031	2.4	20
Styrene	1	19.7335	20.1579	2.1	20
m&p-Xylenes	1	49.0443	52.8385	7.4	20
o-Xylene	1	22.0009	25.1203	13	20
trans-1,4-Dichloro-2-butene	1	17.6688	12.6412	33*	20
1,3-Dichlorobenzene	1	15.933	18.0061	12	20
1,4-Dichlorobenzene	1	17.9405	17.7719	0.94	20
1,2-Dichlorobenzene	1	17.4276	18.6373	6.7	20
Isopropylbenzene	1	18.9152	20.0749	5.9	20
Cyclohexanone	1	165.1128	162.0049	1.9	20
Camphene	1	19.0767	18.5885	2.6	20
1,2,3-Trichloropropane	1	16.9038	18.0256	6.4	20
2-Chlorotoluene	1	19.8191	18.5762	6.5	20
p-Ethyltoluene	1	19.9044	22.059	10	20
4-Chlorotoluene	1	17.2761	17.6462	2.1	20
n-Propylbenzene	1	17.2715	19.9643	14	20
Bromobenzene	1	18.064	21.5543	18	20
1,3,5-Trimethylbenzene	1	19.5308	20.7205	5.9	20
Butyl methacrylate	1	15.3029	14.7047	4	20
t-Butylbenzene	1	19.718	20.2089	2.5	20
1,2,4-Trimethylbenzene	1	19.6009	21.7414	10	20
sec-Butylbenzene	1	16.7576	20.2097	19	20
4-Isopropyltoluene	1	17.639	18.8991	6.9	20
n-Butylbenzene	1	19.5477	20.4049	4.3	20
p-Diethylbenzene	1	18.0993	20.6566	13	20
1,2,4,5-Tetramethylbenzene	1	18.6707	21.8255	16	20
1,2-Dibromo-3-Chloropropane	1	15.1758	16.0585	5.7	20
Camphor	1	253.6014	233.282	8.3	20
Hexachlorobutadiene	1	14.6468	15.7568	7.3	20
1,2,4-Trichlorobenzene	1	13.7832	14.9964	8.4	20
1,2,3-Trichlorobenzene	1	17.1366	17.2287	0.54	20
Naphthalene	1	26.3886	30.4903	14	20

* - Indicates outside of limits

NA - Both concentrations=0... no result can be calculated

FORM 4
Blank SummaryBlank Number: DAILY BLANK
Blank Data File: 3M89254.D
Matrix: AqueousBlank Analysis Date: 04/19/16 09:03
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
AC90754-002(T:M	3M89265.D	04/19/16 12:01
AC90754-002(T:M	3M89264.D	04/19/16 11:45
MBS52804	3M89259.D	04/19/16 10:23
AC90754-002(T)	3M89256.D	04/19/16 09:35

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 3M89945.D
Matrix: Aqueous

Blank Analysis Date: 04/29/16 20:45
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
AC91036-001	3M89965.D	04/30/16 02:03
AC91036-003	3M89964.D	04/30/16 01:47
AC91036-005	3M89950.D	04/29/16 22:05
MBS52940	3M89947.D	04/29/16 21:17

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 3Data File: 3M89149.D
Analysis Date: 04/15/16 17:47
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.369 to 4.369 min

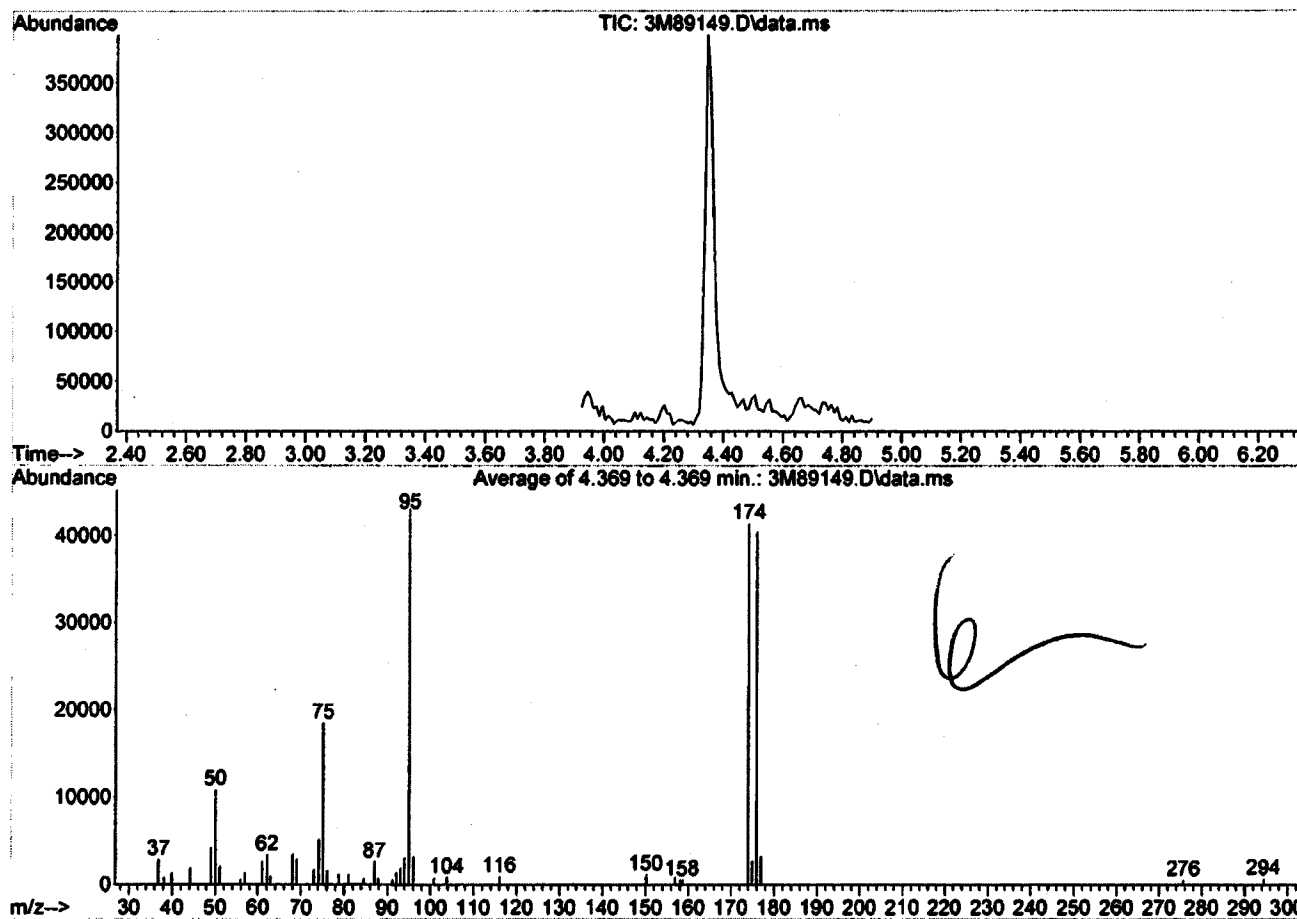
Tgt	Rel	Lo	Hi	Rel	Raw	Pass/
Mass	Mass	Lim	Lim	Abund	Abund	Fail
50	95	15	40	25.1	10815	PASS
75	95	30	60	42.9	18456	PASS
95	95	100	100	100.0	43048	PASS
96	95	5	9	7.4	3201	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.1	41368	PASS
175	174	5	9	6.4	2654	PASS
176	174	95	101	97.7	40432	PASS
177	176	5	9	8.0	3218	PASS

Data File	Sample Number	Analysis Date:
3M89150.D	1 PPB	04/15/16 18:02
3M89151.D	0.5 PPB	04/15/16 18:21
3M89152.D	CAL @ 0.5 PPB	04/15/16 18:41
3M89153.D	CAL @ 1 PPB	04/15/16 18:57
3M89154.D	CAL @ 5 PPB	04/15/16 19:13
3M89155.D	CAL @ 10 PPB	04/15/16 19:29
3M89156.D	CAL @ 20 PPB	04/15/16 19:45
3M89157.D	CAL @ 500 PPB	04/15/16 20:01
3M89160.D	CAL @ 250 PPB	04/15/16 20:48
3M89163.D	CAL @ 100 PPB	04/15/16 21:36
3M89165.D	CAL @ 50 PPB	04/15/16 22:08
3M89167.D	ICV	04/15/16 22:40
3M89168.D	ICV	04/15/16 22:56
3M89169.D	BLK	04/15/16 23:11
3M89170.D	DAILY BLANK	04/15/16 23:27
3M89171.D	DAILY BLANK	04/15/16 23:43
3M89172.D	90778-001	04/15/16 23:59
3M89173.D	90778-006	04/16/16 00:15
3M89174.D	90778-008	04/16/16 00:31
3M89175.D	90778-009	04/16/16 00:47
3M89176.D	90778-010	04/16/16 01:03
3M89177.D	90778-016	04/16/16 01:18
3M89178.D	MBS52795	04/16/16 01:34
3M89179.D	BLK	04/16/16 01:50

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-15-16\
 Data File : 3M89149.D
 Acq On : 15 Apr 2016 17:47
 Operator : WP
 Sample : BFB TUNE
 Misc : A,5ML
 ALS Vial : 11 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2016\GCMS_3\MethodQt\3M_A0406.M
 Title : @GCMS_3,ug,624,8260
 Last Update : Wed Apr 06 18:51:30 2016



Spectrum Information: Average of 4.369 to 4.369 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.1	10815	PASS
75	95	30	60	42.9	18456	PASS
95	95	100	100	100.0	43048	PASS
96	95	5	9	7.4	3201	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.1	41368	PASS
175	174	5	9	6.4	2654	PASS
176	174	95	101	97.7	40432	PASS
177	176	5	9	8.0	3218	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 3

Data File: 3M89249.D
Analysis Date: 04/19/16 07:39
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.380 to 4.420 min

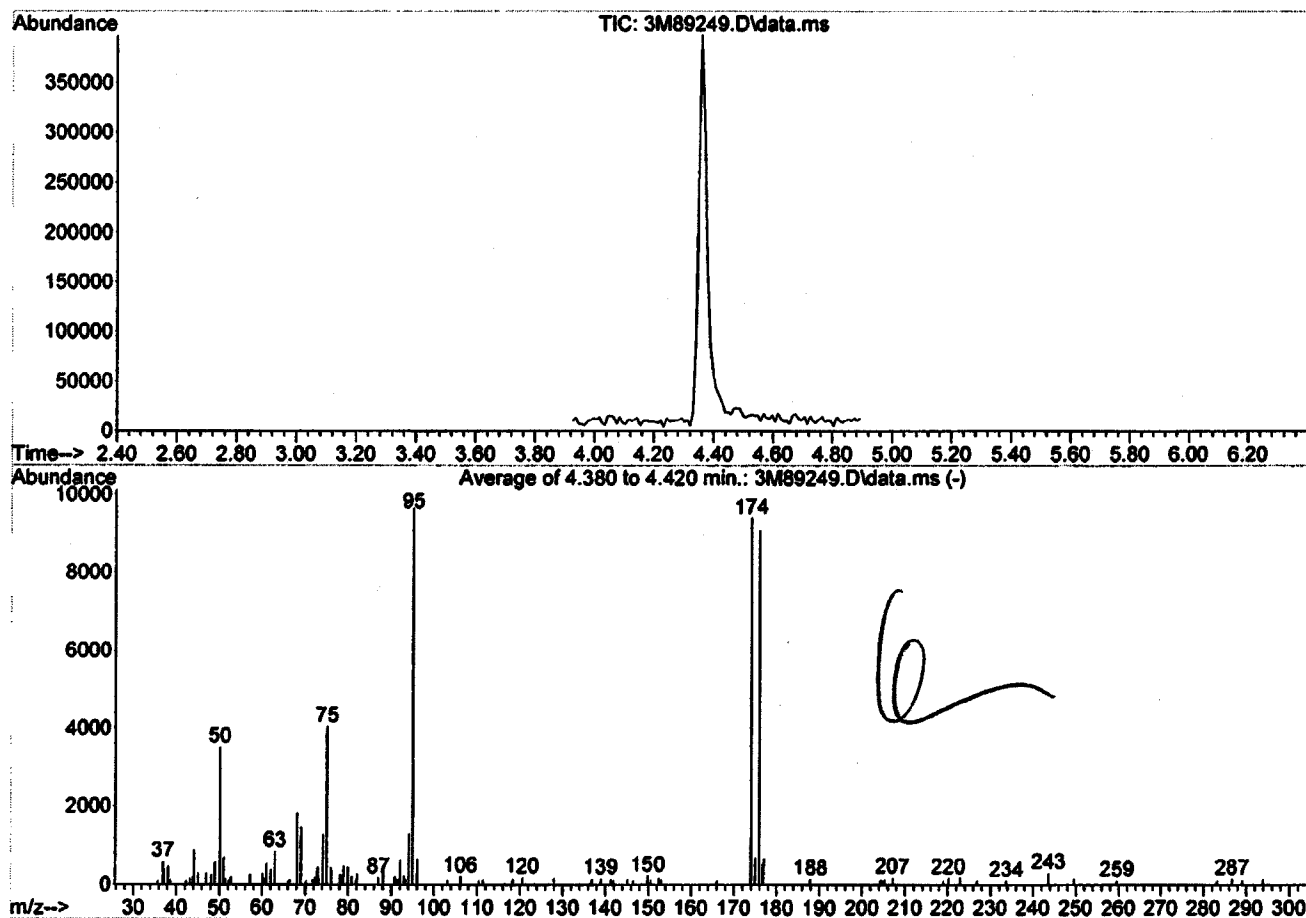
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	36.4	3514	PASS
75	95	30	60	41.9	4036	PASS
95	95	100	100	100.0	9642	PASS
96	95	5	9	6.7	650	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	97.4	9390	PASS
175	174	5	9	7.2	680	PASS
176	174	95	101	96.7	9083	PASS
177	176	5	9	7.3	659	PASS

Data File	Sample Number	Analysis Date:
3M89250.D	20 PPB	04/19/16 07:55
3M89251.D	CAL @ 20 PPB	04/19/16 08:11
3M89252.D	BLKDI	04/19/16 08:27
3M89253.D	DAILY BLANK	04/19/16 08:47
3M89254.D	DAILY BLANK	04/19/16 09:03
3M89255.D	MBS52803	04/19/16 09:19
3M89256.D	AC90754-002(T)	04/19/16 09:35
3M89257.D	AC90755-002(T)	04/19/16 09:51
3M89258.D	AC90755-001(T)	04/19/16 10:07
3M89259.D	MBS52804	04/19/16 10:23
3M89260.D	AC90741-001(40X)	04/19/16 10:39
3M89261.D	AC90719-007(T)	04/19/16 10:55
3M89262.D	AC90789-008	04/19/16 11:13
3M89263.D	AC90781-001	04/19/16 11:29
3M89264.D	AC90754-002(T:M)	04/19/16 11:45
3M89265.D	AC90754-002(T:M)	04/19/16 12:01
3M89266.D	BLKDI	04/19/16 12:17
3M89267.D	EF-3V-9557(04151)	04/19/16 12:36
3M89268.D	EF-3V-9557(04171)	04/19/16 12:52
3M89269.D	AC90795-001	04/19/16 13:08
3M89270.D	AC90729-003(T)	04/19/16 13:24
3M89271.D	AC90729-005(T)	04/19/16 13:40
3M89272.D	AC90729-008(T)	04/19/16 13:56
3M89273.D	AC90729-010(T)	04/19/16 14:12
3M89274.D	AC90747-002(T)	04/19/16 14:28
3M89275.D	AC90747-003(T)	04/19/16 14:44
3M89276.D	AC90747-007(T)	04/19/16 15:00
3M89277.D	AC90747-011(T)	04/19/16 15:16
3M89278.D	AC90811-004	04/19/16 15:32
3M89279.D	AC90793-002	04/19/16 15:48
3M89280.D	AC90793-003	04/19/16 16:04

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-19-16\
 Data File : 3M89249.D
 Acq On : 19 Apr 2016 7:39
 Operator : SG
 Sample : BFB TUNE
 Misc : A,5ML
 ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2016\GCMS_3\MethodQt\3M_A0415.M
 Title : @GCMS_3,ug,624,8260
 Last Update : Mon Apr 18 11:36:30 2016



Spectrum Information: Average of 4.380 to 4.420 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	36.4	3514	PASS
75	95	30	60	41.9	4036	PASS
95	95	100	100	100.0	9642	PASS
96	95	5	9	6.7	650	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	97.4	9390	PASS
175	174	5	9	7.2	680	PASS
176	174	95	101	96.7	9083	PASS
177	176	5	9	7.3	659	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 3Data File: 3M89942.D
Analysis Date: 04/29/16 19:53
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.251 to 4.349 min

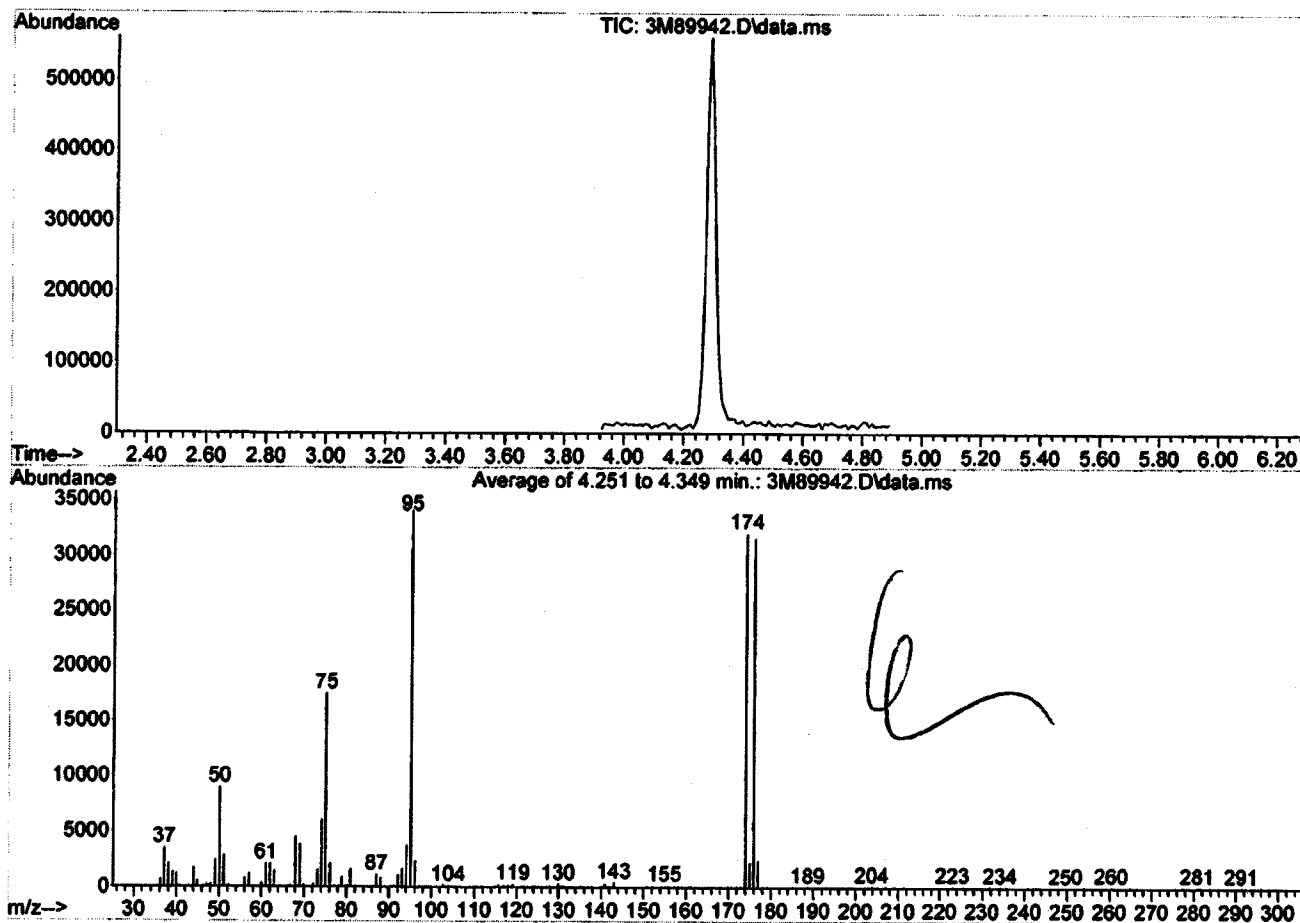
Tgt	Rel	Lo	Hi	Rel	Raw	Pass/
Mass	Mass	Lim	Lim	Abund	Abund	Fail
50	95	15	40	26.4	8965	PASS
75	95	30	60	51.4	17476	PASS
95	95	100	100	100.0	33993	PASS
96	95	5	9	7.0	2374	PASS
173	174	0.00	2	0.2	69	PASS
174	95	50	100	94.2	32015	PASS
175	174	5	9	7.0	2256	PASS
176	174	95	101	98.5	31544	PASS
177	176	5	9	7.6	2409	PASS

Data File	Sample Number	Analysis Date:
3M89943.D	CAL @ 20 PPB	04/29/16 20:03
3M89945.D	DAILY BLANK	04/29/16 20:45
3M89946.D	DAILY BLANK	04/29/16 21:01
3M89947.D	MBS52940	04/29/16 21:17
3M89948.D	AC91031-004	04/29/16 21:33
3M89949.D	AC91031-005	04/29/16 21:49
3M89950.D	AC91036-005	04/29/16 22:05
3M89951.D	AC91031-001	04/29/16 22:21
3M89952.D	AC91031-002	04/29/16 22:37
3M89953.D	AC91034-001	04/29/16 22:53
3M89954.D	AC91034-002	04/29/16 23:09
3M89955.D	AC91034-003	04/29/16 23:24
3M89956.D	AC91033-001	04/29/16 23:40
3M89957.D	AC91032-001	04/29/16 23:56
3M89958.D	AC91047-005	04/30/16 00:12
3M89959.D	AC91039-004	04/30/16 00:28
3M89960.D	AC91039-006	04/30/16 00:44
3M89961.D	AC91039-005	04/30/16 01:00
3M89962.D	AC91039-003	04/30/16 01:15
3M89963.D	AC91039-002	04/30/16 01:31
3M89964.D	AC91036-003	04/30/16 01:47
3M89965.D	AC91036-001	04/30/16 02:03
3M89966.D	AC91031-003	04/30/16 02:19
3M89967.D	AC91039-001(20X)	04/30/16 02:35
3M89968.D	AC91036-003(MS)	04/30/16 02:51
3M89969.D	AC91036-003(MSD)	04/30/16 03:07
3M89970.D	MBS52941	04/30/16 03:22
3M89971.D	BLK	04/30/16 03:38
3M89972.D	BLK	04/30/16 03:54
3M89973.D	91000-005(40uL)	04/30/16 04:10
3M89974.D	MBS52942	04/30/16 04:26
3M89975.D	AC91049-002	04/30/16 04:42
3M89976.D	91061-002	04/30/16 04:58
3M89977.D	AC91062-001	04/30/16 05:13
3M89978.D	AC90937-001(T)	04/30/16 05:29
3M89979.D	AC90937-003(T)	04/30/16 05:45
3M89980.D	AC90937-004(T)	04/30/16 06:01
3M89981.D	AC90937-005(T)	04/30/16 06:17
3M89982.D	AC90937-006(T)	04/30/16 06:33
3M89983.D	AC90937-007(T)	04/30/16 06:49
3M89984.D	AC90937-008(T)	04/30/16 07:04
3M89985.D	AC90937-009(T)	04/30/16 07:20
3M89986.D	AC90937-010(T)	04/30/16 07:36
3M89987.D	AC90937-011(T)	04/30/16 07:52
3M89988.D	AC90937-012(T)	04/30/16 08:08
3M89989.D	STD	04/30/16 08:23
3M89990.D	STD	04/30/16 08:39

Data Path : G:\GcMsData\2016\GCMS_3\Data\04-2916\
 Data File : 3M89942.D
 Acq On : 29 Apr 2016 19:53
 Operator : WP
 Sample : BFB TUNE
 Misc : A,5ML
 ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2016\GCMS_3\MethodQt\3M_A0415.M
 Title : @GCMS_3,ug,624,8260
 Last Update : Mon Apr 18 11:36:30 2016



Spectrum Information: Average of 4.251 to 4.349 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.4	8965	PASS
75	95	30	60	51.4	17476	PASS
95	95	100	100	100.0	33993	PASS
96	95	5	9	7.0	2374	PASS
173	174	0.00	2	0.2	69	PASS
174	95	50	100	94.2	32015	PASS
175	174	5	9	7.0	2256	PASS
176	174	95	101	98.5	31544	PASS
177	176	5	9	7.6	2409	PASS

Level #	Data File	Cal Identifier	Analysis Date/Time									Level #	Data File	Cal Identifier	Analysis Date/Time									
			RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9				AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl7	Lvl9
1	3M89156.D	CAL @ 20 PPB	0.6097	0.5419	0.5717	0.5209	0.5592	0.5693	0.5195	0.6151	0.563	1.36	0.998	1.00	6.4	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
3	3M89155.D	CAL @ 10 PPB	0.4580	0.4350	0.3730	0.3650	0.3868	0.3971	0.3742	0.4520	0.405	1.36	0.999	1.00	9.3	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
5	3M89163.D	CAL @ 100 PPB	0.4403	0.4590	0.4458	0.3740	0.3993	0.4170	0.3768	0.5165	0.429	1.48	0.998	0.999	11	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
7	3M89157.D	CAL @ 500 PPB	0.2190	0.2543	0.2354	0.1840	0.1478	0.1106	0.0443	---	0.171	1.77	0.659	0.999	44	0.10 a	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
9	3M89152.D	CAL @ 0.5 PPB	0.3099	0.3338	0.3036	0.2697	0.3128	0.3002	0.2800	0.4260	0.317	1.55	0.999	1.00	15	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89156.D	CAL @ 20 PPB	0.1785	0.1942	0.1869	0.1574	0.1446	0.1296	0.0987	0.3078	0.175	1.84	0.978	1.00	36	0.10 a	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89155.D	CAL @ 10 PPB	0.3287	0.4301	0.3486	0.3069	0.2111	0.2147	0.1418	---	0.310	2.05	0.998	0.998	29	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89163.D	CAL @ 100 PPB	0.1965	0.1997	0.2020	0.1861	0.2365	0.1855	0.2067	0.1793	0.199	2.23	0.996	0.997	8.9	0.50 a	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89157.D	CAL @ 500 PPB	0.5939	0.6358	0.4917	0.3998	0.5191	0.4892	0.4978	0.6194	0.556	2.26	0.998	0.999	23	0.50 a	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89152.D	CAL @ 0.5 PPB	0.2662	0.2371	0.2193	0.1868	0.2003	0.1830	0.1682	0.1953	0.207	2.38	0.998	1.00	16	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89156.D	CAL @ 20 PPB	0.2852	0.2811	0.2788	0.2322	0.2610	0.2521	0.2278	0.3519	0.271	2.74	0.997	1.00	14	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89155.D	CAL @ 10 PPB	0.0641	0.0666	0.0576	0.0538	0.0505	0.0549	0.0603	---	0.059	2.32	0.991	0.998	18	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89163.D	CAL @ 100 PPB	0.1273	0.1157	0.0877	0.1025	0.1008	0.1186	0.1013	0.0479	0.100	2.92	0.994	0.998	24	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89157.D	CAL @ 500 PPB	0.4927	0.4652	0.4482	0.3991	0.4103	0.4077	0.3806	0.4919	0.437	2.51	0.999	1.00	9.9	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89152.D	CAL @ 0.5 PPB	0.1307	0.1601	0.1245	0.1241	0.1099	0.1554	0.1050	0.1644	0.131	2.43	0.992	0.998	16	0.10	100.0	25.00	50.00	100.0	250.0	500.0	1.00	
10	3M89156.D	CAL @ 20 PPB	0.6548	0.6158	0.6505	0.5603	0.5978	0.5871	0.5323	0.6073	0.601	2.56	0.996	1.00	6.9	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89155.D	CAL @ 10 PPB	0.0360	0.0317	0.0301	0.0325	0.0278	0.0359	0.0312	0.0574	0.034	2.81	0.994	0.996	26	0.10	20.00	25.00	50.00	100.0	250.0	500.0	1.00	
10	3M89163.D	CAL @ 100 PPB	0.2317	0.1826	0.1772	0.1847	0.1950	0.2042	0.1875	0.1672	0.191	3.14	0.998	1.00	10	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89157.D	CAL @ 500 PPB	1.2023	1.0600	1.0813	1.0535	1.0883	1.0312	0.8911	1.1612	1.07	3.30	0.994	1.00	8.7	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89152.D	CAL @ 0.5 PPB	0.5224	0.5272	0.4553	0.4565	0.4399	0.4293	0.3875	0.5299	0.469	2.39	0.997	1.00	11	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89156.D	CAL @ 20 PPB	0.4025	0.3875	0.3803	0.3624	0.3422	0.3701	0.3104	0.3962	0.366	2.66	0.992	0.999	8.3	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89155.D	CAL @ 10 PPB	0.8269	0.8456	0.7373	0.7375	0.7443	0.6969	0.5682	0.7525	0.763	2.94	0.988	1.00	14	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89163.D	CAL @ 100 PPB	0.5956	0.6315	0.5256	0.5247	0.5127	0.5142	0.4559	0.5681	0.541	3.27	0.997	1.00	10	0.20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89157.D	CAL @ 500 PPB	0.2568	0.2565	0.2757	0.2348	0.2179	0.2017	0.1768	0.2880	0.239	2.94	0.995	1.00	16	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89152.D	CAL @ 0.5 PPB	1.1458	1.0555	1.0614	0.9830	1.0402	0.9785	0.8493	1.1102	1.03	3.59	0.995	1.00	9.0	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89156.D	CAL @ 20 PPB	0.5753	0.5072	0.6428	0.4942	0.5106	0.4974	0.4215	0.6636	0.538	3.72	0.993	1.00	15	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89155.D	CAL @ 10 PPB	0.3184	0.3328	0.3217	0.3000	0.3071	0.2978	0.2866	0.5779	0.340	3.90	0.997	1.00	29	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89163.D	CAL @ 100 PPB	0.5355	0.5351	0.4795	0.4274	0.4213	0.4105	0.3704	0.6765	0.482	3.72	0.997	1.00	20	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89157.D	CAL @ 500 PPB	0.4628	0.3141	0.4126	0.4358	0.4104	0.4732	0.4054	0.2729	0.398	3.77	0.994	0.998	18	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89152.D	CAL @ 0.5 PPB	0.0029	0.0031	0.0026	0.0025	0.0026	0.0030	0.0026	0.0011	0.002	6.43	0.994	0.998	24	0.10	1000.0	250.0	500.0	1000.0	2500.0	5000.0	1.00	
10	3M89156.D	CAL @ 20 PPB	0.4538	0.3578	0.4062	0.3792	0.3784	0.3543	0.2828	0.2514	0.358	4.19	0.996	1.00	18	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89155.D	CAL @ 10 PPB	0.5876	0.5013	0.5465	0.5053	0.5146	0.5113	0.4526	0.4772	0.525	3.95	0.996	1.00	9.8	0.20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89163.D	CAL @ 100 PPB	0.3665	0.3656	0.3734	0.3566	0.3669	0.3537	0.3361	0.4042	0.369	4.07	-1	-1	5.1	0.10	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
10	3M89157.D	CAL @ 500 PPB	0.3844	0.3558	0.3236	0.3361	0.3349	0.3369	0.3010	0.3270	0.338	4.13	0.997	1.00	7.2	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89152.D	CAL @ 0.5 PPB	0.2466	0.2422	0.2390	0.2400	0.2105	0.2562	0.2394	0.2695	0.234	4.29	-1	-1	6.0	0.10	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
10	3M89156.D	CAL @ 20 PPB	0.6609	0.5994	0.6019	0.5355	0.5212	0.4858	0.3864	0.6968	0.540	4.34	0.985	1.00	16	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89155.D	CAL @ 10 PPB	0.1513	0.2755	0.1427	0.1442	0.1510	0.1824	0.1395	0.1958	0.173	3.74	0.981	0.994	27	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89163.D	CAL @ 100 PPB	0.5361	0.5260	0.5052	0.4618	0.4619	0.4514	0.3860	0.6018	0.491	4.08	0.984	1.00	13	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89157.D	CAL @ 500 PPB	0.4817	0.4720	0.4399	0.4003	0.3821	0.3509	0.2857	0.4375	0.406	4.19	0.988	1.00	16	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89152.D	CAL @ 0.5 PPB	1.1734	1.0566	1.1525	1.0241	1.1095	1.0652	0.9175	1.1056	1.08	3.30	0.994	1.00	7.5	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00
10	3M89156.D	CAL @ 20 PPB	0.5042	0.5070	0.4854	0.4328	0.4487	0.4251	0.3723	0.6445	0.478	5.01	0.995	1.00	17	0.20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00

Flags
a - failed the min of criteria
c - failed the minimum correlation coeff criteria (if applicable)

Note:
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.
Fit = Indicates whether Avg. R.F. Linear, or Quadratic Curve was used for compound.

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time																															
1	3M89156.D	CAL @ 20 PPB	04/15/16 19:45	2	3M89154.D	CAL @ 5 PPB	04/15/16 19:13	3	3M89155.D	CAL @ 10 PPB	04/15/16 22:08	4	3M89155.D	CAL @ 50 PPB	04/15/16 21:29	5	3M89163.D	CAL @ 100 PPB	04/15/16 21:36	6	3M89157.D	CAL @ 500 PPB	04/15/16 20:01	7	3M89157.D	CAL @ 500 PPB	04/15/16 18:41	8	3M89153.D	CAL @ 1 PPB	04/15/16 18:57	9	3M89152.D	CAL @ 0.5 PPB	04/15/16 18:41															
1	0	0.2540	0.2055	0.2048	0.2287	0.2096	0.2043	0.1784	0.2648	0.219	0.493	0.985	1.00	13	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.3303	0.3542	0.3708	0.2880	0.2824	0.2587	0.2101	0.2570	0.294	4.83	0.988	1.00	13	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.3101	0.3368	0.2910	0.2615	0.2891	0.2610	0.2294	0.2495	0.276	4.85	0.996	1.00	13	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.2995	0.3127	0.2672	0.2652	0.2617	0.2443	0.2080	0.3325	0.274	4.71	0.993	1.00	15	0.20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	1.0347	1.0829	0.9491	0.8687	0.8713	0.7811	0.6288	1.0528	0.9202	0.910	4.33	0.986	1.00	16	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.8380	0.8508	0.7633	0.7848	0.7606	0.7348	0.5954	0.6062	0.742	4.38	0.988	1.00	13	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00		
1	0	0.9748	1.0540	0.9381	1.0055	1.0142	1.0911	0.8808	1.2841	1.034	4.35	0.988	0.998	12	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.5163	0.4819	0.4277	0.5015	0.4799	0.5442	0.4827	0.1699	0.451	4.91	0.996	0.999	26	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.5428	0.5224	0.5399	0.4790	0.4794	0.4855	0.4383	0.5206	0.501	5.95	0.998	1.00	7.2	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.6349	0.6557	0.5752	0.5706	0.6101	0.6045	0.5629	0.3618	0.572	5.28	0.999	1.00	16	0.20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.6130	0.5176	0.5424	0.5698	0.5896	0.5967	0.5466	0.3027	0.535	5.60	0.998	1.00	18	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.4913	0.4784	0.3998	0.5008	0.5178	0.5709	0.5127	0.1970	0.459	5.63	0.997	0.999	25	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.3513	0.3855	0.3382	0.2977	0.2967	0.3098	0.2829	0.3466	0.326	5.71	0.998	1.00	11	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.4200	0.4573	0.3717	0.4097	0.3862	0.4090	0.3734	0.1801	0.388	6.81	0.998	1.00	27	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.6009	0.6798	0.5948	0.5774	0.5707	0.5417	0.4552	0.5319	0.565	5.84	0.992	1.00	11	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.4620	0.6698	0.6035	0.4835	0.4774	0.5860	0.5298	0.2102	0.505	5.36	0.996	0.997	29	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.2644	0.1779	0.1687	0.2398	0.3381	0.4123	0.3703	0.0865	0.262	5.86	0.996	0.998	45	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.9227	1.0109	0.8725	0.7562	0.7976	0.7421	0.5431	0.9650	0.839	6.31	0.994	1.00	15	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.3479	0.4206	0.3779	0.3077	0.3024	0.2549	0.2055	0.4182	0.329	5.81	0.985	1.00	23	0.20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	1.3045	0.7455	0.9027	1.5273	1.5370	1.6532	1.5718	0.2014	1.186	6.61	0.999	1.00	44	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	1.1938	1.3808	1.3119	1.2387	1.3354	1.3242	1.4033	1.3048	1.322	5.48	0.992	1.00	5.2	0.40	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	1	0	1.3033	0.6632	1.1802	1.3919	1.5002	1.6454	1.5871	0.2334	1.195	6.74	0.999	1.00	41	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	
1	0	0.8320	0.6895	0.7714	0.7580	0.7265	0.7822	0.7337	0.7282	0.752	6.81	0.999	1.00	5.8	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.6320	0.6895	0.7714	0.7580	0.7265	0.7822	0.7337	0.7282	0.752	6.81	0.999	1.00	5.8	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.7676	0.6147	0.6606	0.7463	0.7152	0.7290	0.6954	0.9450	0.734	7.05	0.999	1.00	13	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.7676	0.6147	0.6606	0.7463	0.7152	0.7290	0.6954	0.9450	0.734	7.05	0.999	1.00	13	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	1.0435	0.9712	1.0145	1.0989	1.0502	1.1327	1.1984	1.0471	1.0035	6.99	-1	-1	6.6	0.30	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	1	0	1.0435	0.9712	1.0145	1.0989	1.0502	1.1327	1.1984	1.0471	1.0035	6.99	-1	-1	6.6	0.30	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	
1	0	0.9229	0.8046	0.8848	0.7917	0.7998	0.6610	0.5555	1.1427	0.4487	7.74	6.43	0.990	1.00	27	0.10	40.00	10.00	20.00	100.0	200.0	500.0	1000.0	2.00	1.00	1	0	0.9229	0.8046	0.8848	0.7917	0.7998	0.6610	0.5555	1.1427	0.4487	7.74	6.43	0.990	1.00	27	0.10	40.00	10.00	20.00	100.0	200.0	500.0	1000.0	2.00
1	0	0.9936	0.7818	0.9944	0.8319	0.7994	0.7227	0.6231	0.9279	0.834	6.67	0.993	1.00	16	0.30	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.9936	0.7818	0.9944	0.8319	0.7994	0.7227	0.6231	0.9279	0.834	6.67	0.993	1.00	16	0.30	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.3981	0.1638	0.3179	0.3869	0.3573	0.3770	0.3480	0.1225	0.309	7.09	0.998	1.00	34	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	0.3981	0.1638	0.3179	0.3869	0.3573	0.3770	0.3480	0.1225	0.309	7.09	0.998	1.00	34	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	1.2255	0.9862	1.1216	1.0912	1.0656	0.9473	0.8479	1.2555	1.07	7.67	0.996	1.00	13	0.60	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	1.2255	0.9862	1.1216	1.0912	1.0656	0.9473	0.8479	1.2555	1.07	7.67	0.996	1.00	13	0.60	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	1.2834	1.1436	1.1694	1.1536	1.1499	1.0217	0.9658	1.1813	1.07	7.97	0.998	1.00	14	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	1.2834	1.1436	1.1694	1.1536	1.1499	1.0217	0.9658	1.1813	1.07	7.97	0.998	1.00	14	0.50	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	1.1736	0.9844	1.1049	1.0680	1.0779	1.0225	0.9734	1.1514	1.07	7.97	0.999	1.00	7.3	0.40	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	1.1736	0.9844	1.1049	1.0680	1.0779	1.0225	0.9734	1.1514	1.07	7.97	0.999	1.00	7.3	0.40	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	2.2328	1.8500	1.9969	2.0799	1.9931	1.8471	1.6826	1.6542	1.92	6.88	0.997	1.00	10	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00	1	0	2.2328	1.8500	1.9969	2.0799	1.9931	1.8471	1.6826	1.6542	1.92	6.88	0.997	1.00	10	0.10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1	0	0.0412	0.0575	0.0504	0.0296	0.0267	0.0341	0.0319	0.0309	0.037	6.98	0.997	0.997	29	0.50	100.0	25.00	50.00	250.0	500.0	1250.0	2500.0	5.00	1.00	1	0	0.0412	0.0575	0.0504	0.0296	0.0267	0.0341	0.0319	0.0309	0.037	6.98	0.997	0.997	29	0.50	100.0	25.00	50.00	250.0	500.0	1250.0	2500.0	5.00		

Compound	Level #	Data File:	Cal Identifier:	Analysis Date/Time									Level #	Data File:	Cal Identifier:	Avg Rt	RT	Carri	Corr2	%Rsd	Calibration Level Concentrations								
				RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9									04/15/16 19:45	04/15/16 19:29	04/15/16 21:36	04/15/16 20:01	04/15/16 18:41	04/15/16 19:13	04/15/16 22:08	04/15/16 20:48	04/15/16 18:57	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
p-Ethyltoluene	1	0	Avg	2.2207	1.9947	1.9478	1.9298	1.8856	1.6120	1.4595	1.9709	---	1.8872	20	0.996	0.999	13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
4-Chlorotoluene	3	0	Avg	1.3420	1.2463	1.1702	1.3040	1.2274	1.2341	1.0670	1.1171	---	1.2172	20	0.995	1.00	7.6	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
n-Propylbenzene	5	0	Avg	2.3278	2.0845	2.2388	2.2699	2.2081	2.1162	1.9235	2.4760	---	2.2177	20	0.998	1.00	7.6	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
Bromobenzene	7	0	Avg	1.8979	1.5054	1.8207	1.8226	1.7474	1.5889	1.2961	1.3054	---	1.6277	20	0.987	1.00	15	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
1,3,5-Trimethylbenzen	9	0	Avg	1.9338	1.6987	1.6113	1.6405	1.6027	1.4637	1.2291	1.5765	---	1.6372	20	0.991	1.00	15	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
Butyl methacrylate	1	0	Qua	1.1991	1.1077	0.8366	1.2248	1.2536	1.2991	1.1842	0.4657	---	1.0772	20	0.998	1.00	26	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
t-Butylbenzene	1	0	Avg	1.6404	1.3723	1.2550	1.4446	1.4160	1.3411	1.2510	1.0441	---	1.3574	20	0.998	1.00	13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
1,2,4-Trimethylbenzen	1	0	Avg	1.9808	2.0036	1.7561	1.8036	1.7954	1.6644	1.4745	1.6104	---	1.7674	20	0.996	1.00	10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
sec-Butylbenzene	1	0	Avg	1.7366	1.5064	1.4661	1.6407	1.6239	1.5428	1.4669	1.9573	---	1.6275	20	0.999	1.00	10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
4-Isopropyltoluene	1	0	Avg	1.6482	1.2307	1.2887	1.4746	1.3582	1.2423	1.1058	1.4497	---	1.3576	20	0.996	1.00	13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
n-Butylbenzene	1	0	Avg	1.5476	1.3826	1.3704	1.5588	1.5201	1.4652	1.4130	1.1218	---	1.4279	20	1.00	1.00	10	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
p-Diethylbenzene	1	0	Avg	0.9041	0.7658	0.7030	0.8153	0.7987	0.7648	0.7066	0.8276	---	0.7867	20	0.998	1.00	8.4	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
1,2,4,5-Tetramethylbe	1	0	Avg	1.4946	1.0220	1.0634	1.3938	1.2438	1.3719	1.2523	1.1689	---	1.2584	20	0.998	0.999	13	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
1,2-Dibromo-3-Chloro	1	0	Avg	0.1987	0.1258	0.1814	0.1910	0.1785	0.2166	0.2303	0.1821	---	0.1888	20	0.998	0.999	17	0.05	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
Camphor	1	0	Avg	0.1395	0.1121	0.1241	0.1309	0.1185	0.1290	0.1064	0.0708	0.1454	---	0.1208	20	0.991	0.999	18	200.0	50.00	100.0	500.0	1000.0	2500.0	5000.0	10.00	5.00		
Hexachlorobutadiene	1	0	Avg	0.4751	0.4949	0.4486	0.4484	0.3979	0.3843	0.3846	0.6647	---	0.4629	20	1.00	1.00	20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00				
1,2,4-Trichlorobenzen	1	0	Avg	0.8165	0.6993	0.6502	0.7249	0.7094	0.7135	0.6752	0.8558	---	0.7319	20	0.999	1.00	9.6	0.20	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
1,2,3-Trichlorobenzen	1	0	Avg	0.7306	0.6691	0.6178	0.6953	0.6391	0.6680	0.6290	0.5529	---	0.6509	20	0.999	1.00	8.3	---	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			
Naphthalene	1	0	Avg	1.5411	1.1014	1.0489	1.5230	1.2484	1.5427	1.3953	0.8780	---	1.2891	20	0.997	0.998	20	---	20.00	5.00	10.00	50.00	100.0	250.0	500.0	1.00			

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria (if applicable)

Note:
Avg Rsd: 16.1
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.
Flt = Indicates whether Avg Rt, Linear, or Quadratic Curve was used for compound

Form 7

Continuing Calibration

Calibration Name: CAL @ 20 PPB
Coat Calibration Date/Time 4/19/2016 8:11:00 AData File: 3M89251.D
Method: EPA 8260C

Instrument: GCMS 3

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.47	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.35	17.27	20	20	0.1	0.563	0.486	13.67	
Dichlorodifluoromethane	1	0		1.33	23.62	20	20	0.1	0.405	0.478	18.09	
Chloromethane	1	0		1.46	19.40	20	20	0.1	0.429	0.416	2.98	
Bromomethane	1	0		1.76	20.75	20	20	0.1	0.171	0.180	3.74	
Vinyl Chloride	1	0		1.53	20.69	20	20	0.1	0.317	0.328	3.47	
Chloroethane	1	0		1.83	21.93	20	20	0.1	0.175	0.173	9.64	
Trichlorofluoromethane	1	0		2.00	22.07	20	20	0.1	0.310	0.246	10.37	
Ethyl ether	1	0		2.20	19.57	20	20	0.5	0.199	0.195	2.13	
Furan	1	0		2.23	23.67	20	20	0.5	0.556	0.577	18.37	
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0		2.36	21.91	20	20	0.1	0.207	0.227	9.57	
Methylene Chloride	1	0		2.71	19.90	20	20	0.1	0.271	0.270	0.48	
Acrolein	1	0		2.30	82.02	100	20		0.059	0.049	17.98	
Acrylonitrile	1	0		2.90	17.98	20	20		0.100	0.110	10.10	
Iodomethane	1	0		2.48	19.44	20	20		0.437	0.425	2.79	
Acetone	1	0		2.40	81.35	100	20	0.1	0.131	0.106	18.65	
Carbon Disulfide	1	0		2.53	20.52	20	20	0.1	0.601	0.616	2.58	
t-Butyl Alcohol	1	0		2.78	81.09	100	20		0.035	0.029	18.91	
n-Hexane	1	0		3.11	20.98	20	20		0.191	0.201	4.89	
Di-isopropyl-ether	1	0		3.26	20.35	20	20		1.071	1.090	1.76	
1,1-Dichloroethene	1	0		2.36	20.43	20	20	0.1	0.469	0.479	2.13	
Methyl Acetate	1	0		2.63	20.72	20	20	0.1	0.366	0.380	3.58	
Methyl-t-butyl ether	1	0		2.90	19.95	20	20	0.1	0.783	0.761	0.25	
1,1-Dichloroethane	1	0		3.23	18.69	20	20	0.2	0.541	0.506	6.56	
trans-1,2-Dichloroethene	1	0		2.91	20.60	20	20	0.1	0.239	0.246	2.99	
Ethyl-t-butyl ether	1	0		3.56	19.99	20	20	0.5	1.028	1.027	0.06	
cis-1,2-Dichloroethene	1	0		3.69	19.02	20	20	0.1	0.538	0.512	4.91	
Bromochloromethane	1	0		3.87	19.33	20	20		0.340	0.310	3.37	
2,2-Dichloropropane	1	0		3.69	20.60	20	20		0.482	0.496	2.99	
Ethyl acetate	1	0		3.75	17.36	20	20		0.398	0.346	13.20	
1,4-Dioxane	1	0		4.91	866.58	1000	20		0.003	0.003	13.34	
1,1-Dichloropropene	1	0		4.17	23.99	20	20		0.358	0.429	19.94	
Chloroform	1	0		3.92	22.30	20	20	0.2	0.525	0.585	11.49	
Dibromofluoromethane	1	0	S	4.04	30.70	30	**		0.365	0.373	2.35	
Cyclohexane	1	0		4.10	20.79	20	20	0.1	0.338	0.351	3.95	
1,2-Dichloroethane-d4	1	0	S	4.26	29.89	30	**		0.243	0.242	0.38	
1,2-Dichloroethane	1	0		4.31	22.51	20	20	0.1	0.558	0.628	12.56	
2-Butanone	1	0		3.70	18.56	20	20	0.1	0.173	0.182	7.19	
1,1,1-Trichloroethane	1	0		4.06	21.50	20	20	0.1	0.491	0.528	7.50	
Carbon Tetrachloride	1	0		4.17	23.80	20	20	0.1	0.406	0.483	18.98	
Vinyl Acetate	1	0		3.26	19.53	20	20		1.076	1.051	2.33	
Bromodichloromethane	1	0		4.99	19.82	20	20	0.2	0.478	0.473	0.91	
Methylcyclohexane	1	0		4.81	22.46	20	20	0.1	0.219	0.246	12.28	
Dibromomethane	1	0		4.91	22.27	20	20		0.294	0.327	11.35	
1,2-Dichloropropane	1	0		4.83	21.18	20	20	0.1	0.276	0.292	5.90	
Trichloroethene	1	0		4.70	22.31	20	20	0.2	0.274	0.306	11.57	
Benzene	1	0		4.30	20.95	20	20	0.5	0.910	0.953	4.73	
tert-Amyl methyl ether	1	0		4.36	21.54	20	20		0.742	0.799	7.70	
Chlorobenzene-d5	1	0	I	6.27	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.33	19.23	20	20	0.5	1.030	0.991	3.84	
Methyl methacrylate	1	0		4.89	16.26	20	20	0.5	0.451	0.454	18.71	
Dibromochloromethane	1	0		5.93	21.87	20	20	0.1	0.501	0.548	9.33	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 1 of 2

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 690625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL @ 20 PPB
Cont Calibration Date/Time 4/19/2016 8:11:00 AData File: 3M89251.D
Method: EPA 8260C

Instrument: GCMS 3

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.16	17.28	20	20		0.253	0.266	13.61	
cis-1,3-Dichloropropene	1	0		5.25	22.33	20	20	0.2	0.572	0.639	11.66	
trans-1,3-Dichloropropene	1	0		5.58	23.02	20	20	0.1	0.535	0.616	15.12	
Ethyl methacrylate	1	0		5.62	16.03	20	20	0.5	0.459	0.467	19.86	
1,1,2-Trichloroethane	1	0		5.69	20.98	20	20	0.1	0.326	0.342	4.90	
1,2-Dibromoethane	1	0		6.01	20.25	20	20	0.1	0.388	0.430	1.27	
1,3-Dichloropropane	1	0		5.79	21.62	20	20		0.569	0.615	8.09	
4-Methyl-2-Pentanone	1	0		5.34	16.91	20	20	0.1	0.505	0.498	15.43	
2-Hexanone	1	0		5.84	8.99	20	20	0.1	0.262	0.181	55.04	C1
Tetrachloroethene	1	0		5.78	24.21	20	20	0.2	0.329	0.372	21.04	C1
Toluene-d8	1	0	S	5.42	31.69	30	**		1.320	1.394	5.64	
Toluene	1	0		5.46	23.36	20	20	0.4	0.720	0.841	16.82	
1,1,1,2-Tetrachloroethane	1	0		6.33	22.82	20	20		0.412	0.428	14.10	
Chlorobenzene	1	0		6.29	20.34	20	20	0.5	0.839	0.853	1.71	
1,4-Dichlorobenzene-d4	1	0	I	7.68	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		6.59	14.28	20	20	0.5	1.180	1.176	28.58	C1
n-Amyl acetate	1	0		6.72	13.13	20	20	0.5	1.191	1.053	34.36	C1
Bromoform	1	0		6.78	21.86	20	20	0.1	0.753	0.823	9.29	
Ethylbenzene	1	0		6.34	20.74	20	20	0.1	0.525	0.544	3.71	
1,1,2,2-Tetrachloroethane	1	0		7.03	18.48	20	20	0.1	0.734	0.679	7.59	
Bromofluorobenzene	1	0	S	6.97	30.10	30	**		1.062	1.066	0.33	
Styrene	1	0		6.66	21.58	20	20	0.3	1.321	1.426	7.90	
m&p-Xylenes	1	0		6.40	44.11	40	20	0.1	0.774	0.852	10.27	
o-Xylene	1	0		6.65	21.58	20	20	0.3	0.834	0.900	7.89	
trans-1,4-Dichloro-2-butene	1	0		7.06	18.97	20	20		0.309	0.370	5.15	
1,3-Dichlorobenzene	1	0		7.65	19.84	20	20	0.6	1.068	1.059	0.81	
1,4-Dichlorobenzene	1	0		7.70	20.46	20	20	0.5	1.177	1.204	2.29	
1,2-Dichlorobenzene	1	0		7.94	21.95	20	20	0.4	1.073	1.178	9.77	
Isopropylbenzene	1	0		6.86	22.46	20	20	0.1	1.917	2.153	12.31	
Cyclohexanone	1	0		6.94	53.80	100	20		0.038	0.018	46.20	C1
Camphene	1	0		7.03	23.63	20	20		0.447	0.594	18.17	
1,2,3-Trichloropropane	1	0		7.07	16.62	20	20		0.973	0.863	16.92	
2-Chlorotoluene	1	0		7.18	23.84	20	20		1.250	1.489	19.18	
p-Ethyltoluene	1	0		7.17	23.27	20	20		1.878	2.185	16.36	
4-Chlorotoluene	1	0		7.24	22.80	20	20		1.214	1.384	14.02	
n-Propylbenzene	1	0		7.11	21.58	20	20		2.206	2.380	7.92	
Bromobenzene	1	0		7.08	23.44	20	20		1.623	1.902	17.18	
1,3,5-Trimethylbenzene	1	0		7.20	22.06	20	20		1.628	1.796	10.29	
Butyl methacrylate	1	0		7.23	15.68	20	20	0.5	1.071	1.057	21.58	C1
t-Butylbenzene	1	0		7.41	22.97	20	20		1.346	1.545	14.85	
1,2,4-Trimethylbenzene	1	0		7.44	21.40	20	20		1.762	1.885	6.98	
sec-Butylbenzene	1	0		7.54	22.27	20	20		1.620	1.804	11.35	
4-Isopropyltoluene	1	0		7.63	22.28	20	20		1.350	1.503	11.38	
n-Butylbenzene	1	0		7.89	21.02	20	20		1.422	1.495	5.12	
p-Diethylbenzene	1	0		7.87	20.62	20	20		0.786	0.810	3.11	
1,2,4,5-Tetramethylbenzene	1	0		8.37	22.15	20	20		1.251	1.386	10.76	
1,2-Dibromo-3-Chloropropane	1	0		8.44	19.78	20	20	0.05	0.188	0.186	1.09	
Camphor	1	0		8.90	191.66	200	20		0.120	0.115	4.17	
Hexachlorobutadiene	1	0		9.06	21.69	20	20		0.462	0.501	8.46	
1,2,4-Trichlorobenzene	1	0		8.98	20.32	20	20	0.2	0.731	0.742	1.58	
1,2,3-Trichlorobenzene	1	0		9.30	22.25	20	20		0.650	0.723	11.26	
Naphthalene	1	0		9.14	21.10	20	20		1.285	1.355	5.48	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 2 of 2

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 691625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL @ 20 PPB
Cont Calibration Date/Time 4/29/2016 8:03:00 PData File: 3M89943.D
Method: EPA 8260C

Instrument: GCMS 3

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.49	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.40	10.93	20	20	0.1	0.563	0.308	45.34	C1
Dichlorodifluoromethane	1	0		1.38	17.42	20	20	0.1	0.405	0.353	12.92	
Chloromethane	1	0		1.51	14.57	20	20	0.1	0.429	0.312	27.15	C1
Bromomethane	1	0		1.81	15.28	20	20	0.1	0.171	0.134	23.60	C1
Vinyl Chloride	1	0		1.58	14.89	20	20	0.1	0.317	0.236	25.57	C1
Chloroethane	1	0		1.86	16.36	20	20	0.1	0.175	0.129	18.20	
Trichlorofluoromethane	1	0		2.06	25.90	20	20	0.1	0.310	0.289	29.49	C1
Ethyl ether	1	0		2.25	22.05	20	20	0.5	0.199	0.220	10.26	
Furan	1	0		2.27	20.06	20	20	0.5	0.556	0.489	0.32	
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0		2.41	19.48	20	20	0.1	0.207	0.202	2.61	
Methylene Chloride	1	0		2.75	19.56	20	20	0.1	0.271	0.265	2.21	
Acrolein	1	0		2.34	83.00	100	20		0.059	0.049	17.00	
Acrylonitrile	1	0		2.95	18.43	20	20		0.100	0.113	7.85	
Iodomethane	1	0		2.52	17.12	20	20		0.437	0.374	14.41	
Acetone	1	0		2.45	91.49	100	20	0.1	0.131	0.119	8.51	
Carbon Disulfide	1	0		2.58	20.09	20	20	0.1	0.601	0.603	0.43	
t-Butyl Alcohol	1	0		2.82	77.97	100	20		0.035	0.028	22.03	C1
n-Hexane	1	0		3.16	20.88	20	20		0.191	0.200	4.42	
Di-isopropyl-ether	1	0		3.31	20.49	20	20		1.071	1.098	2.47	
1,1-Dichloroethene	1	0		2.41	19.02	20	20	0.1	0.469	0.446	4.91	
Methyl Acetate	1	0		2.68	19.44	20	20	0.1	0.366	0.356	2.79	
Methyl-t-butyl ether	1	0		2.95	19.19	20	20	0.1	0.763	0.732	4.07	
1,1-Dichloroethane	1	0		3.27	18.87	20	20	0.2	0.541	0.510	5.66	
trans-1,2-Dichloroethene	1	0		2.96	20.20	20	20	0.1	0.239	0.241	1.02	
Ethyl-t-butyl ether	1	0		3.60	18.55	20	20	0.5	1.028	0.953	7.24	
cis-1,2-Dichloroethene	1	0		3.73	20.42	20	20	0.1	0.538	0.549	2.08	
Bromochloromethane	1	0		3.90	18.26	20	20		0.340	0.294	8.68	
2,2-Dichloropropane	1	0		3.72	18.69	20	20		0.482	0.451	6.55	
Ethyl acetate	1	0		3.77	20.01	20	20		0.398	0.399	0.03	
1,4-Dioxane	1	0		4.93	961.12	1000	20		0.003	0.003	3.89	
1,1-Dichloropropene	1	0		4.19	23.78	20	20		0.358	0.426	18.88	
Chloroform	1	0		3.95	19.83	20	20	0.2	0.525	0.520	0.84	
Dibromofluoromethane	1	0	S	4.06	28.49	30	**		0.365	0.346	5.04	
Cyclohexane	1	0		4.12	19.14	20	20	0.1	0.338	0.323	4.31	
1,2-Dichloroethane-d4	1	0	S	4.29	27.68	30	**		0.243	0.224	7.72	
1,2-Dichloroethane	1	0		4.34	19.63	20	20	0.1	0.558	0.547	1.83	
2-Butanone	1	0		3.75	14.35	20	20	0.1	0.173	0.141	28.25	C1
1,1,1-Trichloroethane	1	0		4.08	18.30	20	20	0.1	0.491	0.450	8.51	
Carbon Tetrachloride	1	0		4.20	18.79	20	20	0.1	0.406	0.382	6.07	
Vinyl Acetate	1	0		3.31	19.82	20	20		1.076	1.066	0.88	
Bromodichloromethane	1	0		5.01	19.59	20	20	0.2	0.478	0.468	2.03	
Methylcyclohexane	1	0		4.83	20.10	20	20	0.1	0.219	0.220	0.50	
Dibromomethane	1	0		4.92	18.10	20	20		0.294	0.266	9.52	
1,2-Dichloropropane	1	0		4.85	19.09	20	20	0.1	0.276	0.264	4.55	
Trichloroethene	1	0		4.71	19.95	20	20	0.2	0.274	0.273	0.25	
Benzene	1	0		4.33	21.57	20	20	0.5	0.910	0.981	7.85	
tert-Amyl methyl ether	1	0		4.38	19.61	20	20		0.742	0.727	1.93	
Chlorobenzene-d5	1	0	I	6.28	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.35	18.29	20	20	0.5	1.030	0.942	8.57	
Methyl methacrylate	1	0		4.90	16.14	20	20	0.5	0.451	0.451	19.29	
Dibromochloromethane	1	0		5.95	18.82	20	20	0.1	0.501	0.472	5.89	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 692625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL @ 20 PPB
Cont Calibration Date/Time 4/29/2016 8:03:00 PData File: 3M89943.D
Method: EPA 8260C

Instrument: GCMS 3

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.18	16.23	20	20	0.2	0.572	0.560	2.06	
cis-1,3-Dichloropropene	1	0		5.59	20.31	20	20	0.1	0.535	0.543	1.53	
trans-1,3-Dichloropropene	1	0		5.62	16.61	20	20	0.5	0.459	0.484	16.94	
Ethyl methacrylate	1	0		5.70	18.36	20	20	0.1	0.326	0.300	8.19	
1,1,2-Trichloroethane	1	0		6.02	19.58	20	20	0.1	0.388	0.416	2.10	
1,2-Dibromoethane	1	0		5.80	20.25	20	20		0.569	0.576	1.23	
1,3-Dichloropropane	1	0		5.35	17.82	20	20	0.1	0.505	0.524	10.91	
4-Methyl-2-Pentanone	1	0		5.85	14.23	20	20	0.1	0.262	0.286	28.83	C1
2-Hexanone	1	0		5.80	17.42	20	20	0.2	0.329	0.269	12.89	
Tetrachloroethene	1	0		5.43	28.52	30	**		1.320	1.255	4.93	
Toluene-d8	1	0	S	5.47	20.02	20	20	0.4	0.720	0.720	0.09	
Toluene	1	0		6.34	19.89	20	20		0.412	0.374	0.54	
1,1,1,2-Tetrachloroethane	1	0		6.30	19.85	20	20	0.5	0.839	0.832	0.77	
Chlorobenzene	1	0		7.70	30.00	30	**			0.000	0.00	
1,4-Dichlorobenzene-d4	1	0	I	6.60	15.29	20	20	0.5	1.180	1.259	23.54	C1
n-Butyl acrylate	1	0		6.73	17.44	20	20	0.5	1.191	1.399	12.82	
n-Amyl acetate	1	0		6.79	16.29	20	20	0.1	0.753	0.613	18.57	
Bromoform	1	0		6.36	19.56	20	20	0.1	0.525	0.513	2.21	
Ethylbenzene	1	0		7.04	22.46	20	20	0.1	0.734	0.825	12.31	
1,1,2,2-Tetrachloroethane	1	0		6.98	25.60	30	**		1.062	0.907	14.68	
Bromofluorobenzene	1	0	S	6.67	21.60	20	20	0.3	1.321	1.427	7.99	
Styrene	1	0		6.42	39.22	40	20	0.1	0.774	0.759	1.96	
m&p-Xylenes	1	0		6.66	20.14	20	20	0.3	0.834	0.840	0.69	
o-Xylene	1	0		7.08	19.86	20	20		0.309	0.387	0.72	
trans-1,4-Dichloro-2-butene	1	0		7.65	20.15	20	20	0.6	1.068	1.076	0.77	
1,3-Dichlorobenzene	1	0		7.71	17.69	20	20	0.5	1.177	1.041	11.56	
1,4-Dichlorobenzene	1	0		7.95	19.95	20	20	0.4	1.073	1.070	0.27	
1,2-Dichlorobenzene	1	0		6.87	21.26	20	20	0.1	1.917	2.038	6.32	
Isopropylbenzene	1	0		6.96	78.69	100	20		0.038	0.026	21.31	C1
Cyclohexanone	1	0		7.05	20.29	20	20		0.447	0.510	1.44	
Camphene	1	0		7.08	17.50	20	20		0.973	0.908	12.52	
1,2,3-Trichloropropane	1	0		7.19	20.10	20	20		1.250	1.256	0.49	
2-Chlorotoluene	1	0		7.18	20.69	20	20		1.878	1.942	3.44	
p-Ethyltoluene	1	0		7.26	20.18	20	20		1.214	1.224	0.88	
4-Chlorotoluene	1	0		7.12	20.06	20	20		2.206	2.212	0.30	
n-Propylbenzene	1	0		7.08	19.70	20	20		1.623	1.599	1.48	
Bromobenzene	1	0		7.21	19.08	20	20		1.628	1.554	4.59	
1,3,5-Trimethylbenzene	1	0		7.23	16.50	20	20	0.5	1.071	1.113	17.48	
Butyl methacrylate	1	0		7.43	21.63	20	20		1.346	1.455	8.13	
t-Butylbenzene	1	0		7.46	20.68	20	20		1.762	1.822	3.39	
1,2,4-Trimethylbenzene	1	0		7.56	20.42	20	20		1.620	1.654	2.11	
sec-Butylbenzene	1	0		7.64	21.13	20	20		1.350	1.426	5.66	
4-Isopropyltoluene	1	0		7.90	21.40	20	20		1.422	1.522	7.00	
n-Butylbenzene	1	0		7.88	20.62	20	20		0.786	0.810	3.08	
p-Diethylbenzene	1	0		8.38	17.87	20	20		1.251	1.118	10.67	
1,2,4,5-Tetramethylbenzene	1	0		8.45	16.78	20	20	0.05	0.188	0.158	16.11	
1,2-Dibromo-3-Chloropropane	1	0		8.92	251.83	200	20		0.120	0.151	25.91	C1
Camphor	1	0		9.07	13.26	20	20		0.462	0.307	33.70	C1
Hexachlorobutadiene	1	0		8.98	16.31	20	20	0.2	0.731	0.596	18.45	
1,2,4-Trichlorobenzene	1	0		9.31	17.44	20	20		0.650	0.567	12.82	
1,2,3-Trichlorobenzene	1	0		9.15	19.10	20	20		1.285	1.227	4.50	
Naphthalene	1	0										

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

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Note: 8260/8270 limits are compared against the %DIFF/R.F.

625 limits are compared against the %DIFF.

624 limits are compared against the concentration found. HAZ. - 693

524.2 limits are compared against the %DIFF

FORM8

Internal Standard Areas

Evaluation Std Data File: 3M89156.D

Method: EPA 8260C

Analysis Date/Time: 04/15/16 19:45

Lab File ID: CAL @ 20 PPB

	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	227264	4.47	179543	6.27	106900	7.67						
Eval File Area Limit:	113632-454528		89772-359086		53450-213800							
Eval File Rt Limit:	3.97-4.97		5.77-6.77		7.17-8.17							

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
3M89150.D	1 PPB	242140	4.47	180842	6.27	103225	7.67						
3M89151.D	0.5 PPB	237988	4.46	178758	6.26	110807	7.67						
3M89152.D	CAL @ 0.5 PF	245490	4.47	170708	6.26	107236	7.67						
3M89153.D	CAL @ 1 PPB	241594	4.47	179330	6.27	107688	7.67						
3M89154.D	CAL @ 5 PPB	239185	4.47	167435	6.27	116944	7.67						
3M89155.D	CAL @ 10 PP	240594	4.47	185802	6.26	116824	7.67						
3M89156.D	CAL @ 20 PP	227264	4.47	179543	6.27	106900	7.67						
3M89157.D	CAL @ 500 P	242721	4.47	172390	6.26	90948	7.67						
3M89160.D	CAL @ 250 P	241744	4.47	177385	6.26	101924	7.67						
3M89163.D	CAL @ 100 P	248900	4.47	188873	6.26	109634	7.67						
3M89165.D	CAL @ 50 PP	266030	4.47	204769	6.26	113809	7.67						
3M89167.D	ICV	255246	4.47	188179	6.26	112615	7.67						
3M89168.D	ICV	254885	4.47	188064	6.27	113888	7.67						
3M89169.D	BLK	208999	4.47	134065	6.26	79231	7.67						
3M89170.D	DAILY BLANK	217756	4.46	140378	6.26	81821	7.67						
3M89171.D	DAILY BLANK	233326	4.47	162414	6.26	104031	7.67						
3M89172.D	90778-001	203584	4.46	148931	6.27	76740	7.68						
3M89173.D	90778-006	212000	4.46	139816	6.26	86553	7.68						
3M89174.D	90778-008	194176	4.46	129456	6.26	75581	7.68						
3M89175.D	90778-009	208521	4.46	140651	6.27	77083	7.68						
3M89176.D	90778-010	206435	4.46	135018	6.27	69562	7.68						
3M89177.D	90778-016	186392	4.46	134840	6.27	77708	7.67						
3M89178.D	MBS52795	196457	4.46	143639	6.26	89741	7.67						
3M89179.D	BLK	217771	4.47	146981	6.27	83445	7.68						

I1 = Fluorobenzene	I4 =	625/8270 Internal Standard concentration = 40 ug/L (in final extract)
I2 = Chlorobenzene-d5	I5 =	624/8260 Internal Standard concentration = 30ug/L
I3 = 1,4-Dichlorobenzene-d4	I6 =	524 Internal Standard concentration = 5ug/L

QC Limits:

Internal Standard Areas

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM 8

Internal Standard Areas

Evaluation Std Data File: 3M89251.D

Method: EPA 8260C

Analysis Date/Time: 04/19/16 08:11

Lab File ID: CAL @ 20 PPB

Eval File Area/RT:	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
	241653	4.47	170356	6.27	105043	7.68						
Eval File Area Limit:	120826-483306		85178-340712		52522-210086							
Eval File Rt Limit:	3.97-4.97		5.77-6.77		7.18-8.18							

Data File Sample

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
3M89250.D	20 PPB	187025	4.47	145332	6.28	85310	7.68						
3M89252.D	BLKDI	197463	4.47	139166	6.27	76790	7.68						
3M89253.D	DAILY BLANK	162561	4.47	115139	6.28	61581	7.69						
3M89254.D	DAILY BLANK	209938	4.47	140581	6.28	77000	7.68						
3M89255.D	MBS52803	204908	4.47	149265	6.27	90484	7.68						
3M89256.D	AC90754-002i	218258	4.47	163844	6.28	87073	7.68						
3M89257.D	AC90755-002i	164028	4.47	119512	6.28	59959	7.68						
3M89258.D	AC90755-001i	220792	4.47	167913	6.28	102131	7.68						
3M89259.D	MBS52804	238279	4.47	170765	6.27	108132	7.68						
3M89260.D	AC90741-001i	243301	4.47	168188	6.27	100560	7.68						
3M89261.D	AC90719-007i	234323	4.47	168560	6.27	100256	7.68						
3M89262.D	AC90789-008	227420	4.47	164579	6.28	98581	7.69						
3M89263.D	AC90781-001	218317	4.47	158013	6.28	90351	7.68						
3M89264.D	AC90754-002i	240850	4.47	176698	6.28	99528	7.68						
3M89265.D	AC90754-002i	265774	4.47	190424	6.28	102122	7.68						
3M89266.D	BLKDI	241323	4.47	188447	6.28	105442	7.68						
3M89267.D	EF-3V-9557/0	212740	4.47	141217	6.28	78488	7.69						
3M89268.D	EF-3V-9557/0	237227	4.47	158888	6.28	92675	7.68						
3M89269.D	AC90795-001	243568	4.47	168761	6.28	100051	7.68						
3M89270.D	AC90729-003i	240805	4.47	173201	6.27	91658	7.68						
3M89271.D	AC90729-005i	254520	4.47	183303	6.28	94238	7.68						
3M89272.D	AC90729-008i	250644	4.47	181839	6.28	101333	7.69						
3M89273.D	AC90729-010i	256083	4.47	175696	6.28	93140	7.69						
3M89274.D	AC90747-002i	251809	4.47	177098	6.28	105339	7.69						
3M89275.D	AC90747-003i	249409	4.47	184723	6.28	103809	7.68						
3M89276.D	AC90747-007i	252500	4.47	187027	6.28	96709	7.68						
3M89277.D	AC90747-011i	248097	4.47	176762	6.28	104715	7.69						
3M89278.D	AC90811-004	262121	4.48	187250	6.28	96854	7.69						
3M89279.D	AC90793-002	253618	4.47	177196	6.28	100947	7.68						
3M89280.D	AC90793-003	246683	4.47	174937	6.28	101757	7.69						

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4

I4 =
I5 =
I6 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 3M89943.D

Method: EPA 8260C

Analysis Date/Time: 04/29/16 20:03

Lab File ID: CAL @ 20 PPB

Eval File Area/RT:	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
	295972	4.49	235395	6.28	147795	7.70						
Eval File Area Limit:	147986-591944		117698-470790		73898-295590							
Eval File Rt Limit:	3.99-4.99		5.78-6.78		7.2-8.2							

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
3M89945.D	DAILY BLANK	305485	4.50	234748	6.28	120435	7.70				
3M89946.D	DAILY BLANK	269241	4.49	216129	6.28	124911	7.70				
3M89947.D	MBS52940	299688	4.49	249987	6.28	139047	7.69				
3M89948.D	AC91031-004	271245	4.49	242995	6.28	128814	7.70				
3M89949.D	AC91031-005	243181	4.49	221060	6.28	123898	7.69				
3M89950.D	AC91036-005	274430	4.49	244241	6.28	126104	7.69				
3M89951.D	AC91031-001	263010	4.49	238989	6.28	125130	7.69				
3M89952.D	AC91031-002	211482	4.47	178984	6.28	87265	7.68				
3M89953.D	AC91034-001	210051	4.48	182458	6.28	95920	7.69				
3M89954.D	AC91034-002	222567	4.47	190355	6.28	97336	7.68				
3M89955.D	AC91034-003	217795	4.48	199464	6.28	99537	7.68				
3M89956.D	AC91033-001	201695	4.48	183223	6.28	98191	7.68				
3M89957.D	AC91032-001	219860	4.47	205371	6.27	107954	7.68				
3M89958.D	AC91047-005	234387	4.48	199731	6.28	106845	7.69				
3M89959.D	AC91039-004	236746	4.47	199976	6.28	91683	7.68				
3M89960.D	AC91039-006	228273	4.47	203355	6.28	99702	7.69				
3M89961.D	AC91039-005	233440	4.47	184031	6.28	102620	7.68				
3M89962.D	AC91039-003	236368	4.47	197038	6.28	105613	7.68				
3M89963.D	AC91039-002	216821	4.47	193177	6.27	100768	7.68				
3M89964.D	AC91036-003	231026	4.48	189090	6.28	93322	7.69				
3M89965.D	AC91036-001	231076	4.47	196535	6.27	88017	7.68				
3M89966.D	AC91031-003	238137	4.47	211905	6.27	108698	7.68				
3M89967.D	AC91039-001	215289	4.47	197395	6.27	104388	7.68				
3M89968.D	AC91036-003	234102	4.48	201268	6.27	110171	7.68				
3M89969.D	AC91036-003	234363	4.47	209182	6.27	104016	7.68				
3M89970.D	MBS52941	229900	4.47	202060	6.27	113807	7.68				
3M89971.D	BLK	225426	4.48	198936	6.28	94314	7.69				
3M89972.D	BLK	230004	4.47	195363	6.28	100140	7.68				
3M89973.D	91000-005/40	232048	4.47	190341	6.27	106503	7.68				
3M89974.D	MBS52942	232998	4.47	200956	6.27	106984	7.68				
3M89975.D	AC91049-002	229127	4.47	207093	6.27	104407	7.68				
3M89976.D	91061-002	225900	4.47	180929	6.28	109974	7.68				
3M89977.D	AC91062-001	210046	4.47	180132	6.27	102368	7.68				
3M89978.D	AC90937-001	235596	4.47	201662	6.28	105245	7.68				
3M89979.D	AC90937-003	217017	4.47	196326	6.27	100873	7.68				
3M89980.D	AC90937-004	230205	4.47	210411	6.28	104207	7.68				
3M89981.D	AC90937-005	254262	4.47	214228	6.27	112058	7.68				
3M89982.D	AC90937-006	246449	4.47	206853	6.27	113820	7.68				
3M89983.D	AC90937-007	248575	4.47	199568	6.27	105041	7.68				
3M89984.D	AC90937-008	247441	4.47	219820	6.28	104101	7.68				
3M89985.D	AC90937-009	232904	4.47	192278	6.27	99820	7.68				
3M89986.D	AC90937-010	246331	4.47	194763	6.27	100795	7.68				
3M89987.D	AC90937-011	224338	4.47	192550	6.27	97233	7.68				
3M89988.D	AC90937-012	229832	4.47	184453	6.27	93660	7.68				
3M89989.D	STD	238701	4.47	197560	6.27	97518	7.68				
3M89990.D	STD	242164	4.47	207902	6.27	101831	7.68				

I1 = Fluorobenzene	I4 =	625/8270 Internal Standard concentration = 40 mg/L (in final extract)
I2 = Chlorobenzene-d5	I5 =	624/8260 Internal Standard concentration = 30ug/L
I3 = 1,4-Dichlorobenzene-d4	I6 =	524 Internal Standard concentration = 5ug/L

QC Limits:

Internal Standard Areas

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Semi-Volatile Data

Form1
ORGANICS SEMIVOLATILE REPORT

Sample Number: AC91036-001

Client Id: TWP-01 U

Data File: 5M94834.D

Analysis Date: 05/02/16 22:12

Date Rec/Extracted: 04/28/16-05/02/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Aqueous

Initial Vol: 990ml

Final Vol: 1ml

Dilution: 1

Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Gas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	2.0	U	205-99-2	Benzo[b]fluoranthene	2.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	2.0	U	191-24-2	Benzo[g,h,i]perylene	2.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	2.0	U	207-08-9	Benzo[k]fluoranthene	2.0	U
95-95-4	2,4,5-Trichlorophenol	2.0	U	111-91-1	bis(2-Chloroethoxy)methan	2.0	U
88-06-2	2,4,6-Trichlorophenol	2.0	U	111-44-4	bis(2-Chloroethyl)ether	0.51	U
120-83-2	2,4-Dichlorophenol	0.51	U	108-60-1	bis(2-chloroisopropyl)ether	2.0	U
105-67-9	2,4-Dimethylphenol	0.51	U	117-81-7	bis(2-Ethylhexyl)phthalate	2.0	U
51-28-5	2,4-Dinitrophenol	10	U	85-68-7	Butylbenzylphthalate	2.0	U
121-14-2	2,4-Dinitrotoluene	2.0	U	105-60-2	Caprolactam	2.0	U
606-20-2	2,6-Dinitrotoluene	2.0	U	86-74-8	Carbazole	2.0	U
91-58-7	2-Chloronaphthalene	2.0	U	218-01-9	Chrysene	2.0	U
95-57-8	2-Chlorophenol	2.0	U	53-70-3	Dibenzo[a,h]anthracene	2.0	U
91-57-6	2-Methylnaphthalene	2.0	U	132-64-9	Dibenzofuran	0.51	U
95-48-7	2-Methylphenol	0.51	U	84-66-2	Diethylphthalate	2.0	U
88-74-4	2-Nitroaniline	2.0	U	131-11-3	Dimethylphthalate	2.0	U
88-75-5	2-Nitrophenol	2.0	U	84-74-2	Di-n-butylphthalate	0.51	U
106-44-5	3&4-Methylphenol	0.51	U	117-84-0	Di-n-octylphthalate	2.0	U
91-94-1	3,3'-Dichlorobenzidine	2.0	U	206-44-0	Fluoranthene	2.0	U
99-09-2	3-Nitroaniline	2.0	U	86-73-7	Fluorene	2.0	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U	118-74-1	Hexachlorobenzene	2.0	U
101-55-3	4-Bromophenyl-phenylether	2.0	U	87-68-3	Hexachlorobutadiene	2.0	U
59-50-7	4-Chloro-3-methylphenol	2.0	U	77-47-4	Hexachlorocyclopentadiene	2.0	U
106-47-8	4-Chloroaniline	0.51	U	67-72-1	Hexachloroethane	2.0	U
7005-72-3	4-Chlorophenyl-phenylether	2.0	U	193-39-5	Indeno[1,2,3-cd]pyrene	2.0	U
100-01-6	4-Nitroaniline	2.0	U	78-59-1	Isophorone	2.0	U
100-02-7	4-Nitrophenol	2.0	U	91-20-3	Naphthalene	0.51	U
83-32-9	Acenaphthene	2.0	U	98-95-3	Nitrobenzene	2.0	U
208-96-8	Acenaphthylene	2.0	U	621-64-7	N-Nitroso-di-n-propylamine	0.51	U
98-86-2	Acetophenone	2.0	U	86-30-6	n-Nitrosodiphenylamine	2.0	U
120-12-7	Anthracene	2.0	U	87-86-5	Pentachlorophenol	2.0	U
1912-24-9	Atrazine	2.0	U	85-01-8	Phenanthrene	2.0	U
100-52-7	Benzaldehyde	2.0	U	108-95-2	Phenol	2.0	U
56-55-3	Benzo[a]anthracene	2.0	U	129-00-0	Pyrene	2.0	U
50-32-8	Benzo[a]pyrene	2.0	U				

Worksheet #: 382272

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.*B* - Indicates the analyte was found in the blank as well as in the sample.*E* - Indicates the analyte concentration exceeds the calibration range of the instrument.*N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine**R* - Retention Time Out*J* - Indicates an estimated value when a compound is detected at less than the specified detection limit.*d* - Pesticide %Diff>40% between columns due to coelution. Lower concentration use a*Chlordane (Total) is sum of a-Chlordane and γ-Chlordane.*

SampleID : AC91036-001
 Data File: 5M94834.D
 Acq On : 05/ 2/16 22:12

Operator : AH/JB
 Sam Mult : 1 Vial# : 15
 Misc : A.BNA

Qt Meth : 5M_0405M.M
 Qt On : 05/03/16 08:26
 Qt Upd On: 04/06/16 09:19

Data Path : G:\GcMsData\2016\GCMS_5\Data\05-02-16\
 Qt Path : G:\GCMSDATA\2016\GCMS_5\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIion	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dichlorobenzene-d4	5.699	152	66201	40.00 ng	-0.02
29) Naphthalene-d8	6.708	136	257288	40.00 ng	-0.02
48) Acenaphthene-d10	8.124	164	159927	40.00 ng	-0.02
75) Phenanthrene-d10	9.572	188	317652	40.00 ng	-0.02
89) Chrysene-d12	12.612	240	341682	40.00 ng	-0.03
101) Perylene-d12	14.214	264	305341	40.00 ng	-0.03
System Monitoring Compounds					
10) 2-Fluorophenol	4.470	112	99781	43.53 ng	-0.02
Spiked Amount 100.000			Recovery =	43.53%	
15) Phenol-d5	5.373	99	83968	27.19 ng	-0.02
Spiked Amount 100.000			Recovery =	27.19%	
30) Nitrobenzene-d5	6.153	128	62037	55.76 ng	-0.02
Spiked Amount 50.000			Recovery =	111.52%	
53) 2-Fluorobiphenyl	7.542	172	312065	53.58 ng	-0.02
Spiked Amount 50.000			Recovery =	107.16%	
78) 2,4,6-Tribromophenol	8.856	330	96212	111.96 ng	-0.02
Spiked Amount 100.000			Recovery =	111.96%	
92) Terphenyl-d14	11.372	244	341270	60.70 ng	-0.02
Spiked Amount 50.000			Recovery =	121.40%	

Target Compounds Ovalue

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

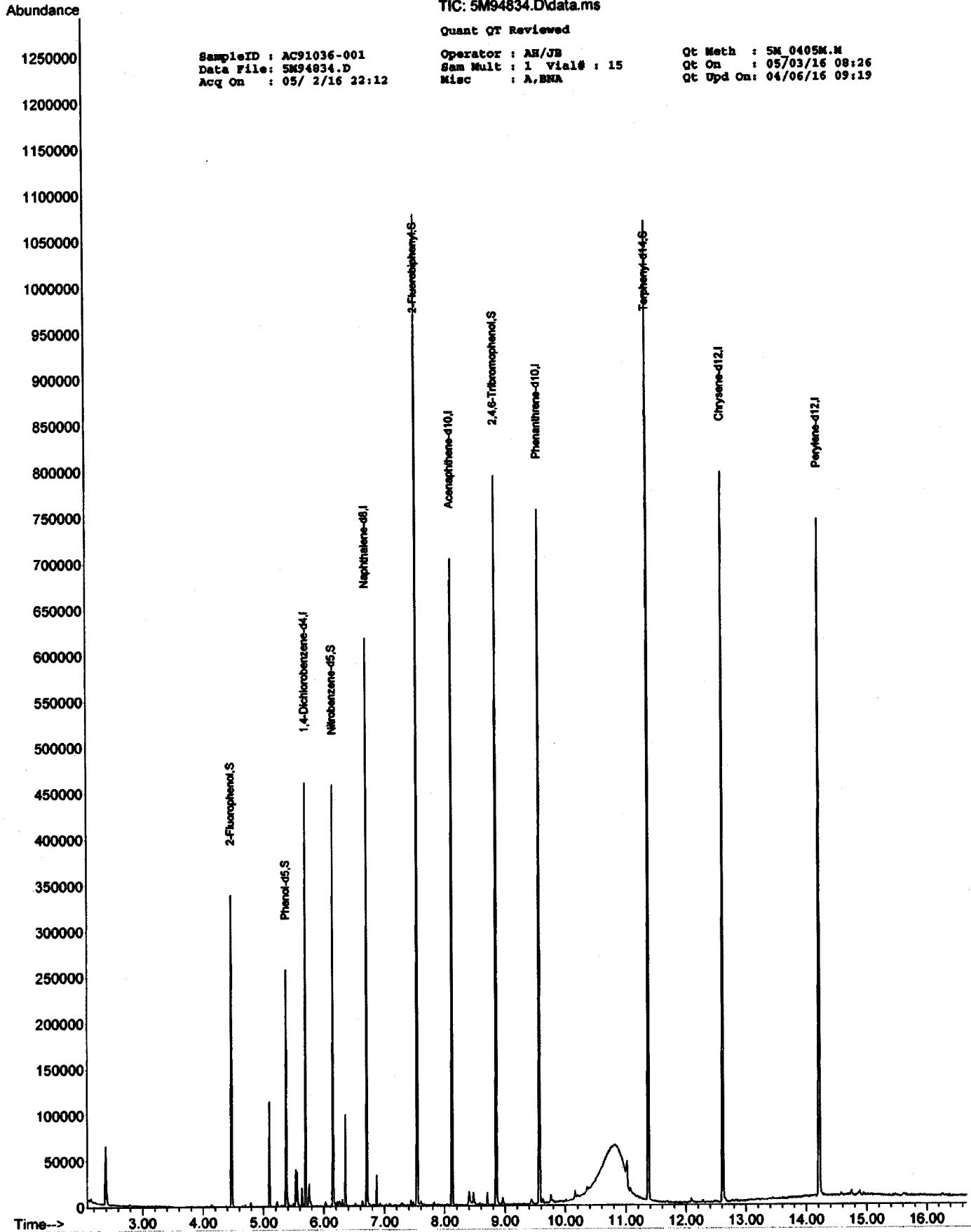
TIC: 5M94834.D\data.ms

Quant QT Reviewed

SampleID : AC91036-001
Data File: 5M94834.D
Acq On : 05/ 2/16 22:12

Operator : AH/JB
Sam Mult : 1 Vial# : 15
Misc : A,ENA

Qt Meth : SM 0405M.M
Qt On : 05/03/16 08:26
Qt Upd On: 04/06/16 09:19



Form 1
ORGANICS SEMIVOLATILE REPORT

Sample Number: AC91036-003
Client Id: DUP TWP-01 U
Data File: 5M94835.D
Analysis Date: 05/02/16 22:36
Date Rec/Extracted: 04/28/16-05/02/16
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D
Matrix: Aqueous
Initial Vol: 950ml
Final Vol: 1ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	2.1	U	205-99-2	Benzo[b]fluoranthene	2.1	U
95-94-3	1,2,4,5-Tetrachlorobenzene	2.1	U	191-24-2	Benzo[g,h,i]perylene	2.1	U
58-90-2	2,3,4,6-Tetrachlorophenol	2.1	U	207-08-9	Benzo[k]fluoranthene	2.1	U
95-95-4	2,4,5-Trichlorophenol	2.1	U	111-91-1	bis(2-Chloroethoxy)methan	2.1	U
88-06-2	2,4,6-Trichlorophenol	2.1	U	111-44-4	bis(2-Chloroethyl)ether	0.53	U
120-83-2	2,4-Dichlorophenol	0.53	U	108-60-1	bis(2-chloroisopropyl)ether	2.1	U
105-67-9	2,4-Dimethylphenol	0.53	U	117-81-7	bis(2-Ethylhexyl)phthalate	2.1	U
51-28-5	2,4-Dinitrophenol	11	U	85-68-7	Butylbenzylphthalate	2.1	U
121-14-2	2,4-Dinitrotoluene	2.1	U	105-60-2	Caprolactam	2.1	U
606-20-2	2,6-Dinitrotoluene	2.1	U	86-74-8	Carbazole	2.1	U
91-58-7	2-Chloronaphthalene	2.1	U	218-01-9	Chrysene	2.1	U
95-57-8	2-Chlorophenol	2.1	U	53-70-3	Dibenzo[a,h]anthracene	2.1	U
91-57-6	2-Methylnaphthalene	2.1	U	132-64-9	Dibenzofuran	0.53	U
95-48-7	2-Methylphenol	0.53	U	84-66-2	Diethylphthalate	2.1	U
88-74-4	2-Nitroaniline	2.1	U	131-11-3	Dimethylphthalate	2.1	U
88-75-5	2-Nitrophenol	2.1	U	84-74-2	Di-n-butylphthalate	0.53	U
106-44-5	3&4-Methylphenol	0.53	U	117-84-0	Di-n-octylphthalate	2.1	U
91-94-1	3,3'-Dichlorobenzidine	2.1	U	206-44-0	Fluoranthene	2.1	U
99-09-2	3-Nitroaniline	2.1	U	86-73-7	Fluorene	2.1	U
534-52-1	4,6-Dinitro-2-methylphenol	11	U	118-74-1	Hexachlorobenzene	2.1	U
101-55-3	4-Bromophenyl-phenylether	2.1	U	87-68-3	Hexachlorobutadiene	2.1	U
59-50-7	4-Chloro-3-methylphenol	2.1	U	77-47-4	Hexachlorocyclopentadiene	2.1	U
106-47-8	4-Chloroaniline	0.53	U	67-72-1	Hexachloroethane	2.1	U
7005-72-3	4-Chlorophenyl-phenylether	2.1	U	193-39-5	Indeno[1,2,3-cd]pyrene	2.1	U
100-01-6	4-Nitroaniline	2.1	U	78-59-1	Isophorone	2.1	U
100-02-7	4-Nitrophenol	2.1	U	91-20-3	Naphthalene	0.53	U
83-32-9	Acenaphthene	2.1	U	98-95-3	Nitrobenzene	2.1	U
208-96-8	Acenaphthylene	2.1	U	621-64-7	N-Nitroso-di-n-propylamine	0.53	U
98-86-2	Acetophenone	2.1	U	86-30-6	n-Nitrosodiphenylamine	2.1	U
120-12-7	Anthracene	2.1	U	87-86-5	Pentachlorophenol	2.1	U
1912-24-9	Atrazine	2.1	U	85-01-8	Phenanthrene	2.1	U
100-52-7	Benzaldehyde	2.1	U	108-95-2	Phenol	2.1	U
56-55-3	Benzo[a]anthracene	2.1	U	129-00-0	Pyrene	2.1	U
50-32-8	Benzo[a]pyrene	2.1	U				

Worksheet #: 382272

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.

B - Indicates the analyte was found in the blank as well as in the sample.

E - Indicates the analyte concentration exceeds the calibration range of the instrument.

N-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine

R - Retention Time Out

J - Indicates an estimated value when a compound is detected at less than the specified detection limit.

d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses

Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

SampleID : AC91036-003
 Data File: 5M94835.D
 Acq On : 05/ 2/16 22:36

Operator : AH/JB
 Sam Mult : 1 Vial# : 16
 Misc : A,BNA

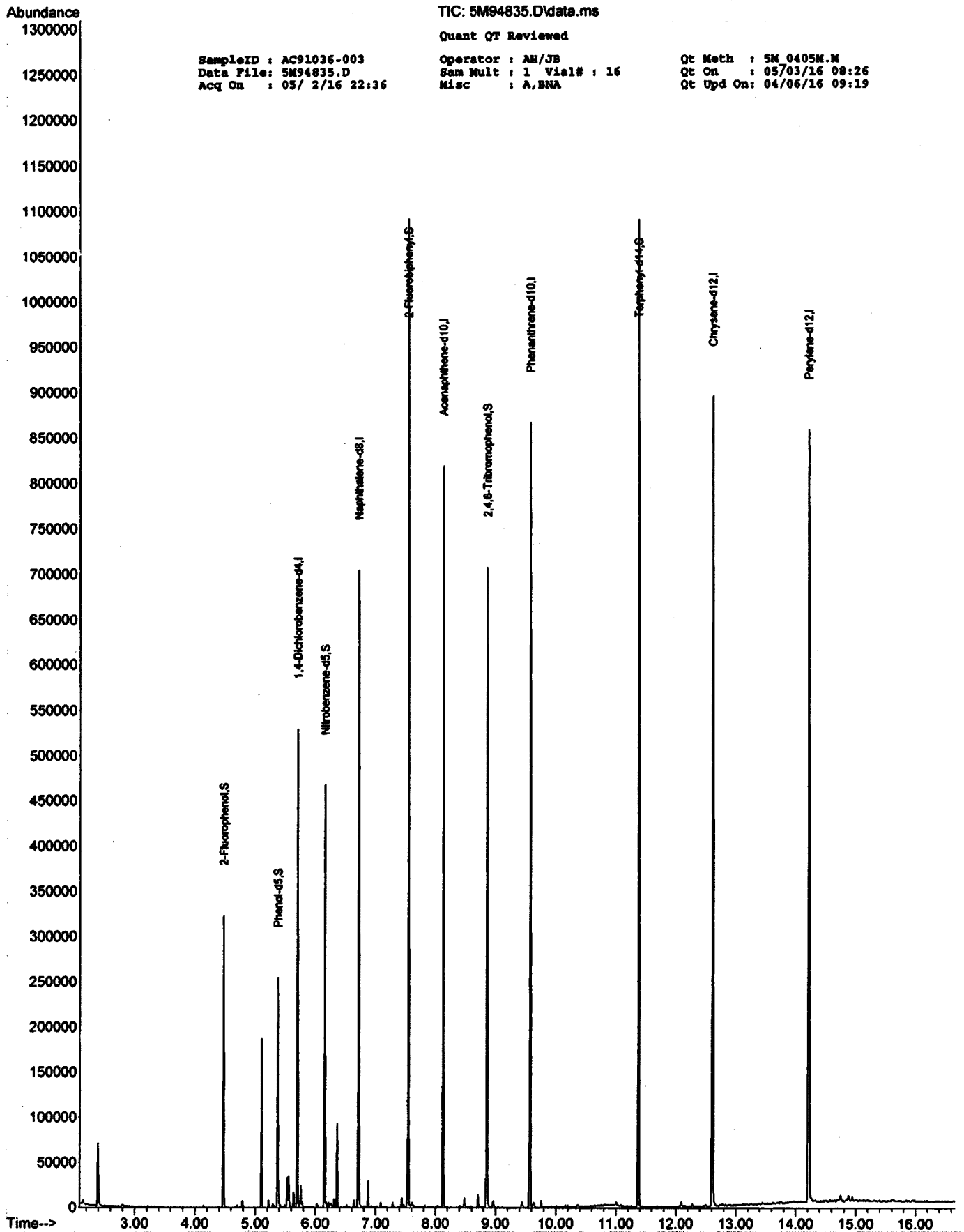
Qt Meth : 5M_0405M.M
 Qt On : 05/03/16 08:26
 Qt Upd On: 04/06/16 09:19

Data Path : G:\GcMsData\2016\GCMS_5\Data\05-02-16\
 Qt Path : G:\GCMSDATA\2016\GCMS_5\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QI	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dichlorobenzene-d4	5.699	152	74391	40.00	ng	-0.02
29) Naphthalene-d8	6.708	136	289653	40.00	ng	-0.02
48) Acenaphthene-d10	8.124	164	184330	40.00	ng	-0.02
75) Phenanthrene-d10	9.572	188	359588	40.00	ng	-0.02
89) Chrysene-d12	12.612	240	397438	40.00	ng	-0.03
101) Perylene-d12	14.214	264	353885	40.00	ng	-0.03
System Monitoring Compounds						
10) 2-Fluorophenol	4.470	112	95549	37.09	ng	-0.02
Spiked Amount						Recovery = 37.09%
15) Phenol-d5	5.373	99	82404	23.75	ng	-0.02
Spiked Amount						Recovery = 23.75%
30) Nitrobenzene-d5	6.153	128	60001	47.91	ng	-0.02
Spiked Amount						Recovery = 95.82%
53) 2-Fluorobiphenyl	7.542	172	315931	47.06	ng	-0.02
Spiked Amount						Recovery = 94.12%
78) 2,4,6-Tribromophenol	8.856	330	91601	93.76	ng	-0.02
Spiked Amount						Recovery = 93.76%
92) Terphenyl-d14	11.372	244	350508	53.60	ng	-0.02
Spiked Amount						Recovery = 107.20%

Target Compounds Qvalue

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



Form1
ORGANICS SEMIVOLATILE REPORT

Sample Number: WMB50006

Client Id:

Data File: 5M94823.D

Analysis Date: 05/02/16 17:59

Date Rec/Extracted: NA-05/02/16

Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270D

Matrix: Aqueous

Initial Vol: 1000ml

Final Vol: 1ml

Dilution: 1

Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
92-52-4	1,1'-Biphenyl	2.0	U	205-99-2	Benzo[b]fluoranthene	2.0	U
95-94-3	1,2,4,5-Tetrachlorobenzene	2.0	U	191-24-2	Benzo[g,h,i]perylene	2.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	2.0	U	207-08-9	Benzo[k]fluoranthene	2.0	U
95-95-4	2,4,5-Trichlorophenol	2.0	U	111-91-1	bis(2-Chloroethoxy)methan	2.0	U
88-06-2	2,4,6-Trichlorophenol	2.0	U	111-44-4	bis(2-Chloroethyl)ether	0.50	U
120-83-2	2,4-Dichlorophenol	0.50	U	108-60-1	bis(2-chloroisopropyl)ether	2.0	U
105-67-9	2,4-Dimethylphenol	0.50	U	117-81-7	bis(2-Ethylhexyl)phthalate	2.0	U
51-28-5	2,4-Dinitrophenol	10	U	85-68-7	Butylbenzylphthalate	2.0	U
121-14-2	2,4-Dinitrotoluene	2.0	U	105-60-2	Caprolactam	2.0	U
606-20-2	2,6-Dinitrotoluene	2.0	U	86-74-8	Carbazole	2.0	U
91-58-7	2-Chloronaphthalene	2.0	U	218-01-9	Chrysene	2.0	U
95-57-8	2-Chlorophenol	2.0	U	53-70-3	Dibenzo[a,h]anthracene	2.0	U
91-57-6	2-Methylnaphthalene	2.0	U	132-64-9	Dibenzofuran	0.50	U
95-48-7	2-Methylphenol	0.50	U	84-66-2	Diethylphthalate	2.0	U
88-74-4	2-Nitroaniline	2.0	U	131-11-3	Dimethylphthalate	2.0	U
88-75-5	2-Nitrophenol	2.0	U	84-74-2	Di-n-butylphthalate	0.50	U
106-44-5	3&4-Methylphenol	0.50	U	117-84-0	Di-n-octylphthalate	2.0	U
91-94-1	3,3'-Dichlorobenzidine	2.0	U	206-44-0	Fluoranthene	2.0	U
99-09-2	3-Nitroaniline	2.0	U	86-73-7	Fluorene	2.0	U
534-52-1	4,6-Dinitro-2-methylphenol	10	U	118-74-1	Hexachlorobenzene	2.0	U
101-55-3	4-Bromophenyl-phenylether	2.0	U	87-68-3	Hexachlorobutadiene	2.0	U
59-50-7	4-Chloro-3-methylphenol	2.0	U	77-47-4	Hexachlorocyclopentadiene	2.0	U
106-47-8	4-Chloroaniline	0.50	U	67-72-1	Hexachloroethane	2.0	U
7005-72-3	4-Chlorophenyl-phenylether	2.0	U	193-39-5	Indeno[1,2,3-cd]pyrene	2.0	U
100-01-6	4-Nitroaniline	2.0	U	78-59-1	Isophorone	2.0	U
100-02-7	4-Nitrophenol	2.0	U	91-20-3	Naphthalene	0.50	U
83-32-9	Acenaphthene	2.0	U	98-95-3	Nitrobenzene	2.0	U
208-96-8	Acenaphthylene	2.0	U	621-64-7	N-Nitroso-di-n-propylamine	0.50	U
98-86-2	Acetophenone	2.0	U	86-30-6	n-Nitrosodiphenylamine	2.0	U
120-12-7	Anthracene	2.0	U	87-86-5	Pentachlorophenol	2.0	U
1912-24-9	Atrazine	2.0	U	85-01-8	Phenanthrene	2.0	U
100-52-7	Benzaldehyde	2.0	U	108-95-2	Phenol	2.0	U
56-55-3	Benzo[a]anthracene	2.0	U	129-00-0	Pyrene	2.0	U
50-32-8	Benzo[a]pyrene	2.0	U				

Worksheet #: 382272

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.*B* - Indicates the analyte was found in the blank as well as in the sample.*E* - Indicates the analyte concentration exceeds the calibration range of the instrument.*N*-Nitrosodiphenylamine decomposes in the GC inlet and is detected as diphenylamine*R* - Retention Time Out*J* - Indicates an estimated value when a compound is detected at less than the specified detection limit.*d* - Pesticide %Diff>40% between columns due to coelution. Lower concentration usesChlordane (Total) is sum of *α*-Chlordane and *γ*-Chlordane.

SampleID : WMB50006
 Data File: SM94823.D
 Acq On : 05/ 2/16 17:59

Operator : AH/JB
 Sam Mult : 1 Vial# : 4
 Misc : A,BNA

Qt Meth : SM_0405M.M
 Qt On : 05/03/16 08:26
 Qt Upd On: 04/05/16 16:40

Data Path : G:\GcMsData\2016\GCMS_5\Data\05-02-16\
 Qt Path : G:\GCMSDATA\2016\GCMS_5\METHODQT\
 Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dichlorobenzene-d4	5.699	152	67713	40.00	ng	-0.02
29) Naphthalene-d8	6.708	136	264461	40.00	ng	-0.02
48) Acenaphthene-d10	8.124	164	164841	40.00	ng	-0.02
75) Phenanthrene-d10	9.572	188	330877	40.00	ng	-0.02
89) Chrysene-d12	12.612	240	368478	40.00	ng	-0.03
101) Perylene-d12	14.214	264	321834	40.00	ng	-0.03
System Monitoring Compounds						
10) 2-Fluorophenol	4.470	112	99044	42.24	ng	-0.02
Spiked Amount 100.000			Recovery =	42.24%		
15) Phenol-d5	5.373	99	78646	24.90	ng	-0.02
Spiked Amount 100.000			Recovery =	24.90%		
30) Nitrobenzene-d5	6.153	128	60798	53.17	ng	-0.02
Spiked Amount 50.000			Recovery =	106.34%		
53) 2-Fluorobiphenyl	7.542	172	313826	52.28	ng	-0.02
Spiked Amount 50.000			Recovery =	104.56%		
78) 2,4,6-Tribromophenol	8.856	330	86373	96.13	ng	-0.01
Spiked Amount 100.000			Recovery =	96.13%		
92) Terphenyl-d14	11.372	244	339388	55.98	ng	-0.02
Spiked Amount 50.000			Recovery =	111.96%		

Target Compounds Qvalue

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

h

Abundance

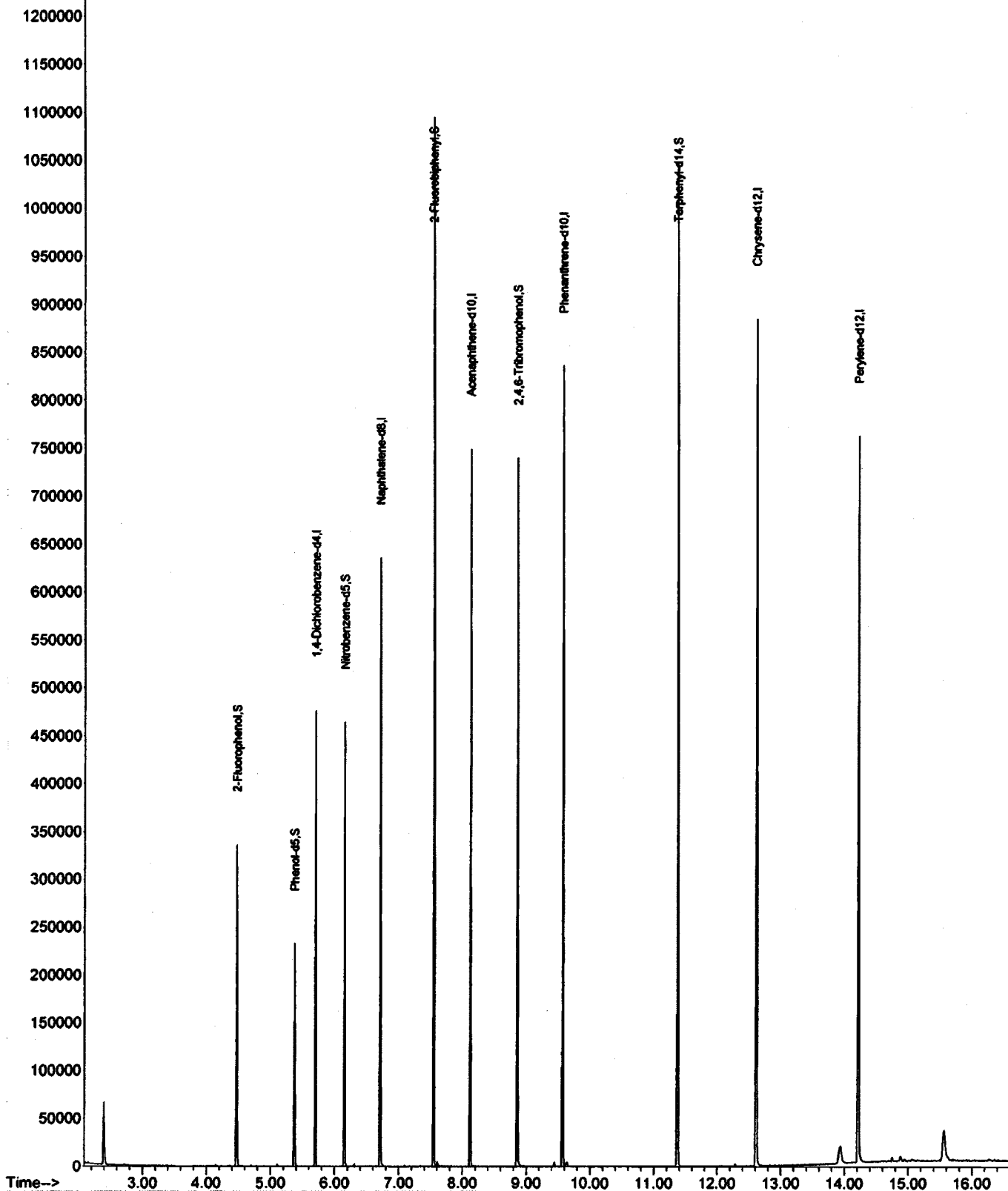
TIC: 5M94823.D\data.ms

Quant QT/LSC Reviewed

SampleID : WMB50006
Data File: 5M94823.D
Acq On : 05/ 2/16 17:59

Operator : AH/JB
Sam Mult : 1 Vial# : 4
Misc : A,BNA

Qt Meth : 5M_0405M.M
Qt On : 05/03/16 08:26
Qt Upd On: 04/05/16 16:40



FORM2

Surrogate Recovery

Method: EPA 8270D

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1 S1 Recov	Column1 S2 Recov	Column1 S3 Recov	Column1 S4 Recov	Column1 S5 Recov	Column1 S6 Recov
5M94823.D	WMB50006	A	05/02/16 17:59	1		42	25	106	105	96	112
5M94834.D	AC91036-001	A	05/02/16 22:12	1		44	27	112	107	112*	121
5M94835.D	AC91036-003	A	05/02/16 22:36	1		37	24	96	94	94	107
5M94822.D	WMB50006(MS)	A	05/02/16 17:36	1		47	27	109	72	110	119
5M94825.D	AC90940-001(T)	A	05/02/16 18:45	1		80	65	111	107	109	116
5M94826.D	AC90940-001(T)(MS)	A	05/02/16 19:08	1		87	72	108	84	115*	119
5M94827.D	AC90940-001(T)(MSD)	A	05/02/16 19:31	1		85	69	110	80	114*	118

Flags: SD=Surrogate diluted out

*=Surrogate out

Method: EPA 8270D

Aqueous DKQP Limits

Compound	Spike Amt	Limits
S1=2-Fluorophenol	100	15-110
S2=Phenol-d5	100	15-110
S3=Nitrobenzene-d5	50	30-130
S4=2-Fluorobiphenyl	50	30-130
S5=2,4,6-Tribromophenol	100	15-110
S6=Terphenyl-d14	50	30-130

Form3
Recovery Data
QC Batch: WMB50006

Data File	Sample ID:	Analysis Date
Spike or Dup: 5M94822.D	WMB50006(MS)	5/2/2016 5:36:00 PM
Non Spike(if applicable):		
Inst Blank(if applicable):		
Method: 8270D	Matrix: Aqueous	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	68.8086	0	100	69	20	160
N-Nitrosodimethylamine	1	66.3883	0	100	66	20	160
Benzaldehyde	1	86.2109	0	100	86	20	160
Aniline	1	94.0631	0	100	94	20	160
Pentachloroethane	1	85.9314	0	100	86	20	160
bis(2-Chloroethyl)ether	1	95.251	0	100	95	70	130
Phenol	1	31.0653	0	100	31	20	160
2-Chlorophenol	1	77.8624	0	100	78	70	130
N-Decane	1	79.6889	0	100	80	20	160
1,3-Dichlorobenzene	1	92.9336	0	100	93	70	130
1,4-Dichlorobenzene	1	96.5543	0	100	97	70	130
1,2-Dichlorobenzene	1	92.0925	0	100	92	70	130
Benzyl alcohol	1	80.903	0	100	81	20	160
bis(2-chloroisopropyl)ether	1	87.2577	0	100	87	70	130
2-Methylphenol	1	58.9273	0	100	59*	70	130
Acetophenone	1	88.2635	0	100	88	70	130
Hexachloroethane	1	93.7432	0	100	94	20	160
N-Nitroso-di-n-propylamine	1	81.1676	0	100	81	70	130
3&4-Methylphenol	1	53.5559	0	100	54	20	160
Nitrobenzene	1	108.1447	0	100	108	70	130
Isophorone	1	76.4427	0	100	76	70	130
2-Nitrophenol	1	109.7599	0	100	110	70	130
2,4-Dimethylphenol	1	75.6866	0	100	76	70	130
Benzoic Acid	1	28.6622	0	100	29	20	160
bis(2-Chloroethoxy)methane	1	99.7009	0	100	100	70	130
2,4-Dichlorophenol	1	90.5051	0	100	91	70	130
1,2,4-Trichlorobenzene	1	92.6369	0	100	93	70	130
Naphthalene	1	87.2802	0	100	87	70	130
4-Chloroaniline	1	101.8342	0	100	102	70	130
Hexachlorobutadiene	1	94.3321	0	100	94	70	130
Caprolactam	1	32.8104	0	100	33	20	160
4-Chloro-3-methylphenol	1	86.2015	0	100	86	70	130
2-Methylnaphthalene	1	92.2637	0	100	92	70	130
1,1'-Biphenyl	1	88.4556	0	100	88	70	130
1,2,4,5-Tetrachlorobenzene	1	87.3553	0	100	87	70	130
Hexachlorocyclopentadiene	1	110.7333	0	100	111	20	160
2,4,6-Trichlorophenol	1	96.1665	0	100	96	70	130
2,4,5-Trichlorophenol	1	101.2025	0	100	101	70	130
2-Chloronaphthalene	1	94.9604	0	100	95	70	130
1,4-Dimethylnaphthalene	1	91.1528	0	100	91	70	130
Diphenyl Ether	1	90.0678	0	100	90	70	130
2-Nitroaniline	1	104.078	0	100	104	70	130
Coumarin	1	94.3489	0	100	94	70	130
Acenaphthylene	1	105.6991	0	100	106	70	130
Dimethylphthalate	1	102.5063	0	100	103	70	130
2,6-Dinitrotoluene	1	108.843	0	100	109	70	130
Acenaphthene	1	94.8821	0	100	95	70	130
3-Nitroaniline	1	107.2442	0	100	107	70	130
2,4-Dinitrophenol	1	129.4232	0	100	129	20	160
Dibenzofuran	1	90.612	0	100	91	70	130
2,4-Dinitrotoluene	1	106.395	0	100	106	70	130
4-Nitrophenol	1	31.9071	0	100	32	20	160
2,3,4,6-Tetrachlorophenol	1	97.436	0	100	97	70	130
Fluorene	1	93.0219	0	100	93	70	130
4-Chlorophenyl-phenylether	1	96.869	0	100	97	70	130
Diethylphthalate	1	95.7932	0	100	96	70	130
4-Nitroaniline	1	99.3135	0	100	99	70	130
Atrazine	1	77.5589	0	100	78	70	130
4,6-Dinitro-2-methylphenol	1	125.9116	0	100	126	70	130
n-Nitrosodiphenylamine	1	78.2304	0	100	78	70	130
1,2-Diphenylhydrazine	1	104.7232	0	100	105	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: WMB50008

4-Bromophenyl-phenylether	1	109.1867	0	100	109	70	130
Hexachlorobenzene	1	99.6001	0	100	100	70	130
N-Octadecane	1	109.3646	0	100	109	70	130
Pentachlorophenol	1	112.2469	0	100	112	20	160
Phenanthrene	1	96.7273	0	100	97	70	130
Anthracene	1	98.6891	0	100	99	70	130
Carbazole	1	95.3888	0	100	95	70	130
Di-n-butylphthalate	1	113.1444	0	100	113	70	130
Fluoranthene	1	100.1163	0	100	100	70	130
Pyrene	1	102.8205	0	100	103	70	130
Benzidine	1	50.534	0	100	51	20	160
Butylbenzylphthalate	1	110.3778	0	100	110	70	130
3,3'-Dichlorobenzidine	1	122.8107	0	100	123	70	130
Benzo[a]anthracene	1	100.009	0	100	100	70	130
Chrysene	1	103.4437	0	100	103	70	130
bis(2-Ethylhexyl)phthalate	1	115.2097	0	100	115	70	130
Di-n-octylphthalate	1	112.256	0	100	112	70	130
Benzo[b]fluoranthene	1	101.081	0	100	101	70	130
Benzo[k]fluoranthene	1	100.0212	0	100	100	70	130
Benzo[a]pyrene	1	101.5858	0	100	102	70	130
Indeno[1,2,3-cd]pyrene	1	103.0375	0	100	103	70	130
Dibenzo[a,h]anthracene	1	102.899	0	100	103	70	130
Benzo[g,h,i]perylene	1	99.7647	0	100	100	70	130

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Form3
Recovery Data
QC Batch: WMB50006

Data File	Sample ID:	Analysis Date
Spike or Dup: 5M94826.D	AC90940-001(T)(MS)	5/2/2016 7:08:00 PM
Non Spike(If applicable): 5M94825.D	AC90940-001(T)	5/2/2016 6:45:00 PM
Inst Blank(If applicable):		
Method: 8270D	Matrix: Aqueous	QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	58.3199	0	100	58	20	160
N-Nitrosodimethylamine	1	86.9315	0	100	87	20	160
Benzaldehyde	1	89.8002	0	100	90	20	160
Aniline	1	74.8798	0	100	75	20	160
Pentachloroethane	1	91.0011	0	100	91	20	160
bis(2-Chloroethyl)ether	1	85.0597	0	100	85	70	130
Phenol	1	59.4295	0	100	59	20	160
2-Chlorophenol	1	81.1736	0	100	81	70	130
N-Decane	1	87.8955	0	100	88	20	160
1,3-Dichlorobenzene	1	76.4119	0	100	76	70	130
1,4-Dichlorobenzene	1	80.324	0	100	80	70	130
1,2-Dichlorobenzene	1	75.8511	0	100	76	70	130
Benzyl alcohol	1	84.4912	0	100	84	20	160
bis(2-chloroisopropyl)ether	1	77.3153	0	100	77	70	130
2-Methylphenol	1	74.3948	0	100	74	70	130
Acetophenone	1	80.4692	0	100	80	70	130
Hexachloroethane	1	78.7992	0	100	79	20	160
N-Nitroso-di-n-propylamine	1	72.496	0	100	72	70	130
3&4-Methylphenol	1	71.3309	0	100	71	20	160
Nitrobenzene	1	96.2087	0	100	96	70	130
Isophorone	1	67.7973	0	100	68*	70	130
2-Nitrophenol	1	96.7856	0	100	97	70	130
2,4-Dimethylphenol	1	79.6816	0	100	80	70	130
Benzoic Acid	1	77.6753	0	100	78	20	160
bis(2-Chloroethoxy)methane	1	87.096	0	100	87	70	130
2,4-Dichlorophenol	1	84.8517	0	100	85	70	130
1,2,4-Trichlorobenzene	1	81.7792	0	100	82	70	130
Naphthalene	1	77.5208	0	100	78	70	130
4-Chloroaniline	1	84.6378	0	100	85	70	130
Hexachlorobutadiene	1	83.2019	0	100	83	70	130
Caprolactam	1	73.7308	0	100	74	20	160
4-Chloro-3-methylphenol	1	84.7975	0	100	85	70	130
2-Methylnaphthalene	1	80.7385	0	100	81	70	130
1,1'-Biphenyl	1	82.8101	0	100	83	70	130
1,2,4,5-Tetrachlorobenzene	1	82.9485	0	100	83	70	130
Hexachlorocyclopentadiene	1	97.246	0	100	97	20	160
2,4,6-Trichlorophenol	1	86.5963	0	100	87	70	130
2,4,5-Trichlorophenol	1	95.4052	0	100	95	70	130
2-Chloronaphthalene	1	87.9144	0	100	88	70	130
1,4-Dimethylnaphthalene	1	86.0452	0	100	86	70	130
Diphenyl Ether	1	84.9545	0	100	85	70	130
2-Nitroaniline	1	95.4023	0	100	95	70	130
Coumarin	1	90.5963	0	100	91	70	130
Acenaphthylene	1	95.2395	0	100	95	70	130
Dimethylphthalate	1	92.7741	0	100	93	70	130
2,6-Dinitrotoluene	1	99.5072	0	100	100	70	130
Acenaphthene	1	87.012	0	100	87	70	130
3-Nitroaniline	1	90.5305	0	100	91	70	130
2,4-Dinitrophenol	1	112.0384	0	100	112	20	160
Dibenzofuran	1	83.6037	0	100	84	70	130
2,4-Dinitrotoluene	1	95.4273	0	100	95	70	130
4-Nitrophenol	1	63.4484	0	100	63	20	160
2,3,4,6-Tetrachlorophenol	1	90.7844	0	100	91	70	130
Fluorene	1	86.1971	0	100	86	70	130
4-Chlorophenyl-phenylether	1	88.7852	0	100	89	70	130
Diethylphthalate	1	87.9666	0	100	88	70	130
4-Nitroaniline	1	88.1863	0	100	88	70	130
Atrazine	1	80.2119	0	100	80	70	130
4,6-Dinitro-2-methylphenol	1	106.1316	0	100	106	70	130
n-Nitrosodiphenylamine	1	67.1426	0	100	67*	70	130
1,2-Diphenylhydrazine	1	96.3612	0	100	96	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: WMB50006

4-Bromophenyl-phenylether	1	95.2978	0	100	95	70	130
Hexachlorobenzene	1	85.9881	0	100	86	70	130
N-Octadecane	1	99.0305	0	100	99	70	130
Pentachlorophenol	1	102.5413	0	100	103	20	160
Phenanthrene	1	84.0609	0	100	84	70	130
Anthracene	1	88.2405	0	100	88	70	130
Carbazole	1	86.2144	0	100	86	70	130
Di-n-butylphthalate	1	98.6527	0	100	99	70	130
Fluoranthene	1	87.6323	0	100	88	70	130
Pyrene	1	90.8409	0	100	91	70	130
Benzidine	1	20.789	0	100	21	20	160
Butylbenzylphthalate	1	96.5788	0	100	97	70	130
3,3'-Dichlorobenzidine	1	77.6909	0	100	78	70	130
Benzo[a]anthracene	1	89.0327	0	100	89	70	130
Chrysene	1	93.3515	0	100	93	70	130
bis(2-Ethylhexyl)phthalate	1	102.2451	0	100	102	70	130
Di-n-octylphthalate	1	100.3175	0	100	100	70	130
Benzo[b]fluoranthene	1	93.1604	0	100	93	70	130
Benzo[k]fluoranthene	1	87.1256	0	100	87	70	130
Benzo[a]pyrene	1	94.1938	0	100	94	70	130
Indeno[1,2,3-cd]pyrene	1	93.9787	0	100	94	70	130
Dibenzo[a,h]anthracene	1	94.7348	0	100	95	70	130
Benzo[g,h,i]perylene	1	93.1062	0	100	93	70	130

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Form3
Recovery Data
QC Batch: WMB50006

Data File	Sample ID:	Analysis Date
Spike or Dup: 5M94827.D	AC90940-001(T)(MSD)	5/2/2016 7:31:00 PM
Non Spike(if applicable): 5M94825.D	AC90940-001(T)	5/2/2016 6:45:00 PM
Inst Blank(if applicable):		
Method: 8270D	Matrix: Aqueous	QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	89.2673	0	100	89	20	160
N-Nitrosodimethylamine	1	89.946	0	100	90	20	160
Benzaldehyde	1	84.9238	0	100	85	20	160
Aniline	1	98.4692	0	100	98	20	160
Pentachloroethane	1	92.0076	0	100	92	20	160
bis(2-Chloroethyl)ether	1	85.5559	0	100	86	70	130
Phenol	1	59.92	0	100	60	20	160
2-Chlorophenol	1	83.3082	0	100	83	70	130
N-Decane	1	88.471	0	100	88	20	160
1,3-Dichlorobenzene	1	73.0497	0	100	73	70	130
1,4-Dichlorobenzene	1	77.4379	0	100	77	70	130
1,2-Dichlorobenzene	1	74.1326	0	100	74	70	130
Benzyl alcohol	1	88.0688	0	100	88	20	160
bis(2-chloroisopropyl)ether	1	77.5177	0	100	78	70	130
2-Methylphenol	1	76.7282	0	100	77	70	130
Acetophenone	1	82.9948	0	100	83	70	130
Hexachloroethane	1	74.2798	0	100	74	20	160
N-Nitroso-di-n-propylamine	1	74.4063	0	100	74	70	130
3&4-Methylphenol	1	74.4204	0	100	74	20	160
Nitrobenzene	1	97.2201	0	100	97	70	130
Isophorone	1	70.7074	0	100	71	70	130
2-Nitrophenol	1	101.3593	0	100	101	70	130
2,4-Dimethylphenol	1	82.154	0	100	82	70	130
Benzoic Acid	1	80.0227	0	100	80	20	160
bis(2-Chloroethoxy)methane	1	89.0792	0	100	89	70	130
2,4-Dichlorophenol	1	88.5491	0	100	89	70	130
1,2,4-Trichlorobenzene	1	83.2166	0	100	83	70	130
Naphthalene	1	78.1924	0	100	78	70	130
4-Chloroaniline	1	91.894	0	100	92	70	130
Hexachlorobutadiene	1	83.2824	0	100	83	70	130
Caprolactam	1	78.6322	0	100	79	20	160
4-Chloro-3-methylphenol	1	89.4953	0	100	89	70	130
2-Methylnaphthalene	1	86.1186	0	100	86	70	130
1,1'-Biphenyl	1	86.1434	0	100	86	70	130
1,2,4,5-Tetrachlorobenzene	1	83.9928	0	100	84	70	130
Hexachlorocyclopentadiene	1	101.1988	0	100	101	20	160
2,4,6-Trichlorophenol	1	88.6144	0	100	89	70	130
2,4,5-Trichlorophenol	1	98.7194	0	100	99	70	130
2-Chloronaphthalene	1	88.9213	0	100	89	70	130
1,4-Dimethylnaphthalene	1	86.0887	0	100	86	70	130
Diphenyl Ether	1	82.2606	0	100	82	70	130
2-Nitroaniline	1	95.3277	0	100	95	70	130
Coumarin	1	90.7746	0	100	91	70	130
Acenaphthylene	1	95.4766	0	100	95	70	130
Dimethylphthalate	1	95.1276	0	100	95	70	130
2,6-Dinitrotoluene	1	99.4859	0	100	99	70	130
Acenaphthene	1	87.899	0	100	88	70	130
3-Nitroaniline	1	95.192	0	100	95	70	130
2,4-Dinitrophenol	1	115.4289	0	100	115	20	160
Dibenzofuran	1	84.0823	0	100	84	70	130
2,4-Dinitrotoluene	1	95.9661	0	100	96	70	130
4-Nitrophenol	1	61.5419	0	100	62	20	160
2,3,4,6-Tetrachlorophenol	1	92.8083	0	100	93	70	130
Fluorene	1	87.0318	0	100	87	70	130
4-Chlorophenyl-phenylether	1	88.5418	0	100	89	70	130
Diethylphthalate	1	88.9598	0	100	89	70	130
4-Nitroaniline	1	92.3617	0	100	92	70	130
Atrazine	1	81.194	0	100	81	70	130
4,6-Dinitro-2-methylphenol	1	110.8095	0	100	111	70	130
n-Nitrosodiphenylamine	1	69.8211	0	100	70	70	130
1,2-Diphenylhydrazine	1	98.3198	0	100	98	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data

QC Batch: WMB50008

4-Bromophenyl-phenylether	1	99.4578	0	100	99	70	130
Hexachlorobenzene	1	89.1866	0	100	89	70	130
N-Octadecane	1	99.8579	0	100	100	70	130
Pentachlorophenol	1	105.3453	0	100	105	20	160
Phenanthrene	1	86.829	0	100	87	70	130
Anthracene	1	90.4925	0	100	90	70	130
Carbazole	1	87.7567	0	100	88	70	130
Di-n-butylphthalate	1	100.2791	0	100	100	70	130
Fluoranthene	1	91.5433	0	100	92	70	130
Pyrene	1	91.9225	0	100	92	70	130
Benzidine	1	42.8293	0	100	43	20	160
Butylbenzylphthalate	1	97.6793	0	100	98	70	130
3,3'-Dichlorobenzidine	1	77.5795	0	100	78	70	130
Benzo[a]anthracene	1	91.488	0	100	91	70	130
Chrysene	1	94.9702	0	100	95	70	130
bis(2-Ethylhexyl)phthalate	1	103.1917	0	100	103	70	130
Di-n-octylphthalate	1	103.3984	0	100	103	70	130
Benzo[b]fluoranthene	1	93.2065	0	100	93	70	130
Benzo[k]fluoranthene	1	87.5182	0	100	88	70	130
Benzo[a]pyrene	1	94.1083	0	100	94	70	130
Indeno[1,2,3-cd]pyrene	1	93.2046	0	100	93	70	130
Dibenzo[a,h]anthracene	1	93.6946	0	100	94	70	130
Benzo[g,h,i]perylene	1	91.623	0	100	92	70	130

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data

QC Batch: WMB50006

Data File	Sample ID:	Analysis Date
Spike or Dup: 5M94827.D	AC90940-001(T)(MSD)	5/2/2016 7:31:00 PM
Duplicate(if applicable): 5M94826.D	AC90940-001(T)(MS)	5/2/2016 7:08:00 PM
Inst Blank(if applicable):		
Method: 8270D	Matrix: Aqueous	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD		RPD	Limit
		Conc	Sample/MS/MBS Conc		
Pyridine	1	89.2673	58.3199	42*	20
N-Nitrosodimethylamine	1	89.946	86.9315	3.4	20
Benzaldehyde	1	84.9238	89.8002	5.6	20
Aniline	1	98.4692	74.8798	27*	20
Pentachloroethane	1	92.0076	91.0011	1.1	20
bis(2-Chloroethyl)ether	1	85.5559	85.0597	0.58	20
Phenol	1	59.92	59.4295	0.82	20
2-Chlorophenol	1	83.3082	81.1736	2.6	20
N-Decane	1	88.471	87.8955	0.65	20
1,3-Dichlorobenzene	1	73.0497	76.4119	4.5	20
1,4-Dichlorobenzene	1	77.4379	80.324	3.7	20
1,2-Dichlorobenzene	1	74.1326	75.8511	2.3	20
Benzyl alcohol	1	88.0688	84.4912	4.1	20
bis(2-chloroisopropyl)ether	1	77.5177	77.3153	0.26	20
2-Methylphenol	1	76.7282	74.3948	3.1	20
Acetophenone	1	82.9948	80.4692	3.1	20
Hexachloroethane	1	74.2798	78.7992	5.9	20
N-Nitroso-di-n-propylamine	1	74.4063	72.496	2.6	20
3&4-Methylphenol	1	74.4204	71.3309	4.2	20
Nitrobenzene	1	97.2201	96.2087	1	20
Isophorone	1	70.7074	67.7973	4.2	20
2-Nitrophenol	1	101.3593	96.7856	4.6	20
2,4-Dimethylphenol	1	82.154	79.6816	3.1	20
Benzoic Acid	1	80.0227	77.6753	3	20
bis(2-Chloroethoxy)methane	1	89.0792	87.096	2.3	20
2,4-Dichlorophenol	1	88.5491	84.8517	4.3	20
1,2,4-Trichlorobenzene	1	83.2166	81.7792	1.7	20
Naphthalene	1	78.1924	77.5208	0.86	20
4-Chloroaniline	1	91.894	84.6378	8.2	20
Hexachlorobutadiene	1	83.2824	83.2019	0.1	20
Caprolactam	1	78.6322	73.7308	6.4	20
4-Chloro-3-methylphenol	1	89.4953	84.7975	5.4	20
2-Methylnaphthalene	1	86.1186	80.7385	6.4	20
1,1'-Biphenyl	1	86.1434	82.8101	3.9	20
1,2,4,5-Tetrachlorobenzene	1	83.9928	82.9485	1.3	20
Hexachlorocyclopentadiene	1	101.1988	97.246	4	20
2,4,6-Trichlorophenol	1	88.6144	86.5963	2.3	20
2,4,5-Trichlorophenol	1	98.7194	95.4052	3.4	20
2-Chloronaphthalene	1	88.9213	87.9144	1.1	20
1,4-Dimethylnaphthalene	1	86.0887	86.0452	0.05	20
Diphenyl Ether	1	82.2606	84.9545	3.2	20
2-Nitroaniline	1	95.3277	95.4023	0.08	20
Coumarin	1	90.7746	90.5963	0.2	20
Acenaphthylene	1	95.4766	95.2395	0.25	20
Dimethylphthalate	1	95.1276	92.7741	2.5	20
2,6-Dinitrotoluene	1	99.4859	99.5072	0.02	20
Acenaphthene	1	87.899	87.012	1	20
3-Nitroaniline	1	95.192	90.5305	5	20
2,4-Dinitrophenol	1	115.4289	112.0384	3	20
Dibenzofuran	1	84.0823	83.6037	0.57	20
2,4-Dinitrotoluene	1	95.9661	95.4273	0.56	20
4-Nitrophenol	1	61.5419	63.4484	3.1	20
2,3,4,6-Tetrachlorophenol	1	92.8083	90.7844	2.2	20
Fluorene	1	87.0318	86.1971	0.96	20
4-Chlorophenyl-phenylether	1	88.5418	88.7852	0.27	20
Diethylphthalate	1	88.9598	87.9666	1.1	20
4-Nitroaniline	1	92.3617	88.1863	4.6	20
Atrazine	1	81.194	80.2119	1.2	20
4,6-Dinitro-2-methylphenol	1	110.8095	106.1316	4.3	20
n-Nitrosodiphenylamine	1	68.8211	67.1426	3.9	20
1,2-Diphenylhydrazine	1	98.3198	96.3612	2	20
4-Bromophenyl-phenylether	1	99.4578	95.2978	4.3	20
Hexachlorobenzene	1	89.1866	85.9881	3.7	20

Form3
RPD Data

QC Batch: WMB50006

N-Octadecane	1	99.8579	99.0305	0.83	20
Pentachlorophenol	1	105.3453	102.5413	2.7	20
Phenanthrene	1	86.829	84.0609	3.2	20
Anthracene	1	90.4925	88.2405	2.5	20
Carbazole	1	87.7567	86.2144	1.8	20
Di-n-butylphthalate	1	100.2791	98.6527	1.6	20
Fluoranthene	1	91.5433	87.6323	4.4	20
Pyrene	1	91.9225	90.8409	1.2	20
Benzidine	1	42.8293	20.789	69*	20
Butylbenzylphthalate	1	97.6793	96.5788	1.1	20
3,3'-Dichlorobenzidine	1	77.5795	77.6909	0.14	20
Benzo[a]anthracene	1	91.488	89.0327	2.7	20
Chrysene	1	94.9702	93.3515	1.7	20
bis(2-Ethylhexyl)phthalate	1	103.1917	102.2451	0.92	20
Di-n-octylphthalate	1	103.3984	100.3175	3	20
Benzo[b]fluoranthene	1	93.2065	93.1604	0.05	20
Benzo[k]fluoranthene	1	87.5182	87.1256	0.45	20
Benzo[a]pyrene	1	94.1083	94.1938	0.09	20
Indeno[1,2,3-cd]pyrene	1	93.2046	93.9787	0.83	20
Dibenzo[a,h]anthracene	1	93.8946	94.7348	1.1	20
Benzo[g,h,i]perylene	1	91.623	93.1062	1.6	20

* - Indicates outside of limits

NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: WMB50006
Blank Data File: 5M94823.D
Matrix: Aqueous

Blank Analysis Date: 05/02/16 17:59
Blank Extraction Date: 05/02/16
(If Applicable)
Method: EPA 8270D

Sample Number	Data File	Analysis Date
AC91036-001	5M94834.D	05/02/16 22:12
AC91036-003	5M94835.D	05/02/16 22:36
AC90940-001(T)(M)	5M94827.D	05/02/16 19:31
AC90940-001(T)(M)	5M94826.D	05/02/16 19:08
AC90940-001(T)	5M94825.D	05/02/16 18:45
WMB50006(MS)	5M94822.D	05/02/16 17:36

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 5Data File: 5M94481.D
Analysis Date: 04/05/16 08:53
Method: EPA 8270D

Tune Scan/Time Range: Average of 9.871 to 9.882 min

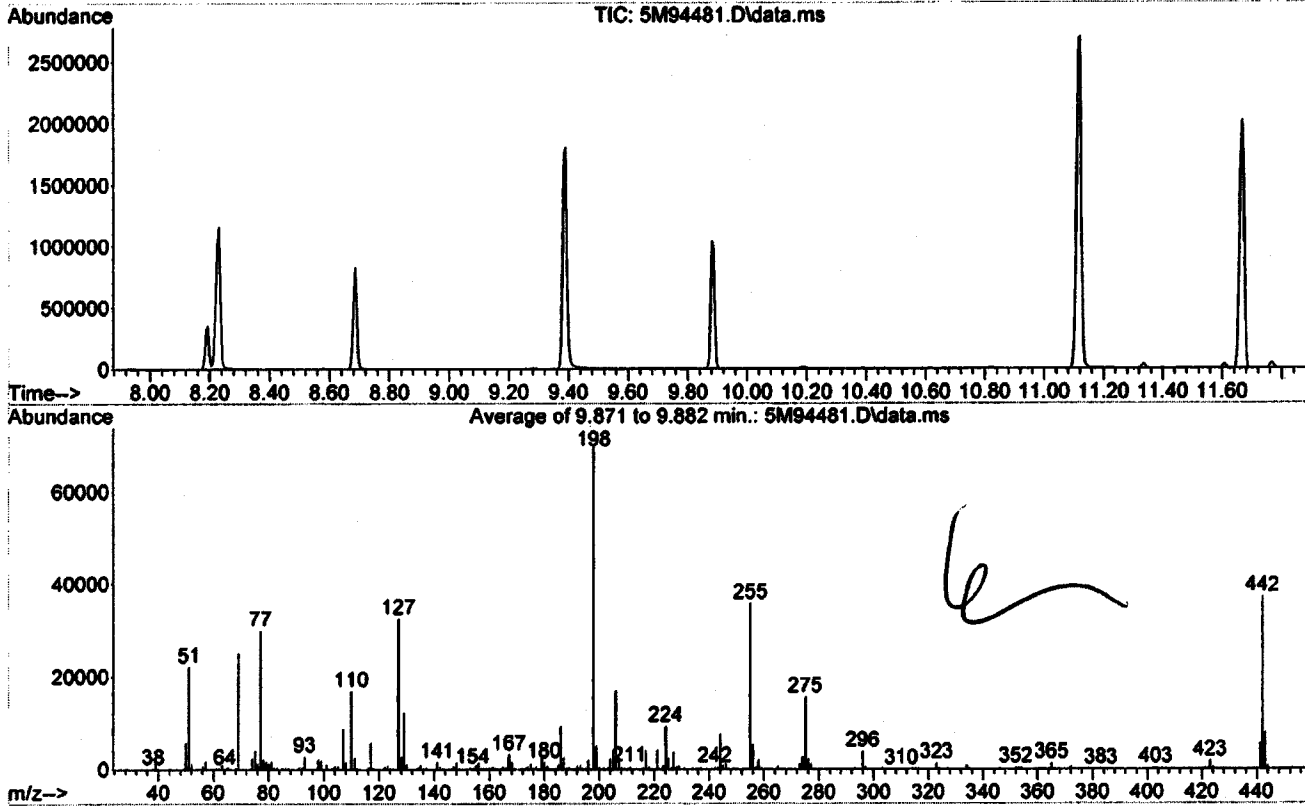
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	31.5	22121	PASS
68	69	0.00	2	1.1	273	PASS
69	198	0.00	100	35.8	25160	PASS
70	69	0.00	2	0.3	78	PASS
127	198	40	60	46.2	32504	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	70306	PASS
199	198	5	9	7.1	5021	PASS
275	198	10	30	22.2	15581	PASS
365	198	1	100	1.8	1269	PASS
441	443	0.01	100	68.9	5459	PASS
442	198	40	100	52.7	37084	PASS
443	442	17	23	21.4	7925	PASS

Data File	Sample Number	Analysis Date:
5M94482.D	CAL BNA@50PPM	04/05/16 10:01
5M94483.D	CAL BNA@10PPM	04/05/16 10:46
5M94484.D	CAL BNA@196PP	04/05/16 11:14
5M94485.D	CAL BNA@160PP	04/05/16 11:37
5M94486.D	CAL BNA@120PP	04/05/16 12:00
5M94487.D	CAL BNA@80PPM	04/05/16 12:23
5M94488.D	CAL BNA@50PPM	04/05/16 12:46
5M94489.D	CAL BNA@20PPM	04/05/16 13:09
5M94490.D	CAL BNA@2PPM	04/05/16 13:32
5M94491.D	CAL BNA@.5PPM	04/05/16 13:55
5M94492.D	ICV BNA@50PPM	04/05/16 14:26
5M94493.D	WMB49755(MS)	04/05/16 15:33
5M94494.D	WMB49755	04/05/16 15:56
5M94495.D	EF-1 V-229933/04/	04/05/16 16:19
5M94496.D	EF-1 V-229933/04/	04/05/16 16:42
5M94497.D	AC90510-001(T)	04/05/16 17:05
5M94498.D	AC90495-002(T)	04/05/16 17:29
5M94499.D	AC90495-002(T)/M	04/05/16 17:52
5M94500.D	AC90495-002(T)/M	04/05/16 18:15
5M94501.D	AC90482-001	04/05/16 18:38
5M94502.D	AC90482-002	04/05/16 19:02
5M94503.D	AC90496-001	04/05/16 19:25
5M94504.D	AC90496-002	04/05/16 19:48

Data Path : G:\GcMsData\2016\GCMS_5\Data\04-05-16\
 Data File : 5M94481.D
 Acq On : 5 Apr 2016 8:53
 Operator : AH/JB
 Sample : CAL DFTPP
 Misc : A,BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_5\METHODQT\5M_0328M.M
 Title : @GCMS_5,mg,625,8270
 Last Update : Tue Mar 29 10:32:18 2016



Spectrum Information: Average of 9.871 to 9.882 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	31.5	22121	PASS
68	69	0.00	2	1.1	273	PASS
69	198	0.00	100	35.8	25160	PASS
70	69	0.00	2	0.3	78	PASS
127	198	40	60	46.2	32504	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	70306	PASS
199	198	5	9	7.1	5021	PASS
275	198	10	30	22.2	15581	PASS
365	198	1	100	1.8	1269	PASS
441	443	0.01	100	68.9	5459	PASS
442	198	40	100	52.7	37084	PASS
443	442	17	23	21.4	7925	PASS

Form 5

Tune Name: CAL DF1PP
Instrument: GCMS 5Data File: 5M94820.D
Analysis Date: 05/02/16 16:48
Method: EPA 8270D

Tune Scan/Time Range: Average of 9.844 to 9.855 min

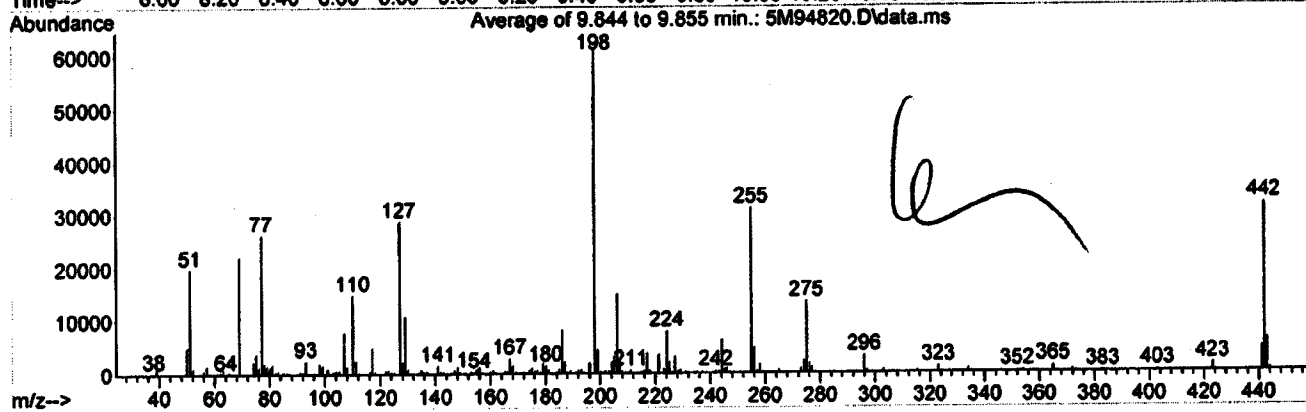
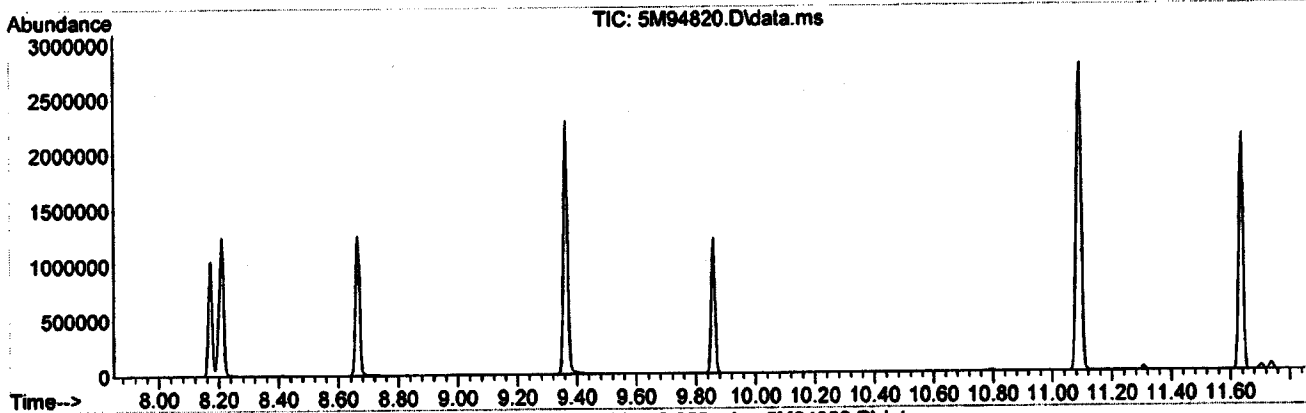
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	32.3	19875	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	35.9	22124	PASS
70	69	0.00	2	0.4	84	PASS
127	198	40	60	46.8	28798	PASS
197	198	0.00	1	0.1	51	PASS
198	198	100	100	100.0	61546	PASS
199	198	5	9	7.2	4414	PASS
275	198	10	30	22.0	13512	PASS
365	198	1	100	1.9	1194	PASS
441	443	0.01	100	74.2	4582	PASS
442	198	40	100	51.6	31787	PASS
443	442	17	23	19.4	6176	PASS

Data File	Sample Number	Analysis Date:
5M94821.D	CAL BNA@50PPM	05/02/16 17:11
5M94822.D	WMB50006(MS)	05/02/16 17:36
5M94823.D	WMB50006	05/02/16 17:59
5M94824.D	EF-SPLP-1-V-2321	05/02/16 18:22
5M94825.D	AC90940-001(T)	05/02/16 18:45
5M94826.D	AC90940-001(T)/M	05/02/16 19:08
5M94827.D	AC90940-001(T)/M	05/02/16 19:31
5M94828.D	AC91020-005	05/02/16 19:54
5M94829.D	EF-1-V-231847(4/2)	05/02/16 20:17
5M94830.D	AC90984-001(T)	05/02/16 20:40
5M94831.D	EF-1-V-231847(4/2)	05/02/16 21:03
5M94832.D	AC91020-007	05/02/16 21:26
5M94833.D	AC91035-001	05/02/16 21:49
5M94834.D	AC91036-001	05/02/16 22:12
5M94835.D	AC91036-003	05/02/16 22:36
5M94836.D	AC91047-005	05/02/16 22:59
5M94837.D	AC91083-001	05/02/16 23:22
5M94838.D	AC91083-002	05/02/16 23:45
5M94839.D	AC91032-001	05/03/16 00:08
5M94840.D	AC91042-004	05/03/16 00:32
5M94841.D	AC91044-001	05/03/16 00:55
5M94842.D	AC91044-002	05/03/16 01:18
5M94843.D	AC91093-001	05/03/16 01:41
5M94844.D	AC91093-008	05/03/16 02:04
5M94845.D	AC91066-001	05/03/16 02:27
5M94846.D	AC90792-003(T)	05/03/16 02:50
5M94847.D	EF-SPLP-V-1-2321	05/03/16 03:13

Data Path : G:\GcMsData\2016\GCMS_5\Data\05-02-16\
 Data File : 5M94820.D
 Acq On : 2 May 2016 16:48
 Operator : AH/JB
 Sample : CAL DFTPP
 Misc : A,BNA
 ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2016\GCMS_5\METHODQT\5M_0405M.M
 Title : @GCMS_5,mg,625,8270
 Last Update : Tue Apr 05 16:40:42 2016



Spectrum Information: Average of 9.844 to 9.855 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	32.3	19875	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	35.9	22124	PASS
70	69	0.00	2	0.4	84	PASS
127	198	40	60	46.8	28798	PASS
197	198	0.00	1	0.1	51	PASS
198	198	100	100	100.0	61546	PASS
199	198	5	9	7.2	4414	PASS
275	198	10	30	22.0	13512	PASS
365	198	1	100	1.9	1194	PASS
441	443	0.01	100	74.2	4582	PASS
442	198	40	100	51.6	31787	PASS
443	442	17	23	19.4	6176	PASS

Level #	Data File	Cal Identifier	Analysis Date/Time									Level #	Data File	Cal Identifier	Analysis Date/Time									
			RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9				AVGR	RT	Corr1	Corr2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8	LV9
1	5M94488.D	CAL BNA@50PPM	04/05/16 12:46								2	5M94490.D	CAL BNA@20PPM	04/05/16 13:32										
3	5M94483.D	CAL BNA@10PPM	04/05/16 10:46								4	5M94489.D	CAL BNA@20PPM	04/05/16 13:09										
5	5M94487.D	CAL BNA@80PPM	04/05/16 12:23								6	5M94486.D	CAL BNA@120PPM	04/05/16 12:00										
7	5M94485.D	CAL BNA@160PPM	04/05/16 11:37								8	5M94484.D	CAL BNA@196PPM	04/05/16 11:14										
9	5M94491.D	CAL BNA@5PPM	04/05/16 13:55																					
Compound	Col Mf. File	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AVGR	RT	Corr1	Corr2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8	LV9
Pyridine	1 0 Avg 1.4955 1.3019 1.3625 1.3959 1.6123 1.4774 1.6115 1.6538										1.49 2.87	0.998	0.999	8.7	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
N-Nitrosodimethylamine	1 0 Avg 0.8282 0.7385 0.7712 0.7787 0.9074 0.8500 0.8971 0.9324										0.838 2.81	0.998	0.999	8.5	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
2-Fluorophenol	1 0 Avg 1.3849 1.3697 1.2653 1.2267 1.4601 1.4191 1.4691 1.5211										1.39 4.49	0.998	0.999	7.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Benzaldehyde	1 0 Avg 0.8899 1.0576 1.0356 0.9654 0.8904 0.7857 0.7864 0.8220										0.904 5.34	0.996	0.998	12	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Aniline	1 0 Avg 2.1580 1.7524 1.6251 2.0488 2.2126 2.0224 2.1430 2.2128 2.1056										2.03 5.43	0.998	0.998	10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Pentachloroethane	1 0 Avg 0.4282 0.4636 0.4269 0.4040 0.4636 0.4209 0.4429 0.4471										0.437 5.47	0.998	0.999	4.8	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
bis(2-Chloroethyl)ether	1 0 Avg 1.4119 1.6485 1.4978 1.3961 1.4610 1.581 1.4081 1.4255 1.9924										1.51 5.49	0.999	0.999	13	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Phenol-d5	1 0 Avg 1.8632 1.8889 1.7585 1.7588 1.9698 1.8173 1.9091 1.9618										1.87 5.39	0.998	0.999	4.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Phenol	1 0 Avg 2.0864 2.1927 1.9515 2.0014 2.1679 1.9823 2.0895 2.1072										2.07 5.40	0.999	0.999	4.2	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
2-Chlorophenol	1 0 Avg 1.4897 1.5759 1.4769 1.4439 1.5783 1.4665 1.4919 1.5645										1.51 5.53	0.998	0.999	3.5	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
N-Decane	1 0 Avg 1.1860 1.4247 1.2073 1.1587 1.2557 1.1308 1.1747 1.1704										1.21 5.58	0.999	0.999	7.7	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
1,3-Dichlorobenzene	1 0 Avg 1.5588 1.8096 1.6336 1.5615 1.6518 1.5096 1.5305 1.5836										1.60 5.67	0.998	0.999	6.0	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
1,4-Dichlorobenzene	1 0 Avg 1.9632 1.8889 1.7585 1.7588 1.9698 1.8173 1.9091 1.9618										1.64 5.73	0.999	0.999	8.9	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
1,2-Dichlorobenzene	1 0 Avg 1.5106 1.8122 1.6183 1.5288 1.6032 1.4570 1.5037 1.5187										1.57 5.85	0.999	0.999	7.2	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Benzyl alcohol	1 0 Avg 1.0036 1.0183 0.9675 0.9929 1.0720 0.9778 1.0366 1.0546										1.02 5.83	0.999	0.999	3.3	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
bis(2-chloroisopropyl)ether	1 0 Avg 1.5060 1.8979 1.5850 1.5076 1.5593 1.4529 1.4782 1.4863										1.56 5.94	0.999	0.999	9.2	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
2-Methylphenol	1 0 Avg 1.3947 1.4359 1.4006 1.3702 1.4436 1.3675 1.3913 1.4360 1.7892										1.45 5.92	1.00	1.00	9.1	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Acetophenone	1 0 Avg 2.0259 2.5095 2.1581 2.0606 2.0232 1.8593 1.8592 1.8418										2.04 6.05	0.998	0.999	11	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Hexachloroethane	1 0 Avg 0.5453 0.6142 0.5595 0.5259 0.5767 0.5297 0.5518 0.5556										0.557 6.13	0.999	0.999	5.0	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
N-Nitroso-d,l-proprylamine	1 0 Avg 0.9637 1.0899 1.0087 0.9412 0.9578 0.8740 0.8920 0.8880 1.2744										0.987 6.05	0.999	0.999	13	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
3,6,4-Methylphenol	1 0 Avg 1.4619 1.5775 1.4835 1.4063 1.4663 1.3279 1.3302 1.3142 1.7042										1.45 6.05	0.998	0.999	8.8	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Nitrobenzene-d5	1 0 Avg 0.1757 0.1566 0.1575 0.1574 0.1889 0.1760 0.1884 0.1828										0.173 6.17	0.999	0.999	8.0	25.00	1.00	5.00	10.00	40.00	60.00	80.00	96.0	96.0	96.0
Nitrobenzene	1 0 Avg 0.3602 0.3512 0.3425 0.3335 0.3815 0.3518 0.3594 0.3541										0.354 6.18	0.999	0.999	4.0	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Isophorone	1 0 Avg 0.7100 0.7272 0.7313 0.6745 0.7502 0.7002 0.7130 0.7053										0.714 6.37	0.999	0.999	3.2	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
2-Nitrophenol	1 0 Avg 0.2021 0.1257 0.1642 0.1750 0.2176 0.2063 0.2147 0.2085										0.189 6.44	0.999	0.999	17	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
2,4-Dimethylphenol	1 0 Avg 0.3826 0.3885 0.3754 0.3726 0.4054 0.3698 0.3772 0.3711 0.4289										0.386 6.46	0.999	0.999	5.1	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Benzoic Acid	1 0 Cua 0.1738 0.0197 0.0858 0.2148 0.2275 0.2421 0.2356										0.171 6.53	0.998	0.998	5.0	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
bis(2-Chloroethoxy)methane	1 0 Avg 0.4323 0.4632 0.4386 0.4116 0.4514 0.4166 0.4177 0.4150										0.431 6.54	0.999	0.999	4.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
2,4-Dichlorophenol	1 0 Avg 0.3440 0.3361 0.3327 0.3289 0.3647 0.3401 0.3471 0.3403 0.3475										0.343 6.61	0.999	0.999	3.0	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
1,2,4-Trichlorobenzene	1 0 Avg 0.3752 0.4403 0.3831 0.3584 0.3907 0.3673 0.3702 0.3611										0.381 6.68	0.999	1.00	7.0	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Naphthalene	1 0 Avg 1.1318 1.3574 1.2035 1.0878 1.1952 1.0871 1.1073 1.0962 1.6166										1.21 6.75	0.999	0.999	15	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
4-Chloroaniline	1 0 Avg 0.4594 0.4245 0.3716 0.4400 0.4549 0.3521 0.3220 0.4784										0.410 6.78	0.976	0.999	13	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Hexachlorobutadiene	1 0 Avg 0.2176 0.2474 0.2191 0.2099 0.2270 0.2142 0.2147 0.2133										0.220 6.83	0.999	0.999	5.6	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Caproic acid	1 0 Avg 0.1451 0.1157 0.1423 0.1424 0.1526 0.1576 0.1654 0.1643										0.148 7.06	0.999	1.00	11	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
4-Chloro-3-methylphenol	1 0 Avg 0.3384 0.3311 0.3259 0.3173 0.3562 0.3387 0.3494 0.3413										0.336 7.14	0.999	0.999	3.8	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
2-Methylnaphthalene	1 0 Avg 0.8093 0.9084 0.8287 0.8137 0.8404 0.7804 0.7874 0.7561										0.816 7.27	0.998	0.999	5.7	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
1-Methylnaphthalene	1 0 Avg 0.7301 0.8136 0.7521 0.7175 0.7942 0.6593 0.7057 0.6888										0.733 7.35	0.998	0.999	5.7	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0	196.0
Methylnaphthalenes (1,1'-Bi)phenyl	1 0 Avg 0.7653 0.8612 0.7914 0.7610 0.7919 0.7560 0.7420 0.7156										0.771 7.27	0.998	0.999	5.9	100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	3	

Compound	Col	Mr	Fit	Data File:				Analysis Date/Time				Level #	Data File:	Call Identifier:	Calibration Level Concentrations															
				RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8				RF9	AvgRt	RT	Conc1	Conc2	%Red	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9	
2,4,6-Trichlorophenol	1	0	Avg	0.4331	0.4348	0.3932	0.4633	0.4491	0.4171	0.4148	0.4317	2	5M94490.D	CAL BNA@2PPM	04/05/16 13:32	0.4307	7.49	0.999	0.999	5.0	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,5-Trichlorophenol	1	0	Avg	0.4281	0.3950	0.4232	0.3729	0.4529	0.4499	0.4139	0.4342	4	5M94483.D	CAL BNA@10PPM	04/05/16 10:46	0.4217	7.52	0.998	0.998	6.4	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.3934	1.6264	1.4677	1.4233	1.5033	1.4131	1.4237	1.4020	6	5M94487.D	CAL BNA@80PPM	04/05/16 12:23	1.4677	5.56	0.999	0.999	5.3	0.80	25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1554	1.3556	1.2461	1.2129	1.2124	1.1259	1.1215	1.1152	8	5M94485.D	CAL BNA@160PPM	04/05/16 11:37	1.1976	7.67	0.999	0.999	6.9	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthalene	1	0	Avg	0.9070	1.0596	0.9663	0.9533	0.9341	0.8398	0.8286	0.8182	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.9137	7.94	0.997	0.999	9.1	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylisophthalenes	1	0	Avg	0.9070	1.0596	0.9663	0.9533	0.9341	0.8398	0.8286	0.8182	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.9137	7.94	0.997	0.999	9.1	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.9212	1.1597	0.9629	0.9362	0.9483	0.8949	0.8709	0.8515	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.9437	7.73	0.998	0.998	10.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3494	0.2948	0.3262	0.3431	0.3700	0.3463	0.3445	0.3354	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.3397	7.74	0.999	0.999	6.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Colmanin	1	0	Avg	0.4858	0.5462	0.5241	0.5143	0.5024	0.4469	0.4379	0.4298	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.4867	7.93	0.997	0.999	8.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.8785	2.1109	1.9211	1.8914	1.9657	1.7946	1.7717	1.7694	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.8980	8.02	0.999	0.999	6.1	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.4010	1.5687	1.4903	1.4385	1.4235	1.3562	1.3394	1.3383	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.4277	8.99	1.000	1.000	5.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.3022	0.2540	0.2831	0.3232	0.3164	0.2889	0.2899	0.2868	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.2937	7.95	0.999	0.999	7.3	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1826	1.4261	1.2527	1.1913	1.2325	1.1398	1.1241	1.1241	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.2181	7.17	0.999	0.999	8.2	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Avg	0.3505	0.3130	0.3205	0.3413	0.3553	0.3139	0.2930	0.2834	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.3228	8.10	0.991	0.999	8.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1079	0.0326	0.0615	0.1404	0.1503	0.1618	0.1678	0.1678	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.1188	8.18	0.993	0.998	4.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Avg	1.8021	2.1208	1.9277	1.8324	1.8709	1.7223	1.7098	1.6836	2.6180	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.9278	8.33	0.999	1.000	1.5	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0
2,4-Dinitrotoluene	1	0	Avg	0.4316	0.2930	0.3678	0.4098	0.4671	0.4379	0.4479	0.4278	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.4108	8.30	0.998	0.999	14	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Qua	0.2211	0.1004	0.1966	0.2201	0.2331	0.2320	0.2303	0.2361	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.2098	8.21	1.000	1.000	2.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,3,4,6-Tetrachlorophenol	1	0	Avg	0.4114	0.2661	0.4034	0.3976	0.4250	0.4115	0.4056	0.4044	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.3918	8.43	1.000	1.000	1.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.4635	1.7181	1.5496	1.5273	1.4987	1.3747	1.3726	1.3276	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.4886	8.64	0.998	0.998	8.5	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.7364	0.8561	0.7856	0.7674	0.7670	0.7054	0.7094	0.6940	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.7538	8.64	0.999	0.999	7.2	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.3668	1.4768	1.4179	1.4000	1.4284	1.3490	1.3616	1.3493	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.3988	8.51	1.000	1.000	3.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Avg	0.3904	0.3213	0.3753	0.3995	0.4037	0.3799	0.3892	0.3796	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.3808	8.65	0.999	1.000	6.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.4475	0.4450	0.4577	0.4788	0.4753	0.4445	0.4497	0.4484	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.4569	8.27	0.999	0.999	3.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,6-Dinitro-2-methylphenol	1	0	Qua	0.0997	0.0476	0.0651	0.1156	0.1205	0.1272	0.1262	0.1262	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.1008	8.68	0.998	0.999	3.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamine	1	0	Avg	0.6233	0.6613	0.6447	0.6199	0.6396	0.6109	0.6036	0.6047	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.6308	8.75	1.000	1.000	4.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Trinitrophenol	1	0	Qua	0.1061	0.0848	0.0971	0.0973	0.1118	0.1095	0.1055	0.1063	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.1028	8.87	0.999	1.000	8.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.5855	0.6198	0.5951	0.5655	0.6023	0.6293	0.6172	0.6183	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.6048	8.79	0.999	1.000	3.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2260	0.2664	0.2285	0.2213	0.2310	0.2312	0.2279	0.2288	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.2339	9.12	1.000	1.000	6.0	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.3450	0.3007	0.2571	0.2406	0.2478	0.2365	0.2283	0.2297	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.2489	9.18	0.999	1.000	9.4	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.3350	0.3446	0.3429	0.3232	0.3476	0.3279	0.3108	0.3094	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.3309	9.45	0.997	0.999	4.5	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.1492	0.0366	0.0938	0.1178	0.1604	0.1582	0.1587	0.1634	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	0.1309	9.38	0.998	0.998	3.5	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	1.0989	1.3763	1.1649	1.0876	1.1232	1.0516	1.0480	1.0287	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.1296	9.62	0.999	1.000	10	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	1.1155	1.2410	1.1812	1.1057	1.1456	1.0654	1.0454	1.0270	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.1296	9.67	0.998	1.000	6.5	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Catechol	1	0	Avg	1.0847	1.2051	1.1370	1.0709	1.1056	1.0444	1.0270	1.0234	8	5M94484.D	CAL BNA@120PPM	04/05/16 11:14	1.0998	9.84	0.999	1.000	5.7	0.01	50.00	2.00	10.00	20.					

Level #	Data File	Cal Identifier	Analysis Date/Time	Level #	Data File	Cal Identifier	Analysis Date/Time	Calibration Level Concentrations																
1	SM94488.D	CAL BNA@50PPM	04/05/16 12:46	2	SM94490.D	CAL BNA@20PPM	04/05/16 13:32	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8	LV9								
3	SM94483.D	CAL BNA@10PPM	04/05/16 10:46	4	SM94489.D	CAL BNA@20PPM	04/05/16 13:09	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0								
5	SM94487.D	CAL BNA@80PPM	04/05/16 12:23	6	SM94486.D	CAL BNA@120PPM	04/05/16 12:00	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0								
7	SM94485.D	CAL BNA@160PPM	04/05/16 11:37	8	SM94484.D	CAL BNA@196PPM	04/05/16 11:14	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0								
9	SM94491.D	CAL BNA@5PPM	04/05/16 13:55																					
Compound	Col Mf. Fil.	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgR	RT	Corr1	Corr2	%Rsd	LM1	LV2	LV3	LV4	LV5	LV6	LV7	LV8	LV9
4,4-DDD	1 0 Avg	0.3925	0.3259	0.3489	0.3519	0.3997	0.3911	0.4091	0.4234	---	0.380	11.72	0.998	1.00	8.9	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Butylbenzophthalate	1 0 Avg	0.5003	0.3475	0.4502	0.4469	0.5300	0.5107	0.5246	0.5472	---	0.482	11.96	0.999	0.999	14	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
4,4-DDT	1 0 Avg	0.3023	0.1803	0.2600	0.2591	0.3157	0.3096	0.3195	0.3314	---	0.285	12.08	0.998	1.00	18	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
3,3'-Dichlorobenzidine	1 0 Avg	0.3992	0.3094	0.3414	0.3814	0.3903	0.3609	0.3498	0.3365	---	0.359	12.60	0.996	0.999	8.5	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzolanthracene	1 0 Avg	1.1959	1.3036	1.2148	1.1486	1.2101	1.1722	1.1964	1.2043	---	1.21	12.62	1.00	1.00	3.7	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Chrysene	1 0 Avg	1.0532	1.2238	1.1159	1.0494	1.0703	1.0050	0.9971	1.0271	---	1.07	12.86	0.999	0.999	6.9	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
bio(2-Ethylhexyl)phthal	1 0 Avg	0.6593	0.4796	0.6226	0.6017	0.6666	0.6387	0.6543	0.6571	---	0.623	12.68	1.00	1.00	9.9	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Di-n-octylphthalate	1 0 Avg	1.2969	0.8436	1.1093	1.1707	1.3363	1.3124	1.3557	1.3443	---	1.22	13.42	1.00	1.00	14	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzobifluoranthene	1 0 Avg	1.2804	1.2957	1.2594	1.2119	1.2686	1.2422	1.2360	1.2172	---	1.25	13.83	1.00	1.00	2.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzokilfluoranthene	1 0 Avg	1.2044	1.3342	1.1890	1.1891	1.2289	1.1209	1.1838	1.1427	---	1.20	13.87	0.998	0.999	5.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzofluorene	1 0 Avg	1.2101	1.1873	1.1531	1.1773	1.2291	1.1854	1.1844	1.1775	---	1.19	14.18	1.00	1.00	1.9	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Indeno(1,2,3-cd)pyren	1 0 Avg	1.3217	1.3346	1.3311	1.2619	1.3727	1.3223	1.3423	1.3283	---	1.33	15.51	1.00	1.00	2.3	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Dibenzofluoranthracen	1 0 Avg	1.1469	1.1585	1.1418	1.0846	1.1695	1.1095	1.1192	1.1028	---	1.13	15.53	0.999	1.00	2.6	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0
Benzofluoranthene	1 0 Avg	1.1017	1.1707	1.1177	1.0447	1.1452	1.1030	1.1356	1.1363	---	1.12	15.86	1.00	1.00	3.4	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	196.0

Flags
a - failed the min rj criteria
c - failed the minimum correlation coeff criteria (if applicable)

Avg Rsd: 8.61

Note:
 Corr 1 = Correlation Coefficient for linear Eq.
 Corr 2 = Correlation Coefficient for quad Eq.
 Fil = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 5/2/2016 5:11:00 PMData File: 5M94821.D
Method: EPA 8270D

Instrument: GCMS 5

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dichlorobenzene-d4	1	0	I	5.70	40.00	40	**			0.000	0.00	
Pyridine	1	0		2.86	46.00	50	**	1.489	1.370		8.01	
N-Nitrosodimethylamine	1	0		2.79	48.27	50	**	0.838	0.809		3.47	
2-Fluorophenol	1	0	S	4.47	45.86	50	**	1.385	1.271		8.27	
Benzaldehyde	1	0		5.32	44.70	50	20	0.01	0.904	0.808	10.60	
Aniline	1	0		5.42	38.04	50	**	2.031	1.545		23.93	
Pentachloroethane	1	0		5.45	46.82	50	**	0.05	0.437	0.409	6.36	
bis(2-Chloroethyl)ether	1	0		5.47	43.78	50	20	0.7	1.511	1.323	12.45	
Phenol-d5	1	0	S	5.37	45.58	50	**	1.866	1.701		8.83	
Phenol	1	0		5.39	46.03	50	20	0.8	2.070	1.906	7.94	
2-Chlorophenol	1	0		5.51	46.67	50	20	0.8	1.512	1.412	6.66	
N-Decane	1	0		5.56	50.57	50	**	0.05	1.214	1.227	1.13	
1,3-Dichlorobenzene	1	0		5.65	46.43	50	**	1.605	1.490		7.14	
1,4-Dichlorobenzene	1	0		5.71	46.07	50	20		1.635	1.507	7.86	
1,2-Dichlorobenzene	1	0		5.84	45.80	50	**	1.568	1.437		8.39	
Benzyl alcohol	1	0		5.82	45.19	50	**	1.018	0.920		9.62	
bis(2-chloroisopropyl)ether	1	0		5.93	47.34	50	20	0.01	1.559	1.476	5.31	
2-Methylphenol	1	0		5.90	44.18	50	20	0.7	1.448	1.279	11.65	
Acetophenone	1	0		6.03	41.69	50	20	0.01	2.039	1.700	16.62	
Hexachloroethane	1	0		6.12	46.04	50	20	0.3	0.557	0.513	7.92	
N-Nitroso-di-n-propylamine	1	0		6.03	44.06	50	20	0.5	0.987	0.870	11.87	
3&4-Methylphenol	1	0		6.03	44.84	50	20		1.452	1.303	10.32	
Naphthalene-d8	1	0	I	6.71	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.15	22.74	25	**		0.173	0.157	9.03	
Nitrobenzene	1	0		6.17	47.24	50	20	0.2	0.354	0.335	5.52	
Isophorone	1	0		6.36	46.09	50	20	0.4	0.714	0.658	7.83	
2-Nitrophenol	1	0		6.42	49.94	50	20	0.1	0.189	0.189	0.11	
2,4-Dimethylphenol	1	0		6.45	46.51	50	20	0.2	0.386	0.359	6.97	
Benzoic Acid	1	0		6.52	47.95	50	**		0.171	0.192	4.09	
bis(2-Chloroethoxy)methane	1	0		6.52	46.57	50	20	0.3	0.431	0.401	6.87	
2,4-Dichlorophenol	1	0		6.60	45.94	50	20	0.2	0.343	0.315	8.12	
1,2,4-Trichlorobenzene	1	0		6.67	46.01	50	**		0.381	0.350	7.98	
Naphthalene	1	0		6.73	43.91	50	20	0.7	1.209	1.062	12.17	
4-Chloroaniline	1	0		6.77	45.18	50	20	0.01	0.410	0.370	9.64	
Hexachlorobutadiene	1	0		6.82	45.07	50	20	0.01	0.220	0.198	9.86	
Caprolactam	1	0		7.03	41.95	50	20	0.01	0.148	0.124	16.10	
4-Chloro-3-methylphenol	1	0		7.13	45.27	50	20	0.2	0.336	0.304	9.45	
2-Methylnaphthalene	1	0		7.26	45.94	50	**	0.4	0.816	0.749	8.11	
1-Methylnaphthalene	1	0		7.33	44.86	50	**		0.733	0.658	10.29	
Methylnaphthalenes	1	0		7.26	90.74	100	**			0.699	9.26	
1,1'-Biphenyl	1	0		7.63	44.63	50	20	0.01	1.010	0.901	10.74	
Acenaphthene-d10	1	0	I	8.12	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.39	45.37	50	20	0.01	0.674	0.612	9.26	
Hexachlorocyclopentadiene	1	0		7.38	17.02	50	20	0.05	0.280	0.095	65.97	C1
2,4,6-Trichlorophenol	1	0		7.47	48.42	50	20	0.2	0.430	0.416	3.16	
2,4,5-Trichlorophenol	1	0		7.50	49.59	50	20	0.2	0.421	0.418	0.81	
2-Fluorobiphenyl	1	0	S	7.54	23.31	25	**		1.457	1.358	6.77	
2-Chloronaphthalene	1	0		7.65	47.03	50	20	0.8	1.193	1.122	5.94	
1,4-Dimethylnaphthalene	1	0		7.93	46.97	50	**		0.913	0.858	6.06	
Dimethylnaphthalenes	1	0		7.93	46.97	50	20			0.858	6.06	
Diphenyl Ether	1	0		7.71	43.68	50	**		0.943	0.824	12.65	
2-Nitroaniline	1	0		7.73	49.09	50	20	0.01	0.339	0.333	1.82	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 1 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 724625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form 7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 5/2/2016 5:11:00 PMData File: 5M94821.D
Method: EPA 8270D

Instrument: GCMS 5

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Coumarin	1	0		7.91	46.40		**		0.486			
Acenaphthylene	1	0		8.00	46.37	50	20	0.9	1.888	1.751	7.26	
Dimethylphthalate	1	0		7.87	47.09	50	20	0.01	1.422	1.339	5.82	
2,6-Dinitrotoluene	1	0		7.93	50.51	50	20	0.2	0.293	0.296	1.02	
Acenaphthene	1	0		8.16	42.83	50	20	0.9	1.211	1.037	14.33	
3-Nitroaniline	1	0		8.08	50.50	50	20	0.01	0.322	0.325	1.00	
2,4-Dinitrophenol	1	0		8.17	58.44	50	20	0.01	0.118	0.133	16.88	
Dibenzofuran	1	0		8.31	44.44	50	20	0.8	1.921	1.707	11.11	
2,4-Dinitrotoluene	1	0		8.28	50.27	50	20	0.2	0.410	0.413	0.53	
4-Nitrophenol	1	0		8.20	45.00	50	20	0.01	0.209	0.201	9.99	
2,3,4,6-Tetrachlorophenol	1	0		8.41	48.99	50	20	0.01	0.391	0.383	2.03	
Fluorene	1	0		8.63	45.94	50	20	0.9	1.477	1.357	8.12	
4-Chlorophenyl-phenylether	1	0		8.62	46.93	50	20	0.4	0.753	0.707	6.14	
Diethylphthalate	1	0		8.50	46.67	50	20	0.01	1.394	1.301	6.66	
4-Nitroaniline	1	0		8.64	48.27	50	20	0.01	0.380	0.367	3.46	
Atrazine	1	0		9.26	37.91	50	20	0.01	0.456	0.346	24.18	C1
Phenanthrene-d10	1	0	I	9.57	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.66	56.29	50	20	0.01	0.100	0.113	12.58	
n-Nitrosodiphenylamine	1	0		8.73	46.41	50	20	0.01	0.630	0.585	7.17	
2,4,6-Tribromophenol	1	0	S	8.86	44.77	50	**		0.102	0.098	10.46	
1,2-Diphenylhydrazine	1	0		8.77	46.68	50	**		0.604	0.564	6.64	
4-Bromophenyl-phenylether	1	0		9.10	46.74	50	20	0.1	0.233	0.218	6.52	
Hexachlorobenzene	1	0		9.16	45.16	50	20	0.1	0.248	0.224	9.68	
N-Octadecane	1	0		9.43	52.11	50	**	0.05	0.330	0.344	4.22	
Pentachlorophenol	1	0		9.36	51.08	50	20	0.05	0.130	0.146	2.16	
Phenanthrene	1	0		9.60	45.64	50	20	0.7	1.122	1.024	8.72	
Anthracene	1	0		9.65	45.77	50	20	0.7	1.116	1.022	8.45	
Carbazole	1	0		9.82	45.51	50	20	0.01	1.088	0.990	8.99	
Di-n-butylphthalate	1	0		10.20	46.98	50	20	0.01	1.194	1.122	6.04	
Fluoranthene	1	0		10.92	45.83	50	20	0.6	1.340	1.228	8.33	
Chrysene-d12	1	0	I	12.61	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.19	46.56	50	20	0.6	1.223	1.138	6.88	
Benzidine	1	0		11.08	21.89	50	**		0.352	0.178	56.21	
Terphenyl-d14	1	0	S	11.37	22.08	25	**		0.658	0.581	11.69	
4,4'-DDE	1	0		11.30	45.17		**		0.218			
4,4'-DDD	1	0		11.70	46.31		**		0.380			
Butylbenzylphthalate	1	0		11.96	46.12	50	20	0.01	0.482	0.445	7.77	
4,4'-DDT	1	0		12.06	49.39		**		0.285			
3,3'-Dichlorobenzidine	1	0		12.58	52.86	50	20	0.01	0.359	0.379	5.72	
Benzo[a]anthracene	1	0		12.60	45.29	50	20	0.8	1.206	1.092	9.42	
Chrysene	1	0		12.64	45.06	50	20	0.7	1.068	0.962	9.87	
bis(2-Ethylhexyl)phthalate	1	0		12.65	47.77	50	20	0.01	0.623	0.595	4.46	
Perylene-d12	1	0	I	14.21	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.40	47.21	50	20	0.01	1.221	1.153	5.58	
Benzo[b]fluoranthene	1	0		13.81	44.96	50	20	0.7	1.251	1.125	10.09	
Benzo[k]fluoranthene	1	0		13.84	44.15	50	20	0.7	1.199	1.059	11.71	
Benzo[a]pyrene	1	0		14.16	46.76	50	20	0.7	1.188	1.111	6.49	
Indeno[1,2,3-cd]pyrene	1	0		15.47	46.38	50	20	0.5	1.327	1.231	7.24	
Dibenzo[a,h]anthracene	1	0		15.50	46.94	50	20	0.4	1.129	1.060	6.13	
Benzo[g,h,i]perylene	1	0		15.83	46.58	50	20	0.5	1.119	1.043	6.84	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8(INT)	1	100		0.00	0.00	40	**			0.000	100.00	

S-Surrogate Compound
N/O or N/Q - Not applicable for this runI-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

Page 2 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 725625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM
Cont Calibration Date/Time 5/2/2016 5:11:00 PM

Data File: 5M94821.D
Method: EPA 8270D

Instrument: GCMS 5

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	
1,4-Dioxane	1	100		0.00	0.00	51	**			0.000	100.00	
Toluene Diisocyanate	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.771	0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
Heptachlor epoxide	1	100		0.00	0.00	10	**			0.000	100.00	
Heptachlor	1	100		0.00	0.00	10	**			0.000	100.00	
gamma-BHC	1	100		0.00	0.00	10	**			0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.913	0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**			0.000	100.00	
4-Methylphenol	1	100		0.00	0.00	50	**	0.6		0.000	100.00	
Endrin	1	100		0.00	0.00	50	**			0.000	100.00	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
CI-Compound %Diff exceeds limits

** - No limit specified in method

Page 3 of 3

Note: 8260/8270 limits are compared against the %DIFF/R.F.
624 limits are compared against the concentration found. HAZ. - 726

625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

FORM8

Internal Standard Areas

Evaluation Std Data File: 5M94488.D

Method: EPA 8270D

Analysis Date/Time: 04/05/16 12:46

Lab File ID: CAL BNA@50PPM

Eval File Area/RT:	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
	65139	5.71	256349	6.73	168096	8.14	342319	9.59	391619	12.64	354560	14.24
Eval File Area Limit:	32570-130278		128174-512698		84048-336192		171160-684638		195810-783238		177280-709120	
Eval File Rt Limit:	5.21-6.21		6.23-7.23		7.64-8.64		9.09-10.09		12.14-13.14		13.74-14.74	

Data File Sample

5M94483.D CAL BNA@1C	62225	5.71	248410	6.73	165852	8.15	341800	9.59	424783	12.64	402991	14.24
5M94484.D CAL BNA@1E	57542	5.71	233159	6.73	152661	8.15	307711	9.60	310340	12.65	298233	14.25
5M94485.D CAL BNA@1E	59946	5.71	233389	6.73	153714	8.15	314056	9.59	327565	12.64	307450	14.24
5M94486.D CAL BNA@12	63835	5.71	247369	6.73	160623	8.15	320384	9.59	350025	12.64	321922	14.24
5M94487.D CAL BNA@2C	60233	5.71	232069	6.73	150757	8.14	306525	9.59	344905	12.64	321715	14.24
5M94488.D CAL BNA@5C	65139	5.71	256349	6.73	168096	8.14	342319	9.59	391619	12.64	354560	14.24
5M94489.D CAL BNA@2C	61037	5.71	246224	6.72	159279	8.14	343052	9.59	434626	12.63	392371	14.24
5M94490.D CAL BNA@2F	62553	5.71	261184	6.72	176828	8.14	350487	9.59	421176	12.63	366419	14.24
5M94491.D CAL BNA@.5	64967	5.71	265381	6.72	180012	8.14	353272	9.59	406418	12.63	370513	14.24
5M94492.D ICV BNA@50	63319	5.71	247766	6.73	159069	8.14	318586	9.59	357506	12.64	314555	14.24
5M94493.D WMB49755/M	76101	5.71	295154	6.73	190014	8.15	378455	9.59	397582	12.64	353791	14.24
5M94494.D WMB49755	71975	5.71	298683	6.72	192465	8.14	404769	9.59	468497	12.63	413036	14.24
5M94495.D EF-1 V-22993	66666	5.71	266673	6.72	171972	8.14	351590	9.59	398545	12.63	346967	14.24
5M94496.D EF-1 V-22993	69934	5.71	280889	6.72	186842	8.14	372498	9.59	407901	12.63	354643	14.24
5M94497.D AC90510-001	68500	5.71	268132	6.72	172660	8.14	344046	9.59	405886	12.63	360052	14.24
5M94498.D AC90495-002	64495	5.71	261043	6.72	172360	8.14	343910	9.59	389674	12.63	336333	14.24
5M94499.D AC90495-002	66426	5.71	253659	6.73	164780	8.14	326606	9.59	351821	12.64	314846	14.24
5M94500.D AC90495-002	61848	5.71	250493	6.73	157334	8.14	315275	9.59	364871	12.64	320557	14.24
5M94503.D AC90496-001	68752	5.71	277209	6.72	179340	8.14	362926	9.59	416221	12.63	364122	14.24
5M94504.D AC90496-002	69027	5.71	281191	6.72	183746	8.14	384359	9.59	438865	12.63	377885	14.24

I1 = 1,4-Dichlorobenzene-d4
I2 = Naphthalene-d8
I3 = Acenaphthene-d10

I4 = Phenanthrene-d10
I5 = Chrysene-d12
I6 = Perylene-d12

625/8270 Internal Standard concentration = 40 ug/L. (in final extract)
624/8260 Internal Standard concentration = 30ug/L.
524 Internal Standard concentration = 5ug/L.

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times:

Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

FORM8

Internal Standard Areas

Evaluation Std Data File: 5M94821.D

Method: EPA 8270D

Analysis Date/Time: 05/02/16 17:11

Lab File ID: CAL BNA@50PPM

Eval File Area/RT:	I1		I2		I3		I4		I5		I6	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area Limit:	31754-127014		121536-486142		75129-300516		153634-614536		176112-704450		159701-638804	
Eval File Rt Limit:	5.2-6.2		6.21-7.21		7.62-8.62		9.07-10.07		12.11-13.11		13.71-14.71	

Data File	Sample	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
5M94822.D	WMB50006/M	68844	5.70	258221	6.71	162067	8.12	311316	9.58	336766	12.62	314079	14.22
5M94823.D	WMB50006	67713	5.70	264461	6.71	164841	8.12	330877	9.57	368478	12.61	321834	14.21
5M94824.D	EF-SPLP-1-V.	72807	5.70	281297	6.71	175940	8.12	349671	9.57	386256	12.61	340762	14.21
5M94825.D	AC90940-001i	67512	5.70	254748	6.71	163274	8.12	317860	9.57	364614	12.61	325363	14.21
5M94826.D	AC90940-001i	65445	5.70	249729	6.71	154366	8.12	309081	9.57	335307	12.62	303437	14.22
5M94827.D	AC90940-001i	66853	5.70	251360	6.71	158417	8.12	311280	9.57	337232	12.62	307279	14.22
5M94828.D	AC91020-005	69769	5.70	207603	6.73	124040	8.15	271737	9.58	343363	12.61	315479	14.21
5M94829.D	EF-1-V-23184	74534	5.70	300793	6.71	190288	8.12	380948	9.57	431093	12.61	393307	14.21
5M94830.D	AC90984-001i	68967	5.70	271782	6.71	172668	8.12	335642	9.57	369014	12.61	331190	14.21
5M94831.D	EF-1-V-23184	63998	5.70	248359	6.71	156208	8.12	308861	9.57	350464	12.61	308385	14.21
5M94832.D	AC91020-007	64078	5.70	248442	6.71	156256	8.12	302780	9.57	340683	12.61	304710	14.21
5M94834.D	AC91036-001	66201	5.70	257288	6.71	159927	8.12	317652	9.57	341682	12.61	305341	14.21
5M94835.D	AC91036-003	74391	5.70	289653	6.71	184330	8.12	359588	9.57	397438	12.61	353885	14.21
5M94836.D	AC91047-005	79479	5.70	307492	6.71	190489	8.12	363326	9.57	399018	12.61	354392	14.21
5M94837.D	AC91083-001	73037	5.70	283721	6.71	186242	8.12	382374	9.57	421401	12.61	381335	14.21
5M94838.D	AC91083-002	65992	5.70	263455	6.71	167766	8.12	340724	9.57	380682	12.61	346664	14.21
5M94839.D	AC91032-001	72124	5.70	274661	6.71	178273	8.12	356666	9.57	387214	12.61	344695	14.21
5M94840.D	AC91042-004	71710	5.70	284577	6.71	176482	8.12	357172	9.57	384804	12.61	335690	14.21
5M94841.D	AC91044-001	78088	5.70	279372	6.71	175199	8.12	339370	9.57	393033	12.61	359735	14.21
5M94842.D	AC91044-002	72904	5.70	265748	6.71	167728	8.12	330675	9.57	367503	12.61	325407	14.21
5M94843.D	AC91093-001	79447	5.70	312451	6.71	198057	8.12	382134	9.57	413457	12.61	357051	14.21
5M94844.D	AC91093-008	72971	5.70	288020	6.71	178891	8.12	357465	9.57	383170	12.61	331009	14.21
5M94846.D	AC90792-003i	75721	5.70	292354	6.71	170764	8.12	322808	9.57	377816	12.61	344558	14.21
5M94847.D	EF-SPLP-V-1.	69755	5.70	276654	6.71	168890	8.12	344587	9.57	375213	12.61	328863	14.21

I1 = 1,4-Dichlorobenzene-d4
I2 = Naphthalene-d8
I3 = Acenaphthene-d10

I4 = Phenanthrene-d10
I5 = Chrysene-d12
I6 = Perylene-d12

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30mg/L
524 Internal Standard concentration = 5ug/L

QC Limits:**Internal Standard Areas**

Upper Limit = + 100% of internal standard area from daily cal or mid pt.

Lower Limit = - 50% of internal standard area from daily cal or mid pt.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.**Flags:**

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

PCB Data

Form1
ORGANICS PCB REPORT

Sample Number: AC91036-001
 Client Id: TWP-01 U
 Data File: 2G112792.D
 Analysis Date: 05/04/16 19:07
 Date Rec/Extracted: 04/28/16-05/04/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Aqueous
 Initial Vol: 1000ml
 Final Vol: 5ml
 Dilution: 1
 Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.25	U	11097-69-1	Aroclor-1254	0.25	U
11104-28-2	Aroclor-1221	0.25	U	11096-82-5	Aroclor-1260	0.25	U
11141-16-5	Aroclor-1232	0.25	U	37324-23-5	Aroclor-1262	0.25	U
53469-21-9	Aroclor-1242	0.25	U	11100-14-4	Aroclor-1268	0.25	U
12672-29-6	Aroclor-1248	0.25	U	1336-36-3	Aroclor (Total)	0.25	U

Worksheet #: 382339

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

Data Path : G:\Gcdata\2016\GC_2\Data\05-04-16\
 Data File : 2G112792.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 4 May 2016 19:07
 Operator : MAS/ZM/MLC
 Sample : AC91036-001
 Misc : A,PCB
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: May 05 10:25:26 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0428.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Thu Apr 28 11:27:18 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

Target Compounds						
1)TCMX-Surrogate	3.816	3.800	299374	546990	67.506m	65.296m
45)DCB-Surrogate	10.033	10.645	258334	931392	68.816	92.022 #

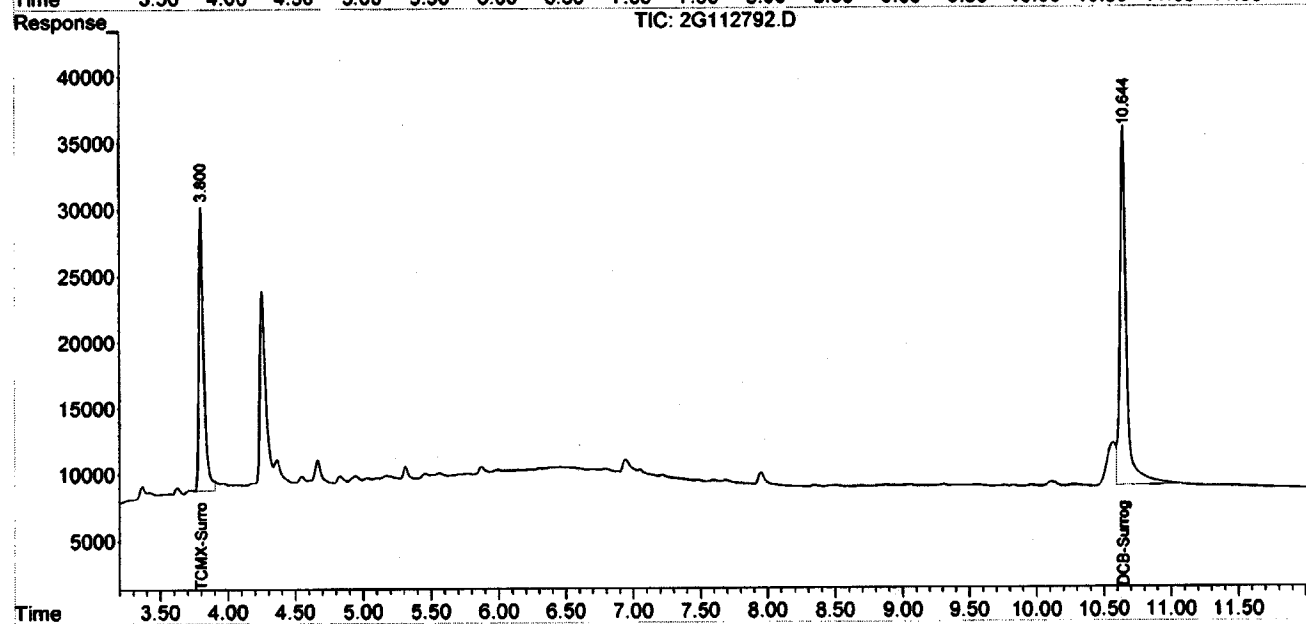
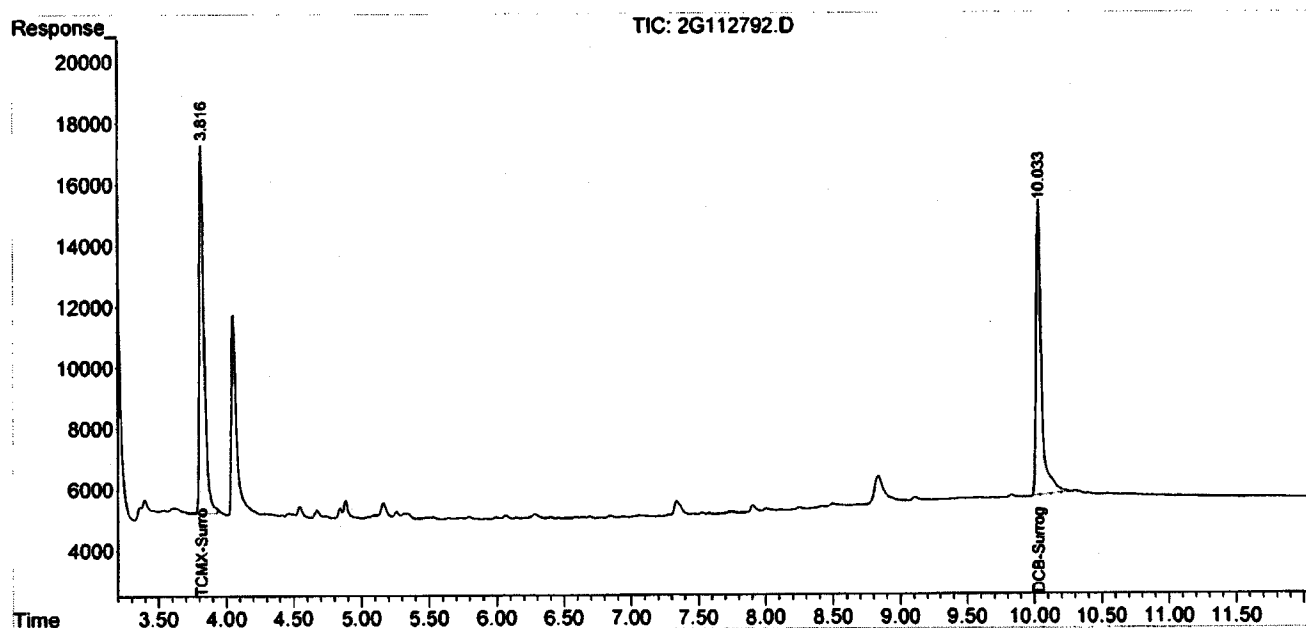
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

7

Data Path : G:\Gcdata\2016\GC_2\Data\05-04-16\
 Data File : 2G112792.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 4 May 2016 19:07
 Operator : MAS/ZM/MLC
 Sample : AC91036-001
 Misc : A,PCB
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: May 05 10:25:26 2016
 Quant Method : G:\GC DATA\2016\GC_2\METHODQT\2G_C0428.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Thu Apr 28 11:27:18 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase : db-17
 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: AC91036-003
 Client Id: DUP TWP-01 U
 Data File: 2G112800.D
 Analysis Date: 05/05/16 11:25
 Date Rec/Extracted: 04/28/16-05/04/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Aqueous
 Initial Vol: 1000ml
 Final Vol: 5ml
 Dilution: 1
 Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.25	U	11097-69-1	Aroclor-1254	0.25	U
11104-28-2	Aroclor-1221	0.25	U	11096-82-5	Aroclor-1260	0.25	U
11141-16-5	Aroclor-1232	0.25	U	37324-23-5	Aroclor-1262	0.25	U
53469-21-9	Aroclor-1242	0.25	U	11100-14-4	Aroclor-1268	0.25	U
12672-29-6	Aroclor-1248	0.25	U	1336-36-3	Aroclor (Total)	0.25	U

Worksheet #: 382339

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used**Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.*

Data Path : G:\Gcdata\2016\GC_2\Data\05-05-16\
 Data File : 2G112800.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 5 May 2016 11:25
 Operator : MAS/ZM/MLC
 Sample : AC91036-003
 Misc : A,PCB
 ALS Vial : 92 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: May 05 11:45:50 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0428.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Thu Apr 28 11:27:18 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

Target Compounds						
1)TCMX-Surrogate	3.818	3.802	313819	581112	70.763	69.369
45)DCB-Surrogate	10.035	10.647	294664	876416	78.648	86.381

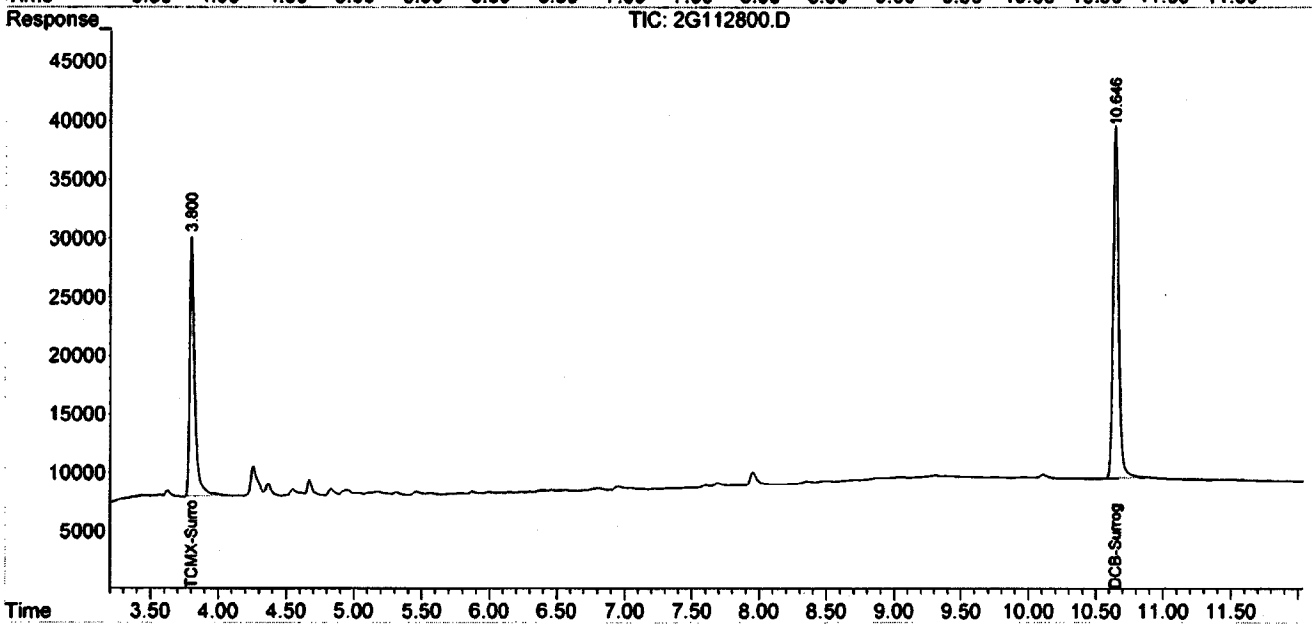
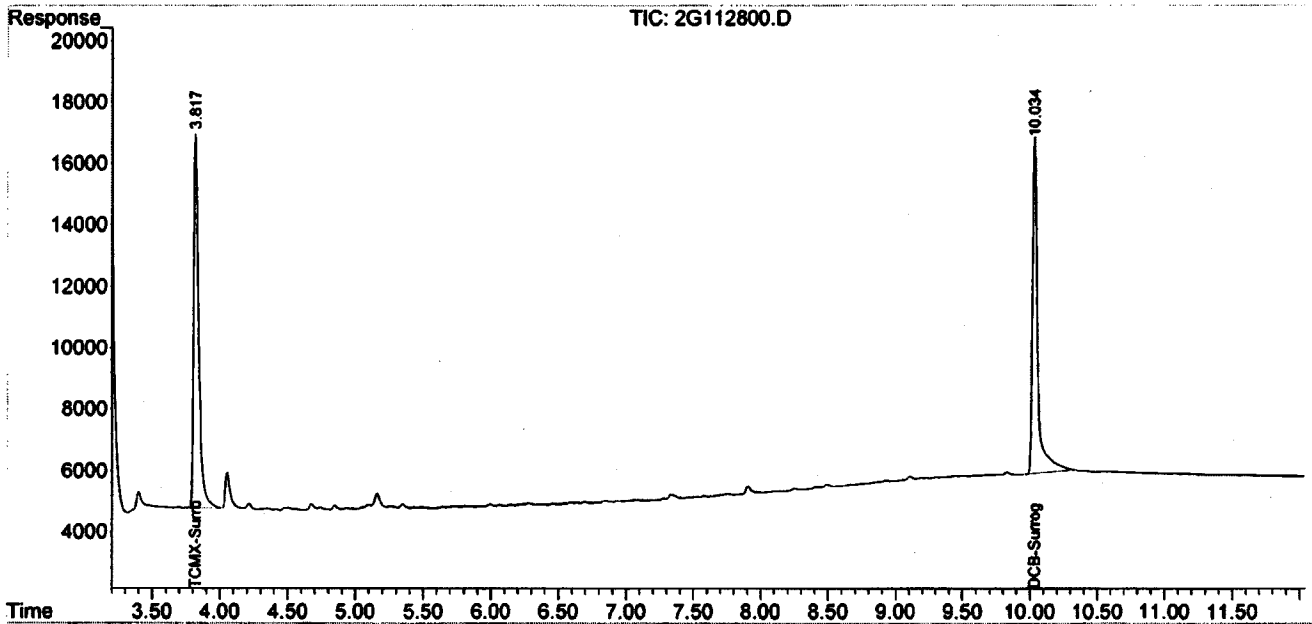
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.



Data Path : G:\Gcdata\2016\GC_2\Data\05-05-16\
 Data File : 2G112800.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 5 May 2016 11:25
 Operator : MAS/ZM/MLC
 Sample : AC91036-003
 Misc : A,PCB
 ALS Vial : 92 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: May 05 11:45:50 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0428.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Thu Apr 28 11:27:18 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase : db-17
 Signal #2 Info : .32



Form1
ORGANICS PCB REPORT

Sample Number: WMB50025
 Client Id:
 Data File: 2G112806.D
 Analysis Date: 05/05/16 15:03
 Date Rec/Extracted: NA-05/04/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
 Matrix: Aqueous
 Initial Vol: 1000ml
 Final Vol: 1ml
 Dilution: 1
 Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.050	U	11097-69-1	Aroclor-1254	0.050	U
11104-28-2	Aroclor-1221	0.050	U	11096-82-5	Aroclor-1260	0.050	U
11141-16-5	Aroclor-1232	0.050	U	37324-23-5	Aroclor-1262	0.050	U
53469-21-9	Aroclor-1242	0.050	U	11100-14-4	Aroclor-1268	0.050	U
12672-29-6	Aroclor-1248	0.050	U				

Worksheet #: 382339

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses
Chlordane (Total) is sum of α -Chlordane and γ -Chlordane.

Data Path : G:\Gcdata\2016\GC_2\Data\05-05-16\
 Data File : 2G112806.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 5 May 2016 15:03
 Operator : MAS/ZM/MLC
 Sample : WMB50025
 Misc : A, PCB
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: May 05 15:21:29 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0428.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Thu Apr 28 11:27:18 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

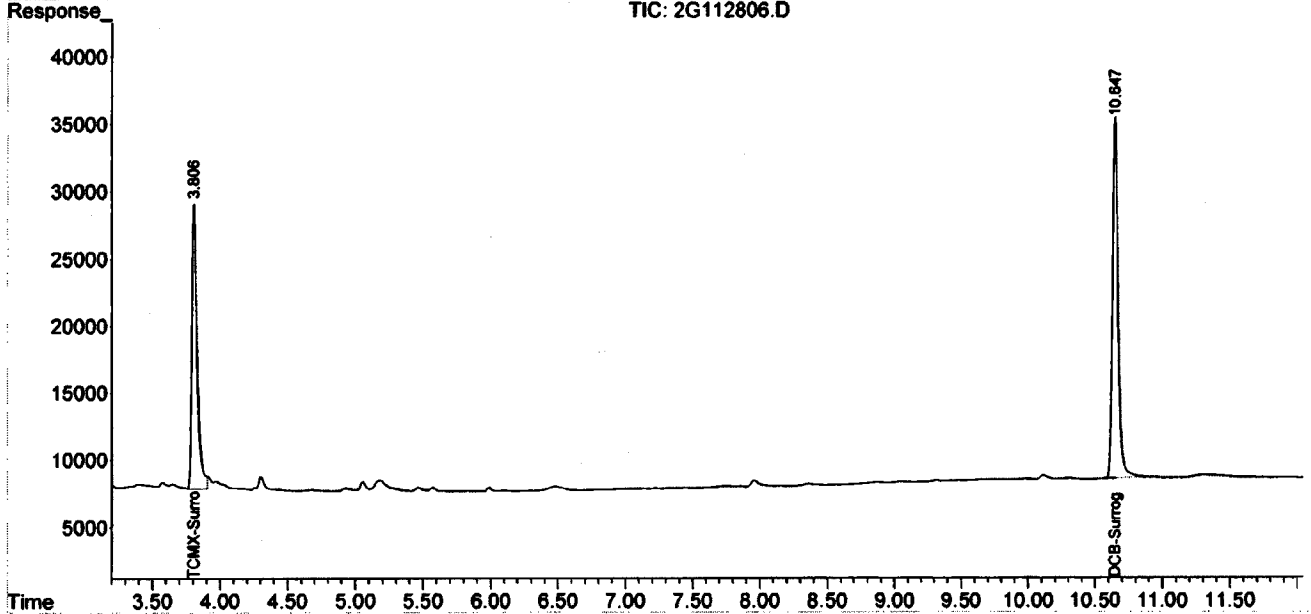
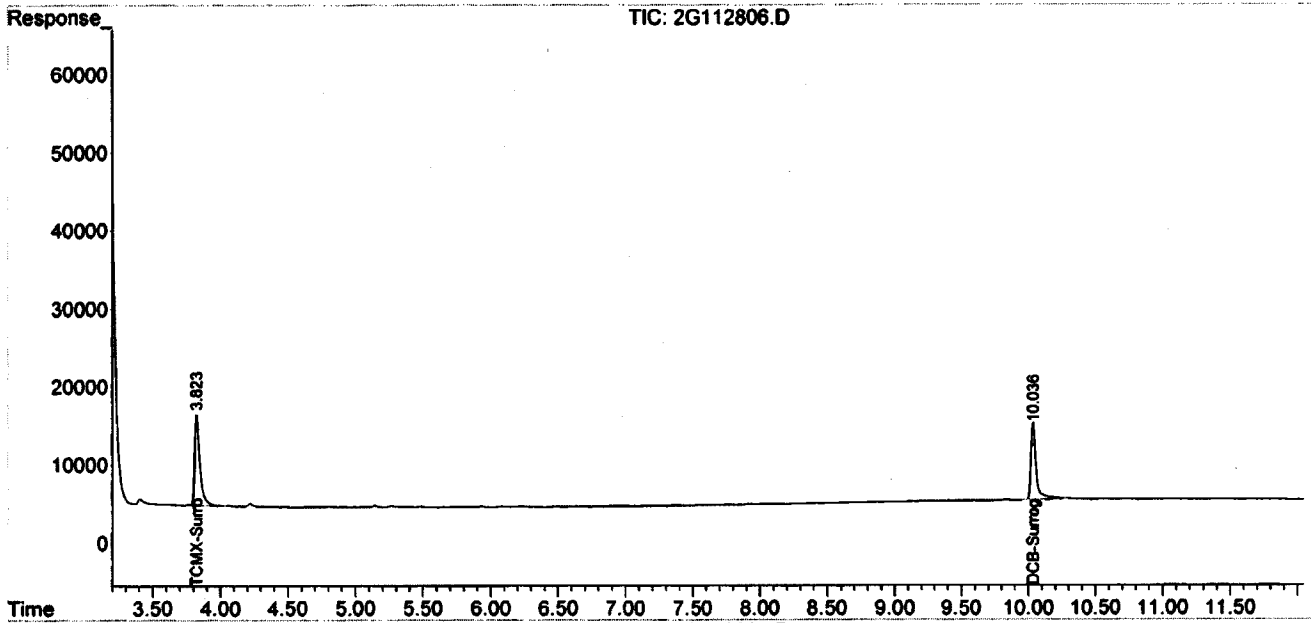
Target Compounds						
1)TCMX-Surrogate	3.824	3.806	305833	567530	68.962	67.748m
45)DCB-Surrogate	10.037	10.648	258529	788565	68.869	77.424

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

Data Path : G:\Gcdata\2016\GC_2\Data\05-05-16\
 Data File : 2G112806.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 5 May 2016 15:03
 Operator : MAS/ZM/MLC
 Sample : WMB50025
 Misc : A,PCB
 ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
 Integration File signal 2: AUTOINT2.E
 Quant Time: May 05 15:21:29 2016
 Quant Method : G:\GCDATA\2016\GC_2\METHODQT\2G_C0428.M
 Quant Title : @GC_2,ug,608,8082
 QLast Update : Thu Apr 28 11:27:18 2016
 Response via : Initial Calibration
 Integrator: ChemStation

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32



FORM2

Surrogate Recovery

Method: EPA 8082A

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1 S1 Recov	Column2 S2 Recov	Column1 S3 Recov	Column2 S4 Recov	Column0 S5 Recov	Column0 S6 Recov
2G112806.D	WMB50025	A	05/05/16 15:03	1		69	68	69	77		
2G112792.D	AC91036-001	A	05/04/16 19:07	1		68	65	69	92		
2G112800.D	AC91036-003	A	05/05/16 11:25	1		71	69	79	86		
2G112790.D	WMB50025(MS)	A	05/04/16 18:36	1		76	75	83	87		
2G112833.D	AC91036-001(MS)	A	05/06/16 16:23	1		73	69	79	80		
2G112834.D	AC91036-001(MSD)	A	05/06/16 16:38	1		71	69	81	76		

Flags: SD=Surrogate diluted out

*=Surrogate out

Method: EPA 8082A

Aqueous DKQP Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	30-150
S2=TCMX-Surrogate	100	30-150
S3=DCB-Surrogate	100	30-150
S4=DCB-Surrogate	100	30-150

Form3
Recovery Data
QC Batch: WMB50025

Data File	Sample ID:	Analysis Date
Spike or Dup: 2G112790.D	WMB50025(MS)	5/4/2016 6:36:00 PM
Non Spike(If applicable):		
Inst Blank(If applicable):		
Method: 8082	Matrix: Aqueous	QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	1	772.51	0	1000	77	40	140
Aroclor-1260 -Total	1	839.186	0	1000	84	40	140

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: WMB50025

Data File	Sample ID:	Analysis Date
Spike or Dup: 2G112833.D	AC91036-001(MS)	5/6/2016 4:23:00 PM
Non Spike(If applicable): 2G112792.D	AC91036-001	5/4/2016 7:07:00 PM
Inst Blank(If applicable):		
Method: 8082	Matrix: Aqueous	QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	1	820.696	0	1000	82	40	140
Aroclor-1260 -Total	1	864.648	0	1000	86	40	140

Data File	Sample ID:	Analysis Date
Spike or Dup: 2G112834.D	AC91036-001(MSD)	5/6/2016 4:38:00 PM
Non Spike(If applicable): 2G112792.D	AC91036-001	5/4/2016 7:07:00 PM
Inst Blank(If applicable):		
Method: 8082	Matrix: Aqueous	QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	1	775.844	0	1000	78	40	140
Aroclor-1260 -Total	1	835.242	0	1000	84	40	140

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

**Form3
RPD Data**

QC Batch: WMB50025

Data File	Sample ID:	Analysis Date
Spike or Dup: 2G112834.D	AC91036-001(MSD)	5/6/2016 4:38:00 PM
Duplicate(if applicable): 2G112833.D	AC91036-001(MS)	5/6/2016 4:23:00 PM
Inst Blank(if applicable):		
Method: 8082	Matrix: Aqueous	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD	Sample/MS/MBS	RPD	Limit
		Conc	Conc		
Aroclor-1016 -Total	1	775.844	820.696	5.6	20
Aroclor-1260 -Total	1	835.242	864.648	3.5	20
* - Indicates outside of limits		NA - Both concentrations=0... no result can be calculated			

FORM 4
Blank SummaryBlank Number: WMB50025
Blank Data File: 2G112806.D
Matrix: AqueousBlank Analysis Date: 05/05/16 15:03
Blank Extraction Date: 05/04/16
(If Applicable)
Method: EPA 8082A

Sample Number	Data File	Analysis Date
AC91036-001	2G112792.D	05/04/16 19:07
AC91036-003	2G112800.D	05/05/16 11:25
AC91036-001(MSD)	2G112834.D	05/06/16 16:38
AC91036-001(MS)	2G112833.D	05/06/16 16:23
WMB50025(MS)	2G112790.D	05/04/16 18:36

Form 5

Method: EPA 8082A

Instrument: GC_2

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
2G112522.D	BLK	04/27/16 17:38	Soil					
2G112523.D	BLK	04/27/16 17:53	Soil					
2G112524.D	BLK	04/27/16 18:09	Soil					
2G112525.D	CAL 3268@500PPB	04/27/16 18:24	Soil	2G11253	10.0402	0.003	10.6396	0.0132
2G112526.D	CAL 1242@500PPB	04/27/16 18:40	Soil	2G11253	10.0405	0.006	10.6405	0.0216
2G112527.D	CAL 1248@500PPB	04/27/16 18:55	Soil	2G11253	10.0387	0.012	10.6389	0.0066
2G112528.D	CAL 2154@500PPB	04/27/16 19:10	Soil	2G11253	10.0383	0.0159	10.6395	0.0122
2G112529.D	CAL 1262@500PPB	04/27/16 19:26	Soil	2G11253	10.0383	0.0159	10.6379	0.0028
2G112530.D	CAL 1660@50PPB	04/27/16 19:41	Soil	2G11253	10.0399	0	10.6382	0
2G112531.D	CAL 1660@200PPB	04/27/16 19:56	Soil	2G11253	10.0402	0.003	10.6386	0.0038
2G112532.D	CAL 1660@500PPB	04/27/16 20:12	Soil	2G11253	10.0381	0.0179	10.6380	0.0019
2G112533.D	CAL 1660@1000PPB	04/27/16 20:27	Soil	2G11253	10.0392	0.007	10.6377	0.0047
2G112534.D	CAL 1660@2000PPB	04/27/16 20:43	Soil	2G11253	10.0390	0.009	10.6385	0.0028
2G112535.D	CAL 1660@4000PPB	04/27/16 20:58	Soil	2G11253	10.0395	0.004	10.6373	0.0085
2G112536.D	ICV	04/27/16 21:13	Soil	2G11253	10.0396	0.003	10.6385	0.0028
2G112537.D	PEST WS	04/27/16 21:29	Soil	2G11253	0.0000	200 *	0.0000	200 *
2G112538.D	CAL 1660@2000PPB	04/27/16 21:44	Soil	2G11253	10.0391	0.008	10.6386	0.0038
2G112539.D	SMB49963	04/27/16 21:59	Soil	2G11253	10.0372	0.0189	10.6391	0.0047
2G112540.D	SMB49963(MS)	04/27/16 22:15	Soil	2G11253	10.0379	0.012	10.6375	0.0103
2G112541.D	SMB49964	04/27/16 22:30	Soil	2G11253	10.0367	0.0239	10.6354	0.0301
2G112542.D	SMB49964(MS)	04/27/16 22:45	Soil	2G11253	10.0376	0.0149	10.6382	0.0038
2G112543.D	AC90934-001(MS)	04/27/16 23:01	Soil	2G11253	10.0380	0.011	10.6373	0.0122
2G112544.D	AC90934-001(MSD)	04/27/16 23:16	Soil	2G11253	10.0367	0.0239	10.6359	0.0254
2G112545.D	AC90934-001	04/27/16 23:31	Soil	2G11253	10.0371	0.0199	10.6367	0.0179
2G112546.D	AC90956-001(MS)	04/27/16 23:46	Soil	2G11253	10.0389	0.002	10.6388	0.0019
2G112547.D	AC90956-001(MSD)	04/28/16 00:02	Soil	2G11253	10.0381	0.01	10.6379	0.0066
2G112548.D	AC90956-001	04/28/16 00:17	Soil	2G11253	10.0369	0.0219	10.6377	0.0085
2G112549.D	AC90935-001	04/28/16 00:32	Soil	2G11253	10.0367	0.0239	10.6356	0.0282
2G112550.D	AC90936-001	04/28/16 00:48	Soil	2G11253	10.0360	0.0309	10.6364	0.0207
2G112551.D	AC90892-001	04/28/16 01:03	Soil	2G11253	10.0374	0.0169	10.6367	0.0179
2G112552.D	AC90892-002	04/28/16 01:18	Soil	2G11253	10.0375	0.0159	10.6370	0.015
2G112553.D	AC90892-003	04/28/16 01:34	Soil	2G11253	10.0372	0.0189	10.6369	0.016
2G112554.D	AC90884-001	04/28/16 01:49	Soil	2G11253	10.0387	0.004	10.6374	0.0113
2G112555.D	AC90979-003	04/28/16 02:04	Soil	2G11253	10.0378	0.0129	10.6380	0.0056
2G112556.D	AC90871-007	04/28/16 02:20	Soil	2G11253	10.0365	0.0259	10.6371	0.0141
2G112557.D	AC90871-006	04/28/16 02:35	Soil	2G11253	10.0368	0.0229	10.6366	0.0188
2G112558.D	AC90926-008	04/28/16 02:50	Soil	2G11253	10.0372	0.0189	10.6370	0.015
2G112559.D	CAL 1660@1000PPB	04/28/16 03:06	Soil	2G11253	10.0371	0.0199	10.6380	0.0056
2G112560.D	2000PPB	04/28/16 03:21	Soil	2G11255	10.0369	0.002	10.6367	0.0122
2G112561.D	AC90951-004	04/28/16 03:36	Soil	2G11255	10.0368	0.003	10.6363	0.016
2G112562.D	AC90951-001	04/28/16 03:52	Soil	2G11255	10.0379	0.008	10.6360	0.0188
2G112563.D	AC90950-003	04/28/16 04:07	Soil	2G11255	10.0372	0.001	10.6361	0.0179
2G112564.D	AC90950-002	04/28/16 04:22	Soil	2G11255	10.0370	0.001	10.6374	0.0056
2G112565.D	AC90950-001	04/28/16 04:38	Soil	2G11255	10.0361	0.01	10.6367	0.0122
2G112566.D	AC90884-002	04/28/16 04:53	Soil	2G11255	10.0377	0.006	10.6377	0.0028
2G112567.D	AC90956-002	04/28/16 05:08	Soil	2G11255	10.0369	0.002	10.6366	0.0132
2G112568.D	AC90956-003	04/28/16 05:24	Soil	2G11255	10.0361	0.01	10.6361	0.0179
2G112569.D	AC90956-004	04/28/16 05:39	Soil	2G11255	10.0382	0.011	10.6380	0
2G112570.D	AC90956-005	04/28/16 05:54	Soil	2G11255	10.0383	0.012	10.6374	0.0056
2G112571.D	AC90956-006	04/28/16 06:10	Soil	2G11255	10.0384	0.0129	10.6371	0.0085
2G112572.D	AC90956-007	04/28/16 06:25	Soil	2G11255	10.0385	0.0139	10.6384	0.0038
2G112573.D	AC90956-008	04/28/16 06:40	Soil	2G11255	10.0374	0.003	10.6378	0.0019
2G112574.D	AC90956-009	04/28/16 06:56	Soil	2G11255	10.0371	0	10.6374	0.0056
2G112575.D	AC90901-001	04/28/16 07:11	Soil	2G11255	10.0382	0.011	10.6371	0.0085
2G112576.D	AC90901-003	04/28/16 07:27	Soil	2G11255	10.0394	0.0229	10.6378	0.0019
2G112577.D	AC90901-005	04/28/16 07:42	Soil	2G11255	10.0376	0.005	10.6375	0.0047
2G112578.D	AC90901-007	04/28/16 07:58	Soil	2G11255	10.0380	0.009	10.6377	0.0028
2G112579.D	AC90901-009	04/28/16 08:13	Soil	2G11255	10.0383	0.012	10.6366	0.0132
2G112580.D	AC90901-011	04/28/16 08:29	Soil	2G11255	10.0383	0.012	10.6371	0.0085
2G112581.D	CAL 1660@1000PPB	04/28/16 08:44	Soil	2G11255	10.0370	0.001	10.6375	0.0047
2G112582.D	2000PPB	04/28/16 08:59	Soil	2G11258	10.0388	0.0179	10.6378	0.0028

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)
HAZ. - 744

* - Values outside of limits for this column/run

Form 5

Method: EPA 8082A

Instrument: GC_2

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
2G112773.D	CAL 1660@1000PPB	05/04/16 09:54	Soil	2G11277	10.0321	0	10.6440	0
2G112774.D	MDL-3268	05/04/16 11:42	Aqueous	2G11277	10.0394	0.0727	10.6446	0.0056
2G112775.D	MDL-1242	05/04/16 11:57	Aqueous	2G11277	10.0351	0.0299	10.6461	0.0197
2G112776.D	MDL-1248	05/04/16 12:13	Aqueous	2G11277	10.0350	0.0289	10.6472	0.0301
2G112777.D	MDL-2154	05/04/16 12:28	Aqueous	2G11277	10.0359	0.0379	10.6483	0.0404
2G112778.D	MDL-1262	05/04/16 12:44	Aqueous	2G11277	10.0355	0.0339	10.6477	0.0348
2G112779.D	RL-VERI-1660	05/04/16 12:59	Aqueous	2G11277	10.0347	0.0259	10.6472	0.0301
2G112780.D	SMB50003	05/04/16 13:15	Soil	2G11277	10.0346	0.0249	10.6469	0.0272
2G112781.D	MDL-3268	05/04/16 13:30	Soil	2G11277	10.0325	0.004	10.6464	0.0225
2G112782.D	MDL-1242	05/04/16 13:45	Soil	2G11277	10.0338	0.0169	10.6459	0.0178
2G112783.D	MDL-1248	05/04/16 14:01	Soil	2G11277	10.0345	0.0239	10.6472	0.0301
2G112784.D	MDL-2154	05/04/16 14:16	Soil	2G11277	10.0339	0.0179	10.6472	0.0301
2G112785.D	MDL-1262	05/04/16 14:32	Soil	2G11277	10.0345	0.0239	10.6467	0.0254
2G112786.D	MDL-1660	05/04/16 14:47	Soil	2G11277	10.0335	0.014	10.6456	0.015
2G112787.D	AC91091-005(10X)	05/04/16 15:02	Soil	2G11277	10.0355	0.0339	10.6478	0.0357
2G112788.D	CAL 1660@1000PPB	05/04/16 15:18	Soil	2G11277	10.0343	0.0219	10.6471	0.0291
2G112789.D	TEST	05/04/16 16:15	Soil	2G11278	10.0394	0.0508	10.6461	0.0094
2G112790.D	WMB50025(MS)	05/04/16 18:36	Aqueous	2G11278	10.0384	0.0408	10.6451	0.0188
2G112791.D	AC91120-002	05/04/16 18:52	Aqueous	2G11278	10.0325	0.0179	10.6439	0.0301
2G112792.D	AC91036-001	05/04/16 19:07	Aqueous	2G11278	10.0335	0.008	10.6445	0.0244
2G112793.D	AC91036-003	05/04/16 19:22	Aqueous	2G11278	10.0345	0.002	10.6462	0.0085
2G112794.D	AC91042-004	05/04/16 19:38	Aqueous	2G11278	10.0322	0.0209	10.6439	0.0301
2G112795.D	AC91041-008	05/04/16 19:53	Aqueous	2G11278	10.0341	0.002	10.6478	0.0066
2G112796.D	PCB MDL 1660	05/04/16 20:08	Aqueous	2G11278	10.0347	0.004	10.6471	0
2G112797.D	CAL 1660@1000PPB	05/04/16 20:24	Aqueous	2G11278	10.0331	0.012	10.6455	0.015

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)
HAZ. - 745

* - Values outside of limits for this column/run

Form 5

Method: EPA 8082A

Instrument: GC_2

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
2G112798.D	CAL 1660@1000PPB	05/05/16 10:53	Aqueous	2G11279	10.0364	0	10.6492	0
2G112799.D	AC91035-001	05/05/16 11:09	Aqueous	2G11279	10.0349	0.0149	10.6458	0.0319
2G112800.D	AC91036-003	05/05/16 11:25	Aqueous	2G11279	10.0348	0.0159	10.6471	0.0197
2G112801.D	1000	05/05/16 11:40	Aqueous	2G11279	10.0359	0.005	10.6488	0.0038
2G112802.D	SMB50034	05/05/16 13:45	Soil	2G11279	10.0404	0.0398	10.6466	0.0244
2G112803.D	SMB50034(MS)	05/05/16 14:00	Soil	2G11279	10.0350	0.014	10.6463	0.0272
2G112804.D	AC91119-002	05/05/16 14:16	Soil	2G11279	10.0348	0.0159	10.6473	0.0178
2G112805.D	CAL 1660@1000PPB	05/05/16 14:48	Soil	2G11279	10.0410	0.0458	10.6491	0.0009
2G112806.D	WMB50025	05/05/16 15:03	Aqueous	2G11280	10.0366	0.0438	10.6484	0.0066
2G112807.D	AC91158-001(MS)	05/05/16 16:11	Soil	2G11280	10.0413	0.003	10.6466	0.0235
2G112808.D	AC91158-001(MSD)	05/05/16 16:27	Soil	2G11280	10.0348	0.0618	10.6460	0.0291
2G112809.D	AC91158-001	05/05/16 16:42	Soil	2G11280	10.0338	0.0717	10.6450	0.0385
2G112810.D	AC91152-002	05/05/16 16:58	Soil	2G11280	10.0329	0.0807	10.6447	0.0413
2G112811.D	AC91102-001	05/05/16 17:13	Soil	2G11280	10.0341	0.0687	10.6472	0.0178
2G112812.D	AC90897-018	05/05/16 17:29	Soil	2G11280	10.0349	0.0608	10.6461	0.0282
2G112813.D	AC91061-001	05/05/16 17:44	Soil	2G11280	10.0352	0.0578	10.6491	0
2G112814.D	AC91118-001	05/05/16 17:59	Soil	2G11280	10.0349	0.0608	10.6467	0.0225
2G112815.D	AC91042-001	05/05/16 18:15	Soil	2G11280	10.0348	0.0618	10.6478	0.0122
2G112816.D	AC91042-002	05/05/16 18:30	Soil	2G11280	10.0353	0.0568	10.6480	0.0103
2G112817.D	AC91042-003	05/05/16 18:45	Soil	2G11280	10.0340	0.0697	10.6455	0.0338
2G112818.D	AC91155-001	05/05/16 19:01	Soil	2G11280	10.0328	0.0817	10.6460	0.0291
2G112819.D	CAL 1660@1000PPB	05/05/16 19:16	Soil	2G11280	10.0352	0.0578	10.6481	0.0094
2G112820.D	2000PPB	05/05/16 19:31	Soil	2G11281	10.0339	0.013	10.6461	0.0188
2G112821.D	AC91061-002	05/05/16 19:47	Soil	2G11281	10.0374	0.0219	10.6518	0.0347
2G112822.D	1000	05/05/16 20:02	Soil	2G11281	10.0354	0.002	0.0000	200*

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)
HAZ. - 746

* - Values outside of limits for this column/run

Form 5

Method: EPA 8082A

Instrument: GC_2

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
2G112823.D	CAL 1660@1000PPB	05/06/16 09:05	Soil	2G11282	10.0333	0	10.6456	0
2G112824.D	AC91061-002	05/06/16 09:35	Soil	2G11282	10.0443	0.1096	10.6548	0.0864
2G112825.D	OMB50048	05/06/16 11:09	OIL/OTHER	2G11282	10.0410	0.0767	10.6456	0
2G112826.D	OMB50048(MS)	05/06/16 11:25	OIL/OTHER	2G11282	10.0350	0.0169	10.6456	0
2G112827.D	AC91120-001	05/06/16 11:40	OIL/OTHER	2G11282	10.0359	0.0259	10.6458	0.0019
2G112828.D	AC91162-001	05/06/16 11:55	OIL/OTHER	2G11282	10.0398	0.0648	10.6506	0.047
2G112829.D	AC91120-001(MS)	05/06/16 12:11	OIL/OTHER	2G11282	10.0372	0.0389	10.6483	0.0254
2G112830.D	AC91120-001(MSD)	05/06/16 12:26	OIL/OTHER	2G11282	10.0360	0.0269	10.6465	0.0084
2G112831.D	CAL 1660@1000PPB	05/06/16 12:42	OIL/OTHER	2G11282	10.0349	0.0159	10.6477	0.0197
2G112832.D	50048	05/06/16 13:57	OIL/OTHER	2G11283	10.0428	0.0787	10.6490	0.0122
2G112833.D	AC91036-001(MS)	05/06/16 16:23	Aqueous	2G11283	10.0418	0.0687	10.6475	0.0019
2G112834.D	AC91036-001(MSD)	05/06/16 16:38	Aqueous	2G11283	10.0359	0.01	10.6463	0.0131
2G112835.D	CAL 1660@1000PPB	05/06/16 16:54	Aqueous	2G11283	10.0342	0.007	10.6455	0.0207

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5 (Herb/Tph)
HAZ. - 747

* - Values outside of limits for this column/run

Compound	Col Nr	Fit	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	
CMX-Surrogate	1	0	Avg	0.4492	0.4190	0.4564	0.4502	0.4502	0.4356	---	0.443	3.82	1.00	1.00	3.1	5.00	20.00	50.00	100.00	200.00	400.00	---	---	
Aroclor-1016	1	1	Qus	0.0164	0.0139	0.0144	0.0131	0.0121	0.0109	---	0.0135	4.33	0.996	1.00	14	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1016	2	2	Qus	0.0312	0.0284	0.0265	0.0236	0.0215	0.0191	---	0.0251	4.70	0.995	1.00	18	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1016	3	3	Qus	0.0534	0.0461	0.0437	0.0394	0.0360	0.0321	---	0.0418	5.16	0.995	1.00	18	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1016	4	4	Qus	0.0162	0.0151	0.0150	0.0140	0.0132	0.0122	---	0.0143	5.40	0.998	1.00	10	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1016	5	5	Qus	0.0386	0.0355	0.0350	0.0323	0.0305	0.0281	---	0.0334	5.52	0.998	1.00	11	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1260	1	1	Qus	0.0322	0.0281	0.0272	0.0247	0.0230	0.0210	---	0.0261	7.02	0.997	1.00	15	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1260	2	2	Qus	0.0359	0.0312	0.0301	0.0273	0.0253	0.0229	---	0.0288	7.27	0.997	1.00	16	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1260	3	3	Qus	0.0184	0.0162	0.0168	0.0161	0.0159	0.0155	---	0.0165	7.47	1.00	1.00	6.2	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1260	4	4	Qus	0.0227	0.0199	0.0189	0.0171	0.0158	0.0143	---	0.0181	8.05	0.996	1.00	17	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1260	5	5	Qus	0.0340	0.0311	0.0293	0.0282	0.0273	0.0260	---	0.0294	8.77	0.999	1.00	9.7	50.00	200.00	500.00	1000.00	2000.00	4000.00	---	---	
Aroclor-1221	1	1	Avg	---	---	---	---	---	---	---	0.00708	4.13	-1	-1	Lvl=10	500.0	---	---	---	---	---	---	---	
Aroclor-1221	2	2	Avg	---	---	---	---	---	---	---	0.00400	4.27	-1	-1	Lvl=10	500.0	---	---	---	---	---	---	---	---
Aroclor-1221	3	3	Avg	---	---	---	---	---	---	---	0.0196	4.33	-1	-1	Lvl=10	500.0	---	---	---	---	---	---	---	---
Aroclor-1232	1	1	Avg	---	---	---	---	---	---	---	0.0134	4.34	-1	-1	Lvl=7	500.0	---	---	---	---	---	---	---	---
Aroclor-1232	2	2	Avg	---	---	---	---	---	---	---	0.0121	4.70	-1	-1	Lvl=7	500.0	---	---	---	---	---	---	---	---
Aroclor-1232	3	3	Avg	---	---	---	---	---	---	---	0.0188	5.16	-1	-1	Lvl=7	500.0	---	---	---	---	---	---	---	---
Aroclor-1232	4	4	Avg	---	---	---	---	---	---	---	0.00883	5.29	-1	-1	Lvl=7	500.0	---	---	---	---	---	---	---	---
Aroclor-1232	5	5	Avg	---	---	---	---	---	---	---	0.00943	5.76	-1	-1	Lvl=7	500.0	---	---	---	---	---	---	---	---
Aroclor-1242	1	1	Avg	---	---	---	---	---	---	---	0.0133	4.33	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---	---
Aroclor-1242	2	2	Avg	---	---	---	---	---	---	---	0.0226	4.70	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---	---
Aroclor-1242	3	3	Avg	---	---	---	---	---	---	---	0.0374	5.16	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---	---
Aroclor-1242	4	4	Avg	---	---	---	---	---	---	---	0.0284	5.51	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---	---
Aroclor-1242	5	5	Avg	---	---	---	---	---	---	---	0.0170	5.76	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---	---
Aroclor-1248	1	1	Avg	---	---	---	---	---	---	---	0.0112	4.70	-1	-1	Lvl=9	500.0	---	---	---	---	---	---	---	---
Aroclor-1248	2	2	Avg	---	---	---	---	---	---	---	0.0229	5.16	-1	-1	Lvl=9	500.0	---	---	---	---	---	---	---	---
Aroclor-1248	3	3	Avg	---	---	---	---	---	---	---	0.0418	5.50	-1	-1	Lvl=9	500.0	---	---	---	---	---	---	---	---
Aroclor-1248	4	4	Avg	---	---	---	---	---	---	---	0.0225	5.86	-1	-1	Lvl=9	500.0	---	---	---	---	---	---	---	---
Aroclor-1248	5	5	Avg	---	---	---	---	---	---	---	0.0241	6.46	-1	-1	Lvl=9	500.0	---	---	---	---	---	---	---	---
Aroclor-1254	1	1	Avg	---	---	---	---	---	---	---	0.00998	6.65	-1	-1	Lvl=10	500.0	---	---	---	---	---	---	---	---
Aroclor-1254	2	2	Avg	---	---	---	---	---	---	---	0.0320	6.86	-1	-1	Lvl=10	500.0	---	---	---	---	---	---	---	---
Aroclor-1254	3	3	Avg	---	---	---	---	---	---	---	0.0205	7.02	-1	-1	Lvl=10	500.0	---	---	---	---	---	---	---	---
Aroclor-1254	4	4	Avg	---	---	---	---	---	---	---	0.0268	7.13	-1	-1	Lvl=10	500.0	---	---	---	---	---	---	---	---
Aroclor-1254	5	5	Avg	---	---	---	---	---	---	---	0.0122	7.52	-1	-1	Lvl=10	500.0	---	---	---	---	---	---	---	---
Aroclor-1262	1	1	Avg	---	---	---	---	---	---	---	0.0306	7.69	-1	-1	Lvl=11	500.0	---	---	---	---	---	---	---	---
Aroclor-1262	2	2	Avg	---	---	---	---	---	---	---	0.0175	8.70	-1	-1	Lvl=11	500.0	---	---	---	---	---	---	---	---

Avg Rsd Col 1: 12.58 Avg Rsd Col 2: 17.94

Flags
c - failed the initial calibration criteria (if applicable)

Note:

Col = Column Number

Mf = MultiPeak Analyte Q=Single Peak Analyte. >M=Multi Peak Analyte (i.e. nch/chlorofane etc.)

Fit = Indicates whether Avg Rf, Linear, or Quadratic Curve was used for compound.

Corr 1 = Correlation Coefficient for linear Fn.

Corr 2 = Correlation Coefficient for quad Fn.

*Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000

Initial Calibration Criteria: either %RSD <=20 or Corr >= .995

Columns: Serial #1 dh-1701 : Serial #2 dh-608

Level #	Data File	Cal Identifier	Analysis Date/Time	Level #	Data File	Cal Identifier	Analysis Date/Time	Avg Rsd	Level #	Cal Identifier	Analysis Date/Time	Avg Rsd	Level #	Cal Identifier	Analysis Date/Time	Avg Rsd	Level #	Cal Identifier	Analysis Date/Time	Avg Rsd																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
1	2G112530.D	CAL 1660@500PPB	04/27/16 19:41	2	2G112531.D	CAL 1660@200PPB	04/27/16 19:56	0.0390 8.76	-1	2G112531.D	CAL 1660@1000PPB	04/27/16 20:27	500.0	1	2G112531.D	CAL 1660@500PPB	04/27/16 19:41	500.0	1	2G112530.D	CAL 1660@500PPB	04/27/16 19:41	500.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
3	2G112532.D	CAL 1660@500PPB	04/27/16 20:12	4	2G112533.D	CAL 1660@1000PPB	04/27/16 20:58	0.0162 9.49	-1	2G112533.D	CAL 1660@4000PPB	04/27/16 18:40	500.0	5	2G112534.D	CAL 1660@2000PPB	04/27/16 18:24	500.0	6	2G112535.D	CAL 1660@500PPB	04/27/16 18:55	500.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
5	2G112534.D	CAL 1660@2000PPB	04/27/16 20:43	6	2G112535.D	CAL 1660@4000PPB	04/27/16 18:40	0.00645 9.83	-1	2G112535.D	CAL 1242@500PPB	04/27/16 18:40	500.0	7	2G112525.D	CAL 3268@500PPB	04/27/16 18:55	500.0	8	2G112526.D	CAL 1242@500PPB	04/27/16 18:55	500.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
7	2G112525.D	CAL 3268@500PPB	04/27/16 18:24	8	2G112526.D	CAL 1242@500PPB	04/27/16 18:40	0.00845 8.04	-1	2G112526.D	CAL 2154@500PPB	04/27/16 19:10	500.0	9	2G112527.D	CAL 1248@500PPB	04/27/16 18:55	500.0	10	2G112528.D	CAL 2154@500PPB	04/27/16 18:55	500.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
9	2G112527.D	CAL 1248@500PPB	04/27/16 18:55	10	2G112528.D	CAL 2154@500PPB	04/27/16 19:10	0.00701 8.37	-1	2G112528.D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
<table border="1"> <thead> <tr> <th>Compound</th> <th>Col</th> <th>Mr</th> <th>Flt</th> <th>RF1</th> <th>RF2</th> <th>RF3</th> <th>RF4</th> <th>RF5</th> <th>RF6</th> <th>RF7</th> <th>RF8</th> <th>AvgRt</th> <th>RT</th> <th>Corr1</th> <th>Corr2</th> <th>%Rsd</th> <th>Lvl1</th> <th>Lvl2</th> <th>Lvl3</th> <th>Lvl4</th> <th>Lvl5</th> <th>Lvl6</th> <th>Lvl7</th> <th>Lvl8</th> </tr> </thead> <tbody> <tr> <td>Aroclor-1262</td> <td>1</td> <td>3</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0390</td> <td>8.76</td> <td>-1</td> <td>-1</td> <td>Lvl=11</td> <td>500.0</td> <td>20.00</td> <td>50.00</td> <td>100.0</td> <td>200.0</td> <td>400.0</td> <td>400.0</td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1262</td> <td>1</td> <td>4</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.0162</td> <td>9.49</td> <td>-1</td> <td>-1</td> <td>Lvl=11</td> 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<td>1</td> <td>5</td> <td>Avg</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>---</td> <td>0.108</td> <td>9.83</td> <td>-1</td> <td>-1</td> <td>Lvl=7</td> <td>500.0</td> <td>20.00</td> <td>50.00</td> <td>100.0</td> <td>200.0</td> <td>400.0</td> <td>400.0</td> <td></td> <td></td> </tr> <tr> <td>DCB-Surrogate</td> <td>1</td> <td>0</td> <td>Que</td> <td>0.4836</td> <td>0.4136</td> <td>0.4002</td> <td>0.3727</td> <td>0.3623</td> <td>0.3511</td> <td>---</td> <td>---</td> <td>0.397</td> <td>10.04</td> <td>1.00</td> <td>1.00</td> <td>12</td> <td>5.00</td> <td>20.00</td> <td>50.00</td> <td>100.0</td> <td>200.0</td> <td>400.0</td> <td>400.0</td> <td></td> <td></td> </tr> <tr> <td>TCMX-Surrogate</td> <td>2</td> <td>0</td> <td>Avg</td> <td>0.9141</td> <td>0.8274</td> <td>0.8382</td> <td>0.8598</td> <td>0.8196</td> <td>0.7669</td> <td>---</td> <td>---</td> <td>0.838</td> <td>3.80</td> <td>0.998</td> <td>1.00</td> <td>5.8</td> <td>5.00</td> <td>20.00</td> <td>50.00</td> <td>100.0</td> <td>200.0</td> <td>400.0</td> <td>400.0</td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1016</td> <td>2</td> <td>1</td> <td>Que</td> <td>0.0243</td> <td>0.0232</td> <td>0.0223</td> <td>0.0204</td> <td>0.0193</td> <td>0.0169</td> <td>---</td> <td>---</td> <td>0.0211</td> <td>4.40</td> <td>0.995</td> <td>1.00</td> <td>13</td> <td>50.00</td> <td>200.0</td> <td>500.0</td> <td>1000.</td> <td>2000.</td> <td>4000.</td> <td>4000.</td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1016</td> <td>2</td> <td>2</td> <td>Que</td> <td>0.0513</td> <td>0.0475</td> <td>0.0433</td> <td>0.0376</td> <td>0.0334</td> <td>0.0290</td> <td>---</td> <td>---</td> <td>0.0404</td> <td>4.82</td> <td>0.992</td> <td>0.999</td> <td>21</td> <td>50.00</td> <td>200.0</td> <td>500.0</td> <td>1000.</td> <td>2000.</td> <td>4000.</td> <td>4000.</td> <td></td> <td></td> </tr> <tr> <td>Aroclor-1016</td> <td>2</td> <td>3</td> <td>Que</td> <td>0.1057</td> <td>0.0928</td> <td>0.0909</td> 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</table>																							Compound	Col	Mr	Flt	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Aroclor-1262	1	3	Avg	---	---	---	---	---	---	---	---	0.0390	8.76	-1	-1	Lvl=11	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1262	1	4	Avg	---	---	---	---	---	---	---	---	0.0162	9.49	-1	-1	Lvl=11	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1262	1	5	Avg	---	---	---	---	---	---	---	---	0.00645	9.83	-1	-1	Lvl=11	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1268	1	1	Avg	---	---	---	---	---	---	---	---	0.00845	8.04	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1268	1	2	Avg	---	---	---	---	---	---	---	---	0.00701	8.37	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1268	1	3	Avg	---	---	---	---	---	---	---	---	0.0441	8.93	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1268	1	4	Avg	---	---	---	---	---	---	---	---	0.0176	9.03	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1268	1	5	Avg	---	---	---	---	---	---	---	---	0.108	9.83	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			DCB-Surrogate	1	0	Que	0.4836	0.4136	0.4002	0.3727	0.3623	0.3511	---	---	0.397	10.04	1.00	1.00	12	5.00	20.00	50.00	100.0	200.0	400.0	400.0			TCMX-Surrogate	2	0	Avg	0.9141	0.8274	0.8382	0.8598	0.8196	0.7669	---	---	0.838	3.80	0.998	1.00	5.8	5.00	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1016	2	1	Que	0.0243	0.0232	0.0223	0.0204	0.0193	0.0169	---	---	0.0211	4.40	0.995	1.00	13	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1016	2	2	Que	0.0513	0.0475	0.0433	0.0376	0.0334	0.0290	---	---	0.0404	4.82	0.992	0.999	21	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1016	2	3	Que	0.1057	0.0928	0.0909	0.0801	0.0731	0.0649	---	---	0.0846	5.20	0.995	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1016	2	4	Que	0.0462	0.0393	0.0380	0.0336	0.0305	0.0272	---	---	0.0359	5.53	0.995	1.00	19	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1016	2	5	Que	0.0326	0.0282	0.0272	0.0242	0.0223	0.0197	---	---	0.0258	5.90	0.995	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1260	2	1	Que	0.0775	0.0635	0.0585	0.0505	0.0445	0.0390	---	---	0.0556	7.21	0.993	0.999	25	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1260	2	2	Que	0.0828	0.0676	0.0645	0.0557	0.0495	0.0434	---	---	0.0606	7.29	0.993	0.999	23	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1260	2	3	Que	0.0448	0.0334	0.0315	0.0277	0.0252	0.0231	---	---	0.0310	7.92	0.997	1.00	25	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1260	2	4	Que	0.0683	0.0564	0.0563	0.0501	0.0465	0.0433	---	---	0.0540	8.28	0.998	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1260	2	5	Que	0.0598	0.0554	0.0514	0.0462	0.0438	0.0412	---	---	0.0497	8.98	0.999	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.	4000.			Aroclor-1221	2	1	Avg	---	---	---	---	---	---	---	---	0.0120	4.18	-1	-1	Lvl=10	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1221	2	2	Avg	---	---	---	---	---	---	---	---	0.00732	4.33	-1	-1	Lvl=10	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1221	2	3	Avg	---	---	---	---	---	---	---	---	0.0261	4.40	-1	-1	Lvl=10	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1232	2	1	Avg	---	---	---	---	---	---	---	---	0.0190	4.40	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1232	2	2	Avg	---	---	---	---	---	---	---	---	0.0205	4.82	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1232	2	3	Avg	---	---	---	---	---	---	---	---	0.0379	5.20	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1232	2	4	Avg	---	---	---	---	---	---	---	---	0.0170	5.53	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1232	2	5	Avg	---	---	---	---	---	---	---	---	0.0124	6.04	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1242	2	1	Avg	---	---	---	---	---	---	---	---	0.0213	4.40	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1242	2	2	Avg	---	---	---	---	---	---	---	---	0.0371	4.82	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1242	2	3	Avg	---	---	---	---	---	---	---	---	0.0736	5.20	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1242	2	4	Avg	---	---	---	---	---	---	---	---	0.0309	5.53	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1242	2	5	Avg	---	---	---	---	---	---	---	---	0.0255	5.90	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1248	2	1	Avg	---	---	---	---	---	---	---	---	0.0179	4.82	-1	-1	Lvl=9	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1248	2	2	Avg	---	---	---	---	---	---	---	---	0.0468	5.20	-1	-1	Lvl=9	500.0	20.00	50.00	100.0	200.0	400.0	400.0			Aroclor-1248	2	3	Avg	---	---	---	---	---	---	---	---	0.0335	5.53	-1	-1	Lvl=9	500.0	20.00	50.00	100.0	200.0	400.0	400.0		
Compound	Col	Mr	Flt	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Aroclor-1262	1	3	Avg	---	---	---	---	---	---	---	---	0.0390	8.76	-1	-1	Lvl=11	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1262	1	4	Avg	---	---	---	---	---	---	---	---	0.0162	9.49	-1	-1	Lvl=11	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1262	1	5	Avg	---	---	---	---	---	---	---	---	0.00645	9.83	-1	-1	Lvl=11	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1268	1	1	Avg	---	---	---	---	---	---	---	---	0.00845	8.04	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1268	1	2	Avg	---	---	---	---	---	---	---	---	0.00701	8.37	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1268	1	3	Avg	---	---	---	---	---	---	---	---	0.0441	8.93	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1268	1	4	Avg	---	---	---	---	---	---	---	---	0.0176	9.03	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1268	1	5	Avg	---	---	---	---	---	---	---	---	0.108	9.83	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
DCB-Surrogate	1	0	Que	0.4836	0.4136	0.4002	0.3727	0.3623	0.3511	---	---	0.397	10.04	1.00	1.00	12	5.00	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
TCMX-Surrogate	2	0	Avg	0.9141	0.8274	0.8382	0.8598	0.8196	0.7669	---	---	0.838	3.80	0.998	1.00	5.8	5.00	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1016	2	1	Que	0.0243	0.0232	0.0223	0.0204	0.0193	0.0169	---	---	0.0211	4.40	0.995	1.00	13	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1016	2	2	Que	0.0513	0.0475	0.0433	0.0376	0.0334	0.0290	---	---	0.0404	4.82	0.992	0.999	21	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1016	2	3	Que	0.1057	0.0928	0.0909	0.0801	0.0731	0.0649	---	---	0.0846	5.20	0.995	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1016	2	4	Que	0.0462	0.0393	0.0380	0.0336	0.0305	0.0272	---	---	0.0359	5.53	0.995	1.00	19	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1016	2	5	Que	0.0326	0.0282	0.0272	0.0242	0.0223	0.0197	---	---	0.0258	5.90	0.995	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1260	2	1	Que	0.0775	0.0635	0.0585	0.0505	0.0445	0.0390	---	---	0.0556	7.21	0.993	0.999	25	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1260	2	2	Que	0.0828	0.0676	0.0645	0.0557	0.0495	0.0434	---	---	0.0606	7.29	0.993	0.999	23	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1260	2	3	Que	0.0448	0.0334	0.0315	0.0277	0.0252	0.0231	---	---	0.0310	7.92	0.997	1.00	25	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1260	2	4	Que	0.0683	0.0564	0.0563	0.0501	0.0465	0.0433	---	---	0.0540	8.28	0.998	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1260	2	5	Que	0.0598	0.0554	0.0514	0.0462	0.0438	0.0412	---	---	0.0497	8.98	0.999	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.	4000.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1221	2	1	Avg	---	---	---	---	---	---	---	---	0.0120	4.18	-1	-1	Lvl=10	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1221	2	2	Avg	---	---	---	---	---	---	---	---	0.00732	4.33	-1	-1	Lvl=10	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1221	2	3	Avg	---	---	---	---	---	---	---	---	0.0261	4.40	-1	-1	Lvl=10	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1232	2	1	Avg	---	---	---	---	---	---	---	---	0.0190	4.40	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1232	2	2	Avg	---	---	---	---	---	---	---	---	0.0205	4.82	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1232	2	3	Avg	---	---	---	---	---	---	---	---	0.0379	5.20	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1232	2	4	Avg	---	---	---	---	---	---	---	---	0.0170	5.53	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1232	2	5	Avg	---	---	---	---	---	---	---	---	0.0124	6.04	-1	-1	Lvl=7	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1242	2	1	Avg	---	---	---	---	---	---	---	---	0.0213	4.40	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1242	2	2	Avg	---	---	---	---	---	---	---	---	0.0371	4.82	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1242	2	3	Avg	---	---	---	---	---	---	---	---	0.0736	5.20	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1242	2	4	Avg	---	---	---	---	---	---	---	---	0.0309	5.53	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1242	2	5	Avg	---	---	---	---	---	---	---	---	0.0255	5.90	-1	-1	Lvl=8	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1248	2	1	Avg	---	---	---	---	---	---	---	---	0.0179	4.82	-1	-1	Lvl=9	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1248	2	2	Avg	---	---	---	---	---	---	---	---	0.0468	5.20	-1	-1	Lvl=9	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Aroclor-1248	2	3	Avg	---	---	---	---	---	---	---	---	0.0335	5.53	-1	-1	Lvl=9	500.0	20.00	50.00	100.0	200.0	400.0	400.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

Flags
c - failed the initial calibration criteria (if applicable)

Note:
Col = Column Number
Mr = Molar Mass Analyte (single peak analyte, multi peak analyte (i.e. nch/chlordane etc.))
Flt = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear fit.
Corr 2 = Correlation Coefficient for quad fit.
Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
Initial Calibration Criteria: either %RSD <= 20 or Corr >= .995
Columns: Signal #1 dh-1701 ; Signal #2 dh-608

Level #	Data File	Cal Identifier	Analysis Date/Time	Level #	Data File	Cal Identifier	Analysis Date/Time	Level #	RT	Corr1	Corr2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8			
1	2G112530.D	CAL 1660@500PPB	04/27/16 19:41	2	2G112531.D	CAL 1660@200PPB	04/27/16 19:56	10	20.00	50.00	100.0	200.0	400.0										
3	2G112532.D	CAL 1660@500PPB	04/27/16 20:12	4	2G112533.D	CAL 1660@1000PPB	04/27/16 20:27																
5	2G112534.D	CAL 1660@2000PPB	04/27/16 20:43	6	2G112535.D	CAL 1660@4000PPB	04/27/16 20:58																
7	2G112525.D	CAL 3268@500PPB	04/27/16 18:24	8	2G112526.D	CAL 1242@500PPB	04/27/16 18:40																
9	2G112527.D	CAL 1248@500PPB	04/27/16 18:55	10	2G112528.D	CAL 2154@500PPB	04/27/16 19:10																
Col M#	Fit	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRt	RT	Corr1	Corr2	%Rsd	LV1	LV2	LV3	LV4	LV5	LV6	LV7	LV8	
Aroclor-1248	2 4 Avg	---	---	---	---	---	---	---	---	0.0357	6.04	-1	-1	LV#9	500.0								
Aroclor-1248	2 5 Avg	---	---	---	---	---	---	---	---	0.0426	6.18	-1	-1	LV#9	500.0								
Aroclor-1254	2 1 Avg	---	---	---	---	---	---	---	---	0.0580	6.40	-1	-1	LV#10	500.0								
Aroclor-1254	2 2 Avg	---	---	---	---	---	---	---	---	0.0182	6.74	-1	-1	LV#10	500.0								
Aroclor-1254	2 3 Avg	---	---	---	---	---	---	---	---	0.0491	7.14	-1	-1	LV#10	500.0								
Aroclor-1254	2 4 Avg	---	---	---	---	---	---	---	---	0.0236	7.65	-1	-1	LV#10	500.0								
Aroclor-1254	2 5 Avg	---	---	---	---	---	---	---	---	0.0262	8.34	-1	-1	LV#10	500.0								
Aroclor-1262	2 1 Avg	---	---	---	---	---	---	---	---	0.0556	7.71	-1	-1	LV#11	500.0								
Aroclor-1262	2 2 Avg	---	---	---	---	---	---	---	---	0.0461	8.87	-1	-1	LV#11	500.0								
Aroclor-1262	2 3 Avg	---	---	---	---	---	---	---	---	0.0548	8.98	-1	-1	LV#11	500.0								
Aroclor-1262	2 4 Avg	---	---	---	---	---	---	---	---	0.0594	9.56	-1	-1	LV#11	500.0								
Aroclor-1262	2 5 Avg	---	---	---	---	---	---	---	---	0.0173	10.10	-1	-1	LV#11	500.0								
Aroclor-1268	2 1 Avg	---	---	---	---	---	---	---	---	0.0122	8.38	-1	-1	LV#7	500.0								
Aroclor-1268	2 2 Avg	---	---	---	---	---	---	---	---	0.0210	8.42	-1	-1	LV#7	500.0								
Aroclor-1268	2 3 Avg	---	---	---	---	---	---	---	---	0.107	9.31	-1	-1	LV#7	500.0								
Aroclor-1268	2 4 Avg	---	---	---	---	---	---	---	---	0.0331	9.47	-1	-1	LV#7	500.0								
Aroclor-1268	2 5 Avg	---	---	---	---	---	---	---	---	0.313	10.10	-1	-1	LV#7	500.0								
DCB-Surrogate	2 0 Qua	1.3574	1.1756	1.1132	1.0167	0.9601	0.8796	---	---	1.08	10.64	0.998	1.00	16	5.00	20.00	50.00	100.0	200.0	400.0			

Avg Rsd Col 1: 12.58 Avg Rsd Col 2: 17.94

Flags
c - failed the initial calibration criteria (if applicable)

Note:
 Col = Column Number
 M# = MultiPeak Analyte (single peak analyte. >= multi peak analyte (i.e. nch/chlorane etc.))
 Fit = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.
 Corr 1 = Correlation Coefficient for linear Fit.
 Corr 2 = Correlation Coefficient for quad Fit.
 ^Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
 Initial Calibration Criteria: either %RSD <= 20 or Corr >= .995
 Columns: Signal #1 dh-1701 ; Signal #2 dh-608

Form 7
Continuing Calibration

Method: EPA 8082A

Data File:
Method:
Calibration Name:
Calibration Date/Time

Compound	Limit	Col	Mr	2G112788.D 8082 CAL 1660@1000PP 05/04/16 15:18			2G112797.D 8082 CAL 1660@1000PP 05/04/16 20:24			2G112798.D 8082 CAL 1660@1000PP 05/05/16 10:53			2G112805.D 8082 CAL 1660@1000PP 05/05/16 14:48			2G112819.D 8082 CAL 1660@1000PP 05/05/16 19:16		
				Conc			Conc			Conc			Conc			Conc		
				Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1	0	98.21	100	1.8	101.7	100	1.7	99.1	100	0.9	104.7	100	4.7	98.68	100	1.3
Aroclor-1016	20	1	1	945.3	1000	5.5	993.1	1000	0.7	890.5	1000	11.0	978.4	1000	2.2	947.8	1000	5.2
Aroclor-1016	20	1	2	963.8	1000	3.6	1001	1000	0.1	958.7	1000	4.1	1005	1000	0.5	971.6	1000	2.8
Aroclor-1016	20	1	3	895.2	1000	10.5	961.0	1000	3.9	838.4	1000	16.2	934.9	1000	6.5	930	1000	7.0
Aroclor-1016	20	1	4	939.1	1000	6.1	1001	1000	0.1	908.5	1000	9.1	976.3	1000	2.4	952.5	1000	4.7
Aroclor-1016	20	1	5	965	1000	3.5	1020	1000	2.0	968.4	1000	3.2	1003	1000	0.3	961.2	1000	3.9
Aroclor-1260	20	1	1	947.6	1000	5.2	976.6	1000	2.3	920.5	1000	8.0	964.9	1000	3.5	956.2	1000	4.4
Aroclor-1260	20	1	2	916.8	1000	8.3	952.1	1000	4.8	873.2	1000	12.7	935	1000	6.5	929.8	1000	7.0
Aroclor-1260	20	1	3	935.3	1000	6.5	961.3	1000	3.9	909	1000	9.1	975.1	1000	2.5	936.1	1000	6.4
Aroclor-1260	20	1	4	905.9	1000	9.4	928.6	1000	7.1	875.1	1000	12.5	942.1	1000	5.8	903.4	1000	9.7
Aroclor-1260	20	1	5	801.2	1000	19.9	822.3	1000	17.8	760.8	1000	23.9*	926.8	1000	7.3	811.0	1000	18.9
DCB-Surrogate	20	1	0	90.78	100	9.2	91.76	100	8.2	84.12	100	15.9	90.3	100	9.7	89.47	100	10.5
Average Difference	20	1	0			7.5			4.4			10.5			4.3			6.8
TCMX-Surrogate	20	2	0	94.45	100	5.6	97.36	100	2.6	95.11	100	4.9	102	100	2.0	97.27	100	2.7
Aroclor-1016	20	2	1	950.7	1000	4.9	1057	1000	5.7	941.1	1000	5.9	1012	1000	1.2	958.1	1000	4.2
Aroclor-1016	20	2	2	988.6	1000	1.1	1024	1000	2.4	977	1000	2.3	1026	1000	2.6	991.5	1000	0.9
Aroclor-1016	20	2	3	974.5	1000	2.5	1014	1000	1.4	960.5	1000	4.0	1006	1000	0.6	979.5	1000	2.0
Aroclor-1016	20	2	4	980.1	1000	2.0	1011	1000	1.1	954.3	1000	4.6	1013	1000	1.3	990.2	1000	1.0
Aroclor-1016	20	2	5	971.7	1000	2.8	1006	1000	0.6	957.6	1000	4.2	1010	1000	1.0	973.8	1000	2.6
Aroclor-1260	20	2	1	989.2	1000	1.1	1035	1000	3.5	969.2	1000	3.1	995.9	1000	0.4	988.8	1000	1.1
Aroclor-1260	20	2	2	990.4	1000	1.0	1037	1000	3.7	965.6	1000	3.4	993.5	1000	0.6	994.1	1000	0.6
Aroclor-1260	20	2	3	1002	1000	0.2	1043	1000	4.3	966.5	1000	3.4	979.7	1000	2.0	986.4	1000	1.4
Aroclor-1260	20	2	4	972.8	1000	2.7	1035	1000	3.5	954.6	1000	4.5	988.6	1000	1.1	973.6	1000	2.6
Aroclor-1260	20	2	5	993.1	1000	0.7	1058	1000	5.8	946.9	1000	5.3	991.5	1000	0.9	971.9	1000	2.8
DCB-Surrogate	20	2	0	94.92	100	5.1	100.5	100	0.5	93.57	100	6.4	100.1	100	0.1	98.19	100	1.8
Average Difference	20	2	0			2.5			2.9			4.3			1.2			2.0

Form 7

Continuing Calibration

Method: EPA 8082A

		Data File:		2G112831.D			2G112835.D								
		Method:		8082			8082								
		Calibration Name:		CAL 1660@1000PP			CAL 1660@1000PP								
		Calibration Date/Time		05/06/16 12:42			05/06/16 16:54								
Compound	Limit	Col	Mr	Conc			Conc			Conc			Conc		
				Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1	0	95.14	100	4.9	104.1	100	4.1						
Aroclor-1016	20	1	1	919.5	1000	8.1	1020	1000	2.0						
Aroclor-1016	20	1	2	953.7	1000	4.6	1036	1000	3.6						
Aroclor-1016	20	1	3	1027	1000	2.7	1071	1000	7.1						
Aroclor-1016	20	1	4	921.5	1000	7.9	1010	1000	1.0						
Aroclor-1016	20	1	5	878.4	1000	12.2	977.6	1000	2.2						
Aroclor-1260	20	1	1	937.3	1000	6.3	1009	1000	0.9						
Aroclor-1260	20	1	2	951.6	1000	4.8	1013	1000	1.3						
Aroclor-1260	20	1	3	865.1	1000	13.5	964.6	1000	3.5						
Aroclor-1260	20	1	4	916.8	1000	8.3	950.8	1000	4.9						
Aroclor-1260	20	1	5	891.2	1000	10.9	838.8	1000	16.1						
DCB-Surrogate	20	1	0	88.11	100	11.9	90.56	100	9.4						
Average Difference	20	1	0			8.0			4.7						
TCMX-Surrogate	20	2	0	95.84	100	4.2	101.7	100	1.7						
Aroclor-1016	20	2	1	914.8	1000	8.5	1041	1000	4.1						
Aroclor-1016	20	2	2	948.2	1000	5.2	1009	1000	0.9						
Aroclor-1016	20	2	3	924.1	1000	7.6	994.7	1000	0.5						
Aroclor-1016	20	2	4	945.9	1000	5.4	1011	1000	1.1						
Aroclor-1016	20	2	5	926.1	1000	7.4	995.5	1000	0.4						
Aroclor-1260	20	2	1	888.4	1000	11.2	965.2	1000	3.5						
Aroclor-1260	20	2	2	884.6	1000	11.5	963.1	1000	3.7						
Aroclor-1260	20	2	3	820	1000	18.0	905.9	1000	9.4						
Aroclor-1260	20	2	4	823.7	1000	17.6	931	1000	6.9						
Aroclor-1260	20	2	5	831.2	1000	16.9	926.3	1000	7.4						
DCB-Surrogate	20	2	0	98.97	100	1.0	87.21	100	12.8						
Average Difference	20	2	0			9.5			4.4						

Flags/Notes:

* - Values outside of limits for this column/run

Form 7
RtWindow Summary

Method: EPA 8082A

Data File:
Calibration Name:
Calibration Date/Time

Compound	Col	Mr	2G112530.D CAL 1660@50PPB 4/27/2016 7:41:00 PM		2G112788.D CAL 1660@1000PPB 5/4/2016 3:18:00 PM		2G112798.D CAL 1660@1000PPB 5/5/2016 10:53:00 AM		2G112805.D CAL 1660@1000PPB 5/5/2016 2:48:00 PM		2G112831.D CAL 1660@1000PPB 5/6/2016 12:42:00 PM	
			Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
TCMX-Surrogate	1	0	3.82	(3.76 - 3.88)	3.82	(3.76 - 3.88)	3.81	(3.75 - 3.87)	3.82	(3.76 - 3.88)	3.82	(3.76 - 3.88)
Aroclor-1016	1	1	4.33	(4.29 - 4.37)	4.33	(4.29 - 4.37)	4.33	(4.29 - 4.37)	4.33	(4.29 - 4.37)	4.33	(4.29 - 4.37)
Aroclor-1016	1	2	4.70	(4.66 - 4.74)	4.69	(4.65 - 4.73)	4.69	(4.65 - 4.73)	4.70	(4.66 - 4.74)	4.69	(4.65 - 4.73)
Aroclor-1016	1	3	5.16	(5.12 - 5.20)	5.15	(5.11 - 5.19)	5.15	(5.11 - 5.19)	5.16	(5.12 - 5.20)	5.15	(5.11 - 5.19)
Aroclor-1016	1	4	5.40	(5.36 - 5.44)	5.40	(5.36 - 5.44)	5.40	(5.36 - 5.44)	5.40	(5.36 - 5.44)	5.40	(5.36 - 5.44)
Aroclor-1016	1	5	5.52	(5.48 - 5.58)	5.51	(5.47 - 5.55)	5.52	(5.48 - 5.58)	5.52	(5.48 - 5.58)	5.52	(5.47 - 5.55)
Aroclor-1260	1	1	7.02	(6.98 - 7.06)	7.02	(6.98 - 7.06)	7.02	(6.98 - 7.06)	7.02	(6.98 - 7.06)	7.02	(6.98 - 7.06)
Aroclor-1260	1	2	7.27	(7.23 - 7.31)	7.26	(7.22 - 7.30)	7.26	(7.22 - 7.30)	7.27	(7.23 - 7.31)	7.26	(7.22 - 7.30)
Aroclor-1260	1	3	7.47	(7.43 - 7.51)	7.46	(7.42 - 7.50)	7.46	(7.42 - 7.50)	7.47	(7.43 - 7.51)	7.46	(7.42 - 7.50)
Aroclor-1260	1	4	8.05	(8.01 - 8.09)	8.05	(8.01 - 8.09)	8.05	(8.01 - 8.09)	8.05	(8.01 - 8.09)	8.05	(8.01 - 8.09)
Aroclor-1260	1	5	8.77	(8.73 - 8.81)	8.77	(8.73 - 8.81)	8.77	(8.73 - 8.81)	8.78	(8.74 - 8.82)	8.77	(8.73 - 8.81)
Aroclor-1221	1	1	4.13	(4.09 - 4.17)								
Aroclor-1221	1	2	4.27	(4.23 - 4.31)								
Aroclor-1221	1	3	4.33	(4.29 - 4.37)								
Aroclor-1232	1	1	4.34	(4.30 - 4.38)								
Aroclor-1232	1	2	4.70	(4.66 - 4.74)								
Aroclor-1232	1	3	5.16	(5.12 - 5.20)								
Aroclor-1232	1	4	5.29	(5.25 - 5.33)								
Aroclor-1232	1	5	5.76	(5.72 - 5.80)								
Aroclor-1242	1	1	4.33	(4.29 - 4.37)								
Aroclor-1242	1	2	4.70	(4.66 - 4.74)								
Aroclor-1242	1	3	5.16	(5.12 - 5.20)								
Aroclor-1242	1	4	5.51	(5.47 - 5.55)								
Aroclor-1242	1	5	5.76	(5.72 - 5.80)								
Aroclor-1248	1	1	4.70	(4.66 - 4.74)								
Aroclor-1248	1	2	5.16	(5.12 - 5.20)								
Aroclor-1248	1	3	5.50	(5.46 - 5.54)								
Aroclor-1248	1	4	5.86	(5.82 - 5.90)								
Aroclor-1248	1	5	6.46	(6.42 - 6.50)								
Aroclor-1254	1	1	6.65	(6.61 - 6.69)								
Aroclor-1254	1	2	6.86	(6.82 - 6.90)								
Aroclor-1254	1	3	7.02	(6.98 - 7.06)								
Aroclor-1254	1	4	7.13	(7.09 - 7.17)								
Aroclor-1254	1	5	7.52	(7.48 - 7.56)								
Aroclor-1262	1	1	7.69	(7.65 - 7.73)								
Aroclor-1262	1	2	8.70	(8.66 - 8.74)								
Aroclor-1262	1	3	8.76	(8.72 - 8.80)								
Aroclor-1262	1	4	9.48	(9.44 - 9.52)								
Aroclor-1262	1	5	9.83	(9.79 - 9.87)								
Aroclor-1268	1	1	8.04	(8.00 - 8.08)								
Aroclor-1268	1	2	8.37	(8.33 - 8.41)								
Aroclor-1268	1	3	8.83	(8.79 - 8.87)								
Aroclor-1268	1	4	9.03	(8.99 - 9.07)								
Aroclor-1268	1	5	9.83	(9.79 - 9.87)								
DCB-Surrogate	1	0	10.04	(9.98 - 10.10)	10.03	(9.97 - 10.09)	10.04	(9.98 - 10.10)	10.04	(9.98 - 10.10)	10.03	(9.97 - 10.09)
TCMX-Surrogate	2	0	3.80	(3.74 - 3.86)	3.80	(3.74 - 3.86)	3.80	(3.74 - 3.86)	3.80	(3.74 - 3.86)	3.80	(3.74 - 3.86)
Aroclor-1016	2	1	4.40	(4.36 - 4.44)	4.40	(4.36 - 4.44)	4.40	(4.36 - 4.44)	4.40	(4.36 - 4.44)	4.40	(4.36 - 4.44)
Aroclor-1016	2	2	4.82	(4.78 - 4.86)	4.82	(4.78 - 4.86)	4.82	(4.78 - 4.86)	4.82	(4.78 - 4.86)	4.82	(4.78 - 4.86)
Aroclor-1016	2	3	5.20	(5.16 - 5.24)	5.21	(5.17 - 5.25)	5.20	(5.16 - 5.24)	5.20	(5.16 - 5.24)	5.21	(5.17 - 5.25)
Aroclor-1016	2	4	5.53	(5.49 - 5.57)	5.53	(5.49 - 5.57)	5.53	(5.49 - 5.57)	5.53	(5.49 - 5.57)	5.53	(5.49 - 5.57)
Aroclor-1016	2	5	5.90	(5.86 - 5.94)	5.90	(5.86 - 5.94)	5.90	(5.86 - 5.94)	5.90	(5.86 - 5.94)	5.90	(5.86 - 5.94)
Aroclor-1260	2	1	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)
Aroclor-1260	2	2	7.29	(7.25 - 7.33)	7.29	(7.25 - 7.33)	7.29	(7.25 - 7.33)	7.29	(7.25 - 7.33)	7.30	(7.26 - 7.34)
Aroclor-1260	2	3	7.92	(7.88 - 7.96)	7.93	(7.89 - 7.97)	7.93	(7.89 - 7.97)	7.93	(7.89 - 7.97)	7.93	(7.89 - 7.97)
Aroclor-1260	2	4	8.28	(8.24 - 8.32)	8.29	(8.25 - 8.33)	8.29	(8.25 - 8.33)	8.29	(8.25 - 8.33)	8.29	(8.25 - 8.33)
Aroclor-1260	2	5	8.98	(8.94 - 9.02)	8.98	(8.94 - 9.02)	8.99	(8.95 - 9.03)	8.99	(8.95 - 9.03)	8.99	(8.95 - 9.03)
Aroclor-1221	2	1	4.18	(4.14 - 4.22)								
Aroclor-1221	2	2	4.33	(4.29 - 4.37)								
Aroclor-1221	2	3	4.40	(4.36 - 4.44)								
Aroclor-1232	2	1	4.40	(4.36 - 4.44)								
Aroclor-1232	2	2	4.82	(4.78 - 4.86)								
Aroclor-1232	2	3	5.20	(5.16 - 5.24)								
Aroclor-1232	2	4	5.53	(5.49 - 5.57)								
Aroclor-1232	2	5	6.04	(6.00 - 6.08)								
Aroclor-1242	2	1	4.40	(4.36 - 4.44)								
Aroclor-1242	2	2	4.82	(4.78 - 4.86)								
Aroclor-1242	2	3	5.20	(5.16 - 5.24)								
Aroclor-1242	2	4	5.53	(5.49 - 5.57)								
Aroclor-1242	2	5	5.90	(5.86 - 5.94)								
Aroclor-1248	2	1	4.82	(4.78 - 4.86)								
Aroclor-1248	2	2	5.20	(5.16 - 5.24)								
Aroclor-1248	2	3	5.53	(5.49 - 5.57)								
Aroclor-1248	2	4	6.04	(6.00 - 6.08)								
Aroclor-1248	2	5	6.18	(6.14 - 6.22)								
Aroclor-1254	2	1	6.40	(6.36 - 6.44)								
Aroclor-1254	2	2	6.74	(6.70 - 6.78)								
Aroclor-1254	2	3	7.14	(7.10 - 7.18)								
Aroclor-1254	2	4	7.65	(7.61 - 7.69)								
Aroclor-1254	2	5	8.34	(8.30 - 8.38)								
Aroclor-1262	2	1	7.71	(7.67 - 7.75)								
Aroclor-1262	2	2	8.87	(8.83 - 8.91)								
Aroclor-1262	2	3	8.98	(8.94 - 9.02)								
Aroclor-1262	2	4	9.56	(9.52 - 9.60)								
Aroclor-1262	2	5	10.10	(10.06 - 10.14)								
Aroclor-1268	2	1	8.38	(8.34 - 8.42)								
Aroclor-1268	2	2	8.42	(8.38 - 8.46)								
Aroclor-1268	2	3	9.31	(9.27 - 9.35)								
Aroclor-1268	2	4	9.47	(9.43 - 9.51)								
Aroclor-1268	2	5	10.10	(10.06 - 10.14)								
DCB-Surrogate	2	0	10.64	(10.58 - 10.70)	10.65	(10.59 - 10.71)	10.65	(10.59 - 10.71)	10.65	(10.59 - 10.71)	10.65	(10.59 - 10.71)

Pesticide Data

Form1
ORGANICS PESTICIDE REPORT

Sample Number: AC91036-001
 Client Id: TWP-01 U
 Data File: 5G64687.D
 Analysis Date: 05/05/16 16:17
 Date Rec/Extracted: 04/28/16-05/04/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B
 Matrix: Aqueous
 Initial Vol: 1000ml
 Final Vol: 5ml
 Dilution: 1
 Solids: 0

Units: ug/L							
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.010	U	53494-70-5	Endrin Ketone	0.010	U
309-00-2	Aldrin	0.010	U	58-89-9	gamma-BHC	0.010	U
319-84-6	alpha-BHC	0.010	U	76-44-8	Heptachlor	0.010	U
319-85-7	beta-BHC	0.010	U	1024-57-3	Heptachlor Epoxide	0.010	U
319-86-8	delta-BHC	0.010	U	72-43-5	Methoxychlor	0.010	U
60-57-1	Dieldrin	0.010	U	72-54-8	p,p'-DDD	0.010	U
959-98-8	Endosulfan I	0.010	U	72-55-9	p,p'-DDE	0.010	U
33213-65-9	Endosulfan II	0.010	U	50-29-3	p,p'-DDT	0.010	U
1031-07-8	Endosulfan Sulfate	0.010	U	8001-35-2	Toxaphene	0.25	U
72-20-8	Endrin	0.010	U	5103-74-2	γ-chlordane	0.010	U
7421-93-4	Endrin Aldehyde	0.010	U	57-74-9	Chlordane (Total)	0.010	U

Worksheet #: 382394

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of α-Chlordane and γ-Chlordane.*

Data Path : G:\Gcdata\2016\GC_5\Data\05-05-16\
 Data File : 5G64687.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 05-May-16, 16:17:45
 Operator : MS/MLC/ZM
 Sample : AC91036-001
 Misc : A,PEST
 ALS Vial : 41 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: PEST1.E
 Integration File signal 2: Pest2.e
 Quant Time: May 05 17:28:02 2016
 Quant Method : G:\GCDATA\2016\GC_5\METHODQT\5G_PEST0503.M
 Quant Title : @GC_5,ug,608,8081
 QLast Update : Tue May 03 14:08:40 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

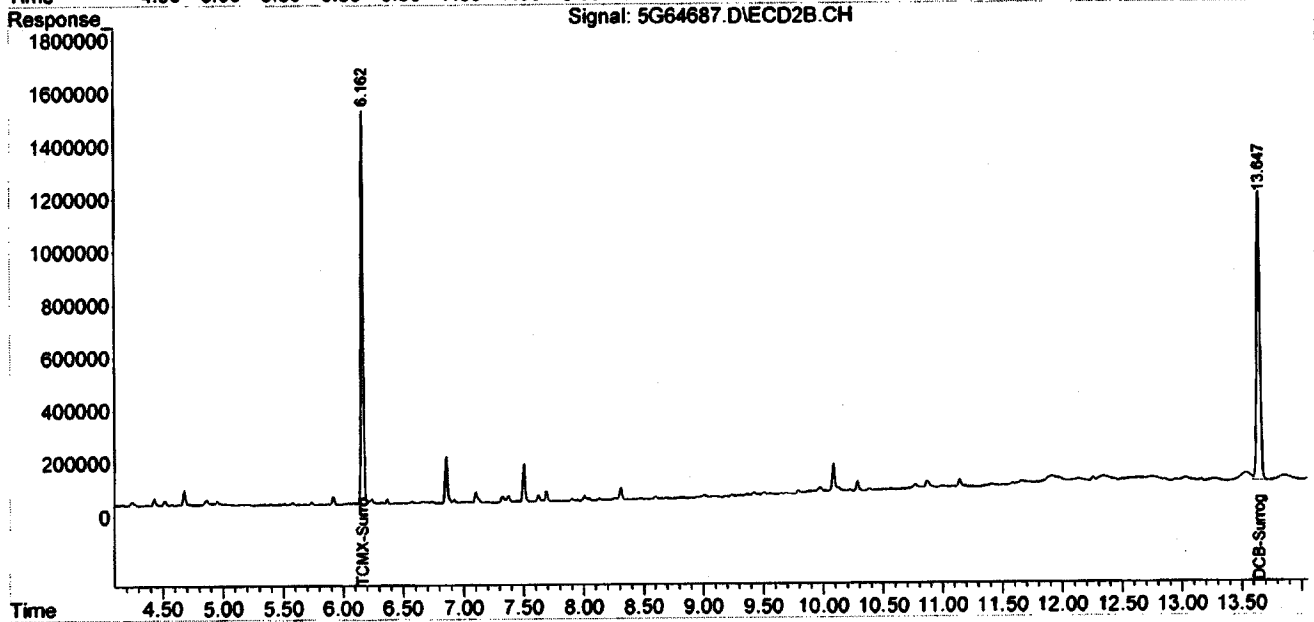
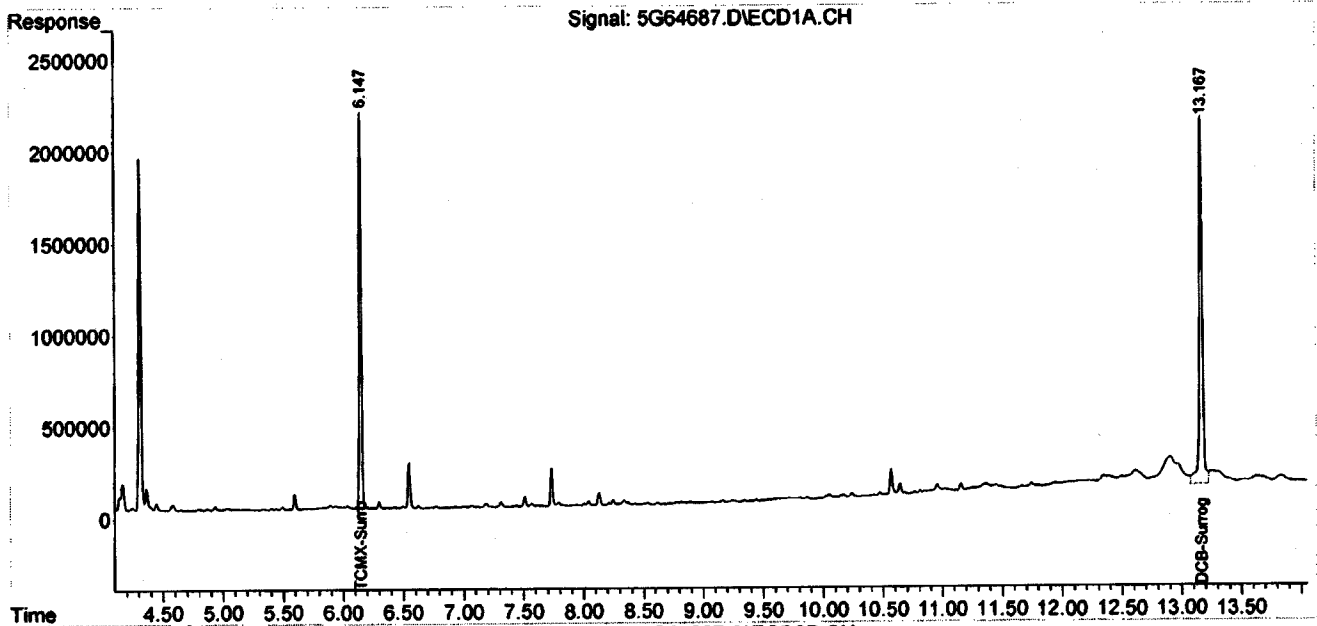
Target Compounds						
1)TCMX-Surrogate	6.148	6.163	26638815	18498172	59.538	54.624
22)DCB-Surrogate	13.167	13.647	37691980	20839444	90.340	75.433

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

Data Path : G:\Gcdata\2016\GC_5\Data\05-05-16\
 Data File : 5G64687.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 05-May-16, 16:17:45
 Operator : MS/MLC/ZM
 Sample : AC91036-001
 Misc : A,PEST
 ALS Vial : 41 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: PEST1.E
 Integration File signal 2: Pest2.e
 Quant Time: May 05 17:28:02 2016
 Quant Method : G:\GCDATA\2016\GC_5\METHODQT\5G_PEST0503.M
 Quant Title : @GC_5,ug,608,8081
 QLast Update : Tue May 03 14:08:40 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 1ul
 Signal #1 Phase : db-1701
 Signal #1 Info : .32
 Signal #2 Phase: db-17
 Signal #2 Info : .32



Form1
ORGANICS PESTICIDE REPORT

Sample Number: AC91036-003
 Client Id: DUP TWP-01 U
 Data File: 5G64686.D
 Analysis Date: 05/05/16 15:59
 Date Rec/Extracted: 04/28/16-05/04/16
 Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B
 Matrix: Aqueous
 Initial Vol: 1000ml
 Final Vol: 5ml
 Dilution: 1
 Solids: 0

		Units: ug/L					
Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.010	U	53494-70-5	Endrin Ketone	0.010	U
309-00-2	Aldrin	0.010	U	58-89-9	gamma-BHC	0.010	U
319-84-6	alpha-BHC	0.010	U	76-44-8	Heptachlor	0.010	U
319-85-7	beta-BHC	0.010	U	1024-57-3	Heptachlor Epoxide	0.010	U
319-86-8	delta-BHC	0.010	U	72-43-5	Methoxychlor	0.010	U
60-57-1	Dieldrin	0.010	U	72-54-8	p,p'-DDD	0.010	U
959-98-8	Endosulfan I	0.010	U	72-55-9	p,p'-DDE	0.010	U
33213-65-9	Endosulfan II	0.010	U	50-29-3	p,p'-DDT	0.010	U
1031-07-8	Endosulfan Sulfate	0.010	U	8001-35-2	Toxaphene	0.25	U
72-20-8	Endrin	0.010	U	5103-74-2	gamma-chlordane	0.010	U
7421-93-4	Endrin Aldehyde	0.010	U	57-74-9	Chlordane (Total)	0.010	U

Worksheet #: 382394

Total Target Concentration 0

ColumnID: (*) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
 B - Indicates the analyte was found in the blank as well as in the sample.
 E - Indicates the analyte concentration exceeds the calibration range of the instrument.

R - Retention Time Out
 J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
 d - Pesticide %Diff > 40% between columns due to coelution. Lower concentration uses Chlordane (Total) is sum of a-Chlordane and gamma-Chlordane.

Data Path : G:\Gcdata\2016\GC_5\Data\05-05-16\
 Data File : 5G64686.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 05-May-16, 15:59:45
 Operator : MS/MLC/ZM
 Sample : AC91036-003
 Misc : A, PEST
 ALS Vial : 42 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: PEST1.E
 Integration File signal 2: Pest2.e
 Quant Time: May 05 16:24:34 2016
 Quant Method : G:\GC\DATA\2016\GC_5\METHODQT\5G_PEST0503.M
 Quant Title : @GC_5,ug,608,8081
 QLast Update : Tue May 03 14:08:40 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

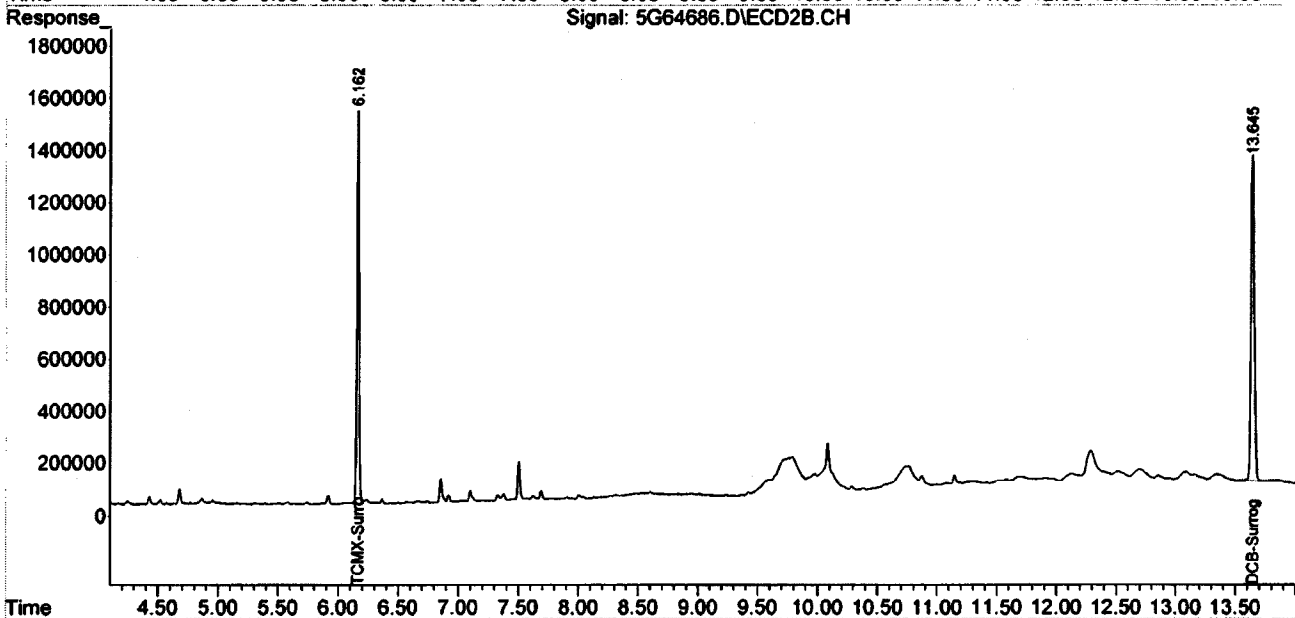
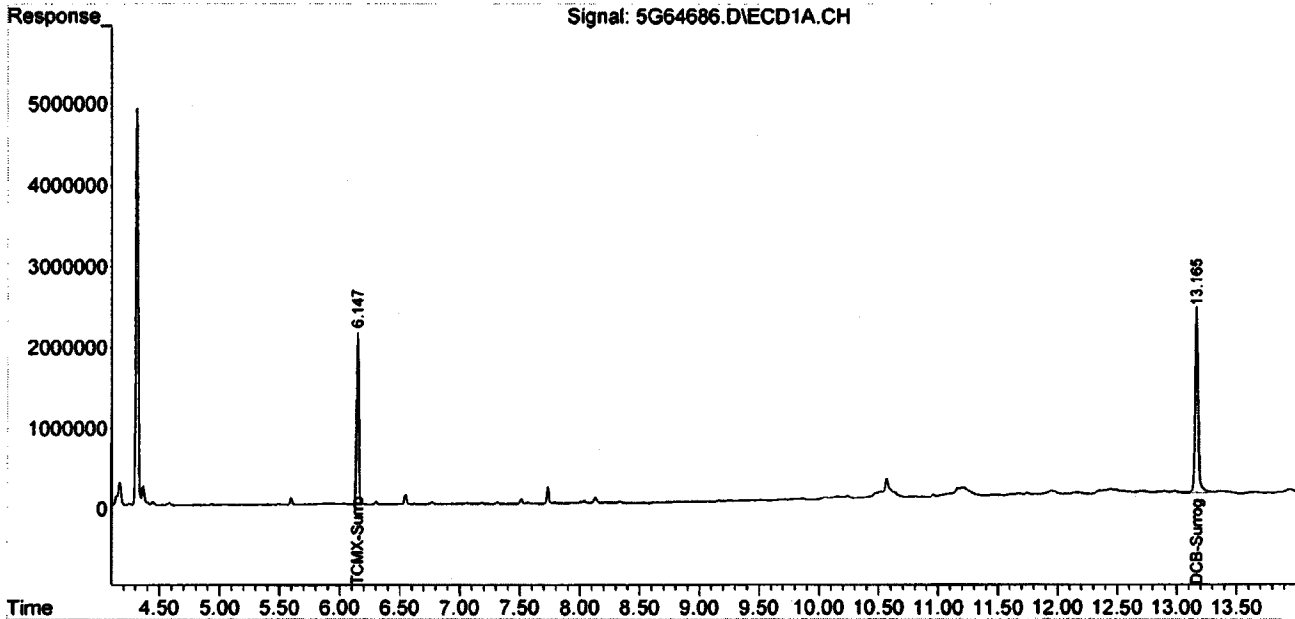
Target Compounds						
1)TCMX-Surrogate	6.147	6.162	26027923	18505252	58.172	54.645
22)DCB-Surrogate	13.165	13.645	42562637	24069970	102.014m	87.272m

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

Data Path : G:\Gcdata\2016\GC_5\Data\05-05-16\
 Data File : 5G64686.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 05-May-16, 15:59:45
 Operator : MS/MLC/ZM
 Sample : AC91036-003
 Misc : A, PEST
 ALS Vial : 42 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: PEST1.E
 Integration File signal 2: Pest2.e
 Quant Time: May 05 16:24:34 2016
 Quant Method : G:\GCDATA\2016\GC_5\METHODQT\5G_PEST0503.M
 Quant Title : @GC_5,ug,608,8081
 QLast Update : Tue May 03 14:08:40 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32



Form1
ORGANICS PESTICIDE REPORT

Sample Number: WMB50024

Client Id:

Data File: 5G64648.D

Analysis Date: 05/05/16 01:04

Date Rec/Extracted: NA-05/04/16

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8081B

Matrix: Aqueous

Initial Vol: 1000ml

Final Vol: 1ml

Dilution: 1

Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
5103-71-9	a-chlordane	0.0020	U	53494-70-5	Endrin Ketone	0.0020	U
309-00-2	Aldrin	0.0020	U	58-89-9	gamma-BHC	0.0020	U
319-84-6	alpha-BHC	0.0020	U	76-44-8	Heptachlor	0.0020	U
319-85-7	beta-BHC	0.0020	U	1024-57-3	Heptachlor Epoxide	0.0020	U
319-86-8	delta-BHC	0.0020	U	72-43-5	Methoxychlor	0.0020	U
60-57-1	Dieldrin	0.0020	U	72-54-8	p,p'-DDD	0.0020	U
959-98-8	Endosulfan I	0.0020	U	72-55-9	p,p'-DDE	0.0020	U
33213-65-9	Endosulfan II	0.0020	U	50-29-3	p,p'-DDT	0.0020	U
1031-07-8	Endosulfan Sulfate	0.0020	U	8001-35-2	Toxaphene	0.050	U
72-20-8	Endrin	0.0020	U	5103-74-2	gamma-chlordane	0.0020	U
7421-93-4	Endrin Aldehyde	0.0020	U				

Worksheet #: 382394

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

*U - Indicates the compound was analyzed but not detected.**B - Indicates the analyte was found in the blank as well as in the sample.**E - Indicates the analyte concentration exceeds the calibration range of the instrument.**R - Retention Time Out**J - Indicates an estimated value when a compound is detected at less than the specified detection limit.**d - Pesticide %Diff>40% between columns due to coelution. Lower concentration uses**Chlordane (Total) is sum of alpha-Chlordane and gamma-Chlordane.*

Data Path : G:\Gcdata\2016\GC_5\Data\05-05-16\
 Data File : 5G64648.D
 Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
 Acq On : 05-May-16, 01:04:02
 Operator : MS/MLC/ZM
 Sample : WMB50024
 Misc : A,PEST
 ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: PEST1.E
 Integration File signal 2: Pest2.e
 Quant Time: May 05 17:24:39 2016
 Quant Method : G:\GCDATA\2016\GC_5\METHODQT\5G_PEST0503.M
 Quant Title : @GC_5,ug,608,8081
 QLast Update : Tue May 03 14:08:40 2016
 Response via : Initial Calibration
 Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 1ul
 Signal #1 Phase : db-1701 Signal #2 Phase: db-17
 Signal #1 Info : .32 Signal #2 Info : .32

Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2

Target Compounds						
1)TCMX-Surrogate	6.150	6.164	25806939	17691288	57.678	52.242
22)DCB-Surrogate	13.168	13.648	23892265	15800673	57.265	57.047

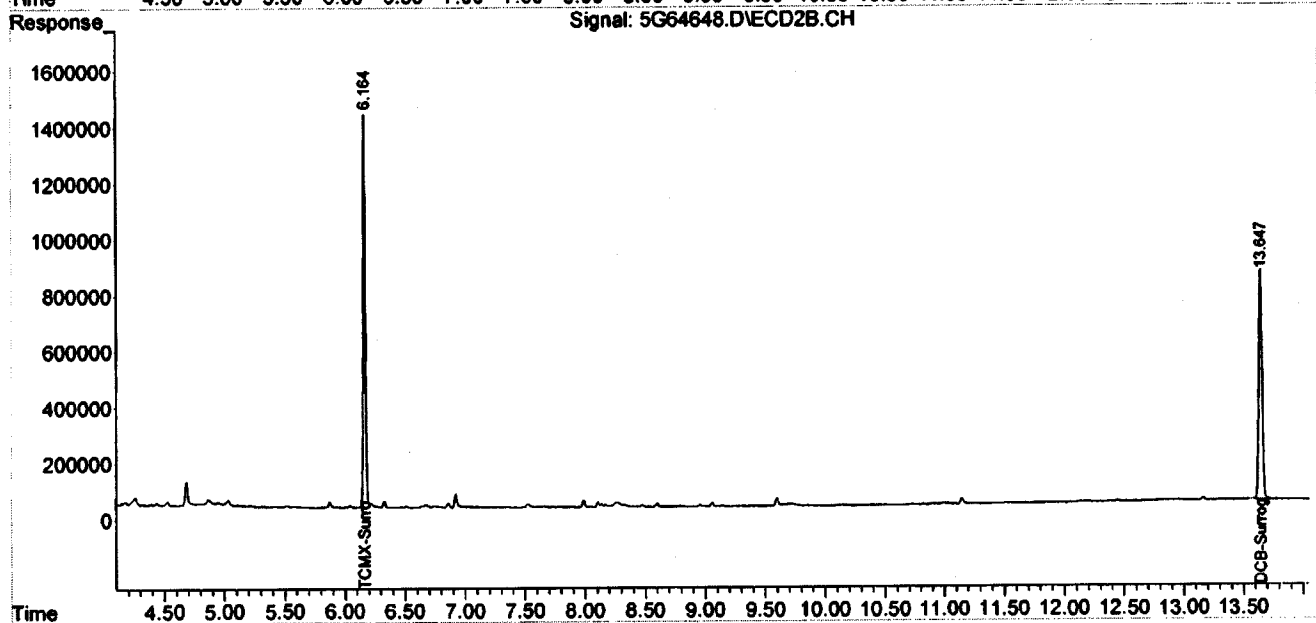
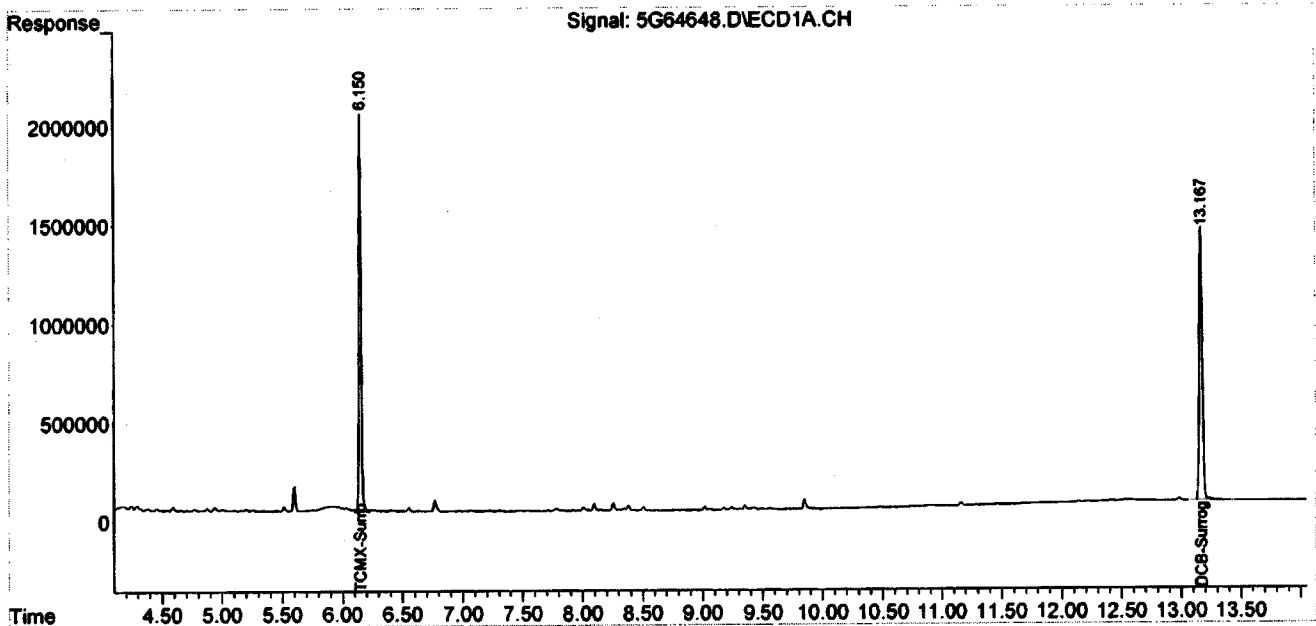
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

7

Data Path : G:\Gcdata\2016\GC_5\Data\05-05-16\
Data File : 5G64648.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 05-May-16, 01:04:02
Operator : MS/MLC/ZM
Sample : WMB50024
Misc : A, PEST
ALS Vial : 4 (Sig #1); 0 (Sig #2) Sample Multiplier: 1

Integration File signal 1: PEST1.E
Integration File signal 2: Pest2.e
Quant Time: May 05 17:24:39 2016
Quant Method : G:\GC DATA\2016\GC_5\METHODQT\5G_PEST0503.M
Quant Title : @GC_5,ug,608,8081
QLast Update : Tue May 03 14:08:40 2016
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. : 1ul
Signal #1 Phase : db-1701
Signal #1 Info : .32
Signal #2 Phase: db-17
Signal #2 Info : .32



FORM2

Surrogate Recovery

Method: EPA 8081B

Dfile	Sample#	Matrix	Date/Time	Surr Dil	Dilute Out Flag	Column1 S1 Recov	Column2 S2 Recov	Column1 S3 Recov	Column2 S4 Recov	Column0 S5 Recov	Column0 S6 Recov
5G64648.D	WMB50024	A	05/05/16 01:04	1		58	52	57	57		
5G64687.D	AC91036-001	A	05/05/16 16:17	1		60	55	90	75		
5G64686.D	AC91036-003	A	05/05/16 15:59	1		58	55	102	87		
5G64649.D	WMB50024(MS)	A	05/05/16 01:21	1		73	68	73	74		
5G64650.D	AC91024-001(T)(MS)	A	05/05/16 01:39	1		35	33	41	42		
5G64651.D	AC91024-001(T)(MSD)	A	05/05/16 01:57	1		67	63	72	72		
5G64652.D	AC91024-001(T)	A	05/05/16 02:15	1		72	68	74	75		

Flags: SD=Surrogate diluted out
 *=Surrogate out

Method: EPA 8081B

Aqueous DKQP Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	30-150
S2=TCMX-Surrogate	100	30-150
S3=DCB-Surrogate	100	30-150
S4=DCB-Surrogate	100	30-150

Form3
Recovery Data
 QC Batch: WMB50024

Data File		Sample ID:		Analysis Date			
Spike or Dup: 5G64649.D		WMB50024(MS)		5/5/2016 1:21:57 AM			
Non Spike(If applicable):							
Inst Blank(If applicable):							
Method: 8081		Matrix: Aqueous		QC Type: MBS			
Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
alpha-BHC	1	72.81	0	100	73	40	140
gamma-BHC	1	71.31	0	100	71	40	140
beta-BHC	1	71.81	0	100	72	40	140
Heptachlor	1	69.12	0	100	69	40	140
delta-BHC	1	70.66	0	100	71	40	140
Aldrin	1	69.08	0	100	69	40	140
Heptachlor Epoxide	1	70.19	0	100	70	40	140
Endosulfan I	1	70.33	0	100	70	40	140
p,p'-DDE	1	70.05	0	100	70	40	140
Dieldrin	1	72.8	0	100	73	40	140
Endrin	1	59.61	0	100	60	40	140
p,p'-DDD	1	70.3	0	100	70	40	140
Endosulfan II	1	69.86	0	100	70	40	140
p,p'-DDT	1	71.79	0	100	72	40	140
Endrin Aldehyde	1	62.64	0	100	63	40	140
Endosulfan Sulfate	1	74.76	0	100	75	40	140
Methoxychlor	1	72.75	0	100	73	40	140
Endrin Ketone	1	76.06	0	100	76	40	140

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
 QC Batch: WMB50024

Data File	Sample ID:	Analysis Date
Spike or Dup: 5G64650.D	AC91024-001(T)(MS)	5/5/2016 1:39:51 AM
Non Spike(if applicable): 5G64652.D	AC91024-001(T)	5/5/2016 2:15:46 AM
Inst Blank(if applicable):		
Method: 8081	Matrix: Aqueous	QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
alpha-BHC	1	36.07	0	100	36	30	150
gamma-BHC	1	37.5	0	100	38	30	150
beta-BHC	1	39.27	0	100	39	30	150
Heptachlor	1	35.74	0	100	36	30	150
delta-BHC	1	39	0	100	39	30	150
Aldrin	1	34.9	0	100	35	30	150
Heptachlor Epoxide	1	39.07	0	100	39	30	150
Endosulfan I	1	37.66	0	100	38	30	150
p,p'-DDE	1	37.37	0	100	37	30	150
Dieldrin	1	39.06	0	100	39	30	150
Endrin	1	38	0	100	38	30	150
p,p'-DDD	1	37.92	0	100	38	30	150
Endosulfan II	1	37.47	0	100	37	30	150
p,p'-DDT	1	40.63	0	100	41	30	150
Endrin Aldehyde	1	37	0	100	37	30	150
Endosulfan Sulfate	1	39.76	0	100	40	30	150
Methoxychlor	1	42.79	0	100	43	30	150
Endrin Ketone	1	41.29	0	100	41	30	150

Data File	Sample ID:	Analysis Date
Spike or Dup: 5G64651.D	AC91024-001(T)(MSD)	5/5/2016 1:57:44 AM
Non Spike(if applicable): 5G64652.D	AC91024-001(T)	5/5/2016 2:15:46 AM
Inst Blank(if applicable):		
Method: 8081	Matrix: Aqueous	QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
alpha-BHC	1	72.17	0	100	72	30	150
gamma-BHC	1	71.09	0	100	71	30	150
beta-BHC	1	71.02	0	100	71	30	150
Heptachlor	1	70.04	0	100	70	30	150
delta-BHC	1	71.83	0	100	72	30	150
Aldrin	1	69.09	0	100	69	30	150
Heptachlor Epoxide	1	72.49	0	100	72	30	150
Endosulfan I	1	70.15	0	100	70	30	150
p,p'-DDE	1	68.93	0	100	69	30	150
Dieldrin	1	72.29	0	100	72	30	150
Endrin	1	72.09	0	100	72	30	150
p,p'-DDD	1	69.38	0	100	69	30	150
Endosulfan II	1	68.51	0	100	69	30	150
p,p'-DDT	1	75.46	0	100	75	30	150
Endrin Aldehyde	1	67.65	0	100	68	30	150
Endosulfan Sulfate	1	74.09	0	100	74	30	150
Methoxychlor	1	79.51	0	100	80	30	150
Endrin Ketone	1	76.34	0	100	76	30	150

* - Indicates outside of limits

- Indicates outside of standard limits but within method exceedance limits

**Form3
RPD Data**

QC Batch: WMB50024

Data File	Sample ID:	Analysis Date
Spike or Dup: 5G64651.D	AC91024-001(T)(MSD)	5/5/2016 1:57:44 AM
Duplicate(if applicable): 5G64650.D	AC91024-001(T)(MS)	5/5/2016 1:39:51 AM
Inst Blank(if applicable):		
Method: 8081	Matrix: Aqueous	QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD	Sample/MS/MBS	RPD	Limit
		Conc	Conc		
alpha-BHC	1	72.17	36.07	67 *	20
gamma-BHC	1	71.09	37.5	62 *	20
beta-BHC	1	71.02	39.27	58 *	20
Heptachlor	1	70.04	35.74	65 *	20
delta-BHC	1	71.83	39	59 *	20
Aldrin	1	69.09	34.9	66 *	20
Heptachlor Epoxide	1	72.49	39.07	60 *	20
Endosulfan I	1	70.15	37.66	60 *	20
p,p'-DDE	1	68.93	37.37	59 *	20
Dieldrin	1	72.29	39.06	60 *	20
Endrin	1	72.09	38	62 *	20
p,p'-DDD	1	69.38	37.92	59 *	20
Endosulfan II	1	68.51	37.47	59 *	20
p,p'-DDT	1	75.46	40.63	60 *	20
Endrin Aldehyde	1	67.65	37	59 *	20
Endosulfan Sulfate	1	74.09	39.76	60 *	20
Methoxychlor	1	79.51	42.79	60 *	20
Endrin Ketone	1	76.34	41.29	60 *	20

* - Indicates outside of limits

NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: WMB50024
Blank Data File: 5G64648.D
Matrix: Aqueous

Blank Analysis Date: 05/05/16 01:04
Blank Extraction Date: 05/04/16
(If Applicable)
Method: EPA 8081B

Sample Number	Data File	Analysis Date
AC91036-001	5G64687.D	05/05/16 16:17
AC91036-003	5G64686.D	05/05/16 15:59
AC91024-001(T)	5G64652.D	05/05/16 02:15
AC91024-001(T)(M)	5G64651.D	05/05/16 01:57
AC91024-001(T)(M)	5G64650.D	05/05/16 01:39
WMB50024(MS)	5G64649.D	05/05/16 01:21

Form 5

Method: EPA 8081B
Instrument: GC_5

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
5G64592.D	CAL EVAL	05/03/16 09:56	Aqueous					
5G64593.D	CAL PEST@100PPB	05/03/16 10:28	Aqueous	5G64598.	13.1766	0.0661	13.6479	0.0168
5G64594.D	CAL PEST@400PPB	05/03/16 11:36	Aqueous	5G64598.	13.1758	0.06	13.6485	0.0213
5G64595.D	CAL PEST@200PPB	05/03/16 11:56	Aqueous	5G64598.	13.1727	0.0364	13.6470	0.0103
5G64596.D	CAL PEST@50PPB	05/03/16 12:14	Aqueous	5G64598.	13.1702	0.0175	13.6467	0.0081
5G64597.D	CAL PEST@10PPB	05/03/16 12:32	Aqueous	5G64598.	13.1700	0.0159	13.6466	0.0073
5G64598.D	CAL PEST@2PPB	05/03/16 12:50	Aqueous	5G64598.	13.1679	0	13.6456	0
5G64599.D	CAL CHLOR@100PPB	05/03/16 13:08	Aqueous	5G64598.	13.1693	0.0106	13.6451	0.0037
5G64600.D	CAL TOX@500PPB	05/03/16 13:26	Aqueous	5G64598.	13.1690	0.0084	13.6457	0.0007
5G64601.D	ICV	05/03/16 13:44	Aqueous	5G64598.	13.1690	0.0084	13.6463	0.0051
5G64602.D	AC91047-002	05/03/16 14:05	Soil	5G64598.	13.1723	0.0334	13.6474	0.0132
5G64603.D	AC90882-015	05/03/16 14:23	Soil	5G64598.	13.1693	0.0106	13.6462	0.0044
5G64604.D	AC90882-016	05/03/16 14:41	Soil	5G64598.	13.1689	0.0076	13.6464	0.0059
5G64605.D	WMB50010	05/03/16 14:59	Aqueous	5G64598.	13.1689	0.0076	13.6464	0.0059
5G64606.D	AC90984-001(T)	05/03/16 15:17	Aqueous	5G64598.	13.1683	0.003	13.6456	0
5G64607.D	AC90882-015(5X)	05/03/16 15:35	Soil	5G64598.	13.1686	0.0053	13.6458	0.0015
5G64608.D	CAL PEST@200PPB	05/03/16 16:14	Soil	5G64598.	13.1676	0.0023	13.6456	0

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)

* - Values outside of limits for this column/run

Form 5

Method: EPA 8081B

Instrument: GC_5

Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Data File	Sample#	Analysis Date/Time	Matrix	Reference File	Column 1 RT	Column 1 % Drift	Column 2 RT	Column 2 % Drift
5G64644.D	CAL EVAL	05/04/16 23:52	Soil					
5G64645.D	TEST	05/05/16 00:10	Soil					
5G64646.D	CAL PEST@100PPB	05/05/16 00:28	Soil	5G64646	13.1708	0	13.6483	0
5G64647.D	200PPB	05/05/16 00:46	Soil	5G64646	13.1687	0.0159	13.6471	0.0088
5G64648.D	WMB50024	05/05/16 01:04	Aqueous	5G64646	13.1678	0.0228	13.6475	0.0059
5G64649.D	WMB50024(MS)	05/05/16 01:21	Aqueous	5G64646	13.1679	0.022	13.6468	0.011
5G64650.D	AC91024-001(T)(MS)	05/05/16 01:39	Aqueous	5G64646	13.1678	0.0228	13.6465	0.0132
5G64651.D	AC91024-001(T)(MSD)	05/05/16 01:57	Aqueous	5G64646	13.1674	0.0258	13.6466	0.0125
5G64652.D	AC91024-001(T)	05/05/16 02:15	Aqueous	5G64646	13.1672	0.0273	13.6466	0.0125
5G64653.D	AC91085-001(T)	05/05/16 02:33	Aqueous	5G64646	13.1673	0.0266	13.6466	0.0125
5G64654.D	EF-1-V-231847(5/3)	05/05/16 02:51	Aqueous	5G64646	13.1670	0.0289	13.6464	0.0139
5G64655.D	EF-1-V-231847(5/4)	05/05/16 03:09	Aqueous	5G64646	13.1673	0.0266	13.6468	0.011
5G64656.D	EF-2-V-232262(5/3)	05/05/16 03:27	Aqueous	5G64646	13.1675	0.0251	13.6469	0.0103
5G64657.D	AC91081-001(T)	05/05/16 03:45	Aqueous	5G64646	13.1674	0.0258	13.6466	0.0125
5G64658.D	AC91131-001(MS)	05/05/16 04:03	Soil	5G64646	13.1686	0.0167	13.6474	0.0066
5G64659.D	AC91131-001(MSD)	05/05/16 04:21	Soil	5G64646	13.1675	0.0251	13.6457	0.019
5G64660.D	AC91131-001	05/05/16 04:39	Soil	5G64646	13.1670	0.0289	13.6472	0.0081
5G64661.D	AC91131-002	05/05/16 04:56	Soil	5G64646	13.1658	0.038	13.6457	0.019
5G64662.D	AC91131-003	05/05/16 05:14	Soil	5G64646	13.1665	0.0327	13.6464	0.0139
5G64663.D	AC91131-004	05/05/16 05:32	Soil	5G64646	13.1668	0.0304	13.6462	0.0154
5G64664.D	AC91131-005	05/05/16 05:50	Soil	5G64646	13.1681	0.0205	13.6482	0.0007
5G64665.D	AC91131-006	05/05/16 06:08	Soil	5G64646	13.1671	0.0281	13.6468	0.011
5G64666.D	AC91131-007	05/05/16 06:26	Soil	5G64646	13.1674	0.0258	13.6461	0.0161
5G64667.D	AC91131-008	05/05/16 06:44	Soil	5G64646	13.1667	0.0311	13.6466	0.0125
5G64668.D	CAL EVAL	05/05/16 09:52	Soil					
5G64669.D	CAL PEST@200PPB	05/05/16 10:15	Soil	5G64646	13.1731	0.0175	13.6481	0.0015
5G64670.D	AC91118-001(T)	05/05/16 10:37	Aqueous	5G64669	13.1708	0.0175	13.6472	0.0066
5G64671.D	AC90877-003(T)	05/05/16 10:55	Aqueous	5G64669	13.1682	0.0372	13.6474	0.0051
5G64672.D	AC91120-002(T)	05/05/16 11:13	Aqueous	5G64669	13.1675	0.0425	13.6479	0.0015
5G64673.D	AC91036-001	05/05/16 11:31	Aqueous	5G64669	13.1672	0.0448	13.6464	0.0125
5G64674.D	AC91036-003	05/05/16 11:49	Aqueous	5G64669	13.1669	0.0471	13.6472	0.0066
5G64675.D	AC91087-001	05/05/16 12:07	Aqueous	5G64669	13.1676	0.0418	13.6478	0.0022
5G64676.D	AC91087-002	05/05/16 12:25	Aqueous	5G64669	13.1665	0.0501	13.6470	0.0081
5G64677.D	MDL-PEST	05/05/16 12:42	Aqueous	5G64669	13.1670	0.0463	13.6465	0.0117
5G64678.D	MDL-PEST	05/05/16 13:00	Aqueous	5G64669	13.1677	0.041	13.6478	0.0022
5G64679.D	SMB50033	05/05/16 13:54	Soil	5G64669	13.1758	0.0205	13.6492	0.0081
5G64680.D	SMB50033(MS)	05/05/16 14:12	Soil	5G64669	13.1710	0.016	13.6488	0.0051
5G64681.D	AC91158-001(MS)	05/05/16 14:30	Soil	5G64669	13.1683	0.0365	13.6478	0.0022
5G64682.D	AC91158-001(MSD)	05/05/16 14:48	Soil	5G64669	13.1666	0.0494	13.6461	0.0147
5G64683.D	AC91158-001	05/05/16 15:06	Soil	5G64669	13.1671	0.0456	13.6460	0.0154
5G64684.D	AC91119-002(2X)	05/05/16 15:23	Soil	5G64669	13.1671	0.0456	13.6486	0.0037
5G64685.D	AC91036-001	05/05/16 15:41	Aqueous	5G64669	13.1664	0.0509	13.6466	0.011
5G64686.D	AC91036-003	05/05/16 15:59	Aqueous	5G64669	13.1654	0.0585	13.6449	0.0234
5G64687.D	AC91036-001	05/05/16 16:17	Aqueous	5G64669	13.1670	0.0463	13.6470	0.0081
5G64688.D	CAL PEST@200PPB	05/05/16 17:14	Aqueous	5G64669	13.1692	0.0296	13.6487	0.0044
5G64689.D	201	05/05/16 17:35	Aqueous	5G64688	13.1693	0.0008	13.6494	0.0051

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)

* - Values outside of limits for this column/run

Level #	Data File	Cal Identifier	Analysis Date/Time	Level #	Data File	Cal Identifier	Analysis Date/Time	Calibration Level Concentrations
1	5G64598.D	CAL PEST@2PPB	05/03/16 12:50	2	5G64597.D	CAL PEST@10PPB	05/03/16 12:32	Lvl1 10.00 Lvl2 50.00 Lvl3 100.0 Lvl4 200.0 Lvl5 400.0
3	5G64596.D	CAL PEST@50PPB	05/03/16 12:14	4	5G64593.D	CAL PEST@100PPB	05/03/16 10:28	Lvl1 10.00 Lvl2 50.00 Lvl3 100.0 Lvl4 200.0 Lvl5 400.0
5	5G64595.D	CAL PEST@200PPB	05/03/16 11:56	6	5G64594.D	CAL PEST@400PPB	05/03/16 11:36	Lvl1 10.00 Lvl2 50.00 Lvl3 100.0 Lvl4 200.0 Lvl5 400.0
7	5G64599.D	CAL CHLOR@100PP	05/03/16 13:08	8	5G64590.D	CAL TOX@500PPB	05/03/16 13:26	Lvl1 10.00 Lvl2 50.00 Lvl3 100.0 Lvl4 200.0 Lvl5 400.0

Compound	Col Mtr	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
TCMX-Surrogate	1 0 Avg	45.729	44.371	44.697	47.046	43.982	42.630	---	---	44.7615	0.999	1.00	---	3.4	2.00	10.00	50.00	100.0	200.0	400.0	---	---
alpha-BHC	1 0 Avg	52.080	56.238	63.381	68.479	64.626	63.321	---	---	61.4744	0.999	1.00	---	9.8	2.00	10.00	50.00	100.0	200.0	400.0	---	---
gamma-BHC	1 0 Avg	50.289	52.224	57.618	61.861	58.150	56.802	---	---	56.2797	0.999	1.00	---	7.5	2.00	10.00	50.00	100.0	200.0	400.0	---	---
beta-BHC	1 0 Avg	28.959	25.351	25.329	27.046	24.817	21.854	---	---	25.6888	0.994	1.00	---	9.3	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Heptachlor	1 0 Avg	53.225	48.011	50.778	52.135	50.928	52.371	---	---	51.2824	1.00	1.00	---	3.6	2.00	10.00	50.00	100.0	200.0	400.0	---	---
delta-BHC	1 0 Avg	48.876	47.992	54.320	59.646	55.729	54.614	---	---	53.5920	0.999	1.00	---	8.2	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Aldrin	1 0 Avg	46.496	47.943	54.031	57.940	54.447	53.309	---	---	52.4859	0.999	1.00	---	8.2	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Heptachlor Epoxide	1 0 Avg	45.291	44.008	48.054	48.292	48.293	47.730	---	---	47.4942	1.00	1.00	---	5.4	2.00	10.00	50.00	100.0	200.0	400.0	---	---
v-chlordane	1 0 Avg	45.358	44.328	49.056	53.250	50.128	49.704	---	---	48.6981	1.00	1.00	---	6.8	2.00	10.00	50.00	100.0	200.0	400.0	---	---
e-chlordane	1 0 QUA	73.000	47.691	48.159	50.983	48.066	47.438	---	---	52.6987	1.00	1.00	---	19	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endosulfan I	1 0 Avg	41.522	40.291	44.397	47.590	44.859	44.688	---	---	43.9976	1.00	1.00	---	5.9	2.00	10.00	50.00	100.0	200.0	400.0	---	---
p,p'-DDE	1 0 Avg	42.520	42.095	48.036	52.098	48.297	49.140	---	---	47.2966	1.00	1.00	---	8.5	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Dieldrin	1 0 Avg	41.419	42.324	47.799	52.262	49.791	50.105	---	---	47.3109	1.00	1.00	---	9.4	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endrin	1 0 Avg	36.186	36.128	41.331	42.508	43.662	45.787	---	---	40.91043	0.999	1.00	---	9.7	2.00	10.00	50.00	100.0	200.0	400.0	---	---
p,p'-DDD	1 0 QUA	50.249	37.252	41.046	41.913	39.247	40.218	---	---	41.71087	1.00	1.00	---	11	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endosulfan II	1 0 Avg	42.282	38.862	42.498	46.243	43.913	44.966	---	---	43.11098	1.00	1.00	---	6.0	2.00	10.00	50.00	100.0	200.0	400.0	---	---
p,p'-DDT	1 0 QUA	28.440	29.063	34.498	37.155	37.770	39.633	---	---	34.41107	0.999	1.00	---	14	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endrin Aldehyde	1 0 Avg	27.920	30.029	30.790	33.747	31.532	32.236	---	---	31.01146	1.00	1.00	---	6.4	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endosulfan Sulfate	1 0 Avg	36.121	34.032	36.236	39.016	37.476	38.589	---	---	36.91181	1.00	1.00	---	5.0	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Methoxychlor	1 0 Avg	17.843	17.755	18.963	19.649	20.059	21.680	---	---	19.31173	0.998	1.00	---	7.7	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endrin Ketone	1 0 Avg	38.845	37.053	40.897	45.155	42.658	44.234	---	---	41.51229	1.00	1.00	---	7.6	2.00	10.00	50.00	100.0	200.0	400.0	---	---
DCB-Surrogate	1 0 Avg	48.891	40.638	39.799	40.968	39.488	40.547	---	---	41.71317	1.00	1.00	---	8.5	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Chlordane (Technical)	1 1 Avg	---	---	---	---	---	---	---	---	2.06804	-1	-1	---	Lvl=7	100.0	---	---	---	---	---	---	---
Chlordane (Technical)	1 2 Avg	---	---	---	---	---	---	---	---	5.99980	-1	-1	---	Lvl=7	100.0	---	---	---	---	---	---	---
Chlordane (Technical)	1 3 Avg	---	---	---	---	---	---	---	---	9.22987	-1	-1	---	Lvl=7	100.0	---	---	---	---	---	---	---
Toxaphene	1 1 Avg	---	---	---	---	---	---	---	---	0.18310	0.2	-1	---	Lvl=8	500.0	---	---	---	---	---	---	---
Toxaphene	1 2 Avg	---	---	---	---	---	---	---	---	0.64210	0.56	-1	---	Lvl=8	500.0	---	---	---	---	---	---	---
Toxaphene	1 3 Avg	---	---	---	---	---	---	---	---	0.73411	0.1	-1	---	Lvl=8	500.0	---	---	---	---	---	---	---
Toxaphene	1 4 Avg	---	---	---	---	---	---	---	---	0.58211	0.31	-1	---	Lvl=8	500.0	---	---	---	---	---	---	---
Toxaphene	1 5 Avg	---	---	---	---	---	---	---	---	0.83911	0.75	-1	---	Lvl=8	500.0	---	---	---	---	---	---	---
TCMX-Surrogate	2 0 Avg	37.502	34.603	33.856	35.248	32.219	29.755	---	---	33.9616	0.997	1.00	---	7.8	2.00	10.00	50.00	100.0	200.0	400.0	---	---
alpha-BHC	2 0 Avg	47.046	46.958	49.140	51.117	47.395	44.750	---	---	47.7717	0.998	1.00	---	4.5	2.00	10.00	50.00	100.0	200.0	400.0	---	---
gamma-BHC	2 0 Avg	42.938	41.111	42.391	43.715	40.915	38.977	---	---	41.77771	0.999	1.00	---	4.1	2.00	10.00	50.00	100.0	200.0	400.0	---	---
beta-BHC	2 0 QUA	23.715	20.243	19.128	20.046	18.146	16.957	---	---	19.7780	0.998	1.00	---	12	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Heptachlor	2 0 QUA	31.661	27.242	27.637	25.009	27.103	26.514	---	---	27.5815	1.00	1.00	---	8.1	2.00	10.00	50.00	100.0	200.0	400.0	---	---
delta-BHC	2 0 Avg	42.365	40.709	42.400	45.021	41.264	36.903	---	---	41.4829	0.995	1.00	---	6.5	2.00	10.00	50.00	100.0	200.0	400.0	---	---

Avg Rsd Col 1: 8.21 Avg Rsd Col 2: 7.34

Flags
c - failed the initial calibration criteria (if applicable)

Note:

Col = Column Number
Mr = MultiPeak Analyte (single peak analyte, >0=multi peak analyte i.e. nch/chlordane etc.)
Fit = Indicates whether Ave RF, Linear, or Quadratic Curve was used for compound
Corr 1 = Correlation Coefficient for linear Fit
Corr 2 = Correlation Coefficient for quad Fit

All Response Factors = Response Factors / 10000
Initial Calibration Criteria: either %RSD <= 20 or Corr >= 995
Columns: Signal # 1 db-1701 : Signal # 2 db-608

Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

Level #	Data File	Cal Identifier	Analysis Date/Time	Level #	Data File	Cal Identifier	Analysis Date/Time
1	5G64598.D	CAL PEST@2PPB	05/03/16 12:50	2	5G64597.D	CAL PEST@10PPB	05/03/16 12:32
3	5G64596.D	CAL PEST@50PPB	05/03/16 12:14	4	5G64593.D	CAL PEST@100PPB	05/03/16 10:28
5	5G64595.D	CAL PEST@200PPB	05/03/16 11:56	6	5G64594.D	CAL PEST@400PPB	05/03/16 11:36
7	5G64599.D	CAL CHLOR@100PP	05/03/16 13:08	8	5G64600.D	CAL TOX@500PPB	05/03/16 13:26

Compound	Col	Mtr	F1	F2	F3	F4	F5	F6	F7	F8	AvgRt	RT	Corr1	Corr2	%Rsd	Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
Aldrin	2	0	Avg	41.026	38.981	40.025	42.087	38.083	35.946	---	39.3858	0.998	1.00	---	5.7	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Heptachlor Epoxide	2	0	Avg	40.553	35.278	35.143	36.475	33.249	30.790	---	35.2929	0.997	1.00	---	9.3	2.00	10.00	50.00	100.0	200.0	400.0	---	---
v-chlordane	2	0	Avg	39.267	35.819	36.177	38.488	34.708	33.432	---	36.3949	0.998	1.00	---	6.1	2.00	10.00	50.00	100.0	200.0	400.0	---	---
a-chlordane	2	0	Avg	39.194	34.534	34.468	36.724	33.006	31.789	---	35.0969	0.998	0.999	---	7.6	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endosulfan I	2	0	Avg	37.254	33.320	33.228	34.932	31.667	30.988	---	33.5973	0.999	1.00	---	6.9	2.00	10.00	50.00	100.0	200.0	400.0	---	---
p,p'-DDE	2	0	Avg	35.887	33.009	34.564	36.871	33.649	32.549	---	34.4997	0.999	1.00	---	4.9	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Dieldrin	2	0	Avg	36.672	33.464	34.880	37.191	34.049	33.560	---	35.0101	0.999	1.00	---	4.6	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endrin	2	0	Avg	30.062	26.726	27.924	27.903	27.793	28.841	---	28.1105	1.00	1.00	---	4.2	2.00	10.00	50.00	100.0	200.0	400.0	---	---
p,p'-DDD	2	0	Avg	30.061	26.487	27.183	27.793	26.736	25.643	---	27.3106	0.999	1.00	---	5.6	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endosulfan II	2	0	Avg	36.838	31.715	31.067	33.043	30.234	30.734	---	32.3107	0.999	0.999	---	7.6	2.00	10.00	50.00	100.0	200.0	400.0	---	---
p,p'-DDT	2	0	Qua	26.862	18.588	18.936	19.183	19.906	20.815	---	20.7109	0.999	1.00	---	15	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endrin Aldehyde	2	0	Avg	31.668	25.239	25.043	27.100	24.456	25.415	---	26.5114	0.999	0.999	---	10	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endosulfan Sulfate	2	0	Avg	31.609	26.858	26.498	28.129	25.882	25.908	---	27.5112	1.00	1.00	---	7.9	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Methoxychlor	2	0	Avg	10.150	9.3877	9.4822	9.2547	9.7027	10.074	---	9.6811	0.999	1.00	---	3.8	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Endrin Ketone	2	0	Avg	33.565	29.302	29.964	31.899	29.915	29.978	---	30.8122	1.00	1.00	---	5.3	2.00	10.00	50.00	100.0	200.0	400.0	---	---
DCB-Surrogate	2	0	Qua	37.485	31.156	27.943	28.621	26.691	26.404	---	29.7136	1.00	1.00	---	14	2.00	10.00	50.00	100.0	200.0	400.0	---	---
Chlordane (Technical)	2	1	Avg	---	---	---	---	---	---	---	1.8079	0.94	-1	-1	Lvl=7	100.0	---	---	---	---	---	---	---
Chlordane (Technical)	2	2	Avg	---	---	---	---	---	---	---	5.0894	0.99	-1	-1	Lvl=7	100.0	---	---	---	---	---	---	---
Chlordane (Technical)	2	3	Avg	---	---	---	---	---	---	---	4.1596	0.99	-1	-1	Lvl=7	100.0	---	---	---	---	---	---	---
Toxaphene	2	1	Avg	---	---	---	---	---	---	---	0.2389	0.85	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---
Toxaphene	2	2	Avg	---	---	---	---	---	---	---	0.4841	0.77	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---
Toxaphene	2	3	Avg	---	---	---	---	---	---	---	0.5171	1.04	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---
Toxaphene	2	4	Avg	---	---	---	---	---	---	---	0.5131	1.74	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---
Toxaphene	2	5	Avg	---	---	---	---	---	---	---	0.4681	1.81	-1	-1	Lvl=8	500.0	---	---	---	---	---	---	---

Avg Rsd Col 1: 8.21 Avg Rsd Col 2: 7.34

Flags
 c - failed the initial calibration
 criteria(if applicable)

Note:
 Col = Column Number
 Mtr = MultiPeak Analyte 0=single peak analyte, >0=multi peak analyte (i.e. nch/chlordane etc.)
 F1 = Indicates whether Avg RF 1 linear or Quadratic Curve was used for compound.
 Corr 1 = Correlation Coefficient for linear F1.
 Corr 2 = Correlation Coefficient for quad F1.
 Lvl: These compounds use a single pt calibration as specified by the method. The file used to update this calibration point is listed in the header under level #

All Response Factors = Response Factors / 10000
 Initial Calibration Criteria: either %RSD <=20 or Corr >= .995
 Columns: Signal #1 db-1701 ; Signal #2 db-608

Form 7
 Continuing Calibration

Method: EPA 8081B

			Data File: 5G64646.D			5G64669.D			5G64688.D									
			Method: 8081			8081			8081									
			Calibration Name: CAL PEST@100PP			CAL PEST@200PP			CAL PEST@200PP									
			Calibration Date/Time: 05/05/16 00:28			05/05/16 10:15			05/05/16 17:14									
Compound	Limit	Col	Mr	Conc			Conc			Conc			Conc			Conc		
				Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1	0	100.3	100	0.3	195.1	200	2.4	216.1	200	8.0						
alpha-BHC	20	1	0	107.0	100	7.0	212.9	200	6.4	237.7	200	18.8						
gamma-BHC	20	1	0	104.7	100	4.7	207.6	200	3.8	231.3	200	15.6						
beta-BHC	20	1	0	100.9	100	0.9	191.7	200	4.2	211.5	200	5.8						
Heptachlor	20	1	0	99.54	100	0.5	203.2	200	1.6	222.8	200	11.4						
delta-BHC	20	1	0	105.6	100	5.6	201.5	200	0.7	232.8	200	16.4						
Aldrin	20	1	0	103.1	100	3.1	203.1	200	1.5	225.9	200	12.9						
Heptachlor Epoxide	20	1	0	100.4	100	0.4	194.5	200	2.8	217.7	200	8.9						
y-chlordane	20	1	0	101.7	100	1.7	198.1	200	0.9	223.6	200	11.8						
a-chlordane	20	1	0	96.18	100	3.8	188.8	200	5.6	212.7	200	6.4						
Endosulfan I	20	1	0	98.73	100	1.3	194.2	200	2.9	214.7	200	7.3						
p,p'-DDE	20	1	0	100.7	100	0.7	197.5	200	1.3	218.8	200	9.4						
Dieldrin	20	1	0	100.9	100	0.9	200.5	200	0.3	221	200	10.5						
Endrin	20	1	0	86.07	100	13.9	202.3	200	1.1	213.9	200	6.9						
p,p'-DDD	20	1	0	98.35	100	1.7	192.3	200	3.9	208	200	4.0						
Endosulfan II	20	1	0	95.94	100	4.1	190.3	200	4.8	206.4	200	3.2						
p,p'-DDT	20	1	0	90.86	100	9.1	183.1	200	8.4	206.2	200	3.1						
Endrin Aldehyde	20	1	0	102.2	100	2.2	193.8	200	3.1	201.9	200	0.9						
Endosulfan Sulfate	20	1	0	97.2	100	2.8	191.8	200	4.1	200.2	200	0.1						
Methoxychlor	20	1	0	90.41	100	9.6	197.9	200	1.1	202.3	200	1.1						
Endrin Ketone	20	1	0	96.5	100	3.5	206.7	200	3.4	210.8	200	5.4						
DCB-Surrogate	20	1	0	87.32	100	12.7	182.8	200	8.6	177.2	200	11.4						
Average Difference	20	1	0			4.1			3.3			8.2						
TCMX-Surrogate	20	2	0	94.73	100	5.3	180.8	200	9.6	199.8	200	0.1						
alpha-BHC	20	2	0	98.79	100	1.2	193.6	200	3.2	215.4	200	7.7						
gamma-BHC	20	2	0	97.65	100	2.3	191.0	200	4.5	212.6	200	6.3						
beta-BHC	20	2	0	94.93	100	5.1	186.1	200	6.9	205.8	200	2.9						
Heptachlor	20	2	0	90.96	100	9.0	217.6	200	8.8	219	200	9.5						
delta-BHC	20	2	0	98.83	100	1.2	192.5	200	3.8	212.6	200	6.3						
Aldrin	20	2	0	95.04	100	5.0	180.6	200	9.7	204.2	200	2.1						
Heptachlor Epoxide	20	2	0	92.3	100	7.7	176.5	200	11.8	196.8	200	1.6						
y-chlordane	20	2	0	92.58	100	7.4	176.6	200	11.7	198.5	200	0.8						
a-chlordane	20	2	0	90.23	100	9.8	172	200	14.0	193.9	200	3.0						
Endosulfan I	20	2	0	91.68	100	8.3	174.4	200	12.8	195.1	200	2.4						
p,p'-DDE	20	2	0	91.92	100	8.1	177.5	200	11.2	197.4	200	1.3						
Dieldrin	20	2	0	92.13	100	7.9	178.9	200	10.5	198.2	200	0.9						
Endrin	20	2	0	78.06	100	21.9*	185.0	200	7.5	195	200	2.5						
p,p'-DDD	20	2	0	92.95	100	7.1	188.4	200	5.8	200.5	200	0.2						
Endosulfan II	20	2	0	89.52	100	10.5	171.4	200	14.3	186.9	200	6.6						
p,p'-DDT	20	2	0	92.89	100	7.1	197.9	200	1.1	218.7	200	9.4						
Endrin Aldehyde	20	2	0	88.56	100	11.4	167.6	200	16.2	177.8	200	11.1						
Endosulfan Sulfate	20	2	0	86.83	100	13.2	171	200	14.5	181.2	200	9.4						
Methoxychlor	20	2	0	86.99	100	13.0	211.3	200	5.6	205.9	200	2.9						
Endrin Ketone	20	2	0	90.17	100	9.8	185.6	200	7.2	191.4	200	4.3						
DCB-Surrogate	20	2	0	86.78	100	13.2	176.9	200	11.6	175.0	200	12.5						
Average Difference	20	2	0			8.4			9.2			4.7						

Flags/Notes: * - Values outside of limits for this column/run

Form 7

RtWindow Summary

Method: EPA 8081B

Compound	Col	Mr	5G64598.D		5G64646.D		5G64669.D		Cal RT	Limit	Cal RT	Limit
			Cal RT	Limit	Cal RT	Limit	Cal RT	Limit				
Data File:			5G64598.D		5G64646.D		5G64669.D					
Calibration Name:			CAL PEST@2PPB		CAL PEST@100PPB		CAL PEST@200PPB					
Calibration Date/Time			5/3/2016 12:50:36 PM		5/5/2016 12:28:09 AM		5/5/2016 10:15:52 AM					
Compound	Col	Mr	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
TCMX-Surrogate	1	0	6.15	(6.09 - 6.21)	6.15	(6.09 - 6.21)	6.15	(6.09 - 6.21)				
alpha-BHC	1	0	7.45	(7.41 - 7.49)	7.44	(7.40 - 7.48)	7.45	(7.41 - 7.49)				
gamma-BHC	1	0	7.97	(7.93 - 8.01)	7.97	(7.93 - 8.01)	7.97	(7.93 - 8.01)				
beta-BHC	1	0	8.88	(8.80 - 8.96)	8.88	(8.80 - 8.96)	8.88	(8.80 - 8.96)				
Heptachlor	1	0	8.24	(8.20 - 8.28)	8.24	(8.20 - 8.28)	8.24	(8.20 - 8.28)				
delta-BHC	1	0	9.20	(9.12 - 9.28)	9.20	(9.12 - 9.28)	9.20	(9.12 - 9.28)				
Aldrin	1	0	8.60	(8.52 - 8.68)	8.59	(8.51 - 8.67)	8.60	(8.52 - 8.68)				
Heptachlor Epoxide	1	0	9.42	(9.38 - 9.46)	9.42	(9.38 - 9.46)	9.42	(9.38 - 9.46)				
v-chlordane	1	0	9.81	(9.77 - 9.85)	9.80	(9.76 - 9.84)	9.81	(9.77 - 9.85)				
a-chlordane	1	0	9.87	(9.83 - 9.91)	9.87	(9.83 - 9.91)	9.87	(9.83 - 9.91)				
Endosulfan I	1	0	9.76	(9.72 - 9.80)	9.76	(9.72 - 9.80)	9.76	(9.72 - 9.80)				
o,p'-DDE	1	0	9.96	(9.88 - 10.04)	9.96	(9.88 - 10.04)	9.96	(9.88 - 10.04)				
Dieldrin	1	0	10.19	(10.11 - 10.27)	10.19	(10.11 - 10.27)	10.19	(10.11 - 10.27)				
Endrin	1	0	10.44	(10.40 - 10.48)	10.43	(10.39 - 10.47)	10.44	(10.40 - 10.48)				
o,p'-DDD	1	0	10.87	(10.79 - 10.95)	10.87	(10.79 - 10.95)	10.87	(10.79 - 10.95)				
Endosulfan II	1	0	10.99	(10.91 - 11.07)	10.98	(10.90 - 11.06)	10.99	(10.91 - 11.07)				
o,p'-DDT	1	0	11.07	(10.99 - 11.15)	11.07	(10.99 - 11.15)	11.07	(10.99 - 11.15)				
Endrin Aldehyde	1	0	11.46	(11.38 - 11.54)	11.46	(11.38 - 11.54)	11.46	(11.38 - 11.54)				
Endosulfan Sulfate	1	0	11.81	(11.77 - 11.85)	11.81	(11.77 - 11.85)	11.81	(11.77 - 11.85)				
Methoxychlor	1	0	11.73	(11.69 - 11.77)	11.73	(11.69 - 11.77)	11.73	(11.69 - 11.77)				
Endrin Ketone	1	0	12.29	(12.21 - 12.37)	12.29	(12.21 - 12.37)	12.29	(12.21 - 12.37)				
DCB-Surrogate	1	0	13.17	(13.11 - 13.23)	13.17	(13.11 - 13.23)	13.17	(13.11 - 13.23)				
Chlordane (Technical	1	1										
Chlordane (Technical	1	2										
Chlordane (Technical	1	3										
Toxaphene	1	1	10.02	(9.98 - 10.06)								
Toxaphene	1	2	10.56	(10.52 - 10.60)								
Toxaphene	1	3	11.01	(10.97 - 11.05)								
Toxaphene	1	4	11.31	(11.27 - 11.35)								
Toxaphene	1	5	11.75	(11.71 - 11.79)								
TCMX-Surrogate	2	0	6.16	(6.10 - 6.22)	6.16	(6.10 - 6.22)	6.16	(6.10 - 6.22)				
alpha-BHC	2	0	7.17	(7.13 - 7.21)	7.17	(7.13 - 7.21)	7.17	(7.13 - 7.21)				
gamma-BHC	2	0	7.71	(7.67 - 7.75)	7.71	(7.67 - 7.75)	7.71	(7.67 - 7.75)				
beta-BHC	2	0	7.80	(7.72 - 7.88)	7.80	(7.72 - 7.88)	7.80	(7.72 - 7.88)				
Heptachlor	2	0	8.15	(8.11 - 8.19)	8.15	(8.11 - 8.19)	8.15	(8.11 - 8.19)				
delta-BHC	2	0	8.29	(8.21 - 8.37)	8.29	(8.21 - 8.37)	8.29	(8.21 - 8.37)				
Aldrin	2	0	8.59	(8.51 - 8.67)	8.59	(8.51 - 8.67)	8.58	(8.50 - 8.66)				
Heptachlor Epoxide	2	0	9.29	(9.25 - 9.33)	9.29	(9.25 - 9.33)	9.29	(9.25 - 9.33)				
v-chlordane	2	0	9.49	(9.45 - 9.53)	9.49	(9.45 - 9.53)	9.49	(9.45 - 9.53)				
a-chlordane	2	0	9.69	(9.65 - 9.73)	9.69	(9.65 - 9.73)	9.69	(9.65 - 9.73)				
Endosulfan I	2	0	9.73	(9.69 - 9.77)	9.73	(9.69 - 9.77)	9.73	(9.69 - 9.77)				
o,p'-DDE	2	0	9.97	(9.89 - 10.05)	9.97	(9.89 - 10.05)	9.97	(9.89 - 10.05)				
Dieldrin	2	0	10.11	(10.03 - 10.19)	10.11	(10.03 - 10.19)	10.11	(10.03 - 10.19)				
Endrin	2	0	10.55	(10.51 - 10.59)	10.55	(10.51 - 10.59)	10.55	(10.51 - 10.59)				
o,p'-DDD	2	0	10.63	(10.55 - 10.71)	10.64	(10.56 - 10.72)	10.63	(10.55 - 10.71)				
Endosulfan II	2	0	10.76	(10.68 - 10.84)	10.76	(10.68 - 10.84)	10.76	(10.68 - 10.84)				
o,p'-DDT	2	0	10.99	(10.91 - 11.07)	10.99	(10.91 - 11.07)	10.99	(10.91 - 11.07)				
Endrin Aldehyde	2	0	11.14	(11.06 - 11.22)	11.14	(11.06 - 11.22)	11.14	(11.06 - 11.22)				
Endosulfan Sulfate	2	0	11.28	(11.24 - 11.32)	11.28	(11.24 - 11.32)	11.29	(11.25 - 11.33)				
Methoxychlor	2	0	11.99	(11.95 - 12.03)	11.99	(11.95 - 12.03)	11.99	(11.95 - 12.03)				
Endrin Ketone	2	0	12.21	(12.13 - 12.29)	12.21	(12.13 - 12.29)	12.21	(12.13 - 12.29)				
DCB-Surrogate	2	0	13.65	(13.59 - 13.71)	13.65	(13.59 - 13.71)	13.65	(13.59 - 13.71)				
Chlordane (Technical	2	1										
Chlordane (Technical	2	2										
Chlordane (Technical	2	3										
Toxaphene	2	1	9.85	(9.81 - 9.89)								
Toxaphene	2	2	10.77	(10.73 - 10.81)								
Toxaphene	2	3	11.03	(10.99 - 11.07)								
Toxaphene	2	4	11.74	(11.70 - 11.78)								
Toxaphene	2	5	11.81	(11.77 - 11.85)								

Metal Data

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC91036-001
Client Id: TWP-01 U
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/28/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	400	690	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7440-39-3	Barium	100	ND	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7440-70-2	Calcium	10000	410000	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7440-47-3	Chromium	100	ND	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7440-50-8	Copper	100	ND	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7439-89-6	Iron	600	900	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7439-95-4	Magnesium	10000	1200000	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7439-96-5	Manganese	80	230	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7439-97-6	Mercury	0.70	ND	1	25	25	05/05/16	52214	H19334SW	20	CV	HGCV1A
7440-02-0	Nickel	100	ND	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7440-09-7	Potassium	5000	410000	1	50	50	05/04/16	52214	W19334C2	24	P	PEICPRAD2A
7440-22-4	Silver	40	ND	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7440-23-5	Sodium	250000	9400000	50	50	50	05/05/16	52214	W19334E2	12	P	PEICPRAD2A
7440-62-2	Vanadium	100	ND	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A
7440-66-6	Zinc	100	ND	2	50	50	05/05/16	52214	W19334D2	33	P	PEICP2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC91036-001
Client Id: TWP-01 U
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/28/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7440-36-0	Antimony	6.0	ND	2	50	100	05/05/16	522140516ANEW		32		MSMS3_7700SWA
7440-38-2	Arsenic	4.0	6.1	2	50	100	05/05/16	522140516ANEW		32		MSMS3_7700SWA
7440-41-7	Beryllium	2.0	ND	2	50	100	05/05/16	522140516ANEW		32		MSMS3_7700SWA
7440-43-9	Cadmium	4.0	ND	2	50	100	05/05/16	522140516ANEW		32		MSMS3_7700SWA
7440-48-4	Cobalt	4.0	ND	2	50	100	05/05/16	522140516ANEW		32		MSMS3_7700SWA
7439-92-1	Lead	6.0	ND	2	50	100	05/05/16	522140516ANEW		32		MSMS3_7700SWA
7782-49-2	Selenium	20	ND	2	50	100	05/05/16	522140516ANEW		32		MSMS3_7700SWA
7440-28-0	Thallium	4.0	ND	2	50	100	05/05/16	522140516ANEW		32		MSMS3_7700SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC91036-002
Client Id: TWP-01 F
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/28/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	400	540	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7440-39-3	Barium	100	ND	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7440-70-2	Calcium	10000	260000	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7440-47-3	Chromium	100	ND	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7440-50-8	Copper	100	ND	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7439-89-6	Iron	600	ND	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7439-95-4	Magnesium	10000	780000	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7439-96-5	Manganese	80	150	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7439-97-6	Mercury	0.70	ND	1	25	25	05/05/16	52214	H19334SW	23	CV	HGCV1A
7440-02-0	Nickel	100	ND	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7440-09-7	Potassium	5000	300000	1	50	50	05/04/16	52214	W19334C2	25	P	PEICPRAD2A
7440-22-4	Silver	40	ND	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7440-23-5	Sodium	250000	6900000	50	50	50	05/05/16	52214	W19334E2	13	P	PEICPRAD2A
7440-62-2	Vanadium	100	140	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A
7440-66-6	Zinc	100	ND	2	50	50	05/05/16	52214	W19334D2	34	P	PEICP2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC91036-002
Client Id: TWP-01 F
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/28/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7440-36-0	Antimony	6.0	ND	2	50	100	05/05/16	522140516ANEW		33		MSMS3_7700SWA
7440-38-2	Arsenic	4.0	4.0	2	50	100	05/05/16	522140516ANEW		33		MSMS3_7700SWA
7440-41-7	Beryllium	2.0	ND	2	50	100	05/05/16	522140516ANEW		33		MSMS3_7700SWA
7440-43-9	Cadmium	4.0	ND	2	50	100	05/05/16	522140516ANEW		33		MSMS3_7700SWA
7440-48-4	Cobalt	4.0	ND	2	50	100	05/05/16	522140516ANEW		33		MSMS3_7700SWA
7439-92-1	Lead	6.0	ND	2	50	100	05/05/16	522140516ANEW		33		MSMS3_7700SWA
7782-49-2	Selenium	20	ND	2	50	100	05/05/16	522140516ANEW		33		MSMS3_7700SWA
7440-28-0	Thallium	4.0	ND	2	50	100	05/05/16	522140516ANEW		33		MSMS3_7700SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC91036-003
Client Id: DUP TWP-01 U
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/28/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Gas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	400	680	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7440-39-3	Barium	100	ND	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7440-70-2	Calcium	10000	280000	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7440-47-3	Chromium	100	ND	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7440-50-8	Copper	100	ND	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7439-89-6	Iron	600	840	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7439-95-4	Magnesium	10000	850000	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7439-96-5	Manganese	80	160	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7439-97-6	Mercury	0.70	ND	1	25	25	05/05/16	52214	H19334SW	24	CV	HGCV1A
7440-02-0	Nickel	100	ND	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7440-09-7	Potassium	5000	340000	1	50	50	05/04/16	52214	W19334C2	26	P	PEICPRAD2A
7440-22-4	Silver	40	ND	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7440-23-5	Sodium	250000	7700000	50	50	50	05/05/16	52214	W19334E2	14	P	PEICPRAD2A
7440-62-2	Vanadium	100	130	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A
7440-66-6	Zinc	100	ND	2	50	50	05/05/16	52214	W19334D2	35	P	PEICP2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC91036-003
Client Id: DUP TWP-01 U
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/28/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7440-36-0	Antimony	6.0	ND	2	50	100	05/05/16	522140516ANEW		34		MSMS3_7700SWA
7440-38-2	Arsenic	4.0	4.9	2	50	100	05/05/16	522140516ANEW		34		MSMS3_7700SWA
7440-41-7	Beryllium	2.0	ND	2	50	100	05/05/16	522140516ANEW		34		MSMS3_7700SWA
7440-43-9	Cadmium	4.0	ND	2	50	100	05/05/16	522140516ANEW		34		MSMS3_7700SWA
7440-48-4	Cobalt	4.0	ND	2	50	100	05/05/16	522140516ANEW		34		MSMS3_7700SWA
7439-92-1	Lead	6.0	ND	2	50	100	05/05/16	522140516ANEW		34		MSMS3_7700SWA
7782-49-2	Selenium	20	ND	2	50	100	05/05/16	522140516ANEW		34		MSMS3_7700SWA
7440-28-0	Thallium	4.0	ND	2	50	100	05/05/16	522140516ANEW		34		MSMS3_7700SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: AC91036-004
Client Id: DUP TWP-01 F
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/28/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7429-90-5	Aluminum	400	4100	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7440-39-3	Barium	100	ND	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7440-70-2	Calcium	10000	350000	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7440-47-3	Chromium	100	ND	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7440-50-8	Copper	100	ND	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7439-89-6	Iron	600	6900	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7439-95-4	Magnesium	10000	1000000	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7439-96-5	Manganese	80	300	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7439-97-6	Mercury	0.70	ND	1	25	25	05/05/16	52214	H19334SW	25	CV	HGCV1A
7440-02-0	Nickel	100	ND	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7440-09-7	Potassium	5000	380000	1	50	50	05/04/16	52214	W19334C2	27	P	PEICPRAD2A
7440-22-4	Silver	40	ND	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7440-23-5	Sodium	250000	8500000	50	50	50	05/05/16	52214	W19334E2	15	P	PEICPRAD2A
7440-62-2	Vanadium	100	130	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A
7440-66-6	Zinc	100	160	2	50	50	05/05/16	52214	W19334D2	36	P	PEICP2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID: AC91036-004
Client Id: DUP TWP-01 F
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L
Date Rec: 4/28/2016

Lab Name: Veritech
Lab Code:
Contract:

Nras No:
Sdg No:
Case No:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7440-36-0	Antimony	6.0	ND	2	50	100	05/05/16	522140516ANEW		35	MS	MS3_7700SWA
7440-38-2	Arsenic	4.0	14	2	50	100	05/05/16	522140516ANEW		35	MS	MS3_7700SWA
7440-41-7	Beryllium	2.0	ND	2	50	100	05/05/16	522140516ANEW		35	MS	MS3_7700SWA
7440-43-9	Cadmium	4.0	ND	2	50	100	05/05/16	522140516ANEW		35	MS	MS3_7700SWA
7440-48-4	Cobalt	4.0	ND	2	50	100	05/05/16	522140516ANEW		35	MS	MS3_7700SWA
7439-92-1	Lead	6.0	83	2	50	100	05/05/16	522140516ANEW		35	MS	MS3_7700SWA
7782-49-2	Selenium	20	ND	2	50	100	05/05/16	522140516ANEW		35	MS	MS3_7700SWA
7440-28-0	Thallium	4.0	ND	2	50	100	05/05/16	522140516ANEW		35	MS	MS3_7700SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - ColdVapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: MB 52214 (1)
Client Id: MB 52214 (1)
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UGL

Lab Name: Veritech
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File	Seq Num	M	Instr
7429-90-5	Aluminum	200	ND	1	50	50	05/05/16	52214SW19334D2		15	P	PEICP2A
7440-39-3	Barium	50	ND	1	50	50	05/05/16	52214SW19334D2		15	P	PEICP2A
7440-41-7	Beryllium	12	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-70-2	Calcium	5000	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-47-3	Chromium	50	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-50-8	Copper	50	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7439-89-6	Iron	300	ND	1	50	50	05/05/16	52214SW19334D2		15	P	PEICP2A
7439-95-4	Magnesium	5000	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7439-96-5	Manganese	40	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7439-97-6	Mercury	0.70	ND	1	25	25	05/05/16	52214 H19334SW		11	CV	HGCV1A
7439-98-7	Molybdenum	20	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-02-0	Nickel	50	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-09-7	Potassium	5000	ND	1	50	50	05/04/16	52214SW19334C2		11	P	PEICPRAD2A
7440-22-4	Silver	20	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-23-5	Sodium	5000	ND	1	50	50	05/04/16	52214SW19334C2		11	P	PEICPRAD2A
7440-31-5	Tin	50	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-32-6	Titanium	50	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-62-2	Vanadium	50	ND	1	50	50	05/04/16	52214SW19334B2		15	P	PEICP2A
7440-66-6	Zinc	50	ND	1	50	50	05/05/16	52214SW19334D2		15	P	PEICP2A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

Form 1
Inorganic Analysis Data Sheet

Sample ID: MB 52214
Client Id: MB 52214
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L

Lab Name: Veritech
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-36-0	Antimony	3.0	ND	1	50	100	05/05/16	52214	0516ANEW	16		MSMS3_7700SWA
7440-38-2	Arsenic	2.0	ND	1	50	100	05/05/16	52214	0516ANEW	16		MSMS3_7700SWA
7440-41-7	Beryllium	1.0	ND	1	50	100	05/05/16	52214	0516ANEW	16		MSMS3_7700SWA
7440-43-9	Cadmium	2.0	ND	1	50	100	05/05/16	52214	0516ANEW	16		MSMS3_7700SWA
7440-48-4	Cobalt	2.0	ND	1	50	100	05/05/16	52214	0516ANEW	16		MSMS3_7700SWA
7439-92-1	Lead	3.0	ND	1	50	100	05/05/16	52214	0516ANEW	16		MSMS3_7700SWA
7782-49-2	Selenium	10	ND	1	50	100	05/05/16	52214	0516ANEW	16		MSMS3_7700SWA
7440-28-0	Thallium	2.0	ND	1	50	100	05/05/16	52214	0516ANEW	16		MSMS3_7700SWA

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV - Cold Vapor
MS - ICP-MS

FORM 2 (ICV/CCV Summary)

Date Analyzed: 05/04/16
 Data File: SW19334B2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV V- 231075- 7		CCV V- 231075- 12		CCV V- 231075- 23		CCV V- 231075- 36		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec						
Beryllium	1/5	0.49518	99	0.48042	96	0.46949	94	0.45698	91				
Calcium	100/50	51.68940	103	51.60670	103	53.58770	107	54.53990	109				
Chromium	1/5	0.50557	101	0.50033	100	0.49812	100	0.49502	99				
Copper	1/5	0.50542	101	0.50224	100	0.48580	97	0.48335	97				
Magnesium	100/50	51.56190	103	50.68680	101	52.02980	104	52.88810	106				
Manganese	1/5	0.51081	102	0.52129	104	0.53569	107	0.55139	110				
Nickel	1/5	0.50475	101	0.49198	98	0.50161	100	0.50631	101				
Silver	0.2/0.1	0.10026	100	0.09926	99	0.09617	96	0.09236	92				
Vanadium	1/5	0.49608	100	0.50582	101	0.50982	102	0.51284	103				

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 05/04/16
 Data File: SW19334B2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV [eq] V- 232103- 8	Rec	LLCCV [eq] V- 232103- 13	Rec	LLCCV [eq] V- 232103- 24	Rec	LLCCV [eq] V- 232103- 37	Rec	Rec	Rec	Rec
Beryllium	0.012/0.012	0.0128193	107	0.0125691	105	0.0122182	102	0.0120098	100			
Calcium	5.0/5	5.40151	108	5.42074	108	5.67057	113	5.72753	115			
Chromium	0.05/0.05	0.0524985	105	0.0522607	105	0.0541928	108	0.0549239	110			
Copper	0.05/0.05	0.0526923	105	0.0514765	103	0.0500795	100	0.0510592	102			
Magnesium	5.0/5	5.42616	109	5.38385	108	5.57314	111	5.60848	112			
Manganese	0.04/0.04	0.0428653	107	0.0431019	108	0.0455318	114	0.0460212	115			
Nickel	0.05/0.05	0.0513875	103	0.0511313	102	0.0526666	105	0.0524991	105			
Silver	0.02/0.02	0.0213530	107	0.0206769	103	0.0211843	106	0.0175704	88			
Vanadium	0.05/0.05	0.0533978	107	0.0533353	107	0.0550906	110	0.0542508	109			

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2
(ICV/CCV Summary)

Date Analyzed: 05/04/16
 Data File: SW19334C2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CCV Amt	ICV V-231075-6		CCV V-231075-19		CCV V-231075-30		Rec	Rec	Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec								
Potassium	100/50	49.95930	100	50.04020	100	49.59330	99						
Sodium	100/50	51.32570	103	50.96660	102	53.57210	107						

Notes:
 a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CLP ICP ICV/CCV: 90-110
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120) CLP Hg ICV/CCV: 80-120
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 05/04/16
 Data File: SW19334C2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV [aq] V- 232103- 7 Rec	LLCCV [aq] V- 232103- 20 Rec	LLCCV [aq] V- 232103- 31 Rec	Rec	Rec	Rec	Rec	Rec	Rec					
Potassium	5.0/5	5.22646	105	5.30606	106	5.42380	108								
Sodium	5.0/5	4.68712	94	4.11365	82	6.28172	126								

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 05/05/16
 Data File: SW19334D2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CCV Amt	ICV V-231075-7		CCV V-231075-12		CCV V-231075-24		CCV V-231075-30		CCV V-231075-40		Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec					
Aluminum	10/5	4.92882	99	5.08222	102	4.90664	98	4.89423	98	4.89385	98			
Barium	1/5	0.49480	99	0.49829	100	0.49125	98	0.48785	98	0.48698	97			
Calcium	100/50	50.45900	101	50.92490	102	50.07950	100	49.97460	100	49.80360	100			
Chromium	1/5	0.49996	100	0.50442	101	0.49666	99	0.49161	98	0.49107	98			
Copper	1/5	0.50144	100	0.50729	101	0.50184	100	0.49619	99	0.49485	99			
Iron	10/5	4.97450	99	5.05201	101	4.93918	99	4.90370	98	4.90933	98			
Magnesium	100/50	51.13030	102	51.46720	103	50.60590	101	50.54000	101	50.29840	101			
Manganese	1/5	0.49697	99	0.50063	100	0.49280	99	0.48802	98	0.48908	98			
Nickel	1/5	0.50040	100	0.50458	101	0.49687	99	0.49134	98	0.48936	98			
Silver	0.2/0.1	0.09802	98	0.09945	99	0.09750	97	0.09655	97	0.09635	98			
Vanadium	1/5	0.49452	99	0.49956	100	0.48871	98	0.48746	97	0.48695	97			
Zinc	1/5	0.50441	101	0.50438	101	0.49623	99	0.49284	99	0.49278	99			

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV - 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 05/05/16
 Data File: SW19334D2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV	Rec	LLCCV	Rec	LLCCV	Rec	LLCCV	Rec	LLCCV	Rec	Rec	Rec	Rec
		[aq] V- 232103- 8	117	[aq] V- 232103- 13	113	[aq] V- 232103- 25	109	[aq] V- 232103- 31	110	[aq] V- 232103- 41	104			
Aluminum	0.20/0.2	0.234172	117	0.225552	113	0.218992	109	0.219798	110	0.208352	104			
Barium	0.05/0.05	0.0522666	105	0.0517804	104	0.0516413	103	0.0520970	104	0.0506338	101			
Calcium	5.0/5	5.69769	114	5.71841	114	5.63613	113	5.68323	114	5.64565	113			
Chromium	0.05/0.05	0.0517084	103	0.0513311	103	0.0510086	102	0.0515408	103	0.0500344	100			
Copper	0.05/0.05	0.0525138	105	0.0525163	105	0.0525542	105	0.0532292	106	0.0513865	103			
Iron	0.3/0.3	0.313345	104	0.310694	104	0.309932	103	0.314009	105	0.305727	102			
Magnesium	5.0/5	5.81337	116	5.75806	115	5.73562	115	5.76943	115	5.62697	113			
Manganese	0.04/0.04	0.0420583	105	0.0416569	104	0.0414279	104	0.0416822	104	0.0405527	101			
Nickel	0.05/0.05	0.0513202	103	0.0509629	102	0.0502727	101	0.0514444	103	0.0491856	98			
Silver	0.02/0.02	0.0200965	100	0.0198026	99	0.0195464	98	0.0195832	98	0.0190670	95			
Vanadium	0.05/0.05	0.0532104	106	0.0517439	103	0.0516084	103	0.0515274	103	0.0496061	99			
Zinc	0.05/0.05	0.0522601	105	0.0514842	103	0.0506301	101	0.0519194	104	0.0501938	100			

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 05/05/16
 Data File: SW19334E2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV V-	Rec	CCV V-	Rec	Rec	Rec	Rec	Rec	Rec
		231075- 6		231075- 18						
Sodium	100/50	51.54020	103	51.51840	103					

Notes:
 a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 05/05/16
 Data File: SW19334E2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV [eq] V- 232103- 7	Rec	LLCCV [eq] V- 232103- 19	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Sodium	5.05	5.54453	111	5.44945	109						

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2
(ICV/CCV Summary)

Date Analyzed: 05/05/16
 Data File: SW19334F2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV V- 231075- 7 Rec	CCV V- 231075- 16 Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Zinc	1.5	0.50648	101	0.49953	100					

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 05/05/16
 Data File: SW19334F2
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV [aq] V- 232103- 8	Rec	LLCCV [aq] V- 232103- 17	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Zinc	0.05/0.05	0.0491496	98	0.0484829	97						

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

FORM 2 (ICV/CCV Summary)

Date Analyzed: 05/05/16
 Data File: SW50516ANEW
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS3_7700SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CCV Amt	ICV V-232504-8		CCV V-232508-13		CCV V-232508-26		CCV V-232508-39		CCV V-232508-46		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec						
Antimony	50/30	47.03100	94	48.81300	98	48.09600	96	49.23800	98	47.88100	96				
Arsenic	50/30	48.84700	98	48.87600	98	49.78400	100	49.21000	98	48.77000	98				
Beryllium	50/30	47.26800	95	50.99900	102	48.98000	98	50.13500	100	50.34900	101				
Cadmium	50/30	47.19000	94	49.48000	99	48.81300	98	49.02900	98	48.27900	97				
Cobalt	50/30	48.33800	97	49.73400	99	50.54800	101	50.10100	100	50.31400	101				
Lead	50/30	47.41300	95	50.52600	101	49.27200	99	49.95400	100	50.13300	100				
Selenium	50/30	50.19800	100	246.86400	99	246.61300	99	242.92200	97	242.67400	97				
Thallium	50/30	46.42900	93	50.65400	101	49.36500	99	50.14700	100	50.28400	101				

Notes:
 a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 2 (LLICV/LLCCV Summary)

Date Analyzed: 05/05/16
 Data File: SW50516ANEW
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS3_7700SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	LLICV/ LLCCV Amt	LLICV V- 232510- 9 Rec	LLCCV V- 232510- 14 Rec	LLCCV V- 232510- 27 Rec	LLCCV V- 232510- 40 Rec	LLCCV V- 232510- 47 Rec	Rec	Rec	Rec	Rec
Antimony	1.5/1.5	1.397 93	1.368 91	1.364 91	1.321 88	1.356 90				
Arsenic	1/1	1.016 102	0.963 96	0.983 98	0.972 97	0.905 90				
Beryllium	0.5/0.5	0.531 106	0.528 105	0.540 108	0.499 100	0.476 95				
Cadmium	1/1	1.007 101	0.976 98	0.991 99	0.953 95	0.976 98				
Cobalt	1/1	1.013 101	1.023 102	0.979 98	0.984 98	0.991 99				
Lead	1.5/1.5	1.492 99	1.481 99	1.496 100	1.440 96	1.498 100				
Selenium	5/5	5.175 104	4.844 97	4.715 94	4.457 89	5.083 102				
Thallium	1/1	1.025 102	1.004 100	1.053 105	0.980 98	0.991 99				

Notes: a-indicates analyte failed the LLICV limits for 6010B, 6010C, 6020, 6020A
 c-indicates analyte failed the LLCCV limits for 6010B, 6010C, 6020, 6020A

Qc Limits: LLCCV- 6010B/6010C/6020/6020A (70-130)
 LLICV -6010B/6010C/6020/6020A :70-130

**FORM 2
(ICV/CCV Summary)**

Date Analyzed: 05/05/16
 Data File: H19334SW
 Prep Batch: 52214
 Analytical Method: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: HGCV1A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICV/CCV SOURCE: VHG LABS

Analyte	ICV/CC V Amt	ICV (2)-9		CCV-21		CCV-26										
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec							
Mercury	20/10	20.43675	102	10.91814	109	10.91446	109									

Notes: a-indicates analyte failed the ICV limits for 6010B/6010C, 6020/6020A
 b-indicates analyte failed the ICV limits for 200.7 or 200.8
 c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010B/6010C (Except Hg 7470/7470A,7471A/7471B),6020/6020A
 d-indicates analyte failed the CCV limits Hg 7470A/7471A/7471B

Qc Limits: ICV - 200.7 : 95-105
 CCV- 200.7/200.8/6010B/6010C/245.1 : 90-110 (Except Hg 7470/7470A/ 7471A/7471B=80-120)
 ICV -6010B/6010C/6020/6020A/200.8 : 90-110
 CLP ICP ICV/CCV: 90-110
 CLP Hg ICV/CCV: 80-120

FORM 3 (ICB/CCB/MB Summary)

Date Analyzed: 05/04/16

Data File: SW19334B2

Prep Batch: 52214

Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A

Instrument: PEICP2A

Units: All units in ppm except Hg and icp-ms in ppb

Project Number: 6042811

Lab Name: Veritech

Lab Code:

Contract:

Nras No:

Sdg No:

Case No:

Analyte	ICB V-228950- 9	CCB-14	CCB-25	CCB-38	MB 52214 (1)- 15
Beryllium	.012 U	.012 U	.012 U	.012 U	.012 U
Calcium	5 U	5 U	5 U	5 U	5 U
Chromium	.05 U	.05 U	.05 U	.05 U	.05 U
Copper	.05 U	.05 U	.05 U	.05 U	.05 U
Magnesium	5 U	5 U	5 U	5 U	5 U
Manganese	.04 U	.04 U	.04 U	.04 U	.04 U
Nickel	.05 U	.05 U	.05 U	.05 U	.05 U
Silver	.02 U	.02 U	.02 U	.02 U	.02 U
Vanadium	.05 U	.05 U	.05 U	.05 U	.05 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
u-indicates result below reporting limit

FORM 3 (ICB/CCB/MB Summary)

Date Analyzed: 05/04/16

Data File: SW19334C2

Prep Batch: 52214

Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A

Instrument: PEICPRAD2A

Units: All units in ppm except Hg and icp-ms in ppb

Project Number: 6042811

Lab Name: Veritech

Lab Code:

Contract:

Nras No:

Sdg No:

Case No:

Analyte	ICB V-228950- 8	CCB-21	CCB-32	MB 52214 (1)- 11
Potassium	5 U	5 U	5 U	5 U
Sodium	5 U	5 U	5 U	5 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
u-indicates result below reporting limit

FORM 3 (ICB/CCB/MB Summary)

Date Analyzed: 05/05/16

Data File: SW19334D2

Prep Batch: 52214

Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A

Instrument: PEICP2A

Units: All units in ppm except Hg and icp-ms in ppb

Project Number: 6042811

Lab Name: Veritech

Lab Code:

Contract:

Nras No:

Sdg No:

Case No:

Analyte	ICB V-228950- 9	CCB-14	CCB-26	CCB-32	CCB-42	MB 52214 (1)- 15
Aluminum	.2 U	.2 U	.2 U	.2 U	.2 U	.2 U
Barium	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Calcium	5 U	5 U	5 U	5 U	5 U	5 U
Chromium	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Copper	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Iron	.3 U	.3 U	.3 U	.3 U	.3 U	.3 U
Magnesium	5 U	5 U	5 U	5 U	5 U	5 U
Manganese	.04 U	.04 U	.04 U	.04 U	.04 U	.04 U
Nickel	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Silver	.02 U	.02 U	.02 U	.02 U	.02 U	.02 U
Vanadium	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Zinc	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 05/05/16

Data File: SW19334E2

Prep Batch: 52214

Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A

Instrument: PEICPRAD2A

Units: All units in ppm except Hg and icp-ms in ppb

Project Number: 6042811

Lab Name: Veritech

Lab Code:

Contract:

Nras No:

Sdg No:

Case No:

Analyte	ICB V-228950- 8	CCB-20
Sodium	5 U	5 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 05/05/16
Data File: SW19334F2
Prep Batch: 52214
Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
Instrument: PEICP2A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 6042811

Lab Name: Veritech
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-228950- 9	CCB-18
Zinc	.05 U	.05 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
u-indicates result below reporting limit

FORM 3 (ICB/CCB/MB Summary)

Date Analyzed: 05/05/16

Data File: SW50516ANEW

Prep Batch: 52214

Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A

Instrument: MS3_7700SWA

Units: All units in ppm except Hg and icp-ms in ppb

Project Number: 6042811

Lab Name: Veritech

Lab Code:

Contract:

Nras No:

Sdg No:

Case No:

Analyte	ICB V-232505-10	CCB V-232505-15	CCB V-232505-28	CCB V-232505-41	CCB V-232505-48	MB 52214-16
Antimony	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	3U
Arsenic	1 U	1 U	1 U	1 U	1 U	2U
Beryllium	.5 U	.5 U	.5 U	.5 U	.5 U	1U
Cadmium	1 U	1 U	1 U	1 U	1 U	2U
Cobalt	1 U	1 U	1 U	1 U	1 U	2U
Lead	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	3U
Selenium	5 U	5 U	5 U	5 U	5 U	10U
Thallium	1 U	1 U	1 U	1 U	1 U	2U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
u-indicates result below reporting limit

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 05/05/16
 Data File: H19334SW
 Prep Batch: 52214
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: HGCV1A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:

Analyte	ICB-10	CCB-22	CCB-27	MB 52214 (1)- 11
Mercury	.7 U	.7 U	.7 U	.7 U

Notes: a-indicates absolute value of result found above the reporting limits in CCB/ICB or result found above reporting limit in the MB
 u-indicates result below reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 05/04/16
 Data File: SW19334B2
 Prep Batch: 52214
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 231003-10		ICSAB V- 231005-11		ICSA V- 231003-34		ICSAB V- 231005-35		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec						
Aluminum	500	513.642	103	515.92900	103	531.844	106	531.77900	106				
Beryllium	.5	U		0.49076	98	U		0.45845	91				
Calcium	500	486.504	97	485.91100	97	503.875	101	501.60100	100				
Chromium	.5	U		0.48635	99	U		0.48781	98				
Copper	.5	U		0.53009	106	U		0.50357	101				
Iron	200	193.93	97	194.86400	97	204.494	102	204.63200	102				
Magnesium	500	502.743	101	502.34700	100	512.001	102	511.19400	102				
Manganese	.5	U		0.49880	100	U		0.52239	104				
Nickel	1	U		0.95127	95	U		0.95242	95				
Silver	1	U		1.04972	105	U		0.98790	99				
Vanadium	.5	U		0.46830	94	U		0.45328	91				

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits in the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4
(ICSA/ICSAB Summary)

Date Analyzed: 05/04/16
 Data File: SW19334C2
 Prep Batch: 52214
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 231003-9		ICSAB V- 231005-10		ICSA V- 231003-28		ICSAB V- 231005-29		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec						
Aluminum	500	497.742	100	500.75800	100	496.923	99	483.58200	97				
Calcium	500	471.47	94	473.60700	95	469.275	94	455.67400	91				
Iron	200	186.02	93	187.37200	94	184.262	92	179.09300	90				
Magnesium	500	478.049	96	480.62100	96	472.67	95	457.78300	92				

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits in the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 05/05/16
 Data File: SW19334D2
 Prep Batch: 52214
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V-231003-10		ICSAB V-231005-11		ICSA V-231003-28		ICSAB V-231005-29		ICSA V-231003-38		ICSAB V-231005-39		Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec				
Aluminum	500	503.8	101	515.51400	103	501.948	100	501.65300	100	503.986	101	501.53400	100		
Barium	.5	U		0.53125	106	U		0.51888	104	U		0.51896	104		
Calcium	500	483.323	97	493.48500	99	477.929	96	477.12100	95	479.89	96	477.08000	95		
Chromium	.5	U		0.51135	102	U		0.49845	100	U		0.49830	100		
Copper	.5	U		0.58286	113	U		0.54954	110	U		0.55104	110		
Iron	200	189.204	95	191.75000	96	187.506	94	187.50700	94	187.758	94	187.62600	94		
Magnesium	500	508.478	102	514.71400	103	502.274	100	501.96900	100	504.149	101	502.04600	100		
Manganese	.5	U		0.49663	99	U		0.48466	97	U		0.48402	97		
Nickel	1	U		0.96795	97	U		0.94434	94	U		0.94539	95		
Silver	1	U		1.11022	111	U		1.08382	108	U		1.08510	109		
Vanadium	.5	U		0.50310	101	U		0.48858	98	U		0.48801	98		
Zinc	1	U		0.98137	98	U		0.95629	96	U		0.95296	95		

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 05/05/16
 Data File: SW19334E2
 Prep Batch: 52214
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICPRAD2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 231003-9		ICSAB V- 231005-10		ICSA V- 231003-16		ICSAB V- 231005-17		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec						
Aluminum	500	512.123	102	515.95500	103	509.968	102	515.70900	103				
Calcium	500	489.099	98	492.76100	99	488.663	98	492.94900	99				
Iron	200	188.711	94	190.55200	95	188.558	94	190.64900	95				
Magnesium	500	493.887	99	498.08700	100	493.289	99	498.39200	100				

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 05/05/16
 Data File: SW19334F2
 Prep Batch: 52214
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: PEICP2A
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 231003-10		ICSAB V- 231005-11		ICSA V- 231003-14		ICSAB V- 231005-15		Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec	Rec	Rec						
Aluminum	500	510.642	102	520.23400	104	508.729	102	509.25300	102				
Calcium	500	490.472	98	498.87700	100	487.526	98	487.58300	98				
Iron	200	189.517	95	192.09800	96	189.745	95	188.69000	94				
Magnesium	500	507.978	102	513.97000	103	508.009	102	504.89300	101				
Zinc	1	U		0.98842	99	U		0.97003	97				

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM 4 (ICSA/ICSAB Summary)

Date Analyzed: 05/05/16
 Data File: SW50516ANEW
 Prep Batch: 52214
 Reporting Limits Used: 6010B/6010C/7470A,7471A/7471B(Hg),6020/6020A
 Instrument: MS3_7700SWA
 Units: All units in ppm except Hg and icp-ms in ppb
 Project Number: 6042811

Lab Name: Veritech
 Lab Code:
 Contract:
 Nras No:
 Sdg No:
 Case No:
 ICSA/ICSAB: SOURCE: VHG LABS

Analyte	Spk Amt	ICSA V- 232506-11		ICSAB V- 232507-12		Rec	Rec	Rec	Rec	Rec	Rec
		Rec	Rec	Rec	Rec						
Aluminum	50000	48521.59	97	10564.81000	99						
Arsenic	100	U		101.26900	101						
Cadmium	100	1.275b		101.23800	101						
Calcium	150000	148974.1	99	52855.40000	102						
Cobalt	200	U		195.69000	98						
Iron	125000	120958.2	97	22899.40000	98						
Magnesium	50000	48093.48	96	49102.17000	98						
Selenium	100	U		101.70800	102						

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits in the ICSA
 b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
 c-indicates the recovery failed the Qc Criteria in the ICSAB
 u-indicates the absolute value of the concentration was below the reporting limit

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52214

6042811 0181

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCS		Matrix: AQUEOUS		SampleID: LCSW 52214							
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim	
Aluminum	52214	1	SW19334	16	4.5226	5.000	90	80	120		
Barium	52214	1	SW19334	16	0.4597	0.500	92	80	120		
Calcium	52214	1	SW19334	16	47.7863	50.00	96	80	120		
Chromium	52214	1	SW19334	16	0.4558	0.500	91	80	120		
Copper	52214	1	SW19334	16	0.4483	0.500	90	80	120		
Iron	52214	1	SW19334	16	4.6088	5.000	92	80	120		
Magnesium	52214	1	SW19334	16	46.5403	50.00	93	80	120		
Manganese	52214	1	SW19334	16	0.4885	0.500	98	80	120		
Mercury	52214	1	H19334S	12	10.1696	10	102	80	120		
Nickel	52214	1	SW19334	16	0.4585	0.500	92	80	120		
Potassium	52214	1	SW19334	12	45.2233	50	90	80	120		
Silver	52214	1	SW19334	16	0.0888	0.100	89	80	120		
Sodium	52214	1	SW19334	12	45.6778	50	91	80	120		
Vanadium	52214	1	SW19334	16	0.4729	0.500	95	80	120		
Zinc	52214	1	SW19334	16	0.4603	0.500	92	80	120		

TxtQcType: LCSMR		Matrix: AQUEOUS		SampleID: LCSW MR 52214							
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim	
Aluminum	52214	1	SW19334	17	4.9030	5.000	98	80	120		
Barium	52214	1	SW19334	17	0.4970	0.500	99	80	120		
Calcium	52214	1	SW19334	17	50.9928	50.00	102	80	120		
Chromium	52214	1	SW19334	17	0.4809	0.500	96	80	120		
Copper	52214	1	SW19334	17	0.4778	0.500	96	80	120		
Iron	52214	1	SW19334	17	4.9987	5.000	100	80	120		
Magnesium	52214	1	SW19334	17	49.6963	50.00	99	80	120		
Manganese	52214	1	SW19334	17	0.5169	0.500	103	80	120		
Mercury	52214	1	H19334S	13	10.3065	10	103	80	120		
Nickel	52214	1	SW19334	17	0.4841	0.500	97	80	120		
Potassium	52214	1	SW19334	13	47.9584	50	96	80	120		
Silver	52214	1	SW19334	17	0.0944	0.100	94	80	120		
Sodium	52214	1	SW19334	13	48.2987	50	97	80	120		
Vanadium	52214	1	SW19334	17	0.5007	0.500	100	80	120		
Zinc	52214	1	SW19334	17	0.4965	0.500	99	80	120		

TxtQcType: MS		Matrix: AQUEOUS		SampleID: AC91087-001									
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Aluminum	52214	1	SW19334	20	SW19334	18	5.7858	1.1488	5.00	93	75	125	
Barium	52214	1	SW19334	20	SW19334	18	0.5475	0.0827	0.50	93	75	125	
Calcium	52214	1	SW19334	20	SW19334	18	55.0174	5.7341	50.0	99	75	125	
Chromium	52214	1	SW19334	20	SW19334	18	0.4733	0.05U	0.50	95	75	125	
Copper	52214	1	SW19334	20	SW19334	18	0.4687	0.05U	0.50	94	75	125	
Iron	52214	1	SW19334	20	SW19334	18	5.2599	0.5894	5.00	93	75	125	
Magnesium	52214	1	SW19334	20	SW19334	18	52.9231	5.0752	50.0	96	75	125	
Manganese	52214	1	SW19334	20	SW19334	18	0.5260	0.04U	0.50	105	75	125	
Mercury	52214	1	H19334S	16	H19334S	14	10.2516	.70U	10	103	75	125	
Nickel	52214	1	SW19334	20	SW19334	18	0.4796	0.05U	0.50	96	75	125	
Potassium	52214	1	SW19334	16	SW19334	14	49.3824	5U	50.00	99	75	125	
Silver	52214	1	SW19334	20	SW19334	18	0.0928	0.02U	.100	93	75	125	
Sodium	52214	1	SW19334	16	SW19334	14	137.3710	99.2941	50.00	76	75	125	
Vanadium	52214	1	SW19334	20	SW19334	18	0.4969	0.05U	0.50	99	75	125	
Zinc	52214	1	SW19334	20	SW19334	18	0.4803	0.05U	0.50	96	75	125	

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52214

6042811 0182

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: MSD		Matrix: AQUEOUS			SampleID: AC91087-001								
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Aluminum	52214	1	SW19334	21	SW19334	18	5.5234	1.1488	5.00	87		75	125
Barium	52214	1	SW19334	21	SW19334	18	0.5217	0.0827	0.50	88		75	125
Calcium	52214	1	SW19334	21	SW19334	18	51.5994	5.7341	50.0	92		75	125
Chromium	52214	1	SW19334	21	SW19334	18	0.4416	0.05U	0.50	88		75	125
Copper	52214	1	SW19334	21	SW19334	18	0.4336	0.05U	0.50	87		75	125
Iron	52214	1	SW19334	21	SW19334	18	5.0375	0.5894	5.00	89		75	125
Magnesium	52214	1	SW19334	21	SW19334	18	49.0428	5.0752	50.0	88		75	125
Manganese	52214	1	SW19334	21	SW19334	18	0.4906	0.04U	0.50	98		75	125
Mercury	52214	1	H19334S	17	H19334S	14	10.3309	.70U	10	103		75	125
Nickel	52214	1	SW19334	21	SW19334	18	0.4444	0.05U	0.50	89		75	125
Potassium	52214	1	SW19334	17	SW19334	14	47.7013	5U	50.0	95		75	125
Silver	52214	1	SW19334	21	SW19334	18	0.0858	0.02U	0.100	86		75	125
Sodium	52214	1	SW19334	17	SW19334	14	128.9540	99.2941	50	59	a	75	125
Vanadium	52214	1	SW19334	21	SW19334	18	0.4627	0.05U	0.50	93		75	125
Zinc	52214	1	SW19334	21	SW19334	18	0.4558	0.05U	0.50	91		75	125

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52214

6042811 0183

Instrument Type: ICPMS

Analytical Method(s):6020/200.8

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCS		Matrix: AQUEOUS		SampleID: LCSW 52214							
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim	
Antimony	52214	1	SW50516	17	235.3670	250	94	80	80	120	
Arsenic	52214	1	SW50516	17	238.9600	250	96	80	80	120	
Beryllium	52214	1	SW50516	17	273.6140	250	109	80	80	120	
Cadmium	52214	1	SW50516	17	235.7950	250	94	80	80	120	
Cobalt	52214	1	SW50516	17	247.4120	250	99	80	80	120	
Lead	52214	1	SW50516	17	236.4880	250	95	80	80	120	
Selenium	52214	1	SW50516	17	239.0000	250	96	80	80	120	
Thallium	52214	1	SW50516	17	237.1920	250	95	80	80	120	

TxtQcType: LCSMR		Matrix: AQUEOUS		SampleID: LCSW MR 52214							
Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim	
Antimony	52214	1	SW50516	18	238.6520	250	95	80	80	120	
Arsenic	52214	1	SW50516	18	237.5760	250	95	80	80	120	
Beryllium	52214	1	SW50516	18	269.8300	250	108	80	80	120	
Cadmium	52214	1	SW50516	18	237.4120	250	95	80	80	120	
Cobalt	52214	1	SW50516	18	248.0180	250	99	80	80	120	
Lead	52214	1	SW50516	18	237.0740	250	95	80	80	120	
Selenium	52214	1	SW50516	18	237.8210	250	95	80	80	120	
Thallium	52214	1	SW50516	18	237.4630	250	95	80	80	120	

TxtQcType: MS		Matrix: AQUEOUS		SampleID: AC91087-001									
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52214	1	SW50516	22	SW50516	19	246.0460	1.5U	250	98	75	75	125
Arsenic	52214	1	SW50516	22	SW50516	19	253.3410	1U	250	101	75	75	125
Beryllium	52214	1	SW50516	22	SW50516	19	259.9130	0.5U	250	104	75	75	125
Cadmium	52214	1	SW50516	22	SW50516	19	242.1810	1U	250	97	75	75	125
Cobalt	52214	1	SW50516	22	SW50516	19	258.6040	2.2180	250	103	75	75	125
Lead	52214	1	SW50516	22	SW50516	19	237.9170	1.5U	250	95	75	75	125
Selenium	52214	1	SW50516	22	SW50516	19	258.1750	6.0600	250	101	75	75	125
Thallium	52214	1	SW50516	22	SW50516	19	238.2410	1U	250	95	75	75	125

TxtQcType: MSD		Matrix: AQUEOUS		SampleID: AC91087-001									
Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	52214	1	SW50516	23	SW50516	19	249.4610	1.5U	250	100	75	75	125
Arsenic	52214	1	SW50516	23	SW50516	19	255.3710	1U	250	102	75	75	125
Beryllium	52214	1	SW50516	23	SW50516	19	275.7550	0.5U	250	110	75	75	125
Cadmium	52214	1	SW50516	23	SW50516	19	246.8600	1U	250	99	75	75	125
Cobalt	52214	1	SW50516	23	SW50516	19	257.4330	2.2180	250	102	75	75	125
Lead	52214	1	SW50516	23	SW50516	19	245.5530	1.5U	250	98	75	75	125
Selenium	52214	1	SW50516	23	SW50516	19	258.2390	6.0600	250	101	75	75	125
Thallium	52214	1	SW50516	23	SW50516	19	245.7200	1U	250	98	75	75	125

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
 PREP BATCH: 52214

6042811 0184

Instrument Type: ICPMS
 Analytical Method(s):8020/200.8

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: PS		Matrix: AQUEOUS		SampleID: AC91087-001								
Analyte	DF	Data Fil	Seq#	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Antimony	1	SW50516	24	SW50516	19	52.8530	1.5U	50	105	80	80	120
Arsenic	1	SW50516	24	SW50516	19	54.6150	1U	50	109	80	80	120
Beryllium	1	SW50516	24	SW50516	19	55.7430	0.5U	50	111	80	80	120
Cadmium	1	SW50516	24	SW50516	19	52.5460	1U	50	105	80	80	120
Cobalt	1	SW50516	24	SW50516	19	55.8000	2.2180	50	107	80	80	120
Lead	1	SW50516	24	SW50516	19	52.2730	1.5U	50	105	80	80	120
Selenium	1	SW50516	24	SW50516	19	269.5800	6.0600	250	105	80	80	120
Thallium	1	SW50516	24	SW50516	19	51.5870	1U	50	103	80	80	120

a-Indicates Recovery Failed the criteria

b-Indicates Recovery Failed the criteria 100% non spike concentration >4*spike amount

FORM6/FORM9

6042811 0185

RPD/%Difference Data

PREP BATCH: 52214

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR		Matrix: AQUEOUS		SampleID: LCSW MR 52214					
Analyte	BatchId	Data Fil	Seq#	NS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52214	SW19334	17	SW19334	16	4.9030	4.5226	8.1	20
Barium	52214	SW19334	17	SW19334	16	0.4970	0.4597	7.8	20
Calcium	52214	SW19334	17	SW19334	16	50.9928	47.7863	6.5	20
Chromium	52214	SW19334	17	SW19334	16	0.4809	0.4558	5.4	20
Copper	52214	SW19334	17	SW19334	16	0.4778	0.4483	6.4	20
Iron	52214	SW19334	17	SW19334	16	4.9987	4.6088	8.1	20
Magnesium	52214	SW19334	17	SW19334	16	49.6963	46.5403	6.6	20
Manganese	52214	SW19334	17	SW19334	16	0.5169	0.4885	5.6	20
Mercury	52214	H19334S	13	H19334S	12	10.3065	10.1696	1.3	20
Nickel	52214	SW19334	17	SW19334	16	0.4841	0.4585	5.4	20
Potassium	52214	SW19334	13	SW19334	12	47.9584	45.2233	5.9	20
Silver	52214	SW19334	17	SW19334	16	0.0944	0.0888	6.1	20
Sodium	52214	SW19334	13	SW19334	12	48.2987	45.6778	5.6	20
Vanadium	52214	SW19334	17	SW19334	16	0.5007	0.4729	5.7	20
Zinc	52214	SW19334	17	SW19334	16	0.4965	0.4603	7.6	20

TxtQcType: MR		Matrix: AQUEOUS		SampleID: AC91087-001					
Analyte	BatchId	Data Fil	Seq#	NS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52214	SW19334	19	SW19334	18	1.1985	1.1488	4.2	20
Barium	52214	SW19334	19	SW19334	18	0.0877	0.0827	5.9	20
Calcium	52214	SW19334	19	SW19334	18	6.0473	5.7341	5.3	20
Chromium	52214	SW19334	19	SW19334	18	0.05U	0.05U	---	20
Copper	52214	SW19334	19	SW19334	18	0.05U	0.05U	---	20
Iron	52214	SW19334	19	SW19334	18	0.8600	0.5894	37	20
Magnesium	52214	SW19334	19	SW19334	18	5.3274	5.0752	4.8	20
Manganese	52214	SW19334	19	SW19334	18	0.04U	0.04U	---	20
Mercury	52214	H19334S	15	H19334S	14	.70U	.70U	---	20
Nickel	52214	SW19334	19	SW19334	18	0.05U	0.05U	---	20
Potassium	52214	SW19334	15	SW19334	14	5U	5U	---	20
Silver	52214	SW19334	19	SW19334	18	0.02U	0.02U	---	20
Sodium	52214	SW19334	15	SW19334	14	105.1640	99.2941	5.7	20
Vanadium	52214	SW19334	19	SW19334	18	0.05U	0.05U	---	20
Zinc	52214	SW19334	19	SW19334	18	0.05U	0.05U	---	20

TxtQcType: MSD		Matrix: AQUEOUS		SampleID: AC91087-001					
Analyte	BatchId	Data Fil	Seq#	MS File	Seq#	Result 1	Result 2	RPD	Limit
Aluminum	52214	SW19334	21	SW19334	20	5.5234	5.7858	4.6	20
Barium	52214	SW19334	21	SW19334	20	0.5217	0.5475	4.8	20
Calcium	52214	SW19334	21	SW19334	20	51.5994	55.0174	6.4	20
Chromium	52214	SW19334	21	SW19334	20	0.4416	0.4733	6.9	20
Copper	52214	SW19334	21	SW19334	20	0.4336	0.4687	7.8	20
Iron	52214	SW19334	21	SW19334	20	5.0375	5.2599	4.3	20
Magnesium	52214	SW19334	21	SW19334	20	49.0428	52.9231	7.6	20
Manganese	52214	SW19334	21	SW19334	20	0.4906	0.5260	7	20
Mercury	52214	H19334S	17	H19334S	16	10.3309	10.2516	.77	20
Nickel	52214	SW19334	21	SW19334	20	0.4444	0.4796	7.6	20
Potassium	52214	SW19334	17	SW19334	16	47.7013	49.3824	3.5	20
Silver	52214	SW19334	21	SW19334	20	0.0858	0.0928	7.8	20
Sodium	52214	SW19334	17	SW19334	16	128.9540	137.3710	6.3	20
Vanadium	52214	SW19334	21	SW19334	20	0.4627	0.4969	7.1	20
Zinc	52214	SW19334	21	SW19334	20	0.4558	0.4803	5.2	20

a-Indicates Rpd Failed the criteria

b-Method Rep Out but concentrations < 5*RL

c-Serial dilution Out but conc < 10 * IDL

FORM6/FORM9
 RPD/%Difference Data
 PREP BATCH: 52214

6042811 0186

Instrument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: SD		Matrix: AQUEOUS		SampleID: AC91087-001						
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff	Limit
Aluminum	52214	SW19334	23	SW19334	18	5	0.2573	1.1488	12 a	10
Barium	52214	SW19334	23	SW19334	18	5	0.0173	0.0827	4.6	10
Calcium	52214	SW19334	26	SW19334	18	5	1.2690	5.7341	11 a	10
Chromium	52214	SW19334	26	SW19334	18	5	0.0040	0.0060	235 a	10
Copper	52214	SW19334	26	SW19334	18	5	0.0001	0.0020	---	10
Iron	52214	SW19334	23	SW19334	18	5	0.1291	0.5894	9.5	10
Magnesium	52214	SW19334	26	SW19334	18	5	1.1640	5.0752	15 a	10
Manganese	52214	SW19334	26	SW19334	18	5	0.0050	0.0191	32 a	10
Nickel	52214	SW19334	26	SW19334	18	5	0.0019	0.0061	53 c	10
Potassium	52214	SW19334	22	SW19334	14	5	0.9406	3.6214	30 a	10
Silver	52214	SW19334	26	SW19334	18	5	0.0015	0.0017	342 c	10
Sodium	52214	SW19334	22	SW19334	14	5	20.2225	99.2941	1.8	10
Vanadium	52214	SW19334	26	SW19334	18	5	0.0034	0.0059	190 c	10
Zinc	52214	SW19334	23	SW19334	18	5	0.0019	0.0060	61 c	10

a-Indicates Rpd Failed the criteria

b-Method Rep Out but concentrations < 5*RL

c-Serial dilution Out but conc < 10 * IDL

FORM6/FORM9
RPD/%Difference Data
 PREP BATCH: 52214

6042811 0187

Instrument Type: ICPMS

Analytical Method(s):6020/200.8

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR		Matrix: AQUEOUS		SampleID: LCSW MR 52214					
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52214	SW50516	18	SW50516	17	238.6520	235.3670	1.4	20
Arsenic	52214	SW50516	18	SW50516	17	237.5760	238.9600	.58	20
Beryllium	52214	SW50516	18	SW50516	17	269.8300	273.6140	1.4	20
Cadmium	52214	SW50516	18	SW50516	17	237.4120	235.7950	.68	20
Cobalt	52214	SW50516	18	SW50516	17	248.0180	247.4120	.24	20
Lead	52214	SW50516	18	SW50516	17	237.0740	236.4880	.25	20
Selenium	52214	SW50516	18	SW50516	17	237.8210	239.0000	.49	20
Thallium	52214	SW50516	18	SW50516	17	237.4630	237.1920	.11	20

TxtQcType: MR		Matrix: AQUEOUS		SampleID: AC91087-001					
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52214	SW50516	20	SW50516	19	1.5U	1.5U	---	20
Arsenic	52214	SW50516	20	SW50516	19	1U	1U	---	20
Beryllium	52214	SW50516	20	SW50516	19	0.5U	0.5U	---	20
Cadmium	52214	SW50516	20	SW50516	19	1U	1U	---	20
Cobalt	52214	SW50516	20	SW50516	19	2.1440	2.2180	3.4	20
Lead	52214	SW50516	20	SW50516	19	1.5U	1.5U	---	20
Selenium	52214	SW50516	20	SW50516	19	5.6890	6.0600	6.3	20
Thallium	52214	SW50516	20	SW50516	19	1U	1U	---	20

TxtQcType: MSD		Matrix: AQUEOUS		SampleID: AC91087-001					
Analyte	BatchId	Data Fil	Seq#:	MS File	Seq#	Result 1	Result 2	RPD	Limit
Antimony	52214	SW50516	23	SW50516	22	249.4610	246.0460	1.4	20
Arsenic	52214	SW50516	23	SW50516	22	255.3710	253.3410	.8	20
Beryllium	52214	SW50516	23	SW50516	22	275.7550	259.9130	5.9	20
Cadmium	52214	SW50516	23	SW50516	22	246.8600	242.1810	1.9	20
Cobalt	52214	SW50516	23	SW50516	22	257.4330	258.6040	.45	20
Lead	52214	SW50516	23	SW50516	22	245.5530	237.9170	3.2	20
Selenium	52214	SW50516	23	SW50516	22	258.2390	258.1750	.025	20
Thallium	52214	SW50516	23	SW50516	22	245.7200	238.2410	3.1	20

TxtQcType: SD		Matrix: AQUEOUS		SampleID: AC91087-001						
Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff	Limit
Antimony	52214	SW50516	21	SW50516	19	5	0.0210	0.2440	57 c	10
Arsenic	52214	SW50516	21	SW50516	19	5	0.1470	0.6640	11 a	10
Beryllium	52214	SW50516	21	SW50516	19	5	0.0470	0.3620	35 c	10
Cadmium	52214	SW50516	21	SW50516	19	5	0.0560	0.2160	30 c	10
Cobalt	52214	SW50516	21	SW50516	19	5	0.4470	2.2180	0.77	10
Lead	52214	SW50516	21	SW50516	19	5	0.0960	0.5000	4	10
Selenium	52214	SW50516	21	SW50516	19	5	1.2690	6.0600	4.7	10
Thallium	52214	SW50516	21	SW50516	19	5	0.0550	0.6460	57 c	10

a-Indicates Rpd Failed the criteria
 b-Method Rep Out but concentrations < 5*RL
 c-Serial dilution Out but conc < 10 * IDL

Hampton-Clarke/Veritech

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 3010A 3005A 3050B (6020) 200.7/200.8 OTHER _____
 Batch No.: 19334 Analyst: Jane
 QC Number: 5221A Prep Date: 05-01-16
 Matrix: SW846 6010/6020 Reviewed By: SP

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	EFF	TCLP	
Method blank	5ul	5ul	10ul	20ul		--	
LCS	↓	↓				--	
LCSD	↓	↓				--	
1. <u>91027-001</u>	100ul	100ul					
MR ↓ 001	5ul	5ul					
MS ↓ 001							
MSD ↓ 001							
2. <u>91027-002</u>							FB
3. <u>90967-015</u>							FB
4. <u>91041-008</u>							FB
5. <u>91046-001</u>							
6. ↓ 002							lab E ph 2 CS 5/16
7. <u>91080-001</u>							
8. ↓ 002							
9. ↓ 003							FB lab E ph = 2.5
10. <u>91036-001</u>							
11. ↓ 002							lab E ph 2
12. ↓ 003							
13. ↓ 001							lab E ph 2
14. <u>91120-002</u>	10ul	5ul					
15.							
16.							
17.							
18.							
19.							
20.							

Hot Plate Temperature: 93.6 C (90-95°C)

	Volume mL	Lot #
LCS, LCSD	0.25ul	V- 40074, 40075
LLCS, LLLCSD		V-
MS, MSD	0.25ul	V- 40074, 40075
LLMS, LLMSD		V-

Acid	Vol mL	Lot#
HNO ₃	3ul	V- 40128
HCl		V-
H ₂ O ₂		V-

Acid	Vol mL	Lot#
1:1 HNO ₃		V-
1:1 HCl	5ul	V- 228280

Relinquished By: Jane Date: 05-01-16
 Received By: [Signature] Date: 5/1/16

ANALYTICAL METHOD: 245.1 7470A (7471B) OTHER _____

Batch No.: 19334
 QC Number: 5221A
 Matrix: 31846

Analyst: Jave
 Prep Date: 05-04-16
 Review By: Jave

LAB ID#	MERCURY		COMMENTS	STANDARDS
	INITIAL	FINAL		
Method blank	250 ml	250 ml		CAL CURVE BLK Oppb V- 232356
LCS				
LCSD				STD 0.2 ppb V- 232357
AC 91087 - 001				STD 0.5 ppb V- 358
MR 001				STD 1.0 ppb V- 359
MS 001				STD 2.0 ppb V- 340
MSD 001				STD 5.0 ppb V- 341
91087 - 002			FB	STD 10.0 ppb V- 342
91086 - 001				STD 25.0 ppb V- 343
002			lab fph 2	ICV 10.0 ppb V- 232352
003				CCV 40.0 ppb V- 232355
004			lab fph 2	
91088 - 008	25 ml	25 ml		
91088 - 008				Balance used:
				Pipettes used: 121, 130, 135
				Hot Block used: #7
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Lot Numbers	Acid	Volume (ml)	Lot #
KmnO ₄ V- 230556	HNO ₃	0.025 ml	V- 10065
K ₂ S ₂ O ₈ V- 230558	HCl		V-
NH ₂ OH V- 230557	H ₂ SO ₄	1.25 ml	V- 9964
	Aqua Regia		V-

**Block	292.7
Time In Block	6:30
Time Out of Block	6:30

Spike Volume & Lot #
 LCS v- 232353 0.15x(0.25 ml)
 MS v- 232353 0.250 ml
 Standard/Control Batch B- 21150

Start time: 4:00am End Time: 8:30am

**Temperature
 245.1 / 7470A: 90-95C
 7471B: 92-98C

Relinquished By: Jave

*25 mLs of each standard was digested with this batch using the same reagents and at the same time as the above samples. The preparation of each standard may be referenced in Veriproq using the standard batch number and the corresponding V #s.

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP2A\SW19334B2.txt

Analysis Date: 05/04/16

Instrument: PEICP2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	17:56	1							V-228950(ICBCCB)
CALST1 V-229370	1	CAL	18:00	2							V-229370(ICS1 - Lowest std)
CALST2 V-230757	1	CAL	18:04	3							V-230757(ICS2 - Low Std)
CALST3 V-230758	1	CAL	18:07	4							V-230758(ICS3 - Middle Std)
CALST4 V-231080	1	CAL	18:12	5							V-231080(ICS4 - High std)
ICS3 V-230758	1	ICS	18:16	6							V-230758(ICS3 - Middle Std)
ICV V-231075	1	ICV	18:21	7							V-231075(CCV)
LLICV [aq] V-232103	1	LLICV	18:25	8		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
ICB V-228950	1	ICB	18:29	9							V-228950(ICBCCB)
ICSA V-231003	1	ICSA	18:32	10							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	18:37	11							V-231005(ICSAB)
CCV V-231075	1	CCV	18:42	12							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	18:47	13		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	18:50	14							0
MB 52214 (1)	1	MB	18:53	15		AQUEO	AQUEO	SW846	52214		0
LCSW 52214	1	LCS	18:57	16		AQUEO	AQUEO	SW846	52214		0
LCSW MR 52214	1	LCS	19:01	17		AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	SMP	19:06	18	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MR	19:09	19	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MS	19:13	20	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MSD	19:17	21	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	PS	19:22	22	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
CCV V-231075	1	CCV	19:26	23							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	19:31	24		AQUEO	AQUEO	SW846	52214	Al failed	V-232103(LLICV/LLCCV aq)
CCB	1	CCB	19:34	25							0
AC91087-001	5	SD	19:38	26	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-002	1	SMP	19:41	27	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91041-008	1	SMP	19:44	28	MET-TAL6010W	AQUEO	AQUEO	SW846	52214		0
AC91036-001	1	NA	19:48	29	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	internal std failed	0
AC91036-002	1	NA	19:52	30	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	internal std failed	0
AC91036-003	1	NA	19:57	31	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	internal std failed	0
AC91036-004	1	NA	20:02	32	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	internal std failed	0
AC91120-002	1	SMP	20:06	33	MET-2-SOIL	AQUEO	AQUEO	SW846	52214		0
ICSA V-231003	1	ICSA	20:11	34							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	20:16	35							V-231005(ICSAB)
CCV V-231075	1	CCV	20:21	36						Ba, Fe, Zn failed	V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	20:26	37		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	20:29	38							0

Comments/Reviewed by:

192.168.1.78 5/5/2016 12:33:51 PM

OK except Al, Ba, Fe, Zn

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICPRAD2A\SW19334C2.txt

Analysis Date: 05/04/16

Instrument: PEICPRAD2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	20:34	1							V-228950(ICB/CCB)
CALST2 V-230757	1	CAL	20:38	2							V-230757(ICS2 - Low Std)
CALST3 V-230758	1	CAL	20:41	3							V-230758(ICS3 - Middle Std)
CALST4 V-231080	1	CAL	20:44	4							V-231080(ICS4 - High Std)
ICS3 V-230758	1	ICS	20:47	5							V-230758(ICS3 - Middle Std)
ICV V-231075	1	ICV	20:49	6							V-231075(CCV)
LLICV [aq] V-232103	1	LLICV	20:52	7		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
ICB V-228950	1	ICB	20:55	8							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	20:59	9							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	21:02	10							V-231005(ICSAB)
MB 52214 (1)	1	MB	21:06	11		AQUEO	AQUEO	SW846	52214		0
LCSW 52214	1	LCS	21:09	12		AQUEO	AQUEO	SW846	52214		0
LCSW MR 52214	1	LCS	21:12	13		AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	SMP	21:15	14	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MR	21:18	15	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MS	21:22	16	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MSD	21:25	17	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	PS	21:27	18	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
CCV V-231075	1	CCV	21:30	19							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	21:33	20		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	21:36	21							0
AC91087-001	5	SD	21:39	22	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91041-008	1	SMP	21:43	23	MET-TAL6010W	AQUEO	AQUEO	SW846	52214		0
AC91036-001	1	SMP	21:46	24	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	No stat'n	0
AC91036-002	1	SMP	21:50	25	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	No stat'n	0
AC91036-003	1	SMP	21:54	26	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	No stat'n	0
AC91036-004	1	SMP	21:59	27	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	No stat'n	0
ICSA V-231003	1	ICSA	22:02	28							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	22:06	29							V-231005(ICSAB)
CCV V-231075	1	CCV	22:10	30							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	22:13	31		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	22:16	32							0

Comments/Reviewed by:

scan
192.168.1.78 5/5/2016 12:39:33 PM

OK

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

5/6/16

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP2A\SW19334D2.txt

Analysis Date: 05/05/16

Instrument: PEICP2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	11:47	1							V-228950(ICB/CCB)
CALST1 V-229370	1	CAL	11:51	2							V-229370(ICS1 - Lowest std)
CALST2 V-230757	1	CAL	11:55	3							V-230757(ICS2 - Low Std)
CALST3 V-230758	1	CAL	11:58	4							V-230758(ICS3 - Middle Std)
CALST4 V-231080	1	CAL	12:03	5							V-231080(ICS4 - High std)
ICS3 V-230758	1	ICS	12:07	6							V-230758(ICS3 - Middle Std)
ICV V-231075	1	ICV	12:12	7							V-231075(CCV)
LLICV [aq] V-232103	1	LLICV	12:17	8		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
ICB V-228950	1	ICB	12:20	9							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	12:24	10							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	12:29	11							V-231005(ICSAB)
CCV V-231075	1	CCV	12:34	12							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	12:39	13		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	12:42	14							0
MB 52214 (1)	1	MB	12:46	15		AQUEO	AQUEO	SW846	52214		0
LCSW 52214	1	LCS	12:49	16		AQUEO	AQUEO	SW846	52214		0
LCSW MR 52214	1	LCS	12:54	17		AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	SMP	12:59	18	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MR	13:02	19	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MS	13:06	20	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MSD	13:11	21	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	PS	13:15	22	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	5	SD	13:20	23	MET-PP6010W	AQUEO	AQUEO	SW846	52214		0
CCV V-231075	1	CCV	13:24	24							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	13:28	25		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	13:32	26							0
AC91041-008	1	SMP	13:35	27	MET-TAL6010W	AQUEO	AQUEO	SW846	52214		0
ICSA V-231003	1	ICSA	13:39	28							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	13:44	29							V-231005(ICSAB)
CCV V-231075	1	CCV	13:49	30							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	13:54	31		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	13:58	32							0
AC91036-001	2	SMP	14:01	33	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	internal std dilution	0
AC91036-002	2	SMP	14:06	34	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	internal std dilution	0
AC91036-003	2	SMP	14:10	35	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	internal std dilution	0
AC91036-004	2	SMP	14:15	36	MET-TAL6010W	AQUEO	AQUEO	SW846	52214	internal std dilution	0
RINSE	1	NA	14:20	37		AQUEO	AQUEO	SW846	52214		0
ICSA V-231003	1	ICSA	14:23	38							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	14:29	39							V-231005(ICSAB)
CCV V-231075	1	CCV	14:34	40							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	14:38	41		AQUEO	AQUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	14:42	42							0

Comments/Reviewed by:

192 168.1.78 5/5/2016 2:54:40 PM

OK

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

576/116

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICPRAD2A\SW19334E2.txt

Analysis Date: 05/05/16

Instrument: PEICPRAD2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-228950	1	CAL	14:47	1							V-228950(ICB/CCB)
CALST2 V-230757	1	CAL	14:50	2							V-230757(ICS2 - Low Std)
CALST3 V-230758	1	CAL	14:54	3							V-230758(ICS3 - Middle Std)
CALST4 V-231080	1	CAL	14:56	4							V-231080(ICS4 High std)
ICS3 V-230758	1	ICS	14:59	5							V-230758(ICS3 - Middle Std)
ICV V-231075	1	ICV	15:02	6							V-231075(CCV)
LLICV [aq] V-232103	1	LLICV	15:05	7		AOUEO	AOUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
ICB V-228950	1	ICB	15:08	8							V-228950(ICB/CCB)
ICSA V-231003	1	ICSA	15:11	9							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	15:15	10							V-231005(ICSAB)
AC91087-002	1	SMP	15:19	11	MET-PP6010W	AOUEO	AOUEO	SW846	52214		0
AC91036-001	50	SMP	15:22	12	MET-TAL6010W	AOUEO	AOUEO	SW846	52214	No dilution	0
AC91036-002	50	SMP	15:26	13	MET-TAL6010W	AOUEO	AOUEO	SW846	52214	No dilution	0
AC91036-003	50	SMP	15:29	14	MET-TAL6010W	AOUEO	AOUEO	SW846	52214	No dilution	0
AC91036-004	50	SMP	15:33	15	MET-TAL6010W	AOUEO	AOUEO	SW846	52214	No dilution	0
ICSA V-231003	1	ICSA	15:36	16							V-231003(ICSA)
ICSAB V-231005	1	ICSAB	15:40	17							V-231005(ICSAB)
CCV V-231075	1	CCV	15:44	18							V-231075(CCV)
LLCCV [aq] V-232103	1	LLCCV	15:47	19		AOUEO	AOUEO	SW846	52214		V-232103(LLICV/LLCCV aq)
CCB	1	CCB	15:50	20							0

Comments/Reviewedby:

Sean
192.168.1.78 5/5/2016 4:09:09 PM

OK

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:

Handwritten signature

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\MS3_7700SWA\SW50516ANEW.txt

Analysis Date: 05/05/16

Instrument: MS3_7700SWA

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
RINSE	1	NA	11:36	1		AQUEO	AQUEO	SW846	52214		0
CalBlk V-232498	1	ISBLK	11:40	2		AQUEO	AQUEO				V-232498(Cal Blk)
CalStd1 V-232499	1	CAL	11:44	3							V-232499(Cal Std-1)
CalStd2 V-232500	1	CAL	11:49	4							V-232500(Cal Std-2)
CalStd3 V-232501	1	CAL	11:53	5							V-232501(Cal Std-3)
CalStd4 V-232502	1	CAL	11:57	6							V-232502(Cal Std-4)
CalStd5 V-232503	1	CAL	12:01	7							V-232503(Cal Std-5)
ICV V-232504	1	ICV	12:05	8							V-232504(ICV)
LLICV V-232510	1	LLICV	12:09	9		AQUEO	AQUEO	SW846	52214		V-232510(LL-ICV/CCV AQ.)
ICB V-232505	1	ICB	12:13	10							V-232505(ICB/CCB)
ICSA V-232506	1	ICSA	12:18	11							V-232506(ICSA)
ICSAB V-232507	1	ICSAB	12:22	12							V-232507(ICSAB)
CCV V-232508	1	CCV	12:26	13							V-232508(CCV)
LLCCV V-232510	1	LLCCV	12:30	14		AQUEO	AQUEO	SW846	52214		V-232510(LL-ICV/CCV AQ.)
CCB V-232505	1	CCB	12:34	15							V-232505(CCB/CCB)
MB 52214	1	MB	12:38	16		AQUEO	AQUEO	SW846	52214		0
LCSW 52214	1	LCS	12:43	17		AQUEO	AQUEO	SW846	52214		0
LCSW MR 52214	1	LCS	12:47	18		AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	SMP	12:51	19	MET-PP6020W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MR	12:55	20	MET-PP6020W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	5	SD	12:59	21	MET-PP6020W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MS	13:03	22	MET-PP6020W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	MSD	13:07	23	MET-PP6020W	AQUEO	AQUEO	SW846	52214		0
AC91087-001	1	PS	13:11	24	MET-PP6020W	AQUEO	AQUEO	SW846	52214		0
RINSE	1	NA	13:16	25		AQUEO	AQUEO	SW846	52214		0
CCV V-232508	1	CCV	13:20	26							V-232508(CCV)
LLCCV V-232510	1	LLCCV	13:24	27		AQUEO	AQUEO	SW846	52214		V-232510(LL-ICV/CCV AQ.)
CCB V-232505	1	CCB	13:28	28							V-232505(CCB/CCB)
AC91087-002	1	SMP	13:32	29	MET-PP6020W	AQUEO	AQUEO	SW846	52214		0
AC90967-015	1	SMP	13:37	30	MET-1-6020	AQUEO	AQUEO	SW846	52214		0
AC91041-008	1	SMP	13:41	31	MET-TAL6020W	AQUEO	AQUEO	SW846	52214		0
AC91036-001	2	SMP	13:45	32	MET-TAL6020W	AQUEO	AQUEO	SW846	52214		0
AC91036-002	2	SMP	13:49	33	MET-TAL6020W	AQUEO	AQUEO	SW846	52214		0
AC91036-003	2	SMP	13:53	34	MET-TAL6020W	AQUEO	AQUEO	SW846	52214		0
AC91036-004	2	SMP	13:58	35	MET-TAL6020W	AQUEO	AQUEO	SW846	52214		0
AC91046-001	1	SMP	14:02	36	MET-2-6020	AQUEO	AQUEO	SW846	52214		0
AC91046-002	1	SMP	14:06	37	MET-2-6020	AQUEO	AQUEO	SW846	52214		0
RINSE	1	NA	14:10	38		AQUEO	AQUEO	SW846	52214		0
CCV V-232508	1	CCV	14:14	39							V-232508(CCV)
LLCCV V-232510	1	LLCCV	14:19	40		AQUEO	AQUEO	SW846	52214		V-232510(LL-ICV/CCV AQ.)
CCB V-232505	1	CCB	14:23	41							V-232505(CCB/CCB)
AC91080-001	1	SMP	14:27	42	MET-1-6020	AQUEO	AQUEO	SW846	52214		0
AC91080-002	1	SMP	14:31	43	MET-1-6020	AQUEO	AQUEO	SW846	52214		0
AC91080-003	1	SMP	14:35	44	MET-1-6020	AQUEO	AQUEO	SW846	52214		0
RINSE	1	NA	14:40	45		AQUEO	AQUEO	SW846	52214		0
CCV V-232508	1	CCV	14:44	46							V-232508(CCV)
LLCCV V-232510	1	LLCCV	14:48	47		AQUEO	AQUEO	SW846	52214		V-232510(LL-ICV/CCV AQ.)
CCB V-232505	1	CCB	14:52	48							V-232505(CCB/CCB)

Comments/Reviewed by:

192.168.1.78 5/5/2016 3:21:08 PM

OK

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: 2x

Standard/Batch/SnCl2 Lot #:

Handwritten signature

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\HGC\1\AH19334SW.txt

Analysis Date: 05/05/16

Instrument: HGCV1A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
Calibration Blank	1	CAL	11:39	1							0
2 PPB	1	CAL	11:41	2							0
5 PPB	1	CAL	11:42	3							0
1 PPB	1	CAL	11:43	4							0
2 PPB	1	CAL	11:45	5							0
5 PPB	1	CAL	11:46	6							0
10 PPB	1	CAL	11:47	7							0
25 PPB	1	CAL	11:49	8							0
ICV (2)	1	ICV	11:50	9							0
ICB	1	ICB	11:51	10							0
MB 52214 (1)	1	MB	11:53	11	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
LCS 52214	1	LCS	11:54	12	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
LCS MR 52214	1	LCS	11:56	13	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91087-001	1	SMP	11:57	14	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91087-001	1	MR	11:58	15	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91087-001	1	MS	12:00	16	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91087-001	1	MSD	12:01	17	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91087-002	1	SMP	12:02	18	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91041-008	1	SMP	12:04	19	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91036-001	1	SMP	12:05	20	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
CCV	1	CCV	12:06	21							0
CCB	1	CCB	12:08	22							0
AC91036-002	1	SMP	12:09	23	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91036-003	1	SMP	12:11	24	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
AC91036-004	1	SMP	12:12	25	HG-W-7470	AOUEO	AOUEO	SW846	52214		0
CCV	1	CCV	12:13	26							0
CCB	1	CCB	12:15	27							0

Comments/Reviewedby:

carmela
192.168.1.25 5/5/2016 12:44:21 PM

OK

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Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor: _____

Standard/Batch/SnCl2 Lot #:
V-232463

ICPMS Internal Standard Summary Report

6042811 0196

TuneID: 1

Batch/FileID: SW50516AN Sample ID: CalBlk V-232498 Sample Date 05/05/16 Sample Time: 11:40

IS ID: Area	Area Limit
Ho-1 3367584.95	2357309.465 - 5054745.00995
In-1 2319287.48	1623501.236 - 3481250.50748
Sc-1 1318798.39	923158.873 - 1979516.38339
Tb-1 3464266.48	2424986.536 - 5199863.98648

QcType	txtSamId:	Pos	Ho-1 Area	In-1 Area	Sc-1 Area	Tb-1 Area	Area	Area	Area	Area
ISBLK	CalBlk V-232498	2	3367584.	2319287.	1318798.	3464266.				
SMP	RINSE	1	3374609.	2327208.	1322086.	3499234.				
CAL	CalStd1 V-23249	3	3296355.	2282607.	1295723.	3432038.				
CAL	CalStd2 V-23250	4	3378545.	2318916.	1335464.	3502248.				
CAL	CalStd3 V-23250	5	3292705.	2276840.	1301443.	3414009.				
CAL	CalStd4 V-23250	6	3280828.	2240333.	1298619.	3399853.				
CAL	CalStd5 V-23250	7	3300077.	2233238.	1273000.	3418170.				
ICV	ICV V-232504	8	3474607.	2346454.	1342384.	3569797.				
LLICV	LLICV V-232510	9	3388752.	2340709.	1345740.	3504877.				
ICB	ICB V-232505	10	3479791.	2429226.	1399582.	3619846.				
ICSA	ICSA V-232506	11	3096271.	1988913.	1083561.	3193970.				
ICSAB	ICSAB V-232507	12	3054775.	1943214.	1059194.	3151609.				
CCV	CCV V-232508	13	3267417.	2177458.	1204529.	3375399.				
LLCCV	LLCCV V-232510	14	3304334.	2258029.	1257334.	3416330.				
CCB	CCB V-232505	15	3303459.	2243322.	1262008.	3410284.				
MB	MB 52214	16	3203166.	2156188.	1181587.	3311979.				
LCS	LCSW 52214	17	3142962.	2084742.	1114492.	3257627.				
MR	LCSW MR 52214	18	3130113.	2060011.	1120994.	3250548.				
SMP	AC91087-001	19	3136119.	2050011.	1111137.	3233202.				
MR	AC91087-001	20	3143606.	2044840.	1112433.	3234504.				
SD	AC91087-001	21	3281010.	2200104.	1193441.	3399928.				
MS	AC91087-001	22	3234552.	2108202.	1199834.	3318296.				
MSD	AC91087-001	23	3155519.	2074674.	1156297.	3271035.				
PS	AC91087-001	24	3184199.	2055683.	1165898.	3267099.				
SMP	RINSE	25	3428707.	2352255.	1318175.	3542575.				
CCV	CCV V-232508	26	3444248.	2315557.	1345828.	3579850.				
LLCCV	LLCCV V-232510	27	3382837.	2325468.	1318765.	3513321.				
CCB	CCB V-232505	28	3459847.	2369702.	1354578.	3586914.				
SMP	AC91087-002	29	3240007.	2194416.	1231384.	3359206.				
SMP	AC90967-015	30	3253402.	2159272.	1240375.	3360126.				
SMP	AC91041-008	31	3239631.	2147444.	1225138.	3351995.				
SMP	AC91036-001	32	2842161.	1895728.	1122618.	2944801.				
SMP	AC91036-002	33	3145199.	2209187.	1426988.	3278123.				
SMP	AC91036-003	34	3113093.	2180978.	1453369.	3231350.				
SMP	AC91036-004	35	2965053.	2087947.	1408557.	3097535.				
SMP	AC91046-001	36	3197376.	2118175.	1266942.	3331501.				
SMP	AC91046-002	37	3253044.	2129895.	1239100.	3377851.				
SMP	RINSE	38	3541479.	2442306.	1397898.	3675274.				
CCV	CCV V-232508	39	3503066.	2365017.	1363679.	3618242.				
LLCCV	LLCCV V-232510	40	3560394.	2479720.	1402371.	3680767.				
CCB	CCB V-232505	41	3512325.	2418570.	1397549.	3659104.				
SMP	AC91080-001	42	3355404.	2232180.	1320728.	3500633.				
SMP	AC91080-002	43	3416645.	2211977.	1325805.	3512778.				
SMP	AC91080-003	44	3356333.	2260319.	1299712.	3485012.				
SMP	RINSE	45	3509772.	2412732.	1365167.	3635438.				
CCV	CCV V-232508	46	3393790.	2302119.	1300678.	3536773.				
LLCCV	LLCCV V-232510	47	3445006.	2326996.	1300038.	3554615.				
CCB	CCB V-232505	48	3381739.	2303094.	1303078.	3512860.				

* Indicates Internal Standard Area outside of limits

ICPMS Internal Standard Summary Report

TuneID: 2

Batch/FileID: SW50516AN Sample ID: CalBlk V-232498 Sample Date 05/05/16 Sample Time: 11:40

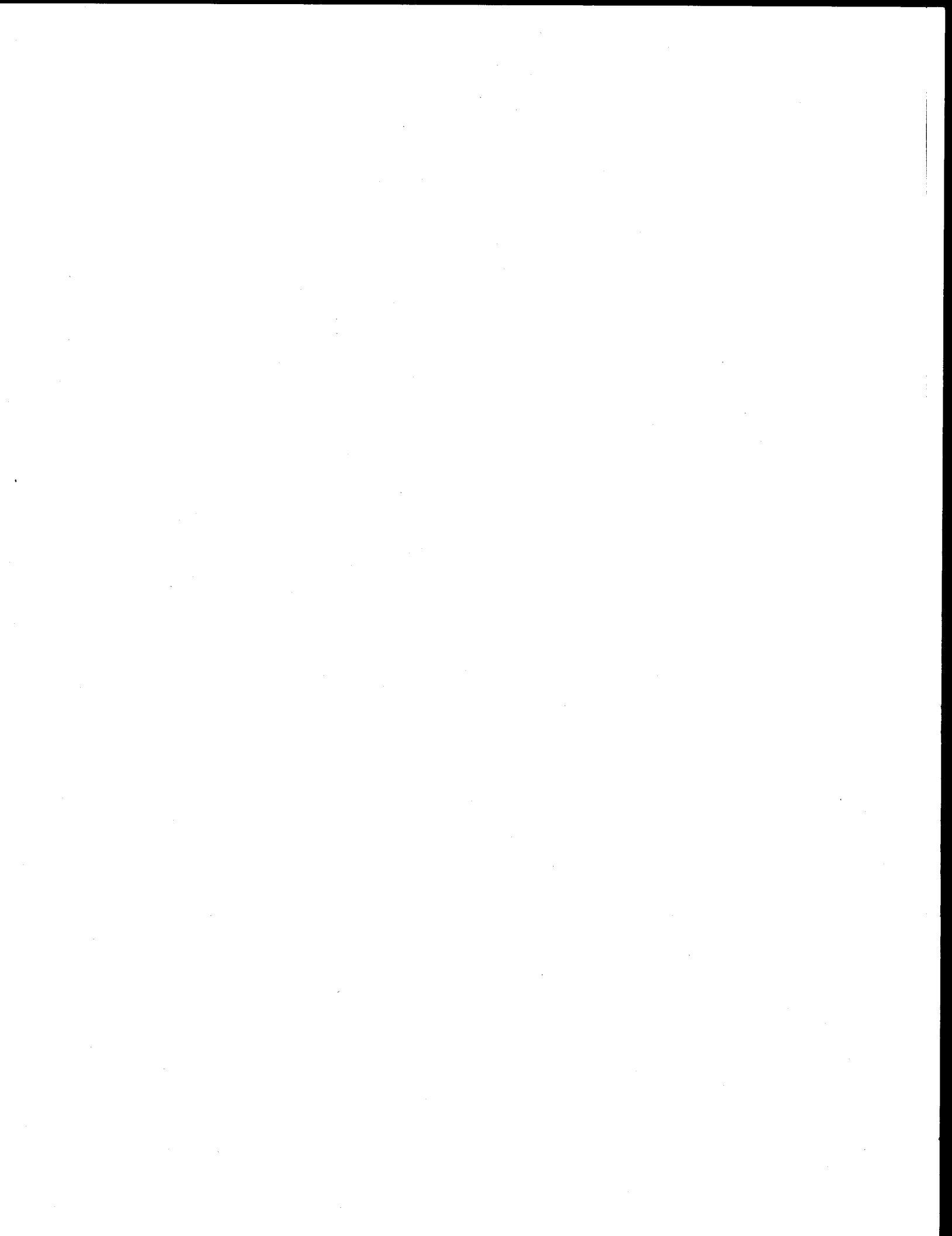
IS ID:	Area	Area Limit
Ho-2	1641383.33	1148968.331 - 2463716.37833
In-2	455424.66	318797.262 - 683592.41466
Sc-2	59372.61	41560.827 - 89118.28761
Tb-2	1669029.12	1168320.384 - 2505212.70912

QcType	txtSamId:	Pos	Ho-2 Area	In-2 Area	Sc-2 Area	Tb-2 Area	Area	Area	Area	Area
ISBLK	CalBlk V-232498	2	1641383.	455424.6	59372.61	1669029.				
SMP	RINSE	1	1572231.	435412.5	56864.16	1596304.				
CAL	CalStd1 V-23249	3	1604543.	450686.8	59856.24	1629002.				
CAL	CalStd2 V-23250	4	1646875.	455235.8	60090.41	1661476.				
CAL	CalStd3 V-23250	5	1645744.	458279.8	60072.43	1669467.				
CAL	CalStd4 V-23250	6	1633232.	449766.2	60221.05	1651198.				
CAL	CalStd5 V-23250	7	1587905.	430568.5	57319.75	1612819.				
ICV	ICV V-232504	8	1644940.	449750.3	59305.87	1676167.				
LLICV	LLICV V-232510	9	1657461.	462632.3	61437.18	1684528.				
ICB	ICB V-232505	10	1651948.	459754.0	61116.91	1685852.				
ICSA	ICSA V-232506	11	1441584.	375563.9	51119.00	1432117.				
ICSAB	ICSAB V-232507	12	1447547.	378285.8	50558.33	1439555.				
CCV	CCV V-232508	13	1589614.	428268.4	56152.95	1604604.				
LLCCV	LLCCV V-232510	14	1607363.	442279.4	56490.66	1635693.				
CCB	CCB V-232505	15	1616145.	440201.3	57408.93	1644613.				
MB	MB 52214	16	1466410.	398569.8	51417.43	1485890.				
LCS	LCSW 52214	17	1425117.	381775.8	49630.43	1424420.				
MR	LCSW MR 52214	18	1421592.	380858.0	49009.82	1422284.				
SMP	AC91087-001	19	1411960.	364795.8	48723.52	1398898.				
MR	AC91087-001	20	1408747.	369667.2	48943.04	1411658.				
SD	AC91087-001	21	1513643.	406736.7	51963.24	1539199.				
MS	AC91087-001	22	1415016.	376526.0	49489.91	1417541.				
MSD	AC91087-001	23	1419198.	376988.0	50267.61	1418863.				
PS	AC91087-001	24	1433586.	369944.1	50408.99	1430940.				
SMP	RINSE	25	1620415.	438031.8	57170.67	1644139.				
CCV	CCV V-232508	26	1623484.	434743.4	57626.02	1640916.				
LLCCV	LLCCV V-232510	27	1653663.	450508.3	59263.33	1683380.				
CCB	CCB V-232505	28	1643861.	449283.5	59979.91	1681481.				
SMP	AC91087-002	29	1471622.	393000.1	51949.73	1490891.				
SMP	AC90967-015	30	1452401.	386871.4	51125.61	1475148.				
SMP	AC91041-008	31	1460483.	387797.8	50999.70	1497585.				
SMP	AC91036-001	32	1351776.	383559.4	55293.87	1356690.				
SMP	AC91036-002	33	1534149.	439381.1	65696.76	1577206.				
SMP	AC91036-003	34	1486266.	436568.9	65638.79	1518019.				
SMP	AC91036-004	35	1419769.	420440.3	64748.09	1432533.				
SMP	AC91046-001	36	1498130.	389679.0	52542.58	1497622.				
SMP	AC91046-002	37	1486830.	391255.0	51681.21	1483767.				
SMP	RINSE	38	1732353.	472158.5	61296.55	1763417.				
CCV	CCV V-232508	39	1693019.	451881.8	59278.98	1700850.				
LLCCV	LLCCV V-232510	40	1711877.	470047.8	61315.53	1742771.				
CCB	CCB V-232505	41	1733781.	473621.6	62691.12	1759522.				
SMP	AC91080-001	42	1561804.	409141.1	54820.15	1600143.				
SMP	AC91080-002	43	1564433.	401372.5	54521.49	1581590.				
SMP	AC91080-003	44	1552850.	406236.1	53419.25	1584099.				
SMP	RINSE	45	1682339.	457657.1	59873.30	1701596.				
CCV	CCV V-232508	46	1605841.	427671.4	55496.47	1629078.				
LLCCV	LLCCV V-232510	47	1660707.	446542.3	58354.19	1679870.				
CCB	CCB V-232505	48	1650921.	441691.4	57570.58	1676548.				

* Indicates Internal Standard Area outside of limits



Last Page of Report







Department of
Design and
Construction

INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

VOLUME 3 OF 3

PROJECT ID: SEK-20070

THE RECONSTRUCTION OF APPROXIMATELY 287 FEET OF THE EXISTING
8'-0" W X 8'-0" H OUTFALL STORM SEWER IN:
25 TH AVE. BETWEEN HUNTER AVE. AND GRAVESEND BAY
Together with All Work Incidental Thereto

BOROUGH OF BRONX
CITY OF NEW YORK

Contractor

Dated _____, 20____
