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 www.nyc.gov/buildnyc

LAW

VOLUME 1 OF 3

BID BOOKLET

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SER200151

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

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

December 11, 2017

8-096

Department of Design and Construction

Ana Barrio
Acting Commissioner

Justin Walter
Chief Administrative Officer
Administration

June 15, 2018

CERTIFIED MAIL - RETURN RECEIPT REQUEST
DIFAZIO IND., LLC.
38 Kinsey Place, 2nd Floor
Staten Island, NY 10303

RE: FMS ID: SER200151
E-PIN: 85018B0095001
DDC PIN: 8502018SE0020C
NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC
NOTICE OF AWARD

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of $10,442,249.66 submitted at the bid opening on April 18, 2018. 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 in the Contracts Unit, 30-30 Thomson Avenue, 1st Floor, Long Island City, New York (IDCNY Building). A Commissioner of Deeds will be available to witness and notarize your signature. 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.

Department of Design and Construction

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.

Sincerely,

Michael Shipman
Director of Contracts

NOTICE TO BIDDERS:

NEW NOISE REQUIREMENTS

The bidder is notified that conformance with NYC City Council Introduction 1653-2017 (https://laws.council.nyc.gov/legislation/int-1653-2017/) is required for all work to be performed under this contract.

No separate payment will be made for conformance with this requirement, and the costs thereof must be included in the prices bid for all items of work.

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.

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: SER200151

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

PROJECT ID: SER200151

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) VENDEX QUESTIONNAIRES: The Bidder is advised that Vendex Questionnaires and procedures have been changed. 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 Officer or the contact person for this contract.

(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: DiFazio Industries LLC

Name of Project: Sheldon Ave

Location of Project: Staten Island NY

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

Name: Adam Alweis
Title: Borough Director Phone Number: 718-391-1110

Brief description of the Project completed or the Project in progress:
Reconstruction of sewers and water Main, Roadwork & DMP

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

Amount of Contract, Subcontract or Sub-subcontract: $ 47,700,000

Start Date and Completion Date: 2/15 - 6/17

****

Name of Contractor: DiFazio Industries LLC

Name of Project: South Railroad Ave

Location of Project: Staten Island NY

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

Name: Adam Alweiss
Title: Borough Director Phone Number: 718-391-1110

Brief description of the Project completed or the Project in progress:
Installation of sewers & water Main, Roadway with Contaminated

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

Amount of Contract, Subcontract or Sub-subcontract: $ 10,678,000

Start Date and Completion Date: 1/14 - 7/15

ATTACHMENT 1 - BID INFORMATION

PROJECT ID: SER200151
PIN: 8502018SE0020C

Description and Location of Work: FOR NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC., BOROUGH OF STATEN ISLAND.

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 30, 2018**

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 30, 2018**

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 100% of the Contract Price.

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

LIST OF DRAWINGS

PROJECT ID: SER200151
PIN: 8502018SE0020C

SHEET NO.	DRAWING NO.	DESCRIPTION
1	1	TITLE SHEET
2	2	KEY MAP AND LEGEND
3 THRU 6	3 THRU 6	PLAN AND PROFILE
7	7	PROFILES
8	FD1	FIRE DEPARTMENT MAP
9 THRU 12	MT1 THRU MT4	MAINTENANCE OF TRAFFIC
13 THRU 16	B1 THRU B4	RECORD OF BORINGS
17	1	GENERAL NOTES AND CONDITIONS FOR UTILITY WORK
18 THRU 21	1 THRU 4	CONSOLIDATED EDISON CO. OF NEW YORK, INC.
22	VER1	VERIZON EXISTING UTILITIES PLAN
23 THRU 24	VZ1 THRU VZ2	VERIZON OVERHEAD PLAN
25	1	CHARTER/SPECTRUM OVERHEAD
26	1	CROWN CASTLE

BID SCHEDULE

The following pages contain the Bid Schedule. Items listed in the Bid Schedule shall comply with the requirements of the corresponding sections of the specifications detailed in the table below. All references to the Standard Specifications, Details, Standards, and Drawings shall be to the version in effect at the time of bid.

NOTES:

- "XXX" in the table below signifies any possible combination of characters and spaces.
- The table below may contain item formats which are not included in the Bid Schedule.
- ***Please refer to the Bid Schedule to determine which specifications apply.***

Item Number Format	Applicable Specifications
4.XXX 6.XXX 7.XXX 8.XXX *(Except 8.01 XXX; see below)* 9.XXX	NYC Department of Transportation ("DOT") Standard Highway Specifications, as amended in the R-Pages, located in Volume 3 of 3 herein; ***AND*** NYC DOT Standard Details of Construction; ***OR,*** ***if the item is not contained within the Standard Specifications***, then see the applicable New Sections in the I-Pages, located in Volume 3 of 3 herein.
1.XXX 50.XXX through 55.XXX 60.XXX through 66.XXX 70.XXX through 79.XXX *(Except 79.11XXX; see below)* DSS XXX DSW XXX	NYC Department of Environmental Protection ("DEP") Standard Sewer and Water Main Specifications, as amended in the R-Pages and SW-Pages, located in Volume 3 of 3 herein; ***AND*** NYC DOT Specifications for Trunk Main Work; ***AND*** NYC DOT Sewer Design Standards; ***AND*** NYC DOT Water Main Standard Drawings; ***OR,*** ***if the item is not contained within the Standard Specifications,*** then see the Amendments to the Standard Sewer and Water Main Specifications in the SW-Pages, located in Volume 3 of 3 herein.
GI-XXX PM-XXX ROW XXX	New Sections in the I-Pages, located in Volume 3 of 3 herein ***AND*** NYC DEP Standards for Green Infrastructure.
UTL-XXX	Gas Cost Sharing Standard Specifications in the EP7-Pages, located in Volume 3 of 3 herein.

BID SCHEDULE

Item Number Format	Applicable Specifications
83X.XXX HW-XXX MX.XXX MP XXX NYC-XXX NYCT-XXX NYPD-XXX P XXX PK-XXX	New Sections in the I-Pages, located in Volume 3 of 3 herein.
BMP-XXX	Specifications for Construction of Best Management Practice (BMP) and Mitigation Area in the BMP-Pages, located in Volume 3 of 3 herein.
E XXX ME XXX	Specifications for the Specialty Electrical Works in the EL-Pages, located in Volume 3 of 3 herein.
SL-XXX	NYC DOT Division of Street Lighting Specifications ***AND*** NYC Division of Street Lighting Standard Drawings.
T-XXX	NYC DOT Specifications for Traffic Signals and Intelligent Transportation Systems ***AND*** NYC DOT Traffic Signal Standard Drawings.
JB XXX	Joint Bid Specifications in the JB-Pages, located in Volume 3 of 3 herein.
8.01 XXX	Specifications for Handling, Transportation and Disposal of Nonhazardous and Potentially Hazardous Contaminated Materials in the HAZ-Pages, located in Volume 3 of 3 herein.
67.XXX	Specifications for Abatement of Coal Tar Wrap Asbestos Containing Materials in the ASB-Pages, located in Volume 3 of 3 herein.
79.11XXX	Specifications for Abatement of Transit Authority Duct Insulation Asbestos Containing Materials in the ASB-Pages, located in Volume 3 of 3 herein.

(NO FURTHER TEXT ON THIS PAGE)

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

BID SCHEDULE

NOTE:

(1) The Bid multiplier located on Page C-4 of the BID BOOKLET shall be applied to each of the fixed unit prices in the bid schedule, excluding items with "F.S." ("Fixed Sum") as the unit of measurement and that adjusted unit price shall represent the 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 fixed unit prices, in this Percentage Bid Contract, adjusted by the Bid multiplier are to be paid for the actual quantities of the several classes of work in the completed work or structure, and those adjusted unit prices 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 LIGIBLE BID MULTIPLIER IS ENTERED, IN INK, ON PAGE C-4 OF THE BID BOOKLET. Alterations must be initialed in ink by the Bidder.

(4) 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-11.

COL 1 ITEM NUMBER	COL 2 ENGINEER'S ESTIMATE OF QUANTITIES		COL 3 CLASSIFICATION	COL 4 UNIT PRICES (IN FIGURES)
4.02 AB-R	1,328.0	S.Y.	ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK	$ 20.00
4.02 AF-R	10,033.0	S.Y.	ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	$ 30.00
4.02 CA	1,510.0	TONS	BINDER MIXTURE	$ 160.00
4.04 H	762.0	C.Y.	CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH)	$ 275.00
4.08 BA	4,100.0	L.F.	CONCRETE CURB (21" DEEP)	$ 45.00
4.09 CE	300.0	L.F.	CORNER STEEL FACED CONCRETE CURB (21" DEEP)	$ 175.00
4.13 AAS	21,940.0	S.F.	4" CONCRETE SIDEWALK (UNPIGMENTED)	$ 10.00
4.13 BAS	1,390.0	S.F.	7" CONCRETE SIDEWALK (UNPIGMENTED)	$ 13.00
4.13 DE	210.0	S.F.	EMBEDDED PREFORMED DETECTABLE WARNING UNITS	$ 25.00
4.18 A	47.0	EACH	MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	$ 175.00
4.18 B	21.0	EACH	MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.)	$ 240.00
4.18 C	11.0	EACH	MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)	$ 292.00
4.18 D	10.0	EACH	MAINTENANCE TREE PRUNING (24" CAL. AND OVER)	$ 350.00
4.19	150.0	S.Y.	SODDING	$ 27.00
4.21	2,000.0	P/HR	TREE CONSULTANT	$ 65.00
50.21M3C054D	1,235.0	L.F.	54" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	$ 1,500.00
50.21M3C068W	440.0	L.F.	68"W X 43"H R.C.P. CLASS HE-III STORM SEWER, ON CONCRETE CRADLE	$ 2,000.00
50.31MC18	50.0	L.F.	18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	$ 550.00
50.31SC10	1,250.0	L.F.	10" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	$ 350.00
50.31SE10	260.0	L.F.	10" E.S.V.P. SANITARY SEWER, ENCASED IN CONCRETE	$ 400.00
50.41M6C16	110.0	L.F.	16" D.I.P. CLASS 56 STORM SEWER, ON CONCRETE CRADLE	$ 500.00
51.11P010	3.0	EACH	STANDARD 10'-0" DIAMETER PRECAST MANHOLE	$ 20,000.00
51.21S0A1000V	2.0	EACH	STANDARD MANHOLE TYPE A-1	$ 6,500.00
51.21S0B1000V	6.0	EACH	STANDARD MANHOLE TYPE B-1	$ 8,000.00
51.21S0B2000V	4.0	EACH	STANDARD MANHOLE TYPE B-2	$ 9,000.00
51.21S0C1054R	4.0	EACH	STANDARD MANHOLE TYPE C-1 ON 54" R.C.P. SEWER	$ 25,000.00
51.31S00210S	1.0	EACH	STANDARD DROP-PIPE MANHOLE TYPE II ON 10" E.S.V.P. SEWER	$ 13,000.00
51.41D001	1.0	EACH	STANDARD DOUBLE CATCH BASIN, TYPE 1	$ 9,200.00
51.41S001	8.0	EACH	STANDARD CATCH BASIN, TYPE 1	$ 6,000.00
52.11D12	300.0	L.F.	12" DUCTILE IRON PIPE BASIN CONNECTION	$ 300.00
52.21D08	600.0	V.F.	8" DUCTILE IRON PIPE RISER FOR HOUSE CONNECTION	$ 130.00

COL 1 ITEM NUMBER	COL 2 ENGINEER'S ESTIMATE OF QUANTITIES		COL 3 CLASSIFICATION	COL 4 UNIT PRICES (IN FIGURES)
52.31V06S10	50.0	EACH	6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 10" E.S.V.P. SANITARY SEWER	$ 215.00
52.41D06R	2,000.0	L.F.	6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	$ 75.00
53.11DR	3,345.0	L.F.	TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	$ 3.50
6.02 AAN	3,310.0	C.Y.	UNCLASSIFIED EXCAVATION	$ 75.00
6.02 XSCW	1,650.0	C.Y.	INCREMENTAL COST FOR USING SPECIAL CARE WORK METHODS NEAR (FROM 3 FEET TO 50 FEET) TRANSIT FACILITIES	$ 80.00
6.25 RS	7,386.0	S.F.	TEMPORARY SIGNS	$ 20.00
6.26	11,816.0	L.F.	TIMBER CURB	$ 5.00
6.28 AA	1,900.0	L.F.	LIGHTED TIMBER BARRICADES	$ 10.00
6.39 A	1.0	L.S.	MOBILIZATION	$ 378,220.00
6.40 DU	30.0	MONTH	ENGINEER'S FIELD OFFICE (JOINT USE) (TYPE DU)	$ 7,500.00
6.44	7,500.0	L.F.	THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	$ 1.00
6.49	10,018.0	L.F.	TEMPORARY PAVEMENT MARKINGS (4" WIDE)	$ 2.00
6.52 CG	3,829.0	P/HR	CROSSING GUARD	$ 30.00
6.53	7,510.0	L.F.	REMOVE EXISTING LANE MARKINGS (4" WIDE)	$ 1.00
6.55	130.0	L.F.	SAWCUTTING EXISTING PAVEMENT	$ 4.00
6.87	2,533.0	EACH	PLASTIC BARRELS	$ 12.00
60.11R520	200.0	L.F.	FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	$ 125.00
60.11R606	150.0	L.F.	FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$ 40.00
60.11R608	1,450.0	L.F.	FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$ 75.00
60.11R612	550.0	L.F.	FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$ 75.00
60.12D06	200.0	L.F.	LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	$ 100.00
60.12D08	1,650.0	L.F.	LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	$ 130.00
60.12D12	700.0	L.F.	LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS	$ 150.00
60.12D20	250.0	L.F.	LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	$ 200.00
60.13M0A24	10.0	TONS	FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	$ 8,000.00

COL 1 ITEM NUMBER	COL 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL 3 CLASSIFICATION	COL 4 UNIT PRICES (IN FIGURES)
60.18BJC20EL	2.0 EACH	FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS	$ 1,000.00
61.11DMM06	8.0 EACH	FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 950.00
61.11DMM08	6.0 EACH	FURNISHING AND DELIVERING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 2,200.00
61.11DMM12	2.0 EACH	FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 2,500.00
61.11TWC03	1.0 EACH	FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 600.00
61.11TWC04	1.0 EACH	FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 650.00
61.12DMM06	8.0 EACH	SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 500.00
61.12DMM08	6.0 EACH	SETTING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,100.00
61.12DMM12	2.0 EACH	SETTING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,200.00
61.12TWC03	1.0 EACH	SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 500.00
61.12TWC04	1.0 EACH	SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 600.00
62.11SD	8.0 EACH	FURNISHING AND DELIVERING HYDRANTS	$ 2,500.00
62.12SG	8.0 EACH	SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,500.00
62.13RH	5.0 EACH	REMOVING HYDRANTS	$ 800.00
62.14FS	16.0 EACH	FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	$ 200.00
63.11VC	12.0 TONS	FURNISHING AND DELIVERING VARIOUS CASTINGS	$ 1,500.00
64.11EL	4.0 EACH	WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2-INCH OR LARGER SCREW TAPS	$ 300.00
64.11ST	75.0 EACH	WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS	$ 250.00

COL 1 ITEM NUMBER	COL 2 ENGINEER'S ESTIMATE OF QUANTITIES		COL 3 CLASSIFICATION	COL 4 UNIT PRICES (IN FIGURES)
64.12COEG	160.0	L.F.	CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	$ 200.00
64.12COLT	1,400.0	L.F.	CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	$ 100.00
64.12ESEG	1,400.0	L.F.	EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	$ 75.00
64.12ESLT	160.0	L.F.	EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	$ 50.00
64.13WC12	2.0	EACH	FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	$ 1,500.00
65.11BR	7,000.0	LBS.	FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	$ 3.00
65.21PS	1,200.0	L.F.	FURNISHING AND PLACING POLYETHYLENE SLEEVE	$ 1.00
65.31FF	17,000.0	S.F.	FURNISHING, DELIVERING AND PLACING FILTER FABRIC	$ 0.20
65.51PC	7.0	C.Y.	FURNISHING AND PLACING CAST-IN-PLACE CONCRETE CLASS 40 AND PRECAST CONCRETE CLASS 50	$ 960.00
65.61SS	800.0	LBS.	FURNISHING, DELIVERING AND PLACING STRUCTURAL, REINFORCING AND MISCELLANEOUS STEEL	$ 3.00
65.71SG	100.0	C.Y.	FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	$ 35.00
7.13 B	24.0	MONTH	MAINTENANCE OF SITE	$ 8,000.00
7.36	11,080.0	L.F.	PEDESTRIAN STEEL BARRICADES	$ 15.00
7.88 AA	1.0	L.S.	RODENT INFESTATION SURVEY AND MONITORING	$ 8,000.00
7.88 AB	55.0	EACH	RODENT BAIT STATIONS	$ 60.00
7.88 AC	55.0	EACH	BAITING OF RODENT BAIT STATIONS	$ 9.50
7.88 AD	28.0	BLOCK	WATERBUG BAIT APPLICATIONS	$ 65.00
70.21DK	700.0	S.Y.	DECKING	$ 100.00
70.31FN	10,179.0	L.F.	FENCING	$ 4.00
70.51EO	20.0	C.Y.	EXCAVATION OF BOULDERS IN OPEN CUT	$ 150.00
70.61RE	20.0	C.Y.	ROCK EXCAVATION	$ 500.00
70.61RR	10.0	C.Y.	ROCK EXCAVATION WITHIN RAILROAD INFLUENCE AS PER RAILROAD GUIDELINES	$ 800.00
70.71SB	20.0	C.Y.	STONE BALLAST	$ 30.00
70.81CB	3,250.0	C.Y.	CLEAN BACKFILL	$ 30.00

COL 1 ITEM NUMBER	COL 2 ENGINEER'S ESTIMATE OF QUANTITIES		COL 3 CLASSIFICATION	COL 4 UNIT PRICES (IN FIGURES)
70.91SW12	5,000.0	S.F.	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	$ 1.00
70.91SW20	120.0	S.F.	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	$ 1.00
72.11HF	150.0	C.Y.	HYDRAULIC FILL FOR ABANDONED SEWERS AND WATER MAINS	$ 95.00
73.11AB	20.0	C.Y.	ADDITIONAL BRICK MASONRY	$ 125.00
73.21AC	20.0	C.Y.	ADDITIONAL CONCRETE	$ 125.00
73.31AE0	360.0	C.Y.	ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS)	$ 40.00
73.41AG	100.0	C.Y.	ADDITIONAL SELECT GRANULAR BACKFILL	$ 30.00
73.61AT	350.0	C.Y.	ADDITIONAL STONE BALLAST	$ 30.00
8.01 C1	3,600.0	TONS	HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	$ 85.00
8.01 C2	29.0	SETS	SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	$ 2,000.00
8.01 H	500.0	TONS	HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	$ 400.00
8.01 S	1.0	L.S.	HEALTH AND SAFETY	$ 20,000.00
8.01 W1	90.0	DAY	REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	$ 1,700.00
8.01 W2	90.0	SETS	SAMPLING AND TESTING OF CONTAMINATED WATER	$ 1,400.00
8.02 A	200.0	S.F.	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	$ 3.00
8.02 B	50.0	L.F.	SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	$ 10.00
JB 100.1 (VERZ)	2.0	EACH	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE.1)	$ 595.00
JB 100.1(CE)	2.0	EACH	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .1)	$ 323.00
JB 100.3(CE)	1.0	EACH	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .3)	$ 895.00
JB 101.1 (VERZ)	4.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE. 1)	$ 2,364.00
JB 101.1(CE)	2.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	$ 2,740.00
JB 101.1(TW)	2.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	$ 2,000.00
JB 101.3(CE)	1.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3)	$ 4,509.00
JB 104.1 (VERZ)	3.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	$ 4,037.00
JB 104.1(CE)	2.0	EACH	UTILITIES CROSSING TRANCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE.1)	$ 3,558.00

COL 1 ITEM NUMBER	COL 2 ENGINEER'S ESTIMATE OF QUANTITIES		COL 3 CLASSIFICATION	COL 4 UNIT PRICES (IN FIGURES)
JB 104.1(TW)	2.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	$ 4,000.00
JB 104.3(CE)	1.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .3)	$ 5,269.00
JB 108.1(CE)	1.0	EACH	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	$ 440.00
JB 108.1(TW)	2.0	EACH	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	$ 600.00
JB 108.1(VERZ)	6.0	EACH	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	$ 886.00
JB 108.3(CE)	3.0	EACH	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .3)	$ 2,245.00
JB 200(CE)	76.0	L.F.	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	$ 108.00
JB 225(VERZ)	1.0	EACH	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	$ 2,925.00
JB 226(CE)	1.0	EACH	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	$ 3,349.00
JB 227(CE)	1.0	EACH	REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	$ 1,741.00
JB 300(CE)	1.0	C.Y.	SPECIAL CARE EXCAVATION AND BACKFILLING	$ 209.00
JB 330E.1(CE)	3.0	L.F.	SUPPORT AND PROTECTION OF ELECTRIC AND GAS FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (TYPE .1)	$ 22.00
JB 330E.3(CE)	75.0	L.F.	SUPPORT AND PROTECTION OF ELECTRIC AND GAS FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (TYPE .3)	$ 31.00
JB 330T1(VERZ)	539.0	L.F.	SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE IN OR IN CLOSE PROXIMITY TO TRENCH LIMITS	$ 115.00
JB 350 T/TW(VERZ)	1.0	L.S.	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES AND APPURTENANCES.	$ 27,352.00
JB 350(CC)	1.0	L.S.	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES	$ 5,616.00
JB 350(CE)	1.0	L.S.	OVERHEAD ACCOMMODATION, PROTECTION OF OH FACILITIES & APPURTENANCES	$ 26,000.00
JB 350TWC	1.0	L.S.	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES	$ 7,758.54
JB 351(CE)	1.0	EACH	INSTALL AND REMOVE "A" FRAME ON UTILITY POLES	$ 800.00
JB 400(CE)	30.0	C.Y.	TEST PITS FOR UTILITY FACILITIES	$ 179.00
JB 401(CE)	33.0	C.Y.	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	$ 216.00

COL 1 ITEM NUMBER	COL 2 ENGINEER'S ESTIMATE OF QUANTITIES		COL 3 CLASSIFICATION	COL 4 UNIT PRICES (IN FIGURES)
JB 401(VERZ)	32.0	C.Y.	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	$ 228.00
JB 402.2(CE)	450.0	L.F.	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	$ 40.00
JB 402T.2A(VERZ)	260.0	L.F.	EXISTING OCCUPIED NON-CONRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	$ 44.00
JB 402T.V2A(VERZ)	25.0	L.F.	EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	$ 26.00
JB 450.1(CE)	8.0	CREW/HR	CONSTRUCTION FIELD SUPPORT - SURVEY CREW (TYPE .1)	$ 249.00
JB 450.2(CE)	20.0	CREW/HR	CONSTRUCTION FIELD SUPPORT - SMALL SIZE CREW (TYPE .2)	$ 245.00
JB 450.3(CE)	28.0	CREW/HR	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)	$ 700.00
JB 500(TW)	529.0	L.F.	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	$ 4.00
JB 802A(CE)	1,395.0	S.F.	SPECIAL CARE EXCAVATION AND RESOTRATION FOR SIDEWALK WORK	$ 3.00
JB 802B(CE)	6.0	L.F.	SPECIAL CARE EXCAVATION AND RESOTRATION FOR CURB WORK	$ 6.00
JB 900(CC)	1.0	F.S.	EXTRA UTILITY WORK COSTS ALLOWANCE	$ 1,500.00
JB 900(CE)	1.0	F.S.	EXTRA UTILITY WORK COSTS ALLOWANCE	$ 39,233.40
JB 900(TW)	1.0	F.S.	EXTRA UTILITY WORK COSTS ALLOWANCE	$ 3,461.18
JB 900(VERZ)	1.0	F.S.	EXTRA UTILITY WORK COSTS ALLOWANCE	$ 60,000.00
UTL-6.01.1	3.0	EACH	GAS MAIN CROSSING SEWER UP TO 24" IN DIAMETER (S6.01)	$ 1,040.00
UTL-6.01.4	2.0	EACH	GAS MAIN CROSSING SEWER 48" THRU 54" IN DIAMETER (S6.01)	$ 2,120.00
UTL-6.01.6CA	1.0	EACH	GAS MAIN CROSSING 68"W X 48"H HORIZONTAL ELLIPTICAL REINFORCED CONCRETE STORM SEWER (S6.01)	$ 2,340.00
UTL-6.01.8	70.0	EACH	GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (S6.01)	$ 465.00
UTL-6.01.9	4.0	EACH	GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (S6.01)	$ 485.00
UTL-6.02	2.0	EACH	EXTRA EXCAVATION FOR THE INSTALLATION OF CATCH BASIN SEWER DRAIN PIPES WITH GAS INTERFERENCES (S6.02)	$ 715.00
UTL-6.03	400.0	L.F.	REMOVAL OF ABANDONED GAS FACILITIES. ALL SIZES. (S6.03)	$ 15.00
UTL-6.03.1	1,600.0	L.F.	REMOVAL OF ABANDONED GAS FACILITIES WITH POSSIBLE COAL TAR WRAP. ALL SIZES. (FOR NATIONAL GRID WORK ONLY) (S6.03)	$ 25.00

COL 1 ITEM NUMBER	COL 2 ENGINEER'S ESTIMATE OF QUANTITIES		COL 3 CLASSIFICATION	COL 4 UNIT PRICES (IN FIGURES)
UTL-6.04	5.0	EACH	ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (S6.04)	$ 35.00
UTL-6.05	5.0	EACH	ADJUST HARDWARE TO GRADE BY RESETTING. (ROAD RECONSTRUCTION.) (S6.05)	$ 65.00
UTL-6.06	400.0	C.Y.	SPECIAL CARE EXCAVATION AND BACKFILLING (S6.06)	$ 180.00
UTL-6.07	40.0	C.Y.	TEST PITS FOR GAS FACILITIES (S6.07)	$ 100.00
UTL-GCS-2WS	1.0	F.S.	GAS INTERFERENCES AND ACCOMMODATIONS	$ 60,000.00
			THE BIDDER SHALL INSERT THE BID MULTIPLIER IN THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.	

#1

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: SER200151

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.. IN STATEN ISLAND

Name of Bidder: DiFazio Industries LLC

Date of Bid Opening: 4/18/2018

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

Place of Business of Bidder: 38 Kinsey PL, Staten Island NY 10303

Bidder's Telephone Number: 718-720-6966 Fax Number: 718-816-5689

Bidder's E-Mail Address: John@difazioind.net

Residence of Bidder (If Individual): _____

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 NY

Name and Home Address of President: John DiFazio
7 Ponderosa Dr, Colts Neck NJ 07722

Name and Home Address of Secretary: Marc DiFazio
43 Whirlaway Dr, Tinton Falls NJ 07724

Name and Home Address of Treasurer: Marc DiFazio
43 Whirlaway Dr, Tinton Falls NJ 07724

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. SER200151

BID PROPOSAL: In the spaces provided below, the Bidder shall furnish his cost adjustment Multipliers, to be applied to every unit price items contained in the Bid Schedule and Contingency Item List, excluding items with a Fixed Sum unit of measurement, to cover the cost of furnishing all labor and materials required and complete all work in full compliance with the Contract for the single multiplier of:

TOTAL BID MULTIPLIER: 1.0299 Multiplier

(a/k/a BID PROPOSAL)

(Please specify to four (4) decimal places) of the foregoing Engineer's Estimate of Total Cost.

BB 4/18/18

BIDDER'S SIGNATURE AND AFFIDAVIT

Bidder: DiFazio Industries LLC

By: _____

(Signature of Partner or corporate officer)

_____

Attest: Secretary of Corporate Bidder

(Corporate Seal)

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 ~~NEW YORK~~ RICHMOND ss:

JOHN DITARO being duly sworn says:
I am the PRESIDENT of the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at COLD INDEX.
I have knowledge of the several matters therein stated, and they are in all respects true.

X _____
(Signature of Corporate Officer who signed the Bid)

Subscribed and sworn to before me this
17 day of APRIL, 2013

Cesar Piedrahita
Notary Public

CESAR PIEDRAHITA
Notary Public, State of New York
No. 01PI6151715
Qualified in Richmond County
Commission Expires Aug. 21, 2018

AFFIRMATION

PROJECT ID. SER200151

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: DiFazio Industries LLC
Address: 38 Kinsey Place
City Staten Island State NY Zip Code 10303

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

/X/ C- Corporation
EMPLOYER IDENTIFICATION NUMBER

By: _____
Signature

Title: President

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.

BID BOND 1
FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS. That we, DIFAZIO INDUSTRIES, LLC
38 Kinsey Place, Staten Island, NY, 10303

hereinafter referred to as the "Principal", and FIDELITY AND DEPOSIT COMPANY OF MARYLAND
1400 American Lane, Tower I, 18th Floor, Schaumburg, IL 60196-1056

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% of Amount Bid), 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

Project ID: SER200151 PIN: 8502018SE0020C - For new storm and sanitary sewers extension and water main replacement in Amboy Road and South Railroad Avenue, etc., Borough of Staten Island.

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 26th day of March, 2018.

(Seal) DIFAZIO INDUSTRIES, LLC (L.S.)
Principal

By: _____

(Seal) FIDELITY AND DEPOSIT COMPANY OF MARYLAND
Surety

By: Aklima Noorhassan
Aklima Noorhassan, Attorney In Fact

BID BOND 3

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

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 resides at _____
that he is the _____ 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.

_____
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

AFFIX ACKNOWLEDGMENTS AND JUSTIFICATION OF SURETIES

ACKNOWLEDGEMENT FOR PRINCIPAL

ACKNOWLEDGEMENT FOR PRINCIPAL, IF A LIMITED LIABILITY COMPANY

STATE OF NEW YORK)
COUNTY OF RICHMOND)

ON THE 17 DAY OF APRIL, 2013, BEFORE ME PERSONALLY APPEARED JOHN DIFAZIO TO ME KNOWN AND KNOWN TO ME TO BE THE PRESIDENT OF DIFAZIO INDUSTRIES, A LIMITED LIABILITY COMPANY, DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT (S)HE EXECUTED THE SAME AS AND FOR THE ACT AND DEED OF SAID LIMITED LIABILITY COMPANY.

Notary Public

CESAR PIEDRAHITA
Notary Public, State of New York
No. 01PI6151715
Qualified in Richmond County
Commission Expires Aug. 21, 2013

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **MICHAEL BOND, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Debra A. DEMING, Cynthia FARRELL, Sandra DIAZ, Edward REILLY, Susan A. WELSH, Aklima NOORHASSAN, Francesca KAZMIERCZAK, Frances RODRIGUEZ and Peter HEALY, all of New York, New York, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 7th day of February, A.D. 2018.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Dawn E. Brown
Assistant Secretary
Dawn E. Brown

Vice President
Michael Bond

State of Maryland
County of Baltimore

On this 7th day of February, A.D. 2018, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **MICHAEL BOND, Vice President, and DAWN E. BROWN, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Constance A. Dunn

Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

POA-F 093-5030B

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this ____ day of MAR 26 2018, 20____.

David McVicker, Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:

Zurich American Insurance Co.
Attn: Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056

ACKNOWLEDGEMENT OF SURETY

State of New York

County of New York

On this 26th day of March in the year 2018 before me personally came to me known, who, being by me duly sworn, did depose and say that Aklima Noorhassan he/she resides in New York, NY that he/she is the Attorney-In-Fact for

Fidelity and Deposit Company of Maryland

the corporation described in and which executed the attached instrument; and that he/she signed his/her name thereto by Order of the Board of Directors of the said Corporation.

Cynthia Farrell

Notary Public

CYNTHIA FARRELL
Notary Public - State of New York
NO. 01FA6047087
Qualified in Queens County
My Commission Expires 8/28/2018

FIDELITY AND DEPOSIT COMPANY

OF MARYLAND

600 Red Brook Blvd., Suite 600, Owings Mills, MD 21117

Statement of Financial Condition

As Of December 31, 2016

ASSETS

Bonds	$ 141,903,342
Stocks	22,845,654
Cash and Short Term Investments	3,080,053
Reinsurance Recoverable	13,996,720
Other Accounts Receivable	27,147,872
TOTAL ADMITTED ASSETS	$ 208,973,641

LIABILITIES, SURPLUS AND OTHER FUNDS

Reserve for Taxes and Expenses		$ 896,428
Ceded Reinsurance Premiums Payable		40,193,693
Securities Lending Collateral Liability		0
TOTAL LIABILITIES		$ 41,090,121
Capital Stock, Paid Up	$ 5,000,000	
Surplus	162,883,521	
Surplus as regards Policyholders		167,883,520
TOTAL		$ 208,973,641

Securities carried at $62,166,344 in the above statement are deposited with various states as required by law.

Securities carried on the basis prescribed by the National Association of Insurance Commissioners. On the basis of market quotations for all bonds and stocks owned, the Company's total admitted assets at December 31, 2016 would be $209,350,832 and surplus as regards policyholders $168,260,711.

I, DENNIS F. KERRIGAN, Corporate Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company on the 31st day of December, 2016.

Corporate Secretary

State of Illinois
City of Schaumburg } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 1st day of March, 2017.

Notary Public

DARRYL JOINER
OFFICIAL SEAL
Notary Public - State of Illinois
My Commission Expires
February 24, 2018

CERTIFICATE OF SOLVENCY UNDER SECTION 1111 OF THE NEW YORK INSURANCE LAW

STATE OF NEW YORK

DEPARTMENT OF FINANCIAL SERVICES

It is hereby certified that

Fidelity and Deposit Company of Maryland

Of Owings, Maryland

a corporation organized under the laws of the State of Maryland and duly authorized to transact the business of insurance in this State, is qualified to become surety or guarantor on all bonds, undertakings, recognizances, guaranties and other obligations required or permitted by law; and that the said corporation is possessed of a capital and surplus including gross paid-in and contributed surplus and unassigned funds (surplus) aggregating the sum of $167,883,520 (Capital $5,000,000) as is shown by its sworn financial statement for the year ending December 31, 2016 on file in this Department, prior to audit.

The said corporation cannot lawfully expose itself to loss on any one risk or hazard to an amount exceeding 10% of its surplus to policyholders, unless it shall be protected in excess of that amount in the manner provided in Section 4118 of the Insurance Law of this State.

In Witness Whereof, I have

unto set my hand and affixed

official seal of this Department in the City of Albany, this

21st day of March, 2017.

Maria T. Vullo
Superintendent

By Jacqueline Catalfamo

Jacqueline Catalfamo
Special Deputy Superintendent

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

CONTINGENCY ITEM LIST

NOTE:

(1) The Bid multiplier located on Page C-4 of the BID BOOKLET shall be applied to each of the fixed unit prices in the contingency item list, excluding items with "F.S." ("Fixed Sum") as the unit of measurement and that adjusted unit price shall represent the 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 fixed unit prices, in this Percentage Bid Contract, adjusted by the Bid multiplier are to be paid for the actual quantities of the several classes of work in the completed work or structure, and those adjusted unit prices 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) Prospective bidders must examine the Contingency Item List 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 Contingency Item List are numbered consecutively, as follows: D-1 through D-3.

VERIZON
SER200151 - SANITARY SEWER AND WATER MAIN REPLACEMENT
IN AMBOY ROAD AND SOUTH RAILROAD AVENUE ETC.
Contingency Item List
(05/11/2017)

ITEM	DESCRIPTION	UNIT	PRICE
JB 100.2	Utilities Crossing Trench for CB Chute Connection &/or Test Pits (Type .2)	EA	$ 808.00
JB 100.3	Utilities Crossing Trench for CB Chute Connection &/or Test Pits (Type .3)	EA	$ 998.00
JB 101.2	Utilities Crossing Trench for Sewers 12" to 24" Diameter (Type .2)	EA	$ 2,394.00
JB 101.3	Utilities Crossing Trench for Sewers 12" to 24" Diameter (Type .3)	EA	$ 3,309.00
JB 104.2	Utilities Crossing Trench for Sewers over 48" to 54" Diameter (Type .2)	EA	$ 4,037.00
JB 104.3	Utilities Crossing Trench for Sewers over 48" to 54" Diameter (Type .3)	EA	$ 4,966.00
JB 108.2	Utilities Crossing Trench for Water Main up to & incl. 12" Diameter (Type .2)	EA	$ 1,097.00
JB 108.3	Utilities Crossing Trench for Water Main up to & incl. 12" Diameter (Type .3)	EA	$ 1,322.00
JB 200	Extra Depth Excavation of Catch Basin Chute Connection Pipes	LF	$ 170.00
JB 226	Installation of Catch Basins with Interference	EA	$ 1,463.00
JB 227	Removal of Catch Basins with Interference	EA	$ 1,463.00
JB 300	Special Care Excavation & Backfilling	CY	$ 167.00
JB 400	Test Pits for Utility Facilities	CY	$ 218.00
JB 401AT	Special Care Pavement Excavation for Adjustment of Telecommunication Utility Facilities Connected to or Near the Base Pavement	L.F.	$ 76.00
JB 402T.1	Existing Concrete Encased Conduits Placed in Final Position without Concrete Encasement	L.F.	$ 47.00
JB 402T.1A	Existing Concrete Encased Telecommunication Conduits Placed in Final Position with Concrete Encasement	L.F.	$ 53.00
JB 402T.2	Existing Non-Concrete Encased Telecommunication Conduits Placed in Final Position without Concrete Encasement	L.F.	$ 39.00
JB 402T.V2	Existing Vacant Non-Concrete Encased Telecommunication Conduits Placed in Final Position without Concrete Encasement	L.F.	$ 21.00
JB 403T.2	Placing Steel Protection Plates for Utility Facilities	SF	$ 14.85
JB 500	Removal of Abandoned Utility Conduits (Non-Concrete Encased)	LF	$ 4.00
JB 501	Removal of Abandoned Masonry for Utility Facilities	CY	$ 231.00
JB 636EE	Priv. Owned Utility Structure Hardware Adjustment (34" to under 41")	EA	$ 490.00
JB 636 ME	Modification of Methods to Accommodate Utility Street Hardware during Pavement Milling and Resurfacing Operations (34" to under 41" width)	EA	$ 150.00
JB 700	Special Modification Of Work Method To Accommodate/Protect Underground Facilities With Limited Cover	CY	$ 95.00
JB 803.2	Line Cut By Pneumatic Tools In Lieu of Saw Cut Associated with Roadway Removal Operations	LF	$ 15.80

FOR INFORMATION ONLY
CONTINGENCY ITEMS
CHARTER/ SPECTRUM
SER-200181
New Storm and Sanitary Sewers Extension
Sanitary Sewer and Water Main Replacement in Amboy Rd and South Railroad Ave, Etc.
Borough of Staten Island

JOINT BID ITEM	DESCRIPTION	UNITS	JB PRICE
JB 100.1	UTILITIES CROSSING TRENCH FOR CB CHUTE CONNECTION	EA	$550.00
JB 102.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER	EA	$3,000.00
JB 103.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER	EA	$3,500.00
JB 105.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER	EA	$4,200.00
JB 106.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER	EA	$4,400.00
JB 107.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER	EA	$4,500.00
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" TO 24" DIAMETER	EA	$1,000.00
JB 110.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" TO 36" DIAMETER	EA	$1,400.00
JB 111.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" TO 48" DIAMETER	EA	$1,500.00
JB 112.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" TO 54" DIAMETER	EA	$1,800.00
JB 113.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" TO 60" DIAMETER	EA	$1,800.00
JB 114.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" TO 72" DIAMETER	EA	$2,000.00
JB 115.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" TO 84" DIAMETER	EA	$2,200.00
JB 200	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	LF	$160.00
JB 225	REMOVAL AND INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	$2,800.00
JB 226	INSTALLATION OF CATCH BASIN WITH UTILITY INTERFERENCES	EA	$1,400.00
JB 227	REMOVAL OF CATCH BASIN WITH UTILITY INTERFERENCES	EA	$1,400.00
JB 300	SPECIAL CARE EXCAVATION & BACKFILLING	CY	$160.00
JB 300A	UTILITY PARALLELING CITY FACILITY TRENCH	LF	$80.00
JB 330T1	SUPPORT & PROTECTION OF UTILITY IN CITY TRENCH	LF	$100.00
JB 400	TEST PITS FOR UTILITY FACILITIES	CY	$175.00
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	CY	$200.00
JB 401AC	SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF CABLE TV FACILITIES CONNECTED TO THE BASE PAVEMENT	CY	$75.00
JB 402.1	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONC. ENCASEMENT	DF	$35.00
JB 402.1A	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONC. ENCASEMENT	DF	$45.00
JB 402.2	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONC. ENCASEMENT	DF	$25.00
JB 402.2A	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	DF	$35.00
JB 403	PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES	SF	$4.00
JB 405.1	TRENCH EXCAVATIONS FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN FIVE FEET	CY	$150.00
JB 405.2	TRENCH EXCAVATIONS FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS EQUAL TO OR GREATER THAN FIVE FEET, REQUIRING SHEETING	CY	$200.00
JB 406	EXCAVATION FOR UTILITY STRUCTURE	CY	$150.00
JB 501	REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES	CY	$200.00
JB 501.1	REMOVAL OF ABANDONED CABLE TELEVISION SIDEWALK PULL BOXES	EA	$500.00
JB 603T.1	INSTALL 1 ea. 2", 4" or 1 1/4" QUAD (PVC or STEEL) IN ANY COMBINATION	LF	$5.00
JB 603T.2	INSTALL 2 ea. 2", 4" or 1 1/4" QUAD (PVC or STEEL) IN ANY COMBINATION	LF	$8.00
JB 603T.3	INSTALL 4 ea. 2", 4" or 1 1/4" QUAD (PVC or STEEL) IN ANY COMBINATION	LF	$12.00
JB 638EG	ADJUSTMENT OF UTILITY HARDWARE	EA	$500.00
JB 638N	INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE	CY	$1,054.00
JB 638R	BREAKOUT & REMOVE UTILITY STRUCTURE	CY	$350.00
JB 700	SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER	CY	$75.00
JB 800	MODIFICATION OF TROLLEY STRUCTURE REMOVAL WHEN CROSSING UTILITY FACILITIES	LF	$190.00
JB 801	MODIFICATION OF TROLLEY STRUCTURE REMOVAL PARALLEL TO UTILITY FACILITIES	LF	$80.00

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.

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 VENDEX as caution data.

Tax ID #: 73 170 6369

APT E-PIN #: 85018B0095

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 #	85018B0095	**FMS Project ID#:**	SER200151
Project Title/ Agency PIN #	NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD, ETC./8502018SE0020C		
Bid/Proposal Response Date	MARCH 30, 2018		
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 Analyst
Telephone #	(718) 391-2604	**Email**	bellamyte@ddd=c.nyc.gov

Project Description *(attach additional pages if necessary)*

PROJECT ID: SER200151

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
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	
Unspecified*	12 %	
or		
Black American	UNSPECIFIED*	
Hispanic American	UNSPECIFIED*	
Asian American	UNSPECIFIED*	
Women	UNSPECIFIED*	
Total Participation Goals	12 %	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 #: 73 170 6369

APT E-PIN #: 85018B0095

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 #	73 170 6369	**FMS Vendor ID #**	0002543527
Business Name	DiFazio Industries LLC	**Contact Person**	
Address	38 Kinsey PL, Staten Island NY 10303		
Telephone #	718-720-6966	**Email**	JoeLG@difazioind.net

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

PRIME CONTRACTOR ADOPTING AGENCY M/WBE PARTICIPATION GOALS

☒ **For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.**	**Total Bid/Proposal Value**		**Agency Total Participation Goals (Line 1, Page 13)**		**Calculated M/WBE Participation Amount**
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.	$ 10,446,961	X	0.12	=	$ 1,253,635 Line 2

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

☐ **For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Modified M/WBE Participation Goals.**	**Total Bid/Proposal Value**		**Adjusted Participation Goal (From Partial Waiver)**		**Calculated M/WBE Participation Amount**
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.	$	X		=	$ Line 3

Tax ID #: 73 170 6369

APT E-PIN #: 85018B0095

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? % ~~13.22~~ 14.03 HNS

✓ Scopes of Subcontract Work

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.

	1. Tree Pruning & Removal	$20,000
	2. Tree Consultant	$150,000
	3. TV Inspection	$11,500
	4. Pavement Marking	$25,000
MBE	5. Crossing Guards	$85,000
MBE	6. Maintenance of Site	$129,000
WBE	7. Hazmat	$40,000
	8. Rodent Control	$6500
WBE	9. Trucking	$629,635
	10.	
	11.	
	12.	
	13.	
	14.	
	15.	
	16.	
	17.	

Tax ID #: 73 170 6369

APT E-PIN #: 85018B0095

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**	4/18/2018
Print Name	HAFEZ SHRAIDEH	**Title**	PM

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.

CONTRACT NO. _____ **AGENCY** _____ **DATE COMPLETED** _____

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 _____

CONTRACT NO. _____ **AGENCY** _____ **DATE COMPLETED** _____

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 _____

CONTRACT NO. **AGENCY** **DATE COMPLETED**

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 _____

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

AGENCY CHIEF CONTRACTING OFFICER APPROVAL

Signature: _____ **Date:** _____

CITY CHIEF PROCUREMENT OFFICER APPROVAL

Signature: _____ **Date:** _____

Waiver Determination

Full Waiver Approved: ☐
Waiver Denied: ☐
Partial Waiver Approved: ☐
Revised Participation Goal: _____%

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: P. Fazio Industries LLC

Project ID Number: _____

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: SGR 200151

- **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.

We Provide career opportunities through the collective bargaining agreement. Difazio Industries is in good standing with all our trade unions.

Bidder: Difazio Industries LLC

By: _____ Title: President

(Signature of Partner or Corporate Officer)

Date: 2/20/2018

EXCAVATORS UNION LOCAL 731
ANNUITY FUND. PENSION FUND. WELFARE FUND

3411 35th Avenue
Astoria, NY 11106
Tel: (718) 390-0430.Fax: (718) 391-9099

November 28, 2017

DiFazio Industries
38 Kinsey Place
Staten Island , NY 10303

Re: Excavators Union Local 731 Benefits Funds
& DiFazio Industries

.To Whom It May Concern:

This will serve to confirm that based upon unaudited reports submitted by the above referenced company to the Excavators Union Local 731 Benefits Funds ("Benefits Funds") it appears that as of the date of this letter, such company has made payment of all fringe benefits due to the Benefits Funds for work performed by its laborers through September 2017

Very truly yours,

Paul D'Abbraccio
Funds Manager

PD/cb

APPRENTICESHIP PROGRAM QUESTIONNAIRE ("APQ")

Project ID Number: _____

- **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.

_____

_____

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_____

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_____

_____

Bidder: _____

By: _____ Title: _____
(Signature of Partner or Corporate Officer)

Date: _____

Project ID. _____

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: _____

DDC Project Number: _____

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		
Residential Building Construction		
Nonresidential Building Construction		
Heavy Construction, except building		
Highway and Street Construction		
Heavy Construction, except highways		
Plumbing, Heating, HVAC		
Painting and Paper Hanging		
Electrical Work		
Masonry, Stonework and Plastering		
Carpentry and Floor Work		
Roofing, Siding, and Sheet Metal		
Concrete Work		
Specialty Trade Contracting		
Asbestos Abatement		
Other (specify)		
_____		

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. _____

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
_____	_____	_____
_____	_____	_____
_____	_____	_____

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.

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

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
_____	_____	_____
_____	_____	_____
_____	_____	_____

Project ID. _____

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: _____ By: _____

(Signature of Owner, Partner, Corporate Officer)

Title: _____

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.

SER200151

4/19/2018

A. PROJECT REFERENCES - SIMILAR CONTRACTS COMPLETED BY THE BIDDER

List all contracts substantially completed within the last 4 years similar to the contract being awarded, up to 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
Reconstruction of sewers Rec SER002284 NYCDDC	Capital	$3,600.00	March-16	NYCDDC Adam Alweiss 718-391-1357	NYCDDC/ Mansukh Mavani 718-391-1756
Catch Basins Brooklyn SEK002373r NYCDEP	catch basir	$4,200.00	October-16	NYCDEP Danny Lefkowitz 719-595-7657	NYCDEP Danny Lefkowitz 719-595-7657
Watermain Various locations Staten Island REDA001	watermain	$14,159.00	September-16	NYCDDC Adam Alweiss 718-391-1357	NYCDDC Hitendra Patel, P.E. 718-391-2281
Emerg. Water GE-352 NYCDDC	Capital	$6,337.00	March-16	NYCDEP Jean Claude 718-595-4204	NYCDEP Luis Caminero 718-595-4204
SER002328 Cuba Ave Staten Island	Capital	$14,710.00	July-15	NYCDDC Rana Balvedish 347-838-6879	NYCDDC Monzer Shahim 347-838-6879
SER002181 South Railroad	Capital	$10,678.00	July-14	NYCDDC Rana Balvedish 347-838-6879	NYCDDC Monzer Shahim 347-838-6879
NYCEDC Stapleton Waterfront	Capital	$7,721.00	Oct-13	Paul Tso NYCEDC 718-447-1121	NYCEDC Owen Foote

Staten Island				Resident Engineer	212-619-5000
Dahlia St NYCDDC SER002320 Staten Island	Capital	$4,191.00	Sep-12	NYCDDC Mansouk Mavani 718-391-1756	NYCDDC Mansouk Mavani 718-391-1756
SER002225 Annadale Road Staten Island	Capital	$ 14,141,414.31	Sep-12	NYCDDC Syed Noman 347-838-6879	NYCDDC Sameh Riad 718-391-2326
HWKC-1019 Eastern Parkway Brooklyn	Capital	$ 18,618,618.61	Nov-12	NYCDDC Sam Fahmy-Haks 347-457-5355	NYCDDC Steve Salomon 718-250-5047

SER-200281 Seguine Ave Staten Island	Capital	$21,067.00	Sep-11	NYCDDC Walkman Wong, P.E 718-605-2370	NYCDDC Walkman Wong, P.E 718-605-2370
SER-002310 Furman St Staten Island	Capital	$715,715	Feb-11	NYCDDC Hitendra Patel, P.E. 718-605-2374	NYCDDC Hitendra Patel, P.E. 718-605-2374
SE-775 Station Avenue Staten Island	Capital	$19,819.00	Jun-10	NYCDDC Walkman Wong, P.E 718-605-2370	NYCDDC Walkman Wong, P.E 718-605-2370
SER00201S Emergency Sewer, Staten Island	Capital	$4,284	Jun-10	NYCDDC/DEP Danny Lefkowitz, P.E. 718-595-7657	NYCDDC/DEP Danny Lefkowitz, P.E. 718-595-7657

SER200151

3/18/2018

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 Amount	Subcontracted to Others $000	Uncompleted Portion $000	Date Scheduled to Complete	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. If different from owner
Reconstruction of Eight Culverts Staten Island NYCDOT	Culverts	$6,373.00	$50.00	$1,000.00	Sep-18	NYCDOT Johnson Chen 347 620 0929	NYCDOT Johnson Chen 3476200929
York Ave, Manhattan SEN002169	sewer	$7,423.00	$50.00	$2,500.00	Aug-19	NYCDDC/Mega Mike Michels 646-838-7901	NYCDDC Chris Onyechi 212-313-3531
South Ave Reconstruction Staten Island HW300-03	reconstruction	$2,980.00	$50.00	$2,000.00	Jun-18	NYCDDC Adam Alweiss 718-391-1357	NYCDDC/Arcadis Tom Husband 914-434-4558
Ramble Road, Staten Island SE803	sewer	$37,370.00	$5,000.00	$34,000.00	Dec-19	NYCDDC Adam Alweiss 718-391-1357	NYCDDC Adam Alweiss 718-391-1357
Replace Watermains Various locations, Staten Island REDA002	watermain	$18,881.00	$50.00	$2,000.00	Sep-18	NYCDDC Adam Alweiss 718-391-1357	NYCDDC Adam Alweiss 718-391-1357
Replace Watermains Various locations, Citywide GE-358	watermain	$12,450.00	$50.00	$2,000.00	Mar-18	NYCDEP Mike Sullivan 718-595-5620	NYCDEP Mike Sullivan 718-595-5620
Francis Lewis Blvd Reconstruction of Watermains, Que	watermain	$48,500.00	$6,000.00	$44,000.00	Dec-19	NYCDDC Luis Caminero 718-391-1792	NYCDDC Luis Caminero 718-391-1792

SER200151

4/18/2018

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
Husson St Sewer Reconstruction, Staten Island	sewer	$38,650.00	Sep-17	NYCDDC	NYCDDC
REDA003 Accelerated Waternains	Watermains	$18,500.00	Sep-18	NYCDDC	NYCDDC

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: _____

Certificate of No Change Form

Mayor's Office of Contract Services

- 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: _____

Mayor's Office of Contract Services
253 Broadway, 9th Floor New York, NY 10007
Phone: 212 788 0018 Fax: 212 788 0049

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.

Mayor's Office of Contract Services

	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

Mayor's Office of Contract Services

- 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.

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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: _____

Mayor's Office of Contract Services
253 Broadway, 9th Floor New York, NY 10007
Phone: 212 788 0018 Fax: 212 788 0049

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Mayor's Office of Contract Services

	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

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 DiFazio

PRINTED NAME

President

TITLE

Sworn to before me this 20th day of Feb, 20 18

Sofia Pavlidis

Notary Public

Dated:

SOFIA PAVLIDIS
Notary Public, State of New York
No. 43-4931677
Qualified in Richmond County
Commission Expires July 18, 2018

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

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:

[illegible]	[illegible]	[illegible]	[illegible]
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. Copes 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

Question 28: Indicate whether in the past three (3) years complaints have been filed with a court of law or administrative agency, naming your company as a defendant (or respondent) in a complaint alleging violation of any anti-discrimination or affirmative action laws. If yes, develop and submit a log to show, for each administrative/and or judicial action filed, the following information:

1. Name(s) of complainant(s)	2. Administrative agency or court in which action was filed	3. Nature of the complaint(s)	4. Current status	5. If not pending, the complaint's disposition

Question 29: Identify each job for which a physical qualification exists. Identify and explain the physical qualification(s) for each stated job. Submit job descriptions for each job and the reasons for the qualifications.

Question 30: Identify each job for which there exists any qualification related to age, race, color, national origin, sex, creed, disability, marital status, sexual orientation or citizenship status. Identify and explain the specific related qualification for each job stated. Submit job descriptions for each job and the reasons for the qualifications.

PART III: CONTRACT BID INFORMATION AND PROJECTED AND CURRENT WORKFORCE FORMS

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

Your projections for the utilization of subcontractors on the proposed contract are to be provided in this section. A chart has been provided for the identification of subcontractors. Information is to be provided to the extent known at the time the ER is filed for review by DLS. If the subcontractor's name is unknown, then write "unknown". Under "ownership", enter the appropriate race/ethnic and gender code. If the contract is federally funded or assisted and the subcontractor is being utilized in accordance with applicable federal requirements with respect to Minority Business Enterprise or Woman Business Enterprise requirements, enter the appropriate code. This will also apply to state funded contracts with similar requirements for minority and female owned businesses.

FORM B: PROJECTED WORKFORCE FOR WORK TO BE PERFORMED ON THIS PROJECT

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

FORM C: CURRENT WORKFORCE FOR WORK TO BE PERFORMED ON THIS PROJECT

For each trade *currently* engaged by your company for all work performed in NYC, enter the current workforce for Males and Females by trade classification in the charts provided.

SIGNATURE PAGE

The signatory of this Employment Report and all other documents submitted to DLS must be an official authorized to enter into a binding legal agreement. The signature page must be completed in its entirety and notarized. Only original signatures will be accepted.

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) 618-6878

CONSTRUCTION EMPLOYMENT REPORT

GENERAL INFORMATION

1. Your contractual relationship in this contract is: Prime contractor X Subcontractor ___

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:

___Minority Owned Business Enterprise
___Women Owned Business Enterprise
___Disadvantaged Business Enterprise
___Locally Based Business Enterprise
___Emerging 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 X No___

4. Is this project subject to a project labor agreement? Yes ____ No X

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. 73 - 170 6369 — johndadifazioindnet
Employer Identification Number or Federal Tax I.D. — Email Address

8. Di Fazio Industries LLC
Company Name

9. 38 Kinsey Place Staten Island NY 10303
Company Address and Zip Code

10. John Di Fazio — 718-720-6966
Chief Operating Officer — Telephone Number

11. same — " "
Designated Equal Opportunity Compliance Officer (If same as item #10, write "same") — Telephone Number

12. same
Name of Prime Contractor and Contact Person (If same as item #8, write "same")

13. Number of employees in your company: 100

14. Contract information:

(a) NYCDDC
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 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.

✓ (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 X
(b) After a conditional job offer	Yes X	No___
(c) After a job offer	Yes X	No___
(d) Within the first three days on the job	Yes___	No X
(e) To some applicants	Yes___	No X
(f) To all applicants	Yes X	No___
(g) To some employees	Yes___	No X
(h) To all employees	Yes X	No___

22. Explain where and how completed I-9 Forms, with their supportive documentation, are maintained and made accessible. All I-9 Forms are kept in binders and are maintained in the main office 38 Kinsey Pl.

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

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 X 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) no

_____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 X 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 X

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 X

If yes, attach a log. See instructions.

29. Are there any jobs for which there are physical qualifications? Yes___ No X

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 X

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) John DiFazio 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.

DiFazio Industries LLC
Contractor's Name

Joseph LoBrutto — Business Manager
Name of person who prepared this Employment Report — Title

John DiFazio — President
Name of official authorized to sign on behalf of the contractor — Title

718-720-6966
Telephone Number

[signature] — 2/20/2018
Signature of authorized official — 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/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 20 day of Feb. 20 18

[signature] — 2/20/2018
Notary Public — Authorized Signature — Date

CESAR PIEDRAHITA
Notary Public, State of New York
No. 01PI6151715
Qualified in Richmond County
Commission Expires Aug. 21, 20 19

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

1. D[illegible]u 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

***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

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

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

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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

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

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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

(NO TEXT ON THIS PAGE)

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:

___Minority Owned Business Enterprise
___Women Owned Business Enterprise
___Disadvantaged Business Enterprise
___Locally Based Business Enterprise
___Emerging 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")

_____
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,

FOR OFFICIAL USE ONLY: File No._____

(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).

_____

_____

SIGNATURE PAGE

I, (print name of authorized official signing)_____ 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.

_____

Contractor's Name

_____

Name of person who prepared this Employment Report Title

_____

Name of official authorized to sign on behalf of the contractor Title

_____

Telephone Number

_____

Signature of authorized official 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/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 _____ day of _____ 20 _____

_____

Notary Public Authorized Signature Date

FOR OFFICIAL USE ONLY: File No._____

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

***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

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

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

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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

MALES

	(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.
J					
H					
A					
TRN					
TOT					

FEMALES

(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

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

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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

(NO TEXT ON THIS PAGE)

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

Date _____ File Number _____

LESS THAN $750,000 SUBCONTRACT CERTIFICATE
(CITY, STATE AND ICIP ONLY)

Are you currently certified as one of the following? Please check yes or no:

MBE Yes ___No ___ WBE Yes ___No ___ LBE Yes ___No ___

DBE Yes___No___ EBE Yes ___ No ___

If you are certified as an MBE, WBE, LBE, EBE or DBE, what city/state agency are you certified with?

_____

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

_____
Company Name Employer Identification Number or Federal Tax I.D

_____
Company Address and Zip Code

_____
Contact Person (First Name, Last Name) Telephone Number

_____
Fax Number E-mail Address

Description and location of proposed subcontract:_____
_____
_____

Are you a Union contractor? Yes ____ No ____ If yes, please list which local(s) you affiliated with

_____

Are you a Veteran owned company? Yes ____ No ____

_____ _____
Procurement Identification Number (PIN) Contract Registration Number (CT#)
(City contracts only) (City contracts only)

Revised 8/13
FOR OFFICIAL USE ONLY: File No._____

Block and Lot Number
(ICIP projects only)

Contract Amount

I, (print name of authorized official signing)_____ hereby certify that I am authorized by the above-named subcontractor to certify that said subcontractor's proposed contract with the above named owner or City agency is less than $750,000. This affirmation is made in accordance with NYC Charter Chapter 56, Executive Order No. 50 (1980) and the implementing Rules.

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/and or criminal prosecution.

Signature of authorized official

Date

Only original signatures accepted

Sworn to before me this _____ day of _____ 20____

Notary Public

Authorized Signature

Date

Revised 8/13
FOR OFFICIAL USE ONLY: File No._____

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:

[illegible]	[illegible]	[illegible]	[illegible]
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. Copes 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

Question 28: Indicate whether in the past three (3) years complaints have been filed with a court of law or administrative agency, naming your company as a defendant (or respondent) in a complaint alleging violation of any anti-discrimination or affirmative action laws. If yes, develop and submit a log to show, for each administrative/and or judicial action filed, the following information:

1. Name(s) of complainant(s)	2. Administrative agency or court in which action was filed	3. Nature of the complaint(s)	4. Current status	5. If not pending, the complaint's disposition

Question 29: Identify each job for which a physical qualification exists. Identify and explain the physical qualification(s) for each stated job. Submit job descriptions for each job and the reasons for the qualifications.

Question 30: Identify each job for which there exists any qualification related to age, race, color, national origin, sex, creed, disability, marital status, sexual orientation or citizenship status. Identify and explain the specific related qualification for each job stated. Submit job descriptions for each job and the reasons for the qualifications.

PART III: CONTRACT BID INFORMATION AND PROJECTED AND CURRENT WORKFORCE FORMS

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

Your projections for the utilization of subcontractors on the proposed contract are to be provided in this section. A chart has been provided for the identification of subcontractors. Information is to be provided to the extent known at the time the ER is filed for review by DLS. If the subcontractor's name is unknown, then write "unknown". Under "ownership", enter the appropriate race/ethnic and gender code. If the contract is federally funded or assisted and the subcontractor is being utilized in accordance with applicable federal requirements with respect to Minority Business Enterprise or Woman Business Enterprise requirements, enter the appropriate code. This will also apply to state funded contracts with similar requirements for minority and female owned businesses.

FORM B: PROJECTED WORKFORCE FOR WORK TO BE PERFORMED ON THIS PROJECT

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

FORM C: CURRENT WORKFORCE FOR WORK TO BE PERFORMED ON THIS PROJECT

For each trade *currently* engaged by your company for all work performed in NYC, enter the current workforce for Males and Females by trade classification in the charts provided.

SIGNATURE PAGE

The signatory of this Employment Report and all other documents submitted to DLS must be an official authorized to enter into a binding legal agreement. The signature page must be completed in its entirety and notarized. Only original signatures will be accepted.

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_x_ Subcontractor___

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:

___Minority Owned Business Enterprise
___Women Owned Business Enterprise
___Disadvantaged Business Enterprise
___Locally Based Business Enterprise
___Emerging 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")

_____
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,

FOR OFFICIAL USE ONLY: File No._____

(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).

_____

_____

FOR OFFICIAL USE ONLY: File No._____

SIGNATURE PAGE

I, (print name of authorized official signing)_____ 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.

_____

Contractor's Name

_____

Name of person who prepared this Employment Report Title

_____

Name of official authorized to sign on behalf of the contractor Title

_____

Telephone Number

_____

Signature of authorized official 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/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 _____ day of _____ 20 _____

_____

Notary Public Authorized Signature Date

FOR OFFICIAL USE ONLY: File No._____

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

***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

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

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

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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

MALES

	(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.
J					
H					
A					
TRN					
TOT					

FEMALES

	(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.
J					
H					
A					
TRN					
TOT					

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

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

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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

(NO TEXT ON THIS PAGE)

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:

___Minority Owned Business Enterprise
___Women Owned Business Enterprise
___Disadvantaged Business Enterprise
___Locally Based Business Enterprise
___Emerging 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")

_____
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,

FOR OFFICIAL USE ONLY: File No._____

(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).

_____

_____

FOR OFFICIAL USE ONLY: File No._____

SIGNATURE PAGE

I, (print name of authorized official signing)_____ 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.

_____

Contractor's Name

_____

Name of person who prepared this Employment Report Title

_____

Name of official authorized to sign on behalf of the contractor Title

_____

Telephone Number

_____

Signature of authorized official 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/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 _____ day of _____ 20 _____

_____

Notary Public Authorized Signature Date

FOR OFFICIAL USE ONLY: File No._____

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

***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

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

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

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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICE USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

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

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: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

	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										
H										
A										
TRN										
TOT										

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

(NO TEXT ON THIS PAGE)

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

Date _____ File Number _____

LESS THAN $750,000 SUBCONTRACT CERTIFICATE
(CITY, STATE AND ICIP ONLY)

Are you currently certified as one of the following? Please check yes or no:

MBE Yes ___No ___ WBE Yes ___No ___ LBE Yes ___No ___

DBE Yes___No___ EBE Yes ___ No ___

If you are certified as an MBE, WBE, LBE, EBE or DBE, what city/state agency are you certified with?

_____

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

_____
Company Name Employer Identification Number or Federal Tax I.D

_____
Company Address and Zip Code

_____
Contact Person (First Name, Last Name) Telephone Number

_____
Fax Number E-mail Address

Description and location of proposed subcontract:_____
_____
_____

Are you a Union contractor? Yes ____ No ____ If yes, please list which local(s) you affiliated with

_____

Are you a Veteran owned company? Yes ____ No ____

_____ _____
Procurement Identification Number (PIN) Contract Registration Number (CT#)
(City contracts only) (City contracts only)

Revised 8/13
FOR OFFICIAL USE ONLY: File No._____

Block and Lot Number
(ICIP projects only)

Contract Amount

I, (print name of authorized official signing)_____ hereby certify that I am authorized by the above-named subcontractor to certify that said subcontractor's proposed contract with the above named owner or City agency is less than $750,000. This affirmation is made in accordance with NYC Charter Chapter 56, Executive Order No. 50 (1980) and the implementing Rules.

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/and or criminal prosecution.

Signature of authorized official

Date

Only original signatures accepted

Sworn to before me this _____ day of _____ 20 _____

Notary Public

Authorized Signature

Date

Revised 8/13
FOR OFFICIAL USE ONLY: File No._____

ATTACH TO CONTRACT DOCUMENTS

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

PROJECT ID: **SER200151**

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

ADDENDUM NO. 1

DATED: MARCH 12, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. **Refer** to the Bid and Contract Documents, Volume 3 of 3; SW pages, Page SW-5
   Delete note No (3) (A) in its entirety;
   Replace with "NO TEXT".

2. **Refer** to the Bid and Contract Documents, Volume 3 of 3; SW pages, Page SW-11
   Delete Page SW 11 its entirety;
   Replace with attached Page SW-11R.
   Add the attached Staten Island Railway General Notes and Park Department requirements following Page SW-11R

END OF ADDENDUM NO. 1

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of ONE (1) page and EIGHT (8) of Attachments

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

G. Saini

GURDIP SAINI, P.E.
Associate Commissioner/Design I

DiFazio Industries LLC
Name of Bidder

By: HAFEZ SHRAIDEH

ATTACH TO CONTRACT DOCUMENTS

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

PROJECT ID: **SER200151**

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

ADDENDUM NO. 2

DATED: MARCH 26, 2018

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 30, 2018"** to read **"April 18, 2018."**

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 30, 2018"** to read **"April 18, 2018."**

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

Purnima Dhara
for GURDIP SAINI, P.E.
Associate Commissioner/Design I

DiFazio Industries LLC
Name of Bidder

By: HAFEZ SHRAIDEH

ATTACH TO CONTRACT DOCUMENTS

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

PROJECT ID: **SER200151**

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

ADDENDUM NO. 3

DATED: APRIL 9, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. **Refer** to the Bid and Contract Documents, Volume 1 of 3, Bid Schedule;
   Delete Bid schedule pages B-3 through page B-11 in their entirety.
   Substitute with attached revised Bid Schedule pages B-3 [Revision 1] through page B15 [Revision 1].

2. **Refer** to the Contract Drawings;
   Delete Sheets 3 of 16, 4 of 16, 5 of 16, 6 of 16 and 7 of 16 in their entirety;
   Substitute the attached sheets 3R of 16 and 4R of 16, 5R of 16, 6R of 16, 7R of 16 and 7R1 of 16

END OF ADDENDUM NO. 3

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of ONE (1) page, attachments consisting of THIRTEEN (13) pages, and SIX (6) sheets of drawings.

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

G. Saini

GURDIP SAINI, P.E.
Associate Commissioner/Design I

DiFazio Industries LLC
Name of Bidder

By: Hafez SHRAIDEH

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

ADDENDA CONTROL SHEET

BID OPENING DATE: **MARCH 30, 2018**

PROJECT NO.: **SER200151**

DESCRIPTION: **NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC. IN STATEN ISLAND**

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Amendments	Drawings (number)
1	03/12/2018	☐	☐	☐	☒	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (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: **SER200151**

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

ADDENDUM NO. 1

DATED: MARCH 12, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. **Refer** to the Bid and Contract Documents, Volume 3 of 3; SW pages, Page SW-5
   Delete note No (3) (A) in its entirety;
   Replace with "NO TEXT".

2. **Refer** to the Bid and Contract Documents, Volume 3 of 3; SW pages, Page SW-11
   Delete Page SW 11 its entirety;
   Replace with attached Page SW-11R.
   Add the attached Staten Island Railway General Notes and Park Department requirements following Page SW-11R

END OF ADDENDUM NO. 1

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of ONE (1) page and EIGHT (8) of Attachments

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

G. Saini

GURDIP SAINI, P.E.
Associate Commissioner/Design I

_____
Name of Bidder

By:_____

D. AMENDMENTS 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 with the exception of tees and reducers shall be fabricated from qualified spiral welded pipe. Can type pipe is not acceptable except for fabrication of tees and reducers.

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 eleven (11) pages plus (12) pages of attachments.

STATEN ISLAND RAILWAY

General Notes

1. If the project involves construction or alteration of a subway facility on private property, the property owners will be required to enter into an agreement with the New York City Transit pertaining to all work affecting the transit facilities and clearly defining limits and responsibility for maintenance and liability.

2. At the close of any project involving construction or alteration to a transit facility, mylar and 35mm microfilm copies of all approved drawings must be forwarded to the New York City Transit for its records.

3. Staten Island Railway reserves the right to place inspectors, flagmen or other personnel in the subway structures during construction of the project linked by a telephone system, if deemed necessary, to observe the effects of the construction on the transit facilities. It is expected that such personnel will be necessary when the construction comes within twenty-five feet of the subway structure. However, Staten Island Railway further reserves the right to place such personnel whenever, in its opinion, the project conditions warrant such placement, regardless of distance. The cost of such personnel, telephone installation and any re-routes, diversions of service, work trains, etc., made necessary by the project, must be borne by the project.

4. At least seven (7) working days prior to the start of construction operations, notification must be given to Mr. S. Kolta, P.E., Director, Engineering and Capital Programs, Staten Island Railway, 60 Bay Street – 5th Floor, Staten Island, NY at (718) 876-8261 and to Mr. J. Malvasio, P.E., Manager, Maintenance of Way, New York City Transit, 370 Jay Street – Room 1125A, Brooklyn, NY at (718) 243-4210.

5. All rock excavation adjacent to the subway structure is to be channel drilled.

6. Blasting will be permitted only with light charges subject to the approval of the New York City Transit's Engineer and/or in accordance with the Fire Department's regulations.

7. If top of rock is found below subway structure, the subway structure must be underpinned in accordance with drawings to be submitted to the New York City Transit for approval.

8. If rock is soft or seamy, lateral supports must be provided below the subway structure in accordance with drawings to be submitted to the New York City Transit for approval.

9. Before placing concrete, the sub-grade of the foundations in the vicinity of the subway structure is to be inspected and approved by the New York City Transit's Engineer.

10. If any portion of the Staten Island Railway structure or finish is damaged, it shall be repaired or replaced with the same materials in place, subject to the approval of the New York City Transit's Engineer and at the expense of the project.

11. Excavation embankments are to be shored and braced in accordance with drawings submitted to the New York City Transit for approval.

12. When piles are to be driven adjacent to the subway structure, boring data, pile layouts and specifications are to be submitted to the New York City Transit for approval.

13. Closed-end piles will not be permitted within ten feet of the subway structures.

14. All piles are to be driven a minimum of ten feet below the intersection of the pile center line and the influence line of the subway structure.

15. Piles are to be preaugered to the influence line. The augered hole is to be cased down to the influence line, the casing cleaned out and the piles driven beyond the influence line within the casting.

16. All dewatering operations in the vicinity of the subway structures must be in accordance with drawings to be submitted to the New York City Transit for approval.

17. The New York City Transit, at its discretion, reserves the right to require the project to close or maintain and protect existing subway entrances, ventilators, etc., adjacent to the project during construction. Such construction may include underpinning, shoring, bracing and erection of suitable barricades and/or canopies and shields. Such protection shall be in accordance with drawings submitted to the New York City Transit for approval.

18. If shields are to be installed to protect Staten Island Railway facilities and/or the public, then plans showing the location, type and method of attachment to the Transit structure must be submitted to the New York City Transit for approval.

19. All lumber and plywood used for protection of subway facilities at street level must be fire retardant; below street level, use fireproof material.

20. Building materials and equipment are not to be stored on subway ventilators or gratings.

21. Subway emergency exits must be kept clear at all times.

22. In excavating over or near the subway roof, special care shall be exercised so that the thin concrete protection of the subway waterproofing is not damaged.

23. Welding to or drilling through existing steel structures will not be permitted.

24. The services of a licensed Land Surveyor are to be secured to check for settlement of the subway structure during construction of the project.

25. Standard Staten Island Railway Insurance Clauses must be incorporated in the project's contract documents (copy enclosed).

26. Cost of Staten Island Railway personnel (flagmen, etc.) required by the project are to be borne by the project or the responsible New York City/State Agency.

27. Bus routes affected by the project will or may require bus diversions. These arrangements should be made through Mr. Karl Stricker, General Superintendent, Special Operations, New York City Transit, 130 Livingston Street, Room 3078B, Brooklyn, NY 11201, telephone number (718) 694-3655.

28. Duct lines must be maintained and protected during construction.

29. If manhole covers are raised or lowered, protect cables in manhole by wood sheeting of 2" nominal thickness.

30. As required, raise or lower manhole covers during street paving and sidewalk replacement.

31. There shall be no machine excavation in the vicinity of power duct lines until such lines have been carefully exposed by hand excavation.

32. Prior to the start of construction operations affecting duct lines, five (5) days notice must be given to Mr. S. Kotta, P.E., Director, Engineering and Capital Programs, Staten Island Railway, 60 Bay Street – 5th Floor, Staten Island, NY 10301 at (718) 876-8261.

33. Tractors, cranes, excavators, etc., used in the vicinity of the elevated structure shall be isolated from the ground. Since the elevated structure is used as a negative return path, with a consequent potential between it and ground, any contact between the structure and grounded equipment could result in burning of the steel.

34. Stairway/Entrance Closings.

a) Only one stairway may be closed at a time.

b) A letter and sketch must accompany each request submitted to:

Mr. Rajen Udeshi, P.E., Principal Engineer
New York City Transit
Capital Program Management – Outside Projects
2 Broadway – 7th Floor
New York, NY 10004

c) Ample signage must be posted in advance to advise passengers of the closing and alternate access.

d) Barricades must be erected at street level (fire retardant) and subway level (fireproof) to insure passenger safety.

e) After New York City Transit approval is obtained, 24-hours prior notification must be given to the New York City Transit before the closing or re-opening of a stairway.

35. If new concrete construction is joined to existing, use dowels and keyways in accordance with New York City Transit Standards.

36. Before the start of any work, the Contractor shall make an examination, in the presence of the New York City Transit Engineer, of the interior and exterior of the New York City Transit subway or other structure adjacent to the proposed work. The person or persons authorized by the Contractor to make these examinations shall be approved by the Engineer. The Contractor shall take all photographs as may be necessary or ordered to indicate the existing condition of the New York City Transit structure. One copy of each photograph, eight inches by ten inches in size and the negative is to be submitted to Mr. J. Malvasio, P.E., Manager, Maintenance of Way, New York City Transit, 370 Jay Street, Room 1125A, Brooklyn, NY 11201 before the start of construction.

Enclosure

SIR
1/14/2002

PARK DEPARTMENT REQUIREMENTS

Please note the following general DPR comments involving tree removals, pruning, planting, and item revisions/additions .

The contractor is required to file a DPR Forestry permit prior to start of any work within 50 feet from any existing street tree.

REMOVALS:

A review of the project plans by Mona Fakahani from NYCDPR, found trees within the project boundaries that will be preserved. Please note that the contractor shall remove no tree, unless he/she is authorized by the Director of Staten Island Forestry or a qualified representative. A Forestry work permit is required for all tree removals. Trees that are unapproved for removal that are irreversibly damaged or cut down as a result of construction shall be replaced according to the New York City Tree Valuation Formula. At the contractor's expense, replacement trees will be utilized in all the available planting locations within the primary project area. All tree and tree pit work shall be performed according to ISA and ANSI horticultural specifications and to the satisfaction of NYCDPR.

PRUNING:

A pruning survey should be conducted by the Consulting Arborist at the start of the project. Class II pruning items should be included for use in the contract as needed.

PLANTINGS:

All available planting locations should be realized as part of the design, per the attached NYCDPR Planting Standards. Trees may only be planted during one of our planting seasons (October 1 – December 31 or March 1 – May 31). A qualified and insured tree-planting contractor must perform all work. Please note that all new trees are subject to a 24 month guarantee period, starting from the date of NYCDPR acceptance. A NYCDPR Central Forestry planting permit is required and the Consultant Arborist (CA) for the project must monitor all the work.

ITEM REVISIONS/ADDITIONS:

Please include a tree mitigation table in the design mass mailings and in the final contract plan set and include the applicable DOT mitigation details . The table should include the tree information, location and or tree number, cut/fill in inches at the curb and DOT mitigation case numbers per location.

The Contractor or Consulting Engineer will need to retain a Consulting Arborist (CA) for the duration of the project. The CA will need to fulfill the requirements detailed in the attached NYCDPR scope of work for a CA. The CA will complete a survey of all the trees within the project before construction begins. The survey must include species, location, size and condition as well as any trees that require pruning, removal or special attention to allow for the planned construction work to proceed unhindered. This survey will then be checked by the DPR for acceptability and then approved. A qualified and insured tree company, under the direct supervision of the CA, then must complete all pruning work before the construction work commences. DPR Staten Island Forestry will need to issue a permit for pruning and removals as required. The CA will need to be present at all times, to monitor work under or adjacent to existing trees, to promote minimal damage and provide a written update report to NYCDPR outlining all project related tree issues on a weekly basis. Both the CA and the Resident Engineer must ensure that the protective fences remain in place around the tree at all times during construction.

All existing trees to remain within the project limits must be preserved throughout the duration of construction. NYCDPR requires that all trees are protected through the installation of temporary wooden tree guards. Temporary wooden tree guards must allow for a 2 ½ - 3 foot clearance between the outside of the existing street tree and the interior of the tree guard. All tree guards must be in place prior to the construction work starting and all tree pits should be free of construction debris at all times.

The contractor shall not be permitted to store, stockpile or lay down any construction material within the boundaries of tree pits. This material includes but is not limited to: lumber, fuel and oil containers, pipes, pipe fittings, barricades, hand tools, hoses, hardware, bricks, salvaged stone or granite, trash receptacles, or asphalt.

The contractor shall not be permitted to operate auxiliary equipment that generates exhaust or other heat upward under the branches of trees less than 25-feet above the ground, unless approved by NYCDPR, the Engineer and the CA.

In unpaved areas where heavy equipment or vehicles must operate within the critical root zone of a tree (under the drip line), a 12" layer of wood chips must be spread to prevent soil compaction and root loss. Steel plates or construction mats should be added if requested by the CA and approved by the Engineer, to further abate soil compaction.

Removal of old sidewalk and curb as well as installation of new sidewalk and curb; must be performed by hand under the drip-line of street trees to prevent damage to the root zone. Further, the base should be reused when roots are encountered in proximity to the drip line of trees, when reconstructing sidewalks and or resetting pavers. New sidewalks shall be ramped over the roots of existing trees and remain as close to the original grade as possible. NYCDPR requests that all construction work within the critical root zone of the remaining trees be CA monitored and that any materials removed from the critical root zone be hand and or pneumatically excavated.

NYCDPR recommends that all existing sidewalk tree pits, within the primary project area, be enlarged to measure 5 X 10 feet when possible. Expansion of existing tree pits includes installing level top-soil to the root collar of the tree and placing mulch as necessary to meet the finished grade of the adjacent sidewalk. Expansion of existing empty tree pits includes excavation, furnishing, mixing and placing top-soil in all tree pits up to a two foot depth. All new tree pits should measure 5 X 10 feet when possible. All new tree pits will have soil amendment and or replacement, within a 15-foot radius of the center, when ever possible. Inside the immediate tree pit boundaries, topsoil alone will be utilized up to a two foot depth. From the tree pit boundaries to the perimeter, structural soil or topsoil should be utilized in 4 to 5 foot bands, up to a three feet depth. These rectangular bands will run parallel with the road, on either side of and or behind the new tree pits, encouraging lateral and downward root growth in the future.

NYCDPR mandates that all exposed tree roots be kept wet if exposed as a result of any of the project construction activity. At the contractor's expense, all tree roots exposed will be immediately wet down and covered or wrapped with saturated burlap, until back filled and or covered with soil.
NYC municipal water will be employed exclusively for all the tree pit location and tree watering requirements.

NYCDPR mandates that no utilities (electric, TV/phone/internet, water, storm water, sewer or gas) be located in the sidewalk, within or under the root zone of new and or existing tree pits/planting strips,

unless no other option is available. Individual building hookups that go around or between root zones do not apply. If there is no other option than to locate utilities within the root zone of new and or existing tree pits/planting strips, NYCDPR must be notified well in advance of placement, to afford the opportunity to map, discuss and potentially relocate the utilities.

Once all work is complete, the CA must perform a post work tree survey and any required corrective pruning should be noted. Such corrective pruning must completed by a qualified and insured tree company at the contractor's expense.

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

ADDENDA CONTROL SHEET

BID OPENING DATE: **APRIL 18, 2018**

PROJECT NO.: **SER200151**

DESCRIPTION: **NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC. IN STATEN ISLAND**

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Amendments	Drawings (number)
1	03/12/2018	☐	☐	☐	☒	☐ (0)
2	03/26/2018	☒	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (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: **SER200151**

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

ADDENDUM NO. 2

DATED: MARCH 26, 2018

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 30, 2018"** to read **"April 18, 2018."**

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 30, 2018"** to read **"April 18, 2018."**

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

Purnima Dhara
for GURDIP SAINI, P.E.
Associate Commissioner/Design I

_____
Name of Bidder

By:_____

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

ADDENDA CONTROL SHEET

BID OPENING DATE: **APRIL 18, 2018**

PROJECT NO.: **SER200151**

DESCRIPTION: **NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC. IN STATEN ISLAND**

Addendum		Addendum Contains:				
No.	Date	Revised Bid Date/Time	Revised Bid Schedule	Questions & Responses	Additional Amendments	Drawings (number)
1	03/12/2018	☐	☐	☐	☒	☐ (0)
2	03/26/2018	☒	☐	☐	☐	☐ (0)
3	04/09/2018	☐	☒	☐	☐	☒ (6)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
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		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (0)
		☐	☐	☐	☐	☐ (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: **SER200151**

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

ADDENDUM NO. 3

DATED: APRIL 9, 2018

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

1. **Refer** to the Bid and Contract Documents, Volume 1 of 3, Bid Schedule;
   Delete Bid schedule pages B-3 through page B-11 in their entirety.
   Substitute with attached revised Bid Schedule pages B-3 [Revision 1] through page B15 [Revision 1].

2. **Refer** to the Contract Drawings;
   Delete Sheets 3 of 16, 4 of 16, 5 of 16, 6 of 16 and 7 of 16 in their entirety;
   Substitute the attached sheets 3R of 16 and 4R of 16, 5R of 16, 6R of 16, 7R of 16 and 7R1 of 16

END OF ADDENDUM NO. 3

By signing in the space provided below, the bidder acknowledges receipt of this Addendum consisting of ONE (1) page, attachments consisting of THIRTEEN (13) pages, and SIX (6) sheets of drawings.

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

G. Saini

GURDIP SAINI, P.E.
Associate Commissioner/Design I

_____
Name of Bidder

By:_____

BID SCHEDULE

NOTE: (1) The Bid multiplier located on Page C-4 of the BID BOOKLET shall be applied to each of the fixed unit prices in the bid schedule, excluding items with "F.S." ("Fixed Sum") as the unit of measurement and that adjusted unit price shall represent the 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 fixed unit prices, in this Multiplier Bid Contract, adjusted by the Bid multiplier are to be paid for the actual quantities of the several classes of work in the completed work or structure, and those adjusted unit prices 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 MULTIPLIER IS ENTERED, IN INK, ON PAGE C-4 OF THE BID BOOKLET.
Alterations must be initialed in ink by the Bidder.

(4) 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 [REVISION # 1] Through B - 15 [REVISION # 1]

THE BIDDER SHALL INSERT THE BID MULTIPLIER IN THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.

BID SCHEDULE FORM

001	4.02 AB-R	1,448.0	S.Y.	ASPHALTIC CONCRETE WEARING COURSE, 1-1/2" THICK	$ 20.00
002	4.02 AF-R	10,033.0	S.Y.	ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	$ 30.00
003	4.02 CA	1,540.0	TONS	BINDER MIXTURE	$ 160.00
004	4.04 H	777.0	C.Y.	CONCRETE BASE FOR PAVEMENT, VARIABLE THICKNESS FOR TRENCH RESTORATION, (HIGH-EARLY STRENGTH)	$ 275.00
005	4.08 BA	4,100.0	L.F.	CONCRETE CURB (21" DEEP)	$ 45.00
006	4.09 CE	300.0	L.F.	CORNER STEEL FACED CONCRETE CURB (21" DEEP)	$ 175.00
007	4.13 AAS	21,940.0	S.F.	4" CONCRETE SIDEWALK (UNPIGMENTED)	$ 10.00
008	4.13 BAS	1,390.0	S.F.	7" CONCRETE SIDEWALK (UNPIGMENTED)	$ 13.00
009	4.13 DE	210.0	S.F.	EMBEDDED PREFORMED DETECTABLE WARNING UNITS	$ 25.00
010	4.18 A	47.0	EACH	MAINTENANCE TREE PRUNING (UNDER 12" CAL.)	$ 175.00
011	4.18 B	21.0	EACH	MAINTENANCE TREE PRUNING (12" TO UNDER 18" CAL.)	$ 240.00
012	4.18 C	11.0	EACH	MAINTENANCE TREE PRUNING (18" TO UNDER 24" CAL.)	$ 292.00
013	4.18 D	10.0	EACH	MAINTENANCE TREE PRUNING (24" CAL. AND OVER)	$ 350.00
014	4.19	150.0	S.Y.	SODDING	$ 27.00
015	4.21	2,000.0	P/HR	TREE CONSULTANT	$ 65.00
016	50.21M3C030D	90.0	L.F.	30" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	$ 550.00

BID SCHEDULE FORM

017	50.21M3C054D	780.0	L.F.	54" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	$ 1,400.00
018	50.21M3C068W	180.0	L.F.	68"W X 43"H R.C.P. CLASS HE-III STORM SEWER, ON CONCRETE CRADLE	$ 1,500.00
019	50.21M3E054D	260.0	L.F.	54" R.C.P. CLASS III STORM SEWER, ENCASED IN CONCRETE	$ 1,600.00
020	50.21M3E068W	455.0	L.F.	68"W X 43"H R.C.P. CLASS HE-III STORM SEWER, ENCASED IN CONCRETE	$ 1,800.00
021	50.31MC12	30.0	L.F.	12" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	$ 400.00
022	50.31MC15	30.0	L.F.	15" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	$ 450.00
023	50.31MC18	20.0	L.F.	18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	$ 550.00
024	50.31SC10	1,310.0	L.F.	10" E.S.V.P. SANITARY SEWER, ON CONCRETE CRADLE	$ 350.00
025	50.31SE10	260.0	L.F.	10" E.S.V.P. SANITARY SEWER, ENCASED IN CONCRETE	$ 400.00
026	51.11C001	1.0	EACH	CHAMBER NO. 1	$ 100,000.00
027	51.11P010	2.0	EACH	STANDARD 10'-0" DIAMETER PRECAST MANHOLE	$ 20,000.00
028	51.21S0A1000V	2.0	EACH	STANDARD MANHOLE TYPE A-1	$ 6,500.00
029	51.21S0B1000V	7.0	EACH	STANDARD MANHOLE TYPE B-1	$ 8,000.00
030	51.21S0B2000V	4.0	EACH	STANDARD MANHOLE TYPE B-2	$ 9,000.00
031	51.21S0C1054R	3.0	EACH	STANDARD MANHOLE TYPE C-1 ON 54" R.C.P. SEWER	$ 20,000.00
032	51.21S0E2068H	1.0	EACH	STANDARD MANHOLE TYPE E-2 ON 68"W X 43"H H.E.R.C.P. SEWER	$ 25,000.00

BID SCHEDULE FORM

033	51.31S00210S	1.0	EACH	STANDARD DROP-PIPE MANHOLE TYPE II ON 10" E.S.V.P. SEWER	$ 13,000.00
034	51.41D001	1.0	EACH	STANDARD DOUBLE CATCH BASIN, TYPE 1	$ 9,200.00
035	51.41S001	14.0	EACH	STANDARD CATCH BASIN, TYPE 1	$ 6,000.00
036	52.11D12	365.0	L.F.	12" DUCTILE IRON PIPE BASIN CONNECTION	$ 300.00
037	52.21D08	600.0	V.F.	8" DUCTILE IRON PIPE RISER FOR HOUSE CONNECTION	$ 130.00
038	52.31V06S10	50.0	EACH	6" E.S.V.P. SPUR FOR HOUSE CONNECTION ON 10" E.S.V.P. SANITARY SEWER	$ 215.00
039	52.41D06R	2,000.0	L.F.	6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION)	$ 75.00
040	53.11DR	3,345.0	L.F.	TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	$ 3.50
041	6.02 AAN	3,310.0	C.Y.	UNCLASSIFIED EXCAVATION	$ 75.00
042	6.02 XSCW	1,650.0	C.Y.	INCREMENTAL COST FOR USING SPECIAL CARE WORK METHODS NEAR (FROM 3 FEET TO 50 FEET) TRANSIT FACILITIES	$ 80.00
043	6.25 RS	7,386.0	S.F.	TEMPORARY SIGNS	$ 20.00
044	6.26	11,816.0	L.F.	TIMBER CURB	$ 5.00
045	6.28 AA	1,900.0	L.F.	LIGHTED TIMBER BARRICADES	$ 10.00
046	6.39 A	1.0	L.S.	MOBILIZATION	$ 367,590.00
047	6.40 DU	30.0	MONTH	ENGINEER'S FIELD OFFICE (JOINT USE) (TYPE DU)	$ 7,500.00
048	6.44	7,500.0	L.F.	THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	$ 1.00

BID SCHEDULE FORM

049	6.49	10,018.0	L.F.	TEMPORARY PAVEMENT MARKINGS (4" WIDE)	$ 2.00
050	6.52 CG	3,829.0	P/HR	CROSSING GUARD	$ 30.00
051	6.53	7,510.0	L.F.	REMOVE EXISTING LANE MARKINGS (4" WIDE)	$ 1.00
052	6.55	130.0	L.F.	SAWCUTTING EXISTING PAVEMENT	$ 4.00
053	6.87	2,533.0	EACH	PLASTIC BARRELS	$ 12.00
054	60.11R520	200.0	L.F.	FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	$ 125.00
055	60.11R606	150.0	L.F.	FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$ 40.00
056	60.11R608	1,650.0	L.F.	FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$ 75.00
057	60.11R612	550.0	L.F.	FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$ 75.00
058	60.12D06	200.0	L.F.	LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	$ 100.00
059	60.12D08	1,850.0	L.F.	LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	$ 130.00
060	60.12D12	700.0	L.F.	LAYING 12-INCH DUCTILE IRON PIPE AND FITTINGS	$ 150.00
061	60.12D20	250.0	L.F.	LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	$ 200.00
062	60.13M0A24	10.0	TONS	FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	$ 8,000.00
063	60.18BJC20EL	2.0	EACH	FURNISHING, DELIVERING AND INSTALLING BELL JOINT CLAMPS, COMPLETE FOR 20-INCH PIPE AND LESS	$ 1,000.00

BID SCHEDULE FORM

064	61.11DMM06	8.0	EACH	FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 950.00
065	61.11DMM08	7.0	EACH	FURNISHING AND DELIVERING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 2,200.00
066	61.11DMM12	3.0	EACH	FURNISHING AND DELIVERING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 2,500.00
067	61.11TWC03	1.0	EACH	FURNISHING AND DELIVERING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 600.00
068	61.11TWC04	1.0	EACH	FURNISHING AND DELIVERING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 650.00
069	61.12DMM06	8.0	EACH	SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 500.00
070	61.12DMM08	7.0	EACH	SETTING 8-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,100.00
071	61.12DMM12	3.0	EACH	SETTING 12-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,200.00
072	61.12TWC03	1.0	EACH	SETTING 3-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 500.00
073	61.12TWC04	1.0	EACH	SETTING 4-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 600.00
074	62.11SD	8.0	EACH	FURNISHING AND DELIVERING HYDRANTS	$ 2,500.00
075	62.12SG	8.0	EACH	SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,500.00
076	62.13RH	5.0	EACH	REMOVING HYDRANTS	$ 800.00
077	62.14FS	16.0	EACH	FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	$ 200.00

BID SCHEDULE FORM

078	63.11VC	12.0	TONS	FURNISHING AND DELIVERING VARIOUS CASTINGS	$ 1,500.00
079	64.11EL	4.0	EACH	WITHDRAWING AND REPLACING HOUSE SERVICES USING 1-1/2-INCH OR LARGER SCREW TAPS	$ 300.00
080	64.11ST	75.0	EACH	WITHDRAWING AND REPLACING HOUSE SERVICES USING SMALLER THAN 1-1/2-INCH SCREW TAPS	$ 250.00
081	64.12COEG	160.0	L.F.	CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	$ 200.00
082	64.12COLT	1,400.0	L.F.	CUTTING AND OFFSETTING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3-INCH DIAMETER)	$ 100.00
083	64.12ESEG	1,400.0	L.F.	EXTENDING HOUSE SERVICE WATER CONNECTIONS (EQUAL TO OR GREATER THAN 3-INCH DIAMETER)	$ 75.00
084	64.12ESLT	160.0	L.F.	EXTENDING HOUSE SERVICE WATER CONNECTIONS (LESS THAN 3 -INCH DIAMETER)	$ 50.00
085	64.13WC12	2.0	EACH	FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 12-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	$ 1,500.00
086	65.11BR	7,000.0	LBS.	FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	$ 3.00
087	65.21PS	1,200.0	L.F.	FURNISHING AND PLACING POLYETHYLENE SLEEVE	$ 1.00
088	65.31FF	17,000.0	S.F.	FURNISHING, DELIVERING AND PLACING FILTER FABRIC	$ 0.20
089	65.51PC	7.0	C.Y.	FURNISHING AND PLACING CAST-IN-PLACE CONCRETE CLASS 40 AND PRECAST CONCRETE CLASS 50	$ 960.00
090	65.61SS	800.0	LBS.	FURNISHING, DELIVERING AND PLACING STRUCTURAL, REINFORCING AND MISCELLANEOUS STEEL	$ 3.00
091	65.71SG	100.0	C.Y.	FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	$ 35.00
092	7.13 B	24.0	MONTH	MAINTENANCE OF SITE	$ 8,000.00
093	7.36	11,080.0	L.F.	PEDESTRIAN STEEL BARRICADES	$ 15.00

BID SCHEDULE FORM

094	7.88 AA	1.0	L.S.	RODENT INFESTATION SURVEY AND MONITORING	$ 8,000.00
095	7.88 AB	55.0	EACH	RODENT BAIT STATIONS	$ 60.00
096	7.88 AC	55.0	EACH	BAITING OF RODENT BAIT STATIONS	$ 9.50
097	7.88 AD	28.0	BLOCK	WATERBUG BAIT APPLICATIONS	$ 65.00
098	70.21DK	700.0	S.Y.	DECKING	$ 100.00
099	70.31FN	10,179.0	L.F.	FENCING	$ 4.00
100	70.51EO	20.0	C.Y.	EXCAVATION OF BOULDERS IN OPEN CUT	$ 150.00
101	70.61RE	20.0	C.Y.	ROCK EXCAVATION	$ 500.00
102	70.61RR	10.0	C.Y.	ROCK EXCAVATION WITHIN RAILROAD INFLUENCE AS PER RAILROAD GUIDELINES	$ 800.00
103	70.71SB	20.0	C.Y.	STONE BALLAST	$ 30.00
104	70.81CB	3,250.0	C.Y.	CLEAN BACKFILL	$ 30.00
105	70.91SW12	5,000.0	S.F.	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	$ 1.00
106	70.91SW20	120.0	S.F.	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	$ 1.00
107	72.11HF	150.0	C.Y.	HYDRAULIC FILL FOR ABANDONED SEWERS AND WATER MAINS	$ 95.00
108	73.11AB	20.0	C.Y.	ADDITIONAL BRICK MASONRY	$ 125.00
109	73.21AC	20.0	C.Y.	ADDITIONAL CONCRETE	$ 125.00

BID SCHEDULE FORM

110	73.31AE0	360.0	C.Y.	ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS)	$ 40.00
111	73.41AG	100.0	C.Y.	ADDITIONAL SELECT GRANULAR BACKFILL	$ 30.00
112	73.61AT	350.0	C.Y.	ADDITIONAL STONE BALLAST	$ 30.00
113	8.01 C1	3,600.0	TONS	HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	$ 85.00
114	8.01 C2	29.0	SETS	SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	$ 2,000.00
115	8.01 H	500.0	TONS	HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	$ 400.00
116	8.01 S	1.0	L.S.	HEALTH AND SAFETY	$ 20,000.00
117	8.01 W1	90.0	DAY	REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	$ 1,700.00
118	8.01 W2	90.0	SETS	SAMPLING AND TESTING OF CONTAMINATED WATER	$ 1,400.00
119	8.02 A	200.0	S.F.	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	$ 3.00
120	8.02 B	50.0	L.F.	SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	$ 10.00
121	JB 100.1 (VERZ)	2.0	EACH	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE.1)	$ 595.00
122	JB 100.1(CE)	2.0	EACH	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .1)	$ 323.00
123	JB 100.3(CE)	1.0	EACH	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION AND/OR TEST PIT (TYPE .3)	$ 895.00
124	JB 101.1 (VERZ)	4.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE. 1)	$ 2,364.00
125	JB 101.1(CE)	2.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	$ 2,740.00

BID SCHEDULE FORM

126	JB 101.1(TW)	2.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	$ 2,000.00
127	JB 101.3(CE)	1.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3)	$ 4,509.00
128	JB 104.1 (VERZ)	3.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	$ 4,037.00
129	JB 104.1(CE)	2.0	EACH	UTILITIES CROSSING TRANCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE.1)	$ 3,558.00
130	JB 104.1(TW)	2.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	$ 4,000.00
131	JB 104.3(CE)	1.0	EACH	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .3)	$ 5,269.00
132	JB 108.1(CE)	1.0	EACH	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	$ 440.00
133	JB 108.1(TW)	2.0	EACH	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	$ 600.00
134	JB 108.1(VERZ)	6.0	EACH	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	$ 886.00
135	JB 108.3(CE)	3.0	EACH	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .3)	$ 2,245.00
136	JB 200(CE)	76.0	L.F.	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	$ 108.00
137	JB 225(VERZ)	1.0	EACH	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	$ 2,925.00
138	JB 226(CE)	1.0	EACH	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	$ 3,349.00
139	JB 227(CE)	1.0	EACH	REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	$ 1,741.00
140	JB 300(CE)	1.0	C.Y.	SPECIAL CARE EXCAVATION AND BACKFILLING	$ 209.00

BID SCHEDULE FORM

141	JB 330E.1(CE)	3.0	L.F.	SUPPORT AND PROTECTION OF ELECTRIC AND GAS FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (TYPE .1)	$ 22.00
142	JB 330E.3(CE)	75.0	L.F.	SUPPORT AND PROTECTION OF ELECTRIC AND GAS FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE WITHIN TRENCH LIMITS (TYPE .3)	$ 31.00
143	JB 330T1(VERZ)	539.0	L.F.	SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE IN OR IN CLOSE PROXIMITY TO TRENCH LIMITS	$ 115.00
144	JB 350 T/TW(VERZ)	1.0	L.S.	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES AND APPURTENANCES.	$ 27,352.00
145	JB 350(CC)	1.0	L.S.	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES	$ 5,616.00
146	JB 350(CE)	1.0	L.S.	OVERHEAD ACCOMMODATION, PROTECTION OF OH FACILITIES & APPURTENANCES	$ 26,000.00
147	JB 350TWC	1.0	L.S.	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES	$ 7,758.54
148	JB 351(CE)	1.0	EACH	INSTALL AND REMOVE "A" FRAME ON UTILITY POLES	$ 800.00
149	JB 400(CE)	30.0	C.Y.	TEST PITS FOR UTILITY FACILITIES	$ 179.00
150	JB 401(CE)	33.0	C.Y.	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	$ 216.00
151	JB 401(VERZ)	32.0	C.Y.	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	$ 228.00
152	JB 402.2(CE)	450.0	L.F.	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	$ 40.00
153	JB 402T.2A(VERZ)	260.0	L.F.	EXISTING OCCUPIED NON-CONRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	$ 44.00
154	JB 402T.V2A(VERZ)	25.0	L.F.	EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	$ 26.00

BID SCHEDULE FORM

155	JB 450.1(CE)	8.0	CREW/HR	CONSTRUCTION FIELD SUPPORT - SURVEY CREW (TYPE .1)	$ 249.00
156	JB 450.2(CE)	20.0	CREW/HR	CONSTRUCTION FIELD SUPPORT - SMALL SIZE CREW (TYPE .2)	$ 245.00
157	JB 450.3(CE)	28.0	CREW/HR	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)	$ 700.00
158	JB 500(TW)	529.0	L.F.	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	$ 4.00
159	JB 802A(CE)	1,395.0	S.F.	SPECIAL CARE EXCAVATION AND RESOTRATION FOR SIDEWALK WORK	$ 3.00
160	JB 802B(CE)	6.0	L.F.	SPECIAL CARE EXCAVATION AND RESOTRATION FOR CURB WORK	$ 6.00
161	JB 900(CC)	1.0	F.S.	EXTRA UTILITY WORK COSTS ALLOWANCE	$ 1,500.00
162	JB 900(CE)	1.0	F.S.	EXTRA UTILITY WORK COSTS ALLOWANCE	$ 39,233.40
163	JB 900(TW)	1.0	F.S.	EXTRA UTILITY WORK COSTS ALLOWANCE	$ 3,461.18
164	JB 900(VERZ)	1.0	F.S.	EXTRA UTILITY WORK COSTS ALLOWANCE	$ 60,000.00
165	UTL-6.01.1	3.0	EACH	GAS MAIN CROSSING SEWER UP TO 24" IN DIAMETER (S6.01)	$ 1,040.00
166	UTL-6.01.4	2.0	EACH	GAS MAIN CROSSING SEWER 48" THRU 54" IN DIAMETER (S6.01)	$ 2,120.00
167	UTL-6.01.6CA	1.0	EACH	GAS MAIN CROSSING 68"W X 48"H HORIZONTAL ELLIPTICAL REINFORCED CONCRETE STORM SEWER (S6.01)	$ 2,340.00
168	UTL-6.01.8	70.0	EACH	GAS SERVICES CROSSING TRENCHES AND/OR EXCAVATIONS (S6.01)	$ 465.00
169	UTL-6.01.9	4.0	EACH	GAS MAIN CROSSING WATER MAIN UP TO 20" IN DIAMETER (S6.01)	$ 485.00
170	UTL-6.02	2.0	EACH	EXTRA EXCAVATION FOR THE INSTALLATION OF CATCH BASIN SEWER DRAIN PIPES WITH GAS INTERFERENCES (S6.02)	$ 715.00

BID SCHEDULE FORM

171	UTL-6.03	400.0	L.F.	REMOVAL OF ABANDONED GAS FACILITIES. ALL SIZES. (S6.03)	$ 15.00
172	UTL-6.03.1	1,600.0	L.F.	REMOVAL OF ABANDONED GAS FACILITIES WITH POSSIBLE COAL TAR WRAP. ALL SIZES. (FOR NATIONAL GRID WORK ONLY) (S6.03)	$ 25.00
173	UTL-6.04	5.0	EACH	ADJUST HARDWARE TO GRADE USING SPACER RINGS/ADAPTORS. (STREET REPAVING.) (S6.04)	$ 35.00
174	UTL-6.05	5.0	EACH	ADJUST HARDWARE TO GRADE BY RESETTING. (ROAD RECONSTRUCTION.) (S6.05)	$ 65.00
175	UTL-6.06	400.0	C.Y.	SPECIAL CARE EXCAVATION AND BACKFILLING (S6.06)	$ 180.00
176	UTL-6.07	40.0	C.Y.	TEST PITS FOR GAS FACILITIES (S6.07)	$ 100.00
177	UTL-GCS-2WS	1.0	F.S.	GAS INTERFERENCES AND ACCOMMODATIONS	$ 60,000.00

THE BIDDER SHALL INSERT THE BID MULTIPLIER IN
THE BID FORM ON PAGE C-4 OF THIS BID BOOKLET.

Department of Design and Construction

INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

VOLUME 1 OF 3

PROJECT ID: SER200151

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
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 www.nyc.gov/buildnyc

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:

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CITY OF NEW YORK

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

December 11, 2017

8-096

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
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CITY OF NEW YORK

DEPARTMENT OF
DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURES

INFORMATION FOR BIDDERS

JUNE 2015

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: (I) 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 its 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. <u>Bid Submission Requirements</u>

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 Subcontactor 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

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.

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.

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.

- 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

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.

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

- 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.

- 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.

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

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.

20.4.2In 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.

26.1.1For 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) x (HP rating) x (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) x (HP rating) x (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 PSLL 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 PSLL 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 PSLL 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 PSLL and Rules.

35.5.1(e) The PSLL is summarized below for the convenience of the **Contractor**. The **Contractor** is advised to review the PSLL and Rules in their entirety. On the website www.nyc.gov/PaidSickLeave there are links to the PSLL 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 PSLL. The **Contractor** acknowledges that it is responsible for compliance with the PSLL notwithstanding any inconsistent language contained herein.

35.5.2 Pursuant to the PSLL 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 PSLL ("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 PSLL 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 PSLL. 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 PSLL 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 PSLL 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 PSLL 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 PSLL 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 PSLL. In addition, an employer may not interfere with any investigation, proceeding, or hearing pursuant to the PSLL.

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 PSLL. 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 PSLL 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 PSLL.

35.5.7 Enforcement and Penalties.

35.5.7(a) Upon receiving a complaint alleging a violation of the PSLL, 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 PSLL 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 PSLL 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 Polices and Other Legal Requirements. Nothing in the PSLL 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 (l) 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 contraction 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 asses, 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 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 Deputy 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: _____
Deputy Commissioner

CONTRACTOR:

By: _____
(Member of Firm or Officer of Corporation)

Title: Business Manager

(Where Contractor is a Corporation, add):
Attest:

_____
Secretary

(Seal)

_____

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Queens ss:

On this 26 day of June, 2018, before me personally came Joseph Lobrutto to me known who, being by me duly sworn did depose and say that he resides at Queens, New York that he is the Business Manager 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.

VICTORIA AYO-VAUGHAN
Notary Public, State of New York
Registration #01AY5014042
Qualified in Queens County
Commission Expires July 15, 2019

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

Deputy

ACKNOWLEDGEMENT BY COMMISSIONER

State of New York County of Queens ss:

On this 26 day of June, 2018, before me personally came Eric Macfarlane 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.

VICTORIA AYO-VAUGHAN
Notary Public, State of New York
Registration #01AY5014042
Qualified in Queens County
Commission Expires July 15, 2019

Notary Public or Commissioner of Deeds

AUTHORITY

MAYOR'S CERTIFICATE NO. CBX DATED
BUDGET DIRECTOR'S CERTIFICATE NO. 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

ten million, four hundred forty-two thousand, two hundred forty-nine and sixty-six hundredths

Dollars ($ 10,442,249.66)

is chargeable to the fund of the Department of Design and Construction entitled Code

SER 200151

Department of Design and Construction

I hereby certify that the specifications contained herein comply with the terms and conditions of the BUDGET.

Deputy 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

<u>Performance Bond #1 (Pages 100 to 103)</u>: 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

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

<u>Performance Bond #1 (Pages 100 to 103)</u>: 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.

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.

<u>Performance Bond #1 (Pages 100 to 103)</u>: 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.

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)

_____(L.S.)
Principal

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.

<u>Performance Bond #1 (Pages 100 to 103)</u>: 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.<u>m.</u>

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 dispose 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.

Performance Bond #2 (Pages 104 to 107): Use if the total contract price is more than $5 Million.

PERFORMANCE BOND #2 BOND NO. 09286670

KNOW ALL PERSONS BY THESE PRESENTS:,

That we, DiFazio Industries, LLC

38 Kinsey Place

Staten Island, NY 10303

hereinafter referred to as the "Principal,"

and, Fidelity And Deposit Company of Maryland

1400 American Lane, Tower I, 18th Floor

Schaumburg, IL 60196-1056

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 Ten Million Four Hundred Forty-Two Thousand Two Hundred Forty-Nine and 66/100 ----------

---

($ 10,442,249.66 ---------) 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

FMS ID: SER200151 E-PIN: 85018B0095001 DDC PIN: 8502018SE0020C New storm and sanitary sewers extension and water main replacement in Amboy Road and South railroad Avenue, etc.

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

<u>Performance Bond #2 (Pages 104 to 107)</u>: Use if the total contract price is more than $5 Million.

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.

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

19th day of June 20 18.

(Seal)

DiFazio Industries, LLC (L.S.)
Principal

By: _____

(Seal)

Surety

Fidelity And Deposit Company of Maryland

By: Aklima Noorhassan
Aklima Noorhassan, Attorney-in-Fact
Surety

(Seal)

By: _____
Surety

(Seal)

By: _____
Surety

(Seal)

By: _____
Surety

(Seal)

By: _____

Bond Premium Rate Sliding Scale

Bond Premium Cost $76,250.00

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.

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 resides at _____
_____ ; that he/she is the _____
of the corporation described in and which executed the foregoing instrument; 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.

ACKNOWLEDGEMENT FOR PRINCIPAL.

ACKNOWLEDGEMENT FOR PRINCIPAL, IF A LIMITED LIABILITY COMPANY

STATE OF NEW YORK)
COUNTY OF RICHMOND)

ON THE 25 DAY OF JUNE, 2018, BEFORE ME PERSONALLY APPEARED JOHN DIFAZIO TO ME KNOWN AND KNOWN TO ME TO BE THE PRESIDENT OF DIFAZIO INDUSTRIES, A LIMITED LIABILITY COMPANY, DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT (S)HE EXECUTED THE SAME AS AND FOR THE ACT AND DEED OF SAID LIMITED LIABILITY COMPANY.

Notary Public

CESAR PIEDRAHITA
Notary Public, State of New York
No. 01PI6151715
Qualified in Richmond County
Commission Expires Aug. 21, 2018

ACKNOWLEDGEMENT OF SURETY

State of New York

County of New York

On this 19th day of June in the year 2018 before me personally came to me known, who, being by me duly sworn, did depose and say that Aklima Noorhassan he/she resides in New York, NY that he/she is the Attorney-In-Fact for

Fidelity and Deposit Company of Maryland

the corporation described in and which executed the attached instrument; and that he/she signed his/her name thereto by Order of the Board of Directors of the said Corporation.

Francesca Kazmierczak

Notary Public

FRANCESCA KAZMIERCZAK
Notary Public - State of New York
NO. 01KA6354599
Qualified in Kings County
My Commission Expires Feb 13, 2021

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **MICHAEL BOND, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Debra A. DEMING, Cynthia FARRELL, Sandra DIAZ, Edward REILLY, Susan A. WELSH, Aklima NOORHASSAN, Francesca KAZMIERCZAK, Frances RODRIGUEZ and Peter HEALY, all of New York, New York, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND,** this 7th day of February, A.D. 2018.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: Dawn E. Brown

Assistant Secretary
Dawn E. Brown

Vice President
Michael Bond

State of Maryland
County of Baltimore

On this 7th day of February, A.D. 2018, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **MICHAEL BOND, Vice President, and DAWN E. BROWN, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

Constance A. Dunn

Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

POA-F 093-5030B

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this ____ day of JUN 19 2018 20____.

David McVicker, Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:

Zurich American Insurance Co.
Attn: Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056

THE FIDELITY AND DEPOSIT COMPANY

OF MARYLAND

600 Red Brook Blvd., Suite 600, Owings Mills, MD 21117

Statement of Financial Condition

As Of December 31, 2017

ASSETS

Bonds	$ 131,463,323
Stocks	23,365,385
Cash and Short Term Investments	15,943,690
Reinsurance Recoverable	7,520,824
Federal Income Tax Recoverable	62,266
Other Accounts Receivable	35,672,323
TOTAL ADMITTED ASSETS	$ 214,027,811

LIABILITIES, SURPLUS AND OTHER FUNDS

Reserve for Taxes and Expenses		$ 580,990
Ceded Reinsurance Premiums Payable		42,235,595
Securities Lending Collateral Liability		0
TOTAL LIABILITIES		$ 42,816,584
Capital Stock, Paid Up	$ 5,000,000	
Surplus	166,211,227	
Surplus as regards Policyholders		171,211,226
TOTAL		$ 214,027,811

Securities carried at $62,198,396 in the above statement are deposited with various states as required by law.

Securities carried on the basis prescribed by the National Association of Insurance Commissioners. On the basis of market quotations for all bonds and stocks owned, the Company's total admitted assets at December 31, 2017 would be $213,515,173 and surplus as regards policyholders $170,698,588.

I, DENNIS F. KERRIGAN, Corporate Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company on the 31st day of December, 2017.

Corporate Secretary

State of Illinois
City of Schaumburg } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 9th day of March, 2018.

Notary Public

OFFICIAL SEAL
DARRYL JOINER
Notary Public - State of Illinois
My Commission Expires 2/24/2022

CERTIFICATE OF SOLVENCY UNDER SECTION 1111 OF THE NEW YORK INSURANCE LAW

STATE OF NEW YORK

DEPARTMENT OF FINANCIAL SERVICES

It is hereby certified that

Fidelity and Deposit Company of Maryland

Of Owings, Maryland

a corporation organized under the laws of the State of Maryland and duly authorized to transact the business of insurance in this State, is qualified to become surety or guarantor on all bonds, undertakings, recognizances, guaranties and other obligations required or permitted by law; and that the said corporation is possessed of a capital and surplus including gross paid-in and contributed surplus and unassigned funds (surplus) aggregating the sum of $167,883,520 (Capital $5,000,000) as is shown by its sworn financial statement for the year ending December 31, 2016 on file in this Department, prior to audit.

The said corporation cannot lawfully expose itself to loss on any one risk or hazard to an amount exceeding 10% of its surplus to policyholders, unless it shall be protected in excess of that amount in the manner provided in Section 4118 of the Insurance Law of this State.

In Witness Whereof, I have

unto set my hand and affixed

official seal of this Department in the City of Albany, this

21st day of March, 2017.

Maria T. Vullo
Superintendent

By Jacqueline Catalfamo

Jacqueline Catalfamo
Special Deputy Superintendent

Payment Bond (Pages 108 to 111): Use for any contract for which a Payment Bond is required.

BOND NO. 09286670

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we,

DiFazio Industries, LLC

38 Kinsey Place

Staten Island, NY 10303

hereinafter referred to as the "Principal", and

Fidelity And Deposit Company of Maryland

1400 American Lane, Tower 1, 18th Floor

Schaumburg, IL 60196-1056

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

Ten Million Four Hundred Forty-Two Thousand Two Hundred

Forty-Nine And 66/100 ----------

($10,442,249.66) 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

FMS ID: SER200151 E-PIN: 85018B0095001 DDC PIN: 8502018SE0020C New storm and sanitary sewers extension and water main replacement in Amboy Road and South Railroad Avenue, Etc.

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

<u>Payment Bond (Pages 108 to 111)</u>: Use for any contract for which a Payment Bond is required.

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.

<u>Payment Bond (Pages 108 to 111)</u>: Use for any contract for which a Payment Bond is required.

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 19th day of June, 2018.

(Seal) DiFazio Industries, LLC (L.S.)
Principal

By:

(Seal) Fidelity And Deposit Company of Maryland
Surety

By: Aklima Noorhassan
Aklima Noorhassan, 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.

<u>Payment Bond (Pages 108 to 111)</u>: Use for any contract for which a Payment Bond is required.

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

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 resides at _____ _____ that he is the _____ 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.

_____
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.

ACKNOWLEDGEMENT FOR PRINCIPAL

ACKNOWLEDGEMENT FOR PRINCIPAL, IF A LIMITED LIABILITY COMPANY

STATE OF NEW YORK)
COUNTY OF RICHMOND)

ON THE 25 DAY OF JUNE, 2018, BEFORE ME PERSONALLY APPEARED JOHN DIFAZIO TO ME KNOWN AND KNOWN TO ME TO BE THE PRESIDENT OF DIFAZIO INDUSTRIES, A LIMITED LIABILITY COMPANY, DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT (S)HE EXECUTED THE SAME AS AND FOR THE ACT AND DEED OF SAID LIMITED LIABILITY COMPANY.

Notary Public

CESAR PIEDRAHITA
Notary Public, State of New York
No. 01PI6151715
Qualified in Richmond County
Commission Expires Aug. 21, 2018

ACKNOWLEDGEMENT OF SURETY

State of New York

County of New York

On this 19th day of June in the year 2018 before me personally came to me known, who, being by me duly sworn, did depose and say that Aklima Noorhassan he/she resides in New York, NY that he/she is the Attorney-In-Fact for

Fidelity and Deposit Company of Maryland

the corporation described in and which executed the attached instrument; and that he/she signed his/her name thereto by Order of the Board of Directors of the said Corporation.

Francesca Kazmierczak

Notary Public

FRANCESCA KAZMIERCZAK
Notary Public - State of New York
NO. 01KA6354599
Qualified in Kings County
My Commission Expires Feb 13, 2021

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **MICHAEL BOND, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Debra A. DEMING, Cynthia FARRELL, Sandra DIAZ, Edward REILLY, Susan A. WELSH, Aklima NOORHASSAN, Francesca KAZMIERCZAK, Frances RODRIGUEZ and Peter HEALY, all of New York, New York, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND,** this 7th day of February, A.D. 2018.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____
Assistant Secretary
Dawn E. Brown

_____
Vice President
Michael Bond

State of Maryland
County of Baltimore

On this 7th day of February, A.D. 2018, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, **MICHAEL BOND, Vice President, and DAWN E. BROWN, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Constance A. Dunn, Notary Public
My Commission Expires: July 9, 2019

POA-F 093-5030B

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8, Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this ____ day of JUN 19 2018, 20____.

David McVicker, Vice President

TO REPORT A CLAIM WITH REGARD TO A SURETY BOND, PLEASE SUBMIT ALL REQUIRED INFORMATION TO:

Zurich American Insurance Co.
Attn: Surety Claims
1299 Zurich Way
Schaumburg, IL 60196-1056

THE FIDELITY AND DEPOSIT COMPANY

OF MARYLAND

600 Red Brook Blvd., Suite 600, Owings Mills, MD 21117

Statement of Financial Condition

As Of December 31, 2017

ASSETS

Bonds	$ 131,463,323
Stocks	23,365,385
Cash and Short Term Investments	15,943,690
Reinsurance Recoverable	7,520,824
Federal Income Tax Recoverable	62,266
Other Accounts Receivable	35,672,323
TOTAL ADMITTED ASSETS	$ 214,027,811

LIABILITIES, SURPLUS AND OTHER FUNDS

Reserve for Taxes and Expenses		$ 580,990
Ceded Reinsurance Premiums Payable		42,235,595
Securities Lending Collateral Liability		0
TOTAL LIABILITIES		$ 42,816,584
Capital Stock, Paid Up	$ 5,000,000	
Surplus	166,211,227	
Surplus as regards Policyholders		171,211,226
TOTAL		$ 214,027,811

Securities carried at $62,198,396 in the above statement are deposited with various states as required by law.

Securities carried on the basis prescribed by the National Association of Insurance Commissioners. On the basis of market quotations for all bonds and stocks owned, the Company's total admitted assets at December 31, 2017 would be $213,515,173 and surplus as regards policyholders $170,698,588.

I, DENNIS F. KERRIGAN, Corporate Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company on the 31st day of December, 2017.

Corporate Secretary

State of Illinois
City of Schaumburg } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 9th day of March, 2018.

Notary Public

OFFICIAL SEAL
DARRYL JOINER
Notary Public - State of Illinois
My Commission Expires 2/24/2022

CERTIFICATE OF SOLVENCY UNDER SECTION 1111 OF THE NEW YORK INSURANCE LAW

STATE OF NEW YORK

DEPARTMENT OF FINANCIAL SERVICES

It is hereby certified that

Fidelity and Deposit Company of Maryland

Of Owings, Maryland

a corporation organized under the laws of the State of Maryland and duly authorized to transact the business of insurance in this State, is qualified to become surety or guarantor on all bonds, undertakings, recognizances, guaranties and other obligations required or permitted by law; and that the said corporation is possessed of a capital and surplus including gross paid-in and contributed surplus and unassigned funds (surplus) aggregating the sum of $167,883,520 (Capital $5,000,000) as is shown by its sworn financial statement for the year ending December 31, 2016 on file in this Department, prior to audit.

The said corporation cannot lawfully expose itself to loss on any one risk or hazard to an amount exceeding 10% of its surplus to policyholders, unless it shall be protected in excess of that amount in the manner provided in Section 4118 of the Insurance Law of this State.

In Witness Whereof, I have

unto set my hand and affixed

official seal of this Department in the City of Albany, this

21st day of March, 2017.

Maria T. Vullo
Superintendent

By Jacqueline Catalfamo

Jacqueline Catalfamo
Special Deputy Superintendent

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 6/19/2018

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
Vanguard Coverage
101 SUNNYSIDE BLVD
SUITE 100
PLAINVIEW NY 11803

CONTACT NAME: Michael Rella
PHONE (A/C, No, Ext): (516) 349-1333 FAX (A/C, No): (516) 349-8667
E-MAIL ADDRESS: certificates@vanguargcoverage.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Travelers Indemnity Company	25658
INSURER B: Travelers Indemnity Co. of America	19046
INSURER C: Travelers Prop Casualty Co. of Amer	25674
INSURER D: Phoenix Insurance Co.	25623
INSURER E: Navigator Ins. Co.	42307
INSURER F: RSUI Indemnity Company	22314

INSURED
DIFAZIO INDUSTRIES LLC
38 Kinsey Place
Staten Island NY 10303

COVERAGES CERTIFICATE NUMBER: 18-19 NYC DDC REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR x Contractual Liability x XCU Included GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:			VT1NK-EXGL-2E971312-IND-18	2/21/2018	2/21/2019	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS x HIRED AUTOS SCHEDULED AUTOS x NON-OWNED AUTOS			VTH-CAP-2E971324-TIA-18	2/21/2018	2/21/2019	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $ $
C	UMBRELLA LIAB X OCCUR X EXCESS LIAB CLAIMS-MADE DED RETENTION $			VTSMJ-CUP-2E971336-TIL-18	2/21/2018	2/21/2019	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000 $
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		VTN-UB-2E971300-18	2/21/2018	2/21/2019	x PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
E	Excess Liability			IS16EXC864545IV	2/21/2018	2/21/2019	Occurrence/Aggregate	5M/5M
F	Excess Liability			NHA078681	2/28/2018	2/21/2019	Occurrence/Aggregate	4M/4M

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: CONTRACT NO. SER200151
NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN, REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.
The following are included as additional insureds where required by written contract:
City of New York, including its officials and employees. 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 2026, National Grid.

CERTIFICATE HOLDER

NYC DEPARTMENT OF DESIGN AND CONSTRUCTION
30-30 THOMSON AVENUE
Long Island City, NY 11101

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Joseph Sforzo/LYNN

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COMMENTS/REMARKS

Insurance coverage shall be on a primary and non-contributory basis where required by written contract.
A waiver of subrogation is included in favor of the additional insureds where required by written contract.

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NEW YORK STATE | Workers' Compensation Board

CERTIFICATE OF NYS WORKERS' COMPENSATION INSURANCE COVERAGE

1a. Legal Name & Address of Insured (use street address only) DIFAZIO INDUSTRIES LLC 38 Kinsey Place Staten Island, NY 11803 Work Location of Insured *(Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)* ALL LOCATIONS	1b. Business Telephone Number of Insured 718-720-6966 1c. NYS Unemployment Insurance Employer Registration Number of Insured 1d. Federal Employer Identification Number of Insured or Social Security Number 731706369
2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) NYC DEPARTMENT OF DESIGN AND CONSTRUCTION 30-30 THOMSON AVENUE Long Island City, NY 11101	3a. Name of Insurance Carrier Travelers Indemnity Co of America 3b. Policy Number of Entity Listed in Box "1a" VTN-UB-2E971300-18 3c. Policy effective period 2/21/18 to 2/21/19 3d. The Proprietor, Partners or Executive Officers are ☐ included. (Only check box if all partners/officers included) ☒ all excluded or certain partners/officers excluded.

This certifies that the insurance carrier indicated above in box "3" insures the business referenced above in box "1a" for workers' compensation under the New York State Workers' Compensation Law. **(To use this form, New York (NY) must be listed under Item 3A on the INFORMATION PAGE of the workers' compensation insurance policy).** The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed above as the certificate holder in box "2".

Will the carrier notify the certificate holder within 10 days of a policy being cancelled for non-payment of premium or within 30 days if cancelled for any other reason or if the insured is otherwise eliminated from the coverage indicated on this certificate prior to the end of the policy effective period? ☒ YES ☐ NO

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 Workers' Compensation contract of insurance only while the underlying policy is in effect.

Please Note: Upon cancellation of the workers' compensation 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 Workers' Compensation Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.

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 the coverage as depicted on this form.

Approved by: Robin Burger
(Print name of authorized representative or licensed agent of insurance carrier)

Approved by: _____ 6/19/18
(Signature) (Date)

Title: Senior Account Manager

Telephone Number of authorized representative or licensed agent of insurance carrier: 516-349-1333

Please Note: Only insurance carriers and their licensed agents are authorized to issue Form C-105.2. Insurance brokers are NOT authorized to issue it.

Workers' Compensation Law

Section 57. Restriction on issue of permits and the entering into contracts unless compensation is secured.

1. 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 a hazardous employment defined by this chapter, 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 compensation for all employees has been secured as provided by this chapter. 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 compensation to any such employee if so employed.

2. 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 a hazardous employment defined by this chapter, 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 compensation for all employees has been secured as provided by this chapter.

Project ID.: SER200151

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.

Vanguard Coverage
[Name of broker or agent (typewritten)]

101 Sunnyside Blvd, Suite 100, Plainview, NY 11803
[Address of broker or agent (typewritten)]

rburger@vanguardcoverage.com
[Email address of broker or agent (typewritten)]

516-349-1333
[Phone number/Fax number of broker or agent (typewritten)]

[Signature of authorized official, broker, or agent]

Robin Burger, Senior Account Manager
[Name and title of authorized official, broker, or agent (typewritten)]

State of NY)
) ss.:
County of Nassau)

Sworn to before me this 19th day of June, 20 18

NOTARY PUBLIC FOR THE STATE OF NY

LYNN ANN INFANTI
Notary Public, State of New York
No. 01IN6004351
Qualified in Suffolk County
Commission Expires March 23, 2022

NEW YORK STATE | Workers' Compensation Board

CERTIFICATE OF INSURANCE COVERAGE
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

1a. Legal Name & Address of Insured (use street address only)
DIFAZIO INDUSTRIES LLC
38 KINSEY PLACE
STATEN ISLAND, NY 10303

Work Location of Insured *(Only required if coverage is specifically limited to certain locations in New York State, i.e., Wrap-Up Policy)*

1b. Business Telephone Number of Insured
718-720-6966

1c. Federal Employer Identification Number of Insured or Social Security Number
73-1706369

2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)
NYC DEPARTMENT OF DESIGN AND CONSTRUCTION
30-30 THOMSON AVENUE
LONG ISLAND CITY, NY 11101

3a. Name of Insurance Carrier
Standard Security Life Insurance Company of New York

3b. Policy Number of Entity Listed in Box "1a"
R18666-001

3c. Policy effective period
11/9/2017 to 6/18/2019

4. Policy provides the following benefits:
- [x] A. Both disability and paid family leave benefits.
- [ ] B. Disability benefits only.
- [ ] C. Paid family leave benefits only.

5. Policy covers:
- [x] 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 6/19/2018 By [signature]
(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Telephone Number (212) 355-4141 Name and Title SUPERVISOR-DBL/POLICY SERVICES

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 my 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 not withstanding 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.

LABOR LAW §220 PREVAILING WAGE SCHEDULE

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 §220 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 contracts.

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 works contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on public works contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to public works 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 works 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 works 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 www.comptroller.nyc.gov. 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 www.comptroller.nyc.gov.

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.

Prevailing rates and ratios for apprentices are attached to this schedule in the Appendix. 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 employed on a public work project. Workers who are not journey persons or not registered apprentices pursuant to Labor Law §220 (3-e) may not be substituted for apprentices and must be paid as journey persons.

Public Work construction, reconstruction, demolition, excavation, rehabilitation, repair, renovation, alteration, or improvement contracts 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 http://www.nyc.gov/html/mocs/html/vendors/pla.shtml.

All the provisions of Labor Law section 220 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller; 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 <u>each hour worked</u> unless otherwise noted in the classification.

Wasyl Kinach, P.E.
Director of Classifications
Bureau of Labor Law

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ASBESTOS HANDLER
(Hazardous Material; Disturbs, removes, encapsulates, repairs, or encloses friable asbestos material)

Asbestos Handler

Effective Period: 7/1/2017 - 6/30/2018
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.
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)

BLASTER

Blaster

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $46.27
Supplemental Benefit Rate per Hour: $47.99

Blaster (Hydraulic)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: $47.15
Supplemental Benefit Rate per Hour: $47.99

Blaster - Trac Drill Hydraulic

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.29
Supplemental Benefit Rate per Hour: $47.99

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $40.46
Supplemental Benefit Rate per Hour: $47.99

Blaster - Operators of Jack Hammers

Chippers: Spaders: Concrete Breakers: and all other pneumatic tools of like usage: Walk Behind Self Propelled Hydraulic Asphalt and Concrete Breakers: Hydro (Water) Demolition

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $39.34
Supplemental Benefit Rate per Hour: $47.99

Blaster - Powder Carriers

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $35.17
Supplemental Benefit Rate per Hour: $47.99

Blaster - Hydraulic Trac Drill Chuck Tender

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $33.81
Supplemental Benefit Rate per Hour: $47.99

Blaster - Chuck Tender & Nipper

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $33.00
Supplemental Benefit Rate per Hour: $47.99

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $18.22
Supplemental Benefit Rate per Hour: $47.99

Overtime Description

Magazine Keepers:
Time and one half for work performed in excess of forty (40) hours per week and for work performed on Saturdays, Sundays and Holidays.

All Other Employees:
Time and one-half for the first two hours of overtime Monday through Friday, the first ten hours, the first ten hours of work on Saturday and for Make-up Time. Double time for all hours over ten Monday through Saturday (except make-up hours) and for all hours worked on Sunday and Holidays.

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

None

Shift Rates

A single shift shall be 8 hours plus an unpaid lunch, starting at 8:00 A.M (or between 6:00 A.M. and 10:00 A.M. on weekdays). When two (2) shifts are employed, each shift shall be 8 hours plus ½ hour unpaid lunch. When three (3) 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 (½) hour is allowed for mealtime. When two (2) or more shifts are employed, single time will be paid for each shift. The first 8 hours of any and all work performed Monday through Friday inclusive of any off-shift shall be at the single time rate.

(Local #29)

BOILERMAKER

Boilermaker

Effective Period: 7/1/2017 - 12/31/2017
Wage Rate per Hour: $55.23
Supplemental Benefit Rate per Hour: $42.96
Supplemental Note: For time and one half overtime - $63.82 For double overtime - $84.68

Effective Period: 1/1/2018 - 6/30/2018
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
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: 7/1/2017 - 6/30/2018
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
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: 7/1/2017 - 6/30/2018
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 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)

CARPENTER - HEAVY CONSTRUCTION WORK
(Construction of Engineering Structures and Building Foundations)

Heavy Construction Work

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $52.63
Supplemental Benefit Rate per Hour: $49.66

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)

CARPENTER - HIGH RISE CONCRETE FORMS
(Excludes Engineering Structures and Building Foundations)

Carpenter High Rise A

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $50.78
Supplemental Benefit Rate per Hour: $41.49

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $39.07
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)

CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST

Carpenter - Hod Hoist

(Assisted by Mason Tender)

Effective Period: 7/1/2017 - 6/30/2018
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

Cement & Concrete Worker

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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)

CEMENT MASON

Cement Mason

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $42.62
Supplemental Benefit Rate per Hour: $38.96
Supplemental Note: For time and one half overtime - $48.21; For double overtime - $57.46

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $38.82
Supplemental Benefit Rate per Hour: $24.66

Core Driller Helper

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $30.96
Supplemental Benefit Rate per Hour: $24.66

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $27.86
Supplemental Benefit Rate per Hour: $24.66

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $24.77
Supplemental Benefit Rate per Hour: $24.66

Core Driller Helper (First year in the industry)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $21.67
Supplemental Benefit Rate per Hour: $24.66

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.

(Carpenters District Council)

DERRICKPERSON AND RIGGER

Derrick Person & Rigger

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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)

DIVER

Diver (Marine)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $66.66
Supplemental Benefit Rate per Hour: $49.66

Diver Tender (Marine)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $47.34
Supplemental Benefit Rate per Hour: $49.66

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

Dockbuilder - Pile Driver

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $52.63
Supplemental Benefit Rate per Hour: $49.66

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.18
Supplemental Benefit Rate per Hour: $44.79
Supplemental Note: Over 40 hours worked: at time and one half rate - $19.94; at double time rate - $26.58

Driver - Tractor Trailer

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $42.22
Supplemental Benefit Rate per Hour: $45.40
Supplemental Note: Over 40 hours worked: at time and one half rate - $17.55; at double time rate - $23.40

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $42.78
Supplemental Benefit Rate per Hour: $45.40
Supplemental Note: Over 40 hours worked: at time and one half rate - $17.55 at double time rate - $23.40

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 hours allowing for one half hour for lunch and receive 9 hours pay for 8 hours of work.

Driver Redi-Mix (Sand & Gravel)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $38.40
Supplemental Benefit Rate per Hour: $42.12
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 all low voltage cabling carrying data; video; and voice in combination with data and or video.)

Electrician "A" (Regular Day / Day Shift)

Effective Period: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $56.00
Supplemental Benefit Rate per Hour: $54.35

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $84.00
Supplemental Benefit Rate per Hour: $57.86

Effective Period: 5/10/2018 - 6/30/2018
Wage Rate per Hour: $84.00
Supplemental Benefit Rate per Hour: $59.23

Electrician "A" (Swing Shift)

Effective Period: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $65.71
Supplemental Benefit Rate per Hour: $61.94

Effective Period: 5/10/2018 - 6/30/2018
Wage Rate per Hour: $65.71
Supplemental Benefit Rate per Hour: $63.52

Electrician "A" (Swing Shift Overtime After 7.5 hours)

Effective Period: 7/1/2017 - 5/9/2018

Wage Rate per Hour: $98.57
Supplemental Benefit Rate per Hour: $66.05

Effective Period: 5/10/2018 - 6/30/2018
Wage Rate per Hour: $98.57
Supplemental Benefit Rate per Hour: $67.64

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $73.60
Supplemental Benefit Rate per Hour: $68.33

Effective Period: 5/10/2018 - 6/30/2018
Wage Rate per Hour: $73.60
Supplemental Benefit Rate per Hour: $70.09

Electrician "A" (Graveyard Shift Overtime After 7 hours)

Effective Period: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $110.40
Supplemental Benefit Rate per Hour: $72.95

Effective Period: 5/10/2018 - 6/30/2018
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
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 $25.67 and effective 5/10/18 $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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $28.50
Supplemental Benefit Rate per Hour: $22.10
First and Second Year "M" Wage Rate Per Hour: $24.00
First and Second Year "M" Supplemental Rate: $19.80

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $42.75
Supplemental Benefit Rate per Hour: $23.89
First and Second Year "M" Wage Rate Per Hour: $36.00
First and Second Year "M" Supplemental Rate: $21.30

Effective Period: 5/10/2018 - 6/30/2018
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.

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $32.40
Supplemental Benefit Rate per Hour: $16.10
Supplemental Note: $14.60 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.
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: 7/1/2017 - 5/15/2018
Wage Rate per Hour: $56.00
Supplemental Benefit Rate per Hour: $56.26

Effective Period: 5/16/2018 - 6/30/2018
Wage Rate per Hour: $56.00
Supplemental Benefit Rate per Hour: $57.63

Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2017 - 5/15/2018
Wage Rate per Hour: $41.54
Supplemental Benefit Rate per Hour: $41.02

Effective Period: 5/16/2018 - 6/30/2018
Wage Rate per Hour: $42.16
Supplemental Benefit Rate per Hour: $42.19

Electrician - Electro Pole Maintainer

Effective Period: 7/1/2017 - 5/16/2018
Wage Rate per Hour: $35.58
Supplemental Benefit Rate per Hour: $36.89

Effective Period: 5/17/2018 - 6/30/2018
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: 7/1/2017 - 3/16/2018
Wage Rate per Hour: $62.64
Supplemental Benefit Rate per Hour: $34.25

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate per Hour: $64.48
Supplemental Benefit Rate per Hour: $35.85

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.

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: 7/1/2017 - 3/16/2018
Wage Rate per Hour: $49.14
Supplemental Benefit Rate per Hour: $34.11

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate per Hour: $50.49
Supplemental Benefit Rate per Hour: $35.71

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
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

Cherrypickers 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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $67.32
Supplemental Benefit Rate per Hour: $36.87
Supplemental Note: $66.34 on overtime
Shift Wage Rate: $107.71

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, Cherrypickers. 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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $65.31
Supplemental Benefit Rate per Hour: $36.87
Supplemental Note: $66.34 on overtime
Shift Wage Rate: $104.50

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $61.93
Supplemental Benefit Rate per Hour: $36.87
Supplemental Note: $66.34 on overtime
Shift Wage Rate: $99.09

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $65.00
Supplemental Benefit Rate per Hour: $36.87
Supplemental Note: $66.34 on overtime
Shift Wage Rate: $104.00

Engineer - Heavy Construction Maintenance Engineer II

On Base Mounted Tower Cranes

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $85.53
Supplemental Benefit Rate per Hour: $36.87
Supplemental Note: $66.34 on overtime
Shift Wage Rate: $136.85

Engineer - Heavy Construction Maintenance Engineer III

On Generators, Light Towers

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $42.73
Supplemental Benefit Rate per Hour: $36.87
Supplemental Note: $66.34 on overtime
Shift Wage Rate: $68.37

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $43.86
Supplemental Benefit Rate per Hour: $36.87
Supplemental Note: $66.34 on overtime
Shift Wage Rate: $70.18

Engineer - Heavy Construction Oilers I

Gradalls, Cold Planer Grader, Concrete Pumps, Driving Truck Cranes, Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $58.57
Supplemental Benefit Rate per Hour: $36.87
Supplemental Note: $66.34 on overtime
Shift Wage Rate: $93.71

Engineer - Heavy Construction Oilers II

All gasoline, electric, diesel or air operated Shovels, Draglines, Backhoes, Keystones, Pavers, Gunite Machines, Battery of Compressors, Crawler Cranes, two-person Trenching Machines.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $40.36
Supplemental Benefit Rate per Hour: $36.87

Supplemental Note: $66.34 on overtime
Shift Wage Rate: $64.58

Engineer - Steel Erection Maintenance Engineers

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $61.13
Supplemental Benefit Rate per Hour: $35.41
Supplemental Note: $63.67 on overtime
Shift Wage Rate: $97.81

Engineer - Steel Erection Oiler I

On a Truck Crane

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $57.21
Supplemental Benefit Rate per Hour: $35.41
Supplemental Note: $63.67 on overtime
Shift Wage Rate: $91.54

Engineer - Steel Erection Oiler II

On a Crawler Crane

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $43.54
Supplemental Benefit Rate per Hour: $35.41
Supplemental Note: $63.67 on overtime
Shift Wage Rate: $69.66

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

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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.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $58.30
Supplemental Benefit Rate per Hour: $35.41
Supplemental Note: $63.67 on overtime

Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $45.28
Supplemental Benefit Rate per Hour: $35.41
Supplemental Note: $63.67 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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $55.42
Supplemental Benefit Rate per Hour: $35.41
Supplemental Note: $63.67 on overtime

Engineer - Building Work Oilers II

Oilers on Crawler Cranes, Backhoes, Trenching Machines, Gunite Machines, Compressors (three or more in Battery).

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: $41.16
Supplemental Benefit Rate per Hour: $35.41
Supplemental Note: $63.67 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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $38.18
Supplemental Benefit Rate per Hour: $20.15
Supplemental Note: Overtime Benefit Rate - $27.65 per hour (time & one half) $35.15 per hour (double time).

Instrument Person

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $31.47
Supplemental Benefit Rate per Hour: $20.15

Supplemental Note: Overtime Benefit Rate - $27.65 per hour (time & one half) $35.15 per hour (double time).

Rodperson

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $27.24
Supplemental Benefit Rate per Hour: $20.15
Supplemental Note: Overtime Benefit Rate - $27.65 per hour (time & one half) $35.15 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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $60.10
Supplemental Benefit Rate per Hour: $32.15
Supplemental Note: Overtime Benefit Rate - $44.90 per hour (time & one half) $57.65 per hour (double time).

Field Engineer - BC Instrument Person

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $46.69
Supplemental Benefit Rate per Hour: $32.15

Supplemental Note: Overtime Benefit Rate - $44.90 per hour (time & one half) $57.65 per hour (double time).

Field Engineer - BC Rodperson

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $30.20
Supplemental Benefit Rate per Hour: $32.15
Supplemental Note: Overtime Benefit Rate - $44.90 per hour (time & one half) $57.65 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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $70.25
Supplemental Benefit Rate per Hour: $34.18
Supplemental Note: Overtime benefit rate - $47.82 per hour (time & one half), $61.46 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $51.64

Supplemental Benefit Rate per Hour: $34.18
Supplemental Note: Overtime benefit rate - $47.82 per hour (time & one half), $61.46 per hour (double time).

Field Engineer - HC Rodperson

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $43.37
Supplemental Benefit Rate per Hour: $34.18
Supplemental Note: Overtime benefit rate - $47.82 per hour (time & one half), $61.46 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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $63.64
Supplemental Benefit Rate per Hour: $33.04
Supplemental Note: Overtime benefit rate - $46.11 per hour (time & one half), $59.18 per hour (double time).

Field Engineer - Steel Erection Instrument Person

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $49.59
Supplemental Benefit Rate per Hour: $33.04
Supplemental Note: Overtime benefit rate - $46.11 per hour (time & one half), $59.18 per hour (double time).

Field Engineer - Steel Erection Rodperson

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $33.20
Supplemental Benefit Rate per Hour: $33.04
Supplemental Note: Overtime benefit rate - $46.11 per hour (time & one half), $59.18 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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $76.60
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $122.56

Operating Engineer - Road & Heavy Construction II

Backhoes, Power Shovels, Hydraulic Clam Shells, Steel Erection, Moles and machines of a similar nature.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $79.28
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $126.85

Operating Engineer - Road & Heavy Construction III

Mine Hoists, Cranes, etc. (Used as Mine Hoists)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $81.80
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $130.88

Operating Engineer - Road & Heavy Construction IV

Gradealls, Keystones, Cranes on land or water (with digging buckets), Bridge Cranes, Vermeer Cutter and machines of a similar nature, Trenching Machines.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $79.85
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $127.76

Operating Engineer - Road & Heavy Construction V

Pile Drivers & Rigs (employing Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $78.29
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $125.26

Operating Engineer - Road & Heavy Construction VI

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $74.42
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $119.07

Operating Engineer - Road & Heavy Construction VII

Barrier Movers , Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $60.22
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $96.35

Operating Engineer - Road & Heavy Construction VIII

Utility Compressors

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $46.88
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $58.92

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $70.79
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $113.26

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $65.12
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $104.19

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $50.73
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $81.17

Operating Engineer - Road & Heavy Construction XII

All Drills and Machines of a similar nature.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $75.19
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $120.30

Operating Engineer - Road & Heavy Construction XIII

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $72.84
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $116.54

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $69.67
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $111.47

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $47.18
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $75.49

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $66.56
Supplemental Benefit Rate per Hour: $31.10

Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $106.50

Operating Engineer - Road & Heavy Construction XVII

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $67.07
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $107.31

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $95.98
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $153.57

Operating Engineer - Paving I

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $74.42
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $119.07

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $72.50
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $116.00

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $61.43

Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $98.29

Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $79.50
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours

Operating Engineer - Concrete II

Compressors

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $47.54
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours

Operating Engineer - Concrete III

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $63.66
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $82.23
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $131.57

Operating Engineer - Steel Erection II

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $79.04
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $126.46

Operating Engineer - Steel Erection III

Compressors, Welding Machines.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $47.14
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $75.42

Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $44.91
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
Shift Wage Rate: $71.86

Operating Engineer - Building Work I

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for hoisting material.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $62.87
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $47.01
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $71.60
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $75.87
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $69.88
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $69.14
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $54.92
Supplemental Benefit Rate per Hour: $31.10
Supplemental Note: $56.50 overtime hours
For New House Car projects Wage Rate per Hour $43.77

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.

(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: 7/1/2017 - 6/30/2018
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)

GLAZIER
(New Construction, Remodeling, and Alteration)

Glazier

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $44.70
Supplemental Benefit Rate per Hour: $40.99
Supplemental Note: Supplemental Benefit Overtime Rate: $50.09

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 under $127,628. 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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $24.13
Supplemental Benefit Rate per Hour: $21.12

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 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)

HEAT AND FROST INSULATOR

Heat & Frost Insulator

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $58.38
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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $36.33
Supplemental Benefit Rate per Hour: $29.22

House Wrecker - Tier B

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $25.56
Supplemental Benefit Rate per Hour: $21.63

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
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

Iron Worker - Ornamental

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: $44.20
Supplemental Benefit Rate per Hour: $51.57
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 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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $50.05
Supplemental Benefit Rate per Hour: $72.53
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.

(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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.50
Supplemental Benefit Rate per Hour: $40.63

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)

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $28.75
Supplemental Benefit Rate per Hour: $15.55

Landscaper (3 - 6 years experience)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $27.75
Supplemental Benefit Rate per Hour: $15.55

Landscaper (up to 3 years experience)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $25.25
Supplemental Benefit Rate per Hour: $15.55

Groundperson

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $25.25
Supplemental Benefit Rate per Hour: $15.55

Tree Remover / Pruner

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $33.75
Supplemental Benefit Rate per Hour: $15.55

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $23.75
Supplemental Benefit Rate per Hour: $15.55

Watering - Plant Maintainer

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $18.72
Supplemental Benefit Rate per Hour: $15.55

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $52.74
Supplemental Benefit Rate per Hour: $38.67

Marble Finisher

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.46
Supplemental Benefit Rate per Hour: $36.64

Marble Polisher

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $37.93
Supplemental Benefit Rate per Hour: $28.33

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $37.90
Supplemental Benefit Rate per Hour: $30.59

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
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.

(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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $36.19
Supplemental Benefit Rate per Hour: $24.25

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $25.38
Supplemental Benefit Rate per Hour: $18.57

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).
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: 7/1/2017 - 6/30/2018

Wage Rate per Hour: $46.28
Supplemental Benefit Rate per Hour: $42.92
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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $51.50
Supplemental Benefit Rate per Hour: $52.41

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.

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $46.86
Supplemental Benefit Rate per Hour: $40.65
Supplemental Note: Supplemental benefits for overtime to be paid at the rate of $51.67 per hour.

Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $45.26
Supplemental Benefit Rate per Hour: $40.63
Supplemental Note: Supplemental benefits for overtime to be paid at the rate of $51.65 per hour.

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $45.26
Supplemental Benefit Rate per Hour: $40.63
Supplemental Note: Supplemental benefits for overtime to be paid at the rate of $51.65 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

(Local #7)

PAINTER

Painter - Brush & Roller

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $42.50
Supplemental Benefit Rate per Hour: $28.62
Supplemental Note: $ 33.25 on overtime

Spray & Scaffold / Decorative / Sandblast

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $45.50
Supplemental Benefit Rate per Hour: $28.62
Supplemental Note: $ 33.25 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

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $29.73
Supplemental Benefit Rate per Hour: $7.06

METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $30.68
Supplemental Benefit Rate per Hour: $7.06

METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $33.23
Supplemental Benefit Rate per Hour: $7.06

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 amaximumof 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

PAINTER - STRIPER

Striper (paint)

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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

Effective Period: 7/1/2017 - 9/30/2017
Wage Rate per Hour: $49.50
Supplemental Benefit Rate per Hour: $37.08

Effective Period: 10/1/2017 - 6/30/2018
Wage Rate per Hour: $50.00
Supplemental Benefit Rate per Hour: $38.33

Painter - Power Tool

Effective Period: 7/1/2017 - 9/30/2017
Wage Rate per Hour: $55.50

Supplemental Benefit Rate per Hour: $37.08
Overtime Wage Rate: $6.00 above the "Painters on Structural Steel" overtime rate.

Effective Period: 10/1/2017 - 6/30/2018
Wage Rate per Hour: $56.00
Supplemental Benefit Rate per Hour: $38.33
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $44.89
Supplemental Benefit Rate per Hour: $31.13
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $45.85
Supplemental Benefit Rate per Hour: $40.98

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.98
Supplemental Benefit Rate per Hour: $40.98

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $46.45
Supplemental Benefit Rate per Hour: $40.98

Production Paver & Roadbuilder - Raker

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $45.85
Supplemental Benefit Rate per Hour: $40.98

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $42.37
Supplemental Benefit Rate per Hour: $40.98

Overtime Description

If an employee works New Year's Day or Christmas Day, they receive the single time rate plus 25%.

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

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $44.93
Supplemental Benefit Rate per Hour: $25.15

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
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

When it is not possible to conduct alteration work during regular work hours, in a building occupied by tenants, said work shall proceed on a shift basis: however work over seven (7) hours in any twenty four (24) hour period, the time after seven (7) hours shall be considered overtime.
The second shift shall start at a time between 3:30 p.m. and 7:00 p.m. and shall consist of seven (7) working hours and shall receive eight (8) hours of wages and benefits at the straight time rate. The workers on the second shift shall be allowed one-half (½) hour to eat with this time being included in the seven (7) hours of work.

(Local #262)

PLASTERER - TENDER

Plasterer - Tender

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $37.90
Supplemental Benefit Rate per Hour: $30.59

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.

(Mason Tenders District Council)

PLUMBER

Plumber

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $67.25
Supplemental Benefit Rate per Hour: $31.80
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $53.88
Supplemental Benefit Rate per Hour: $25.36

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 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 (MECHNICAL EQUIPMENT AND SERVICE)

(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Plumber

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.20
Supplemental Benefit Rate per Hour: $15.41

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $46.66
Supplemental Benefit Rate per Hour: $22.95

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $64.22
Supplemental Benefit Rate per Hour: $23.21

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
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)

Journeyperson

Effective Period: 7/1/2017 - 6/30/2018
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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.50
Supplemental Benefit Rate per Hour: $32.27

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)

SHEET METAL WORKER

Sheet Metal Worker

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $48.90
Supplemental Benefit Rate per Hour: $48.00
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $39.12
Supplemental Benefit Rate per Hour: $48.00

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2017 - 6/30/2018
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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $44.57
Supplemental Benefit Rate per Hour: $25.02
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)

SHIPYARD WORKER

Shipyard Mechanic - First Class

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $28.12
Supplemental Benefit Rate per Hour: $3.03

Shipyard Mechanic - Second Class

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate per Hour: $23.35
Supplemental Benefit Rate per Hour: $2.85

Shipyard Laborer - First Class

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $20.96
Supplemental Benefit Rate per Hour: $2.76

Shipyard Laborer - Second Class

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $15.24
Supplemental Benefit Rate per Hour: $2.54

Shipyard Dockhand - First Class

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $22.89
Supplemental Benefit Rate per Hour: $2.83

Shipyard Dockhand - Second Class

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $16.51
Supplemental Benefit Rate per Hour: $2.58

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.
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $47.67
Supplemental Benefit Rate per Hour: $50.67

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
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $55.50
Supplemental Benefit Rate per Hour: $55.29

Supplemental Note: Overtime supplemental benefit rate: $109.84

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $42.18
Supplemental Benefit Rate per Hour: $44.84

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
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 works contracts with a dollar value not to exceed $15,000,000 and for fire protection/sprinkler public works contracts not to exceed $1,500,000.

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $55.50
Supplemental Benefit Rate per Hour: $55.29
Supplemental Note: Overtime supplemental benefit rate: $109.84

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $42.18
Supplemental Benefit Rate per Hour: $44.84

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. 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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $39.50
Supplemental Benefit Rate per Hour: $15.81

Refrigeration and Air Conditioner Service Person V

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $32.46
Supplemental Benefit Rate per Hour: $14.16

Refrigeration and Air Conditioner Service Person IV

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $26.89
Supplemental Benefit Rate per Hour: $12.80

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $23.08
Supplemental Benefit Rate per Hour: $11.79

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $19.14
Supplemental Benefit Rate per Hour: $10.85

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $14.00
Supplemental Benefit Rate per Hour: $9.76

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)

STONE MASON - SETTER

Stone Mason - Setter

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $47.82
Supplemental Benefit Rate per Hour: $22.68

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
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
(Voice Installation Only)

Telecommunication Worker

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $40.35
Supplemental Benefit Rate per Hour: $13.19
Supplemental Note: The above rate applies for Manhattan, Bronx, Brooklyn, Queens. $12.64 for Staten Island only.

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
Lincoln's Birthday
Washington's Birthday
Memorial Day
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.13
Supplemental Benefit Rate per Hour: $31.18

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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $53.19
Supplemental Benefit Rate per Hour: $35.35

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
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $48.00
Supplemental Benefit Rate per Hour: $49.16

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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $62.37
Supplemental Benefit Rate per Hour: $52.39

Tunnel Workers (Compressed Air Rates)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $60.21
Supplemental Benefit Rate per Hour: $50.65

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2017 - 6/30/2018

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: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $58.04
Supplemental Benefit Rate per Hour: $48.81

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $50.87
Supplemental Benefit Rate per Hour: $46.11

Blasters (Free Air Rates)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $59.52
Supplemental Benefit Rate per Hour: $50.03

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $56.97
Supplemental Benefit Rate per Hour: $47.89

All Others (Free Air Rates)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $52.63
Supplemental Benefit Rate per Hour: $44.29

Microtunneling (Free Air Rates)

Effective Period: 7/1/2017 - 6/30/2018
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)

WELDER

TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE PERFORMING THE WORK.

OFFICE OF THE COMPTROLLER

CITY OF NEW YORK

220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

APPENDIX

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 employed on a public work project.
Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the journey person wage rate for the classification of work he 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.

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ASBESTOS HANDLER
(Ratio of Apprentice Journeyperson: 1 to 1, 1 to 3)

Asbestos Handler (First 1000 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 78% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.25

Asbestos Handler (Second 1000 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.25

Asbestos Handler (Third 1000 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 83% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.25

Asbestos Handler (Fourth 1000 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 89% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.25

(Local #78)

BOILERMAKER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Boilermaker (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $30.84
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: $31.26

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2017 - 6/30/2018

Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $32.57
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: $33.02

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $34.29
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: $34.78

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $36.03
Effective 1/1/2018- Supplemental Benefit Rate Per Hour: $36.56

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $37.76
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: $38.32

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $39.51
Effective 1/1/2018 - Supplemental Benefit Rate Per Hour: $40.09

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $41.22
Effective 1/1/2018- Supplemental Benefit Rate Per Hour: $41.84

(Local #5)

BRICKLAYER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Bricklayer (First 750 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $18.80

Bricklayer (Second 750 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $18.80

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $18.80

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $18.80

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $18.80

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $18.80

(Bricklayer District Council)

CARPENTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Carpenter (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Benefit Rate Per Hour For Building Apprentice: $31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: $33.03

Carpenter (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour For Building Apprentice: $31.34
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $33.03

Carpenter (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour For Building Apprentice: $31.34
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $33.03

Carpenter (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour For Building Apprentice: $31.34
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $33.03

(Carpenters District Council)

CARPENTER - HIGH RISE CONCRETE FORMS
(Ratio of Apprentice to Journeyperson: 1 to 1, 2 to 5)

Carpenter - High Rise (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $16.86
Supplemental Benefit Rate per Hour: $16.20

Carpenter - High Rise (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $23.16
Supplemental Benefit Rate per Hour: $16.33

Carpenter - High Rise (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $29.61

Supplemental Benefit Rate per Hour: $16.46

Carpenter - High Rise (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $37.07
Supplemental Benefit Rate per Hour: $16.61

(Carpenters District Council)

CEMENT MASON
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cement Mason (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's Rate

Cement Mason (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's Rate

Cement Mason (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's Rate

(Local #780)

CEMENT AND CONCRETE WORKER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Cement & Concrete Worker (First 1333 hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $17.75

Cement & Concrete Worker (Second 1333 hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $23.03

Cement & Concrete Worker (Last 1334 hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $24.30

Cement & Concrete Worker (Hired after 2/6/2016 - First 1334 hours)

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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 Journeyperson: 1 to 1, 1 to 4)

Derrickperson & Rigger (stone) - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 50% of Journeyperson's rate

Derrickperson & Rigger (stone) - Second Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 70% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

Derrickperson & Rigger (stone) - Second Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

Derrickperson & Rigger (stone) - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

(Local #197)

DOCKBUILDER/PILE DRIVER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Dockbuilder/Pile Driver (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $33.03

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $33.03

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $33.03

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $33.03

(Carpenters District Council)

ELECTRICIAN
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Electrician (First Term: 0-6 Months)

Effective Period: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $14.00
Supplemental Benefit Rate per Hour: $12.37
Overtime Supplemental Rate Per Hour: $13.29

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $15.00
Supplemental Benefit Rate per Hour: $12.88
Overtime Supplemental Rate Per Hour: $13.87

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $16.00
Supplemental Benefit Rate per Hour: $13.39
Overtime Supplemental Rate Per Hour: $14.44

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $17.00
Supplemental Benefit Rate per Hour: $13.90

Overtime Supplemental Rate Per Hour: $15.02

Effective Period: 5/10/2018 - 6/30/2018
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)

Effective Period: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $18.00
Supplemental Benefit Rate per Hour: $14.41
Overtime Supplemental Rate Per Hour: $15.59

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $19.00
Supplemental Benefit Rate per Hour: $14.92
Overtime Supplemental Rate Per Hour: $16.17

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $20.00
Supplemental Benefit Rate per Hour: $15.43
Overtime Supplemental Rate Per Hour: $16.74

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $22.00
Supplemental Benefit Rate per Hour: $16.44
Overtime Supplemental Rate Per Hour: $17.89

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $24.00
Supplemental Benefit Rate per Hour: $19.80
Overtime Supplemental Rate Per Hour: $21.30

Effective Period: 5/10/2018 - 6/30/2018
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: 7/1/2017 - 5/9/2018
Wage Rate per Hour: $28.50
Supplemental Benefit Rate per Hour: $22.10
Overtime Supplemental Rate Per Hour: $23.89

Effective Period: 5/10/2018 - 6/30/2018
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)

ELEVATOR CONSTRUCTOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator (Constructor) - First Year

Effective Period: 7/1/2017 - 3/16/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $29.88

Effective Period: 3/17/2018 - 6/30/2018

Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $31.35

Elevator (Constructor) - Second Year

Effective Period: 7/1/2017 - 3/16/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $30.31

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $31.80

Elevator (Constructor) - Third Year

Effective Period: 7/1/2017 - 3/16/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $31.19

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $32.70

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2017 - 3/16/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $32.07

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $33.60

(Local #1)

ELEVATOR REPAIR & MAINTENANCE
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2017 - 3/16/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: $29.80

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Benefit Per Hour: $31.28

Elevator Service/Modernization Mechanic (Second Year)

Effective Period: 7/1/2017 - 3/16/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: $30.23

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: $31.72

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2017 - 3/16/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: $31.09

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: $32.60

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2017 - 3/16/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: $31.95

Effective Period: 3/17/2018 - 6/30/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: $33.49

(Local #1)

ENGINEER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Engineer - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $24.77
Supplemental Benefit Rate per Hour: $24.62

Engineer - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $30.97
Supplemental Benefit Rate per Hour: $24.62

Engineer - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $34.06
Supplemental Benefit Rate per Hour: $24.62

Engineer - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $37.16
Supplemental Benefit Rate per Hour: $24.62

(Local #15)

ENGINEER - OPERATING
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Operating Engineer - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour 40% of Journeyperson's Rate
Supplemental Benefit Per Hour: $20.85

Operating Engineer - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's Rate
Supplemental Benefit Per Hour: $20.85

Operating Engineer - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyperson's Rate
Supplemental Benefit Per Hour: $20.85

(Local #14)

FLOOR COVERER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Floor Coverer (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $31.14

Floor Coverer (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $31.14

Floor Coverer (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $31.14

Floor Coverer (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $31.14

(Carpenters District Council)

GLAZIER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Glazier (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $15.26

Glazier (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Rate Per Hour: $25.36

Glazier (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $28.62

Glazier (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $34.67

(Local #1281)

HEAT & FROST INSULATOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Heat & Frost Insulator (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $21.17
Supplemental Benefit Rate per Hour: $18.54

House Wrecker - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $22.32
Supplemental Benefit Rate per Hour: $18.54

House Wrecker - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $23.97
Supplemental Benefit Rate per Hour: $18.54

House Wrecker - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $26.53
Supplemental Benefit Rate per Hour: $18.54

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Iron Worker (Ornamental) - 1st Ten Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $39.40

Iron Worker (Ornamental) - 11 -16 Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $40.62

Iron Worker (Ornamental) - 17 - 22 Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $41.83

Iron Worker (Ornamental) - 23 - 28 Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $44.27

Iron Worker (Ornamental) - 29 - 36 Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $46.70

(Local #580)

IRON WORKER - STRUCTURAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $26.12
Supplemental Benefit Rate per Hour: $50.22

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $26.72
Supplemental Benefit Rate per Hour: $50.22

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $27.32

Supplemental Benefit Rate per Hour: $50.22

(Local #40 and #361)

LABORER (FOUNDATION, CONCRETE, EXCAVATING, STREET PIPE LAYER & COMMON)

(Ratio Apprentice to Journeyperson: 1 to 1, 1 to 3)

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - First 1000 hours

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $40.63

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Second 1000 hours

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $40.63

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Third 1000 hours

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $40.63

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Fourth 1000 hours

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Rate Per Hour: $40.63

(Local #731)

MARBLE MECHANICS
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cutters & Setters - First 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Cutters & Setters - Second 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

Polishers & Finishers - First 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Polishers & Finishers - Third 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Polishers & Finishers - Fourth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $21.39
Supplemental Benefit Rate per Hour: $19.65

Mason Tender - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $22.54
Supplemental Benefit Rate per Hour: $19.65

Mason Tender - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $24.29
Supplemental Benefit Rate per Hour: $19.70

Mason Tender - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $26.95
Supplemental Benefit Rate per Hour: $19.70

(Local #79)

METALLIC LATHER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metallic Lather (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $28.38
Supplemental Benefit Rate per Hour: $10.96

Metallic Lather (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $32.38
Supplemental Benefit Rate per Hour: $12.96

Metallic Lather (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $35.38
Supplemental Benefit Rate per Hour: $17.12

Metallic Lather (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $37.38
Supplemental Benefit Rate per Hour: $17.92

(Local #46)

MILLWRIGHT
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Millwright (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $28.33
Supplemental Benefit Rate per Hour: $34.28

Millwright (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $33.48
Supplemental Benefit Rate per Hour: $37.88

Millwright (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $38.63
Supplemental Benefit Rate per Hour: $42.13

Millwright (Fourth Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $48.93
Supplemental Benefit Rate per Hour: $48.69

(Local #740)

PAVER AND ROADBUILDER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Paver and Roadbuilder - First Year (Minimum 1000 hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $27.86
Supplemental Benefit Rate per Hour: $19.25

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $29.50
Supplemental Benefit Rate per Hour: $19.25

(Local #1010)

PAINTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painter - Brush & Roller - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $17.00
Supplemental Benefit Rate per Hour: $13.42

Painter - Brush & Roller - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $21.25
Supplemental Benefit Rate per Hour: $17.43

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $25.50
Supplemental Benefit Rate per Hour: $20.50

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $34.00
Supplemental Benefit Rate per Hour: $26.20

(District Council of Painters)

PAINTER - METAL POLISHER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metal Polisher (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $11.75
Supplemental Benefit Rate per Hour: $5.13

Metal Polisher (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $13.00
Supplemental Benefit Rate per Hour: $5.13

Metal Polisher (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $15.75
Supplemental Benefit Rate per Hour: $5.13

(Local 8A-28)

PAINTER - STRUCTURAL STEEL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painters - Structural Steel (First Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #806)

PLASTERER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plasterer - First Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $13.59

Plasterer - First Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $14.07

Plasterer - Second Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $16.04

Plasterer - Second Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $17.12

Plasterer - Third Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $19.29

Plasterer - Third Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $20.37

(Local #530)

PLASTERER - TENDER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plasterer Tender - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $21.39
Supplemental Benefit Rate per Hour: $19.65

Plasterer Tender - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $22.54

Supplemental Benefit Rate per Hour: $19.65

Plasterer Tender - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $24.29
Supplemental Benefit Rate per Hour: $19.70

Plasterer Tender - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $26.95
Supplemental Benefit Rate per Hour: $19.70

(Local #79)

PLUMBER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $16.28
Supplemental Benefit Rate per Hour: $5.43

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $19.28
Supplemental Benefit Rate per Hour: $6.43

Plumber - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $26.35
Supplemental Benefit Rate per Hour: $17.10

Plumber - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $28.45
Supplemental Benefit Rate per Hour: $17.10

Plumber - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $31.30
Supplemental Benefit Rate per Hour: $17.10

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $32.70
Supplemental Benefit Rate per Hour: $17.10

Plumber - Fifth Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $44.77
Supplemental Benefit Rate per Hour: $17.10

(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: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $25.89
Supplemental Benefit Rate per Hour: $13.64

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $28.97
Supplemental Benefit Rate per Hour: $18.15

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $34.12
Supplemental Benefit Rate per Hour: $20.90

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate per Hour: $41.33
Supplemental Benefit Rate per Hour: $21.60

(Bricklayer District Council)

ROOFER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Roofer - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 35% of Journeyperson's Rate

Roofer - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's Rate

Roofer - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's Rate

Roofer - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's Rate

(Local #8)

SHEET METAL WORKER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Sheet Metal Worker (0-6 Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 25% of Journeyperson's rate
Supplemental Rate Per Hour: $6.35

Sheet Metal Worker (7-18 Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $17.12

Sheet Metal Worker (19-30 Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $23.54

Sheet Metal Worker (31-36 Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $27.70

Sheet Metal Worker (37-42 Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $29.11

Sheet Metal Worker (43-48 Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $33.96

Sheet Metal Worker (49-54 Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $36.07

Sheet Metal Worker (55-60 Months)

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $38.15

(Local #28)

SIGN ERECTOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $14.72

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $16.71

Sign Erector - Second Year: 1st Six Months

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

SIGN ERECTOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $14.72

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $16.71

Sign Erector - Second Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $18.68

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $20.68

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $27.72

Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $30.57

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $33.31

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $35.83

Sign Erector - Fifth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $38.32

Sign Erector - Sixth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $40.81

(Local #137)

STEAMFITTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Steamfitter - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate and Supplemental Per Hour: 40% of Journeyperson's rate

Steamfitter - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate and Supplemental Rate Per Hour: 50% of Journeyperson's rate.

Steamfitter - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate and Supplemental Rate per Hour: 65% of Journeyperson's rate.

Steamfitter - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

Steamfitter - Fifth Year

Effective Period: 7/1/2017 - 6/30/2018
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)

Stone Mason - Setters - First 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
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: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Drywall Taper - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Drywall Taper - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #1974)

TILE LAYER - SETTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2017 - 6/30/2018
Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

(Local #7)

TIMBERPERSON
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Timberperson - First Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $32.79

Timberperson - Second Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $32.79

Timberperson - Third Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $32.79

Timberperson - Fourth Year

Effective Period: 7/1/2017 - 6/30/2018
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $32.79

(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

ALAN G. HEVESI
COMPTROLLER

TELEPHONE: (212) 669-3622
FAX NUMBER: (212) 669-8499

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: SER200151

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

DiFazio Industries LLC

Contractor

Dated June 26th, **20** 18

WP
2/23/2018

APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY

Acting Corporation Counsel

Dated February 23, **20** 18

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 www.nyc.gov/buildnyc

VOLUME 3 OF 3

SCHEDULE A
SPECIFICATIONS AND
REVISIONS TO STANDARD SPECIFICATIONS

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: SER200151

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

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

December 11, 2017

8-096

Project ID: SER200151

VOLUME 3 OF 3

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SW - PAGES	SEWER AND WATER MAIN SPECIFICATIONS	SW-1 to SW-11
EP7 – PAGES	GAS COST SHARING (EP-7) STANDARD SPECIFICATIONS	EP7-1 to EP7-28B
HAZ – PAGES	SPECIFICATIONS FOR HANDLING TRANSPORTATION AND DISPOSAL OF NONHAZARDOUS AND POTENTIALLY HAZARDOUS CONTAMINATED MATERIALS	HAZ-1 TO HAZ-844
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SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

The following New York City Department of Transportation (NYCDOT) reference documents are available on-line 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

The following New York City Department of Transportation (NYCDOT) reference documents are available on-line at: http://www.nyc.gov/html/dot/html/about/dotlibrary.shtml#spec 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. Specifications for furnishing all labor and material necessary and required for the installation, removal or relocation of street lighting equipment in the City of New York, 1992.
2. Standard Drawings, Division of Street Lighting
3. Specifications for Traffic Signals and Intelligent Transportation Systems Construction and Equipment
4. Standard Drawings for Traffic Signals

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available on-line 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 January 2009

The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available on-line 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. Standards for Green Infrastructure, latest version, available only on-line 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

SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

Standard Specifications and Drawings for New York City Fire Department Communications facilities are available 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

INFORMATION FOR BIDDERS SECTION 26 BID SECURITY The **Contractor** shall obtain a bid security in the amount indicated to the right.	Required provided the TOTAL BID PRICE set forth on the Bid Form is $1,000,000. or more. Certified Check: 2% of Bid Amount or Bond: 10% of Bid Amount
INFORMATION FOR BIDDERS SECTION 26 PERFORMANCE AND PAYMENT BONDS The **Contractor** shall obtain performance and payment bonds in the amount indicated to the right.	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 100% of the Contract Price.
INFORMATION FOR BIDDERS DEPARTMENT OF DESIGN AND CONSTRUCTION SAFETY REQUIREMENTS The **Contractor** shall provide the safety personnel as indicated to the right.	■ Project Safety Representative ■ Dedicated, full-time Project Safety Manager
CONTRACT ARTICLE 14 DATE FOR SUBSTANTIAL COMPLETION The **Contractor** shall substantially complete the **Work** in the number of calendar days indicated to the right.	See Page SA-4
CONTRACT ARTICLE 15 LIQUIDATED DAMAGES 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.	$2,500.00 for each consecutive calendar day over substantial completion time
CONTRACT ARTICLE 17. SUB-CONTRACTOR The **Contractor** shall not make subcontracts totaling an amount more than the percentage of the total **Contract** price indicated to the right.	Not to exceed 35 % of the **Contract** price

CONTRACT ARTICLE 21. RETAINAGE The **Commissioner** shall deduct and retain until the substantial completion of the **Work** the percent value of the **Work** indicated to the right.	5 % of the value of the **Work**
CONTRACT ARTICLE 22. (Per Directions Below)	See pages SA-5 through SA-12
CONTRACT ARTICLE 24. DEPOSIT GUARANTEE 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.	1% of **Contract** price
CONTRACT ARTICLE 24. PERIOD OF GUARANTEE Periods of maintenance and guarantee other than the period set forth in Article 24.1 are indicated to the right.	Eighteen (18) Months, excluding Trees Twenty-four (24) Months for Tree Planting
CONTRACT ARTICLE 74. STATEMENT OF WORK 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.**	**Addenda**, numbered: 3
CONTRACT ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR 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.**	Amount for which the **Contract** was Awarded: ten millions four hundred forty-two thousand, two hundred forty-nine and sixty-six hundredths Dollars ($10,442,249.66)
CONTRACT ARTICLE 79. PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT	See M/WBE Utilization Plan in the Bid Booklet

STANDARD HIGHWAY SPECIFICATIONS SECTION 6.40 LIQUIDATED DAMAGES FOR ENGINEER'S FIELD OFFICE 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.	$ 250.00 for each calendar day of deficiency
STANDARD HIGHWAY SPECIFICATIONS SECTION 6.70 LIQUIDATED DAMAGES FOR MAINTENANCE AND PROTECTION OF TRAFFIC	$ 250.00 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. $ 500.00 for each and every hour of failing to open the entire width of roadway to traffic the morning following a night/weekend work operation.
STANDARD HIGHWAY SPECIFICATIONS SECTION 7.13 LIQUIDATED DAMAGES FOR MAINTENANCE OF SITE 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.	$ 500.00 for each calendar day, for each occurrence

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 _____730_____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

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 an X in a box (☒) to left will be required under this

TYPES OF INSURANCE (per Article 22 in its entirety, including listed paragraph)	MINIMUM LIMITS AND SPECIAL CONDITIONS
■ Commercial General Liability Art. 22.1.1	The minimum limits shall be $3,000,000 per Occurrence and $6,000,000 per Project Aggregate applicable to this **Contract.** Additional Insureds: (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

☐ Builders' Risk Art. 22.1.4	☐ Required: 100% of total bid amount ☐ Required: 100 % of total bid amount for Item(s): **Contractor** the Named Insured; the **City** both an Additional Insured and one of the loss payees as its interests may appear. 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. Note: Builders Risk Insurance may terminate upon **Substantial Completion** of the **Work** in its entirety.
■Commercial Auto Liability Art. 22.1.5	$ 2,000,000 per accident combined single limit 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 Additional Insureds: (1) City of New York, including its officials and employees.
☐Contractors Pollution Liability Art. 22.1.6	$ 5,000,000 per occurrence $ 5,000,000 aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

☐ Marine Protection and Indemnity Art. 22.1.7(a)	$_____ each occurrence $_____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
☐ Hull and Machinery Insurance Art. 22.1.7(b)	$_____ per occurrence $_____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
☐ Marine Pollution Liability Art. 22.1.7(c)	$ 1,000,000 per occurrence $ 1,000,000 aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

[OTHER] Art. 22.1.8 ■ Railroad Protection Liability Policy (ISO-RIMA or equivalent form) approved by Permittor 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. New York City Transit Authority (NYCTA), the Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), the Staten Island Rapid Transit Operation Authority (SIRTOA), MTA Capital Construction Co., the Metropolitan Transportation Authority (MTA) including its subsidiaries and affiliates, and the City of New York (as Owner) and all other indemnified parties. 2.

[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.

[OTHER] Art. 22.1.8 ■ Engineer's Field Office **Section 6.40, Standard Highway Specifications**	Fire insurance, extended coverage and vandalism, malicious mischief and burglary, and theft insurance coverage in the amount of $40,000

[OTHER] Art. 22.1.8

☐ The Following Additional Insurance Must Be Provided:

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.

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)

R - PAGES

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) apply to 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 – RODENT AND WATERBUG PEST CONTROL
- 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

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)

SEWER AND WATER MAIN REVISIONS TO SPECIFICATIONS

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 2009), Water Main Standard Drawings of the Department of Environmental Protection (latest revisions), Specifications For Trunk Main Work of the Department of Environmental Protection (dated July 2014) and the Standard Highway Specifications (Volumes I and II) of the Department of Transportation (dated August 1, 2015) of The City of New York, 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. AMENDMENTS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS
C. AMENDMENTS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

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) 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.

(5) 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.

(6) 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.

(7) 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.

(8) 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.

(9) 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 (718) 786-2236.

(10)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.

(11) The Contractor is advised that at certain locations within the project limit, existing manholes, chambers, seepage basins, basins, sewers and water mains that are or will be abandoned may fall partially or totally within the trenches of proposed sewer or water main work. These existing structures shall be partially or wholly removed as necessary and required to accommodate the installation of the new sewer or water main. After the removal of the said structures, the Contractor shall satisfactorily fill and compact any resultant voids up to the subgrade of the new sewer or water main to the satisfaction of the Engineer. No separate or additional payment will be made for removal and filling of the said existing structures, additional excavation, sheeting and bracing, installation of bulkheads and all other items necessary to complete this work. The cost, therefore, shall be deemed included in the prices bid for all contract items of work.

(12)In order to properly abandon existing seepage basins the Contractor shall remove castings, demolish walls to the required depth, bulkhead pipes, break up bottom slabs, fill and compact openings, and perform all work as directed by the Engineer. The cost for this work shall be deemed in the prices bid for all contract items of work. In streets where new storm sewer is being constructed all existing seepage basins shall be replaced by new catch basins and connected to the proposed storm sewer at the direction of the Engineer. The Contractor shall abandon the existing seepage basins using the method outlined in **Subsection 51.41.3 (E) ABANDONING EXISTING CATCH BASINS** of the Standard Sewer and Water Main Specifications (dated July 1, 2014), at no cost to the City.

(13)The Contractor is advised that at locations throughout this project, where proposed sewer(s) or water main(s) crosses under existing water mains which are not designated for replacement/relocation, the Contractor shall properly support and protect the said existing sewers and water mains during the construction of new sewer(s). The Contractor shall take full responsibility for any damage to the said existing water mains and shall submit support and protection systems and design computations to D.D.C. for approval at least two (2) weeks prior to the start of construction. The cost of this work including supporting design and all necessary incidental work thereto shall be deemed to be included in all bid items of work.

(14)The Contractor is notified that at some locations 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. The Contractor maybe restricted to use wood sheeting at certain critical locations as directed by the Engineer. 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. Additional cost to use wood sheeting specifically to ensure integrity of existing sewer structures will be deem included in all bid items for work.

(15)The Contractor is notified that all chambers, all box curve sections, and sewers shall be poured in place as specified on contract drawings. No precast substitutions will be permitted.

(16)At some locations as indicated on the contract plans, the Contractor is required to reconnect all existing sewers to the proposed manholes in this contract. The said manholes shall be fabricated to provide openings for the existing sewers at the specified invert elevations as shown on the contract drawings. The cost of reconnecting existing sewer pipes to new manholes, including concrete collar with steel reinforcements and/or grouting around the existing sewer pipes at the openings and all work necessary to complete the pipe reconnection, to the satisfaction of the Resident Engineer shall be deemed included in the prices bid for all items of work. No additional payment shall be made.

(17)At all locations where the Engineer determines that the existing subgrade material has an unsatisfactory soil bearing capacities, the Contractor shall excavate below subgrade to the depth required to remove the unsatisfactory soil (maximum five (5) foot depth below subgrade), and shall be backfilled to subgrade with stone ballast as described in Section 70.71. Payment for this work shall be made under Item No. 73.31AE0 - ADDITIONAL EARTH EXCAVATION INCLUDING TEST PIT (ALL DEPTHS); and, Item No. 70.71SB - STONE BALLAST. The cost for any additional sheeting and bracing required for excavating below subgrade shall be deemed included in the price bid for Item No. 73.31AE0 - ADDITIONAL EARTH EXCAVATION INCLUDING TEST PIT (ALL DEPTHS).

(18) The Contractor is advised that DDC possesses no records to verify whether any existing storm Leader House Connection drains on the existing storm sewers are within the project limit. However, should the Contractor encounter any existing storm Leader House Connections during the excavations of the trenches, the Contractor shall reconnect those storm Leader House Connections to the proposed storm sewer as ordered by the Engineer. The cost of the work required and necessary to reconnect the existing Leader House Connection drain, including, but not limited to, investigations, sheeting and bracing, earth excavation, clean backfill, and restoration of disturbed and damaged sidewalk, curbs, grass and steps, shall be deemed included in the prices for bid under Item No. 52.41D06R - 6" D.I.P. HOUSE CONNECTION DRAIN ON CONCRETE CRADLE (RECONNECTION).

(19) The Contractor shall exercise extreme caution and take all necessary precautions in placing sheeting and excavating to prevent any damage to the existing NYC TRANSIT'S subway structures and it's appurtenances during construction work throughout the projected area. The Contractor shall take full responsibility to protect the said NYC TRANSIT'S subway structures and appurtenances and any damage caused by the Contractor's operations shall be made good by the Contractor to the satisfaction of the Engineer at no additional cost to the City.

(20) The Contractor shall submit shop drawings to NYC Transit Authority showing all the details and methods of construction, such as, sheeting and bracing, including the Contractor's procedure and sequence of construction, supporting and/or protection of the existing TA's structures and its appurtenances, with necessary design calculations for approval prior to starting of the construction. The design shall be made by a New York State Licensed Professional Engineer skilled in this type of construction and as further evidenced by the imprint of Professional Engineer's seal and signature on all drawings. The cost of this work shall be deemed included in the price bid for all items of work under this contract.

(21) The contractor is notified that where ever ductile iron pipe is installed within the project scope, especially in soil environments that are considered to be potentially corrosive to ductile iron pipe, that the Engineer may direct the Contractor to test the soil and other conditions that affect the corrosion rate of ductile iron pipe in accordance with "AWWA C105/A21.5, Appendix A" to determine the necessity of polyethylene encasement of pipe. The rate of testing shall not exceed two tests per block. The Engineer reserves the right to witness all sampling and testing of the soil.
The cost for testing the soil, including all labor, materials and equipment, shall be included in the prices bid for laying ductile iron pipe and fittings per Section 60.12 of the Standard Sewer and Water Main Specifications.
If the soil is found corrosive for the ductile iron pipe, the Contractor shall encase the new ductile iron pipe and appurtenances in an approved loose 8-mil thick polyethylene sleeve in accordance with item 65.21 PS - "FURNISHING AND PLACING POLYETHYLENE SLEEVE", or as ordered by the Engineer. The payment for all labor, materials and equipment, etc., complete, required for the encasing of the ductile iron pipe shall be deemed included in the price bid for the item 65.21 PS - " FURNISHING AND PLACING POLYETHYLENE SLEEVE" and no separate payment shall be made.

B. AMENDMENTS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS

(1) **Refer** to **Subsection 10.15 - Notice To Utility Companies, Etc., To Remove Structures Occupying Place Of Sewers, Water Mains Or Appurtenances**, Page I-11:
Add the following to **Subsection 10.15**:

(1) CONSOLIDATED EDISON COMPANY OF NEW YORK (CON EDISON)

There are CON EDISON facilities in the area of construction. The Contractor shall notify CON EDISON at least seventy-two (72) hours prior to the start of construction by contacting Mr. O'Neil A Wright at (212) 460-3870.

(2) NATIONAL GRID

There are NATIONAL GRID facilities in the area of construction. The Contractor shall notify NATIONAL GRID at least seventy-two (72) hours prior to the start of construction by contacting Mr. Neville Jacobs Jr. at (718) 963-5612.

(3) VERIZON

There are VERIZON facilities in the area of construction. The Contractor shall notify VERIZON at least seventy-two (72) hours prior to the start of construction by contacting Mr. Aubrey Makhanlall at (718) 977-8165.

(4) CHARTER (SPECTRUM) OF NEW YORK CITY

There are CHARTER (SPECTRUM) facilities in the area of construction. The Contractor shall notify CHARTER (SPECTRUM) at least seventy-two (72) hours prior to the start of construction by contacting Mr. John Piazza at (718) 888-4261.

(2) **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) 281-3933.

(3) N.Y.C. DEPARTMENT OF TRANSPORTATION

The Contractor shall notify Mr. Steve Galgano, P.E. Chief of Signal/Street Lighting Operations, 34-02 Queens Blvd., Long Island City, N.Y. 11101 at (718) 786-3550, at least seventy-two (72) hours 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

(a) The Contractor shall notify Outside Projects at least seven (7) days prior to the start of construction.

The Contractor shall contact:

Mr. Mohamed Adam, P.E.
Project Engineer-Outside Projects
New York City Transit
2 Broadway, 7th Floor
New York, N.Y. 10004
Attention Ms. Alina Avadanei
Telephone No. (646) 252-3641

(b) 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

(c) The Contractor is advised that construction operations may affect Staten Island Railroad. The Contractor shall notify Staten Island Railroad at least thirty (30) days prior to the start of construction.

The Contractor shall contact:

Mr. J. Malvasio, P.E.
Manager, Maintenance of Way
New York City Transit
370 Jay Street, Room 1125A
Brooklyn, N.Y. 11201
Telephone No. (718) 243-4210

(d) In addition, the Contractor is advised that construction operations might affect subway lines and stations; and NYCT facilities (i.e. manholes, ducts, etc.). The Contractor shall notify the Transit Authority as required and specified in **Section 10.25 paragraph (A)**, **Section 10.25 paragraph (B)**, and **Section 10.25 paragraph (C)** of this addendum.

(3) **Refer** to **Subsection 10.25 - Contractor To Carry Out Agreement Between City And Railroad Company Or Property Owner(s)**, Page I-14:
Add the following to **Subsection 10.25**:

(A) NYC TRANSIT GENERAL NOTES

For NYC TRANSIT notes see the contract drawings.

(B) NYC TRANSIT INSURANCE REQUIREMENTS

N.Y.C. TRANSIT INSURANCE: The Contractor (Permittee) shall indemnify and save harmless the City of New York and the New York City Transit (Permittor) in accordance with the following "Insurance Requirements" and proof that the necessary insurance is in effect will be required before work can commence:

NYCT "OUTSIDE CONTRACT" INSURANCE REQUIREMENTS

(1) The Permittee at its sole cost and expense shall carry or cause to carried and shall maintain at all times during the period of performance under this Agreement policies of insurance as herein set forth below:

(A) Workers' Compensation Insurance - (including Employer's Liability Insurance) with limits as specified in Schedule "A", which limit may be met by a combination of primary and excess insurance meeting the statutory limits of New York State. The policy shall be endorsed to include Longshoreman's and Harbor Workers' Compensation Act/Maritime Coverage Endorsement and/or Jones Act Endorsement when applicable.

(B) Commercial General Liability Insurance - (I.S.O. 2001 Form or equivalent) approved by Permittor in the Permittee's name with limits of liability as specified in Schedule "A" for each occurrence on a combined single limit basis for injuries to persons (including death) and damages to property. The limits may be provided in the form of a primary policy or combination of primary and umbrella/excess policy. When the minimum contract amounts can only be met when applying the umbrella/excess policy; the Umbrella/Excess Policy must follow form of the underlying policy and be extended to "drop down" to become primary in the event primary limits are reduced or aggregate limits are exhausted. Such insurance shall be primary and non-contributory to any other valid and collectable insurance and must be exhausted before implicating any Permittor/MTA policy available.

Such policy should be written on an occurrence form; and shall include:

- Contractual coverage for liability assumed by the Permittee under this agreement;
- Personal and Advertising Injury Coverage;
- Products-Completed. Operations;
- Independent Contractors Coverage;
- "XCU" coverage (Explosion, Collapse, and Underground Hazards) where necessary;
- Contractual Liability Exclusion, applicable to construction or demolition operations to be performed within 50-feet of railroad tracks, must be voided, where necessary; and,
- Additional Insured Endorsement (I.S.O. Form CG 20 26 07/04 version or equivalent) approved the Permittor naming:

  New York City Transit Authority (NYCTA), the Manhattan and Bronx Surface Transit Operating Authority (MaBSTOA), the Staten Island Rapid Transit Operating Authority (SIRTOA), MTA Capital Construction Co., the Metropolitan Transportation Authority (MTA) including its subsidiaries and affiliates, and the City of New York (as Owner).

(C) Business Automobile Liability Insurance Policy - (I.S.O. Form CA 00 01 10 01 or equivalent) approved by the Permittor is required if Permittee's vehicle enters Permittor property. The insurance must be in the name of the Permittee or its contractor entering the Permittor property with limits of liability in the amount specified in Schedule "A" for claims for bodily injuries (including death) to persons and for damage to property arising out of the ownership, maintenance or use of any owned, hired or non-owned motor vehicle.

(D) Railroad Protective Liability Insurance policy shall be required as specified in Schedule "A".

(E) Environmental/Pollution Exposures:

In the event environmental or pollution exposures exist, the Permittee shall require the environmental contractor or sub-contractor to provide the applicable insurance covering such exposure. The limits and type of insurance provided shall be satisfactory to the Permittor and will be confirmed to the parties prior to the start of the work.

(2) General Requirements Applicable To Insurance Policies:

(a) All of the insurance required by this Article shall be with Companies licensed or authorized to do business in the State of New York with an A.M. Best Company rating of not less than A-/VII or better and reasonably approved by the Permittor/MTA and shall deliver evidence of such policies.

(b) Except for Workers Compensation, all references to forms and coverages referred to above shall be the most recent used by the Insurance Services Office, Inc. (ISO") or equivalent forms approved by the Insurance Department of the State of New York, provided, however, that excess coverages may be written on forms reasonably acceptable to Permittor containing provisions other than those contained in ISO forms but otherwise conforming in substance to the requirements of this Article.

(c) The Permittee or its Contractor performing the work shall furnish evidence of all policies before any work is started to the permittor:

For NYCT Contract Inspection
C/O Mr. John Malvasio
Director, MOW Engineering
130 Livingston Street, Room 8044F
Brooklyn, NY 11201
Telephone: (718) 694-1358

These policies must: (i) be written in accordance with the requirements of the paragraphs above, as applicable; (ii) be endorsed in form acceptable to include a provision that the policy will not be canceled, materially changed, or not renewed, unless otherwise indicated herein, at least thirty (30) days prior written notice to the Permittor c/o MTA Risk and Insurance Management (MTA RIM) Department - Standards, Enforcement & Claims Unit, 2 Broadway - 21st floor, New York, NY 10004; and (iii) state or be endorsed to provide that the coverage afforded under the contractor's policies shall apply on a primary and not on an excess or contributing basis with any policies which may be available to the Permittor/MTA, and also that the contractor's policies, primary and excess, must be exhausted before implicating any Permittor/MTA policy available. (iv) In addition, contractor's policies shall state or be endorsed to provide that, if a subcontractor's policy contains any provision that may adversely affect whether contractor's policies are primary and must be exhausted before implicating any Permittor/MTA policy available, contractor's and subcontractor's policies shall nevertheless be primary and must be exhausted before implicating any Permittor/MTA policy available. Except for Professional Liability, policies written on claims made basis are not acceptable. At least two (2) weeks prior to the expiration of the policies, contractor shall endeavor to provide evidence of renewal or replacement policies of insurance, with terms and limits no less favorable than the expiring policies. Except as otherwise indicated in the detailed coverage paragraphs below, self insured retentions and policy deductibles shall not exceed $100,000, unless such increased deductible or retention is approved by Permittor/MTA. The Permittee shall be responsible for all claim expense and loss payments within the deductible or self-insured retention. The insurance monetary limits required herein may be met through the combined use of the insured's primary and umbrella/excess policies.

(d) Certificates of Insurance may be supplied as evidence of policies of the above policies, except for Policy (D) Railroad Protective Liability Insurance Policy. However, if requested by the Permittor, the Permittee shall deliver to the Authority, within forty-five (45) days of the request, a copy of such policies, certified by the insurance carrier as being true and complete. The Railroad Protective Liability Insurance Policy must be provided in the form of the Original Policy. A detailed Insurance Binder may be provided, ACORD or Manuscript Form, pending issuance of the Original Policy. The Original Policy must be submitted to MTA RIM within thirty (30) days of the Binder Approval.

(e) If a Certificate of Insurance is submitted, it must: (1) be provided on the Permittor Certificate of Insurance Form or MTA Certificate of Insurance Form for Joint Agency Agreements; (2) be signed by an authorized representative of the insurance carrier or producer and notarized; {3) disclose any deductible, self-insured retention, sub-limit, aggregate limit or any exclusions to the policy that materially change the coverage; (4) indicate the Additional Insureds and Named Insureds as required herein, along with a physical copy of the Additional Insured Endorsement (I.S.O. Form CG 20 26 07/04 version or equivalent), as applicable and the endorsement(s) must include policy number(s); (5) reference the Contract by number on the face of the certificate; and (6) expressly reference the inclusion of all required endorsements.

(f) The minimum amounts of insurance required in the detail description of policies (A), (B), (C), and (D) above shall not be construed to limit the extent of the Permittee's liability under this Agreement.

(g) If, at any time during the period of this Agreement, insurance as required is not in effect, or proof thereof is not provided to the Permittor, the Permittor shall have the options to: (i) direct the Permittee to suspend work or operation with no additional cost or extension of time due on account thereof; or (ii) treat such failure as an Event of Default.

(4) **Refer** to **Subsection 10.30 - Contractor To Provide For Traffic**, Page I-15:
Add the following to **Subsection 10.30**:

(1) Traffic Stipulations:

The Contractor shall refer to the Traffic Stipulations (five (5) pages) that are attached to the end of this section, and as directed by the Engineer.

(6) **Refer** to **Subsection 71.41.4 - Specific Pavement Restoration Provisions**, Page VII-67:
Add the following to **Subsection 71.41.4**:

(E) Specific Pavement Restoration Provisions:

(1) In the following Streets Requiring Overlay:

1. In South Railroad Avenue from approximately twenty (20) feet West of West building line of Ainsworth Avenue to approximately twenty (20) feet East of East building line of Bartow Street;
2. In Bartow Street from South building line of South Railroad Avenue to North building line of Durant Avenue;
3. In Durant Avenue from approximately fifteen (15) feet West of the West building line of Bartow Street to the East building line of Taunton Street;

(a) The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of one and one-half (1-1/2) inches of binder mixture on a base course of a minimum of four and one-half (4-1/2) inches of binder mixture, or a top course of a minimum of three (3) inches of binder mixture

on a base course of a minimum of six (6) inches of high-early strength concrete, to match the existing pavement as directed by the Engineer.

(b) Finally an overlay of two (2) inches of asphaltic concrete wearing course shall be installed over the entire width of the roadway from **curb to curb** or **edge to edge** of existing roadway.

(2) In All other Streets Not Requiring Overlay:

(a) The permanent restoration over the **trench width and cutbacks only** shall consist of a top course of one and one-half (1½) inches of asphaltic concrete wearing course on a base course of a minimum of four and one-half (4½) inches of binder mixture, or a top course of one and one-half (1½) inches of asphaltic concrete wearing course on a minimum of one and one-half (1½) inches of binder mixture on a base course of a minimum of six (6) inches of concrete, to match the existing pavement as directed by the Engineer.

(3) 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:

Item No.	Item	Payment Description
4.02 AB-R	Asphaltic Concrete Wearing Course, 1-1/2" Thick	(For asphaltic concrete wearing course top course when no overlay is required.)
4.02 AF-R	Asphaltic Concrete Wearing Course, 2" Thick	(For 2" asphaltic concrete wearing course overlay from curb to curb or edge to edge.)
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 no 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. AMENDMENTS 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 with the exception of tees and reducers shall be fabricated from qualified spiral welded pipe. Can type pipe is not acceptable except for fabrication of tees and reducers.

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 ten (11) pages plus (9) pages of attachments.

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OCMC TRAFFIC STIPULATIONS

11/20/2017

OCMC FILE NO: REC-17-682
CONTRACT NO: SER200151
PROJECT: NEW STORM, SEWER AND SANITARY SEWER EXTENSION. SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY ROAD (UNDERPASS) & SOUTH RAILROAD AVENUE, ETC. IN STATEN ISLAND

LOCATION(S): AMBOY ROAD (UNDERPASS) & SOUTH RAILROAD AVENUE

PERMISSION IS HEREBY GRANTED TO THE **NYCDDC** AND ITS DULY AUTHORIZED AGENT, TO ENTER UPON AND RESTRICT THE FLOW OF TRAFFIC AT THE ABOVE LOCATION(S) FOR THE PURPOSE OF CARRYING OUT THE ABOVE NOTED PROJECT, SUBJECT TO THE STIPULATIONS, AS NOTED BELOW:

I. SPECIAL STIPULATIONS

A. **EMBARGOES** – A CONSTRUCTION EMBARGO WILL APPLY TO THOSE LOCATIONS BELOW WHICH FALL WITHIN THE **HOLIDAY EMBARGO** OR ANY OTHER SPECIAL EVENT EMBARGOES SUCH AS PUBLISHED BY THE BUREAU OF PERMIT MANAGEMENT AND CONSTRUCTION CONTROL.

B. **BIKE LANES** – IF WORK IS IN OR AFFECTING A BIKE LANE, THE PERMITTEE MUST POST ADVANCE WARNING SIGNS 350 FEET AND 200 FEET PRIOR TO THE WORK ZONE STATING **"CONSTRUCTION IN BIKE LANE AHEAD PROCEED WITH CAUTION"**, AND ALSO POST A SIGN AT THE WORK ZONE STATING **"CONSTRUCTION IN BIKE LANE PROCEED WITH CAUTION"**. SUCH SIGNS SHALL BE ORANGE, 3' X 3', DIAMOND-SHAPED WITH 4" BLACK LETTERING. SIGNS SHALL BE POSTED IN ACCORDANCE WITH THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

C. **BIKE SHARE STATIONS:** THE PERMITTEE SHALL NOT REMOVE, RELOCATE, DAMAGE OR DISRUPT THE OPERATION OF EXISTING BIKE SHARE STATIONS WITHOUT FIRST CONTACTING NYC BIKE SHARE AT 855-245-3311 FOR THEIR REQUIREMENTS PRIOR TO COMMENCING WORK.

D. **CITYBENCH:** THE PERMITTEE SHALL NOT REMOVE, RELOCATE, DAMAGE OR DISRUPT AN EXISTING CITYBENCH WITHOUT FIRST CONTACTING NYC DOT AT 212-839-6569, OR VIA EMAIL AT CITYBENCH@DOT.NYC.GOV PRIOR TO COMMENCING WORK.

E. **BUS STOPS** – THE PERMITTEE SHALL PROVIDE WRITTEN NOTICE TO NYC DOT OCMC AND NEW YORK CITY TRANSIT (NYCT) A MINIMUM OF FIVE (5) WEEKS IN ADVANCE FOR LANE/STREET CLOSURES THAT AFFECT BUS ROUTES/BUS STOPS.

F. **STREET LIGHTS / TRAFFIC SIGNALS:** THE PERMITTEE SHALL NOT REMOVE OR RELOCATE EXISTING STREET LIGHTS OR TRAFFIC SIGNALS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT STREET LIGHTING / TRAFFIC SIGNALS UNIT.

G. **TRAFFIC CAMERAS, DETECTION/COMMUNICATION EQUIPMENT:** IF AT ANY TIME DURING THE APPROVED WORK, THE PERMITTEE ENCOUNTERS TRAFFIC SURVEILLANCE CAMERAS, DETECTION EQUIPMENT OR ANY TYPE OF COMMUNICATION EQUIPMENT (WIRELESS OR HARD-WIRED) ON ANY NYC DOT FACILITY, THAT IS NOT INCLUDED ON THE DESIGN/BUILD DRAWINGS, THE PERMITTEE SHALL IMMEDIATELY NOTIFY NYC DOT TRAFFIC MANAGEMENT BY PHONE AT 718-433-3390 OR 718-433-3340 AND VIA EMAIL AT TMC@DOT.NYC.GOV AND AWAIT DIRECTION PRIOR TO CONTINUING WORK.

H. **METERS** – THE PERMITTEE SHALL NOT REMOVE OR RELOCATE PARKING METERS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT PARKING METER DIVISION AT 646 – 892 – 1219.

I. **TEST PITS** – THE BELOW TRAFFIC STIPULATIONS DO NOT APPLY TO TEST PIT WORK RELATED TO THIS CONTRACT. WORK HOURS AND OTHER REQUIREMENTS FOR TEST PIT OPERATIONS MAY DIFFER FROM THE STIPULATIONS IDENTIFIED BELOW. THE PERMITTEE SHALL BE REQUIRED TO OBTAIN SEPARATE PERMITS RELATED TO TEST PITS.

J. **TEMPORARY PARKING REGULATIONS/PAVEMENT MARKINGS** – THE PERMITTEE IS REQUIRED TO INSTALL, MAINTAIN AND REMOVE ALL NECESSARY TEMPORARY PARKING AND REGULATORY SIGNS AND PAVEMENT MARKINGS, AND RESTORE THEIR ORIGINAL CONDITION PER NYC DOT STANDARDS, PRIOR TO EXPIRATION OF THEIR PERMITS. THE PERMITTEE OR AGENCY PERFORMING PUBLIC OUTREACH SHALL POST AND MAINTAIN ADVISORY SIGNS A MINIMUM OF 48 HOURS PRIOR TO CHANGING EXISTING PARKING REGULATION SIGNS TO APPROVED TEMPORARY CONSTRUCTION PARKING REGULATION SIGNS. THE ADVISORY

SIGNS SHOULD BE POSTED ON ALL POLES AND DRIVE RAILS ON THE SEGMENT AFFECTED, INDICATING THE DATE OF THE CHANGE, THE NEW REGULATIONS AND A TELEPHONE NUMBER TO OBTAIN MORE INFORMATION.

I. SPECIAL STIPULATIONS (CONTINUED)

K. **ACCESS TO ABUTTING PROPERTIES** – THE PERMITTEE SHALL COORDINATE ALL ACTIVITIES WITH ABUTTING PROPERTY OWNERS TO ENSURE ACCESS IS PROVIDED TO/FROM ENTRANCES/DRIVEWAYS AT ALL TIMES.

L. **AUTHORIZED PARKING** – PRIOR TO PERFORMING WORK WHICH IMPACTS AUTHORIZED PARKING, THE PERMITTEE SHALL SUBMIT IN WRITING, AND COPY OCMC-STREETS, A REQUEST TO OCCUPY SPACE CURRENTLY USED BY AUTHORIZED VEHICLES. APPROVAL MUST BE RECEIVED FROM AUTHORIZED PARKING PRIOR TO OCCUPYING THESE AREAS.

M. **NOTIFICATION** – THE PERMITTEE MUST AT LEAST TWO (2) WORKING DAYS BEFORE THE START OF CONSTRUCTION NOTIFY THE NYC FIRE DEPARTMENT, NYC POLICE DEPARTMENT, NYCEMS, LOCAL COMMUNITY BOARD, BOROUGH PRESIDENT'S OFFICE-CHIEF ENGINEER, NYCDOT OCMC OFFICE, AND ALL ABUTTING PROPERTY OWNERS.

N. **CONSTRUCTION INFORMATIONAL SIGNS** – THIS PROJECT REQUIRES A CONSTRUCTION PROJECT INFORMATIONAL SIGN (CPIS) IN ACCORDANCE WITH NYCDOT HIGHWAY RULE SECTION 2-02(C)(3). CRITERIA AND A PROTOTYPE FOR THIS SIGN MAY BE FOUND ON THE NYCDOT WEBSITE AT:

HTTP://WWW.NYC.GOV/HTML/DOT/DOWNLOADS/PDF/DOT_CPIS_DIRECTIONS.PDF

O. **ENHANCED MITIGATIONS**

- ENHANCED MITIGATIONS FOR PEDESTRIAN FLOW, INCLUDING METAL FENCING, SHALL BE PROVIDED TO ENSURE PEDESTRIANS STAY WITHIN THEIR DESIGNATED PATH/ROUTE. PEDESTRIAN MANAGERS SHALL BE PROVIDED TO ASSIST WITH PEDESTRIANS AT THE DESIGNATED CROSSWALK AREAS.
- "NO STANDING ANYTIME-TEMPORARY CONSTRUCTION" SIGNS AND TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED AND MAINTAINED AS WARRANTED BY THE MAINTENANCE AND PROTECTION OF TRAFFIC (MPT) REQUIRED TO FACILITATE TRAFFIC MOVEMENTS THROUGH THE WORK ZONE. ALL TEMPORARY SIGNS AND PAVEMENT MARKINGS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
- COMMUNITY OUTREACH SHALL BE PROVIDED FOR THE DURATION OF THE PROJECT.

II. MAINTENANCE AND PROTECTION OF TRAFFIC

A. AMBOY ROAD BETWEEN CRANFORD STREET AND AINSWORTH STREET
B. AMBOY ROAD BETWEEN AINSWORTH STREET AND OLD AMBOY ROAD

1. Work hours shall be as follows: Monday- Friday (9:00 am- 4:00pm)
2. During the working hours the contractor shall maintain 2-11ft. lane for two-way traffic, one in each direction.
3. After the working hours, the contractor shall open the full width of the roadway to traffic.
4. The contractor shall maintain either 5ft sidewalk or 5ft protected walkway for pedestrians, the walkway must be ramped at each entry/exit, to & from the sidewalk for handicapped accessibility.

C. BARTOW STREET BETWEEN SOUTH RAILROAD AVENUE AND O GORMAN AVENUE
D. SOUTH RAILROAD AVENUE BETWEEN AMBOY ROAD AND BARTOW AVENUE
E. DURANT AVENUE BETWEEN TAUNTON STREET AND BAY TERRACE
F. TAUNTON STREET BETWEEN O GORMAN AVENUE AND DURANT AVENUE

1. Work hours shall be as follows: Monday- Friday (9:00 am- 4:00pm) School days & Monday – Friday (7:00am – 6:00 pm) during school recess.
2. During working hours, the contractor shall maintain one-12ft lane for two-way for local and emergency traffic.

3. Flagmen must be provided to assist traffic and pedestrians during working hours.
4. After working hours, the contractor shall restore all travelling lanes.
5. The contractor shall maintain either 5ft sidewalk or 5ft protected walkway for pedestrians, the walkway must be ramped at each entry/exit, to & from the sidewalk for handicapped accessibility.

G. BARTOW STREET BETWEEN O GORMAN AVENUE AND DURANT AVENUE

H. DURANT AVENUE BETWEEN REDGRAVE AVENUE AND TAUNTON STREET

I. REDGRAVE BETWEEN O GORMAN AVENUE AND DURANT AVENUE

1. Work hours shall be as follows: Monday- Friday (9:00 am- 2:00pm) School days & Monday – Friday (7:00am-6:00pm) during school recess.
2. During working hours, the contractor shall maintain one-12ft lane for two-way for local and emergency traffic.
3. Flagmen must be provided to assist traffic and pedestrians during working hours.
4. After working hours, the contractor shall restore all travelling lanes.
5. The contractor shall maintain either 5ft sidewalk or 5ft protected walkway for pedestrians, the walkway must be ramped at each entry/exit, to & from the sidewalk for handicapped accessibility.
6. Must coordinate with school prior to mobilizing.

J. DURANT AVENUE BETWEEN BARTOW STREET AND REDGRAVE AVENUE

K. REDGRAVE AVENUE BETWEEN DURANT AVENUE AND MAYBURY COURT

1. Work hours shall be as follows: Monday- Friday (7:00am-6:00pm) during school recess.
2. During working hours, the contractor shall maintain one-12ft lane for two-way for local and emergency traffic.
3. Flagmen must be provided to assist traffic and pedestrians during working hours.
4. After working hours, the contractor shall restore all travelling lanes.
5. The contractor shall maintain either 5ft sidewalk or 5ft protected walkway for pedestrians, the walkway must be ramped at each entry/exit, to & from the sidewalk for handicapped accessibility.
6. Must coordinate with school prior to mobilizing.

L. INTERSECTION OF AMBOY ROAD AND AINSWORTH STREET

M. INTERSECTION OF AMBOY ROAD AND SOUTH RAILROAD AVENUE

1. Work hours shall be as follows: Monday- Friday (9:00 am- 4:00pm)
2. During working hours, the contractor shall maintain 2-11ft. travelling lanes on Amboy Road, one in each direction and one-11ft. lane on cross streets.
3. Flagmen must be provided to assist traffic during working hours.
4. The contractor may occupy /close one crosswalk at a time.
5. After working hours, the contractor shall restore all width of both roadways for traffic.

N. INTERSECTION OF SOUTH RAILROAD AVENUE AND BARTOW STREET

O. INTERSECTION OF BARTOW STREET AND O GORMAN AVENUE

P. INTERSECTION OF DURANT AVENUE AND TAUNTON STREET

1. Work hours shall be as follows: Monday- Friday (9:00 am- 4:00pm)
2. During working hours, the contractor shall maintain one 12 foot lane for local and emergency traffic on both roadways
3. The contractor may occupy/close one crosswalk at a time.
4. Flagmen must be provided to assist traffic during working hours.
5. After working hours, the contractor shall restore all width of both roadways for traffic.

Q. INTERSECTION OF BARTOW STREET AND DURANT AVENUE

R. INTERSECTION OF DURANT AVENUE AND TAUNTON STREET

1. Work hours shall be as follows: Monday- Friday (9:00 am- 2:00pm) School days & Monday – Friday (7:00am-6:00pm) during school recess.
2. During working hours, the contractor shall maintain one-12ft. lane for local and emergency traffic on both roadways.
3. The contractor may occupy/close one crosswalk at a time.
4. Flagmen must be provided to assist traffic during working hours.
5. After working hours, the contractor shall restore all width of both roadways for traffic.

S. INTERSECTION OF DURANT AVENUE AND REDGRAVE AVENUE

1. Work hours shall be as follows: Monday- Friday (7:00am-6:00pm) during school recess.
2. During working hours, the contractor shall maintain one-12ft. lane for local and emergency traffic on both roadways.
3. The contractor may occupy/close one crosswalk at a time.
4. Flagmen must be provided to assist traffic during working hours.
5. After working hours, the contractor shall restore all width of both roadways for traffic.

T. SOUTH RAILROAD AVENUE BETWEEN AMBOY ROAD AND BARTOW AVENUE (For SEWER WORK ONLY)

1. Work hours shall be as follows: Monday- Friday (7:00 am- 6:00pm)
2. A full roadway closure shall be applied and the contractor can work 24/7. Noisy operations are not permitted between 10pm and 7am. The traffic shall be detoured as follows:
3. For eastbound/westbound traffic, shall be detoured to Bartow Street, O'Gorman Avenue Ainsworth Avenue.
4. The contractor shall present the plan with detour signage to OCMC streets two months prior to mobilizing for work.
5. The contractor shall maintain either 5ft sidewalk or 5ft protected walkway for pedestrians, the walkway must be ramped at each entry/exit, to & from the sidewalk for handicapped accessibility.

III. GENERAL NOTES

A. **THIS IS NOT A PERMIT**. THIS STIPULATION SHEET MUST BE SUBMITTED WITH ALL REQUESTS FOR PERMITS PERTAINING TO THE ABOVE CONTRACT AND PRESENT AT THE WORK SITE ALONG WITH ALL ACTIVE CONSTRUCTION PERMITS WHEN THE APPROVED WORK IS BEING PERFORMED.

B. THE PERMITTEE MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.

C. THE PERMITTEE SHALL COMPLY WITH ALL REQUIREMENTS OF THE NYCDOT SPECIAL EVENTS UNIT AS IDENTIFIED BELOW:

1. STREET FAIRS / FESTIVALS

- ALL EXCAVATIONS MUST BE PLATED WITH SKID RESISTANT PLATES.
- PLATES MUST BE RECESSED AND FLUSH WITH PAVEMENT.
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

2. RUNNING / WALKING / BIKING EVENTS

- ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

3. PARADES

- ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
- FORMATION AND DISPERSAL AREA PLATES MUST BE RECESSED AND FLUSH WITH PAVEMENT (PLATES MUST BE SKID RESISTANT).
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.

- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

4. MAYORAL EVENTS

- ALL EXCAVATIONS MUST BE BACKFILLED AND PAVED OR PLATES MUST BE RECESSED AND PAVED OVER FLUSH WITH PAVEMENT.
- ALL PAVEMENT DEFECTS MUST BE CORRECTED WITHIN OR ADJACENT TO THE WORK ZONE.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEFECTS WITHIN THE IMMEDIATE VICINITY IF NYCDOT STREET & ARTERIAL MAINTENANCE CANNOT MAKE REPAIRS DUE TO PROJECT INTERFERENCE (AS DETERMINED BY NYCDOT).
- ALL EQUIPMENT, TRAILERS AND MATERIAL STORAGE MUST BE REMOVED.

D. ALL RELOCATION WORK BY THE UTILITIES SUCH AS; CON EDISON, TELEPHONE, GAS AND CABLE COMPANIES SHALL PRECEDE THE CONTRACTORS' START OF WORK ON ALL AFFECTED ROADWAYS IN THE IMPACTED CONTRACT AREA.

E. THE PERMITTEE IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE PERMITTEE MAY REQUIRE MODIFICATIONS BY THE OCMC-STREETS.

F. THE PERMITTEE IS NOT AUTHORIZED TO ENTER, OCCUPY OR USE ANY PUBLICLY-OWNED OR PRIVATELY OWNED, NON-PAVED, LANDSCAPE OR NON-LANDSCAPED LOCATION WITHOUT SPECIFIC WRITTEN PERMISSION. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A LIMITED-ACCESS ARTERIAL HIGHWAY, **WRITTEN** APPROVAL FROM THE NYCDOT OCMC-HIGHWAYS IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR PUBLIC PARK, **WRITTEN** APPROVAL FROM THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION OR NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF ANY OTHER JURISDICTION SUCH AS PRIVATE PROPERTY, STATE, FEDERAL ETC., IT IS THE PERMITTEE'S RESPONSIBILITY TO DETERMINE THE PROPERTY OWNER AND OBTAIN THE WRITTEN APPROVAL.

G. THE PERMITTEE SHALL ADHERE TO THE NYCDOT BUREAU OF BRIDGES' SPECIAL PROVISIONS FOR LANDSCAPE PROTECTION, MAINTENANCE AND RESTORATION, ITEMS 1.18.15 THROUGH 1.18.19, WHENEVER AND WHEREVER ANY OF THE PERMITTEE'S ACTIVITIES OCCUR WITHIN A LIMITED ACCESS ARTERIAL HIGHWAY RIGHT - OF - WAY.

H. NO DEVIATION OR DEPARTURE FROM THESE STIPULATIONS WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL FROM THE OCMC-STREETS. REQUEST FOR SUCH MODIFICATIONS SHALL BE SUBMITTED TO THE OFFICE OF THE OCMC-STREETS, NEW YORK CITY DEPARTMENT OF TRANSPORTATION, A MINIMUM OF TWENTY (20) DAYS IN ADVANCE FOR CONSIDERATION.

I. FOR ANY CONSTRUCTION ACTIVITY RESULTING IN THE FULL CLOSURE OF A ROADWAY FOR MORE THAN 180 CONSECUTIVE CALENDAR DAYS, THE PERMITTEE MUST PRODUCE AND SUBMIT A COMMUNITY REASSESSMENT, IMPACT AND AMELIORATION (CRIA) STATEMENT TO NYCDOT PLANNING AND OBTAIN THEIR APPROVAL BEFORE APPLYING FOR PERMITS, IN COMPLIANCE WITH THE PROVISIONS OF **LOCAL LAW 24 STREET CLOSURE LAW.**

III. GENERAL NOTES (CONTINUED)

J. FOR THIS PROJECT THE PERMITTEE SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY ADVANCE WARNING AND DETOUR SIGNS, TEMPORARY CONTROL DEVICES, BARRICADES, LIGHTS AND FLASHING ARROW BOARDS IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," THE TYPICAL SCHEMES INCLUDED IN THIS SPECIFICATION; AND AS ORDERED BY THE ENGINEER-IN-CHARGE AND THE OCMC-STREETS.

K. THE PERMITTEE SHALL BE RESPONSIBLE FOR IDENTIFYING HIS CONSTRUCTION SIGNAGE. THE IDENTIFICATION SHALL INCLUDE THE PERMITTEE'S NAME, SPONSORING AGENCY NAME AND THE CONTRACT NUMBER. THE IDENTIFICATION SHALL BE PLACED ON THE BACK OF THE SIGN. THE LETTERING SHALL BE THREE (3) INCHES HIGH.

L. THE OCMC-STREETS RESERVES THE RIGHT TO VOID OR MODIFY THESE STIPULATIONS SHOULD CONSTRUCTION FAIL TO COMMENCE WITHIN TWO (2) YEARS OF THE SIGNED DATE OF THESE STIPULATIONS.

DUANE BARRA
DIRECTOR
OCMC-STREETS

HEBA GUIRGUIS
PROJECT MANAGER
OCMC-STREETS

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STATEN ISLAND RAILWAY

General Notes

1. If the project involves construction or alteration of a subway facility on private property, the property owners will be required to enter into an agreement with the New York City Transit pertaining to all work affecting the transit facilities and clearly defining limits and responsibility for maintenance and liability.

2. At the close of any project involving construction or alteration to a transit facility, mylar and 35mm microfilm copies of all approved drawings must be forwarded to the New York City Transit for its records.

3. Staten Island Railway reserves the right to place inspectors, flagmen or other personnel in the subway structures during construction of the project linked by a telephone system, if deemed necessary, to observe the effects of the construction on the transit facilities. It is expected that such personnel will be necessary when the construction comes within twenty-five feet of the subway structure. However, Staten Island Railway further reserves the right to place such personnel whenever, in its opinion, the project conditions warrant such placement, regardless of distance. The cost of such personnel, telephone installation and any re-routes, diversions of service, work trains, etc., made necessary by the project, must be borne by the project.

4. At least seven (7) working days prior to the start of construction operations, notification must be given to Mr. S. Kolta, P.E., Director, Engineering and Capital Programs, Staten Island Railway, 60 Bay Street – 5th Floor, Staten Island, NY at (718) 876-8261 and to Mr. J. Malvasio, P.E., Manager, Maintenance of Way, New York City Transit, 370 Jay Street – Room 1125A, Brooklyn, NY at (718) 243-4210.

5. All rock excavation adjacent to the subway structure is to be channel drilled.

6. Blasting will be permitted only with light charges subject to the approval of the New York City Transit's Engineer and/or in accordance with the Fire Department's regulations.

7. If top of rock is found below subway structure, the subway structure must be underpinned in accordance with drawings to be submitted to the New York City Transit for approval.

8. If rock is soft or seamy, lateral supports must be provided below the subway structure in accordance with drawings to be submitted to the New York City Transit for approval.

9. Before placing concrete, the sub-grade of the foundations in the vicinity of the subway structure is to be inspected and approved by the New York City Transit's Engineer.

10. If any portion of the Staten Island Railway structure or finish is damaged, it shall be repaired or replaced with the same materials in place, subject to the approval of the New York City Transit's Engineer and at the expense of the project.

11. Excavation embankments are to be shored and braced in accordance with drawings submitted to the New York City Transit for approval.

12. When piles are to be driven adjacent to the subway structure, boring data, pile layouts and specifications are to be submitted to the New York City Transit for approval.

13. Closed-end piles will not be permitted within ten feet of the subway structures.

14. All piles are to be driven a minimum of ten feet below the intersection of the pile center line and the influence line of the subway structure.

15. Piles are to be preaugered to the influence line. The augered hole is to be cased down to the influence line, the casing cleaned out and the piles driven beyond the influence line within the casting.

16. All dewatering operations in the vicinity of the subway structures must be in accordance with drawings to be submitted to the New York City Transit for approval.

17. The New York City Transit, at its discretion, reserves the right to require the project to close or maintain and protect existing subway entrances, ventilators, etc., adjacent to the project during construction. Such construction may include underpinning, shoring, bracing and erection of suitable barricades and/or canopies and shields. Such protection shall be in accordance with drawings submitted to the New York City Transit for approval.

18. If shields are to be installed to protect Staten Island Railway facilities and/or the public, then plans showing the location, type and method of attachment to the Transit structure must be submitted to the New York City Transit for approval.

19. All lumber and plywood used for protection of subway facilities at street level must be fire retardant; below street level, use fireproof material.

20. Building materials and equipment are not to be stored on subway ventilators or gratings.

21. Subway emergency exits must be kept clear at all times.

22. In excavating over or near the subway roof, special care shall be exercised so that the thin concrete protection of the subway waterproofing is not damaged.

23. Welding to or drilling through existing steel structures will not be permitted.

24. The services of a licensed Land Surveyor are to be secured to check for settlement of the subway structure during construction of the project.

25. Standard Staten Island Railway Insurance Clauses must be incorporated in the project's contract documents (copy enclosed).

26. Cost of Staten Island Railway personnel (flagmen, etc.) required by the project are to be borne by the project or the responsible New York City/State Agency.

27. Bus routes affected by the project will or may require bus diversions. These arrangements should be made through Mr. Karl Stricker, General Superintendent, Special Operations, New York City Transit, 130 Livingston Street, Room 3078B, Brooklyn, NY 11201, telephone number (718) 694-3655.

28. Duct lines must be maintained and protected during construction.

29. If manhole covers are raised or lowered, protect cables in manhole by wood sheeting of 2" nominal thickness.

30. As required, raise or lower manhole covers during street paving and sidewalk replacement.

31. There shall be no machine excavation in the vicinity of power duct lines until such lines have been carefully exposed by hand excavation.

32. Prior to the start of construction operations affecting duct lines, five (5) days notice must be given to Mr. S. Kolta, P.E., Director, Engineering and Capital Programs, Staten Island Railway, 60 Bay Street – 5th Floor, Staten Island, NY 10301 at (718) 876-8261.

33. Tractors, cranes, excavators, etc., used in the vicinity of the elevated structure shall be isolated from the ground. Since the elevated structure is used as a negative return path, with a consequent potential between it and ground, any contact between the structure and grounded equipment could result in burning of the steel.

34. Stairway/Entrance Closings.

    a) Only one stairway may be closed at a time.

    b) A letter and sketch must accompany each request submitted to:

    Mr. Rajen Udeshi, P.E., Principal Engineer
    New York City Transit
    Capital Program Management – Outside Projects
    2 Broadway – 7th Floor
    New York, NY 10004

    c) Ample signage must be posted in advance to advise passengers of the closing and alternate access.

    d) Barricades must be erected at street level (fire retardant) and subway level (fireproof) to insure passenger safety.

    e) After New York City Transit approval is obtained, 24-hours prior notification must be given to the New York City Transit before the closing or re-opening of a stairway.

35. If new concrete construction is joined to existing, use dowels and keyways in accordance with New York City Transit Standards.

36. Before the start of any work, the Contractor shall make an examination, in the presence of the New York City Transit Engineer, of the interior and exterior of the New York City Transit subway or other structure adjacent to the proposed work. The person or persons authorized by the Contractor to make these examinations shall be approved by the Engineer. The Contractor shall take all photographs as may be necessary or ordered to indicate the existing condition of the New York City Transit structure. One copy of each photograph, eight inches by ten inches in size and the negative is to be submitted to Mr. J. Malvasio, P.E., Manager, Maintenance of Way, New York City Transit, 370 Jay Street, Room 1125A, Brooklyn, NY 11201 before the start of construction.

Enclosure

SIR
1/14/2002

EP7 (3.0) - PAGES

GAS COST SHARING (EP-7) STANDARD SPECIFICATIONS

JOINT BID MULTIPLIER CONTRACTS

NOTICE

THE PAGES CONTAINED IN THIS SECTION REPRESENT THE GAS COST SHARING WORK THAT SHALL APPLY TO AND BECOME A PART OF THE CONTRACT.

(NO TEXT ON THIS PAGE)

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III - TECHNICAL SECTION

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SECTION 6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences.
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IV - STANDARD SKETCHES; GAS COST SHARING WORK

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NO. 2 - Typical Methods Of Measurement For Gas Crossings
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V - PRELIMINARY GAS WORK TO BE PERFORMED BY FACILITY OPERATOR

VI - LISTING OF APPROXIMATE LOCATIONS OF EP-7 BID ITEMS QUANTITIES

I - NOTICE TO ALL BIDDERS; GAS COST SHARING WORK

All prospective bidders are hereby advised that, pursuant to the "Gas Facility Cost Allocation Act", ("the Act"), the City of New York has entered into an agreement ("the Agreement") with the gas companies (Con Edison or National Grid (formerly KeySpan Energy Delivery)) operating in their respective areas of the City to "share" the cost of facility relocation and/or support and protection of facilities disturbed by proposed water and/or sewer and related City work specified in this contract. Therefore, bid items, specifications and estimated quantities for the incremental costs of support and protection of certain gas facilities have been included in this contract. The low bid for this contract shall be determined by examining each bid for all work to be performed under this contract including any work of support and protection of gas facilities to be performed. The Contractor shall not seek additional compensation from gas companies except as specifically set forth in its contract.

II - GENERAL PROVISIONS; GAS COST SHARING WORK

1. General:

The Contractor shall perform City work with interferences from existing live and abandoned gas facilities. This shall be defined as utility work. Therefore, this contract includes bid items, specifications and estimated quantities designed to fully compensate him/her for the incremental costs of supporting, protecting, providing accommodations and, avoiding disturbing gas facilities located in the streets shown on the contract drawings. In the event that any other provisions of this contract related to gas facilities (or private utilities) conflict with these provisions, these provisions shall supersede and govern all work related to gas facilities owned by the companies operating in the project area. All utility work, as defined in these specifications, including changes and additions thereto shall be paid solely by the City except when specified otherwise in this contract. Contractor hereby agrees that the facility operator shall not be liable to pay him/her for any work performed including extra utility work. Contractor agrees that its bid prices include all compensation for loss of productivity and efficiency, idle time, delays (including any delays occasioned by negotiation of a contract change), change in operations, mobilization, demobilization, remobilization, added cost or expense, lost of profit, other damages or impact costs that may be suffered by or because of utility work, or the presence of gas facilities in the proximity of City work and that it will not seek additional compensation for these items. All disputes shall be resolved as specified in the contract.

Pursuant to the Act, Agreement, and the New York City Administrative Code, the gas company(ies) has been directed by the Commissioner and is required to perform all maintenance, repairs, replacement, shifting, alteration, relocation, and/or removal work that are not part of this contract. By having bid on this contract, the Contractor understands and agrees that the Commissioner has preasserted any right the City has to require, including the issuance of any directives or so called "order outs" under the New York City Administrative Code, any or all gas companies to maintain, repair, replace, protect, support, shift, alter, relocate, and/or remove all gas facilities that are about to be disturbed by the City contract work. The issuance of additional such directives during the performance of the contract work, where necessary in the sole judgment of the Commissioner, shall be initiated by such Commissioner as set forth in the relevant sections of the Act and Agreement. Contractor further agrees to insert such requirements as set forth herein above into any contracts with its approved subcontractors so that its subcontractors also understand and agree to such contract requirements.

2. Gas Interferences And Accommodations:

During the performance of sewer and water main work funded by the New York City Department of Environmental Protection (NYCDEP), as instructed by the Engineer, the use of any applicable contract bid item is allowed in order to resolve and accommodate all gas facilities interferences with such City work, including the removal of contaminated soil in associated trench excavation. This is in addition to the specified EP-7 bid items in the contract. Payment for such accommodation shall be funded by EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" (F.S. Fixed Sum). The value of such accommodation shall be computed by multiplying the appropriate unit prices bid to the quantity of work performed, as determined by the Engineer, and applying the total amount thus to be paid

to EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS". When EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" does not exist, such additional accommodation work shall be at no cost to the City but shall be a matter of adjustment between gas facility operator and Contractor. Private facilities, other than gas, that become in interference due to gas interferences accommodations shall also be accommodated, if so directed by the Resident Engineer, at no additional cost to the City and, provided that its owner agrees to be responsible for all additional costs to Contractor, otherwise, such facility shall be ordered by the City to be maintained, shifted, relocated or replaced by its owner at his/her expenses.

2a. Water Main Accommodations:

When water main construction is to be performed in this contract, Contractor shall be required, if warranted by field conditions, and at locations designated by the Resident or Borough Engineer, to change the vertical or horizontal alignment of water mains including but not limited to all additional labor, material, work method accommodations, furnishing, delivering and laying offset fittings and pipes, etc., necessary in order to complete water main installation and, avoid gas interferences in the project area, including street intersections. Typical work method accommodations shall include, but not be limited to, pier and plate, installation of filter fabric and select fill, etc. Such work shall be performed as directed by the Engineer and in accordance with contract specifications and latest edition of water mains standards and specifications.

2b.Sewer Accommodations:

When sewer construction is to be performed in this contract, Contractor shall be required, if warranted by field conditions, and at locations designated by the Resident or Borough Engineer, to change the horizontal alignment of sewer facilities (if possible) including but not limited to all additional labor, material, work method accommodations, furnishing, delivering and construction of additional manholes or modification of manholes/catch basins, extending chute connections, house connections, using alternate materials and methods, poured-in-place structures, etc., necessary in order to complete sewer installation and, avoid gas interferences in the project area, including street intersections. The term sewer facility shall include, but not be limited to, all sewer pipe and appurtenances, manholes, catch basins, catch basin chutes, etc. Such work shall be performed as directed by the Engineer and in accordance with contract specifications and latest edition of sewer standards and specifications.

3. Quantity Overruns, EP-7 Funded Bid Items:

No quantity overrun, in excess of one hundred twenty five (125) percent, shall be permitted for EP-7 funded bid items (gas) included in this contract, except when Resident Engineer determines that such overruns are caused by field modifications to planned City work, or approved construction methods, or contract scope changes. Overruns not paid by City shall be negotiated and paid to Contractor by gas facility operator who then shall be entitled to reimbursement by NYCDEP under established cost sharing procedures.

4. Changes And Extra Work:

This section is not applicable to work defined under "Emergency Reconstruction Contracts" or so-called "Where and When Contracts" since these projects, by definition, inherently encounter unanticipated gas facilities and cannot be pre-engineered. In all other cases, any contract changes proposed for City work shall also cover and include all associated changes to support and protection of gas facilities affected by such changes to City work. In all other cases where the Contractor finds that City work cannot be performed as planned and specified and/or, as approved because of a need to support, protect and/or alleviate interferences from gas facilities that were not listed and/or shown, or incorrectly shown in contract plans and specifications, he shall immediately notify the Resident Engineer and the facility operators' representative of his findings. Resident Engineer shall promptly examine such claims and determine whether or not such work is covered by contract bid items and /or specifications (contract bid items and specifications shall include city contract items as well as EP-7 items). The Resident Engineer shall also

examine the claim to determine if the application of EP-7 bid item "UTL-GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" is appropriate to resolve the claim. If upon examination, the Engineer determines that such field conditions were unanticipated (not shown and/or listed, or incorrectly shown in contract documents) and are not covered by bid items and contract specifications, he shall then direct the Contractor and the affected facility operator to negotiate the cost of supporting and protecting, and/or alleviating the impact on City work caused by such unanticipated gas facilities with each other with the understanding that the performance of City work shall continue during negotiations. If a cost agreement is reached, the Contractor and facility operator shall adjust such costs between themselves at no additional costs to the City contract. If the Contractor and affected facility operator do not reach an agreement concerning the price to be paid for the extra work within five (5) business days of the Engineer's directive to engage into such negotiations and, after considering: public safety and inconvenience, requirements of laws and regulations applicable to private utilities, integrity of all utility systems, including but not limited to sewer and water, gas, electric, telephone and, cable TV facilities, sound engineering practices, cost (long and short term) to all affected parties, and potential City work delays, then the Resident Engineer, depending on nature and severity of interferences with City work, shall either, direct the facility operator to relocate or replace its facilities at its own discretion and cost, reimbursable by NYCDEP under established gas cost sharing procedures or, direct the Contractor to perform the utility work on actual time, material and equipment costs basis pursuant to relevant contract requirements and amendments. Contract bid prices for any applicable items of work involved shall be applied, or converted to an allowance for time and material charges. Changes shall be for affected portions of utility work and, shall be processed with EP-7 funds.

5. Excavation:

All excavators shall notify the NYC/LI One Call Center at 1-800-272-4480 at least two (2) working days, not including the day of the call, but not more than ten (10) working days in advance of the start of any excavation work. The gas company(ies) will mark out its facilities within the project limits and provide Construction Inspector(s) during all excavation work in close proximity (within twelve (12) inches) to gas facilities. The Contractor shall exercise extreme caution when excavating in the vicinity of any gas facilities. Hand excavation shall be performed within twelve (12) inches of gas facilities. The Contractor prior to excavating underneath these facilities shall adequately support all gas facilities. Standard support details for gas facilities have been included in the specifications. Any damage to gas facilities shall be reported immediately to the gas company(ies). The Contractor shall be responsible for all cost associated with repairs made necessary by damages caused by his operations.

6. Backfilling And Street Restoration:

Backfilling operations and street restorations shall be in accordance with contract requirements.

7. Non-Responsive Bids:

(THIS SECTION IS NOT APPLICABLE FOR THIS CONTRACT)

~~Every gas (EP-7) bid item has a suggested "Not less than" value per unit indicated on contract bid sheet. Bids resulting in cost of less than suggested for EP-7 items are hereby prohibited and if submitted shall be considered NON-RESPONSIVE.~~

8. Minimum Clearances:

Clearance requirements for City work shall govern and supersede any clearance requirement of gas facility operator. Therefore, a minimum of twelve (12) inches clearance between private utilities and City water mains, sewers or related structures to be installed in this contract shall be maintained. When this clearance is not attainable, the Resident Engineer may allow a minimum of four (4) inches clearance. With less than twelve (12) inches clearance a neoprene/polyethylene shield (to be provided by facility operator) shall be installed as part of all work item specifications. However, if Resident Engineer determines that City work cannot be performed within allowable clearance and no reasonable City accommodation (no-cost change to City work) is possible, the City shall direct the facility operator to remove, relocate, shift,

or alter their facility(ies) pursuant to the New York City Administrative Code.

9. Work By Facility Operator:

The facility operator may find it necessary to perform the following types of work during performance of City work: accommodating a contractor's request for gas facilities modifications (in order to facilitate City contractor's proposed construction method) or, remedial and emergency work on gas facilities proper with their own resources and materials if an approved method of construction for City work causes unanticipated disturbances to gas facilities or, replacing defective gas facilities when they are exposed by the Contractor and their actual conditions are observable by the facility operator. Also included in the above category of defective gas facilities are: the presence of environmental contaminants attributable to the gas facility in or around gas facilities. If such work is deemed required by the facility operator or if facility operator is directed by the City to address such deficiencies at any time during the course of construction, the Contractor shall modify the construction schedule at no cost to the City and allow the facility operator five (5) business days to perform such work without interferences. Additional costs to the facility operator (in cases of accommodations) or, Contractor (in cases of defective gas facilities) due to such gas work, if any, shall be the responsibility of the parties involved and not of the City. Such costs shall be a matter of adjustment between the Contractor and the facility operator.

10. Materials Furnished By Facility Operator:

It shall be the Contractor's responsibility to inspect material to be installed by him immediately upon delivery and advise the facility operator through its authorized representative, of all damaged materials. The Contractor at no additional costs to the City or the facility operator shall replace any material that is damaged or lost after the Contractor's inspection.

11. Liability And Insurance:

Notwithstanding the provisions of this contract, the existing division of liabilities to third parties shall remain the same as between the City and the company. Therefore, it is specifically agreed by the City, company and Contractor (by bidding on this contract) that for the purpose of any liabilities to third parties, that the City contractor performing work directly and physically relating to gas company facilities in this project, shall be deemed an agent of the company and not an agent of the City, the New York City Municipal Water Finance Authority, or the New York City Water Board. Contractor shall include the company as an additional insured on all insurance policies maintained to comply with the City's insurance requirements.

12. Width And Depth Of Excavation:

Contractor shall not be authorized to deliberately change trench or excavation widths and/or depth specified without Engineer's approval. Enlargement of any side of excavation up to eighteen (18) inches beyond pay limits (or inside face of sheeting) requested by the Contractor for the installation of certain types of sheeting may be granted. However, such enlargements or those greater than allowable shall not be approved when, in the sole judgment of the City, field conditions allow the water mains and sewer work to be performed within the limits specified and, the sole purpose of such enlargement request is to impact adjacent utilities (public or private) whose support and protection are part of this contract. Any approval shall be given at no additional cost to the City contract, including EP-7 funding, and all costs associated with unauthorized enlargements shall be the sole responsibility of the Contractor.

13. Depth And Crossing Angles Of Gas Facilities:

Where gas facilities are shown (or specified as) crossing proposed alignment of sewers, water mains, catch basins and chute connections or any other proposed excavations at specific angles (as measured off plans or sketches or specified in contract), it shall be understood that actual field measurements may deviate (plus or minus) forty-five (45) degrees from those shown or specified. The cover, or depth from street surface to top of facilities, shall be as shown or specified in contract documents, no deviation is to be assumed. Where gas facilities are not shown on contract documents, but their support and protection are otherwise included in this contract then, all references to facilities crossing at "various angles and

depth" in the gas sections shall mean that such facilities are crossing sewer, water, catch basin and, catch basin chute, and other excavations at a ninety (90) degree angle to the proposed sheeting line or side of excavation (for unsheeted trenches) with an allowable deviation of forty-five (45) degrees in any direction, except for catch basin chute excavation where the allowable deviation shall be sixty (60) degrees. Where the cover is not noted or specified, the bottom face of such facilities shall be assumed to be crossing catch basin chutes at a depth of three (3) foot eight (8) inches or less from the street surface. Paragraph No. 2 above shall apply in cases of distribution water main construction. Appropriate bid items and specifications are provided for cases where angle and depth are greater than stated above. This section also applies to work defined in "Emergency Reconstruction Contracts" or so-called "Where and When Contracts". These contracts are not pre-engineered and consequently have no drawings, sketches or determined locations and so, gas facilities encountered will be crossing existing and proposed sewer, water, catch basin/catch basin chutes and all appurtenances at various angles and depths.

14. Maintenance Of Traffic For Gas Work:

All work pertaining to gas bid items and specifications shall be performed within the contract maintenance of traffic plan as specified in the contract document. The bid price for the Maintenance and Protection of Traffic shall cover all work pertaining to gas items. The City shall make compensation for additional maintenance and protection of traffic items in connection with gas item of work only when such additional work is deemed reasonable and necessary by the Resident Engineer and is approved by him prior to its performance.

15. Relocated Gas And Temporary Systems Installation:

In cases where the Contractor is allowed to select the location for temporary construction such as, installation of dewatering headers, wells, well points, etc., he shall not disturb any gas facilities shown on sketches provided in this section. The only exception shall be, if the affected gas company agrees to such relocation and provided that the cost of such relocation is a matter of adjustment between the company and Contractor, and at no cost to the City.

16. Role Of Company Inspector:

In any case in which the City elects to perform some or all support and protection work with its own employees, personnel or contractors, the facility operator shall provide onsite inspectors to approve and certify such support and protection work (exclusive of City accommodations) performed by the City's own employees, personnel, and contractors. Facility operator's inspectors are not authorized to direct City contractor during the performance of contract work. They shall act through the City Resident Engineer and provide him/her required approvals and certifications, prior to preparing partial payments of EP-7 items, in a format and frequency to be prescribed by the appropriate City Head of Construction.

17. Coordination With Gas Company:

The Contractor shall be required to notify the gas company(ies), in writing, at least two (2) weeks prior to the start of final paving in order to allow companies to complete any unfinished gas work located within the area to be paved. Every effort shall be made to maintain gas service with minimum inconvenience to the public.

III - TECHNICAL SECTION

SECTION 6.01 - Trench Crossings; Support And Protection Of Gas Facilities And Services.

1. Description:

Under this section, the Contractor shall provide all labor, materials, equipment, and incidentals required to support and/or protect the integrity of gas mains, services and appurtenances of any sizes, configurations, and operating pressures crossing trench excavations above subgrade for planned construction of sewers and water mains facilities. A gas service shall be defined as a gas pipe of three (3) inches in diameter or less branching from the main to a customer pick up point or property valve box. A gas main may be any size pipe that is part of a distribution or transmission network other than services described above. Crossings shall be defined as gas facilities spanning the width of excavation (one side to the other side). These crossings may be at various angles and depth as shown on "Gas Cost Sharing Work Standard Sketches Nos. 1 and 1A", and as specified in "General Provisions; Gas Cost Sharing Work Paragraph No. 13" and, at the locations shown or listed in contract documents. The gas company operating in the area, (facility operator), owns these facilities. The work shall be performed in accordance with contract specifications, plans, and at the directions of the Resident Engineer in consultation with the authorized representatives of the facility operator.

2. Method Of Construction:

A. Protection: In general, the gas facilities shall be protected as required by New York State Industrial Code 753. In particular, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the gas facilities (marked out by facility operators) and to ascertain the clearances and cover of the facilities with respect to the proposed excavation. Upon exposing the affected facilities sufficiently, at the discretion of the Resident Engineer, to ascertain the foregoing, Contractor shall be permitted to proceed with a combination of hand and machine excavation, as appropriate, outside a zone of protection whose limit shall be defined as a perimeter located twelve (12) inches from the outside face of each gas facility crossings (See "Gas Cost Sharing Work Standard Sketch No. 2"). If the facilities are in direct interference with City work, meaning that "Minimum Clearances" described in "General Provisions; Gas Cost Sharing Work Paragraph No. 8" cannot be maintained, and excavation has to be temporarily or permanently abandoned then this particular location shall become a test pit and dealt with as specified in Section 6.07, and "General Provisions; Gas Cost Sharing Work Paragraphs Nos. 2 and 8".

B. Support: Gas mains or services crossing excavations equal or less than four (4) feet wide are generally self supporting, unless field conditions as determined by the Resident Engineer require otherwise. The support requirements for gas mains and services crossing excavations greater than four (4) feet wide shall be as shown on the attached "Gas Cost Sharing Work Standard Sketch No. 1" and Contractor shall use sheeting methods that permit the maintenance of gas facilities in their existing locations and configurations. Alternate methods equivalent to those shown on the sketch or accommodations by the facility operator proposed by the Contractor in order to facilitate the execution of the specified work shall be allowable, provided that prior approval is obtained by the Contractor from the Engineer and the facility operator. The support and protection of gas facilities crossings shown on plans, drawings, listings or otherwise identified in this contract shall not be circumvented with the issuance of so called "order outs".

3. Method Of Measurement:

The Contractor shall be paid for supporting and/or protecting gas facilities crossing trench excavations under the appropriate bid items covered by this section. The Contractor shall be directly responsible to the facility operator for the total cost of using any alternate method requiring the use of resources owned by the facility operator. Regardless of the method used, the City shall pay the bid price for the appropriate support and/or protect item of work. The average rate charged by the facility operator for alternate support and protection work such as, disconnecting and reconnecting gas services is listed in attached "Schedule GCS-A".

4. Payment Restrictions:

These items shall not be paid for: gas services crossing unsheeted water main trench excavation; abandoned gas main/services identified by facility operator; gas mains/services crossing trench

excavations for fire hydrant branch connections pipes, catch basins and/or chutes (sewer drain pipe), house sewer and/or water services; gas facilities encroaching any face of excavation for sewer and/or water construction, all of which are covered under other contract sections. Also this item shall not be paid for new gas mains and services crossing water trenches when trenching for such new facilities has been performed by the Contractor in common with trench excavation for City work (overlapping trench limits). The cost of supporting and protecting such gas facilities crossings shall be deemed included in the cost of trench excavation for the new gas facilities. This payment restriction shall apply even if such common trench gas excavation is not part of the contract. The prices bid for items covered by this section represent full compensation to Contractor to completely perform the work described. No other bid items shall be combined with these items in order to pay for gas main and/or services crossing excavations specified herein.

5. Method Of Payment:

Each (Ea.) gas facility crossing trench excavation as described in these specifications shall be counted for payment.

6. Price To Cover:

The cost of timber/steel supports installed for gas facilities shall be included in the bid price. The bid price for each crossing shall also cover all additional supervision, labor, material (except those provided by the facility operator), equipment and insurance necessary to completely maintain the gas facilities without disruption of service to the customers and in accordance with contract plans, specifications and facility operator standards. The price shall also include: changes of method of operations; sheeting modifications where necessary to accommodate the gas facilities crossings; installation and removal of water pipe under gas facilities (so called "snaking"); extra care during excavation (including hand excavation under existing single and multiple gas facilities); extra backfilling and compaction around, over and under gas facilities; installation and removal of sheeting around gas facilities; associated maintenance and protection of traffic; barricades; and traffic plates that may be required to temporarily close and/or complete the work.

SECTION 6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences.

1. Description:

Under this item, the Contractor shall provide all labor, materials, equipment, insurance, and incidentals for the extra excavation associated with the installation of catch basin sewer drain pipes (chute) under gas facilities of various sizes crossing the trench excavation at various angles and depth at the locations shown in the contract documents and also, for the support and protection of these facilities during associated excavation and backfill operations. The gas company operating in the area, (facility operator), owns these facilities.

2. Method Of Measurement:

The bid price shall be per location (Each) where extra excavation is required when catch basin sewer drain pipes are installed at an upstream invert depth lower than four (4) feet (up to a maximum of six (6) feet) from the proposed pavement grade because the bottom faces of interfering gas mains and appurtenances are located at a depth greater than three (3) foot eight (8) inches from proposed pavement surface (See "Gas Cost Sharing Work Standard Sketch No. 4").

3. Method Of Construction:

Incremental cost responsibility for chute excavation is determined by the first private facility encountered starting from catch basin structure proper and that prevents the installation of the chute connection at an upstream cover less than or equal to three (3) feet or any other minimum cover required to avoid City

facilities (e.g. water, sewer, etc.) as directed by the Resident Engineer.

4. Payment Restrictions:

This item shall not apply and related bid item shall not be paid in cases where:

A. Upstream invert chute is more than six (6) feet deep because of gas facilities.

B. Chute cannot be installed above existing gas facilities because of interferences with other private facilities that are not otherwise covered under this contract, regardless of upstream invert depth.

The above cases shall be at no cost to the City, but shall be a matter of adjustment between the Contractor and the facility operator(s).

5. Price To Cover:

The bid price shall cover the additional cost of all additional supervision, labor, materials, equipment and insurance, to complete the installation of catch basins and associated sewer connections in accordance with the contract plans and specifications. The price shall include: excavation by hand around and under single and multiple gas facilities; locating, supporting and protecting gas facilities; backfilling and all other items necessary to perform all work incidental thereto including: installation and removal of drain pipe under gas facilities ("snaking"); widening of trenches to facilitate the above work; subsequent additional backfill and pavement restoration; modifying precast catch basin window to accommodate connection; changing sheeting method and configuration to accommodate gas facility crossings; maintenance and protection of traffic; barricades; and installation of traffic plates that may be required to temporarily close and/or complete the work. The price shall not include removal of ledge rock and/or excavation of boulders in open cut.

SECTION 6.02.1 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Upstream Inverts Greater Than Six (6) Feet.

1. Description:

Under this item, the Contractor shall provide all labor, materials, equipment, insurance and incidentals for the extra excavation of catch basin chutes where the upstream invert is greater than six (6) feet under gas facilities of various sizes crossing the trench excavation at various angles and depth at the locations shown in the contract documents or as determined by field conditions and also, for the support and protection of these facilities during the associated excavation, sheeting and backfilling operations.

2. Method Of Measurement:

The bid price shall be per location (Each) where extra excavation and sheeting is required when the catch basin chute installed at an upstream invert depth lower than six (6) feet from the proposed pavement grade because the bottom faces of the interfering gas mains and appurtenances are located at a greater depth than three foot eight inches from the proposed pavement surface only.

3. Method Of Construction:

Incremental cost responsibility for chute excavation is determined by the first private facility encountered during such excavation when initiated from catch basin structure and that prevents the installation of the chute at an upstream cover less than or equal to three (3) feet or any other cover required to avoid City facilities as directed by the Resident Engineer.

4. Payment Restriction:

This item shall not apply and related bid item shall not be paid in cases where:

Upstream invert chute is less than or equal to six (6) feet deep because of gas facilities. Section 6.02 shall be paid.

5. Price To Cover:

The bid price shall cover the additional cost of all supervision, labor, materials, equipment and insurance to complete the installation of catch basin and associated sewer connections in accordance with the contract plans and specifications. The price shall include: excavation by hand around and under single and multiple gas facilities; locating, supporting and protecting gas facilities incidental thereto; widening of trenches to facilitate the above work; subsequent additional backfilling and pavement restoration; modifying pre-cast basin window to accommodate connection; the installation of catch basin with deeper sumps as specified; additional sheeting and changes in sheeting method and configuration to accommodate gas facility crossings; maintenance and protection of traffic; barricades; and installation of traffic plates that may be required to temporarily close and/or complete the work.

SECTION 6.03 - Removal Of Abandoned Gas Facilities. All Sizes.

1. Description:

Under this section the Contractor shall provide all labor, materials, equipment, insurance and, incidentals required for the removal of abandoned gas mains, services, or appurtenances thereof, located within the street shown on the contract plans, owned by gas company operating in the project area (facility operator), used or to be used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural or manufactured or mixture of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distributing or furnishing of gas in enclosed containers. Such removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work.

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and, Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities to be removed by the Contractor. However, facility operator may prefer to make this test during performance of City work, in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any resulting from this choice shall be a matter of adjustment between the Contractor and facility operator only, and at no cost to the City.

3. Restrictions:

The facility operator shall be solely responsible for its contaminated gas facilities, surrounding contaminated soil and their disposal and abatement procedures, unless contract bid items are applicable and provided for such work. In such cases, the quantity removed shall be charged to EP-7 bid item "UTL- GCS-2WS - GAS INTERFERENCES AND ACCOMMODATIONS" at the City bid prices.

4. Method Of Measurement:

Abandoned gas pipeline removal shall be measured for payment per linear foot of pipe and appurtenances removed.

5. Price To Cover:

The price shall cover all additional cost of supervision, labor, materials, equipment, and insurance necessary to complete this work in accordance with the contract plans and specifications, including excavation by hand around and under other City and facility operator owned properties and, where necessary, support and protection of such properties. The price shall also cover breaking, cutting, and/or burning of abandoned gas pipes and their disposal from the site; sealing open ends remaining in the excavation with concrete or caps (caps to be provided by the facility operator) and backfilling of the area where the pipeline has been removed with clean backfill. The price shall also include any required dump charges. This item does not include any type of extra excavation, backfilling, compaction, pavement removal and restoration associated with abandoned gas facilities removal, all of which are covered under Section 6.06.

SECTION 6.03.1 - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For National Grid Work Only)

1. Description:

Under this section the Contractor shall provide all labor, materials, equipment, insurance and, incidentals required for the removal of abandoned gas mains, services or appurtenances thereof, located within the street shown on the contract plans, owned by the gas company operating in the project area (facility operator), used or to be used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural or manufactured or mixture of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distributing or furnishing of gas in enclosed containers. Such removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work. These gas facilities may be coated with Coal Tar Wrap and so, may require special handling and disposal methods as specified in National Grid Standard Operating Procedure 12-2, Coal Tar Wrap Handling and 12NYCRR56.

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on the facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and, the Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities to be removed by the Contractor. However, the facility operator may prefer to make this test during performance of City work, in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any, resulting from this choice shall be a matter of adjustment between the Contractor and the facility operator only, and at no cost to the City contract. Should such investigation result in the determination that the abandoned gas facilities do not contain Coal Tar Wrap then the removal of said facilities shall be covered under separate item (See Section 6.03).

3. Requirements:

The City Contractor shall excavate abandoned gas facility sufficiently, either in its entirety, or at locations determined by Contractor to allow the removal of Coal Tar Wrap (if present on the abandoned gas facility) and to facilitate the safe extraction of manageable lengths of abandoned pipe without damage to adjacent facilities, utilities or City structures either parallel to or crossing above or below abandoned gas facility. The Contractor is to allow access to the designated cutting points within the Contractor's trench by authorized National Grid personnel who will remove the Coal Tar Wrap as per National Grid procedures. This work by National Grid personnel shall be performed in a timely fashion and shall not unduly impede

the Contractor's progress and/or productivity. Upon completion of the coating removal, the Contractor shall be allowed to cut, burn or grind the gas facility and remove the section of abandoned pipe. The Contractor at a site designated by the Contractor shall stockpile the removed pipe. The facility operator will be responsible to provide trucking and disposal services with its own personnel and shall remove the stockpiled pipes during off hours or during such time as agreed to by the Contractor. Since the pipe removed will remain the property of the facility operator and is to be disposed of by the facility operator, the facility operator shall be responsible for any required notifications, filings, dump charges and incidentals associated with the disposal of abandoned gas facilities found to contain Coal Tar Wrap.

4. Method Of Measurement:

Abandoned gas pipeline removal shall be measured for payment per linear foot of pipe and appurtenances removed.

5. Price To Cover:

The price shall cover all additional cost of supervision, labor, materials, equipment and insurance necessary to complete this work in accordance with the contract plans and specifications, including excavation by hand around and under other City and facility operator owned properties and, where necessary, the support and protection of such properties. The cost shall also include hand excavation in the area(s) of proposed abandoned pipe cut(s), cutting and/or burning of abandoned gas pipes and stockpile of removed sections of abandoned pipe and associated maintenance and protection of traffic, blocking and temporary fencing if required. The unit price shall also cover sealing open ends remaining in the excavation with concrete or end caps (end caps to be provided by the facility operator) and backfilling of the area where the abandoned pipeline has been removed with clean backfill material. This item does not include any type of extra excavation, backfilling, compaction, pavement removal and/or restoration (temporary and permanent) associated with abandoned pipe removal ("lost trench"), all of which are covered under separate Section 6.06. The price shall also include allowance for any loss of productivity by the Contractor due to required facility operator work to remove pipe coating and prepare pipe for cutting as well as any change in Contractor's excavation method, additional trucking and/or stockpiling costs.

SECTION 6.03.1a - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For Con Edison Work Only)

1. Description:

Under this section the Contractor shall provide all labor, material, equipment, insurance and, incidentals required to prepare abandoned gas mains, services and appurtenances thereof located within the street shown on contract plans, owned by the gas company operating in the project area (facility operator), for removal due to interference with proposed City work. These abandoned gas facilities were, at one time, used for or in connection with or to facilitate the conveying, transportation, distribution or furnishing of gas (natural, manufactured or a combination of both) for light, heat, or power, but does not include property used solely for or in connection with business of selling, distribution or furnishing of gas in enclosed containers. Such preparation for removal shall include only abandoned gas facilities that interfere with (i.e. cause additional work) City work. These gas facilities may be coated with Coal Tar Wrap which may contain asbestos or PCB's and so, may require special handling and disposal methods as specified in Con Edison - ASBESTOS MANAGEMENT MANUAL, CHAPTER 6 - ASBESTOS WORK PROCEDURES, SECTION 06.04 - COAL TAR WRAP REMOVAL. For under 25' (feet) in length and an approved NYC-DEP variance for over 25' (feet).

2. Determination Of Operating Status Of Gas Facilities:

The Contractor shall notify facility operator, as required by New York State Industrial Code 753. Gas Facilities shall not be removed without the approval of the facility operator whose authorized representative shall certify in writing (specific facility or area wide facilities certification) and in a timely

manner acceptable to the Resident Engineer that abandoned facilities are free of combustible gas and any other environmental contaminants prior to removal. The Resident Engineer shall rely on the facility operator's certification. The facility operator may request the excavation of test pits (See Section 6.07) for this determination ahead of City work and Contractor shall provide safe access, facilitate and permit facility operator to enter test pit excavations for the purpose of testing gas facilities. However, the facility operator may prefer to make this test during performance of City work in order to issue the above certification. This shall be permitted provided that it is agreed that additional costs, if any, resulting from this choice shall be a matter of adjustment between the Contractor and the facility operator only, and at no cost the City contract. Should such investigation result in the determination that the abandoned gas facilities do not contain Coal Tar Warp then the removal of said facilities shall be covered under separate item (See Section 6.03).

3. Requirements:

The Contractor shall excavate abandoned gas facility sufficiently, either in it's entirety, or at locations determined by Contractor to allow the removal of Coal Tar Wrap (if present on the abandoned gas facility) and to facilitate the safe extraction of manageable lengths of abandoned pipe without damage to adjacent facilities, utilities or city structures either parallel to or crossing above or below abandoned gas facility. The Contractor is to allow access to the designated cutting points within the Contractors trench by authorized Con Edison personnel who will remove the Coal Tar Wrap as per Con Edison and/or NYC-DEP approved procedures. This access shall conform to all applicable codes, rules & regulations. This work by Con Edison personnel shall be performed in a timely fashion and shall not unduly impede the Contractors progress and/or productivity. Upon completion of the coating removal, the Contractor shall be allowed to cut, burn or grind the gas facility and remove the section of abandoned pipe. Contractor shall designate a specific site to stockpile those removed pipes. The facility operator will be responsible to provide trucking and disposal services with its own personnel and shall remove the stockpiled pipes during off hours or during such time as agreed to by the Contractor. Since the pipe removed will remain the property of the facility operator and is to be disposed of by the facility operator, the facility operator shall be responsible for any required notifications, filings, dump charges and incidentals associated with the disposal of abandoned gas facilities found to contain Coal Tar Wrap.

4. Method Of Measurement:

Abandoned gas facility removal shall be measured for payment per linear foot of pipe and appurtenances removed.

5. Price To Cover:

The price shall cover all additional cost of supervision, labor, materials, equipment and insurance necessary to complete this work in accordance with the plans and specifications, including, but not limited to, excavation by hand around and under other City and facility operator owned properties and, where necessary, the support and protection of such properties. The cost shall also include hand excavation in the area(s) of proposed abandoned pipe cut(s), cutting and/or burning of abandoned gas pipes and stockpile of removed sections of abandoned pipe and associated maintenance of traffic, blocking and temporary fencing if required. The unit price shall also cover sealing open ends remaining in the excavation with concrete or end caps (end caps to be supplied by facility operator) and backfilling of the area where the abandoned pipeline has been removed with clean backfill material. This item does not include any type of extra excavation, backfilling, compaction, pavement removal and/or restoration (temporary and permanent) associated with abandoned pipe removal ("lost trench"), all of which are covered under separate Section 6.06. The price shall also include allowance for any loss of productivity by the Contractor due to required facility operator work to remove pipe coating and prepare pipe for cutting as well as any change in Contractor excavation method, additional trucking and/or stockpiling costs.

SECTION 6.04 - Adjust Hardware To Grade Using Spacer Rings/Adaptors. (Street Repaving.)

1. Description:

Under this section, the Contractor shall provide all labor, supervision, materials, equipment, insurance and incidentals required to adjust to final grade gas street surface hardware located within the contract area boundaries shown on the plans. The gas company operating in the area, (facility operator), owns these facilities. The work shall be performed in accordance with the contract plans, specifications and at the directions of the Resident Engineer in concurrence with authorized representative of the facility operator.

2. Materials:

The facility operator shall furnish and deliver all prefabricated hardware parts required. These include adaptors for the grade adjustment proper and new street hardware if existing ones are found to be defective, all in accordance with the facility operator standards and City rules and regulations. The Contractor shall notify the facility operator of the installation schedule at least three (3) business days before materials are required on the site. Should the facility operator fail to deliver the necessary material according to any schedule mutually agreed upon by the Contractor and facility operator, the City shall not be responsible for any delays attributable thereto, nor for the failure of delivery of such materials. On project where material storage is not permitted on site, the facility operator shall deliver the required material to the Contractor's yard and it shall be the Contractor's responsibility to transport the material to the work site when needed for installation. It shall also be the Contractor's responsibility to inspect the materials to be installed by him immediately upon delivery and advise the facility operator through its authorized representative, of all damaged materials. The Contractor at no additional expense to the City or the facility operator shall replace any material that is damaged or lost after the Contractor's inspection.

3. Method Of Measurement:

The Contractor shall be paid for each six (6) inch round box and/or nine (9) inch square box adjusted to grade regardless of adjustment height requirements.

4. Price To Cover:

The unit price bid for this item shall include all additional labor, supervision, insurance, equipment and, material (except those to be provided by the facility operator), required to adjust each box to grade as required in the contract plans and specifications. The bid price shall also include the removal of existing frames and covers from existing facilities to be salvaged and returned to the facility operator and, all material transportation from the Contractor's material storage yard to the work site. In addition the bid price shall include "chipping" around existing box using appropriate means and methods where grinding is required.

SECTION 6.05 - Adjust Hardware To Grade By Resetting. (Road Reconstruction.)

1. Description:

Under this item, the Contractor shall provide all labor, supervision, materials, equipment, insurance and incidentals required to adjust to the proposed grade gas street surface hardware located within the contract area boundaries shown on the plans. The gas company operating in the area, (facility operator), owns these facilities. The work shall consist of either building up or lowering or resetting the casting by removing the existing frame and cover building up or decreasing the existing installation, replacing the frame and/or cover if damaged or worn out, as determined by the Resident Engineer, with a new frame and/or cover furnished by the owner, and setting the frame and cover to new elevation. The work shall be performed in accordance with the contract plans, specifications and at the directions of the Resident Engineer.

2. Materials:

The facility operator shall furnish and deliver all new hardware parts required. The Contractor shall furnish

materials such as mortar, bricks and concrete in compliance with contract requirements. At locations where high-early strength concrete is required under this contract to be placed adjacent to gas facilities, then the requirement for concrete shall be high-early strength complying with the current New York State Department of Transportation, Standard Specifications for Class F concrete. Existing castings may be replaced as required and deemed necessary by the Engineer and by City rules and regulations. The Contractor shall install the new castings of various sizes furnished by the facility operator. The Contractor shall notify the facility operator of the installation schedule at least three (3) business days before materials are required on the site and, shall provide off-loading services to the facility operator. Should the facility operator fail to deliver the necessary material according to any schedule mutually agreed upon by the Contractor and facility operator, the City shall not be responsible for any delays attributable thereto, nor for the failure of delivery of such materials. Such delays shall be a matter of adjustment between the Contractor and the facility operator. On project where material storage is not permitted on site, the facility operator shall deliver the required material to the Contractor's yard and it shall be the Contractor's responsibility to transport the material to the work site when needed for installation. It shall also be the Contractor's responsibility to inspect the materials to be installed by him, immediately upon delivery and advise the facility operator through its authorized representative, of all damaged materials. The Contractor at no additional expense to the City or the facility operator shall replace any material that is damaged or lost after the Contractor's inspection.

3. Methods Of Construction:

The Contractor shall remove and reinstall existing castings or install new castings to the proposed grade. Setting and resetting the castings shall be done with mortar and brick according to the standards of the facility operator. Work shall be performed in a workmanlike manner. Castings that are deemed unacceptable for resetting shall remain the property of the facility operator and he shall be responsible for their removal and proper disposal from site. No traffic shall be allowed on adjusted street hardware until permitted by the Engineer.

4. Method Of Measurement:

The Contractor shall be paid for each gas hardware adjusted to grade regardless of size or adjustment height requirements (up or down).

5. Price To Cover:

The unit price bid for this item shall include all additional labor, supervision, insurance, equipment and, material (except those to be provided by the facility operator), required to adjust each gas hardware to grade as required in the contract plans and specifications. The bid price shall also include the removal of existing frames and covers from existing facilities; building up the existing installations with bricks and mortar, or lowering the existing installation by removing bricks and mortar; replacing damaged frames and/or covers with new frames and/or covers furnished by the facility operator; setting the frames and covers to the new elevations; protect existing installations; repair minor structural damages to existing installations prior to resetting frames; unloading of furnished castings at the Contractor's yard and transporting castings from the Contractor's yard to the job site as required; completing the work in accordance with the contract plans, specifications and, at the directions of the Engineer. In addition the bid price shall include "chipping" around existing gas facilities using appropriate means and methods where grinding is required.

SECTION 6.06 - Special Care Excavation And Backfilling.

1. Description:

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to support and protect the integrity of live gas facilities including mains, services, related structures and appurtenances during excavations. The gas company operating in the area, (facility operator), owns these facilities. The work shall be performed in accordance with the contract plans, specifications and

at the directions of the Resident Engineer in consultation with authorized representatives of the facility operator.

2. Applicability Of Section:

This section shall apply to live gas facilities of various sizes located within two (2) feet of any face of unsheeted excavation, (unsheeted excavation refers to any excavation performed for city work and includes excavations performed that are to be subsequently sheeted using approved methods) and paralleling or, encroaching any face of excavation. Also, for crossings greater than forty-five (45) degrees and/or located at a cover depth greater than five (5) feet from existing street surface. Parallel facilities are not exposed at any time during excavation (See "Gas Cost Sharing Work Standard Sketch No. 5"). Encroaching facilities are partially exposed inside the limit of excavation (See "Gas Cost Sharing Work Standard Sketch No. 5"). This section shall also apply to gas facilities crossing catch basins excavation, and catch basins sewer connections (chutes) trench excavation only when extra depth (covered in other section), is not required for chutes installations because of such utilities interferences (See "Gas Cost Sharing Work Standard Sketch No. 3"). This section shall also apply to gas services (if shown or otherwise listed in contract documents) crossing unsheeted excavations for water mains, gas facilities crossing fire hydrant branch connections, house sewer and/or water service connections excavations. This section shall also apply for so called "loss trench", as described further, and for additional excavation (pavement and/or soil), backfilling, compaction, roadway base and pavement restoration due to abandoned gas facilities, only if removed by Contractor. If operating status of gas facilities cannot be determined prior to excavation then such facilities shall be considered live and this section shall fully apply. The excavation around fully exposed live gas facilities along and within limits of excavation (not crossings) shall be covered by this section also (not shown on "Gas Cost Sharing Work Standard Sketch No. 5"), however the support requirement, if any is required, of such facilities is beyond the scope of these specifications and therefore shall be the responsibility of facility operator to determine and prescribe, at no cost to the City contract, but shall be a matter of adjustment between the Contractor and facility operator.

3. Payment Restriction:

No special care excavation shall be paid for abandoned gas facilities paralleling and/or encroaching excavation and therefore are not in direct interference with City work. Except as allowed in this section, the bid item specified under this section shall not be used in combination with items covered under other sections for work done due to a particular gas facility. This item shall not be paid for new gas facilities when trenching for such new facilities has been performed by the Contractor of record in common with trench excavation for City Work (overlapping trench limits). The cost of excavating with care as defined in this section shall be deemed included in the cost of trench excavation for the new gas facilities. This restriction shall apply even if such gas common trench excavation is not part of the contract. If facilities are in direct interference with City work, meaning that "Minimum Clearances" described in "General Provisions; Gas Cost Sharing Work Paragraph No. 8" cannot be maintained and excavation has to be temporarily or permanently abandoned then this particular location shall become a test pit and dealt with as specified in Section 6.07 and "General Provisions; Gas Cost Sharing Work Paragraphs Nos. 2 and 8".

4. Method Of Construction:

All excavation in the vicinity of gas facilities shall be as required by NYS Industrial Code 753. Where these facilities are paralleling and located two (2) feet or less from the limits of the proposed excavation, the Contractor shall use hand excavation methods (pick and shovel or hand held power tools) to ascertain the clearances of these facilities with respect to the proposed excavation. Once the location of these facilities with respect to the proposed excavation is verified to the satisfaction of the Resident Engineer, the Contractor shall then proceed with a combination of hand and machine excavation as required preserving the integrity of the facilities. The installation of timber supports or underpinning, when soil foundation cannot fully support partially exposed pipes, may be required to prevent pipe movement as directed by the Resident Engineer.

5. Method Of Payment:

The unit price for this work item shall be based on cubic yard (CY) of average excavation with care and, is to be considered as an incremental cost for performing City work with gas facilities interferences.

6. Method Of Measurement:

A. For Paralleling Facilities: Volume calculated as: Depth as measured from existing street surface to the bottom of unsheeted trench excavation allowable by OSHA regulations, multiplied by, the width measured as one (1) foot from the face of excavation toward the center of excavation, multiplied by the length of parallel facility, divided by twenty-seven (27) cubic feet per cubic yard (See "Gas Cost Sharing Work Standard Sketch No. 5"). The gas facility is no longer considered to be in interference once sheeting has been installed, therefore no further compensation for paralleling facilities as described above will be made.

B. For Encroaching Facilities: Volume calculated as: Depth of trench as allowable by OSHA, maximum up to five (5) feet multiplied by, the width of partially exposed pipe plus one (1) foot, multiplied by the length of facility encroachment, divided by twenty-seven (27) cubic feet per cubic yard (See "Gas Cost Sharing Work Standard Sketch No. 5").

C. Fully Exposed Gas Facilities: (Not shown on "Gas Cost Sharing Work Standard Sketch No. 5") along and inside trench and/or crossing trench at an angle greater than forty-five (45) degrees and/or a cover depth greater than five (5) feet from the existing street surface. The volume shall be measured as the depth of trench excavation multiplied by the distance measured along the sheeting line between two (2) points of intersections of the gas facilities and the sides of trench excavation, multiplied by the width of trench excavation.

D. For Additional Excavation And Restoration Due To So Called "Loss Trench", When The Integrity Of Pavement And Soil Above And Around Existing Live Gas Facilities Cannot Be Maintained Due To Its Lack Of Cohesiveness: Volume shall be calculated as: Depth of unsheeted trench excavation multiplied by width measured as distance of facility from closest edge of unsheeted excavation plus, width of facility proper plus, one (1) foot or a maximum width of three (3) feet multiplied by length of facility fully exposed divided by, twenty-seven (27) cubic feet per cubic yard (not shown on "Gas Cost Sharing Work Standard Sketch No. 5").

E. For Facilities Crossing Excavation For Catch Basins, Or Chutes Installations (When NYCDEP Funded) Or Fire Hydrant Branch Connections, Or Unsheeted Water Main Trench, Or House Sewer And/Or Water Services: Volume calculated as: Depth as measured from existing street surface to the bottom of the trench excavation multiplied by, the width taken as the outside diameter of pipe or the width of structure plus one (1) foot on either side (two (2) feet), multiplied by, the length of exposed facility crossing the trench, divided by twenty-seven (27) cubic feet per cubic yard (not shown on "Gas Cost Sharing Work Standard Sketch No. 5").

Overlapping volume dimensions measured as described above may occur when multiple facilities are paralleling excavations, encroaching excavations or crossing catch basins and catch basin chute installations. In such cases, all such facilities shall be counted as one limited by the extreme pipes, faces (See "Gas Cost Sharing Work Standard Sketch No. 2"). The volume shall then be calculated as described above.

7. Price To Cover:

The bid price shall also cover all additional supervision, labor, material, equipment and insurance necessary to excavate while protecting and maintaining (excluding supports for fully exposed live gas) gas facilities without disruption of service to the public and in accordance with contract specifications. The price shall also include, changes of sheeting method and excavation width configuration where necessary to accommodate gas facilities in their existing locations; difficulties during the installation of catch basins, chute connections, hydrant branch, and house sewer and water connections under or over gas facilities; loss of productivity due to slower rate of excavation (special care) during excavation, including the use of such methods as: hand excavation around existing single and multiple facilities, extra excavation and

backfilling due to lost trench because of existing and adjacent gas facilities, compaction, removal of sheeting from the facilities, extra roadway base restoration and temporary pavement, associated maintenance and protection of traffic, barricades, and traffic plates that may be required to temporarily close and/or complete the work.

SECTION 6.07 - Test Pits For Gas Facilities.

1. Description:

Under this section, the Contractor shall furnish all labor, materials, insurance, equipment and appliances necessary to excavate, sheet and, maintain test pits at locations approved by the Resident Engineer in consultation with the facility operator. Test pits shall be dug in order to ascertain exact locations, cover and invert elevations, clearances, alignment and operating status (live or dead) of existing gas facilities. The Contractor shall inspect jointly with the Resident Engineer and facility operator, gas facilities and other structures uncovered, take all relevant measurements and elevations as directed by the Resident Engineer. Tests to determine operating status of gas facilities shall be performed by facility operator. The pits shall be covered with steel plates during daytime nonworking hours, and uncovered, as required, until the inspection work is completed. Testing of gas facilities may require a maximum of four (4) hours. Then, the pits shall be backfilled with clean fill, and resurfaced with temporary pavement. All traffic shall be maintained and all safety measures as stipulated shall be complied with.

2. Methods Of Construction:

A. Excavation: Existing pavement to be removed shall be neatly cut along lines of removal with a saw or other approved equipment which leaves a neat straight joint line along the juncture with subsequently replaced pavement. Excavation in the vicinity of utilities and other structures shall be performed using hand tools. Use of hand operated pneumatic and electric jackhammers will be permitted only for breaking pavement and removal of masonry, concrete and boulders, or as otherwise directed by the Resident Engineer. The Contractor shall properly dispose of all materials excavated from test pits away from site. Test pits shall be excavated at locations shown on the contract drawings or as directed by the Resident Engineer. Additional test pits may be required and shall be excavated where required, as ordered by the Resident Engineer. All test pits shall be excavated to a depth and size necessary to locate the existing facilities. Sheeting shall be used when depth of excavation exceeds five (5) feet. The sheeting required shall be furnished and installed in full compliance with the State of New York and Federal Safety Codes requirements and as specified in contract, whichever is more stringent. Care shall be taken that no existing gas facilities or other structures are broken or damaged. All broken or damaged facilities shall be reported immediately to facility operator who shall decide whether such facilities shall be repaired or replaced by company forces or by City contractor and in conformance with "General Provisions; Gas Cost Sharing Work Paragraph No. 9". Contractor shall excavate all material encountered, including large masses of concrete, cemented masonry and boulders, as directed by the Resident Engineer. Any type of excavation protection used, shall satisfy the following:

   (a) Industrial Code Rule 753.
   (b) Prevent injury to workers and the public, and avoid damage to existing water, sewer, and gas pipes or other structures, and to pavements and their foundations, through caving or sliding of the banks of the excavation.

   Should it become necessary, as determined by the Resident Engineer, to enlarge any test pit in any dimension after sheeting has been placed, the Contractor shall remove portions of the sheeting, as necessary, enlarge the test pits as directed, and replace the sheeting without additional compensation for this work other than for the additional volume of material excavated.

B. Maintenance Of Test Pits: Excavated test pits shall be maintained free of debris and kept dry by the Contractor in order to permit the inspection and measurements and to determine the locations of facilities. In order to accomplish this, Contractor shall, upon completion of excavation and placement

of sheeting (if depth greater than five (5) feet), furnish and install adequate steel plates and posting over the excavated pits and shall temporarily remove all equipment debris and workers, and relocate barricades in order to open the full width of street to traffic during nonworking hours. The Contractor shall then, at no additional cost, relocate such barricades, barrels, cones and other warning devices and remove steel plates, as and when directed by the Resident Engineer to facilitate the inspection of exposed facilities. When work is being performed and the pits are not covered with steel plates, the Contractor shall provide complete and safe access to the test pits as may be required, and he shall provide construction barricades and maintain traffic at all times as shown or as directed by the Resident Engineer. Upon completion of test pit inspection by the Resident Engineer, the pit shall be backfilled by the Contractor as specified in contract, except that backfill material shall conform to contract specifications for such purpose.

C. Pavement And Sidewalk Restoration: After backfilling is completed, the Contractor shall construct a temporary pavement consisting of a minimum of four (4) inches thick asphaltic concrete mixture in roadway areas or a two (2) inches thick asphaltic concrete mixture in sidewalk areas in order to maintain existing pedestrian and vehicular traffic. This temporary pavement shall be maintained until permanent pavement and sidewalk replacement is constructed as specified in contract.

3. Measurements:

The quantity to be measured for payment shall be the number of cubic yards of material removed from within the limits of the pit dimensions as directed by the Resident Engineer. The volume occupied by existing pipes or other structures remaining within the maximum payment lines will not be deducted from the total volume measured except, where the cross sectional area of these facilities exceeds four (4) square feet. As determined by the Resident Engineer, the quantity measured for payment may be proportionate to a fair and reasonable estimate of gas responsibility in the total volume excavated.

4. Price To Cover:

The contract price bid per cubic yard for test pits shall cover all additional costs of labor, material, insurance, equipment, appliances and incidentals required to excavate test pits, including removal and disposal of excavated materials, sheeting, steel plating, backfill, compaction and temporary pavement and sidewalk restoration all in accordance with the specifications and as directed by the Resident Engineer. The price shall also include the cost of providing safe access to the excavation by facility operator for the performance of certain test to determine operating status of gas facilities prior to City work. The price shall also include support and protection of all gas facilities crossing excavation, paralleling and/or encroaching any face of excavation.

SECTION 6.08 - "NO TEXT"

SECTION 6.09 - Trench Excavation and Backfill for New Gas Mains and Services (For National Grid Work Only)

1. Description:

Under this section, the contractor shall furnish all labor, materials, equipment, insurance, permits and incidentals required to break/remove roadway and sidewalk pavement, excavate, backfill and restore gas trenches. The trench to be excavated shall be determined by the size of the gas facility to be installed. The work shall be performed in accordance with applicable specifications, and/or at the direction of the Resident Engineer in consultation with the facility operator.

2. Materials:

All materials used to excavate and prepare trenches shall be supplied by the Contractor and be approved

by the facility operator in consultation with the Resident Engineer.

3. Method of Construction:

Excavation – The Contractor shall saw cut and/or break and remove existing roadway which may include but is not limited to, asphalt, concrete and cobblestone, utilizing approved equipment that leaves a neat straight joint line along the juncture with subsequently replaced pavement. Prior to starting the trenching operation, the contractor shall excavate the appropriate gas main tie-in pits at the extremities of the gas main sections to be replaced. Test pits shall be excavated to determine exact location of all tie-in pits and at appropriate intervals along proposed trench excavation to verify lane and clearances as shown on the contract plans. The tie-in pits shall be adequately protected by the contractor using wood fencing or steel traffic plates until such time when the facility operator has completed the tie-in work. The Contractor shall be permitted to excavate utilizing a combination of machine and hand excavation, as field conditions warrant, and as directed by the facility operator. The trench shall be adjusted so as to provide for a nominal cover on the new gas facilities or as required based on field conditions, applicable specifications, or as directed by the facility operator in consultation with the Resident Engineer. The width of the trench shall be as directed by the facility operator in consultation of the Resident Engineer. The bottom of the trench shall be graded smooth with a minimum cushion of 3 inches of clean sand and in conformance with applicable specification and be compacted, to minimize initial settlement and to avoid "point" support of new gas facilities. All stones projecting into the trench bottom shall be removed, and the voids backfilled before the new gas facilities are installed. Where streets are not to final grade, the cover shall be measured from the final grade, or the existing grade, whichever provides the deeper trench. Excavation in the vicinity of utilities and other structures shall be performed using hand tools. The contractor shall properly dispose of all materials excavated away from site. Size and location of excavation shall be as directed by the facility operator in consultation with the Resident Engineer. Trenches shall be excavated to a depth and size necessary to facilitate the installation of the new gas facility and in conformance with the applicable specification. All existing facilities that are encountered during trench excavating shall be protected in a manner suitable to the facility operator in consultation with the Resident Engineer. Tight sheeting shall be used, as required, based on field conditions and/or when the depth of excavation is equal to or greater than five feet. Skeleton type sheeting will not be permitted. The sheeting required shall be furnished and installed in full compliance with the State of New York and Federal Safety Code requirements and in compliance with applicable specifications and/or as directed by the facility operator in consultation with the Resident Engineer. Care shall be taken that no existing gas facilities or other structures are broken or damaged. Contractor shall excavate all material encountered necessary to facilitate the installation of the new gas facilities, and as directed by the facility operator. Care should be taken to avoid damage to existing utility facilities and structures, and to pavements and their foundations, and to avoid caving or sliding banks within the excavation.

Maintenance of Trench Excavation - Excavated trenches shall be maintained free of debris and kept dry by the contractor. In order to accomplish this, contractor shall, upon completion of excavation and placement of sheeting (as required and/or if depth is equal to or greater than five feet), furnish and install adequate steel plates, as directed by the facility operator in consultation with the Resident Engineer, and posting over the excavated trenches and shall temporarily remove all equipment debris and workers, and relocate barricades in order to open the full width of street to traffic during non-working hours, as required based on DOT requirements. National Grid forces will perform all live gas main connections, dead gas main cut-outs, and/or service work associated with disconnecting and reconnecting from old to new gas main. The Contractor shall then, at no additional cost, relocate such barricades barrels, cones and other warning devices and remove steel plates, as and when directed by the facility operator in consultation with the Resident Engineer to facilitate the installation of the new gas facilities. When work is being performed and the excavations are not covered with steel plates, the Contractor shall provide complete and safe access to the trench as may be required, and shall provide construction barricades and maintain traffic at all times as shown or as directed by the facility operator in consultation with the Resident Engineer. The contractor has the responsibility to maintain and set to grade all National Grid hardware during backfill and pavement restoration. Upon completion of installation of the new gas facility, the trench excavation shall be backfilled by the contractor in accordance with Contract requirements and all backfill material shall conform to contract specifications for such purpose.

Pavement and Sidewalk Restoration - After backfilling is completed, the contractor shall install temporary pavement consisting of six inches (6") thick asphaltic concrete mixture in roadway areas or a two inches (2") thick asphaltic concrete mixture in sidewalk areas in order to maintain existing pedestrian and vehicular traffic. This temporary pavement shall be maintained until permanent replacement as specified in contract. Permanent pavement restoration shall be as required by the appropriate contract specifications and as directed by the Resident Engineer.

4. Method of Measurement:

The quantity to be measured for payment shall be the number of cubic yards (C.Y.) of trench actually excavated, including roadway pavement, base and/or sidewalk concrete removed within the limits of the trench as directed by the Resident Engineer in consultation with the facility operator. The volume occupied by existing pipes or other structures will be deducted from the total volume measured as shown on contract drawing(s) Title: EP-7 SECT. 6.09 GAS SPECIALTY CONTRACTOR WORK, or as encountered based on existing field conditions.

5. Price to Cover:

The unit price bid per cubic yard for excavation shall include the cost of all supervision, labor, material, equipment, insurance and incidentals necessary to complete excavation trenches, including backfill, compaction testing and restoration of trenches and tie-ins pits as specified or shown on the contract, plans. The bid price shall also include the cost of coordinating the sewer and water main work to be performed by the contractor with the gas installation work to be performed by others. The price shall also include, associated maintenance of traffic, and traffic plates and openings and closings of plates as may be required in order to provide access to the facility operator during the new gas facility installation, and installing, removing and maintaining tight sheeting that may be required, cut, break and remove various thickness of surface and base pavement, excavate by hand, furnish, place and compact, in compliance with DOT requirements, clean sand backfill following installation of the gas facility. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price. The price shall also include the cost of providing temporary pavement restoration. Permanent pavement restoration shall be deemed included in this item, as required and as directed by the Resident Engineer.

SECTION 6.09a Trench Excavation and Backfill for New Gas Mains and Services (For Con Edison Work Only)

1. Description:

Under this section, the contractor shall furnish all labor, materials, equipment, insurance, permits and incidentals required to break/remove roadway and sidewalk pavement, excavate, backfill and restore gas trenches. The trench to be excavated shall be determined by the size of the gas facility to be installed. The work shall be performed in accordance with applicable specifications, and/or at the direction of the Resident Engineer in consultation with the facility operator.

2. Materials:

All materials used to excavate and prepare trenches shall be supplied by the Contractor and be approved by the facility operator in consultation with the Resident Engineer. Clean sand backfill material shall be used and shall conform to Con Edison specification EO-1181-rev.6, General Specification for Backfilling of Trench and Small Openings.

3. Method of Construction:

Excavation – The Contractor shall saw cut and/or break and remove existing roadway which may include but is not limited to, asphalt, concrete and cobblestone, utilizing approved equipment that leaves a neat straight joint line along the juncture with subsequently replaced pavement. Prior to starting the trenching operation, the contractor shall excavate the appropriate gas main tie-in pits at the extremities of the gas main sections to be replaced. Test pits shall be excavated to determine exact location of all tie-in pits and

at appropriate intervals along proposed trench excavation to verify lane and clearances as shown on the contract plans. The tie-in pits shall be adequately protected by the contractor using wood fencing or steel traffic plates until such time when the facility operator has completed the tie-in work. The Contractor shall be permitted to excavate utilizing a combination of machine and hand excavation, as field conditions warrant, and as directed by the facility operator. The trench shall be adjusted so as to provide for a nominal cover on the new gas facilities or as required based on field conditions, applicable specifications, or as directed by the facility operator in consultation with the Resident Engineer. The width of the trench shall be as directed by the facility operator in consultation of the Resident Engineer. The width and depth of the trench shall conform to Con Edison Gas Operations drawing 309495 rev. 4, Trench Excavation for Gas Mains Up to 350 PSIG, or as directed by the facility operator in consultation of the Resident Engineer. The bottom of the trench shall be graded smooth with a minimum cushion of 3 inches of clean sand and in conformance with applicable specification and be compacted, to minimize initial settlement and to avoid "point" support of new gas facilities. All stones projecting into the trench bottom shall be removed, and the voids backfilled before the new gas facilities are installed. Where streets are not to final grade, the cover shall be measured from the final grade, or the existing grade, whichever provides the deeper trench. Excavation in the vicinity of utilities and other structures shall be performed using hand tools. The contractor shall properly dispose of all materials excavated away from site. Size and location of excavation shall be as directed by the facility operator in consultation with the Resident Engineer. Trenches shall be excavated to a depth and size necessary to facilitate the installation of the new gas facility and in conformance with the applicable specification. All existing facilities that are encountered during trench excavating shall be protected in a manner suitable to the facility operator in consultation with the Resident Engineer. Tight sheeting shall be used, as required, based on field conditions and/or when the depth of excavation is equal to or greater than five feet. Skeleton type sheeting will not be permitted. The sheeting required shall be furnished and installed in full compliance with the State of New York and Federal Safety Code requirements and in compliance with applicable specifications and/or as directed by the facility operator in consultation with the Resident Engineer. Care shall be taken that no existing gas facilities or other structures are broken or damaged. Contractor shall excavate all material encountered necessary to facilitate the installation of the new gas facilities, and as directed by the facility operator. Care should be taken to avoid damage to existing utility facilities and structures, and to pavements and their foundations, and to avoid caving or sliding banks within the excavation.

Maintenance of Trench Excavation - Excavated trenches shall be maintained free of debris and kept dry by the contractor. In order to accomplish this, contractor shall, upon completion of excavation and placement of sheeting (as required and/or if depth is equal to or greater than five feet), furnish and install adequate steel plates, as directed by the facility operator in consultation with the Resident Engineer, and posting over the excavated trenches and shall temporarily remove all equipment debris and workers, and relocate barricades in order to open the full width of street to traffic during non-working hours, as required based on DOT requirements. Con Edison forces will perform all live gas main connections, dead gas main cut-outs, and/or service work associated with disconnecting and reconnecting from old to new gas main. The Contractor shall then, at no additional cost, relocate such barricades barrels, cones and other warning devices and remove steel plates, as and when directed by the facility operator in consultation with the Resident Engineer to facilitate the installation of the new gas facilities. When work is being performed and the excavations are not covered with steel plates, the Contractor shall provide complete and safe access to the trench as may be required, and shall provide construction barricades and maintain traffic at all times as shown or as directed by the facility operator in consultation with the Resident Engineer. The contractor has the responsibility to maintain and set to grade all Con Edison hardware during backfill and pavement restoration. Upon completion of installation of the new gas facility, the trench excavation shall be backfilled by the contractor in accordance with Contract requirements and all backfill material shall conform to contract specifications for such purpose.

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4. Method of Measurement:

The quantity to be measured for payment shall be the number of cubic yards (C.Y.) of trench actually excavated, including roadway pavement, base and/or sidewalk concrete removed within the limits of the trench as directed by the Resident Engineer in consultation with the facility operator. The volume occupied by existing pipes or other structures will be deducted from the total volume measured as shown on contract drawing(s) Title: EP-7 SECT. 6.09 GAS SPECIALTY CONTRACTOR WORK, or as encountered based on existing field conditions.

5. Price to Cover:

The unit price bid per cubic yard for excavation shall include the cost of all supervision, labor, material, equipment, insurance and incidentals necessary to complete excavation trenches, including backfill, compaction testing and restoration of trenches and tie-ins pits as specified or shown on the contract, plans. The bid price shall also include the cost of coordinating the sewer and water main work to be performed by the contractor with the gas installation work to be performed by others. The price shall also include, associated maintenance of traffic, and traffic plates and openings and closings of plates as may be required in order to provide access to the facility operator during the new gas facility installation, and installing, removing and maintaining tight sheeting that may be required, cut, break and remove various thickness of surface and base pavement, excavate by hand, furnish, place and compact, in compliance with DOT requirements, clean sand backfill following installation of the gas facility. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price. The price shall also include the cost of providing temporary pavement restoration. Permanent pavement restoration shall be deemed included in this item, as required and as directed by the Resident Engineer.

GAS COST SHARING STANDARD SPECIFICATIONS
SCHEDULE GCS-A

Average rate charged by utility companies to Disconnect and Reconnect Gas Services:

1. National Grid - $586.90 per Service/and Visit
2. Con Edison - $524.00 per Service/and Visit

IV - STANDARD SKETCHES; GAS COST SHARING WORK

Hereinafter attached are the following Standard Sketches for Gas Cost Sharing Work:

Sketch No. 1 - Support Requirements For Gas Mains And Services Crossing Excavation Greater Than 4' - 0" Wide At Any Angle

Sketch No. 1A - Support Requirements For Gas Mains Over 16" Diameter Up To And Including 48" Diameter Crossing Excavation At Any Angle

Sketch No. 2 - Typical Methods Of Measurement For Gas Crossings

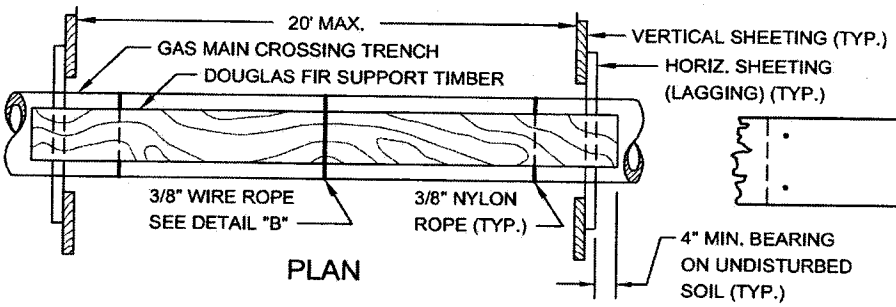
Sketch No. 3 - Utility Crossings During Catch Basin Chute Connection Pipe Installation

Sketch No. 4 - Utility Crossings During Catch Basin Chute Connection Pipe Installation (Extra Depth)

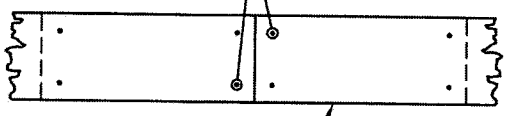
Sketch No. 5 - Gas Main Encroachment On And/Or Parallel To Excavation Of Unsheeted Trench

GAS COST SHARING WORK (SKETCH NO. 1)

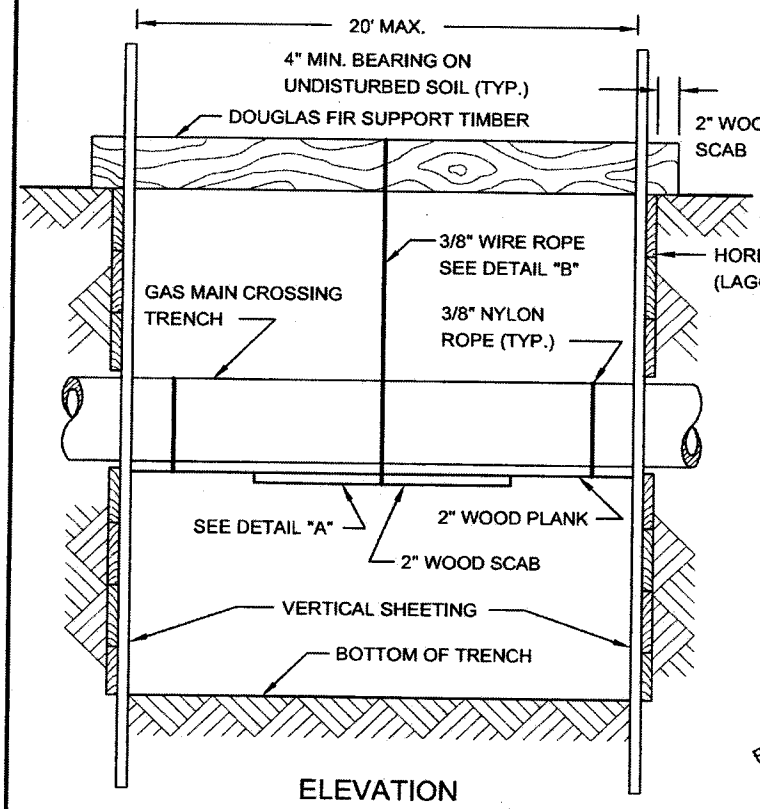
SUPPORT REQUIREMENTS FOR GAS MAINS AND SERVICES CROSSING EXCAVATION GREATER THAN 4'-0" WIDE AT ANY ANGLE



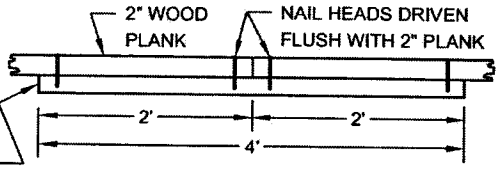
PLAN



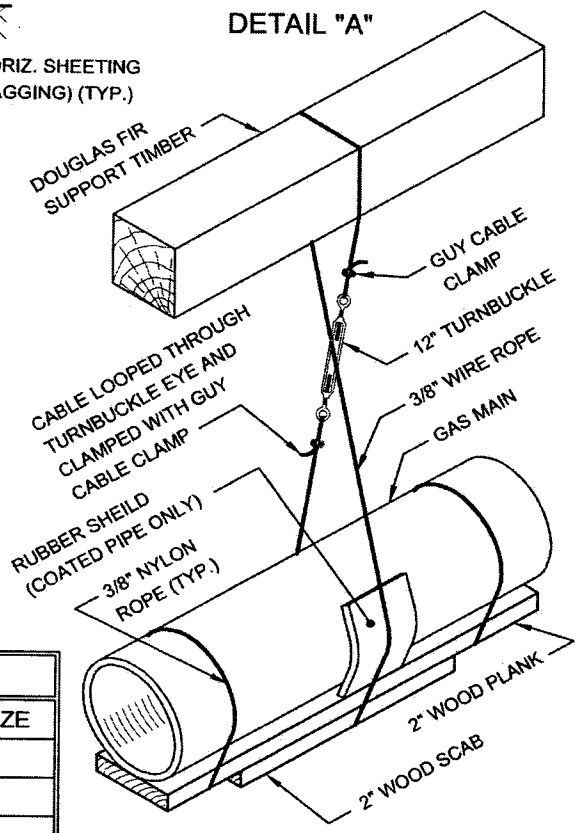
PLAN



ELEVATION



ELEVATION
DETAIL "A"



DETAIL "B"

CABLE SUPPORT		TIMBER SUPPORT	
MAIN TYPE	SPACING	MAIN SIZE	TIMBER SIZE
CAST IRON	4' O.C. MAX.	UP TO 6"	6" X 6"
STEEL	10' O.C. MAX.	8" TO 10"	8" X 8"
PLASTIC	10' O.C. MAX.	12" TO 16"	10" X 10"

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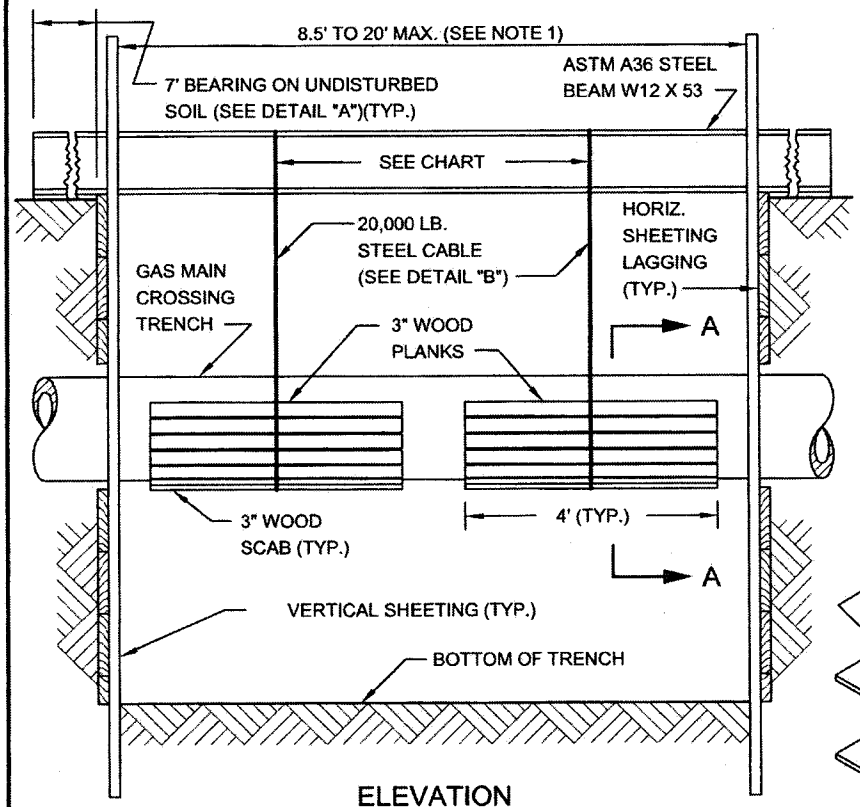
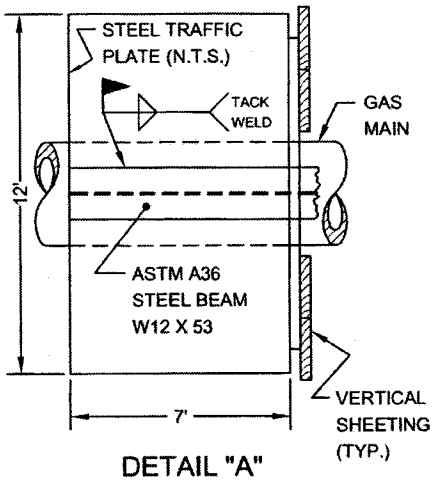
GAS COST SHARING WORK (SKETCH NO. 1A)

SUPPORT REQUIREMENTS FOR GAS MAINS OVER 16" DIAMETER UP TO AND INCLUDING 48" DIAMETER CROSSING EXCAVATION AT ANY ANGLE

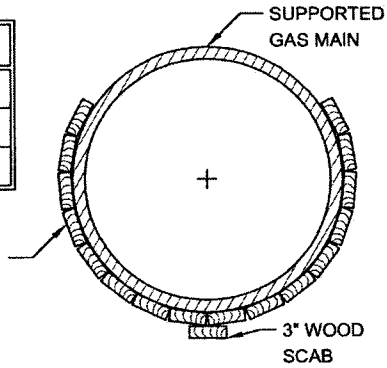


ELEVATION

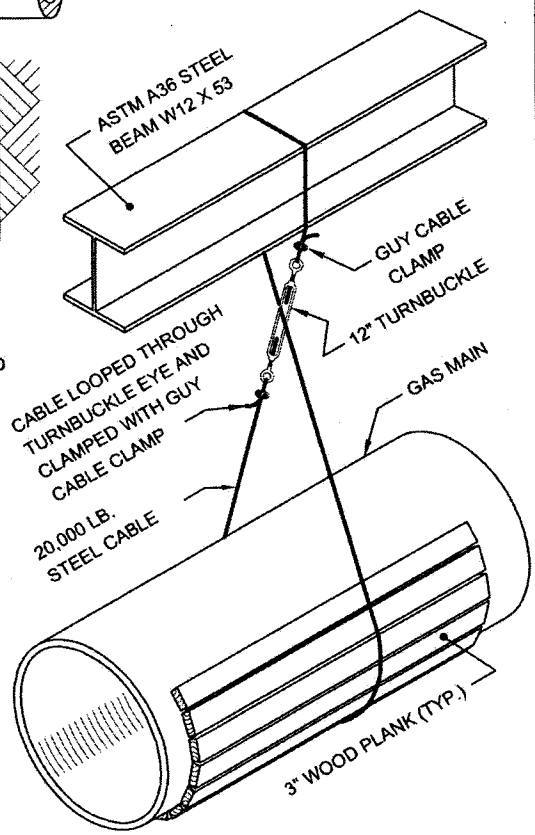


DETAIL "A"

CABLE SUPPORT	
MAIN TYPE	SPACING
CAST IRON	4' O.C. MAX.
STEEL	10' O.C. MAX.



SECTION A-A



DETAIL "B"

NOTES:

(1) NO SUPPORT IS REQUIRED FOR GAS MAINS OVER 16" DIA. UP TO AND INCLUDING 48" DIA. CROSSING TRENCHES LESS THAN 8.5' WIDE.

(2) UNDERMINE A MAXIMUM OF 8.5 L.F. OF CAST IRON GAS MAIN AT A TIME.

(3) SET STEEL CABLE OVER 3" WOOD PROTECTIVE PLANKS AND PLACE AN ADDITIONAL 3" SCAB ON THE BOTTOM OF THE GAS MAIN.

(4) ADJUST STEEL CABLE UNTIL DEAD WEIGHT OF THE UNDERMINED GAS MAIN HAS BEEN TAKEN UP BY THE OVERHEAD STEEL BEAM SUPPORT.

(5) ALL SUPPORTS AND STEEL CABLES CAN BE REOMVED ONLY AFTER THE REQUIRED BACKFILL (AROUND AND BELOW GAS MAIN) HAS BEEN COMPACTED IN ACCORDANCE WITH NEW YORK CITY STANDARDS AND AT THE DIRECTIONS OF THE ENGINEER.

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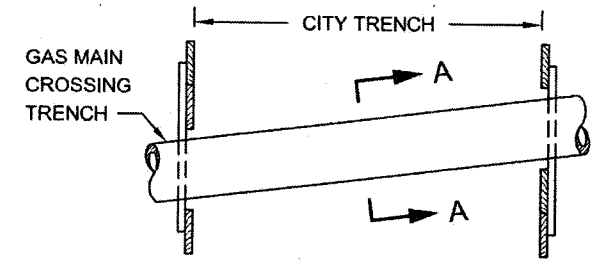
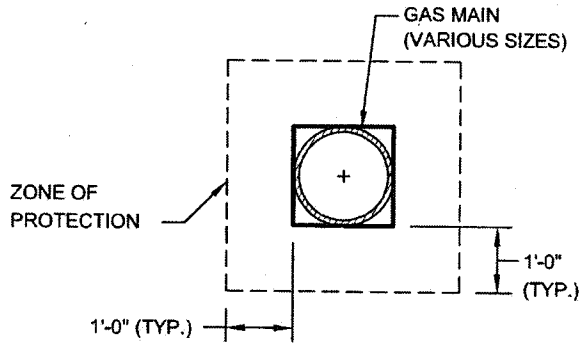
GAS COST SHARING WORK (SKETCH NO. 2)

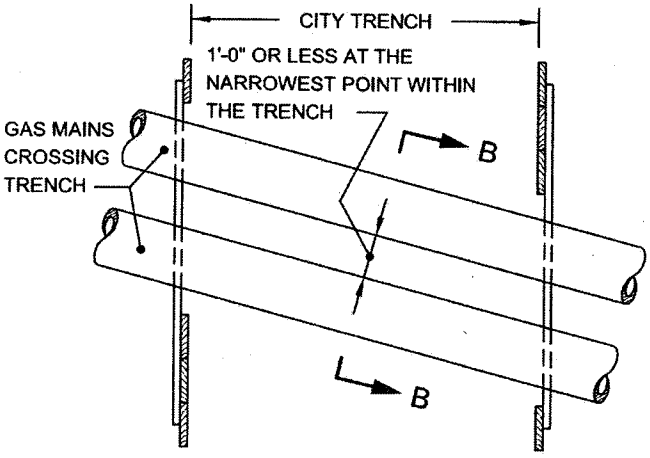
TYPICAL METHODS OF MEASUREMENT FOR GAS CROSSINGS



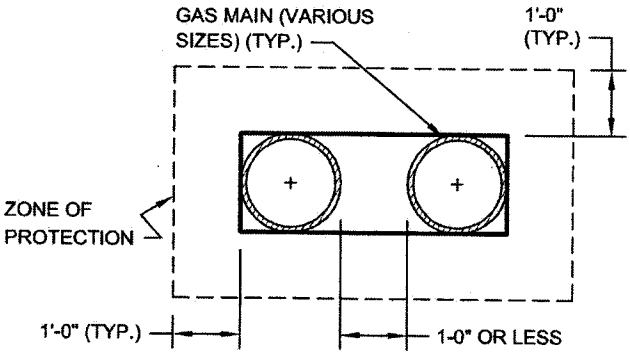
SINGLE FACILITY CROSSING



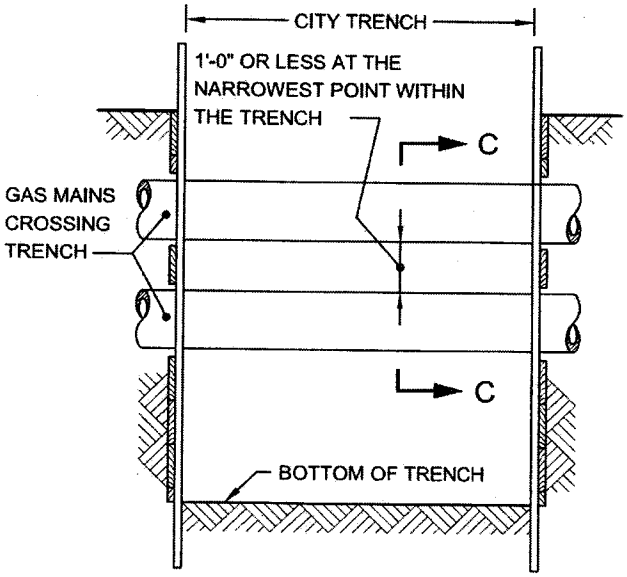
SECTION A-A



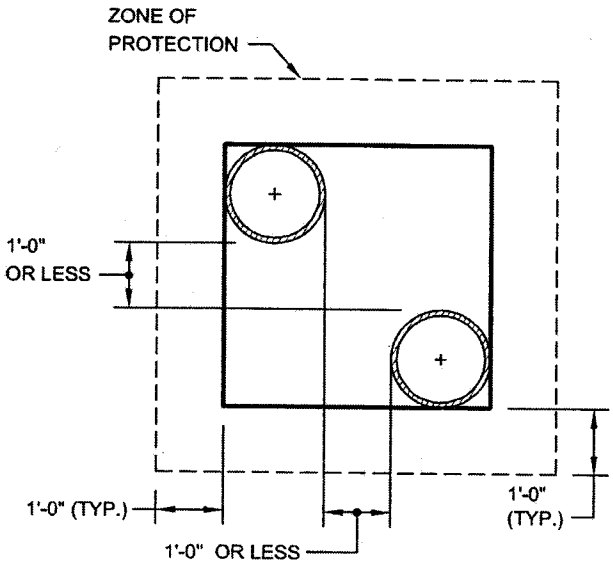
MULTIPLE FACILITIES
(GAS MAINS AT SAME ELEVATION)



SECTION B-B



MULTIPLE FACILITIES
(ONE CROSSING AT DIFFERENT ELEVATIONS)



SECTION C-C

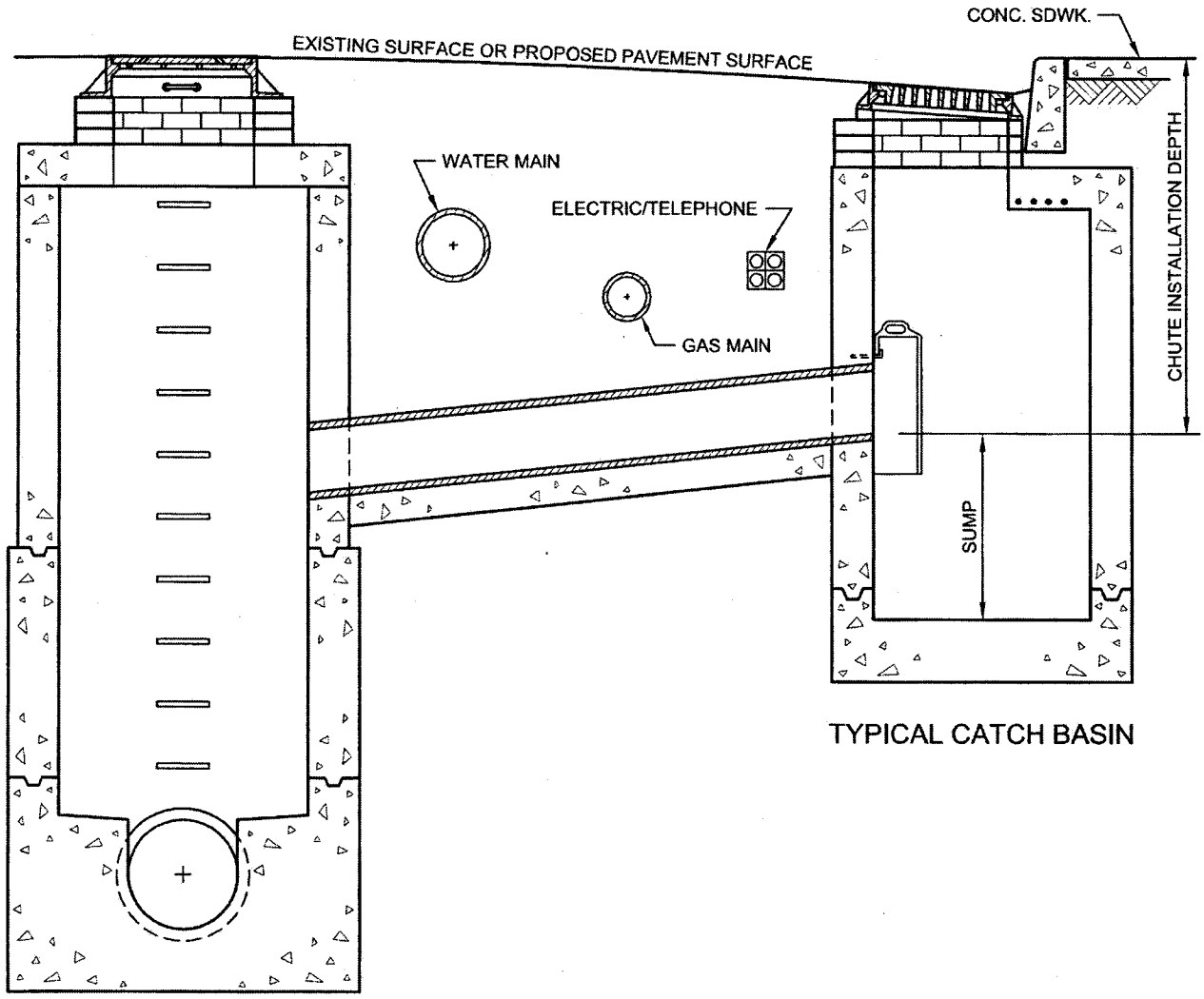
NOTE:

GAS MAINS MAY OR MAY NOT BE PARALLEL TO EACH OTHER.

REVISED SEPT. 2004 - L. ADRIEN
REVISED SEPT. 2004 - J. WONG/W. PATALANO/P. MOY

GAS COST SHARING WORK (SKETCH NO. 3)

UTILITY CROSSINGS DURING CATCH BASIN CHUTE CONNECTION PIPE INSTALLATION



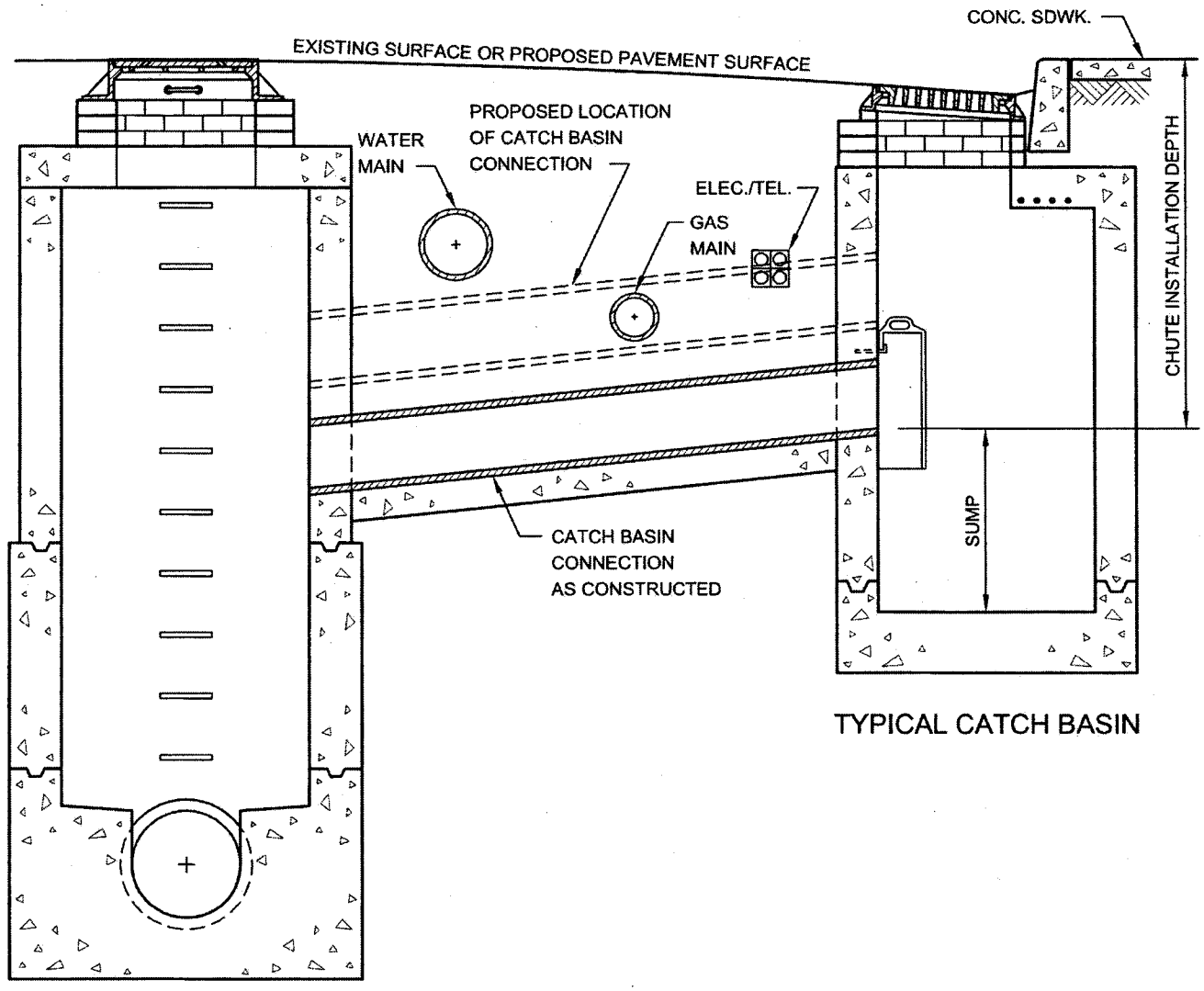
TYPICAL CATCH BASIN

TYPICAL SEWER MANHOLE

REVISED OCT. 2004 - L. ADRIEN
REVISED OCT. 1998 - J. WONG/W. PATALANO/P. MOY

GAS COST SHARING WORK (SKETCH NO. 4)

UTILITY CROSSINGS DURING CATCH BASIN CHUTE CONNECTION PIPE INSTALLATION (EXTRA DEPTH)



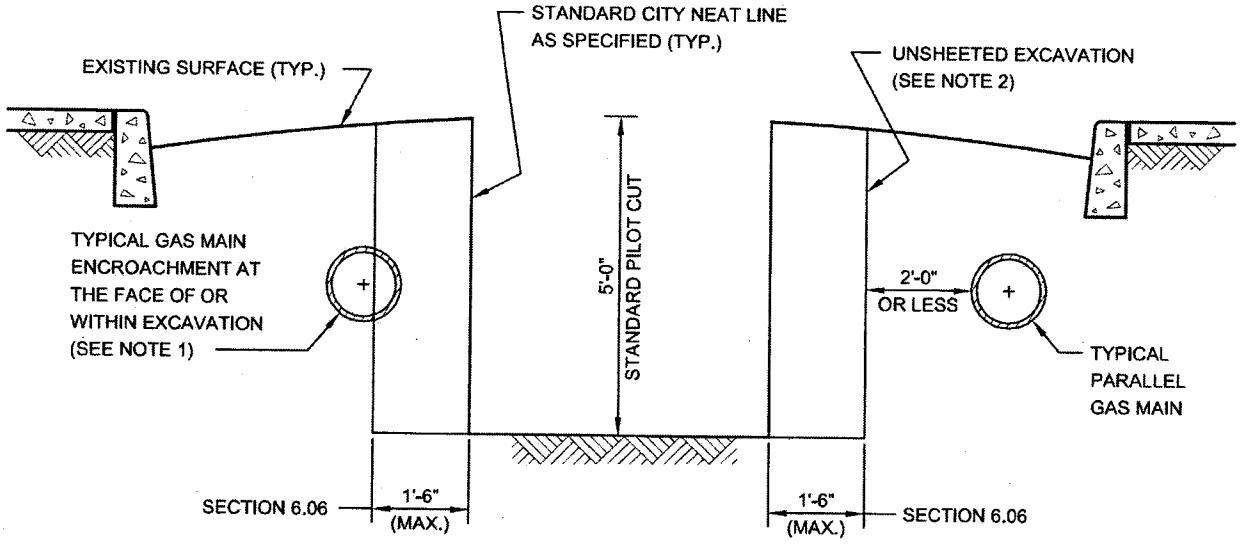
TYPICAL CATCH BASIN

TYPICAL SEWER MANHOLE

REVISED OCT. 2 ADRIEN
REVISED OCT. 1998 - J. WONG/W. PATALANO/P. MOY

GAS COST SHARING WORK (SKETCH NO. 5)

GAS MAIN ENCROACHMENT ON AND/OR PARALLEL TO EXCAVATION OF UNSHEETED TRENCH



NOTES:

(1) GAS MAIN LOCATED AS SHOWN MAY HAVE TO BE REMOVED BY THE FACILITY OPERATOR PRIOR TO THE START OF CITY EXCAVATION, OTHERWISE, THE CONTRACTOR WILL BE PAID UNDER SECTION 6.06 FOR THE SAID WORK. IF GAS MAIN IS ABANDONED THEN SECTION 6.03 SHALL APPLY.

(2) EIGHTEEN (18) INCHES FROM STANDARD NEAT LINE IS THE MAXIMUM ALLOWABLE WIDTH OF AREA THAT MAY BE DISTURBED OR EXCAVATED DURING INSTALLATION OF CERTAIN TYPES OF SHEETING SYSTEMS THAT MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS OF THE DEPARTMENT OF DESIGN AND CONSTRUCTION OF THE CITY OF NEW YORK.

REVISED OCT. 2004 - L. ADRIEN
REVISED OCT. 1998 - J. WONG/W. PATALANO/P. MOY

V - PRELIMINARY GAS WORK TO BE PERFORMED BY FACILITY OPERATOR.

APPLICABLE TO ALL GAS DRAWINGS:

- ALL RELOCATION WORK SHOWN IN THIS SECTION IS TO BE PERFORMED BY FACILITY OPERATOR.
- ALL SUPPORT AND PROTECTION WORK TO BE PERFORMED BY CITY CONTRACTOR
- IF ADDITIONAL INFORMATION IS NEEDED REGARDING THE FACILITY OPERATOR'S RELOCATION WORK, THE CONTRACTOR IS ADVISED TO CONTACT THE GAS COMPANY REPRESENTATIVE:

Neville Jacobs Jr.
NationalGrid Energy Delivery
287 Maspeth Avenue
Brooklyn, NY 11211
718-963-5612

(NO TEXT IN THIS AREA, TURN PAGE)

NATIONAL GRID

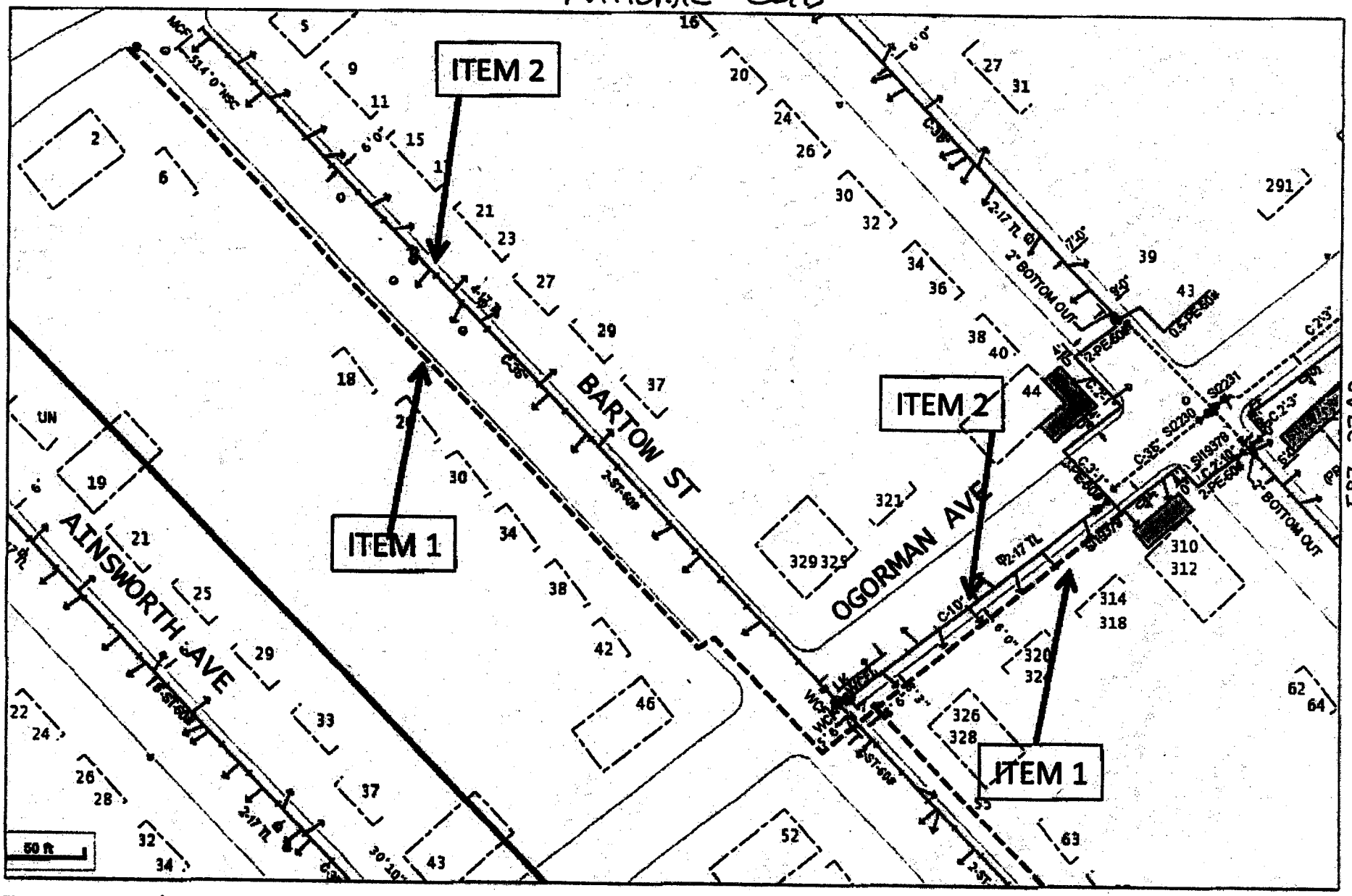
SER 200151 GAS MAIN INSTALLATION

ITEM#	ON STREET	1ST X-STREET	2ND X-STREET	SIZE/MAT'L	FOOTAGE	PRESSURE	REIMB
1	Bartow St	S Railroad Ave	Durant Ave	2" PE	1950	HP-60#	Y

SE 200151 GAS MAIN RETIREMENT

ITEM#	ON STREET	1ST X-STREET	2ND X-STREET	SIZE/MAT'L	FOOTAGE	PRESSURE	REIMB
2	Bartow St	S Railroad Ave	Durant Ave	2" ST	1857	HP-60#	Y

NATIONAL GRID

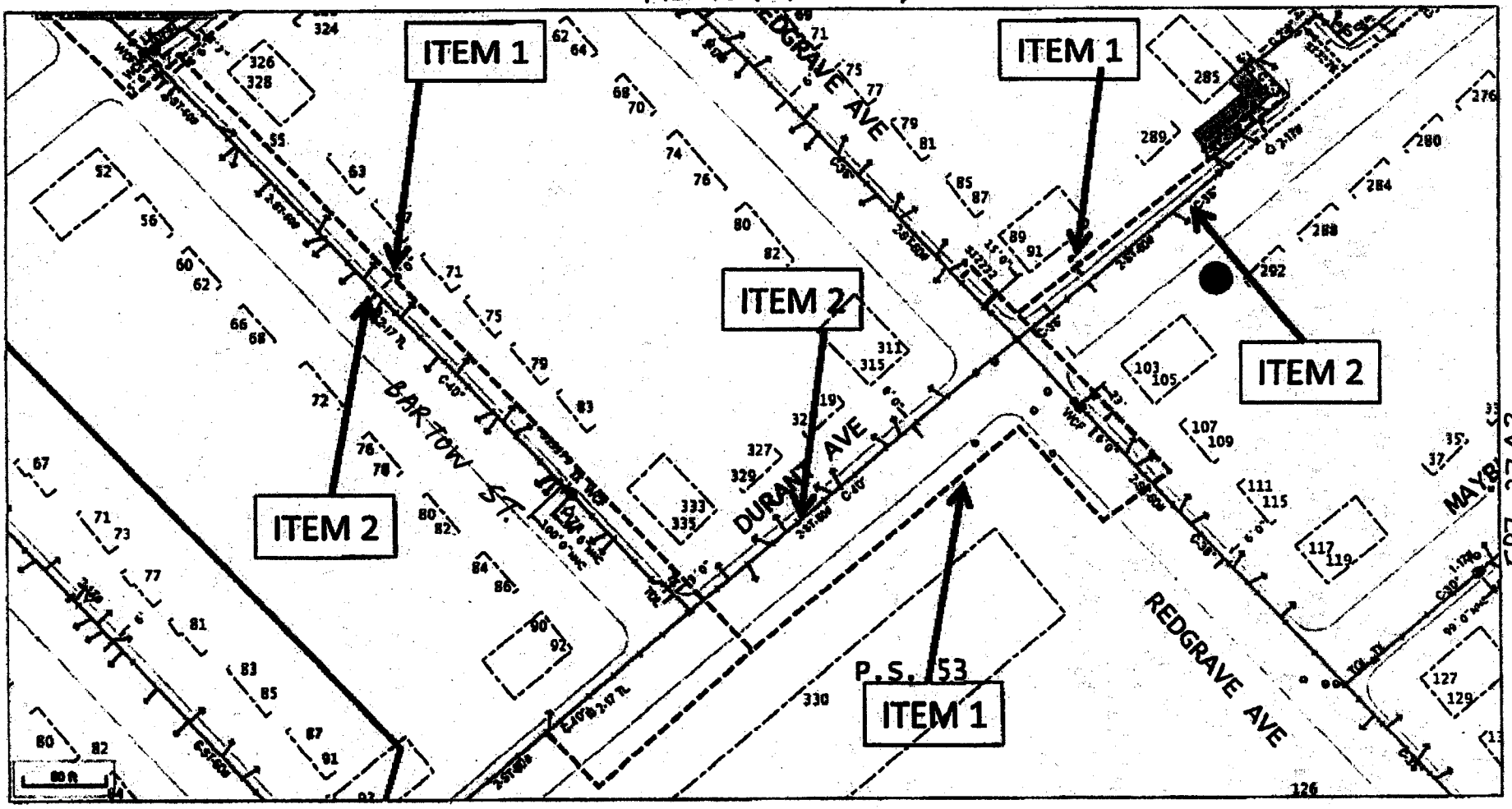


EP7-27A2

Project No. SER200151

Sheet 1 of 2

National Grid



EP7-27A3

Project No. SER200151
Sheet 2 of 2

VI - LISTING OF APPROXIMATE LOCATIONS OF EP-7 BID ITEMS QUANTITIES.

(NO TEXT IN THIS AREA, TURN PAGE)

SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT SER-200151

The City of New York Department of Design and Construction is proposing to install sewers and/or water mains and all appurtenances in various locations in The City of New York along with all work incidental thereto.

6.01.1 - Gas Main Crossing Sewer Up To 24" In Diameter. (Ea.)

1 in Durant Ave @ Bartow St.
2 in Bartow St @ O'Gorman Ave.

6.01.4 - Gas Main Crossing Sewer 48" Thru 54" In Diameter. (Ea.)

1 in Durant Ave @ Redgrave Ave.
1 in Bartow St @ O'Gorman Ave.

6.01.6CA - Gas Main Crossing 68"W x 48"H H.E.R.C. Storm Sewer. (Ea.)

1 in Durant Ave @ Bartow St.

6.01.8 - Gas Services Crossing Trenches And/Or Excavations. (Ea.)

70 in Various Locations as Required.

6.01.9 - Gas Main Crossing Water Main Up To 20" In Diameter. (Ea.)

1 in Durant Ave bet Bartow St & Redgrave Ave.
1 in Durant Ave bet Redgrave Ave & Taunton St.
1 in Bartow St bet S. Railroad Ave & O'Gorman Ave.
1 in Ainsworth Ave @ Amboy Rd.

6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences. (Ea.)

2 in Various Locations as Required.

SCOPE OF WORK
SUPPORT AND PROTECTION
FOR CONTRACT SER-200151

The City of New York Department of Design and Construction is proposing to install sewers and/or water mains and all appurtenances in various locations in The City of New York along with all work incidental thereto.

6.03 - Removal Of Abandoned Gas Facilities. All Sizes. (L.F.)

400 in Various Locations as Required.

6.03.1 - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes.(L.F.)
(For National Grid Work Only)

1600 in Various Locations as Required.

6.04 - Adjust Hardware To Grade Using Spacer Rings/Adaptors (Street Repaving). (Ea.)

5 in Various Locations as Required.

6.05 - Adjust Hardware To Grade By Resetting (Road Reconstruction). (Ea.)

5 in Various Locations as Required.

6.06 - Special Care Excavation And Backfilling. (C.Y.)

400 in various locations as required, including but not limited to all gas services crossing unsheeted water main trenches.

6.07 - Test Pits For Gas Facilities. (C.Y.)

40 in Various Locations as Required.

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.

SPECIFICATIONS FOR HANDLING, TRANSPORTATION AND DISPOSAL OF NON-HAZARDOUS AND POTENTIALLY HAZARDOUS CONTAMINATED MATERIALS

NEW STORM AND SANITARY SEWERS EXTENSION, SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY ROAD (UNDERPASS) AND SOUTH RAILROAD AVENUE, ETC.

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

Capital Project ID: SER200151

Prepared By:

Department of Design and Construction

30-30 Thomson Avenue, 3rd Floor
Long Island City, New York 11101

December 13, 2017

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ITEM 8.01 C1 HANDLING, TRANSPORTING, & DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOILS

8.01 C1.1 WORK TO INCLUDE

General: This work shall consist of the handling, transportation, and disposal of non-hazardous 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 shall be defined as any material excavated below the pavement and base for pavement.

Non-hazardous contaminated soils are defined as soils exhibiting one or more of the following characteristics:

- Elevated Photo-Ionization Detector (PID) readings, subsequently confirmed by lab analysis
- Visual evidence of contamination
- Petroleum and/or chemical odors
- Soils that have been documented as contaminated in previous environmental reports

Non-hazardous contaminated soils must be stockpiled at an off-site approved location or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Sampling and laboratory analysis must be conducted to determine if the soils are hazardous, unless the alternative procedure as defined under subsection 8.01 C1.1 A.5 has been agreed upon by treatment facilities. Contaminated soils determined to be non-hazardous shall be handled in accordance with the specifications herein for Item 8.01 C1. Contaminated soils determined to be hazardous shall be handled in accordance with the specifications for Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils.

The Contractor shall retain the services of an independent Environmental Consultant, as specified under Item 8.01 S – Health and Safety, to oversee the work required under this Item.

Non-hazardous soils shall be delivered to the disposal or treatment facility within thirty (30) calendar days after excavation.

The Contractor shall conduct sampling and analysis of the impacted soils as specified under Item 8.01 C2 – Sampling and Testing of Contaminated/Potentially Hazardous Soils for Disposal Parameters. The laboratory results shall be forwarded to DDC Program Management, Office of Environmental and Geotechnical Services (OEGS) for review to determine if the soils will be handled and disposed of as contaminated regulated soils or hazardous waste. No other soils shall be sampled or tested without the DDC's approval or direction.

The Contractor shall ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of non-hazardous contaminated soils are in compliance with all applicable Federal, State, and City statutes and regulations.

The Contractor shall document the excavation, handling, transportation and disposal of non-hazardous contaminated soils. The Contractor shall supply all equipment, material and labor required to conduct the specified work of this Item.

A. Material Handling Plan: Within forty-five (45) calendar days after award of Contract, the Contractor shall submit to the Program Management, OEGS for review, a Material Handling Plan (MHP). The MHP must be approved by the Program Management, OEGS, prior to the Contractor's commencement of work. The MHP shall, at a minimum, consist of:

1. The Contractor's procedures for identifying non-hazardous 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 non-hazardous contaminated soils. The procedures must include personnel safety and health as well as environmental protection considerations.
3. Name, address, New York State Department of Health's (DOH) Environmental Laboratories Accreditation Program (ELAP) status and telephone number of the proposed laboratory for analysis of representative soil samples. The ELAP for the intended analysis must approve the laboratory.
4. Identification of the Contractor's proposed waste transporter(s). This information shall include:

    a. Name and Waste Transporter Permit Number

    b. Address

    c. Name of responsible contact for the hauler

    d. Telephone number for the contact

    e. Any and all necessary permit authorizations for each type of waste transported

    f. Previous experience in performing the type of work specified herein
5. 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 or treatment 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.
6. A backup facility should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.
7. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for non-hazardous contaminated soils (primary and back-up) for final disposal of the soils. The primary TSD shall be an approved soil recycling/treatment facility. The backup facility may be a recycling/treatment facility or a New York State Department of Environmental Conservation (DEC) approved lined landfill or other facility approved by DEC to accept this material. The information required for each facility shall include:

    a. Facility name and the State identification number

        (1) Facility location

        (2) Name of responsible contact for the facility

        (3) Telephone number for contact

        (4) Signed letter of agreement to accept waste as specified in this contract

        (5) Unit of measure utilized at 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 shall specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor shall identify the capacity available in the units and the capacity reserved for the subject waste.

e. The Contractor shall 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 shall be provided. The source and nature of the cause of violation shall be stated, if known.

8. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

8.01 C1.2 MATERIALS

A. Containers shall be as required in the United State Department of Transportation (DOT) regulations.

B. Polyethylene to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.

C. The Contractor shall assure that the waste hauler's appropriate choice of vehicles and operating practices shall prevent spillage or leakage of contaminated material from occurring en route.

D. The Contractor shall provide, install and maintain any temporary loading facilities on site as required until completion of material handling activities. The location and design of any facilities shall be included in the MHP and be approved by the Program Management, OEGS.

8.01 C1.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of non-hazardous contaminated soil the Contractor shall:

   a. Load material directly onto trucks/tankers/roll offs for disposal off site; or

   b. If interim stockpiling is required, place on a minimum of 20 mil. or equivalent plastic ground cloth and cover by minimum of 10 mil. polyethylene sheeting or equivalent to protect against leaching or runoff of contaminants into 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 weather. Grade surrounding surface to provide for positive drainage away from pile. Stockpile shall not exceed 100 cubic yards.

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 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. 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 shall 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 flame ionization detector (FID), to detect general organic vapor levels at intervals of approximately fifty (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 or Treatment Facility

1. General

a. The Contractor shall furnish all labor, equipment, supplies and incidental costs required to transport contaminated material from the work area to the off-site disposal or treatment facility, and any other items and services required for transporting contaminated material for disposal at an off-site facility.

b. The Contractor shall submit the name and location of the facility where an off-site scale is located. The Contractor shall also submit a plan to the DDC for review outlining procedures on controlling trucks leaving the work site and en-route to the off-site scale. The Contractor shall be responsible for tracking all material/vehicles from the site to the off-site scale.

c. The Contractor shall provide to the DDC certified tare and gross weight slips for each load received at the accepted facility which shall be attached to each returned manifest.

d. The Contractor shall coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.

e. The Contractor shall 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.

f. The Contractor shall obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipments. The letter shall 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.

g. **The Program Management, OEGS shall review and approve waste profiles before transportation to the TSD facility.**

2. Hauling

a. The Contractor shall coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities shall also be measured and recorded upon arrival at the disposal or treatment facility. If any deviation between the two records occurs, the matter is to be reported immediately to the DDC and to be resolved by the Contractor to the satisfaction of the DDC.

b. The Contractor shall 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 shall ensure that trucks are protected against contamination by properly covering and lining them with compatible material (such as polyethylene) or by decontaminating them prior to and between acceptances of loads.

d. The Contractor shall be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

e. The Contractor shall only use the transporter(s) identified in the MHP for the performance of work. Any use of substitute or additional transporters must have previous written approval from the Program Management, OEGS at no additional cost to the City.

f. The Contractor shall develop, document, and implement a policy for accident prevention.

g. The Contractor shall not combine contaminated materials from other projects with material from this project.

h. No material shall be transported until approved by the DDC.

3. Off-Site Disposal

a. The Contractor shall use only the facility(ies) identified in the MPH for the performance of the work. Substitutions or additions shall not be permitted without prior written approval from the Program Management, OEGS, and if approved shall be at no extra cost to the City.

b. The Contractor shall 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 DDC reserves the right to contact and visit the disposal or treatment 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 DDC in the same manner and with the same requirements as for the original facility(ies). This shall be done at no extra cost or delay to the City.

e. The Contractor shall 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 shall be submitted to the DDC within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. Any manifest discrepancies shall be reported immediately to the DDC and be resolved by the Contractor to the satisfaction of the DDC.

4. Equipment and Vehicle Decontamination

a. The Contractor shall design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting from the exclusion zone. The cost for this work will be paid under Item 8.01 S - Health and Safety.

b. Water generated during the decontamination process shall 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 non-hazardous contaminated soils shall be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 C1.3.B1, that are capable of generating load tickets.

8.01 C1.5 PRICE TO COVER

A. The unit bid price bid per ton for Item 8.01 C1 shall 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 shall be paid for under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soils. Disposal of decontamination water shall 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 shall be paid under Item 8.01 S – Health and Safety.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 C1	Handling, Transporting, and Disposal of Non-Hazardous Contaminated Soil	Tons

ITEM 8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/ POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PARAMETERS

8.01 C2.1 WORK TO INCLUDE

A. Description

The work shall consist of collecting and analyzing representative soil samples for parameters typically requested by the disposal facilities.

B. Sampling and Laboratory Analysis

1. At least thirty (30) days prior to the commencement of work, the Contractor's independent Environmental Consultant must submit a Soil Sampling Plan/Field Sampling Plan (SSP/FSP) and an Investigation Health and Safety Plan to the Program Management, Office of Environmental and Geotechnical Services (OEGS) for review and approval. The SSP/FSP shall include the name, address, DOH's ELAP status, and telephone numbers of the proposed laboratory. The SSP/FSP shall also include training and experience of the personnel who will collect the samples. The Investigation HASP shall identify actual and potential hazards associated with planned sampling field activities and stipulate appropriate health and safety procedures, so as to minimize field personnel exposure to physical, biological, chemical hazards that may be present in the all sampling media.

2. The Contractor shall sample and analyze representative samples of the contaminated/potentially hazardous soils. For stockpiled soils, the Contractor shall collect and analyze one (1) composite sample per 500 cubic yards or fraction thereof. Each composite sample shall consist of a minimum of five (5) grab samples collected from greater than two (2) feet below the soil surface. For drummed soil, the Contractor shall collect one (1) composite sample per (ten) 10 drums or fraction thereof. Each composite sample shall consist of a grab sample from each of the ten (10) drums or fraction thereof. Each composite sample shall be analyzed for Resource Conservation and Recovery Act (RCRA) hazardous waste characteristics (Ignitability, Reactivity, Corrosivity), Full Toxicity Characteristic Leaching Procedure (TCLP) (including RCRA metals, volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), pesticides, herbicides), Total Petroleum Hydrocarbons (TPH) and Polychlorinated Biphenyls (PCBs). All samples collected should be analyzed on a five (5) calendar days turn around time and analytical results must be submitted to Program Management, OEGS upon receipt of the analytical results.

3. All sampling shall be conducted by a person trained in sampling protocols using standard accepted practices for obtaining representative samples.

4. The Contractor must also 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 shall be included in the bid price of this Item.

5. The quality of the data from the sampling program is the Contractor's responsibility. The Contractor must furnish all qualified personnel, equipment and instruments necessary to carry out the sampling. Unless directed otherwise, all sampling procedures must follow the DEC sampling guidelines and protocols.

6. All sample containers shall be marked and identified with legible sample labels which shall 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 shall be tracked from laboratory issuance of sample containers through laboratory receipt of the samples.

7. The Contractor shall maintain a bound sample logbook. The Contractor shall provide DDC access to it at all times and shall turn it over to the DDC in good condition at the completion of the work. The following information, as a minimum shall be recorded to the log:

    1. Sample identification number
    2. Sample location
    3. Field observation
    4. Sample type
    5. Analyses
    6. Date/time of collection
    7. Collector's name
    8. Sample procedures and equipment utilized
    9. Date sent to laboratory and name of laboratory

8. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described in subsection B2, if the situation warrants. The substitute sampling parameters shall be of equal or lesser monetary value than those described in subsection B2, as determined by industry laboratory pricing standards.

9. 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.

10. Soils exceeding any of the hazardous characteristic criteria meet the legal definition of hazardous soils (rather than non-hazardous contaminated soils) and shall 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.

8.01 C2.2 METHOD OF MEASUREMENT

Quantities for samples shall be measured as the number of sets of samples that are tested. A set shall be defined as one (1) composite sample analyzed for the full range of parameters as specified in subsection B2.

8.01 C2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 C2 shall 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 sampling and testing of contaminated/potentially hazardous soil.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 C2	Sampling and Testing of Contaminated/ Potentially Hazardous Soil for Disposal Parameters	Set

ITEM 8.01 H HANDLING, TRANSPORTING, AND DISPOSAL OF HAZARDOUS SOILS

8.01 H.1 WORK TO INCLUDE

General: This work shall consist of the handling, transportation and disposal of soils or materials that are listed as hazardous wastes or 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. For the purpose of this specification, soils shall be defined as any materials excavated below the pavement and base for pavement.

Contaminated soils determined to be hazardous under Item 8.01 C2 shall be handled, transported, and disposed of under Item 8.01 H in accordance with the specifications herein.

The independent Environmental Consultant retained by the Contractor, as specified under Item 8.01 S – Health and Safety, shall conduct sampling and analysis of above soils to determine which soils are hazardous.

All work under Item 8.01 H shall be performed under the direct supervision of the Contractor's Environmental Consultant, as approved by the Program Management, Office of Environmental and Geotechnical Services (OEGS).

The Contractor shall 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 shall document the excavation, handling, sampling, and testing, transportation and disposal of hazardous soils. The City shall be listed in the disposal documents as the waste generator.

The Contractor shall supply all equipment, material and labor required to conduct the specified work of this section.

The Contractor shall ensure that all operations associated with the handling, sampling, loading, transportation and disposal of hazardous soils are conducted in a manner to protect site personnel, the public and the environment, in accordance with all applicable Federal, State, and Local laws and regulations.

The Contractor shall 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 shall be disposed of under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

A. Material Handling Plan: Within forty-five (45) calendar days after award of Contract, the Contractor shall submit to the Program Management, OEGS for review, a Material Handling Plan (MHP). The MHP must be approved by the Program Management, OEGS, prior to the Contractor's commencement of work. The MHP shall, at a minimum, consist of:

   1. The Contractor's procedures for identifying contaminated/potentially hazardous soils during excavation, including instrumentation and calibration procedures to be used.

   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.

   3. Identification of the Contractor's proposed waste transporter(s). This information shall include:

      a. Name and waste transporter permit number

b. Address

c. Name of responsible contact for the hauler

d. Telephone number for the contact

e. Any and all necessary permit authorizations for each type of waste transported

f. Previous experience in performing the type of work specified herein

4. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures could include, but are not limited to, agreements from the intended disposal or treatment 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 or the use of off-site stockpiling locations approved by the DEC.

5. A backup facility, should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.

6. Identification of the Contractor's two proposed United State Environmental Protection Agency (EPA) or DEC approved RCRA TSD facilities for hazardous soils.

7. The Contractor shall submit the following information prior to any transportation of soils regarding the temporary and final off-site TSD or facilities where it is proposing to take hazardous soils. The expense of furnishing all information will be included in the Contractor's bid price:

   a. General Information

      (1) Facility name and the EPA 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

      (6) Signed letter of agreement with a TSD for disposal of waste that may not be land-disposed

      (7) Unit of measure utilized at each 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 as they pertain to receipt and management of wastes derived from this Contract.

   c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility.

   d. The Contractor shall specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor shall identify the capacity available in the units and the capacity reserved for the subject waste.

   e. The Contractor shall provide the date of the proposed facility(ies) last compliance inspection under RCRA.

   f. A list of all active (unresolved) compliance orders, agreements, enforcement notices or notices of violations issued to the proposed facility shall be approved. The source and nature of the cause of violation shall be stated, if known.

8. Description of all sampling and analyses that will be needed to obtain disposal facility approval.

8.01 H.2 MATERIALS

A. Containers shall be watertight as required in the DOT regulations and must meet all applicable regulations including but not limited to those in Attachment 2.

B. Polyethylene (20 mil. thickness minimum) to be placed under and (10 mil. thickness minimum) over soil piles. If soils are placed in drums, polyethylene must be placed over the drums.

8.01 H.3 CONSTRUCTION DETAILS

A. Material Handling

1. The Contractor shall institute procedures to protect site personnel and the public from the non-hazardous and hazardous materials as described in Section 8.01 S - Health and Safety.

2. The Contractor shall handle hazardous soil as approved in the MHP.

3. Stockpiled materials at the temporary TSD facility shall be handled according to the facility requirements but at a minimum: shall be drummed or placed on and covered with polyethylene to protect against erosion and leaching into surrounding soils, the stockpile area shall be graded for positive drainage away from the pile, and shall be labeled while being held for sampling prior to permanent disposal.

4. Provide any dewatering that is necessary to complete the work. Water shall be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

B. Off-Site Transportation and Disposal

1. The Contractor shall furnish all labor, equipment and supplies required to transport hazardous materials from the work area to the off-site TSD facility(ies) and to acquire any other items and services required for transporting hazardous materials for storage and/or disposal at an approved off-site facility.

2. Weight Measurement

a. The Contractor shall submit the name and location of the facility where an off-site scale is located. The Contractor shall also submit a plan to the DDC for review outlining procedures on controlling trucks leaving the work site and on-route to the off-site scale. The Contractor shall be responsible for tracking all materials/vehicles from the site to the off-site scale.

b. The Contractor shall provide to the DDC certified tare and gross weight slips for each load received at the accepted facility which shall be attached to each returned manifest.

3. General

a. Manifests: The Contractor shall organize and maintain the material shipment records/manifests required by law.

b. The Contractor shall coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule shall

be compatible with the availability of equipment and personnel for material handling at the job site.

c. The Contractor shall inspect all vehicles leaving the project site to ensure that hazardous soils adhering to the wheels or under carriage are removed prior to the vehicle leaving the site.

d. The Contractor shall obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments. The letter shall 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.

4. Hauling

a. The Contractor shall not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.

b. The Contractor shall coordinate manifesting, placarding, of shipments, and vehicle decontamination. All quantities shall also be measured and recorded upon arrival at the TSD facility. If any deviation between the two records occurs, the matter is to be reported immediately to the DDC and to be resolved by the Contractor to the satisfaction of the DDC.

c. The Contractor shall be held responsible, at its own expense, for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.

d. The Contractor shall ensure that trucks are protected against contamination by properly covering and lining them with compatible material (such as polyethylene) or by decontaminating them prior to any use other than hauling hazardous materials.

e. The Contractor shall be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

f. The Contractor shall only use the transporter(s) identified in the MHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from the DEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the DDC at no additional cost to the City.

g. The Contractor shall develop, document, and implement a policy for accident prevention.

h. The Contractor shall not combine hazardous materials from other projects with material from this project.

i. **The Contractor shall obtain for the City an EPA hazardous waste generator identification number and a representative of Program Management, OEGS will review and sign the manifest as the generator.**

j. No materials shall be transported until approved by the DDC.

5. Off-Site Disposal

a. The Contractor shall be responsible for acceptance of the materials at an approved TSD facility, for ensuring that the facility is properly permitted to accept the stated materials, and that the facility provides the stated storage and/or disposal services.

b. 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 DDC in the same manner and with the same requirements as for the original facility(ies). This shall be done with no extra cost or delay to the City.

c. The Contractor shall submit all results and weights to the DDC.

d. **The Contractor is responsible to pay <u>all fees</u> associated with the generation and disposal of all excavated hazardous waste. These fees include, but are not limited to, the <u>New York State Department of Finance and Taxation (DFT) quarterly fees</u> for hazardous waste and the <u>New York State DEC annual hazardous waste regulatory fee program</u>. The Contractor shall submit a copy of proof of payment to the DDC and Program Management, OEGS.**

6. Equipment and Vehicle Decontamination

The Contractor shall design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting from the exclusion zone. The cost for this work shall be paid under Item 8.01 S - Health and Safety. Disposal of decontamination liquids is described under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

7. Record Keeping

The Contractor shall 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 shall be submitted to the DDC within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. Any manifest discrepancies shall be reported immediately to the DDC and be resolved by the Contractor to the satisfaction of the DDC.

8.01 H.4 METHOD MEASUREMENT

Quantities for hazardous soil shall be measured in tons satisfactorily delivered to the treatment, storage or disposal facility. The tonnage will be determined by off-site truck scales, as per subsection 8.01 H.3.B.2, that are capable of generating load tickets.

8.01 H.5 PRICE TO COVER

A. The unit price bid per ton for Item 8.01 H shall include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, permits, fees, taxes, stockpiling, hauling, and any other incidentals necessary to complete the work as specified herein for handling, transporting and disposal of hazardous soils.

B. Final disposal of non-hazardous materials shall be paid for under Item 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Soils. Disposal of decontamination water shall be paid under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

C The independent Environmental Consultant shall be paid under Item 8.01 S – Health and Safety.

D. Backfill will be paid for under its respective item.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 H	Handling, Transporting, and Disposal of Hazardous Soils	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 his work in a safe manner. The Contractor shall implement a Health and Safety Plan (HASP) for contaminated/hazardous soil intrusive activities as set forth in Occupational Safety and Health Administration (OSHA) Standards 1910.120 and 1926.650-652. The Contractor shall ensure that all workers have at a minimum hazard awareness training. The Contractor shall segregate contaminated work area in secured exclusion zones. These zones shall limit access to Contractor personnel specifically trained to enter the work area. The exclusion zone shall be set up to secure the area from the public and untrained personnel. The project health and safety program shall apply to all construction personnel including persons entering the work area. In addition, the Contractor shall protect the public from on-site hazards, including subsurface contaminants associated with on-site activities. The HASP shall be signed off by a Certified Industrial Hygienist and reviewed by Program Management, Office of Environmental and Geotechnical Services (OEGS).

Work shall 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 shall retain an independent Environmental Consultant to obtain all permits and perform all field screening, air monitoring, community air monitoring, soil sampling, and health and safety services. The independent Environmental Consultant shall at a minimum provide documentation to the Program Management, OEGS demonstrating the minimum requirements as set forth below:

1. The independent Environmental Consultant project supervisor on site and other designated key personnel shall have a minimum of three (3) years experience in the environmental field dealing with issues associated with contaminated soils. Such experience shall include oversight on environmental, specifically volatile organic compound and dust monitoring services as a routine part of its daily operations.

2. The independent Environmental Consultant must be experienced in work of this nature, size, and complexity and must have previous experience in working with the DEC.

3. The independent Environmental Consultant shall 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.

4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its independent Environmental Consultant shall 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 shall 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 shall be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the independent Environmental Consultant shall provide site specific training.

5. The Contractor shall ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations shall 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 shall submit, a written HASP, as specified herein, to Program Management, OEGS for review and comment. The written HASP shall 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 shall make all necessary revisions required by Program Management, OEGS and resubmit the HASP to the Program Management, OEGS for acceptance. Start-up work for the project will not be permitted until written acceptance has been issued by the Program Management, OEGS.

2. Daily safety logs shall be maintained by the Contractor and shall be submitted to the DDC either on request or on completion of the work. Training logs shall be maintained by the Contractor and submitted to the DDC either on request or on completion of the work. Daily logs on air monitoring during excavation activities shall be prepared and maintained by the Contractor and submitted to the DDC either on request or upon completion of the work.

3. A closeout report shall be submitted by the Contractor to the DDC upon completion of the work within the defined exclusion zones. This report shall summarize the daily safety and monitoring logs and provides an overview of the Contractor's performance

regarding environmental and safety issues. The report shall carefully document all areas where contamination has been found including pictures, addresses of locations, and potential sources.

4. Medical Surveillance Examinations: The Contractor shall submit to the DDC 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) shall be provided to the DDC for all construction personnel who are to enter the exclusion zones.

5. Accident Reports: All accidents, spills, or other health and safety incidents shall be reported to the DDC.

D. Health and Safety Plan

The HASP shall comply with OSHA regulations 29 CFR 1910.120/1926.65. This document shall 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 control, dust control, vapor/odor suppression procedures
14. Identification of the nearest hospital and route
15. Confined space procedures
16. 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 shall include all labor, materials, equipment, and insurance necessary to complete the work in accordance with these specifications. The price bid shall 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 shall be included in the price of this item. Disposal of decontamination fluid shall be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

E. Spill Control

1. Payment shall 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 shall 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 shall 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 DOH Community Air Monitoring Plan (CAMP) may be used as guidance.

G. Vapor/Odor Suppression

Payment shall 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 shall include 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 shall 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:

ITEM NUMBER	ITEM	PAYMENT UNIT
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 shall consist of the proper removal and disposal of all contaminated groundwater and decontamination water generated during construction operations. The Contractor shall 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 combined sanitary/storm sewer system or removing contaminated water for off-site disposal. The Contractor shall be responsible to choose a method compatible to the construction work and shall 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 shall 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 shall at a minimum provide documentation to the Program Management, Office of Environmental and Geotechnical Services (OEGS) demonstrating the minimum requirements as set forth below:

1. The Specialist shall 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 shall 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 DEC.
3. The Specialist shall 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 shall 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 shall 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 shall be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Specialist shall be responsible to provide site-specific training to its employees and other affected personnel.
5. The Contractor shall ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations shall 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 shall 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 shall 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 combined sanitary/storm sewer system, the Contractor shall ensure the Specialist treats the water to comply with the New York City Department of Environmental Protection (DEP) Sanitary/Combined and Storm Sewer Effluent Limit concentrations prior to discharge. The Contractor is responsible for providing settling or filtering tanks and any other apparatus required by DEP. 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 shall submit to the Program Management, OEGS for review, a Water Handling Plan (WHP). The WHP must be approved by the Program Management, 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 combined sanitary/storm sewer or off-site disposal). The Contractor shall 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 combined sanitary/storm sewer or off-site disposal), the WHP shall include the information required in paragraphs A and B below, as appropriate.

A. <u>On-site treatment and discharge into New York City combined sanitary/storm sewers.</u>

1. Regulations: The Contractor shall comply with all applicable regulations. This includes but may not be limited to:

   Title 15-New DEP 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 (DEP Division of Sewer Regulation and Control), if discharge to sewer exceeds 10,000 gallons per day.

   c. The Contractor shall comply with DEC State Pollutant Discharge Elimination System (SPDES) Permit Number GP-0-10-001, General Permit for Stormwater Discharges.

   d. Long Island well point permit for Brooklyn and Queens sites, if well points are used for dewatering.

   e. Wastewater quality control application, DEP.

3. The WHP for this portion of the work shall include at a minimum:

a. Identification and design of Contractor's proposed treatment to assure that the water meets the DEP 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 shall supply all settling or filtering tanks, pumps, filters, treatment devices and other appurtenances for treatment, temporary storage and disposal of contaminated water. All equipment shall 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 DEP Sanitary/Combined and Storm sewer Effluent Limit concentrations. The quality of the data is the Contractor's responsibility. Any sampling and testing shall be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.

e. The Contractor shall 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 DEC.

f. Disposal of Treatment Media

(1) The Contractor shall be responsible for disposal or recycling of treatment media in accordance with all Federal, State and Local regulations.

(2) The Contractor shall provide the DDC 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 shall not be considered as a separate pay item; instead it shall be considered as incidental work thereto and included in the unit price bid.**

B. Off-Site Disposal

1. Regulations: The Contractor shall 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 shall be submitted to the DDC prior to initiating any off-site disposal:

a. (1) Name and waste transporter permit number

(2) Address

(3) Name of responsible contact for the hauler

(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 EPA 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 shall also be noted.

e. The Contractor shall 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 shall identify the capacity available in the units and the capacity reserved for the subject waste.

f. The Contractor shall 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 shall be submitted. The source and nature of the cause of violation shall be stated, if known. If groundwater contamination is noted, details of the facility's groundwater monitoring program shall 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 shall be as required in DOT regulations.

4. Execution

a. General

(1) The Contractor shall organize and maintain the material shipment records/manifests required by Federal, State and Local law. The Contractor shall include all bills of lading, certificates of destruction, recycling or treatment and other applicable documents.

(2) The Contractor shall coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule shall be compatible with the availability of equipment and personnel for material handling at the job site.

(3) The Contractor shall inspect all vehicles leaving the project site to ensure that contaminated liquids are not spilling and are contained for transport.

(4) The Contractor shall obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipment. The letter shall 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 shall 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 shall be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.

(7) The Contractor shall be 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 shall not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.

(2) The Contractor shall coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities shall 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 DDC and shall be resolved by the Contractor to the satisfaction of the DDC.

(3) The Contractor shall be held responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site. This cleanup shall be accomplished at the Contractor's expense.

(4) The Contractor shall be responsible for inspecting the access routes for road conditions, overhead clearance and weight restrictions.

(5) The Contractor shall 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 DEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the DDC at no additional cost to the City.

(6) The Contractor shall develop, document, and implement a policy for accident prevention.

(7) The Contractor shall not combine waste materials from other projects with material from this project.

(8) The Contractor shall obtain for the City a hazardous waste generator identification number and will sign the manifest as the generator, if necessary.

(9) No material shall be transported until approved by the DDC.

c. Disposal Facilities

(1) The Contractor shall use only the TSD facility(ies) identified in the WHP for the performance of the work. Substitutions or additions shall not be permitted without prior written approval from the Program Management, OEGS, and, if approved, shall be at no extra cost to the City.

(2) The Contractor shall 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 DDC 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 his 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 DDC in the same manner and with the same requirements as for the original facility(ies). This shall be done with no extra cost or delay to the City.

d. Equipment and Vehicle Decontamination

(1) The Contractor shall design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting the exclusion zone. The cost for this work shall 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 shall be on a per day basis.

8.01 W1.4 PRICE TO COVER

A. The per day price bid for Item 8.01 W1 shall 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 DEP 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 shall 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 DEP Sanitary/Combined and Storm Sewer Effluent Limit concentrations as listed in Attachment 1, and in accordance with the DDC-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 shall be included in the bid price of this Item.

2. All sampling and testing shall be conducted by a person trained in sampling protocols using accepted standard practices and/or the DEC sampling guidelines and protocols.

3. All sample containers shall be marked with legible sample labels which shall 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 shall be tracked from laboratory issuance of sample containers through receipt of the samples.

5. The Contractor shall maintain a bound sample log book. The Contractor shall provide the DDC access to it at all times and shall turn it over to the DDC in good condition at the completion of the work. The following information, as a minimum, shall 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 shall 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 DOH'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 DDC 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 shall 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 shall be measured as the number of sets of samples that are tested for the DEP Sanitary/Combined and Storm Sewer Effluent Limit concentrations. A set shall be defined as one (1) representative sample analyzed for the full range of DEP parameters as specified in attachment 1.

8.01 W2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 W2 shall 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 shall be included in the bid price of this Item.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 W2	Sampling and Testing of Contaminated Water	Set

ATTACHMENT 1: NYCDEP LIMITATIONS FOR DISCHARGE TO STORM, SANITARY/COMBINED 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 0.69	mg/l mg/l	Instantaneous 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 shall 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 shall 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 EPA method 1664 Rev. A. Non-Polar Material shall mean that portion of the oil and grease that is not eliminated from a solution containing N–Hexane, or any other extraction solvent the EPA shall prescribe, by silica gel absorption.

3 Analysis for PCB=s is required if ***both*** conditions listed below are met:
1) if proposed discharge ≥ 10,000 gpd;
2) if duration of a discharge > 10 days.
Analysis for PCB=s must be done by EPA 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 ≥ 10,000 gpd, the TSS limit is 350 mg/l. For discharge < 10,000gpd, 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.

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. New York State Department of Environmental Conservation (DEC), Spills Technology and Remediation Series (STARS) Memo #1
3. 6 NYCRR 360-1 DEC 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, EPA Office of Emergency and Remedial Response Publication, 9285.1-03
19. NIOSH / OSHA / USCG / EPA 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 shall 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 Sanitary/Combined 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

New Storm and Sanitary Sewers Extension, Sanitary Sewer and Water Main Replacement in Amboy Road (Underpass) and South Railroad Avenue, etc.

Staten Island, New York

DDC PROJECT NO. SER200151

WOL NO. 13334-LBA-4-12101

CONTRACT REGISTRATION NO. 20151405733

Prepared for:

Department of Design and Construction

Office of Environmental and Geotechnical Services

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PROJECT NO. 2011040.306

November 27, 2017

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EXECUTIVE SUMMARY

On behalf of the New York City Department of Design and Construction (DDC), Louis Berger & Assoc., PC. (Louis Berger) conducted a Phase II Subsurface Corridor Investigation (Phase II SCI) of the SER200151 Corridor in the Bay Terrace Section of the Borough of Staten Island, New York (hereinafter referred to as the "Corridor"). Construction is proposed along the Corridor for the extension of storm sewers to alleviate flooding and ponding during rain events, the extension and replacement of sanitary sewers according to the drainage plan, and the replacement of old, unlined cast iron water mains to improve water distribution in and surrounding the project area. The approximately 0.58-mile (3,038-foot) long Corridor is identified on the Figure 1 Topographic Corridor Location Map and is comprised of the following street segments:

Street Segments	Length (feet)
Amboy Road from 50 feet west of Ainsworth Avenue to 100 feet north of South Railroad Avenue (Staten Island Railway [SIR] underpass)	211
Bartow Street from South Railroad Avenue to Durant Avenue	1,056
Redgrave Avenue from 50 feet northwest of Durant Avenue to 100 feet southeast of Durant Avenue	740
Taunton Street from 50 feet northwest of Durant Avenue to Durant Avenue	50
South Railroad Avenue from Amboy Road to 50 feet northeast of Bartow Street	400
Durant Avenue from 50 feet southwest of Bartow Street to 50 feet northeast of Taunton Street	581

Louis Berger prepared a Phase I Corridor Assessment Report (Phase I CAR), dated April 19, 2017, which identified one (1) final "High" risk site and one (1) final "Moderate" risk site with respect to potential impact on the Corridor, and recommended conducting a Phase II SCI.

The Phase II SCI was conducted to determine if the Corridor's environmental condition may potentially impact proposed construction activities. The proposed depth of excavation for the DDC infrastructure project is estimated to range between 6 and 23 feet below grade (ftbg), and mostly at 10 ftbg. Based on the review of available information provided by the DDC, and discussions with the DDC Project Manager, Louis Berger proposed the advancement of 10 soil borings along the Corridor area to characterize soils that may be encountered during construction.

The Phase II SCI was conducted on October 3 through 6, 2017, and consisted of the following components:

Scope of Work

- The advancement of 10 soil borings (SB01 through SB10) utilizing hand tools and a Geoprobe® drill rig with direct push technology. Each soil boring was advanced to terminal depths ranging from 4 to 20 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 either the 6-inch interval above the water table (when encountered), the 6-inch interval above the bottom of the proposed excavation depth (where recovery allowed), or the 6-inch interval showing the highest potential for contamination based on field observation. The soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260C;

- The collection of one (1) composite waste classification soil sample from each boring. The waste classification sample was a composite from ground surface to the bottom of the proposed excavation depth (where recovery allowed), except where groundwater was encountered and the composite sample was collected from ground surface to the groundwater table. The waste classification samples were analyzed for Polycyclic Aromatic Hydrocarbons (PAHs) by USEPA Method 8270C, Total Petroleum Hydrocarbons-Diesel Range Organics/Gasoline Range Organics (TPH-DRO/GRO) by USEPA 8015B, Polychlorinated Biphenyls (PCBs) by USEPA Method 8082A/608, Toxicity Characteristic Leaching Procedure (TCLP) Metals (Resource Conservation and Recovery Act [RCRA] 8) by USEPA Method 1311/6010B, and RCRA Characteristics, including ignitability, reactivity and corrosivity, by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, respectively, as well as Paint Filter Test by USEPA Method 9095B;

- The collection of two (2) groundwater samples from two (2) existing observation wells, B-2(OW) and B-24(OW). The groundwater samples were analyzed for the New York City Department of Environmental Protection (NYCDEP) Sanitary or Combined Sewer Discharge Parameters; and,

- The preparation of this report, which includes tables summarizing the laboratory analytical results, and figures depicting boring locations, significant Corridor features and, if applicable, contamination occurrence and distribution.

In order to evaluate subsurface soil quality for waste classification purposes, laboratory analytical results of grab and composite soil samples were compared with regulatory standards identified in: New York State Department of Environmental Conservation (NYSDEC) Subpart 375-6: Remedial Program Restricted-Residential and Commercial Use (Track 2) Soil Cleanup Objectives (SCOs) and Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and 6 New York Codes, Rules and Regulations (NYCRR) Part 371. In order to evaluate the groundwater quality, the laboratory analytical results for the groundwater samples were compared to the NYCDEP Sewer Discharge Criteria.

Based on the evaluation of the field screening data and the laboratory analytical results, and a comparison to applicable regulatory standards, the following findings and conclusions are presented:

Findings and Conclusions

- No visual or olfactory evidence of contamination was observed and no elevated PID readings were detected at any soil boring location;

- Fill material, consisting of dusky yellowish brown to pale reddish brown, dark gray to pale reddish gray, clayey silt and silty clay with sand and gravel, and sand with clayey silt, silty clay, and gravel, was found in all 10 soil boring locations at depths ranging from 0 to 6 ftbg. Anthropogenic fill consisting of brick, asphalt, and wood was observed in two (2) of the 10 borings, SB01 and SB02, to a maximum depth of 6 ftbg (SB02). Refusal was encountered in one (1) boring prior to the planned boring depth of 20 ftbg. Refusal in boring SB06 at 4 ftbg was likely due to large rocks and boulders common to the geologic formations of the area;

- Bedrock was not encountered at any of the boring locations;

- Groundwater was encountered in soil borings SB02, SB04, SB05, and SB09 at depths ranging from 7 ftbg (SB09) to 15.0 ftbg (SB02), and in the observation wells at depths of 4.8 ftbg and 6.3 ftbg in B-2(OW) and B-24(OW), respectively;

- Three (3) VOCs (2-butanone, acetone, and methylene chloride) were detected above the laboratory's reporting limits in the soil samples collected from SB01 and SB02; however, all detected concentrations were below the applicable regulatory standards;

- Several PAHs were detected above the laboratory's reporting limits in three (3) soil samples (SB02, SB07, and SB09); however, all detected concentrations were below the applicable regulatory standards;

- No PCBs were detected above the laboratory's reporting limits in any of the soil samples collected as part of this Phase II SCI;

- Waste classification laboratory results indicate that TCLP barium was detected in all soil samples, and TCLP nickel was detected in all soil samples, with the exception of SB07. All detected concentrations were below RCRA Hazardous Waste Levels;

- TPH-GRO was not detected in any of the waste classification soil samples, while TPH-DRO concentrations were detected above the laboratory's reporting limits in two (2) waste classification soil samples, SB02 and SB06, with respective concentrations of 77 parts per million (ppm) and 74 ppm. However, there are no regulatory standards for TPH. Lithology shows the presence of fill material in all of the soil borings; therefore, the TPH-DRO detections may be attributed to historic fill material. It is also possible that the TPH concentrations observed during the Phase II SCI are the result of petroleum releases within or adjacent to the Corridor;

- The analytical laboratory results of the soil samples show that the RCRA parameters (reactivity, ignitability, or corrosivity) were within the RCRA standards. Therefore, results of these analyses indicate that the soil samples collected do not exhibit evidence of hazardous waste characteristics; and,

- The analytical laboratory results of groundwater samples B-2(OW) and B-24(OW), which were unfiltered, showed exceedances of the NYCDEP Sewer Discharge Criteria for copper, lead, nickel, zinc, and total suspended solids.

Recommendations

- The Contract documents should identify provisions for managing, handling, transporting and disposing of any 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 and should be implemented during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor should implement dust control measures to minimize potential airborne contaminants (i.e., PAHs and TPH) released into the ambient environment as a direct result of construction activities;

- Groundwater was encountered during the Phase II SCI activities. Therefore, if dewatering is necessary, the contractor will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis, as well as pretreatment by removal of metals and total suspended solids, prior to discharge into the sanitary or 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 Corridor-specific health and safety plan (HASP) that will meet the requirements set forth by the Occupational, Safety and Health Administration (OSHA), the New York State Department of Health (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.

1.0 INTRODUCTION

On behalf of the New York City Department of Design and Construction (DDC), Louis Berger & Assoc., PC. (Louis Berger) conducted a Phase II Subsurface Corridor Investigation (Phase II SCI) of the SER200151 Corridor in the Bay Terrace section of the Borough of Staten Island, New York (hereinafter referred to as the "Corridor"). Construction is proposed along the Corridor for the extension of storm sewers to alleviate flooding and ponding during rain events, the extension and replacement of sanitary sewers according to the drainage plan, and the replacement of old, unlined cast iron water mains to improve water distribution in and surrounding the project area.

The approximately 0.58-mile (3,038-foot) long Corridor is identified on the Figure 1 Topographic Corridor Location Map and is comprised of the following street segments:

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Louis Berger prepared a Phase I Corridor Assessment Report (Phase I CAR), dated April 19, 2017, which identified one (1) final "High" risk site and one (1) final "Moderate" risk site with respect to potential impact on the Corridor, and recommended conducting a Phase II SCI.

The Phase II SCI was conducted to determine if the Corridor's environmental condition may potentially impact proposed construction activities. The proposed depth of excavation for the DDC infrastructure project is estimated to range between 6 and 23 feet below grade (ftbg), and mostly at 10 ftbg. Based on the review of available information provided by the DDC, and discussions with the DDC Project Manager, Louis Berger proposed the advancement of 10 soil borings along the Corridor area to characterize soils that may be encountered during construction.

1.1 Summary of Previous Environmental Investigations

Louis Berger prepared a Phase I CAR for the Corridor dated April 19, 2017. The Phase I CAR presented the results of an investigation to document the current use, a review of Sanborn fire

insurance maps to document historical use, and a review of the state and federal government databases to identify sites on or adjoining the Corridor that constitute a potential environmental concern.

Based on Risk Criteria protocol established by the DDC, findings presented in the Phase I CAR defined these sites as posing either "High", "Moderate", or "Low" risk for possible contamination to the subsurface environment along the Corridor. Louis Berger identified 13 sites categorized as initially having a "High" risk and no sites categorized as initially having a "Moderate" risk with respect to potential impact on the project in relation to the Corridor. Based on modifying information, Louis Berger has identified the following one (1) final "High" risk site and one (1) final "Moderate" risk site with respect to potential impact on the project Corridor. The final "High" and "Moderate" risk sites are listed below:

"High" Risk Site:

No.	Facility Name	Address	Map ID
1	Private Residence (historical auto station)	3561 Amboy Road	H#1

"Moderate" Risk Site:

No.	Facility Name	Address	Map ID
1	The Barbara Esselborn Bay Terrace School, P.S. 53 (active tanks and regulated waste generation)	330 Durant Avenue	M#1

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 Corridor features and, if applicable, contamination occurrence and distribution. Hand-clearing activities were performed by Aquifer Drilling and Testing (ADT). Soil boring oversight and sample collection were conducted by Mr. Martin Donovan, 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). Field-derived Quality Assurance/Quality Control (QA/QC) samples (i.e., blind duplicates, equipment/rinsate blanks, and trip blanks) were not collected for this project.

The field investigation was conducted on October 3 through 6, 2017, and consisted of the following components:

- The advancement of 10 soil borings (SB01 through SB10) utilizing hand tools and a Geoprobe® drill rig with direct push technology. Each soil boring was advanced to terminal depths ranging from 4 to 20 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);

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- The collection of two (2) groundwater samples from two (2) existing observation wells, B-2(OW) and B-24(OW). The groundwater samples were analyzed for the New York City Department of Environmental Protection (NYCDEP) Sanitary or Combined Sewer Discharge Parameters; and,

- The preparation of this report, which includes tables summarizing the laboratory analytical results, and figures depicting boring locations, significant Corridor features and, if applicable, contamination occurrence and distribution.

2.0 CORRIDOR INFORMATION

2.1 Corridor Location, Description and Use

The approximately 0.58-mile (3,038-foot) long Corridor is located in the Bay Terrace section of the Borough of Staten Island, New York. Currently, the Corridor is developed with paved roadways and existing infrastructure systems, and exhibits evidence of utilities, such as manholes, catch basins, pavement scars, utility mark-outs, and valve covers throughout the roadways and sidewalk areas. This indicates the presence of buried utilities, including gas, sewer, water, electric and communication. Additionally, overhead electrical lines are present along the Corridor.

Adjoining property usage consists primarily of residential properties. Tracks for the Staten Island Railroad (SIR) are present along the northwest portion of the Corridor and become elevated when they pass over Amboy Road. The Barbara Esselborn Bay Terrace School (P.S. 53), a "Moderate" risk site, is located on the southeast portion of the Corridor. An area map of the Corridor and environs is presented as Figure 1.

2.2 Description of Surrounding Properties

Generally, surrounding property use is residential in nature, with some transportation and public properties, such as the Bay Terrace SIR station located approximately 500 feet to the northeast of the Corridor, and the Great Kills Park, overseen by New York Harbor Parks, located southeast of the Corridor. Great Kills Park (Gateway National Recreation Area) is not currently on the National Priorities List (NPL) but is being addressed by the National Park Service (NPS) under the authority of the Comprehensive Environmental, Response, Compensation, and Liability Act (CERCLA) (i.e., "Superfund" law). The area of concern comprises approximately 265 acres of Great Kills Harbor. Waste material was used to fill in wetlands and increase the usable land footprint in the 1940s and 1950s, as commonly practiced. In 2005, radioactivity was detected during an aerial survey conducted by the New York Police Department as part of a baseline radiological mapping of New York City. After further investigations, it was determined that radium-226 from some of the fill material was the source of the radioactivity. The NPS has performed a Preliminary Assessment, closed the site, performed localized removal actions, and installed perimeter fencing to restrict access to the park. In 2015, the NPS began conducting a remedial investigation and feasibility study, which remains ongoing, in order to evaluate a permanent remedy for the radiological contamination at the site.

2.3 Corridor and Regional Topographic Setting

Louis Berger reviewed the United States Geologic Survey (USGS) *7.5-minute Topographic Quadrangle Map for Arthur Kill* (2013) to determine the topography at the Corridor. The Corridor exhibits a topographic elevation change of approximately 33 feet. The elevation of the Corridor varies from approximately 32 feet above mean sea level (msl) at the intersection of Taunton Street and Durant Avenue to approximately 65 feet above msl at the intersection of Bartow Street and South Railroad Avenue. Under natural conditions, surface runoff at the Corridor would be expected to follow the topography, which generally slopes to the southeast toward Lower Bay and Great Kills Harbor.

2.4 Corridor and Regional Geology

Based on the *NYC Detailed Soil Survey* via Web Soil Survey (National Cooperative Soil Survey, Version 6, September 24, 2016), the entire Corridor is situated within the Urban land-Greenbelt complex (parent material consisting of asphalt over human-transported material, and loamy human-transported material). Bartow Street exhibits two different variations of the Urban land-Greenbelt complex soil units (UGA 0%-3% slopes and UGB 3%-8% slopes); between Durant Avenue and approximately 50 feet south of the intersection with O'Gorman Avenue is the UGB soil unit, and between the intersection of O'Gorman Avenue and Bartow Street, moving north toward South Railroad Avenue, is the UGA soil unit. The UGA and UGB soil units extend along the entire Durant Avenue section of the Corridor moving from Taunton Street to Ainsworth Street. Beneath the northerly section of the Corridor at the intersection of Amboy Road and South Railroad Avenue (extending approximately 50 feet north of the overhead railroad tracks along Amboy Road, and to the east approximately 200 feet along South Railroad Avenue), the soil unit is the Urban Land, till substratum (parent material consisting of asphalt over human-transported material).

Based on the *New York City Reconnaissance Soil Survey* (2005), the Corridor is situated on the Pavement & buildings-Greenbelt-Cheshire complex. The Pavement & buildings-Greenbelt-Cheshire complex is comprised of nearly level to gently sloping areas of till plains and moraines that have been partially filled with natural soil materials, mostly for residential use, a mixture of anthropogenic soils and red till soils, with up to 80 percent impervious pavement and buildings covering the surface.

During the advancement of soil borings for this Phase II SCI, fill material was observed in all 10 borings at depths ranging from 0 to 6 ftbg. Anthropogenic fill consisting of brick, asphalt and wood

was observed in two (2) of the 10 borings, SB01 (brick, asphalt) and SB02 (wood) to a maximum depth of 6 ftbg (SB02).

2.5 Corridor and Regional Hydrogeology

Based on *Geologic and Geohydrologic Reconnaissance of Staten Island, New York* (Soren, 1988), the Corridor appears to be oriented on the Upper Pleistocene Deposits. The deposits in this region of Staten Island primarily consist of outwash deposits that are stratified fine to coarse sand and gravel. The outwash deposits underlie the flat area of eastern Staten Island from Amboy and Richmond Roads to the shore between Arrochar and Great Kills Parks. The Corridor is bordered to the north by the Harbor Hill Terminal Moraine, which consists of unsorted sand, gravel, cobble, and boulders, all of which seem to be largely derived from local rock units, within a clayey and silty matrix. Underlying this geologic unit is the unconsolidated deposits of the Raritan Formation. The Upper Cretaceous Raritan Formation, undivided, on Staten Island consists of stratified white, light- to dark-gray, and red beds and lenses of clay, silt, and sand; lignite and pyrite are common. The formation is present from about Fort Wadsworth southwestward to the southern edge of LaTourette Park, and westward toward the Arthur Kill and into New Jersey; it also extends eastward across The Narrows into Long Island. A geologic well log in the northern corner of Great Kills Park shows penetration through the Raritan and into the underlying Serpentine bedrock. These deposits are then underlain by Manhattan Schist, a gray crystalline metamorphic-rock complex, consisting largely of gneissic rock with intrusions of Staten Island Serpentine, a greenish ultrabasic crystalline rock which is strongly resistant to weathering.

A Record of Borings (ROBs) from the geotechnical investigation conducted at the Corridor by URS Corporation in January of 2017 was provided by DDC. The ROBs indicate groundwater may be encountered in the northern portion of the Corridor at a depth of approximately 4.5 ftbg, at the intersection of South Railroad Avenue and Ainsworth Avenue (B-2(OW)). Groundwater at the intersection of O'Gorman Avenue and Bartow Street was observed to be 12.6 ftbg in B-10(OW) and 6.1 ftbg in B-24(OW) at the intersection of Taunton Street and Durant Avenue. The ROBs also show that groundwater is deeper than 42 ftbg in the southern portion of the Corridor, as evidenced by a dry observation well at the intersection of Bartow Street and Durant Avenue (B-16(OW)).

During the Phase II SCI field activities, groundwater was encountered between 7 ftbg (SB09) and 15 ftbg (SB02) in the soil borings and between 4.8 ftbg and 6.3 ftbg in observation wells B-2(OW) and B-24(OW), respectively. The nearest surface water bodies are King Fisher Pond located 0.21 miles away to the northwest of the Corridor and Great Kills Harbor located 0.41 miles south of the Corridor. Based on the topography and proximity of Great Kills Harbor relative to the Corridor,

groundwater is anticipated to flow south. Groundwater flow can also be influenced by seasonal fluctuations in precipitation, local variations in geology, underground anthropogenic structures, local dewatering operations, and/or tidal influence of the Great Kills Harbor.

Based on the information supplied by the United States Fish and Wildlife Service National Wetland Inventory (2017) and Environmental Data Resources (EDR), of Shelton, CT, the Corridor does not fall within a state or national wetland area. The nearest wetland is located approximately 250 feet away and consists of Freshwater Pond wetlands (PUBHh) and Freshwater Emergent wetlands (PEM5Fh) located west of the northernmost portion of the Corridor in Siedenburg Park, bordering Greaves Avenue and Dewey Avenue. According to the New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper, the nearest State-regulated wetlands is Evergreen Park identified as AR-9 and located approximately 860 feet to the northwest of the Corridor.

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were accessed from the FEMA website. One (1) map panel (Panel Number 3604970317F, revision September 5, 2007) shows that the entire Corridor is located in the Flood Zone X. This flood zone is an area of minimal flood hazard.

3.0 CORRIDOR EVALUATION

Louis Berger advanced 10 soil borings during the field investigation conducted on October 3 through 6, 2017. The field investigation was performed at designated areas in the vicinity of the planned excavation areas. All hand-clearing and drilling activities were performed by ADT under the oversight of Louis Berger. A summary of the field observations and details of the soil borings are provided in Table 1.

3.1 Soil Quality Investigation

Soil borings SB01, SB06, and SB10 were advanced utilizing evasive methods (i.e., a hand auger and/or hand tools) to terminal depths ranging from 4 to 6 ftbg. Refusal was encountered in one (1) of the 10 soil boring locations prior to the planned boring depth. Refusal in SB06 at 4 ftbg was likely due to large rocks and boulders common to the geologic formations of the area. Soil borings SB02 through SB05, and SB07 through SB09 were advanced utilizing both evasive methods (i.e., a hand auger and/or hand tools) and a Geoprobe® direct push drill rig to terminal depths ranging from 10 to 20 ftbg. To ensure the clearance of sensitive subsurface utilities and features, the soil boring locations SB02 through SB05, and SB07 through SB09 were pre-cleared to a depth of 6 ftbg via evasive methods (i.e., a hand auger). 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 the grass along the southeastern curb line of South Railroad Avenue, 24 feet and 6 inches southeast of the northwestern curb line of South Railroad Avenue, and 31 feet and 3 inches northeast of the northeastern curb line of Ainsworth Avenue.

- **SB02** – Located in a tree pit along the southwestern curb line of Bartow Street, 39 feet and 2 inches southwest of the northeastern curb line of Bartow Street, and 20 feet and 7 inches southeast of the southeastern curb line of South Railroad Avenue.

- **SB03** – Located in the dirt along the northwestern curb line of South Railroad Avenue, 20 feet and 2 inches northwest of the southeastern curb line of South Railroad Avenue, and 91 feet and 4 inches northeast of the northeastern curb line of Bartow Street.

- **SB04** – Located in the grass along the northeastern curb line of Bartow Street, 40 feet northeast of the southwestern curb line of Bartow Street, and 136 feet and 8 inches southeast of the southeastern curb line of South Railroad Avenue.

- **SB05** – Located in the grass along the northeastern curb line of Bartow Street, 39 feet and 2 inches northeast of the southwestern curb line of Bartow Street, and 32 feet and 8 inches northwest of the northwestern curb line of O'Gorman Avenue.

- **SB06** – Located in the grass along the southwestern curb line of Bartow Street, 40 feet southwest of the northeastern curb line of Bartow Street, and 214 feet and 11 inches southeast of the southeastern curb line of O'Gorman Avenue.

- **SB07** – Located in the grass along the northwestern curb line of Durant Avenue, 38 feet and 8 inches northwest of the southeastern curb line of Durant Avenue, and 49 feet and 11 inches southwest of the southwestern curb line of Bartow Street.

- **SB08** – Located in the grass along the southwestern curb line of Redgrave Avenue, 48 feet and 8 inches southwest of the northeastern curb line of Redgrave Avenue, and 49 feet and 11 inches northwest of the northwestern curb line of Durant Avenue.

- **SB09** – Located in the grass along the northwestern curb line of Durant Avenue, 40 feet and 3 inches northwest of the southeastern curb line of Durant Avenue, and 96 feet and 10 inches southwest of the southwestern curb line of Taunton Street.

- **SB10** – Located in the grass along the northeastern curb line of Taunton Street, 40 feet and 6 inches northeast of the southwestern curb line of Taunton Street, and 46 feet and 3 inches northwest of the northwestern curb line of Durant Avenue.

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 PAHs, TCLP metals, PCBs, total petroleum hydrocarbons, RCRA characteristics, and conditions relative to waste disposal in each boring, composite soil samples were collected at each boring location. Based on the DDC protocol regarding soil sample collection for waste classification analysis, composite soil samples for SB01 through SB10 were collected from the ground surface to the bottom of the proposed excavation depth, except in borings SB02, SB04, SB05, and SB09, where groundwater was encountered and composite samples were collected from ground surface to the encountered water table. Composite soil samples were collected by mixing the soil from the column in a decontaminated stainless steel bowl.

In order to identify representative conditions relative to the presence of VOCs, grab samples were to be collected from either the 6-inch interval above the water table (when encountered), the 6-inch interval above the bottom of the proposed excavation (where recovery allowed), or from the 6-inch interval showing the highest potential for contamination based on field observation. However, all grab samples were collected from the either the 6-inch interval above the water table or the 6-inch interval above the bottom of the proposed excavation depth, except where refusal was encountered and samples were collected from the 6-inch interval above the refusal, since no signs of contamination were observed in the field.

Soil classification information, including stratigraphy, is documented on the boring logs provided in Appendix B. All equipment was cleaned by rinsing with deionized water, scrubbed with Alconox®, and then rinsed with deionized water a second time between each sample location to prevent any cross-contamination. Following the completion of each boring, the boreholes were backfilled with removed material and then sealed with ready mixed concrete or cold patch asphalt, where appropriate.

3.2 Groundwater Quality Investigation

Two (2) groundwater samples (B-2(OW) and B-24(OW)) were collected from existing observation wells (OW) previously installed by URS Corporation, as part of a geotechnical boring program on behalf of DDC (Record of Boring No. 4196, dated January 13, 2017). Observation well B-2(OW) is located in the northwestern segment of the Corridor along South Railroad Avenue between Ainsworth Avenue and Bartow Street. Observation well B-24(OW) is located in the southeastern segment of the Corridor along Durant Avenue between Redgrave Avenue and Taunton Street. Groundwater was measured at a depth of approximately 4.8 ftbg in B-2(OW) and 6.3 ftbg in B-24(OW). Both observation wells were purged using a peristaltic pump and dedicated tubing until three well volumes were purged. After the wells were purged, samples B-2(OW) and B-45(OW) were collected.

3.3 Laboratory Analyses

Soil and groundwater samples were submitted to HC-V of Fairfield, New Jersey, which is a NYSDOH ELAP-certified analytical laboratory (No. 11408). Field-derived Quality Assurance/Quality Control samples were not collected for this project. Laboratory analytical reports are included in Appendix C.

The grab soil samples SB01 through SB10 were analyzed for TCL VOCs using USEPA Method 8260C. The composite soil samples SB01 through SB10 were analyzed for PAHs by USEPA

Method 8270C, TPH-DRO/GRO by USEPA 8015B, PCBs by USEPA Method 8082A/608, 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, respectively, as well as Paint Filter Test by USEPA Method 9095B, for waste classification purposes.

The groundwater samples were analyzed for the NYCDEP Sanitary or Combined Sewer Discharge Parameters.

3.4 Data Evaluation

In order to evaluate subsurface soil quality for waste classification purposes, laboratory analytical results of grab and composite soil samples were compared with regulatory standards identified in: NYSDEC Subpart 375-6: Remedial Program Restricted-Residential and Commercial Use (Track 2) Soil Cleanup Objectives (SCOs) and Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and 6 New York Codes, Rules and Regulations (NYCRR) Part 371.

The analytical results for the groundwater samples were compared to the NYCDEP Sewer Discharge Criteria.

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 and olfactory indications of contamination were encountered in any of the 10 borings. There were no elevated PID readings detected. A summary of the environmental boring data is presented in Table 1.

4.2 Laboratory Analytical Results

4.2.1 Target Compound List (TCL) Volatile Organic Compounds (VOCs) in Soil

Several VOCs, including 2-butanone, acetone, and methylene chloride, were detected above the laboratory's reporting limits in the soil samples collected from SB01 and SB02; however, all detected concentrations were below the applicable regulatory standards. A summary of the TCL VOC detections is provided as Table 2.

4.2.2 Polycyclic Aromatic Hydrocarbons (PAHs) in Soil

Several PAHs, including benzo[b]fluoranthene, chrysene, fluoranthene, naphthalene, and pyrene, were detected above the laboratory's reporting limits in three (3) soil samples (SB02, SB07 and SB09); however, all detected concentrations were below the applicable regulatory standards. A summary of the PAH detections is provided as Table 3.

4.2.3 Polychlorinated Biphenyls (PCBs) in Soil

No PCBs were detected above the laboratory's reporting limits in any of the soil samples collected as part of this Phase II SCI. A summary of the PCB detections is provided as Table 4.

4.2.4 Waste Classification of Soil

TCLP Metals

Waste classification laboratory results indicate that TCLP barium was detected in all of the soil samples at concentrations ranging from 0.29 parts per million (ppm) (SB08) to 0.78 ppm (SB06). TCLP nickel was detected all soil samples, with the exception of SB07, at concentrations ranging from 0.10 ppm (SB03) to 0.79 ppm (SB06). All detected concentrations of barium were below the applicable regulatory standards. There is no standard for nickel. Results of the TCLP metals analysis indicate that the soil samples collected do not exhibit evidence of the Hazardous Waste characteristics for Toxicity. A summary of the waste classification parameters is provided as Table 5.

Total Petroleum Hydrocarbons (TPH)

TPH-GRO was not detected in any of the waste classification soil samples, while TPH-DRO concentrations were detected above the laboratory's reporting limits in two (2) waste classification soil samples, SB06 (74 ppm) and SB02 (77 ppm). No regulatory standards exist for TPH. A summary of the waste classification parameters is provided as Table 5.

RCRA Parameters (Reactivity, Corrosivity, Ignitability)

The analytical laboratory results of the soil samples show that the RCRA parameters (reactivity, ignitability, or corrosivity) were within the RCRA standards. The pH of the samples was found to be within the RCRA limits of 2 and 12.5. The flash point was greater than 140 degrees Fahrenheit in the soil samples; therefore, the RCRA characteristics for ignitability were negative. Reactive cyanide and reactive sulfide were not detected in any of the soil samples.

Therefore, results of these analyses indicate that the waste classification soil samples collected do not exhibit evidence of hazardous waste characteristics. A summary of the waste classification parameters is provided as Table 5.

4.2.5 NYCDEP Sewer Discharge Criteria

Laboratory results of groundwater samples B-2(OW) and B-24(OW), which were not filtered prior to analysis, showed exceedances of the NYCDEP Sewer Discharge Criteria. The groundwater sample collected from B-2(OW) showed exceedances of nickel (15 milligrams/Liter [mg/L]), zinc (32 mg/L), and total suspended solids (460,000 mg/L). The groundwater sample collected from B-24(OW) showed exceedances for copper (64 mg/L), lead (21 mg/L), nickel (740 mg/L), zinc (300 mg/L), and total suspended solids (2,600,000 mg/L). A summary of selected NYCDEP parameters in groundwater is provided as Table 6.

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 findings, conclusions, and recommendations are presented:

Findings and Conclusions

- No visual or olfactory evidence of contamination was observed and no elevated PID readings were detected at any soil boring location;

- Fill material, consisting of dusky yellowish brown to pale reddish brown, dark gray to pale reddish gray, clayey silt and silty clay with sand and gravel, and sand with clayey silt, silty clay, and gravel, was found in all 10 soil boring locations at depths ranging from 0 to 6 ftbg. Anthropogenic fill consisting of brick, asphalt and wood was observed in two (2) of the 10 borings (SB01 and SB02) to a maximum depth of 6 ftbg (SB02). Refusal was encountered in one (1) boring prior to the planned boring depth of 20 ftbg. Refusal in boring SB06 at 4 ftbg was likely due to large rocks and boulders common to the geologic formations of the area;

- Bedrock was not encountered at any of the boring locations;

- Groundwater was encountered in soil borings SB02, SB04, SB05, and SB09 at depths ranging from 7 ftbg (SB09) to 15.0 ftbg (SB02), and in the observation wells at depths of 4.8 ftbg and 6.3 ftbg in B-2(OW) and B-24(OW), respectively;

- Three (3) VOCs (2-butanone, acetone, and methylene chloride) were detected above the laboratory's reporting limits in the soil samples collected from SB01 and SB02; however, all detected concentrations were below the applicable regulatory standards;

- Several PAHs were detected above the laboratory's reporting limits in three (3) soil samples (SB02, SB07, and SB09); however, all detected concentrations were below the applicable regulatory standards;

- No PCBs were detected above the laboratory's reporting limits in any of the soil samples collected as part of this Phase II SCI;

- Waste classification laboratory results indicate that TCLP barium was detected in all soil samples, and TCLP nickel was detected in all soil samples, with the exception of SB07. All detected concentrations were below RCRA Hazardous Waste Levels;

- TPH-GRO was not detected in any of the waste classification soil samples, while TPH-DRO concentrations were detected above the laboratory's reporting limits in two (2) waste classification soil samples, SB02 and SB06, with respective concentrations of 77 ppm and 74 ppm. However, there are no regulatory standards for TPH. Lithology shows the presence of fill material in all of the soil borings; therefore, the TPH-DRO detections may be attributed to historic fill material. It is also possible that the TPH concentrations observed during the Phase II SCI are the result of petroleum releases within or adjacent to the Corridor;

- The analytical laboratory results of the soil samples show that the RCRA parameters (reactivity, ignitability, or corrosivity) were within the RCRA standards. Therefore, results of these analyses indicate that the soil samples collected do not exhibit evidence of hazardous waste characteristics; and,

- The analytical laboratory results of groundwater samples B-2(OW) and B-24(OW), which were unfiltered, showed exceedances of the NYCDEP Sewer Discharge Criteria for copper, lead, nickel, zinc, and total suspended solids.

Recommendations

- The Contract documents should identify provisions for managing, handling, transporting and disposing of any 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 and should be implemented during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor should implement dust control measures to minimize potential airborne contaminants (i.e., PAHs and TPH) released into the ambient environment as a direct result of construction activities;

- Groundwater was encountered during the Phase II SCI activities. Therefore, if dewatering is necessary, the contractor will be required to obtain a NYCDEP sewer discharge permit and

perform sampling and laboratory analysis, as well as pretreatment by removal of metals and total suspended solids, prior to discharge into the sanitary or 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 Corridor-specific health and safety plan (HASP) that will meet the requirements set forth by the Occupational, Safety and Health Administration (OSHA), the New York State Department of Health (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.

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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Project Manager

Report Reviewed By:

Michael J. McCloskey, PG
Principal Geologist

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
TABLE 3 – SUMMARY OF PAHs DETECTED IN SOIL
TABLE 4 – SUMMARY OF PCBs DETECTED IN SOIL
TABLE 5 – SUMMARY OF WASTE CLASSIFICATION RESULTS IN SOIL
TABLE 6 - GROUNDWATER QUALITY COMPARED TO NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NYC DEP) LIMITATIONS FOR EFFLUENT TO SANITARY OR COMBINED SEWERS

Table 1. Summary of Environmental Boring Data
Phase II Subsurface Corridor Investigation for New Storm and Sanitary Sewers Extension, Sanitary Sewer and Water Main Replacement in Amboy Road (Underpass) and South Railroad Avenue, etc.
Staten Island, New York

Boring No.	Sample ID	High PID (ppm)	Sample Interval (ftbg)	Total VOCs (mg/kg)	Total PAHs (mg/kg)	TCLP Metals Exceed (Yes/No)[1]	Depth to Water (ftbg)	Total Depth (ftbg)	Other Comments
SB01	SB01	<1	5.5 - 6.0	0.17	-	NO	NE	6.00	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 6.0	-	ND				
SB02	SB02	<1	12.0 - 12.5	0.0029	-	NO	15.0	20.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 12.5	-	0.158				
SB03	SB03	<1	14.5 - 15.0	ND	-	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 15.0	-	ND				
SB04	SB04	<1	8.0 - 8.5	ND	-	NO	10.0	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 8.5	-	ND				
SB05	SB05	<1	8.0 - 8.5	ND	-	NO	10.0	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 8.5	-	ND				
SB06	SB06	<1	3.5 - 4.0	ND	-	NO	NE	4.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 4.0	-	ND				
SB07	SB07	<1	14.5 - 15.0	ND	-	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 15.0	-	0.192				
SB08	SB08	<1	11.5 - 12.0	ND	-	NO	NE	15.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 12.0	-	ND				
SB09	SB09	<1	6.5 - 7.0	ND	-	NO	7.0	10.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 7.0	-	0.08				
SB10	SB10	<1	5.5 - 6.0	ND	-	NO	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.5 - 6.0	-	ND				

Notes:
[1] - TCLP metal(s) exceeds Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels.
All soil samples were analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), Toxicity Characteristic Leaching Procedure (TCLP) for Metals (RCRA 8), Total Petroleum Hydrocarbons, and RCRA Characteristics.
PID = Photoionization detector
ND = Not Detected
NE = Not Encountered
ftbg = feet below ground surface

Table 2. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm and Sanitary Sewers Extension, Sanitary Sewer and Water Main Replacement in Amboy Road (Underpass) and South Railroad Avenue, etc.
Staten Island, New York

TCL VOCs	Restricted-Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth									
			SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10
			10/3/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/3/2017	10/6/2017	10/6/2017	10/6/2017	10/4/2017
			5.5 - 6.0	12.0 - 12.5	14.5 - 15.0	8.0 - 8.5	8.0 - 8.5	3.5 - 4.0	14.5 - 15.0	11.5 - 12.0	6.5 - 7.0	5.5 - 6.0
2-Butanone	100	500	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	100	500	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	100	500	ND	0.0029	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)

Table 3. Summary of Polycyclic Aromatic Hydrocarbons (PAHs) Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm and Sanitary Sewers Extension, Sanitary Sewer and Water Main Replacement in Amboy Road (Underpass) and South Railroad Avenue, etc.
Staten Island, New York

PAHs	Restricted-Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth									
			SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10
			10/3/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/3/2017	10/6/2017	10/6/2017	10/6/2017	10/4/2017
			0.5 - 6.0	0.5 - 12.5	0.5 - 15.0	0.5 - 8.5	0.5 - 8.5	0.5 - 4.0	0.5 - 15.0	0.5 - 12.0	0.5 - 7.0	0.5 - 6.0
Benzo[b]fluoranthene	1	5.6	ND	0.043	ND	ND	ND	ND	0.045	ND	ND	ND
Chrysene	3.9	56	ND	ND	ND	ND	ND	ND	0.036	ND	ND	ND
Fluoranthene	100	500	ND	0.044	ND	ND	ND	ND	0.051	ND	0.04	ND
Naphthalene	100	500	ND	0.024	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	100	500	ND	0.047	ND	ND	ND	ND	0.06	ND	0.04	ND

Notes:
All concentrations are in parts per million or milligrams per kilogram (ppm or mg/kg)
a = The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm.
b = The SCOs for commercial use were capped at a maximum value of 500 ppm.
ND = Compound not detected above method detection limit (see attached lab report for MDL's)
SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006)

Table 4. Summary of Polychlorinated Biphenyls (PCBs) Detected in Soil
Phase II Subsurface Corridor Investigation for New Storm and Sanitary Sewers Extension, Sanitary Sewer and Water Main Replacement in Amboy Road (Underpass) and South Railroad Avenue, etc.
Staten Island, New York

PCBs	Restricted-Residential Use (Track 2) Soil Cleanup Objectives (SCOs)	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth									
			SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10
			10/3/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/3/2017	10/6/2017	10/6/2017	10/6/2017	10/4/2017
			0.5 - 6.0	0.5 - 12.5	0.5 - 15.0	0.5 - 8.5	0.5 - 8.5	0.5 - 4.0	0.5 - 15.0	0.5 - 12.0	0.5 - 7.0	0.5 - 6.0
PCBs	1	1	ND	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)

Table 5. Summary of Waste Classification Results in Soil
Phase II Subsurface Corridor Investigation for New Storm and Sanitary Sewers Extension, Sanitary Sewer and Water Main Replacement in Amboy Road (Underpass) and South Railroad Avenue, etc.
Staten Island, New York

Analyte	Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels (mg/L)	Sample ID, Date Collected, and Depth									
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09	SB10
		10/3/2017	10/5/2017	10/5/2017	10/5/2017	10/5/2017	10/3/2017	10/6/2017	10/6/2017	10/6/2017	10/4/2017
		0.5 - 6.0	0.5 - 12.5	0.5 - 15.0	0.5 - 8.5	0.5 - 8.5	0.5 - 4.0	0.5 - 15.0	0.5 - 12.0	0.5 - 7.0	0.5 - 6.0
RCRA (Including TCLP Metals)											
pH	2 - 12.5*	8.1	7.9	8.4	6.7	8.1	8.2	8.2	7.5	7.6	8.3
Ignitability	>140 °F**	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
Paint Filter Test	NS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
Cyanide (Reactive)	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sulfide (Reactive)	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	100	0.6	0.66	0.43	0.57	0.35	0.78	0.34	0.29	0.47	0.37
Cadmium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	NS	0.31	0.38	0.1	0.31	0.31	0.79	ND	0.11	0.17	0.26
Selenium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TPH DRO/GRO											
TPH - Diesel Range Organics	NS	ND	77	ND	ND	ND	74	ND	ND	ND	ND
TPH - Gasoline Range Organics	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

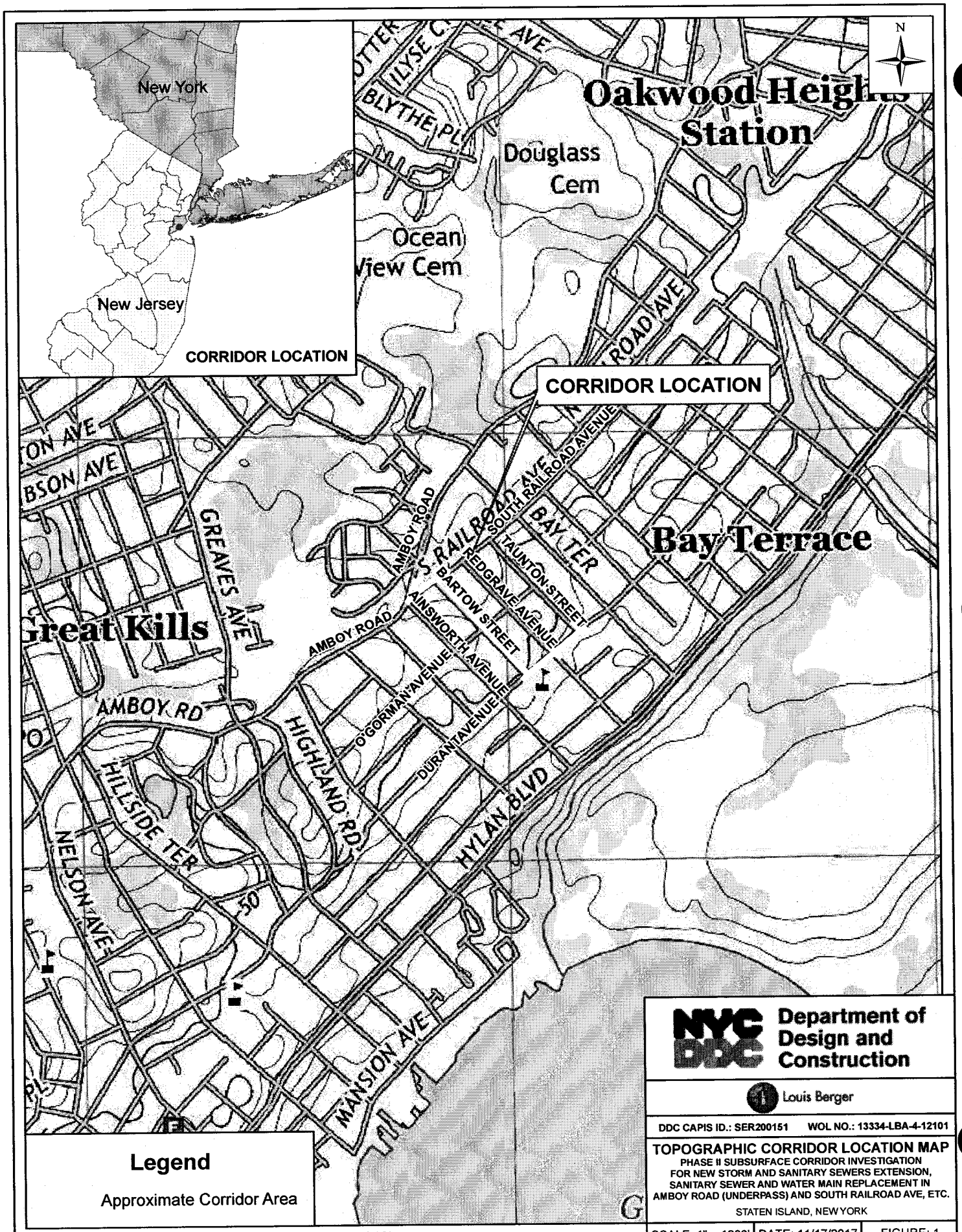
Notes:
All concentrations are in parts per million or milligrams per kilogram (ppm or mg/L)
TCLP = Toxicity characteristic leaching procedure
ND = Compound not detected above method detection limit (see attached lab report for MDL's)
*A solid waste exhibits the characteristic of corrosivity if it has a pH less than or equal to 2 or greater than or equal to 12.5.
**A solid waste exhibits the characteristic of ignitability if it has flash point less than 60 °C (140 °F)
°F = Degrees Fahrenheit
NEG = Negative (flash point was not detected below 140 degrees Fahrenheit)
NS = No Standard

Table 6. Groundwater Quality Compared to New York City Department of Environmental Protection (NYC DEP) Limitations for Effluent to Sanitary or Combined Sewers
Phase II Subsurface Corridor Investigation for New Storm and Sanitary Sewers Extension, Sanitary Sewer and Water Main Replacement in Amboy Road (Underpass) and South Railroad Avenue, etc. Staten Island, New York

Parameter[1]	NYC DEP Limitations to Sanitary or Combined Sewers	Sample ID and Date Collected	
		B-2(OW)	B-24(OW)
		10/4/2017	10/6/2017
Non-Polar Material[2]	50 mg/L	ND	ND
Flash Point - Liquid/Solid	> 140 °F	>141 °F	>141 °F
pH	≥5 and ≤12	7.2	6.8
Cadmium (Instantaneous or Composite)	2 or 0.69 mg/L	ND	ND
Chromium Hexavalent (VI)	5 mg/L	ND	ND
Copper	5 mg/L	ND	64 mg/L
Lead	2 mg/L	1.5 mg/L	21 mg/L
Mercury	0.05 mg/L	ND	ND
Nickel	3 mg/L	15 mg/L	740 mg/L
Zinc	5 mg/L	32 mg/L	300 mg/L
Benzene	134 ug/L	ND	ND
Carbon tetrachloride	NS	ND	ND
Chloroform	NS	ND	ND
1,4-Dichlorobenzene	NS	ND	ND
Ethylbenzene	380 ug/L	ND	ND
MTBE (Methyl-Tert-Butyl-Ether)	50 ug/L	ND	ND
Naphthalene	47 ug/L	ND	ND
Phenol	NS	ND	ND
Tetrachloroethene	20 ug/L	ND	ND
Toluene	74 ug/L	ND	ND
1,2,4-Trichlorobenzene	NS	ND	ND
1,1,1-Trichloroethane	NS	ND	ND
Xylenes (Total)	74 ug/L	ND	ND
PCBs (Total)[3]	1 ug/L	0.084 ug/L	ND
Total Suspended Solids[4]	350 mg/L	460,000 mg/L	2,600,000 mg/L
CBOD[5]	NS	ND	ND
Chloride[5]	NS	240,000 mg/L	720,000 mg/L
Total Kjeldahl Nitrogen	NS	0.53 mg/L	4.8 mg/L
Total Solids[5]	NS	1,200,000 mg/L	4,400,000 mg/L

Notes:
NS = No Standard
ND = Compound not detected above method detection limit (see attached lab report for MDLs)
Shaded = Concentration exceeds NYCDEP Limitations for Effluent to Sanitary or Combined Sewers (daily limit), May 2005
[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 limit ≤ 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 discarge ≥ 10,000 gpd

FIGURE 1 – TOPOGRAPHIC CORRIDOR LOCATION MAP



Source: USGS Quadrangle Arthur Kill, New York (2013)

FIGURE 2 – SOIL BORING LOCATION PLAN

NYC DDC Department of Design and Construction

Louis Berger

DDC PROJECT NO. SER200151 WOL NO.: 13334-LBA-4-12101

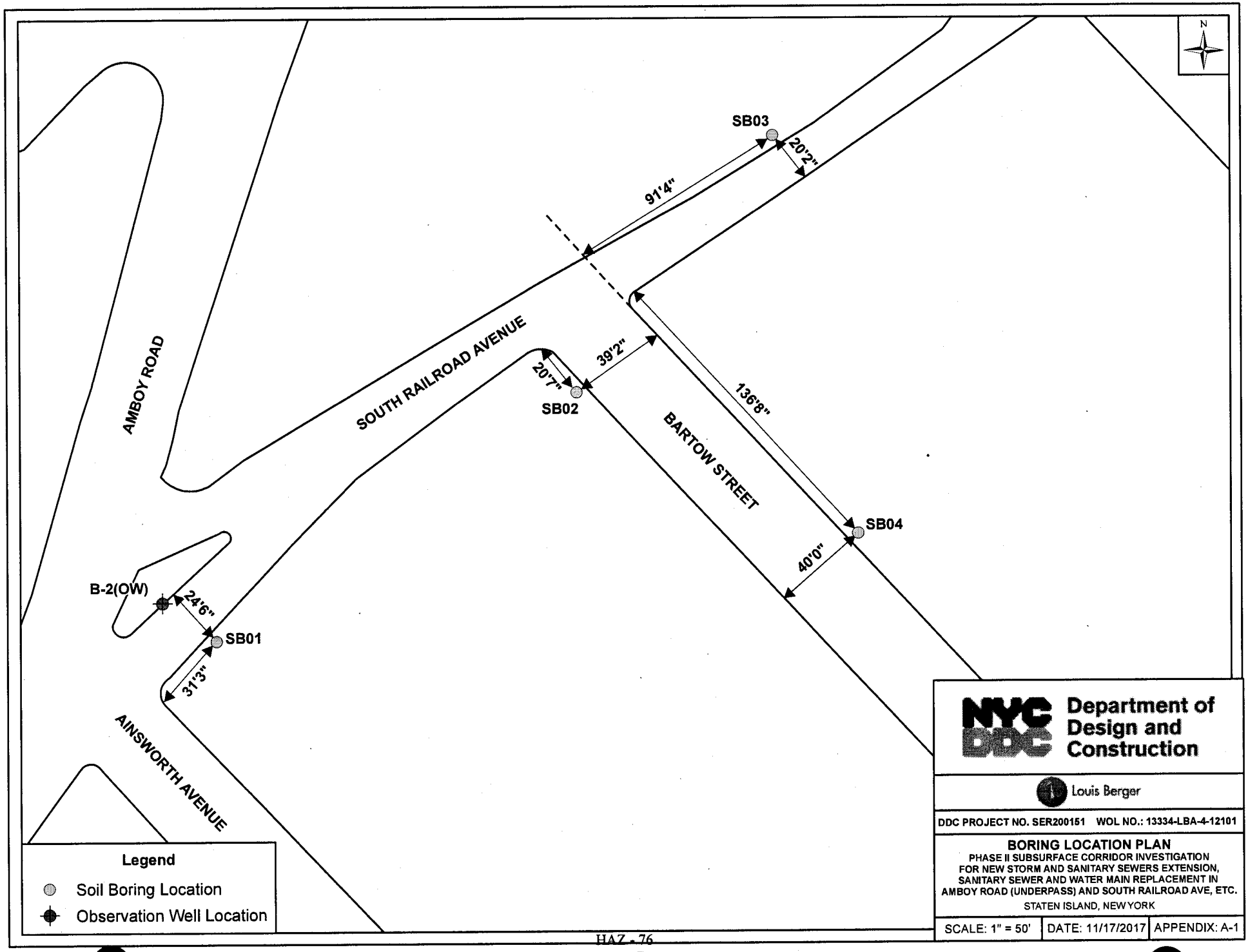
SOIL BORING LOCATION PLAN

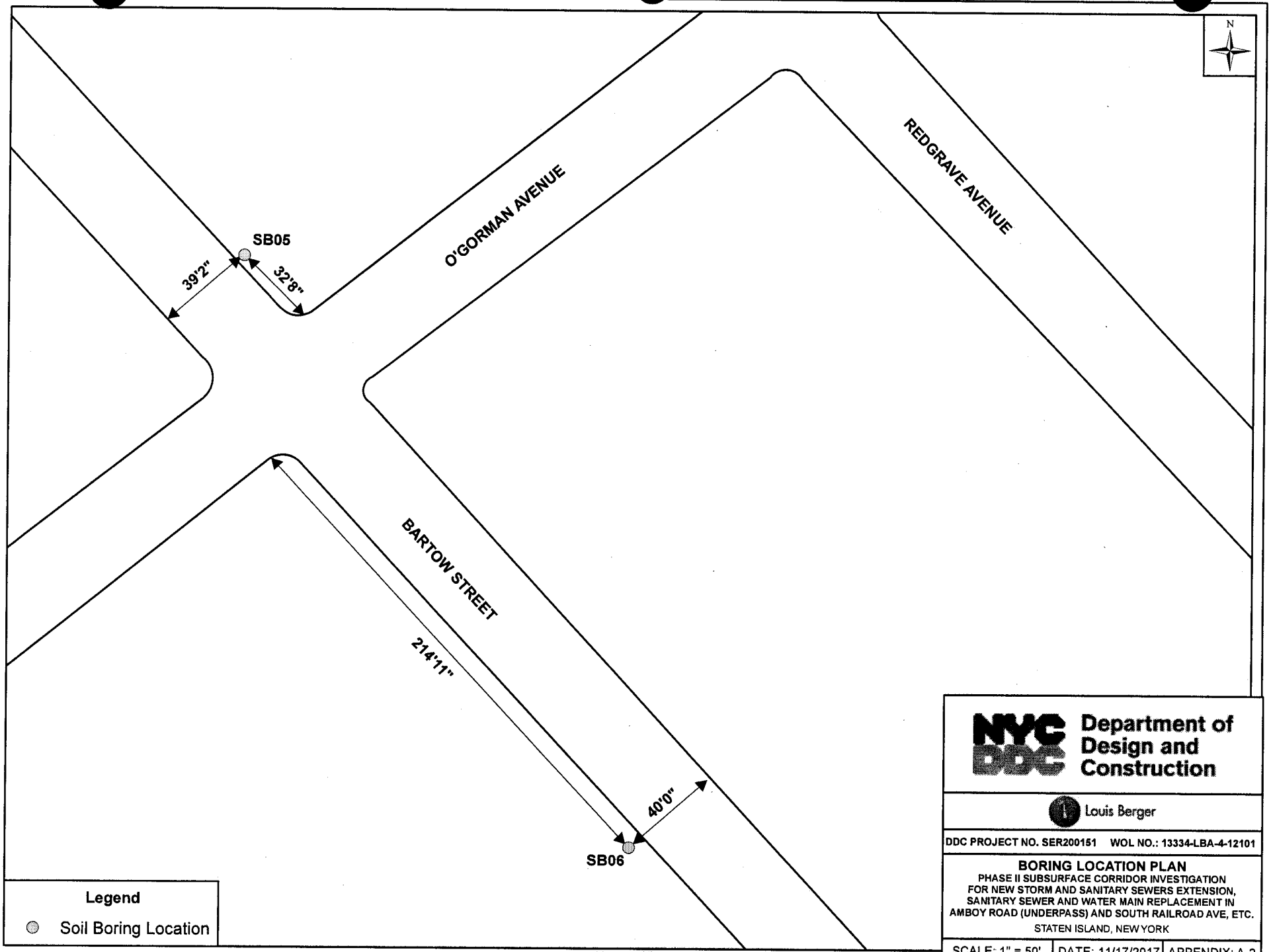
PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR NEW STORM AND SANITARY SEWERS EXTENSION, SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY ROAD (UNDERPASS) AND SOUTH RAILROAD AVE, ETC.

STATEN ISLAND, NEW YORK

SCALE: 1" = 400'	DATE: 11/17/2017	FIGURE: 2

APPENDIX A
BORING LOCATION PLAN


N
SB03
20'2"
91'4"
SOUTH RAILROAD AVENUE
AMBOY ROAD
39'2"
20'7"
SB02
136'8"
BARTOW STREET
SB04
40'0"
B-2(OW)
24'6"
SB01
31'3"
AINSWORTH AVENUE
Legend
Soil Boring Location
Observation Well Location
NYC DDC Department of Design and Construction
Louis Berger
DDC PROJECT NO. SER200151 WOL NO.: 13334-LBA-4-12101
BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION
FOR NEW STORM AND SANITARY SEWERS EXTENSION,
SANITARY SEWER AND WATER MAIN REPLACEMENT IN
AMBOY ROAD (UNDERPASS) AND SOUTH RAILROAD AVE, ETC.
STATEN ISLAND, NEW YORK
SCALE: 1" = 50'
DATE: 11/17/2017
APPENDIX: A-1



NYC DDC Department of Design and Construction

Louis Berger

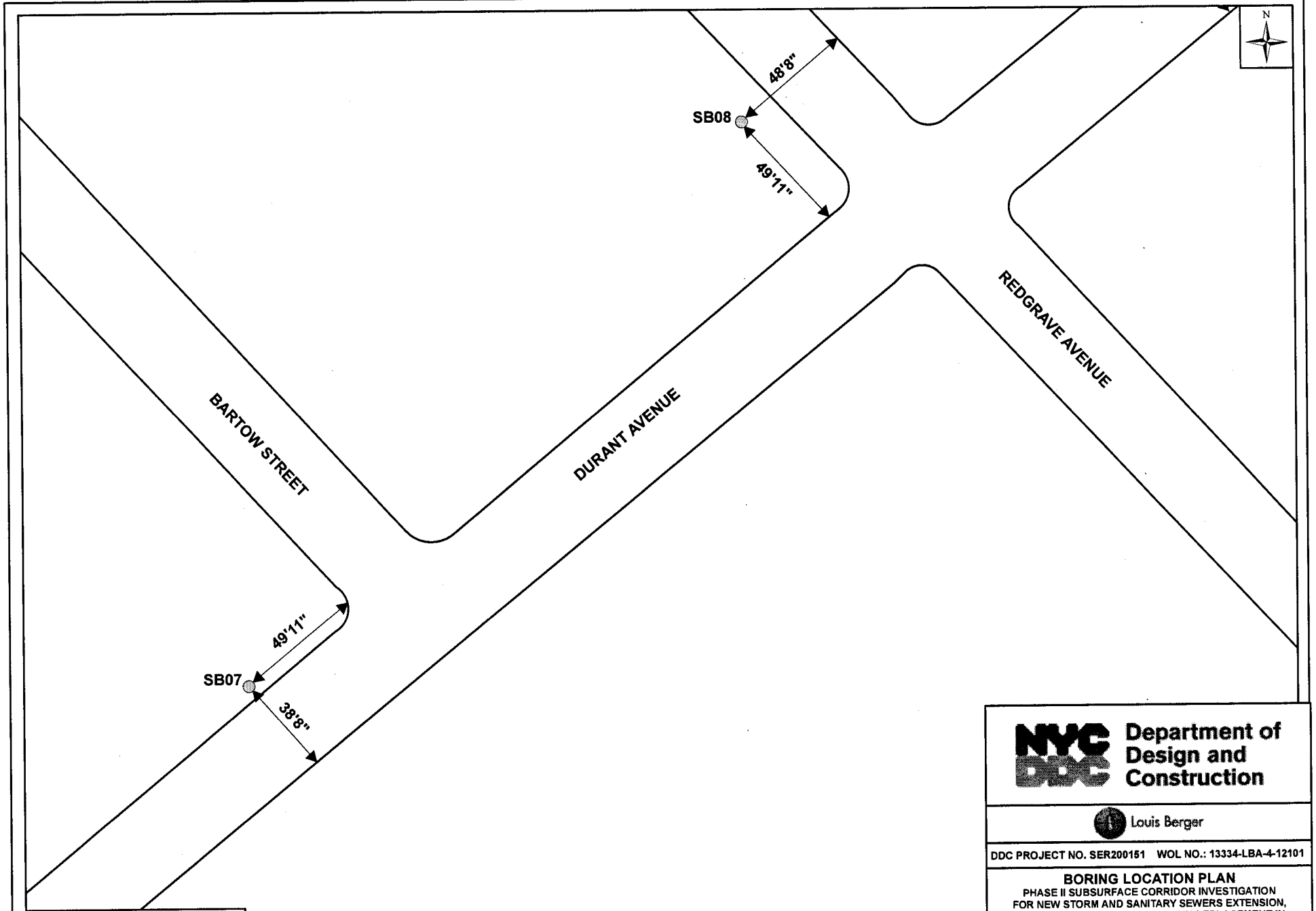
DDC PROJECT NO. SER200151 WOL NO.: 13334-LBA-4-12101

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR NEW STORM AND SANITARY SEWERS EXTENSION, SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY ROAD (UNDERPASS) AND SOUTH RAILROAD AVE, ETC.

STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/17/2017	APPENDIX: A-2



Department of Design and Construction

Louis Berger

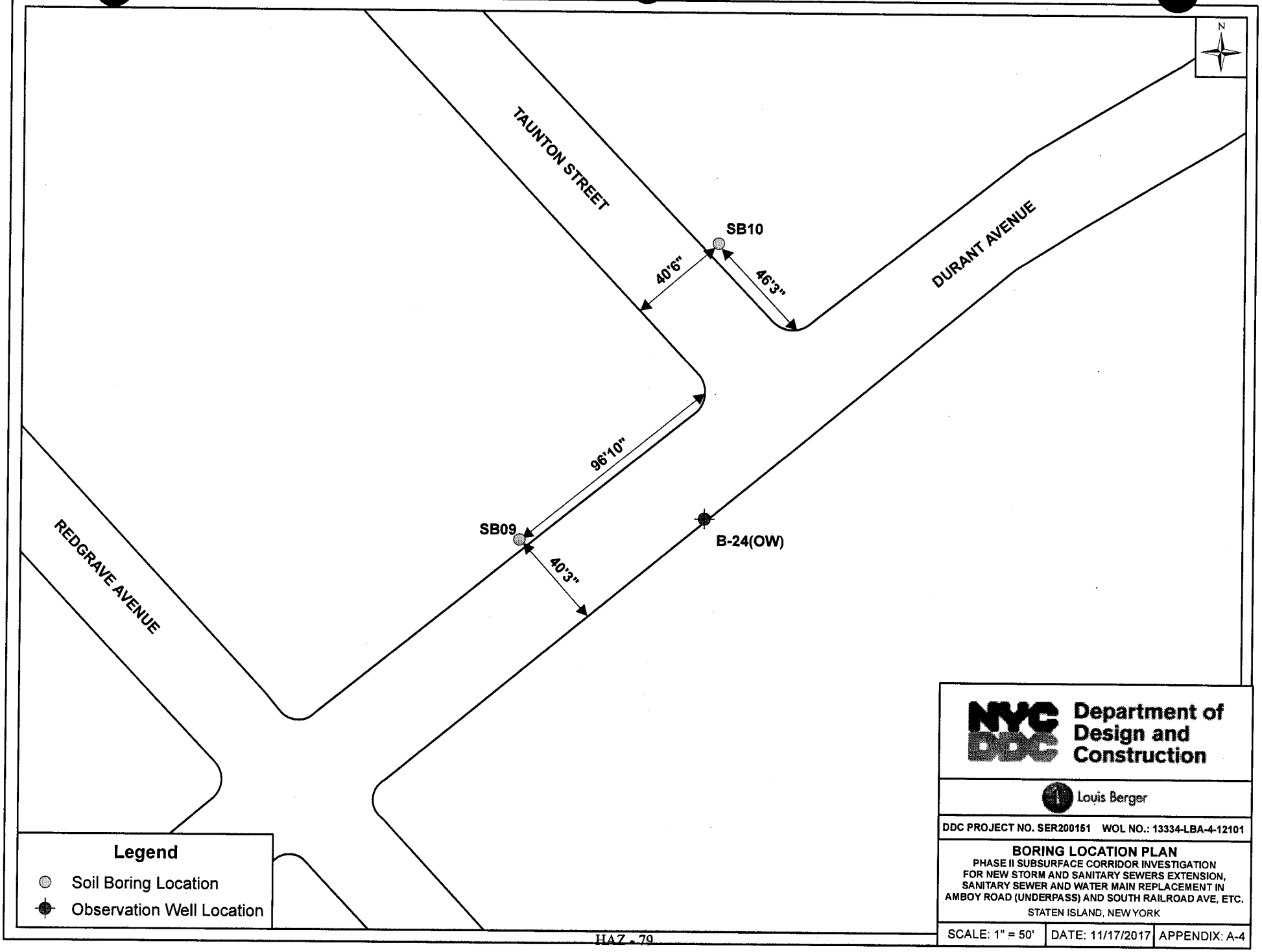
DDC PROJECT NO. SER200151 WOL NO.: 13334-LBA-4-12101

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR NEW STORM AND SANITARY SEWERS EXTENSION, SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY ROAD (UNDERPASS) AND SOUTH RAILROAD AVE, ETC.

STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/17/2017	APPENDIX: A-3



NYC DDC Department of Design and Construction

Louis Berger

DDC PROJECT NO. SER200151 WOL NO.: 13334-LBA-4-12101

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR NEW STORM AND SANITARY SEWERS EXTENSION, SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY ROAD (UNDERPASS) AND SOUTH RAILROAD AVE, ETC.

STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/17/2017	APPENDIX: A-4

APPENDIX B
GEOLOGIC BORING LOGS

Louis Berger	**Drilling Log** Page 1 of 1	**BORING NO.: SB01**
		LOCATION: Staten Island, NY

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Hand Auger	**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/3/2017
Diameter (in): 3	**Well Diameter (in):** N/A	**DRILLER:**	T. Laderwager
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141181.301
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945256.977
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	Dusky yellowish brown (10YR 2/2), Clayey SILT, little medium to fine Sand, moist.	**Clayey Silt (Fill)**
			FILL			<1	Pale reddish brown (10R 5/4), Silty CLAY, little medium to fine Sand, Boulders, (40% fill material: asphalt, brick), moist.	**Silty Clay (Fill)**
	2		FILL			<1	Moderate reddish brown (10R 4/6), CLAY, little coarse to fine Sand, some coarse to fine Gravel, Boulders, (5% fill material: brick), moist.	**Gravelly Clay (Fill)**
	4		FILL			<1	Dark gray (N3), CLAY, moist.	**Clay (Fill); Collected grab sample SB01 from 5.5 to 6.0 ftbg and composite sample SB01 from 0.5 to 6.0 ftbg.**
	6							

Total Depth of Boring 6 feet.

Louis Berger

Drilling Log

BORING NO.: SB02

LOCATION: Staten Island, NY

CLIENT:	New York City Department of Design and Construction
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.
DRILLING METHOD:	Direct Push

PROJECT NO.:	2011040.320.00
FMS ID#:	SER200151
WOL #:	13334-LBA-4-12101
DATE STARTED:	10/3/2017
DATE FINISHED:	10/5/2017
DRILLER:	D. Johnson
LBA INSPECTOR:	M. Donovan
NORTHING (ft):	141292.378
EASTING (ft):	945409.993
SURFACE ELEVATION (ft):	N/A

BOREHOLE DATA		WELL DATA	
Diameter (in):	2.25	**Well Diameter (in):**	N/A
Total Depth (ft.):	20	**Total Depth (ft.):**	N/A
Depth to Refusal (ft):	N/A	**Screen Length (ft):**	N/A
Depth to Water (ft.):	15.0	**Depth to Water (ft.):**	N/A
Depth to Rock (ft.):	N/A	**Slot Size (in):**	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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Dusky yellowish brown (10YR 2/2), Silty CLAY, trace fine Sand, moist.	**Silty Clay (Fill)**
			FILL			<1	Very light gray (N8), coarse to medium SAND, moist.	**Sand (Fill)**
	2		FILL			<1	Pale red (5R 6/2), CLAY, little coarse to fine Sand, some coarse to fine Gravel, (5% fill material: wood), moist.	**Gravelly Clay (Fill)**
	4							
	6							

Louis Berger	**Drilling Log** Page 2 of 4	**BORING NO.: SB02**
		LOCATION: Staten Island, NY

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 20	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141292.378
Depth to Water (ft.): 15.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945409.993
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			SC			<1	Grayish red (5R 4/2), coarse to fine SAND, some Silty Clay, little coarse to fine Gravel, moist.	**Silty Clayey Sand**
	8							
	10		CL			<1	Grayish red (5R 4/2), Silty CLAY, some coarse to fine Sand, moist.	**Sandy Silty Clay**
			GP			<1	Medium light gray (N6), coarse to fine GRAVEL, dry.	**Gravel**
	12							

Louis Berger	**Drilling Log** Page 3 of 4	**BORING NO.: SB02** **LOCATION: Staten Island, NY**

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 20	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141292.378
Depth to Water (ft.): 15.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945409.993
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			CL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, little coarse to fine Gravel, Organics (roots), moist.	**Silty Clay; Collected grab sample SB02 from 12.0 to 12.5 ftbg and composite sample SB02 from 0.5 to 12.5 ftbg.**
▽	14		SW			<1	Grayish red (10R 4/2), coarse SAND, little Silty Clay, wet.	**Sand**
	16		CL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, little coarse to fine Sand, little coarse to fine Gravel, wet.	**Silty Clay**
	18							

Louis Berger	**Drilling Log** Page 4 of 4	**BORING NO.: SB02** **LOCATION: Staten Island, NY**

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 20	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141292.378
Depth to Water (ft.): 15.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945409.993
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			CL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, little coarse to fine Sand, little coarse to fine Gravel, wet.	**Silty Clay**
	20						Total Depth of Boring 20 feet.	
	22							
	24							

Louis Berger	**Drilling Log** Page 1 of 3	**BORING NO.: SB03**
		LOCATION: Staten Island, NY

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/3/2017
		DATE FINISHED:	10/5/2017
		DRILLER:	D. Johnson
		LBA INSPECTOR:	M. Donovan
		NORTHING (ft):	141387.369
		EASTING (ft):	945496.598
		SURFACE ELEVATION (ft):	N/A

BOREHOLE DATA		**WELL DATA**	
Diameter (in):	2.25	**Well Diameter (in):**	N/A
Total Depth (ft.):	15	**Total Depth (ft.):**	N/A
Depth to Refusal (ft):	N/A	**Screen Length (ft):**	N/A
Depth to Water (ft.):	N/A	**Depth to Water (ft.):**	N/A
Depth to Rock (ft.):	N/A	**Slot Size (in):**	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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Pale reddish brown (10R 5/4), SILT, some medium to fine Sand, little coarse to fine Gravel, Boulders, moist.	**Sandy Silt (Fill)**
	2							
	4							
	6							

Louis Berger	**Drilling Log** Page 2 of 3	**BORING NO.: SB03**
		LOCATION: Staten Island, NY

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141387.369
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945496.598
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			CL			<1	Pale reddish brown (10R 5/4), Silty CLAY, little coarse to fine Sand, little coarse to fine Gravel, moist.	**Silty Clay**
	8							
	10		CL			<1	Moderate red (5R 4/6), Silty CLAY, little coarse to fine Sand, little coarse to fine Gravel, moist.	**Collected grab sample SB03 from 14.5 to 15.0 ftbg and composite sample SB03 from 0.5 to 15.0 ftbg.**
	12							

Louis Berger	**Drilling Log** Page 3 of 3	**BORING NO.: SB03** **LOCATION: Staten Island, NY**

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141387.369
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945496.598
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		CL			<1	Moderate red (5R 4/6), Silty CLAY, little coarse to fine Sand, little coarse to fine Gravel, moist.	**Collected grab sample SB03 from 14.5 to 15.0 ftbg and composite sample SB03 from 0.5 to 15.0 ftbg.**
	16						Total Depth of Boring 15 feet.	
	18							

Louis Berger	**Drilling Log** Page 1 of 3	**BORING NO.: SB04**
		LOCATION: Staten Island, NY

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141232.49
Depth to Water (ft.): 10.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945521.824
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Moderate reddish brown (10R 4/6), Clayey SILT, little medium to fine Sand, little coarse to fine Gravel, moist.	**Clayey Silt (Fill)**
	2							
			FILL			<1	Grayish red (10R 4/2), Clayey SILT, little medium to fine Sand, moist.	**Clayey Silt (Fill)**
	4							
	6							

Louis Berger	**Drilling Log** Page 2 of 3	**BORING NO.: SB04** **LOCATION: Staten Island, NY**

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141232.49
Depth to Water (ft.): 10.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945521.824
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			CL			<1	Medium bluish gray (5B 5/1), Silty CLAY, some coarse to fine Sand, little coarse to fine Gravel, moist.	**Sandy Silty Clay; Collected grab sample SB04 from 8.0 to 8.5 ftbg and composite sample SB04 from 0.5 to 8.5 ftbg.**
	8							
∇	10		SC			<1	Dark reddish brown (10R 3/4), coarse to fine SAND, some Silty Clay, little coarse to fine Gravel, wet.	**Silty Clayey Sand**
	12							

Louis Berger	**Drilling Log** Page 3 of 3	**BORING NO.: SB04**
		LOCATION: Staten Island, NY

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	141232.49
Depth to Water (ft.): 10.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945521.824
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		SC			<1	Dark reddish brown (10R 3/4), coarse to fine SAND, some Silty Clay, little coarse to fine Gravel, wet.	**Silty Clayey Sand**
	16						Total Depth of Boring 15 feet.	
	18							

Louis Berger	**Drilling Log** Page 1 of 3	**BORING NO.: SB05**
		LOCATION: Staten Island, NY

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140995.336
Depth to Water (ft.): 10.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945738.355
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Pale red (5R 6/2), Clayey SILT, some medium to fine Sand, little coarse to fine Gravel, moist.	**Sandy Clayey Silt (Fill)**
			FILL			<1	Pale red (10R 6/2), coarse to fine SAND, some Clayey Silt, little coarse to fine Gravel, moist.	**Clayey Silty Sand (Fill)**
	2							
	4							
			FILL			<1	Pale blue (5B 6/2), Silty CLAY, little coarse to fine Sand, moist.	**Silty Clay (Fill)**
	6							

Louis Berger	**Drilling Log** Page 2 of 3	**BORING NO.: SB05** **LOCATION: Staten Island, NY**

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140995.336
Depth to Water (ft.): 10.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945738.355
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			CL			<1	Greenish gray (5G 6/1), Silty CLAY, some coarse to fine Sand, moist.	**Sandy Silty Clay**
			CL			<1	Moderate brown (5YR 4/4), Silty CLAY, some coarse to fine Sand, little coarse to fine Gravel, moist.	**Collected grab sample SB05 from 8.0 to 8.5 ftbg and composite sample SB05 from 0.5 to 8.5 ftbg.**
▽	10		CL			<1	Moderate brown (5YR 4/4), Silty CLAY, little coarse to fine Sand, little coarse to fine Gravel, wet.	**Silty Clay**

Louis Berger	**Drilling Log** Page 3 of 3	**BORING NO.: SB05** **LOCATION: Staten Island, NY**

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/5/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140995.336
Depth to Water (ft.): 10.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945738.355
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		CL			<1	Moderate brown (5YR 4/4), Silty CLAY, little coarse to fine Sand, little coarse to fine Gravel, wet.	**Silty Clay**
	16 18						Total Depth of Boring 15 feet.	

Louis Berger	**Drilling Log** Page 1 of 1	**BORING NO.: SB06**
		LOCATION: Staten Island, NY

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Hand Auger		**DATE STARTED:**	10/3/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/3/2017
Diameter (in): 3	**Well Diameter (in):** N/A	**DRILLER:**	T. Laderwager
Total Depth (ft.): 4	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): 4	**Screen Length (ft):** N/A	**NORTHING (ft):**	140760.286
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	945905.491
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
	2		FILL			<1	Dark reddish brown (10R 3/4), Clayey SILT, some coarse to fine Sand, Boulders, moist.	**Sandy Clayey Silt (Fill); Collected grab sample SB06 from 3.5 to 4.0 ftbg and composite sample SB06 from 0.5 to 4.0 ftbg.**
	4						Total Depth of Boring 4 feet.	
	6							

Louis Berger	**Drilling Log** Page 1 of 3	**BORING NO.: SB07** **LOCATION: Staten Island, NY**

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/6/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140556.675
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	946030.223
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	Pale red (5R 6/2), medium to fine SAND, some Silt, moist.	**Silty Sand (Fill)**
			FILL			<1	Moderate red (5R 4/6), coarse to fine SAND, some Clayey Silt, little coarse to fine Gravel, moist.	**Clayey Silty Sand (Fill)**
	2							
	4							
	6							

Louis Berger	**Drilling Log** Page 2 of 3	**BORING NO.: SB07**
		LOCATION: Staten Island, NY

CLIENT:	New York City Department of Design and Construction	**PROJECT NO.:**	2011040.320.00
PROJECT:	New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:**	SER200151
DRILLING CONTRACTOR:	Aquifer Drilling & Testing, Inc.	**WOL #:**	13334-LBA-4-12101
DRILLING METHOD:	Direct Push	**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/6/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140556.675
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	946030.223
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	8		SC			<1	Moderate reddish brown (10R 4/6), coarse to fine SAND, some Clayey Silt, little coarse to fine Gravel, moist.	**Clayey Silty Sand**
	10		SP			<1	Grayish orange (10YR 7/4), coarse SAND, some coarse to fine Gravel, moist.	**Gravelly Sand; Collected grab sample SB07 from 14.5 to 15.0 ftbg and composite sample SB07 from 0.5 to 15.0 ftbg.**
	12							

Louis Berger	**Drilling Log** Page 3 of 3	**BORING NO.: SB07** **LOCATION: Staten Island, NY**

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:** 2011040.320.00	
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:** SER200151	
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:** 13334-LBA-4-12101	
DRILLING METHOD: Direct Push		**DATE STARTED:** 10/4/2017	
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:** 10/6/2017	
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:** D. Johnson	
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:** M. Donovan	
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):** 140556.675	
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):** 946030.223	
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		SP			<1	Grayish orange (10YR 7/4), coarse SAND, some coarse to fine Gravel, moist.	**Gravelly Sand; Collected grab sample SB07 from 14.5 to 15.0 ftbg and composite sample SB07 from 0.5 to 15.0 ftbg.**
	16						Total Depth of Boring 15 feet.	
	18							

Louis Berger	**Drilling Log** Page 1 of 3	**BORING NO.: SB08**
		LOCATION: Staten Island, NY

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/6/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140778.984
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	946243.623
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Pale red (5R 6/2), medium to fine SAND, some Silt, moist.	**Silty Sand (Fill)**
			FILL			<1	Moderate red (5R 4/6), coarse to fine SAND, some Clayey Silt, little coarse to fine Gravel, Cobbles, moist.	**Clayey Silty Sand (Fill)**
	2							
	4							
	6							

Louis Berger	**Drilling Log** Page 2 of 3	**BORING NO.: SB08** **LOCATION: Staten Island, NY**

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/6/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140778.984
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	946243.623
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			ML			<1	Moderate reddish brown (10R 4/6), SILT, little coarse to fine Gravel, moist.	**Silt**
	8							
	10		ML			<1	Moderate reddish brown (10R 4/6), SILT, little coarse to fine Gravel, moist.	**Collected grab sample SB08 from 11.5 to 12.0 ftbg and composite sample SB08 from 0.5 to 12.0 ftbg.**
	12							

Louis Berger	**Drilling Log** Page 3 of 3	**BORING NO.: SB08** **LOCATION: Staten Island, NY**

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/6/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 15	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140778.984
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	946243.623
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
	14		ML			<1	Moderate reddish brown (10R 4/6), SILT, little coarse to fine Gravel, moist.	**Collected grab sample SB08 from 11.5 to 12.0 ftbg and composite sample SB08 from 0.5 to 12.0 ftbg.**
	16						Total Depth of Boring 15 feet.	
	18							

Louis Berger	**Drilling Log** Page 1 of 2	**BORING NO.: SB09** **LOCATION: Staten Island, NY**

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/6/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 10	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140849.59
Depth to Water (ft.): 7.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	946394.258
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Pale red (5R 6/2), Clayey SILT, some medium to fine Sand, moist.	**Sandy Clayey Silt (Fill)**
			FILL			<1	Pale reddish brown (10R 5/4), coarse to fine SAND, some Silty Clay, little coarse to fine Gravel, moist.	**Silty Clayey Sand (Fill)**
	2							
	4							
	6							

Louis Berger	**Drilling Log** Page 2 of 2	**BORING NO.: SB09**
		LOCATION: Staten Island, NY

CLIENT: New York City Department of Design and Construction		**PROJECT NO.:**	2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc		**FMS ID#:**	SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.		**WOL #:**	13334-LBA-4-12101
DRILLING METHOD: Direct Push		**DATE STARTED:**	10/4/2017
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	10/6/2017
Diameter (in): 2.25	**Well Diameter (in):** N/A	**DRILLER:**	D. Johnson
Total Depth (ft.): 10	**Total Depth (ft.):** N/A	**LBA INSPECTOR:**	M. Donovan
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	140849.59
Depth to Water (ft.): 7.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	946394.258
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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
▽			CL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, little coarse to fine Gravel, moist.	**Silty Clay; Collected grab sample SB09 from 6.5 to 7.0 ftbg and composite sample SB09 from 0.5 to 7.0 ftbg.**
			CL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, little coarse to fine Gravel, wet.	
	8		CL			<1	Greenish gray (5G 6/1), Silty CLAY, trace medium to fine Sand, wet.	
	10						Total Depth of Boring 10 feet.	
	12							

Louis Berger

Drilling Log

BORING NO.: SB10

LOCATION: Staten Island, NY

CLIENT: New York City Department of Design and Construction	**PROJECT NO.:** 2011040.320.00
PROJECT: New Sewers Extension, Sewer and Water Main Replacement in Amboy Road, etc	**FMS ID#:** SER200151
DRILLING CONTRACTOR: Aquifer Drilling & Testing, Inc.	**WOL #:** 13334-LBA-4-12101
DRILLING METHOD: Hand Auger	**DATE STARTED:** 10/4/2017
	DATE FINISHED: 10/6/2017
	DRILLER: D. Johnson
	LBA INSPECTOR: M. Donovan
	NORTHING (ft): 140972.927
	EASTING (ft): 946477.045
	SURFACE ELEVATION (ft): N/A

BOREHOLE DATA		WELL DATA	
Diameter (in):	3	**Well Diameter (in):**	N/A
Total Depth (ft.):	6	**Total Depth (ft.):**	N/A
Depth to Refusal (ft):	N/A	**Screen Length (ft):**	N/A
Depth to Water (ft.):	N/A	**Depth to Water (ft.):**	N/A
Depth to Rock (ft.):	N/A	**Slot Size (in):**	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 ftbg.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			FILL			<1	Pale red (5R 6/2), Clayey SILT, some medium to fine Sand, moist.	**Sandy Clayey Silt (Fill)**
			FILL			<1	Pale reddish brown (10R 5/4), coarse to fine SAND, some Silty Clay, little coarse to fine Gravel, moist.	**Silty Clayey Sand (Fill); Collected grab sample SB10 from 5.5 to 6.0 ftbg and composite sample SB10 from 0.5 to 6.0 ftbg.**
	2							
	4							
	6							

Total Depth of Boring 6 feet.

APPENDIX C
LABORATORY ANALYTICAL RESULTS

Hampton-Clarke
Analytical & Field Services

175 ROUTE 46 WEST, UNIT D · FAIRFIELD, NJ 07004
2 MADISON ROAD, FAIRFIELD, NJ 07004
800-426-9992 · 973-244-9770
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Project: Bartow

Client PO: 2011040.320.00

Report To: Louis Berger & Associates
48 Wall Street
16th Floor
New York, NY 10005

Attn: Jon Ganz/

Received Date: 10/4/2017

Report Date: 10/20/2017

Deliverables: NYDOH-R

Lab ID: AD00418

Lab Project No: 7100429

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)	NY	(ELAP11408)	CT	(PH-0671)
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Hampton-Clarke
WBE/DBE/SBE 800-426-9992

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- Form 1 Sample and Blank Results
- Form 2 Surrogate Recovery
- Form 3 Spike Recovery
- Form 4 Method Blank Summary
- Form 5 Tune Summary & DFTPP Spectra
- Form 6,7 Calibration & RT Summary
- Form 8 Internal Standard Area Summary

PCB Data 156

- Form 1 Sample and Blank Results
- Form 2 Surrogate Recovery
- Form 3 Spike Recovery
- Form 4 Method Blank Summary
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Form 2 Surrogate Recovery

Form 3 Spike Recovery

Form 4 Method Blank Summary

Form 5 Run Logs & RT Shift Summary

Form 6, 7 Calibration Summary

GRO Data 205

Form 1 Sample and Blank Results

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Form 1 Sample Results

Inorganic Spreadsheet / QC Summary

Sample Summary

Client: Louis Berger & Associates

Project: Bartow

HC Project #: 7100429

Lab#	SampleID	Matrix	Collection Date	Receipt Date
AD00418-001	SB01 GRAB	Soil	10/3/2017	10/4/2017
AD00418-002	SB01 COMP	Soil	10/3/2017	10/4/2017
AD00418-003	SB06 GRAB	Soil	10/3/2017	10/4/2017
AD00418-004	SB06 COMP	Soil	10/3/2017	10/4/2017
AD00418-005	SB10 GRAB	Soil	10/4/2017	10/4/2017
AD00418-006	SB10 COMP	Soil	10/4/2017	10/4/2017

HC Case Narrative

Client: Louis Berger & Associates
Project: Bartow

HC Project: 7100429

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.

The Method Blank Spike for batches MBS64352 and MBS64358 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

The MS/MSD RPD, Matrix Spike and/or Matrix Spike Duplicate for batches MBS64352 and MBS64358 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 batches SMB63086 and SMB63087 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

The MS/MSD RPD, Matrix Spike and/or Matrix Spike Duplicate for batches SMB63086 and SMB63087 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

PCB Analysis:

Data conforms to method requirements.

Total Petroleum Hydrocarbon Analysis:

Data conforms to method requirements.

Gasoline Range Organics Analysis:

Data conforms to method requirements.

TCLP Metals Analysis:

The serial dilution for batch 62664 is outside QC limits for one or more analytes. Please refer to the applicable Form 6/9 for the recoveries.

Wet Chemistry Analysis:

Data conforms to method requirements.

Robin Cousineau
Quality Assurance Director

Or

Jean Revolus
Laboratory Director

10/20/2017
Date

HC Executive Summary

Client: Louis Berger & Associates

Project: Bartow

HC Project #: 7100429

Lab#: AD00418-001 **Sample ID: SB01 GRAB**

Analyte	Units	RL	Result	Analytical Method
2-Butanone	mg/kg	0.0026	0.030	EPA 8260C
Acetone	mg/kg	0.013	0.14	EPA 8260C

Lab#: AD00418-002 **Sample ID: SB01 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.1	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	0.60	EPA 6010C
Nickel	mg/l	0.10	0.31	EPA 6010C
Paint Filter Test			NEG	EPA 9095B

Lab#: AD00418-004 **Sample ID: SB06 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.2	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	0.78	EPA 6010C
Nickel	mg/l	0.10	0.79	EPA 6010C
Total Petroleum Hydrocarbons	mg/kg	67	74	EPA 8015D
Paint Filter Test			NEG	EPA 9095B

Lab#: AD00418-006 **Sample ID: SB10 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.3	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	0.37	EPA 6010C
Nickel	mg/l	0.10	0.26	EPA 6010C
Paint Filter Test			NEG	EPA 9095B

NOTE: Soil Results are reported to Dry Weigh

HC Report of Analysis

Client: Louis Berger & Associates

HC Project #: 7100429

Project: Bartow

Sample ID: SB01 GRAB
Lab#: AD00418-001
Matrix: Soil

Collection Date: 10/3/2017
Receipt Date: 10/4/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		71

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.911	mg/kg	0.0026	ND
1,1,2,2-Tetrachloroethane	0.911	mg/kg	0.0026	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.911	mg/kg	0.0026	ND
1,1,2-Trichloroethane	0.911	mg/kg	0.0026	ND
1,1-Dichloroethane	0.911	mg/kg	0.0026	ND
1,1-Dichloroethene	0.911	mg/kg	0.0026	ND
1,2,3-Trichlorobenzene	0.911	mg/kg	0.0019	ND
1,2,4-Trichlorobenzene	0.911	mg/kg	0.0015	ND
1,2-Dibromo-3-chloropropane	0.911	mg/kg	0.0026	ND
1,2-Dibromoethane	0.911	mg/kg	0.0013	ND
1,2-Dichlorobenzene	0.911	mg/kg	0.0026	ND
1,2-Dichloroethane	0.911	mg/kg	0.0026	ND
1,2-Dichloropropane	0.911	mg/kg	0.0026	ND
1,3-Dichlorobenzene	0.911	mg/kg	0.0026	ND
1,4-Dichlorobenzene	0.911	mg/kg	0.0026	ND
1,4-Dioxane	0.911	mg/kg	0.13	ND
2-Butanone	**0.911**	**mg/kg**	**0.0026**	**0.030**
2-Hexanone	0.911	mg/kg	0.0026	ND
4-Methyl-2-pentanone	0.911	mg/kg	0.0026	ND
Acetone	**0.911**	**mg/kg**	**0.013**	**0.14**
Benzene	0.911	mg/kg	0.0013	ND
Bromochloromethane	0.911	mg/kg	0.0026	ND
Bromodichloromethane	0.911	mg/kg	0.0026	ND
Bromoform	0.911	mg/kg	0.0026	ND
Bromomethane	0.911	mg/kg	0.0026	ND
Carbon disulfide	0.911	mg/kg	0.0026	ND
Carbon tetrachloride	0.911	mg/kg	0.0026	ND
Chlorobenzene	0.911	mg/kg	0.0026	ND
Chloroethane	0.911	mg/kg	0.0026	ND
Chloroform	0.911	mg/kg	0.0026	ND
Chloromethane	0.911	mg/kg	0.0026	ND
cis-1,2-Dichloroethene	0.911	mg/kg	0.0026	ND
cis-1,3-Dichloropropene	0.911	mg/kg	0.0026	ND
Cyclohexane	0.911	mg/kg	0.0026	ND
Dibromochloromethane	0.911	mg/kg	0.0026	ND
Dichlorodifluoromethane	0.911	mg/kg	0.0026	ND
Ethylbenzene	0.911	mg/kg	0.0013	ND
Isopropylbenzene	0.911	mg/kg	0.0013	ND
m&p-Xylenes	0.911	mg/kg	0.0013	ND
Methyl Acetate	0.911	mg/kg	0.0026	ND
Methylcyclohexane	0.911	mg/kg	0.0026	ND
Methylene chloride	0.911	mg/kg	0.0026	ND
Methyl-t-butyl ether	0.911	mg/kg	0.0013	ND
o-Xylene	0.911	mg/kg	0.0013	ND

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB01 GRAB
Lab#: AD00418-001
Matrix: Soil

Collection Date: 10/3/2017
Receipt Date: 10/4/2017

Styrene	0.911	mg/kg	0.0026	ND
t-Butyl Alcohol	0.911	mg/kg	0.013	ND
Tetrachloroethene	0.911	mg/kg	0.0026	ND
Toluene	0.911	mg/kg	0.0013	ND
trans-1,2-Dichloroethene	0.911	mg/kg	0.0026	ND
trans-1,3-Dichloropropene	0.911	mg/kg	0.0026	ND
Trichloroethene	0.911	mg/kg	0.0026	ND
Trichlorofluoromethane	0.911	mg/kg	0.0026	ND
Vinyl chloride	0.911	mg/kg	0.0026	ND
Xylenes (Total)	0.911	mg/kg	0.0013	ND

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB01 COMP
Lab#: AD00418-002
Matrix: Soil

Collection Date: 10/3/2017
Receipt Date: 10/4/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		90

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	85.5	mg/kg	24	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	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.037	ND
Acenaphthene	1	mg/kg	0.037	ND
Acenaphthylene	1	mg/kg	0.037	ND
Anthracene	1	mg/kg	0.037	ND
Benzo[a]anthracene	1	mg/kg	0.037	ND
Benzo[a]pyrene	1	mg/kg	0.037	ND
Benzo[b]fluoranthene	1	mg/kg	0.037	ND
Benzo[g,h,i]perylene	1	mg/kg	0.037	ND
Benzo[k]fluoranthene	1	mg/kg	0.037	ND
Chrysene	1	mg/kg	0.037	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	ND
Fluorene	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	ND
Naphthalene	1	mg/kg	0.0093	ND
Phenanthrene	1	mg/kg	0.037	ND
Pyrene	1	mg/kg	0.037	ND

Paint Filter Test 9095B

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.028	ND
Aroclor-1016	1	mg/kg	0.028	ND
Aroclor-1221	1	mg/kg	0.028	ND
Aroclor-1232	1	mg/kg	0.028	ND
Aroclor-1242	1	mg/kg	0.028	ND
Aroclor-1248	1	mg/kg	0.028	ND
Aroclor-1254	1	mg/kg	0.028	ND
Aroclor-1260	1	mg/kg	0.028	ND
Aroclor-1262	1	mg/kg	0.028	ND
Aroclor-1268	1	mg/kg	0.028	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		8.1

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB01 COMP
Lab#: AD00418-002
Matrix: Soil

Collection Date: 10/3/2017
Receipt Date: 10/4/2017

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**	**0.60**
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**	**0.31**
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	67	ND

Sample ID: SB06 GRAB
Lab#: AD00418-003
Matrix: Soil

Collection Date: 10/3/2017
Receipt Date: 10/4/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		92

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.975	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.975	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.975	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.975	mg/kg	0.0021	ND
1,1-Dichloroethane	0.975	mg/kg	0.0021	ND
1,1-Dichloroethene	0.975	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.975	mg/kg	0.0016	ND
1,2,4-Trichlorobenzene	0.975	mg/kg	0.0013	ND
1,2-Dibromo-3-chloropropane	0.975	mg/kg	0.0021	ND
1,2-Dibromoethane	0.975	mg/kg	0.0011	ND
1,2-Dichlorobenzene	0.975	mg/kg	0.0021	ND
1,2-Dichloroethane	0.975	mg/kg	0.0021	ND
1,2-Dichloropropane	0.975	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.975	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.975	mg/kg	0.0021	ND
1,4-Dioxane	0.975	mg/kg	0.11	ND
2-Butanone	0.975	mg/kg	0.0021	ND
2-Hexanone	0.975	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.975	mg/kg	0.0021	ND
Acetone	0.975	mg/kg	0.011	ND
Benzene	0.975	mg/kg	0.0011	ND
Bromochloromethane	0.975	mg/kg	0.0021	ND
Bromodichloromethane	0.975	mg/kg	0.0021	ND
Bromoform	0.975	mg/kg	0.0021	ND
Bromomethane	0.975	mg/kg	0.0021	ND
Carbon disulfide	0.975	mg/kg	0.0021	ND
Carbon tetrachloride	0.975	mg/kg	0.0021	ND
Chlorobenzene	0.975	mg/kg	0.0021	ND
Chloroethane	0.975	mg/kg	0.0021	ND
Chloroform	0.975	mg/kg	0.0021	ND
Chloromethane	0.975	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.975	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.975	mg/kg	0.0021	ND
Cyclohexane	0.975	mg/kg	0.0021	ND
Dibromochloromethane	0.975	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.975	mg/kg	0.0021	ND
Ethylbenzene	0.975	mg/kg	0.0011	ND
Isopropylbenzene	0.975	mg/kg	0.0011	ND
m&p-Xylenes	0.975	mg/kg	0.0011	ND
Methyl Acetate	0.975	mg/kg	0.0021	ND
Methylcyclohexane	0.975	mg/kg	0.0021	ND
Methylene chloride	0.975	mg/kg	0.0021	ND
Methyl-t-butyl ether	0.975	mg/kg	0.0011	ND
o-Xylene	0.975	mg/kg	0.0011	ND
Styrene	0.975	mg/kg	0.0021	ND
t-Butyl Alcohol	0.975	mg/kg	0.011	ND
Tetrachloroethene	0.975	mg/kg	0.0021	ND
Toluene	0.975	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	0.975	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.975	mg/kg	0.0021	ND

Sample ID: SB06 GRAB
Lab#: AD00418-003
Matrix: Soil

Collection Date: 10/3/2017
Receipt Date: 10/4/2017

Trichloroethene	0.975	mg/kg	0.0021	ND
Trichlorofluoromethane	0.975	mg/kg	0.0021	ND
Vinyl chloride	0.975	mg/kg	0.0021	ND
Xylenes (Total)	0.975	mg/kg	0.0011	ND

Sample ID: SB06 COMP | **Collection Date: 10/3/2017**
Lab#: AD00418-004 | **Receipt Date: 10/4/2017**
Matrix: Soil

% 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	92.4	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 (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.037	ND
Acenaphthene	1	mg/kg	0.037	ND
Acenaphthylene	1	mg/kg	0.037	ND
Anthracene	1	mg/kg	0.037	ND
Benzo[a]anthracene	1	mg/kg	0.037	ND
Benzo[a]pyrene	1	mg/kg	0.037	ND
Benzo[b]fluoranthene	1	mg/kg	0.037	ND
Benzo[g,h,i]perylene	1	mg/kg	0.037	ND
Benzo[k]fluoranthene	1	mg/kg	0.037	ND
Chrysene	1	mg/kg	0.037	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	ND
Fluorene	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	ND
Naphthalene	1	mg/kg	0.0094	ND
Phenanthrene	1	mg/kg	0.037	ND
Pyrene	1	mg/kg	0.037	ND

Paint Filter Test 9095B

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.028	ND
Aroclor-1016	1	mg/kg	0.028	ND
Aroclor-1221	1	mg/kg	0.028	ND
Aroclor-1232	1	mg/kg	0.028	ND
Aroclor-1242	1	mg/kg	0.028	ND
Aroclor-1248	1	mg/kg	0.028	ND
Aroclor-1254	1	mg/kg	0.028	ND
Aroclor-1260	1	mg/kg	0.028	ND
Aroclor-1262	1	mg/kg	0.028	ND
Aroclor-1268	1	mg/kg	0.028	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		8.2

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB06 COMP
Lab#: AD00418-004
Matrix: Soil

Collection Date: 10/3/2017
Receipt Date: 10/4/2017

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	0.78
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	0.79
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	67	74

Sample ID: SB10 GRAB
Lab#: AD00418-005
Matrix: Soil

Collection Date: 10/4/2017
Receipt Date: 10/4/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		87

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	mg/kg	0.0023	ND
1,1,2,2-Tetrachloroethane	1	mg/kg	0.0023	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	mg/kg	0.0023	ND
1,1,2-Trichloroethane	1	mg/kg	0.0023	ND
1,1-Dichloroethane	1	mg/kg	0.0023	ND
1,1-Dichloroethene	1	mg/kg	0.0023	ND
1,2,3-Trichlorobenzene	1	mg/kg	0.0017	ND
1,2,4-Trichlorobenzene	1	mg/kg	0.0014	ND
1,2-Dibromo-3-chloropropane	1	mg/kg	0.0023	ND
1,2-Dibromoethane	1	mg/kg	0.0011	ND
1,2-Dichlorobenzene	1	mg/kg	0.0023	ND
1,2-Dichloroethane	1	mg/kg	0.0023	ND
1,2-Dichloropropane	1	mg/kg	0.0023	ND
1,3-Dichlorobenzene	1	mg/kg	0.0023	ND
1,4-Dichlorobenzene	1	mg/kg	0.0023	ND
1,4-Dioxane	1	mg/kg	0.11	ND
2-Butanone	1	mg/kg	0.0023	ND
2-Hexanone	1	mg/kg	0.0023	ND
4-Methyl-2-pentanone	1	mg/kg	0.0023	ND
Acetone	1	mg/kg	0.011	ND
Benzene	1	mg/kg	0.0011	ND
Bromochloromethane	1	mg/kg	0.0023	ND
Bromodichloromethane	1	mg/kg	0.0023	ND
Bromoform	1	mg/kg	0.0023	ND
Bromomethane	1	mg/kg	0.0023	ND
Carbon disulfide	1	mg/kg	0.0023	ND
Carbon tetrachloride	1	mg/kg	0.0023	ND
Chlorobenzene	1	mg/kg	0.0023	ND
Chloroethane	1	mg/kg	0.0023	ND
Chloroform	1	mg/kg	0.0023	ND
Chloromethane	1	mg/kg	0.0023	ND
cis-1,2-Dichloroethene	1	mg/kg	0.0023	ND
cis-1,3-Dichloropropene	1	mg/kg	0.0023	ND
Cyclohexane	1	mg/kg	0.0023	ND
Dibromochloromethane	1	mg/kg	0.0023	ND
Dichlorodifluoromethane	1	mg/kg	0.0023	ND
Ethylbenzene	1	mg/kg	0.0011	ND
Isopropylbenzene	1	mg/kg	0.0011	ND
m&p-Xylenes	1	mg/kg	0.0011	ND
Methyl Acetate	1	mg/kg	0.0023	ND
Methylcyclohexane	1	mg/kg	0.0023	ND
Methylene chloride	1	mg/kg	0.0023	ND
Methyl-t-butyl ether	1	mg/kg	0.0011	ND
o-Xylene	1	mg/kg	0.0011	ND
Styrene	1	mg/kg	0.0023	ND
t-Butyl Alcohol	1	mg/kg	0.011	ND
Tetrachloroethene	1	mg/kg	0.0023	ND
Toluene	1	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	1	mg/kg	0.0023	ND
trans-1,3-Dichloropropene	1	mg/kg	0.0023	ND

Sample ID: SB10 GRAB
Lab#: AD00418-005
Matrix: Soil

Collection Date: 10/4/2017
Receipt Date: 10/4/2017

Trichloroethene	1	mg/kg	0.0023	ND
Trichlorofluoromethane	1	mg/kg	0.0023	ND
Vinyl chloride	1	mg/kg	0.0023	ND
Xylenes (Total)	1	mg/kg	0.0011	ND

Sample ID: SB10 COMP | **Collection Date: 10/4/2017**
Lab#: AD00418-006 | **Receipt Date: 10/4/2017**
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		90

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	85.6	mg/kg	24	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	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.037	ND
Acenaphthene	1	mg/kg	0.037	ND
Acenaphthylene	1	mg/kg	0.037	ND
Anthracene	1	mg/kg	0.037	ND
Benzo[a]anthracene	1	mg/kg	0.037	ND
Benzo[a]pyrene	1	mg/kg	0.037	ND
Benzo[b]fluoranthene	1	mg/kg	0.037	ND
Benzo[g,h,i]perylene	1	mg/kg	0.037	ND
Benzo[k]fluoranthene	1	mg/kg	0.037	ND
Chrysene	1	mg/kg	0.037	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	ND
Fluorene	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	ND
Naphthalene	1	mg/kg	0.0093	ND
Phenanthrene	1	mg/kg	0.037	ND
Pyrene	1	mg/kg	0.037	ND

Paint Filter Test 9095B

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.028	ND
Aroclor-1016	1	mg/kg	0.028	ND
Aroclor-1221	1	mg/kg	0.028	ND
Aroclor-1232	1	mg/kg	0.028	ND
Aroclor-1242	1	mg/kg	0.028	ND
Aroclor-1248	1	mg/kg	0.028	ND
Aroclor-1254	1	mg/kg	0.028	ND
Aroclor-1260	1	mg/kg	0.028	ND
Aroclor-1262	1	mg/kg	0.028	ND
Aroclor-1268	1	mg/kg	0.028	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		8.3

Sample ID: SB10 COMP
Lab#: AD00418-006
Matrix: Soil

Collection Date: 10/4/2017
Receipt Date: 10/4/2017

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	0.37
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	0.26
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	67	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: Bartow

HC Project #: 7100429

Lab#: AD00418-001 **Sample ID: SB01 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/5/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/6/17 11:18	SG

Lab#: AD00418-002 **Sample ID: SB01 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/5/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 01:33	RG
Ignitability (EPA 1030)		10/06/17	SDL	EPA 1030	10/6/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/09/17 08:00	aadewusi	EPA 7470A	10/9/17 17:30	OA
PAH Compounds 8270	3510C/3550C	10/06/17 08:00	Apatel	EPA 8270D	10/6/17 16:42	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/6/17 00:00	SDL
PCB 8082	3510C/3550C	10/09/17 07:15	jkr	EPA 8082A	10/9/17 22:32	MS/MLC/ZM
pH 9040C/9045D				9040C/9045D	10/6/17 10:45	JMP
Reactive Cyanide	SW846 7.3.3	10/05/17	jessica	SW846 7.3.3	10/5/17 13:35	JMP
Reactive Sulfide	SW846 7.3.4	10/05/17	JMP	SW846 7.3.4	10/5/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/09/17 08:00	aadewusi	EPA 6010C	10/9/17 16:57	CJA
TCLP Metals Extraction 1311	EPA 1311	10/05/17 16:34	Ramos		10/6/17 15:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/10/17 18:24	RAK/AH/KD

Lab#: AD00418-003 **Sample ID: SB06 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/5/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/5/17 17:52	SG

Laboratory Chronicle

Client: Louis Berger & Associates

Project: Bartow

HC Project #: 7100429

Lab#: AD00418-004 **Sample ID: SB06 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/5/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 01:15	RG
Ignitability (EPA 1030)		10/06/17	SDL	EPA 1030	10/6/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/09/17 08:00	aadewusi	EPA 7470A	10/9/17 17:24	OA
PAH Compounds 8270	3510C/3550C	10/06/17 08:00	Apatel	EPA 8270D	10/6/17 17:05	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/6/17 00:00	SDL
PCB 8082	3510C/3550C	10/09/17 07:15	jkr	EPA 8082A	10/9/17 22:47	MS/MLC/ZM
pH 9040C/9045D				9040C/9045D	10/6/17 10:45	JMP
Reactive Cyanide	SW846 7.3.3	10/05/17	jessica	SW846 7.3.3	10/5/17 13:36	JMP
Reactive Sulfide	SW846 7.3.4	10/05/17	JMP	SW846 7.3.4	10/5/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/09/17 08:00	aadewusi	EPA 6010C	10/9/17 16:20	CJA
TCLP Metals Extraction 1311	EPA 1311	10/05/17 16:34	Ramos		10/6/17 15:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/10/17 18:49	RAK/AH/KD

Lab#: AD00418-005 **Sample ID: SB10 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/5/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/5/17 17:35	SG

Lab#: AD00418-006 **Sample ID: SB10 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/5/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 00:54	RG
Ignitability (EPA 1030)		10/06/17	SDL	EPA 1030	10/6/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/09/17 08:00	aadewusi	EPA 7470A	10/9/17 17:31	OA
PAH Compounds 8270	3510C/3550C	10/06/17 12:30	jprevilon	EPA 8270D	10/6/17 16:09	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/6/17 00:00	SDL
PCB 8082	3510C/3550C	10/09/17 07:15	jkr	EPA 8082A	10/9/17 23:02	MS/MLC/ZM
pH 9040C/9045D				9040C/9045D	10/6/17 10:45	JMP
Reactive Cyanide	SW846 7.3.3	10/05/17	jessica	SW846 7.3.3	10/5/17 13:38	JMP
Reactive Sulfide	SW846 7.3.4	10/05/17	JMP	SW846 7.3.4	10/5/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/09/17 08:00	aadewusi	EPA 6010C	10/9/17 17:01	CJA
TCLP Metals Extraction 1311	EPA 1311	10/05/17 16:34	Ramos		10/6/17 14:45	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/10/17 18:00	RAK/AH/KD

Chain of Custody

7100429 0020

Hampton-Clarke, Inc. (WBE/DBE/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 Gaither Drive, Mount Laurel, New Jersey 08054
Ph (Service Center): 856-780-6057 Fax: 856-780-6056

Hampton-Clarke WBE/DBE/SBE 800-426-9992

CHAIN OF CUSTODY RECORD

A Women-Owned, Disadvantaged, Small Business Enterprise

NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Project# (Lab Use Only): 7100429

Page 1 of 1 10/19/17

Customer Information

1a) Customer: Louis Berger
Address: 48 Wall Street, 16th Floor
New York, NY 10005
1b) Email/Cell/Fax/Ph: madonovan@louisberger.com
1c) Send Invoice to: jganz@louisberger.com
1d) Send Report to: both above

Project Information

2a) Project: Bartow
2b) Project Mgr: Jon Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 2011040.320.00

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Deliv.
When Available:	Data Summary	Hazsite/CSV
1 Business Day (100%) *	Results + QC (Waste)	EnviroData
2 Business Days (75%) *	NJ Reduced	Excel - NJ Regulatory
3 Business Days (50%) *	NY Reduced	Excel - NY Regulatory
4 Business Days (35%) *	PA Reduced	Excel - PA Regulatory
5 Business Days (25%)	Full / Category B	EQuIS (specify below):
10 Business Days (Stand.)	Category A	4-File/EZ/NYS/Reg. 2 or 5
Other:	Electronic (PDF)	Other:

* Expedited TAT Not Always Available. Please Check with Lab.

FOR LAB USE ONLY ↓

Batch # AJ00448

===> Check If Contingent ===>

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)

7) Analysis (specify methods & parameter lists)

<=== Check If Contingent <===

Lab Sample #	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite (C)	Sample Type: Grab (G)	TCL VOC (EPA 8260C)	PAH (EPA 8270C)	TPH DRO/GRO (EPA 8015B	PCB (EPA 8082A/608)	TCLP Metals RCRA 8 (EPA 1311/601B)	RCRA Char. (EPA 9012B/9034, 1030/1010A, 9045C)	Paint Filter Test (EPA 9095B)	8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other: ICE	9) Comments
001	SB07	S	10/3/17	1117		X	X															
002	SB07	↓	↓	↓	X			X	X	X	X	X	X	↓								
003	SB06	↓	↓	1535		X	X															
004	SB06	↓	↓	↓	X			X	X	X	X	X	X	↓								
005	SB10	↓	10/4/17	1500		X	X															
006	SB10	↓	↓	↓	X			X	X	X	X	X	X	↓								

10) Relinquished by:	Accepted by:	Date	Time
[signature]	[signature]	10/4/17	1508
[signature]	[signature]	10/4/17	5:20

Additional Notes
Please Note DDC Contract TATs

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)

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Cooler Temperature: 3.7

11) Sampler (print name): Martin Donovan Date: 10/4/17

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis.

HAZ - 128

CONDITION UPON RECEIPT

Batch Number AD00418

Entered By: Ricardo
Date Entered 10/5/2017 8:56:00 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	NO	Are the COC seals intact?
4	T0054	<--- Thermometer ID. Please specify the Temperature inside the container (in degC). 3.2
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	YES	Other comments ...Specify NO ENCORES RECEIVED FOR VO
14	NA	Corrective actions (Specify item number and corrective action taken).

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD00418-001	10/04/17 17:20	RICAR	0	M	Received
AD00418-001	10/04/17 18:22	RICAR	0	M	Login
AD00418-001	10/05/17 10:51	R12	1	A	NONE
AD00418-001	10/05/17 12:10	R12	1	A	NONE
AD00418-001	10/05/17 16:39	BCT	1	M	MIXING/% SOLIDS
AD00418-001	10/05/17 16:42	R12	1	A	NONE
AD00418-001	10/05/17 11:02	R12	2	A	NONE
AD00418-001	10/05/17 15:13	SG	2	A	VOA
AD00418-001	10/05/17 15:20	R30	2	A	NONE
AD00418-001	10/06/17 09:32	SG	2	A	VOA
AD00418-001	10/06/17 09:40	R30	2	A	NONE
AD00418-002	10/04/17 17:20	RICAR	0	M	Received
AD00418-002	10/04/17 18:22	RICAR	0	M	Login
AD00418-002	10/05/17 10:02	JMP	1	A	RCN/RS
AD00418-002	10/05/17 10:51	R12	1	A	NONE
AD00418-002	10/05/17 12:10	R12	1	A	NONE
AD00418-002	10/05/17 18:08	RAMO	1	A	tclp
AD00418-002	10/06/17 08:49	AP	1	A	bn
AD00418-002	10/06/17 08:51	SDL	1	A	PH
AD00418-002	10/06/17 08:52	SDL	1	A	IGNIT
AD00418-002	10/06/17 08:53	SDL	1	A	PAINTFILTER
AD00418-002	10/06/17 18:27	R12	1	A	NONE
AD00418-002	10/09/17 09:00	JKR	1	A	p/p
AD00418-002	10/09/17 09:01	R12	1	A	NONE
AD00418-002	10/10/17 10:45	LV	1	A	tph
AD00418-002	10/10/17 10:46	R12	1	A	NONE
AD00418-002	10/05/17 11:02	R12	2	A	NONE
AD00418-002	10/05/17 15:13	SG	2	A	GRO
AD00418-002	10/05/17 15:20	R30	2	A	NONE
AD00418-002	10/05/17 15:19	R31	3	A	NONE
AD00418-002	10/09/17 14:20	RG	3	A	GRO
AD00418-002	10/09/17 14:20	R31	3	A	NONE
AD00418-003	10/04/17 17:20	RICAR	0	M	Received
AD00418-003	10/04/17 18:22	RICAR	0	M	Login
AD00418-003	10/05/17 10:51	R12	1	A	NONE
AD00418-003	10/05/17 12:10	R12	1	A	NONE
AD00418-003	10/05/17 16:39	BCT	1	M	MIXING/% SOLIDS
AD00418-003	10/05/17 16:42	R12	1	A	NONE
AD00418-003	10/05/17 11:02	R12	2	A	NONE
AD00418-003	10/05/17 15:13	SG	2	A	VOA
AD00418-003	10/05/17 15:20	R30	2	A	NONE
AD00418-004	10/04/17 17:20	RICAR	0	M	Received
AD00418-004	10/04/17 18:22	RICAR	0	M	Login
AD00418-004	10/05/17 10:02	JMP	1	A	RCN/RS
AD00418-004	10/05/17 10:51	R12	1	A	NONE
AD00418-004	10/05/17 12:10	R12	1	A	NONE
AD00418-004	10/05/17 18:08	RAMO	1	A	tclp
AD00418-004	10/06/17 08:49	AP	1	A	bn
AD00418-004	10/06/17 08:51	SDL	1	A	PH
AD00418-004	10/06/17 08:52	SDL	1	A	IGNIT
AD00418-004	10/06/17 08:53	SDL	1	A	PAINTFILTER
AD00418-004	10/06/17 18:27	R12	1	A	NONE
AD00418-004	10/09/17 09:00	JKR	1	A	p/p
AD00418-004	10/09/17 09:01	R12	1	A	NONE
AD00418-004	10/10/17 10:45	LV	1	A	tph
AD00418-004	10/10/17 10:46	R12	1	A	NONE
AD00418-004	10/05/17 11:02	R12	2	A	NONE
AD00418-004	10/05/17 15:13	SG	2	A	GRO
AD00418-004	10/05/17 15:20	R30	2	A	NONE
AD00418-004	10/05/17 15:19	R31	3	A	NONE
AD00418-004	10/09/17 14:20	R31	3	A	NONE
AD00418-004	10/09/17 14:20	RG	3	A	GRO
AD00418-005	10/04/17 17:20	RICAR	0	M	Received
AD00418-005	10/04/17 18:22	RICAR	0	M	Login
AD00418-005	10/05/17 10:51	R12	1	A	NONE
AD00418-005	10/05/17 12:10	R12	1	A	NONE
AD00418-005	10/05/17 16:39	BCT	1	M	MIXING/% SOLIDS
AD00418-005	10/05/17 16:42	R12	1	A	NONE
AD00418-005	10/05/17 11:02	R12	2	A	NONE
AD00418-005	10/05/17 15:13	SG	2	A	VOA
AD00418-005	10/05/17 15:20	R30	2	A	NONE
AD00418-006	10/04/17 17:20	RICAR	0	M	Received
AD00418-006	10/04/17 18:22	RICAR	0	M	Login
AD00418-006	10/05/17 10:02	JMP	1	A	RCN/RS
AD00418-006	10/05/17 10:51	R12	1	A	NONE
AD00418-006	10/05/17 12:10	R12	1	A	NONE
AD00418-006	10/05/17 18:08	RAMO	1	A	tclp
AD00418-006	10/06/17 08:51	SDL	1	A	PH
AD00418-006	10/06/17 08:52	SDL	1	A	IGNIT
AD00418-006	10/06/17 08:53	SDL	1	A	PAINTFILTER
AD00418-006	10/06/17 12:42	JP	1	A	bna
AD00418-006	10/06/17 12:43	R12	1	A	NONE
AD00418-006	10/09/17 07:09	JKR	1	A	p/p
AD00418-006	10/09/17 07:10	R12	1	A	NONE
AD00418-006	10/10/17 10:45	LV	1	A	tph
AD00418-006	10/10/17 10:46	R12	1	A	NONE
AD00418-006	10/05/17 11:02	R12	2	A	NONE
AD00418-006	10/05/17 15:13	SG	2	A	GRO
AD00418-006	10/05/17 15:20	R30	2	A	NONE
AD00418-006	10/05/17 15:19	R31	3	A	NONE
AD00418-006	10/09/17 14:20	RG	3	A	GRO
AD00418-006	10/09/17 14:20	R31	3	A	NONE

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: AD00418-001
Client Id: SB01 GRAB
Data File: 6M59573.D
Analysis Date: 10/06/17 11:18
Date Rec/Extracted: 10/04/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.49g
Final Vol: NA
Dilution: 0.911
Solids: 71

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0026	U	108-90-7	Chlorobenzene	0.0026	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0026	U	75-00-3	Chloroethane	0.0026	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0026	U	67-66-3	Chloroform	0.0026	U
79-00-5	1,1,2-Trichloroethane	0.0026	U	74-87-3	Chloromethane	0.0026	U
75-34-3	1,1-Dichloroethane	0.0026	U	156-59-2	cis-1,2-Dichloroethene	0.0026	U
75-35-4	1,1-Dichloroethene	0.0026	U	10061-01-5	cis-1,3-Dichloropropene	0.0026	U
87-61-6	1,2,3-Trichlorobenzene	0.0019	U	110-82-7	Cyclohexane	0.0026	U
120-82-1	1,2,4-Trichlorobenzene	0.0015	U	124-48-1	Dibromochloromethane	0.0026	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0026	U	75-71-8	Dichlorodifluoromethane	0.0026	U
106-93-4	1,2-Dibromoethane	0.0013	U	100-41-4	Ethylbenzene	0.0013	U
95-50-1	1,2-Dichlorobenzene	0.0026	U	98-82-8	Isopropylbenzene	0.0013	U
107-06-2	1,2-Dichloroethane	0.0026	U	79601-23-1	m&p-Xylenes	0.0013	U
78-87-5	1,2-Dichloropropane	0.0026	U	79-20-9	Methyl Acetate	0.0026	U
541-73-1	1,3-Dichlorobenzene	0.0026	U	108-87-2	Methylcyclohexane	0.0026	U
106-46-7	1,4-Dichlorobenzene	0.0026	U	75-09-2	Methylene Chloride	0.0026	U
123-91-1	1,4-Dioxane	0.13	U	1634-04-4	Methyl-t-butyl ether	0.0013	U
78-93-3	**2-Butanone**	**0.0026**	**0.030**	95-47-6	o-Xylene	0.0013	U
591-78-6	2-Hexanone	0.0026	U	100-42-5	Styrene	0.0026	U
108-10-1	4-Methyl-2-Pentanone	0.0026	U	75-65-0	t-Butyl Alcohol	0.013	U
67-64-1	**Acetone**	**0.013**	**0.14**	127-18-4	Tetrachloroethene	0.0026	U
71-43-2	Benzene	0.0013	U	108-88-3	Toluene	0.0013	U
74-97-5	Bromochloromethane	0.0026	U	156-60-5	trans-1,2-Dichloroethene	0.0026	U
75-27-4	Bromodichloromethane	0.0026	U	10061-02-6	trans-1,3-Dichloropropene	0.0026	U
75-25-2	Bromoform	0.0026	U	79-01-6	Trichloroethene	0.0026	U
74-83-9	Bromomethane	0.0026	U	75-69-4	Trichlorofluoromethane	0.0026	U
75-15-0	Carbon Disulfide	0.0026	U	75-01-4	Vinyl Chloride	0.0026	U
56-23-5	Carbon Tetrachloride	0.0026	U	1330-20-7	Xylenes (Total)	0.0013	U

Worksheet #: 439643

Total Target Concentration 0.17

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

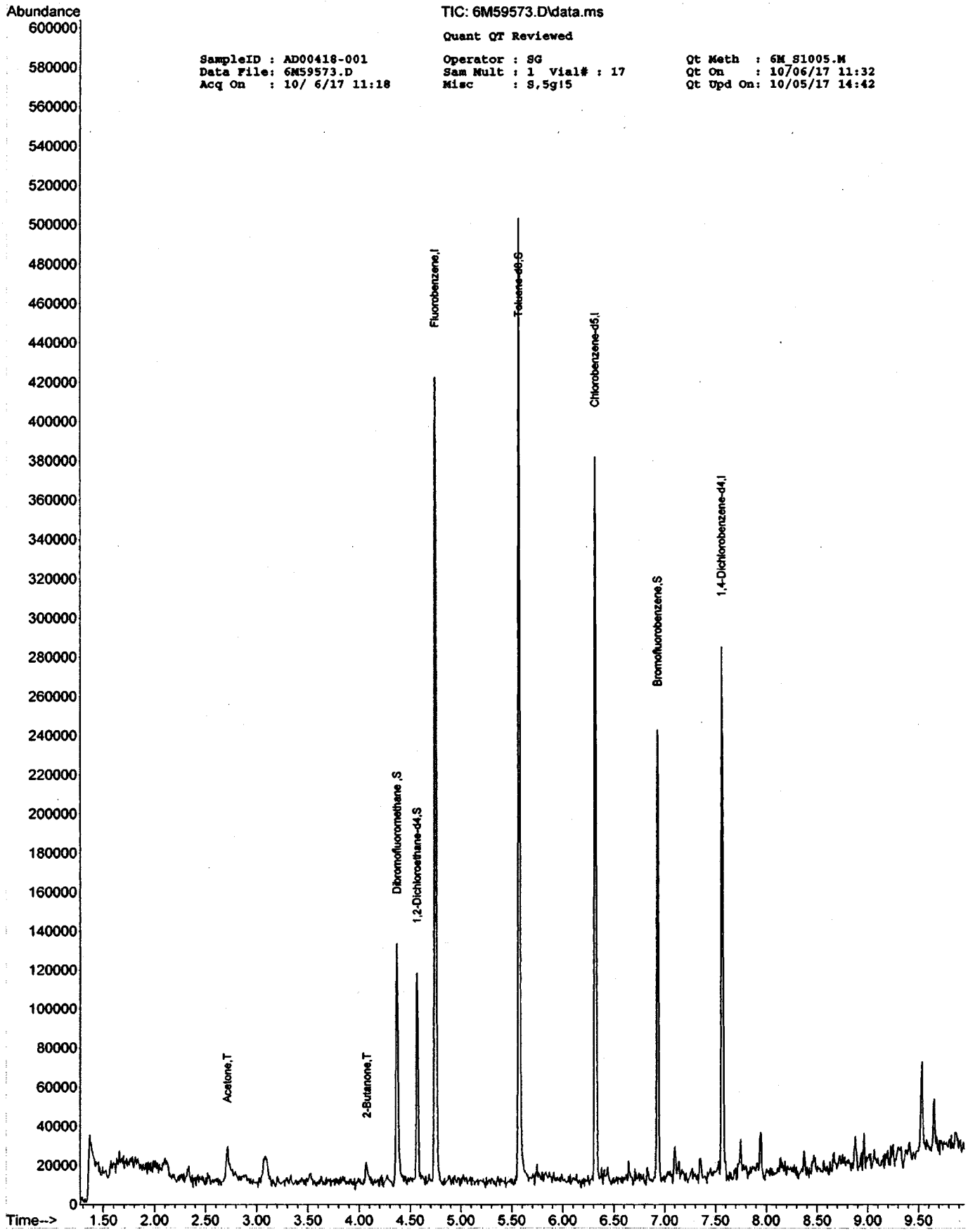
7100429 0025

SampleID : AD00418-001 Operator : SG Qt Meth : 6M_S1005.M
Data File: 6M59573.D Sam Mult : 1 Vial# : 17 Qt On : 10/06/17 11:32
Acq On : 10/ 6/17 11:18 Misc : S,5g!5 Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-06-17\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.749	96	202150	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.320	117	115544	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.566	152	44916	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.370	111	51786	30.78	ug/l	0.00
Spiked Amount 30.000			Recovery	=	102.60%	
39) 1,2-Dichloroethane-d4	4.568	67	23069	30.87	ug/l	0.00
Spiked Amount 30.000			Recovery	=	102.90%	
66) Toluene-d8	5.573	98	184118	28.85	ug/l	0.00
Spiked Amount 30.000			Recovery	=	96.17%	
76) Bromofluorobenzene	6.934	174	42906	30.71	ug/l	0.00
Spiked Amount 30.000			Recovery	=	102.37%	
Target Compounds						Qvalue
19) Acetone	2.715	43	39123	111.0815	ug/l	94
41) 2-Butanone	4.075	43	12331	23.6515	ug/l	99

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



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Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00418-003
Client Id: SB06 GRAB
Data File: 6M59509.D
Analysis Date: 10/05/17 17:52
Date Rec/Extracted: 10/04/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.13g
Final Vol: NA
Dilution: 0.975
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	0.0016	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0013	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	0.0011	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 #: 439643

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100429 0028

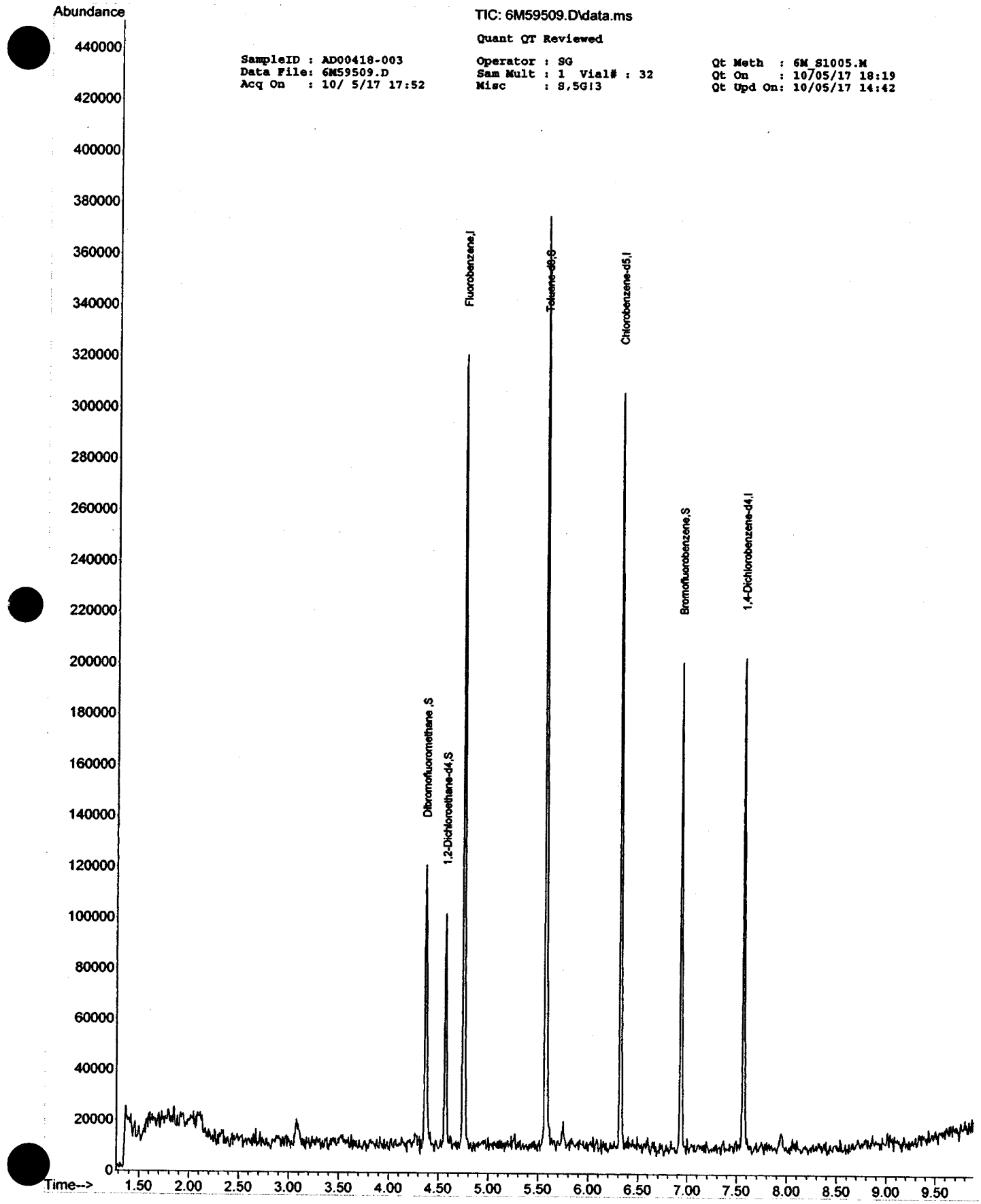
SampleID : AD00418-003 Operator : SG Qt Meth : 6M_S1005.M
Data File: 6M59509.D Sam Mult : 1 Vial# : 32 Qt On : 10/05/17 18:19
Acq On : 10/ 5/17 17:52 Misc : S,5G!3 Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-05-17\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
4) Fluorobenzene	4.755	96	164032	30.00 ug/l	0.00
52) Chlorobenzene-d5	6.326	117	98140	30.00 ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.572	152	32053	30.00 ug/l	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	4.370	111	47385	34.71 ug/l	0.00
Spiked Amount 30.000			Recovery	= 115.70%	
39) 1,2-Dichloroethane-d4	4.574	67	22940	37.83 ug/l	0.00
Spiked Amount 30.000			Recovery	= 126.10%	
66) Toluene-d8	5.573	98	144790	26.71 ug/l	0.00
Spiked Amount 30.000			Recovery	= 89.03%	
76) Bromofluorobenzene	6.934	174	30209	30.30 ug/l	0.00
Spiked Amount 30.000			Recovery	= 101.00%	
Target Compounds					Qvalue

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

PAGE: 1



6M_S1005.M Mon Oct 09 14:20:33 2017 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00418-005
Client Id: SB10 GRAB
Data File: 6M59508.D
Analysis Date: 10/05/17 17:35
Date Rec/Extracted: 10/04/17-NA
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: 87

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0023	U	108-90-7	Chlorobenzene	0.0023	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0023	U	75-00-3	Chloroethane	0.0023	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0023	U	67-66-3	Chloroform	0.0023	U
79-00-5	1,1,2-Trichloroethane	0.0023	U	74-87-3	Chloromethane	0.0023	U
75-34-3	1,1-Dichloroethane	0.0023	U	156-59-2	cis-1,2-Dichloroethene	0.0023	U
75-35-4	1,1-Dichloroethene	0.0023	U	10061-01-5	cis-1,3-Dichloropropene	0.0023	U
87-61-6	1,2,3-Trichlorobenzene	0.0017	U	110-82-7	Cyclohexane	0.0023	U
120-82-1	1,2,4-Trichlorobenzene	0.0014	U	124-48-1	Dibromochloromethane	0.0023	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0023	U	75-71-8	Dichlorodifluoromethane	0.0023	U
106-93-4	1,2-Dibromoethane	0.0011	U	100-41-4	Ethylbenzene	0.0011	U
95-50-1	1,2-Dichlorobenzene	0.0023	U	98-82-8	Isopropylbenzene	0.0011	U
107-06-2	1,2-Dichloroethane	0.0023	U	79601-23-1	m&p-Xylenes	0.0011	U
78-87-5	1,2-Dichloropropane	0.0023	U	79-20-9	Methyl Acetate	0.0023	U
541-73-1	1,3-Dichlorobenzene	0.0023	U	108-87-2	Methylcyclohexane	0.0023	U
106-46-7	1,4-Dichlorobenzene	0.0023	U	75-09-2	Methylene Chloride	0.0023	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	0.0023	U	95-47-6	o-Xylene	0.0011	U
591-78-6	2-Hexanone	0.0023	U	100-42-5	Styrene	0.0023	U
108-10-1	4-Methyl-2-Pentanone	0.0023	U	75-65-0	t-Butyl Alcohol	0.011	U
67-64-1	Acetone	0.011	U	127-18-4	Tetrachloroethene	0.0023	U
71-43-2	Benzene	0.0011	U	108-88-3	Toluene	0.0011	U
74-97-5	Bromochloromethane	0.0023	U	156-60-5	trans-1,2-Dichloroethene	0.0023	U
75-27-4	Bromodichloromethane	0.0023	U	10061-02-6	trans-1,3-Dichloropropene	0.0023	U
75-25-2	Bromoform	0.0023	U	79-01-6	Trichloroethene	0.0023	U
74-83-9	Bromomethane	0.0023	U	75-69-4	Trichlorofluoromethane	0.0023	U
75-15-0	Carbon Disulfide	0.0023	U	75-01-4	Vinyl Chloride	0.0023	U
56-23-5	Carbon Tetrachloride	0.0023	U	1330-20-7	Xylenes (Total)	0.0011	U

Worksheet #: 439643

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100429 0031

SampleID : AD00418-005 Operator : SG Qt Meth : 6M_S1005.M
Data File: 6M59508.D Sam Mult : 1 Vial# : 31 Qt On : 10/05/17 18:19
Acq On : 10/ 5/17 17:35 Misc : S,5G!3 Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-05-17\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
4) Fluorobenzene	4.756	96	165819	30.00 ug/l	0.00
52) Chlorobenzene-d5	6.326	117	99118	30.00 ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.572	152	34298	30.00 ug/l	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	4.370	111	47718	34.58 ug/l	0.00
Spiked Amount 30.000			Recovery	= 115.27%	
39) 1,2-Dichloroethane-d4	4.575	67	19598	31.97 ug/l	0.00
Spiked Amount 30.000			Recovery	= 106.57%	
66) Toluene-d8	5.574	98	144374	26.37 ug/l	0.00
Spiked Amount 30.000			Recovery	= 87.90%	
76) Bromofluorobenzene	6.934	174	35865	33.62 ug/l	0.00
Spiked Amount 30.000			Recovery	= 112.07%	
Target Compounds					Qvalue

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

PAGE: 1

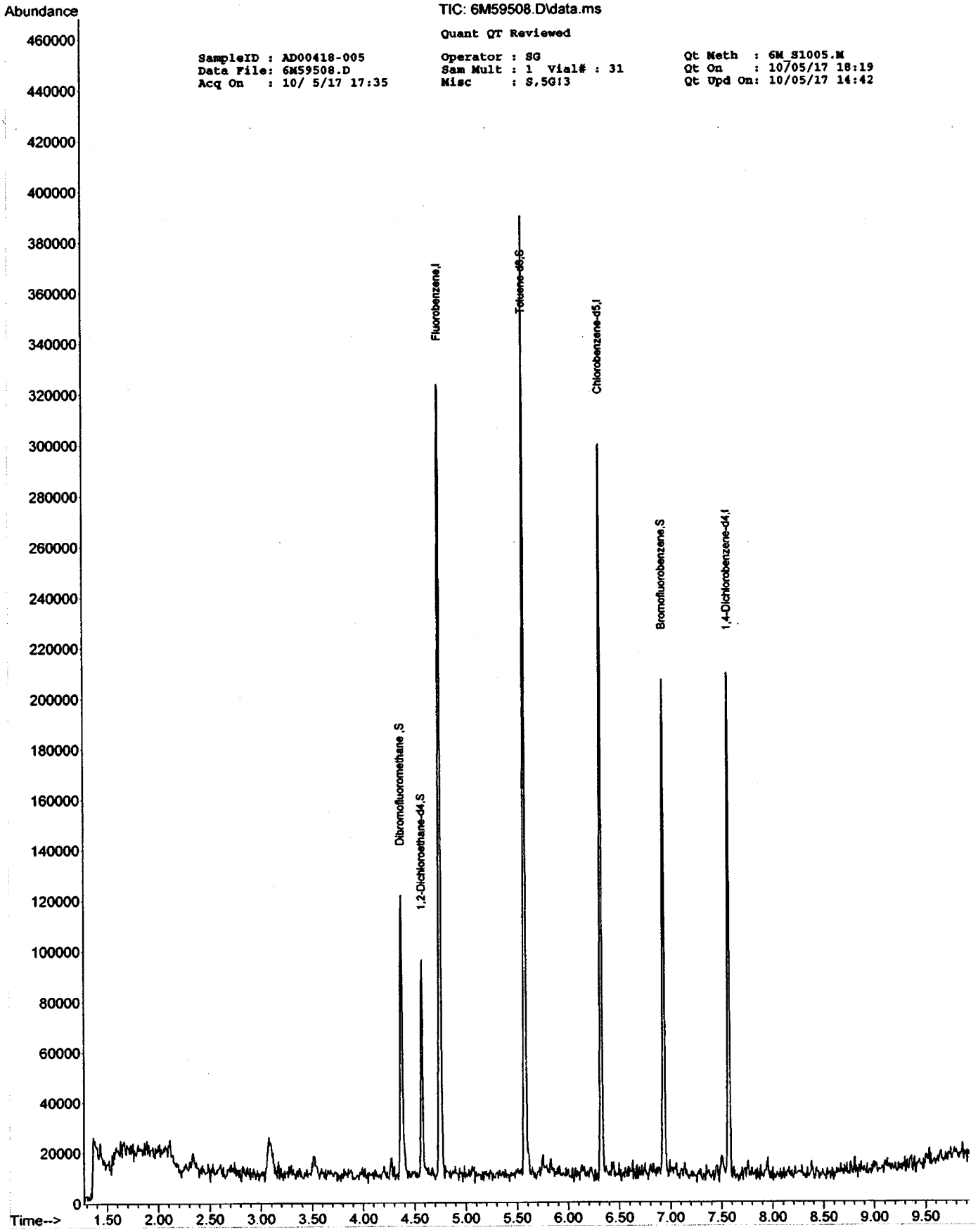
TIC: 6M59508.D\data.ms

Quant QT Reviewed

SampleID : AD00418-005
Data File: 6M59508.D
Acq On : 10/ 5/17 17:35

Operator : SG
Sam Mult : 1 Vial# : 31
Misc : S,5G!3

Qt Meth : 6M_S1005.M
Qt On : 10/05/17 18:19
Qt Upd On: 10/05/17 14:42



6M_S1005.M Mon Oct 09 14:20:36 2017 RPT1

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Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 6M59501.D
Analysis Date: 10/05/17 15:38
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	0.0015	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0012	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	0.0010	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 #: 439643

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
Indicates the analyte was found in the blank as well as in the sample.
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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100429 0034

SampleID : DAILY BLANK
Data File: 6M59501.D
Acq On : 10/ 5/17 15:38

Operator : SG
Sam Mult : 1 Vial# : 25
Misc : S,5G

Qt Meth : 6M_S1005.M
Qt On : 10/05/17 17:22
Qt Upd On: 10/05/17 14:42

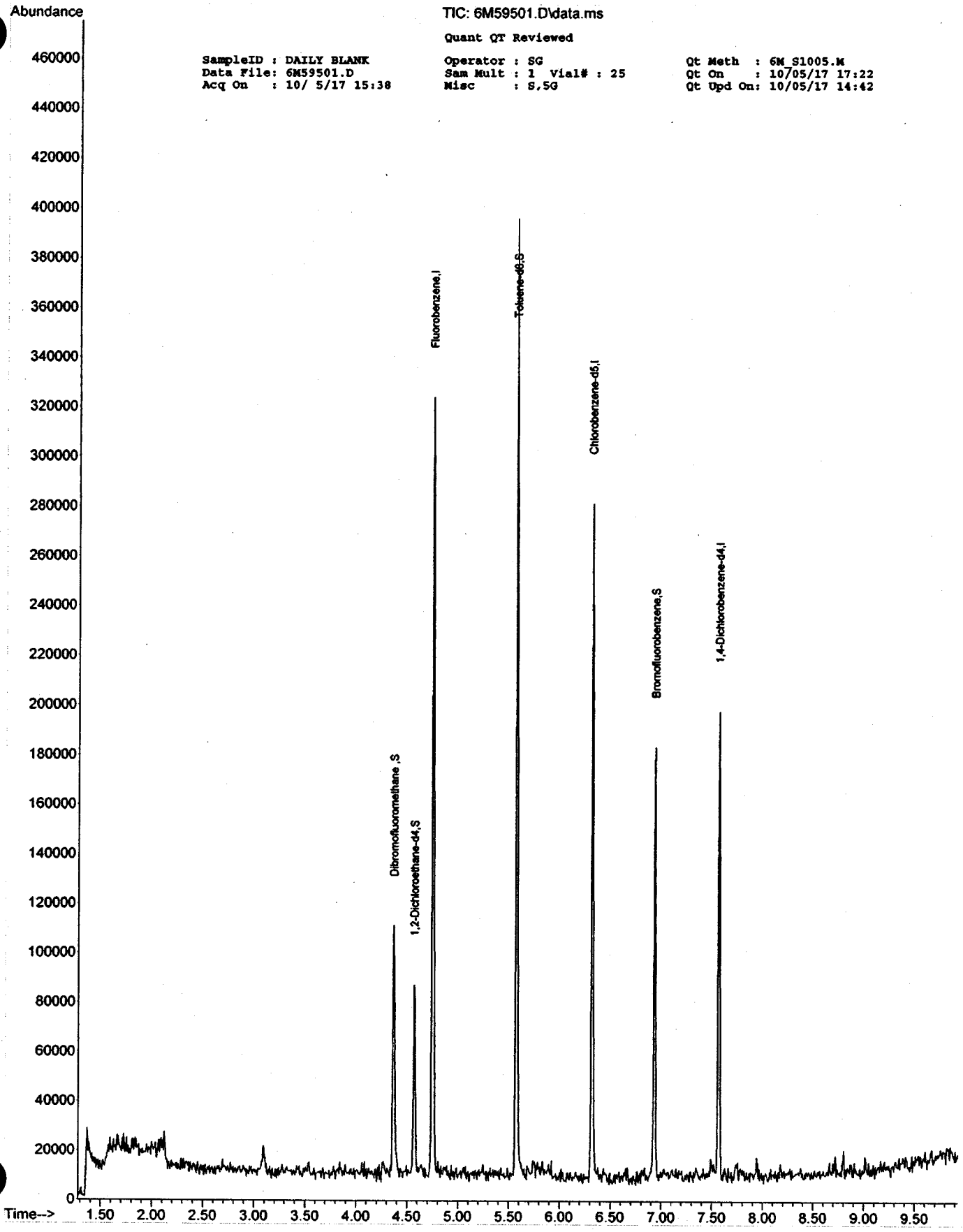
Data Path : G:\GcMsData\2017\GCMS_6\Data\10-05-17\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.750	96	157354	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.321	117	81676	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.567	152	30661	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.371	111	44325	33.85	ug/l	0.00
Spiked Amount 30.000			Recovery = 112.83%			
39) 1,2-Dichloroethane-d4	4.570	67	20378	35.03	ug/l	0.00
Spiked Amount 30.000			Recovery = 116.77%			
66) Toluene-d8	5.575	98	138813	30.77	ug/l	0.00
Spiked Amount 30.000			Recovery = 102.57%			
76) Bromofluorobenzene	6.935	174	29223	30.64	ug/l	0.00
Spiked Amount 30.000			Recovery = 102.13%			

Target Compounds Qvalue

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

k



6M_S1005.M Mon Oct 09 14:20:24 2017 RPT1

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Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 6M59563.D
Analysis Date: 10/06/17 08:29
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	0.0015	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0012	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	0.0010	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 #: 439643 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT/LSC Reviewed)

7100429 0037

SampleID : DAILY BLANK
Data File: 6M59563.D
Acq On : 10/ 6/17 08:29

Operator : SG
Sam Mult : 1 Vial# : 7
Misc : S,5g

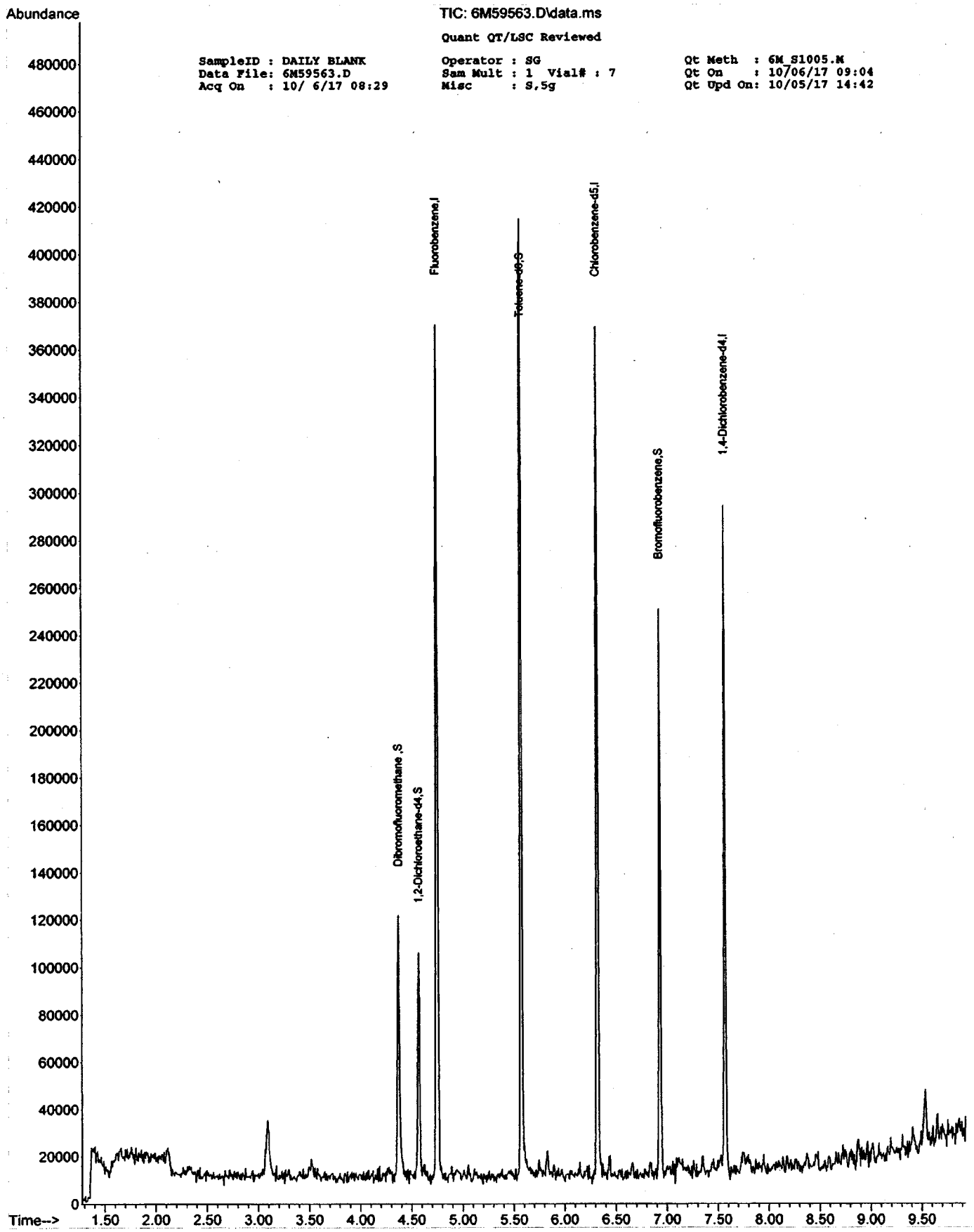
Qt Meth : 6M_S1005.M
Qt On : 10/06/17 09:04
Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-06-17\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.750	96	186120	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.321	117	108658	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.567	152	43457	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.371	111	46908	30.28	ug/l	0.00
Spiked Amount 30.000			Recovery = 100.93%			
39) 1,2-Dichloroethane-d4	4.569	67	20041	29.12	ug/l	0.00
Spiked Amount 30.000			Recovery = 97.07%			
66) Toluene-d8	5.574	98	161608	26.93	ug/l	0.00
Spiked Amount 30.000			Recovery = 89.77%			
76) Bromofluorobenzene	6.929	174	41450	30.67	ug/l	0.00
Spiked Amount 30.000			Recovery = 102.23%			

Target Compounds Qvalue

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



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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
6M59282.D	DAILY BLANK	S	09/29/17 15:56	1		110	110	114	109		
6M59501.D	DAILY BLANK	S	10/05/17 15:38	1		113	117	103	102		
6M59563.D	DAILY BLANK	S	10/06/17 08:29	1		101	97	90	102		
6M59573.D	AD00418-001	S	10/06/17 11:18	1		103	103	96	102		
6M59509.D	AD00418-003	S	10/05/17 17:52	1		116	126	89	101		
6M59508.D	AD00418-005	S	10/05/17 17:35	1		115	107	88	112		
6M59300.D	AD00292-007	S	09/29/17 20:56	1		136	126	91	107		
6M59311.D	MBS64319	S	09/29/17 23:58	1		106	102	101	108		
6M59511.D	AD00292-007(MS)	S	10/05/17 18:25	1		88	81	122	111		
6M59512.D	AD00292-007(MSD)	S	10/05/17 18:42	1		102	102	98	93		
6M59513.D	MBS64352	S	10/05/17 18:58	1		100	102	97	101		
6M59569.D	AD00418-001(MS)	S	10/06/17 10:11	1		95	97	97	106		
6M59570.D	MBS64358	S	10/06/17 10:28	1		94	108	93	102		
6M59571.D	AD00418-001(MSD)	S	10/06/17 10:44	1		97	93	98	106		

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8260C

Soil Laboratory Limits

Compound	Spike Amt	Limits
S1=Dibromofluoromethane	30	63-140
S2=1,2-Dichloroethane-d4	30	63-143
S3=Toluene-d8	30	68-122
S4=Bromofluorobenzene	30	64-129

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64319

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59311.D	MBS64319	9/29/2017 11:58:00 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	58.7995	0	50	118	20	130
Dichlorodifluoromethane	1	24.7387	0	50	49	20	130
Chloromethane	1	35.3892	0	50	71	20	130
Bromomethane	1	43.3527	0	50	87	20	130
Vinyl Chloride	1	38.3816	0	50	77	20	130
Chloroethane	1	39.7928	0	50	80	20	130
Trichlorofluoromethane	1	44.4411	0	50	89	20	130
Ethyl ether	1	37.9649	0	50	76	50	130
Furan	1	41.2593	0	50	83	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	46.9084	0	50	94	50	130
Methylene Chloride	1	42.3388	0	50	85	50	130
Acrolein	1	163.2413	0	200	82	20	130
Acrylonitrile	1	40.1078	0	50	80	20	130
Iodomethane	1	53.8078	0	50	108	50	130
Acetone	1	228.076	0	200	114	20	130
Carbon Disulfide	1	57.1262	0	50	114	50	130
t-Butyl Alcohol	1	149.1337	0	200	75	20	130
n-Hexane	1	42.6909	0	50	85	50	130
Di-isopropyl-ether	1	40.4151	0	50	81	50	130
1,1-Dichloroethene	1	48.4934	0	50	97	50	130
Methyl Acetate	1	37.6054	0	50	75	50	130
Methyl-t-butyl ether	1	32.5251	0	50	65	50	130
1,1-Dichloroethane	1	45.5169	0	50	91	50	130
trans-1,2-Dichloroethene	1	44.422	0	50	89	50	130
Ethyl-t-butyl ether	1	35.2055	0	50	70	50	130
cis-1,2-Dichloroethene	1	44.2512	0	50	89	50	130
Bromochloromethane	1	47.8521	0	50	96	50	130
2,2-Dichloropropane	1	40.6319	0	50	81	50	130
Ethyl acetate	1	48.86	0	50	98	50	130
1,4-Dioxane	1	2148.055	0	2500	86	50	130
1,1-Dichloropropene	1	49.1936	0	50	98	50	130
Chloroform	1	43.2485	0	50	86	50	130
Cyclohexane	1	42.1425	0	50	84	50	130
1,2-Dichloroethane	1	43.4101	0	50	87	50	130
2-Butanone	1	40.9536	0	50	82	20	130
1,1,1-Trichloroethane	1	48.6392	0	50	97	50	130
Carbon Tetrachloride	1	50.5126	0	50	101	50	130
Vinyl Acetate	1	34.4506	0	50	69	50	130
Bromodichloromethane	1	42.8926	0	50	86	50	130
Methylcyclohexane	1	46.1855	0	50	92	50	130
Dibromomethane	1	43.1769	0	50	86	50	130
1,2-Dichloropropane	1	38.3808	0	50	77	50	130
Trichloroethene	1	43.5194	0	50	87	50	130
Benzene	1	41.8288	0	50	84	50	130
tert-Amyl methyl ether	1	30.9169	0	50	62	50	130
Iso-propylacetate	1	35.4235	0	50	71	50	130
Methyl methacrylate	1	42.271	0	50	85	50	130
Dibromochloromethane	1	44.1712	0	50	88	50	130
2-Chloroethylvinylether	1	32.2997	0	50	65	50	130
cis-1,3-Dichloropropene	1	36.8924	0	50	74	50	130
trans-1,3-Dichloropropene	1	36.5367	0	50	73	50	130
Ethyl methacrylate	1	37.2103	0	50	74	50	130
1,1,2-Trichloroethane	1	41.3073	0	50	83	50	130
1,2-Dibromoethane	1	44.7988	0	50	90	50	130
1,3-Dichloropropane	1	42.8434	0	50	86	50	130
4-Methyl-2-Pentanone	1	37.0947	0	50	74	20	130
2-Hexanone	1	35.2482	0	50	70	20	130
Tetrachloroethene	1	50.5955	0	50	101	50	130
Toluene	1	43.2687	0	50	87	50	130
1,1,1,2-Tetrachloroethane	1	48.0969	0	50	96	50	130
Chlorobenzene	1	41.7593	0	50	84	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64319

n-Butyl acrylate	1	27.1435	0	50	54	50	130
n-Amyl acetate	1	33.2511	0	50	67	50	130
Bromoform	1	43.4887	0	50	87	20	130
Ethylbenzene	1	43.4612	0	50	87	50	130
1,1,2,2-Tetrachloroethane	1	32.1905	0	50	64	50	130
Styrene	1	42.7977	0	50	86	50	130
m&p-Xylenes	1	85.9397	0	100	86	50	130
o-Xylene	1	42.0716	0	50	84	50	130
trans-1,4-Dichloro-2-butene	1	42.4264	0	50	85	20	130
1,3-Dichlorobenzene	1	41.0502	0	50	82	50	130
1,4-Dichlorobenzene	1	37.6047	0	50	75	50	130
1,2-Dichlorobenzene	1	37.8471	0	50	76	50	130
Isopropylbenzene	1	42.9043	0	50	86	50	130
Cyclohexanone	1	212.999	0	250	85	50	130
Camphene	1	46.5896	0	50	93	50	130
1,2,3-Trichloropropane	1	38.4875	0	50	77	50	130
2-Chlorotoluene	1	42.8985	0	50	86	50	130
p-Ethyltoluene	1	41.369	0	50	83	50	130
4-Chlorotoluene	1	40.6901	0	50	81	50	130
n-Propylbenzene	1	43.8406	0	50	88	50	130
Bromobenzene	1	42.2019	0	50	84	50	130
1,3,5-Trimethylbenzene	1	43.3769	0	50	87	50	130
Butyl methacrylate	1	35.1174	0	50	70	50	130
t-Butylbenzene	1	43.5037	0	50	87	50	130
1,2,4-Trimethylbenzene	1	40.1384	0	50	80	50	130
sec-Butylbenzene	1	43.5164	0	50	87	50	130
4-Isopropyltoluene	1	43.0852	0	50	86	50	130
n-Butylbenzene	1	41.0248	0	50	82	50	130
p-Diethylbenzene	1	44.084	0	50	88	50	130
1,2,4,5-Tetramethylbenzene	1	41.3424	0	50	83	50	130
1,2-Dibromo-3-Chloropropane	1	29.4993	0	50	59	50	130
Camphor	1	503.989	0	500	101	50	130
Hexachlorobutadiene	1	40.5643	0	50	81	50	130
1,2,4-Trichlorobenzene	1	33.872	0	50	68	50	130
1,2,3-Trichlorobenzene	1	31.1141	0	50	62	50	130
Naphthalene	1	30.6153	0	50	61	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64352

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59513.D	MBS64352	10/5/2017 6:58:00 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	79.6922	0	50	159*	20	130
Dichlorodifluoromethane	1	47.49	0	50	95	20	130
Chloromethane	1	45.2242	0	50	90	20	130
Bromomethane	1	48.1148	0	50	96	20	130
Vinyl Chloride	1	46.5046	0	50	93	20	130
Chloroethane	1	44.2972	0	50	89	20	130
Trichlorofluoromethane	1	44.669	0	50	89	20	130
Ethyl ether	1	44.7168	0	50	89	50	130
Furan	1	44.8808	0	50	90	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	45.7679	0	50	92	50	130
Methylene Chloride	1	45.125	0	50	90	50	130
Acrolein	1	236.6509	0	200	118	20	130
Acrylonitrile	1	44.7194	0	50	89	20	130
Iodomethane	1	61.1335	0	50	122	50	130
Acetone	1	219.7283	0	200	110	20	130
Carbon Disulfide	1	70.614	0	50	141*	50	130
t-Butyl Alcohol	1	181.67	0	200	91	20	130
n-Hexane	1	51.6858	0	50	103	50	130
Di-isopropyl-ether	1	43.7839	0	50	88	50	130
1,1-Dichloroethene	1	45.6946	0	50	91	50	130
Methyl Acetate	1	37.8672	0	50	76	50	130
Methyl-t-butyl ether	1	39.1345	0	50	78	50	130
1,1-Dichloroethane	1	44.8258	0	50	90	50	130
trans-1,2-Dichloroethene	1	46.0361	0	50	92	50	130
Ethyl-t-butyl ether	1	44.2846	0	50	89	50	130
cis-1,2-Dichloroethene	1	44.3965	0	50	89	50	130
Bromochloromethane	1	43.4115	0	50	87	50	130
2,2-Dichloropropane	1	43.5546	0	50	87	50	130
Ethyl acetate	1	37.7766	0	50	76	50	130
1,4-Dioxane	1	2134.433	0	2500	85	50	130
1,1-Dichloropropene	1	46.6871	0	50	93	50	130
Chloroform	1	44.924	0	50	90	50	130
Cyclohexane	1	47.9171	0	50	96	50	130
1,2-Dichloroethane	1	44.5442	0	50	89	50	130
2-Butanone	1	53.3809	0	50	107	20	130
1,1,1-Trichloroethane	1	44.0483	0	50	88	50	130
Carbon Tetrachloride	1	48.7094	0	50	97	50	130
Vinyl Acetate	1	40.4531	0	50	81	50	130
Bromodichloromethane	1	44.7703	0	50	90	50	130
Methylcyclohexane	1	48.0505	0	50	96	50	130
Dibromomethane	1	40.802	0	50	82	50	130
1,2-Dichloropropane	1	44.8712	0	50	90	50	130
Trichloroethene	1	48.4606	0	50	97	50	130
Benzene	1	44.6106	0	50	89	50	130
tert-Amyl methyl ether	1	40.7637	0	50	82	50	130
Iso-propylacetate	1	40.213	0	50	80	50	130
Methyl methacrylate	1	40.8303	0	50	82	50	130
Dibromochloromethane	1	45.3386	0	50	91	50	130
2-Chloroethylvinylether	1	43.2106	0	50	86	50	130
cis-1,3-Dichloropropene	1	44.9637	0	50	90	50	130
trans-1,3-Dichloropropene	1	45.9487	0	50	92	50	130
Ethyl methacrylate	1	41.7348	0	50	83	50	130
1,1,2-Trichloroethane	1	42.9378	0	50	86	50	130
1,2-Dibromoethane	1	45.5368	0	50	91	50	130
1,3-Dichloropropane	1	45.2653	0	50	91	50	130
4-Methyl-2-Pentanone	1	37.9147	0	50	76	20	130
2-Hexanone	1	41.8919	0	50	84	20	130
Tetrachloroethene	1	44.2882	0	50	89	50	130
Toluene	1	44.124	0	50	88	50	130
1,1,1,2-Tetrachloroethane	1	42.12	0	50	84	50	130
Chlorobenzene	1	42.4494	0	50	85	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64352

n-Butyl acrylate	1	32.214	0	50	64	50	130
n-Amyl acetate	1	47.904	0	50	96	50	130
Bromoform	1	40.9745	0	50	82	20	130
Ethylbenzene	1	52.39	0	50	105	50	130
1,1,2,2-Tetrachloroethane	1	44.0981	0	50	88	50	130
Styrene	1	50.7796	0	50	102	50	130
m&p-Xylenes	1	89.0919	0	100	89	50	130
o-Xylene	1	52.2725	0	50	105	50	130
trans-1,4-Dichloro-2-butene	1	46.0995	0	50	92	20	130
1,3-Dichlorobenzene	1	46.9784	0	50	94	50	130
1,4-Dichlorobenzene	1	47.1033	0	50	94	50	130
1,2-Dichlorobenzene	1	46.34	0	50	93	50	130
Isopropylbenzene	1	49.1803	0	50	98	50	130
Cyclohexanone	1	232.0883	0	250	93	50	130
Camphene	1	46.4025	0	50	93	50	130
1,2,3-Trichloropropane	1	45.4692	0	50	91	50	130
2-Chlorotoluene	1	45.7423	0	50	91	50	130
p-Ethyltoluene	1	46.6712	0	50	93	50	130
4-Chlorotoluene	1	46.437	0	50	93	50	130
n-Propylbenzene	1	48.9672	0	50	98	50	130
Bromobenzene	1	45.996	0	50	92	50	130
1,3,5-Trimethylbenzene	1	52.1578	0	50	104	50	130
Butyl methacrylate	1	44.3472	0	50	89	50	130
t-Butylbenzene	1	48.2646	0	50	97	50	130
1,2,4-Trimethylbenzene	1	49.763	0	50	100	50	130
sec-Butylbenzene	1	51.3471	0	50	103	50	130
4-Isopropyltoluene	1	50.0391	0	50	100	50	130
n-Butylbenzene	1	51.1258	0	50	102	50	130
p-Diethylbenzene	1	50.5535	0	50	101	50	130
1,2,4,5-Tetramethylbenzene	1	51.5199	0	50	103	50	130
1,2-Dibromo-3-Chloropropane	1	38.1144	0	50	76	50	130
Camphor	1	621.1285	0	500	124	50	130
Hexachlorobutadiene	1	46.5393	0	50	93	50	130
1,2,4-Trichlorobenzene	1	41.516	0	50	83	50	130
1,2,3-Trichlorobenzene	1	42.0317	0	50	84	50	130
Naphthalene	1	51.7822	0	50	104	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64358

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59570.D	MBS64358	10/6/2017 10:28:00 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	38.3662	0	50	77	20	130
Dichlorodifluoromethane	1	44.7887	0	50	90	20	130
Chloromethane	1	46.3574	0	50	93	20	130
Bromomethane	1	45.116	0	50	90	20	130
Vinyl Chloride	1	46.2206	0	50	92	20	130
Chloroethane	1	46.0888	0	50	92	20	130
Trichlorofluoromethane	1	42.0713	0	50	84	20	130
Ethyl ether	1	44.6786	0	50	89	50	130
Furan	1	45.4672	0	50	91	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	45.5685	0	50	91	50	130
Methylene Chloride	1	47.2809	0	50	95	50	130
Acrolein	1	234.4209	0	200	117	20	130
Acrylonitrile	1	48.8068	0	50	98	20	130
Iodomethane	1	63.9893	0	50	128	50	130
Acetone	1	228.9781	0	200	114	20	130
Carbon Disulfide	1	69.7532	0	50	140*	50	130
t-Butyl Alcohol	1	187.4648	0	200	94	20	130
n-Hexane	1	51.4311	0	50	103	50	130
Di-isopropyl-ether	1	49.247	0	50	98	50	130
1,1-Dichloroethene	1	45.7923	0	50	92	50	130
Methyl Acetate	1	46.2825	0	50	93	50	130
Methyl-t-butyl ether	1	43.7403	0	50	87	50	130
1,1-Dichloroethane	1	48.4659	0	50	97	50	130
trans-1,2-Dichloroethene	1	48.1312	0	50	96	50	130
Ethyl-t-butyl ether	1	51.7718	0	50	104	50	130
cis-1,2-Dichloroethene	1	47.2142	0	50	94	50	130
Bromochloromethane	1	29.2339	0	50	58	50	130
2,2-Dichloropropane	1	45.5342	0	50	91	50	130
Ethyl acetate	1	45.306	0	50	91	50	130
1,4-Dioxane	1	2469.075	0	2500	99	50	130
1,1-Dichloropropene	1	47.5392	0	50	95	50	130
Chloroform	1	45.5026	0	50	91	50	130
Cyclohexane	1	51.0828	0	50	102	50	130
1,2-Dichloroethane	1	46.7952	0	50	94	50	130
2-Butanone	1	52.6969	0	50	105	20	130
1,1,1-Trichloroethane	1	44.2053	0	50	88	50	130
Carbon Tetrachloride	1	45.892	0	50	92	50	130
Vinyl Acetate	1	42.9678	0	50	86	50	130
Bromodichloromethane	1	46.0314	0	50	92	50	130
Methylcyclohexane	1	49.1892	0	50	98	50	130
Dibromomethane	1	43.3539	0	50	87	50	130
1,2-Dichloropropane	1	49.4496	0	50	99	50	130
Trichloroethene	1	49.7745	0	50	100	50	130
Benzene	1	47.7568	0	50	96	50	130
tert-Amyl methyl ether	1	47.3248	0	50	95	50	130
Iso-propylacetate	1	44.9339	0	50	90	50	130
Methyl methacrylate	1	44.3484	0	50	89	50	130
Dibromochloromethane	1	45.8667	0	50	92	50	130
2-Chloroethylvinylether	1	45.8966	0	50	92	50	130
cis-1,3-Dichloropropene	1	46.7081	0	50	93	50	130
trans-1,3-Dichloropropene	1	48.7344	0	50	97	50	130
Ethyl methacrylate	1	44.7781	0	50	90	50	130
1,1,2-Trichloroethane	1	43.9589	0	50	88	50	130
1,2-Dibromoethane	1	45.28	0	50	91	50	130
1,3-Dichloropropane	1	47.645	0	50	95	50	130
4-Methyl-2-Pentanone	1	45.3923	0	50	91	20	130
2-Hexanone	1	44.8361	0	50	90	20	130
Tetrachloroethene	1	41.2423	0	50	82	50	130
Toluene	1	44.2906	0	50	89	50	130
1,1,1,2-Tetrachloroethane	1	45.0799	0	50	90	50	130
Chlorobenzene	1	43.7278	0	50	87	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64358

n-Butyl acrylate	1	35.7533	0	50	72	50	130
n-Amyl acetate	1	52.059	0	50	104	50	130
Bromoform	1	43.0638	0	50	86	20	130
Ethylbenzene	1	48.0578	0	50	96	50	130
1,1,2,2-Tetrachloroethane	1	47.4883	0	50	95	50	130
Styrene	1	50.7169	0	50	101	50	130
m&p-Xylenes	1	82.8682	0	100	83	50	130
o-Xylene	1	52.8834	0	50	106	50	130
trans-1,4-Dichloro-2-butene	1	44.7284	0	50	89	20	130
1,3-Dichlorobenzene	1	48.9063	0	50	98	50	130
1,4-Dichlorobenzene	1	48.8683	0	50	98	50	130
1,2-Dichlorobenzene	1	48.5953	0	50	97	50	130
Isopropylbenzene	1	46.999	0	50	94	50	130
Cyclohexanone	1	221.2846	0	250	89	50	130
Camphene	1	43.866	0	50	88	50	130
1,2,3-Trichloropropane	1	44.8027	0	50	90	50	130
2-Chlorotoluene	1	46.1511	0	50	92	50	130
p-Ethyltoluene	1	47.6219	0	50	95	50	130
4-Chlorotoluene	1	48.0725	0	50	96	50	130
n-Propylbenzene	1	47.2778	0	50	95	50	130
Bromobenzene	1	45.5902	0	50	91	50	130
1,3,5-Trimethylbenzene	1	49.9656	0	50	100	50	130
Butyl methacrylate	1	41.9706	0	50	84	50	130
t-Butylbenzene	1	46.7109	0	50	93	50	130
1,2,4-Trimethylbenzene	1	51.4214	0	50	103	50	130
sec-Butylbenzene	1	50.1769	0	50	100	50	130
4-Isopropyltoluene	1	48.6852	0	50	97	50	130
n-Butylbenzene	1	49.8921	0	50	100	50	130
p-Diethylbenzene	1	51.9552	0	50	104	50	130
1,2,4,5-Tetramethylbenzene	1	55.1801	0	50	110	50	130
1,2-Dibromo-3-Chloropropane	1	33.2042	0	50	66	50	130
Camphor	1	573.2276	0	500	115	50	130
Hexachlorobutadiene	1	42.6486	0	50	85	50	130
1,2,4-Trichlorobenzene	1	42.341	0	50	85	50	130
1,2,3-Trichlorobenzene	1	41.9222	0	50	84	50	130
Naphthalene	1	84.1972	0	50	168*	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64352

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59511.D	AD00292-007(MS)	10/5/2017 6:25:00 PM
Non Spike(If applicable): 6M59300.D	AD00292-007	9/29/2017 8:56:00 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	65.5429	0	50	131*	20	130
Dichlorodifluoromethane	1	20.7639	0	50	42	20	130
Chloromethane	1	22.2184	0	50	44	20	130
Bromomethane	1	37.8027	0	50	76	20	130
Vinyl Chloride	1	40.7408	0	50	81	20	130
Chloroethane	1	41.079	0	50	82	20	130
Trichlorofluoromethane	1	20.4551	0	50	41	20	130
Ethyl ether	1	33.3889	0	50	67	50	130
Furan	1	33.5752	0	50	67	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	44.6418	0	50	89	50	130
Methylene Chloride	1	39.1406	0	50	78	50	130
Acrolein	1	93.3505	0	200	47	20	130
Acrylonitrile	1	33.296	0	50	67	20	130
Iodomethane	1	26.6184	0	50	53	50	130
Acetone	1	128.2787	0	200	64	20	130
Carbon Disulfide	1	65.1607	0	50	130	50	130
t-Butyl Alcohol	1	177.6007	0	200	89	20	130
n-Hexane	1	41.5907	0	50	83	50	130
Di-isopropyl-ether	1	37.6545	0	50	75	50	130
1,1-Dichloroethene	1	24.987	0	50	50	50	130
Methyl Acetate	1	25.181	0	50	50	50	130
Methyl-t-butyl ether	1	33.9032	0	50	68	50	130
1,1-Dichloroethane	1	38.4274	0	50	77	50	130
trans-1,2-Dichloroethene	1	39.3118	0	50	79	50	130
Ethyl-t-butyl ether	1	37.3242	0	50	75	50	130
cis-1,2-Dichloroethene	1	39.7364	0	50	79	50	130
Bromochloromethane	1	26.1738	0	50	52	50	130
2,2-Dichloropropane	1	39.0322	0	50	78	50	130
Ethyl acetate	1	30.9991	0	50	62	50	130
1,4-Dioxane	1	2399.172	0	2500	96	50	130
1,1-Dichloropropene	1	43.3614	0	50	87	50	130
Chloroform	1	37.6388	0	50	75	50	130
Cyclohexane	1	43.5671	0	50	87	50	130
1,2-Dichloroethane	1	38.6051	0	50	77	50	130
2-Butanone	1	41.9073	0	50	84	20	130
1,1,1-Trichloroethane	1	39.4066	0	50	79	50	130
Carbon Tetrachloride	1	38.31	0	50	77	50	130
Vinyl Acetate	1	31.7014	0	50	63	50	130
Bromodichloromethane	1	36.6799	0	50	73	50	130
Methylcyclohexane	1	41.4389	0	50	83	50	130
Dibromomethane	1	35.1784	0	50	70	50	130
1,2-Dichloropropane	1	37.7089	0	50	75	50	130
Trichloroethene	1	30.9698	0	50	62	50	130
Benzene	1	33.6417	0	50	67	50	130
tert-Amyl methyl ether	1	33.4502	0	50	67	50	130
Iso-propylacetate	1	39.5115	0	50	79	50	130
Methyl methacrylate	1	49.0358	0	50	98	50	130
Dibromochloromethane	1	37.1058	0	50	74	50	130
2-Chloroethylvinylether	1	39.3727	0	50	79	50	130
cis-1,3-Dichloropropene	1	50.4855	0	50	101	50	130
trans-1,3-Dichloropropene	1	49.2795	0	50	99	50	130
Ethyl methacrylate	1	41.2849	0	50	83	50	130
1,1,2-Trichloroethane	1	45.0282	0	50	90	50	130
1,2-Dibromoethane	1	37.0941	0	50	74	50	130
1,3-Dichloropropane	1	50.5755	0	50	101	50	130
4-Methyl-2-Pentanone	1	39.599	0	50	79	20	130
2-Hexanone	1	42.1094	0	50	84	20	130
Tetrachloroethene	1	49.5785	0	50	99	50	130
Toluene	1	43.4497	0	50	87	50	130
1,1,1,2-Tetrachloroethane	1	48.0266	0	50	96	50	130
Chlorobenzene	1	48.7427	0	50	97	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64352

n-Butyl acrylate	1	23.7556	0	50	48*	50	130
n-Amyl acetate	1	38.7842	0	50	78	50	130
Bromoform	1	39.8625	0	50	80	20	130
Ethylbenzene	1	38.1618	0	50	76	50	130
1,1,2,2-Tetrachloroethane	1	39.0933	0	50	78	50	130
Styrene	1	42.1066	0	50	84	50	130
m&p-Xylenes	1	68.7657	0	100	69	50	130
o-Xylene	1	39.7621	0	50	80	50	130
trans-1,4-Dichloro-2-butene	1	44.2624	0	50	89	20	130
1,3-Dichlorobenzene	1	36.4574	0	50	73	50	130
1,4-Dichlorobenzene	1	38.9054	0	50	78	50	130
1,2-Dichlorobenzene	1	36.1256	0	50	72	50	130
Isopropylbenzene	1	41.998	0	50	84	50	130
Cyclohexanone	1	198.4569	0	250	79	50	130
Camphene	1	41.8238	0	50	84	50	130
1,2,3-Trichloropropane	1	42.8278	0	50	86	50	130
2-Chlorotoluene	1	47.197	0	50	94	50	130
p-Ethyltoluene	1	45.9472	0	50	92	50	130
4-Chlorotoluene	1	49.8093	0	50	100	50	130
n-Propylbenzene	1	48.0912	0	50	96	50	130
Bromobenzene	1	43.977	0	50	88	50	130
1,3,5-Trimethylbenzene	1	42.1004	0	50	84	50	130
Butyl methacrylate	1	37.6819	0	50	75	50	130
t-Butylbenzene	1	42.4054	0	50	85	50	130
1,2,4-Trimethylbenzene	1	43.0515	0	50	86	50	130
sec-Butylbenzene	1	37.3933	0	50	75	50	130
4-Isopropyltoluene	1	39.201	0	50	78	50	130
n-Butylbenzene	1	42.1715	0	50	84	50	130
p-Diethylbenzene	1	38.347	0	50	77	50	130
1,2,4,5-Tetramethylbenzene	1	37.448	0	50	75	50	130
1,2-Dibromo-3-Chloropropane	1	20.293	0	50	41*	50	130
Camphor	1	272.2167	0	500	54	50	130
Hexachlorobutadiene	1	34.0815	0	50	68	50	130
1,2,4-Trichlorobenzene	1	25.7421	0	50	51	50	130
1,2,3-Trichlorobenzene	1	24.8095	0	50	50	50	130
Naphthalene	1	29.2994	0	50	59	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64352

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59512.D	AD00292-007(MSD)	10/5/2017 6:42:00 PM
Non Spike(If applicable): 6M59300.D	AD00292-007	9/29/2017 8:56:00 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	46.33	0	50	93	20	130
Dichlorodifluoromethane	1	42.9056	0	50	86	20	130
Chloromethane	1	39.8551	0	50	80	20	130
Bromomethane	1	40.3843	0	50	81	20	130
Vinyl Chloride	1	41.0665	0	50	82	20	130
Chloroethane	1	40.8301	0	50	82	20	130
Trichlorofluoromethane	1	20.7841	0	50	42	20	130
Ethyl ether	1	34.5779	0	50	69	50	130
Furan	1	23.5079	0	50	47*	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	41.5419	0	50	83	50	130
Methylene Chloride	1	41.9557	0	50	84	50	130
Acrolein	1	129.2541	0	200	65	20	130
Acrylonitrile	1	30.7507	0	50	62	20	130
Iodomethane	1	54.9889	0	50	110	50	130
Acetone	1	158.3736	0	200	79	20	130
Carbon Disulfide	1	63.4966	0	50	127	50	130
t-Butyl Alcohol	1	183.5376	0	200	92	20	130
n-Hexane	1	43.4331	0	50	87	50	130
Di-isopropyl-ether	1	37.4932	0	50	75	50	130
1,1-Dichloroethene	1	24.3316	0	50	49*	50	130
Methyl Acetate	1	33.5439	0	50	67	50	130
Methyl-t-butyl ether	1	33.1581	0	50	66	50	130
1,1-Dichloroethane	1	39.8202	0	50	80	50	130
trans-1,2-Dichloroethene	1	41.8527	0	50	84	50	130
Ethyl-t-butyl ether	1	38.6938	0	50	77	50	130
cis-1,2-Dichloroethene	1	39.0317	0	50	78	50	130
Bromochloromethane	1	22.656	0	50	45*	50	130
2,2-Dichloropropane	1	40.7441	0	50	81	50	130
Ethyl acetate	1	30.1848	0	50	60	50	130
1,4-Dioxane	1	2671.167	0	2500	107	50	130
1,1-Dichloropropene	1	43.1426	0	50	86	50	130
Chloroform	1	39.704	0	50	79	50	130
Cyclohexane	1	42.3535	0	50	85	50	130
1,2-Dichloroethane	1	38.0588	0	50	76	50	130
2-Butanone	1	46.0619	0	50	92	20	130
1,1,1-Trichloroethane	1	39.3149	0	50	79	50	130
Carbon Tetrachloride	1	43.0969	0	50	86	50	130
Vinyl Acetate	1	34.0416	0	50	68	50	130
Bromodichloromethane	1	38.2184	0	50	76	50	130
Methylcyclohexane	1	41.6506	0	50	83	50	130
Dibromomethane	1	34.7879	0	50	70	50	130
1,2-Dichloropropane	1	40.0615	0	50	80	50	130
Trichloroethene	1	42.022	0	50	84	50	130
Benzene	1	38.941	0	50	78	50	130
tert-Amyl methyl ether	1	35.327	0	50	71	50	130
Iso-propylacetate	1	31.5866	0	50	63	50	130
Methyl methacrylate	1	33.9929	0	50	68	50	130
Dibromochloromethane	1	35.2747	0	50	71	50	130
2-Chloroethylvinylether	1	29.0449	0	50	58	50	130
cis-1,3-Dichloropropene	1	37.6624	0	50	75	50	130
trans-1,3-Dichloropropene	1	38.9087	0	50	78	50	130
Ethyl methacrylate	1	29.9144	0	50	60	50	130
1,1,2-Trichloroethane	1	32.2722	0	50	65	50	130
1,2-Dibromoethane	1	35.3283	0	50	71	50	130
1,3-Dichloropropane	1	37.4032	0	50	75	50	130
4-Methyl-2-Pentanone	1	29.3537	0	50	59	20	130
2-Hexanone	1	29.0033	0	50	58	20	130
Tetrachloroethene	1	38.2967	0	50	77	50	130
Toluene	1	36.8926	0	50	74	50	130
1,1,1,2-Tetrachloroethane	1	37.4468	0	50	75	50	130
Chlorobenzene	1	35.4675	0	50	71	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64352

n-Butyl acrylate	1	22.6894	0	50	45*	50	130
n-Amyl acetate	1	32.5159	0	50	65	50	130
Bromoform	1	33.5881	0	50	67	20	130
Ethylbenzene	1	43.2614	0	50	87	50	130
1,1,2,2-Tetrachloroethane	1	35.0211	0	50	70	50	130
Styrene	1	39.6621	0	50	79	50	130
m&p-Xylenes	1	65.5234	0	100	66	50	130
o-Xylene	1	42.7874	0	50	86	50	130
trans-1,4-Dichloro-2-butene	1	36.5769	0	50	73	20	130
1,3-Dichlorobenzene	1	37.7385	0	50	75	50	130
1,4-Dichlorobenzene	1	37.5863	0	50	75	50	130
1,2-Dichlorobenzene	1	33.7564	0	50	68	50	130
Isopropylbenzene	1	40.0534	0	50	80	50	130
Cyclohexanone	1	171.9852	0	250	69	50	130
Camphene	1	37.398	0	50	75	50	130
1,2,3-Trichloropropane	1	34.2813	0	50	69	50	130
2-Chlorotoluene	1	39.8275	0	50	80	50	130
p-Ethyltoluene	1	38.4387	0	50	77	50	130
4-Chlorotoluene	1	39.1603	0	50	78	50	130
n-Propylbenzene	1	39.947	0	50	80	50	130
Bromobenzene	1	36.4527	0	50	73	50	130
1,3,5-Trimethylbenzene	1	44.829	0	50	90	50	130
Butyl methacrylate	1	33.2493	0	50	66	50	130
t-Butylbenzene	1	39.6288	0	50	79	50	130
1,2,4-Trimethylbenzene	1	41.0817	0	50	82	50	130
sec-Butylbenzene	1	42.2174	0	50	84	50	130
4-Isopropyltoluene	1	40.7185	0	50	81	50	130
n-Butylbenzene	1	37.6326	0	50	75	50	130
p-Diethylbenzene	1	36.9129	0	50	74	50	130
1,2,4,5-Tetramethylbenzene	1	35.4637	0	50	71	50	130
1,2-Dibromo-3-Chloropropane	1	25.4271	0	50	51	50	130
Camphor	1	402.304	0	500	80	50	130
Hexachlorobutadiene	1	29.6682	0	50	59	50	130
1,2,4-Trichlorobenzene	1	25.0045	0	50	50	50	130
1,2,3-Trichlorobenzene	1	26.826	0	50	54	50	130
Naphthalene	1	30.6402	0	50	61	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: MBS64352

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M59512.D	AD00292-007(MSD)	10/5/2017 6:42:00 PM
Duplicate(If applicable):	6M59511.D	AD00292-007(MS)	10/5/2017 6:25:00 PM
Inst Blank(If applicable):			

Method: 8260C Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chlorodifluoromethane	1	46.33	65.5429	34*	30
Dichlorodifluoromethane	1	42.9056	20.7639	70*	30
Chloromethane	1	39.8551	22.2184	57*	30
Bromomethane	1	40.3843	37.8027	6.6	30
Vinyl Chloride	1	41.0665	40.7408	0.8	40
Chloroethane	1	40.8301	41.079	0.61	30
Trichlorofluoromethane	1	20.7841	20.4551	1.6	30
Ethyl ether	1	34.5779	33.3889	3.5	30
Furan	1	23.5079	33.5752	35*	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1	41.5419	44.6418	7.2	30
Methylene Chloride	1	41.9557	39.1406	6.9	30
Acrolein	1	129.2541	93.3505	32*	30
Acrylonitrile	1	30.7507	33.296	7.9	30
Iodomethane	1	54.9889	26.6184	70*	30
Acetone	1	158.3736	128.2787	21	30
Carbon Disulfide	1	63.4966	65.1607	2.6	30
t-Butyl Alcohol	1	183.5376	177.6007	3.3	30
n-Hexane	1	43.4331	41.5907	4.3	30
Di-isopropyl-ether	1	37.4932	37.6545	0.43	30
1,1-Dichloroethene	1	24.3316	24.987	2.7	40
Methyl Acetate	1	33.5439	25.181	28	30
Methyl-t-butyl ether	1	33.1581	33.9032	2.2	30
1,1-Dichloroethane	1	39.8202	38.4274	3.6	40
trans-1,2-Dichloroethene	1	41.8527	39.3118	6.3	30
Ethyl-t-butyl ether	1	38.6938	37.3242	3.6	30
cis-1,2-Dichloroethene	1	39.0317	39.7364	1.8	30
Bromochloromethane	1	22.656	26.1738	14	30
2,2-Dichloropropane	1	40.7441	39.0322	4.3	30
Ethyl acetate	1	30.1848	30.9991	2.7	30
1,4-Dioxane	1	2671.167	2399.172	11	30
1,1-Dichloropropene	1	43.1426	43.3614	0.51	30
Chloroform	1	39.704	37.6388	5.3	40
Cyclohexane	1	42.3535	43.5671	2.8	30
1,2-Dichloroethane	1	38.0588	38.6051	1.4	40
2-Butanone	1	46.0619	41.9073	9.4	40
1,1,1-Trichloroethane	1	39.3149	39.4066	0.23	30
Carbon Tetrachloride	1	43.0969	38.31	12	40
Vinyl Acetate	1	34.0416	31.7014	7.1	30
Bromodichloromethane	1	38.2184	36.6799	4.1	30
Methylcyclohexane	1	41.6506	41.4389	0.51	30
Dibromomethane	1	34.7879	35.1784	1.1	30
1,2-Dichloropropane	1	40.0615	37.7089	6.1	30
Trichloroethene	1	42.022	30.9698	30	40
Benzene	1	38.941	33.6417	15	40
tert-Amyl methyl ether	1	35.327	33.4502	5.5	30
Iso-propylacetate	1	31.5866	39.5115	22	30
Methyl methacrylate	1	33.9929	49.0358	36*	30
Dibromochloromethane	1	35.2747	37.1058	5.1	30
2-Chloroethylvinylether	1	29.0449	39.3727	30	30
cis-1,3-Dichloropropene	1	37.6624	50.4855	29	30
trans-1,3-Dichloropropene	1	38.9087	49.2795	24	30
Ethyl methacrylate	1	29.9144	41.2849	32*	30
1,1,2-Trichloroethane	1	32.2722	45.0282	33*	30
1,2-Dibromoethane	1	35.3283	37.0941	4.9	30
1,3-Dichloropropane	1	37.4032	50.5755	30	30
4-Methyl-2-Pentanone	1	29.3537	39.599	30	30
2-Hexanone	1	29.0033	42.1094	37*	30
Tetrachloroethene	1	38.2967	49.5785	26	40
Toluene	1	36.8926	43.4497	16	40
1,1,1,2-Tetrachloroethane	1	37.4468	48.0266	25	30
Chlorobenzene	1	35.4675	48.7427	32	40
n-Butyl acrylate	1	22.6894	23.7556	4.6	30
n-Amyl acetate	1	32.5159	38.7842	18	30

Form3
RPD Data Laboratory Limits
QC Batch: MBS64352

Bromoform	1	33.5881	39.8625	17	30
Ethylbenzene	1	43.2614	38.1618	13	30
1,1,2,2-Tetrachloroethane	1	35.0211	39.0933	11	30
Styrene	1	39.6621	42.1066	6	30
m&p-Xylenes	1	65.5234	68.7657	4.8	30
o-Xylene	1	42.7874	39.7621	7.3	30
trans-1,4-Dichloro-2-butene	1	36.5769	44.2624	19	30
1,3-Dichlorobenzene	1	37.7385	36.4574	3.5	30
1,4-Dichlorobenzene	1	37.5863	38.9054	3.4	40
1,2-Dichlorobenzene	1	33.7564	36.1256	6.8	40
Isopropylbenzene	1	40.0534	41.998	4.7	30
Cyclohexanone	1	171.9852	198.4569	14	30
Camphene	1	37.398	41.8238	11	30
1,2,3-Trichloropropane	1	34.2813	42.8278	22	30
2-Chlorotoluene	1	39.8275	47.197	17	30
p-Ethyltoluene	1	38.4387	45.9472	18	30
4-Chlorotoluene	1	39.1603	49.8093	24	30
n-Propylbenzene	1	39.947	48.0912	19	40
Bromobenzene	1	36.4527	43.977	19	30
1,3,5-Trimethylbenzene	1	44.829	42.1004	6.3	30
Butyl methacrylate	1	33.2493	37.6819	12	30
t-Butylbenzene	1	39.6288	42.4054	6.8	30
1,2,4-Trimethylbenzene	1	41.0817	43.0515	4.7	30
sec-Butylbenzene	1	42.2174	37.3933	12	40
4-Isopropyltoluene	1	40.7185	39.201	3.8	30
n-Butylbenzene	1	37.6326	42.1715	11	30
p-Diethylbenzene	1	36.9129	38.347	3.8	30
1,2,4,5-Tetramethylbenzene	1	35.4637	37.448	5.4	30
1,2-Dibromo-3-Chloropropane	1	25.4271	20.293	22	30
Camphor	1	402.304	272.2167	39*	30
Hexachlorobutadiene	1	29.6682	34.0815	14	30
1,2,4-Trichlorobenzene	1	25.0045	25.7421	2.9	30
1,2,3-Trichlorobenzene	1	26.826	24.8095	7.8	30
Naphthalene	1	30.6402	29.2994	4.5	30

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64358

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59569.D	AD00418-001(MS)	10/6/2017 10:11:00 AM
Non Spike(If applicable): 6M59573.D	AD00418-001	10/6/2017 11:18:00 AM
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	25.4266	0	50	51	20	130
Dichlorodifluoromethane	1	21.8434	0	50	44	20	130
Chloromethane	1	23.2838	0	50	47	20	130
Bromomethane	1	22.8585	0	50	46	20	130
Vinyl Chloride	1	23.0762	0	50	46	20	130
Chloroethane	1	22.3565	0	50	45	20	130
Trichlorofluoromethane	1	9.1761	0	50	18*	20	130
Ethyl ether	1	24.1322	0	50	48*	50	130
Furan	1	13.748	0	50	27*	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	17.9746	0	50	36*	50	130
Methylene Chloride	1	24.1205	0	50	48*	50	130
Acrolein	1	55.3252	0	200	28	20	130
Acrylonitrile	1	23.6533	0	50	47	20	130
Iodomethane	1	29.9198	0	50	60	50	130
Acetone	1	192.9397	111.0815	200	41	20	130
Carbon Disulfide	1	16.771	0	50	34*	50	130
t-Butyl Alcohol	1	125.859	0	200	63	20	130
n-Hexane	1	14.1161	0	50	28*	50	130
Di-isopropyl-ether	1	23.627	0	50	47*	50	130
1,1-Dichloroethene	1	19.1671	0	50	38*	50	130
Methyl Acetate	1	25.79	0	50	52	50	130
Methyl-t-butyl ether	1	21.5576	0	50	43*	50	130
1,1-Dichloroethane	1	21.0091	0	50	42*	50	130
trans-1,2-Dichloroethene	1	21.2996	0	50	43*	50	130
Ethyl-t-butyl ether	1	25.6403	0	50	51	50	130
cis-1,2-Dichloroethene	1	19.9512	0	50	40*	50	130
Bromochloromethane	1	20.5271	0	50	41*	50	130
2,2-Dichloropropane	1	17.8794	0	50	36*	50	130
Ethyl acetate	1	18.5228	0	50	37*	50	130
1,4-Dioxane	1	1443.645	0	2500	58	50	130
1,1-Dichloropropene	1	16.8174	0	50	34*	50	130
Chloroform	1	19.3308	0	50	39*	50	130
Cyclohexane	1	15.6521	0	50	31*	50	130
1,2-Dichloroethane	1	21.362	0	50	43*	50	130
2-Butanone	1	45.6784	23.6515	50	44	20	130
1,1,1-Trichloroethane	1	17.1377	0	50	34*	50	130
Carbon Tetrachloride	1	16.1397	0	50	32*	50	130
Vinyl Acetate	1	21.6666	0	50	43*	50	130
Bromodichloromethane	1	17.2266	0	50	34*	50	130
Methylcyclohexane	1	12.961	0	50	26*	50	130
Dibromomethane	1	17.6825	0	50	35*	50	130
1,2-Dichloropropane	1	20.2083	0	50	40*	50	130
Trichloroethene	1	17.4999	0	50	35*	50	130
Benzene	1	19.5686	0	50	39*	50	130
tert-Amyl methyl ether	1	22.1477	0	50	44*	50	130
Iso-propylacetate	1	21.0452	0	50	42*	50	130
Methyl methacrylate	1	24.0509	0	50	48*	50	130
Dibromochloromethane	1	14.7244	0	50	29*	50	130
2-Chloroethylvinylether	1	17.0726	0	50	34*	50	130
cis-1,3-Dichloropropene	1	16.7044	0	50	33*	50	130
trans-1,3-Dichloropropene	1	16.3395	0	50	33*	50	130
Ethyl methacrylate	1	18.858	0	50	38*	50	130
1,1,2-Trichloroethane	1	19.3378	0	50	39*	50	130
1,2-Dibromoethane	1	16.7115	0	50	33*	50	130
1,3-Dichloropropane	1	20.3157	0	50	41*	50	130
4-Methyl-2-Pentanone	1	21.6599	0	50	43	20	130
2-Hexanone	1	20.3869	0	50	41	20	130
Tetrachloroethene	1	13.4894	0	50	27*	50	130
Toluene	1	16.3088	0	50	33*	50	130
1,1,1,2-Tetrachloroethane	1	15.4003	0	50	31*	50	130
Chlorobenzene	1	13.5373	0	50	27*	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64358

n-Butyl acrylate	1	12.7313	0	50	25*	50	130
n-Amyl acetate	1	21.4673	0	50	43*	50	130
Bromoform	1	14.9961	0	50	30	20	130
Ethylbenzene	1	17.9644	0	50	36*	50	130
1,1,2,2-Tetrachloroethane	1	17.6124	0	50	35*	50	130
Styrene	1	15.3879	0	50	31*	50	130
m&p-Xylenes	1	31.2669	0	100	31*	50	130
o-Xylene	1	20.5924	0	50	41*	50	130
trans-1,4-Dichloro-2-butene	1	14.3174	0	50	29	20	130
1,3-Dichlorobenzene	1	11.7008	0	50	23*	50	130
1,4-Dichlorobenzene	1	11.8375	0	50	24*	50	130
1,2-Dichlorobenzene	1	11.3128	0	50	23*	50	130
Isopropylbenzene	1	15.6387	0	50	31*	50	130
Cyclohexanone	1	61.171	0	250	24*	50	130
Camphene	1	12.5076	0	50	25*	50	130
1,2,3-Trichloropropane	1	16.685	0	50	33*	50	130
2-Chlorotoluene	1	14.5316	0	50	29*	50	130
p-Ethyltoluene	1	18.3568	0	50	37*	50	130
4-Chlorotoluene	1	13.771	0	50	28*	50	130
n-Propylbenzene	1	14.9238	0	50	30*	50	130
Bromobenzene	1	14.7348	0	50	29*	50	130
1,3,5-Trimethylbenzene	1	17.2942	0	50	35*	50	130
Butyl methacrylate	1	14.9141	0	50	30*	50	130
t-Butylbenzene	1	15.184	0	50	30*	50	130
1,2,4-Trimethylbenzene	1	21.7883	0	50	44*	50	130
sec-Butylbenzene	1	14.0739	0	50	28*	50	130
4-Isopropyltoluene	1	13.5629	0	50	27*	50	130
n-Butylbenzene	1	13.4776	0	50	27*	50	130
p-Diethylbenzene	1	17.8946	0	50	36*	50	130
1,2,4,5-Tetramethylbenzene	1	15.6719	0	50	31*	50	130
1,2-Dibromo-3-Chloropropane	1	10.9175	0	50	22*	50	130
Camphor	1	260.1189	0	500	52	50	130
Hexachlorobutadiene	1	8.6768	0	50	17*	50	130
1,2,4-Trichlorobenzene	1	6.498	0	50	13*	50	130
1,2,3-Trichlorobenzene	1	7.2861	0	50	15*	50	130
Naphthalene	1	197.6433	0	50	395*	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64358

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59571.D	AD00418-001(MSD)	10/6/2017 10:44:00 AM
Non Spike(If applicable): 6M59573.D	AD00418-001	10/6/2017 11:18:00 AM
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	30.2598	0	50	61	20	130
Dichlorodifluoromethane	1	11.2443	0	50	22	20	130
Chloromethane	1	25.7271	0	50	51	20	130
Bromomethane	1	24.2933	0	50	49	20	130
Vinyl Chloride	1	24.115	0	50	48	20	130
Chloroethane	1	23.9916	0	50	48	20	130
Trichlorofluoromethane	1	9.4965	0	50	19*	20	130
Ethyl ether	1	25.6442	0	50	51	50	130
Furan	1	15.5631	0	50	31*	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	17.5893	0	50	35*	50	130
Methylene Chloride	1	25.7908	0	50	52	50	130
Acrolein	1	52.789	0	200	26	20	130
Acrylonitrile	1	27.2695	0	50	55	20	130
Iodomethane	1	32.8206	0	50	66	50	130
Acetone	1	222.6269	111.0815	200	56	20	130
Carbon Disulfide	1	30.9697	0	50	62	50	130
t-Butyl Alcohol	1	120.6856	0	200	60	20	130
n-Hexane	1	14.2483	0	50	28*	50	130
Di-isopropyl-ether	1	25.5938	0	50	51	50	130
1,1-Dichloroethene	1	20.3006	0	50	41*	50	130
Methyl Acetate	1	29.1576	0	50	58	50	130
Methyl-t-butyl ether	1	24.6113	0	50	49*	50	130
1,1-Dichloroethane	1	22.7008	0	50	45*	50	130
trans-1,2-Dichloroethene	1	22.6635	0	50	45*	50	130
Ethyl-t-butyl ether	1	27.4938	0	50	55	50	130
cis-1,2-Dichloroethene	1	21.4842	0	50	43*	50	130
Bromochloromethane	1	21.2317	0	50	42*	50	130
2,2-Dichloropropane	1	18.857	0	50	38*	50	130
Ethyl acetate	1	17.8226	0	50	36*	50	130
1,4-Dioxane	1	1772.039	0	2500	71	50	130
1,1-Dichloropropene	1	17.77	0	50	36*	50	130
Chloroform	1	20.3701	0	50	41*	50	130
Cyclohexane	1	16.233	0	50	32*	50	130
1,2-Dichloroethane	1	23.7613	0	50	48*	50	130
2-Butanone	1	50.7748	23.6515	50	54	20	130
1,1,1-Trichloroethane	1	17.9558	0	50	36*	50	130
Carbon Tetrachloride	1	17.1699	0	50	34*	50	130
Vinyl Acetate	1	25.364	0	50	51	50	130
Bromodichloromethane	1	17.7736	0	50	36*	50	130
Methylcyclohexane	1	13.3483	0	50	27*	50	130
Dibromomethane	1	17.8508	0	50	36*	50	130
1,2-Dichloropropane	1	21.354	0	50	43*	50	130
Trichloroethene	1	18.72	0	50	37*	50	130
Benzene	1	20.5435	0	50	41*	50	130
tert-Amyl methyl ether	1	25.755	0	50	52	50	130
Iso-propylacetate	1	23.2452	0	50	46*	50	130
Methyl methacrylate	1	21.9038	0	50	44*	50	130
Dibromochloromethane	1	16.0841	0	50	32*	50	130
2-Chloroethylvinylether	1	15.5582	0	50	31*	50	130
cis-1,3-Dichloropropene	1	19.4956	0	50	39*	50	130
trans-1,3-Dichloropropene	1	18.5593	0	50	37*	50	130
Ethyl methacrylate	1	19.4482	0	50	39*	50	130
1,1,2-Trichloroethane	1	18.3214	0	50	37*	50	130
1,2-Dibromoethane	1	17.8465	0	50	36*	50	130
1,3-Dichloropropane	1	20.7279	0	50	41*	50	130
4-Methyl-2-Pentanone	1	23.4658	0	50	47	20	130
2-Hexanone	1	21.9426	0	50	44	20	130
Tetrachloroethene	1	13.3218	0	50	27*	50	130
Toluene	1	16.9541	0	50	34*	50	130
1,1,1,2-Tetrachloroethane	1	16.2749	0	50	33*	50	130
Chlorobenzene	1	14.5217	0	50	29*	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64358

n-Butyl acrylate	1	14.5478	0	50	29*	50	130
n-Amyl acetate	1	19.7724	0	50	40*	50	130
Bromoform	1	14.7799	0	50	30	20	130
Ethylbenzene	1	18.0945	0	50	36*	50	130
1,1,2,2-Tetrachloroethane	1	18.4821	0	50	37*	50	130
Styrene	1	16.9388	0	50	34*	50	130
m&p-Xylenes	1	29.062	0	100	29*	50	130
o-Xylene	1	20.3919	0	50	41*	50	130
trans-1,4-Dichloro-2-butene	1	13.9205	0	50	28	20	130
1,3-Dichlorobenzene	1	13.2538	0	50	27*	50	130
1,4-Dichlorobenzene	1	13.7523	0	50	28*	50	130
1,2-Dichlorobenzene	1	13.1105	0	50	26*	50	130
Isopropylbenzene	1	16.0491	0	50	32*	50	130
Cyclohexanone	1	67.2658	0	250	27*	50	130
Camphene	1	12.6286	0	50	25*	50	130
1,2,3-Trichloropropane	1	17.1725	0	50	34*	50	130
2-Chlorotoluene	1	14.7337	0	50	29*	50	130
p-Ethyltoluene	1	14.8292	0	50	30*	50	130
4-Chlorotoluene	1	15.0649	0	50	30*	50	130
n-Propylbenzene	1	14.6841	0	50	29*	50	130
Bromobenzene	1	14.9466	0	50	30*	50	130
1,3,5-Trimethylbenzene	1	15.4332	0	50	31*	50	130
Butyl methacrylate	1	16.0773	0	50	32*	50	130
t-Butylbenzene	1	15.2725	0	50	31*	50	130
1,2,4-Trimethylbenzene	1	15.9832	0	50	32*	50	130
sec-Butylbenzene	1	14.056	0	50	28*	50	130
4-Isopropyltoluene	1	13.9996	0	50	28*	50	130
n-Butylbenzene	1	13.0396	0	50	26*	50	130
p-Diethylbenzene	1	13.882	0	50	28*	50	130
1,2,4,5-Tetramethylbenzene	1	13.9696	0	50	28*	50	130
1,2-Dibromo-3-Chloropropane	1	13.3186	0	50	27*	50	130
Camphor	1	508.9104	0	500	102	50	130
Hexachlorobutadiene	1	11.2989	0	50	23*	50	130
1,2,4-Trichlorobenzene	1	11.5023	0	50	23*	50	130
1,2,3-Trichlorobenzene	1	12.5422	0	50	25*	50	130
Naphthalene	1	35.446	0	50	71	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: MBS64358

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M59571.D	AD00418-001(MSD)	10/6/2017 10:44:00 AM
Duplicate(If applicable):	6M59569.D	AD00418-001(MS)	10/6/2017 10:11:00 AM
Inst Blank(If applicable):			

Method: 8260C Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chlorodifluoromethane	1	30.2598	25.4266	17	30
Dichlorodifluoromethane	1	11.2443	21.8434	64*	30
Chloromethane	1	25.7271	23.2838	10	30
Bromomethane	1	24.2933	22.8585	6.1	30
Vinyl Chloride	1	24.115	23.0762	4.4	40
Chloroethane	1	23.9916	22.3565	7.1	30
Trichlorofluoromethane	1	9.4965	9.1761	3.4	30
Ethyl ether	1	25.6442	24.1322	6.1	30
Furan	1	15.5631	13.748	12	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1	17.5893	17.9746	2.2	30
Methylene Chloride	1	25.7908	24.1205	6.7	30
Acrolein	1	52.789	55.3252	4.7	30
Acrylonitrile	1	27.2695	23.6533	14	30
Iodomethane	1	32.8206	29.9198	9.2	30
Acetone	1	222.6269	192.9397	14	30
Carbon Disulfide	1	30.9697	16.771	59*	30
t-Butyl Alcohol	1	120.6856	125.859	4.2	30
n-Hexane	1	14.2483	14.1161	0.93	30
Di-isopropyl-ether	1	25.5938	23.627	8	30
1,1-Dichloroethene	1	20.3006	19.1671	5.7	40
Methyl Acetate	1	29.1576	25.79	12	30
Methyl-t-butyl ether	1	24.6113	21.5576	13	30
1,1-Dichloroethane	1	22.7008	21.0091	7.7	40
trans-1,2-Dichloroethene	1	22.6635	21.2996	6.2	30
Ethyl-t-butyl ether	1	27.4938	25.6403	7	30
cis-1,2-Dichloroethene	1	21.4842	19.9512	7.4	30
Bromochloromethane	1	21.2317	20.5271	3.4	30
2,2-Dichloropropane	1	18.857	17.8794	5.3	30
Ethyl acetate	1	17.8226	18.5228	3.9	30
1,4-Dioxane	1	1772.039	1443.645	20	30
1,1-Dichloropropene	1	17.77	16.8174	5.5	30
Chloroform	1	20.3701	19.3308	5.2	40
Cyclohexane	1	16.233	15.6521	3.6	30
1,2-Dichloroethane	1	23.7613	21.362	11	40
2-Butanone	1	50.7748	45.6784	11	40
1,1,1-Trichloroethane	1	17.9558	17.1377	4.7	30
Carbon Tetrachloride	1	17.1699	16.1397	6.2	40
Vinyl Acetate	1	25.364	21.6666	16	30
Bromodichloromethane	1	17.7736	17.2266	3.1	30
Methylcyclohexane	1	13.3483	12.961	2.9	30
Dibromomethane	1	17.8508	17.6825	0.95	30
1,2-Dichloropropane	1	21.354	20.2083	5.5	30
Trichloroethene	1	18.72	17.4999	6.7	40
Benzene	1	20.5435	19.5686	4.9	40
tert-Amyl methyl ether	1	25.755	22.1477	15	30
Iso-propylacetate	1	23.2452	21.0452	9.9	30
Methyl methacrylate	1	21.9038	24.0509	9.3	30
Dibromochloromethane	1	16.0841	14.7244	8.8	30
2-Chloroethylvinylether	1	15.5582	17.0726	9.3	30
cis-1,3-Dichloropropene	1	19.4956	16.7044	15	30
trans-1,3-Dichloropropene	1	18.5593	16.3395	13	30
Ethyl methacrylate	1	19.4482	18.858	3.1	30
1,1,2-Trichloroethane	1	18.3214	19.3378	5.4	30
1,2-Dibromoethane	1	17.8465	16.7115	6.6	30
1,3-Dichloropropane	1	20.7279	20.3157	2	30
4-Methyl-2-Pentanone	1	23.4658	21.6599	8	30
2-Hexanone	1	21.9426	20.3869	7.4	30
Tetrachloroethene	1	13.3218	13.4894	1.3	40
Toluene	1	16.9541	16.3088	3.9	40
1,1,1,2-Tetrachloroethane	1	16.2749	15.4003	5.5	30
Chlorobenzene	1	14.5217	13.5373	7	40
n-Butyl acrylate	1	14.5478	12.7313	13	30
n-Amyl acetate	1	19.7724	21.4673	8.2	30

Form3
RPD Data Laboratory Limits
QC Batch: MBS64358

Bromoform	1	14.7799	14.9961	1.5	30
Ethylbenzene	1	18.0945	17.9644	0.72	30
1,1,2,2-Tetrachloroethane	1	18.4821	17.6124	4.8	30
Styrene	1	16.9388	15.3879	9.6	30
m&p-Xylenes	1	29.062	31.2669	7.3	30
o-Xylene	1	20.3919	20.5924	0.98	30
trans-1,4-Dichloro-2-butene	1	13.9205	14.3174	2.8	30
1,3-Dichlorobenzene	1	13.2538	11.7008	12	30
1,4-Dichlorobenzene	1	13.7523	11.8375	15	40
1,2-Dichlorobenzene	1	13.1105	11.3128	15	40
Isopropylbenzene	1	16.0491	15.6387	2.6	30
Cyclohexanone	1	67.2658	61.171	9.5	30
Camphene	1	12.6286	12.5076	0.96	30
1,2,3-Trichloropropane	1	17.1725	16.685	2.9	30
2-Chlorotoluene	1	14.7337	14.5316	1.4	30
p-Ethyltoluene	1	14.8292	18.3568	21	30
4-Chlorotoluene	1	15.0649	13.771	9	30
n-Propylbenzene	1	14.6841	14.9238	1.6	40
Bromobenzene	1	14.9466	14.7348	1.4	30
1,3,5-Trimethylbenzene	1	15.4332	17.2942	11	30
Butyl methacrylate	1	16.0773	14.9141	7.5	30
t-Butylbenzene	1	15.2725	15.184	0.58	30
1,2,4-Trimethylbenzene	1	15.9832	21.7883	31*	30
sec-Butylbenzene	1	14.056	14.0739	0.13	40
4-Isopropyltoluene	1	13.9996	13.5629	3.2	30
n-Butylbenzene	1	13.0396	13.4776	3.3	30
p-Diethylbenzene	1	13.882	17.8946	25	30
1,2,4,5-Tetramethylbenzene	1	13.9696	15.6719	11	30
1,2-Dibromo-3-Chloropropane	1	13.3186	10.9175	20	30
Camphor	1	508.9104	260.1189	65*	30
Hexachlorobutadiene	1	11.2989	8.6768	26	30
1,2,4-Trichlorobenzene	1	11.5023	6.498	56*	30
1,2,3-Trichlorobenzene	1	12.5422	7.2861	53*	30
Naphthalene	1	35.446	197.6433	139*	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: 6M59282.D
Matrix: Soil

Blank Analysis Date: 09/29/17 15:56
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
MBS64319	6M59311.D	09/29/17 23:58
AD00292-007	6M59300.D	09/29/17 20:56

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 6M59501.D
Matrix: Soil

Blank Analysis Date: 10/05/17 15:38
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
AD00418-003	6M59509.D	10/05/17 17:52
AD00418-005	6M59508.D	10/05/17 17:35
MBS64352	6M59513.D	10/05/17 18:58
AD00292-007(MSD	6M59512.D	10/05/17 18:42
AD00292-007(MS)	6M59511.D	10/05/17 18:25

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 6M59563.D
Matrix: Soil

Blank Analysis Date: 10/06/17 08:29
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
AD00418-001	6M59573.D	10/06/17 11:18
AD00418-001(MSD	6M59571.D	10/06/17 10:44
MBS64358	6M59570.D	10/06/17 10:28
AD00418-001(MS)	6M59569.D	10/06/17 10:11

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M58197.D
Analysis Date: 09/07/17 05:28
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.059 to 4.069 min

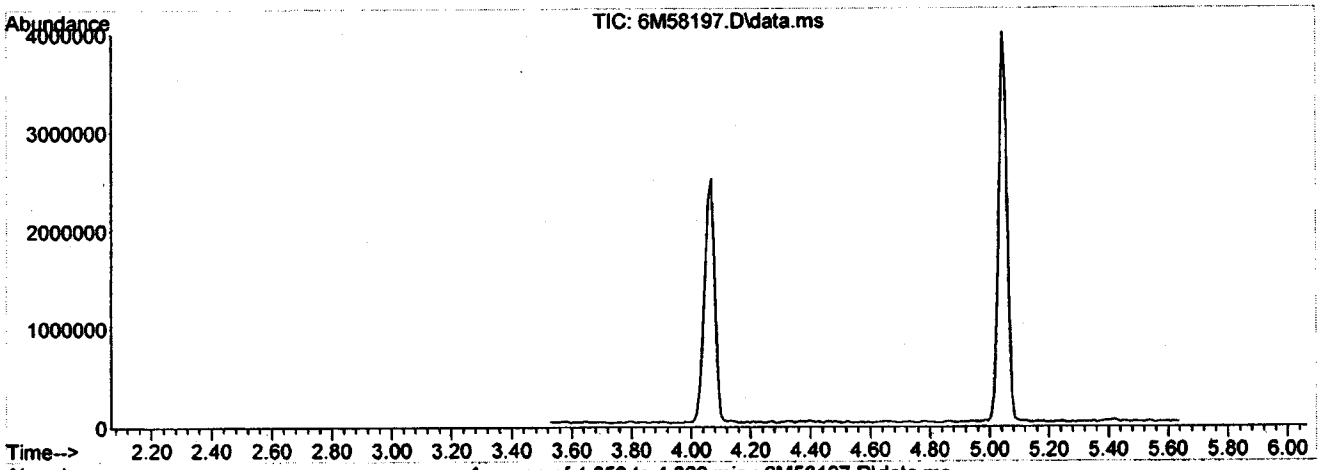
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	23.5	113196	PASS
75	95	30	60	54.2	261536	PASS
95	95	100	100	100.0	482336	PASS
96	95	5	9	6.8	32948	PASS
173	174	0.00	2	1.3	4869	PASS
174	95	50	100	79.1	381472	PASS
175	174	5	9	7.0	26632	PASS
176	174	95	101	97.7	372576	PASS
177	176	5	9	5.9	21908	PASS

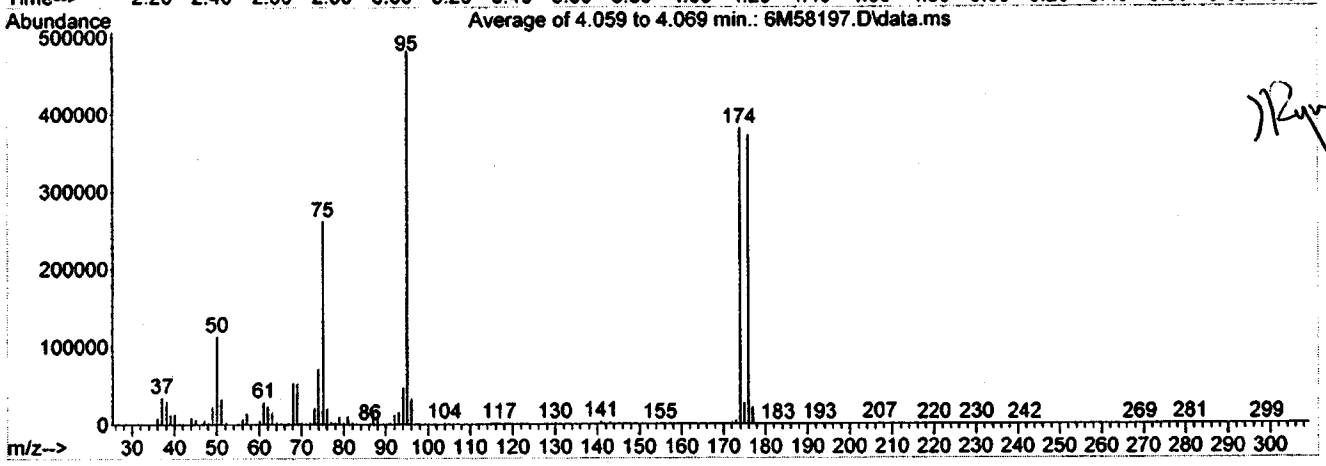
Data File	Sample Number	Analysis Date:
6M58200.D	CAL @ 0.5 PPB	09/07/17 06:11
6M58201.D	CAL @ 1 PPB	09/07/17 06:28
6M58202.D	CAL @ 2 PPB	09/07/17 06:45
6M58203.D	CAL @ 5 PPB	09/07/17 07:01
6M58204.D	CAL @ 20 PPB	09/07/17 07:18
6M58206.D	CAL @ 50 PPB	09/07/17 07:51
6M58208.D	CAL @ 500 PPB	09/07/17 08:25
6M58210.D	CAL @ 250 PPB	09/07/17 08:58
6M58212.D	CAL @ 100 PPB	09/07/17 09:31
6M58216.D	ICV	09/07/17 10:38

Data Path : G:\GcMsData\2017\GCMS_6\Data\09-07-17\
Data File : 6M58197.D
Acq On : 7 Sep 2017 5:28
Operator : SG
Sample : BFB TUNE
Misc : S,5g
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2017\GCMS_6\MethodQt\6M_S0724.M
Title : @GCMS_6,ug,624,8260
Last Update : Mon Jul 24 14:56:44 2017





Spectrum Information: Average of 4.059 to 4.069 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.5	113196	PASS
75	95	30	60	54.2	261536	PASS
95	95	100	100	100.0	482336	PASS
96	95	5	9	6.8	32948	PASS
173	174	0.00	2	1.3	4869	PASS
174	95	50	100	79.1	381472	PASS
175	174	5	9	7.0	26632	PASS
176	174	95	101	97.7	372576	PASS
177	176	5	9	5.9	21908	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M59278.D
Analysis Date: 09/29/17 14:56
Method: EPA 8260C

Tune Scan/Time Range: Average of 3.995 to 4.083 min

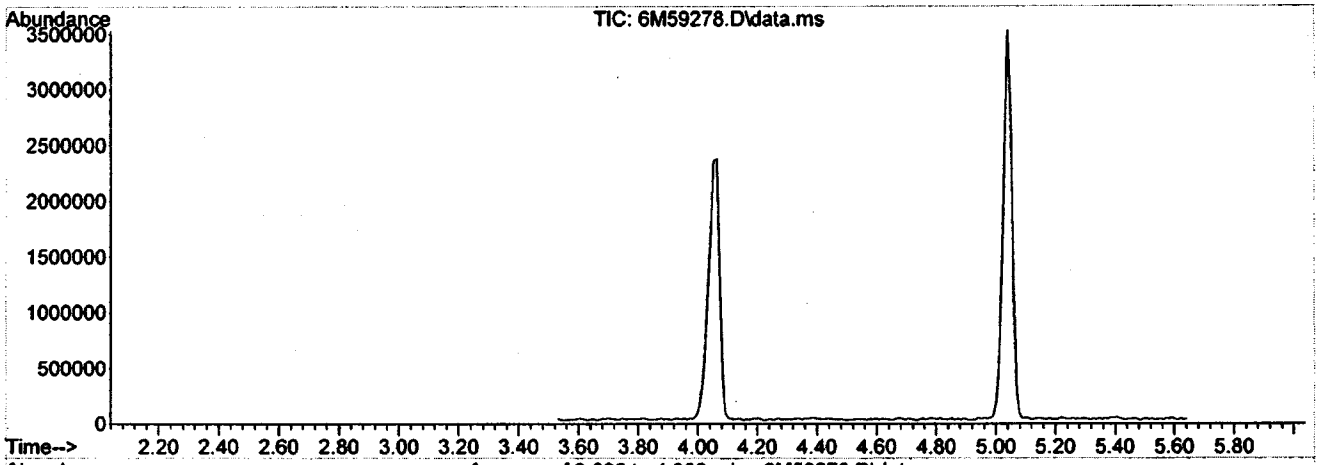
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	25.4	50399	PASS
75	95	30	60	56.6	112088	PASS
95	95	100	100	100.0	198095	PASS
96	95	5	9	7.2	14177	PASS
173	174	0.00	2	1.0	1655	PASS
174	95	50	100	86.0	170347	PASS
175	174	5	9	7.3	12519	PASS
176	174	95	101	97.3	165712	PASS
177	176	5	9	6.4	10675	PASS

Data File	Sample Number	Analysis Date:
6M59279.D	50 PPB	09/29/17 15:06
6M59280.D	CAL @ 50 PPB	09/29/17 15:22
6M59281.D	BLK	09/29/17 15:39
6M59282.D	DAILY BLANK	09/29/17 15:56
6M59283.D	BLK	09/29/17 16:12
6M59284.D	AD00316-024	09/29/17 16:29
6M59285.D	AD00091-025(MS)	09/29/17 16:46
6M59286.D	AD00091-025(MSD	09/29/17 17:02
6M59287.D	MBS64313	09/29/17 17:19
6M59288.D	BLK	09/29/17 17:36
6M59289.D	AD00301-004	09/29/17 17:53
6M59290.D	AD00301-006	09/29/17 18:09
6M59291.D	AD00301-005	09/29/17 18:26
6M59292.D	AD00301-007	09/29/17 18:43
6M59293.D	AD00301-008	09/29/17 18:59
6M59294.D	AD00301-009	09/29/17 19:16
6M59295.D	AD00301-011	09/29/17 19:32
6M59296.D	AD00301-012	09/29/17 19:49
6M59297.D	AD00301-013	09/29/17 20:06
6M59298.D	AD00301-014	09/29/17 20:22
6M59299.D	AD00292-001	09/29/17 20:39
6M59300.D	AD00292-007	09/29/17 20:56
6M59301.D	AD00292-011	09/29/17 21:12
6M59302.D	AD00293-002	09/29/17 21:29
6M59303.D	AD00297-001	09/29/17 21:45
6M59304.D	BLK	09/29/17 22:02
6M59305.D	AD00301-001	09/29/17 22:19
6M59306.D	AD00301-002	09/29/17 22:35
6M59307.D	AD00301-010	09/29/17 22:52
6M59308.D	AD00301-003	09/29/17 23:09
6M59309.D	AD00091-027(MS)	09/29/17 23:25
6M59310.D	AD00091-027(MSD	09/29/17 23:42
6M59311.D	MBS64319	09/29/17 23:58
6M59312.D	BLK	09/30/17 00:15
6M59313.D	AD00292-003	09/30/17 00:31
6M59314.D	AD00292-005	09/30/17 00:48
6M59315.D	AD00294-002	09/30/17 01:05
6M59316.D	AD00292-009	09/30/17 01:21
6M59317.D	BLK	09/30/17 01:38
6M59318.D	AD00327-007	09/30/17 01:54
6M59319.D	BLK	09/30/17 02:11
6M59320.D	AD00319-001	09/30/17 02:27
6M59321.D	STD	09/30/17 02:44
6M59322.D	BLK	09/30/17 03:01

Data Path : G:\GcMsData\2017\GCMS_6\Data\09-2917\
Data File : 6M59278.D
Acq On : 29 Sep 2017 14:56
Operator : WP
Sample : BFB TUNE
Misc : S,5g
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2017\GCMS_6\MethodQt\6M_S0907.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 07 09:58:16 2017



Spectrum Information: Average of 3.995 to 4.083 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	25.4	50399	PASS
75	95	30	60	56.6	112088	PASS
95	95	100	100	100.0	198095	PASS
96	95	5	9	7.2	14177	PASS
173	174	0.00	2	1.0	1655	PASS
174	95	50	100	86.0	170347	PASS
175	174	5	9	7.3	12519	PASS
176	174	95	101	97.3	165712	PASS
177	176	5	9	6.4	10675	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M59477.D
Analysis Date: 10/05/17 09:14
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.008 to 4.037 min

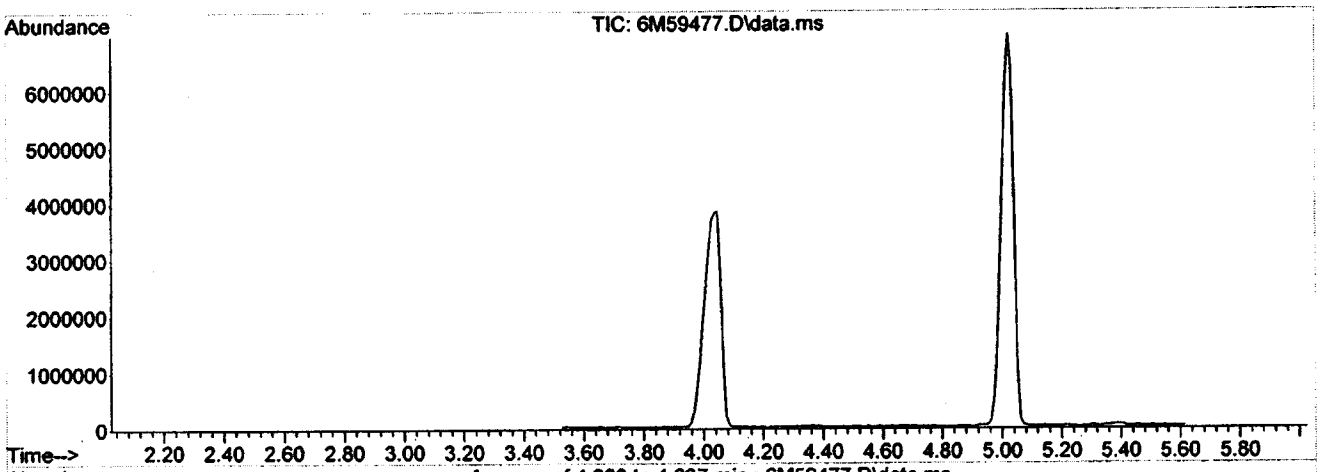
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	22.8	152614	PASS
75	95	30	60	51.9	347376	PASS
95	95	100	100	100.0	668784	PASS
96	95	5	9	7.1	47644	PASS
173	174	0.00	2	0.5	2496	PASS
174	95	50	100	82.1	548864	PASS
175	174	5	9	7.3	39844	PASS
176	174	95	101	98.9	542848	PASS
177	176	5	9	6.2	33510	PASS

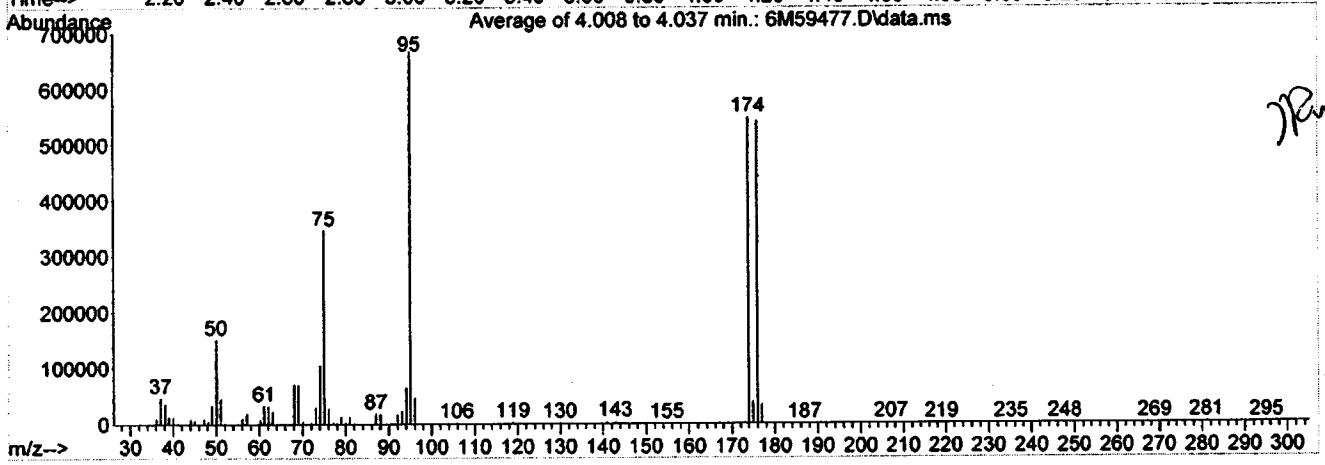
Data File	Sample Number	Analysis Date:
6M59481.D	CAL @ 0.5 PPB	10/05/17 10:16
6M59482.D	CAL @ 1 PPB	10/05/17 10:33
6M59483.D	CAL @ 2 PPB	10/05/17 10:50
6M59484.D	CAL @ 5 PPB	10/05/17 11:06
6M59485.D	CAL @ 20 PPB	10/05/17 11:23
6M59486.D	CAL @ 500 PPB	10/05/17 11:40
6M59488.D	CAL @ 250 PPB	10/05/17 12:13
6M59490.D	CAL @ 100 PPB	10/05/17 12:46
6M59492.D	CAL @ 50 PPB	10/05/17 13:20
6M59495.D	STD	10/05/17 14:09
6M59497.D	ICV	10/05/17 14:31
6M59498.D	BLK	10/05/17 14:48
6M59500.D	BLK	10/05/17 15:21
6M59501.D	DAILY BLANK	10/05/17 15:38
6M59502.D	BLK	10/05/17 15:54
6M59503.D	VER@ 1 PPB	10/05/17 16:11
6M59504.D	VER@ 2 PPB	10/05/17 16:28
6M59505.D	BLK	10/05/17 16:46
6M59506.D	AD00404-008	10/05/17 17:02
6M59507.D	AD00404-003	10/05/17 17:19
6M59508.D	AD00418-005	10/05/17 17:35
6M59509.D	AD00418-003	10/05/17 17:52
6M59510.D	AD00418-001	10/05/17 18:09
6M59511.D	AD00292-007(MS)	10/05/17 18:25
6M59512.D	AD00292-007(MSD	10/05/17 18:42
6M59513.D	MBS64352	10/05/17 18:58

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-05-17\
Data File : 6M59477.D
Acq On : 5 Oct 2017 9:14
Operator : SG
Sample : BFB TUNE
Misc : S,5G
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2017\GCMS_6\MethodQt\6M_S0907.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 07 09:58:16 2017





Spectrum Information: Average of 4.008 to 4.037 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.8	152614	PASS
75	95	30	60	51.9	347376	PASS
95	95	100	100	100.0	668784	PASS
96	95	5	9	7.1	47644	PASS
173	174	0.00	2	0.5	2496	PASS
174	95	50	100	82.1	548864	PASS
175	174	5	9	7.3	39844	PASS
176	174	95	101	98.9	542848	PASS
177	176	5	9	6.2	33510	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M59557.D
Analysis Date: 10/06/17 06:56
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.034 to 4.054 min

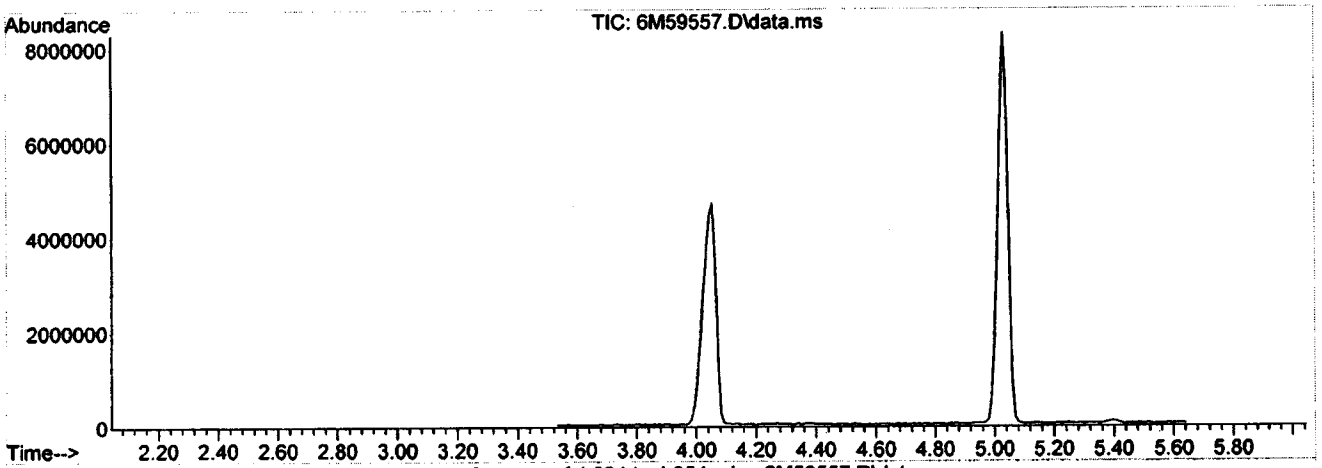
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	23.5	206165	PASS
75	95	30	60	51.5	452907	PASS
95	95	100	100	100.0	878763	PASS
96	95	5	9	7.1	62333	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	78.0	685035	PASS
175	174	5	9	7.8	53640	PASS
176	174	95	101	97.9	670763	PASS
177	176	5	9	6.8	45405	PASS

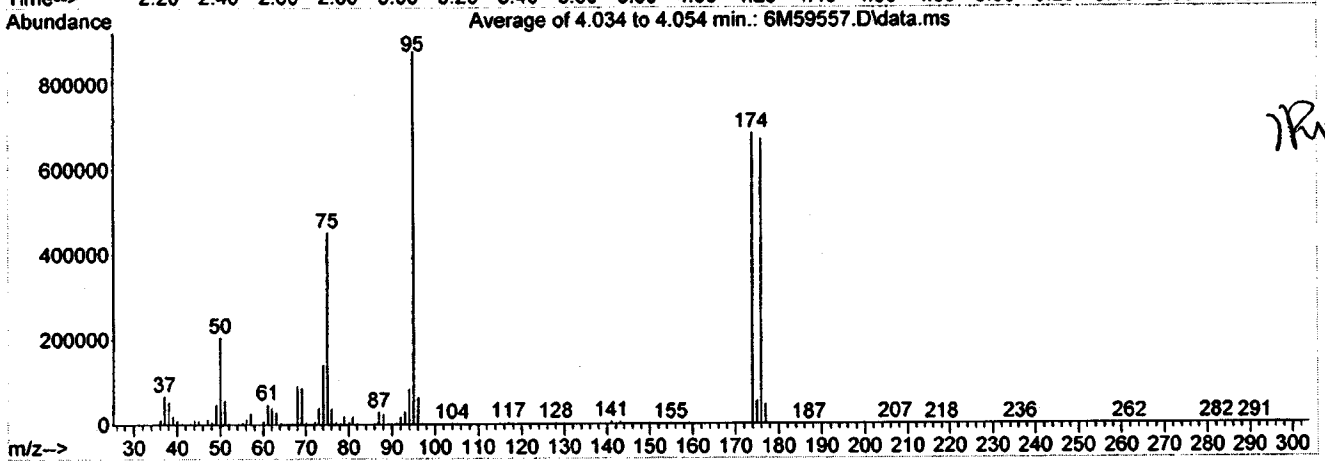
Data File	Sample Number	Analysis Date:
6M59558.D	BLK	10/06/17 07:06
6M59559.D	50 PPB	10/06/17 07:23
6M59560.D	CAL @ 50 PPB	10/06/17 07:39
6M59561.D	BLK	10/06/17 07:56
6M59562.D	BLK	10/06/17 08:13
6M59563.D	DAILY BLANK	10/06/17 08:29
6M59564.D	BLK	10/06/17 08:46
6M59565.D	BLK	10/06/17 09:04
6M59566.D	AD00415-003	10/06/17 09:21
6M59567.D	AD00415-005	10/06/17 09:38
6M59568.D	AD00415-001	10/06/17 09:54
6M59569.D	AD00418-001(MS)	10/06/17 10:11
6M59570.D	MBS64358	10/06/17 10:28
6M59571.D	AD00418-001(MSD	10/06/17 10:44
6M59572.D	BLK	10/06/17 11:01
6M59573.D	AD00418-001	10/06/17 11:18
6M59574.D	BLK	10/06/17 11:35
6M59575.D	AD00436-002	10/06/17 11:52
6M59576.D	AD00436-004	10/06/17 12:09
6M59577.D	AD00436-006	10/06/17 12:26
6M59578.D	AD00437-001	10/06/17 12:42
6M59579.D	AD00437-002	10/06/17 12:59
6M59580.D	AD00437-003	10/06/17 13:15
6M59581.D	AD00437-004	10/06/17 13:32
6M59582.D	AD00437-005	10/06/17 13:48
6M59583.D	AD00437-006	10/06/17 14:05
6M59584.D	AD00437-007	10/06/17 14:22
6M59585.D	AD00437-008	10/06/17 14:39
6M59586.D	AD00437-011	10/06/17 14:55
6M59587.D	AD00437-012	10/06/17 15:12
6M59588.D	AD00437-009	10/06/17 15:28
6M59589.D	AD00437-010	10/06/17 15:45
6M59590.D	AD00430-001	10/06/17 16:01
6M59591.D	BLK	10/06/17 16:18
6M59592.D	AD00411-006	10/06/17 16:35
6M59593.D	AD00411-002	10/06/17 16:51
6M59594.D	AD00411-005	10/06/17 17:08
6M59595.D	AD00432-001	10/06/17 17:24
6M59596.D	AD00418-003(MS)	10/06/17 17:41
6M59597.D	AD00418-003(MSD	10/06/17 17:58
6M59598.D	MBS64362	10/06/17 18:14
6M59599.D	AD00453-004(5X)	10/06/17 18:31
6M59600.D	AD00453-003(5X)	10/06/17 18:48
6M59601.D	00453-006(5X)	10/06/17 19:04
6M59602.D	BLK	10/06/17 19:21

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-06-17\
Data File : 6M59557.D
Acq On : 6 Oct 2017 6:56
Operator : SG
Sample : BFB TUNE
Misc : S,5g
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2017\GCMS_6\MethodQt\6M_S1005.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Oct 05 14:38:09 2017





Spectrum Information: Average of 4.034 to 4.054 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.5	206165	PASS
75	95	30	60	51.5	452907	PASS
95	95	100	100	100.0	878763	PASS
96	95	5	9	7.1	62333	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	78.0	685035	PASS
175	174	5	9	7.8	53640	PASS
176	174	95	101	97.9	670763	PASS
177	176	5	9	6.8	45405	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
1	6M58204.D	CAL @ 20 PPB	09/07/17 07:18	2	6M58203.D	CAL @ 5 PPB	09/07/17 07:01
3	6M58202.D	CAL @ 2 PPB	09/07/17 06:45	4	6M58206.D	CAL @ 50 PPB	09/07/17 07:51
5	6M58212.D	CAL @ 100 PPB	09/07/17 09:31	6	6M58210.D	CAL @ 250 PPB	09/07/17 08:58
7	6M58208.D	CAL @ 500 PPB	09/07/17 08:25	8	6M58201.D	CAL @ 1 PPB	09/07/17 06:28
9	6M58200.D	CAL @ 0.5 PPB	09/07/17 06:11				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Chlorodifluoromethane	1	0	Avg	0.9855	1.2130	1.4696	0.9316	1.3288	1.1575	1.0733	----	----	1.17	1.45	0.996	0.999	16	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dichlorodifluorometha	1	0	Avg	0.6286	0.7638	0.7601	0.6418	0.9041	0.7814	0.7223	----	----	0.743	1.44	0.996	0.999	13	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloromethane	1	0	Avg	0.5564	0.6122	0.4689	0.5251	0.7607	0.6574	0.6127	----	----	0.599	1.61	0.996	0.998	16	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromomethane	1	0	Avg	0.3476	0.3865	0.4270	0.3155	0.4289	0.3815	0.3573	----	----	0.378	1.98	0.997	0.999	11	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Chloride	1	0	Avg	0.4862	0.4896	0.4890	0.4606	0.6501	0.5525	0.5186	----	----	0.521	1.69	0.996	0.998	12	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroethane	1	0	Avg	0.3451	0.4040	0.4811	0.3144	0.4340	0.3708	0.3533	----	----	0.386	2.06	0.997	0.999	15	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichlorofluoromethan	1	0	Avg	0.4718	0.6437	0.6954	0.4284	0.5396	0.5360	0.5101	----	----	0.546	2.28	0.999	0.999	17	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl ether	1	0	Avg	0.1905	0.2165	0.2817	0.1791	0.2514	0.2206	0.2192	----	----	0.223	2.49	0.999	0.999	16	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Furan	1	0	Avg	1.1019	0.8798	1.4430	1.0667	1.4483	1.2551	1.2446	----	----	1.21	2.54	0.998	0.999	17	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,2-Trichloro-1,2,2-tr	1	0	Avg	0.5356	0.6290	0.7726	0.5218	0.6954	0.6153	0.5492	----	----	0.617	2.70	0.995	0.999	15	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methylene Chloride	1	0	Avg	0.3826	0.4081	0.4676	0.3354	0.4076	0.3748	0.3629	----	----	0.391	3.09	0.999	1.00	11	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acrolein	1	0	Qua	0.0115	0.0140	0.0169	0.0177	0.0219	0.0191	0.0201	----	----	0.0174	2.62	0.999	0.999	21		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Acrylonitrile	1	0	Avg	0.0424	0.0447	0.0489	0.0362	0.0480	0.0422	0.0439	----	----	0.0438	3.29	0.999	0.999	9.6		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iodomethane	1	0	Avg	0.5496	0.5746	0.4021	0.5431	0.7086	0.6458	0.6293	----	----	0.579	2.83	0.999	0.999	17		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acetone	1	0	Avg	0.0319	0.0326	0.0475	0.0352	0.0489	0.0397	0.0411	----	----	0.0396	2.73	0.998	0.998	17	0.10 a	100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Carbon Disulfide	1	0	Avg	1.2081	1.3518	0.9110	1.1995	1.5693	1.4637	1.3894	----	----	1.30	2.89	0.998	0.999	17	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
t-Butyl Alcohol	1	0	Avg	0.0085	0.0083	0.0104	0.0069	0.0081	0.0068	0.0077	----	----	0.00815	3.14	0.996	0.998	15		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
n-Hexane	1	0	Avg	0.7547	0.7978	0.8706	0.7509	1.0524	0.9545	0.8709	----	----	0.865	3.53	0.996	0.999	13		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Di-isopropyl-ether	1	0	Avg	1.2050	1.2505	1.4864	1.2252	1.5430	1.4212	1.3863	----	----	1.36	3.69	0.999	0.999	9.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1-Dichloroethene	1	0	Avg	0.9675	0.9759	0.8666	0.8869	1.2386	1.0937	0.9824	----	----	1.00	2.70	0.995	0.999	13	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl Acetate	1	0	Qua	0.2013	0.2143	0.3120	0.1554	0.1918	0.1593	0.1635	----	----	0.200	2.99	0.998	0.998	27	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl-t-butyl ether	1	0	Avg	0.4427	0.5302	0.5099	0.4308	0.5229	0.4887	0.4964	0.6765	----	0.512	3.30	1.00	1.00	15	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1-Dichloroethane	1	0	Avg	0.9166	0.8143	0.9638	0.8640	1.0577	0.9820	0.9225	----	----	0.932	3.66	0.998	1.00	8.6	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,2-Dichloroethe	1	0	Avg	0.4241	0.5329	0.6859	0.4795	0.5879	0.5497	0.5064	----	----	0.538	3.31	0.997	0.999	16	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl-t-butyl ether	1	0	Avg	0.8647	0.8741	0.9587	0.8381	0.9999	0.9523	0.9698	----	----	0.923	3.96	1.00	1.00	6.7	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,2-Dichloroethene	1	0	Avg	0.8733	0.9239	1.0941	0.8172	1.0170	0.9600	0.9019	----	----	0.941	4.08	0.998	1.00	9.8	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromochloromethane	1	0	Avg	0.3751	0.2790	0.3042	0.3484	0.3814	0.3725	0.3653	----	----	0.347	4.24	1.00	1.00	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2,2-Dichloropropane	1	0	Avg	0.7768	0.8940	0.9527	0.7439	0.9413	0.9020	0.8590	----	----	0.867	4.09	0.999	0.999	9.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl acetate	1	0	Avg	0.1347	0.1732	0.1381	0.1401	0.1525	0.1334	0.1488	----	----	0.146	4.11	0.997	0.999	9.6		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dioxane	1	0	Avg	0.0013	0.0014	0.0016	0.0010	0.0013	0.0010	0.0013	----	----	0.00132	5.14	0.989	0.996	16		1000.	250.0	100.0	2500.	5000.	1250	2500		
1,1-Dichloropropene	1	0	Avg	0.8568	0.9170	0.9840	0.8681	0.9979	0.9242	0.8447	----	----	0.913	4.50	0.997	1.00	6.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroform	1	0	Avg	0.9441	1.0540	1.2008	0.8363	0.9368	0.9110	0.8767	----	----	0.966	4.28	0.999	1.00	13	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromofluoromethan	1	0	Avg	0.2588	0.2585	0.2724	0.2334	0.2439	0.2284	0.2295	0.2458	0.2599	0.248	4.38	-1	-1	6.3		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Cyclohexane	1	0	Avg	1.0396	1.1238	1.3353	1.0782	1.3387	1.2673	1.1670	----	----	1.19	4.44	0.997	0.999	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloroethane-d4	1	0	Avg	0.1158	0.1166	0.1216	0.1123	0.1091	0.1087	0.1047	0.1233	0.1175	0.114	4.58	-1	-1	5.4		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
1,2-Dichloroethane	1	0	Avg	0.5499	0.6325	0.7422	0.4895	0.5216	0.4949	0.4650	----	----	0.557	4.62	0.999	1.00	18	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Butanone	1	0	Avg	0.0978	0.0980	0.0659	0.0651	0.0820	0.0606	0.0712	----	----	0.0773	4.09	0.992	0.995	20	0.10 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,1-Trichloroethane	1	0	Avg	0.9381	1.0202	1.2661	0.9165	1.0844	1.0273	0.9548	----	----	1.03	4.40	0.998	1.00	12	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Carbon Tetrachloride	1	0	Avg	0.8502	0.9424	1.1111	0.8444	0.9511	0.8579	0.8079	----	----	0.909	4.50	0.998	1.00	11	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Acetate	1	0	Avg	0.1647	0.1788	0.2381	0.1603	0.1882	0.1694	0.1729	----	----	0.182	3.30	0.999	0.999	15		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromodichloromethan	1	0	Avg	0.5366	0.6522	0.6420	0.5029	0.5541	0.5278	0.5411	----	----	0.565	5.21	1.00	1.00	10	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 12.5
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.

HAZ - 177

7100429 0069

Method: EPA 8260C

Form 6
Initial Calibration

Instrument: GCM

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M58204.D	CAL @ 20 PPB	09/07/17 07:18	2	6M58203.D	CAL @ 5 PPB	09/07/17 07:01
3	6M58202.D	CAL @ 2 PPB	09/07/17 06:45	4	6M58206.D	CAL @ 50 PPB	09/07/17 07:51
5	6M58212.D	CAL @ 100 PPB	09/07/17 09:31	6	6M58210.D	CAL @ 250 PPB	09/07/17 08:58
7	6M58208.D	CAL @ 500 PPB	09/07/17 08:25	8	6M58201.D	CAL @ 1 PPB	09/07/17 06:28
9	6M58200.D	CAL @ 0.5 PPB	09/07/17 06:11				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Methylcyclohexane	1	0	Avg	0.8900	1.0053	0.9958	0.9252	1.1791	1.0555	0.9620	----	----	1.00	5.06	0.996	0.999	9.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromomethane	1	0	Avg	0.1751	0.1846	0.2297	0.1568	0.1761	0.1698	0.1619	----	----	0.179	5.15	0.999	1.00	13		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloropropane	1	0	Avg	0.4115	0.5062	0.5648	0.3877	0.4342	0.4145	0.3967	----	----	0.445	5.08	0.999	1.00	15	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichloroethene	1	0	Avg	0.5428	0.6586	0.7625	0.5201	0.6066	0.5759	0.5304	----	----	0.600	4.95	0.998	1.00	14	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Benzene	1	0	Avg	1.7013	1.9042	2.2314	1.6574	1.9156	1.8400	1.7344	2.5945	----	1.95	4.62	0.999	1.00	16	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
tert-Amyl methyl ether	1	0	Avg	0.5402	0.5701	0.6738	0.4908	0.5584	0.5975	0.5699	----	----	0.572	4.65	0.999	0.999	9.8		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iso-propylacetate	1	0	Avg	0.6358	0.6650	0.7267	0.5466	0.5990	0.6259	0.6599	----	----	0.637	4.62	0.999	1.00	8.9	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl methacrylate	1	0	Avg	0.3443	0.3178	0.4920	0.2886	0.3695	0.3602	0.3324	----	----	0.358	5.11	0.998	0.999	18	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromochloromethan	1	0	Avg	0.4903	0.5270	0.5493	0.4688	0.4920	0.5135	0.5154	----	----	0.508	6.03	1.00	1.00	5.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chloroethylvinylethe	1	0	Avg	0.1428	0.1677	0.2082	0.1384	0.1476	0.1576	0.1679	----	----	0.162	5.35	0.999	1.00	15		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,3-Dichloropropen	1	0	Avg	0.8414	0.8550	0.9530	0.8275	0.9438	0.9880	1.0012	----	----	0.916	5.44	1.00	1.00	7.9	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,3-Dichloroprop	1	0	Avg	0.5790	0.6140	0.7303	0.5779	0.6622	0.6932	0.7204	----	----	0.654	5.71	0.999	1.00	9.8	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl methacrylate	1	0	Avg	0.3924	0.4618	0.4379	0.4159	0.4520	0.4559	0.4719	----	----	0.441	5.73	1.00	1.00	6.4	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,2-Trichloroethane	1	0	Avg	0.3432	0.3955	0.4822	0.3241	0.3246	0.3287	0.3198	----	----	0.360	5.82	1.00	1.00	17	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromoethane	1	0	Qua	0.3125	0.3546	0.4647	0.3116	0.3125	0.3118	0.3137	0.7011	----	0.385	6.10	1.00	1.00	36	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,3-Dichloropropane	1	0	Avg	0.6469	0.7026	0.9231	0.5957	0.6307	0.6033	0.5751	----	----	0.668	5.91	0.999	1.00	18		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Methyl-2-Pentanone	1	0	Avg	0.2497	0.2569	0.3432	0.2482	0.2409	0.2505	0.2652	----	----	0.265	5.50	0.999	1.00	13	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Hexanone	1	0	Avg	0.1691	0.1803	0.1913	0.1496	0.1597	0.1567	0.1720	----	----	0.168	5.92	0.998	1.00	8.6	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Tetrachloroethene	1	0	Avg	0.8468	0.9224	1.1001	0.8383	0.9308	0.9632	0.7954	----	----	0.914	5.90	0.990	0.999	11	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Toluene-d8	1	0	Avg	1.6645	1.5936	1.5853	1.6589	1.6482	1.5838	1.6599	1.6328	1.6319	1.63	5.58	-1	-1	2.0		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Toluene	1	0	Qua	1.8397	1.9737	2.5301	1.8715	2.0815	2.0415	1.8871	3.4195	----	2.21	5.62	0.998	1.00	24	0.40	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1,1,2-Tetrachloroeth	1	0	Avg	0.5935	0.6554	0.6883	0.5724	0.5887	0.5830	0.5119	----	----	0.599	6.38	0.996	1.00	9.6		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chlorobenzene	1	0	Avg	1.8482	1.9392	2.3874	1.7659	1.9481	1.9023	1.7687	----	----	1.94	6.35	0.998	1.00	11	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Butyl acrylate	1	0	Avg	0.9928	1.3316	1.2073	1.1633	1.3924	1.7152	1.6248	----	----	1.35	6.59	0.998	0.998	19	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Amyl acetate	1	0	Avg	0.9551	0.8607	1.1576	1.0239	1.1747	1.3319	1.2847	----	----	1.11	6.70	0.999	0.999	16	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromoform	1	0	Avg	0.4624	0.4880	0.5808	0.4943	0.5160	0.6843	0.6049	----	----	0.547	6.78	0.994	0.996	14	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethylbenzene	1	0	Avg	1.9349	2.0525	2.5132	1.9599	2.4383	2.7262	1.8905	2.9938	----	2.31	6.39	0.963	0.993	18	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1,2,2-Tetrachloroeth	1	0	Avg	0.7210	0.8888	1.1081	0.7034	0.7127	0.7650	0.6570	----	----	0.794	7.00	0.994	0.999	20	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromofluorobenzene	1	0	Avg	0.8713	0.8126	0.8598	0.8784	0.8513	1.0214	0.9570	0.8229	0.8379	0.879	6.94	-1	-1	7.7		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Styrene	1	0	Avg	3.2097	3.3073	3.4640	3.4512	3.9728	4.4071	3.5374	----	----	3.62	6.66	0.986	0.997	12	0.30	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
m&p-Xylenes	1	0	Avg	2.5808	2.6654	2.8194	2.6178	3.0702	3.3541	2.5448	4.2092	3.8700	3.08	6.44	0.981	0.996	20	0.10	40.00	10.00	4.00	100.0	200.0	500.0	1000.	2.00	1.00
o-Xylene	1	0	Avg	2.2947	2.3327	2.5953	2.2911	2.6847	2.9618	2.3058	3.7432	----	2.65	6.66	0.983	0.997	19	0.30	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
trans-1,4-Dichloro-2-b	1	0	Avg	1.0968	1.1082	1.1584	0.9954	1.1921	1.2485	1.0246	----	----	1.12	7.00	0.989	0.998	8.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3-Dichlorobenzene	1	0	Avg	2.8489	3.1830	3.7342	2.8214	3.0918	2.9791	2.7711	----	----	3.06	7.54	0.998	1.00	11	0.60	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dichlorobenzene	1	0	Avg	2.6564	3.0420	3.7248	2.6183	2.8438	2.7935	2.6359	----	----	2.90	7.59	0.999	1.00	14	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichlorobenzene	1	0	Avg	2.1727	2.4036	2.3665	2.1265	2.2590	2.2241	2.1919	----	----	2.25	7.81	1.00	1.00	4.5	0.40	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Isopropylbenzene	1	0	Avg	7.5749	7.8566	8.6469	7.9080	9.3649	10.503	7.8148	12.287	----	8.99	6.84	0.976	0.995	18	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Cyclohexanone	1	0	Avg	0.0906	0.1181	0.1366	0.0936	0.1150	0.1218	0.0955	----	----	0.110	7.00	0.983	0.997	16		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Camphene	1	0	Avg	4.2415	4.2962	4.8482	4.4280	5.4963	5.9631	4.4777	----	----	4.82	7.00	0.976	0.996	14		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,3-Trichloropropane	1	0	Avg	0.9349	0.9589	1.3388	0.9421	0.9915	1.1117	0.9781	----	----	1.04	7.03	0.996	0.998	14		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chlorotoluene	1	0	Avg	5.7267	5.8593	6.3699	5.2714	6.0729	5.7292	5.1714	----	----	5.74	7.13	0.997	1.00	7.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0		

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 12.5
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.

7100429 0070

BZ - 178

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
1	6M58204.D	CAL @ 20 PPB	09/07/17 07:18	2	6M58203.D	CAL @ 5 PPB	09/07/17 07:01
3	6M58202.D	CAL @ 2 PPB	09/07/17 06:45	4	6M58206.D	CAL @ 50 PPB	09/07/17 07:51
5	6M58212.D	CAL @ 100 PPB	09/07/17 09:31	6	6M58210.D	CAL @ 250 PPB	09/07/17 08:58
7	6M58208.D	CAL @ 500 PPB	09/07/17 08:25	8	6M58201.D	CAL @ 1 PPB	09/07/17 06:28
9	6M58200.D	CAL @ 0.5 PPB	09/07/17 06:11				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
p-Ethyltoluene	1	0	Avg	8.3057	8.4325	9.2306	8.3989	9.6699	9.2599	8.0542	----	----	8.76	7.12	0.994	1.00	7.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Chlorotoluene	1	0	Avg	4.6568	4.5643	5.6493	5.1257	5.4221	5.2224	5.1605	----	----	5.24	7.19	1.00	1.00	6.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Propylbenzene	1	0	Avg	9.6266	10.020	11.144	9.8545	11.709	11.700	8.7871	13.364	----	10.8	7.06	0.977	0.998	14		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Bromobenzene	1	0	Avg	3.2378	3.5793	3.7149	3.1082	3.4030	3.7082	3.2631	----	----	3.43	7.04	0.996	0.999	7.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3,5-Trimethylbenzen	1	0	Avg	6.1813	6.6712	7.1546	6.4763	7.1088	6.5669	5.8401	9.1803	----	6.90	7.15	0.996	1.00	15		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Butyl methacrylate	1	0	Avg	1.8301	1.6302	2.0508	1.8511	2.0833	2.0762	2.0771	----	----	1.94	7.16	1.00	1.00	9.1	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
t-Butylbenzene	1	0	Avg	5.5780	5.9066	6.4134	6.0816	7.0553	6.6183	6.0290	8.4928	----	6.52	7.34	0.997	1.00	14		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,2,4-Trimethylbenzen	1	0	Avg	6.0862	6.4055	6.5033	6.2198	7.0171	6.6303	6.1509	9.3944	----	6.80	7.36	0.998	1.00	16		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
sec-Butylbenzene	1	0	Avg	8.2784	8.4703	8.7845	8.6620	10.339	9.6921	8.0878	10.845	----	9.15	7.45	0.990	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
4-Isopropyltoluene	1	0	Avg	6.3764	6.5063	6.8248	6.7663	7.7643	7.2045	6.4565	8.1324	----	7.00	7.52	0.996	1.00	9.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
n-Butylbenzene	1	0	Avg	8.5859	9.2774	9.3854	9.1061	10.276	9.6351	8.4520	11.412	----	9.52	7.75	0.995	1.00	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
p-Diethylbenzene	1	0	Avg	3.9941	3.8505	3.9646	4.3071	4.8018	4.5481	4.0465	----	----	4.22	7.74	0.996	1.00	8.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4,5-Tetramethylbe	1	0	Avg	4.1160	4.3912	4.5243	4.6022	5.1245	5.2238	4.9187	----	----	4.70	8.19	0.999	1.00	8.6		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromo-3-Chloro	1	0	Avg	0.0807	0.0704	0.0983	0.0763	0.0700	0.0854	0.0944	----	----	0.0822	8.25	0.996	1.00	14	0.05	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Camphor	1	0	Avg	0.0159	0.0172	0.0171	0.0142	0.0180	0.0191	0.0219	----	----	0.0177	8.67	0.996	1.00	14		200.0	50.00	20.00	500.0	1000.	2500.	5000.		
Hexachlorobutadiene	1	0	Avg	1.3338	1.5418	2.2860	1.4181	1.6495	1.6728	1.5093	----	----	1.63	8.81	0.997	0.999	19		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4-Trichlorobenzen	1	0	Avg	1.1332	1.0844	1.3321	1.1534	1.2257	1.2600	1.2406	----	----	1.20	8.72	1.00	1.00	7.1	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,3-Trichlorobenzen	1	0	Avg	0.7929	0.9783	0.9256	0.7811	0.8138	0.8272	0.8253	----	----	0.849	9.02	1.00	1.00	8.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Naphthalene	1	0	Avg	0.8774	1.0627	1.1434	0.9209	1.0636	1.0073	1.0664	1.1192	----	1.03	8.88	0.999	1.00	9.0		20.00	5.00	2.00	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: 12.5
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.

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Method: [illegible]A 8260C

Form 6
Initial Calibration

Instrument: G[illegible]6

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M59485.D	CAL @ 20 PPB	10/05/17 11:23	2	6M59484.D	CAL @ 5 PPB	10/05/17 11:06
3	6M59483.D	CAL @ 2 PPB	10/05/17 10:50	4	6M59492.D	CAL @ 50 PPB	10/05/17 13:20
5	6M59490.D	CAL @ 100 PPB	10/05/17 12:46	6	6M59488.D	CAL @ 250 PPB	10/05/17 12:13
7	6M59486.D	CAL @ 500 PPB	10/05/17 11:40	8	6M59482.D	CAL @ 1 PPB	10/05/17 10:33
9	6M59481.D	CAL @ 0.5 PPB	10/05/17 10:16				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Chlorodifluoromethane	1	0	Avg	1.0566	1.2411	1.2610	1.1011	1.1310	1.1876	1.2222	----	----	1.17	1.43	1.00	1.00	6.6	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dichlorodifluorometha	1	0	Avg	0.6349	0.6722	0.7683	0.6028	0.6605	0.6926	0.6644	----	----	0.671	1.43	0.999	1.00	7.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloromethane	1	0	Avg	0.6302	0.6676	0.8399	0.6176	0.6293	0.6553	0.6659	----	----	0.672	1.58	1.00	1.00	11	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromomethane	1	0	Avg	0.3937	0.4720	0.4380	0.3636	0.3946	0.4295	0.3799	----	----	0.410	1.96	0.996	0.999	9.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Chloride	1	0	Avg	0.5343	0.6221	0.6130	0.5248	0.5579	0.6011	0.5664	----	----	0.574	1.68	0.999	0.999	6.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroethane	1	0	Avg	0.3984	0.3977	0.5416	0.3780	0.3961	0.4206	0.4214	----	----	0.422	2.05	1.00	1.00	13	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichlorofluoromethan	1	0	Avg	1.2094	1.3160	1.5477	1.1306	1.2311	1.2921	1.3317	----	----	1.29	2.26	1.00	1.00	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl ether	1	0	Avg	0.2401	0.2157	0.2950	0.2311	0.2556	0.2692	0.2435	----	----	0.250	2.49	0.997	0.999	10	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Furan	1	0	Avg	1.3143	1.3343	1.5217	1.2855	1.4340	1.5385	1.3840	----	----	1.40	2.52	0.997	0.999	7.1	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,2-Trichloro-1,2,2-tr	1	0	Avg	0.6308	0.6826	0.7670	0.6134	0.6624	0.6861	0.6702	----	----	0.673	2.68	1.00	1.00	7.3	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methylene Chloride	1	0	Avg	0.4287	0.4883	0.4897	0.3775	0.4137	0.4478	0.4128	----	----	0.437	3.07	0.998	0.999	9.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acrolein	1	0	Avg	0.0221	0.0247	0.0117	0.0201	0.0210	0.0225	0.0196	----	----	0.0203	2.60	0.995	0.999	20		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Acrylonitrile	1	0	Avg	0.0474	0.0496	0.0633	0.0493	0.0493	0.0531	0.0459	----	----	0.0512	3.27	0.995	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iodomethane	1	0	Avg	0.5874	0.5846	0.6857	0.5244	0.6126	0.6843	0.5617	----	----	0.606	2.82	0.989	0.997	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acetone	1	0	Avg	0.0530	0.0711	0.0548	0.0471	0.0456	0.0504	0.0436	----	----	0.0523	2.72	0.995	0.999	18	0.10 a	100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Carbon Disulfide	1	0	Avg	1.1196	1.2064	1.4516	1.1282	1.2244	1.3428	1.3593	----	----	1.26	2.88	1.00	1.00	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
t-Butyl Alcohol	1	0	Qua	0.0087	0.0085	0.0041	0.0083	0.0077	0.0086	0.0067	----	----	0.00757	3.12	0.982	0.997	22		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
n-Hexane	1	0	Avg	0.7751	0.7603	0.8779	0.8499	0.9517	1.0399	0.9550	----	----	0.887	3.52	0.998	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Di-isopropyl-ether	1	0	Avg	1.3459	1.3062	1.5930	1.4186	1.5003	1.6349	1.6106	----	----	1.49	3.67	1.00	1.00	8.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1-Dichloroethene	1	0	Avg	1.0987	1.1473	1.5076	1.1029	1.2101	1.2412	1.2188	----	----	1.22	2.69	1.00	1.00	11	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl Acetate	1	0	Qua	0.2116	0.2535	0.3239	0.1855	0.1912	0.1851	0.1754	----	----	0.218	2.97	0.999	1.00	25	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl-t-butyl ether	1	0	Avg	0.4638	0.4974	0.6577	0.4626	0.4862	0.5434	0.5227	0.6776	----	0.539	3.28	0.999	0.999	16	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1-Dichloroethane	1	0	Avg	1.0559	1.0968	1.1051	0.9844	1.0736	1.1443	1.0972	----	----	1.08	3.64	0.999	1.00	4.6	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,2-Dichloroethe	1	0	Avg	0.5741	0.5597	0.5989	0.5564	0.6118	0.6642	0.6449	----	----	0.601	3.30	0.999	1.00	6.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl-t-butyl ether	1	0	Avg	0.8326	0.8366	0.8315	0.8955	0.9476	1.0490	0.9581	----	----	0.907	3.94	0.998	0.999	9.1	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,2-Dichloroethene	1	0	Avg	1.0378	1.1110	1.0898	1.0007	1.0670	1.1290	1.1206	----	----	1.08	4.07	1.00	1.00	4.4	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromochloromethane	1	0	Avg	0.4471	0.4616	0.6432	0.4162	0.4277	0.4568	0.4500	----	----	0.472	4.23	1.00	1.00	16		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2,2-Dichloropropane	1	0	Avg	0.8611	0.9457	0.9519	0.8353	0.9380	1.0691	1.0540	----	----	0.951	4.08	0.999	0.999	9.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl acetate	1	0	Qua	0.1808	0.1656	0.2983	0.1615	0.1700	0.1930	0.1569	----	----	0.189	4.10	0.989	0.997	26		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dioxane	1	0	Avg	0.0011	0.0018	0.0013	0.0014	0.0013	0.0017	0.0012	----	----	0.00146	5.13	0.968	0.990	17		1000.	250.0	100.0	2500.	5000.	1250	2500		
1,1-Dichloropropene	1	0	Avg	0.9710	1.0164	1.0570	1.0161	1.0833	1.1580	1.0921	----	----	1.06	4.49	0.999	1.00	5.8		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroform	1	0	Avg	0.9967	1.0807	1.2826	0.9240	1.0104	1.0644	1.0093	----	----	1.05	4.27	0.999	1.00	11	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromofluoromethan	1	0	Avg	0.2698	0.2527	0.2694	0.2354	0.2266	0.2409	0.2112	0.2769	0.2637	0.250	4.37	-1	-1	9.0		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Cyclohexane	1	0	Avg	1.0781	1.1157	1.1763	1.1630	1.3208	1.4273	1.2635	----	----	1.22	4.42	0.996	0.999	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloroethane-d4	1	0	Avg	0.1175	0.1163	0.1150	0.1092	0.1131	0.1007	0.0969	0.1145	0.1147	0.111	4.57	-1	-1	6.5		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
1,2-Dichloroethane	1	0	Avg	0.5978	0.6339	0.7642	0.5457	0.5879	0.6073	0.5508	----	----	0.613	4.61	0.998	1.00	12	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Butanone	1	0	Avg	0.0696	0.0920	0.0535	0.0809	0.0813	0.0783	0.0857	----	----	0.0774	4.08	0.998	1.00	16	0.10 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,1-Trichloroethane	1	0	Avg	1.1179	1.1860	1.2478	1.0601	1.1493	1.2506	1.1946	----	----	1.17	4.39	0.999	0.999	5.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Carbon Tetrachloride	1	0	Avg	0.9695	1.0487	1.0346	0.8982	1.0303	1.0629	0.8948	----	----	0.991	4.49	0.992	0.999	7.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Acetate	1	0	Avg	0.1878	0.2021	0.2547	0.1653	0.1705	0.1900	0.1746	----	----	0.192	3.28	0.998	0.999	16		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromodichloromethan	1	0	Avg	0.5616	0.5718	0.6086	0.5281	0.5593	0.6260	0.5805	----	----	0.577	5.21	0.998	0.999	5.7	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 11.8
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.

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HAZ - 180

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
1	6M59485.D	CAL @ 20 PPB	10/05/17 11:23	2	6M59484.D	CAL @ 5 PPB	10/05/17 11:06
3	6M59483.D	CAL @ 2 PPB	10/05/17 10:50	4	6M59492.D	CAL @ 50 PPB	10/05/17 13:20
5	6M59490.D	CAL @ 100 PPB	10/05/17 12:46	6	6M59488.D	CAL @ 250 PPB	10/05/17 12:13
7	6M59486.D	CAL @ 500 PPB	10/05/17 11:40	8	6M59482.D	CAL @ 1 PPB	10/05/17 10:33
9	6M59481.D	CAL @ 0.5 PPB	10/05/17 10:16				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Methylcyclohexane	1	0	Avg	0.9424	0.9642	1.0158	0.9998	1.1549	1.2272	1.1337	----	----	1.06	5.05	0.998	0.999	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromomethane	1	0	Avg	0.2240	0.2123	0.2873	0.1988	0.1953	0.2123	0.1967	----	----	0.218	5.14	0.999	0.999	15		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloropropane	1	0	Avg	0.4120	0.4592	0.5049	0.4143	0.4407	0.4698	0.4489	----	----	0.450	5.07	0.999	1.00	7.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichloroethene	1	0	Avg	0.6247	0.6577	0.5761	0.5105	0.6455	0.6957	0.4969	----	----	0.601	4.95	0.967	0.995	13	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Benzene	1	0	Avg	1.9761	2.0095	2.3195	1.8829	2.1045	2.2715	1.8411	2.5139	----	2.11	4.61	0.989	0.998	11	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
tert-Amyl methyl ether	1	0	Avg	0.4892	0.4811	0.5081	0.4874	0.5424	0.6111	0.5965	----	----	0.531	4.65	0.999	0.999	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iso-propylacetate	1	0	Avg	0.5728	0.6443	0.7311	0.6672	0.6582	0.7216	0.8009	----	----	0.685	4.61	0.997	1.00	11	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl methacrylate	1	0	Avg	0.4178	0.3523	0.5295	0.4095	0.3865	0.4303	0.4864	----	----	0.430	5.10	0.996	1.00	14	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromochloromethan	1	0	Avg	0.5358	0.5398	0.6263	0.5050	0.5801	0.6151	0.5826	----	----	0.569	6.02	0.999	0.999	7.8	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chloroethylvinylethe	1	0	Avg	0.1521	0.1363	0.1716	0.1537	0.1637	0.1837	0.2252	----	----	0.170	5.34	0.991	1.00	17		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,3-Dichloropropen	1	0	Qua	0.8710	0.7202	0.7590	0.9272	0.9698	1.1059	1.3258	----	----	0.954	5.43	0.993	1.00	22	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,3-Dichloroprop	1	0	Qua	0.5538	0.6492	0.5530	0.6349	0.6620	0.7756	0.9751	----	----	0.686	5.71	0.989	1.00	22	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl methacrylate	1	0	Avg	0.4109	0.4433	0.4338	0.5036	0.5003	0.5426	0.6141	----	----	0.493	5.72	0.996	1.00	14	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,2-Trichloroethane	1	0	Avg	0.3607	0.4453	0.4022	0.3668	0.3587	0.3698	0.4274	----	----	0.390	5.81	0.995	1.00	9.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromoethane	1	0	Qua	0.3675	0.4157	0.3974	0.3274	0.3595	0.3767	0.3751	0.5044	0.8528	0.442	6.09	1.00	1.00	37	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	0.50
1,3-Dichloropropane	1	0	Avg	0.7040	0.6692	0.6314	0.7275	0.7134	0.7190	0.8032	----	----	0.710	5.90	0.997	1.00	7.5		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Methyl-2-Pentanone	1	0	Avg	0.2329	0.3032	0.3601	0.2632	0.2713	0.2988	0.3349	----	----	0.295	5.50	0.997	1.00	15	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Hexanone	1	0	Avg	0.1566	0.1442	0.2298	0.1849	0.1805	0.1911	0.2107	----	----	0.185	5.91	0.998	1.00	16	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Tetrachloroethene	1	0	Avg	1.0349	1.1921	1.1731	1.0995	1.0972	1.0899	1.1255	----	----	1.12	5.89	1.00	1.00	4.8	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Toluene-d8	1	0	Avg	1.6245	1.6839	1.5332	1.7843	1.6715	1.6279	1.8989	1.5277	1.5595	1.66	5.57	-1	-1	7.4		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Toluene	1	0	Avg	2.0861	2.2331	2.2382	2.2777	2.3651	2.3780	2.4887	3.1858	----	2.41	5.61	1.00	1.00	14	0.40	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1,1,2-Tetrachloroeth	1	0	Avg	0.6591	0.6533	0.7270	0.6466	0.6930	0.6831	0.6685	----	----	0.676	6.37	1.00	1.00	4.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chlorobenzene	1	0	Avg	1.8931	2.0194	2.1773	2.1004	2.0425	2.1268	2.4459	----	----	2.12	6.34	0.996	1.00	8.1	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Butyl acrylate	1	0	Qua	1.0705	0.9551	0.8757	1.3497	1.3838	1.6545	1.5238	----	----	1.26	6.58	0.998	0.998	23	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Amyl acetate	1	0	Avg	0.9215	0.7629	0.9200	1.2157	1.1256	1.2949	1.2317	----	----	1.07	6.69	0.999	0.999	19	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromoform	1	0	Avg	0.5463	0.5861	0.6663	0.6086	0.5678	0.6306	0.5883	----	----	0.599	6.77	0.999	0.999	6.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethylbenzene	1	0	Avg	2.0692	2.4497	2.3787	2.2298	2.4210	2.3269	1.7051	2.8806	----	2.31	6.38	0.972	0.999	15	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1,2,2-Tetrachloroeth	1	0	Avg	0.6580	0.7282	0.9453	0.7109	0.6328	0.6447	0.5683	----	----	0.698	6.99	0.996	1.00	17	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromofluorobenzene	1	0	Avg	0.9287	0.8785	0.8790	1.0889	0.9057	0.9177	0.9396	0.9487	0.9102	0.933	6.93	-1	-1	6.8		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Styrene	1	0	Avg	3.4875	3.3597	3.1723	4.3456	4.0545	4.1425	3.5625	----	----	3.73	6.65	0.994	1.00	12	0.30	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
m&p-Xylenes	1	0	Qua	2.9158	2.5731	3.0370	3.3039	3.1787	3.1386	2.3095	3.1038	4.7986	3.15	6.44	0.974	0.999	22	0.10	40.00	10.00	4.00	100.0	200.0	500.0	1000.	2.00	1.00
o-Xylene	1	0	Avg	2.4962	2.3538	2.2049	2.8529	2.7791	2.7984	2.0188	2.1909	----	2.46	6.65	0.970	0.998	13	0.30	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
trans-1,4-Dichloro-2-b	1	0	Avg	1.1075	1.1672	0.9110	1.3149	1.1635	1.1980	1.0924	----	----	1.14	6.99	0.998	1.00	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3-Dichlorobenzene	1	0	Avg	2.8995	2.9671	3.4132	2.8384	3.0227	3.1290	2.7237	----	----	3.00	7.54	0.995	0.999	7.5	0.60	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dichlorobenzene	1	0	Avg	2.5630	2.9646	2.9094	2.6221	2.7760	2.9109	2.7169	----	----	2.78	7.58	0.999	1.00	5.6	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichlorobenzene	1	0	Avg	2.0976	2.2501	2.3572	1.9336	2.0873	2.3225	2.0902	----	----	2.16	7.80	0.997	0.999	7.0	0.40	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Isopropylbenzene	1	0	Avg	8.1839	7.9634	8.2085	9.7792	9.4806	9.8895	7.9952	9.4321	----	8.87	6.83	0.988	0.999	9.6	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Cyclohexanone	1	0	Avg	0.0940	0.1039	0.1430	0.1137	0.1142	0.1160	0.0995	----	----	0.112	6.99	0.994	0.999	14		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Camphene	1	0	Avg	4.6474	4.9283	5.0726	5.9116	5.5137	5.5576	4.7201	----	----	5.19	6.99	0.993	1.00	9.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,3-Trichloropropane	1	0	Avg	1.0655	1.0280	1.1540	1.1215	0.9517	1.0253	1.0332	----	----	1.05	7.02	1.00	1.00	6.4		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chlorotoluene	1	0	Avg	5.8118	6.3321	5.0300	6.6055	6.3580	6.2277	5.5407	----	----	5.99	7.12	0.996	1.00	9.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0		

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 11.8
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.

7100429 0073

19Z - 181

Method: EPA 8260C

Form 6
Initial Calibration

Instrument: GCM

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M59485.D	CAL @ 20 PPB	10/05/17 11:23	2	6M59484.D	CAL @ 5 PPB	10/05/17 11:06
3	6M59483.D	CAL @ 2 PPB	10/05/17 10:50	4	6M59492.D	CAL @ 50 PPB	10/05/17 13:20
5	6M59490.D	CAL @ 100 PPB	10/05/17 12:46	6	6M59488.D	CAL @ 250 PPB	10/05/17 12:13
7	6M59486.D	CAL @ 500 PPB	10/05/17 11:40	8	6M59482.D	CAL @ 1 PPB	10/05/17 10:33
9	6M59481.D	CAL @ 0.5 PPB	10/05/17 10:16				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
p-Ethyltoluene	1	0	Avg	8.8665	8.6500	8.4608	10.688	9.9141	10.013	8.0315	----	----	9.23	7.11	0.986	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Chlorotoluene	1	0	Avg	5.2694	5.4840	5.4667	6.1750	5.7326	5.8028	5.2309	----	----	5.59	7.18	0.997	1.00	6.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Propylbenzene	1	0	Avg	10.232	10.493	9.3267	12.330	11.711	12.145	9.1773	12.233	----	11.0	7.06	0.979	0.998	12		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Bromobenzene	1	0	Avg	3.4195	3.5178	4.1382	3.7131	3.3611	3.5848	3.4910	----	----	3.60	7.02	1.00	1.00	7.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3,5-Trimethylbenzen	1	0	Avg	6.3629	6.3006	5.1842	7.1528	7.0420	6.9447	5.4128	6.8169	----	6.40	7.14	0.983	0.999	12		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Butyl methacrylate	1	0	Avg	1.7828	1.8132	2.0285	2.0598	2.0178	2.2508	2.1709	----	----	2.02	7.15	0.999	0.999	8.5	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
t-Butylbenzene	1	0	Avg	6.1347	5.8888	5.9580	6.9631	6.9946	7.1147	6.0643	6.5471	----	6.46	7.33	0.993	0.999	7.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,2,4-Trimethylbenzen	1	0	Avg	6.2960	6.2290	5.4873	6.2664	6.7165	6.8882	5.4237	7.2569	----	6.32	7.35	0.985	0.999	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
sec-Butylbenzene	1	0	Avg	8.2787	8.0660	7.5864	8.9881	9.8618	10.236	7.9908	8.4647	----	8.68	7.45	0.984	0.998	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
4-Isopropyltoluene	1	0	Avg	6.3206	6.4922	5.9516	6.7745	7.3383	7.5264	6.2316	6.7523	----	6.67	7.52	0.991	0.999	8.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
n-Butylbenzene	1	0	Avg	8.5564	8.5323	7.5646	9.3496	9.9347	10.085	8.4391	9.3567	----	8.98	7.75	0.992	0.999	9.5		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
p-Diethylbenzene	1	0	Avg	4.0801	3.8169	3.7851	4.4323	4.9117	4.9307	3.9996	----	----	4.28	7.74	0.988	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4,5-Tetramethylbe	1	0	Avg	4.1114	3.6890	3.8480	4.8416	5.2397	5.8776	4.6733	----	----	4.61	8.18	0.985	0.997	17		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromo-3-Chloro	1	0	Qua	0.0704	0.0794	0.0208	0.0542	0.0722	0.0797	0.0594	----	----	0.0624	8.24	0.975	0.995	33	0.05 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Camphor	1	0	Avg	0.0131	0.0182	0.0161	0.0180	0.0195	0.0240	0.0202	----	----	0.0185	8.66	0.991	0.996	18		200.0	50.00	20.00	500.0	1000.	2500.	5000.		
Hexachlorobutadiene	1	0	Avg	1.4609	1.5825	1.5853	1.4569	1.4811	1.6299	1.5092	----	----	1.53	8.80	0.998	0.999	4.5		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4-Trichlorobenzen	1	0	Qua	0.9598	1.0406	1.0582	0.9652	1.0676	1.2188	1.0094	----	1.7273	1.13	8.72	0.991	0.997	22	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		0.50
1,2,3-Trichlorobenzen	1	0	Qua	0.6025	0.7805	0.6586	0.6191	0.6691	0.7415	0.5533	----	1.2013	0.728	9.02	0.977	0.996	28		20.00	5.00	2.00	50.00	100.0	250.0	500.0		0.50
Naphthalene	1	0	Avg	0.7063	0.6616	0.7128	0.7452	0.8676	0.9193	0.7798	1.1396	----	0.817	8.88	0.993	0.998	19		20.00	5.00	2.00	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: 11.8
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.

7100429 0074
HAZ 182

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB **Data File:** 6M59280.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/29/2017 3:22:00 P Method: EPA 8260C

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.75	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.43	40.96	50	20	0.1	1.166	0.955	18.07	
Dichlorodifluoromethane	1	0		1.43	46.74	50	20	0.1	0.743	0.695	6.52	
Chloromethane	1	0		1.59	59.59	50	20	0.1	0.599	0.714	19.18	
Bromomethane	1	0		1.96	62.14	50	20	0.1	0.378	0.470	24.28	C1
Vinyl Chloride	1	0		1.68	60.61	50	20	0.1	0.521	0.632	21.22	C1
Chloroethane	1	0		2.05	59.46	50	20	0.1	0.386	0.459	18.92	
Trichlorofluoromethane	1	0		2.27	71.28	50	20	0.1	0.546	0.779	42.56	C1
Ethyl ether	1	0		2.49	51.03	50	20	0.5	0.223	0.227	2.05	
Furan	1	0		2.53	63.00	50	20	0.5	1.206	1.519	25.99	C1
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		2.69	60.01	50	20	0.1	0.617	0.741	20.03	
Methylene Chloride	1	0		3.08	57.86	50	20	0.1	0.391	0.453	15.72	
Acrolein	1	0		2.60	274.56	250	20		0.017	0.021	9.83	
Acrylonitrile	1	0		3.28	58.22	50	20		0.044	0.051	16.44	
Iodomethane	1	0		2.82	65.30	50	20		0.579	0.756	30.61	C1
Acetone	1	0		2.72	363.31	250	20	0.1	0.040	0.058	45.32	C1
Carbon Disulfide	1	0		2.89	61.07	50	20	0.1	1.299	1.587	22.13	C1
t-Butyl Alcohol	1	0		3.13	219.31	250	20		0.008	0.007	12.28	
n-Hexane	1	0		3.52	58.36	50	20		0.865	1.009	16.72	
Di-isopropyl-ether	1	0		3.68	53.90	50	20		1.360	1.466	7.80	
1,1-Dichloroethene	1	0		2.69	67.26	50	20	0.1	1.002	1.348	34.53	C1
Methyl Acetate	1	0		2.98	51.43	50	20	0.1	0.200	0.172	2.86	
Methyl-t-butyl ether	1	0		3.28	45.97	50	20	0.1	0.512	0.471	8.06	
1,1-Dichloroethane	1	0		3.65	61.79	50	20	0.2	0.932	1.151	23.58	C1
trans-1,2-Dichloroethene	1	0		3.30	59.97	50	20	0.1	0.538	0.645	19.93	
Ethyl-t-butyl ether	1	0		3.95	48.28	50	20	0.5	0.923	0.891	3.45	
cis-1,2-Dichloroethene	1	0		4.08	59.92	50	20	0.1	0.941	1.128	19.85	
Bromochloromethane	1	0		4.23	40.83	50	20		0.347	0.283	18.35	
2,2-Dichloropropane	1	0		4.08	57.95	50	20		0.867	1.005	15.89	
Ethyl acetate	1	0		4.10	55.28	50	20		0.146	0.161	10.57	
1,4-Dioxane	1	0		5.13	2198.13	2500	20		0.001	0.001	12.07	
1,1-Dichloropropene	1	0		4.49	63.52	50	20		0.913	1.160	27.05	C1
Chloroform	1	0		4.28	58.20	50	20	0.2	0.966	1.124	16.41	
Dibromofluoromethane	1	0	S	4.37	29.78	75	**		0.248	0.246	0.72	
Cyclohexane	1	0		4.43	56.81	50	20	0.1	1.193	1.355	13.63	
1,2-Dichloroethane-d4	1	0	S	4.58	30.87	75	**		0.114	0.118	2.89	
1,2-Dichloroethane	1	0		4.62	58.77	50	20	0.1	0.557	0.654	17.54	
2-Butanone	1	0		4.08	60.01	50	20	0.1	0.077	0.093	20.01	
1,1,1-Trichloroethane	1	0		4.40	62.29	50	20	0.1	1.030	1.283	24.58	C1
Carbon Tetrachloride	1	0		4.49	65.78	50	20	0.1	0.909	1.196	31.56	C1
Vinyl Acetate	1	0		3.29	46.99	50	20		0.182	0.171	6.02	
Bromodichloromethane	1	0		5.21	55.47	50	20	0.2	0.565	0.627	10.93	
Methylcyclohexane	1	0		5.06	59.29	50	20	0.1	1.002	1.188	18.57	
Dibromomethane	1	0		5.14	59.00	50	20		0.179	0.211	18.01	
1,2-Dichloropropane	1	0		5.07	53.72	50	20	0.1	0.445	0.478	7.43	
Trichloroethene	1	0		4.95	57.75	50	20	0.2	0.600	0.693	15.50	
Benzene	1	0		4.61	55.11	50	20	0.5	1.947	2.146	10.22	
tert-Amyl methyl ether	1	0		4.65	43.34	50	20		0.572	0.495	13.31	
Chlorobenzene-d5	1	0	I	6.32	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.61	48.78	50	20	0.5	0.637	0.621	2.44	
Methyl methacrylate	1	0		5.10	58.06	50	20	0.5	0.358	0.416	16.12	
Dibromochloromethane	1	0		6.03	59.96	50	20	0.1	0.508	0.609	19.93	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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 @ 50 PPB **Data File:** 6M59280.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/29/2017 3:22:00 P **Method:** EPA 8260C

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.34	46.83	50	20		0.162	0.151	6.34	
cis-1,3-Dichloropropene	1	0		5.44	57.64	50	20	0.2	0.916	1.056	15.29	
trans-1,3-Dichloropropene	1	0		5.71	58.47	50	20	0.1	0.654	0.765	16.94	
Ethyl methacrylate	1	0		5.73	57.87	50	20	0.5	0.441	0.511	15.74	
1,1,2-Trichloroethane	1	0		5.81	54.06	50	20	0.1	0.360	0.389	8.12	
1,2-Dibromoethane	1	0		6.10	57.52	50	20	0.1	0.385	0.358	15.04	
1,3-Dichloropropane	1	0		5.90	55.82	50	20		0.668	0.746	11.65	
4-Methyl-2-Pentanone	1	0		5.50	55.85	50	20	0.1	0.265	0.296	11.70	
2-Hexanone	1	0		5.92	54.51	50	20	0.1	0.168	0.184	9.02	
Tetrachloroethene	1	0		5.89	65.61	50	20	0.2	0.914	1.199	31.22	C1
Toluene-d8	1	0	S	5.58	32.58	75	**		1.629	1.769	8.62	
Toluene	1	0		5.61	59.82	50	20	0.4	2.206	2.529	19.64	
1,1,1,2-Tetrachloroethane	1	0		6.38	59.76	50	20		0.599	0.716	19.53	
Chlorobenzene	1	0		6.34	56.94	50	20	0.5	1.937	2.206	13.88	
1,4-Dichlorobenzene-d4	1	0	I	7.57	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		6.58	48.30	50	20	0.5	1.347	1.301	3.39	
n-Amyl acetate	1	0		6.69	51.37	50	20	0.5	1.113	1.143	2.74	
Bromoform	1	0		6.78	59.38	50	20	0.1	0.547	0.650	18.75	
Ethylbenzene	1	0		6.38	55.87	50	20	0.1	2.314	2.585	11.74	
1,1,2,2-Tetrachloroethane	1	0		6.99	51.64	50	20	0.1	0.794	0.820	3.28	
Bromofluorobenzene	1	0	S	6.94	31.88	75	**		0.879	0.934	6.27	
Styrene	1	0		6.66	59.32	50	20	0.3	3.621	4.296	18.64	
m&p-Xylenes	1	0		6.44	111.16	100	20	0.1	3.081	3.425	11.16	
o-Xylene	1	0		6.65	56.11	50	20	0.3	2.651	2.975	12.23	
trans-1,4-Dichloro-2-butene	1	0		7.00	59.37	50	20		1.118	1.327	18.73	
1,3-Dichlorobenzene	1	0		7.54	57.73	50	20	0.6	3.061	3.535	15.47	
1,4-Dichlorobenzene	1	0		7.59	54.95	50	20	0.5	2.902	3.189	9.90	
1,2-Dichlorobenzene	1	0		7.80	57.70	50	20	0.4	2.249	2.596	15.41	
Isopropylbenzene	1	0		6.84	57.11	50	20	0.1	8.995	10.273	14.22	
Cyclohexanone	1	0		7.00	308.98	250	20		0.110	0.136	23.59	C1
Camphene	1	0		7.00	62.86	50	20		4.822	6.062	25.72	C1
1,2,3-Trichloropropane	1	0		7.03	53.56	50	20		1.037	1.110	7.12	
2-Chlorotoluene	1	0		7.12	59.75	50	20		5.743	6.863	19.50	
p-Ethyltoluene	1	0		7.12	61.04	50	20		8.765	10.700	22.08	C1
4-Chlorotoluene	1	0		7.18	60.36	50	20		5.243	6.329	20.72	C1
n-Propylbenzene	1	0		7.06	58.08	50	20		10.776	12.517	16.16	
Bromobenzene	1	0		7.03	56.54	50	20		3.431	3.879	13.07	
1,3,5-Trimethylbenzene	1	0		7.14	57.88	50	20		6.897	7.984	15.76	
Butyl methacrylate	1	0		7.15	55.60	50	20	0.5	1.943	2.160	11.20	
t-Butylbenzene	1	0		7.33	57.98	50	20		6.522	7.563	15.96	
1,2,4-Trimethylbenzene	1	0		7.36	55.75	50	20		6.801	7.584	11.51	
sec-Butylbenzene	1	0		7.45	59.28	50	20		9.145	10.842	18.56	
4-Isopropyltoluene	1	0		7.52	59.56	50	20		7.004	8.343	19.12	
n-Butylbenzene	1	0		7.75	60.04	50	20		9.517	11.428	20.09	
p-Diethylbenzene	1	0		7.74	61.72	50	20		4.216	5.205	23.44	C1
1,2,4,5-Tetramethylbenzene	1	0		8.18	59.81	50	20		4.700	5.622	19.62	
1,2-Dibromo-3-Chloropropane	1	0		8.24	53.72	50	20	0.05	0.082	0.088	7.44	
Camphor	1	0		8.66	593.25	500	20		0.018	0.021	18.65	
Hexachlorobutadiene	1	0		8.80	53.06	50	20		1.630	1.730	6.13	
1,2,4-Trichlorobenzene	1	0		8.72	51.88	50	20	0.2	1.204	1.250	3.76	
1,2,3-Trichlorobenzene	1	0		9.02	51.93	50	20		0.849	0.882	3.85	
Naphthalene	1	0		8.88	49.51	50	20		1.033	1.023	0.98	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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 - 184 **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB **Data File:** 6M59560.D **Instrument:** GCMS 6

Cont Calibration Date/Time 10/6/2017 7:39:00 A Method: EPA 8260C

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.75	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.43	41.86	50	20	0.1	1.172	0.981	16.28	
Dichlorodifluoromethane	1	0		1.43	41.08	50	20	0.1	0.671	0.551	17.83	
Chloromethane	1	0		1.58	46.36	50	20	0.1	0.672	0.623	7.28	
Bromomethane	1	0		1.96	48.94	50	20	0.1	0.410	0.402	2.13	
Vinyl Chloride	1	0		1.68	48.58	50	20	0.1	0.574	0.558	2.83	
Chloroethane	1	0		2.05	48.42	50	20	0.1	0.422	0.409	3.16	
Trichlorofluoromethane	1	0		2.26	46.21	50	20	0.1	1.294	1.196	7.59	
Ethyl ether	1	0		2.48	52.95	50	20	0.5	0.250	0.265	5.90	
Furan	1	0		2.52	52.74	50	20	0.5	1.402	1.479	5.49	
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		2.68	49.22	50	20	0.1	0.673	0.663	1.56	
Methylene Chloride	1	0		3.07	50.28	50	20	0.1	0.437	0.439	0.56	
Acrolein	1	0		2.60	251.73	250	20		0.020	0.020	0.69	
Acrylonitrile	1	0		3.28	52.05	50	20		0.051	0.053	4.11	
Iodomethane	1	0		2.81	53.17	50	20		0.606	0.644	6.34	
Acetone	1	0		2.72	251.49	250	20	0.1	0.052	0.053	0.60	
Carbon Disulfide	1	0		2.87	47.42	50	20	0.1	1.262	1.197	5.17	
t-Butyl Alcohol	1	0		3.13	235.36	250	20		0.008	0.009	5.86	
n-Hexane	1	0		3.52	56.73	50	20		0.887	1.007	13.46	
Di-isopropyl-ether	1	0		3.68	53.74	50	20		1.487	1.598	7.47	
1,1-Dichloroethene	1	0		2.69	48.88	50	20	0.1	1.218	1.191	2.23	
Methyl Acetate	1	0		2.97	47.31	50	20	0.1	0.218	0.182	5.38	
Methyl-t-butyl ether	1	0		3.28	46.49	50	20	0.1	0.539	0.501	7.02	
1,1-Dichloroethane	1	0		3.64	51.61	50	20	0.2	1.080	1.114	3.22	
trans-1,2-Dichloroethene	1	0		3.30	52.95	50	20	0.1	0.601	0.637	5.91	
Ethyl-t-butyl ether	1	0		3.95	54.12	50	20	0.5	0.907	0.982	8.24	
cis-1,2-Dichloroethene	1	0		4.07	52.47	50	20	0.1	1.079	1.133	4.95	
Bromochloromethane	1	0		4.23	31.47	50	20		0.472	0.297	37.05	C1
2,2-Dichloropropane	1	0		4.08	51.45	50	20		0.951	0.978	2.90	
Ethyl acetate	1	0		4.10	43.68	50	20		0.189	0.177	12.64	
1,4-Dioxane	1	0		5.13	2196.56	2500	20		0.001	0.001	12.14	
1,1-Dichloropropene	1	0		4.49	55.81	50	20		1.056	1.179	11.63	
Chloroform	1	0		4.27	50.21	50	20	0.2	1.053	1.057	0.43	
Dibromofluoromethane	1	0	S	4.37	27.91	75	**		0.250	0.232	6.98	
Cyclohexane	1	0		4.43	55.31	50	20	0.1	1.221	1.350	10.63	
1,2-Dichloroethane-d4	1	0	S	4.57	28.59	75	**		0.111	0.106	4.70	
1,2-Dichloroethane	1	0		4.61	51.16	50	20	0.1	0.613	0.627	2.32	
2-Butanone	1	0		4.08	54.94	50	20	0.1	0.077	0.085	9.87	
1,1,1-Trichloroethane	1	0		4.40	50.58	50	20	0.1	1.172	1.186	1.17	
Carbon Tetrachloride	1	0		4.49	51.67	50	20	0.1	0.991	1.025	3.35	
Vinyl Acetate	1	0		3.28	46.79	50	20		0.192	0.180	6.42	
Bromodichloromethane	1	0		5.21	50.30	50	20	0.2	0.577	0.580	0.59	
Methylcyclohexane	1	0		5.05	56.64	50	20	0.1	1.063	1.204	13.27	
Dibromomethane	1	0		5.14	48.77	50	20		0.218	0.213	2.46	
1,2-Dichloropropane	1	0		5.07	50.83	50	20	0.1	0.450	0.458	1.67	
Trichloroethene	1	0		4.95	56.02	50	20	0.2	0.601	0.673	12.04	
Benzene	1	0		4.61	52.84	50	20	0.5	2.115	2.235	5.68	
tert-Amyl methyl ether	1	0		4.65	53.20	50	20		0.531	0.565	6.41	
Chlorobenzene-d5	1	0	I	6.32	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.61	50.77	50	20	0.5	0.685	0.696	1.55	
Methyl methacrylate	1	0		5.10	47.14	50	20	0.5	0.430	0.406	5.72	
Dibromochloromethane	1	0		6.02	50.82	50	20	0.1	0.569	0.579	1.64	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB **Data File:** 6M59560.D **Instrument:** GCMS 6

Cont Calibration Date/Time 10/6/2017 7:39:00 A Method: EPA 8260C

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.34	54.83	50	20		0.170	0.186	9.66	
cis-1,3-Dichloropropene	1	0		5.43	55.23	50	20	0.2	0.954	1.030	10.46	
trans-1,3-Dichloropropene	1	0		5.71	56.33	50	20	0.1	0.686	0.703	12.66	
Ethyl methacrylate	1	0		5.73	55.65	50	20	0.5	0.493	0.548	11.30	
1,1,2-Trichloroethane	1	0		5.81	50.93	50	20	0.1	0.390	0.397	1.86	
1,2-Dibromoethane	1	0		6.09	55.49	50	20	0.1	0.442	0.409	10.98	
1,3-Dichloropropane	1	0		5.90	54.07	50	20		0.710	0.767	8.14	
4-Methyl-2-Pentanone	1	0		5.50	53.36	50	20	0.1	0.295	0.315	6.71	
2-Hexanone	1	0		5.91	53.35	50	20	0.1	0.185	0.198	6.71	
Tetrachloroethene	1	0		5.89	50.00	50	20	0.2	1.116	1.116	0.00	
Toluene-d8	1	0	S	5.57	29.42	75	**		1.657	1.625	1.93	
Toluene	1	0		5.61	52.03	50	20	0.4	2.407	2.504	4.06	
1,1,1,2-Tetrachloroethane	1	0		6.37	52.52	50	20		0.676	0.710	5.04	
Chlorobenzene	1	0		6.34	51.01	50	20	0.5	2.115	2.158	2.03	
1,4-Dichlorobenzene-d4	1	0	I	7.57	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		6.58	49.65	50	20	0.5	1.259	1.596	0.71	
n-Amyl acetate	1	0		6.69	65.38	50	20	0.5	1.068	1.396	30.77	C1
Bromoform	1	0		6.77	51.23	50	20	0.1	0.599	0.614	2.46	
Ethylbenzene	1	0		6.38	58.30	50	20	0.1	2.308	2.691	16.60	
1,1,2,2-Tetrachloroethane	1	0		6.99	55.15	50	20	0.1	0.698	0.770	10.30	
Bromofluorobenzene	1	0	S	6.93	33.74	75	**		0.933	1.049	12.47	
Styrene	1	0		6.65	62.72	50	20	0.3	3.732	4.682	25.44	C1
m&p-Xylenes	1	0		6.44	98.60	100	20	0.1	3.151	3.557	1.40	
o-Xylene	1	0		6.65	64.52	50	20	0.3	2.462	3.177	29.03	C1
trans-1,4-Dichloro-2-butene	1	0		7.00	57.54	50	20		1.136	1.308	15.08	
1,3-Dichlorobenzene	1	0		7.54	56.47	50	20	0.6	2.999	3.388	12.95	
1,4-Dichlorobenzene	1	0		7.58	55.89	50	20	0.5	2.780	3.108	11.78	
1,2-Dichlorobenzene	1	0		7.80	58.09	50	20	0.4	2.163	2.513	16.19	
Isopropylbenzene	1	0		6.83	59.42	50	20	0.1	8.867	10.537	18.84	
Cyclohexanone	1	0		7.00	289.06	250	20		0.112	0.130	15.62	
Camphene	1	0		7.00	59.65	50	20		5.193	6.196	19.31	
1,2,3-Trichloropropane	1	0		7.03	53.27	50	20		1.054	1.123	6.55	
2-Chlorotoluene	1	0		7.12	59.39	50	20		5.987	7.110	18.77	
p-Ethyltoluene	1	0		7.11	59.76	50	20		9.232	11.035	19.53	
4-Chlorotoluene	1	0		7.18	57.59	50	20		5.595	6.443	15.17	
n-Propylbenzene	1	0		7.06	58.95	50	20		10.956	12.917	17.90	
Bromobenzene	1	0		7.03	55.41	50	20		3.604	3.994	10.82	
1,3,5-Trimethylbenzene	1	0		7.14	58.71	50	20		6.402	7.517	17.42	
Butyl methacrylate	1	0		7.15	57.58	50	20	0.5	2.018	2.323	15.15	
t-Butylbenzene	1	0		7.33	59.46	50	20		6.458	7.680	18.91	
1,2,4-Trimethylbenzene	1	0		7.35	59.71	50	20		6.321	7.547	19.41	
sec-Butylbenzene	1	0		7.45	63.95	50	20		8.684	11.108	27.91	C1
4-Isopropyltoluene	1	0		7.52	60.49	50	20		6.673	8.073	20.97	C1
n-Butylbenzene	1	0		7.75	62.44	50	20		8.977	11.211	24.88	C1
p-Diethylbenzene	1	0		7.74	63.13	50	20		4.280	5.403	26.25	C1
1,2,4,5-Tetramethylbenzene	1	0		8.18	64.83	50	20		4.612	5.979	29.66	C1
1,2-Dibromo-3-Chloropropane	1	0		8.24	53.41	50	20	0.05	0.062	0.092	6.81	
Camphor	1	0		8.67	706.45	500	20		0.018	0.026	41.29	C1
Hexachlorobutadiene	1	0		8.80	53.66	50	20		1.529	1.641	7.33	
1,2,4-Trichlorobenzene	1	0		8.72	51.55	50	20	0.2	1.131	1.298	3.11	
1,2,3-Trichlorobenzene	1	0		9.01	52.63	50	20		0.728	0.849	5.27	
Naphthalene	1	0		8.88	75.04	50	20		0.817	1.226	50.09	C1

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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 - 186 **524.2 limits are compared against the %DIFF**

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M58204.D Method: EPA 8260C

Analysis Date/Time: 09/07/17 07:18

Lab File ID: CAL @ 20 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	221245	4.76	122422	6.33	58835	7.57								
Eval File Area Limit:	110622-442490		61211-244844		29418-117670									
Eval File Rt Limit:	4.26-5.26		5.83-6.83		7.07-8.07									

Data File	Sample						
6M58200.D	CAL @ 0.5 PPB	201509	4.76	107609	6.33	46309	7.57
6M58201.D	CAL @ 1 PPB	200880	4.76	109155	6.33	51276	7.57
6M58202.D	CAL @ 2 PPB	215580	4.76	121488	6.33	56120	7.58
6M58203.D	CAL @ 5 PPB	202042	4.76	114052	6.33	54207	7.58
6M58204.D	CAL @ 20 PPB	221245	4.76	122422	6.33	58835	7.57
6M58206.D	CAL @ 50 PPB	265114	4.76	143311	6.33	67986	7.58
6M58208.D	CAL @ 500 PPB	238632	4.77	132837	6.35	57930	7.59
6M58210.D	CAL @ 250 PPB	268404	4.76	143282	6.33	54251	7.57
6M58212.D	CAL @ 100 PPB	242458	4.76	138078	6.33	61562	7.58
6M58216.D	ICV	226291	4.76	124385	6.33	52478	7.58

I1 =	Fluorobenzene	I4 =	I7 =	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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0079

7100429 0080

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59280.D Method: EPA 8260C

Analysis Date/Time: 09/29/17 15:22

Lab File ID: CAL @ 50 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	204126	4.75	102310	6.32	47269	7.57								
Eval File Area Limit:	102063-408252		51155-204620		23634-94538									
Eval File Rt Limit:	4.25-5.25		5.82-6.82		7.07-8.07									

Data File	Sample						
6M59279.D	50 PPB	195382	4.75	100671	6.33	49718	7.57
6M59281.D	BLK	169594	4.75	97228	6.33	35211	7.57
6M59282.D	DAILY BLANK	141998	4.76	64254	6.33	27406	7.57
6M59283.D	BLK	156279	4.76	67692	6.33	29507	7.57
6M59284.D	AD00316-024	135273	4.75	65425	6.33	24273	7.57
6M59285.D	AD00091-025(MS)	187185	4.76	75669	6.33	38463	7.57
6M59286.D	AD00091-025(MSD)	198062	4.76	106201	6.33	44069	7.57
6M59287.D	MBS64313	186666	4.76	79488	6.33	40573	7.57
6M59288.D	BLK	141192	4.76	75212	6.33	31836	7.57
6M59289.D	AD00301-004	164389	4.76	96461	6.33	34709	7.57
6M59290.D	AD00301-006	161104	4.75	92420	6.32	31348	7.57
6M59291.D	AD00301-005	153312	4.75	86667	6.32	31130	7.57
6M59292.D	AD00301-007	205399	4.75	109433	6.33	40807	7.57
6M59293.D	AD00301-008	158628	4.75	87501	6.32	30888	7.57
6M59294.D	AD00301-009	151004	4.75	82487	6.33	29277	7.57
6M59295.D	AD00301-011	154214	4.75	78289	6.32	26484	7.57
6M59296.D	AD00301-012	141058	4.75	83136	6.32	30118	7.57
6M59297.D	AD00301-013	165143	4.75	86642	6.32	33729	7.57
6M59298.D	AD00301-014	147094	4.75	75063	6.33	29048	7.57
6M59299.D	AD00292-001	156599	4.75	83897	6.33	27791	7.57
6M59300.D	AD00292-007	148042	4.76	87632	6.33	32889	7.57
6M59301.D	AD00292-011	130670	4.76	58560	6.33	26905	7.57
6M59302.D	AD00293-002	144923	4.75	83235	6.33	32137	7.57
6M59303.D	AD00297-001	152145	4.75	87513	6.32	32245	7.57
6M59304.D	BLK	129790	4.76	72742	6.34	26941	7.58
6M59305.D	AD00301-001	136331	4.75	67303	6.33	29793	7.57
6M59306.D	AD00301-002	157046	4.75	86534	6.33	33277	7.57
6M59307.D	AD00301-010	137592	4.76	72235	6.33	27177	7.57
6M59308.D	AD00301-003	145710	4.75	78342	6.32	29589	7.57
6M59309.D	AD00091-027(MS)	187508	4.75	93620	6.33	46368	7.57
6M59310.D	AD00091-027(MSD)	187261	4.76	96791	6.33	45515	7.58
6M59311.D	MBS64319	209882	4.75	110754	6.32	51534	7.57

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4
I4 =
I5 =
I6 =
I7 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration =5ug/L

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0081

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59280.D Method: EPA 8260C

Analysis Date/Time: 09/29/17 15:22

Lab File ID: CAL @ 50 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	204126	4.75	102310	6.32	47269	7.57								
Eval File Area Limit:	102063-408252		51155-204620		23634-94538									
Eval File Rt Limit:	4.25-5.25		5.82-6.82		7.07-8.07									

Data File	Sample						
6M59312.D	BLK	162894	4.75	89406	6.32	36452	7.57
6M59313.D	AD00292-003	157142	4.75	76224	6.32	33262	7.57
6M59314.D	AD00292-005	149447	4.75	83697	6.32	31690	7.57
6M59315.D	AD00294-002	156916	4.75	99436	6.32	52740	7.57
6M59316.D	AD00292-009	165005	4.75	92434	6.32	37864	7.57
6M59317.D	BLK	148620	4.75	78109	6.32	32806	7.57
6M59318.D	AD00327-007	165028	4.76	91782	6.33	33738	7.57
6M59319.D	BLK	168961	4.76	96553	6.33	37201	7.57
6M59320.D	AD00319-001	158968	4.75	71837	6.33	35614	7.57
6M59321.D	STD	193767	4.75	108046	6.32	53219	7.57
6M59322.D	BLK	166966	4.75	93038	6.33	38922	7.57

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4
I4 =
I5 =
I6 =
I7 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration =5ug/L

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0082

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59485.D Method: EPA 8260C

Analysis Date/Time: 10/05/17 11:23

Lab File ID: CAL @ 20 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	193640	4.75	105980	6.33	50209	7.57								
Eval File Area Limit:	96820-387280		52990-211960		25104-100418									
Eval File Rt Limit:	4.25-5.25		5.83-6.83		7.07-8.07									

Data File	Sample						
6M59481.D	CAL @ 0.5 PPB	179287	4.75	101167	6.32	40605	7.57
6M59482.D	CAL @ 1 PPB	184160	4.75	103895	6.32	41803	7.57
6M59483.D	CAL @ 2 PPB	182683	4.75	104420	6.32	46777	7.57
6M59484.D	CAL @ 5 PPB	188092	4.75	98748	6.32	47711	7.57
6M59485.D	CAL @ 20 PPB	193640	4.75	105980	6.33	50209	7.57
6M59486.D	CAL @ 500 PPB	203759	4.76	97513	6.33	53392	7.57
6M59488.D	CAL @ 250 PPB	213407	4.75	120855	6.32	56797	7.57
6M59490.D	CAL @ 100 PPB	228251	4.75	123300	6.32	58337	7.57
6M59492.D	CAL @ 50 PPB	213168	4.75	106214	6.32	45539	7.57
6M59495.D	STD	215949	4.76	109550	6.32	53446	7.57
6M59497.D	ICV	216276	4.75	125142	6.32	48996	7.57
6M59498.D	BLK	184356	4.75	97651	6.32	45382	7.57
6M59500.D	BLK	181897	4.75	108653	6.32	50668	7.57
6M59501.D	DAILY BLANK	157354	4.75	81676	6.32	30661	7.57
6M59502.D	BLK	165635	4.76	72619	6.33	33693	7.58
6M59503.D	VER@ 1 PPB	172139	4.76	89463	6.33	36237	7.57
6M59504.D	VER@ 2 PPB	161262	4.75	95223	6.32	33902	7.57
6M59505.D	BLK	183621	4.75	110973	6.32	37858	7.57
6M59506.D	AD00404-008	167603	4.76	83876	6.32	36323	7.57
6M59507.D	AD00404-003	185884	4.76	101121	6.33	36614	7.58
6M59508.D	AD00418-005	165819	4.76	99118	6.33	34298	7.57
6M59509.D	AD00418-003	164032	4.75	98140	6.33	32053	7.57
6M59510.D	AD00418-001	172966	4.76	87859	6.33	24726A	7.57
6M59511.D	AD00292-007(MS)	187949	4.76	78384	6.33	39481	7.57
6M59512.D	AD00292-007(MSD)	209339	4.75	116900	6.33	54600	7.57
6M59513.D	MBS64352	203844	4.75	110268	6.33	46198	7.57

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4
I4 =
I5 =
I6 =
I7 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration =5ug/L

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0083

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59560.D Method: EPA 8260C

Analysis Date/Time: 10/06/17 07:39

Lab File ID: CAL @ 50 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	220994	4.75	116827	6.32	50590	7.57								
Eval File Area Limit:	110497-441988		58414-233654		25295-101180									
Eval File Rt Limit:	4.25-5.25		5.82-6.82		7.07-8.07									

Data File	Sample						
6M59558.D	BLK	206019	4.75	118458	6.32	52584	7.57
6M59559.D	50 PPB	197612	4.75	91295	6.32	48408	7.57
6M59561.D	BLK	201592	4.76	116961	6.33	48652	7.57
6M59562.D	BLK	185488	4.76	96572	6.33	45964	7.57
6M59563.D	DAILY BLANK	186120	4.75	108658	6.32	43457	7.57
6M59564.D	BLK	158939	4.75	87942	6.33	35100	7.57
6M59565.D	BLK	188156	4.75	105438	6.32	38667	7.57
6M59566.D	AD00415-003	176569	4.75	105392	6.32	41504	7.57
6M59567.D	AD00415-005	179442	4.75	99564	6.33	38699	7.57
6M59568.D	AD00415-001	196391	4.75	104783	6.32	44648	7.57
6M59569.D	AD00418-001(MS)	232920	4.75	124068	6.32	48167	7.57
6M59570.D	MBS64358	220212	4.75	124355	6.32	55255	7.57
6M59571.D	AD00418-001(MSD)	228281	4.75	122062	6.32	47388	7.57
6M59572.D	BLK	194115	4.75	114875	6.32	48260	7.57
6M59573.D	AD00418-001	202150	4.75	115544	6.32	44916	7.57
6M59574.D	BLK	186909	4.75	112039	6.32	43918	7.57
6M59575.D	AD00436-002	150795	4.75	71291	6.32	32173	7.57
6M59576.D	AD00436-004	185459	4.75	105606	6.32	36930	7.57
6M59577.D	AD00436-006	177257	4.75	101604	6.32	37861	7.57
6M59578.D	AD00437-001	171200	4.75	93138	6.32	36014	7.57
6M59579.D	AD00437-002	177755	4.75	102031	6.32	35213	7.57
6M59580.D	AD00437-003	159497	4.75	77785	6.32	34420	7.57
6M59581.D	AD00437-004	144272	4.75	84079	6.32	33723	7.57
6M59582.D	AD00437-005	167292	4.75	89815	6.33	35787	7.57
6M59583.D	AD00437-006	146738	4.75	82702	6.33	33076	7.57
6M59584.D	AD00437-007	166216	4.75	93382	6.32	33632	7.57
6M59585.D	AD00437-008	166614	4.75	92571	6.32	31781	7.57
6M59586.D	AD00437-011	139673	4.75	65951	6.32	23754 A	7.57
6M59587.D	AD00437-012	164770	4.75	89866	6.32	35982	7.57
6M59588.D	AD00437-009	154020	4.76	77067	6.33	24485 A	7.57
6M59589.D	AD00437-010	144906	4.76	63389	6.33	13365 A	7.57
6M59590.D	AD00430-001	156888	4.75	77965	6.33	29637	7.57

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4
I4 =
I5 =
I6 =
I7 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration =5ug/L

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0084

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59560.D Method: EPA 8260C

Analysis Date/Time: 10/06/17 07:39

Lab File ID: CAL @ 50 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	220994	4.75	116827	6.32	50590	7.57								
Eval File Area Limit:	110497-441988		58414-233654		25295-101180									
Eval File Rt Limit:	4.25-5.25		5.82-6.82		7.07-8.07									

Data File	Sample						
6M59591.D	BLK	150905	4.75	64156	6.33	30873	7.57
6M59592.D	AD00411-006	159342	4.76	69260	6.33	31058	7.57
6M59593.D	AD00411-002	125375	4.76	74074	6.33	30607	7.57
6M59594.D	AD00411-005	139247	4.75	80690	6.32	30640	7.57
6M59595.D	AD00432-001	122574	4.76	55948 A	6.33	26877	7.57
6M59596.D	AD00418-003(MS)	180836	4.75	84695	6.32	41549	7.57
6M59597.D	AD00418-003(MSD)	152014	4.75	68679	6.33	38493	7.57
6M59598.D	MBS64362	170239	4.76	93780	6.33	46021	7.57
6M59599.D	AD00453-004(5X)	153165	4.76	90922	6.33	35838	7.57
6M59600.D	AD00453-003(5X)	154679	4.76	81608	6.33	32349	7.57
6M59601.D	00453-006(5X)	131873	4.75	64724	6.33	34050	7.57
6M59602.D	BLK	172297	4.75	90441	6.32	37351	7.57

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4
I4 =
I5 =
I6 =
I7 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration =5ug/L

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

Base Neutral/Acid Extractable Data

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00418-002
Client Id: SB01 COMP
Data File: 7M87100.D
Analysis Date: 10/06/17 16:42
Date Rec/Extracted: 10/04/17-10/06/17
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: 90

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.037	U	218-01-9	Chrysene	0.037	U
83-32-9	Acenaphthene	0.037	U	53-70-3	Dibenzo[a,h]anthracene	0.037	U
208-96-8	Acenaphthylene	0.037	U	206-44-0	Fluoranthene	0.037	U
120-12-7	Anthracene	0.037	U	86-73-7	Fluorene	0.037	U
56-55-3	Benzo[a]anthracene	0.037	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.037	U
50-32-8	Benzo[a]pyrene	0.037	U	91-20-3	Naphthalene	0.0093	U
205-99-2	Benzo[b]fluoranthene	0.037	U	85-01-8	Phenanthrene	0.037	U
191-24-2	Benzo[g,h,i]perylene	0.037	U	129-00-0	Pyrene	0.037	U
207-08-9	Benzo[k]fluoranthene	0.037	U				

Worksheet #: 439697

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100429 0087

SampleID : AD00418-002
Data File: 7M87100.D
Acq On : 10/ 6/17 16:42

Operator : AH/JB
Sam Mult : 1 Vial# : 8
Misc : S,BNA

Qt Meth : 7M_0911.M
Qt On : 10/09/17 08:19
Qt Upd On: 09/11/17 15:53

Data Path : G:\GcMsData\2017\GCMS_7\Data\10-06-17\
Qt Path : G:\GCMSDATA\2017\GCMS_7\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.658	96	23576	40.00 ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.879	152	50780	40.00 ng	0.00
31) Naphthalene-d8	6.884	136	192318	40.00 ng	-0.02
50) Acenaphthene-d10	8.321	164	120766	40.00 ng	-0.02
77) Phenanthrene-d10	9.784	188	201817	40.00 ng	-0.01
91) Chrysene-d12	12.845	240	201331	40.00 ng	0.00
103) Perylene-d12	14.475	264	194751	40.00 ng	-0.02
System Monitoring Compounds					
11) 2-Fluorophenol	4.699	112	118437	76.35 ng	0.01
Spiked Amount 100.000			Recovery = 76.35%		
16) Phenol-d5	5.575	99	162738	76.08 ng	0.00
Spiked Amount 100.000			Recovery = 76.08%		
32) Nitrobenzene-d5	6.328	128	30775	37.09 ng	0.00
Spiked Amount 50.000			Recovery = 74.18%		
55) 2-Fluorobiphenyl	7.728	172	159660	39.87 ng	-0.02
Spiked Amount 50.000			Recovery = 79.74%		
80) 2,4,6-Tribromophenol	9.063	330	48472	89.24 ng	0.00
Spiked Amount 100.000			Recovery = 89.24%		
94) Terphenyl-d14	11.585	244	130535	43.67 ng	0.00
Spiked Amount 50.000			Recovery = 87.34%		

Target Compounds Qvalue

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

k

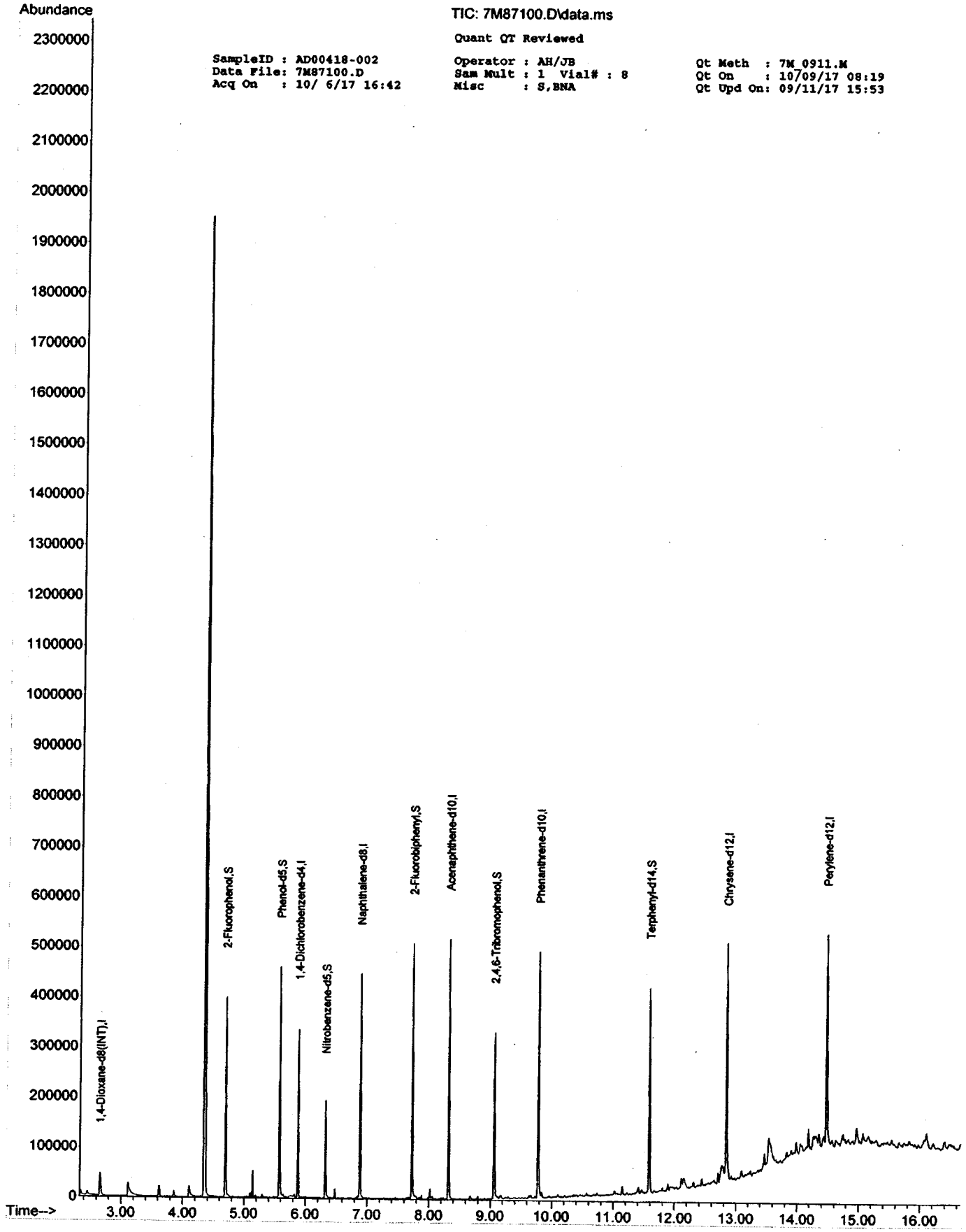
TIC: 7M87100.D\data.ms

Quant QT Reviewed

SampleID : AD00418-002
Data File: 7M87100.D
Acq On : 10/ 6/17 16:42

Operator : AH/JB
Sam Mult : 1 Vial# : 8
Misc : S,BNA

Qt Meth : 7M_0911.M
Qt On : 10/09/17 08:19
Qt Upd On: 09/11/17 15:53



7M_0911.M Mon Oct 09 16:08:55 2017 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00418-004
Client Id: SB06 COMP
Data File: 7M87101.D
Analysis Date: 10/06/17 17:05
Date Rec/Extracted: 10/04/17-10/06/17
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: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.037	U	218-01-9	Chrysene	0.037	U
83-32-9	Acenaphthene	0.037	U	53-70-3	Dibenzo[a,h]anthracene	0.037	U
208-96-8	Acenaphthylene	0.037	U	206-44-0	Fluoranthene	0.037	U
120-12-7	Anthracene	0.037	U	86-73-7	Fluorene	0.037	U
56-55-3	Benzo[a]anthracene	0.037	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.037	U
50-32-8	Benzo[a]pyrene	0.037	U	91-20-3	Naphthalene	0.0094	U
205-99-2	Benzo[b]fluoranthene	0.037	U	85-01-8	Phenanthrene	0.037	U
191-24-2	Benzo[g,h,i]perylene	0.037	U	129-00-0	Pyrene	0.037	U
207-08-9	Benzo[k]fluoranthene	0.037	U				

Worksheet #: 439697 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

Indicates the compound was analyzed but not detected.
Indicates the analyte was found in the blank as well as in the sample.
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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (Qt Reviewed)

7100429 0090

SampleID : AD00418-004
Data File: 7M87101.D
Acq On : 10/ 6/17 17:05

Operator : AH/JB
Sam Mult : 1 Vial# : 9
Misc : S,BNA

Qt Meth : 7M_0911.M
Qt On : 10/09/17 08:20
Qt Upd On: 09/11/17 15:53

Data Path : G:\GcMsData\2017\GCMS_7\Data\10-06-17\
Qt Path : G:\GCMSDATA\2017\GCMS_7\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.658	96	30888	40.00 ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.879	152	64489	40.00 ng	0.00
31) Naphthalene-d8	6.883	136	257064	40.00 ng	-0.02
50) Acenaphthene-d10	8.321	164	166016	40.00 ng	-0.02
77) Phenanthrene-d10	9.784	188	290716	40.00 ng	-0.01
91) Chrysene-d12	12.840	240	285706	40.00 ng	0.00
103) Perylene-d12	14.475	264	265061	40.00 ng	-0.02
System Monitoring Compounds					
11) 2-Fluorophenol	4.698	112	146796	72.23 ng	0.01
Spiked Amount 100.000			Recovery = 72.23%		
16) Phenol-d5	5.580	99	203710	72.69 ng	0.01
Spiked Amount 100.000			Recovery = 72.69%		
32) Nitrobenzene-d5	6.328	128	38696	34.89 ng	0.00
Spiked Amount 50.000			Recovery = 69.78%		
55) 2-Fluorobiphenyl	7.728	172	199104	36.17 ng	-0.02
Spiked Amount 50.000			Recovery = 72.34%		
80) 2,4,6-Tribromophenol	9.063	330	65277	83.75 ng	0.00
Spiked Amount 100.000			Recovery = 83.75%		
94) Terphenyl-d14	11.585	244	185454	43.72 ng	0.00
Spiked Amount 50.000			Recovery = 87.44%		

Target Compounds — Qvalue

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

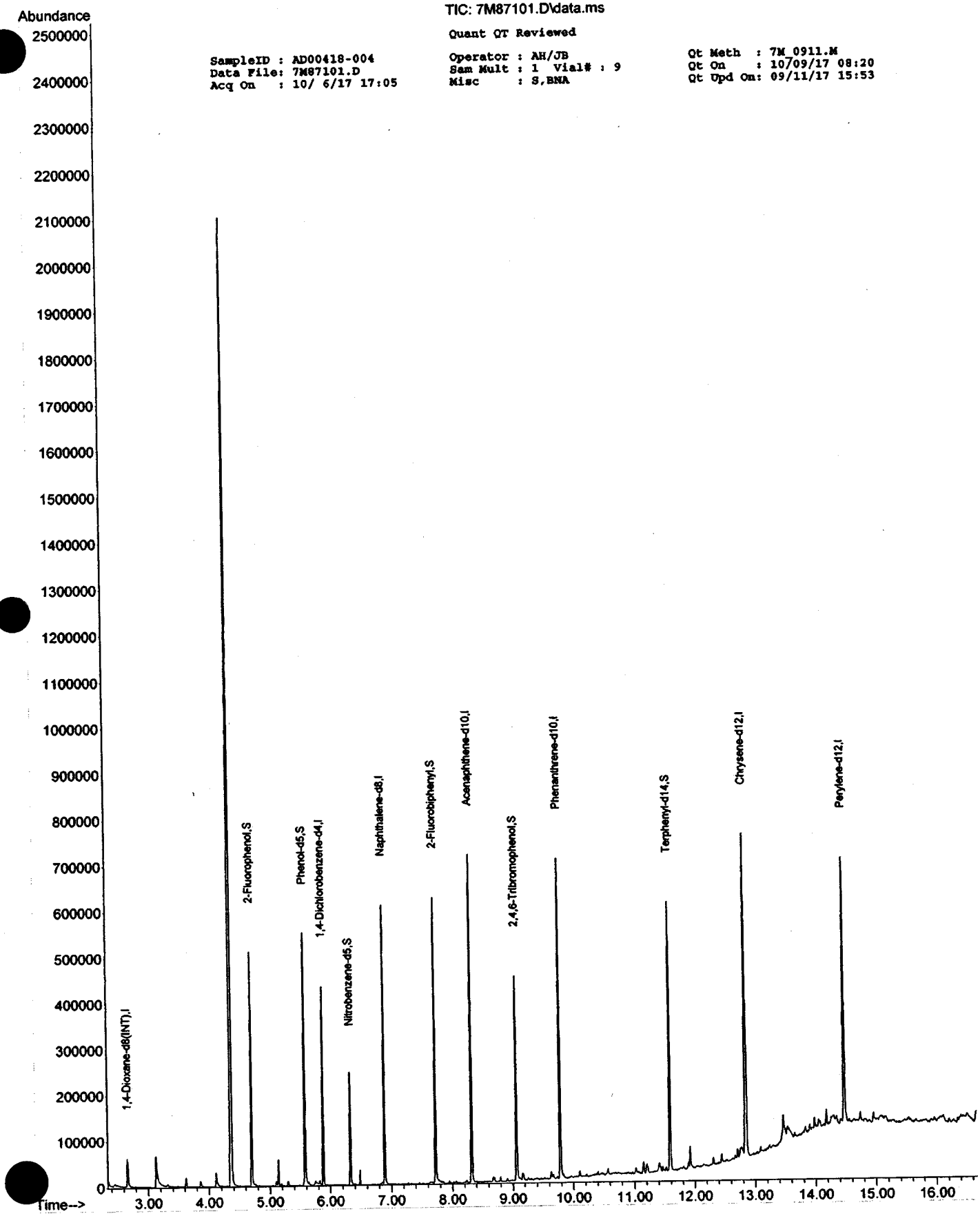
TIC: 7M87101.D\data.ms

Quant QT Reviewed

SampleID : AD00418-004
Data File: 7M87101.D
Acq On : 10/ 6/17 17:05

Operator : AH/JB
Sam Mult : 1 Vial# : 9
Misc : S,BNA

Qt Meth : 7M_0911.M
Qt On : 10/09/17 08:20
Qt Upd On: 09/11/17 15:53



7M_0911.M Mon Oct 09 16:08:58 2017 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00418-006
Client Id: SB10 COMP
Data File: 10M65373.D
Analysis Date: 10/06/17 16:09
Date Rec/Extracted: 10/04/17-10/06/17
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: 90

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.037	U	218-01-9	Chrysene	0.037	U
83-32-9	Acenaphthene	0.037	U	53-70-3	Dibenzo[a,h]anthracene	0.037	U
208-96-8	Acenaphthylene	0.037	U	206-44-0	Fluoranthene	0.037	U
120-12-7	Anthracene	0.037	U	86-73-7	Fluorene	0.037	U
56-55-3	Benzo[a]anthracene	0.037	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.037	U
50-32-8	Benzo[a]pyrene	0.037	U	91-20-3	Naphthalene	0.0093	U
205-99-2	Benzo[b]fluoranthene	0.037	U	85-01-8	Phenanthrene	0.037	U
191-24-2	Benzo[g,h,i]perylene	0.037	U	129-00-0	Pyrene	0.037	U
207-08-9	Benzo[k]fluoranthene	0.037	U				

Worksheet #: 439697

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 us
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100429 0093

SampleID : AD00418-006
Data File: 10M65373.D
Acq On : 10/ 6/17 16:09

Operator : AH/JB
Sam Mult : 1 Vial# : 6
Misc : S,BNA

Qt Meth : 10M_0911-M
Qt On : 10/09/17 08:30
Qt Upd On: 09/11/17 13:19

Data Path : G:\GcMsData\2017\GCMS_10\Data\10-06-17\
Qt Path : G:\GCMSDATA\2017\GCMS_10\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.497	96	34676	40.00 ng	0.00
21) 1,4-Dichlorobenzene-d4	5.749	152	71632	40.00 ng	0.00
31) Naphthalene-d8	6.755	136	256596	40.00 ng	0.00
50) Acenaphthene-d10	8.167	164	148532	40.00 ng	0.00
77) Phenanthrene-d10	9.611	188	226512	40.00 ng	0.00
91) Chrysene-d12	12.638	240	202452	40.00 ng	0.00
103) Perylene-d12	14.237	264	199813	40.00 ng	0.00
System Monitoring Compounds					
11) 2-Fluorophenol	4.546	112	119540	53.60 ng	0.00
Spiked Amount 100.000			Recovery =	53.60%	
16) Phenol-d5	5.434	99	150703	50.63 ng	0.00
Spiked Amount 100.000			Recovery =	50.63%	
32) Nitrobenzene-d5	6.193	128	29456	26.76 ng	0.00
Spiked Amount 50.000			Recovery =	53.52%	
55) 2-Fluorobiphenyl	7.584	172	149607	29.54 ng	0.00
Spiked Amount 50.000			Recovery =	59.08%	
80) 2,4,6-Tribromophenol	8.894	330	36957	56.98 ng	0.00
Spiked Amount 100.000			Recovery =	56.98%	
94) Terphenyl-d14	11.397	244	111276	35.71 ng	-0.01
Spiked Amount 50.000			Recovery =	71.42%	

Target Compounds Qvalue

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

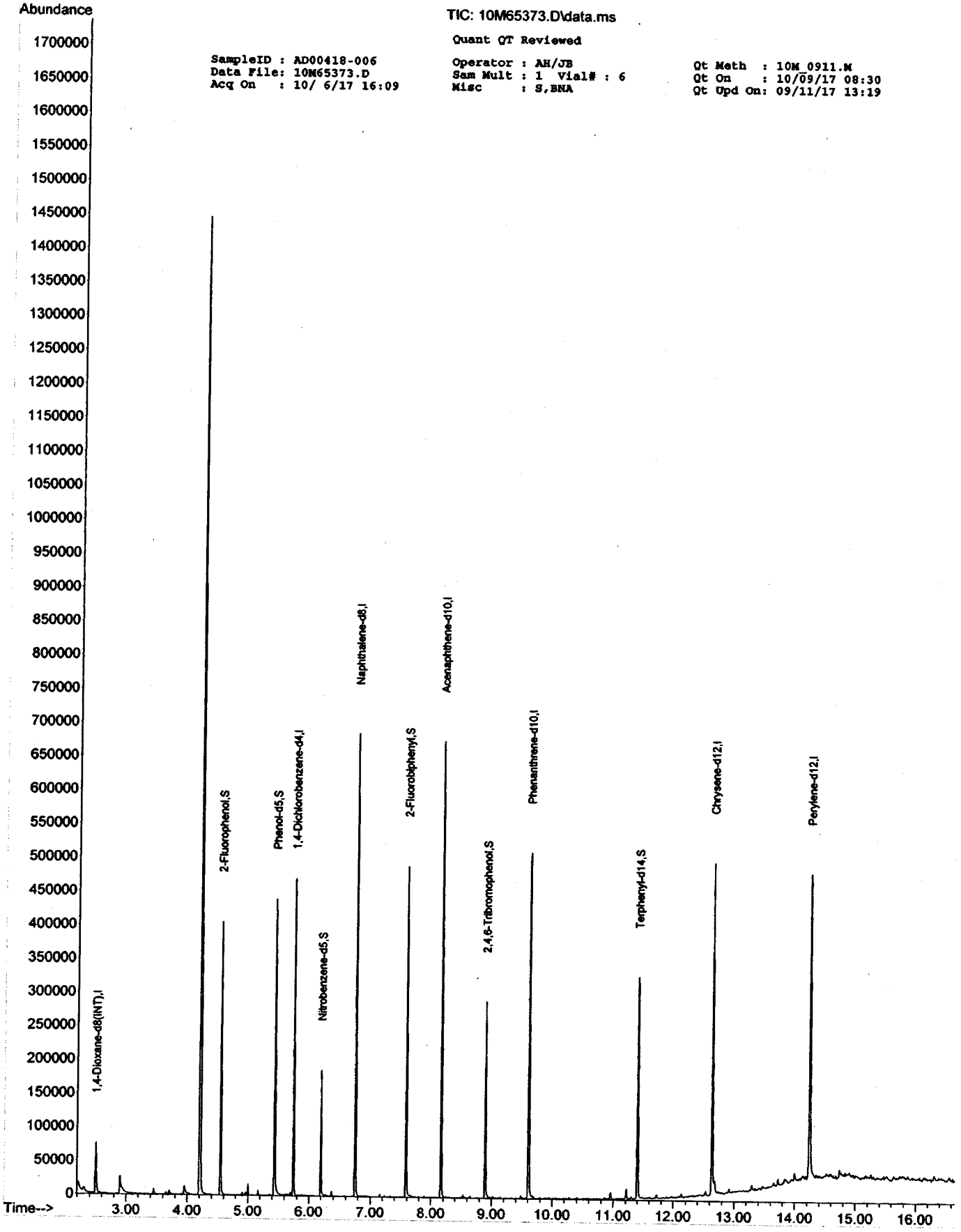
TIC: 10M65373.D\data.ms

Quant QT Reviewed

SampleID : AD00418-006
Data File: 10M65373.D
Acq On : 10/ 6/17 16:09

Operator : AH/JB
Sam Mult : 1 Vial# : 6
Misc : S,BNA

Qt Meth : 10M_0911.M
Qt On : 10/09/17 08:30
Qt Upd On: 09/11/17 13:19



10M_0911.M Mon Oct 09 16:09:01 2017 RPT1

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Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: SMB63086
Client Id:
Data File: 7M87098.D
Analysis Date: 10/06/17 15:55
Date Rec/Extracted: NA-10/06/17
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
91-57-6	2-Methylnaphthalene	0.033	U	218-01-9	Chrysene	0.033	U
83-32-9	Acenaphthene	0.033	U	53-70-3	Dibenzo[a,h]anthracene	0.033	U
208-96-8	Acenaphthylene	0.033	U	206-44-0	Fluoranthene	0.033	U
120-12-7	Anthracene	0.033	U	86-73-7	Fluorene	0.033	U
56-55-3	Benzo[a]anthracene	0.033	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.033	U
50-32-8	Benzo[a]pyrene	0.033	U	91-20-3	Naphthalene	0.0083	U
205-99-2	Benzo[b]fluoranthene	0.033	U	85-01-8	Phenanthrene	0.033	U
191-24-2	Benzo[g,h,i]perylene	0.033	U	129-00-0	Pyrene	0.033	U
207-08-9	Benzo[k]fluoranthene	0.033	U				

Worksheet #: 439697

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT/LSC Reviewed)

7100429 0096

SampleID : SMB63086
Data File: 7M87098.D
Acq On : 10/ 6/17 15:55

Operator : AH/JB
Sam Mult : 1 Vial# : 6
Misc : S,BNA

Qt Meth : 7M_0911.M
Qt On : 10/09/17 08:18
Qt Upd On: 09/11/17 15:53

Data Path : G:\GcMsData\2017\GCMS_7\Data\10-06-17\
Qt Path : G:\GCMSDATA\2017\GCMS_7\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.647	96	29496	40.00 ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.874	152	61529	40.00 ng	-0.01
31) Naphthalene-d8	6.900	136	239308	40.00 ng	0.00
50) Acenaphthene-d10	8.337	164	146660	40.00 ng	0.00
77) Phenanthrene-d10	9.800	188	248131	40.00 ng	0.00
91) Chrysene-d12	12.851	240	238252	40.00 ng	0.00
103) Perylene-d12	14.486	264	227814	40.00 ng	0.00
System Monitoring Compounds					
11) 2-Fluorophenol	4.693	112	162204	83.58 ng	0.00
Spiked Amount 100.000			Recovery = 83.58%		
16) Phenol-d5	5.569	99	218019	81.46 ng	0.00
Spiked Amount 100.000			Recovery = 81.46%		
32) Nitrobenzene-d5	6.328	128	42776	41.43 ng	0.00
Spiked Amount 50.000			Recovery = 82.86%		
55) 2-Fluorobiphenyl	7.744	172	211572	43.51 ng	0.00
Spiked Amount 50.000			Recovery = 87.02%		
80) 2,4,6-Tribromophenol	9.079	330	66535	98.96 ng	0.00
Spiked Amount 100.000			Recovery = 98.96%		
94) Terphenyl-d14	11.595	244	182328	51.54 ng	0.00
Spiked Amount 50.000			Recovery = 103.08%		

Target Compounds — Qvalue

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

lu

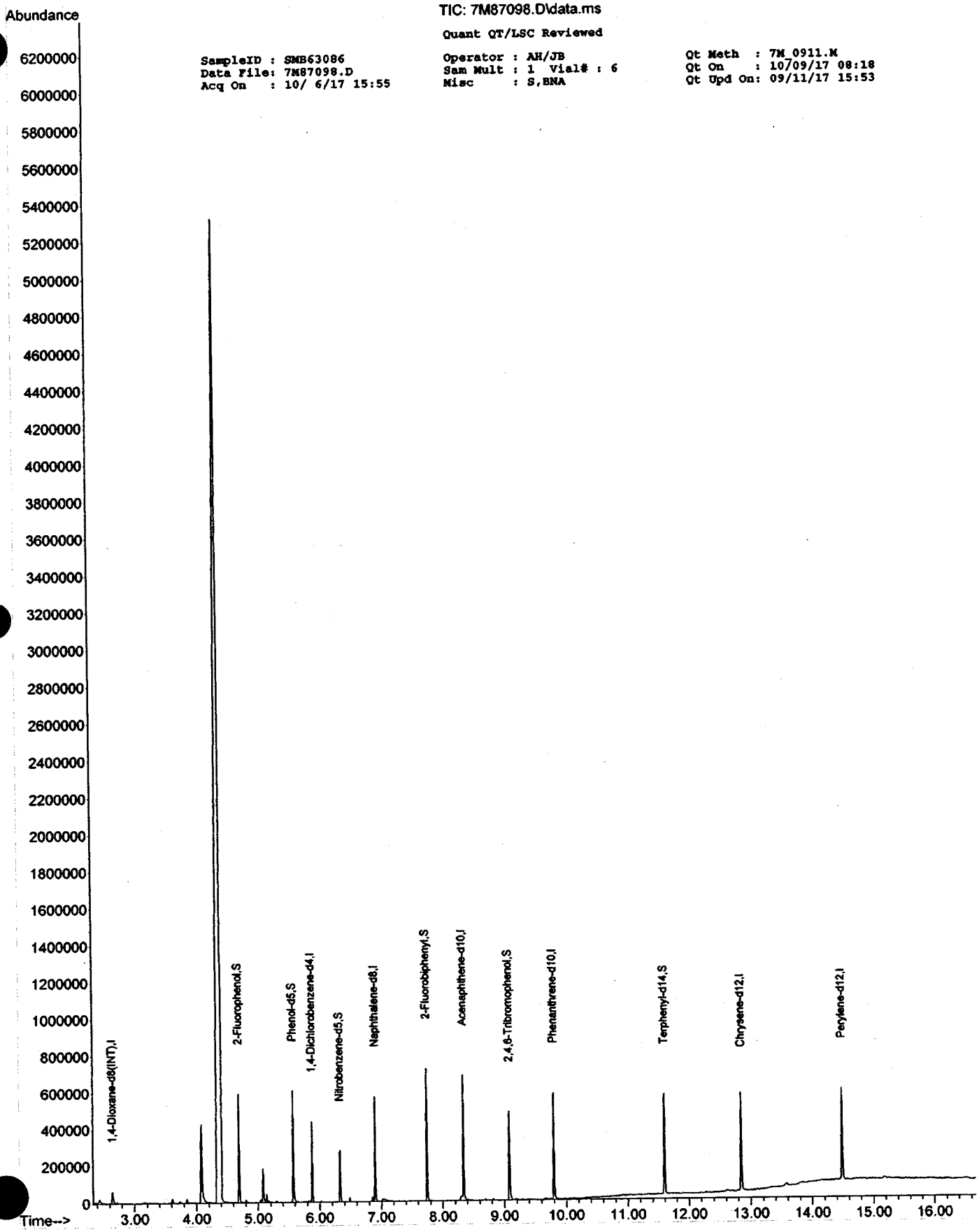
TIC: 7M87098.D\data.ms

Quant QT/LSC Reviewed

SampleID : SMB63086
Data File: 7M87098.D
Acq On : 10/ 6/17 15:55

Operator : AH/JB
Sam Mult : 1 Vial# : 6
Misc : S,BNA

Qt Meth : 7M_0911.M
Qt On : 10/09/17 08:18
Qt Upd On: 09/11/17 15:53



7M_0911.M Mon Oct 09 16:08:52 2017 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: SMB63087
Client Id:
Data File: 10M65371.D
Analysis Date: 10/06/17 14:13
Date Rec/Extracted: NA-10/06/17
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
91-57-6	2-Methylnaphthalene	0.033	U	218-01-9	Chrysene	0.033	U
83-32-9	Acenaphthene	0.033	U	53-70-3	Dibenzo[a,h]anthracene	0.033	U
208-96-8	Acenaphthylene	0.033	U	206-44-0	Fluoranthene	0.033	U
120-12-7	Anthracene	0.033	U	86-73-7	Fluorene	0.033	U
56-55-3	Benzo[a]anthracene	0.033	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.033	U
50-32-8	Benzo[a]pyrene	0.033	U	91-20-3	Naphthalene	0.0083	U
205-99-2	Benzo[b]fluoranthene	0.033	U	85-01-8	Phenanthrene	0.033	U
191-24-2	Benzo[g,h,i]perylene	0.033	U	129-00-0	Pyrene	0.033	U
207-08-9	Benzo[k]fluoranthene	0.033	U				

Worksheet #: 439697

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100429 0099

SampleID : SMB63087
Data File: 10M65371.D
Acq On : 10/ 6/17 14:13

Operator : AH/JB
Sam Mult : 1 Vial# : 4
Misc : S,BNA

Qt Meth : 10M_0911.M
Qt On : 10/06/17 14:39
Qt Upd On: 09/11/17 13:19

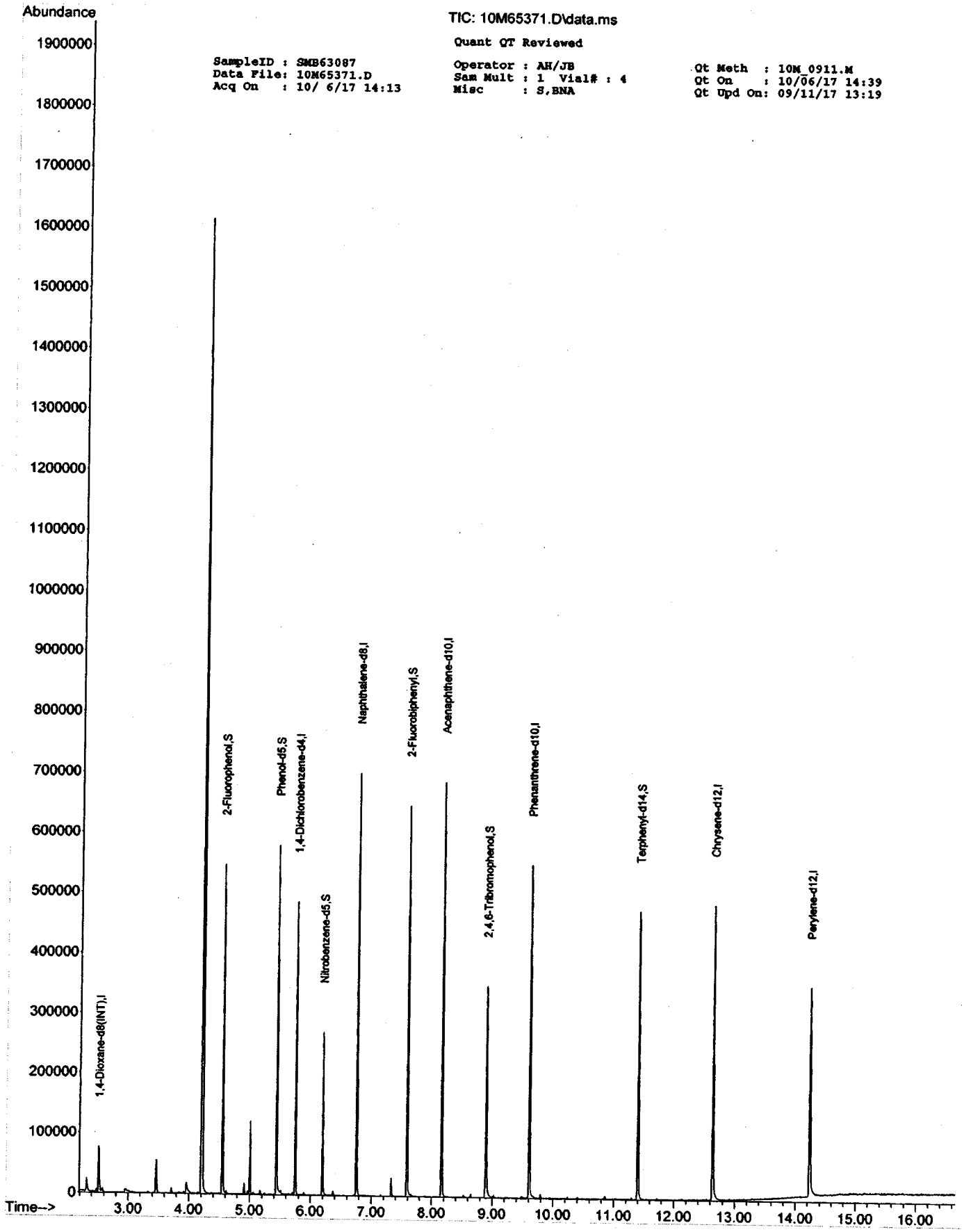
Data Path : G:\GcMsData\2017\GCMS_10\Data\10-06-17\
Qt Path : G:\GCMSDATA\2017\GCMS_10\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.508	96	36393	40.00 ng	0.01
21) 1,4-Dichlorobenzene-d4	5.749	152	71367	40.00 ng	0.00
31) Naphthalene-d8	6.755	136	258060	40.00 ng	0.00
50) Acenaphthene-d10	8.167	164	151605	40.00 ng	0.00
77) Phenanthrene-d10	9.605	188	239098	40.00 ng	-0.01
91) Chrysene-d12	12.638	240	211447	40.00 ng	0.00
103) Perylene-d12	14.237	264	168413	40.00 ng	0.00
System Monitoring Compounds					
11) 2-Fluorophenol	4.551	112	158756	67.83 ng	0.00
Spiked Amount 100.000			Recovery = 67.83%		
16) Phenol-d5	5.433	99	203247	65.06 ng	0.00
Spiked Amount 100.000			Recovery = 65.06%		
32) Nitrobenzene-d5	6.193	128	40407	36.50 ng	0.00
Spiked Amount 50.000			Recovery = 73.00%		
55) 2-Fluorobiphenyl	7.584	172	194244	37.58 ng	0.00
Spiked Amount 50.000			Recovery = 75.16%		
80) 2,4,6-Tribromophenol	8.894	330	45612	66.19 ng	-0.01
Spiked Amount 100.000			Recovery = 66.19%		
94) Terphenyl-d14	11.397	244	157196	48.31 ng	-0.01
Spiked Amount 50.000			Recovery = 96.62%		

Target Compounds — Qvalue

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

ke


Abundance
TIC: 10M65371.D\data.ms
Quant QT Reviewed
SampleID : SMB63087
Data File: 10M65371.D
Acq On : 10/ 6/17 14:13
Operator : AH/JB
Sam Mult : 1 Vial# : 4
Misc : S,BNA
Qt Meth : 10M_0911.M
Qt On : 10/06/17 14:39
Qt Upd On: 09/11/17 13:19
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Terphenyl-d14,S
Chrysene-d12,I
Perylene-d12,I
Time-->
10M_0911.M Mon Oct 09 16:08:49 2017 RPT1
Page: 1

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
10M65371.D	SMB63087	S	10/06/17 14:13	1		NA	NA	73	75	NA	97
7M87098.D	SMB63086	S	10/06/17 15:55	1		NA	NA	83	87	NA	103
7M87100.D	AD00418-002	S	10/06/17 16:42	1		NA	NA	74	80	NA	87
7M87101.D	AD00418-004	S	10/06/17 17:05	1		NA	NA	70	72	NA	87
10M65373.D	AD00418-006	S	10/06/17 16:09	1		NA	NA	54	59	NA	71
10M65374.D	AD00418-006(MS)	S	10/06/17 16:31	1		NA	NA	59	66	NA	77
10M65375.D	AD00418-006(MSD)	S	10/06/17 16:54	1		NA	NA	67	70	NA	78
7M87109.D	AD00430-001(3X)	S	10/06/17 20:12	3		NA	NA	80	85	NA	99
7M87110.D	AD00430-001(3X)(MS)	S	10/06/17 20:35	3		NA	NA	82	84	NA	95
7M87111.D	AD00430-001(3X)(MSD)	S	10/06/17 20:59	3		NA	NA	64	69	NA	81
9M80808.D	SMB63086(MS)	S	10/06/17 13:36	1		NA	NA	90	93	NA	105
9M80809.D	SMB63087(MS)	S	10/06/17 13:59	1		NA	NA	83	91	NA	109

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8270D

Soil Laboratory Limits

Compound	Spike Amt	Limits
S1=2-Fluorophenol	100	43-128
S2=Phenol-d5	100	49-129
S3=Nitrobenzene-d5	50	52-129
S4=2-Fluorobiphenyl	50	58-125
S5=2,4,6-Tribromophenol	100	54-145
S6=Terphenyl-d14	50	58-148

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63086

Data File	Sample ID:	Analysis Date
Spike or Dup: 9M80808.D	SMB63086(MS)	10/6/2017 1:36:00 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	21.7177	0	50	43	1	150
N-Nitrosodimethylamine	1	35.5504	0	50	71	50	130
Benzaldehyde	1	170.5684	0	50	341*	20	150
Aniline	1	29.0702	0	50	58	20	150
Pentachloroethane	1	33.1375	0	50	66	50	130
bis(2-Chloroethyl)ether	1	35.9625	0	50	72	50	130
N-Decane	1	25.8732	0	50	52	20	130
1,3-Dichlorobenzene	1	36.2475	0	50	72	60	130
1,4-Dichlorobenzene	1	34.3939	0	50	69	60	130
1,2-Dichlorobenzene	1	33.9447	0	50	68	50	130
Benzyl alcohol	1	35.0133	0	50	70	20	130
bis(2-chloroisopropyl)ether	1	26.8443	0	50	54	40	130
Acetophenone	1	32.7746	0	50	66	50	130
Hexachloroethane	1	33.093	0	50	66	50	130
N-Nitroso-di-n-propylamine	1	30.8416	0	50	62	40	130
Nitrobenzene	1	35.6805	0	50	71	70	130
Isophorone	1	32.8546	0	50	66	60	130
Benzoic Acid	1	35.1785	0	100	35	20	130
bis(2-Chloroethoxy)methane	1	34.4434	0	50	69	60	130
1,2,4-Trichlorobenzene	1	39.1284	0	50	78	50	130
Naphthalene	1	37.2457	0	50	74	50	130
4-Chloroaniline	1	30.1907	0	50	60	10	150
Hexachlorobutadiene	1	39.8434	0	50	80	60	130
Caprolactam	1	33.9599	0	50	68	50	130
2-Methylnaphthalene	1	35.9495	0	50	72	70	130
1-Methylnaphthalene	1	34.2437	0	50	68*	70	130
1,1'-Biphenyl	1	31.2846	0	50	63	60	130
1,2,4,5-Tetrachlorobenzene	1	38.5596	0	50	77	70	130
Hexachlorocyclopentadiene	1	36.6591	0	50	73	20	160
2-Chloronaphthalene	1	37.5775	0	50	75	70	130
1,4-Dimethylnaphthalene	1	28.6214	0	50	57*	70	130
Diphenyl Ether	1	35.9955	0	50	72	70	130
2-Nitroaniline	1	35.8926	0	50	72	50	130
Coumarin	1	26.7484	0	50	53*	70	130
Acenaphthylene	1	37.1518	0	50	74	70	130
Dimethylphthalate	1	36.1249	0	50	72	70	130
2,6-Dinitrotoluene	1	35.6165	0	50	71	70	130
Acenaphthene	1	36.3604	0	50	73	50	130
3-Nitroaniline	1	28.4949	0	50	57	10	130
Dibenzofuran	1	37.0445	0	50	74	70	130
2,4-Dinitrotoluene	1	35.5371	0	50	71	40	130
Fluorene	1	36.2263	0	50	72	50	130
4-Chlorophenyl-phenylether	1	36.6998	0	50	73	70	130
Diethylphthalate	1	35.6564	0	50	71	70	130
4-Nitroaniline	1	34.5661	0	50	69	50	130
Atrazine	1	50.9854	0	50	102	50	130
n-Nitrosodiphenylamine	1	30.5227	0	50	61	50	130
1,2-Diphenylhydrazine	1	34.5985	0	50	69*	70	130
4-Bromophenyl-phenylether	1	39.7058	0	50	79	70	130
Hexachlorobenzene	1	40.0108	0	50	80	70	130
N-Octadecane	1	32.1199	0	50	64*	70	130
Phenanthrene	1	35.6831	0	50	71	70	130
Anthracene	1	34.3616	0	50	69*	70	130
Carbazole	1	32.9446	0	50	66*	70	130
Di-n-butylphthalate	1	37.2554	0	50	75	70	130
Fluoranthene	1	35.9996	0	50	72	70	130
Pyrene	1	39.5691	0	50	79	50	130
Benzidine	1	0	0	50	0*	1	130
Butylbenzylphthalate	1	36.7406	0	50	73	50	130
3,3'-Dichlorobenzidine	1	30.0609	0	50	60	10	130
Benzo[a]anthracene	1	38.0603	0	50	76	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63086

Chrysene	1	38.1955	0	50	76	60	130
bis(2-Ethylhexyl)phthalate	1	37.8159	0	50	76	70	130
Di-n-octylphthalate	1	39.201	0	50	78	70	130
Benzo[b]fluoranthene	1	39.3936	0	50	79	70	130
Benzo[k]fluoranthene	1	42.0171	0	50	84	70	130
Benzo[a]pyrene	1	33.6174	0	50	67*	70	130
Indeno[1,2,3-cd]pyrene	1	39.9507	0	50	80	70	130
Dibenzo[a,h]anthracene	1	39.4178	0	50	79	60	130
Benzo[g,h,i]perylene	1	37.8975	0	50	76	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63087

Data File	Sample ID:	Analysis Date
Spike or Dup: 9M80809.D	SMB63087(MS)	10/6/2017 1:59:00 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	21.2328	0	50	42	1	150
N-Nitrosodimethylamine	1	32.1252	0	50	64	50	130
Benzaldehyde	1	183.9713	0	50	368*	20	150
Aniline	1	28.691	0	50	57	20	150
Pentachloroethane	1	32.2221	0	50	64	50	130
bis(2-Chloroethyl)ether	1	33.2442	0	50	66	50	130
N-Decane	1	25.2011	0	50	50	20	130
1,3-Dichlorobenzene	1	33.4632	0	50	67	60	130
1,4-Dichlorobenzene	1	30.7913	0	50	62	60	130
1,2-Dichlorobenzene	1	31.0652	0	50	62	50	130
Benzyl alcohol	1	32.7542	0	50	66	20	130
bis(2-chloroisopropyl)ether	1	24.5084	0	50	49	40	130
Acetophenone	1	33.7212	0	50	67	50	130
Hexachloroethane	1	29.6511	0	50	59	50	130
N-Nitroso-di-n-propylamine	1	28.4007	0	50	57	40	130
Nitrobenzene	1	32.9352	0	50	66*	70	130
Isophorone	1	30.1032	0	50	60	60	130
Benzoic Acid	1	32.33	0	100	32	20	130
bis(2-Chloroethoxy)methane	1	31.1332	0	50	62	60	130
1,2,4-Trichlorobenzene	1	34.7126	0	50	69	50	130
Naphthalene	1	33.9732	0	50	68	50	130
4-Chloroaniline	1	28.8111	0	50	58	10	150
Hexachlorobutadiene	1	34.5985	0	50	69	60	130
Caprolactam	1	38.5512	0	50	77	50	130
2-Methylnaphthalene	1	33.0786	0	50	66*	70	130
1-Methylnaphthalene	1	34.6004	0	50	69*	70	130
1,1'-Biphenyl	1	31.9472	0	50	64	60	130
1,2,4,5-Tetrachlorobenzene	1	38.8104	0	50	78	70	130
Hexachlorocyclopentadiene	1	32.1832	0	50	64	20	160
2-Chloronaphthalene	1	34.1235	0	50	68*	70	130
1,4-Dimethylnaphthalene	1	29.886	0	50	60*	70	130
Diphenyl Ether	1	37.3601	0	50	75	70	130
2-Nitroaniline	1	35.2392	0	50	70	50	130
Coumarin	1	29.1183	0	50	58*	70	130
Acenaphthylene	1	34.3985	0	50	69*	70	130
Dimethylphthalate	1	34.7909	0	50	70	70	130
2,6-Dinitrotoluene	1	34.86	0	50	70	70	130
Acenaphthene	1	34.2378	0	50	68	50	130
3-Nitroaniline	1	29.876	0	50	60	10	130
Dibenzofuran	1	34.8231	0	50	70	70	130
2,4-Dinitrotoluene	1	35.2627	0	50	71	40	130
Fluorene	1	34.9556	0	50	70	50	130
4-Chlorophenyl-phenylether	1	35.165	0	50	70	70	130
Diethylphthalate	1	34.9724	0	50	70	70	130
4-Nitroaniline	1	34.6385	0	50	69	50	130
Atrazine	1	57.6425	0	50	115	50	130
n-Nitrosodiphenylamine	1	29.5496	0	50	59	50	130
1,2-Diphenylhydrazine	1	32.5507	0	50	65*	70	130
4-Bromophenyl-phenylether	1	36.8545	0	50	74	70	130
Hexachlorobenzene	1	38.005	0	50	76	70	130
N-Octadecane	1	34.3606	0	50	69*	70	130
Phenanthrene	1	34.5881	0	50	69*	70	130
Anthracene	1	33.492	0	50	67*	70	130
Carbazole	1	35.7627	0	50	72	70	130
Di-n-butylphthalate	1	35.5436	0	50	71	70	130
Fluoranthene	1	34.8753	0	50	70	70	130
Pyrene	1	37.9224	0	50	76	50	130
Benzidine	1	0	0	50	0*	1	130
Butylbenzylphthalate	1	35.2817	0	50	71	50	130
3,3'-Dichlorobenzidine	1	31.584	0	50	63	10	130
Benzo[a]anthracene	1	36.5746	0	50	73	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63087

Chrysene	1	36.3627	0	50	73	60	130
bis(2-Ethylhexyl)phthalate	1	36.1327	0	50	72	70	130
Di-n-octylphthalate	1	36.7272	0	50	73	70	130
Benzo[b]fluoranthene	1	37.5004	0	50	75	70	130
Benzo[k]fluoranthene	1	40.483	0	50	81	70	130
Benzo[a]pyrene	1	32.8055	0	50	66*	70	130
Indeno[1,2,3-cd]pyrene	1	38.7068	0	50	77	70	130
Dibenzo[a,h]anthracene	1	37.4955	0	50	75	60	130
Benzo[g,h,i]perylene	1	36.1163	0	50	72	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63086

	Data File	Sample ID:	Analysis Date
Spike or Dup:	7M87110.D	AD00430-001(3X)(MS)	10/6/2017 8:35:00 PM
Non Spike(If applicable):	7M87109.D	AD00430-001(3X)	10/6/2017 8:12:00 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	21.84	0	50	44	1	150
N-Nitrosodimethylamine	1	30.9801	0	50	62	50	130
Benzaldehyde	1	177.9795	0	50	356*	20	150
Aniline	1	25.1154	0	50	50	20	150
Pentachloroethane	1	29.5422	0	50	59	50	130
bis(2-Chloroethyl)ether	1	37.0365	0	50	74	50	130
N-Decane	1	26.9775	0	50	54	20	130
1,3-Dichlorobenzene	1	37.6179	0	50	75	60	130
1,4-Dichlorobenzene	1	33.813	0	50	68	60	130
1,2-Dichlorobenzene	1	34.6329	0	50	69	50	130
Benzyl alcohol	1	35.2188	0	50	70	20	130
bis(2-chloroisopropyl)ether	1	27.6381	0	50	55	40	130
Acetophenone	1	35.8098	0	50	72	50	130
Hexachloroethane	1	21.0549	0	50	42*	50	130
N-Nitroso-di-n-propylamine	1	33.27	0	50	67	40	130
Nitrobenzene	1	35.1969	0	50	70	70	130
Isophorone	1	33.2034	0	50	66	60	130
Benzoic Acid	1	55.4883	0	100	55	20	130
bis(2-Chloroethoxy)methane	1	34.9008	0	50	70	60	130
1,2,4-Trichlorobenzene	1	39.0225	0	50	78	50	130
Naphthalene	1	37.806	0	50	76	50	130
4-Chloroaniline	1	38.3442	0	50	77	10	150
Hexachlorobutadiene	1	39.7761	0	50	80	60	130
Caprolactam	1	37.8015	0	50	76	50	130
2-Methylnaphthalene	1	38.8674	0	50	78	70	130
1-Methylnaphthalene	1	39.2733	0	50	79	70	130
1,1'-Biphenyl	1	35.9376	0	50	72	60	130
1,2,4,5-Tetrachlorobenzene	1	41.847	0	50	84	70	130
Hexachlorocyclopentadiene	1	0	0	50	0*	20	160
2-Chloronaphthalene	1	39.1665	0	50	78	70	130
1,4-Dimethylnaphthalene	1	36.2262	0	50	72	70	130
Diphenyl Ether	1	42.6969	0	50	85	70	130
2-Nitroaniline	1	40.3785	0	50	81	50	130
Coumarin	1	31.6773	0	50	63*	70	130
Acenaphthylene	1	43.6623	0	50	87	70	130
Dimethylphthalate	1	38.6037	0	50	77	70	130
2,6-Dinitrotoluene	1	39.4131	0	50	79	70	130
Acenaphthene	1	41.4237	0	50	83	50	130
3-Nitroaniline	1	34.8732	0	50	70	10	130
Dibenzofuran	1	40.6437	0	50	81	70	130
2,4-Dinitrotoluene	1	34.2951	0	50	69	40	130
Fluorene	1	41.8008	0	50	84	50	130
4-Chlorophenyl-phenylether	1	38.9139	0	50	78	70	130
Diethylphthalate	1	38.7582	0	50	78	70	130
4-Nitroaniline	1	35.943	0	50	72	50	130
Atrazine	1	56.334	0	50	113	50	130
n-Nitrosodiphenylamine	1	35.8452	0	50	72	50	130
1,2-Diphenylhydrazine	1	36.9705	0	50	74	70	130
4-Bromophenyl-phenylether	1	42.6153	0	50	85	70	130
Hexachlorobenzene	1	42.4935	0	50	85	70	130
N-Octadecane	1	39.9333	0	50	80	70	130
Phenanthrene	1	55.7526	12.3159	50	87	70	130
Anthracene	1	43.7727	0	50	88	70	130
Carbazole	1	40.386	0	50	81	70	130
Di-n-butylphthalate	1	38.8653	0	50	78	70	130
Fluoranthene	1	71.1711	30.0528	50	82	70	130
Pyrene	1	78.0435	33.2172	50	90	50	130
Benzidine	1	0	0	50	0*	1	130
Butylbenzylphthalate	1	40.9239	0	50	82	50	130
3,3'-Dichlorobenzidine	1	31.881	0	50	64	10	130
Benzo[a]anthracene	1	58.7544	18.2883	50	81	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63086

Chrysene	1	54.6177	18.2436	50	73	60	130
bis(2-Ethylhexyl)phthalate	1	49.8687	46.0692	50	7.6*	70	130
Di-n-octylphthalate	1	37.4376	0	50	75	70	130
Benzo[b]fluoranthene	1	65.3592	23.5212	50	84	70	130
Benzo[k]fluoranthene	1	44.2308	9.0117	50	70	70	130
Benzo[a]pyrene	1	53.4312	18.2472	50	70	70	130
Indeno[1,2,3-cd]pyrene	1	59.1147	13.6137	50	91	70	130
Dibenzo[a,h]anthracene	1	51.7131	0	50	103	60	130
Benzo[g,h,i]perylene	1	58.8324	16.119	50	85	70	130

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Form3
Recovery Data Laboratory Limits
QC Batch: SMB63086

	Data File	Sample ID:	Analysis Date
Spike or Dup:	7M87111.D	AD00430-001(3X)(MSD)	10/6/2017 8:59:00 PM
Non Spike(If applicable):	7M87109.D	AD00430-001(3X)	10/6/2017 8:12:00 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	20.3757	0	50	41	1	150
N-Nitrosodimethylamine	1	25.6404	0	50	51	50	130
Benzaldehyde	1	145.2879	0	50	291*	20	150
Aniline	1	21.8793	0	50	44	20	150
Pentachloroethane	1	24.2547	0	50	49*	50	130
bis(2-Chloroethyl)ether	1	30.4233	0	50	61	50	130
N-Decane	1	23.6709	0	50	47	20	130
1,3-Dichlorobenzene	1	31.899	0	50	64	60	130
1,4-Dichlorobenzene	1	27.7371	0	50	55*	60	130
1,2-Dichlorobenzene	1	27.6294	0	50	55	50	130
Benzyl alcohol	1	26.4045	0	50	53	20	130
bis(2-chloroisopropyl)ether	1	21.9651	0	50	44	40	130
Acetophenone	1	29.3994	0	50	59	50	130
Hexachloroethane	1	17.3373	0	50	35*	50	130
N-Nitroso-di-n-propylamine	1	26.1081	0	50	52	40	130
Nitrobenzene	1	28.8621	0	50	58*	70	130
Isophorone	1	26.2395	0	50	52*	60	130
Benzoic Acid	1	47.9205	0	100	48	20	130
bis(2-Chloroethoxy)methane	1	27.6078	0	50	55*	60	130
1,2,4-Trichlorobenzene	1	30.7941	0	50	62	50	130
Naphthalene	1	30.4299	0	50	61	50	130
4-Chloroaniline	1	30.9234	0	50	62	10	150
Hexachlorobutadiene	1	31.5504	0	50	63	60	130
Caprolactam	1	29.6763	0	50	59	50	130
2-Methylnaphthalene	1	31.1346	0	50	62*	70	130
1-Methylnaphthalene	1	31.332	0	50	63*	70	130
1,1'-Biphenyl	1	28.5432	0	50	57*	60	130
1,2,4,5-Tetrachlorobenzene	1	34.0617	0	50	68*	70	130
Hexachlorocyclopentadiene	1	0	0	50	0*	20	160
2-Chloronaphthalene	1	31.1826	0	50	62*	70	130
1,4-Dimethylnaphthalene	1	28.7346	0	50	57*	70	130
Diphenyl Ether	1	34.8387	0	50	70	70	130
2-Nitroaniline	1	31.2933	0	50	63	50	130
Coumarin	1	26.031	0	50	52*	70	130
Acenaphthylene	1	34.5879	0	50	69*	70	130
Dimethylphthalate	1	30.1278	0	50	60*	70	130
2,6-Dinitrotoluene	1	29.7216	0	50	59*	70	130
Acenaphthene	1	32.6475	0	50	65	50	130
3-Nitroaniline	1	26.8224	0	50	54*	70	130
Dibenzofuran	1	31.6932	0	50	63*	70	130
2,4-Dinitrotoluene	1	26.6769	0	50	53	40	130
Fluorene	1	32.7909	0	50	66	50	130
4-Chlorophenyl-phenylether	1	31.1988	0	50	62*	70	130
Diethylphthalate	1	30.4149	0	50	61*	70	130
4-Nitroaniline	1	28.0671	0	50	56	50	130
Atrazine	1	44.7141	0	50	89	50	130
n-Nitrosodiphenylamine	1	28.3356	0	50	57	50	130
1,2-Diphenylhydrazine	1	29.9355	0	50	60*	70	130
4-Bromophenyl-phenylether	1	32.8074	0	50	66*	70	130
Hexachlorobenzene	1	34.1649	0	50	68*	70	130
N-Octadecane	1	33.5088	0	50	67*	70	130
Phenanthrene	1	39.6468	12.3159	50	55*	70	130
Anthracene	1	33.7302	0	50	67*	70	130
Carbazole	1	32.1075	0	50	64*	70	130
Di-n-butylphthalate	1	31.4298	0	50	63*	70	130
Fluoranthene	1	49.8153	30.0528	50	40*	70	130
Pyrene	1	57.7491	33.2172	50	49*	50	130
Benzidine	1	0	0	50	0*	1	130
Butylbenzylphthalate	1	32.4927	0	50	65	50	130
3,3'-Dichlorobenzidine	1	28.0764	0	50	56	10	130
Benzo[a]anthracene	1	44.3652	18.2883	50	52*	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63086

Chrysene	1	41.9826	18.2436	50	47*	60	130
bis(2-Ethylhexyl)phthalate	1	42.5472	46.0692	50	-7*	70	130
Di-n-octylphthalate	1	30.7647	0	50	62*	70	130
Benzo[b]fluoranthene	1	44.6973	23.5212	50	42*	70	130
Benzo[k]fluoranthene	1	40.6686	9.0117	50	63*	70	130
Benzo[a]pyrene	1	41.2881	18.2472	50	46*	70	130
Indeno[1,2,3-cd]pyrene	1	46.3566	13.6137	50	65*	70	130
Dibenzo[a,h]anthracene	1	41.2842	0	50	83	60	130
Benzo[g,h,i]perylene	1	45.6138	16.119	50	59*	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: SMB63086

	Data File	Sample ID:	Analysis Date
Spike or Dup:	7M87111.D	AD00430-001(3X)(MSD)	10/6/2017 8:59:00 PM
Duplicate(If applicable):	7M87110.D	AD00430-001(3X)(MS)	10/6/2017 8:35:00 PM
Inst Blank(If applicable):			

Method: 8270D Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Pyridine	1	20.3757	21.84	6.9	30
N-Nitrosodimethylamine	1	25.6404	30.9801	19	30
Benzaldehyde	1	145.2879	177.9795	20	30
Aniline	1	21.8793	25.1154	14	30
Pentachloroethane	1	24.2547	29.5422	20	30
bis(2-Chloroethyl)ether	1	30.4233	37.0365	20	30
N-Decane	1	23.6709	26.9775	13	30
1,3-Dichlorobenzene	1	31.899	37.6179	16	30
1,4-Dichlorobenzene	1	27.7371	33.813	20	40
1,2-Dichlorobenzene	1	27.6294	34.6329	22	30
Benzyl alcohol	1	26.4045	35.2188	29	30
bis(2-chloroisopropyl)ether	1	21.9651	27.6381	23	30
Acetophenone	1	29.3994	35.8098	20	30
Hexachloroethane	1	17.3373	21.0549	19	30
N-Nitroso-di-n-propylamine	1	26.1081	33.27	24	40
Nitrobenzene	1	28.8621	35.1969	20	30
Isophorone	1	26.2395	33.2034	23	30
Benzoic Acid	1	47.9205	55.4883	15	30
bis(2-Chloroethoxy)methane	1	27.6078	34.9008	23	30
1,2,4-Trichlorobenzene	1	30.7941	39.0225	24	40
Naphthalene	1	30.4299	37.806	22	40
4-Chloroaniline	1	30.9234	38.3442	21	30
Hexachlorobutadiene	1	31.5504	39.7761	23	30
Caprolactam	1	29.6763	37.8015	24	30
2-Methylnaphthalene	1	31.1346	38.8674	22	30
1-Methylnaphthalene	1	31.332	39.2733	22	30
1,1'-Biphenyl	1	28.5432	35.9376	23	30
1,2,4,5-Tetrachlorobenzene	1	34.0617	41.847	21	30
Hexachlorocyclopentadiene	1	0	0	NA	30
2-Chloronaphthalene	1	31.1826	39.1665	23	30
1,4-Dimethylnaphthalene	1	28.7346	36.2262	23	30
Diphenyl Ether	1	34.8387	42.6969	20	30
2-Nitroaniline	1	31.2933	40.3785	25	30
Coumarin	1	26.031	31.6773	20	30
Acenaphthylene	1	34.5879	43.6623	23	30
Dimethylphthalate	1	30.1278	38.6037	25	30
2,6-Dinitrotoluene	1	29.7216	39.4131	28	30
Acenaphthene	1	32.6475	41.4237	24	40
3-Nitroaniline	1	26.8224	34.8732	26	30
Dibenzofuran	1	31.6932	40.6437	25	30
2,4-Dinitrotoluene	1	26.6769	34.2951	25	40
Fluorene	1	32.7909	41.8008	24	40
4-Chlorophenyl-phenylether	1	31.1988	38.9139	22	30
Diethylphthalate	1	30.4149	38.7582	24	30
4-Nitroaniline	1	28.0671	35.943	25	30
Atrazine	1	44.7141	56.334	23	30
n-Nitrosodiphenylamine	1	28.3356	35.8452	23	30
1,2-Diphenylhydrazine	1	29.9355	36.9705	21	30
4-Bromophenyl-phenylether	1	32.8074	42.6153	26	30
Hexachlorobenzene	1	34.1649	42.4935	22	30
N-Octadecane	1	33.5088	39.9333	17	30
Phenanthrene	1	39.6468	55.7526	34*	30
Anthracene	1	33.7302	43.7727	26	30
Carbazole	1	32.1075	40.386	23	30
Di-n-butylphthalate	1	31.4298	38.8653	21	30
Fluoranthene	1	49.8153	71.1711	35*	30
Pyrene	1	57.7491	78.0435	30	40
Benzidine	1	0	0	NA	30
Butylbenzylphthalate	1	32.4927	40.9239	23	40
3,3'-Dichlorobenzidine	1	28.0764	31.881	13	30
Benzo[a]anthracene	1	44.3652	58.7544	28	30
Chrysene	1	41.9826	54.6177	26	30
bis(2-Ethylhexyl)phthalate	1	42.5472	49.8687	16	30

Form3
RPD Data Laboratory Limits
QC Batch: SMB63086

Di-n-octylphthalate	1	30.7647	37.4376	20	30
Benzo[b]fluoranthene	1	44.6973	65.3592	38 *	30
Benzo[k]fluoranthene	1	40.6686	44.2308	8.4	30
Benzo[a]pyrene	1	41.2881	53.4312	26	30
Indeno[1,2,3-cd]pyrene	1	46.3566	59.1147	24	30
Dibenzo[a,h]anthracene	1	41.2842	51.7131	22	30
Benzo[g,h,i]perylene	1	45.6138	58.8324	25	30

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63087

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M65374.D	AD00418-006(MS)	10/6/2017 4:31:00 PM
Non Spike(If applicable):	10M65373.D	AD00418-006	10/6/2017 4:09:00 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	16.5961	0	50	33	1	150
N-Nitrosodimethylamine	1	27.1317	0	50	54	50	130
Benzaldehyde	1	134.4619	0	50	269*	20	150
Aniline	1	25.1784	0	50	50	20	150
Pentachloroethane	1	23.4963	0	50	47*	50	130
bis(2-Chloroethyl)ether	1	28.7989	0	50	58	50	130
N-Decane	1	20.7166	0	50	41	20	130
1,3-Dichlorobenzene	1	26.4258	0	50	53*	60	130
1,4-Dichlorobenzene	1	27.6602	0	50	55*	60	130
1,2-Dichlorobenzene	1	27.7543	0	50	56	50	130
Benzyl alcohol	1	25.9851	0	50	52	20	130
bis(2-chloroisopropyl)ether	1	22.3095	0	50	45	40	130
Acetophenone	1	28.4023	0	50	57	50	130
Hexachloroethane	1	27.8567	0	50	56	50	130
N-Nitroso-di-n-propylamine	1	26.6358	0	50	53	40	130
Nitrobenzene	1	29.4574	0	50	59*	70	130
Isophorone	1	27.8473	0	50	56*	60	130
Benzoic Acid	1	18.5416	0	100	19*	20	130
bis(2-Chloroethoxy)methane	1	28.2452	0	50	56*	60	130
1,2,4-Trichlorobenzene	1	29.2748	0	50	59	50	130
Naphthalene	1	28.7247	0	50	57	50	130
4-Chloroaniline	1	23.6866	0	50	47	10	150
Hexachlorobutadiene	1	30.3028	0	50	61	60	130
Caprolactam	1	26.7221	0	50	53	50	130
2-Methylnaphthalene	1	29.9148	0	50	60*	70	130
1-Methylnaphthalene	1	28.5512	0	50	57*	70	130
1,1'-Biphenyl	1	25.7599	0	50	52*	60	130
1,2,4,5-Tetrachlorobenzene	1	31.128	0	50	62*	70	130
Hexachlorocyclopentadiene	1	14.811	0	50	30	20	160
2-Chloronaphthalene	1	31.1675	0	50	62*	70	130
1,4-Dimethylnaphthalene	1	26.6082	0	50	53*	70	130
Diphenyl Ether	1	32.7059	0	50	65*	70	130
2-Nitroaniline	1	31.855	0	50	64	50	130
Coumarin	1	23.7905	0	50	48*	70	130
Acenaphthylene	1	31.3616	0	50	63*	70	130
Dimethylphthalate	1	30.251	0	50	61*	70	130
2,6-Dinitrotoluene	1	28.9628	0	50	58*	70	130
Acenaphthene	1	30.9267	0	50	62	50	130
3-Nitroaniline	1	30.684	0	50	61	10	130
Dibenzofuran	1	31.1041	0	50	62*	70	130
2,4-Dinitrotoluene	1	27.3672	0	50	55	40	130
Fluorene	1	29.4372	0	50	59	50	130
4-Chlorophenyl-phenylether	1	29.3553	0	50	59*	70	130
Diethylphthalate	1	29.9829	0	50	60*	70	130
4-Nitroaniline	1	27.4949	0	50	55	50	130
Atrazine	1	41.1664	0	50	82	50	130
n-Nitrosodiphenylamine	1	27.7667	0	50	56	50	130
1,2-Diphenylhydrazine	1	32.9325	0	50	66*	70	130
4-Bromophenyl-phenylether	1	31.7592	0	50	64*	70	130
Hexachlorobenzene	1	31.1442	0	50	62*	70	130
N-Octadecane	1	35.0961	0	50	70	70	130
Phenanthrene	1	29.8378	0	50	60*	70	130
Anthracene	1	29.9226	0	50	60*	70	130
Carbazole	1	29.3857	0	50	59*	70	130
Di-n-butylphthalate	1	31.6346	0	50	63*	70	130
Fluoranthene	1	28.0803	0	50	56*	70	130
Pyrene	1	36.0577	0	50	72	50	130
Benzidine	1	2.2761	0	50	4.6	1	130
Butylbenzylphthalate	1	36.3249	0	50	73	50	130
3,3'-Dichlorobenzidine	1	32.5969	0	50	65	10	130
Benzo[a]anthracene	1	31.3576	0	50	63*	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63087

Chrysene	1	31.3207	0	50	63	60	130
bis(2-Ethylhexyl)phthalate	1	41.707	0	50	83	70	130
Di-n-octylphthalate	1	35.589	0	50	71	70	130
Benzo[b]fluoranthene	1	35.1428	0	50	70	70	130
Benzo[k]fluoranthene	1	33.2205	0	50	66*	70	130
Benzo[a]pyrene	1	29.8338	0	50	60*	70	130
Indeno[1,2,3-cd]pyrene	1	37.0023	0	50	74	70	130
Dibenzo[a,h]anthracene	1	35.9357	0	50	72	60	130
Benzo[g,h,i]perylene	1	34.7606	0	50	70	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63087

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M65375.D	AD00418-006(MSD)	10/6/2017 4:54:00 PM
Non Spike(If applicable):	10M65373.D	AD00418-006	10/6/2017 4:09:00 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	15.9776	0	50	32	1	150
N-Nitrosodimethylamine	1	29.6343	0	50	59	50	130
Benzaldehyde	1	147.8327	0	50	296*	20	150
Aniline	1	31.6496	0	50	63	20	150
Pentachloroethane	1	25.3154	0	50	51	50	130
bis(2-Chloroethyl)ether	1	28.3181	0	50	57	50	130
N-Decane	1	19.6543	0	50	39	20	130
1,3-Dichlorobenzene	1	28.0059	0	50	56*	60	130
1,4-Dichlorobenzene	1	29.5516	0	50	59*	60	130
1,2-Dichlorobenzene	1	30.0806	0	50	60	50	130
Benzyl alcohol	1	28.7677	0	50	58	20	130
bis(2-chloroisopropyl)ether	1	25.0466	0	50	50	40	130
Acetophenone	1	32.882	0	50	66	50	130
Hexachloroethane	1	29.9411	0	50	60	50	130
N-Nitroso-di-n-propylamine	1	30.8964	0	50	62	40	130
Nitrobenzene	1	32.5029	0	50	65*	70	130
Isophorone	1	31.7522	0	50	64	60	130
Benzoic Acid	1	28.9608	0	100	29	20	130
bis(2-Chloroethoxy)methane	1	32.8909	0	50	66	60	130
1,2,4-Trichlorobenzene	1	31.9357	0	50	64	50	130
Naphthalene	1	32.1929	0	50	64	50	130
4-Chloroaniline	1	34.1067	0	50	68	10	150
Hexachlorobutadiene	1	32.8539	0	50	66	60	130
Caprolactam	1	32.3852	0	50	65	50	130
2-Methylnaphthalene	1	33.1965	0	50	66*	70	130
1-Methylnaphthalene	1	32.0273	0	50	64*	70	130
1,1'-Biphenyl	1	29.6176	0	50	59*	60	130
1,2,4,5-Tetrachlorobenzene	1	34.5642	0	50	69*	70	130
Hexachlorocyclopentadiene	1	17.3822	0	50	35	20	160
2-Chloronaphthalene	1	35.2594	0	50	71	70	130
1,4-Dimethylnaphthalene	1	29.9726	0	50	60*	70	130
Diphenyl Ether	1	35.7602	0	50	72	70	130
2-Nitroaniline	1	36.3264	0	50	73	50	130
Coumarin	1	26.9815	0	50	54*	70	130
Acenaphthylene	1	35.3946	0	50	71	70	130
Dimethylphthalate	1	33.3045	0	50	67*	70	130
2,6-Dinitrotoluene	1	33.9847	0	50	68*	70	130
Acenaphthene	1	34.7928	0	50	70	50	130
3-Nitroaniline	1	38.8846	0	50	78	70	130
Dibenzofuran	1	35.6616	0	50	71	70	130
2,4-Dinitrotoluene	1	33.0425	0	50	66	40	130
Fluorene	1	34.246	0	50	68	50	130
4-Chlorophenyl-phenylether	1	33.6061	0	50	67*	70	130
Diethylphthalate	1	34.1667	0	50	68*	70	130
4-Nitroaniline	1	32.1152	0	50	64	50	130
Atrazine	1	48.2232	0	50	96	50	130
n-Nitrosodiphenylamine	1	31.0031	0	50	62	50	130
1,2-Diphenylhydrazine	1	37.6016	0	50	75	70	130
4-Bromophenyl-phenylether	1	35.3782	0	50	71	70	130
Hexachlorobenzene	1	34.4794	0	50	69*	70	130
N-Octadecane	1	37.7849	0	50	76	70	130
Phenanthrene	1	34.2825	0	50	69*	70	130
Anthracene	1	34.5199	0	50	69*	70	130
Carbazole	1	33.8936	0	50	68*	70	130
Di-n-butylphthalate	1	36.1252	0	50	72	70	130
Fluoranthene	1	33.3692	0	50	67*	70	130
Pyrene	1	37.1894	0	50	74	50	130
Benzidine	1	3.0666	0	50	6.1	1	130
Butylbenzylphthalate	1	37.486	0	50	75	50	130
3,3'-Dichlorobenzidine	1	38.9471	0	50	78	10	130
Benzo[a]anthracene	1	36.2445	0	50	72	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63087

Chrysene	1	35.7479	0	50	71	60	130
bis(2-Ethylhexyl)phthalate	1	44.9274	0	50	90	70	130
Di-n-octylphthalate	1	35.8359	0	50	72	70	130
Benzo[b]fluoranthene	1	35.9061	0	50	72	70	130
Benzo[k]fluoranthene	1	34.6315	0	50	69*	70	130
Benzo[a]pyrene	1	33.9831	0	50	68*	70	130
Indeno[1,2,3-cd]pyrene	1	39.6526	0	50	79	70	130
Dibenzo[a,h]anthracene	1	37.9771	0	50	76	60	130
Benzo[g,h,i]perylene	1	36.8606	0	50	74	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: SMB63087

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M65375.D	AD00418-006(MSD)	10/6/2017 4:54:00 PM
Duplicate(If applicable):	10M65374.D	AD00418-006(MS)	10/6/2017 4:31:00 PM
Inst Blank(If applicable):			

Method: 8270D Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Pyridine	1	15.9776	16.5961	3.8	30
N-Nitrosodimethylamine	1	29.6343	27.1317	8.8	30
Benzaldehyde	1	147.8327	134.4619	9.5	30
Aniline	1	31.6496	25.1784	23	30
Pentachloroethane	1	25.3154	23.4963	7.5	30
bis(2-Chloroethyl)ether	1	28.3181	28.7989	1.7	30
N-Decane	1	19.6543	20.7166	5.3	30
1,3-Dichlorobenzene	1	28.0059	26.4258	5.8	30
1,4-Dichlorobenzene	1	29.5516	27.6602	6.6	40
1,2-Dichlorobenzene	1	30.0806	27.7543	8	30
Benzyl alcohol	1	28.7677	25.9851	10	30
bis(2-chloroisopropyl)ether	1	25.0466	22.3095	12	30
Acetophenone	1	32.882	28.4023	15	30
Hexachloroethane	1	29.9411	27.8567	7.2	30
N-Nitroso-di-n-propylamine	1	30.8964	26.6358	15	40
Nitrobenzene	1	32.5029	29.4574	9.8	30
Isophorone	1	31.7522	27.8473	13	30
Benzoic Acid	1	28.9608	18.5416	44*	30
bis(2-Chloroethoxy)methane	1	32.8909	28.2452	15	30
1,2,4-Trichlorobenzene	1	31.9357	29.2748	8.7	40
Naphthalene	1	32.1929	28.7247	11	40
4-Chloroaniline	1	34.1067	23.6866	36*	30
Hexachlorobutadiene	1	32.8539	30.3028	8.1	30
Caprolactam	1	32.3852	26.7221	19	30
2-Methylnaphthalene	1	33.1965	29.9148	10	30
1-Methylnaphthalene	1	32.0273	28.5512	11	30
1,1'-Biphenyl	1	29.6176	25.7599	14	30
1,2,4,5-Tetrachlorobenzene	1	34.5642	31.128	10	30
Hexachlorocyclopentadiene	1	17.3822	14.811	16	30
2-Chloronaphthalene	1	35.2594	31.1675	12	30
1,4-Dimethylnaphthalene	1	29.9726	26.6082	12	30
Diphenyl Ether	1	35.7602	32.7059	8.9	30
2-Nitroaniline	1	36.3264	31.855	13	30
Coumarin	1	26.9815	23.7905	13	30
Acenaphthylene	1	35.3946	31.3616	12	30
Dimethylphthalate	1	33.3045	30.251	9.6	30
2,6-Dinitrotoluene	1	33.9847	28.9628	16	30
Acenaphthene	1	34.7928	30.9267	12	40
3-Nitroaniline	1	38.8846	30.684	24	30
Dibenzofuran	1	35.6616	31.1041	14	30
2,4-Dinitrotoluene	1	33.0425	27.3672	19	40
Fluorene	1	34.246	29.4372	15	40
4-Chlorophenyl-phenylether	1	33.6061	29.3553	14	30
Diethylphthalate	1	34.1667	29.9829	13	30
4-Nitroaniline	1	32.1152	27.4949	16	30
Atrazine	1	48.2232	41.1664	16	30
n-Nitrosodiphenylamine	1	31.0031	27.7667	11	30
1,2-Diphenylhydrazine	1	37.6016	32.9325	13	30
4-Bromophenyl-phenylether	1	35.3782	31.7592	11	30
Hexachlorobenzene	1	34.4794	31.1442	10	30
N-Octadecane	1	37.7849	35.0961	7.4	30
Phenanthrene	1	34.2825	29.8378	14	30
Anthracene	1	34.5199	29.9226	14	30
Carbazole	1	33.8936	29.3857	14	30
Di-n-butylphthalate	1	36.1252	31.6346	13	30
Fluoranthene	1	33.3692	28.0803	17	30
Pyrene	1	37.1894	36.0577	3.1	40
Benzidine	1	3.0666	2.2761	30	30
Butylbenzylphthalate	1	37.486	36.3249	3.1	40
3,3'-Dichlorobenzidine	1	38.9471	32.5969	18	30
Benzo[a]anthracene	1	36.2445	31.3576	14	30
Chrysene	1	35.7479	31.3207	13	30
bis(2-Ethylhexyl)phthalate	1	44.9274	41.707	7.4	30

Form3
RPD Data Laboratory Limits
QC Batch: SMB63087

Di-n-octylphthalate	1	35.8359	35.589	0.69	30
Benzo[b]fluoranthene	1	35.9061	35.1428	2.1	30
Benzo[k]fluoranthene	1	34.6315	33.2205	4.2	30
Benzo[a]pyrene	1	33.9831	29.8338	13	30
Indeno[1,2,3-cd]pyrene	1	39.6526	37.0023	6.9	30
Dibenzo[a,h]anthracene	1	37.9771	35.9357	5.5	30
Benzo[g,h,i]perylene	1	36.8606	34.7606	5.9	30

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: SMB63087
Blank Data File: 10M65371.D
Matrix: Soil

Blank Analysis Date: 10/06/17 14:13
Blank Extraction Date: 10/06/17
(If Applicable)
Method: EPA 8270D

Sample Number	Data File	Analysis Date
AD00418-006	10M65373.D	10/06/17 16:09
SMB63087(MS)	9M80809.D	10/06/17 13:59
AD00418-006(MSD	10M65375.D	10/06/17 16:54
AD00418-006(MS)	10M65374.D	10/06/17 16:31

FORM 4
Blank Summary

Blank Number: SMB63086
Blank Data File: 7M87098.D
Matrix: Soil

Blank Analysis Date: 10/06/17 15:55
Blank Extraction Date: 10/06/17
(If Applicable)
Method: EPA 8270D

Sample Number	Data File	Analysis Date
AD00418-002	7M87100.D	10/06/17 16:42
AD00418-004	7M87101.D	10/06/17 17:05
SMB63086(MS)	9M80808.D	10/06/17 13:36
AD00430-001(3X)(	7M87111.D	10/06/17 20:59
AD00430-001(3X)(	7M87110.D	10/06/17 20:35
AD00430-001(3X)	7M87109.D	10/06/17 20:12

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10

Data File: 10M64974.D
Analysis Date: 09/11/17 08:41
Method: EPA 8270D

Tune Scan/Time Range: Scan 1444

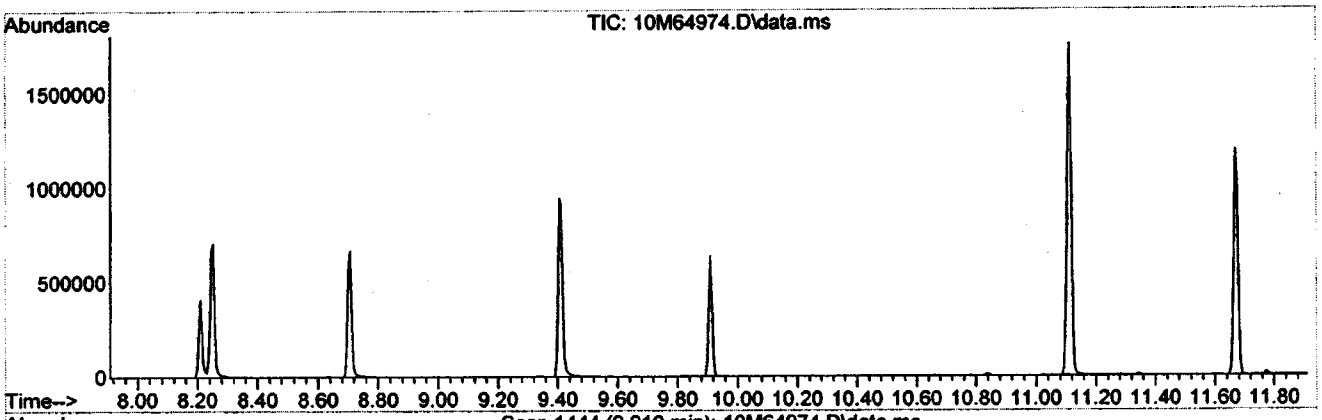
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	31.8	25200	PASS
68	69	0.00	2	1.7	488	PASS
69	198	0.00	100	36.5	28856	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	47.0	37192	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	79128	PASS
199	198	5	9	7.1	5647	PASS
275	198	10	30	26.4	20928	PASS
365	198	1	100	3.3	2636	PASS
441	443	0.01	100	73.4	7335	PASS
442	198	40	100	59.3	46936	PASS
443	442	17	23	21.3	9998	PASS

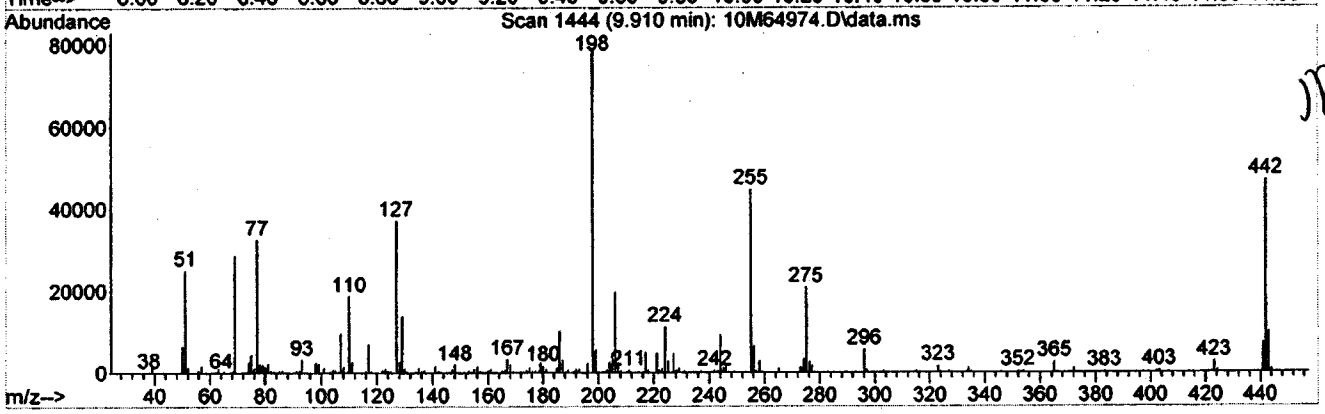
Data File	Sample Number	Analysis Date:
10M64975.D	CAL BNA@10PPM	09/11/17 09:07
10M64976.D	CAL BNA@196PP	09/11/17 09:32
10M64977.D	CAL BNA@160PP	09/11/17 09:55
10M64978.D	CAL BNA@120PP	09/11/17 10:17
10M64979.D	CAL BNA@80PPM	09/11/17 10:39
10M64980.D	CAL BNA@50PPM	09/11/17 11:01
10M64981.D	CAL BNA@20PPM	09/11/17 11:23
10M64982.D	CAL BNA@2PPM	09/11/17 11:46
10M64983.D	CAL BNA@.5PPM	09/11/17 12:08
10M64984.D	CAL BNA@.25PP	09/11/17 12:30
10M64985.D	CAL BNA@50PPM	09/11/17 12:53
10M64986.D	ICV BNA@50PPM	09/11/17 13:15
10M64987.D	EXT MIX#1	09/11/17 14:09
10M64988.D	EXT MIX#1(2ND)	09/11/17 14:31

Data Path : G:\GcMsData\2017\GCMS_10\Data\09-11-17\
Data File : 10M64974.D
Acq On : 11 Sep 2017 8:41
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_10\METHODQT\10M_0808.M
Title : @GCMS_10,mg,625,8270
Last Update : Mon Sep 11 13:08:39 2017





Spectrum Information: Scan 1444

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	31.8	25200	PASS
68	69	0.00	2	1.7	488	PASS
69	198	0.00	100	36.5	28856	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	47.0	37192	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	79128	PASS
199	198	5	9	7.1	5647	PASS
275	198	10	30	26.4	20928	PASS
365	198	1	100	3.3	2636	PASS
441	443	0.01	100	73.4	7335	PASS
442	198	40	100	59.3	46936	PASS
443	442	17	23	21.3	9998	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M86401.D
Analysis Date: 09/11/17 08:45
Method: EPA 8270D

Tune Scan/Time Range: Scan 1452

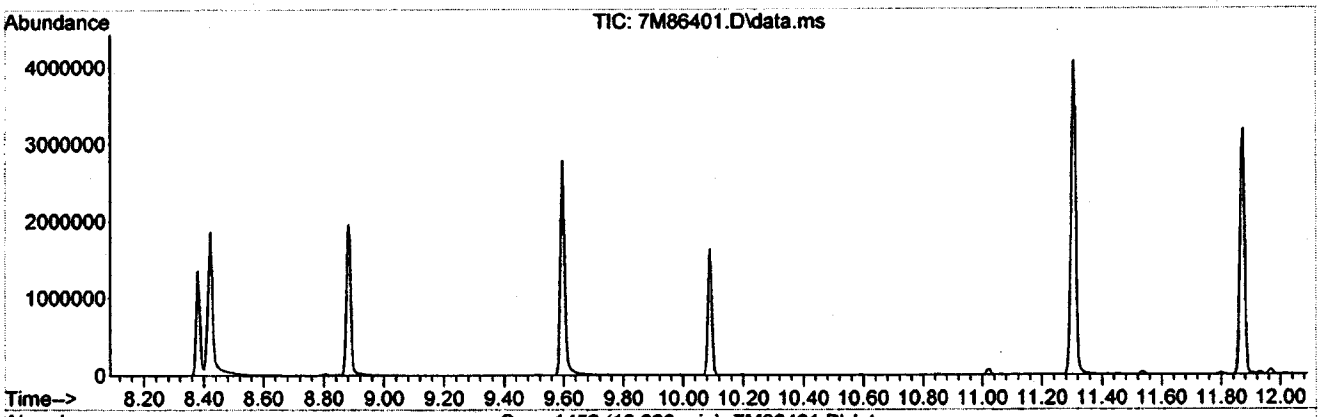
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	35.7	69000	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.8	84784	PASS
70	69	0.00	2	0.7	582	PASS
127	198	40	60	49.3	95416	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	193472	PASS
199	198	5	9	6.9	13323	PASS
275	198	10	30	25.7	49744	PASS
365	198	1	100	3.0	5758	PASS
441	443	0.01	100	78.3	17192	PASS
442	198	40	100	60.0	116064	PASS
443	442	17	23	18.9	21968	PASS

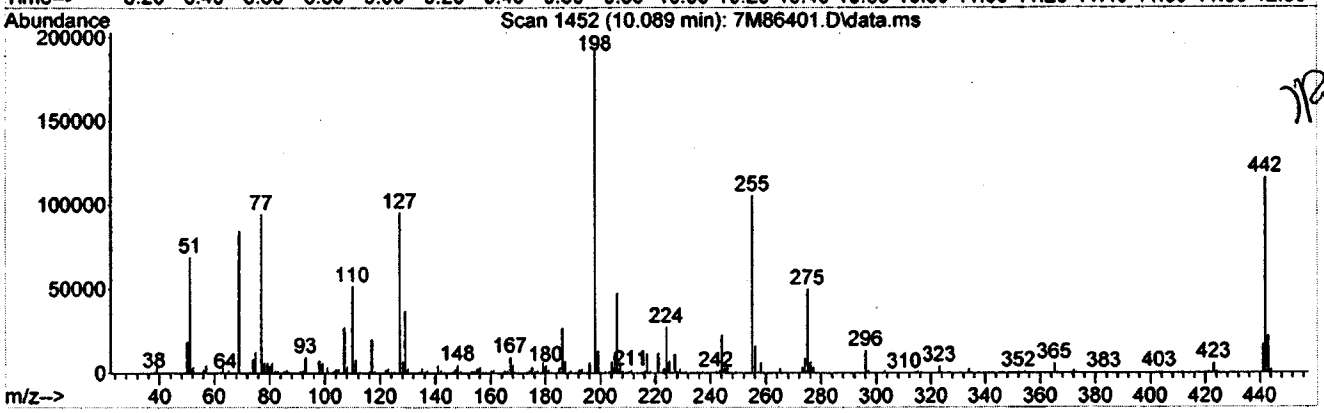
Data File	Sample Number	Analysis Date:
7M86402.D	CAL BNA@10PPM	09/11/17 09:11
7M86403.D	CAL BNA@10PPM	09/11/17 11:02
7M86404.D	CAL BNA@196PP	09/11/17 11:25
7M86405.D	CAL BNA@160PP	09/11/17 11:49
7M86406.D	CAL BNA@120PP	09/11/17 12:12
7M86407.D	CAL BNA@80PPM	09/11/17 12:35
7M86408.D	CAL BNA@10PPM	09/11/17 12:59
7M86409.D	CAL BNA@50PPM	09/11/17 13:22
7M86410.D	CAL BNA@20PPM	09/11/17 13:46
7M86411.D	CAL BNA@2PPM	09/11/17 14:09
7M86412.D	CAL BNA@.25PP	09/11/17 14:41
7M86413.D	CAL BNA@.5PPM	09/11/17 15:05
7M86414.D	ICV BNA@50PPM	09/11/17 15:30

Data Path : G:\GcMsData\2017\GCMS_7\Data\09-11-17\
Data File : 7M86401.D
Acq On : 11 Sep 2017 8:45
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_7\METHODQT\7M_0807.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Aug 14 13:34:47 2017





Spectrum Information: Scan 1452

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	35.7	69000	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.8	84784	PASS
70	69	0.00	2	0.7	582	PASS
127	198	40	60	49.3	95416	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	193472	PASS
199	198	5	9	6.9	13323	PASS
275	198	10	30	25.7	49744	PASS
365	198	1	100	3.0	5758	PASS
441	443	0.01	100	78.3	17192	PASS
442	198	40	100	60.0	116064	PASS
443	442	17	23	18.9	21968	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 9

Data File: 9M80443.D
Analysis Date: 09/11/17 09:28
Method: EPA 8270D

Tune Scan/Time Range: Average of 10.065 to 10.079 min

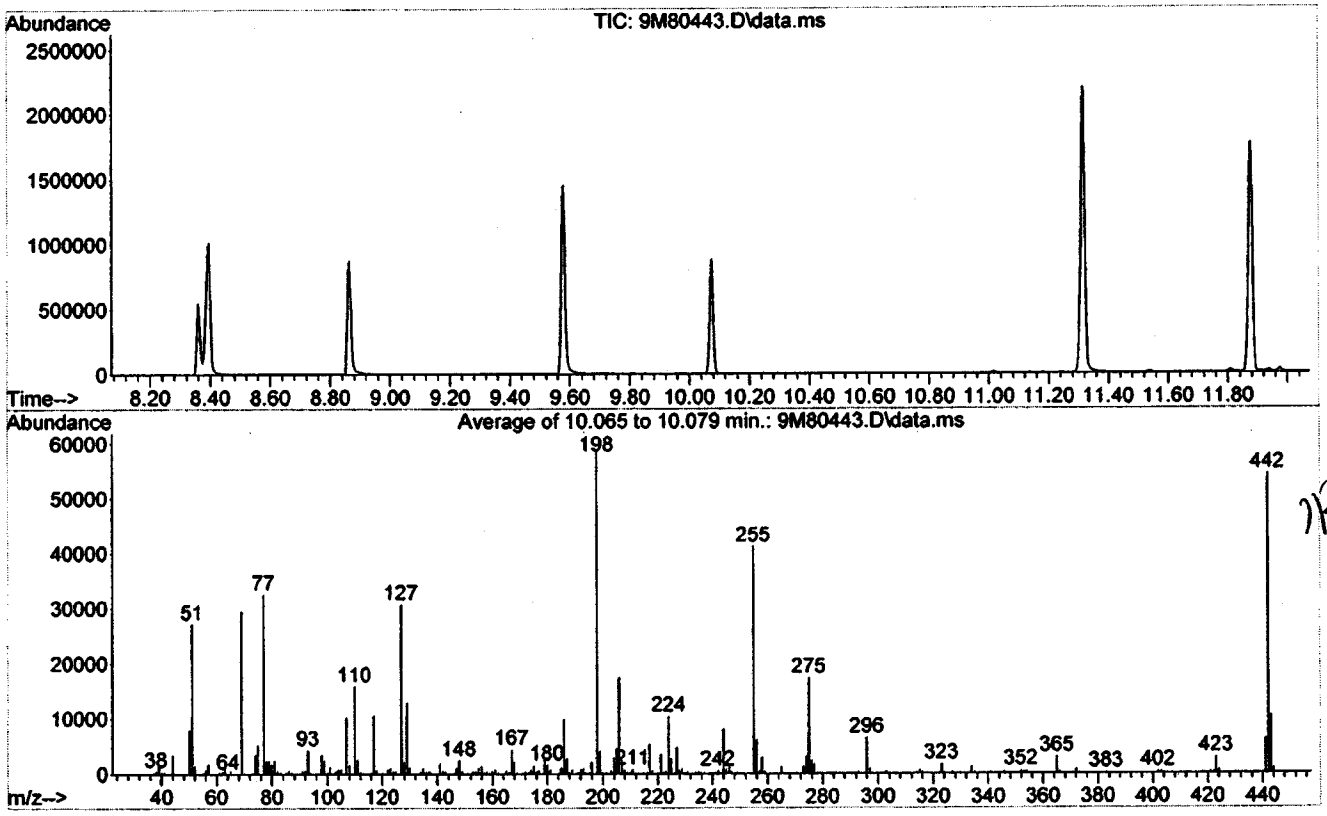
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	46.1	27194	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.1	29515	PASS
70	69	0.00	2	0.6	167	PASS
127	198	40	60	52.1	30713	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	58961	PASS
199	198	5	9	7.0	4113	PASS
275	198	10	30	29.5	17374	PASS
365	198	1	100	5.2	3041	PASS
441	443	0.01	100	59.2	6223	PASS
442	198	40	100	92.2	54342	PASS
443	442	17	23	19.3	10514	PASS

Data File	Sample Number	Analysis Date:
9M80444.D	CAL BNA@10PPM	09/11/17 09:59
9M80445.D	CAL BNA@10PPM	09/11/17 11:18
9M80446.D	CAL BNA@196PP	09/11/17 11:41
9M80447.D	CAL BNA@160PP	09/11/17 12:04
9M80448.D	CAL BNA@120PP	09/11/17 12:28
9M80449.D	CAL BNA@80PPM	09/11/17 12:51
9M80450.D	CAL BNA@50PPM	09/11/17 13:14
9M80451.D	CAL BNA@20PPM	09/11/17 13:38
9M80452.D	CAL BNA@2PPM	09/11/17 14:01
9M80453.D	CAL BNA@.25PP	09/11/17 14:25
9M80454.D	CAL BNA@.5PPM	09/11/17 14:48
9M80455.D	CAL BNA@50PPM	09/11/17 15:12
9M80456.D	ICV BNA@50PPM	09/11/17 15:35

Data Path : G:\GcMsData\2017\GCMS_9\Data\09-11-17\
Data File : 9M80443.D
Acq On : 11 Sep 2017 9:28
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_9\METHODQT\9M_0807.M
Title : @GCMS_9,mg,625,8270
Last Update : Mon Aug 07 14:20:22 2017



Spectrum Information: Average of 10.065 to 10.079 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.1	27194	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.1	29515	PASS
70	69	0.00	2	0.6	167	PASS
127	198	40	60	52.1	30713	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	58961	PASS
199	198	5	9	7.0	4113	PASS
275	198	10	30	29.5	17374	PASS
365	198	1	100	5.2	3041	PASS
441	443	0.01	100	59.2	6223	PASS
442	198	40	100	92.2	54342	PASS
443	442	17	23	19.3	10514	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 9

Data File: 9M80805.D
Analysis Date: 10/06/17 07:33
Method: EPA 8270D

Tune Scan/Time Range: Average of 10.054 to 10.059 min

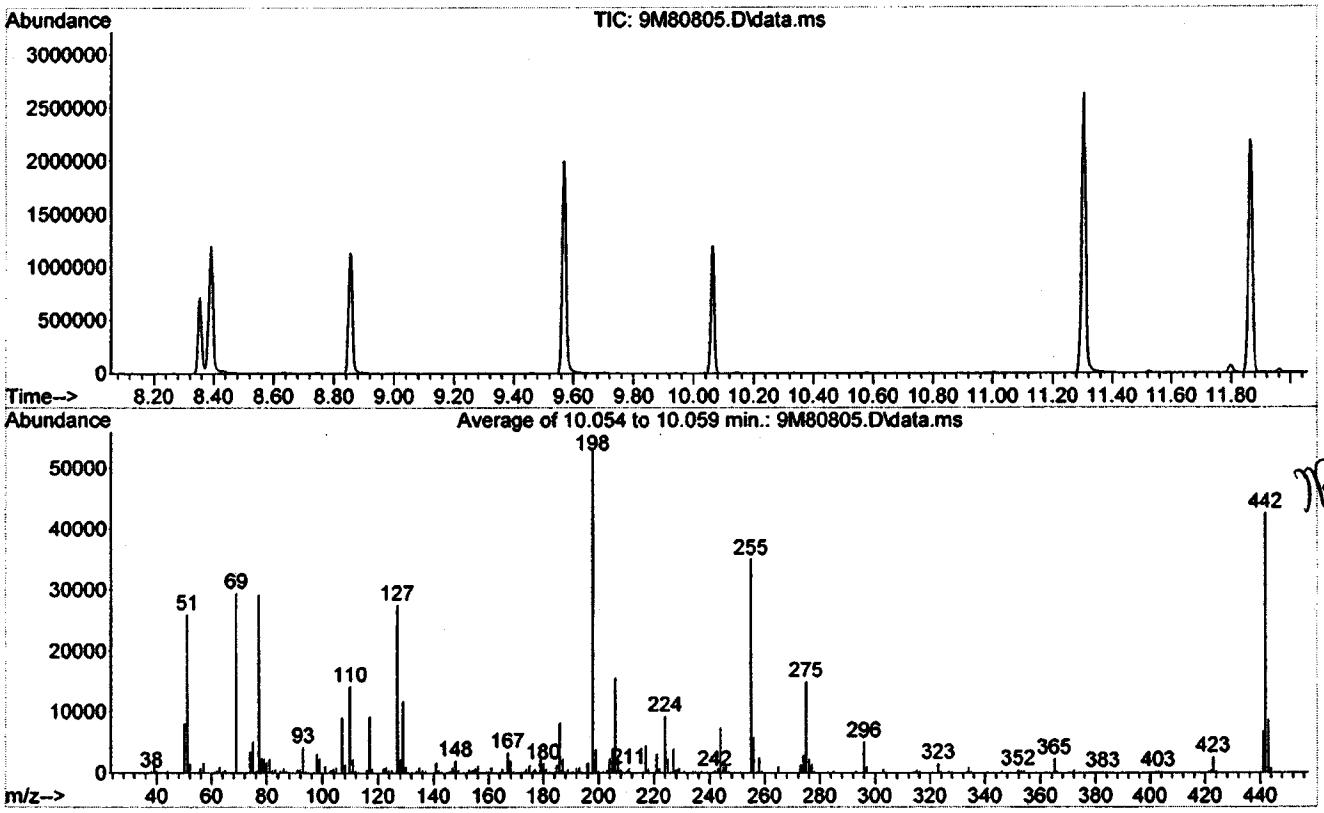
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	48.8	26018	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	55.4	29522	PASS
70	69	0.00	2	0.5	147	PASS
127	198	40	60	51.7	27578	PASS
197	198	0.00	1	0.3	180	PASS
198	198	100	100	100.0	53304	PASS
199	198	5	9	7.3	3867	PASS
275	198	10	30	28.0	14947	PASS
365	198	1	100	4.3	2300	PASS
441	443	0.01	100	78.6	6779	PASS
442	198	40	100	80.0	42667	PASS
443	442	17	23	20.2	8622	PASS

Data File	Sample Number	Analysis Date:
9M80806.D	CAL BNA@50PPM	10/06/17 07:59
9M80807.D	SURR TEST	10/06/17 10:25
9M80808.D	SMB63086(MS)	10/06/17 13:36
9M80809.D	SMB63087(MS)	10/06/17 13:59
9M80810.D	SMB63086	10/06/17 14:22
9M80811.D	SMB63087	10/06/17 14:46

Data Path : G:\GcMsData\2017\GCMS_9\Data\10-06-17\
Data File : 9M80805.D
Acq On : 6 Oct 2017 7:33
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_9\METHODQT\9M_0911.M
Title : @GCMS_9,mg,625,8270
Last Update : Mon Sep 11 16:06:37 2017



Spectrum Information: Average of 10.054 to 10.059 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	26018	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	55.4	29522	PASS
70	69	0.00	2	0.5	147	PASS
127	198	40	60	51.7	27578	PASS
197	198	0.00	1	0.3	180	PASS
198	198	100	100	100.0	53304	PASS
199	198	5	9	7.3	3867	PASS
275	198	10	30	28.0	14947	PASS
365	198	1	100	4.3	2300	PASS
441	443	0.01	100	78.6	6779	PASS
442	198	40	100	80.0	42667	PASS
443	442	17	23	20.2	8622	PASS

Form 5

Tune Name: CAL DFTPP **Data File:** 7M87093.D
Instrument: GCMS 7 **Analysis Date:** 10/06/17 13:04
Method: EPA 8270D

Tune Scan/Time Range: Average of 10.100 to 10.105 min

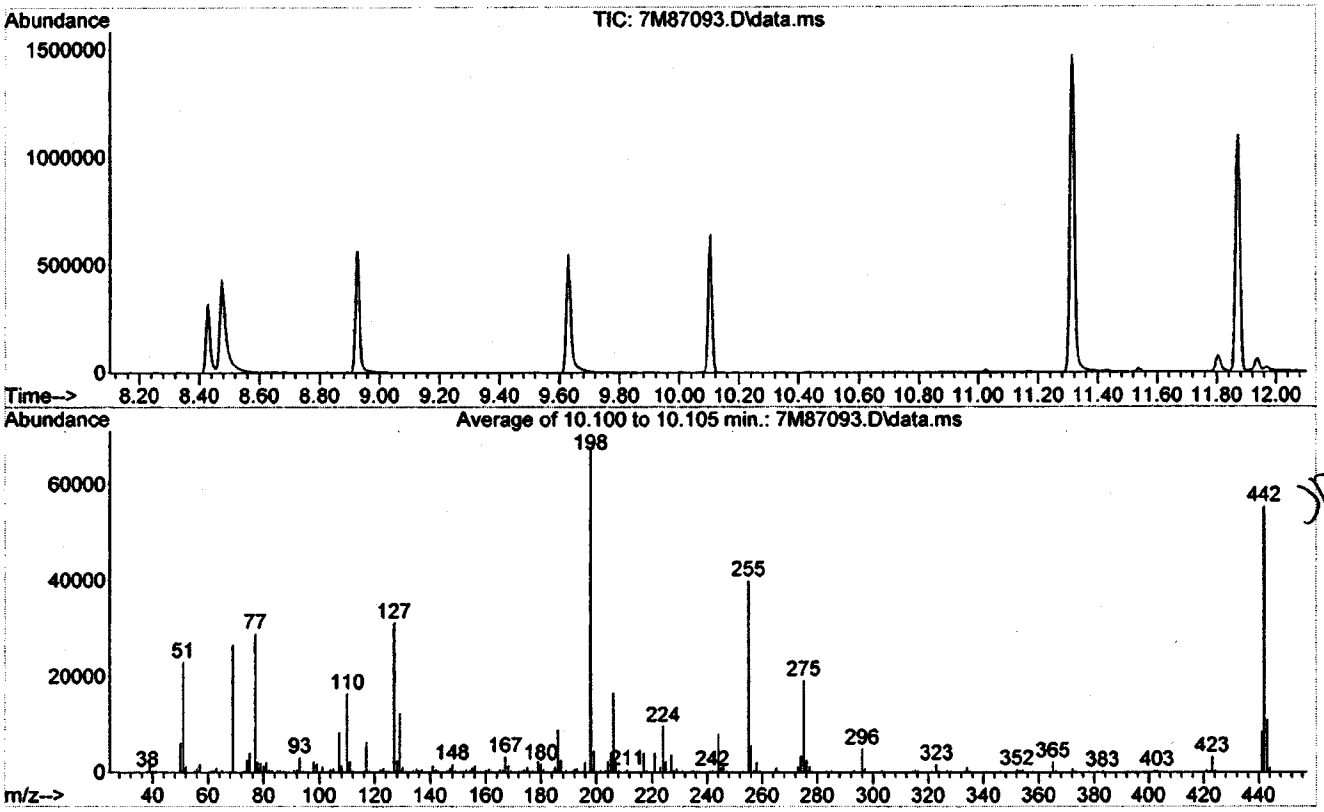
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	33.9	23008	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	39.2	26592	PASS
70	69	0.00	2	0.3	83	PASS
127	198	40	60	46.0	31204	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	67816	PASS
199	198	5	9	6.8	4598	PASS
275	198	10	30	28.3	19205	PASS
365	198	1	100	3.3	2209	PASS
441	443	0.01	100	78.2	8568	PASS
442	198	40	100	81.7	55376	PASS
443	442	17	23	19.8	10956	PASS

Data File	Sample Number	Analysis Date:
7M87094.D	CAL BNA@50PPM	10/06/17 13:28
7M87095.D	AD00415-002	10/06/17 13:53
7M87096.D	AD00415-004	10/06/17 14:16
7M87097.D	AD00415-006	10/06/17 14:40
7M87098.D	SMB63086	10/06/17 15:55
7M87099.D	SMB63087	10/06/17 16:18
7M87100.D	AD00418-002	10/06/17 16:42
7M87101.D	AD00418-004	10/06/17 17:05
7M87102.D	AD00303-005	10/06/17 17:29
7M87103.D	AD00432-002	10/06/17 17:52
7M87104.D	AD00419-008	10/06/17 18:15
7M87105.D	AD00419-010	10/06/17 18:39
7M87106.D	AD00419-001	10/06/17 19:02
7M87107.D	AD00419-004	10/06/17 19:25
7M87108.D	AD00419-021	10/06/17 19:49
7M87109.D	AD00430-001(3X)	10/06/17 20:12
7M87110.D	AD00430-001(3X)(	10/06/17 20:35
7M87111.D	AD00430-001(3X)(	10/06/17 20:59
7M87112.D	AD00425-002(3X)	10/06/17 21:22
7M87113.D	AD00419-014(3X)	10/06/17 21:45
7M87114.D	AD00419-016(3X)	10/06/17 22:08
7M87115.D	AD00419-002(3X)	10/06/17 22:32
7M87116.D	AD00419-003(3X)	10/06/17 22:55
7M87117.D	AD00419-011(3X)	10/06/17 23:18
7M87118.D	AD00419-009(3X)	10/06/17 23:41
7M87119.D	AD00365-002(5X)	10/07/17 00:05
7M87120.D	AD00388-008(5X)(	10/07/17 00:28
7M87121.D	AD00425-003(5X)	10/07/17 00:51

Data Path : G:\GcMsData\2017\GCMS_7\Data\10-06-17\
Data File : 7M87093.D
Acq On : 6 Oct 2017 13:04
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_7\METHODQT\7M_0911.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Sep 11 15:43:33 2017



Spectrum Information: Average of 10.100 to 10.105 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	33.9	23008	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	39.2	26592	PASS
70	69	0.00	2	0.3	83	PASS
127	198	40	60	46.0	31204	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	67816	PASS
199	198	5	9	6.8	4598	PASS
275	198	10	30	28.3	19205	PASS
365	198	1	100	3.3	2209	PASS
441	443	0.01	100	78.2	8568	PASS
442	198	40	100	81.7	55376	PASS
443	442	17	23	19.8	10956	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10

Data File: 10M65368.D
Analysis Date: 10/06/17 13:04
Method: EPA 8270D

Tune Scan/Time Range: Average of 9.905 to 9.905 min

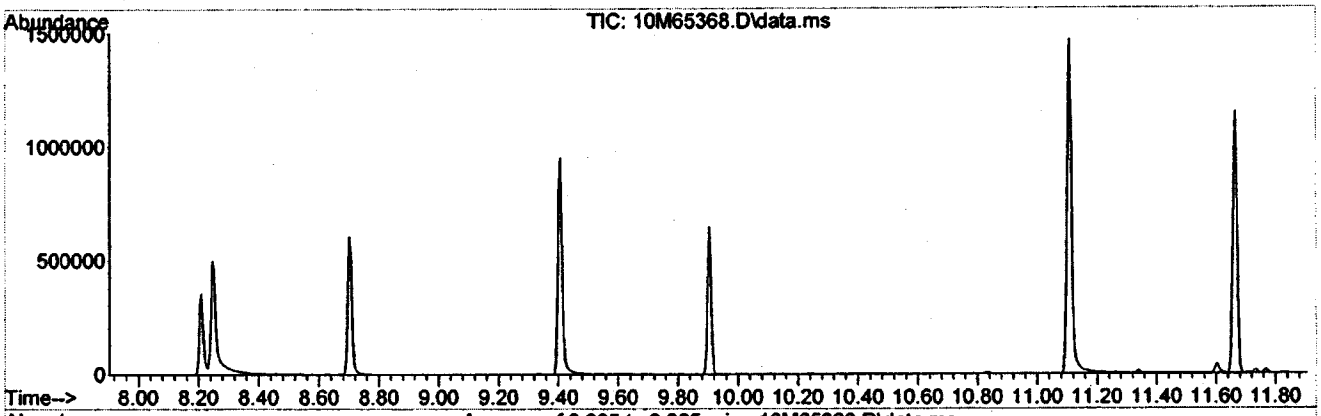
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	32.6	25840	PASS
68	69	0.00	2	1.7	513	PASS
69	198	0.00	100	37.5	29712	PASS
70	69	0.00	2	0.6	185	PASS
127	198	40	60	48.5	38456	PASS
197	198	0.00	1	0.5	395	PASS
198	198	100	100	100.0	79328	PASS
199	198	5	9	6.5	5128	PASS
275	198	10	30	26.7	21192	PASS
365	198	1	100	3.3	2644	PASS
441	443	0.01	100	77.2	7794	PASS
442	198	40	100	65.5	51992	PASS
443	442	17	23	19.4	10102	PASS

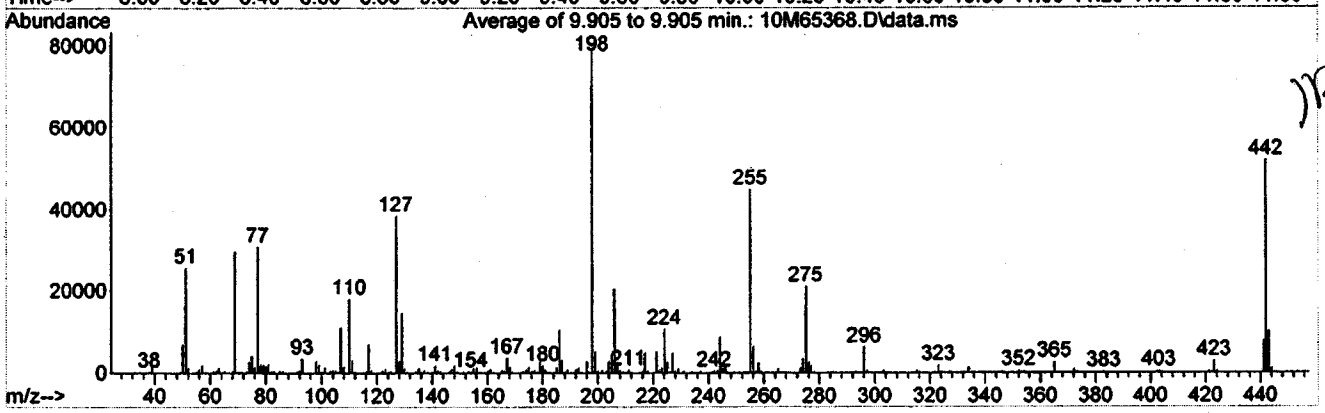
Data File	Sample Number	Analysis Date:
10M65369.D	CAL BNA@50PPM	10/06/17 13:28
10M65370.D	SMB63086	10/06/17 13:50
10M65371.D	SMB63087	10/06/17 14:13
10M65372.D	AD00415-002(5X)	10/06/17 14:35
10M65373.D	AD00418-006	10/06/17 16:09
10M65374.D	AD00418-006(MS)	10/06/17 16:31
10M65375.D	AD00418-006(MSD	10/06/17 16:54
10M65376.D	AD00419-012	10/06/17 17:16
10M65377.D	AD00419-013	10/06/17 17:38

Data Path : G:\GcMsData\2017\GCMS_10\Data\10-06-17\
Data File : 10M65368.D
Acq On : 6 Oct 2017 13:04
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_10\METHODQT\10M_0911.M
Title : @GCMS_10,mg,625,8270
Last Update : Mon Sep 11 13:11:29 2017





Spectrum Information: Average of 9.905 to 9.905 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	32.6	25840	PASS
68	69	0.00	2	1.7	513	PASS
69	198	0.00	100	37.5	29712	PASS
70	69	0.00	2	0.6	185	PASS
127	198	40	60	48.5	38456	PASS
197	198	0.00	1	0.5	395	PASS
198	198	100	100	100.0	79328	PASS
199	198	5	9	6.5	5128	PASS
275	198	10	30	26.7	21192	PASS
365	198	1	100	3.3	2644	PASS
441	443	0.01	100	77.2	7794	PASS
442	198	40	100	65.5	51992	PASS
443	442	17	23	19.4	10102	PASS

Method: EPA 8270D

Form 6
Initial Calibration

Instrument: GC[illegible]10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M64985.D	CAL BNA@50PPM	09/11/17 12:53	2	10M64982.D	CAL BNA@2PPM	09/11/17 11:46
3	10M64975.D	CAL BNA@10PPM	09/11/17 09:07	4	10M64981.D	CAL BNA@20PPM	09/11/17 11:23
5	10M64979.D	CAL BNA@80PPM	09/11/17 10:39	6	10M64978.D	CAL BNA@120PPM	09/11/17 10:17
7	10M64977.D	CAL BNA@160PPM	09/11/17 09:55	8	10M64976.D	CAL BNA@196PPM	09/11/17 09:32
9	10M64983.D	CAL BNA@.5PPM	09/11/17 12:08				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
1,4-Dioxane	1	0	Qua	1.0601	1.4241	1.0861	1.0124	1.0517	0.9868	1.0213	1.0228	1.0994	1.09	2.53	0.999	0.999	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Avg	2.8158	2.2933	2.3681	2.4254	2.9464	2.6773	2.8615	2.9264	----	2.66	3.00	0.998	0.998	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Qua	1.5473	0.8309	1.2596	1.3839	1.5797	1.5628	1.6303	1.6459	----	1.43	2.91	0.999	1.00	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.6004	2.4060	2.4238	2.4521	2.7507	2.5765	2.6999	2.6699	----	2.57	4.55	0.999	0.999	5.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	0.4650	0.4192	0.4131	0.4595	0.4710	0.4712	0.4789	0.4812	----	0.457	5.37	1.00	1.00	5.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Avg	4.1946	3.2044	3.3610	3.6873	4.2588	4.0569	4.1284	4.0212	2.7386	3.74	5.47	0.999	1.00	14		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	1.0256	1.1971	1.0060	0.9903	1.0462	0.9841	0.9951	0.9940	----	1.03	5.51	1.00	1.00	6.9	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethyl)ether	1	0	Avg	2.8719	3.3501	2.8392	2.8350	2.7805	2.6441	2.7274	2.5257	3.1043	2.85	5.53	0.997	0.999	8.6	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Phenol-d5	1	0	Avg	3.5295	3.6054	3.2599	3.3396	3.5386	3.3201	3.4968	3.3792	----	3.43	5.44	0.999	0.999	3.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	3.9098	4.3703	3.6466	3.7395	3.9522	3.6327	3.8294	3.6268	----	3.84	5.45	0.998	0.998	6.5	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	3.1156	3.2917	2.9405	2.9842	3.1097	2.9409	3.0510	3.0170	----	3.06	5.57	0.999	0.999	3.8	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	2.9645	3.5512	2.9447	2.9673	2.8107	2.6240	2.6223	2.5794	----	2.88	5.63	0.999	0.999	11	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	3.3095	4.0112	3.3374	3.3114	3.3808	3.1679	3.2855	3.2006	----	3.38	5.71	0.999	0.999	7.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.6327	2.0319	1.6478	1.6164	1.5478	1.5055	1.5355	1.4760	----	1.62	5.76	0.999	0.999	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.5257	1.8481	1.5788	1.5523	1.4688	1.4316	1.4335	1.3917	----	1.53	5.89	0.999	1.00	9.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.9286	0.8977	0.8187	0.9072	0.9213	0.8701	0.9128	0.8910	----	0.893	5.87	0.999	0.999	4.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	1.7675	2.2017	1.7590	1.7280	1.6487	1.5653	1.6136	1.5229	----	1.73	5.98	0.998	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Qua	1.3150	1.4851	1.2953	1.2763	1.2882	1.2351	1.2753	1.2236	1.2995	1.30	5.96	0.999	0.999	5.8	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	1.8185	2.0244	1.7877	1.8420	1.7587	1.6027	1.6442	1.5205	----	1.75	6.08	0.996	0.999	9.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5931	0.6858	0.5618	0.5730	0.5731	0.5421	0.5592	0.5387	----	0.578	6.17	0.999	0.999	8.1	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitroso-di-n-propyla	1	0	Avg	0.9257	0.9942	0.8902	0.9485	0.8951	0.8089	0.8282	0.7706	0.9103	0.886	6.08	0.996	0.999	8.0	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
3&4-Methylphenol	1	0	Avg	1.3321	1.5286	1.3154	1.3860	1.3071	1.1715	1.2116	1.0960	1.2577	1.29	6.08	0.993	0.998	9.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1749	0.1765	0.1535	0.1647	0.1773	0.1758	0.1780	0.1719	----	0.172	6.20	0.999	1.00	4.9		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.3561	0.3771	0.3389	0.3466	0.3426	0.3289	0.3378	0.3302	----	0.345	6.21	0.999	1.00	4.6	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.6437	0.6806	0.5904	0.6293	0.6352	0.5985	0.6159	0.6028	----	0.625	6.40	0.999	0.999	4.7	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Avg	0.1968	0.1751	0.1664	0.1835	0.2057	0.1960	0.2011	0.1977	----	0.190	6.47	0.999	0.999	7.2	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Qua	0.3593	0.3845	0.3415	0.3490	0.3550	0.3333	0.3451	0.3305	0.3341	0.348	6.49	0.999	0.999	4.9	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Benzoic Acid	1	0	Qua	0.3373	----	0.0563	0.2124	0.4304	0.4464	0.4841	0.4605	----	0.347	6.59	0.997	0.997	46		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.4155	0.4646	0.4060	0.4032	0.4027	0.3696	0.3866	0.3648	----	0.402	6.57	0.997	0.998	7.7	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Qua	0.3176	0.3141	0.2888	0.3079	0.3237	0.3025	0.3103	0.2905	0.2238	0.298	6.65	0.997	0.999	10	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
1,2,4-Trichlorobenzen	1	0	Avg	0.3417	0.4175	0.3351	0.3325	0.3392	0.3146	0.3229	0.3170	----	0.340	6.72	0.999	0.999	9.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Qua	1.1548	1.4265	1.1039	1.0909	1.0834	1.0003	1.0180	0.9688	1.3895	1.14	6.78	0.997	0.999	14	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
4-Chloroaniline	1	0	Qua	0.4126	0.3984	0.3527	0.3730	0.3771	0.3415	0.3075	0.2623	0.3386	0.352	6.81	0.965	0.999	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.1911	0.2262	0.1889	0.1892	0.1941	0.1840	0.1904	0.1876	----	0.194	6.87	1.00	1.00	6.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Qua	0.1169	0.0796	0.0842	0.1100	0.1201	0.1117	0.1306	0.1226	----	0.109	7.09	0.995	0.995	17	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chloro-3-methylphe	1	0	Avg	0.3192	0.3095	0.2919	0.2998	0.3173	0.2952	0.3091	0.2911	----	0.304	7.17	0.998	0.999	3.7	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.7718	0.9317	0.7760	0.7665	0.7501	0.6888	0.7168	0.6614	----	0.758	7.31	0.996	0.998	11	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.7503	0.9068	0.7604	0.7280	0.7170	0.6581	0.6895	0.6474	----	0.732	7.39	0.997	0.998	11	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (	1	0	Avg	0.7606	0.9171	0.7648	0.7520	0.7299	0.6734	0.6993	0.6513	----	0.744	7.31	0.997	0.998	11		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	1.0068	1.2421	1.0208	0.9880	0.9803	0.9112	0.9236	0.8729	----	0.993	7.67	0.997	0.999	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2,4,5-Tetrachloroben	1	0	Avg	0.5551	0.6764	0.5389	0.5473	0.5291	0.5119	0.5214	0.5082	----	0.549	7.44	0.999	1.00	9.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 9.45
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.

7100429 0132

HAZ 240

Form 6
Initial Calibration

Method: EPA 8270D

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M64985.D	CAL BNA@50PPM	09/11/17 12:53	2	10M64982.D	CAL BNA@2PPM	09/11/17 11:46
3	10M64975.D	CAL BNA@10PPM	09/11/17 09:07	4	10M64981.D	CAL BNA@20PPM	09/11/17 11:23
5	10M64979.D	CAL BNA@80PPM	09/11/17 10:39	6	10M64978.D	CAL BNA@120PPM	09/11/17 10:17
7	10M64977.D	CAL BNA@160PPM	09/11/17 09:55	8	10M64976.D	CAL BNA@196PPM	09/11/17 09:32
9	10M64983.D	CAL BNA@.5PPM	09/11/17 12:08				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Hexachlorocyclopenta	1	0	Qua	0.3169	0.1786	0.2137	0.2746	0.3327	0.3349	0.3397	0.3403	----	0.291	7.43	1.00	1.00	22	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Trichlorophenol	1	0	Avg	0.4023	0.3348	0.3222	0.3518	0.3695	0.3742	0.3621	0.3583	----	0.359	7.52	0.999	1.00	6.8	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	0.3748	0.3509	0.3618	0.3822	0.4076	0.3630	0.3928	0.3871	----	0.378	7.56	0.999	0.999	4.9	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.3840	1.6338	1.3148	1.3350	1.3505	1.2815	1.3232	1.2869	----	1.36	7.59	0.999	1.00	8.4		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1345	1.4336	1.1200	1.1150	1.1211	1.0523	1.0635	1.0298	----	1.13	7.70	0.999	1.00	11	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	0.9966	1.2432	0.9897	0.9934	0.9537	0.8827	0.8778	0.8178	----	0.969	7.97	0.996	1.00	13		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	0.9966	1.2432	0.9897	0.9934	0.9537	0.8827	0.8778	0.8178	----	0.969	7.97	0.996	1.00	13		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.8185	1.0169	0.7924	0.8081	0.7899	0.7441	0.7464	0.7076	----	0.803	7.76	0.997	1.00	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3705	0.3434	0.3158	0.3543	0.3635	0.3416	0.3528	0.3327	----	0.347	7.77	0.998	0.999	5.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.5320	0.5921	0.5163	0.5280	0.5122	0.4783	0.4918	0.4548	----	0.513	7.96	0.996	0.999	8.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.8223	2.0202	1.7326	1.7443	1.7724	1.6492	1.6747	1.6048	----	1.75	8.05	0.998	0.999	7.3	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.3423	1.5052	1.2785	1.2958	1.2957	1.2240	1.2390	1.2181	----	1.30	7.92	0.999	1.00	7.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.3057	0.2874	0.2830	0.2924	0.2953	0.2750	0.2729	0.2522	----	0.283	7.97	0.996	0.999	5.8	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1528	1.4734	1.1475	1.1404	1.1088	1.0430	1.0533	1.0084	----	1.14	8.20	0.998	1.00	13	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Avg	0.3307	0.2819	0.2837	0.3191	0.2996	0.2687	0.2623	0.2404	----	0.286	8.12	0.988	0.999	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1306	----	0.0200	0.0754	0.1635	0.1745	0.1937	0.1849	----	0.135	8.21	0.996	0.997	48	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Qua	1.6995	2.0874	1.6507	1.6477	1.6446	1.5310	1.5765	1.5220	2.0824	1.72	8.35	0.999	0.999	13	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
2,4-Dinitrotoluene	1	0	Avg	0.4205	0.3332	0.3442	0.3973	0.4201	0.3945	0.4245	0.4015	----	0.392	8.33	0.999	0.999	8.9	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Qua	0.2458	0.1516	0.1818	0.2149	0.2361	0.2268	0.2381	0.2282	----	0.215	8.25	0.999	0.999	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,3,4,6-Tetrachlorophe	1	0	Avg	0.3519	0.3085	0.3092	0.3207	0.3612	0.3364	0.3591	0.3514	----	0.337	8.46	0.999	0.999	6.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.3611	1.6409	1.3348	1.3287	1.3033	1.2027	1.2426	1.1614	----	1.32	8.67	0.997	0.999	11	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.6580	0.7461	0.6362	0.6538	0.6525	0.5974	0.6318	0.6018	----	0.647	8.66	0.998	0.998	7.1	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.2988	1.4701	1.2244	1.2473	1.3046	1.2115	1.2728	1.2082	----	1.28	8.55	0.998	0.999	6.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Avg	0.3883	0.3314	0.3161	0.3661	0.3795	0.3588	0.3905	0.3623	----	0.362	8.67	0.998	0.998	7.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.2774	0.2526	0.2219	0.2541	0.2817	0.2535	0.2816	0.2600	----	0.260	9.30	0.996	0.996	7.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,6-Dinitro-2-methylph	1	0	Qua	0.1287	----	0.0602	0.0967	0.1430	0.1413	0.1508	0.1538	----	0.125	8.71	0.999	1.00	28	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.6800	0.7467	0.6592	0.6429	0.6427	0.6143	0.6231	0.6178	----	0.653	8.77	0.999	1.00	6.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Tribromophenol	1	0	Qua	0.1188	0.0928	0.0950	0.1037	0.1190	0.1173	0.1225	0.1263	----	0.112	8.90	0.999	1.00	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.7209	0.7381	0.6709	0.6597	0.6680	0.6424	0.6384	0.7047	----	0.680	8.81	0.997	0.998	5.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2335	0.2346	0.2167	0.2166	0.2289	0.2213	0.2260	0.2276	----	0.226	9.15	1.00	1.00	3.1	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2472	0.2937	0.2326	0.2304	0.2412	0.2352	0.2438	0.2446	----	0.246	9.21	0.998	0.999	8.2	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.4609	0.4198	0.4175	0.4267	0.4241	0.3986	0.3939	0.3780	----	0.415	9.49	0.997	0.999	6.1	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.1327	----	0.0634	0.0935	0.1449	0.1475	0.1555	0.1591	----	0.128	9.41	0.999	1.00	28	0.05	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	1.1755	1.4418	1.1589	1.1476	1.1145	1.0470	1.0745	1.0391	----	1.15	9.64	0.999	0.999	11	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	1.1826	1.3522	1.1454	1.1359	1.1420	1.0855	1.0955	1.0654	----	1.15	9.70	0.999	1.00	7.8	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	1.1167	1.2016	1.0846	1.0783	1.0793	1.0072	1.0476	0.9986	----	1.08	9.86	0.998	0.999	6.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Qua	1.2786	1.0950	1.0500	1.1718	1.2526	1.1956	1.2143	1.1779	1.0069	1.16	10.24	0.999	1.00	7.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.3030	1.3564	1.2143	1.2290	1.2383	1.1591	1.2105	1.1811	----	1.24	10.96	0.999	0.999	5.2	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.2157	1.2944	1.1433	1.1157	1.1728	1.0654	1.0790	1.0783	----	1.15	11.22	0.998	0.999	6.9	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Qua	0.6028	0.2147	0.2860	0.4457	0.5716	0.5320	0.4952	0.4772	----	0.453	11.11	0.990	0.999	30		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6331	0.6402	0.5793	0.5758	0.6442	0.5962	0.6191	0.6366	----	0.616	11.41	0.999	0.999	4.5		25.00	1.00	5.00	10.00	40.00	60.00	80.00	96.00	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 9.45
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.

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HAZ - 241

Method: EPA 8270D

Form 6
Initial Calibration

Instrument: GC[illegible]10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M64985.D	CAL BNA@50PPM	09/11/17 12:53	2	10M64982.D	CAL BNA@2PPM	09/11/17 11:46
3	10M64975.D	CAL BNA@10PPM	09/11/17 09:07	4	10M64981.D	CAL BNA@20PPM	09/11/17 11:23
5	10M64979.D	CAL BNA@80PPM	09/11/17 10:39	6	10M64978.D	CAL BNA@120PPM	09/11/17 10:17
7	10M64977.D	CAL BNA@160PPM	09/11/17 09:55	8	10M64976.D	CAL BNA@196PPM	09/11/17 09:32
9	10M64983.D	CAL BNA@.5PPM	09/11/17 12:08				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
4,4'-DDE	1	0	Avg	0.2675	0.2626	0.2320	0.2338	0.2708	0.2492	0.2627	0.2633	----	0.255	11.34	0.999	0.999	5.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4939	0.4360	0.4286	0.4478	0.4981	0.4670	0.4873	0.4749	----	0.467	11.74	0.999	0.999	5.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Qua	0.5170	0.3779	0.3797	0.4469	0.5229	0.4856	0.5064	0.4932	----	0.466	11.99	0.999	0.999	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.4307	0.3343	0.3620	0.3791	0.4378	0.4076	0.4252	0.4153	----	0.399	12.09	0.999	0.999	9.2		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Qua	0.3446	0.3131	0.3185	0.3142	0.3170	0.3104	0.2921	0.2742	----	0.311	12.61	0.993	1.00	6.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1220	1.2411	1.0420	1.0490	1.0988	1.0490	1.0776	1.0655	----	1.09	12.63	1.00	1.00	6.0	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.0865	1.3022	1.0475	1.0389	1.0540	0.9951	1.0266	0.9732	----	1.07	12.68	0.999	0.999	9.6	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Ethylhexyl)phthal	1	0	Avg	0.7123	0.4982	0.5454	0.6422	0.7132	0.6651	0.6677	0.6472	----	0.636	12.69	0.998	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Qua	1.2986	0.8085	0.8517	1.1209	1.3242	1.2542	1.2821	1.2592	----	1.15	13.43	0.999	0.999	18	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	1.1509	1.3112	1.1196	1.1035	1.0958	1.0661	1.1702	1.2210	----	1.15	13.84	0.997	0.999	6.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	1.1195	1.2649	1.1197	1.1011	1.1515	1.0525	1.1256	1.1797	----	1.14	13.87	0.997	0.998	5.5	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	1.1533	1.1851	1.0326	1.0758	1.1462	1.0993	1.1317	1.1143	----	1.12	14.18	1.00	1.00	4.3	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Indeno[1,2,3-cd]pyren	1	0	Avg	1.3004	1.3209	1.1994	1.1920	1.2929	1.2225	1.3468	1.3039	----	1.27	15.50	0.999	0.999	4.6	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzo[a,h]anthracen	1	0	Avg	1.1028	1.1541	1.0048	1.0038	1.0925	1.0420	1.1390	1.1102	----	1.08	15.52	0.998	0.998	5.4	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[g,h,i]perylene	1	0	Avg	1.0875	1.2182	1.0414	1.0348	1.0840	1.0144	1.1246	1.1031	----	1.09	15.86	0.997	0.998	5.9	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 9.45
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.

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HAZ - 242

Form 6
Initial Calibration

Method: EPA 8270D

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M86409.D	CAL BNA@50PPM	09/11/17 13:22	2	7M86411.D	CAL BNA@2PPM	09/11/17 14:09
3	7M86403.D	CAL BNA@10PPM	09/11/17 11:02	4	7M86410.D	CAL BNA@20PPM	09/11/17 13:46
5	7M86407.D	CAL BNA@80PPM	09/11/17 12:35	6	7M86406.D	CAL BNA@120PPM	09/11/17 12:12
7	7M86405.D	CAL BNA@160PPM	09/11/17 11:49	8	7M86404.D	CAL BNA@196PPM	09/11/17 11:25
9	7M86413.D	CAL BNA@.5PPM	09/11/17 15:05				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
1,4-Dioxane	1	0	Qua	1.0569	1.7276	1.2302	1.1017	1.0647	1.0295	1.0602	1.0125	0.4239	1.08	2.71	0.999	0.999	31		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Qua	3.2878	2.9063	3.1981	3.1833	3.1918	3.1680	3.2757	3.4070	----	3.20	3.19	0.998	1.00	4.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Qua	1.8639	1.4640	1.6667	1.6920	1.8879	1.9515	1.9631	1.9935	----	1.81	3.10	1.00	1.00	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.6190	2.3063	2.3331	2.4168	2.7055	2.8077	2.9298	2.9371	----	2.63	4.69	0.994	1.00	9.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	0.5451	0.5814	0.5647	0.5725	0.5419	0.5192	0.5011	0.4768	----	0.538	5.51	0.997	1.00	6.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Qua	4.5737	3.3974	3.6271	4.0988	4.5567	4.6557	4.6932	4.6896	2.7945	4.12	5.60	1.00	1.00	17		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	0.9143	1.0557	0.8934	0.9095	0.9118	0.9028	0.9308	0.9082	----	0.928	5.64	1.00	1.00	5.7	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethyl)ether	1	0	Qua	2.8584	3.2662	2.9370	2.9766	2.7998	2.8107	2.8505	2.7884	3.1942	2.94	5.65	1.00	1.00	6.0	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Phenol-d5	1	0	Avg	3.6727	2.9597	3.2880	3.4887	3.7442	3.8553	3.9837	4.0427	----	3.63	5.57	0.999	1.00	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	4.2285	3.7372	3.8210	4.0792	4.2048	4.3130	4.4020	4.4230	----	4.15	5.58	1.00	1.00	6.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.8003	2.5786	2.6268	2.7793	2.8375	2.9035	2.9783	2.9558	----	2.81	5.70	1.00	1.00	5.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	2.6209	3.3517	2.7773	2.7059	2.5578	2.4582	2.4418	2.2988	----	2.65	5.76	0.997	1.00	12	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	2.9343	3.4856	3.0098	3.0052	2.9011	2.9044	2.9310	2.8597	----	3.00	5.84	1.00	1.00	6.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.6368	2.0341	1.6261	1.5822	1.5787	1.5016	1.5238	1.4973	----	1.62	5.90	0.999	1.00	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.5532	1.9323	1.5559	1.5379	1.5129	1.4374	1.4608	1.4319	----	1.55	6.02	0.999	1.00	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	1.0640	0.8225	0.9793	0.9714	1.0622	1.0454	1.0645	1.0828	----	1.01	6.00	1.00	1.00	8.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	1.8832	2.2754	1.8928	1.8761	1.8026	1.7062	1.7045	1.6993	----	1.86	6.11	0.999	1.00	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Qua	1.5099	1.2841	1.3758	1.4443	1.4800	1.4437	1.4723	1.4896	1.1138	1.40	6.09	1.00	1.00	9.1	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	2.1802	2.3715	2.1986	2.1997	2.0749	1.9370	1.8907	1.8463	----	2.09	6.21	0.997	1.00	8.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5909	0.7210	0.5835	0.5652	0.5829	0.5569	0.5713	0.5600	----	0.592	6.30	1.00	1.00	9.1	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitroso-di-n-propyla	1	0	Avg	1.1875	1.2152	1.2006	1.2134	1.1220	1.0403	1.0093	0.9828	1.0408	1.11	6.21	0.995	1.00	8.5	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
3&4-Methylphenol	1	0	Qua	1.5537	1.4489	1.4986	1.4981	1.4910	1.4059	1.3855	1.3639	0.9316	1.40	6.21	0.998	1.00	13		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1808	0.1687	0.1603	0.1633	0.1781	0.1742	0.1794	0.1754	----	0.173	6.33	1.00	1.00	4.4		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.4224	0.4736	0.4125	0.3965	0.4100	0.3891	0.3934	0.3851	----	0.410	6.34	0.999	1.00	7.0	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.8012	0.7702	0.7564	0.7507	0.7837	0.7476	0.7561	0.7460	----	0.764	6.54	0.999	1.00	2.6	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Qua	0.2074	0.1553	0.1810	0.1793	0.2074	0.2031	0.2087	0.2062	----	0.194	6.60	1.00	1.00	10	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Qua	0.3984	0.3569	0.3742	0.3747	0.3875	0.3729	0.3794	0.3704	0.2577	0.364	6.63	0.999	1.00	11	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Benzoic Acid	1	0	Qua	0.2758	----	0.0087	0.0597	0.3846	0.4587	0.5015	0.5366	----	0.318	6.71	0.992	0.999	67		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.4745	0.5103	0.4630	0.4533	0.4582	0.4345	0.4365	0.4278	----	0.457	6.70	0.999	1.00	5.8	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Qua	0.3195	0.2359	0.2745	0.2891	0.3151	0.3071	0.3126	0.3043	0.1719	0.281	6.79	1.00	1.00	17	0.20 a	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
1,2,4-Trichlorobenzen	1	0	Avg	0.3371	0.4113	0.3348	0.3255	0.3256	0.3126	0.3198	0.3102	----	0.335	6.85	0.999	1.00	9.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Qua	1.1200	1.4644	1.1372	1.0920	1.0769	1.0166	1.0202	0.9886	1.4970	1.16	6.92	0.999	1.00	16	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
4-Chloroaniline	1	0	Avg	0.4080	0.3592	0.3710	0.3812	0.3758	0.4690	0.3988	----	0.2782	0.380	6.95	0.987	0.987	14	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0		0.50
Hexachlorobutadiene	1	0	Avg	0.1862	0.2124	0.1797	0.1733	0.1794	0.1725	0.1770	0.1716	----	0.182	7.01	0.999	0.999	7.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Qua	0.1384	0.0763	0.1207	0.1242	0.1427	0.1417	0.1467	0.1618	----	0.132	7.22	0.994	0.998	20	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chloro-3-methylphe	1	0	Qua	0.3675	0.3174	0.3321	0.3311	0.3631	0.3545	0.3612	0.3615	----	0.349	7.32	1.00	1.00	5.4	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.8052	0.9515	0.8052	0.7761	0.7783	0.7444	0.7380	0.7121	----	0.789	7.46	0.998	1.00	9.3	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.7774	0.9143	0.7711	0.7461	0.7402	0.7069	0.7128	0.6891	----	0.757	7.54	0.999	1.00	9.3	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (	1	0	Avg	0.7904	0.9328	0.7873	0.7616	0.7582	0.7259	0.7250	0.7004	----	0.773	7.46	0.999	1.00	9.3		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	1.0401	1.2568	1.0536	1.0102	0.9946	0.9579	0.9549	0.9317	----	1.03	7.83	0.999	1.00	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2,4,5-Tetrachloroben	1	0	Avg	0.5442	0.6401	0.5074	0.5124	0.5177	0.4829	0.4927	0.4779	----	0.522	7.59	0.998	0.999	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 10.7
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.

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HAZ-243

Method: EPA 8270D

Form 6
Initial Calibration

Instrument: GC

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M86409.D	CAL BNA@50PPM	09/11/17 13:22	2	7M86411.D	CAL BNA@2PPM	09/11/17 14:09
3	7M86403.D	CAL BNA@10PPM	09/11/17 11:02	4	7M86410.D	CAL BNA@20PPM	09/11/17 13:46
5	7M86407.D	CAL BNA@80PPM	09/11/17 12:35	6	7M86406.D	CAL BNA@120PPM	09/11/17 12:12
7	7M86405.D	CAL BNA@160PPM	09/11/17 11:49	8	7M86404.D	CAL BNA@196PPM	09/11/17 11:25
9	7M86413.D	CAL BNA@.5PPM	09/11/17 15:05				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Hexachlorocyclopenta	1	0	Qua	0.3114	0.1344	0.2053	0.2377	0.3163	0.3054	0.3207	0.3104	—	0.268	7.58	0.999	0.999	26	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Trichlorophenol	1	0	Qua	0.3809	0.2829	0.3097	0.3290	0.3801	0.3693	0.3645	0.3531	—	0.346	7.67	0.998	1.00	10	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,5-Trichlorophenol	1	0	Qua	0.3899	0.3047	0.3681	0.3721	0.3814	0.3678	0.3927	0.3897	—	0.371	7.71	0.999	0.999	7.7	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.3632	1.5825	1.3119	1.3073	1.3272	1.2405	1.2584	1.2185	—	1.33	7.74	0.999	1.00	8.6		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Qua	1.1476	1.3218	1.0959	1.0862	1.0894	1.0192	1.0224	0.9866	—	1.10	7.85	0.998	0.999	9.6	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	1.0132	1.1686	1.0071	0.9897	0.9578	0.8828	0.8711	0.8101	—	0.963	8.13	0.995	1.00	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	1.0132	1.1686	1.0071	0.9897	0.9578	0.8828	0.8711	0.8101	—	0.963	8.13	0.995	1.00	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.8007	0.9205	0.7889	0.7735	0.7664	0.7171	0.7150	0.6845	—	0.771	7.91	0.997	1.00	9.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.4406	0.3650	0.4008	0.4078	0.4240	0.3970	0.3954	0.3818	—	0.402	7.93	0.998	1.00	5.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.5583	0.5743	0.5450	0.5400	0.5412	0.5101	0.5097	0.4885	—	0.533	8.11	0.998	1.00	5.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.8267	1.9410	1.7376	1.7398	1.7476	1.6343	1.6372	1.5881	—	1.73	8.21	0.998	1.00	6.6	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.3940	1.5062	1.3589	1.3316	1.3617	1.2812	1.2858	1.2561	—	1.35	8.07	0.999	1.00	5.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.3213	0.2703	0.2946	0.3078	0.3114	0.2918	0.2851	0.2669	—	0.294	8.13	0.995	1.00	6.6	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1834	1.3863	1.1575	1.1296	1.1341	1.0487	1.0433	1.0071	—	1.14	8.36	0.997	0.999	10	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Qua	0.3477	0.2591	0.3199	0.3270	0.3409	0.3161	0.3002	0.2879	—	0.312	8.28	0.994	1.00	9.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1251	—	0.0201	0.0486	0.1647	0.1715	0.1893	0.1898	—	0.130	8.37	0.997	0.998	53	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Qua	1.7181	2.1102	1.7063	1.6642	1.6620	1.5520	1.5464	1.4992	2.1149	1.73	8.52	0.998	1.00	13	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
2,4-Dinitrotoluene	1	0	Qua	0.4499	0.3098	0.3909	0.4035	0.4500	0.4352	0.4410	0.4390	—	0.415	8.49	1.00	1.00	11	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Qua	0.2678	0.1064	0.1833	0.2272	0.2784	0.2808	0.2856	0.2928	—	0.240	8.41	0.999	1.00	27	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,3,4,6-Tetrachlorophe	1	0	Qua	0.3547	0.2158	0.3115	0.3107	0.3724	0.3631	0.3664	0.3614	—	0.332	8.63	1.00	1.00	16	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.3871	1.5767	1.3733	1.3429	1.3385	1.2466	1.2354	1.1928	—	1.34	8.84	0.998	1.00	9.0	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.6822	0.7906	0.6586	0.6436	0.6632	0.6342	0.6473	0.6299	—	0.669	8.83	0.999	1.00	7.8	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.3893	1.3782	1.3233	1.3223	1.3738	1.3138	1.3144	1.2861	—	1.34	8.71	0.999	1.00	2.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Qua	0.4071	0.2895	0.3768	0.3682	0.4058	0.3878	0.3919	0.3887	—	0.377	8.84	1.00	1.00	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Qua	0.2893	0.2327	0.2526	0.2622	0.2942	0.2894	0.2934	0.2907	—	0.276	9.46	1.00	1.00	8.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,6-Dinitro-2-methylph	1	0	Qua	0.1206	—	0.0493	0.0743	0.1333	0.1352	0.1441	0.1442	—	0.114	8.87	0.999	0.999	33	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.6456	0.6645	0.6202	0.6184	0.6244	0.5865	0.5934	0.5810	—	0.617	8.94	0.999	1.00	4.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Tribromophenol	1	0	Qua	0.1046	0.0601	0.0841	0.0930	0.1096	0.1081	0.1141	0.1153	—	0.0987	9.07	0.999	1.00	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.7945	0.7795	0.7536	0.7626	0.7560	0.7011	0.7019	0.6713	—	0.740	8.98	0.997	1.00	5.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2204	0.2281	0.2030	0.2075	0.2207	0.2158	0.2210	0.2208	—	0.217	9.31	1.00	1.00	3.8	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2404	0.2720	0.2249	0.2273	0.2376	0.2321	0.2389	0.2364	—	0.239	9.39	0.999	0.999	6.1	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.4542	0.4015	0.4146	0.4297	0.4288	0.3851	0.3813	0.3497	—	0.406	9.66	0.991	0.999	8.2	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.1132	—	0.0547	0.0669	0.1336	0.1409	0.1497	0.1532	—	0.116	9.59	0.998	1.00	35	0.05	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	1.1356	1.3962	1.1331	1.1027	1.0966	1.0266	1.0277	1.0034	—	1.12	9.82	0.998	1.00	11	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	1.1544	1.2164	1.1237	1.1108	1.1206	1.0514	1.0574	1.0187	—	1.11	9.88	0.998	1.00	5.7	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	1.1165	1.1463	1.0944	1.0685	1.0898	1.0369	1.0306	1.0114	—	1.07	10.04	0.999	1.00	4.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Qua	1.2994	0.9796	1.1302	1.1783	1.2849	1.2380	1.2320	1.1992	0.7501	1.14	10.42	0.999	1.00	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.2958	1.3448	1.2405	1.2340	1.2908	1.2338	1.2236	1.2027	—	1.26	11.15	0.999	1.00	3.8	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.1463	1.1185	1.0327	1.0654	1.1137	1.0672	1.0823	1.0533	—	1.08	11.41	0.999	1.00	3.5	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Qua	0.5749	0.1828	0.3492	0.4147	0.5808	0.5470	0.5042	0.4748	—	0.454	11.30	0.988	0.999	30		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6063	0.5887	0.5356	0.5524	0.6119	0.6009	0.6220	0.6334	—	0.594	11.59	0.999	1.00	5.7		25.00	1.00	5.00	10.00	40.00	60.00	80.00	96.00	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 10.7
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.

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HAZ - 24

Method: EPA 8270D

Form 6
Initial Calibration

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M86409.D	CAL BNA@50PPM	09/11/17 13:22	2	7M86411.D	CAL BNA@2PPM	09/11/17 14:09
3	7M86403.D	CAL BNA@10PPM	09/11/17 11:02	4	7M86410.D	CAL BNA@20PPM	09/11/17 13:46
5	7M86407.D	CAL BNA@80PPM	09/11/17 12:35	6	7M86406.D	CAL BNA@120PPM	09/11/17 12:12
7	7M86405.D	CAL BNA@160PPM	09/11/17 11:49	8	7M86404.D	CAL BNA@196PPM	09/11/17 11:25
9	7M86413.D	CAL BNA@.5PPM	09/11/17 15:05				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
4,4'-DDE	1	0	Avg	0.2491	0.2314	0.2154	0.2259	0.2500	0.2502	0.2570	0.2556	---	0.242	11.53	1.00	1.00	6.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4932	0.3884	0.4124	0.4352	0.4965	0.4864	0.5021	0.4922	---	0.463	11.93	0.999	0.999	9.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Qua	0.5238	0.3139	0.4132	0.4464	0.5280	0.5138	0.5252	0.5156	---	0.473	12.18	1.00	1.00	16	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.4200	0.2380	0.3282	0.3566	0.4266	0.4132	0.4258	0.4104	---	0.377	12.28	0.999	0.999	18		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Qua	0.3786	0.2498	0.3294	0.3260	0.3830	0.3651	0.3341	0.3180	---	0.336	12.80	0.991	0.999	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1504	1.2133	1.0945	1.0751	1.1423	1.0972	1.1018	1.0812	---	1.12	12.83	0.999	1.00	4.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.0585	1.2638	1.0406	1.0279	1.0493	0.9917	0.9954	0.9572	---	1.05	12.87	0.999	1.00	8.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Ethylhexyl)phthal	1	0	Qua	0.7134	0.4678	0.6044	0.6299	0.6972	0.6497	0.6410	0.6131	---	0.627	12.87	0.996	1.00	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Qua	1.3528	0.6832	1.0555	1.0930	1.3747	1.3346	1.3539	1.2875	---	1.19	13.63	0.998	0.999	20	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	1.3013	1.2146	1.1738	1.1429	1.2726	1.1706	1.2074	1.2169	---	1.21	14.07	0.999	0.999	4.4	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	1.2503	1.3108	1.0829	1.1410	1.2341	1.0462	1.1616	1.1014	---	1.17	14.10	0.995	0.995	7.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	1.1784	1.1015	1.0550	1.0510	1.1703	1.1367	1.1552	1.1344	---	1.12	14.43	1.00	1.00	4.4	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Indeno[1,2,3-cd]pyren	1	0	Avg	1.1836	1.1540	1.0734	1.0760	1.2041	1.1535	1.1925	1.1697	---	1.15	15.83	0.999	0.999	4.4	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzo[a,h]anthracen	1	0	Avg	1.0018	0.9772	0.9137	0.9199	1.0225	0.9669	0.9972	0.9756	---	0.972	15.85	0.999	0.999	3.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[g,h,i]perylene	1	0	Avg	0.9632	1.0359	0.9052	0.8931	0.9783	0.9275	0.9570	0.9361	---	0.950	16.21	0.999	0.999	4.8	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 10.7
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.

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HAZ - 245

Method: EPA 8270D

Form 6
Initial Calibration

Instrument: GC

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M80455.D	CAL BNA@50PPM	09/11/17 15:12	2	9M80452.D	CAL BNA@2PPM	09/11/17 14:01
3	9M80445.D	CAL BNA@10PPM	09/11/17 11:18	4	9M80451.D	CAL BNA@20PPM	09/11/17 13:38
5	9M80449.D	CAL BNA@80PPM	09/11/17 12:51	6	9M80448.D	CAL BNA@120PPM	09/11/17 12:28
7	9M80447.D	CAL BNA@160PPM	09/11/17 12:04	8	9M80446.D	CAL BNA@196PPM	09/11/17 11:41
9	9M80454.D	CAL BNA@.5PPM	09/11/17 14:48				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
1,4-Dioxane	1	0	Qua	1.0854	1.1835	1.1098	1.0480	1.0374	0.9904	1.0047	1.0262	0.6123	1.01	2.67	0.999	0.999	16		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Avg	3.2049	2.9543	3.1815	3.1159	3.1524	3.1273	3.1215	3.1770	----	3.13	3.15	1.00	1.00	2.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Avg	1.8462	1.9506	1.6549	1.7329	1.8162	1.8309	1.8216	1.8083	----	1.81	3.07	1.00	1.00	4.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.5597	2.7443	2.4393	2.4145	2.5994	2.5935	2.5869	2.6013	----	2.57	4.66	1.00	1.00	4.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	0.5869	0.5536	0.6185	0.6097	0.5597	0.5176	0.4642	0.4263	----	0.542	5.50	0.981	1.00	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Avg	4.2431	3.4225	3.4809	3.7388	4.2270	4.2599	4.1567	4.0574	3.6797	3.92	5.59	0.999	1.00	8.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	1.0183	1.0659	0.9849	0.9504	1.0276	1.0079	1.0170	1.0181	----	1.01	5.64	1.00	1.00	3.3	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethyl)ether	1	0	Qua	2.7328	3.2608	3.4809	2.7987	2.6485	2.6554	2.6359	2.5882	3.4618	2.92	5.65	1.00	1.00	13	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Phenol-d5	1	0	Avg	3.5795	3.7872	3.4543	3.4674	3.5922	3.5926	3.5497	3.5113	----	3.57	5.54	1.00	1.00	2.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	3.6456	3.9083	3.4942	3.6119	3.6490	3.6921	3.6637	3.6098	----	3.66	5.56	1.00	1.00	3.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.8433	2.8913	2.8465	2.7317	2.9039	2.9480	2.9092	2.9098	----	2.87	5.69	1.00	1.00	2.3	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	3.1087	3.6556	2.8319	2.8984	2.9594	2.8069	2.8452	2.8198	----	2.99	5.73	0.999	0.999	9.6	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	3.0775	3.6402	3.1577	3.0544	3.2168	3.2617	3.2641	3.3113	----	3.25	5.82	1.00	1.00	5.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.6366	1.9844	1.5505	1.5527	1.6309	1.5512	1.6191	1.6437	----	1.65	5.89	0.999	0.999	8.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.5429	1.8153	1.4986	1.4880	1.5400	1.4725	1.5351	1.5488	----	1.56	6.01	0.999	1.00	7.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.9859	1.0000	0.9254	0.9275	0.9830	0.9323	0.9583	0.9513	----	0.958	5.98	1.00	1.00	3.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	2.1402	2.6214	1.8920	2.0257	1.9312	1.8036	1.8008	1.7802	----	2.00	6.10	0.998	0.999	14	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Avg	1.3712	1.4538	1.2733	1.2800	1.3352	1.2754	1.3217	1.3030	1.3853	1.33	6.07	1.00	1.00	4.6	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	2.1710	2.4894	2.0194	2.0880	2.1150	2.0783	2.1515	2.1811	----	2.16	6.20	0.999	1.00	6.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.6636	0.7285	0.6208	0.6333	0.6445	0.6098	0.6189	0.6416	----	0.645	6.29	0.999	0.999	5.9	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitroso-di-n-propyla	1	0	Avg	1.3231	1.4812	1.1978	1.2613	1.2542	1.2041	1.2273	1.2212	1.4821	1.29	6.20	1.00	1.00	8.7	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
3&4-Methylphenol	1	0	Avg	1.4960	1.6625	1.3399	1.4055	1.4499	1.4409	1.4949	1.5113	1.6401	1.49	6.19	0.999	1.00	7.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1658	0.1704	0.1521	0.1586	0.1679	0.1654	0.1683	0.1660	----	0.164	6.32	1.00	1.00	3.7		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.4576	0.5527	0.4136	0.4334	0.4355	0.4185	0.4255	0.4260	----	0.445	6.34	1.00	1.00	10	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.8210	0.9144	0.7511	0.7793	0.7745	0.7574	0.7721	0.7514	----	0.790	6.52	0.999	1.00	7.0	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Avg	0.1918	0.1616	0.1768	0.1756	0.1935	0.1931	0.1977	0.1967	----	0.186	6.59	1.00	1.00	7.0	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Avg	0.4214	0.4577	0.3913	0.3996	0.4114	0.4011	0.4127	0.4077	0.4753	0.420	6.61	1.00	1.00	6.7	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Benzoic Acid	1	0	Qua	0.4278	----	0.1703	0.3130	0.5132	0.5362	0.5560	0.5523	----	0.438	6.69	0.999	0.999	34		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.4475	0.5156	0.4073	0.4288	0.4263	0.4131	0.4163	0.4131	----	0.434	6.69	1.00	1.00	8.2	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Avg	0.3327	0.3319	0.3169	0.3046	0.3420	0.3416	0.3549	0.3582	0.3274	0.334	6.77	0.999	1.00	5.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
1,2,4-Trichlorobenzen	1	0	Avg	0.3773	0.4374	0.3766	0.3597	0.3851	0.3896	0.3977	0.4105	----	0.392	6.83	0.999	1.00	6.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Qua	1.1063	1.3243	1.0649	1.0761	1.0888	1.0838	1.1020	1.1177	1.4307	1.16	6.90	1.00	1.00	11	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
4-Chloroaniline	1	0	Qua	0.4150	0.3956	0.3646	0.3724	0.3857	0.3498	0.2858	0.2555	0.3245	0.350	6.93	0.953	0.998	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.2432	0.2838	0.2261	0.2224	0.2472	0.2505	0.2563	0.2647	----	0.249	6.99	0.999	1.00	8.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Avg	0.1262	0.1031	0.1138	0.1207	0.1246	0.1204	0.1188	0.1131	----	0.118	7.21	0.998	1.00	6.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chloro-3-methylphe	1	0	Avg	0.3612	0.3728	0.3376	0.3452	0.3482	0.3514	0.3532	0.3546	----	0.353	7.29	1.00	1.00	3.0	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.7920	0.9207	0.7701	0.7461	0.8007	0.8023	0.8279	0.8395	----	0.812	7.44	0.999	1.00	6.5	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.7512	0.8407	0.7034	0.7250	0.7597	0.7703	0.7871	0.7916	----	0.766	7.52	1.00	1.00	5.5	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (	1	0	Avg	0.7764	0.8808	0.7372	0.7355	0.7786	0.7857	0.8069	0.8150	----	0.790	7.44	1.00	1.00	5.9		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	1.0687	1.1824	1.0136	1.0058	1.0848	1.1129	1.1561	1.1666	----	1.10	7.81	0.999	1.00	6.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2,4,5-Tetrachloroben	1	0	Avg	0.6780	0.7250	0.6343	0.6302	0.6989	0.7071	0.7371	0.7569	----	0.696	7.57	0.998	1.00	6.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 8.79
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.

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HAZ 246

Form 6
Initial Calibration

Method: EPA 8270D

Instrument: GCMS_9

Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M80455.D	CAL BNA@50PPM	09/11/17 15:12
3	9M80445.D	CAL BNA@10PPM	09/11/17 11:18
5	9M80449.D	CAL BNA@80PPM	09/11/17 12:51
7	9M80447.D	CAL BNA@160PPM	09/11/17 12:04
9	9M80454.D	CAL BNA@.5PPM	09/11/17 14:48

Level #:	Data File:	Cal Identifier:	Analysis Date/Time
2	9M80452.D	CAL BNA@2PPM	09/11/17 14:01
4	9M80451.D	CAL BNA@20PPM	09/11/17 13:38
6	9M80448.D	CAL BNA@120PPM	09/11/17 12:28
8	9M80446.D	CAL BNA@196PPM	09/11/17 11:41

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Hexachlorocyclopenta	1	0	Qua	0.4174	0.3292	0.3537	0.3511	0.4560	0.4857	0.5058	0.5332	----	0.429	7.56	0.996	1.00	18	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Trichlorophenol	1	0	Avg	0.4038	0.3717	0.3873	0.3721	0.4241	0.4299	0.4495	0.4572	----	0.412	7.66	0.999	1.00	8.1	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	0.4299	0.4800	0.4129	0.3998	0.4564	0.4533	0.4711	0.4820	----	0.448	7.69	0.998	1.00	6.9	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.3938	1.6535	1.3650	1.3178	1.4164	1.3921	1.4543	1.4645	----	1.43	7.73	0.999	1.00	7.1		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1655	1.3960	1.1239	1.1093	1.1916	1.1723	1.2172	1.2334	----	1.20	7.84	0.999	1.00	7.4	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	1.0702	1.1426	0.9586	0.9730	1.0967	1.1263	1.2061	1.2317	----	1.10	8.12	0.996	1.00	9.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	1.0702	1.1426	0.9586	0.9730	1.0967	1.1263	1.2061	1.2317	----	1.10	8.12	0.996	1.00	9.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.8493	0.9673	0.8173	0.7894	0.8739	0.8712	0.9203	0.9251	----	0.877	7.90	0.999	1.00	6.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.5320	0.5591	0.4694	0.4920	0.5188	0.4851	0.5054	0.4915	----	0.507	7.91	0.999	0.999	5.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.5271	0.6079	0.4858	0.4975	0.5300	0.5331	0.5706	0.5818	----	0.542	8.10	0.998	1.00	7.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.7934	1.9355	1.6671	1.6523	1.8172	1.7783	1.8727	1.8778	----	1.80	8.20	0.999	1.00	5.6	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.3657	1.6127	1.2948	1.2974	1.3959	1.3857	1.4569	1.4489	----	1.41	8.06	0.999	1.00	7.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Qua	0.3206	0.2889	0.2908	0.2907	0.3406	0.3567	0.3823	0.3861	----	0.332	8.12	0.997	1.00	12	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.2592	1.4353	1.1931	1.1776	1.2888	1.2901	1.3559	1.3588	----	1.29	8.35	0.999	1.00	6.7	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Qua	0.3147	0.3142	0.2898	0.2928	0.2990	0.2681	0.2518	0.2129	----	0.280	8.27	0.969	0.998	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1215	----	0.0379	0.0475	0.1671	0.1910	0.2114	0.2174	----	0.142	8.36	0.986	0.997	53	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Avg	1.7460	2.0035	1.6476	1.6427	1.7940	1.7896	1.8878	1.8916	2.1108	1.83	8.50	0.999	1.00	8.5	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
2,4-Dinitrotoluene	1	0	Qua	0.4093	0.3217	0.3478	0.3670	0.4265	0.4260	0.4525	0.4398	----	0.399	8.48	0.999	0.999	12	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Avg	0.3352	0.2638	0.2963	0.3105	0.3381	0.3143	0.3257	0.3158	----	0.313	8.39	0.999	0.999	7.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,3,4,6-Tetrachlorophe	1	0	Avg	0.4142	0.3952	0.3939	0.3780	0.4439	0.4527	0.4797	0.4836	----	0.430	8.61	0.998	1.00	9.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.5181	1.5436	1.3640	1.3589	1.5684	1.5929	1.6836	1.6831	----	1.54	8.83	0.998	1.00	8.1	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.7842	0.8231	0.7189	0.7123	0.8026	0.8271	0.8833	0.8896	----	0.805	8.82	0.997	1.00	8.2	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.4251	1.6534	1.3036	1.3368	1.4188	1.4034	1.4806	1.4404	----	1.43	8.70	0.999	0.999	7.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Avg	0.3895	0.3662	0.3348	0.3518	0.3941	0.3763	0.3908	0.3797	----	0.373	8.83	0.999	0.999	5.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.3165	0.2975	0.3000	0.2887	0.3333	0.3302	0.3527	0.3415	----	0.320	9.46	0.999	0.999	7.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,6-Dinitro-2-methylph	1	0	Qua	0.1007	----	0.0498	0.0677	0.1211	0.1343	0.1459	0.1533	----	0.110	8.86	0.994	1.00	36	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.6411	0.7098	0.5945	0.5951	0.6558	0.6633	0.6947	0.7141	----	0.659	8.93	0.998	1.00	7.1	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Tribromophenol	1	0	Qua	0.1322	0.1140	0.1228	0.1215	0.1460	0.1544	0.1631	0.1705	----	0.141	9.06	0.996	1.00	15		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.8456	0.9261	0.7346	0.7784	0.7865	0.7521	0.7634	0.7701	----	0.795	8.98	0.999	0.999	7.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2459	0.2656	0.2247	0.2279	0.2593	0.2695	0.2840	0.2931	----	0.259	9.31	0.997	1.00	9.5	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2701	0.3162	0.2547	0.2476	0.2879	0.2958	0.3178	0.3292	----	0.290	9.38	0.988	1.00	10	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.4629	0.4840	0.3999	0.4206	0.4280	0.4205	0.4239	0.4284	----	0.434	9.64	0.999	0.999	6.2	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.1450	----	0.1170	0.1082	0.1656	0.1786	0.1895	0.1991	----	0.158	9.57	0.996	1.00	22	0.05	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	1.1619	1.3447	1.0711	1.0786	1.1789	1.1829	1.2497	1.2720	----	1.19	9.82	0.998	1.00	7.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	1.1776	1.2615	1.0741	1.0710	1.2270	1.2258	1.2814	1.3059	----	1.20	9.87	0.999	1.00	7.4	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	1.0919	1.1751	0.9861	0.9930	1.1110	1.0910	1.1445	1.1521	----	1.09	10.04	0.999	1.00	6.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Avg	1.2589	1.2000	1.1137	1.1386	1.2695	1.2448	1.3099	1.3190	1.0120	1.21	10.42	0.999	1.00	8.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.4133	1.3998	1.2763	1.2680	1.4709	1.4408	1.5349	1.5377	----	1.42	11.15	0.999	1.00	7.3	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.0479	1.0902	0.9463	0.9664	1.0346	1.0507	1.0835	1.0878	----	1.04	11.42	1.00	1.00	5.3	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Qua	0.4958	0.2026	0.3286	0.3756	0.4906	0.4584	0.4123	0.3768	----	0.393	11.31	0.979	0.999	25		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.5468	0.6135	0.5118	0.5229	0.5562	0.5606	0.5772	0.5931	----	0.560	11.60	0.999	1.00	6.1		25.00	1.00	5.00	10.00	40.00	60.00	80.00	96.00	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 8.79
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.

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HAZ - 24

Method: EPA 8270D

Form 6
Initial Calibration

Instrument: GCMS_9

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M80455.D	CAL BNA@50PPM	09/11/17 15:12	2	9M80452.D	CAL BNA@2PPM	09/11/17 14:01
3	9M80445.D	CAL BNA@10PPM	09/11/17 11:18	4	9M80451.D	CAL BNA@20PPM	09/11/17 13:38
5	9M80449.D	CAL BNA@80PPM	09/11/17 12:51	6	9M80448.D	CAL BNA@120PPM	09/11/17 12:28
7	9M80447.D	CAL BNA@160PPM	09/11/17 12:04	8	9M80446.D	CAL BNA@196PPM	09/11/17 11:41
9	9M80454.D	CAL BNA@.5PPM	09/11/17 14:48				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
4,4'-DDE	1	0	Avg	0.2481	0.2514	0.2181	0.2211	0.2462	0.2599	0.2683	0.2714	----	0.248	11.53	0.999	1.00	8.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4634	0.4411	0.4039	0.4119	0.4690	0.4869	0.5061	0.5111	----	0.462	11.93	0.998	1.00	8.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Avg	0.4233	0.3928	0.3801	0.3833	0.4141	0.4121	0.4216	0.4250	----	0.407	12.19	1.00	1.00	4.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Qua	0.4178	0.2607	0.3177	0.3342	0.4342	0.4631	0.4795	0.4816	----	0.399	12.29	0.999	1.00	21		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Qua	0.3278	0.2905	0.3444	0.3030	0.3267	0.3008	0.2683	0.2528	----	0.302	12.81	0.984	0.999	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1166	1.2708	1.0523	1.0161	1.1216	1.0860	1.1244	1.1268	----	1.11	12.84	1.00	1.00	6.7	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.1470	1.2205	1.0031	1.0033	1.1413	1.1399	1.1770	1.1612	----	1.12	12.88	1.00	1.00	7.0	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Ethylhexyl)phthal	1	0	Avg	0.6461	0.5329	0.5408	0.5620	0.6427	0.6563	0.6782	0.6740	----	0.617	12.88	1.00	1.00	9.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Qua	1.0431	0.7197	0.8562	0.8944	1.0851	1.1484	1.1820	1.2071	----	1.02	13.64	0.997	1.00	17	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Qua	1.1326	1.0879	1.0054	0.9566	1.1963	1.2103	1.2839	1.3113	----	1.15	14.06	0.998	1.00	11	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	1.2550	1.1959	1.0737	1.0897	1.2980	1.2651	1.3492	1.3264	----	1.23	14.09	0.999	0.999	8.4	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	1.1552	1.0389	0.9941	0.9805	1.1752	1.1912	1.2424	1.2546	----	1.13	14.42	0.999	1.00	9.7	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Indeno[1,2,3-cd]pyren	1	0	Avg	1.2848	1.2648	1.1560	1.0986	1.3357	1.3138	1.3839	1.4217	----	1.28	15.83	0.997	0.999	8.5	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzo[a,h]anthracen	1	0	Avg	1.0676	1.0466	0.9637	0.9283	1.1174	1.1058	1.1753	1.2067	----	1.08	15.86	0.998	1.00	8.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[g,h,i]perylene	1	0	Avg	1.0602	1.1102	0.9956	0.9491	1.0903	1.0499	1.1053	1.1384	----	1.06	16.22	0.998	0.999	6.0	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 8.79
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.

HAZ - 248

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Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 9M80806.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/6/2017 7:59:00 A Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8(INT)	1	0	I	2.63	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.67	54.53	50	**		1.011	1.112	9.06	
Pyridine	1	0		3.16	47.35	50	**		3.129	2.964	5.30	
N-Nitrosodimethylamine	1	0		3.08	48.49	50	**		1.808	1.753	3.03	
2-Fluorophenol	1	0	S	4.67	49.65	50	**		2.567	2.550	0.69	
Benzaldehyde	1	0		5.50	45.65	50	20	0.01	0.542	0.495	8.70	
Aniline	1	0		5.59	51.80	50	**		3.919	4.059	3.59	
Pentachloroethane	1	0		5.63	50.56	50	**	0.05	1.011	1.023	1.12	
bis(2-Chloroethyl)ether	1	0		5.65	48.92	50	20	0.7	2.918	2.661	2.15	
Phenol-d5	1	0	S	5.55	48.77	50	**		3.567	3.479	2.46	
Phenol	1	0		5.56	48.54	50	20	0.8	3.659	3.552	2.92	
2-Chlorophenol	1	0		5.69	50.00	50	20	0.8	2.873	2.873	0.00	
N-Decane	1	0		5.73	48.63	50	**	0.05	2.991	2.909	2.73	
1,3-Dichlorobenzene	1	0		5.82	49.96	50	**		3.248	3.246	0.07	
1,4-Dichlorobenzene-d4	1	0	I	5.87	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.89	48.61	50	20		1.646	1.600	2.78	
1,2-Dichlorobenzene	1	0		6.01	49.06	50	**		1.555	1.526	1.89	
Benzyl alcohol	1	0		5.98	46.72	50	**		0.958	0.895	6.55	
bis(2-chloroisopropyl)ether	1	0		6.09	45.99	50	20	0.01	1.999	1.839	8.02	
2-Methylphenol	1	0		6.07	47.10	50	20	0.7	1.333	1.256	5.80	
Acetophenone	1	0		6.20	51.75	50	20	0.01	2.162	2.237	3.50	
Hexachloroethane	1	0		6.29	48.39	50	20	0.3	0.645	0.624	3.22	
N-Nitroso-di-n-propylamine	1	0		6.19	46.60	50	20	0.5	1.295	1.207	6.79	
3&4-Methylphenol	1	0		6.19	45.25	50	20		1.494	1.352	9.49	
Naphthalene-d8	1	0	I	6.88	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.32	24.08	25	**		0.164	0.158	3.68	
Nitrobenzene	1	0		6.34	47.41	50	20	0.2	0.445	0.422	5.19	
Isophorone	1	0		6.52	46.82	50	20	0.4	0.790	0.740	6.36	
2-Nitrophenol	1	0		6.58	50.91	50	20	0.1	0.186	0.189	1.82	
2,4-Dimethylphenol	1	0		6.61	46.89	50	20	0.2	0.420	0.394	6.21	
Benzoic Acid	1	0		6.68	36.90	50	**		0.438	0.352	26.20	
bis(2-Chloroethoxy)methane	1	0		6.68	47.53	50	20	0.3	0.434	0.412	4.94	
2,4-Dichlorophenol	1	0		6.77	50.56	50	20	0.2	0.335	0.338	1.13	
1,2,4-Trichlorobenzene	1	0		6.83	50.89	50	**		0.392	0.399	1.79	
Naphthalene	1	0		6.90	49.95	50	20	0.7	1.155	1.076	0.10	
4-Chloroaniline	1	0		6.93	50.86	50	20	0.01	0.350	0.422	1.72	
Hexachlorobutadiene	1	0		6.98	52.44	50	20	0.01	0.249	0.262	4.89	
Caprolactam	1	0		7.21	50.99	50	20	0.01	0.118	0.120	1.99	
4-Chloro-3-methylphenol	1	0		7.29	46.46	50	20	0.2	0.353	0.328	7.08	
2-Methylnaphthalene	1	0		7.43	48.41	50	**	0.4	0.812	0.787	3.18	
1-Methylnaphthalene	1	0		7.51	48.88	50	**	0.4	0.766	0.749	2.24	
Methylnaphthalenes	1	0		7.43	97.22	100	**			0.768	2.78	
1,1'-Biphenyl	1	0		7.81	49.25	50	20	0.01	1.099	1.082	1.50	
Acenaphthene-d10	1	0	I	8.32	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.56	54.15	50	20	0.01	0.696	0.754	8.29	
Hexachlorocyclopentadiene	1	0		7.55	44.65	50	20	0.05	0.429	0.380	10.71	
2,4,6-Trichlorophenol	1	0		7.65	49.50	50	20	0.2	0.412	0.408	1.01	
2,4,5-Trichlorophenol	1	0		7.68	48.22	50	20	0.2	0.448	0.432	3.56	
2-Fluorobiphenyl	1	0	S	7.72	24.25	25	**		1.432	1.389	2.99	
2-Chloronaphthalene	1	0		7.83	47.55	50	20	0.8	1.201	1.142	4.89	
1,4-Dimethylnaphthalene	1	0		8.12	46.98	50	**		1.101	1.034	6.05	
Dimethylnaphthalenes	1	0		8.12	46.98	50	20			1.034	6.05	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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 **Data File:** 9M80806.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/6/2017 7:59:00 A Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.89	52.72	50	**		0.877	0.925	5.45	
2-Nitroaniline	1	0		7.91	46.97	50	20	0.01	0.507	0.476	6.06	
Coumarin	1	0		8.10	45.10		**		0.542			
Acenaphthylene	1	0		8.20	46.70	50	20	0.9	1.799	1.680	6.61	
Dimethylphthalate	1	0		8.05	47.55	50	20	0.01	1.407	1.338	4.90	
2,6-Dinitrotoluene	1	0		8.11	48.09	50	20	0.2	0.332	0.315	3.81	
Acenaphthene	1	0		8.35	46.43	50	20	0.9	1.295	1.202	7.15	
3-Nitroaniline	1	0		8.26	46.41	50	20	0.01	0.280	0.299	7.18	
2,4-Dinitrophenol	1	0		8.35	59.28	50	20	0.01	0.142	0.158	18.55	
Dibenzofuran	1	0		8.50	46.01	50	20	0.8	1.835	1.688	7.99	
2,4-Dinitrotoluene	1	0		8.47	47.06	50	20	0.2	0.399	0.394	5.89	
4-Nitrophenol	1	0		8.39	41.50	50	20	0.01	0.313	0.259	16.99	
2,3,4,6-Tetrachlorophenol	1	0		8.60	49.49	50	20	0.01	0.430	0.426	1.01	
Fluorene	1	0		8.83	47.63	50	20	0.9	1.539	1.466	4.73	
4-Chlorophenyl-phenylether	1	0		8.81	48.53	50	20	0.4	0.805	0.782	2.93	
Diethylphthalate	1	0		8.69	46.63	50	20	0.01	1.433	1.336	6.73	
4-Nitroaniline	1	0		8.83	46.58	50	20	0.01	0.373	0.347	6.85	
Atrazine	1	0		9.46	52.56	50	20	0.01	0.320	0.336	5.13	
Phenanthrene-d10	1	0	I	9.79	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.86	58.98	50	20	0.01	0.110	0.133	17.95	
n-Nitrosodiphenylamine	1	0		8.93	47.83	50	20	0.01	0.659	0.630	4.33	
2,4,6-Tribromophenol	1	0	S	9.06	53.69	50	**		0.141	0.149	7.38	
1,2-Diphenylhydrazine	1	0		8.97	45.23	50	**		0.795	0.719	9.54	
4-Bromophenyl-phenylether	1	0		9.31	49.99	50	20	0.1	0.259	0.259	0.01	
Hexachlorobenzene	1	0		9.37	50.86	50	20	0.1	0.290	0.295	1.73	
N-Octadecane	1	0		9.64	46.10	50	**	0.05	0.434	0.400	7.81	
Pentachlorophenol	1	0		9.57	50.80	50	20	0.05	0.158	0.156	1.60	
Phenanthrene	1	0		9.81	47.27	50	20	0.7	1.193	1.127	5.47	
Anthracene	1	0		9.87	47.72	50	20	0.7	1.203	1.148	4.57	
Carbazole	1	0		10.04	46.08	50	20	0.01	1.093	1.007	7.85	
Di-n-butylphthalate	1	0		10.41	47.94	50	20	0.01	1.207	1.158	4.12	
Fluoranthene	1	0		11.15	48.60	50	20	0.6	1.418	1.378	2.81	
Chrysene-d12	1	0	I	12.85	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.41	48.71	50	20	0.6	1.038	1.012	2.58	
Benzidine	1	0		11.30	41.68	50	**		0.393	0.430	16.64	
Terphenyl-d14	1	0	S	11.59	25.00	25	**		0.560	0.560	0.00	
4,4'-DDE	1	0		11.53	47.96		**		0.248			
4,4'-DDD	1	0		11.93	47.14		**		0.462			
Butylbenzylphthalate	1	0		12.18	45.88	50	20	0.01	0.407	0.373	8.24	
4,4'-DDT	1	0		12.29	47.37		**		0.399			
3,3'-Dichlorobenzidine	1	0		12.81	60.24	50	20	0.01	0.302	0.398	20.48	
Benzo[a]anthracene	1	0		12.84	48.18	50	20	0.8	1.114	1.074	3.64	
Chrysene	1	0		12.88	48.98	50	20	0.7	1.124	1.101	2.03	
bis(2-Ethylhexyl)phthalate	1	0		12.88	47.11	50	20	0.01	0.617	0.581	5.78	
Perylene-d12	1	0	I	14.48	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.62	44.48	50	20	0.01	1.017	0.904	11.04	
Benzo[b]fluoranthene	1	0		14.05	47.82	50	20	0.7	1.148	1.085	4.37	
Benzo[k]fluoranthene	1	0		14.08	50.28	50	20	0.7	1.232	1.239	0.57	
Benzo[a]pyrene	1	0		14.42	50.01	50	20	0.7	1.129	1.129	0.02	
Indeno[1,2,3-cd]pyrene	1	0		15.82	53.53	50	20	0.5	1.282	1.373	7.06	
Dibenzo[a,h]anthracene	1	0		15.84	52.44	50	20	0.4	1.076	1.129	4.88	
Benzo[g,h,i]perylene	1	0		16.21	54.35	50	20	0.5	1.062	1.155	8.70	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 9M80806.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/6/2017 7:59:00 A Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
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	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.790	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	
Endrin	1	100		0.00	0.00	50	**			0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		1.101	0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	
1,4-Dioxane-d8-Surro	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	
gamma-BHC	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
C1-Compound %Diff exceeds limits

** - No limit specified in method

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 **Data File:** 10M65369.D **Instrument:** GCMS 10

Cont Calibration Date/Time 10/6/2017 1:28:00 P Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8(INT)	1	0	I	2.49	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.52	51.04	50	**		1.085	1.045	2.08	
Pyridine	1	0		3.00	48.85	50	**		2.664	2.603	2.30	
N-Nitrosodimethylamine	1	0		2.90	49.23	50	**		1.430	1.503	1.55	
2-Fluorophenol	1	0	S	4.55	49.48	50	**		2.572	2.546	1.03	
Benzaldehyde	1	0		5.37	23.43	50	20	0.01	0.457	0.214	53.15	C1
Aniline	1	0		5.47	54.99	50	**		3.739	4.112	9.99	
Pentachloroethane	1	0		5.50	50.03	50	**	0.05	1.030	1.030	0.06	
bis(2-Chloroethyl)ether	1	0		5.52	46.19	50	20	0.7	2.853	2.636	7.62	
Phenol-d5	1	0	S	5.43	48.63	50	**		3.434	3.339	2.75	
Phenol	1	0		5.44	48.44	50	20	0.8	3.838	3.719	3.11	
2-Chlorophenol	1	0		5.57	50.32	50	20	0.8	3.056	3.076	0.64	
N-Decane	1	0		5.62	48.80	50	**	0.05	2.883	2.814	2.40	
1,3-Dichlorobenzene	1	0		5.70	50.16	50	**		3.376	3.386	0.31	
1,4-Dichlorobenzene-d4	1	0	I	5.75	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.76	50.39	50	20		1.624	1.637	0.78	
1,2-Dichlorobenzene	1	0		5.89	50.70	50	**		1.529	1.550	1.40	
Benzyl alcohol	1	0		5.86	47.19	50	**		0.893	0.843	5.63	
bis(2-chloroisopropyl)ether	1	0		5.97	49.22	50	20	0.01	1.726	1.699	1.56	
2-Methylphenol	1	0		5.95	51.98	50	20	0.7	1.299	1.347	3.96	
Acetophenone	1	0		6.08	53.74	50	20	0.01	1.750	1.881	7.48	
Hexachloroethane	1	0		6.16	51.32	50	20	0.3	0.578	0.594	2.63	
N-Nitroso-di-n-propylamine	1	0		6.08	53.70	50	20	0.5	0.886	0.951	7.41	
3&4-Methylphenol	1	0		6.08	52.55	50	20		1.290	1.355	5.11	
Naphthalene-d8	1	0	I	6.75	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.20	26.32	25	**		0.172	0.181	5.27	
Nitrobenzene	1	0		6.21	52.56	50	20	0.2	0.345	0.362	5.11	
Isophorone	1	0		6.40	53.01	50	20	0.4	0.625	0.662	6.02	
2-Nitrophenol	1	0		6.46	53.97	50	20	0.1	0.190	0.205	7.94	
2,4-Dimethylphenol	1	0		6.49	51.90	50	20	0.2	0.348	0.367	3.80	
Benzoic Acid	1	0		6.58	47.45	50	**		0.347	0.381	5.09	
bis(2-Chloroethoxy)methane	1	0		6.56	51.02	50	20	0.3	0.402	0.410	2.04	
2,4-Dichlorophenol	1	0		6.65	49.16	50	20	0.2	0.298	0.319	1.68	
1,2,4-Trichlorobenzene	1	0		6.71	50.65	50	**		0.340	0.345	1.30	
Naphthalene	1	0		6.77	53.46	50	20	0.7	1.137	1.172	6.92	
4-Chloroaniline	1	0		6.81	53.84	50	20	0.01	0.352	0.437	7.68	
Hexachlorobutadiene	1	0		6.86	50.11	50	20	0.01	0.194	0.194	0.23	
Caprolactam	1	0		7.08	51.95	50	20	0.01	0.109	0.120	3.90	
4-Chloro-3-methylphenol	1	0		7.17	52.00	50	20	0.2	0.304	0.316	4.00	
2-Methylnaphthalene	1	0		7.30	52.00	50	**	0.4	0.758	0.788	3.99	
1-Methylnaphthalene	1	0		7.38	52.98	50	**	0.4	0.732	0.776	5.96	
Methylnaphthalenes	1	0		7.30	53.00	100	**			0.394	47.00	
1,1'-Biphenyl	1	0		7.67	52.29	50	20	0.01	0.993	1.039	4.57	
Acenaphthene-d10	1	0	I	8.17	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.43	50.50	50	20	0.01	0.549	0.554	1.01	
Hexachlorocyclopentadiene	1	0		7.43	36.31	50	20	0.05	0.291	0.234	27.38	C1
2,4,6-Trichlorophenol	1	0		7.52	53.00	50	20	0.2	0.359	0.381	6.00	
2,4,5-Trichlorophenol	1	0		7.55	51.43	50	20	0.2	0.378	0.388	2.87	
2-Fluorobiphenyl	1	0	S	7.58	25.61	25	**		1.364	1.397	2.46	
2-Chloronaphthalene	1	0		7.69	51.56	50	20	0.8	1.134	1.169	3.11	
1,4-Dimethylnaphthalene	1	0		7.97	53.36	50	**		0.969	1.035	6.73	
Dimethylnaphthalenes	1	0		7.97	53.36	50	20			1.035	6.73	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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 - 252 **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 10M65369.D **Instrument:** GCMS 10

Cont Calibration Date/Time 10/6/2017 1:28:00 P Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.75	51.59	50	**		0.803	0.829	3.18	
2-Nitroaniline	1	0		7.77	54.89	50	20	0.01	0.347	0.381	9.78	
Coumarin	1	0		7.95	53.13		**		0.513			
Acenaphthylene	1	0		8.04	52.55	50	20	0.9	1.753	1.842	5.11	
Dimethylphthalate	1	0		7.92	52.72	50	20	0.01	1.300	1.371	5.43	
2,6-Dinitrotoluene	1	0		7.97	56.72	50	20	0.2	0.283	0.321	13.44	
Acenaphthene	1	0		8.20	52.06	50	20	0.9	1.141	1.188	4.12	
3-Nitroaniline	1	0		8.11	59.54	50	20	0.01	0.286	0.340	19.07	
2,4-Dinitrophenol	1	0		8.21	38.50	50	20	0.01	0.135	0.116	23.00	C1
Dibenzofuran	1	0		8.35	52.61	50	20	0.8	1.716	1.726	5.23	
2,4-Dinitrotoluene	1	0		8.32	54.34	50	20	0.2	0.392	0.426	8.68	
4-Nitrophenol	1	0		8.25	38.60	50	20	0.01	0.215	0.183	22.81	C1
2,3,4,6-Tetrachlorophenol	1	0		8.46	53.50	50	20	0.01	0.337	0.361	7.00	
Fluorene	1	0		8.67	52.35	50	20	0.9	1.322	1.384	4.69	
4-Chlorophenyl-phenylether	1	0		8.66	51.77	50	20	0.4	0.647	0.670	3.54	
Diethylphthalate	1	0		8.54	54.06	50	20	0.01	1.280	1.384	8.12	
4-Nitroaniline	1	0		8.67	54.13	50	20	0.01	0.362	0.392	8.27	
Atrazine	1	0		9.29	53.50	50	20	0.01	0.260	0.279	6.99	
Phenanthrene-d10	1	0	I	9.61	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.70	45.65	50	20	0.01	0.125	0.120	8.70	
n-Nitrosodiphenylamine	1	0		8.77	52.61	50	20	0.01	0.653	0.687	5.21	
2,4,6-Tribromophenol	1	0	S	8.90	50.31	50	**		0.112	0.115	0.62	
1,2-Diphenylhydrazine	1	0		8.81	52.89	50	**		0.680	0.720	5.77	
4-Bromophenyl-phenylether	1	0		9.13	51.57	50	20	0.1	0.226	0.233	3.15	
Hexachlorobenzene	1	0		9.21	50.43	50	20	0.1	0.246	0.248	0.85	
N-Octadecane	1	0		9.48	54.76	50	**	0.05	0.415	0.455	9.53	
Pentachlorophenol	1	0		9.41	48.23	50	20	0.05	0.128	0.130	3.53	
Phenanthrene	1	0		9.63	50.69	50	20	0.7	1.150	1.166	1.38	
Anthracene	1	0		9.69	52.29	50	20	0.7	1.151	1.203	4.59	
Carbazole	1	0		9.86	52.28	50	20	0.01	1.077	1.126	4.56	
Di-n-butylphthalate	1	0		10.24	53.32	50	20	0.01	1.160	1.333	6.64	
Fluoranthene	1	0		10.95	51.86	50	20	0.6	1.237	1.283	3.73	
Chrysene-d12	1	0	I	12.64	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.22	54.16	50	20	0.6	1.146	1.241	8.32	
Benzidine	1	0		11.10	42.47	50	**		0.453	0.496	15.06	
Terphenyl-d14	1	0	S	11.40	26.76	25	**		0.616	0.659	7.03	
4,4'-DDE	1	0		11.34	54.28		**		0.255			
4,4'-DDD	1	0		11.73	55.70		**		0.467			
Butylbenzylphthalate	1	0		11.99	53.91	50	20	0.01	0.466	0.547	7.82	
4,4'-DDT	1	0		12.09	52.36		**		0.399			
3,3'-Dichlorobenzidine	1	0		12.60	64.14	50	20	0.01	0.311	0.424	28.29	C1
Benzo[a]anthracene	1	0		12.63	53.03	50	20	0.8	1.093	1.159	6.06	
Chrysene	1	0		12.67	51.52	50	20	0.7	1.066	1.098	3.03	
bis(2-Ethylhexyl)phthalate	1	0		12.68	60.22	50	20	0.01	0.636	0.766	20.43	
Perylene-d12	1	0	I	14.24	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.42	56.33	50	20	0.01	1.150	1.451	12.66	
Benzo[b]fluoranthene	1	0		13.84	53.77	50	20	0.7	1.155	1.242	7.53	
Benzo[k]fluoranthene	1	0		13.87	53.06	50	20	0.7	1.139	1.209	6.11	
Benzo[a]pyrene	1	0		14.18	53.09	50	20	0.7	1.117	1.186	6.18	
Indeno[1,2,3-cd]pyrene	1	0		15.50	52.73	50	20	0.5	1.272	1.342	5.46	
Dibenzo[a,h]anthracene	1	0		15.52	52.96	50	20	0.4	1.081	1.145	5.92	
Benzo[g,h,i]perylene	1	0		15.86	50.45	50	20	0.5	1.089	1.098	0.91	

S-Surrogate Compound I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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 - 253 **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 10M65369.D **Instrument:** GCMS 10

Cont Calibration Date/Time 10/6/2017 1:28:00 P Method: EPA 8270D

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	
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	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.744	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	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.969	0.000	100.00	
Diaminotoluene Dihydrochloride	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 I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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. 524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87094.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/6/2017 1:28:00 P Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8(INT)	1	0	I	2.66	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.69	47.56	50	**		1.079	1.023	4.89	
Pyridine	1	0		3.18	48.27	50	**		3.202	2.992	3.45	
N-Nitrosodimethylamine	1	0		3.10	45.38	50	**		1.810	1.693	9.24	
2-Fluorophenol	1	0	S	4.69	50.43	50	**		2.632	2.654	0.85	
Benzaldehyde	1	0		5.50	23.52	50	20	0.01	0.538	0.253	52.96	C1
Aniline	1	0		5.60	44.77	50	**		4.121	4.068	10.47	
Pentachloroethane	1	0		5.64	53.06	50	**	0.05	0.928	0.985	6.12	
bis(2-Chloroethyl)ether	1	0		5.65	47.62	50	20	0.7	2.942	2.714	4.76	
Phenol-d5	1	0	S	5.57	49.18	50	**		3.629	3.570	1.64	
Phenol	1	0		5.59	46.61	50	20	0.8	4.151	3.870	6.78	
2-Chlorophenol	1	0		5.70	52.19	50	20	0.8	2.808	2.930	4.37	
N-Decane	1	0		5.74	50.37	50	**	0.05	2.652	2.671	0.74	
1,3-Dichlorobenzene	1	0		5.83	53.32	50	**		3.004	3.203	6.64	
1,4-Dichlorobenzene-d4	1	0	I	5.88	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.89	50.45	50	20		1.623	1.637	0.89	
1,2-Dichlorobenzene	1	0		6.02	49.98	50	**		1.553	1.552	0.05	
Benzyl alcohol	1	0		5.99	44.50	50	**		1.012	0.900	10.99	
bis(2-chloroisopropyl)ether	1	0		6.10	43.17	50	20	0.01	1.855	1.602	13.66	
2-Methylphenol	1	0		6.09	48.13	50	20	0.7	1.402	1.401	3.74	
Acetophenone	1	0		6.21	46.81	50	20	0.01	2.087	1.954	6.37	
Hexachloroethane	1	0		6.29	48.65	50	20	0.3	0.592	0.576	2.70	
N-Nitroso-di-n-propylamine	1	0		6.21	46.19	50	20	0.5	1.112	1.028	7.61	
3&4-Methylphenol	1	0		6.22	48.80	50	20		1.398	1.464	2.40	
Naphthalene-d8	1	0	I	6.90	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.33	26.89	25	**		0.173	0.186	7.54	
Nitrobenzene	1	0		6.34	46.97	50	20	0.2	0.410	0.386	6.05	
Isophorone	1	0		6.53	46.56	50	20	0.4	0.764	0.711	6.88	
2-Nitrophenol	1	0		6.60	51.31	50	20	0.1	0.194	0.210	2.61	
2,4-Dimethylphenol	1	0		6.63	49.25	50	20	0.2	0.364	0.383	1.51	
Benzoic Acid	1	0		6.71	15.22	50	**		0.318	0.006	69.55	
bis(2-Chloroethoxy)methane	1	0		6.69	47.49	50	20	0.3	0.457	0.434	5.02	
2,4-Dichlorophenol	1	0		6.79	52.01	50	20	0.2	0.281	0.328	4.02	
1,2,4-Trichlorobenzene	1	0		6.85	53.03	50	**		0.335	0.355	6.07	
Naphthalene	1	0		6.92	52.05	50	20	0.7	1.157	1.130	4.09	
4-Chloroaniline	1	0		6.95	56.33	50	20	0.01	0.380	0.428	12.66	
Hexachlorobutadiene	1	0		7.00	56.28	50	20	0.01	0.182	0.204	12.57	
Caprolactam	1	0		7.22	48.67	50	20	0.01	0.132	0.127	2.66	
4-Chloro-3-methylphenol	1	0		7.32	47.64	50	20	0.2	0.349	0.341	4.71	
2-Methylnaphthalene	1	0		7.46	50.43	50	**	0.4	0.789	0.796	0.85	
1-Methylnaphthalene	1	0		7.54	50.57	50	**	0.4	0.757	0.766	1.14	
Methylnaphthalenes	1	0		7.46	100.98	100	**			0.780	0.98	
1,1'-Biphenyl	1	0		7.83	50.47	50	20	0.01	1.025	1.035	0.95	
Acenaphthene-d10	1	0	I	8.34	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.59	54.57	50	20	0.01	0.522	0.570	9.15	
Hexachlorocyclopentadiene	1	0		7.58	6.92	50	20	0.05	0.268	0.043	86.16	C1
2,4,6-Trichlorophenol	1	0		7.68	48.23	50	20	0.2	0.346	0.369	3.53	
2,4,5-Trichlorophenol	1	0		7.72	54.45	50	20	0.2	0.371	0.407	8.90	
2-Fluorobiphenyl	1	0	S	7.74	26.72	25	**		1.326	1.418	6.89	
2-Chloronaphthalene	1	0		7.86	53.19	50	20	0.8	1.096	1.169	6.39	
1,4-Dimethylnaphthalene	1	0		8.13	53.97	50	**		0.963	1.039	7.95	
Dimethylnaphthalenes	1	0		8.13	53.97	50	20			1.039	7.95	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87094.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/6/2017 1:28:00 P Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.91	53.98	50	**		0.771	0.832	7.96	
2-Nitroaniline	1	0		7.93	49.66	50	20	0.01	0.402	0.399	0.68	
Coumarin	1	0		8.12	51.09		**		0.533			
Acenaphthylene	1	0		8.21	53.33	50	20	0.9	1.732	1.847	6.66	
Dimethylphthalate	1	0		8.07	52.14	50	20	0.01	1.347	1.405	4.28	
2,6-Dinitrotoluene	1	0		8.13	55.30	50	20	0.2	0.294	0.325	10.60	
Acenaphthene	1	0		8.36	53.52	50	20	0.9	1.136	1.216	7.04	
3-Nitroaniline	1	0		8.28	49.88	50	20	0.01	0.312	0.345	0.24	
2,4-Dinitrophenol	1	0		8.38	35.37	50	20	0.01	0.130	0.084	29.26	C1
Dibenzofuran	1	0		8.52	52.22	50	20	0.8	1.730	1.743	4.44	
2,4-Dinitrotoluene	1	0		8.49	50.27	50	20	0.2	0.415	0.445	0.53	
4-Nitrophenol	1	0		8.43	35.93	50	20	0.01	0.240	0.191	28.15	C1
2,3,4,6-Tetrachlorophenol	1	0		8.63	48.01	50	20	0.01	0.332	0.350	3.97	
Fluorene	1	0		8.84	53.08	50	20	0.9	1.337	1.419	6.17	
4-Chlorophenyl-phenylether	1	0		8.83	52.16	50	20	0.4	0.669	0.698	4.33	
Diethylphthalate	1	0		8.70	51.41	50	20	0.01	1.338	1.376	2.83	
4-Nitroaniline	1	0		8.84	49.01	50	20	0.01	0.377	0.392	1.98	
Atrazine	1	0		9.46	50.61	50	20	0.01	0.276	0.294	1.22	
Phenanthrene-d10	1	0	I	9.80	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.88	39.34	50	20	0.01	0.114	0.097	21.32	C1
n-Nitrosodiphenylamine	1	0		8.94	54.26	50	20	0.01	0.617	0.669	8.53	
2,4,6-Tribromophenol	1	0	S	9.08	58.64	50	**		0.099	0.124	17.28	
1,2-Diphenylhydrazine	1	0		8.98	47.85	50	**		0.740	0.708	4.30	
4-Bromophenyl-phenylether	1	0		9.31	55.58	50	20	0.1	0.217	0.241	11.16	
Hexachlorobenzene	1	0		9.39	55.83	50	20	0.1	0.239	0.267	11.66	
N-Octadecane	1	0		9.65	53.94	50	**	0.05	0.406	0.438	7.87	
Pentachlorophenol	1	0		9.60	24.21	50	20	0.05	0.116	0.057	51.59	C1
Phenanthrene	1	0		9.82	51.70	50	20	0.7	1.115	1.153	3.41	
Anthracene	1	0		9.88	53.58	50	20	0.7	1.107	1.186	7.16	
Carbazole	1	0		10.04	51.19	50	20	0.01	1.074	1.100	2.37	
Di-n-butylphthalate	1	0		10.41	50.62	50	20	0.01	1.144	1.304	1.25	
Fluoranthene	1	0		11.15	51.97	50	20	0.6	1.258	1.308	3.93	
Chrysene-d12	1	0	I	12.85	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.41	54.97	50	20	0.6	1.085	1.193	9.95	
Benzidine	1	0		11.30	41.15	50	**		0.454	0.489	17.70	
Terphenyl-d14	1	0	S	11.59	27.96	25	**		0.594	0.664	11.82	
4,4'-DDE	1	0		11.53	56.09		**		0.242			
4,4'-DDD	1	0		11.92	56.78		**		0.463			
Butylbenzylphthalate	1	0		12.17	51.18	50	20	0.01	0.473	0.532	2.36	
4,4'-DDT	1	0		12.28	51.98		**		0.377			
3,3'-Dichlorobenzidine	1	0		12.80	59.88	50	20	0.01	0.336	0.463	19.76	
Benzo[a]anthracene	1	0		12.83	50.82	50	20	0.8	1.120	1.138	1.64	
Chrysene	1	0		12.88	51.15	50	20	0.7	1.048	1.072	2.29	
bis(2-Ethylhexyl)phthalate	1	0		12.86	52.35	50	20	0.01	0.627	0.733	4.70	
Perylene-d12	1	0	I	14.51	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.62	49.64	50	20	0.01	1.192	1.364	0.71	
Benzo[b]fluoranthene	1	0		14.08	50.17	50	20	0.7	1.213	1.217	0.34	
Benzo[k]fluoranthene	1	0		14.11	51.77	50	20	0.7	1.166	1.207	3.54	
Benzo[a]pyrene	1	0		14.45	52.78	50	20	0.7	1.123	1.185	5.56	
Indeno[1,2,3-cd]pyrene	1	0		15.87	55.97	50	20	0.5	1.151	1.288	11.94	
Dibenzo[a,h]anthracene	1	0		15.89	56.17	50	20	0.4	0.972	1.092	12.34	
Benzo[g,h,i]perylene	1	0		16.26	56.58	50	20	0.5	0.950	1.075	13.17	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87094.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/6/2017 1:28:00 P **Method:** EPA 8270D

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	
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	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.773	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	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.963	0.000	100.00	
Diaminotoluene Dihydrochloride	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
C1-Compound %Diff exceeds limits

** - No limit specified in method

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

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FORM8

Internal Standard Areas

Evaluation Std Data File: 10M64985.D Method: EPA 8270D

Analysis Date/Time: 09/11/17 12:53

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	35265	2.50	75383	5.75	289381	6.76	181964	8.17	315451	9.62	354383	12.64	329776	14.24
Eval File Area Limit:	17632-70530		37692-150766		144690-578762		90982-363928		157726-630902		177192-708766		164888-659552	
Eval File Rt Limit:	2-3		5.25-6.25		6.26-7.26		7.67-8.67		9.12-10.12		12.14-13.14		13.74-14.74	

Data File	Sample														
10M64975.D	CAL BNA@10PPM	32208	2.50	68334	5.75	268864	6.76	171388	8.17	292677	9.61	338284	12.64	311911	14.24
10M64976.D	CAL BNA@196PPM	32571	2.50	72234	5.75	280842	6.77	177681	8.18	300829	9.62	337898	12.65	308802	14.25
10M64977.D	CAL BNA@160PPM	27541	2.50	60515	5.75	238187	6.76	154215	8.17	276473	9.62	320557	12.65	299384	14.25
10M64978.D	CAL BNA@120PPM	34615	2.50	74837	5.75	292395	6.76	186508	8.18	323232	9.62	362088	12.65	337174	14.25
10M64979.D	CAL BNA@80PPM	31993	2.50	71282	5.75	276755	6.76	178149	8.17	315241	9.62	345890	12.65	321889	14.24
10M64981.D	CAL BNA@20PPM	33868	2.50	71905	5.75	283028	6.76	178213	8.17	315136	9.62	366732	12.64	342612	14.24
10M64982.D	CAL BNA@2PPM	33915	2.50	71735	5.75	281829	6.76	176962	8.17	318752	9.61	366364	12.64	341565	14.24
10M64983.D	CAL BNA@.5PPM	36310	2.50	76457	5.75	299549	6.76	188660	8.17	329396	9.61	392746	12.64	367922	14.24
10M64984.D	CAL BNA@.25PPM	31693	2.50	66518	5.75	259327	6.76	161586	8.17	288281	9.61	323988	12.64	302006	14.24
10M64985.D	CAL BNA@50PPM	35265	2.50	75383	5.75	289381	6.76	181964	8.17	315451	9.62	354383	12.64	329776	14.24
10M64986.D	ICV BNA@50PPM	35339	2.50	74232	5.75	285410	6.76	181175	8.17	317546	9.62	350852	12.64	322097	14.24
10M64987.D	EXT MIX#1	34412	2.50	72975	5.75	284416	6.76	179882	8.17	318593	9.62	361962	12.64	339291	14.24
10M64988.D	EXT MIX#1(2ND)	35118	2.50	72552	5.75	292736	6.76	186676	8.17	327627	9.61	376144	12.64	348626	14.24

HAZ - 258

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0151

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M86409.D Method: EPA 8270D

Analysis Date/Time: 09/11/17 13:22

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	44513	2.67	81341	5.88	333846	6.90	216185	8.34	407318	9.79	481166	12.85	436287	14.49
Eval File Area Limit:	22256-89026		40670-162682		166923-667692		108092-432370		203659-814636		240583-962332		218144-872574	
Eval File Rt Limit:	2.17-3.17		5.38-6.38		6.4-7.4		7.84-8.84		9.29-10.29		12.35-13.35		13.99-14.99	

Data File	Sample														
7M86403.D	CAL BNA@10PPM	36744	2.67	69500	5.88	291390	6.90	197241	8.34	382882	9.80	502748	12.84	473995	14.47
7M86404.D	CAL BNA@196PPM	36644	2.67	71365	5.88	312983	6.90	220438	8.34	422789	9.80	490801	12.85	460132	14.48
7M86405.D	CAL BNA@160PPM	37494	2.67	73689	5.88	311629	6.90	213898	8.34	408480	9.80	472636	12.85	433207	14.47
7M86406.D	CAL BNA@120PPM	39940	2.67	78143	5.88	329897	6.90	226107	8.34	434083	9.80	514554	12.85	478323	14.47
7M86407.D	CAL BNA@80PPM	41904	2.67	77920	5.88	323618	6.90	213313	8.34	408041	9.79	486212	12.85	451475	14.47
7M86409.D	CAL BNA@50PPM	44513	2.67	81341	5.88	333846	6.90	216185	8.34	407318	9.79	481166	12.85	436287	14.49
7M86410.D	CAL BNA@20PPM	39352	2.67	75725	5.88	321177	6.90	210445	8.34	396180	9.80	491773	12.84	452925	14.47
7M86411.D	CAL BNA@2PPM	36733	2.67	66985	5.88	272600	6.89	183277	8.33	355503	9.79	469676	12.84	434780	14.47
7M86412.D	CAL BNA@.25PPM	42687	2.67	69978	5.88	275839	6.90	179986	8.33	343013	9.80	418646	12.85	385512	14.51
7M86413.D	CAL BNA@.5PPM	46233	2.67	84320	5.88	338640	6.89	219575	8.33	410815	9.79	494741	12.84	455189	14.48
7M86414.D	ICV BNA@50PPM	45954	2.67	71832	5.88	282544	6.90	180658	8.34	340042	9.80	447040	12.85	432302	14.47

HAZ - 259

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0152

FORM8

Internal Standard Areas

Evaluation Std Data File: 9M80455.D Method: EPA 8270D

Analysis Date/Time: 09/11/17 15:12

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	26542	2.63	51944	5.87	205222	6.88	132600	8.32	261249	9.79	375305	12.86	347385	14.48
Eval File Area Limit:	13271-53084		25972-103888		102611-410444		66300-265200		130624-522498		187652-750610		173692-694770	
Eval File Rt Limit:	2.13-3.13		5.37-6.37		6.38-7.38		7.82-8.82		9.29-10.29		12.36-13.36		13.98-14.98	

Data File	Sample														
9M80445.D	CAL BNA@10PPM	29564	2.63	60315	5.87	230959	6.88	149647	8.32	291925	9.79	412852	12.85	416773	14.48
9M80446.D	CAL BNA@196PPM	29900	2.63	61783	5.87	240218	6.89	158687	8.32	308547	9.80	456733	12.86	396755	14.49
9M80447.D	CAL BNA@160PPM	28658	2.63	59529	5.87	233156	6.89	153894	8.32	309699	9.80	457552	12.86	396521	14.49
9M80448.D	CAL BNA@120PPM	31822	2.63	68225	5.87	262819	6.89	175635	8.32	348339	9.79	502335	12.86	432011	14.49
9M80449.D	CAL BNA@80PPM	27753	2.63	56024	5.87	219733	6.88	142456	8.32	281850	9.79	423279	12.86	393191	14.48
9M80451.D	CAL BNA@20PPM	29427	2.63	58668	5.87	232735	6.88	150857	8.32	296792	9.79	418603	12.85	397428	14.48
9M80452.D	CAL BNA@2PPM	28575	2.63	53940	5.87	207911	6.88	131157	8.32	254895	9.79	341728	12.85	337973	14.48
9M80453.D	CAL BNA@.25PPM	24763	2.63	48204	5.87	190241	6.88	119520	8.32	230305	9.79	300955	12.85	296125	14.48
9M80454.D	CAL BNA@.5PPM	29002	2.63	56189	5.87	220642	6.88	141857	8.32	280314	9.79	378268	12.85	356690	14.48
9M80455.D	CAL BNA@50PPM	26542	2.63	51944	5.87	205222	6.88	132600	8.32	261249	9.79	375305	12.86	347385	14.48
9M80456.D	ICV BNA@50PPM	25615	2.63	52558	5.87	206681	6.88	130147	8.32	253168	9.79	357977	12.85	341119	14.48

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0153

FORM8

Internal Standard Areas

Evaluation Std Data File: 9M80806.D Method: EPA 8270D

Analysis Date/Time: 10/06/17 07:59

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	24540	2.63	51969	5.87	200550	6.88	137226	8.32	267078	9.79	386657	12.85	370412	14.48
Eval File Area Limit:	12270-49080		25984-103938		100275-401100		68613-274452		133539-534156		193328-773314		185206-740824	
Eval File Rt Limit:	2.13-3.13		5.37-6.37		6.38-7.38		7.82-8.82		9.29-10.29		12.35-13.35		13.98-14.98	

Data File	Sample														
9M80807.D	SURR TEST	33452	2.63	69920	5.87	267945	6.89	176944	8.33	351552	9.80	469678	12.85	471423	14.50
9M80808.D	SMB63086(MS)	37125	2.63	80953	5.87	293004	6.89	190411	8.33	359082	9.79	454795	12.85	393565	14.49
9M80809.D	SMB63087(MS)	35737	2.63	79914	5.87	297391	6.88	193435	8.32	375833	9.79	483924	12.85	427673	14.48
9M80810.D	SMB63086	37516	2.63	83223	5.87	308266	6.88	197709	8.32	374887	9.79	435949	12.84	378551	14.47
9M80811.D	SMB63087	28451	2.63	63616	5.87	231782	6.88	148897	8.31	285496	9.78	335250	12.84	289441	14.47

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0154

FORM8

Internal Standard Areas

Evaluation Std Data File: 10M65369.D Method: EPA 8270D

Analysis Date/Time: 10/06/17 13:28

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	25717	2.49	54141	5.75	210391	6.75	133028	8.17	230719	9.61	255360	12.64	231842	14.24
Eval File Area Limit:	12858-51434		27070-108282		105196-420782		66514-266056		115360-461438		127680-510720		115921-463684	
Eval File Rt Limit:	1.99-2.99		5.25-6.25		6.25-7.25		7.67-8.67		9.11-10.11		12.14-13.14		13.74-14.74	

Data File	Sample														
10M65370.D	SMB63086	44638	2.51	85878	5.75	318043	6.75	188776	8.17	300665	9.61	261836	12.64	209678	14.24
10M65371.D	SMB63087	36393	2.51	71367	5.75	258060	6.75	151605	8.17	239098	9.61	211447	12.64	168413	14.24
10M65372.D	AD00415-002(5X)	28559	2.49	59459	5.75	217789	6.75	144290	8.17	245797	9.62	266599	12.64	250167	14.24
10M65373.D	AD00418-006	34676	2.50	71632	5.75	256596	6.75	148532	8.17	226512	9.61	202452	12.64	199813	14.24
10M65374.D	AD00418-006(MS)	34941	2.51	69371	5.75	248555	6.75	139614	8.17	213512	9.61	180773	12.64	161819	14.24
10M65375.D	AD00418-006(MSD)	35057	2.50	71547	5.75	261897	6.75	154706	8.17	244749	9.61	239459	12.64	238968	14.24
10M65376.D	AD00419-012	35893	2.51	71651	5.75	255681	6.75	150571	8.17	245913	9.61	206094	12.64	192274	14.24
10M65377.D	AD00419-013	31448	2.50	64365	5.75	242042	6.75	141267	8.17	243116	9.61	231338	12.64	223653	14.24

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100429 0155

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M87094.D Method: EPA 8270D

Analysis Date/Time: 10/06/17 13:28

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	25226	2.66	49962	5.88	193143	6.90	122093	8.34	226184	9.80	256292	12.85	237071	14.51
Eval File Area Limit:	12613-50452		24981-99924		96572-386286		61046-244186		113092-452368		128146-512584		118536-474142	
Eval File Rt Limit:	2.16-3.16		5.38-6.38		6.4-7.4		7.84-8.84		9.3-10.3		12.35-13.35		14.01-15.01	

Data File	Sample														
7M87095.D	AD00415-002	30554	2.65	62963	5.88	222985	6.90	156736	8.36	239561	9.82	271314	12.86	266747	14.55
7M87096.D	AD00415-004	26570	2.66	58400	5.88	214158	6.89	136239	8.33	232952	9.80	234450	12.86	224748	14.59
7M87097.D	AD00415-006	26243	2.66	55971	5.88	208692	6.90	134366	8.34	235687	9.80	232074	12.85	218307	14.53
7M87098.D	SMB63086	29496	2.65	61529	5.87	239308	6.90	146660	8.34	248131	9.80	238252	12.85	227814	14.49
7M87099.D	SMB63087	22969	2.66	51035	5.88	192391	6.88	121639	8.32	206403	9.78	197123	12.85	184171	14.47
7M87100.D	AD00418-002	23576	2.66	50780	5.88	192318	6.88	120766	8.32	201817	9.78	201331	12.85	194751	14.47
7M87101.D	AD00418-004	30888	2.66	64489	5.88	257064	6.88	166016	8.32	290716	9.78	285706	12.84	265061	14.47
7M87102.D	AD00303-005	25962	2.66	52625	5.88	175644	6.89	122377	8.33	196801	9.79	226156	12.85	217694	14.48
7M87103.D	AD00432-002	25198	2.66	54899	5.88	209656	6.89	134124	8.32	228456	9.78	227278	12.85	231186	14.49
7M87104.D	AD00419-008	24153	2.66	54896	5.88	209947	6.88	136726	8.32	237097	9.78	235676	12.85	228117	14.47
7M87105.D	AD00419-010	23719	2.66	51145	5.88	198381	6.89	129181	8.32	222898	9.78	220873	12.85	210201	14.48
7M87106.D	AD00419-001	28489	2.65	61359	5.88	233631	6.88	149854	8.32	256887	9.78	254660	12.85	240895	14.48
7M87107.D	AD00419-004	22732	2.66	48203	5.88	185412	6.88	119733	8.32	213912	9.78	211945	12.85	199338	14.48
7M87108.D	AD00419-021	26396	2.66	56861	5.88	217809	6.88	139767	8.32	245792	9.78	250747	12.85	241632	14.48
7M87109.D	AD00430-001(3X)	28000	2.66	58018	5.88	232499	6.88	148535	8.32	263956	9.78	256239	12.85	242232	14.48
7M87110.D	AD00430-001(3X)(MS)	26047	2.66	56009	5.88	217222	6.88	139072	8.32	247268	9.78	248850	12.85	239021	14.48
7M87111.D	AD00430-001(3X)(MS	24648	2.66	53603	5.88	208832	6.88	134214	8.32	238086	9.78	236623	12.85	220766	14.48
7M87112.D	AD00425-002(3X)	28447	2.65	60436	5.88	228848	6.88	141312	8.32	242003	9.78	247081	12.85	248746	14.49
7M87113.D	AD00419-014(3X)	23860	2.66	51028	5.88	196867	6.89	129641	8.32	226529	9.78	226006	12.85	221220	14.48
7M87114.D	AD00419-016(3X)	26715	2.66	57703	5.88	220913	6.89	144349	8.32	256910	9.78	250488	12.85	238548	14.47
7M87115.D	AD00419-002(3X)	27340	2.66	57334	5.88	223494	6.89	143236	8.32	245838	9.78	251955	12.85	246921	14.48
7M87116.D	AD00419-003(3X)	27615	2.66	60149	5.88	229921	6.88	151038	8.32	267129	9.78	265626	12.85	252812	14.48
7M87117.D	AD00419-011(3X)	27958	2.66	59756	5.88	230044	6.88	152395	8.32	263540	9.78	251829	12.85	237719	14.48
7M87118.D	AD00419-009(3X)	29102	2.66	63665	5.88	243756	6.88	162257	8.32	288248	9.78	289981	12.84	269617	14.47
7M87119.D	AD00365-002(5X)	27466	2.66	58649	5.88	223864	6.89	139044	8.32	225019	9.79	249967	12.87	264984	14.51
7M87120.D	AD00388-008(5X)(R)	29888	2.66	66067	5.88	249975	6.89	161823	8.32	272498	9.78	262493	12.85	263493	14.48
7M87121.D	AD00425-003(5X)	29163	2.66	61799	5.88	235783	6.89	154028	8.32	261031	9.78	260150	12.85	258857	14.48

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

PCB Data

Form1

ORGANICS PCB REPORT

Sample Number: AD00418-002
Client Id: SB01 COMP
Data File: 3G104156.D
Analysis Date: 10/09/17 22:32
Date Rec/Extracted: 10/04/17-10/09/17
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: 90

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.028	U	11097-69-1	Aroclor-1254	0.028	U
11104-28-2	Aroclor-1221	0.028	U	11096-82-5	Aroclor-1260	0.028	U
11141-16-5	Aroclor-1232	0.028	U	37324-23-5	Aroclor-1262	0.028	U
53469-21-9	Aroclor-1242	0.028	U	11100-14-4	Aroclor-1268	0.028	U
12672-29-6	Aroclor-1248	0.028	U	1336-36-3	Aroclor (Total)	0.028	U

Worksheet #: 440069 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

Indicates the compound was analyzed but not detected.
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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100429 0158**

Data Path : G:\Gcdata\2017\GC_3\Data\10-09-17\
Data File : 3G104156.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 9 Oct 2017 22:32
Operator : MS/MLC/ZM
Sample : AD00418-002
Misc : S,PCB
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 11:40:14 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

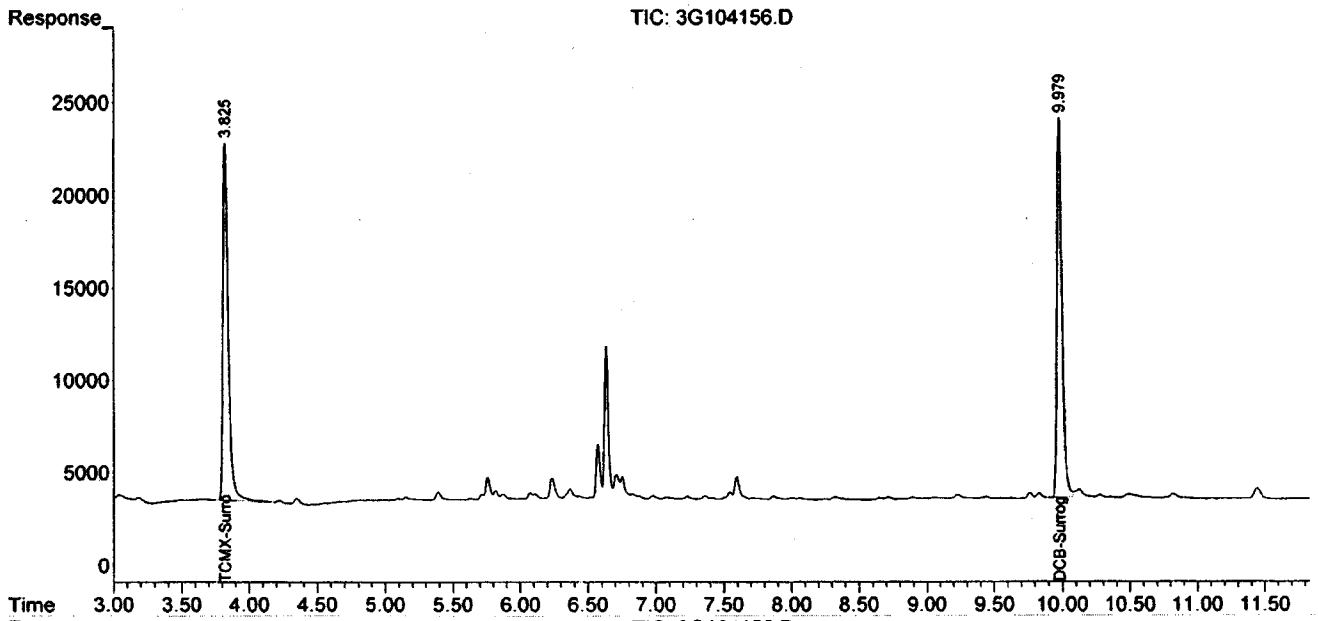
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.826	3.862	527999	799819	100.054	94.322
45)DCB-Surrogate	9.980	10.656	519991	944711	91.643	101.505

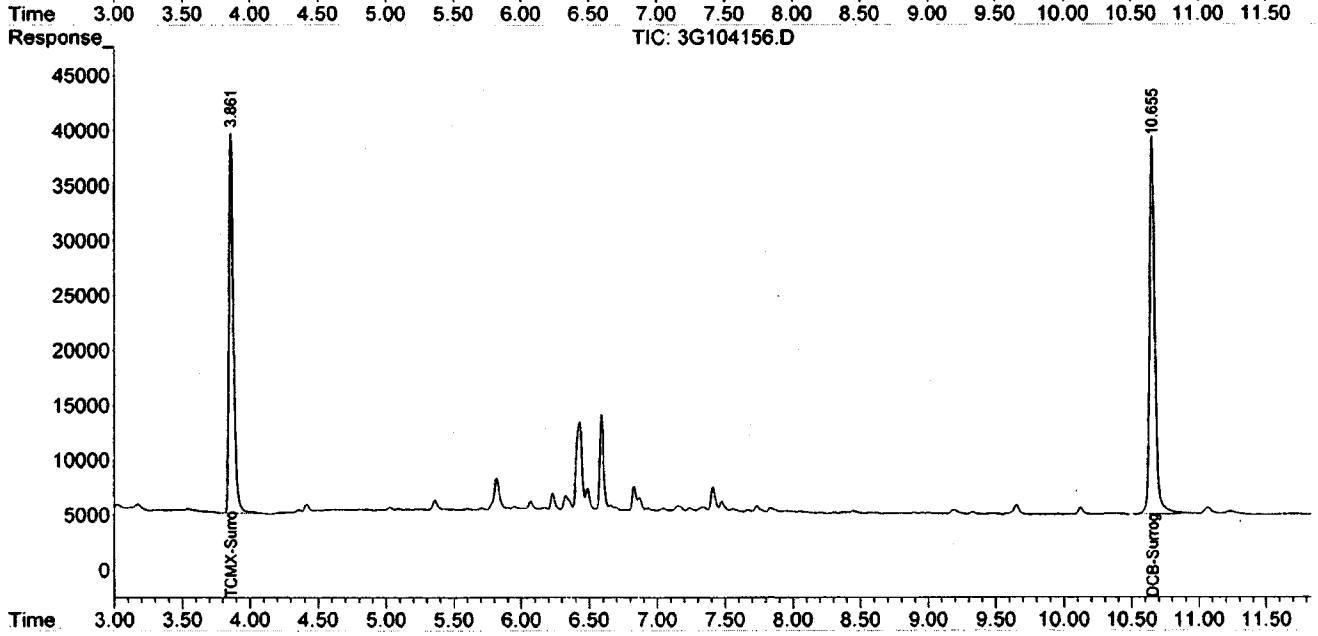
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_3\Data\10-09-17\
Data File : 3G104156.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 9 Oct 2017 22:32
Operator : MS/MLC/ZM
Sample : AD00418-002
Misc : S,PCB
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 11:40:14 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: AD00418-004
Client Id: SB06 COMP
Data File: 3G104157.D
Analysis Date: 10/09/17 22:47
Date Rec/Extracted: 10/04/17-10/09/17
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: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.028	U	11097-69-1	Aroclor-1254	0.028	U
11104-28-2	Aroclor-1221	0.028	U	11096-82-5	Aroclor-1260	0.028	U
11141-16-5	Aroclor-1232	0.028	U	37324-23-5	Aroclor-1262	0.028	U
53469-21-9	Aroclor-1242	0.028	U	11100-14-4	Aroclor-1268	0.028	U
12672-29-6	Aroclor-1248	0.028	U	1336-36-3	Aroclor (Total)	0.028	U

Worksheet #: 440069 *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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100429 0161**

Data Path : G:\Gcdata\2017\GC_3\Data\10-09-17\
Data File : 3G104157.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 9 Oct 2017 22:47
Operator : MS/MLC/ZM
Sample : AD00418-004
Misc : S,PCB
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 11:40:25 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

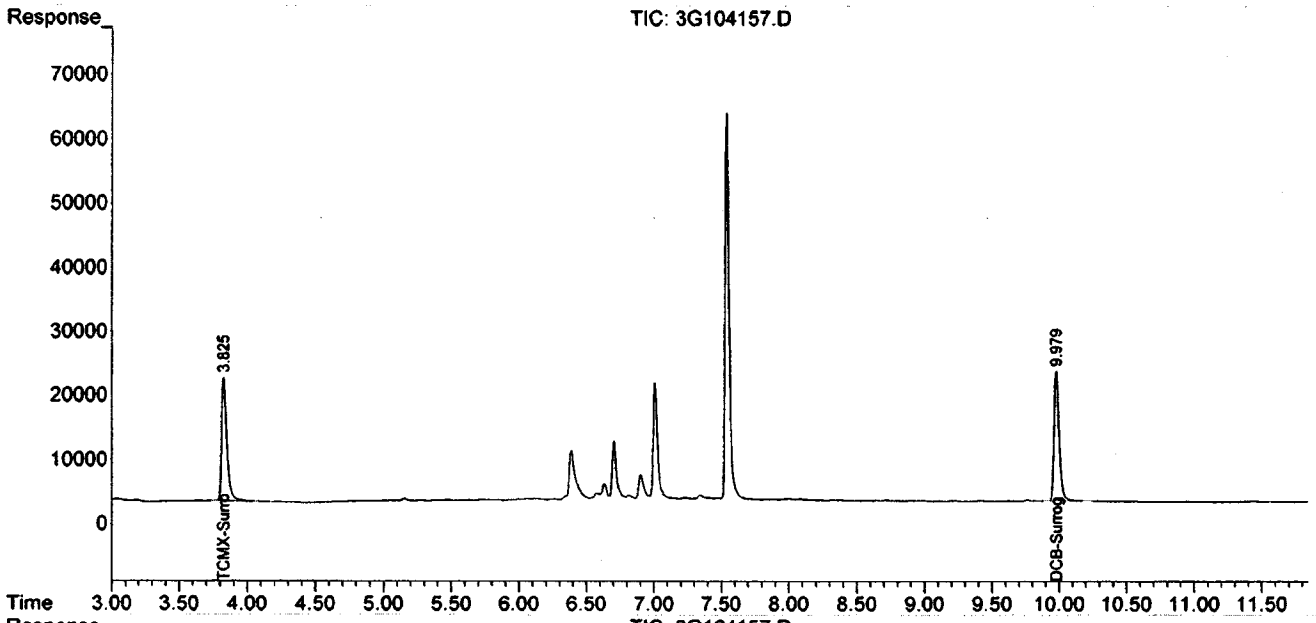
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.826	3.863	518640	793190	98.281	93.540
45)DCB-Surrogate	9.981	10.655	524470	903379	92.450	96.959

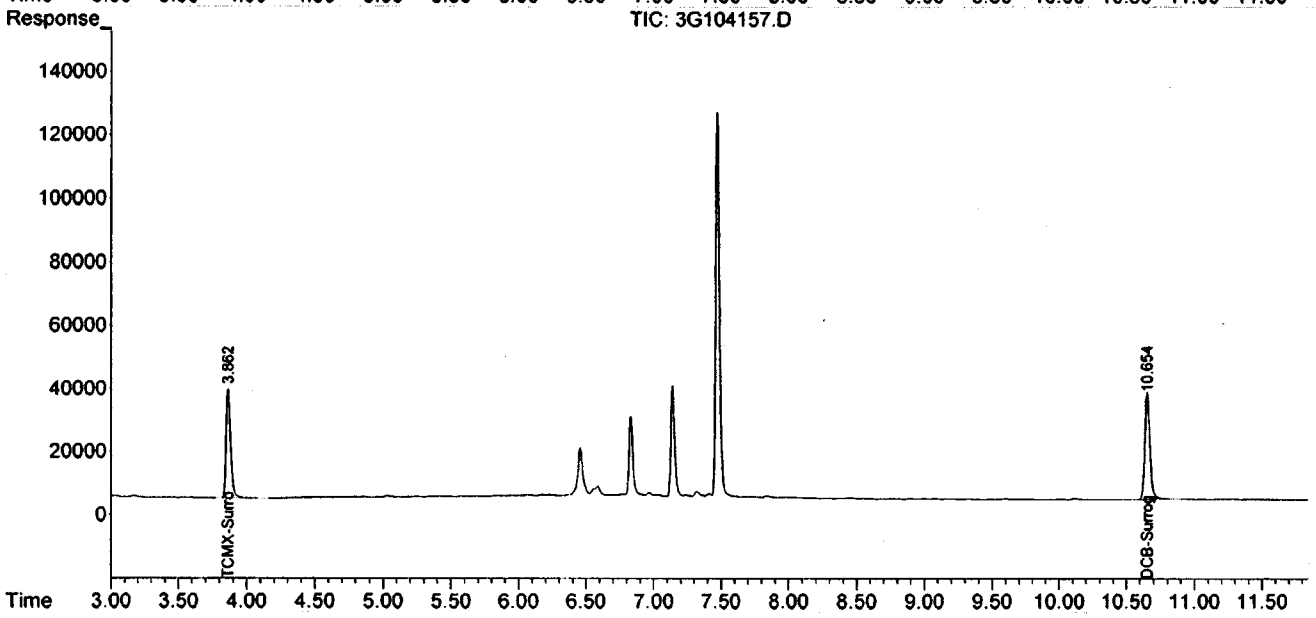
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_3\Data\10-09-17\
Data File : 3G104157.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 9 Oct 2017 22:47
Operator : MS/MLC/ZM
Sample : AD00418-004
Misc : S,PCB
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 11:40:25 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: AD00418-006
Client Id: SB10 COMP
Data File: 3G104158.D
Analysis Date: 10/09/17 23:02
Date Rec/Extracted: 10/04/17-10/09/17
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: 90

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.028	U	11097-69-1	Aroclor-1254	0.028	U
11104-28-2	Aroclor-1221	0.028	U	11096-82-5	Aroclor-1260	0.028	U
11141-16-5	Aroclor-1232	0.028	U	37324-23-5	Aroclor-1262	0.028	U
53469-21-9	Aroclor-1242	0.028	U	11100-14-4	Aroclor-1268	0.028	U
12672-29-6	Aroclor-1248	0.028	U	1336-36-3	Aroclor (Total)	0.028	U

Worksheet #: 440069 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

Indicates the compound was analyzed but not detected.
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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100429 0164

Data Path : G:\Gcdata\2017\GC_3\Data\10-09-17\
Data File : 3G104158.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 9 Oct 2017 23:02
Operator : MS/MLC/ZM
Sample : AD00418-006
Misc : S,PCB
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 11:40:47 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P 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	3.826	3.863	511587	781824	96.944	92.200
45)DCB-Surrogate	9.981	10.658	532379	923474	93.874	99.168

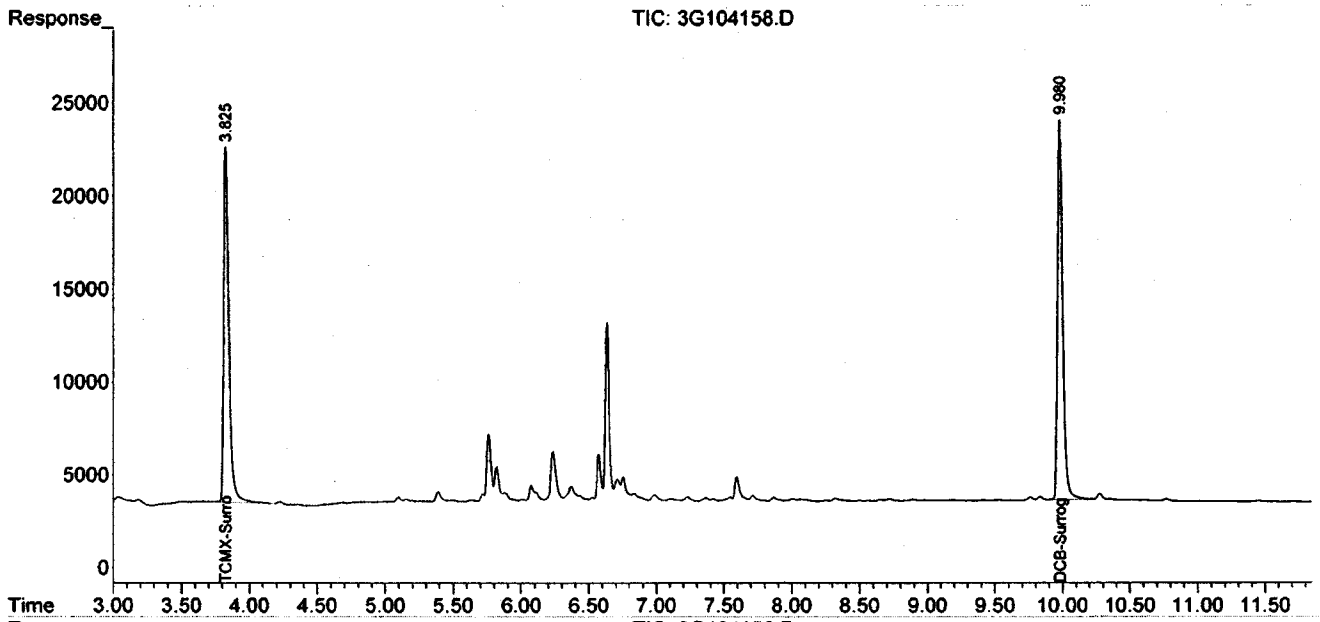
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

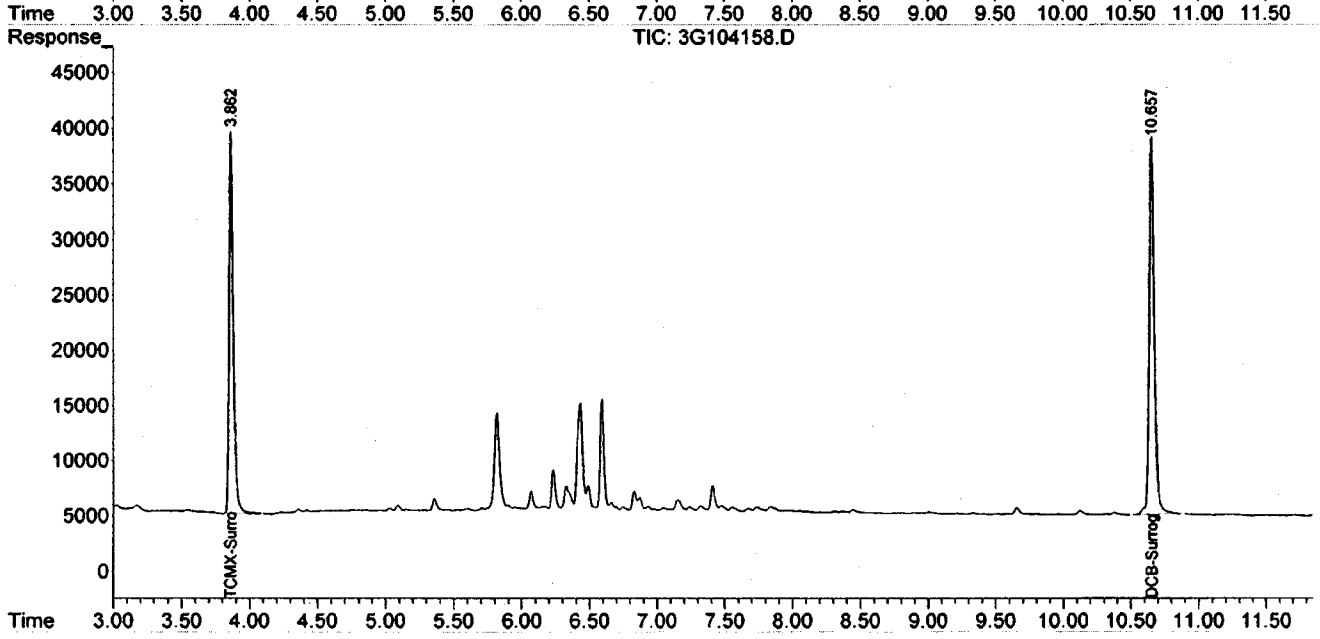
3

Data Path : G:\Gcdata\2017\GC_3\Data\10-09-17\
Data File : 3G104158.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 9 Oct 2017 23:02
Operator : MS/MLC/ZM
Sample : AD00418-006
Misc : S,PCB
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 11:40:47 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: SMB63097
Client Id:
Data File: 3G104146.D
Analysis Date: 10/09/17 20:01
Date Rec/Extracted: NA-10/09/17
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: 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 #: 440069 *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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) 7100429 0167

Data Path : G:\Gcdata\2017\GC_3\Data\10-09-17\
Data File : 3G104146.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 9 Oct 2017 20:01
Operator : MS/MLC/ZM
Sample : SMB63097
Misc : S,PCB
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 11:34:28 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

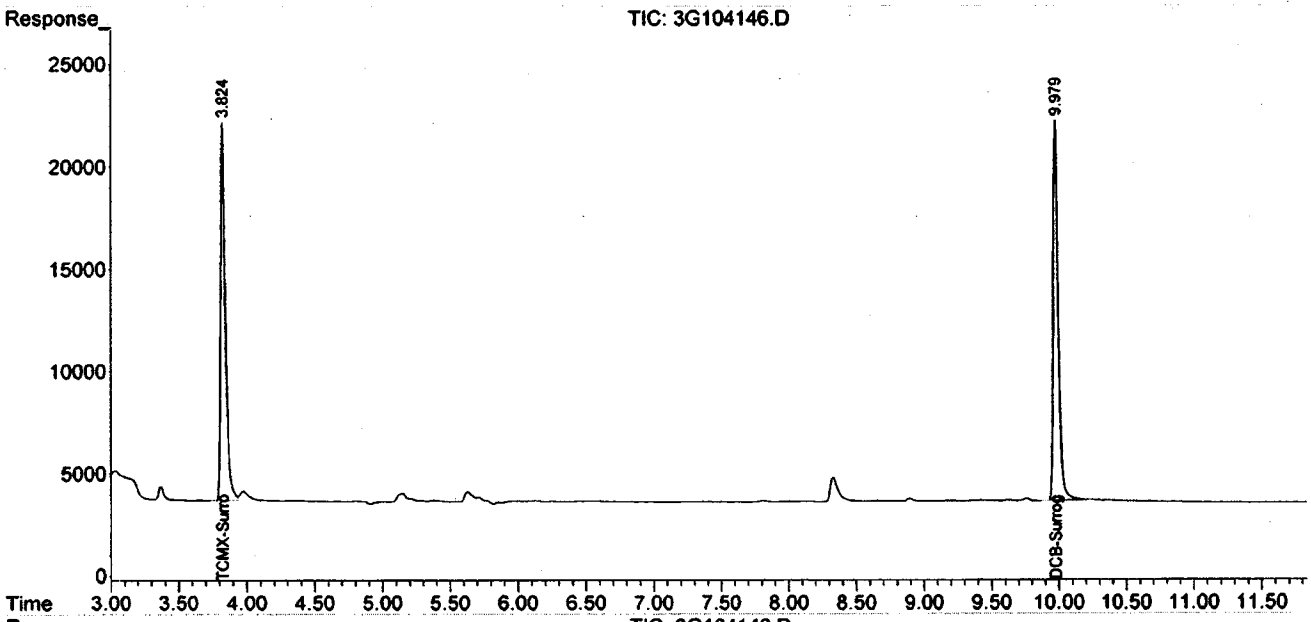
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.825	3.862	454903	734897	86.203	86.666
45)DCB-Surrogate	9.980	10.656	477767	815921	84.058	87.374

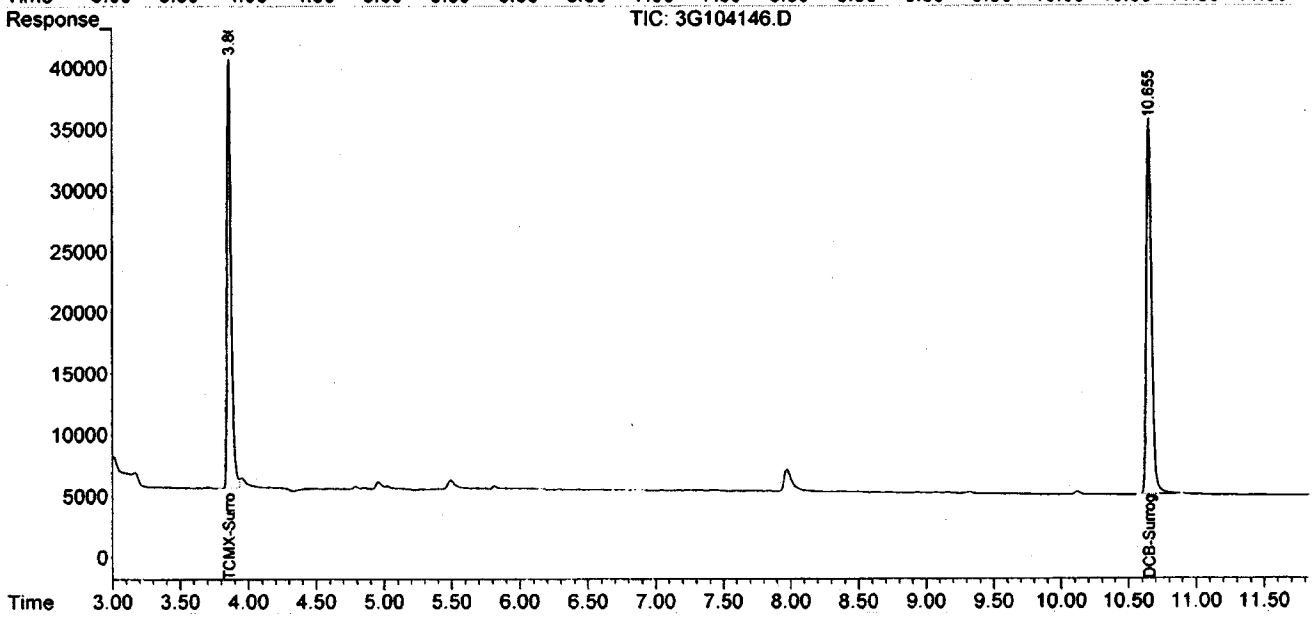
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_3\Data\10-09-17\
Data File : 3G104146.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 9 Oct 2017 20:01
Operator : MS/MLC/ZM
Sample : SMB63097
Misc : S,PCB
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 11:34:28 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P 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
3G104146.D	SMB63097	S	10/09/17 20:01	1		86	87	84	87		
3G104156.D	AD00418-002	S	10/09/17 22:32	1		100	94	92	102		
3G104157.D	AD00418-004	S	10/09/17 22:47	1		98	94	92	97		
3G104158.D	AD00418-006	S	10/09/17 23:02	1		97	92	94	99		
3G104147.D	SMB63097(MS)	S	10/09/17 20:16	1		101	101	99	103		
3G104152.D	AD00430-001(MS)	S	10/09/17 21:31	1		113	114	110	116		
3G104153.D	AD00430-001(MSD)	S	10/09/17 21:46	1		137	139	129	142		
3G104154.D	AD00430-001	S	10/09/17 22:01	1		97	91	94	99		

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8082A

Soil Laboratory Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	37-141
S2=TCMX-Surrogate	100	37-141
S3=DCB-Surrogate	100	34-146
S4=DCB-Surrogate	100	34-146

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63097

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104147.D	SMB63097(MS)	10/9/2017 8:16:00 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	1	948.748	0	1000	95	30	163
Aroclor-1260 -Total	1	961.42	0	1000	96	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63097

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104152.D	AD00430-001(MS)	10/9/2017 9:31:00 PM
Non Spike(If applicable):	3G104154.D	AD00430-001	10/9/2017 10:01:00 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	1	1126.638	0	1000	113	30	163
Aroclor-1260 -Total	1	1087.96	0	1000	109	25	166

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104153.D	AD00430-001(MSD)	10/9/2017 9:46:00 PM
Non Spike(If applicable):	3G104154.D	AD00430-001	10/9/2017 10:01:00 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	1	1341.098	0	1000	134	30	163
Aroclor-1260 -Total	1	1271.236	0	1000	127	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: SMB63097

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104153.D	AD00430-001(MSD)	10/9/2017 9:46:00 PM
Duplicate(If applicable):	3G104152.D	AD00430-001(MS)	10/9/2017 9:31:00 PM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Aroclor-1016 -Total	1	1341.098	1126.638	17	40
Aroclor-1260 -Total	1	1271.236	1087.96	16	37

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: SMB63097
Blank Data File: 3G104146.D
Matrix: Soil

Blank Analysis Date: 10/09/17 20:01
Blank Extraction Date: 10/09/17
(If Applicable)
Method: EPA 8082A

Sample Number	Data File	Analysis Date
AD00418-002	3G104156.D	10/09/17 22:32
AD00418-004	3G104157.D	10/09/17 22:47
AD00418-006	3G104158.D	10/09/17 23:02
AD00430-001	3G104154.D	10/09/17 22:01
AD00430-001(MSD	3G104153.D	10/09/17 21:46
AD00430-001(MS)	3G104152.D	10/09/17 21:31
SMB63097(MS)	3G104147.D	10/09/17 20:16

Form 5

Method: EPA 8082A

Instrument: GC_3

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
3G104086.D	CAL 3268@500PPB	10/06/17 10:55	Soil	3G10409	9.9744	0.01	10.6503	0.0216
3G104087.D	CAL 1242@500PPB	10/06/17 11:10	Soil	3G10409	9.9747	0.007	10.6526	0
3G104088.D	CAL 1248@500PPB	10/06/17 11:25	Soil	3G10409	9.9761	0.007	10.6537	0.0103
3G104089.D	CAL 2154@500PPB	10/06/17 11:39	Soil	3G10409	9.9758	0.004	10.6528	0.0019
3G104090.D	CAL 1262@500PPB	10/06/17 11:54	Soil	3G10409	9.9750	0.004	10.6525	0.0009
3G104091.D	CAL 1660@50PPB	10/06/17 12:09	Soil	3G10409	9.9754	0	10.6526	0
3G104092.D	CAL 1660@200PPB	10/06/17 12:24	Soil	3G10409	9.9766	0.012	10.6537	0.0103
3G104093.D	CAL 1660@500PPB	10/06/17 12:39	Soil	3G10409	9.9758	0.004	10.6541	0.0141
3G104094.D	CAL 1660@1000PPB	10/06/17 12:54	Soil	3G10409	9.9756	0.002	10.6531	0.0047
3G104095.D	CAL 1660@2000PPB	10/06/17 13:09	Soil	3G10409	9.9757	0.003	10.6542	0.015
3G104096.D	CAL 1660@4000PPB	10/06/17 13:23	Soil	3G10409	9.9761	0.007	10.6527	0.0009
3G104097.D	ICV	10/06/17 13:38	Soil	3G10409	9.9752	0.002	10.6530	0.0038
3G104098.D	PEST WS	10/06/17 13:53	Soil	3G10409	0.0000	200 *	0.0000	200 *
3G104099.D	SMB63091	10/06/17 14:21	Soil	3G10409	9.9843	0.0892	10.6546	0.0188
3G104100.D	SMB63091(MS)	10/06/17 14:36	Soil	3G10409	9.9774	0.02	10.6514	0.0113
3G104101.D	AD00415-004	10/06/17 14:50	Soil	3G10409	9.9756	0.002	10.6522	0.0038
3G104102.D	AD00415-002	10/06/17 15:05	Soil	3G10409	9.9763	0.009	10.6540	0.0131
3G104103.D	AD00415-006	10/06/17 15:20	Soil	3G10409	9.9775	0.021	10.6546	0.0188
3G104104.D	AD00415-002(MS)	10/06/17 15:35	Soil	3G10409	9.9766	0.012	10.6534	0.0075
3G104105.D	AD00415-002(MSD)	10/06/17 15:50	Soil	3G10409	9.9768	0.014	10.6520	0.0056
3G104106.D	CAL 1660@2000PPB	10/06/17 16:05	Soil	3G10409	9.9763	0.009	10.6527	0.0009

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 8082A
Instrument: GC_3

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
3G104107.D	CAL 1660@1000PPB	10/09/17 08:57	Soil	3G10410	9.9759	0	10.6513	0
3G104108.D	WMB63085	10/09/17 09:50	Aqueous	3G10410	9.9842	0.0832	10.6551	0.0357
3G104109.D	WMB63085(MS)	10/09/17 10:05	Aqueous	3G10410	9.9778	0.0191	10.6534	0.0197
3G104110.D	AD00402-001(MS)	10/09/17 10:20	Aqueous	3G10410	9.9772	0.013	10.6543	0.0282
3G104111.D	AD00402-001(MSD)	10/09/17 10:35	Aqueous	3G10410	9.9768	0.009	10.6555	0.0394
3G104112.D	AD00402-001	10/09/17 10:50	Aqueous	3G10410	9.9769	0.01	10.6533	0.0188
3G104113.D	AD00433-017	10/09/17 11:05	Aqueous	3G10410	9.9771	0.012	10.6535	0.0206
3G104114.D	AD00439-001	10/09/17 11:20	Aqueous	3G10410	9.9773	0.014	10.6534	0.0197
3G104115.D	AD00439-002	10/09/17 11:34	Aqueous	3G10410	9.9778	0.0191	10.6530	0.016
3G104116.D	AD00414-001	10/09/17 11:49	Aqueous	3G10410	9.9792	0.0331	10.6546	0.031
3G104117.D	AD00359-006	10/09/17 12:04	Soil	3G10410	9.9783	0.0241	10.6539	0.0244
3G104118.D	AD00358-002	10/09/17 12:19	Soil	3G10410	9.9769	0.01	10.6544	0.0291
3G104119.D	AD00358-004	10/09/17 12:34	Soil	3G10410	9.9780	0.021	10.6530	0.016
3G104120.D	AD00358-007	10/09/17 12:49	Soil	3G10410	9.9782	0.0231	10.6527	0.0131
3G104121.D	AD00388-001	10/09/17 13:04	Soil	3G10410	9.9790	0.0311	10.6538	0.0235
3G104122.D	AD00358-006	10/09/17 13:18	Soil	3G10410	9.9796	0.0371	10.6567	0.0507
3G104123.D	AD00376-001	10/09/17 13:33	Soil	3G10410	9.9808	0.0491	10.6563	0.0469
3G104124.D	AD00388-008	10/09/17 13:48	Soil	3G10410	9.9840	0.0812	10.6591	0.0732
3G104125.D	CAL 1660@1000PPB	10/09/17 14:13	Soil	3G10410	9.9873	0.1142	10.6584	0.0666
3G104126.D	AD00358-001(1000X)	10/09/17 14:37	Soil	3G10412	0.0000	200*	0.0000	200*
3G104127.D	AD00358-010(100X)	10/09/17 14:54	Soil	3G10412	0.0000	200*	0.0000	200*
3G104128.D	AD00358-009(100X)	10/09/17 15:09	Soil	3G10412	0.0000	200*	0.0000	200*
3G104129.D	AD00358-003(100X)	10/09/17 15:24	Soil	3G10412	0.0000	200*	0.0000	200*
3G104130.D	AD00358-006(100X)	10/09/17 15:39	Soil	3G10412	0.0000	200*	0.0000	200*
3G104131.D	AD00358-004(5X)	10/09/17 15:54	Soil	3G10412	9.9812	0.0611	10.6588	0.0038
3G104132.D	AD00376-001	10/09/17 16:12	Soil	3G10412	9.9851	0.022	10.6581	0.0028
3G104133.D	CAL 1660@1000PPB	10/09/17 16:34	Soil	3G10412	9.9863	0.01	10.6592	0.0075
3G104134.D	AD00358-002	10/09/17 16:53	Soil	3G10413	9.9846	0.017	10.6564	0.0263
3G104135.D	CAL 1660@1000PPB	10/09/17 17:08	Soil	3G10413	9.9818	0.0451	10.6571	0.0197
3G104136.D	WMB63100	10/09/17 17:27	Aqueous	3G10413	9.9834	0.016	10.6580	0.0084
3G104137.D	WMB63100MS)	10/09/17 17:46	Aqueous	3G10413	9.9845	0.027	10.6576	0.0047
3G104138.D	AD00472-001(MS)	10/09/17 18:01	Aqueous	3G10413	9.9803	0.015	10.6559	0.0113
3G104139.D	AD00472-001(MSD)	10/09/17 18:16	Aqueous	3G10413	9.9802	0.016	10.6555	0.015
3G104140.D	AD00472-001	10/09/17 18:30	Aqueous	3G10413	9.9802	0.016	10.6566	0.0047
3G104141.D	AD00421-001	10/09/17 18:45	Aqueous	3G10413	9.9801	0.017	10.6564	0.0066
3G104142.D	AD00459-008	10/09/17 19:00	Aqueous	3G10413	9.9800	0.018	10.6576	0.0047
3G104143.D	AD00454-004	10/09/17 19:15	Aqueous	3G10413	9.9801	0.017	10.6578	0.0066
3G104144.D	AD00358-001(1000X)(M	10/09/17 19:30	Soil	3G10413	0.0000	200*	0.0000	200*
3G104145.D	AD00358-001(1000X)(M	10/09/17 19:45	Soil	3G10413	0.0000	200*	0.0000	200*
3G104146.D	SMB63097	10/09/17 20:01	Soil	3G10413	9.9802	0.016	10.6560	0.0103
3G104147.D	SMB63097(MS)	10/09/17 20:16	Soil	3G10413	9.9814	0.004	10.6581	0.0094
3G104148.D	SMB63098	10/09/17 20:31	Soil	3G10413	9.9797	0.021	10.6568	0.0028
3G104149.D	SMB63098(MS)	10/09/17 20:45	Soil	3G10413	9.9785	0.0331	10.6568	0.0028
3G104150.D	CAL 1660@1000PPB	10/09/17 21:01	Soil	3G10413	9.9808	0.01	10.6581	0.0094
3G104151.D	2000PPB	10/09/17 21:16	Soil	3G10415	9.9802	0.006	10.6569	0.0113
3G104152.D	AD00430-001(MS)	10/09/17 21:31	Soil	3G10415	9.9809	0.001	10.6564	0.016
3G104153.D	AD00430-001(MSD)	10/09/17 21:46	Soil	3G10415	9.9808	0	10.6568	0.0122
3G104154.D	AD00430-001	10/09/17 22:01	Soil	3G10415	9.9811	0.003	10.6572	0.0084
3G104155.D	AD00432-002	10/09/17 22:16	Soil	3G10415	9.9817	0.009	10.6582	0.0009
3G104156.D	AD00418-002	10/09/17 22:32	Soil	3G10415	9.9797	0.011	10.6559	0.0206
3G104157.D	AD00418-004	10/09/17 22:47	Soil	3G10415	9.9806	0.002	10.6548	0.031
3G104158.D	AD00418-006	10/09/17 23:02	Soil	3G10415	9.9812	0.004	10.6581	0
3G104159.D	AD00453-004	10/09/17 23:17	Soil	3G10415	9.9808	0	10.6561	0.0188
3G104160.D	AD00425-002	10/09/17 23:33	Soil	3G10415	9.9824	0.016	10.6571	0.0094
3G104161.D	AD00425-003	10/09/17 23:48	Soil	3G10415	9.9841	0.0331	10.6581	0
3G104162.D	AD00431-005	10/10/17 00:03	Soil	3G10415	9.9803	0.005	10.6572	0.0084
3G104163.D	AD00431-006	10/10/17 00:18	Soil	3G10415	9.9810	0.002	10.6569	0.0113
3G104164.D	AD00431-007	10/10/17 00:33	Soil	3G10415	9.9807	0.001	10.6566	0.0141
3G104165.D	1000PPB	10/10/17 00:48	Soil	3G10415	9.9816	0.008	10.6578	0.0028
3G104166.D	CAL 1660@2000PPB	10/10/17 01:03	Soil	3G10415	9.9802	0.006	10.6565	0.015
3G104167.D	AD00431-001(MS)	10/10/17 01:19	Soil	3G10416	9.9810	0.008	10.6573	0.0075
3G104168.D	AD00431-001(MSD)	10/10/17 01:34	Soil	3G10416	9.9803	0.001	10.6552	0.0122
3G104169.D	AD00431-001	10/10/17 01:49	Soil	3G10416	9.9799	0.003	10.6573	0.0075
3G104170.D	AD00453-010	10/10/17 02:04	Soil	3G10416	9.9811	0.009	10.6567	0.0019
3G104171.D	AD00474-001	10/10/17 02:19	Soil	3G10416	9.9823	0.021	10.6586	0.0197

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 8082A

Instrument: GC_3 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
3G104172.D	AD00431-002	10/10/17 02:35	Soil	3G10416	9.9818	0.016	10.6578	0.0122
3G104173.D	AD00431-003	10/10/17 02:50	Soil	3G10416	9.9819	0.017	10.6582	0.016
3G104174.D	AD00431-004	10/10/17 03:05	Soil	3G10416	9.9809	0.007	10.6571	0.0056
3G104175.D	AD00433-001	10/10/17 03:20	Soil	3G10416	9.9809	0.007	10.6564	0.0009
3G104176.D	AD00433-015	10/10/17 03:35	Soil	3G10416	9.9806	0.004	10.6567	0.0019
3G104177.D	AD00433-016	10/10/17 03:50	Soil	3G10416	9.9813	0.011	10.6578	0.0122
3G104178.D	CAL 1660@1000PPB	10/10/17 04:06	Soil	3G10416	9.9813	0.011	10.6576	0.0103
3G104179.D	2000PPB	10/10/17 04:21	Soil	3G10417	9.9806	0.007	10.6577	0.0009

Drift Compound: DCB-Surrogate Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

Form 6
Initial Calibration

Method: EPA 8082A

Instrument: GC_3

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	3G104091.D	CAL 1660@50PPB	10/06/17 12:09	2	3G104092.D	CAL 1660@200PPB	10/06/17 12:24
3	3G104093.D	CAL 1660@500PPB	10/06/17 12:39	4	3G104094.D	CAL 1660@1000PPB	10/06/17 12:54
5	3G104095.D	CAL 1660@2000PPB	10/06/17 13:09	6	3G104096.D	CAL 1660@4000PPB	10/06/17 13:23
7	3G104086.D	CAL 3268@500PPB	10/06/17 10:55	8	3G104087.D	CAL 1242@500PPB	10/06/17 11:10
9	3G104088.D	CAL 1248@500PPB	10/06/17 11:25	10	3G104089.D	CAL 2154@500PPB	10/06/17 11:39

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
TCMX-Surrogate	1	0	Avg	0.5478	0.5248	0.5038	0.5288	0.5315	0.5293	---	---	0.528	3.82	1.00	1.00	2.7	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	1	1	Qua	0.0186	0.0170	0.0158	0.0156	0.0143	0.0131	---	---	0.0158	4.31	0.997	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	2	Qua	0.0366	0.0330	0.0294	0.0280	0.0254	0.0230	---	---	0.0293	4.67	0.997	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	3	Qua	0.0672	0.0615	0.0527	0.0550	0.0483	0.0474	---	---	0.0554	5.13	0.999	0.999	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	4	Avg	0.0181	0.0180	0.0172	0.0173	0.0162	0.0154	---	---	0.0171	5.37	0.999	1.00	6.2	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	5	Qua	0.0469	0.0434	0.0406	0.0405	0.0364	0.0333	---	---	0.0402	5.48	0.997	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	1	Qua	0.0412	0.0388	0.0346	0.0335	0.0303	0.0280	---	---	0.0344	6.97	0.997	1.00	15	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	2	Qua	0.0481	0.0442	0.0400	0.0387	0.0351	0.0326	---	---	0.0398	7.22	0.998	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	3	Avg	0.0217	0.0221	0.0210	0.0210	0.0197	0.0193	---	---	0.0208	7.42	1.00	1.00	5.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	4	Avg	0.0299	0.0277	0.0257	0.0256	0.0237	0.0225	---	---	0.0259	8.00	0.999	1.00	10	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	5	Avg	0.0450	0.0421	0.0395	0.0402	0.0384	0.0379	---	---	0.0406	8.71	1.00	1.00	6.6	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	1	1	Avg	---	---	---	---	---	---	---	---	0.00817	4.11	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	2	Avg	---	---	---	---	---	---	---	---	0.00454	4.25	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	3	Avg	---	---	---	---	---	---	---	---	0.0228	4.31	-1	-1	Lvl=10	500.0							
Aroclor-1232	1	1	Avg	---	---	---	---	---	---	---	---	0.0168	4.31	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	2	Avg	---	---	---	---	---	---	---	---	0.0141	4.67	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	3	Avg	---	---	---	---	---	---	---	---	0.0258	5.13	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	4	Avg	---	---	---	---	---	---	---	---	0.0108	5.26	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	5	Avg	---	---	---	---	---	---	---	---	0.0114	5.72	-1	-1	Lvl=7	500.0							
Aroclor-1242	1	1	Avg	---	---	---	---	---	---	---	---	0.0137	4.31	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	2	Avg	---	---	---	---	---	---	---	---	0.0243	4.67	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	3	Avg	---	---	---	---	---	---	---	---	0.0464	5.13	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	4	Avg	---	---	---	---	---	---	---	---	0.0318	5.48	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	5	Avg	---	---	---	---	---	---	---	---	0.0193	5.72	-1	-1	Lvl=8	500.0							
Aroclor-1248	1	1	Avg	---	---	---	---	---	---	---	---	0.0119	4.67	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	2	Avg	---	---	---	---	---	---	---	---	0.0254	5.13	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	3	Avg	---	---	---	---	---	---	---	---	0.0470	5.47	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	4	Avg	---	---	---	---	---	---	---	---	0.0243	5.82	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	5	Avg	---	---	---	---	---	---	---	---	0.0288	6.41	-1	-1	Lvl=9	500.0							
Aroclor-1254	1	1	Avg	---	---	---	---	---	---	---	---	0.0132	6.61	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	2	Avg	---	---	---	---	---	---	---	---	0.0410	6.81	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	3	Avg	---	---	---	---	---	---	---	---	0.0244	6.98	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	4	Avg	---	---	---	---	---	---	---	---	0.0359	7.09	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	5	Avg	---	---	---	---	---	---	---	---	0.0163	7.47	-1	-1	Lvl=10	500.0							
Aroclor-1262	1	1	Avg	---	---	---	---	---	---	---	---	0.0435	7.65	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	2	Avg	---	---	---	---	---	---	---	---	0.0251	8.64	-1	-1	Lvl=11	500.0							

Avg Rsd Col 1: 10.52 Avg Rsd Col 2: 16.01

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. pcb/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

7100429 0177

Form 6
Initial Calibration

Method: EPA 8082A

Instrument: GC_3

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	3G104091.D	CAL 1660@50PPB	10/06/17 12:09	2	3G104092.D	CAL 1660@200PPB	10/06/17 12:24
3	3G104093.D	CAL 1660@500PPB	10/06/17 12:39	4	3G104094.D	CAL 1660@1000PPB	10/06/17 12:54
5	3G104095.D	CAL 1660@2000PPB	10/06/17 13:09	6	3G104096.D	CAL 1660@4000PPB	10/06/17 13:23
7	3G104086.D	CAL 3268@500PPB	10/06/17 10:55	8	3G104087.D	CAL 1242@500PPB	10/06/17 11:10
9	3G104088.D	CAL 1248@500PPB	10/06/17 11:25	10	3G104089.D	CAL 2154@500PPB	10/06/17 11:39

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
Aroclor-1262	1	3	Avg	---	---	---	---	---	---	---	---	0.0506	8.71	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	4	Avg	---	---	---	---	---	---	---	---	0.0241	9.41	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	5	Avg	---	---	---	---	---	---	---	---	0.00852	9.76	-1	-1	Lvl=11	500.0							
Aroclor-1268	1	1	Avg	---	---	---	---	---	---	---	---	0.00875	8.00	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	2	Avg	---	---	---	---	---	---	---	---	0.00713	8.31	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	3	Avg	---	---	---	---	---	---	---	---	0.0612	8.88	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	4	Avg	---	---	---	---	---	---	---	---	0.0169	8.98	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	5	Avg	---	---	---	---	---	---	---	---	0.191	9.75	-1	-1	Lvl=7	500.0							
DCB-Surrogate	1	0	Qua	0.7105	0.6306	0.5749	0.5822	0.5461	0.5285	---	---	0.596	9.98	0.999	1.00	11	5.00	20.00	50.00	100.0	200.0	400.0		
TCMX-Surrogate	2	0	Avg	0.8856	0.8803	0.8183	0.8498	0.8357	0.8178	---	---	0.848	3.86	1.00	1.00	3.5	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	2	1	Qua	0.0304	0.0259	0.0229	0.0215	0.0194	0.0175	---	---	0.0230	4.45	0.996	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	2	Qua	0.0611	0.0535	0.0457	0.0421	0.0371	0.0332	---	---	0.0455	4.86	0.995	1.00	23	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	3	Qua	0.1094	0.1022	0.0907	0.0856	0.0781	0.0722	---	---	0.0898	5.25	0.998	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	4	Qua	0.0507	0.0458	0.0405	0.0380	0.0342	0.0315	---	---	0.0402	5.57	0.997	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	5	Qua	0.0356	0.0311	0.0284	0.0270	0.0244	0.0227	---	---	0.0282	5.94	0.998	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	1	Qua	0.0802	0.0690	0.0597	0.0563	0.0500	0.0462	---	---	0.0603	7.23	0.997	1.00	21	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	2	Qua	0.0828	0.0734	0.0643	0.0608	0.0541	0.0506	---	---	0.0644	7.32	0.998	1.00	19	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	3	Qua	0.0345	0.0291	0.0277	0.0265	0.0237	0.0222	---	---	0.0273	7.94	0.998	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	4	Qua	0.0661	0.0589	0.0526	0.0521	0.0479	0.0464	---	---	0.0540	8.30	0.999	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	5	Qua	0.0586	0.0517	0.0472	0.0462	0.0435	0.0433	---	---	0.0485	9.00	1.00	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	2	1	Avg	---	---	---	---	---	---	---	---	0.0127	4.24	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	2	Avg	---	---	---	---	---	---	---	---	0.00838	4.38	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	3	Avg	---	---	---	---	---	---	---	---	0.0276	4.45	-1	-1	Lvl=10	500.0							
Aroclor-1232	2	1	Avg	---	---	---	---	---	---	---	---	0.0246	4.45	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	2	Avg	---	---	---	---	---	---	---	---	0.0236	4.86	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	3	Avg	---	---	---	---	---	---	---	---	0.0419	5.24	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	4	Avg	---	---	---	---	---	---	---	---	0.0158	5.93	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	5	Avg	---	---	---	---	---	---	---	---	0.0124	6.08	-1	-1	Lvl=7	500.0							
Aroclor-1242	2	1	Avg	---	---	---	---	---	---	---	---	0.0204	4.45	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	2	Avg	---	---	---	---	---	---	---	---	0.0377	4.86	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	3	Avg	---	---	---	---	---	---	---	---	0.0733	5.24	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	4	Avg	---	---	---	---	---	---	---	---	0.0321	5.57	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	5	Avg	---	---	---	---	---	---	---	---	0.0260	5.93	-1	-1	Lvl=8	500.0							
Aroclor-1248	2	1	Avg	---	---	---	---	---	---	---	---	0.0179	4.86	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	2	Avg	---	---	---	---	---	---	---	---	0.0451	5.24	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	3	Avg	---	---	---	---	---	---	---	---	0.0361	5.57	-1	-1	Lvl=9	500.0							

Avg Rsd Col 1: 10.52 Avg Rsd Col 2: 16.01

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. pch/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

7100429 0178

Form 6
Initial Calibration

Method: EPA 8082A

Instrument: GC_3

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	3G104091.D	CAL 1660@50PPB	10/06/17 12:09	2	3G104092.D	CAL 1660@200PPB	10/06/17 12:24
3	3G104093.D	CAL 1660@500PPB	10/06/17 12:39	4	3G104094.D	CAL 1660@1000PPB	10/06/17 12:54
5	3G104095.D	CAL 1660@2000PPB	10/06/17 13:09	6	3G104096.D	CAL 1660@4000PPB	10/06/17 13:23
7	3G104086.D	CAL 3268@500PPB	10/06/17 10:55	8	3G104087.D	CAL 1242@500PPB	10/06/17 11:10
9	3G104088.D	CAL 1248@500PPB	10/06/17 11:25	10	3G104089.D	CAL 2154@500PPB	10/06/17 11:39

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
Aroclor-1248	2	4	Avg	---	---	---	---	---	---	---	---	0.0318	6.08	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	5	Avg	---	---	---	---	---	---	---	---	0.0420	6.21	-1	-1	Lvl=9	500.0							
Aroclor-1254	2	1	Avg	---	---	---	---	---	---	---	---	0.0568	6.43	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	2	Avg	---	---	---	---	---	---	---	---	0.0193	6.77	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	3	Avg	---	---	---	---	---	---	---	---	0.0491	7.17	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	4	Avg	---	---	---	---	---	---	---	---	0.0235	7.68	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	5	Avg	---	---	---	---	---	---	---	---	0.0227	8.36	-1	-1	Lvl=10	500.0							
Aroclor-1262	2	1	Avg	---	---	---	---	---	---	---	---	0.0550	7.73	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	2	Avg	---	---	---	---	---	---	---	---	0.0441	8.89	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	3	Avg	---	---	---	---	---	---	---	---	0.0504	9.00	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	4	Avg	---	---	---	---	---	---	---	---	0.0529	9.58	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	5	Avg	---	---	---	---	---	---	---	---	0.0144	10.12	-1	-1	Lvl=11	500.0							
Aroclor-1268	2	1	Avg	---	---	---	---	---	---	---	---	0.0103	8.40	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	2	Avg	---	---	---	---	---	---	---	---	0.0162	8.44	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	3	Avg	---	---	---	---	---	---	---	---	0.0993	9.32	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	4	Avg	---	---	---	---	---	---	---	---	0.0264	9.48	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	5	Avg	---	---	---	---	---	---	---	---	0.318	10.12	-1	-1	Lvl=7	500.0							
DCB-Surrogate	2	0	Qua	1.2464	1.0538	0.9501	0.9568	0.8960	0.8661	---	---	0.995	10.65	0.999	1.00	14	5.00	20.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 10.52 Avg Rsd Col 2: 16.01

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. pcb/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

7100429 0179

Form7
Continuing Calibration

Method: EPA 8082A

Data File:				3G104135.D			3G104150.D			3G104166.D													
Method:				8082			8082			8082													
Calibration Name:				CAL 1660@1000PP			CAL 1660@1000PP			CAL 1660@2000PP													
Calibration Date/Time				10/09/17 17:08			10/09/17 21:01			10/10/17 01:03													
					Conc			Conc			Conc			Conc			Conc			Conc			
Compound	Limit	Col	Mr	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1	0	99.6	100	0.4	101.6	100	1.6	213.6	200	6.8											
Aroclor-1016	20	1	1	1019	1000	1.9	1032	1000	3.2	2072	2000	3.6											
Aroclor-1016	20	1	2	1017	1000	1.7	1033	1000	3.3	2069	2000	3.4											
Aroclor-1016	20	1	3	1017	1000	1.7	1095	1000	9.5	2185	2000	9.3											
Aroclor-1016	20	1	4	1001	1000	0.1	1029	1000	2.9	2017	2000	0.9											
Aroclor-1016	20	1	5	990.4	1000	1.0	1054	1000	5.4	2086	2000	4.3											
Aroclor-1260	20	1	1	1004	1000	0.4	1043	1000	4.3	2065	2000	3.2											
Aroclor-1260	20	1	2	999.2	1000	0.1	1046	1000	4.6	2068	2000	3.4											
Aroclor-1260	20	1	3	971.8	1000	2.8	1016	1000	1.6	1991	2000	0.5											
Aroclor-1260	20	1	4	944.3	1000	5.6	988.4	1000	1.2	1908	2000	4.6											
Aroclor-1260	20	1	5	932.3	1000	6.8	987.6	1000	1.2	1965	2000	1.7											
DCB-Surrogate	20	1	0	93.03	100	7.0	98.26	100	1.7	194.4	200	2.8											
Average Difference	20	1	0			2.4			3.4			3.7											
TCMX-Surrogate	20	2	0	103.5	100	3.5	105.3	100	5.3	217.5	200	8.8											
Aroclor-1016	20	2	1	1055	1000	5.5	1073	1000	7.3	2157	2000	7.9											
Aroclor-1016	20	2	2	1059	1000	5.9	1083	1000	8.3	2159	2000	8.0											
Aroclor-1016	20	2	3	1052	1000	5.2	1087	1000	8.7	2178	2000	8.9											
Aroclor-1016	20	2	4	1062	1000	6.2	1103	1000	10.3	2200	2000	10.0											
Aroclor-1016	20	2	5	1061	1000	6.1	1115	1000	11.5	2217	2000	10.9											
Aroclor-1260	20	2	1	1024	1000	2.4	1088	1000	8.8	2120	2000	6.0											
Aroclor-1260	20	2	2	1023	1000	2.3	1092	1000	9.2	2116	2000	5.8											
Aroclor-1260	20	2	3	1019	1000	1.9	1082	1000	8.2	2096	2000	4.8											
Aroclor-1260	20	2	4	988.5	1000	1.2	1060	1000	6.0	2116	2000	5.8											
Aroclor-1260	20	2	5	1013	1000	1.3	1051	1000	5.1	2108	2000	5.4											
DCB-Surrogate	20	2	0	95.74	100	4.3	102.4	100	2.3	198.6	200	0.7											
Average Difference	20	2	0			3.8			7.6			6.9											

Flags/Notes: **** - Values outside of limits for this column/run***

Form7
RtWindow Summary

Method: EPA 8082A

Compound	Col	Mr	3G104091.D CAL 1660@50PPB 10/6/2017 12:09:00 PM Cal RT	Limit	3G104135.D CAL 1660@1000PPB 10/9/2017 5:08:00 PM Cal RT	Limit	3G104150.D CAL 1660@1000PPB 10/9/2017 9:01:00 PM 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)				
Aroclor-1016	1	1	4.31	(4.27 - 4.35)	4.32	(4.28 - 4.36)	4.32	(4.28 - 4.36)				
Aroclor-1016	1	2	4.67	(4.63 - 4.71)	4.67	(4.63 - 4.71)	4.67	(4.63 - 4.71)				
Aroclor-1016	1	3	5.13	(5.09 - 5.17)	5.14	(5.10 - 5.18)	5.13	(5.09 - 5.17)				
Aroclor-1016	1	4	5.37	(5.33 - 5.41)	5.37	(5.33 - 5.41)	5.37	(5.33 - 5.41)				
Aroclor-1016	1	5	5.48	(5.44 - 5.52)	5.49	(5.45 - 5.53)	5.48	(5.44 - 5.52)				
Aroclor-1260	1	1	6.97	(6.93 - 7.01)	6.98	(6.94 - 7.02)	6.98	(6.94 - 7.02)				
Aroclor-1260	1	2	7.22	(7.18 - 7.26)	7.23	(7.19 - 7.27)	7.23	(7.19 - 7.27)				
Aroclor-1260	1	3	7.42	(7.38 - 7.46)	7.42	(7.38 - 7.46)	7.42	(7.38 - 7.46)				
Aroclor-1260	1	4	8.00	(7.96 - 8.04)	8.00	(7.96 - 8.04)	8.00	(7.96 - 8.04)				
Aroclor-1260	1	5	8.71	(8.67 - 8.75)	8.71	(8.67 - 8.75)	8.71	(8.67 - 8.75)				
Aroclor-1221	1	1	4.11	(4.07 - 4.15)								
Aroclor-1221	1	2	4.25	(4.21 - 4.29)								
Aroclor-1221	1	3	4.31	(4.27 - 4.35)								
Aroclor-1232	1	1	4.31	(4.27 - 4.35)								
Aroclor-1232	1	2	4.67	(4.63 - 4.71)								
Aroclor-1232	1	3	5.13	(5.09 - 5.17)								
Aroclor-1232	1	4	5.26	(5.22 - 5.30)								
Aroclor-1232	1	5	5.72	(5.68 - 5.76)								
Aroclor-1242	1	1	4.31	(4.27 - 4.35)								
Aroclor-1242	1	2	4.67	(4.63 - 4.71)								
Aroclor-1242	1	3	5.13	(5.09 - 5.17)								
Aroclor-1242	1	4	5.48	(5.44 - 5.52)								
Aroclor-1242	1	5	5.72	(5.68 - 5.76)								
Aroclor-1248	1	1	4.67	(4.63 - 4.71)								
Aroclor-1248	1	2	5.13	(5.09 - 5.17)								
Aroclor-1248	1	3	5.47	(5.43 - 5.51)								
Aroclor-1248	1	4	5.82	(5.78 - 5.86)								
Aroclor-1248	1	5	6.41	(6.37 - 6.45)								
Aroclor-1254	1	1	6.61	(6.57 - 6.65)								
Aroclor-1254	1	2	6.81	(6.77 - 6.85)								
Aroclor-1254	1	3	6.98	(6.94 - 7.02)								
Aroclor-1254	1	4	7.09	(7.05 - 7.13)								
Aroclor-1254	1	5	7.47	(7.43 - 7.51)								
Aroclor-1262	1	1	7.65	(7.61 - 7.69)								
Aroclor-1262	1	2	8.64	(8.60 - 8.68)								
Aroclor-1262	1	3	8.71	(8.67 - 8.75)								
Aroclor-1262	1	4	9.41	(9.37 - 9.45)								
Aroclor-1262	1	5	9.76	(9.72 - 9.80)								
Aroclor-1268	1	1	8.00	(7.96 - 8.04)								
Aroclor-1268	1	2	8.31	(8.27 - 8.35)								
Aroclor-1268	1	3	8.89	(8.85 - 8.93)								
Aroclor-1268	1	4	8.98	(8.94 - 9.02)								
Aroclor-1268	1	5	9.76	(9.72 - 9.80)								
DCB-Surrogate	1	0	9.98	(9.92 - 10.04)	9.98	(9.92 - 10.04)	9.98	(9.92 - 10.04)				
TCMX-Surrogate	2	0	3.86	(3.80 - 3.92)	3.86	(3.80 - 3.92)	3.86	(3.80 - 3.92)				
Aroclor-1016	2	1	4.45	(4.41 - 4.49)	4.45	(4.41 - 4.49)	4.45	(4.41 - 4.49)				
Aroclor-1016	2	2	4.86	(4.82 - 4.90)	4.87	(4.83 - 4.91)	4.87	(4.83 - 4.91)				
Aroclor-1016	2	3	5.24	(5.20 - 5.28)	5.25	(5.21 - 5.29)	5.25	(5.21 - 5.29)				
Aroclor-1016	2	4	5.57	(5.53 - 5.61)	5.57	(5.53 - 5.61)	5.57	(5.53 - 5.61)				
Aroclor-1016	2	5	5.94	(5.90 - 5.98)	5.94	(5.90 - 5.98)	5.94	(5.90 - 5.98)				
Aroclor-1260	2	1	7.23	(7.19 - 7.27)	7.24	(7.20 - 7.28)	7.24	(7.20 - 7.28)				
Aroclor-1260	2	2	7.32	(7.28 - 7.36)	7.32	(7.28 - 7.36)	7.32	(7.28 - 7.36)				
Aroclor-1260	2	3	7.94	(7.90 - 7.98)	7.95	(7.91 - 7.99)	7.95	(7.91 - 7.99)				
Aroclor-1260	2	4	8.30	(8.26 - 8.34)	8.30	(8.26 - 8.34)	8.30	(8.26 - 8.34)				
Aroclor-1260	2	5	9.00	(8.96 - 9.04)	9.00	(8.96 - 9.04)	9.00	(8.96 - 9.04)				
Aroclor-1221	2	1	4.24	(4.20 - 4.28)								
Aroclor-1221	2	2	4.38	(4.34 - 4.42)								
Aroclor-1221	2	3	4.45	(4.41 - 4.49)								
Aroclor-1232	2	1	4.45	(4.41 - 4.49)								
Aroclor-1232	2	2	4.86	(4.82 - 4.90)								
Aroclor-1232	2	3	5.24	(5.20 - 5.28)								
Aroclor-1232	2	4	5.93	(5.89 - 5.97)								
Aroclor-1232	2	5	6.08	(6.04 - 6.12)								
Aroclor-1242	2	1	4.45	(4.41 - 4.49)								
Aroclor-1242	2	2	4.86	(4.82 - 4.90)								
Aroclor-1242	2	3	5.24	(5.20 - 5.28)								
Aroclor-1242	2	4	5.57	(5.53 - 5.61)								
Aroclor-1242	2	5	5.93	(5.89 - 5.97)								
Aroclor-1248	2	1	4.86	(4.82 - 4.90)								
Aroclor-1248	2	2	5.24	(5.20 - 5.28)								
Aroclor-1248	2	3	5.57	(5.53 - 5.61)								
Aroclor-1248	2	4	6.08	(6.04 - 6.12)								
Aroclor-1248	2	5	6.21	(6.17 - 6.25)								
Aroclor-1254	2	1	6.43	(6.39 - 6.47)								
Aroclor-1254	2	2	6.77	(6.73 - 6.81)								
Aroclor-1254	2	3	7.17	(7.13 - 7.21)								
Aroclor-1254	2	4	7.68	(7.64 - 7.72)								
Aroclor-1254	2	5	8.36	(8.32 - 8.40)								
Aroclor-1262	2	1	7.73	(7.69 - 7.77)								
Aroclor-1262	2	2	8.89	(8.85 - 8.93)								
Aroclor-1262	2	3	9.00	(8.96 - 9.04)								
Aroclor-1262	2	4	9.58	(9.54 - 9.62)								
Aroclor-1262	2	5	10.12	(10.08 - 10.16)								
Aroclor-1268	2	1	8.40	(8.36 - 8.44)								
Aroclor-1268	2	2	8.44	(8.40 - 8.48)								
Aroclor-1268	2	3	9.32	(9.28 - 9.36)								
Aroclor-1268	2	4	9.48	(9.44 - 9.52)								
Aroclor-1268	2	5	10.12	(10.08 - 10.16)								
DCB-Surrogate	2	0	10.65	(10.59 - 10.71)	10.66	(10.60 - 10.72)	10.66	(10.60 - 10.72)				

TPH Data

Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00418-002
Client Id: SB01 COMP
Data File: 4G58615.D
Analysis Date: 10/10/17 18:24
Date Rec/Extracted: 10/04/17-10/10/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 90

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	67	U				

Worksheet #: 440026

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

Indicates the compound was analyzed but not detected.
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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100429 0184

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58615.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:24
Operator : RAK/AH/KD
Sample : AD00418-002
Misc : S.TPH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:32:03 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.978	147739	6.574	
22)	O-Terphenyl	8.289	714110	14.806	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.289f	13051345	303.547	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

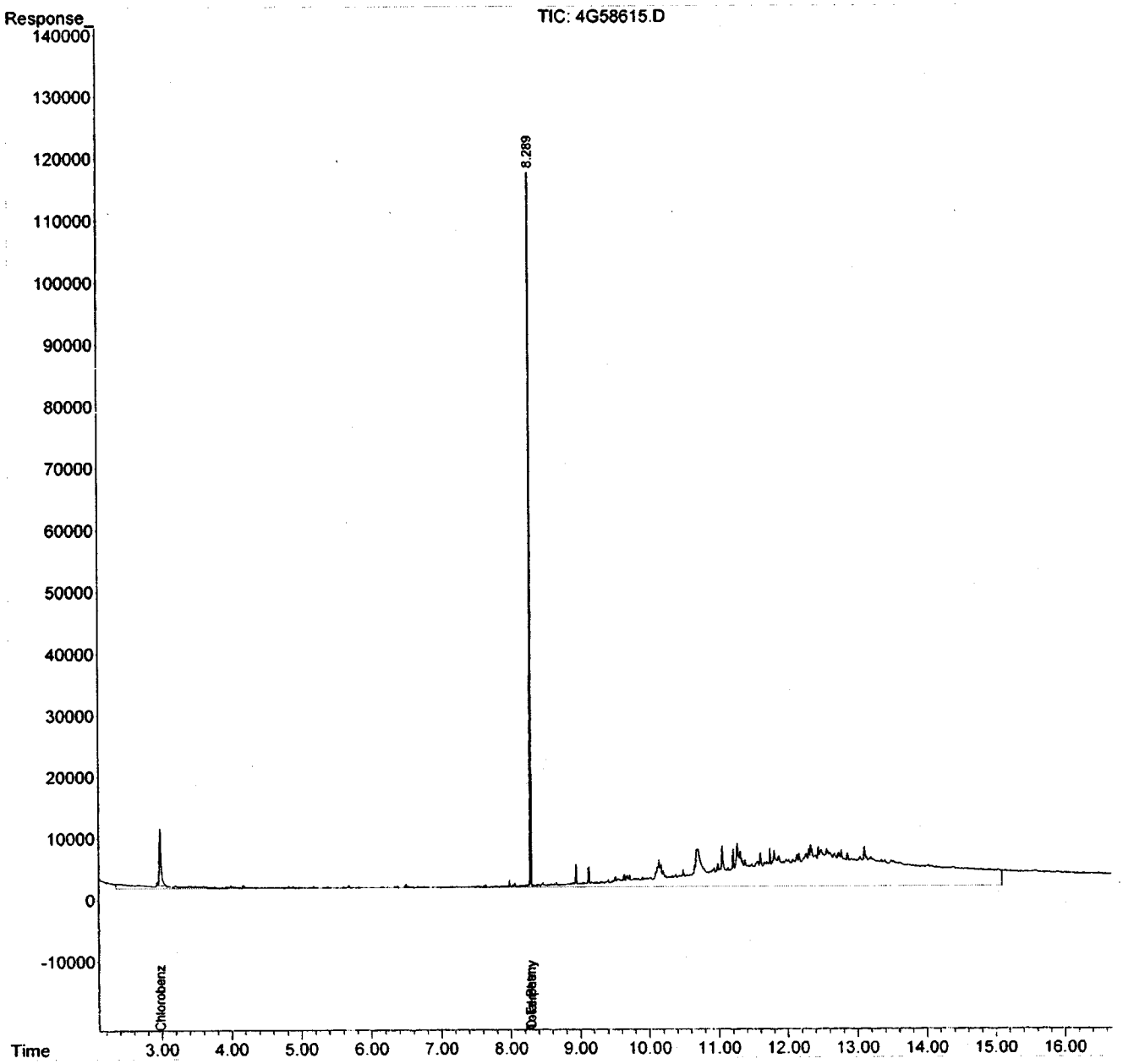
(f)=RT Delta > 1/2 Window (m)=manual int.

RAU

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58615.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:24
Operator : RAK/AH/KD
Sample : AD00418-002
Misc : S.TPH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:32:03 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00418-004
Client Id: SB06 COMP
Data File: 4G58616.D
Analysis Date: 10/10/17 18:49
Date Rec/Extracted: 10/04/17-10/10/17
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 Hydrocar	**67**	**74**				

Worksheet #: 440026 *Total Target Concentration* 74 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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58616.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:49
Operator : RAK/AH/KD
Sample : AD00418-004
Misc : S.TPH
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:32:46 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.980	194626	8.660	
22)	O-Terphenyl	8.288	776333	16.097	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.288f	16423695	381.981	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.

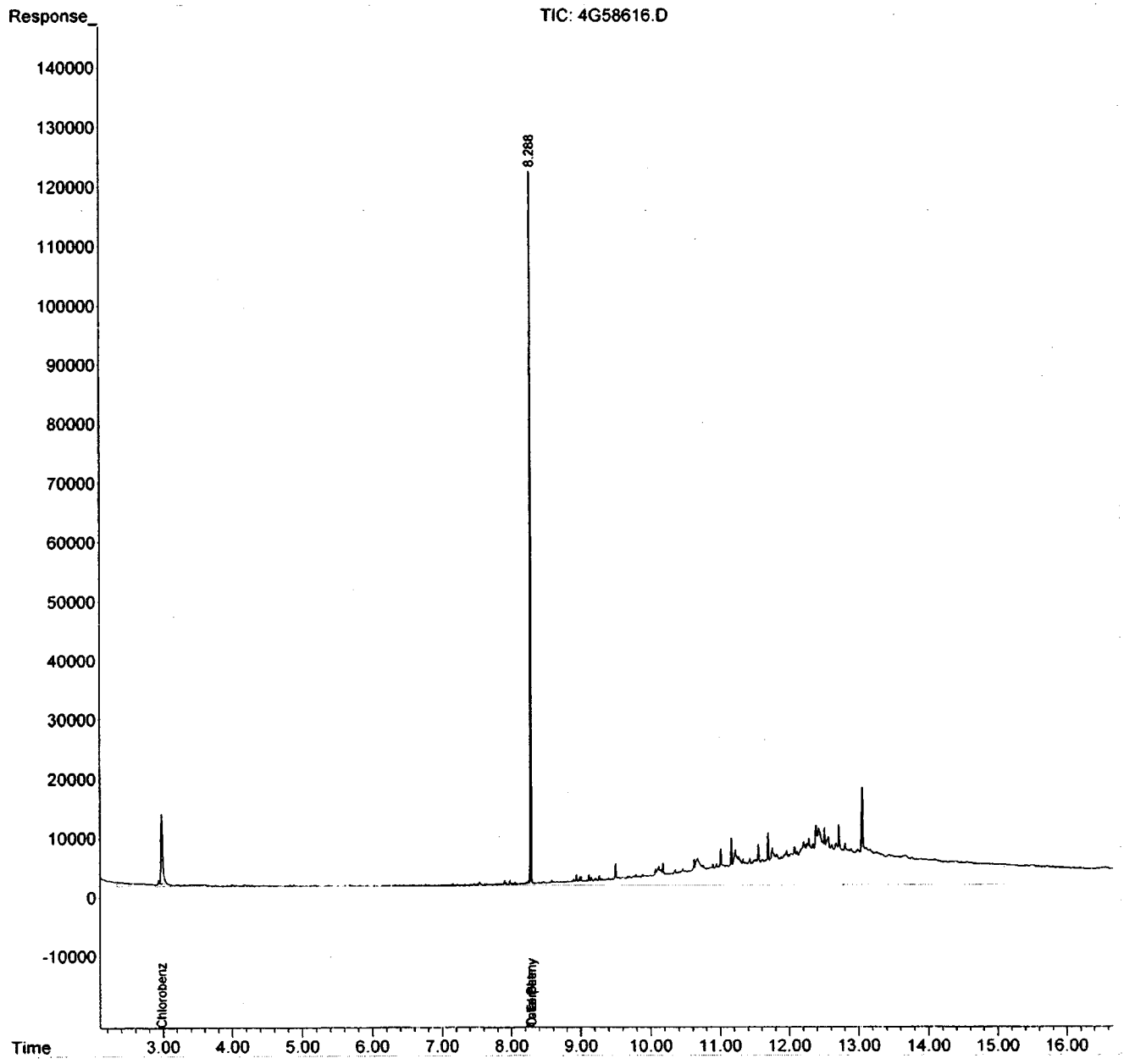
RAK

Quantitation Report (QT Reviewed) **7100429 0188**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58616.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:49
Operator : RAK/AH/KD
Sample : AD00418-004
Misc : S.TPH
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:32:46 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00418-006
Client Id: SB10 COMP
Data File: 4G58614.D
Analysis Date: 10/10/17 18:00
Date Rec/Extracted: 10/04/17-10/10/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 90

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	67	U				

Worksheet #: 440026 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

- Indicates the compound was analyzed but not detected.
- 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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100429 0190**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58614.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:00
Operator : RAK/AH/KD
Sample : AD00418-006
Misc : S.TPH
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:31:08 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.983	186836	8.313	
22)	O-Terphenyl	8.290	692290	14.354	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.289f	4516395	105.042	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.

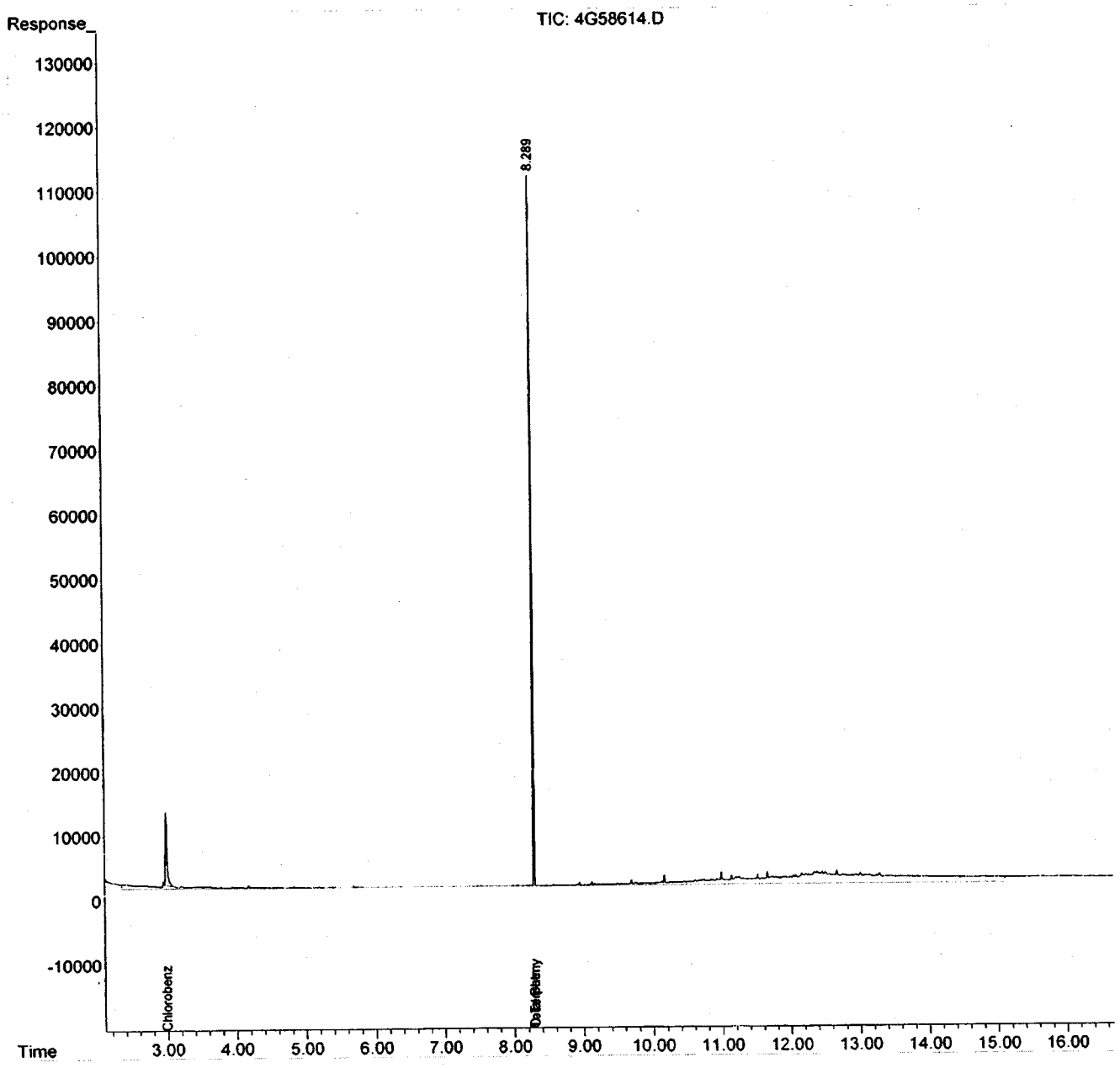
RAK

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58614.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:00
Operator : RAK/AH/KD
Sample : AD00418-006
Misc : S.TPH
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:31:08 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: SMB63118
Client Id:
Data File: 4G58613.D
Analysis Date: 10/10/17 17:35
Date Rec/Extracted: NA-10/10/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 100

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	60	U				

Worksheet #: 440026

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) 7100429 0193

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58613.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 17:35
Operator : RAK/AH/KD
Sample : SMB63118
Misc : S.TPH
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:29:59 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.984	162766	7.242	
22)	O-Terphenyl	8.289	468150	9.707	
23)d	Diesel Range Organics(T	8.288f	745034	17.539	m
24)t	Total Petroleum Hydroca	8.288f	2185419	50.828	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.

RW

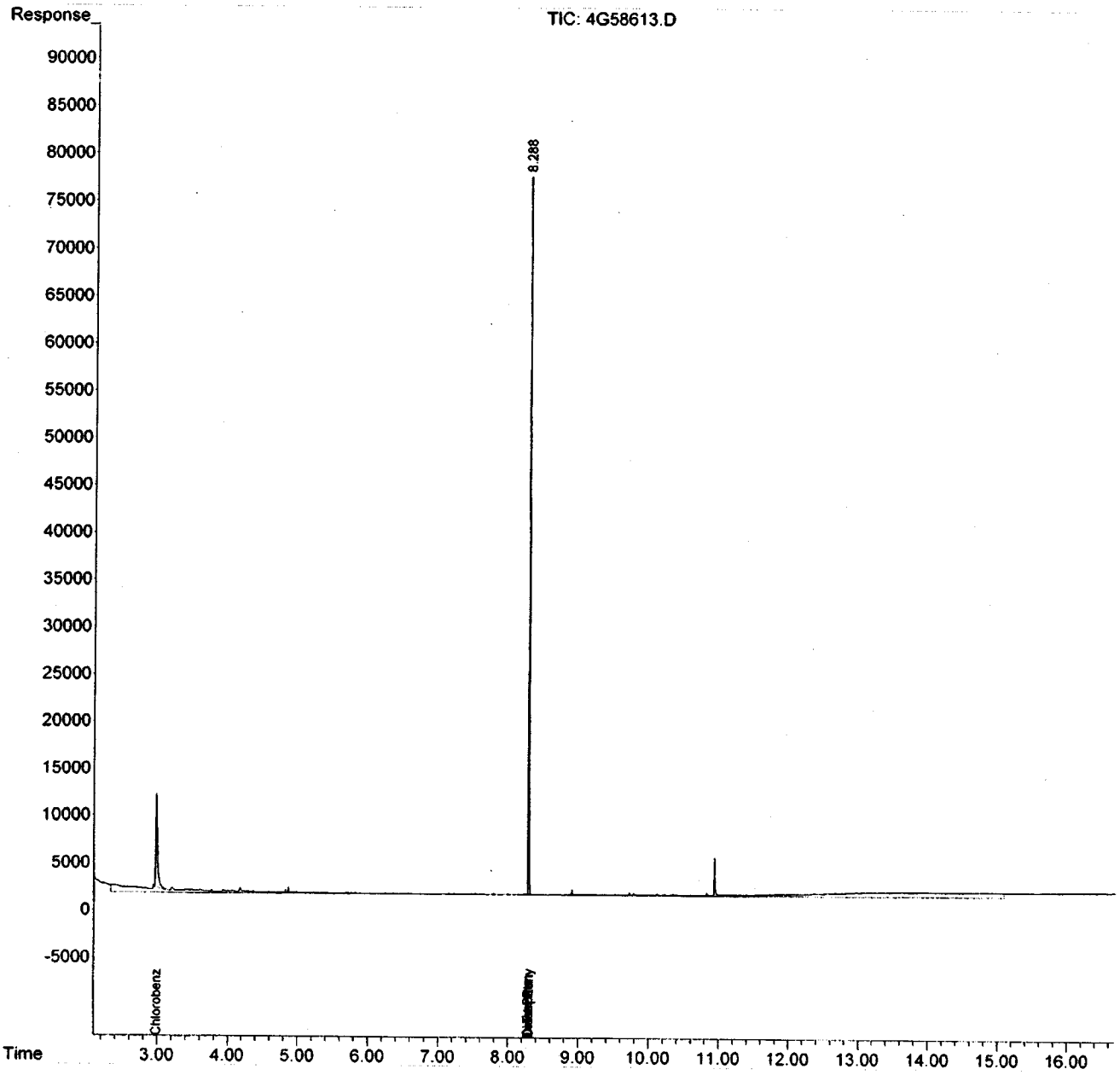
Quantitation Report (QT Reviewed)

7100429 0194

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58613.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 17:35
Operator : RAK/AH/KD
Sample : SMB63118
Misc : S.TPH
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:29:59 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



4G_T1009.M Wed Oct 11 13:02:22 2017 SYSTEM1

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
4G58613.D	SMB63118	S	10/10/17 17:35	1		36	49				
4G58615.D	AD00418-002	S	10/10/17 18:24	1		33	74				
4G58616.D	AD00418-004	S	10/10/17 18:49	1		43	80				
4G58614.D	AD00418-006	S	10/10/17 18:00	1		42	72				
4G58612.D	SMB63118(MS)	S	10/10/17 17:11	1		75	102				
4G58630.D	AD00427-001(3X)(MS)	S	10/11/17 10:01	3		39	117				
4G58631.D	AD00427-001(3X)(MSD)	S	10/11/17 10:26	3		42	127				
4G58632.D	AD00427-001(3X)	S	10/11/17 10:50	3		53	110				

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8015D

Soil Laboratory Limits

Compound	Spike Amt	Limits
S1=Chlorobenzene	20	20-117
S2=O-Terphenyl	20	30-146

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63118

	Data File	Sample ID:	Analysis Date
Spike or Dup:	4G58612.D	SMB63118(MS)	10/10/2017 5:11:00 PM
Non Spike(If applicable):			
Inst Blank(If applicable):	4G58611.D	INST BLK	10/10/2017 4:43:00 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	2745.71	0	3000	92	40	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63118

	Data File	Sample ID:	Analysis Date
Spike or Dup:	4G58630.D	AD00427-001(3X)(MS)	10/11/2017 10:01:00 A
Non Spike(If applicable):	4G58632.D	AD00427-001(3X)	10/11/2017 10:50:00 A
Inst Blank(If applicable):	4G58629.D	INST BLK	10/11/2017 9:37:00 AM

Method: 8015 Matrix: Soil QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	7943.22	6255.9	3000	56	40	130

	Data File	Sample ID:	Analysis Date
Spike or Dup:	4G58631.D	AD00427-001(3X)(MSD)	10/11/2017 10:26:00 A
Non Spike(If applicable):	4G58632.D	AD00427-001(3X)	10/11/2017 10:50:00 A
Inst Blank(If applicable):	4G58629.D	INST BLK	10/11/2017 9:37:00 AM

Method: 8015 Matrix: Soil QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	9358.08	6255.9	3000	103	40	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: SMB63118

	Data File	Sample ID:	Analysis Date
Spike or Dup:	4G58631.D	AD00427-001(3X)(MSD)	10/11/2017 10:26:00 A
Duplicate(If applicable):	4G58630.D	AD00427-001(3X)(MS)	10/11/2017 10:01:00 A
Inst Blank(If applicable):	4G58629.D	INST BLK	10/11/2017 9:37:00 AM

Method: 8015 Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Diesel Range Organics	1	9358.08	7943.22	16	40

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: SMB63118
Blank Data File: 4G58613.D
Matrix: Soil

Blank Analysis Date: 10/10/17 17:35
Blank Extraction Date: 10/10/17
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD00418-002	4G58615.D	10/10/17 18:24
AD00418-004	4G58616.D	10/10/17 18:49
AD00418-006	4G58614.D	10/10/17 18:00
AD00427-001(3X)	4G58632.D	10/11/17 10:50
AD00427-001(3X)(	4G58631.D	10/11/17 10:26
AD00427-001(3X)(	4G58630.D	10/11/17 10:01
SMB63118(MS)	4G58612.D	10/10/17 17:11

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
4G58586.D	INST BLK	10/09/17 09:00	Soil					
4G58587.D	CAL TPH@20PPM	10/09/17 09:24	Soil		8.4143	0		
4G58588.D	CAL TPH@20PPM	10/09/17 09:53	Soil		8.2996	0		
4G58589.D	CAL TPH@20PPM	10/09/17 10:52	Soil		8.3407	0		
4G58590.D	CAL TPH@20PPM	10/09/17 11:17	Soil	4G58593.	8.3035	0.1		
4G58591.D	CAL TPH@40PPM	10/09/17 11:42	Soil	4G58593.	8.3075	0.1482		
4G58592.D	CAL TPH@10PPM	10/09/17 12:16	Soil	4G58593.	8.3071	0.1434		
4G58593.D	CAL TPH@5PPM	10/09/17 12:40	Soil	4G58593.	8.2952	0		
4G58594.D	CAL TPH@500PPM	10/09/17 13:05	Soil	4G58593.	8.3541	0.7075		
4G58595.D	CAL TPH@100PPM	10/09/17 13:30	Soil	4G58593.	8.3092	0.1686		
4G58596.D	ICV TPH@20PPM	10/09/17 13:58	Soil	4G58593.	8.2977	0.0301		

Drift Compound: O-Terphenyl Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

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
4G58608.D	INST BLK	10/10/17 09:27	Soil					
4G58609.D	20PPM	10/10/17 09:51	Soil					
4G58610.D	CAL TPH@20PPM	10/10/17 15:04	Soil	4G58610.	8.2990	0		
4G58611.D	INST BLK	10/10/17 16:43	Soil	4G58610.	0.0000	200		
4G58612.D	SMB63118(MS)	10/10/17 17:11	Soil	4G58610.	8.3047	0.0687		
4G58613.D	SMB63118	10/10/17 17:35	Soil	4G58610.	8.2886	0.1254		
4G58614.D	AD00418-006	10/10/17 18:00	Soil	4G58610.	8.2896	0.1133		
4G58615.D	AD00418-002	10/10/17 18:24	Soil	4G58610.	8.2889	0.1218		
4G58616.D	AD00418-004	10/10/17 18:49	Soil	4G58610.	8.2880	0.1326		
4G58617.D	AD00406-001	10/10/17 19:14	Soil	4G58610.	8.2916	0.0892		
4G58618.D	AD00427-001(MS)	10/10/17 19:39	Soil	4G58610.	8.3107	0.1409		
4G58619.D	AD00427-001(MSD)	10/10/17 20:03	Soil	4G58610.	8.3115	0.1505		
4G58620.D	AD00427-001	10/10/17 20:28	Soil	4G58610.	8.3054	0.0771		
4G58621.D	AD00475-006	10/10/17 20:52	Soil	4G58610.	8.2875	0.1387		
4G58622.D	AD00475-008	10/10/17 21:17	Soil	4G58610.	8.2894	0.1157		
4G58623.D	AD00427-002	10/10/17 21:41	Soil	4G58610.	8.3113	0.1481		
4G58624.D	CAL TPH@20PPM	10/10/17 22:06	Soil	4G58610.	8.2940	0.0603		
4G58625.D	20PPM	10/10/17 22:30	Soil	4G58624.	8.2949	0.0109		
4G58626.D	INST BLK	10/11/17 08:17	Soil	4G58624.	0.0000	200		
4G58627.D	AD00457-010	10/11/17 08:41	Soil	4G58624.	8.2970	0.0362		
4G58628.D	CAL TPH@20PPM	10/11/17 09:06	Soil	4G58624.	8.2973	0.0398		
4G58629.D	INST BLK	10/11/17 09:37	Soil	4G58628.	0.0000	200		
4G58630.D	AD00427-001(3X)(MS)	10/11/17 10:01	Soil	4G58628.	8.3014	0.0494		
4G58631.D	AD00427-001(3X)(MSD)	10/11/17 10:26	Soil	4G58628.	8.3060	0.1048		
4G58632.D	AD00427-001(3X)	10/11/17 10:50	Soil	4G58628.	8.3037	0.0771		
4G58633.D	AD00427-002(3X)	10/11/17 11:26	Soil	4G58628.	8.3182	0.2516		
4G58634.D	AD00475-012	10/11/17 11:51	Soil	4G58628.	8.2951	0.0265		
4G58635.D	AD00475-010	10/11/17 12:16	Soil	4G58628.	8.2970	0.0036		
4G58636.D	AD00475-004	10/11/17 12:40	Soil	4G58628.	8.2935	0.0458		
4G58637.D	AD00475-014	10/11/17 13:04	Soil	4G58628.	8.2983	0.012		
4G58638.D	AD00475-002	10/11/17 13:29	Soil	4G58628.	8.2966	0.0084		
4G58639.D	CAL TPH@20PPM	10/11/17 13:53	Soil	4G58628.	8.2961	0.0145		

Drift Compound: O-Terphenyl Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

7100429 0202

Form 6
Initial Calibration

Method: EPA 8015D

Instrument: GC_4

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	4G58593.D	CAL TPH@5PPM	10/09/17 12:40	2	4G58592.D	CAL TPH@10PPM	10/09/17 12:16
3	4G58590.D	CAL TPH@20PPM	10/09/17 11:17	4	4G58591.D	CAL TPH@40PPM	10/09/17 11:42
5	4G58595.D	CAL TPH@100PPM	10/09/17 13:30	6	4G58594.D	CAL TPH@500PPM	10/09/17 13:05

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
C8	1	0	Avg	2.3405	2.4512	2.4982	2.4997	2.5677	2.8279	---	---	2.53	2.52	1.00	1.00	6.5	5.00	10.00	20.00	40.00	100.0	500.0		
C9	1	0	Avg	2.9552	2.9625	2.9768	2.9204	2.9851	3.2114	---	---	3.00	3.43	0.999	1.00	3.5	5.00	10.00	20.00	40.00	100.0	500.0		
C10	1	0	Avg	3.0974	3.1706	3.2780	3.2579	3.3260	3.5590	---	---	3.28	4.19	1.00	1.00	4.8	5.00	10.00	20.00	40.00	100.0	500.0		
C12	1	0	Avg	3.3408	3.4206	3.5503	3.5410	3.6103	3.7904	---	---	3.54	5.38	1.00	1.00	4.4	5.00	10.00	20.00	40.00	100.0	500.0		
C14	1	0	Avg	3.7026	3.8441	3.9454	3.9481	4.0016	4.1459	---	---	3.93	6.34	1.00	1.00	3.8	5.00	10.00	20.00	40.00	100.0	500.0		
C16	1	0	Avg	3.9640	4.0851	4.1433	4.1240	4.1819	4.3103	---	---	4.13	7.17	1.00	1.00	2.8	5.00	10.00	20.00	40.00	100.0	500.0		
C17	1	0	Qua	4.1252	4.3728	4.2715	4.2393	5.5800	7.1462	---	---	4.96	7.56	0.998	1.00	24	5.00	10.00	20.00	40.00	100.0	500.0		
Pristane	1	0	Qua	3.5628	3.6374	3.8610	3.6727	2.8298	1.4653	---	---	3.17	7.57	0.966	0.999	29	5.00	10.00	20.00	40.00	100.0	500.0		
C18	1	0	Avg	4.2272	4.3582	4.3817	4.3615	4.5041	5.7964	---	---	4.60	7.92	0.998	1.00	13	5.00	10.00	20.00	40.00	100.0	500.0		
Phytane	1	0	Avg	3.7393	3.8553	3.9603	3.8299	3.8296	2.7294	---	---	3.66	7.95	0.977	1.00	13	5.00	10.00	20.00	40.00	100.0	500.0		
C20	1	0	Avg	4.4804	4.6160	4.5846	4.5725	4.6723	4.7186	---	---	4.61	8.61	1.00	1.00	1.8	5.00	10.00	20.00	40.00	100.0	500.0		
C22	1	0	Avg	4.5258	4.6427	4.5996	4.5751	4.7029	4.6982	---	---	4.62	9.26	1.00	1.00	1.5	5.00	10.00	20.00	40.00	100.0	500.0		
C24	1	0	Avg	4.7707	4.8917	4.8439	4.8076	4.9437	4.9199	---	---	4.86	9.88	1.00	1.00	1.4	5.00	10.00	20.00	40.00	100.0	500.0		
C26	1	0	Avg	4.8151	4.9108	4.8588	4.8180	4.9603	4.9229	---	---	4.88	10.49	1.00	1.00	1.2	5.00	10.00	20.00	40.00	100.0	500.0		
C28	1	0	Avg	4.8957	5.0025	4.9541	4.9049	5.0342	5.0096	---	---	4.97	11.08	1.00	1.00	1.2	5.00	10.00	20.00	40.00	100.0	500.0		
C30	1	0	Avg	4.9157	5.0294	4.9774	4.9471	5.0707	5.0393	---	---	5.00	11.67	1.00	1.00	1.2	5.00	10.00	20.00	40.00	100.0	500.0		
C32	1	0	Avg	5.1017	5.2311	5.1939	5.1658	5.2861	5.2553	---	---	5.21	12.24	1.00	1.00	1.3	5.00	10.00	20.00	40.00	100.0	500.0		
C34	1	0	Avg	4.8152	5.0580	5.0743	5.0526	5.1760	5.1324	---	---	5.05	12.80	1.00	1.00	2.5	5.00	10.00	20.00	40.00	100.0	500.0		
C36	1	0	Avg	4.6059	5.1058	5.1243	5.1291	5.2618	5.1987	---	---	5.07	13.37	1.00	1.00	4.6	5.00	10.00	20.00	40.00	100.0	500.0		
C40	1	0	Avg	3.9467	4.9272	5.2441	5.0678	5.2137	5.0758	---	---	4.91	14.96	1.00	1.00	9.9	5.00	10.00	20.00	40.00	100.0	500.0		
Chlorobenzene	1	0	Avg	2.1802	2.2069	2.2478	2.2309	2.2703	2.3482	---	---	2.25	2.99	1.00	1.00	2.6	5.00	10.00	20.00	40.00	100.0	500.0		
O-Terphenyl	1	0	Avg	4.6892	4.8167	4.8288	4.7847	4.8327	4.9854	---	---	4.82	8.30	1.00	1.00	2.0	5.00	10.00	20.00	40.00	100.0	500.0		
Diesel Range Organics(TO	1	0	Avg	4.0959	4.2160	4.2487	4.2040	4.3213	4.4009	---	---	4.25	4.19	1.00	1.00	2.5	65.00	130.0	260.0	520.0	1300.	6500.		
Total Petroleum Hydrocarb	1	0	Avg	4.0964	4.2786	4.3161	4.2717	4.3869	4.4476	---	---	4.30	2.52	1.00	1.00	2.8	100.0	200.0	400.0	800.0	2000.	10000		
Ext. Petroleum Hydrocarbo	1	0	Avg	4.2023	4.3441	4.3655	4.3260	4.4420	4.5027	---	---	4.36	3.43	1.00	1.00	2.4	90.00	180.0	360.0	720.0	1800.	9000.		
Mineral Spirits(TOTAL)	1	0	Avg	3.0873	3.1698	3.2497	3.2334	3.2981	3.5069	---	---	3.26	2.99	1.00	1.00	4.4	25.00	50.00	100.0	200.0	500.0	2500.		
Stoddard Solvent(TOTAL)	1	0	Avg	3.0873	3.1698	3.2497	3.2334	3.2981	3.5069	---	---	3.26	2.99	1.00	1.00	4.4	25.00	50.00	100.0	200.0	500.0	2500.		

Avg Rsd Col 1: 6.14 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. pcb/chlordane etc.)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

HAZ - 310

Form7
Continuing Calibration

Method: EPA 8015D

Data File:				4G58610.D			4G58624.D			4G58628.D			4G58639.D											
Method:				8015			8015			8015			8015											
Calibration Name:				CAL TPH@20PPM			CAL TPH@20PPM			CAL TPH@20PPM			CAL TPH@20PPM											
Calibration Date/Time				10/10/17 15:04			10/10/17 22:06			10/11/17 09:06			10/11/17 13:53											
Compound	Limit	Col	Mr	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff
C8	20	1	0	19.88	20	0.6	20.24	20	1.2	20.23	20	1.1	20.79	20	4.0									
C9	20	1	0	20.38	20	1.9	20.01	20	0.1	20.05	20	0.2	20.89	20	4.4									
C10	20	1	0	20.02	20	0.1	20.73	20	3.6	20.71	20	3.5	21.85	20	9.3									
C12	20	1	0	20.04	20	0.2	20.89	20	4.4	20.76	20	3.8	22.11	20	10.6									
C14	20	1	0	20.01	20	0.1	20.92	20	4.6	20.6	20	3.0	22.06	20	10.3									
C16	20	1	0	19.97	20	0.2	20.99	20	4.9	20.4	20	2.0	21.89	20	9.4									
C17	20	1	0	17.11	20	14.5	17.97	20	10.2	15.7	20	21.5*	17.13	20	14.4									
Pristane	20	1	0	25.67	20	28.4*	25.96	20	29.8*	26.27	20	31.4*	27.9	20	39.5*									
C18	20	1	0	19	20	5.0	20.04	20	0.2	19.31	20	3.5	20.73	20	3.6									
Phytane	20	1	0	21.13	20	5.6	22.19	20	11.0	21.33	20	6.6	22.86	20	14.3									
C20	20	1	0	19.93	20	0.3	21.05	20	5.2	20.14	20	0.7	21.63	20	8.1									
C22	20	1	0	19.83	20	0.9	20.96	20	4.8	19.97	20	0.2	21.45	20	7.3									
C24	20	1	0	19.8	20	1.0	20.89	20	4.4	19.87	20	0.6	21.33	20	6.6									
C26	20	1	0	19.78	20	1.1	20.84	20	4.2	19.77	20	1.1	21.24	20	6.2									
C28	20	1	0	19.82	20	0.9	20.83	20	4.2	19.75	20	1.3	21.22	20	6.1									
C30	20	1	0	19.88	20	0.6	20.87	20	4.4	19.75	20	1.3	21.2	20	6.0									
C32	20	1	0	20.11	20	0.6	20.96	20	4.8	19.53	20	2.3	21.18	20	5.9									
C34	20	1	0	20.46	20	2.3	21.57	20	7.8	19.62	20	1.9	21.03	20	5.2									
C36	20	1	0	21.16	20	5.8	22.2	20	11.0	19.63	20	1.9	21.18	20	5.9									
C40	20	1	0	21.84	20	9.2	22.82	20	14.1	18.73	20	6.4	20.5	20	2.5									
Chlorobenzene	20	1	0	20.18	20	0.9	20.47	20	2.3	20.52	20	2.6	21.38	20	6.9									
O-Terphenyl	20	1	0	20.01	20	0.1	21.48	20	7.4	20.74	20	3.7	22.31	20	11.6									
Average Difference	20	1	0			3.6			6.6			4.6			9.0									

Flags/Notes: **** - Values outside of limits for this column/run***

Form7

RtWindow Summary

Method: EPA 8015D

Data File:
Calibration Name:
Calibration Date/Time

Compound	Col	Mr	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
C8	1	0										
C9	1	0										
C10	1	0										
C12	1	0										
C14	1	0										
C16	1	0										
C17	1	0										
Pristane	1	0										
C18	1	0										
Phytane	1	0										
C20	1	0										
C22	1	0										
C24	1	0										
C26	1	0										
C28	1	0										
C30	1	0										
C32	1	0										
C34	1	0										
C36	1	0										
C40	1	0										
Chlorobenzene	1	0										
O-Terphenyl	1	0	8.31	(8.27 - 8.35)	8.30	(8.26 - 8.34)	8.30	(8.26 - 8.34)				
Diesel Range Organic	1	0										
Total Petroleum Hydr	1	0										
Ext. Petroleum Hydro	1	0										
Mineral Spirits	1	0										
Stoddard Solvent	1	0										

GRO Data

Form1

ORGANICS REPORT

Sample Number: AD00418-002
Client Id: SB01 COMP
Data File: 13M07922.D
Analysis Date: 10/10/17 01:33
Date Rec/Extracted: 10/04/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.85g:10ml
Final Vol: NA
Dilution: 85.5
Solids: 90

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	24	U				

Worksheet #: 439968 *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 usea

Quantitation Report (QT Reviewed)

7100429 0207

Data Path : G:\GcMsData\2017\GC_13\Data\10-09-17\
Data File : 13M07922.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 1:33
Operator : RG
Sample : AD00418-002
Misc : M,MEXT!3
ALS Vial : 39 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 10 18:48:51 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.487	20108	30.501
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

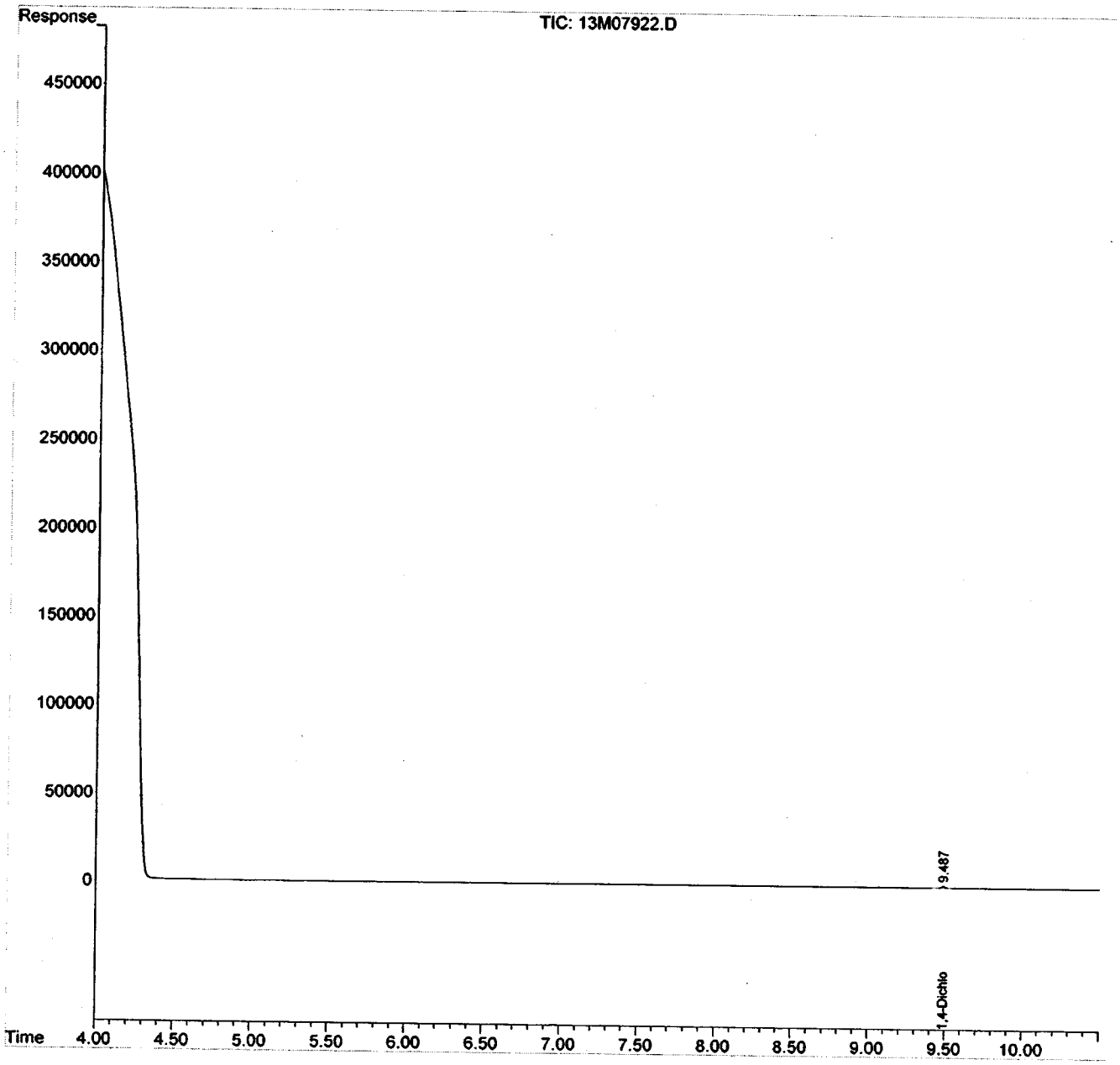
Quantitation Report (QT Reviewed)

7100429 0208

Data Path : G:\GcMsData\2017\GC_13\Data\10-09-17\
Data File : 13M07922.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 1:33
Operator : RG
Sample : AD00418-002
Misc : M,MEXT!3
ALS Vial : 39 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 10 18:48:51 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD00418-004
Client Id: SB06 COMP
Data File: 13M07921.D
Analysis Date: 10/10/17 01:15
Date Rec/Extracted: 10/04/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.41g:10ml
Final Vol: NA
Dilution: 92.4
Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	26	U				

Worksheet #: 439968

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
- Indicates the analyte was found in the blank as well as in the sample.
- 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 usea

7100429 0210

Data Path : G:\GcMsData\2017\GC_13\Data\10-09-17\
Data File : 13M07921.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 1:15
Operator : RG
Sample : AD00418-004
Misc : M,MEXT!3
ALS Vial : 38 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 10 18:49:04 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.485	21069	31.959
Target Compounds			

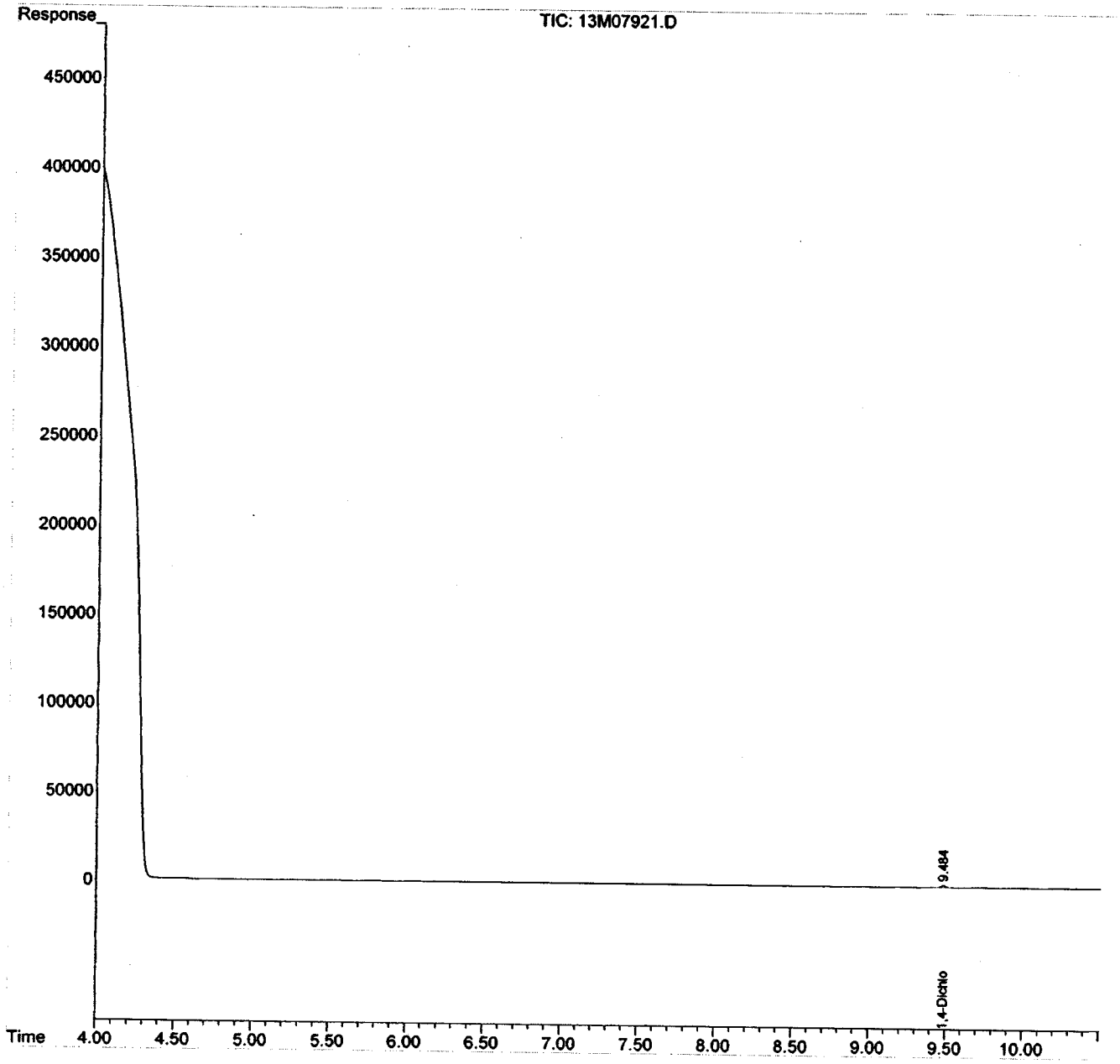
(f)=RT Delta > 1/2 Window (m)=manual int.

7100429 0211

Data Path : G:\GcMsData\2017\GC_13\Data\10-09-17\
Data File : 13M07921.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 1:15
Operator : RG
Sample : AD00418-004
Misc : M,MEXT!3
ALS Vial : 38 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 10 18:49:04 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD00418-006
Client Id: SB10 COMP
Data File: 13M07920.D
Analysis Date: 10/10/17 00:54
Date Rec/Extracted: 10/04/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.84g:10ml
Final Vol: NA
Dilution: 85.6
Solids: 90

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	24	U				

Worksheet #: 439968

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

Quantitation Report (QT Reviewed)

7100429 0213

Data Path : G:\GcMsData\2017\GC_13\Data\10-09-17\
Data File : 13M07920.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 00:54
Operator : RG
Sample : AD00418-006
Misc : M,MEXT!3
ALS Vial : 37 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 10 18:49:19 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.488	20969	31.807
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

k

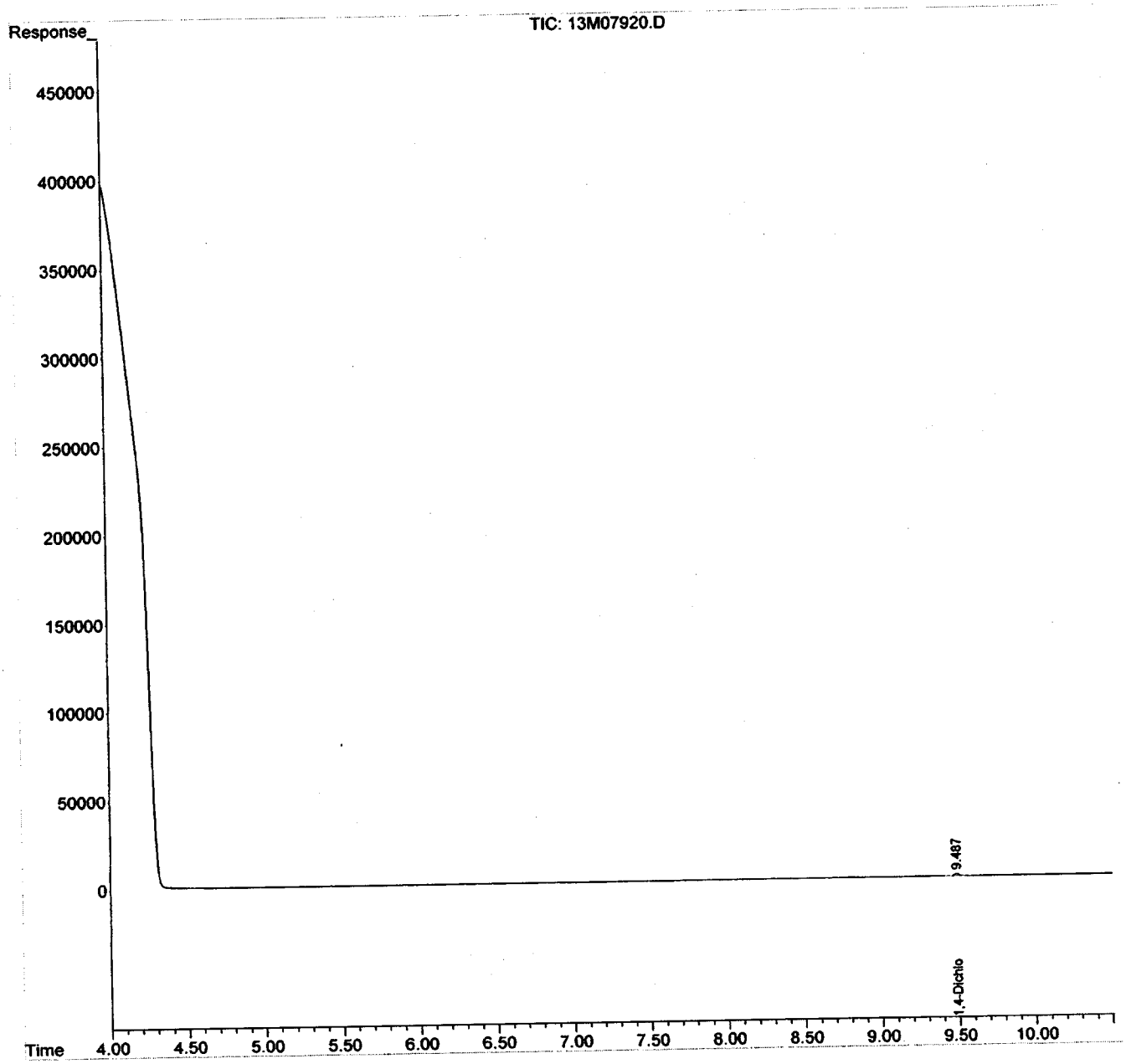
Quantitation Report (QT Reviewed)

7100429 0214

Data Path : G:\GcMsData\2017\GC_13\Data\10-09-17\
Data File : 13M07920.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 00:54
Operator : RG
Sample : AD00418-006
Misc : M,MEXT!3
ALS Vial : 37 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 10 18:49:19 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 13M07913.D
Analysis Date: 10/09/17 22:37
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 #: 439968 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
[illegible]dicates the analyte was found in the blank as well as in the sample.
[illegible]dicates 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 usea

Quantitation Report (QT Reviewed)

7100429 0216

Data Path : G:\GcMsData\2017\GC_13\Data\10-09-17\
Data File : 13M07913.D
Signal(s) : FID1A.CH
Acq On : 9 Oct 2017 22:37
Operator : RG
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 30 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 10 18:00:27 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.489	21733	32.966
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

k

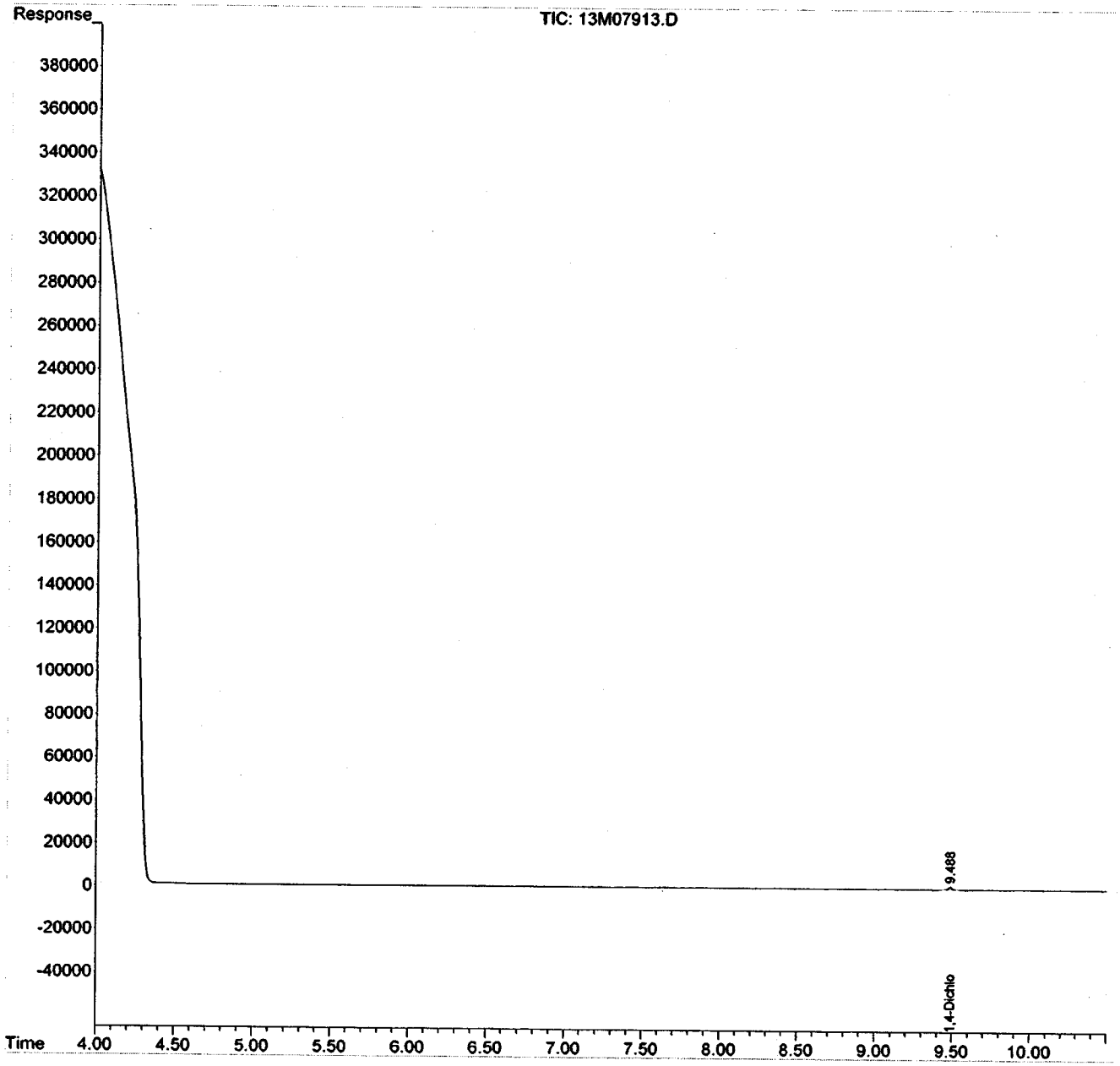
Quantitation Report (QT Reviewed)

7100429 0217

Data Path : G:\GcMsData\2017\GC_13\Data\10-09-17\
Data File : 13M07913.D
Signal(s) : FID1A.CH
Acq On : 9 Oct 2017 22:37
Operator : RG
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 30 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 10 18:00:27 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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
13M07843.D	DAILY BLANK	M	10/02/17 11:06	1		76					
13M07859.D	DAILY BLANK	M	10/03/17 10:43	1		85					
13M07913.D	DAILY BLANK	M	10/09/17 22:37	1		110					
13M07922.D	AD00418-002	M	10/10/17 01:33	1		102					
13M07921.D	AD00418-004	M	10/10/17 01:15	1		107					
13M07920.D	AD00418-006	M	10/10/17 00:54	1		106					
13M07860.D	MBS64331	M	10/03/17 11:03	1		113					
13M07865.D	AD00362-004	M	10/03/17 12:41	1		89					
13M07914.D	MBS64379	M	10/09/17 22:56	1		132					
13M07915.D	AD00362-004(MS)	M	10/09/17 23:16	1		141					
13M07916.D	AD00362-004(MSD)	M	10/09/17 23:37	1		147					

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: MBS64331

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07860.D	MBS64331	10/3/2017 11:03:00 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	1613.4	0	2000	81	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS64379

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07914.D	MBS64379	10/9/2017 10:56:00 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	1703.54	0	2000	85	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS64379

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07915.D	AD00362-004(MS)	10/9/2017 11:16:00 PM
Non Spike(If applicable):	13M07865.D	AD00362-004	10/3/2017 12:41:00 PM
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	2137.53	0	2000	107	11	181

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07916.D	AD00362-004(MSD)	10/9/2017 11:37:00 PM
Non Spike(If applicable):	13M07865.D	AD00362-004	10/3/2017 12:41:00 PM
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	2113.12	0	2000	106	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD DATA
QC Batch: MBS64379

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07916.D	AD00362-004(MSD)	10/9/2017 11:37:00 PM
Duplicate(If applicable):	13M07915.D	AD00362-004(MS)	10/9/2017 11:16:00 PM
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	2113.12	2137.53	1.1	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: 13M07859.D
Matrix: Methanol

Blank Analysis Date: 10/03/17 10:43
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
MBS64331	13M07860.D	10/03/17 11:03
AD00362-004	13M07865.D	10/03/17 12:41

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 13M07913.D
Matrix: Methanol

Blank Analysis Date: 10/09/17 22:37
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD00418-002	13M07922.D	10/10/17 01:33
AD00418-004	13M07921.D	10/10/17 01:15
AD00418-006	13M07920.D	10/10/17 00:54
AD00362-004(MSD	13M07916.D	10/09/17 23:37
AD00362-004(MS)	13M07915.D	10/09/17 23:16
MBS64379	13M07914.D	10/09/17 22:56

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
13M07468.D	BLK	09/08/17 07:12	Aqueous					
13M07470.D	2000 PPB	09/08/17 07:52	Aqueous					
13M07471.D	2000 PPB	09/08/17 08:21	Aqueous					
13M07477.D	2000 PPB	09/08/17 13:39	Aqueous					
13M07478.D	2000 PPB	09/08/17 14:00	Aqueous					
13M07481.D	CAL @ 250 PPB	09/08/17 15:01	Aqueous	13M0748	9.4809	0.1837		
13M07482.D	CAL @ 500 PPB	09/08/17 15:21	Aqueous	13M0748	9.4759	0.1309		
13M07483.D	CAL @ 750 PPB	09/08/17 15:42	Aqueous	13M0748	9.4777	0.1499		
13M07484.D	CAL @ 1000 PPB	09/08/17 16:02	Aqueous	13M0748	9.4757	0.1288		
13M07485.D	CAL @ 1500 PPB	09/08/17 16:22	Aqueous	13M0748	9.4735	0.1056		
13M07486.D	CAL @ 2000 PPB	09/08/17 16:42	Aqueous	13M0748	9.4704	0.0729		
13M07487.D	CAL @ 4000 PPB	09/08/17 17:02	Aqueous	13M0748	9.4635	0		
13M07491.D	ICV	09/08/17 18:21	Aqueous	13M0748	9.4618	0.018		

Drift Compound: 1,4-Dichloroben Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - 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
13M07839.D	BLK	10/02/17 09:30	Aqueous	13M0785	9.5162	0.1872		
13M07840.D	BLK	10/02/17 09:49	Aqueous	13M0785	9.5099	0.121		
13M07841.D	CAL @ 2000 PPB	10/02/17 10:10	Aqueous	13M0784	9.5218	0		
13M07842.D	BLK	10/02/17 10:49	Methanol	13M0784	9.5354	0.1427		
13M07843.D	DAILY BLANK	10/02/17 11:06	Methanol	13M0784	9.5032	0.1955		
13M07844.D	MBS64320	10/02/17 11:32	Methanol	13M0784	9.5331	0.1186		
13M07845.D	AD00290-004(MS)	10/02/17 11:52	Methanol	13M0784	9.5213	0.0052		
13M07846.D	AD00290-004(MSD)	10/02/17 12:12	Methanol	13M0784	9.5229	0.0115		
13M07847.D	BLK	10/02/17 12:30	Methanol	13M0784	9.5221	0.0032		
13M07848.D	AD00331-002	10/02/17 12:49	Methanol	13M0784	9.5224	0.0063		
13M07849.D	AD00331-004	10/02/17 13:08	Methanol	13M0784	9.5151	0.0704		
13M07850.D	BLK	10/02/17 13:27	Methanol	13M0784	9.5194	0.0252		
13M07851.D	CAL @ 2000 PPB	10/02/17 13:48	Aqueous	13M0784	9.4984	0.2461		
13M07853.D	BLK	10/02/17 14:25	Aqueous	13M0785	9.4892	0.0969		

Drift Compound: 1,4-Dichloroben Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - 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
13M07855.D	BLK	10/03/17 09:22	Aqueous	13M0787	9.5290	0.2353		
13M07856.D	BLK	10/03/17 09:40	Aqueous	13M0787	9.5083	0.0179		
13M07857.D	CAL @ 2000 PPB	10/03/17 10:02	Aqueous	13M0785	9.5216	0		
13M07858.D	BLK	10/03/17 10:22	Methanol	13M0785	9.4814	0.4231		
13M07859.D	DAILY BLANK	10/03/17 10:43	Methanol	13M0785	9.4823	0.4136		
13M07860.D	MBS64331	10/03/17 11:03	Methanol	13M0785	9.4763	0.4769		
13M07861.D	AD00331-002(MS)	10/03/17 11:23	Methanol	13M0785	9.4854	0.3809		
13M07862.D	AD00331-002(MSD)	10/03/17 11:43	Methanol	13M0785	9.4875	0.3588		
13M07863.D	BLK	10/03/17 12:03	Methanol	13M0785	9.4838	0.3978		
13M07864.D	AD00362-002	10/03/17 12:22	Methanol	13M0785	9.4864	0.3704		
13M07865.D	AD00362-004	10/03/17 12:41	Methanol	13M0785	9.4941	0.2892		
13M07866.D	AD00362-006	10/03/17 13:01	Methanol	13M0785	9.4915	0.3166		
13M07867.D	AD00362-008	10/03/17 13:21	Methanol	13M0785	9.4955	0.2745		
13M07868.D	AD00362-010	10/03/17 13:40	Methanol	13M0785	9.5032	0.1934		
13M07869.D	BLK	10/03/17 14:00	Methanol	13M0785	9.5044	0.1808		
13M07870.D	CAL @ 2000 PPB	10/03/17 14:19	Aqueous	13M0785	9.5066	0.1577		
13M07872.D	BLK	10/03/17 14:56	Aqueous	13M0787	9.5004	0.0652		

Drift Compound: 1,4-Dichloroben Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - 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
13M07902.D	BLK	10/09/17 18:58	Methanol	13M0792	9.4978	0.1578		
13M07903.D	CAL @ 250 PPB	10/09/17 19:18	Aqueous	13M0790	9.4994	0.0968		
13M07904.D	CAL @ 500 PPB	10/09/17 19:39	Aqueous	13M0790	9.4945	0.1484		
13M07905.D	CAL @ 750 PPB	10/09/17 19:59	Aqueous	13M0790	9.4948	0.1452		
13M07906.D	CAL @ 1000 PPB	10/09/17 20:18	Aqueous	13M0790	9.4903	0.1926		
13M07907.D	CAL @ 1500 PPB	10/09/17 20:38	Aqueous	13M0790	9.4960	0.1326		
13M07908.D	CAL @ 2000 PPB	10/09/17 20:58	Aqueous	13M0790	9.4962	0.1305		
13M07909.D	CAL @ 4000 PPB	10/09/17 21:18	Aqueous	13M0790	9.5086	0		
13M07911.D	ICV	10/09/17 21:58	Aqueous	13M0790	9.4863	0.2348		
13M07913.D	DAILY BLANK	10/09/17 22:37	Methanol	13M0790	9.4886	0.2106		
13M07914.D	MBS64379	10/09/17 22:56	Methanol	13M0790	9.4853	0.2453		
13M07915.D	AD00362-004(MS)	10/09/17 23:16	Methanol	13M0790	9.4794	0.3076		
13M07916.D	AD00362-004(MSD)	10/09/17 23:37	Methanol	13M0790	9.4858	0.2401		
13M07917.D	BLK	10/09/17 23:57	Methanol	13M0790	9.4854	0.2443		
13M07918.D	AD00453-012	10/10/17 00:17	Methanol	13M0790	9.4999	0.0915		
13M07919.D	AD00406-001	10/10/17 00:34	Methanol	13M0790	9.4935	0.1589		
13M07920.D	AD00418-006	10/10/17 00:54	Methanol	13M0790	9.4877	0.22		
13M07921.D	AD00418-004	10/10/17 01:15	Methanol	13M0790	9.4848	0.2506		
13M07922.D	AD00418-002	10/10/17 01:33	Methanol	13M0790	9.4875	0.2222		
13M07923.D	CAL @ 2000 PPB	10/10/17 06:56	Aqueous	13M0790	9.5128	0.0442		

Drift Compound: 1,4-Dichloroben Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

7100429 0229

Method: EPA 8015D

Form 6
Initial Calibration

Instrument: GC_13

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	13M07487.	CAL @ 4000 PPB	09/08/17 17:02	2	13M07486.	CAL @ 2000 PPB	09/08/17 16:42
3	13M07485.	CAL @ 1500 PPB	09/08/17 16:22	4	13M07484.	CAL @ 1000 PPB	09/08/17 16:02
5	13M07483.	CAL @ 750 PPB	09/08/17 15:42	6	13M07482.	CAL @ 500 PPB	09/08/17 15:21
7	13M07481.	CAL @ 250 PPB	09/08/17 15:01				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
1,4-Dichlorobenzene-d4	1	0	Avg	0.1044	0.0810	0.0762	0.0693	0.0709	0.0628	0.0620	---	0.0753	9.46	-1	-1	19	30.00	30.00	30.00	30.00	30.00	30.00	30.00	
2-Methylpentane	1	0	Avg	0.0007	0.0007	0.0006	0.0004	0.0005	0.0006	0.0005	---	0.000620	5.46	0.987	0.987	16	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
1,2,4-Trimethylbenzene	1	0	Avg	0.0018	0.0019	0.0018	0.0018	0.0021	0.0023	0.0028	---	0.00209	9.27	0.998	0.998	18	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
Gasoline Range Organics	1	0	Qua	0.0809	0.0783	0.0798	0.0779	0.0901	0.1066	0.1556	---	0.0956	7.75	0.995	0.999	30	4000.	2000.	1500.	1000.	750.0	500.0	250.0	

Avg Rsd Col 1: 41.4 Avg Rsd Col 2: -1

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. pcb/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

HAZ - 337

7100429 0230

Method: EPA 8015D

Form 6
Initial Calibration

Instrument: GC_13

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	13M07909.	CAL @ 4000 PPB	10/09/17 21:18	2	13M07908.	CAL @ 2000 PPB	10/09/17 20:58
3	13M07907.	CAL @ 1500 PPB	10/09/17 20:38	4	13M07906.	CAL @ 1000 PPB	10/09/17 20:18
5	13M07905.	CAL @ 750 PPB	10/09/17 19:59	6	13M07904.	CAL @ 500 PPB	10/09/17 19:39
7	13M07903.	CAL @ 250 PPB	10/09/17 19:18				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
1,4-Dichlorobenzene-d4	1	0	Avg	---	0.0779	0.0718	0.0654	0.0630	0.0596	0.0576	----	0.0659	9.51	-1	-1	12		30.00	30.00	30.00	30.00	30.00	30.00	
2-Methylpentane	1	0	Avg	0.0002	0.0002	0.0002	0.0003	0.0003	0.0002	0.0001	----	0.000270	5.48	0.992	0.992	16	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
1,2,4-Trimethylbenzene	1	0	Avg	0.0016	0.0016	0.0016	0.0015	0.0016	0.0016	0.0017	----	0.00164	9.31	1.00	1.00	3.0	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
Gasoline Range Organics	1	0	Avg	0.0577	0.0571	0.0582	0.0612	0.0654	0.0716	0.0899	----	0.0659	7.77	0.999	1.00	18	4000.	2000.	1500.	1000.	750.0	500.0	250.0	

Avg Rsd Col 1: 24.3 Avg Rsd Col 2: -1

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. pch/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

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Form7
Continuing Calibration

Method: EPA 8015D

Data File:				13M07841.D			13M07851.D			13M07857.D			13M07870.D			13M07923.D	
Method:				8015			8015			8015			8015			8015	
Calibration Name:				CAL @ 2000 PPB			CAL @ 2000 PPB			CAL @ 2000 PPB			CAL @ 2000 PPB			CAL @ 2000 PPB	
Calibration Date/Time				10/02/17 10:10			10/02/17 13:48			10/03/17 10:02			10/03/17 14:19			10/10/17 06:56	
Compound	Limit	Col	Mr	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff
Gasoline Range Orga	20	1	0	1618	2000	19.1	1801	2000	10.0	1624	2000	18.8	1744	2000	12.8	1877	2000	6.1

Flags/Notes: **** - Values outside of limits for this column/run***

TCLP Metal Data

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD00418-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB01 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/5/2017	Contract:		Case No:	
Level:	LOW						

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	10/09/17	62664	T21560A2	24	P	PEICP2A
7440-39-3	Barium	0.25	0.60	1	50	50	10/09/17	62664	T21560A2	24	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/09/17	62664	T21560A2	24	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/09/17	62664	T21560A2	24	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/09/17	62664	T21560A2	24	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/09/17	62664	H21560T	18	CV	HGCV1A
7440-02-0	Nickel	0.10	0.31	1	50	50	10/09/17	62664	T21560A2	24	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/09/17	62664	T21560A2	24	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/09/17	62664	T21560A2	24	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:	AD00418-004	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB06 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/5/2017	Contract:		Case No:	
Level:	LOW						

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	100	100	10/09/17	62664	T21560A2	15	P	PEICP2A
7440-39-3	Barium	0.25	0.78	1	100	100	10/09/17	62664	T21560A2	15	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	100	100	10/09/17	62664	T21560A2	15	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	100	100	10/09/17	62664	T21560A2	15	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	100	100	10/09/17	62664	T21560A2	15	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/09/17	62664	H21560T	14	CV	HGCV1A
7440-02-0	Nickel	0.10	0.79	1	100	100	10/09/17	62664	T21560A2	15	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	100	100	10/09/17	62664	T21560A2	15	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	100	100	10/09/17	62664	T21560A2	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:	AD00418-006	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB10 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/5/2017	Contract:		Case No:	
Level:	LOW						

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	10/09/17	62664	T21560A2	25	P	PEICP2A
7440-39-3	Barium	0.25	0.37	1	50	50	10/09/17	62664	T21560A2	25	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/09/17	62664	T21560A2	25	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/09/17	62664	T21560A2	25	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/09/17	62664	T21560A2	25	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/09/17	62664	H21560T	19	CV	HGCV1A
7440-02-0	Nickel	0.10	0.26	1	50	50	10/09/17	62664	T21560A2	25	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/09/17	62664	T21560A2	25	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/09/17	62664	T21560A2	25	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 62664 (1) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 62664 (1) Units: MG/L Lab Code:
Matrix: TCLP
Level: LOW

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	10/09/17	62664	T21560A2	12	P	PEICP2A
7440-39-3	Barium	0.25	ND	1	50	50	10/09/17	62664	T21560A2	12	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/09/17	62664	T21560A2	12	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/09/17	62664	T21560A2	12	P	PEICP2A
7440-50-8	Copper	0.10	ND	1	50	50	10/09/17	62664	T21560A2	12	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/09/17	62664	T21560A2	12	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/09/17	62664	H21560T	11	CV	HGCV1A
7440-02-0	Nickel	0.10	ND	1	50	50	10/09/17	62664	T21560A2	12	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/09/17	62664	T21560A2	12	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/09/17	62664	T21560A2	12	P	PEICP2A
7440-66-6	Zinc	0.10	ND	1	50	50	10/09/17	62664	T21560A2	12	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

FORM 2
(ICV/CCV Summary)

Date Analyzed: 10/09/17
Data File: T21560A2
Prep Batch: 62664
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: 7100429

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

Analyte	ICV/CCV Amt	ICV V-263834-7	Rec	CCV V-263834-20	Rec	CCV V-263834-32	Rec	CCV V-263834-44	Rec		Rec		Rec		Rec		Rec
Arsenic	.5/.5	0.50161	100	0.50049	100	0.50139	100	0.50556	101								
Barium	.5/.5	0.50277	101	0.49616	99	0.50041	100	0.49924	100								
Cadmium	.5/.5	0.49563	99	0.49293	99	0.49735	99	0.49883	100								
Chromium	.5/.5	0.50884	102	0.50449	101	0.51074	102	0.51122	102								
Lead	.5/.5	0.50824	102	0.50113	100	0.50666	101	0.51252	103								
Nickel	.5/.5	0.50402	101	0.50248	100	0.50770	102	0.51038	102								
Selenium	.5/.5	0.50755	102	0.50322	101	0.50979	102	0.50964	102								
Silver	0.1/0.1	0.10066	101	0.10286	103	0.10372	104	0.10344	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: 10/09/17
Data File: T21560A2
Prep Batch: 62664
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: 7100429

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SPEX

Analyte	LLICV/ LLCCV Amt	LLICV [leach] V-260724-	Rec	LLCCV [leach] V-260724-21	Rec	LLCCV [leach] V-260724-33	Rec	LLCCV [leach] V-260724-45	Rec		Rec		Rec		Rec		Rec
Arsenic	0.1/0.1	0.102315	102	0.103727	104	0.103205	103	0.103526	104								
Barium	0.25/0.25	0.257876	103	0.258036	103	0.256061	102	0.258469	103								
Cadmium	0.05/0.05	0.0513642	103	0.0509180	102	0.0511295	102	0.0515063	103								
Chromium	0.1/0.1	0.105253	105	0.104832	105	0.104815	105	0.105682	106								
Lead	0.05/0.05	0.0488628	98	0.0471037	94	0.0467290	93	0.0470941	94								
Nickel	0.1/0.1	0.101992	102	0.101475	101	0.101535	102	0.102633	103								
Selenium	0.1/0.1	0.102887	103	0.105242	105	0.100887	101	0.103485	103								
Silver	0.05/0.05	0.0503047	101	0.0524744	105	0.0520439	104	0.0525939	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: 10/09/17
Data File: H21560T
Prep Batch: 62664
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: 7100429

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

Analyte	ICV/CCV Amt	ICV (2)-9	Rec	CCV-21	Rec	CCV-32	Rec		Rec		Rec		Rec		Rec		Rec
Mercury	20/10	19.51624	98	9.95929	100	9.49034	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: 10/09/17
Data File: T21560A2
Prep Batch: 62664
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: 7100429

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-261851-9	CCB-22	CCB-34	CCB-46	MB 62664 (1)-12	EF-V-264744-41
Arsenic	.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
Cadmium	.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
Lead	.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
Selenium	.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

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: 10/09/17
Data File: H21560T
Prep Batch: 62664
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: 7100429

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB-10	CCB-22	CCB-33	MB 62664 (1)-11	EF-V-264744-31
Mercury	.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 4
(ICSA/ICSAB Summary)

Date Analyzed: 10/09/17
Data File: T21560A2
Prep Batch: 62664
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: 7100429

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICSA/ICSAB: SOURCE: SCP Science

Analyte	Spk Amt	ICSA V-263927-10	Rec	ICSAB V-263293-11	Rec	ICSA V-263927-30	Rec	ICSAB V-263293-31	Rec	ICSA V-263927-42	Rec	ICSAB V-263293-43	Rec		Rec		Rec
Aluminum	500	489.58	98	492.18900	98	496.58	99	480.46700	96	496.159	99	486.86600	97				
Arsenic	1	U		0.98869	99	U		0.98602	99	U		0.99614	100				
Barium	.5	U		0.50069	100	U		0.50155	100	U		0.50444	101				
Cadmium	1	U		0.99712	100	U		0.99747	100	U		1.00205	100				
Calcium	500	493.693	99	496.79300	99	503.106	101	488.80100	98	504.852	101	495.90900	99				
Chromium	.5	U		0.50657	101	U		0.50824	102	U		0.50935	102				
Iron	200	195.19	98	197.24500	99	197.186	99	197.09600	99	202.097	101	198.45500	99				
Lead	1	U		0.96177	96	U		0.96880	97	U		0.97815	98				
Magnesium	500	513.996	103	518.33800	104	523.539	105	509.17200	102	526.254	105	518.00000	104				
Nickel	1	U		0.97158	97	U		0.97717	98	U		0.98548	99				
Selenium	1	U		1.05826	106	U		1.05254	105	U		1.07729	108				
Silver	1	U		1.07890	108	U		1.07668	108	U		1.08614	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: 62664

ument 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: TCLP SampleID: LCSW MR 62664

Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	62664	1	T21560A2	14	0.5135	0.5	103		80	120
Barium	62664	1	T21560A2	14	0.5138	0.5	103		80	120
Cadmium	62664	1	T21560A2	14	0.5052	0.5	101		80	120
Chromium	62664	1	T21560A2	14	0.5138	0.5	103		80	120
Lead	62664	1	T21560A2	14	0.5097	0.5	102		80	120
Mercury	62664	1	H21560T	13	9.1826	10	92		80	120
Nickel	62664	1	T21560A2	14	0.5150	0.5	103		80	120
Selenium	62664	1	T21560A2	14	0.5129	0.5	103		80	120
Silver	62664	1	T21560A2	14	0.1050	0.100	105		80	120

TxtQcType: LCS Matrix: TCLP SampleID: LCSW 62664

Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	62664	1	T21560A2	13	0.5128	0.5	103		80	120
Barium	62664	1	T21560A2	13	0.5089	0.5	102		80	120
Cadmium	62664	1	T21560A2	13	0.5022	0.5	100		80	120
Chromium	62664	1	T21560A2	13	0.5095	0.5	102		80	120
Lead	62664	1	T21560A2	13	0.5105	0.5	102		80	120
Mercury	62664	1	H21560T	12	9.1880	10	92		80	120
Nickel	62664	1	T21560A2	13	0.5115	0.5	102		80	120
Selenium	62664	1	T21560A2	13	0.5156	0.5	103		80	120
Silver	62664	1	T21560A2	13	0.1042	0.100	104		80	120

QcType: MS Matrix: TCLP SampleID: AD00418-004

Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	62664	1	T21560A2	17	T21560A2	15	0.5286	0.1U	0.5	106		50	
Barium	62664	1	T21560A2	17	T21560A2	15	1.3675	0.7812	0.5	117		50	
Cadmium	62664	1	T21560A2	17	T21560A2	15	0.5192	0.05U	0.5	104		50	
Chromium	62664	1	T21560A2	17	T21560A2	15	0.5461	0.1U	0.5	109		50	
Lead	62664	1	T21560A2	17	T21560A2	15	0.5689	0.05U	0.5	114		50	
Mercury	62664	1	H21560T	16	H21560T	14	9.3752	0.50U	10	94		50	
Nickel	62664	1	T21560A2	17	T21560A2	15	1.3781	0.7875	0.5	118		50	
Selenium	62664	1	T21560A2	17	T21560A2	15	0.5362	0.1U	0.5	107		50	
Silver	62664	1	T21560A2	17	T21560A2	15	0.1100	0.05U	0.10	110		50	

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: 62664

Instrument Type: ICP/HG
Analytical Method(s):6010/200.7/7470A/7471A/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: PS Matrix: TCLP SampleID: AD00418-004

Analyte	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	1	T21560A2	18	T21560A2	15	0.5218	0.1U	0.5	104		80	120
Barium	1	T21560A2	18	T21560A2	15	1.2920	0.7812	0.5	102		80	120
Cadmium	1	T21560A2	18	T21560A2	15	0.5138	0.05U	0.5	103		80	120
Chromium	1	T21560A2	18	T21560A2	15	0.5394	0.1U	0.5	108		80	120
Lead	1	T21560A2	18	T21560A2	15	0.5638	0.05U	0.5	113		80	120
Nickel	1	T21560A2	18	T21560A2	15	1.3084	0.7875	0.5	104		80	120
Selenium	1	T21560A2	18	T21560A2	15	0.5264	0.1U	0.5	105		80	120
Silver	1	T21560A2	18	T21560A2	15	0.0916	0.05U	0.1	92		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: 62664

rument 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: TCLP SampleID: LCSW MR 62664

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	62664	T21560A2	14	T21560A2	13	0.5135	0.5128	.14	20
Barium	62664	T21560A2	14	T21560A2	13	0.5138	0.5089	.95	20
Cadmium	62664	T21560A2	14	T21560A2	13	0.5052	0.5022	.59	20
Chromium	62664	T21560A2	14	T21560A2	13	0.5138	0.5095	.84	20
Lead	62664	T21560A2	14	T21560A2	13	0.5097	0.5105	.16	20
Mercury	62664	H21560T	13	H21560T	12	9.1826	9.1880	.058	20
Nickel	62664	T21560A2	14	T21560A2	13	0.5150	0.5115	.68	20
Selenium	62664	T21560A2	14	T21560A2	13	0.5129	0.5156	.51	20
Silver	62664	T21560A2	14	T21560A2	13	0.1050	0.1042	.85	20

TxtQcType: MR Matrix: TCLP SampleID: AD00418-004

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	62664	T21560A2	16	T21560A2	15	0.1U	0.1U	---	20
Barium	62664	T21560A2	16	T21560A2	15	0.7827	0.7812	0.19	20
Cadmium	62664	T21560A2	16	T21560A2	15	0.05U	0.05U	---	20
Chromium	62664	T21560A2	16	T21560A2	15	0.1U	0.1U	---	20
Lead	62664	T21560A2	16	T21560A2	15	0.05U	0.05U	---	20
Mercury	62664	H21560T	15	H21560T	14	0.50U	0.50U	---	20
Nickel	62664	T21560A2	16	T21560A2	15	0.7868	0.7875	0.092	20
Selenium	62664	T21560A2	16	T21560A2	15	0.1U	0.1U	---	20
Silver	62664	T21560A2	16	T21560A2	15	0.05U	0.05U	---	20

QcType: SD Matrix: TCLP SampleID: AD00418-004

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff		Limit
Arsenic	62664	T21560A2	19	T21560A2	15	5	0.0001	0.0057	---		10
Barium	62664	T21560A2	19	T21560A2	15	5	0.1520	0.7812	2.7		10
Cadmium	62664	T21560A2	19	T21560A2	15	5	0.0001	0.0013	---		10
Chromium	62664	T21560A2	19	T21560A2	15	5	0.0059	0.0238	24	a	10
Lead	62664	T21560A2	19	T21560A2	15	5	0.0058	0.0474	38	c	10
Nickel	62664	T21560A2	19	T21560A2	15	5	0.1518	0.7875	3.6		10
Selenium	62664	T21560A2	19	T21560A2	15	5	-0.0084	-0.0020	---		10
Silver	62664	T21560A2	19	T21560A2	15	5	0.0040	0.0048	317	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

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 3010A 3005A 3050B 200.7/200.8 OTHER _____

Batch No.: 21560 Analyst: [signature]

QC Number: 62664 Prep Date: 10/9/17

Matrix: TCLP Reviewed By: [signature]

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	50ml	50ml				--	Balance used: —
LCS						--	Pipettes used: 149
LCSD						--	
1. BC00418-004					V264744	00418-004	Hot Block used: 1
MR 00418-004							
MS 00418-004							
MSD							
2. 00406-003	50ml	50ml			V264744	00418-004	
3. 00418-002							
4. -006							
5. 00314-009							
6. 00431-001							
7. -002							
8. -003							
9. -004							
10. -005							
11. -006							
12. -007							
13. 00439-001						Filtered	
14. -002						Filtered	
15. V-264744							
16.							
17.							
18.							
19.							
20.							

Hot Plate Temperature: 93.7 C (90-95° C) Start Time: 8:00 End Time: 13:00

	Volume mL	Lot #
LCS, LCSD	0.25ml	V-11062, 11063
LLLCS, LLLCSD		V-
MS, MSD	0.25ml	V-11062, 11063
LLMS, LLMSD		V-

Acid	Vol mL	Lot#
HNO_3	3.0ml	V-11137
HCl		V-
H_2O_2		V-

Acid	Vol mL	Lot#
1:1 HNO_3		V-
1:1 HCl	5.0ml	V-262677

Relinquished By [signature] Date 10/9/17

Received By [signature] Date _____

T:\QC\FORMS\LOGBOOK FORMS\METALS\ICP sample prep log 2016 DOD.DOC

HG SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 245.1 (7470A) 7471B OTHER_____

Batch No.:* 21560

QC Number: 62664

Matrix: TCLP

Analyst: [illegible]

Prep Date: 10/9/14

Review By: [illegible]

LAB ID#	MERCURY INITIAL	MERCURY FINAL	COMMENTS	STANDARDS
Method blank	25ml	25ml		CAL CURVE BLK 0ppb V- 264892
LCS				
LCSD				STD 0.2 ppb V- 264893
MS 00418-004				STD 0.5 ppb V- 264894
MSD 00418-004				STD 1.0 ppb V- 264895
D 00418-004				STD 2.0 ppb V- 264896
				STD 5.0 ppb V- 264897
00406-003	25ml	2ml		STD 10.0 ppb V- 264898
00418-002				STD 25.0 ppb V- 264899
-006				ICV 10.0 ppb V- 264890
00314-009				CCV 20.0 ppb V- 264891
00431-001				
-002				
-003				Balance used: N/A
-004				Pipettes used: 132, 135, 150, 121
-005				
-006				Hot Block used: 7
-007				
00239-001				
-002				
V-264744				

Lot Numbers	Acid	Volume (mL)		Lot #
$KMnO_4$: V- 264407	HNO_3	0.625ml		V- 11137
$K_2S_2O_8$: V- 264408	HCl			V-
NH_2OH: V- 264409	H_2SO_4	1.25ml		V- 11059
	Aqua Regia			V-

**Block Temp.: °C 93.3

Time in Block: 9:00

Time Out of Block: 11:00

Spike Volume & Lot #

☐ LCS V- 264889 0.15ml/0.25 ml

☐ MS V- 264889 0/250 ml

☐ Standards/Control Batch B- 23811

Start time: 8:00 End Time: 11:40

**Temperature: 245.1 / 7470A: 90-95C; 7471B: 92-98C

Relinquished By: [illegible]

*25 mL.s 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 Veriprog using the standard batch number and the corresponding V #s.

HG PREP 2016

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP2A\T21560A2.txt

Analysis Date: 10/09/17 **Instrument:** PEICP2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-261851	1	CAL	15:21	1							V-261851(ICB/CCB)
CALST1 V-263294	1	CAL	15:24	2							V-263294(ICS1 Lowest std)
CALST2 V-263538	1	CAL	15:27	3							V-263538(ICS2- Low Std)
CALST3 V-263925	1	CAL	15:30	4							V-263925(ICS3 - Middle Std)
CALST4 V-263540	1	CAL	15:35	5							V-263540(ICS4 High std)
ICS3 V-263925	1	ICS	15:40	6							V-263925(ICS3 - Middle Std)
ICV V-263834	1	ICV	15:45	7							V-263834(CCV)
LLICV [leach] V-260724	1	LLICV	15:50	8	METALS-TCLP	TCLP	TCLP	SW846	62664		V-260724(LLICV/CCV leachate)
ICB V-261851	1	ICB	15:53	9							V-261851(ICB/CCB)
ICSA V-263927	1	ICSA	15:57	10							V-263927(ICSA)
ICSAB V-263293	1	ICSAB	16:02	11							V-263293(ICSAB)
MB 62664 (1)	1	MB	16:07	12	METALS-TCLP	TCLP	TCLP	SW846	62664		0
LCSW 62664	1	LCS	16:11	13	METALS-TCLP	TCLP	TCLP	SW846	62664		0
LCSW MR 62664	1	LCS	16:15	14	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-004	1	SMP	16:20	15	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-004	1	MR	16:24	16	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-004	1	MS	16:28	17	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-004	1	PS	16:33	18	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-004	5	SD	16:38	19	METALS-TCLP	TCLP	TCLP	SW846	62664		0
CCV V-263834	1	CCV	16:42	20							V-263834(CCV)
LLCCV [leach] V-260724	1	LLCCV	16:47	21	METALS-TCLP	TCLP	TCLP	SW846	62664		V-260724(LLICV/CCV leachate)
CCB	1	CCB	16:50	22							0
AD00406-003	1	SMP	16:53	23	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-002	1	SMP	16:57	24	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-006	1	SMP	17:01	25	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00314-009	1	SMP	17:04	26	PB-TCLP	TCLP	TCLP	SW846	62664		0
AD00431-001	1	SMP	17:08	27	METALS-TCLP	TCLP	TCLP	SW846	62664	Pb,Se,Ba NOT REPORTED (Ca saturation)	0
AD00431-002	1	SMP	17:13	28	METALS-TCLP	TCLP	TCLP	SW846	62664	Pb,Se,Ba NOT REPORTED (Ca saturation)	0
AD00431-003	1	SMP	17:16	29	METALS-TCLP	TCLP	TCLP	SW846	62664	Pb,Se,Ba NOT REPORTED (Ca saturation)	0
ICSA V-263927	1	ICSA	17:19	30							V-263927(ICSA)
ICSAB V-263293	1	ICSAB	17:25	31							V-263293(ICSAB)
CCV V-263834	1	CCV	17:30	32							V-263834(CCV)
LLCCV [leach] V-260724	1	LLCCV	17:35	33	METALS-TCLP	TCLP	TCLP	SW846	62664		V-260724(LLICV/CCV leachate)
CCB	1	CCB	17:38	34							0
AD00431-004	1	SMP	17:41	35	METALS-TCLP	TCLP	TCLP	SW846	62664	Pb,Se,Ba NOT REPORTED (Ca saturation)	0
AD00431-005	1	SMP	17:46	36	METALS-TCLP	TCLP	TCLP	SW846	62664	Pb,Se,Ba NOT REPORTED (Ca saturation)	0
AD00431-006	1	SMP	17:50	37	METALS-TCLP	TCLP	TCLP	SW846	62664	Pb,Se,Ba NOT REPORTED (Ca saturation)	0
AD00431-007	1	SMP	17:53	38	METALS-TCLP	TCLP	TCLP	SW846	62664	Pb,Se,Ba NOT REPORTED (Ca saturation)	0
AD00439-001	1	SMP	17:56	39	METALS-TCLP	TCLP	TCLP	SW846	62664		0
AD00439-002	1	SMP	18:00	40	METALS-TCLP	TCLP	TCLP	SW846	62664		0
EF-V-264744	1	EF	18:03	41	METALS-TCLP	TCLP	TCLP	SW846	62664		V-264744(EF-2 WARNING)
ICSA V-263927	1	ICSA	18:06	42							V-263927(ICSA)
ICSAB V-263293	1	ICSAB	18:12	43							V-263293(ICSAB)
CCV V-263834	1	CCV	18:17	44							V-263834(CCV)
LLCCV [leach] V-260724	1	LLCCV	18:22	45	METALS-TCLP	TCLP	TCLP	SW846	62664		V-260724(LLICV/CCV leachate)
CCB	1	CCB	18:25	46							0
RINSE	1	SMP	18:29	47		TCLP	TCLP	SW846	62664		0

Comments/Reviewedby:

carmela
192.168.1.70 10/10/2017 12:26:18 PM

OK.
AD00431-001-007 Pb, Se, Ba NOT REPORTED (Ca saturation)

10/10/17

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\HGCV1A\H21560T.txt

Analysis Date: 10/09/17 **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	17:03	1							0
.2 PPB	1	CAL	17:04	2							0
.5 PPB	1	CAL	17:05	3							0
1 PPB	1	CAL	17:07	4							0
2 PPB	1	CAL	17:08	5							0
5 PPB	1	CAL	17:09	6							0
10 PPB	1	CAL	17:11	7							0
25 PPB	1	CAL	17:13	8							0
ICV (2)	1	ICV	17:15	9							0
ICB	1	ICB	17:17	10							0
MB 62664 (1)	1	MB	17:18	11		TCLP	TCLP	SW846	62664		0
LCSW 62664	1	LCS	17:20	12		TCLP	TCLP	SW846	62664		0
LCSW MR 62664	1	LCS	17:22	13		TCLP	TCLP	SW846	62664		0
AD00418-004	1	SMP	17:24	14	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-004	1	MR	17:25	15	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-004	1	MS	17:26	16	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00406-003	1	SMP	17:28	17	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-002	1	SMP	17:30	18	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00418-006	1	SMP	17:31	19	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00431-001	1	SMP	17:33	20	HG-TCLP	TCLP	TCLP	SW846	62664		0
CCV	1	CCV	17:34	21							0
CCB	1	CCB	17:36	22							0
AD00431-002	1	SMP	17:37	23	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00431-003	1	SMP	17:39	24	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00431-004	1	SMP	17:40	25	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00431-005	1	SMP	17:41	26	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00431-006	1	SMP	17:43	27	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00431-007	1	SMP	17:44	28	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00439-001	1	SMP	17:46	29	HG-TCLP	TCLP	TCLP	SW846	62664		0
AD00439-002	1	SMP	17:47	30	HG-TCLP	TCLP	TCLP	SW846	62664		0
EF-V-264744	1	EF	17:48	31		TCLP	TCLP	SW846	62664		V-264744(EF-2 WARNING)
CCV	1	CCV	17:50	32							0
CCB	1	CCB	17:52	33							0

Comments/Reviewedby:

emi
192.168.1.25 10/9/2017 6:14:30 PM

RUN IS OK

10/11/17

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-264947

Wet Chemistry Data

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD00418-002
Matrix Soil
Client SampleID: SB01 COMP

Project Number: 7100429
Received Date: 10/4/2017
Collect Date: 10/3/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/05/17	10/05/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/06/17	10/06/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/06/17	10/06/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/06/17	10/06/17
Paint Filter Test	PAINT FILTER	1	NEG				10/06/17
pH	PH-SOIL	1	8.1	pH			10/06/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/05/17	10/05/17

Lab#: AD00418-004
Matrix Soil
Client SampleID: SB06 COMP

Project Number: 7100429
Received Date: 10/4/2017
Collect Date: 10/3/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/05/17	10/05/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/06/17	10/06/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/06/17	10/06/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/06/17	10/06/17
Paint Filter Test	PAINT FILTER	1	NEG				10/06/17
pH	PH-SOIL	1	8.2	pH			10/06/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/05/17	10/05/17

Lab#: AD00418-006
Matrix Soil
Client SampleID: SB10 COMP

Project Number: 7100429
Received Date: 10/4/2017
Collect Date: 10/4/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/05/17	10/05/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/06/17	10/06/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/06/17	10/06/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/06/17	10/06/17
Paint Filter Test	PAINT FILTER	1	NEG				10/06/17
pH	PH-SOIL	1	8.3	pH			10/06/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/05/17	10/05/17

VERITECH Wet Chem Form1 Analysis Summary
% Solids

TestGroupName: % Solids SM2540G **Project #:7100429**

TestGroup: %SOLIDS

Lab#	Client SampleID	Matrix	Dilution:	Result	Units:	RL	Prep Date	Analysis Date	Received Date	Collect Date
AD00418-001	SB01 GRAB	Soil	1	71	Percent			10/05/17	10/04/17	10/03/17
AD00418-002	SB01 COMP	Soil	1	90	Percent			10/05/17	10/04/17	10/03/17
AD00418-003	SB06 GRAB	Soil	1	92	Percent			10/05/17	10/04/17	10/03/17
AD00418-004	SB06 COMP	Soil	1	89	Percent			10/05/17	10/04/17	10/03/17
AD00418-005	SB10 GRAB	Soil	1	87	Percent			10/05/17	10/04/17	10/04/17
AD00418-006	SB10 COMP	Soil	1	90	Percent			10/05/17	10/04/17	10/04/17

% Solids Report

Analysis Type: SOLIDS-SS
BatchID: SOLIDS-SS-7172

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AD00411-001	91	91.40165	Percent	1.40	9.89	9.16	10/05/17	jessica	0.029	5
Sample	AD00404-005	70	69.62963	Percent	1.36	13.51	9.82	10/05/17	jessica		
Sample	AD00404-006	72	71.94861	Percent	1.36	15.37	11.43	10/05/17	jessica		
Sample	AD00404-008	84	83.68726	Percent	1.36	11.72	10.03	10/05/17	jessica		
Sample	AD00404-011	84	83.99378	Percent	1.35	14.22	12.16	10/05/17	jessica		
Sample	AD00404-012	77	77.32997	Percent	1.35	13.26	10.56	10/05/17	jessica		
Sample	AD00404-013	86	85.57484	Percent	1.40	10.62	9.29	10/05/17	jessica		
Sample	AD00404-015	43	42.93420	Percent	1.36	10.63	5.34	10/05/17	jessica		
Sample	AD00406-003	77	77.20488	Percent	1.37	8.74	7.05	10/05/17	jessica		
Sample	AD00411-001	91	91.42857	Percent	1.36	10.46	9.68	10/05/17	jessica		
Sample	AD00411-002	92	92.35612	Percent	1.41	12.53	11.68	10/05/17	jessica		
Sample	AD00411-003	90	90.38985	Percent	1.40	12.43	11.37	10/05/17	jessica		
Sample	AD00411-004	91	90.87838	Percent	1.36	10.24	9.43	10/05/17	jessica		
Sample	AD00411-005	91	91.18590	Percent	1.37	13.85	12.74	10/05/17	jessica		
Sample	AD00411-006	89	89.11704	Percent	1.36	11.10	10.04	10/05/17	jessica		
Sample	AD00417-001	90	90.30132	Percent	1.37	11.99	10.96	10/05/17	jessica		
Sample	AD00417-002	90	90.33457	Percent	1.38	12.14	11.09	10/05/17	jessica		
Sample	AD00418-002	90	90.38143	Percent	1.37	13.43	12.27	10/05/17	jessica		
Sample	AD00418-004	89	89.13858	Percent	1.38	12.06	10.90	10/05/17	jessica		
Sample	AD00418-006	90	90.24652	Percent	1.37	10.70	9.79	10/05/17	jessica		
Sample	AD00426-004	89	89.49653	Percent	1.37	12.89	11.68	10/05/17	jessica		

* - Indicates Failed Rpd Criteria

% Solids Report

Analysis Type: SOLIDS-SS
BatchID: SOLIDS-SS-7173

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AD00415-001	89	88.96473	Percent	1.38	10.17	9.20	10/05/17	jessica	0.19	5
Sample	AD00415-001	89	88.79668	Percent	1.35	10.99	9.91	10/05/17	jessica		
Sample	AD00415-002	91	90.74599	Percent	1.39	11.98	11.01	10/05/17	jessica		
Sample	AD00415-003	81	80.74141	Percent	1.41	12.47	10.34	10/05/17	jessica		
Sample	AD00415-004	87	87.40672	Percent	1.41	12.13	10.78	10/05/17	jessica		
Sample	AD00415-005	79	79.15129	Percent	1.40	12.24	9.99	10/05/17	jessica		
Sample	AD00415-006	86	85.71429	Percent	1.39	14.48	12.61	10/05/17	jessica		
Sample	AD00416-001	88	87.90323	Percent	1.39	12.55	11.20	10/05/17	jessica		
Sample	AD00416-002	91	91.11111	Percent	1.39	10.84	10.00	10/05/17	jessica		
Sample	AD00416-003	94	93.56343	Percent	1.37	12.09	11.40	10/05/17	jessica		
Sample	AD00418-001	71	71.40020	Percent	1.40	11.47	8.59	10/05/17	jessica		
Sample	AD00418-003	92	91.81416	Percent	1.41	14.97	13.86	10/05/17	jessica		
Sample	AD00418-005	87	86.93234	Percent	1.38	12.17	10.77	10/05/17	jessica		
Sample	AD00425-001	76	75.77055	Percent	1.38	13.06	10.24	10/05/17	jessica		
Sample	AD00425-002	80	79.64722	Percent	1.41	16.15	13.15	10/05/17	jessica		
Sample	AD00425-003	77	77.02523	Percent	1.40	16.46	13.00	10/05/17	jessica		
Sample	AD00426-001	86	86.13767	Percent	1.39	11.85	10.40	10/05/17	jessica		
Sample	AD00426-002	85	85.16004	Percent	1.39	11.70	10.17	10/05/17	jessica		
Sample	AD00426-003	87	86.53295	Percent	1.38	11.85	10.44	10/05/17	jessica		
Sample	AD00427-001	87	86.83386	Percent	1.41	14.17	12.49	10/05/17	jessica		
Sample	AD00427-002	84	83.79097	Percent	1.36	12.65	10.83	10/05/17	jessica		

* - Indicates Failed Rpd Criteria

MS/MSD/DUP Recovery

Prep Batch: S-1092 Sample ID: AD00343-001
Method: SW846 7.3.3 Matrix: Soil

Qc Type: MS								MS/MSD/DUP			Non Spike		
Analyte	Amt	Limits Recov	Dil	MS Conc	Sample Conc	% Rec	Flag	Batch	RunID	Analysis Date	Batch	RunID	Analysis Date
Cyanide (Reactive)	0.4	75-125	1	0.4225	0	106		20171005123	13	10/05/17 12:58	20171005123	15	10/05/17 13:03

Qc Type: MSD									MS/MSD/DUP			Non Spike		
Analyte	Amt	Limits Recov	Rpd	Dil	MSD Conc	Sample Conc	% Rec	Rpd	Flag	Batch	RunID	Analysis Date	Batch	RunID	Analysis Date
Cyanide (Reactive)	0.4	75-125	20	1	0.4265	0	107	0.9		20171005123	14	10/05/17 13:01	20171005123	15	10/05/17 13:03

LCS Recoveries

			BatchRunID/RunID:===>	201710051230-12								
			QcBatchID:===>	LCSS-1092								
			Date/Time:===>	10/05/17 12:56								
			Analytical Method:===>	SW846 7.3.3								
			Matrix:===>	Soil		Soil		Soil		Soil		Soil
Analyte	SW846 7.3. Amt	Limits	Amt	Limits	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags
Cyanide (Rea	0.4	75-125			108									

Calibration Summary:

Instrument: DA1
Analysis Meth: SW846 7.3.3

Analyte	Batch ID	Run#	Qc Type	Recov	Spk Amt	Limit
Cyanide (Reactive)	20171005123	9	ICV	100	0.4	90-110
Cyanide (Reactive)	20171005123	21	CCV	104	0.4	90-110
Cyanide (Reactive)	20171005123	32	CCV	110	0.4	90-110

Blank Summary

Instrument: DA1

Qc Type: Method Blank Summary Prep Date: 10/5/17

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20171005123	10/5/17 12:54	MBS-1092	11	Cyanide (	ND	0.50

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20171005123	10/5/17 12:51	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
20171005123	10/5/17 13:19	CCB	22	Cyanide (	ND	0.020
20171005123	10/5/17 13:42	CCB	33	Cyanide (	ND	0.020

7100429 0259

Analysis Type: PAINT FILT

Batch Number: PAINT FILT-904

Units:

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00418-002	0	NA	NA	#Error	NA	NA	

Analytical Method(s)

EPA 9095B

Sam #	Type	MB	Result	RL	Per Sol	Full Results	Pos/Ne	Prep Date	Prep By	Anal Date	Anal By
AD00418-002	DUP				100	0	NEG			10/06/17	SDL
AD00418-002	Sample				100	0	NEG			10/06/17	SDL
AD00418-004	Sample				100	0	NEG			10/06/17	SDL
AD00418-006	Sample				100	0	NEG			10/06/17	SDL
AD00406-003	Sample				100	0	NEG			10/06/17	SDL

JW 10/9/17

SPK 10/9/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Analysis Type: PH-S

Batch Number: PH-S-1515

Units: pH

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00418-002	0	NA	20	8.1	NA	0.25	
LCS	LCS	4.4	75-125	NA	4.49	102	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		4.5		100	4.49	4.49			10/06/17	JMP
AD00418-002	DUP		8.1		100	8.1	8.10			10/06/17	JMP
AD00418-002	Sample		8.1		100	8.12	8.12			10/06/17	JMP
AD00418-004	Sample		8.2		100	8.15	8.15			10/06/17	JMP
AD00418-006	Sample		8.3		100	8.29	8.29			10/06/17	JMP
AD00414-003	Sample		11		100	10.67	10.67			10/06/17	JMP

Jmp
10/6/17

JW 10/6/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Analysis Type: RS

Batch Number: RS-1092

Units: mg/kg

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-10/05/17	16	90-110	NA	16.43075	103	NA	
LCS	LCS	400	75-125	NA	400.75	100	NA	
MS	AD00343-001	400	75-125	NA	400.75	100	NA	
MSD	AD00343-001	400	75-125	20	400.75	100	0	

Analytical Method(s)

SW846 7.3.4

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Titr Vol	Iod Vol	DF	Sam Wt (g)	Scrb Vol (ml)	Prep Date	Prep By	Anal Date	Anal By
CAL-01-10/05/17	CAL-01		16		100	16.431	5.9	10	1	250	250			10/05/17	JMP
MB-1-10/05/17	MB	MB-1-10/05/17	ND	100	100	20.038	9.8	10	1	10	250	10/05/17	JMP	10/05/17	JMP
LCS	LCS	MB-1-10/05/17	400	100	100	400.75	6.0	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00343-001	MS	MB-1-10/05/17	400	100	100	400.75	6.0	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00343-001	MSD	MB-1-10/05/17	400	100	100	400.75	6.0	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00343-001	Sample	MB-1-10/05/17	ND	100	100	20.038	9.8	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00344-001	Sample	MB-1-10/05/17	ND	100	100	10.019	9.9	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00362-002	Sample	MB-1-10/05/17	ND	100	91	0	10.0	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00362-004	Sample	MB-1-10/05/17	ND	100	81	0	10.0	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00362-006	Sample	MB-1-10/05/17	ND	100	85	10.019	9.9	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00362-008	Sample	MB-1-10/05/17	ND	100	80	10.019	9.9	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00362-010	Sample	MB-1-10/05/17	ND	100	85	20.038	9.8	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00374-002	Sample	MB-1-10/05/17	ND	100	94	10.019	9.9	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00376-001	Sample	MB-1-10/05/17	ND	100	89	20.038	9.8	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00406-003	Sample	MB-1-10/05/17	ND	100	77	0	10.0	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00414-001	Sample	MB-1-10/05/17	ND	100	100	10.019	9.9	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00414-003	Sample	MB-1-10/05/17	ND	100	84	0	10.0	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00418-002	Sample	MB-1-10/05/17	ND	100	90	20.038	9.8	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00418-004	Sample	MB-1-10/05/17	ND	100	89	30.056	9.7	10	1	10	250	10/05/17	JMP	10/05/17	JMP
AD00418-006	Sample	MB-1-10/05/17	ND	100	90	20.038	9.8	10	1	10	250	10/05/17	JMP	10/05/17	JMP

RM
10/6/17

JW
10/6/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL) Rp - RPD failed specified criteria.
Na - Not Applicable Nc - Not Checked ..either one or both values =ND

Miscellaneous Data

Hampton-Clarke, Inc.

LEACHATE PREPARATION LOG
(TCLP, SPLP)

Start Date: 10/5/17 TIME 16:34 Finish Date: 10/6/17

**TCLP Ext. Fluid #1 pH: 4.82 (criteria: 4.93 ± 0.5)
**TCLP Ext. Fluid #2 pH: 2.88 (criteria: 2.88 ± 0.05)
**SPLP Ext. Fluid #3 pH: 4.20 (criteria: 4.20 ± 0.5)

Sample #	pH (units)	pH in HCL (units)	Final pH (units)	Ext. Fluid (number)	Wt./Vol of Sample (g or mL)	Start Time	Finish Time	Filter Time	Analyst (s)	Ext. Type*	Comments
00265-004	—	—	8.74	SP4 264500	150g/3L	16:45	10:00	1:20	GR	P	Balance ID: D37 Metals & Org.
-005			8.32					1:45			pH Meter ID: B38/68
-010			8.86					11:10			
-013			8.39					2:10			
-001			8.71		100g/2L			2:10			Organics only
-002			8.68					11:05			Metals
-003			8.22					11:05			
-006			8.49					11:10			
-009			8.98					11:25			Organics only.
00256-002			9.01					11:45			
00267-003			9.56					12:00			
-008			9.48					12:00			
SPLP 264500	4.20	—	10.16		3L			10:50			Metals & Org.
06431-001	11.47	5.53	6.01	EF2 264744	150g/3L	19:30	1:30	4:40		T	
002	11.64	5.21	5.91					4:40			
003	11.19	5.62	5.78					4:50			
004	11.40	5.71	5.99					4:50			
005	11.23	6.02	5.70					5:05			
006	11.71	6.51	5.68					5:05			
007	10.99	5.68	5.53					5:25			
~~00406~~ EF2 264744	2.88		3.00		3L			10:20			
06406-003	11.82	7.63	5.92		150g/3L			12:15			
00418-002	10.92	6.59	6.03		100g/2L			3:00			Metals only
06418-004	10.41	6.21	5.47					3:00			

* Ext. Type: TCLP = T (Method 1311) LAMP=L (Methods 1311 / ANSI/NEMA C78.LL 1256-2003)
SPLP = P (Method 1312) MEP=M (Method 1320)
ZHE = Z (Method 1311/1312)

** The pH of the extraction fluid must be checked prior to use and must be within limits specified above

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Hampton-Clarke, Inc.

LEACHATE PREPARATION LOG
(TCLP, SPLP)

Start Date: 10/5/17 TIME 16:34 Finish Date: 10/6/17

**TCLP Ext. Fluid #1 pH: 4.99 (criteria: 4.93 ± 0.5)
**TCLP Ext. Fluid #2 pH: 2.81 (criteria: 2.88 ± 0.05)
**SPLP Ext. Fluid #3 pH: 4.20 (criteria: 4.20 ± 0.5)

Sample #	pH (units)	pH in HCL (units)	Final pH (units)	Ext. Fluid (number)	Wt./Vol of Sample (g or mL)	Start Time	Finish Time	Filter Time	Analyst (s)	Ext. Type*	Comments
00418-006	10.25	6.15	5.62	EF1 264744	100g/2L	19:30	11:30	2:45	GR	T	Balance ID: 037 Metals only.
00314-009	10.81	7.38	5.91					2:55			pH Meter ID: B38168
00443-001	8.29	1.72	5.06	EF1 264501		19:00	11:00	3:35			
00443-004	8.31	1.72	5.04					3:50			
00443-007	8.64	1.73	5.03					3:45			
-010	8.77	1.79	5.07					3:05			
-013	8.42	1.75	5.05					3:35			
-016	8.75	1.72	5.04					3:45			
-018	8.24	1.72	5.02					4:05			
-021	8.58	1.72	5.09					4:05			
-024	8.46	1.73	5.06					3:50			
EF1 264501	4.99	—	5.00	EF1 264501	2L			10:20			
00439-001	—	—	8.06	—	1000ml	—	—	20:20			Metals & Org.
00439-002	—	—	7.91	—	1000ml	—	—	20:20			
00301-001	—	—	9.54	SPLP 264500	100g/2L	16:45	10:00	1:35		P	Organics only.
-005	—	—	9.61					1:45			
-009	—	—	9.58					12:15			

* Ext. Type: TCLP = T (Method 1311) LAMP=L (Methods 1311 / ANSI/NEMA C78.LL 1256-2003)
SPLP = P (Method 1312) MEP=M (Method 1320)
ZHP = Z (Method 1311/1312)

** The pH of the extraction fluid must be checked prior to use and must be within limits specified above

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Hampton-Clarke
Analytical & Field Services

Last Page of Report

Hampton-Clarke
Analytical & Field Services

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Project: Bartow

Client PO: 2011040.320.00

Report To: Louis Berger & Associates
48 Wall Street
16th Floor
New York, NY 10005

Attn: Jonathan Ganz

Received Date: 10/4/2017

Report Date: 10/25/2017

Deliverables: NYDOH-CatA

Lab ID: AD00421

Lab Project No: 7100503

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) NY (ELAP11408) CT (PH-0671)
PA (68-00463) KY (90124)

7100503

Hampton-Clarke

Analytical & Field Services

THIS CATEGORY "A" REPORT
IS NUMBERED FROM
1 to 43

(Subcontracted data is numbered as attached)

HC Case Narrative

Client: Louis Berger & Associates
Project: Bartow

HC Project: 7100503

Hampton-Clarke (HC) received the following sample on 10/4/17:

Client ID	HC Sample ID	Matrix	Analysis
B-2 (OW)	AD00421-001	Aqueous	Volatile Organics (624), Base Neutrals (625), PCB (608), Metals (200.7 & 200.8), Mercury (245.1 rev3.0), CBOD (5210 B-01), Chloride & Nitrate & Nitrite (300.0 rev2.1), Cr Hexavalent (3500-Cr B), Flash Point (1010), SGT-HEM (1664B), pH (4500-H+B00), Total Solids (2540B-11), Total Suspended Solids (2540D-11), Total Kjeldahl Nitrogen (351)*

* - Indicates analysis was performed by a subcontracted laboratory.

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 MS/MSD RPD, Matrix Spike and/or Matrix Spike Duplicate for batch MBS64350 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

2-Chloroethylvinylether did not recover in the Matrix Spike and Matrix Spike Duplicate in batch MBS64350 due to acid preservation of sample. 2-Chloroethylvinylether readily decomposes under acidic conditions. The recovery of 2-Chloroethylvinylether is within QC limits in the Laboratory Control Sample. Please refer to the applicable Form 3 for the recoveries.

Base Neutral/Acid Extractable Analysis:

The MS/MSD RPD, Matrix Spike and/or Matrix Spike Duplicate for batch WMB63088 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

PCB Analysis:

Data conforms to method requirements.

Metals Analysis:

Data conforms to method requirements.

Wet Chemistry Analysis:

The MS Insoluble and MS Soluble for Hexavalent Chromium, batch 712, recovered outside the QC limits. The batch was reset and recoveries confirmed. The results from first analysis are reported.

Sample AD00421-001 was received and analyzed outside the 15 minute hold time for pH.

Subcontracted Analysis:

Please refer to attached subcontracted laboratory report. Samples AD00421-001 were submitted to SGS Accutest for TKN analysis.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Robin Cousineau
Quality Assurance Director

Or

Jean Revolus
Laboratory Director

10/25/2017
Date

7100503 0002

Hampton-Clarke, Inc. (WBE/DBE/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 Gaither Drive, Mount Laurel, New Jersey 08054
Ph (Service Center): 856-780-6057 Fax: 856-780-6056

Hampton-Clarke WBE/DBE/SBE 800-426-9992

CHAIN OF CUSTODY RECORD

A Women-Owned, Disadvantaged, Small Business Enterprise

NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Project# (Lab Use Only): 7100503

Customer Information

1a) Customer: Louis Berger
Address: 48 Wall Street, 16th Floor
New York, NY 10005
1b) Email/Cell/Fax/Ph: madonovan@louisberger.com
1c) Send Invoice to: jganz@louisberger.com
1d) Send Report to: both above

Project Information

2a) Project: Bartow
2b) Project Mgr: Jonathan Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 2011040.320.00

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Deliv.
When Available:	Data Summary	Hazsite/CSV
1 Business Day (100%) *	Results + QC (Waste)	EnviroData
2 Business Days (75%) *	NJ Reduced	Excel - NJ Regulatory
3 Business Days (50%) *	NY Reduced	Excel - NY Regulatory
4 Business Days (35%) *	PA Reduced	Excel - PA Regulatory
5 Business Days (25%)	Full / Category B	EQuIS (specify below):
10 Business Days (Stand.)	Category A	4-File/EZ/NYS/Reg. 2 or 5
Other:	Electronic (PDF)	Other:

* Expedited TAT Not Always Available. Please Check with Lab.

FOR LAB USE ONLY ↓

Batch # A1.00421

===> Check If Contingent ===>

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)

7) Analysis (specify methods & parameter lists)

<=== Check If Contingent <===

Lab Sample #	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Composite (C)	Grab (G)	NYCDEP Effluent Parameters	8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
001	B-2(OW)	GW	10/4/17	1322			X					1	1	1		

10) Relinquished by:	Accepted by:	Date	Time
[signature]	[signature]	10/4/17	1508
[signature]	[signature]	10/4/17	5:20

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)

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Cooler Temperature: 3.2

11) Sampler (print name): Martin Donovan Date: 10/4/17

Please note NUMBERED items. If not completed your analytical work may be [illegible]ed.
A fee of $5/sample will be assessed for storage should sample not be activated for any [illegible]

Additional Notes
*PCB RL <0.065µg/L
PLEASE NOTE - short hold on Cr+6

HAZ - 377

TABLE A

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	5-12	SUs	Instantaneous	---
Temperature	< 150	Degree F	Instantaneous	---
Flash Point	> 140	Degree F	Instantaneous	---
Cadmium	2 0.69	mg/l mg/l	Instantaneous 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
PCBs (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	---
Other				

1 All handling and preservation of collected samples and laboratory analyses of samples shall 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 shall 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 Non-Polar Material shall mean that portion of the oil and grease that is not eliminated from a solution containing N–Hexane, or any other extraction solvent the EPA shall prescribe, by silica gel absorption.

3 Analysis for PCBs is required if *both* conditions listed below are met:
1) if proposed discharge ≥ 10,000 gpd;
2) if duration of a discharge > 10 days.
Analysis for PCBs must be done by EPA method 608 with MDL=<65 ppt. PCBs (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 ≥ 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 ≥ 10,000 gpd. Total Nitrogen = Total Kjeldahl Nitrogen (TKN) + Nitrite (NO_2) + Nitrate (NO_3).

CONDITION UPON RECEIPT

Batch Number AD00421

Entered By: Ricardo
Date Entered 10/5/2017 10:37:00 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	NO	Are the COC seals intact?
4	T0054	<--- Thermometer ID. Please specify the Temperature inside the container (in degC). 3.2
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 AD00421

Entered By: Ricardo
Date Entered 10/5/2017 10:39:00 AM

Lab#:	Container Size	Container/Vial Check	Parameter	Preservative	Preservative Lot#	PH	pH Lot#
AD00421-001	40ML	G	VO	HCL	169353	1	HC693124
AD00421-001	1L	G	O&G	HCL	169353	1	HC693124
AD00421-001	1L	P	METALS	HNO3	169331	1	HC693124
AD00421-001	500ML	P	TKN	H2SO4	3111502	1	HC693124

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD00421-001	10/04/17 17:20	RICAR	0	M	Received
AD00421-001	10/05/17 10:33	RICAR	0	M	Login
AD00421-001	10/05/17 10:51	R12	1	A	NONE
AD00421-001	10/05/17 12:10	R12	1	A	NONE
AD00421-001	10/05/17 10:51	R12	2	A	NONE
AD00421-001	10/05/17 12:10	R12	2	A	NONE
AD00421-001	10/05/17 10:51	R12	3	A	NONE
AD00421-001	10/05/17 12:10	R12	3	A	NONE
AD00421-001	10/10/17 09:56	SRB	3	A	tdsw-hg
AD00421-001	10/10/17 10:26	R12	3	A	NONE
AD00421-001	10/05/17 10:51	R12	4	A	NONE
AD00421-001	10/05/17 12:10	R12	4	A	NONE
AD00421-001	10/05/17 10:51	R12	5	A	NONE
AD00421-001	10/05/17 12:10	R12	5	A	NONE
AD00421-001	10/06/17 08:24	SMAR	5	A	p/p
AD00421-001	10/05/17 10:51	R12	6	A	NONE
AD00421-001	10/05/17 12:10	R12	6	A	NONE
AD00421-001	10/05/17 10:51	R12	7	A	NONE
AD00421-001	10/05/17 12:10	R12	7	A	NONE
AD00421-001	10/10/17 08:31	AP	7	A	O&G/HEM-NPM
AD00421-001	10/05/17 10:51	R12	8	A	NONE
AD00421-001	10/05/17 12:10	R12	8	A	NONE
AD00421-001	10/06/17 13:09	LV	8	A	bn/bna
AD00421-001	10/05/17 13:09	R31	9	A	PH CHECK
AD00421-001	10/05/17 13:08	R31	10	A	NONE
AD00421-001	10/05/17 17:52	WP	10	A	VOA
AD00421-001	10/05/17 13:08	R31	11	A	NONE
AD00421-001	10/05/17 10:50	JW	13	A	CR6
AD00421-001	10/05/17 13:25	R12	13	A	NONE
AD00421-001	10/05/17 16:58	JW	13	A	IC
AD00421-001	10/05/17 17:22	R12	13	A	NONE
AD00421-001	10/06/17 08:51	JMP	13	A	TSS
AD00421-001	10/06/17 08:51	SDL	13	A	PH
AD00421-001	10/05/17 10:50	SDL	14	A	FLASHPOINT
AD00421-001	10/06/17 08:51	JMP	14	A	TSS
AD00421-001	10/06/17 09:19	R12'	14	A	NONE
AD00421-001	10/05/17 10:51	R12	15	A	NONE
AD00421-001	10/05/17 11:03	BCT	15	A	CBOD
AD00421-001	10/05/17 11:17	BCT	15	A	CBOD
AD00421-001	10/05/17 16:43	R12	15	A	NONE
AD00421-001	10/05/17 10:51	R12	16	A	NONE
AD00421-001	10/05/17 11:03	BCT	16	A	TSS/TS
AD00421-001	10/05/17 11:18	BCT	16	A	TS/FLASHPOINT
AD00421-001	10/06/17 09:19	R12'	16	A	NONE

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis

Samples marked as received are stored in coolers or refrigerator R12, or R24 at 4 deg C until Login

Laboratory Chronicle

Client: Louis Berger & Associates

Project: Bartow

HC Project #: 7100503

Lab#: AD00421-001 **Sample ID:** B-2 (OW)

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Carbonaceous BOD-5 Day (SM5210 B-01)		10/05/17 15:00	BCT	SM5210 B-01	10/10/17 15:10	BCT
Chloride (Water) 300.0		10/05/17	Janee	300.0 rev2.1	10/6/17 02:43	Janee
Cr (Hexavalent) 3500-Cr B		10/05/17	JW	SM 3500-Cr B	10/5/17 11:05	JW
Flash Point 1010				EPA 1010	10/5/17 00:00	SDL
Mercury (Water) 245.1	245.1 rev3.0	10/10/17 11:00	carmela	245.1 rev3.0	10/11/17 14:25	OA
Metals-Three 200.7	EPA 200.2	10/10/17 10:20	sean	200.7	10/10/17 17:18	SRB
Metals-Two 200.8	EPA 200.2	10/10/17 10:20	sean	EPA 200.8	10/11/17 11:05	PC
Nitrate-N (Water) 300.0		10/05/17	Janee	300.0 rev2.1	10/5/17 19:10	Janee
Nitrite-N (Aqueous) 300.0		10/05/17	Janee	300.0 rev2.1	10/5/17 19:10	Janee
PCB 608	EPA 608	10/06/17 08:30	smarwala	EPA 608	10/9/17 18:45	MS/MLC/ZM
pH (SM4500-H+ B-00)				SM4500-H+B00	10/6/17 11:00	JMP
Semivolatile Organics (no search) 625	EPA 625	10/06/17 13:09	lynda	EPA 625	10/9/17 11:29	AH/JB
SGT-HEM (Non-Polar Material) 1664B	EPA 1664B	10/10/17	AP	EPA 1664B	10/10/17 00:00	AP
Total Kjeldahl Nitrogen EPA 351				EPA 351	10/12/17 08:56	SGS Accutest
Total Solids (SM2540B-11)		10/05/17	BCT	SM2540B-11	10/6/17 00:00	BCT
Total Suspended Solids (SM2540D-11)		10/06/17	JMP	SM2540D-11	10/6/17 00:00	JMP
Volatile Organics (no search) 624	EPA 624			EPA 624	10/5/17 20:16	SG

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.

HC Report of Analysis

Client: Louis Berger & Associates
Project: Bartow

HC Project #: 7100503

Sample ID: B-2 (OW)
Lab#: AD00421-001
Matrix: Aqueous

Collection Date: 10/4/2017
Receipt Date: 10/4/2017

Carbonaceous BOD-5 Day (SM5210 B-01)

Analyte	DF	Units	RL	Result
Carbonaceous Bod, 5 Day	1	mg/l	2.0	ND

Chloride (Water) 300.0

Analyte	DF	Units	RL	Result
Chloride	20	mg/l	40	240

Cr (Hexavalent) 3500-Cr B

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	5	mg/l	0.12	ND

Flash Point 1010

Analyte	DF	Units	RL	Result
Flash Point	1	deg. f		>141

Mercury (Water) 245.1

Analyte	DF	Units	RL	Result
Mercury	1	ug/l	0.20	ND

Metals-Three 200.7

Analyte	DF	Units	RL	Result
Copper	1	ug/l	25	ND
Nickel	1	ug/l	10	15
Zinc	1	ug/l	25	32

Metals-Two 200.8

Analyte	DF	Units	RL	Result
Cadmium	1	ug/l	1.0	ND
Lead	1	ug/l	0.75	1.5

Nitrate-N (Water) 300.0

Analyte	DF	Units	RL	Result
Nitrate	1	mg/l	1.0	ND

Nitrite-N (Aqueous) 300.0

Analyte	DF	Units	RL	Result
Nitrite	1	mg/l	1.0	ND

PCB 608

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.051	0.084
Aroclor-1016	1	ug/l	0.051	ND
Aroclor-1221	1	ug/l	0.051	ND
Aroclor-1232	1	ug/l	0.051	ND
Aroclor-1242	1	ug/l	0.051	ND
Aroclor-1248	1	ug/l	0.051	ND
Aroclor-1254	1	ug/l	0.051	0.084
Aroclor-1260	1	ug/l	0.051	ND
Aroclor-1262	1	ug/l	0.051	ND
Aroclor-1268	1	ug/l	0.051	ND

NOTE: Soil Results are reported to Dry Weigh

Sample ID: B-2 (OW)
Lab#: AD00421-001
Matrix: Aqueous

Collection Date: 10/4/2017
Receipt Date: 10/4/2017

pH (SM4500-H+ B-00)

Analyte	DF	Units	RL	Result
pH	1	ph		7.2

Semivolatile Organics (no search) 625

Analyte	DF	Units	RL	Result
1,2,4-Trichlorobenzene	1	ug/l	2.0	ND
Naphthalene	1	ug/l	0.50	ND
Phenol	1	ug/l	2.0	ND

SGT-HEM (Non-Polar Material) 1664B

Analyte	DF	Units	RL	Result
SGT-HEM (Non-Polar Material)	1	mg/l	5.6	ND

Total Kjeldahl Nitrogen EPA 351

Analyte	DF	Units	RL	Result
Total Kjeldahl Nitrogen	1	mg/;	0.20	0.53

Total Solids (SM2540B-11)

Analyte	DF	Units	RL	Result
Total Solids @ 103-105 C	1	mg/l	40	1200

Total Suspended Solids (SM2540D-11)

Analyte	DF	Units	RL	Result
Total Suspended Solids @ 103-105 C	1	mg/l	20	460

Volatile Organics (no search) 624

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.0	ND
1,4-Dichlorobenzene	1	ug/l	1.0	ND
Benzene	1	ug/l	0.50	ND
Carbon tetrachloride	1	ug/l	1.0	ND
Chloroform	1	ug/l	1.0	ND
Ethylbenzene	1	ug/l	1.0	ND
m&p-Xylenes	1	ug/l	1.0	ND
Methyl-t-butyl ether	1	ug/l	0.50	ND
o-Xylene	1	ug/l	1.0	ND
Tetrachloroethene	1	ug/l	1.0	ND
Toluene	1	ug/l	1.0	ND
Xylenes (Total)	1	ug/l	1.0	ND

Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 2M117723.D
Analysis Date: 10/05/17 15:26
Date Rec/Extracted:
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624
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	79601-23-1	m&p-Xylenes	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	1634-04-4	Methyl-t-butyl ether	0.50	U
71-43-2	Benzene	0.50	U	95-47-6	o-Xylene	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	127-18-4	Tetrachloroethene	1.0	U
67-66-3	Chloroform	1.0	U	108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.0	U				

Worksheet #: 439642

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00421-001
Client Id: B-2 (OW)
Data File: 2M117740.D
Analysis Date: 10/05/17 20:16
Date Rec/Extracted: 10/04/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624
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	79601-23-1	m&p-Xylenes	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	1634-04-4	Methyl-t-butyl ether	0.50	U
71-43-2	Benzene	0.50	U	95-47-6	o-Xylene	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	127-18-4	Tetrachloroethene	1.0	U
67-66-3	Chloroform	1.0	U	108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.0	U	1330-20-7	Xylenes (Total)	1.0	U

Worksheet #: 439642

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 a-Chlordane and y-Chlordane.

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64350

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2M117728.D	AD00330-001(MS)	10/5/2017 4:51:00 PM
Non Spike(If applicable):	2M117582.D	AD00330-001	10/3/2017 4:51:00 PM
Inst Blank(If applicable):			

Method: 624 * Matrix: Aqueous QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chloromethane	1	17.5251	0	20	88	1	273
Bromomethane	1	19.001	0	20	95	1	242
Vinyl Chloride	1	23.0779	0	20	115	1	251
Chloroethane	1	20.4059	0	20	102	14	230
Trichlorofluoromethane	1	20.6985	0	20	103	17	181
Methylene Chloride	1	18.2966	0	20	91	1	221
1,1-Dichloroethene	1	18.1825	0	20	91	1	234
1,1-Dichloroethane	1	18.8699	0	20	94	59	155
trans-1,2-Dichloroethene	1	18.878	0	20	94	54	156
Chloroform	1	17.3398	0	20	87	51	138
1,2-Dichloroethane	1	20.1352	0	20	101	49	155
1,1,1-Trichloroethane	1	20.4667	0	20	102	52	162
Carbon Tetrachloride	1	19.9272	0	20	100	70	140
Bromodichloromethane	1	18.8484	0	20	94	35	155
1,2-Dichloropropane	1	14.4222	0	20	72	1	210
Trichloroethene	1	18.1756	0	20	91	71	157
Benzene	1	17.4178	0	20	87	37	151
Dibromochloromethane	1	17.5443	0	20	88	53	149
2-Chloroethylvinylether	1	0	0	20	0*	1	305
cis-1,3-Dichloropropene	1	17.4941	0	20	87	1	227
trans-1,3-Dichloropropene	1	18.4655	0	20	92	17	183
1,1,2-Trichloroethane	1	20.2493	0	20	101	52	150
Tetrachloroethene	1	19.4225	0	20	97	64	148
Toluene	1	18.3405	0	20	92	47	150
Chlorobenzene	1	18.137	0	20	91	37	160
Bromoform	1	17.6018	0	20	88	45	169
Ethylbenzene	1	21.16	0	20	106	37	162
1,1,2,2-Tetrachloroethane	1	17.1921	0	20	86	46	157
1,3-Dichlorobenzene	1	17.7264	0	20	89	59	156
1,4-Dichlorobenzene	1	18.5571	0	20	93	18	190
1,2-Dichlorobenzene	1	17.8613	0	20	89	18	190

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64350

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2M117731.D	AD00330-001(MSD)	10/5/2017 5:42:00 PM
Non Spike(If applicable):	2M117582.D	AD00330-001	10/3/2017 4:51:00 PM
Inst Blank(If applicable):			

Method: 624 Matrix: Aqueous QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chloromethane	1	16.8568	0	20	84	1	273
Bromomethane	1	17.708	0	20	89	1	242
Vinyl Chloride	1	20.024	0	20	100	1	251
Chloroethane	1	16.3052	0	20	82	14	230
Trichlorofluoromethane	1	18.9251	0	20	95	17	181
Methylene Chloride	1	17.4108	0	20	87	1	221
1,1-Dichloroethene	1	17.8949	0	20	89	1	234
1,1-Dichloroethane	1	18.3389	0	20	92	59	155
trans-1,2-Dichloroethene	1	18.7039	0	20	94	54	156
Chloroform	1	17.3	0	20	86	51	138
1,2-Dichloroethane	1	20.4685	0	20	102	49	155
1,1,1-Trichloroethane	1	18.9558	0	20	95	52	162
Carbon Tetrachloride	1	19.1089	0	20	96	70	140
Bromodichloromethane	1	17.8663	0	20	89	35	155
1,2-Dichloropropane	1	16.7865	0	20	84	1	210
Trichloroethene	1	18.2405	0	20	91	71	157
Benzene	1	17.7961	0	20	89	37	151
Dibromochloromethane	1	18.1163	0	20	91	53	149
2-Chloroethylvinylether	1	0	0	20	0*	1	305
cis-1,3-Dichloropropene	1	16.4657	0	20	82	1	227
trans-1,3-Dichloropropene	1	14.4524	0	20	72	17	183
1,1,2-Trichloroethane	1	19.7887	0	20	99	52	150
Tetrachloroethene	1	18.495	0	20	92	64	148
Toluene	1	19.3959	0	20	97	47	150
Chlorobenzene	1	18.2039	0	20	91	37	160
Bromoform	1	16.5284	0	20	83	45	169
Ethylbenzene	1	19.407	0	20	97	37	162
1,1,2,2-Tetrachloroethane	1	19.0054	0	20	95	46	157
1,3-Dichlorobenzene	1	18.0042	0	20	90	59	156
1,4-Dichlorobenzene	1	18.9947	0	20	95	18	190
1,2-Dichlorobenzene	1	18.8719	0	20	94	18	190

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: WMB63088
Client Id:
Data File: 5M101193.D
Analysis Date: 10/09/17 09:57
Date Rec/Extracted: NA-10/06/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625
Matrix: Aqueous
Initial Vol: 1000ml
Final Vol: 1ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
120-82-1	1,2,4-Trichlorobenzene	2.0	U	108-95-2	Phenol	2.0	U
91-20-3	Naphthalene	0.50	U				

Worksheet #: 439818

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00421-001
Client Id: B-2 (OW)
Data File: 5M101197.D
Analysis Date: 10/09/17 11:29
Date Rec/Extracted: 10/04/17-10/06/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625
Matrix: Aqueous
Initial Vol: 1000ml
Final Vol: 1ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
120-82-1	1,2,4-Trichlorobenzene	2.0	U	108-95-2	Phenol	2.0	U
91-20-3	Naphthalene	0.50	U				

Worksheet #: 439818 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Form3
Recovery Data Laboratory Limits
QC Batch: WMB63088

	Data File	Sample ID:	Analysis Date
Spike or Dup:	5M101200.D	AD00343-001(T)(MSD)	10/9/2017 12:39:00 PM
Non Spike(If applicable):	5M101198.D	AD00343-001(T)	10/9/2017 11:52:00 AM
Inst Blank(If applicable):			

Method: 625 Matrix: Aqueous QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
N-Nitrosodimethylamine	1	84.67	0	100	85	35	180
bis(2-Chloroethyl)ether	1	79.0542	0	100	79	12	158
Phenol	1	4.7771	0	100	4.8*	5	112
2-Chlorophenol	1	86.895	0	100	87	23	134
bis(2-chloroisopropyl)ether	1	67.0135	0	100	67	36	166
Hexachloroethane	1	72.901	0	100	73	40	113
N-Nitroso-di-n-propylamine	1	79.5625	0	100	80	1	230
Nitrobenzene	1	85.4102	0	100	85	35	180
Isophorone	1	83.6231	0	100	84	21	196
2-Nitrophenol	1	91.3883	0	100	91	29	182
2,4-Dimethylphenol	1	84.7839	0	100	85	32	119
bis(2-Chloroethoxy)methane	1	83.0068	0	100	83	33	184
2,4-Dichlorophenol	1	94.4828	0	100	94	39	135
1,2,4-Trichlorobenzene	1	80.2477	0	100	80	44	142
Naphthalene	1	77.7554	0	100	78	21	133
Hexachlorobutadiene	1	79.3032	0	100	79	24	116
4-Chloro-3-methylphenol	1	96.2497	0	100	96	22	147
2,4,6-Trichlorophenol	1	94.1336	0	100	94	37	144
2-Chloronaphthalene	1	85.9342	0	100	86	60	118
Acenaphthylene	1	88.5408	0	100	89	33	145
Dimethylphthalate	1	86.1814	0	100	86	1	112
2,6-Dinitrotoluene	1	89.1905	0	100	89	50	158
Acenaphthene	1	86.4274	0	100	86	47	145
2,4-Dinitrophenol	1	93.0534	0	100	93	1	191
2,4-Dinitrotoluene	1	88.1528	0	100	88	39	139
4-Nitrophenol	1	87.3788	0	100	87	1	132
Fluorene	1	88.5099	0	100	89	59	121
4-Chlorophenyl-phenylether	1	86.0007	0	100	86	25	158
Diethylphthalate	1	89.4402	0	100	89	1	114
4,6-Dinitro-2-methylphenol	1	98.2806	0	100	98	1	181
4-Bromophenyl-phenylether	1	88.7844	0	100	89	53	127
Hexachlorobenzene	1	88.3409	0	100	88	1	152
Pentachlorophenol	1	108.8046	0	100	109	14	176
Phenanthrene	1	87.3693	0	100	87	54	120
Anthracene	1	86.3377	0	100	86	27	133
Di-n-butylphthalate	1	99.9263	0	100	100	1	118
Fluoranthene	1	91.4788	0	100	91	26	137
Pyrene	1	84.0529	0	100	84	52	115
Butylbenzylphthalate	1	93.4558	0	100	93	1	152
3,3'-Dichlorobenzidine	1	66.2748	0	100	66	1	262
Benzo[a]anthracene	1	87.3428	0	100	87	33	143
Chrysene	1	87.6563	0	100	88	17	168
bis(2-Ethylhexyl)phthalate	1	90.2024	0	100	90	8	158
Di-n-octylphthalate	1	92.6259	0	100	93	4	146
Benzo[b]fluoranthene	1	89.5644	0	100	90	24	159
Benzo[k]fluoranthene	1	88.6965	0	100	89	11	162
Benzo[a]pyrene	1	85.3955	0	100	85	17	163
Indeno[1,2,3-cd]pyrene	1	92.0334	0	100	92	1	171
Dibenzo[a,h]anthracene	1	91.3343	0	100	91	1	227
Benzo[g,h,i]perylene	1	86.4767	0	100	86	1	219

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: WMB63088

	Data File	Sample ID:	Analysis Date
Spike or Dup:	5M101200.D	AD00343-001(T)(MSD)	10/9/2017 12:39:00 PM
Duplicate(If applicable):	5M101199.D	AD00343-001(T)(MS)	10/9/2017 12:16:00 PM
Inst Blank(If applicable):			

Method: 625 Matrix: Aqueous QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
N-Nitrosodimethylamine	1	84.67	80.7398	4.8	17
bis(2-Chloroethyl)ether	1	79.0542	80.8188	2.2	12
Phenol	1	4.7771	75.9325	176*	27
2-Chlorophenol	1	86.895	80.6794	7.4	21
bis(2-chloroisopropyl)ether	1	67.0135	70.2087	4.7	14
Hexachloroethane	1	72.901	75.9887	4.1	39
N-Nitroso-di-n-propylamine	1	79.5625	85.8754	7.6	14
Nitrobenzene	1	85.4102	86.1814	0.9	13
Isophorone	1	83.6231	86.2506	3.1	12
2-Nitrophenol	1	91.3883	87.1408	4.8	31
2,4-Dimethylphenol	1	84.7839	82.2297	3.1	18
bis(2-Chloroethoxy)methane	1	83.0068	84.5401	1.8	12
2,4-Dichlorophenol	1	94.4828	90.0032	4.9	21
1,2,4-Trichlorobenzene	1	80.2477	81.5282	1.6	17
Naphthalene	1	77.7554	80.4391	3.4	16
Hexachlorobutadiene	1	79.3032	81.6109	2.9	24
4-Chloro-3-methylphenol	1	96.2497	93.9527	2.4	16
2,4,6-Trichlorophenol	1	94.1336	91.333	3	24
2-Chloronaphthalene	1	85.9342	89.1969	3.7	13
Acenaphthylene	1	88.5408	91.5825	3.4	13
Dimethylphthalate	1	86.1814	90.5375	4.9	12
2,6-Dinitrotoluene	1	89.1905	93.7058	4.9	13
Acenaphthene	1	86.4274	89.2204	3.2	14
2,4-Dinitrophenol	1	93.0534	87.8455	5.8	37
2,4-Dinitrotoluene	1	88.1528	91.9353	4.2	13
4-Nitrophenol	1	87.3788	84.7817	3	41
Fluorene	1	88.5099	91.6029	3.4	14
4-Chlorophenyl-phenylether	1	86.0007	89.3545	3.8	13
Diethylphthalate	1	89.4402	92.9153	3.8	12
4,6-Dinitro-2-methylphenol	1	98.2806	94.9938	3.4	25
4-Bromophenyl-phenylether	1	88.7844	90.8023	2.2	13
Hexachlorobenzene	1	88.3409	90.9732	2.9	12
Pentachlorophenol	1	108.8046	106.0556	2.6	31
Phenanthrene	1	87.3693	90.6522	3.7	12
Anthracene	1	86.3377	90.5296	4.7	12
Di-n-butylphthalate	1	99.9263	102.4577	2.5	12
Fluoranthene	1	91.4788	93.5546	2.2	13
Pyrene	1	84.0529	90.1012	6.9	13
Butylbenzylphthalate	1	93.4558	98.9165	5.7	12
3,3'-Dichlorobenzidine	1	66.2748	80.0413	19	40
Benzo[a]anthracene	1	87.3428	92.4993	5.7	12
Chrysene	1	87.6563	90.5527	3.3	12
bis(2-Ethylhexyl)phthalate	1	90.2024	96.8959	7.2	14
Di-n-octylphthalate	1	92.6259	96.4707	4.1	14
Benzo[b]fluoranthene	1	89.5644	92.6336	3.4	15
Benzo[k]fluoranthene	1	88.6965	93.7843	5.6	14
Benzo[a]pyrene	1	85.3955	89.4373	4.6	13
Indeno[1,2,3-cd]pyrene	1	92.0334	95.5924	3.8	14
Dibenzo[a,h]anthracene	1	91.3343	95.1061	4	14
Benzo[g,h,i]perylene	1	86.4767	89.9007	3.9	15

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Form1

ORGANICS PCB REPORT

Sample Number: WMB63085
Client Id:
Data File: 3G104108.D
Analysis Date: 10/09/17 09:50
Date Rec/Extracted: NA-10/06/17
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608
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 #: 440032 *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 a-Chlordane and y-Chlordane.

Form1

ORGANICS PCB REPORT

Sample Number: AD00421-001
Client Id: B-2 (OW)
Data File: 3G104141.D
Analysis Date: 10/09/17 18:45
Date Rec/Extracted: 10/04/17-10/06/17
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608
Matrix: Aqueous
Initial Vol: 980ml
Final Vol: 1ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.051	U	**11097-69-1**	**(^)Aroclor-1254**	**0.051**	**0.084**
11104-28-2	Aroclor-1221	0.051	U	11096-82-5	Aroclor-1260	0.051	U
11141-16-5	Aroclor-1232	0.051	U	37324-23-5	Aroclor-1262	0.051	U
53469-21-9	Aroclor-1242	0.051	U	11100-14-4	Aroclor-1268	0.051	U
12672-29-6	Aroclor-1248	0.051	U	**1336-36-3**	**Aroclor (Total)**	**0.051**	**0.084**

Worksheet #: 440032

Total Target Concentration 0.084

ColumnID: (^) Indicates results from 2nd column

- Indicates the compound was analyzed but not detected.
- 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 a-Chlordane and y-Chlordane.

Form1
Inorganic Analysis Data Sheet

Sample ID: MB 62666
Client Id: MB 62666
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L

Lab Name: Hampton-Clarke
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-38-2	Arsenic	1.0	ND	1	100	125	10/11/17	62666	1117ANEW	12	MS	MS3_7700AQA
7440-43-9	Cadmium	1.0	ND	1	100	125	10/11/17	62666	1117ANEW	12	MS	MS3_7700AQA
7439-92-1	Lead	0.75	ND	1	100	125	10/11/17	62666	1117ANEW	12	MS	MS3_7700AQA

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 62666 (0.5) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 62666 (0.5) Units: UG/L Lab Code:
Matrix: AQUEOUS
Level: LOW

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	100	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-36-0	Antimony	7.5	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-38-2	Arsenic	20	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-39-3	Barium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-41-7	Beryllium	4.0	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-43-9	Cadmium	2.0	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-70-2	Calcium	1000	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-47-3	Chromium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-48-4	Cobalt	10	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-50-8	Copper	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-89-6	Iron	150	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-92-1	Lead	5.0	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-95-4	Magnesium	1000	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-96-5	Manganese	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-98-7	Molybdenum	10	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-02-0	Nickel	10	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-09-7	Potassium	2500	ND	1	100	50	10/10/17	62666	A21562B2	10	P	PEICPRAD2A
7782-49-2	Selenium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-22-4	Silver	10	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-23-5	Sodium	2500	ND	1	100	50	10/10/17	62666	A21562B2	10	P	PEICPRAD2A
7440-28-0	Thallium	5.0	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-31-5	Tin	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-32-6	Titanium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-62-2	Vanadium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-66-6	Zinc	25	ND	1	100	50	10/10/17	62666	A21562A2	13	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 62666 (1)
Client Id: MB 62666 (1)
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L

Lab Name: Hampton-Clarke
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	0.20	ND	1	25	25	10/11/17	62666	H21562A	11	CV	HGCV1A

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:	AD00421-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	B-2 (OW)	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	10/5/2017	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-43-9	Cadmium	1.0	ND	1	100	125	10/11/17	626661	117ANEW	19	MS	MS3_7700AQA
7439-92-1	Lead	0.75	1.5	1	100	125	10/11/17	626661	117ANEW	19	MS	MS3_7700AQA

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:	AD00421-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	B-2 (OW)	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	10/5/2017	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-50-8	Copper	25	ND	1	100	50	10/10/17	62666	A21562A2	24	P	PEICP2A
7439-97-6	Mercury	0.20	ND	1	25	25	10/11/17	62666	H21562A	14	CV	HGCV1A
7440-02-0	Nickel	10	15	1	100	50	10/10/17	62666	A21562A2	24	P	PEICP2A
7440-66-6	Zinc	25	32	1	100	50	10/10/17	62666	A21562A2	24	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

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 10/10/17
Data File: A21562A2
Prep Batch: 62666
Reporting Limits Used: AQUEOUS,200.7(ICP)/200.8(ICPMS)/245.1(Hg)
Instrument: PEICP2A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 7100503

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-261851-8	CCB-12	CCB-22	CCB-34	MB 62666 (0.5)-13
Aluminum	.2 U	.2 U	.2 U	.2 U	.1 U
Calcium	2 U	2 U	2 U	2 U	1 U
Chromium	.05 U	.05 U	.05 U	.05 U	.025 U
Copper	.05 U	.05 U	.05 U	.05 U	.025 U
Iron	.3 U	.3 U	.3 U	.3 U	.15 U
Manganese	.05 U	.05 U	.05 U	.05 U	.025 U
Nickel	.02 U	.02 U	.02 U	.02 U	.01 U
Zinc	.05 U	.05 U	.05 U	.05 U	.025 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: 10/11/17
Data File: W101117ANEW
Prep Batch: 62666
Reporting Limits Used: AQUEOUS,200.7(ICP)/200.8(ICPMS)/245.1(Hg)
Instrument: MS3_7700AQA
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 7100503

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	CCB V-265120-11	CCB V-265120-23	CCB V-265120-32	MB 62666-12			
Arsenic	.8 U	.8 U	.8 U	1 U			
Cadmium	.8 U	.8 U	.8 U	1 U			
Lead	.6 U	.6 U	.6 U	.75 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: 10/11/17
Data File: H21562A
Prep Batch: 62666
Reporting Limits Used: AQUEOUS,200.7(ICP)/200.8(ICPMS)/245.1(Hg)
Instrument: HGCV1A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 7100503

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB-10	CCB-20	MB 62666 (1)-11					
Mercury	.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

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD00421-001
Matrix Aqueous
Client SampleID: B-2 (OW)

Project Number: 7100503
Received Date: 10/4/2017
Collect Date: 10/4/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Carbonaceous Bod, 5 Day	CBOD-5-MUR	1	ND	MG/L	2.0	10/05/17	10/10/17
Chloride	CHLORIDE-ICW	20	240	mg/L	40	10/05/17	10/06/17
Cr (Hexavalent)	CR6-WATER	5	ND	mg/l	0.12	10/05/17	10/05/17
Flash Point	FLASH POINT	1	>141	Deg. F			10/05/17
SGT-HEM (Non-Polar Material)	HEM-NPM	1	ND	MG/L	5.6	10/10/17	10/10/17
Nitrite	NO2-ICW	1	ND	mg/L	1.0	10/05/17	10/05/17
Nitrate	NO3-ICW	1	ND	mg/L	1.0	10/05/17	10/05/17
pH	PH-WATER-MUR	1	7.2	pH			10/06/17
Total Solids @ 103-105 C	TS-MUR	1	1200	mg/l	40	10/05/17	10/06/17
Total Suspended Solids @ 103-105	TSS-MUR	1	460	mg/l	20	10/06/17	10/06/17

5-DAY CBOD MUR

Batch # 710
Analyst: BCT
Date/ Time Initial: 10/5/17 15:00
Date/ Time Final: 10/10/17 15:10

* final DO must be greater than or equal to 1.0 mg/L
** Depletion must be at least 2.0 mg/L
Note: GGA must be between 167.5-228.5
Note: Blank w/o seed must have a depletion of <0.2 mg/l
Note : Blank w/seed must be between 0.6 and 1.0 mg/L
Rp: RPD- failed specified QC

QC Bottles

Bottle #	Sample #	Vol (ml)	Seed vol (ml)	N Inhib (g)	Initial DO mg/L	Final DO mg/l	Depletion mg/L	Depletion mg/L (ave)	Seed Corr
230	Blank w/o seed	300	0		8.55	8.43	0.120		
231	Blank w/o seed	300	0		8.58	8.40	0.180	0.150	
232	Blank w/ seed	300	2	0.16	8.63	7.79	0.840		
233	Blank w/ seed	300	2	0.16	8.60	7.83	0.770		0.805
234	Seed Control	300	6	0.16	8.61	6.03	2.580		
235	Seed Control	300	8	0.16	8.56	5.18	3.380		
236	Seed Control	300	10	0.16	8.54	3.89	4.650		0.878

	Result(mg/L)	%RPD	Flag
Sample	#DIV/0!		
Sample dup	#DIV/0!	#DIV/0!	#DIV/0!

Samples

	Sample #	Vol (ml)	Seed Vol(ml)	N Inhib (g)	Initial DO mg/L	Final DO* mg/l	Depletion mg/L	Corrected** Deplt (mg/l)	Valid (Y/N)	Final BOD mg/L	Ave BOD mg/L
237	Hach GGA	6	2	0.16	8.66	4.11	4.55	3.672	Y	183.583	
238	Hach GGA	6	2	0.16	8.62	4.33	4.29	3.412	Y	170.583	
239	Hach GGA	6	2	0.16	8.59	3.59	5	4.122	Y	206.083	186.750
240	AD00040-028	5	2	0.16	8.60	6.17	2.43	1.552	Y	93.100	
241	AD00040-028	10	2	0.16	8.62	4.04	4.58	3.702	Y	111.050	
242	AD00040-028	12	2	0.16	8.56	3.19	5.37	4.492	Y	112.292	
243	AD00040-028	15	2	0.16	8.54	1.74	6.80	5.922	Y	118.433	
244	AD00040-028	20	2	0.16	8.55	0.84	NV	NV	N	NV	108.719
245	AD00421-001	5	2	0.16	8.39	7.29	1.10	0.222	N	NV	
246	AD00421-001	10	2	0.16	8.24	7.65	0.59	-0.288	N	NV	
247	AD00421-001	50	2	0.16	7.89	7.18	0.71	-0.168	N	NV	
248	AD00421-001	100	2	0.16	7.30	6.40	0.90	0.022	N	NV	
249	AD00421-001	300	2	0.16	4.71	3.28	1.43	0.552	N	NV	#DIV/0!
250	AD00421-001 DUP	5	2	0.16	8.41	7.48	0.93	0.052	N	NV	
251	AD00421-001 DUP	10	2	0.16	8.29	7.69	0.60	-0.278	N	NV	
252	AD00421-001 DUP	50	2	0.16	7.91	7.35	0.56	-0.318	N	NV	
253	AD00421-001 DUP	100	2	0.16	7.33	6.90	0.43	-0.448	N	NV	
254	AD00421-001 DUP	200	2	0.16	4.73	3.04	1.69	0.812	N	NV	#DIV/0!

RM 10/11/17

JW 10/12/17

Analysis Type: HEX-CR-W

Batch Number: HEX-CR-W-712

Units: mg/l

Calibration Curve Information

Cal Curve Date: 07/11/17

Concentration:	Abs/Area
0	0
0.025	0.032
0.05	0.062
0.25	0.306
0.5	0.588
0.75	0.864
1	1.117

Slope: 1.124976
Intercept: 0.0103123
Rsquared: 0.9995581
Date Performed: 07/11/17

Analytical Method(s)

SM 3500-Cr B

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-10/05/17	0.5	90-110	NA	0.4877328	98	NA	
CAL-02	CAL-02-10/05/17	1	90-110	NA	0.9152975	92	NA	
CCV	CCV-1	0.5	90-110	NA	0.4770659	95	NA	
CCV	CCV-2	0.5	90-110	NA	0.4779548	96	NA	
DUP	AD00421-001	0	NA	20	-0.0369443	NA	NA	Nc ★ Recovery.
ICV	ICV-07/11/17	0.5	90-110	NA	0.4735103	95	NA	
LCS	LCS	0.5	75-125	NA	0.4743992	95	NA	
MS	AD00421-001	0.5	75-125	NA	1.1408586	~~228~~	NA	Ra 46% MS
MSD	AD00421-001	0.5	75-125	20	1.1719703	~~234~~	2.7	Ra 47% MSD

★ Due to sample interference, the sample and QC were analyzed at a 5x dilution. The MS and MSD were spiked after they were diluted.

Sam #	Type	MB	Result	RL	Per Sol	Full Result	ABS	Turb Abs	DF	Sam Vol	Fin Vol	Prep Date	Prep By	Anal Date	Anal By
CAL-01-10/05/17	CAL-01		0.49		100	0.48773	0.559	0	1	1	1			10/05/17	JW
CAL-02-10/05/17	CAL-02		0.92		100	0.9153	1.040	0	1	1	1			10/05/17	JW
MB-1-10/05/17	MB	MB-1-10/05/17	ND	0.025	100	-0.0091667	0	0	1	10	10	10/05/17	JW	10/05/17	JW
LCS	LCS	MB-1-10/05/17	0.47	0.025	100	0.4744	0.544	0	1	10	10	10/05/17	JW	10/05/17	JW
CCV-1	CCV	MB-1-10/05/17	0.48		100	0.47707	0.547	0	1	1	1	10/05/17	JW	10/05/17	JW
CCB-1	CCB	MB-1-10/05/17	ND	0.025	100	-0.0082778	0.001	0	1	1	1	10/05/17	JW	10/05/17	JW
AD00421-001	Sample	MB-1-10/05/17	ND	0.12	100	-0.041389	-0.005	-0.006	5	10	10	10/05/17	JW	10/05/17	JW
AD00421-001	DUP	MB-1-10/05/17	ND	0.12	100	-0.036944	-0.004	-0.006	5	10	10	10/05/17	JW	10/05/17	JW
AD00421-001	MS	MB-1-10/05/17	1.1	0.12	100	1.1409	0.261	-0.006	5	10	10	10/05/17	JW	10/05/17	JW
AD00421-001	MSD	MB-1-10/05/17	1.2	0.12	100	1.172	0.268	-0.006	5	10	10	10/05/17	JW	10/05/17	JW
CCV-2	CCV	MB-1-10/05/17	0.48		100	0.47795	0.548	0	1	1	1	10/05/17	JW	10/05/17	JW
CCB-2	CCB	MB-1-10/05/17	ND	0.025	100	-0.0082778	0.001	0	1	1	1	10/05/17	JW	10/05/17	JW

BM 10/6/17

GW 10/5/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Analysis Type: FLASH-PT

7100503 0032

Batch Number: FLASH-PT-519

Units: Deg. F

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-10/05/17	81	90-110	NA	81.82	101	NA	
DUP	AD00366-001	0	NA	20	#Error	NA	NA	Nc

Analytical Method(s)

EPA 1010

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Obs FP	Press	p-Xylene mg/l	Prep Date	Prep By	Anal Date	Anal By
CAL-01-10/05/17	CAL-01		82		100	81.82	82.0	763	81.8			10/05/17	SDL
AD00366-001	DUP				100	0	>141	763	81.8			10/05/17	SDL
AD00366-001	Sample				100	0	>141	763	81.8			10/05/17	SDL
AD00414-001	Sample				100	0	>141	763	81.8			10/05/17	SDL
AD00421-001	Sample				100	0	>141	763	81.8			10/05/17	SDL
AD00352-001	Sample				100	0	>141	763	81.8			10/05/17	SDL

BM 10/6/17

JW 10/6/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria
Nc - Not Checked ..either one or both values =ND

Oil And Grease (HEM)

				Analyst	AP			
Batch	753							
Date	10/10/2017							
				True value	Result	% REC	Limits	Flags
			LCS	40.0	34.2	85.5	78-114	
			LCSD	40.0	33.9	84.8	78-114	
					LCS RPD	0.9	20	
				Theoretical				
			MS	62.5	59.1	94.5	78-114	

Blank Summary		
Units	RL	Result
ppm	5.0	U

Sample #	Sample vol. (ml)	Tare wt. (g)	Final wt. (g)	Net Weight (mg)		O&G ppm	RL ppm	Silica Gel Calc
MB	1000	6.5536	6.5547	1.1		1.10	5.000	0.0030
LCS	1000	6.5321	6.5663	34.2		34.20	5.000	1.0260
AD00491-001MS	640	6.5091	6.5469	37.8		59.06	7.813	1.7719
LCSD	1000	6.5385	6.5724	33.9		33.90	5.000	1.0170
AD00491-001	810	6.4953	6.4962	0.9		1.11	6.173	0.0333
AD00429-003	900	6.5321	6.5593	27.2		30.22	5.556	0.9067
AD00421-001	900	6.5510	6.5520	1.0		1.11	5.556	0.0300
AD00472-001	900	6.5640	6.5650	1.0		1.11	5.556	0.0300
AD00399-002	940	6.5578	6.5594	1.6		1.70	5.319	0.0480
AD00489-001	910	6.5405	6.5416	1.1		1.21	5.495	0.0330
AD00489-002	830	6.5259	6.5312	5.3		6.39	6.024	0.1590
AD00489-003	870	6.5021	6.5039	1.8		2.07	5.747	0.0540
AD00489-004	930	6.5713	6.5819	10.6		11.40	5.376	0.3180
AD00343-003	805	6.5053	6.5059	0.6		0.75	6.211	0.0180
AD00344-003	920	6.5401	6.5406	0.5		0.54	5.435	0.0150
LEACHATE BLANK	700	6.4908	6.4914	0.6		0.86	7.143	0.0180

10/10/17

JW 10/10/17

Analysis Type: PH-W

Batch Number: PH-W-863

Units: pH

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00421-001	0	NA	20	7.19	NA	0.14	
LCS	LCS	4.4	75-125	NA	4.45	101	NA	

Analytical Method(s)

SM4500-H+B00

Sam #	Type	MB	Result	RL	Per Sol	Full PH Result		Prep Date	Prep By	Anal Date	Anal By
LCS	LCS		4.4		100	4.45	4.45			10/06/17	JMP
AD00421-001	DUP		7.2		100	7.19	7.19			10/06/17	JMP
AD00421-001	Sample		7.2		100	7.2	7.20			10/06/17	JMP
AD00414-001	Sample		7.0		100	7	7			10/06/17	JMP
AD00438-001	Sample		3.0		100	3	3			10/06/17	JMP
AD00439-001	Sample		5.0		100	5	5			10/06/17	JMP
AD00439-002	Sample		5.0		100	5	5			10/06/17	JMP

JMP 10/6/17

JW 10/6/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Analysis Type: TS

Batch Number: TS-388

Units: mg/l

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00343-003	0	NA	5	444	NA	2.7	
LCS	LCS	300	80-120	NA	288	96	NA	
LCSD	LCSD	300	80-120	5	292	97	1.4	

Analytical Method(s)

SM2540B-11

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Tare Wt (g)	Fin Wt (g)	Sam Vol(ml)	Prep Date	Prep By	Anal Date	Anal By
MB-1-10/05/17	MB	MB-1-10/05/17	ND	40	100	32	38.5332	38.5340	25	10/05/17	BCT	10/06/17	BCT
LCS	LCS	MB-1-10/05/17	290	40	100	288	33.8757	33.8829	25	10/05/17	BCT	10/06/17	BCT
LCSD	LCSD	MB-1-10/05/17	290	40	100	292	37.1854	37.1927	25	10/05/17	BCT	10/06/17	BCT
AD00343-003	DUP	MB-1-10/05/17	440	40	100	444	39.8709	39.8820	25	10/05/17	BCT	10/06/17	BCT
AD00343-003	Sample	MB-1-10/05/17	460	40	100	456	33.4297	33.4411	25	10/05/17	BCT	10/06/17	BCT
AD00344-003	Sample	MB-1-10/05/17	110	40	100	112	34.7843	34.7871	25	10/05/17	BCT	10/06/17	BCT
AD00352-001	Sample	MB-1-10/05/17	1300	40	100	1348	37.8264	37.8601	25	10/05/17	BCT	10/06/17	BCT
AD00421-001	Sample	MB-1-10/05/17	1200	40	100	1204	31.0350	31.0651	25	10/05/17	BCT	10/06/17	BCT
LB	Sample	MB-1-10/05/17	ND	40	100	16	32.0269	32.0273	25	10/05/17	BCT	10/06/17	BCT

JW 10/6/17

BM 6/6/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL) Rp - RPD failed specified criteria.
Na - Not Applicable Nc - Not Checked ..either one or both values =ND

Analysis Type: TSS

Batch Number: TSS-1451

Units: mg/l

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00392-002	0	NA	5	2.8	NA	NA	Nc
LCS	LCS	600	80-120	NA	572.8	95	NA	
LCSD	LCSD	600	80-120	5	570.4	95	0.42	

Analytical Method(s)

SM2540D-11

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Tare Wt (g)	Fin Wt (g)	Sam Vol (ml)	Prep Date	Prep By	Anal Date	Anal By
MB-1-10/06/17	MB	MB-1-10/06/17	ND	4	100	3.2	1.4152	1.4160	250	10/06/17	JMP	10/06/17	JMP
LCS	LCS	MB-1-10/06/17	570	4	100	572.8	1.4045	1.5477	250	10/06/17	JMP	10/06/17	JMP
LCSD	LCSD	MB-1-10/06/17	570	4	100	570.4	1.4246	1.5672	250	10/06/17	JMP	10/06/17	JMP
AD00392-002	DUP	MB-1-10/06/17	ND	4	100	2.8	1.4042	1.4049	250	10/06/17	JMP	10/06/17	JMP
AD00392-002	Sample	MB-1-10/06/17	ND	4	100	2.8	1.4284	1.4291	250	10/06/17	JMP	10/06/17	JMP
AD00399-001	Sample	MB-1-10/06/17	8.4	4	100	8.4	1.4321	1.4342	250	10/06/17	JMP	10/06/17	JMP
AD00400-001	Sample	MB-1-10/06/17	7.6	4	100	7.6	1.4088	1.4107	250	10/06/17	JMP	10/06/17	JMP
AD00414-001	Sample	MB-1-10/06/17	1600	40	100	1620	1.4151	1.4556	25	10/06/17	JMP	10/06/17	JMP
AD00421-001	Sample	MB-1-10/06/17	460	20	100	460	1.4016	1.4246	50	10/06/17	JMP	10/06/17	JMP
AD00429-001	Sample	MB-1-10/06/17	380	40	100	376	1.4061	1.4155	25	10/06/17	JMP	10/06/17	JMP
AD00429-002	Sample	MB-1-10/06/17	350	40	100	352	1.4038	1.4126	25	10/06/17	JMP	10/06/17	JMP
AD00439-001	Sample	MB-1-10/06/17	6500	200	100	6540	1.4069	1.4396	5	10/06/17	JMP	10/06/17	JMP
AD00439-002	Sample	MB-1-10/06/17	12000	200	100	12440	1.4075	1.4697	5	10/06/17	JMP	10/06/17	JMP

JMP 10/9/17

JW 10/9/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

MS/MSD/DUP Recovery

Prep Batch: W-2059 Sample ID: AD00421-001
Method: 300.0 rev2.1 Matrix: Aqueous

Qc Type: MS

Analyte	Amt	Limits Recov	Dil	MS Conc	Sample Conc	% Rec	Flag	MS/MSD/DUP Batch	RunID	Analysis Date	Non Spike Batch	RunID	Analysis Date
Chloride	5	80-120	1	313.214	307.217	120		20170927115	188	10/05/17 19:40	20170927115	187	10/05/17 19:10
Nitrate	5	80-120	1	4.8753	0	98		20170927115	188	10/05/17 19:40	20170927115	187	10/05/17 19:10
Nitrite	5	80-120	1	5.027	0	101		20170927115	188	10/05/17 19:40	20170927115	187	10/05/17 19:10

Qc Type: MSD

Analyte	Amt	Limits Recov	Rpd	Dil	MSD Conc	Sample Conc	% Rec	Rpd	Flag	MS/MSD/DUP Batch	RunID	Analysis Date	Non Spike Batch	RunID	Analysis Date
Chloride	5	80-120	20	1	312.824	307.217	112	0.1		20170927115	189	10/05/17 20:10	20170927115	187	10/05/17 19:10
Nitrate	5	80-120	20	1	4.9049	0	98	0.6		20170927115	189	10/05/17 20:10	20170927115	187	10/05/17 19:10
Nitrite	5	80-120	20	1	5.0487	0	101	0.4		20170927115	189	10/05/17 20:10	20170927115	187	10/05/17 19:10

LCS Recoveries

			BatchRunID/RunID:====>	201709271154-185								
			QcBatchID:====>	LCSW-2059								
			Date/Time:====>	10/05/17 18:10								
			Analytical Method:====>	300.0 rev2.1								
			Matrix:====>	Aqueous		Soil		Soil		Soil		Soil
Analyte	300.0 rev2. Amt	Limits	Amt	Limits	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags
Chloride	5	90-110			107									
Nitrate	5	90-110			98									
Nitrite	5	90-110			96									

7100503 0039

Calibration Curve

Instrument: IC1
Analysis Date: 09/27/17
Analytical Methods: 300.0 rev2.1;EPA 9056;EPA 9056A

Batch ID:	Analyte:	Area Found						Concentration Amount						rSq
		Area1	Area2	Area3	Area4	Area5	Area6	Conc1	Conc2	Conc3	Conc4	Conc5	Conc6	
201709271154	Chloride	0	0.297	1.124	2.273	4.766	13.603	0	1	5	10	20	50	99.703
201709271154	Nitrate	0	0.554	2.627	5.586	12.218		0	1	5	10	20	50	99.752
201709271154	Nitrite	0	0.491	2.281	4.804	9.95		0	1	5	10	20	50	99.936

Calibration Summary:

Instrument: IC1
ysis Meth: 300.0 rev2.1

Analyte	Batch ID	Run#	Qc Type	Recov	Spk Amt	Limit
Chloride	20170927115	8	ICV	100	10	90-110
Chloride	20170927115	182	CCV	96	10	90-110
Chloride	20170927115	194	CCV	97	10	90-110
Chloride	20170927115	204	CCV	96	10	90-110
Nitrate	20170927115	8	ICV	103	10	90-110
Nitrate	20170927115	182	CCV	98	10	90-110
Nitrate	20170927115	194	CCV	100	10	90-110
Nitrate	20170927115	204	CCV	99	10	90-110
Nitrite	20170927115	8	ICV	104	10	90-110
Nitrite	20170927115	182	CCV	95	10	90-110
Nitrite	20170927115	194	CCV	99	10	90-110
Nitrite	20170927115	204	CCV	99	10	90-110

Blank Summary

Instrument: IC1

Qc Type: Method Blank Summary Prep Date: 10/5/17

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20170927115	10/5/17 17:39	MBW-2059	184	Chloride	ND	2.0
20170927115	10/5/17 17:39	MBW-2059	184	Nitrate	ND	1.0
20170927115	10/5/17 17:39	MBW-2059	184	Nitrite	ND	1.0

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20170927115	9/27/17 18:57	ICB	9	Chloride	ND	2.0
20170927115	9/27/17 18:57	ICB	9	Nitrate	ND	1.0
20170927115	9/27/17 18:57	ICB	9	Nitrite	ND	1.0

Qc Type: CCB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20170927115	10/5/17 17:09	CCB	183	Chloride	ND	2.0
20170927115	10/5/17 23:12	CCB	195	Chloride	ND	2.0
20170927115	10/6/17 04:14	CCB	205	Chloride	ND	2.0
20170927115	10/5/17 17:09	CCB	183	Nitrate	ND	1.0
20170927115	10/5/17 23:12	CCB	195	Nitrate	ND	1.0
20170927115	10/6/17 04:14	CCB	205	Nitrate	ND	1.0
20170927115	10/5/17 17:09	CCB	183	Nitrite	ND	1.0
20170927115	10/5/17 23:12	CCB	195	Nitrite	ND	1.0
20170927115	10/6/17 04:14	CCB	205	Nitrite	ND	1.0

Analysis Type: TSS

Batch Number: TSS-1451

Units: mg/l

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00392-002	0	NA	5	2.8	NA	NA	Nc
LCS	LCS	600	80-120	NA	572.8	95	NA	
LCSD	LCSD	600	80-120	5	570.4	95	0.42	

Analytical Method(s)

SM2540D-11

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Tare Wt (g)	Fin Wt (g)	Sam Vol (ml)	Prep Date	Prep By	Anal Date	Anal By
MB-1-10/06/17	MB	MB-1-10/06/17	ND	4	100	3.2	1.4152	1.4160	250	10/06/17	JMP	10/06/17	JMP
LCS	LCS	MB-1-10/06/17	570	4	100	572.8	1.4045	1.5477	250	10/06/17	JMP	10/06/17	JMP
LCSD	LCSD	MB-1-10/06/17	570	4	100	570.4	1.4246	1.5672	250	10/06/17	JMP	10/06/17	JMP
AD00392-002	DUP	MB-1-10/06/17	ND	4	100	2.8	1.4042	1.4049	250	10/06/17	JMP	10/06/17	JMP
AD00392-002	Sample	MB-1-10/06/17	ND	4	100	2.8	1.4284	1.4291	250	10/06/17	JMP	10/06/17	JMP
AD00399-001	Sample	MB-1-10/06/17	8.4	4	100	8.4	1.4321	1.4342	250	10/06/17	JMP	10/06/17	JMP
AD00400-001	Sample	MB-1-10/06/17	7.6	4	100	7.6	1.4088	1.4107	250	10/06/17	JMP	10/06/17	JMP
AD00414-001	Sample	MB-1-10/06/17	1600	40	100	1620	1.4151	1.4556	25	10/06/17	JMP	10/06/17	JMP
AD00421-001	Sample	MB-1-10/06/17	460	20	100	460	1.4016	1.4246	50	10/06/17	JMP	10/06/17	JMP
AD00429-001	Sample	MB-1-10/06/17	380	40	100	376	1.4061	1.4155	25	10/06/17	JMP	10/06/17	JMP
AD00429-002	Sample	MB-1-10/06/17	350	40	100	352	1.4038	1.4126	25	10/06/17	JMP	10/06/17	JMP
[illegible]00439-001	Sample	MB-1-10/06/17	6500	200	100	6540	1.4069	1.4396	5	10/06/17	JMP	10/06/17	JMP
[illegible]00439-002	Sample	MB-1-10/06/17	12000	200	100	12440	1.4075	1.4697	5	10/06/17	JMP	10/06/17	JMP

JMP 10/9/17

JW 10/9/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Subcontracted Data

This is the last page of the data generated by Hampton-Clarke.
The following pages were submitted to HC by subcontracted laboratories.

SGS ACCUTEST
New Jersey

10/16/17

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

Hampton Clarke-Veritech

Project # 7100503

SGS Accutest Job Number: JC52775

Sampling Date: 10/04/17

Report to:

Hampton Clarke-Veritech
175 Route 46 West
Fairfield, NJ 07004
NYannacone@HCVLab.com; SubResults@HCVLab.com

ATTN: Nick Yannacone

Total number of pages in report: **19**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Victoria Pushkova 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

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SGS Accutest

Sample Summary

Hampton Clarke-Veritech

Project # 7100503

Job No: JC52775

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC52775-1	10/04/17	13:22	10/10/17	AQ	Water	AD00421-001

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Hampton Clarke-Veritech	**Job No**	JC52775
Site:	Project # 7100503	**Report Date**	10/16/2017 3:02:06 P

On 10/10/2017, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 0.3 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC52775 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

General Chemistry By Method EPA 351.2/LACHAT

Matrix: AQ **Batch ID:** GP8424

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC52713-1DUP, JC52713-1MS were used as the QC samples for Nitrogen, Total Kjeldahl.
- Matrix Spike Recovery(s) for Nitrogen, Total Kjeldahl are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC52775
Account: Hampton Clarke-Veritech
Project: Project # 7100503
Collected: 10/04/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC52775-1	**AD00421-001**					
Nitrogen, Total Kjeldahl		0.53	0.20		mg/l	EPA 351.2/LACHAT

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AD00421-001		
Lab Sample ID:	JC52775-1	**Date Sampled:**	10/04/17
Matrix:	AQ - Water	**Date Received:**	10/10/17
		Percent Solids:	n/a
Project:	Project # 7100503		

4.1 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Total Kjeldahl	0.53	0.20	mg/l	1	10/12/17 08:56	BM	EPA 351.2/LACHAT

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

WW

CHAIN OF CUSTODY RECORD

Hampton-Clarke, Inc.
175 US Hwy 46 West
Fairfield, New Jersey, 07004
Ph:800-426-9992 Fax:973-439-1458

JC 52775

Report To:
Hampton-Clarke, Inc.:
Attn:Reporting
175 Route 46 West
Fairfield, New Jersey 07004

Invoice To:
Hampton-Clarke, Inc.:
Attn:Accounting
175 Route 46 West
Fairfield, New Jersey 07004

Project #: 7100503

CocID#: 5563

FINAL RESULTS TO: subresults@hcvlab.com
PRELIM/VERBAL RESULTS TO: subresults@hcvlab.com

EDD: NEW JERSEY HAZRESULT OR EQUIS EZEDD REQUIRED FOR ALL DATA SUBMITTALS!

Turn Around Time: 1-week **Preliminary Due Date:** 10/17/2017
Report Type: NYDOH-CatA (STAND **Hard Copy Due Date:** 10/27/2017

Sample Number:	Client ID	Matrix:	Date Collected:	Time Collected:	Analysis Requested
AD00421-001	B-2 (OW)	Aqueous	10/4/2017	1:22:00 PM	TKN 351.2

G52

Relinquished By:	Accepted By:	Date:	Time:	Comments, Notes, Special Requirements, HAZARDS
		10/10/17	12:50	INITIAL ASESSMENT 3A Don ALL SAMPLES RECEIVED LABEL VERIFICATION GE

Cooler Temp: 1.9°C

HC Lab Use Only: Subcontracted Lab Id and Contact: ACCUTEST SGS (Kathy Kinsella, (732) 329-0200, LabID: H, Fresh Ponds Corporate Village, Bldg. B, 2235 Route 130, Dayton,

JC52775: Chain of Custody
Page 1 of 2

SGS Accutest Sample Receipt Summary

Job Number: JC52775 **Client:** _____ **Project:** _____

Date / Time Received: 10/10/2017 12:50:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (1.9);

Cooler Temps (Corrected) °C: Cooler 1: (0.3);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

SM089-02
Rev. Date 12/1/16

5.1 5

JC52775: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Hampton Clarke-Veritech

Project # 7100503

Job No: JC52775

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC52775-1 AD00421-001	Collected: 04-OCT-17 13:22 By:		Received: 10-OCT-17 By: DG			
JC52775-1	EPA 351.2/LACHAT	12-OCT-17 08:56	BM	11-OCT-17	MP	TKN

SGS Accutest Internal Chain of Custody

Job Number: JC52775
Account: HCVNJF Hampton Clarke-Veritech
Project: Project # 7100503
Received: 10/10/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC52775-1.1	Secured Storage	Todd Shoemaker	10/11/17 07:50	Retrieve from Storage
JC52775-1.1	Todd Shoemaker	Secured Staging Area	10/11/17 07:50	Return to Storage
JC52775-1.1	Secured Staging Area	Mahendra Patel	10/11/17 08:13	Retrieve from Storage
JC52775-1.1	Mahendra Patel	Secured Storage	10/11/17 17:36	Return to Storage

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC52775
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100503

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Total Kjeldahl	GP8424/GN70863	0.20	0.0	mg/l	3	2.83	94.3	90-110%

Associated Samples:
Batch GP8424: JC52775-1
(*) Outside of QC limits

6.1 6

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC52775
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100503

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Total Kjeldahl	GP8424/GN70863	JC52713-1	mg/l	66.6	66.8	0.3	0-43%

Associated Samples:
Batch GP8424: JC52775-1
(*) Outside of QC limits

6.2
6

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC52775
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100503

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Total Kjeldahl	GP8424/GN70863	JC52713-1	mg/l	66.6	3	66.4	-6.7(a)	90-110%

Associated Samples:
Batch GP8424: JC52775-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

6.3 6

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC52775
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100503

File ID: D101217W1.TKN Date Analyzed: 10/12/17 Methods: EPA 351.2/LACHAT
Analyst: BM Run ID: GN70863
Parameters: Nitrogen, Total Kjeldahl

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:30	GN70863-STD1	1		STDA
08:31	GN70863-STD2	1		STDB
08:31	GN70863-STD3	1		STDC
08:32	GN70863-STD4	1		STDD
08:33	GN70863-STD5	1		STDE
08:34	GN70863-STD6	1		STDF
08:35	GN70863-STD7	1		STDG
08:35	GN70863-STD8	1		STDH
08:36	GN70863-ICV1	1		ICV failed, see rerun.
08:37	GN70863-ICB1	1		ICV failed, see rerun.
08:41	GN70863-ICV2	1		
08:41	GN70863-ICB2	1		
08:42	GN70863-CCV1	1		
08:43	GN70863-CCB1	1		
08:44	GP8424-MB1	1		
08:45	GP8424-B1	1		
08:46	GP8424-S1	1		Over calibration curve. See rerun at dilution.
08:46	GP8424-D1	1		Over calibration curve. See rerun at dilution.
08:47	JC52713-1	1		(sample used for QC only; not part of login JC52775)
08:48	ZZZZZZ	1		
08:49	ZZZZZZ	1		
08:50	ZZZZZZ	1		
08:51	ZZZZZZ	1		
08:51	ZZZZZZ	1		
08:52	GN70863-CCV2	1		
08:53	GN70863-CCB2	1		
08:54	ZZZZZZ	1		
08:55	ZZZZZZ	1		
08:56	JC52775-1	1		
08:56	ZZZZZZ	1		
08:57	GP8424-S1	10		1:10 dilution.
08:58	GP8424-S1	20		1:20 dilution.
08:59	GP8424-D1	10		1:10 dilution.

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC52775
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100503

File ID: D101217W1.TKN Date Analyzed: 10/12/17 Methods: EPA 351.2/LACHAT
Analyst: BM Run ID: GN70863
Parameters: Nitrogen, Total Kjeldahl

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:00	GP8424-D1	20		1:20 dilution.
09:01	JC52713-1	10		(sample used for QC only; not part of login JC52775)
09:02	JC52713-1	20		(sample used for QC only; not part of login JC52775)
09:02	GN70863-CCV3	1		
09:03	GN70863-CCB3	1		
09:04	ZZZZZZ	10		
09:05	ZZZZZZ	20		
09:06	ZZZZZZ	10		
09:07	ZZZZZZ	20		
09:07	ZZZZZZ	20		
09:08	ZZZZZZ	40		
09:09	ZZZZZZ	2		
09:10	ZZZZZZ	1		
09:13	GN70863-CCV4	1		
09:14	GN70863-CCB4	1		

Refer to raw data for calibration curve and standards.

6.4 6

Instrument QC Summary
Inorganics Analyses

Login Number: JC52775
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100503

File ID: D101217W1.TKN

Date Analyzed: 10/12/17
Run ID: GN70863

Methods: EPA 351.2/LACHAT
Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN70863-ICV1	Nitrogen, Total Kjeldahl	2.7	0.20	0.12	3	90.0	90-110
GN70863-ICB1	Nitrogen, Total Kjeldahl	-0.41 *(a)	0.20	0.12			
GN70863-ICV2	Nitrogen, Total Kjeldahl	2.7	0.20	0.12	3	90.0	90-110
GN70863-ICB2	Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12			
GN70863-CCV1	Nitrogen, Total Kjeldahl	2.9	0.20	0.12	3	96.7	90-110
GN70863-CCB1	Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12			
GN70863-CCV2	Nitrogen, Total Kjeldahl	2.9	0.20	0.12	3	96.7	90-110
GN70863-CCB2	Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12			
GN70863-CCV3	Nitrogen, Total Kjeldahl	2.9	0.20	0.12	3	96.7	90-110
GN70863-CCB3	Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12			
GN70863-CCV4	Nitrogen, Total Kjeldahl	2.8	0.20	0.12	3	93.3	90-110
GN70863-CCB4	Nitrogen, Total Kjeldahl	0.15	0.20	0.12			

(!) Outside of QC limits
(a) No sample reported from this brackest.

Hampton-Clarke
Analytical & Field Services

175 ROUTE 46 WEST, UNIT D · FAIRFIELD, NJ 07004
2 MADISON ROAD, FAIRFIELD, NJ 07004
800-426-9992 · 973-244-9770
FAX: 973-244-9787
WWW.HCVLAB.COM

Project: Bartow

Client PO: 2011040.320.00

Report To: Louis Berger & Associates
48 Wall Street
16th Floor
New York, NY 10005

Attn: Jonathan Ganz

Received Date: 10/6/2017

Report Date: 10/26/2017

Deliverables: NYDOH-CatA

Lab ID: AD00472

Lab Project No: 7100624

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) NY (ELAP11408) CT (PH-0671)
PA (68-00463) KY (90124)

7100624

Hampton-Clarke
Analytical & Field Services

THIS CATEGORY "A" REPORT
IS NUMBERED FROM
1 to 48

(Subcontracted data is numbered as attached)

HC Case Narrative

Client: Louis Berger & Associates
Project: Bartow

HC Project: 7100624

Hampton-Clarke (HC) received the following samples on 10/06/2017:

Client ID	HC Sample ID	Matrix	Analysis
B-24 (OW)	AD00472-001	Aqueous	VO (624), BNA (625), PCB (608), Metals (200.7/200.8), Mercury (245.1 rev3.0), CBOD-5 (SM5210 B-01), Chloride/Nitrite-N/Nitrate-N (300.0 rev2.1), Cr Hex (SM3500-Cr B), Flash Point (1010), SGT-HEM (1664B), pH (SM4500-H+B00), TS (SM2540B-11), TSS (SM2540D-11), *TKN (351.2)

* - Indicates analysis was performed by a subcontracted laboratory.

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:

2-Chloroethylvinylether did not recover in the Matrix Spike and Matrix Spike Duplicate in batch 64377 due to acid preservation of sample. 2-Chloroethylvinylether readily decomposes under acidic conditions. The recovery of 2-Chloroethylvinylether is within QC limits in the Laboratory Control Sample. Please refer to the applicable Form 3 for the recoveries.

Base Neutral/Acid Extractable Analysis:

The MS/MSD RPD, Matrix Spike and Matrix Spike Duplicate for batch 63119 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Samples AD00265-001 (MS) and -001 (MSD) had 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:

Sample AD00472-001 was originally extracted within hold but due to low surrogate recovery outside QC limits. The sample was re-extracted and re-analyzed past the holding time confirming recovery outside QC limits due to matrix interference. The re-analysis is reported. Please refer to the applicable Form 2 for the recoveries.

Metals Analysis:

Data conforms to method requirements.

Wet Chemistry Analysis:

The Matrix Spike Duplicate for Chloride, batch W-2060, had recoveries outside QC limits. Please refer to the QC section for the recoveries.

Sample AD00472-001 was received and analyzed outside the 15 minute hold time for pH.

Subcontracted Analysis:

Please refer to attached subcontracted laboratory report. Sample AD00472-001 was submitted to SGS Accutest for TKN (351.2) analysis.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Robin Cousineau
Quality Assurance Director

Or

Jean Revolus
Laboratory Director

10/26/2017
Date

7100624 0002

Hampton-Clarke, Inc. (WBE/DBE/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 Gaither Drive, Mount Laurel, New Jersey 08054
Ph (Service Center): 856-780-6057 Fax: 856-780-6056

Hampton-Clarke WBE/DBE/SBE 800-426-9992

CHAIN OF CUSTODY RECORD

A Women-Owned, Disadvantaged, Small Business Enterprise

NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Project# (Lab Use Only): 7100624

Customer Information

1a) Customer: Louis Berger
Address: 48 Wall Street, 16th Floor
New York, NY 10005
1b) Email/Cell/Fax/Ph: madonovan@louisberger.com
1c) Send Invoice to: jganz@louisberger.com
1d) Send Report to: both above

Project Information

2a) Project: Bartow
2b) Project Mgr: Jonathan Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 2011040.320.00

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Deliv.
When Available:	Data Summary	Hazsite/CSV
1 Business Day (100%) *	Results + QC (Waste)	EnviroData
2 Business Days (75%) *	NJ Reduced	Excel - NJ Regulatory
3 Business Days (50%) *	NY Reduced	Excel - NY Regulatory
4 Business Days (35%) *	PA Reduced	Excel - PA Regulatory
5 Business Days (25%)	Full / Category B	EQuIS (*specify below*):
10 Business Days (Stand.)	Category A	4-File/EZ/NYS/Reg. 2 or 5
Other:	Electronic (PDF)	Other:

* Expedited TAT Not Always Available. Please Check with Lab.

FOR LAB USE ONLY ↓

Batch # 1100472

===> Check If Contingent ===>

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)

7) Analysis *(specify methods & parameter lists)*

<===> Check If Contingent <===

Lab Sample #	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite (C)	Sample Type: Grab (G)	NYCDEP Effluent Parameters	8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other: ACE	9) Comments
001	B-24(OW)	GW	10/6/17	1150		X	X					5	1	1		

10) Relinquished by:	Accepted by:	Date	Time
[signature]	[signature]	10/6/17	1505
[signature]	[signature]	10.6.17	1831

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)

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Cooler Temperature: 2.8

Additional Notes
*PCB RL <0.065µg/L
PLEASE NOTE - short hold on Cr+6

11) Sampler (print name): Martin Donovan Date: 10/6/17

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any

HAZ - 441

TESTING SERVICES

TEST	TEST METHOD	TURN-AROUND-TIME	UNIT
Full Toxicity Characteristic Leaching Procedure (Full TCLP) (Includes: TCLP VOCs, TCLP BNAE SVOCs, TCLP Metals, TCLP Pests, TCLP Herbs, and TCLP Extractions)	EPA 1311 8260C, 8270D, 6000 Series, 8081B, 8151A	3-day 5-day	per test
TCLP Waste Class (Includes: Full TCLP, PCB, TPHC-DRO/GRO, and RCRA Characteristics)	As above	3-day 5-day	per test
RCRA Characteristics (Includes: Reactivity, Ignitability, Corrosivity, and Paint Filter Test)	EPA 9012B/9034, 1030/1010A 9045C, 9095B	3-day	per test
NYCDEP Effluent (Includes: Non-polar Material, pH, Field Temperature, Flash Point, Cadmium, Chromium VI, Copper, Lead, Mercury, Nickel, Zinc, Benzene, Carboutetrachloride, Chloroform, 1,4 Dichlorobenzene, Ethylbenzene, MTBE, Naphthalene, Phenol, Tetrachloroethylene, Toluene, 1,2,4 Trichlorobenzene, 1,1,1 Trichloroethane, Total Xylenes, < 65 Parts Per Trillion MDL PCBs, Total Suspended Solids, Carbonaceous Oxygen Demand, Chloride, Total Nitrogen, Total Solids)	Non polar Material by 1664 PCBs by 608 with MDL < 65 ppt All others as above	5-day	per test
Soil Gas VOC Analysis	TO-15 (SUMMA Canister)	5-day	per test
Flame Ionization Detector (FID)	Direct Read	N/A	per diem
Photo Ionization Detector (PID)	Direct Read	N/A	per diem

CONDITION UPON RECEIPT

Batch Number AD00472

Entered By: ricardo
Date Entered 10/6/2017 7:22:00 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). 2.8
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 AD00472

Entered By: ricardo
Date Entered 10/7/2017 11:21:00 AM

Lab#:	Container Size	Container/Vial Check	Parameter	Preservative	Preservative Lot#	PH	pH Lot#
AD00472-001	40ml	G	VO	HCL	169353	1	HC693124
AD00472-001	1L	G	O&G	HCL	169353	1	HC693124
AD00472-001	500ML	P	TKN	H2SO4	3111502	1	HC693124
AD00472-001	1L	P	METALS	HNO3	169331	1	HC693124

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD00472-001	10/06/17 18:31	RICAR	0	M	Received
AD00472-001	10/06/17 18:40	RICAR	0	M	Login
AD00472-001	10/06/17 18:45	JW	1	A	CR6/IC
AD00472-001	10/06/17 19:12	R12	1	A	NONE
AD00472-001	10/06/17 18:45	JW	2	A	CR6/IC
AD00472-001	10/06/17 19:12	R12	2	A	NONE
AD00472-001	10/06/17 18:44	JW	3	A	CBOD
AD00472-001	10/06/17 19:12	R12	3	A	NONE
AD00472-001	10/10/17 09:56	SRB	4	A	tdsw-hg
AD00472-001	10/10/17 10:26	R12	4	A	NONE
AD00472-001	10/10/17 08:31	AP	7	A	O&G/HEM-NPM
AD00472-001	10/10/17 08:50	SDL	8	A	PH
AD00472-001	10/10/17 09:21	R12	8	A	NONE
AD00472-001	10/13/17 08:48	SDL	8	A	FLASHPOINT
AD00472-001	10/13/17 12:30	R12	8	A	NONE
AD00472-001	10/09/17 08:16	SMAR	9	A	p/p
AD00472-001	10/09/17 08:16	R12	9	A	NONE
AD00472-001	10/10/17 10:45	LV	10	A	bn/bna
AD00472-001	10/09/17 08:16	SMAR	11	A	p/p
AD00472-001	10/09/17 08:43	R12	11	A	NONE
AD00472-001	10/09/17 09:01	R12	11	A	NONE
AD00472-001	10/18/17 08:18	JIR	11	A	pcb
AD00472-001	10/10/17 08:48	JMP	12	A	TS/TSS/TDS
AD00472-001	10/10/17 09:41	R12	12	A	NONE
AD00472-001	10/13/17 08:48	SDL	12	A	FLASHPOINT
AD00472-001	10/13/17 12:30	R12	12	A	NONE
AD00472-001	10/12/17 09:16	JKR	13	A	bna
AD00472-001	10/09/17 07:50	R31	14	A	PH/CHECK
AD00472-001	10/09/17 07:50	R31	15	A	PH/CHECK
AD00472-001	10/09/17 19:46	WP	15	A	VOA
AD00472-001	10/10/17 07:59	R31	15	M	NONE
AD00472-001	10/10/17 10:59	SG	15	A	VOA
AD00472-001	10/09/17 07:50	R31	16	A	PH/CHECK

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis

Samples marked as received are stored in coolers or refrigerator R12, or R24 at 4 deg C until Login

Laboratory Chronicle

7100624 0007

Client: Louis Berger & Associates

Project: Bartow

HC Project #: 7100624

Lab#: AD00472-001 **Sample ID: B-24 (OW)**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Carbonaceous BOD-5 Day (SM5210 B-01)		10/06/17 19:10	JW	SM5210 B-01	10/11/17 16:00	BCT
Chloride (Water) 300.0		10/06/17	Janee	300.0 rev2.1	10/6/17 20:33	Janee
Cr (Hexavalent) 3500-Cr B		10/06/17	JW	SM 3500-Cr B	10/6/17 18:50	JW
Flash Point 1010				EPA 1010	10/13/17 00:00	SDL
Mercury (Water) 245.1	245.1 rev3.0	10/10/17 11:00	carmela	245.1 rev3.0	10/11/17 14:30	OA
Metals-Three 200.7	EPA 200.2	10/10/17 10:20	sean	200.7	10/10/17 17:33	SRB
Metals-Two 200.8	EPA 200.2	10/10/17 10:20	sean	EPA 200.8	10/11/17 11:27	PC
Nitrate-N (Water) 300.0		10/06/17	Janee	300.0 rev2.1	10/6/17 19:33	Janee
Nitrite-N (Aqueous) 300.0		10/06/17	Janee	300.0 rev2.1	10/6/17 19:33	Janee
PCB 608	EPA 608	10/18/17 08:30	jir	EPA 608	10/18/17 15:51	MS/ZM/MLC
pH (SM4500-H+ B-00)				SM4500-H+B00	10/10/17 10:00	SDL
Semivolatile Organics (no search) 625	EPA 625	10/12/17	lynda	EPA 625	10/12/17 17:02	AH/JB
SGT-HEM (Non-Polar Material) 1664B	EPA 1664B	10/10/17	AP	EPA 1664B	10/10/17 00:00	AP
Total Kjeldahl Nitrogen EPA 351				EPA 351	10/12/17 09:09	SGS Accutest
Total Solids (SM2540B-11)		10/10/17	JMP	SM2540B-11	10/11/17 00:00	JMP
Total Suspended Solids (SM2540D-11)		10/10/17	jmp	SM2540D-11	10/10/17 00:00	jmp
Volatile Organics (no search) 624	EPA 624			EPA 624	10/10/17 12:07	SG

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.

HC Report of Analysis

Client: Louis Berger & Associates
Project: Bartow

HC Project #: 7100624

Sample ID: B-24 (OW)
Lab#: AD00472-001
Matrix: Aqueous

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

Carbonaceous BOD-5 Day (SM5210 B-01)

Analyte	DF	Units	RL	Result
Carbonaceous Bod, 5 Day	1	mg/l	2.0	ND

Chloride (Water) 300.0

Analyte	DF	Units	RL	Result
Chloride	20	mg/l	40	720

Cr (Hexavalent) 3500-Cr B

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.025	ND

Flash Point 1010

Analyte	DF	Units	RL	Result
Flash Point	1	deg. f		>141

Mercury (Water) 245.1

Analyte	DF	Units	RL	Result
Mercury	1	ug/l	0.20	ND

Metals-Three 200.7

Analyte	DF	Units	RL	Result
Copper	1	ug/l	25	64
Nickel	1	ug/l	10	740
Zinc	1	ug/l	25	300

Metals-Two 200.8

Analyte	DF	Units	RL	Result
Cadmium	1	ug/l	1.0	ND
Lead	1	ug/l	0.75	21

Nitrate-N (Water) 300.0

Analyte	DF	Units	RL	Result
Nitrate	1	mg/l	1.0	ND

Nitrite-N (Aqueous) 300.0

Analyte	DF	Units	RL	Result
Nitrite	1	mg/l	1.0	ND

PCB 608

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.050	ND
Aroclor-1016	1	ug/l	0.050	ND
Aroclor-1221	1	ug/l	0.050	ND
Aroclor-1232	1	ug/l	0.050	ND
Aroclor-1242	1	ug/l	0.050	ND
Aroclor-1248	1	ug/l	0.050	ND
Aroclor-1254	1	ug/l	0.050	ND
Aroclor-1260	1	ug/l	0.050	ND
Aroclor-1262	1	ug/l	0.050	ND
Aroclor-1268	1	ug/l	0.050	ND

Sample ID: B-24 (OW)
Lab#: AD00472-001
Matrix: Aqueous

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

pH (SM4500-H+ B-00)

Analyte	DF	Units	RL	Result
pH	1	ph		6.8

Semivolatile Organics (no search) 625

Analyte	DF	Units	RL	Result
1,2,4-Trichlorobenzene	1	ug/l	2.0	ND
Naphthalene	1	ug/l	0.50	ND
Phenol	1	ug/l	2.0	ND

SGT-HEM (Non-Polar Material) 1664B

Analyte	DF	Units	RL	Result
SGT-HEM (Non-Polar Material)	1	mg/l	5.6	ND

Total Kjeldahl Nitrogen EPA 351

Analyte	DF	Units	RL	Result
Total Kjeldahl Nitrogen	2		0.40	4.8

Total Solids (SM2540B-11)

Analyte	DF	Units	RL	Result
Total Solids @ 103-105 C	1	mg/l	40	4400

Total Suspended Solids (SM2540D-11)

Analyte	DF	Units	RL	Result
Total Suspended Solids @ 103-105 C	1	mg/l	100	2600

Volatile Organics (no search) 624

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.0	ND
1,4-Dichlorobenzene	1	ug/l	1.0	ND
Benzene	1	ug/l	0.50	ND
Carbon tetrachloride	1	ug/l	1.0	ND
Chloroform	1	ug/l	1.0	ND
Ethylbenzene	1	ug/l	1.0	ND
m&p-Xylenes	1	ug/l	1.0	ND
Methyl-t-butyl ether	1	ug/l	0.50	ND
o-Xylene	1	ug/l	1.0	ND
Tetrachloroethene	1	ug/l	1.0	ND
Toluene	1	ug/l	1.0	ND
Xylenes (Total)	1	ug/l	1.0	ND

Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 3M118329.D
Analysis Date: 10/10/17 08:40
Date Rec/Extracted:
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624
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	79601-23-1	m&p-Xylenes	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	1634-04-4	Methyl-t-butyl ether	0.50	U
71-43-2	Benzene	0.50	U	95-47-6	o-Xylene	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	127-18-4	Tetrachloroethene	1.0	U
67-66-3	Chloroform	1.0	U	108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.0	U				

Worksheet #: 440072

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00472-001
Client Id: B-24 (OW)
Data File: 3M118341.D
Analysis Date: 10/10/17 12:07
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624
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	79601-23-1	m&p-Xylenes	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U	1634-04-4	Methyl-t-butyl ether	0.50	U
71-43-2	Benzene	0.50	U	95-47-6	o-Xylene	1.0	U
56-23-5	Carbon Tetrachloride	1.0	U	127-18-4	Tetrachloroethene	1.0	U
67-66-3	Chloroform	1.0	U	108-88-3	Toluene	1.0	U
100-41-4	Ethylbenzene	1.0	U	1330-20-7	Xylenes (Total)	1.0	U

Worksheet #: 440072

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64377

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3M118336.D	AD00476-003(MS)	10/10/2017 10:38:00 A
Non Spike(If applicable):	3M118331.D	AD00476-003	10/10/2017 9:14:00 AM
Inst Blank(If applicable):			

Method: 624 Matrix: Aqueous QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chloromethane	1	12.5481	0	20	63	1	273
Bromomethane	1	12.7988	0	20	64	1	242
Vinyl Chloride	1	14.3616	0	20	72	1	251
Chloroethane	1	11.6595	0	20	58	14	230
Trichlorofluoromethane	1	15.3526	0	20	77	17	181
Methylene Chloride	1	15.8574	0	20	79	1	221
1,1-Dichloroethene	1	15.2099	0	20	76	1	234
1,1-Dichloroethane	1	15.8035	0	20	79	59	155
trans-1,2-Dichloroethene	1	16.9587	0	20	85	54	156
Chloroform	1	16.3079	0	20	82	51	138
1,2-Dichloroethane	1	14.6612	0	20	73	49	155
1,1,1-Trichloroethane	1	16.3451	0	20	82	52	162
Carbon Tetrachloride	1	16.4688	0	20	82	70	140
Bromodichloromethane	1	14.9101	0	20	75	35	155
1,2-Dichloropropane	1	16.1231	0	20	81	1	210
Trichloroethene	1	16.9904	0	20	85	71	157
Benzene	1	16.8022	0	20	84	37	151
Dibromochloromethane	1	14.7452	0	20	74	53	149
2-Chloroethylvinylether	1	0	0	20	0*	1	305
cis-1,3-Dichloropropene	1	15.3727	0	20	77	1	227
trans-1,3-Dichloropropene	1	14.4998	0	20	72	17	183
1,1,2-Trichloroethane	1	15.2238	0	20	76	52	150
Tetrachloroethene	1	16.947	0	20	85	64	148
Toluene	1	17.8931	1.5012	20	82	47	150
Chlorobenzene	1	16.4228	0	20	82	37	160
Bromoform	1	13.4223	0	20	67	45	169
Ethylbenzene	1	17.6489	0	20	88	37	162
1,1,2,2-Tetrachloroethane	1	14.6375	0	20	73	46	157
1,3-Dichlorobenzene	1	16.3318	0	20	82	59	156
1,4-Dichlorobenzene	1	15.5383	0	20	78	18	190
1,2-Dichlorobenzene	1	15.973	0	20	80	18	190

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64377

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3M118339.D	AD00476-003(MSD)	10/10/2017 11:34:00 A
Non Spike(If applicable):	3M118331.D	AD00476-003	10/10/2017 9:14:00 AM
Inst Blank(If applicable):			

Method: 624 Matrix: Aqueous QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chloromethane	1	13.9219	0	20	70	1	273
Bromomethane	1	13.4199	0	20	67	1	242
Vinyl Chloride	1	14.9829	0	20	75	1	251
Chloroethane	1	11.2367	0	20	56	14	230
Trichlorofluoromethane	1	15.8063	0	20	79	17	181
Methylene Chloride	1	16.9874	0	20	85	1	221
1,1-Dichloroethene	1	17.0796	0	20	85	1	234
1,1-Dichloroethane	1	17.1675	0	20	86	59	155
trans-1,2-Dichloroethene	1	18.2173	0	20	91	54	156
Chloroform	1	17.6027	0	20	88	51	138
1,2-Dichloroethane	1	16.3858	0	20	82	49	155
1,1,1-Trichloroethane	1	16.7279	0	20	84	52	162
Carbon Tetrachloride	1	18.0715	0	20	90	70	140
Bromodichloromethane	1	16.9181	0	20	85	35	155
1,2-Dichloropropane	1	17.0525	0	20	85	1	210
Trichloroethene	1	18.4126	0	20	92	71	157
Benzene	1	17.7327	0	20	89	37	151
Dibromochloromethane	1	16.7846	0	20	84	53	149
2-Chloroethylvinylether	1	0	0	20	0*	1	305
cis-1,3-Dichloropropene	1	17.2775	0	20	86	1	227
trans-1,3-Dichloropropene	1	16.7321	0	20	84	17	183
1,1,2-Trichloroethane	1	17.04	0	20	85	52	150
Tetrachloroethene	1	18.7375	0	20	94	64	148
Toluene	1	18.9126	1.5012	20	87	47	150
Chlorobenzene	1	17.5999	0	20	88	37	160
Bromoform	1	15.5645	0	20	78	45	169
Ethylbenzene	1	18.0437	0	20	90	37	162
1,1,2,2-Tetrachloroethane	1	17.5829	0	20	88	46	157
1,3-Dichlorobenzene	1	17.9536	0	20	90	59	156
1,4-Dichlorobenzene	1	16.8973	0	20	84	18	190
1,2-Dichlorobenzene	1	16.992	0	20	85	18	190

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: WMB63138
Client Id:
Data File: 10M65440.D
Analysis Date: 10/12/17 14:21
Date Rec/Extracted: NA-10/12/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625
Matrix: Aqueous
Initial Vol: 1000ml
Final Vol: 1ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
120-82-1	1,2,4-Trichlorobenzene	2.0	U	108-95-2	Phenol	2.0	U
91-20-3	Naphthalene	0.50	U				

Worksheet #: 440299 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00472-001(R)
Client Id: B-24 (OW)
Data File: 10M65447.D
Analysis Date: 10/12/17 17:02
Date Rec/Extracted: 10/06/17-10/12/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625
Matrix: Aqueous
Initial Vol: 1000ml
Final Vol: 1ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
120-82-1	1,2,4-Trichlorobenzene	2.0	U	108-95-2	Phenol	2.0	U
91-20-3	Naphthalene	0.50	U				

Worksheet #: 440299

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 a-Chlordane and y-Chlordane.

FORM2

Surrogate Recovery

Method: EPA 625

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
10M65440.D	WMB63138	A	10/12/17 14:21	1		77	56	119	118	122	118
10M65447.D	AD00472-001(R)	A	10/12/17 17:02	1		52	37	79	86	89	83
10M65439.D	WMB63138(MS)	A	10/12/17 13:59	1		71	52	131	128	144	125
5M101224.D	WMB63119(MS)	A	10/10/17 15:15	1		59	42	86	84	93	96
5M101228.D	AD00265-001(T)	A	10/10/17 16:52	1		60	52	72	71	71	80
5M101229.D	AD00265-001(T)(MS)	A	10/10/17 17:16	1		67	70	55	19*	83	99
5M101230.D	AD00265-001(T)(MSD)	A	10/10/17 17:39	1		48	45	32*	11*	84	96

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 625

Aqueous Laboratory Limits

Compound	Spike Amt	Limits
S1=2-Fluorophenol	100	29-113
S2=Phenol-d5	100	27-115
S3=Nitrobenzene-d5	50	51-139
S4=2-Fluorobiphenyl	50	53-129
S5=2,4,6-Tribromophenol	100	54-149
S6=Terphenyl-d14	50	55-146

Form3
Recovery Data Laboratory Limits
QC Batch: WMB63119

	Data File	Sample ID:	Analysis Date
Spike or Dup:	5M101229.D	AD00265-001(T)(MS)	10/10/2017 5:16:00 PM
Non Spike(If applicable):	5M101228.D	AD00265-001(T)	10/10/2017 4:52:00 PM
Inst Blank(If applicable):			

Method: 625 Matrix: Aqueous QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
N-Nitrosodimethylamine	1	75.2406	0	100	75	35	180
bis(2-Chloroethyl)ether	1	56.8203	0	100	57	12	158
bis(2-chloroisopropyl)ether	1	21.9956	0	100	22*	36	166
Hexachloroethane	1	0	0	100	0*	40	113
N-Nitroso-di-n-propylamine	1	73.224	0	100	73	1	230
Nitrobenzene	1	50.1776	0	100	50	35	180
Isophorone	1	77.7059	0	100	78	21	196
bis(2-Chloroethoxy)methane	1	76.1413	0	100	76	33	184
1,2,4-Trichlorobenzene	1	17.2698	0	100	17*	44	142
Naphthalene	1	20.9995	0	100	21	21	133
Hexachlorobutadiene	1	6.8143	0	100	6.8*	24	116
2-Chloronaphthalene	1	72.6931	0	100	73	60	118
Acenaphthylene	1	84.2158	0	100	84	33	145
Dimethylphthalate	1	93.5912	0	100	94	1	112
2,6-Dinitrotoluene	1	96.7218	0	100	97	50	158
Acenaphthene	1	84.1266	0	100	84	47	145
2,4-Dinitrotoluene	1	97.2287	0	100	97	39	139
Fluorene	1	93.0289	0	100	93	59	121
4-Chlorophenyl-phenylether	1	90.6137	0	100	91	25	158
Diethylphthalate	1	97.6014	0	100	98	1	114
4-Bromophenyl-phenylether	1	94.1804	0	100	94	53	127
Hexachlorobenzene	1	93.1753	0	100	93	1	152
Phenanthrene	1	92.5584	0	100	93	54	120
Anthracene	1	93.0178	0	100	93	27	133
Di-n-butylphthalate	1	106.1678	0	100	106	1	118
Fluoranthene	1	93.6417	0	100	94	26	137
Pyrene	1	93.6267	0	100	94	52	115
Butylbenzylphthalate	1	103.875	0	100	104	1	152
3,3'-Dichlorobenzidine	1	73.1818	0	100	73	1	262
Benzo[a]anthracene	1	93.1343	0	100	93	33	143
Chrysene	1	92.6824	0	100	93	17	168
bis(2-Ethylhexyl)phthalate	1	101.0431	0	100	101	8	158
Di-n-octylphthalate	1	106.498	0	100	106	4	146
Benzo[b]fluoranthene	1	92.0044	0	100	92	24	159
Benzo[k]fluoranthene	1	96.6405	0	100	97	11	162
Benzo[a]pyrene	1	88.4449	0	100	88	17	163
Indeno[1,2,3-cd]pyrene	1	99.1866	0	100	99	1	171
Dibenzo[a,h]anthracene	1	96.9688	0	100	97	1	227
Benzo[g,h,i]perylene	1	93.4471	0	100	93	1	219

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: WMB63119

	Data File	Sample ID:	Analysis Date
Spike or Dup:	5M101230.D	AD00265-001(T)(MSD)	10/10/2017 5:39:00 PM
Non Spike(If applicable):	5M101228.D	AD00265-001(T)	10/10/2017 4:52:00 PM
Inst Blank(If applicable):			

Method: 625 Matrix: Aqueous QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
N-Nitrosodimethylamine	1	48.0872	0	100	48	35	180
bis(2-Chloroethyl)ether	1	40.668	0	100	41	12	158
bis(2-chloroisopropyl)ether	1	26.8451	0	100	27*	36	166
Hexachloroethane	1	12.0926	0	100	12*	40	113
N-Nitroso-di-n-propylamine	1	64.0594	0	100	64	1	230
Nitrobenzene	1	48.5243	0	100	49	35	180
Isophorone	1	72.0411	0	100	72	21	196
bis(2-Chloroethoxy)methane	1	68.1696	0	100	68	33	184
1,2,4-Trichlorobenzene	1	35.9466	0	100	36*	44	142
Naphthalene	1	40.5786	0	100	41	21	133
Hexachlorobutadiene	1	28.4469	0	100	28	24	116
2-Chloronaphthalene	1	66.9654	0	100	67	60	118
Acenaphthylene	1	78.2183	0	100	78	33	145
Dimethylphthalate	1	89.3119	0	100	89	1	112
2,6-Dinitrotoluene	1	91.8507	0	100	92	50	158
Acenaphthene	1	77.6009	0	100	78	47	145
2,4-Dinitrotoluene	1	90.68	0	100	91	39	139
Fluorene	1	84.455	0	100	84	59	121
4-Chlorophenyl-phenylether	1	83.7179	0	100	84	25	158
Diethylphthalate	1	93.8862	0	100	94	1	114
4-Bromophenyl-phenylether	1	90.0302	0	100	90	53	127
Hexachlorobenzene	1	90.6813	0	100	91	1	152
Phenanthrene	1	87.8051	0	100	88	54	120
Anthracene	1	90.9365	0	100	91	27	133
Di-n-butylphthalate	1	102.7359	0	100	103	1	118
Fluoranthene	1	94.8902	0	100	95	26	137
Pyrene	1	91.7959	0	100	92	52	115
Butylbenzylphthalate	1	102.0123	0	100	102	1	152
3,3'-Dichlorobenzidine	1	93.0059	0	100	93	1	262
Benzo[a]anthracene	1	91.1064	0	100	91	33	143
Chrysene	1	91.4789	0	100	91	17	168
bis(2-Ethylhexyl)phthalate	1	98.5731	0	100	99	8	158
Di-n-octylphthalate	1	104.5895	0	100	105	4	146
Benzo[b]fluoranthene	1	93.0762	0	100	93	24	159
Benzo[k]fluoranthene	1	91.2333	0	100	91	11	162
Benzo[a]pyrene	1	87.4267	0	100	87	17	163
Indeno[1,2,3-cd]pyrene	1	96.8857	0	100	97	1	171
Dibenzo[a,h]anthracene	1	95.3745	0	100	95	1	227
Benzo[g,h,i]perylene	1	91.2187	0	100	91	1	219

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: WMB63119

	Data File	Sample ID:	Analysis Date
Spike or Dup:	5M101230.D	AD00265-001(T)(MSD)	10/10/2017 5:39:00 PM
Duplicate(If applicable):	5M101229.D	AD00265-001(T)(MS)	10/10/2017 5:16:00 PM
Inst Blank(If applicable):			

Method: 625 Matrix: Aqueous QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
N-Nitrosodimethylamine	1	48.0872	75.2406	44*	17
bis(2-Chloroethyl)ether	1	40.668	56.8203	33*	12
bis(2-chloroisopropyl)ether	1	26.8451	21.9956	20*	14
Hexachloroethane	1	12.0926	0	200*	39
N-Nitroso-di-n-propylamine	1	64.0594	73.224	13	14
Nitrobenzene	1	48.5243	50.1776	3.4	13
Isophorone	1	72.0411	77.7059	7.6	12
bis(2-Chloroethoxy)methane	1	68.1696	76.1413	11	12
1,2,4-Trichlorobenzene	1	35.9466	17.2698	70*	17
Naphthalene	1	40.5786	20.9995	64*	16
Hexachlorobutadiene	1	28.4469	6.8143	123*	24
2-Chloronaphthalene	1	66.9654	72.6931	8.2	13
Acenaphthylene	1	78.2183	84.2158	7.4	13
Dimethylphthalate	1	89.3119	93.5912	4.7	12
2,6-Dinitrotoluene	1	91.8507	96.7218	5.2	13
Acenaphthene	1	77.6009	84.1266	8.1	14
2,4-Dinitrotoluene	1	90.68	97.2287	7	13
Fluorene	1	84.455	93.0289	9.7	14
4-Chlorophenyl-phenylether	1	83.7179	90.6137	7.9	13
Diethylphthalate	1	93.8862	97.6014	3.9	12
4-Bromophenyl-phenylether	1	90.0302	94.1804	4.5	13
Hexachlorobenzene	1	90.6813	93.1753	2.7	12
Phenanthrene	1	87.8051	92.5584	5.3	12
Anthracene	1	90.9365	93.0178	2.3	12
Di-n-butylphthalate	1	102.7359	106.1678	3.3	12
Fluoranthene	1	94.8902	93.6417	1.3	13
Pyrene	1	91.7959	93.6267	2	13
Butylbenzylphthalate	1	102.0123	103.875	1.8	12
3,3'-Dichlorobenzidine	1	93.0059	73.1818	24	40
Benzo[a]anthracene	1	91.1064	93.1343	2.2	12
Chrysene	1	91.4789	92.6824	1.3	12
bis(2-Ethylhexyl)phthalate	1	98.5731	101.0431	2.5	14
Di-n-octylphthalate	1	104.5895	106.498	1.8	14
Benzo[b]fluoranthene	1	93.0762	92.0044	1.2	15
Benzo[k]fluoranthene	1	91.2333	96.6405	5.8	14
Benzo[a]pyrene	1	87.4267	88.4449	1.2	13
Indeno[1,2,3-cd]pyrene	1	96.8857	99.1866	2.3	14
Dibenzo[a,h]anthracene	1	95.3745	96.9688	1.7	14
Benzo[g,h,i]perylene	1	91.2187	93.4471	2.4	15

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Form1

ORGANICS PCB REPORT

Sample Number: WMB63100
Client Id:
Data File: 3G104136.D
Analysis Date: 10/09/17 17:27
Date Rec/Extracted: NA-10/09/17
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608
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 #: 441293 *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 a-Chlordane and y-Chlordane.

Form1

ORGANICS PCB REPORT

Sample Number: WMB63175
Client Id:
Data File: 3G104348.D
Analysis Date: 10/18/17 14:51
Date Rec/Extracted: NA-10/18/17
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608
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 #: 441293

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

Indicates the compound was analyzed but not detected.
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 a-Chlordane and y-Chlordane.

Form1

ORGANICS PCB REPORT

Sample Number: AD00472-001
Client Id: B-24 (OW)
Data File: 3G104140.D
Analysis Date: 10/09/17 18:30
Date Rec/Extracted: 10/06/17-10/09/17
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608
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	1336-36-3	Aroclor (Total)	0.050	U

Worksheet #: 441295

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 a-Chlordane and y-Chlordane.

Form1

ORGANICS PCB REPORT

Sample Number: AD00472-001(R)
Client Id: B-24 (OW)
Data File: 3G104352.D
Analysis Date: 10/18/17 15:51
Date Rec/Extracted: 10/06/17-10/18/17
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608
Matrix: Aqueous
Initial Vol: 500ml
Final Vol: 0.5ml
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	1336-36-3	Aroclor (Total)	0.050	U

Worksheet #: 441293

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 a-Chlordane and y-Chlordane.

FORM2

Surrogate Recovery

Method: EPA 608

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
3G104348.D	WMB63175	A	10/18/17 14:51	1		98	97	100	104		
3G104140.D	AD00472-001	A	10/09/17 18:30	1		81	77	26 *	27 *		
3G104352.D	AD00472-001(R)	A	10/18/17 15:51	1		61	57	83	82		
3G104349.D	WMB63175(MS)	A	10/18/17 15:06	1		82	83	92	97		
3G104350.D	WMB63175(MS)(DUP)	A	10/18/17 15:21	1		80	81	88	92		

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 608

Aqueous Laboratory Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	39-132
S2=TCMX-Surrogate	100	39-132
S3=DCB-Surrogate	100	39-142
S4=DCB-Surrogate	100	39-142

Form1
Inorganic Analysis Data Sheet

Sample ID: MB 62666 (0.5) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 62666 (0.5) Units: UG/L Lab Code:
Matrix: AQUEOUS
Level: LOW

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	100	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-36-0	Antimony	7.5	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-38-2	Arsenic	20	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-39-3	Barium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-41-7	Beryllium	4.0	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-43-9	Cadmium	2.0	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-70-2	Calcium	1000	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-47-3	Chromium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-48-4	Cobalt	10	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-50-8	Copper	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-89-6	Iron	150	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-92-1	Lead	5.0	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-95-4	Magnesium	1000	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-96-5	Manganese	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7439-98-7	Molybdenum	10	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-02-0	Nickel	10	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-09-7	Potassium	2500	ND	1	100	50	10/10/17	62666	A21562B2	10	P	PEICPRAD2A
7782-49-2	Selenium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-22-4	Silver	10	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-23-5	Sodium	2500	ND	1	100	50	10/10/17	62666	A21562B2	10	P	PEICPRAD2A
7440-28-0	Thallium	5.0	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-31-5	Tin	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-32-6	Titanium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-62-2	Vanadium	25	ND	1	100	50	10/10/17	62666	A21562A2	13	P	PEICP2A
7440-66-6	Zinc	25	ND	1	100	50	10/10/17	62666	A21562A2	13	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 62666
Client Id: MB 62666
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L

Lab Name: Hampton-Clarke
Lab Code:

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-38-2	Arsenic	1.0	ND	1	100	125	10/11/17	62666	1117ANEW	12	MS	MS3_7700AQA
7440-43-9	Cadmium	1.0	ND	1	100	125	10/11/17	62666	1117ANEW	12	MS	MS3_7700AQA
7439-92-1	Lead	0.75	ND	1	100	125	10/11/17	62666	1117ANEW	12	MS	MS3_7700AQA

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 62666 (1)
Client Id: MB 62666 (1)
Matrix: AQUEOUS
Level: LOW

% Solid: 0
Units: UG/L

Lab Name: Hampton-Clarke
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	0.20	ND	1	25	25	10/11/17	62666	H21562A	11	CV	HGCV1A

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:	AD00472-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	B-24 (OW)	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-50-8	Copper	25	64	1	100	50	10/10/17	62666	A21562A2	28	P	PEICP2A
7439-97-6	Mercury	0.20	ND	1	25	25	10/11/17	62666	H21562A	18	CV	HGCV1A
7440-02-0	Nickel	10	740	1	100	50	10/10/17	62666	A21562A2	28	P	PEICP2A
7440-66-6	Zinc	25	300	1	100	50	10/10/17	62666	A21562A2	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:	AD00472-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	B-24 (OW)	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-43-9	Cadmium	1.0	ND	1	100	125	10/11/17	626661	117ANEW	26	MS	MS3_7700AQA
7439-92-1	Lead	0.75	21	1	100	125	10/11/17	626661	117ANEW	26	MS	MS3_7700AQA

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 3
(ICB/CCB/MB Summary)

Date Analyzed: 10/10/17
Data File: A21562A2
Prep Batch: 62666
Reporting Limits Used: AQUEOUS,200.7(ICP)/200.8(ICPMS)/245.1(Hg)
Instrument: PEICP2A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 7100624

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-261851-8	CCB-12	CCB-22	CCB-34	MB 62666 (0.5)-13
Aluminum	.2 U	.2 U	.2 U	.2 U	.1 U
Calcium	2 U	2 U	2 U	2 U	1 U
Chromium	.05 U	.05 U	.05 U	.05 U	.025 U
Copper	.05 U	.05 U	.05 U	.05 U	.025 U
Iron	.3 U	.3 U	.3 U	.3 U	.15 U
Manganese	.05 U	.05 U	.05 U	.05 U	.025 U
Nickel	.02 U	.02 U	.02 U	.02 U	.01 U
Zinc	.05 U	.05 U	.05 U	.05 U	.025 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: 10/11/17
Data File: W101117ANEW
Prep Batch: 62666
Reporting Limits Used: AQUEOUS,200.7(ICP)/200.8(ICPMS)/245.1(Hg)
Instrument: MS3_7700AQA
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 7100624

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	CCB V-265120-11	CCB V-265120-23	CCB V-265120-32	MB 62666-12				
Arsenic	.8 U	.8 U	.8 U	1 U				
Cadmium	.8 U	.8 U	.8 U	1 U				
Lead	.6 U	.6 U	.6 U	.75 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: 10/11/17
Data File: H21562A
Prep Batch: 62666
Reporting Limits Used: AQUEOUS,200.7(ICP)/200.8(ICPMS)/245.1(Hg)
Instrument: HGCV1A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 7100624

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB-10	CCB-20	MB 62666 (1)-11					
Mercury	.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

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD00472-001
Matrix Aqueous
Client SampleID: B-24 (OW)

Project Number: 7100624
Received Date: 10/6/2017
Collect Date: 10/6/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Carbonaceous Bod, 5 Day	CBOD-5-MUR	1	ND	MG/L	2.0	10/06/17	10/11/17
Chloride	CHLORIDE-ICW	20	720	mg/L	40	10/06/17	10/06/17
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.025	10/06/17	10/06/17
Flash Point	FLASH POINT	1	>141	Deg. F			10/13/17
SGT-HEM (Non-Polar Material)	HEM-NPM	1	ND	MG/L	5.6	10/10/17	10/10/17
Nitrite	NO2-ICW	1	ND	mg/L	1.0	10/06/17	10/06/17
Nitrate	NO3-ICW	1	ND	mg/L	1.0	10/06/17	10/06/17
pH	PH-WATER-MUR	1	6.8	pH			10/10/17
Total Solids @ 103-105 C	TS-MUR	1	4400	mg/l	40	10/10/17	10/11/17
Total Suspended Solids @ 103-105	TSS-MUR	1	2600	mg/l	100	10/10/17	10/10/17

5-DAY CBOD MUR

Batch #	711	
Analyst:	JW/BCT	
Date/ Time Initial:	10/6/17	19:10
Date/ Time Final:	10/11/17	16:00

* final DO must be greater than or equal to 1.0 mg/L
** Depletion must be at least 2.0 mg/L
Note: GGA must be between 167.5-228.5
Note: Blank w/o seed must have a depletion of <0.2 mg/l
Note : Blank w/seed must be between 0.6 and 1.0 mg/L
Rp: RPD- failed specified QC

QC Bottles

Bottle #	Sample #	Vol (ml)	Seed vol (ml)	N Inhib (g)	Initial DO mg/L	Final DO mg/l	Depletion mg/L	Depletion mg/L (ave)	Seed Corr
17	Blank w/o seed	300	0		8.64	8.48	0.160		
18	Blank w/o seed	300	0		8.62	8.51	0.110	0.135	
19	Blank w/ seed	300	2	0.16	8.58	7.90	0.680		
20	Blank w/ seed	300	2	0.16	8.59	7.81	0.780		0.730
21	Seed Control	300	6	0.16	8.60	6.03	2.570		
22	Seed Control	300	8	0.16	8.57	5.24	3.330		
23	Seed Control	300	10	0.16	8.52	4.18	4.340		0.852

	Result(mg/L)	%RPD	Flag
Sample	#DIV/0!		
Sample dup	#DIV/0!	#DIV/0!	#DIV/0!

Samples

	Sample #	Vol (ml)	Seed Vol(ml)	N Inhib (g)	Initial DO mg/L	Final DO* mg/l	Depletion mg/L	Corrected** Deplt (mg/l)	Valid (Y/N)	Final BOD mg/L	Ave BOD mg/L
24	Hach GGA	6	2	0.16	8.61	4.03	4.58	3.728	Y	186.381	
25	Hach GGA	6	2	0.16	8.57	4.11	4.46	3.608	Y	180.381	
26	Hach GGA	6	2	0.16	8.59	3.55	5.04	4.188	Y	209.381	192.047
27	AD00472-001	5	2	0.16	8.49	7.94	0.55	-0.302	N	NV	
28	AD00472-001	10	2	0.16	8.38	7.93	0.45	-0.402	N	NV	
29	AD00472-001	50	2	0.16	8.21	7.61	0.60	-0.252	N	NV	
30	AD00472-001	100	2	0.16	7.92	7.00	0.92	0.068	N	NV	
31	AD00472-001	300	2	0.16	6.63	5.89	0.74	-0.112	N	NV	#DIV/0!
32	AD00472-001 DUP	5	2	0.16	8.51	8.00	0.51	-0.342	N	NV	
33	AD00472-001 DUP	10	2	0.16	8.36	7.95	0.41	-0.442	N	NV	
34	AD00472-001 DUP	50	2	0.16	8.19	7.71	0.48	-0.372	N	NV	
35	AD00472-001 DUP	100	2	0.16	7.96	7.10	0.86	0.008	N	NV	
36	AD00472-001 DUP	300	2	0.16	6.69	5.93	0.76	-0.092	N	NV	#DIV/0!

10/12/17

10/12/17

Analysis Type: HEX-CR-W

Batch Number: HEX-CR-W-713

Units: mg/l

Calibration Curve Information

Cal Curve Date: 07/11/17

Concentration:	Abs/Area
0	0
0.025	0.032
0.05	0.062
0.25	0.306
0.5	0.588
0.75	0.864
1	1.117

Slope: 1.124976
Intercept: 0.0103123
Rsquared: 0.9995581
Date Performed: 07/11/17

Analytical Method(s)

SM 3500-Cr B

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-10/06/17	0.5	90-110	NA	0.4743992	95	NA	
CAL-02	CAL-02-10/06/17	1	90-110	NA	0.9544094	95	NA	
CCV	CCV	0.5	90-110	NA	0.4646212	93	NA	
DUP	AD00472-001	0	NA	20	-0.0091667	NA	NA	Nc
ICV	ICV-07/11/17	0.5	90-110	NA	0.4735103	95	NA	
LCS	LCS	0.5	75-125	NA	0.4841772	97	NA	
MS	AD00472-001	0.5	75-125	NA	0.3997309	80	NA	
MSD	AD00472-001	0.5	75-125	20	0.3837306	77	4.1	

Sam #	Type	MB	Result	RL	Per Sol	Full Result	ABS	Turb Abs	DF	Sam Vol	Fin Vol	Prep Date	Prep By	Anal Date	Anal By
CAL-01-10/06/17	CAL-01		0.47		100	0.4744	0.544	0	1	1	1			10/06/17	JW
CAL-02-10/06/17	CAL-02		0.95		100	0.95441	1.084	0	1	1	1			10/06/17	JW
MB-1-10/06/17	MB	MB-1-10/06/17	ND	0.025	100	-0.0091667	0	0	1	10	10	10/06/17	JW	10/06/17	JW
LCS	LCS	MB-1-10/06/17	0.48	0.025	100	0.48418	0.555	0	1	10	10	10/06/17	JW	10/06/17	JW
AD00472-001	Sample	MB-1-10/06/17	ND	0.025	100	-0.0065	0.003	0	1	10	10	10/06/17	JW	10/06/17	JW
AD00472-001	DUP	MB-1-10/06/17	ND	0.025	100	-0.0091667	0	0	1	10	10	10/06/17	JW	10/06/17	JW
AD00472-001	MS	MB-1-10/06/17	0.40	0.025	100	0.39973	0.46	0	1	10	10	10/06/17	JW	10/06/17	JW
AD00472-001	MSD	MB-1-10/06/17	0.38	0.025	100	0.38373	0.442	0	1	10	10	10/06/17	JW	10/06/17	JW
CCV	CCV	MB-1-10/06/17	0.46		100	0.46462	0.533	0	1	1	1	10/06/17	JW	10/06/17	JW
CCB	CCB	MB-1-10/06/17	ND	0.025	100	-0.0091667	0	0	1	1	1	10/06/17	JW	10/06/17	JW

BM 10/9/17

JW 10/9/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL) Rp - RPD failed specified criteria.
Na - Not Applicable Nc - Not Checked ..either one or both values =ND

7100624 0037

Analysis Type: FLASH-PT

Batch Number: FLASH-PT-521

Units: Deg. F

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-10/13/17	81	90-110	NA	81.4	100	NA	
DUP	AD00539-002	0	NA	20	118.9	NA	3.4	

Calibration Curve Information

Analytical Method(s)

EPA 1010

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Obs FP	Press	p-Xylene	Prep Date	Prep By	Anal Date	Anal By
CAL-01-10/13/17	CAL-01		81		100	81.4	82.0	770	81.4			10/13/17	SDL
AD00539-002	DUP		120		100	118.9	119.5	770	81.4			10/13/17	SDL
AD00472-001	Sample				100	0	>141	770	81.4			10/13/17	SDL
AD00539-001	Sample		88		100	88	88.6	770	81.4			10/13/17	SDL
AD00539-002	Sample		110		100	114.9	115.5	770	81.4			10/13/17	SDL

TB 10/16/17

JW 10/16/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Oil And Grease (HEM)

				Analyst	AP			
Batch	753							
Date	10/10/2017							
				True value	Result	% REC	Limits	Flags
			LCS	40.0	34.2	85.5	78-114	
			LCSD	40.0	33.9	84.8	78-114	
					LCS RPD	0.9	20	
				Theoretical				
			MS	62.5	59.1	94.5	78-114	

Blank Summary		
Units	RL	Result
ppm	5.0	U

Sample #	Sample vol. (ml)	Tare wt. (g)	Final wt. (g)	Net Weight (mg)		O&G ppm	RL ppm	Silica Gel Calc
MB	1000	6.5536	6.5547	1.1		1.10	5.000	0.0030
LCS	1000	6.5321	6.5663	34.2		34.20	5.000	1.0260
AD00491-001MS	640	6.5091	6.5469	37.8		59.06	7.813	1.7719
LCSD	1000	6.5385	6.5724	33.9		33.90	5.000	1.0170
AD00491-001	810	6.4953	6.4962	0.9		1.11	6.173	0.0333
AD00429-003	900	6.5321	6.5593	27.2		30.22	5.556	0.9067
AD00421-001	900	6.5510	6.5520	1.0		1.11	5.556	0.0300
AD00472-001	900	6.5640	6.5650	1.0		1.11	5.556	0.0300
AD00399-002	940	6.5578	6.5594	1.6		1.70	5.319	0.0480
AD00489-001	910	6.5405	6.5416	1.1		1.21	5.495	0.0330
AD00489-002	830	6.5259	6.5312	5.3		6.39	6.024	0.1590
AD00489-003	870	6.5021	6.5039	1.8		2.07	5.747	0.0540
AD00489-004	930	6.5713	6.5819	10.6		11.40	5.376	0.3180
AD00343-003	805	6.5053	6.5059	0.6		0.75	6.211	0.0180
AD00344-003	920	6.5401	6.5406	0.5		0.54	5.435	0.0150
LEACHATE BLANK	700	6.4908	6.4914	0.6		0.86	7.143	0.0180

10/10/17

JW 10/10/17

Oil And Grease (NPM)

Oil & Grease Water NPM 1664				Analyst	AP			
Batch	753							
Date	10/10/2017							
				True value	Result	% REC	Limits	Flags
			LCS	20.0	22.1	111	64-132	
			LCSD	20.0	20.8	104	64-132	
					LCS RPD	6.06		
				Theoretical				
			MS	31.3	37.0	118	64-132	
			Blank Summary					
			Units	RL	Result			
			ppm	5.000	U			
Sample #	Sample vol. (ml)	Tare wt. (g)	Final wt. (g)	Net Weight (mg)		O&G ppm	RL ppm	
MB	1000	6.5536	6.5547	1.1		1.10	5.0	
LCS	1000	6.5319	6.5540	22.1		22.10	5.0	
AD00491-001MS	640	6.5086	6.5330	24.4		38.13	7.8	
LCSD	1000	6.5382	6.5590	20.8		20.80	5.0	
AD00491-001	810	6.4953	6.4962	0.9		1.11	6.2	
AD00429-003	900	6.5316	6.5438	12.2		13.56	5.6	

Alexis Pizza
10/10/17

OW 10/10/17

Analysis Type: PH-W

Batch Number: PH-W-864

Units: pH

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00472-001	0	NA	20	6.87	NA	0.29	
LCS	LCS	4.4	75-125	NA	4.46	101	NA	

Calibration Curve Information

Analytical Method(s)

SM4500-H+B00

Sam #	Type	MB	Result	RL	Per Sol	Full Result	PH	Prep Date	Prep By	Anal Date	Anal By
LCS	LCS		4.5		100	4.46	4.46			10/10/17	SDL
AD00472-001	DUP		6.9		100	6.87	6.87			10/10/17	SDL
AD00472-001	Sample		6.8		100	6.85	6.85			10/10/17	SDL
AD00489-001	Sample		8.2		100	8.23	8.23			10/10/17	SDL
AD00489-002	Sample		8.9		100	8.86	8.86			10/10/17	SDL
AD00489-003	Sample		8.2		100	8.19	8.19			10/10/17	SDL
AD00489-004	Sample		8.7		100	8.68	8.68			10/10/17	SDL
AD00489-005	Sample		8.8		100	8.85	8.85			10/10/17	SDL

10/10/17

JW 10/10/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

7100624 0041

Analysis Type: TS

Batch Number: TS-389

Units: mg/l

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00472-001	0	NA	5	4404	NA	1	
LCS	LCS	300	80-120	NA	284	95	NA	
LCSD	LCSD	300	80-120	5	292	97	2.8	

Calibration Curve Information

Analytical Method(s)

SM2540B-11

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Tare Wt (g)	Fin Wt (g)	Sam Vol(ml)	Prep Date	Prep By	Anal Date	Anal By
MB-1-10/10/17	MB	MB-1-10/10/17	ND	40	100	16	30.7908	30.7912	25	10/10/17	JMP	10/11/17	JMP
LCS	LCS	MB-1-10/10/17	280	40	100	284	40.8599	40.8670	25	10/10/17	JMP	10/11/17	JMP
LCSD	LCSD	MB-1-10/10/17	290	40	100	292	30.9645	30.9718	25	10/10/17	JMP	10/11/17	JMP
AD00472-001	DUP	MB-1-10/10/17	4400	40	100	4404	32.0730	32.1831	25	10/10/17	JMP	10/11/17	JMP
AD00472-001	Sample	MB-1-10/10/17	4400	40	100	4360	28.6638	28.7728	25	10/10/17	JMP	10/11/17	JMP

Jone 10/11/17

JW 10/12/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Analysis Type: TSS

7100624 0042

Batch Number: TSS-1452

Units: mg/l

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00452-001	0	NA	5	324	NA	1.2	
LCS	LCS	600	80-120	NA	578	96	NA	
LCSD	LCSD	600	80-120	5	589.6	98	2	

Calibration Curve Information

Analytical Method(s)

SM2540D-11

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Tare Wt (g)	Fin Wt (g)	Sam Vol (ml)	Prep Date	Prep By	Anal Date	Anal By
MB-1-10/10/17	MB	MB-1-10/10/17	ND	4	100	2	1.4170	1.4175	250	10/10/17	imp	10/10/17	imp
LCS	LCS	MB-1-10/10/17	580	4	100	578	1.4192	1.5637	250	10/10/17	imp	10/10/17	imp
LCSD	LCSD	MB-1-10/10/17	590	4	100	589.6	1.4261	1.5735	250	10/10/17	imp	10/10/17	imp
AD00452-001	DUP	MB-1-10/10/17	320	40	100	324	1.4134	1.4215	25	10/10/17	imp	10/10/17	imp
AD00452-001	Sample	MB-1-10/10/17	320	40	100	320	1.4145	1.4225	25	10/10/17	imp	10/10/17	imp
AD00472-001	Sample	MB-1-10/10/17	2600	100	100	2610	1.4166	1.4427	10	10/10/17	imp	10/10/17	imp
AD00489-001	Sample	MB-1-10/10/17	54	6.7	100	54	1.4129	1.4210	150	10/10/17	imp	10/10/17	imp
AD00489-002	Sample	MB-1-10/10/17	1000	67	100	1020	1.4120	1.4273	15	10/10/17	imp	10/10/17	imp
AD00489-003	Sample	MB-1-10/10/17	61	6.7	100	60.667	1.4082	1.4173	150	10/10/17	imp	10/10/17	imp
AD00489-004	Sample	MB-1-10/10/17	950	67	100	946.67	1.4156	1.4298	15	10/10/17	imp	10/10/17	imp
AD00491-001	Sample	MB-1-10/10/17	ND	4	100	3.2	1.4088	1.4096	250	10/10/17	imp	10/10/17	imp
00494-001	Sample	MB-1-10/10/17	96	4	100	96.4	1.4094	1.4335	250	10/10/17	imp	10/10/17	imp

Jcrp 10/10/17

JW 10/10/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

MS/MSD/DUP Recovery

7100624 0043

Prep Batch: W-2060
Method: 300.0 rev2.1

Sample ID: AD00447-003
Matrix: Aqueous

Qc Type: MS

Analyte	Amt	Limits Recov	Dil	MS Conc	Sample Conc	% Rec	Flag	MS/MSD/DUP Batch	RunID	Analysis Date	Non Spike Batch	RunID	Analysis Date
Chloride	5	80-120	1	195.931	191.563	87		20170927115	212	10/06/17 18:32	20170927115	211	10/06/17 18:02
Nitrate	5	80-120	1	6.9275	2.3853	91		20170927115	212	10/06/17 18:32	20170927115	211	10/06/17 18:02
Nitrite	5	80-120	1	4.8504	0	97		20170927115	212	10/06/17 18:32	20170927115	211	10/06/17 18:02

Qc Type: MSD

Analyte	Amt	Limits Recov	Rpd	Dil	MSD Conc	Sample Conc	% Rec	Rpd	Flag	MS/MSD/DUP Batch	RunID	Analysis Date	Non Spike Batch	RunID	Analysis Date
Chloride	5	80-120	20	1	194.256	191.563	54	0.9	MW	20170927115	213	10/06/17 19:03	20170927115	211	10/06/17 18:02
Nitrate	5	80-120	20	1	6.8935	2.3853	90	0.5		20170927115	213	10/06/17 19:03	20170927115	211	10/06/17 18:02
Nitrite	5	80-120	20	1	4.9216	0	98	1.5		20170927115	213	10/06/17 19:03	20170927115	211	10/06/17 18:02

LCS Recoveries

BatchRunID/RunID:====>				201709271154-210										
QcBatchID:====>				LCSW-2060										
Date/Time:====>				10/06/17 17:29										
Analytical Method:====>				300.0 rev2.1										
Matrix:====>				Aqueous		Soil		Soil		Soil		Soil		
Analyte	300.0 rev2. Amt	Limits	Amt	Limits	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags
Chloride	5	90-110			108									
Nitrate	5	90-110			99									
Nitrite	5	90-110			96									

7100624 0045

Calibration Curve

Instrument: IC1
Analysis Date: 09/27/17
Analytical Methods: 300.0 rev2.1;EPA 9056;EPA 9056A

Batch ID:	Analyte:	Area Found						Concentration Amount						rSq
		Area1	Area2	Area3	Area4	Area5	Area6	Conc1	Conc2	Conc3	Conc4	Conc5	Conc6	
201709271154	Chloride	0	0.297	1.124	2.273	4.766	13.603	0	1	5	10	20	50	99.703
201709271154	Nitrate	0	0.554	2.627	5.586	12.218		0	1	5	10	20	50	99.752
201709271154	Nitrite	0	0.491	2.281	4.804	9.95		0	1	5	10	20	50	99.936

Calibration Summary:

7100624 0046

Instrument: IC1
Analysis Meth: 300.0 rev2.1

Analyte	Batch ID	Run#	Qc Type	Recov	Spk Amt	Limit
Chloride	20170927115	8	ICV	100	10	90-110
Chloride	20170927115	207	CCV	95	10	90-110
Chloride	20170927115	218	CCV	97	10	90-110
Nitrate	20170927115	8	ICV	103	10	90-110
Nitrate	20170927115	207	CCV	96	10	90-110
Nitrate	20170927115	218	CCV	99	10	90-110
Nitrite	20170927115	8	ICV	104	10	90-110
Nitrite	20170927115	207	CCV	91	10	90-110
Nitrite	20170927115	218	CCV	98	10	90-110

Blank Summary

Instrument: IC1

Qc Type: Method Blank Summary Prep Date: 10/6/17

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20170927115	10/6/17 16:59	MBW-2060	209	Chloride	ND	2.0
20170927115	10/6/17 16:59	MBW-2060	209	Nitrate	ND	1.0
20170927115	10/6/17 16:59	MBW-2060	209	Nitrite	ND	1.0

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20170927115	9/27/17 18:57	ICB	9	Chloride	ND	2.0
20170927115	9/27/17 18:57	ICB	9	Nitrate	ND	1.0
20170927115	9/27/17 18:57	ICB	9	Nitrite	ND	1.0

Qc Type: CCB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20170927115	10/6/17 16:28	CCB	208	Chloride	ND	2.0
20170927115	10/6/17 22:04	CCB	219	Chloride	ND	2.0
20170927115	10/6/17 16:28	CCB	208	Nitrate	ND	1.0
20170927115	10/6/17 22:04	CCB	219	Nitrate	ND	1.0
20170927115	10/6/17 16:28	CCB	208	Nitrite	ND	1.0
20170927115	10/6/17 22:04	CCB	219	Nitrite	ND	1.0

Subcontracted Data

This is the last page of the data generated by Hampton-Clarke.
The following pages were submitted to HC by subcontracted laboratories.

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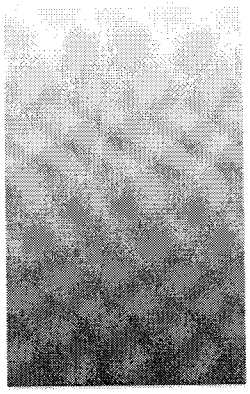
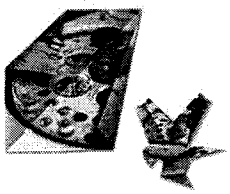
Automated Report





Technical Report for

Hampton Clarke-Veritech

Project # 7100624

SGS Accutest Job Number: JC52776

Sampling Date: 10/06/17

Report to:

Hampton Clarke-Veritech
175 Route 46 West
Fairfield, NJ 07004
NYannacone@HCVLab.com; SubResults@HCVLab.com

ATTN: Nick Yannacone

Total number of pages in report: **20**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Victoria Pushkova 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

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SGS ACCUTEST

October 27, 2017

Mr. Nick Yannacone
Hampton Clarke-Veritech
175 Rout 46 West
Fairfield, NJ 07004

RE: SGS Accutest – Dayton, Job # JC52776 – Reissues

Dear Mr. Yannacone,

The final report for SGS Accutest jobs number JC52776 has been edited to reflect corrections to the final results. These edits have been incorporated into the revised report which is attached.

Specifically, the project information has been revised to match client's requirement. The attached revised report incorporates these revisions.

SGS Accutest apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact me if I can be of further assistance in this matter.

Sincerely,

V. Pushkova

Viktoriya Pushkova

Project Manager

SGS Accutest

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

Sections: 1 2 3 4 5 6

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Sample Summary

Hampton Clarke-Veritech

Project # 7100624

Job No: JC52776

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC52776-1	10/06/17	11:50		10/10/17	AQ	Water	AD00472-001

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Hampton Clarke-Veritech	**Job No**	JC52776
Site:	Project # 7100624	**Report Date**	10/27/2017 4:08:37 P

On 10/10/2017, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 0.3 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC52776 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

Wet Chemistry By Method EPA 351.2/LACHAT

Matrix: AQ **Batch ID:** GP8424

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC52713-1DUP, JC52713-1MS were used as the QC samples for Nitrogen, Total Kjeldahl.
- Matrix Spike Recovery(s) for Nitrogen, Total Kjeldahl are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC52776
Account: Hampton Clarke-Veritech
Project: Project # 7100624
Collected: 10/06/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC52776-1	**AD00472-001**					
Nitrogen, Total Kjeldahl		4.8	0.40		mg/l	EPA 351.2/LACHAT

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AD00472-001		
Lab Sample ID:	JC52776-1	**Date Sampled:**	10/06/17
Matrix:	AQ - Water	**Date Received:**	10/10/17
		Percent Solids:	n/a
Project:	Project # 7100624		

4.1

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Total Kjeldahl	4.8	0.40	mg/l	2	10/12/17 09:09	BM	EPA 351.2/LACHAT

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

WW

CHAIN OF CUSTODY RECORD

Hampton-Clarke, Inc.
175 US Hwy 46 West
Fairfield, New Jersey, 07004
Ph:800-426-9992 Fax:973-439-1458

JC 52776

Report To:
Hampton-Clarke, Inc.:
Attn:Reporting
175 Route 46 West
Fairfield, New Jersey 07004

Invoice To:
Hampton-Clarke, Inc.:
Attn:Accounting
175 Route 46 West
Fairfield, New Jersey 07004

Project #: 7100624

CocID#: 5564

FINAL RESULTS TO: subresults@hcvlab.com
PRELIM/VERBAL RESULTS TO: subresults@hcvlab.com

EDD: NEW JERSEY HAZRESULT OR EQUIS EZEDD REQUIRED FOR ALL DATA SUBMITTALS!

Turn Around Time: 1-week **Preliminary Due Date:** 10/17/2017
Report Type: NYDOH-CatA (STAND **Hard Copy Due Date:** 10/31/2017

Sample Number:	Client ID	Matrix:	Date Collected:	Time Collected:	Analysis Requested
AD00472-001	B-24 (OW)	Aqueous	10/6/2017	11:50:00 AM	TKN 351.2

G52

MO
10/9/17

Relinquished By:	Accepted By:	Date:	Time:	Comments, Notes, Special Requirements, HAZARDS
		10/10/17	12:50	INITIAL ASESSMENT 3A Dom ALL SAMPLES LABEL VERIFICATION GE

Cooler Temp: 1.9°C

HC Lab Use Only: Subcontracted Lab Id and Contact: ACCUTEST SGS, Kathy Kinsella, (732) 329-0200, LabID: H, Fresh Ponds Corporate Village, Bldg. B, 2235 Route 130, Dayton

JC52776: Chain of Custody
Page 1 of 2

SGS Accutest Sample Receipt Summary

Job Number: JC52776 **Client:** _____ **Project:** _____

Date / Time Received: 10/10/2017 12:50:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (1.9);

Cooler Temps (Corrected) °C: Cooler 1: (0.3);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

SM089-02
Rev. Date 12/1/16

5.1 5

JC52776: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Hampton Clarke-Veritech

Project # 7100624

Job No: JC52776

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC52776-1 Collected: 06-OCT-17 11:50 By: Received: 10-OCT-17 By: DG AD00472-001						
JC52776-1	EPA 351.2/LACHAT	12-OCT-17 09:09	BM	11-OCT-17	MP	TKN

SGS Accutest Internal Chain of Custody

Job Number: JC52776
Account: HCVNJF Hampton Clarke-Veritech
Project: Project # 7100624
Received: 10/10/17

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC52776-1.1	Secured Storage	Todd Shoemaker	10/11/17 07:50	Retrieve from Storage
JC52776-1.1	Todd Shoemaker	Secured Staging Area	10/11/17 07:50	Return to Storage
JC52776-1.1	Secured Staging Area	Mahendra Patel	10/11/17 08:13	Retrieve from Storage
JC52776-1.1	Mahendra Patel	Secured Storage	10/11/17 17:36	Return to Storage

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC52776
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100624

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Total Kjeldahl	GP8424/GN70863	0.20	0.0	mg/l	3	2.83	94.3	90-110%

Associated Samples:
Batch GP8424: JC52776-1
(*) Outside of QC limits

6.1
6

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC52776
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100624

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Total Kjeldahl	GP8424/GN70863	JC52713-1	mg/l	66.6	66.8	0.3	0-43%

Associated Samples:
Batch GP8424: JC52776-1
(*) Outside of QC limits

6.2 6

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC52776
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100624

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Total Kjeldahl	GP8424/GN70863	JC52713-1	mg/l	66.6	3	66.4	-6.7(a)	90-110%

Associated Samples:
Batch GP8424: JC52776-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

6.3 6

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC52776
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100624

File ID: D101217W1.TKN Date Analyzed: 10/12/17 Methods: EPA 351.2/LACHAT
Analyst: BM Run ID: GN70863
Parameters: Nitrogen, Total Kjeldahl

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:30	GN70863-STD1	1		STDA
08:31	GN70863-STD2	1		STDB
08:31	GN70863-STD3	1		STDC
08:32	GN70863-STD4	1		STDD
08:33	GN70863-STD5	1		STDE
08:34	GN70863-STD6	1		STDF
08:35	GN70863-STD7	1		STDG
08:35	GN70863-STD8	1		STDH
08:36	GN70863-ICV1	1		ICV failed, see rerun.
08:37	GN70863-ICB1	1		ICV failed, see rerun.
08:41	GN70863-ICV2	1		
08:41	GN70863-ICB2	1		
08:42	GN70863-CCV1	1		
08:43	GN70863-CCB1	1		
08:44	GP8424-MB1	1		
08:45	GP8424-B1	1		
08:46	GP8424-S1	1		Over calibration curve. See rerun at dilution.
08:46	GP8424-D1	1		Over calibration curve. See rerun at dilution.
08:47	JC52713-1	1		(sample used for QC only; not part of login JC52776)
08:48	ZZZZZZ	1		
08:49	ZZZZZZ	1		
08:50	ZZZZZZ	1		
08:51	ZZZZZZ	1		
08:51	ZZZZZZ	1		
08:52	GN70863-CCV2	1		
08:53	GN70863-CCB2	1		
08:54	ZZZZZZ	1		
08:55	ZZZZZZ	1		
08:56	ZZZZZZ	1		
08:56	JC52776-1	1		Over calibration curve. See rerun at dilution.
08:57	GP8424-S1	10		1:10 dilution.
08:58	GP8424-S1	20		1:20 dilution.
08:59	GP8424-D1	10		1:10 dilution.

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC52776
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100624

File ID: D101217W1.TKN Date Analyzed: 10/12/17 Methods: EPA 351.2/LACHAT
Analyst: BM Run ID: GN70863
Parameters: Nitrogen, Total Kjeldahl

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:00	GP8424-D1	20		1:20 dilution.
09:01	JC52713-1	10		(sample used for QC only; not part of login JC52776)
09:02	JC52713-1	20		(sample used for QC only; not part of login JC52776)
09:02	GN70863-CCV3	1		
09:03	GN70863-CCB3	1		
09:04	ZZZZZZ	10		
09:05	ZZZZZZ	20		
09:06	ZZZZZZ	10		
09:07	ZZZZZZ	20		
09:07	ZZZZZZ	20		
09:08	ZZZZZZ	40		
09:09	JC52776-1	2		1:2 dilution.
09:10	ZZZZZZ	1		
09:13	GN70863-CCV4	1		
09:14	GN70863-CCB4	1		

Refer to raw data for calibration curve and standards.

6.4 G

Instrument QC Summary
Inorganics Analyses

Login Number: JC52776
Account: HCVNJF - Hampton Clarke-Veritech
Project: Project # 7100624

File ID: D101217W1.TKN

Date Analyzed: 10/12/17
Run ID: GN70863

Methods: EPA 351.2/LACHAT
Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN70863-ICV1	Nitrogen, Total Kjeldahl	2.7	0.20	0.12	3	90.0	90-110
GN70863-ICB1	Nitrogen, Total Kjeldahl	-0.41 *(a)	0.20	0.12			
GN70863-ICV2	Nitrogen, Total Kjeldahl	2.7	0.20	0.12	3	90.0	90-110
GN70863-ICB2	Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12			
GN70863-CCV1	Nitrogen, Total Kjeldahl	2.9	0.20	0.12	3	96.7	90-110
GN70863-CCB1	Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12			
GN70863-CCV2	Nitrogen, Total Kjeldahl	2.9	0.20	0.12	3	96.7	90-110
GN70863-CCB2	Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12			
GN70863-CCV3	Nitrogen, Total Kjeldahl	2.9	0.20	0.12	3	96.7	90-110
GN70863-CCB3	Nitrogen, Total Kjeldahl	0.12 U	0.20	0.12			
GN70863-CCV4	Nitrogen, Total Kjeldahl	2.8	0.20	0.12	3	93.3	90-110
GN70863-CCB4	Nitrogen, Total Kjeldahl	0.15	0.20	0.12			

(!) Outside of QC limits
(a) No sample reported from this brackest.

Hampton-Clarke
Analytical & Field Services

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Project: Bartow

Client PO: 2011040.320.00

Report To: Louis Berger & Associates
48 Wall Street
16th Floor
New York, NY 10005

Attn: Jon Ganz/

Received Date: 10/6/2017

Report Date: 10/23/2017

Deliverables: NYDOH-R

Lab ID: AD00475

Lab Project No: 7100701

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.

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Robin Cousineau - Quality Assurance Director OR **Jean Revolus - Laboratory Director**

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Form 2 Surrogate Recovery

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Form 4 Method Blank Summary

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Sample Summary

Client: Louis Berger & Associates
Project: Bartow

HC Project #: 7100701

Lab#	SampleID	Matrix	Collection Date	Receipt Date
AD00475-001	SB02 GRAB	Soil	10/5/2017	10/6/2017
AD00475-002	SB02 COMP	Soil	10/5/2017	10/6/2017
AD00475-003	SB03 GRAB	Soil	10/5/2017	10/6/2017
AD00475-004	SB03 COMP	Soil	10/5/2017	10/6/2017
AD00475-005	SB04 GRAB	Soil	10/5/2017	10/6/2017
AD00475-006	SB04 COMP	Soil	10/5/2017	10/6/2017
AD00475-007	SB05 GRAB	Soil	10/5/2017	10/6/2017
AD00475-008	SB05 COMP	Soil	10/5/2017	10/6/2017
AD00475-009	SB08 GRAB	Soil	10/5/2017	10/6/2017
AD00475-010	SB08 COMP	Soil	10/6/2017	10/6/2017
AD00475-011	SB09 GRAB	Soil	10/6/2017	10/6/2017
AD00475-012	SB09 COMP	Soil	10/6/2017	10/6/2017
AD00475-013	SB07 GRAB	Soil	10/6/2017	10/6/2017
AD00475-014	SB07 COMP	Soil	10/6/2017	10/6/2017

HC Case Narrative

Client: Louis Berger & Associates
Project: Bartow

HC Project: 7100701

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 sample AD00475-001 due to possible laboratory contamination.

The Method Blank Spike for batches 64365 and 64371 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

The MS/MSD RPD, Matrix Spike and/or Matrix Spike Duplicate for batch 64371 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 63111 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

The MS/MSD RPD, Matrix Spike and/or Matrix Spike Duplicate for batch 63111 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

PCB Analysis:

Data conforms to method requirements.

Total Petroleum Hydrocarbon Analysis:

Data conforms to method requirements.

Gasoline Range Organics Analysis:

Data conforms to method requirements.

TCLP Metals Analysis:

The serial dilution for batch 62678 is outside QC limits for one or more analytes. Please refer to the applicable Form 6/9 for the recoveries.

Wet Chemistry Analysis:

Data conforms to method requirements.

Robin Cousineau
Quality Assurance Director

Or

Jean Revolus
Laboratory Director

10/23/2007
Date

HC Executive Summary

Client: Louis Berger & Associates

HC Project #: 7100701

Project: Bartow

Lab#: AD00475-001 **Sample ID: SB02 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0021	0.0029	EPA 8260C

Lab#: AD00475-002 **Sample ID: SB02 COMP**

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
Barium	mg/l	0.25	0.66	EPA 6010C
Nickel	mg/l	0.10	0.38	EPA 6010C
Total Petroleum Hydrocarbons	mg/kg	69	77	EPA 8015D
Benzo[b]fluoranthene	mg/kg	0.038	0.043	EPA 8270D
Fluoranthene	mg/kg	0.038	0.044	EPA 8270D
Naphthalene	mg/kg	0.0096	0.024	EPA 8270D
Pyrene	mg/kg	0.038	0.047	EPA 8270D
Paint Filter Test			NEG	EPA 9095B

Lab#: AD00475-004 **Sample ID: SB03 COMP**

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
Barium	mg/l	0.25	0.43	EPA 6010C
Nickel	mg/l	0.10	0.10	EPA 6010C
Paint Filter Test			NEG	EPA 9095B

Lab#: AD00475-006 **Sample ID: SB04 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		6.7	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	0.57	EPA 6010C
Nickel	mg/l	0.10	0.31	EPA 6010C
Paint Filter Test			NEG	EPA 9095B

HC Executive Summary

Client: Louis Berger & Associates **HC Project #:** 7100701

Project: Bartow

Lab#: AD00475-008 **Sample ID: SB05 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.1	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	0.35	EPA 6010C
Nickel	mg/l	0.10	0.31	EPA 6010C
Paint Filter Test			NEG	EPA 9095B

Lab#: AD00475-010 **Sample ID: SB08 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.5	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	0.29	EPA 6010C
Nickel	mg/l	0.10	0.11	EPA 6010C
Paint Filter Test			NEG	EPA 9095B

Lab#: AD00475-012 **Sample ID: SB09 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.6	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	0.47	EPA 6010C
Nickel	mg/l	0.10	0.17	EPA 6010C
Fluoranthene	mg/kg	0.036	0.040	EPA 8270D
Pyrene	mg/kg	0.036	0.040	EPA 8270D
Paint Filter Test			NEG	EPA 9095B

Lab#: AD00475-014 **Sample ID: SB07 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.2	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	0.34	EPA 6010C
Benzo[b]fluoranthene	mg/kg	0.035	0.045	EPA 8270D
Chrysene	mg/kg	0.035	0.036	EPA 8270D
Fluoranthene	mg/kg	0.035	0.051	EPA 8270D
Pyrene	mg/kg	0.035	0.060	EPA 8270D
Paint Filter Test			NEG	EPA 9095B

HC Report of Analysis

Client: Louis Berger & Associates
Project: Bartow

HC Project #: 7100701

Sample ID: SB02 GRAB
Lab#: AD00475-001
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		90

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	0.0016	ND
1,2,4-Trichlorobenzene	0.956	mg/kg	0.0013	ND
1,2-Dibromo-3-chloropropane	0.956	mg/kg	0.0021	ND
1,2-Dibromoethane	0.956	mg/kg	0.0011	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	0.11	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	0.011	ND
Benzene	0.956	mg/kg	0.0011	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
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	0.0011	ND
Isopropylbenzene	0.956	mg/kg	0.0011	ND
m&p-Xylenes	0.956	mg/kg	0.0011	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**	**0.0029**
Methyl-t-butyl ether	0.956	mg/kg	0.0011	ND
o-Xylene	0.956	mg/kg	0.0011	ND

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB02 GRAB
Lab#: AD00475-001
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

Styrene	0.956	mg/kg	0.0021	ND
t-Butyl Alcohol	0.956	mg/kg	0.011	ND
Tetrachloroethene	0.956	mg/kg	0.0021	ND
Toluene	0.956	mg/kg	0.0011	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	0.0011	ND

Sample ID: SB02 COMP
Lab#: AD00475-002
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		87

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	94.3	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 (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.038	ND
Acenaphthene	1	mg/kg	0.038	ND
Acenaphthylene	1	mg/kg	0.038	ND
Anthracene	1	mg/kg	0.038	ND
Benzo[a]anthracene	1	mg/kg	0.038	ND
Benzo[a]pyrene	1	mg/kg	0.038	ND
Benzo[b]fluoranthene	1	mg/kg	0.038	0.043
Benzo[g,h,i]perylene	1	mg/kg	0.038	ND
Benzo[k]fluoranthene	1	mg/kg	0.038	ND
Chrysene	1	mg/kg	0.038	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.038	ND
Fluoranthene	1	mg/kg	0.038	0.044
Fluorene	1	mg/kg	0.038	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.038	ND
Naphthalene	1	mg/kg	0.0096	0.024
Phenanthrene	1	mg/kg	0.038	ND
Pyrene	1	mg/kg	0.038	0.047

Paint Filter Test 9095B

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
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		7.9

Sample ID: SB02 COMP
Lab#: AD00475-002
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

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**	**0.66**
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**	**0.38**
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**	**69**	**77**

Sample ID: SB03 GRAB
Lab#: AD00475-003
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		89

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.962	mg/kg	0.0022	ND
1,1,2,2-Tetrachloroethane	0.962	mg/kg	0.0022	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.962	mg/kg	0.0022	ND
1,1,2-Trichloroethane	0.962	mg/kg	0.0022	ND
1,1-Dichloroethane	0.962	mg/kg	0.0022	ND
1,1-Dichloroethene	0.962	mg/kg	0.0022	ND
1,2,3-Trichlorobenzene	0.962	mg/kg	0.0016	ND
1,2,4-Trichlorobenzene	0.962	mg/kg	0.0013	ND
1,2-Dibromo-3-chloropropane	0.962	mg/kg	0.0022	ND
1,2-Dibromoethane	0.962	mg/kg	0.0011	ND
1,2-Dichlorobenzene	0.962	mg/kg	0.0022	ND
1,2-Dichloroethane	0.962	mg/kg	0.0022	ND
1,2-Dichloropropane	0.962	mg/kg	0.0022	ND
1,3-Dichlorobenzene	0.962	mg/kg	0.0022	ND
1,4-Dichlorobenzene	0.962	mg/kg	0.0022	ND
1,4-Dioxane	0.962	mg/kg	0.11	ND
2-Butanone	0.962	mg/kg	0.0022	ND
2-Hexanone	0.962	mg/kg	0.0022	ND
4-Methyl-2-pentanone	0.962	mg/kg	0.0022	ND
Acetone	0.962	mg/kg	0.011	ND
Benzene	0.962	mg/kg	0.0011	ND
Bromochloromethane	0.962	mg/kg	0.0022	ND
Bromodichloromethane	0.962	mg/kg	0.0022	ND
Bromoform	0.962	mg/kg	0.0022	ND
Bromomethane	0.962	mg/kg	0.0022	ND
Carbon disulfide	0.962	mg/kg	0.0022	ND
Carbon tetrachloride	0.962	mg/kg	0.0022	ND
Chlorobenzene	0.962	mg/kg	0.0022	ND
Chloroethane	0.962	mg/kg	0.0022	ND
Chloroform	0.962	mg/kg	0.0022	ND
Chloromethane	0.962	mg/kg	0.0022	ND
cis-1,2-Dichloroethene	0.962	mg/kg	0.0022	ND
cis-1,3-Dichloropropene	0.962	mg/kg	0.0022	ND
Cyclohexane	0.962	mg/kg	0.0022	ND
Dibromochloromethane	0.962	mg/kg	0.0022	ND
Dichlorodifluoromethane	0.962	mg/kg	0.0022	ND
Ethylbenzene	0.962	mg/kg	0.0011	ND
Isopropylbenzene	0.962	mg/kg	0.0011	ND
m&p-Xylenes	0.962	mg/kg	0.0011	ND
Methyl Acetate	0.962	mg/kg	0.0022	ND
Methylcyclohexane	0.962	mg/kg	0.0022	ND
Methylene chloride	0.962	mg/kg	0.0022	ND
Methyl-t-butyl ether	0.962	mg/kg	0.0011	ND
o-Xylene	0.962	mg/kg	0.0011	ND
Styrene	0.962	mg/kg	0.0022	ND
t-Butyl Alcohol	0.962	mg/kg	0.011	ND
Tetrachloroethene	0.962	mg/kg	0.0022	ND
Toluene	0.962	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	0.962	mg/kg	0.0022	ND
trans-1,3-Dichloropropene	0.962	mg/kg	0.0022	ND

Sample ID: SB03 GRAB
Lab#: AD00475-003
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

Trichloroethene	0.962	mg/kg	0.0022	ND
Trichlorofluoromethane	0.962	mg/kg	0.0022	ND
Vinyl chloride	0.962	mg/kg	0.0022	ND
Xylenes (Total)	0.962	mg/kg	0.0011	ND

Sample ID: SB03 COMP
Lab#: AD00475-004
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% 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	97.3	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 (TCLP) 7470A

Analyte	DF	Units	RL	Result
Mercury	1	mg/l	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.037	ND
Acenaphthene	1	mg/kg	0.037	ND
Acenaphthylene	1	mg/kg	0.037	ND
Anthracene	1	mg/kg	0.037	ND
Benzo[a]anthracene	1	mg/kg	0.037	ND
Benzo[a]pyrene	1	mg/kg	0.037	ND
Benzo[b]fluoranthene	1	mg/kg	0.037	ND
Benzo[g,h,i]perylene	1	mg/kg	0.037	ND
Benzo[k]fluoranthene	1	mg/kg	0.037	ND
Chrysene	1	mg/kg	0.037	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	ND
Fluorene	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	ND
Naphthalene	1	mg/kg	0.0094	ND
Phenanthrene	1	mg/kg	0.037	ND
Pyrene	1	mg/kg	0.037	ND

Paint Filter Test 9095B

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.028	ND
Aroclor-1016	1	mg/kg	0.028	ND
Aroclor-1221	1	mg/kg	0.028	ND
Aroclor-1232	1	mg/kg	0.028	ND
Aroclor-1242	1	mg/kg	0.028	ND
Aroclor-1248	1	mg/kg	0.028	ND
Aroclor-1254	1	mg/kg	0.028	ND
Aroclor-1260	1	mg/kg	0.028	ND
Aroclor-1262	1	mg/kg	0.028	ND
Aroclor-1268	1	mg/kg	0.028	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		8.4

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB03 COMP
Lab#: AD00475-004
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

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**	**0.43**
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**	**0.10**
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	67	ND

Sample ID: SB04 GRAB
Lab#: AD00475-005
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		87

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.899	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.899	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.899	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.899	mg/kg	0.0021	ND
1,1-Dichloroethane	0.899	mg/kg	0.0021	ND
1,1-Dichloroethene	0.899	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.899	mg/kg	0.0016	ND
1,2,4-Trichlorobenzene	0.899	mg/kg	0.0012	ND
1,2-Dibromo-3-chloropropane	0.899	mg/kg	0.0021	ND
1,2-Dibromoethane	0.899	mg/kg	0.0010	ND
1,2-Dichlorobenzene	0.899	mg/kg	0.0021	ND
1,2-Dichloroethane	0.899	mg/kg	0.0021	ND
1,2-Dichloropropane	0.899	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.899	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.899	mg/kg	0.0021	ND
1,4-Dioxane	0.899	mg/kg	0.10	ND
2-Butanone	0.899	mg/kg	0.0021	ND
2-Hexanone	0.899	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.899	mg/kg	0.0021	ND
Acetone	0.899	mg/kg	0.010	ND
Benzene	0.899	mg/kg	0.0010	ND
Bromochloromethane	0.899	mg/kg	0.0021	ND
Bromodichloromethane	0.899	mg/kg	0.0021	ND
Bromoform	0.899	mg/kg	0.0021	ND
Bromomethane	0.899	mg/kg	0.0021	ND
Carbon disulfide	0.899	mg/kg	0.0021	ND
Carbon tetrachloride	0.899	mg/kg	0.0021	ND
Chlorobenzene	0.899	mg/kg	0.0021	ND
Chloroethane	0.899	mg/kg	0.0021	ND
Chloroform	0.899	mg/kg	0.0021	ND
Chloromethane	0.899	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.899	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.899	mg/kg	0.0021	ND
Cyclohexane	0.899	mg/kg	0.0021	ND
Dibromochloromethane	0.899	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.899	mg/kg	0.0021	ND
Ethylbenzene	0.899	mg/kg	0.0010	ND
Isopropylbenzene	0.899	mg/kg	0.0010	ND
m&p-Xylenes	0.899	mg/kg	0.0010	ND
Methyl Acetate	0.899	mg/kg	0.0021	ND
Methylcyclohexane	0.899	mg/kg	0.0021	ND
Methylene chloride	0.899	mg/kg	0.0021	ND
Methyl-t-butyl ether	0.899	mg/kg	0.0010	ND
o-Xylene	0.899	mg/kg	0.0010	ND
Styrene	0.899	mg/kg	0.0021	ND
t-Butyl Alcohol	0.899	mg/kg	0.010	ND
Tetrachloroethene	0.899	mg/kg	0.0021	ND
Toluene	0.899	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	0.899	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.899	mg/kg	0.0021	ND

Sample ID: SB04 GRAB
Lab#: AD00475-005
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

Trichloroethene	0.899	mg/kg	0.0021	ND
Trichlorofluoromethane	0.899	mg/kg	0.0021	ND
Vinyl chloride	0.899	mg/kg	0.0021	ND
Xylenes (Total)	0.899	mg/kg	0.0010	ND

Sample ID: SB04 COMP
Lab#: AD00475-006
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		86

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	95.6	mg/kg	28	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	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.039	ND
Acenaphthene	1	mg/kg	0.039	ND
Acenaphthylene	1	mg/kg	0.039	ND
Anthracene	1	mg/kg	0.039	ND
Benzo[a]anthracene	1	mg/kg	0.039	ND
Benzo[a]pyrene	1	mg/kg	0.039	ND
Benzo[b]fluoranthene	1	mg/kg	0.039	ND
Benzo[g,h,i]perylene	1	mg/kg	0.039	ND
Benzo[k]fluoranthene	1	mg/kg	0.039	ND
Chrysene	1	mg/kg	0.039	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.039	ND
Fluoranthene	1	mg/kg	0.039	ND
Fluorene	1	mg/kg	0.039	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.039	ND
Naphthalene	1	mg/kg	0.0097	ND
Phenanthrene	1	mg/kg	0.039	ND
Pyrene	1	mg/kg	0.039	ND

Paint Filter Test 9095B

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
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		6.7

Sample ID: SB04 COMP
Lab#: AD00475-006
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

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	0.57
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	0.31
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	70	ND

Sample ID: SB05 GRAB
Lab#: AD00475-007
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		91

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.917	mg/kg	0.0020	ND
1,1,2,2-Tetrachloroethane	0.917	mg/kg	0.0020	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.917	mg/kg	0.0020	ND
1,1,2-Trichloroethane	0.917	mg/kg	0.0020	ND
1,1-Dichloroethane	0.917	mg/kg	0.0020	ND
1,1-Dichloroethene	0.917	mg/kg	0.0020	ND
1,2,3-Trichlorobenzene	0.917	mg/kg	0.0015	ND
1,2,4-Trichlorobenzene	0.917	mg/kg	0.0012	ND
1,2-Dibromo-3-chloropropane	0.917	mg/kg	0.0020	ND
1,2-Dibromoethane	0.917	mg/kg	0.0010	ND
1,2-Dichlorobenzene	0.917	mg/kg	0.0020	ND
1,2-Dichloroethane	0.917	mg/kg	0.0020	ND
1,2-Dichloropropane	0.917	mg/kg	0.0020	ND
1,3-Dichlorobenzene	0.917	mg/kg	0.0020	ND
1,4-Dichlorobenzene	0.917	mg/kg	0.0020	ND
1,4-Dioxane	0.917	mg/kg	0.10	ND
2-Butanone	0.917	mg/kg	0.0020	ND
2-Hexanone	0.917	mg/kg	0.0020	ND
4-Methyl-2-pentanone	0.917	mg/kg	0.0020	ND
Acetone	0.917	mg/kg	0.010	ND
Benzene	0.917	mg/kg	0.0010	ND
Bromochloromethane	0.917	mg/kg	0.0020	ND
Bromodichloromethane	0.917	mg/kg	0.0020	ND
Bromoform	0.917	mg/kg	0.0020	ND
Bromomethane	0.917	mg/kg	0.0020	ND
Carbon disulfide	0.917	mg/kg	0.0020	ND
Carbon tetrachloride	0.917	mg/kg	0.0020	ND
Chlorobenzene	0.917	mg/kg	0.0020	ND
Chloroethane	0.917	mg/kg	0.0020	ND
Chloroform	0.917	mg/kg	0.0020	ND
Chloromethane	0.917	mg/kg	0.0020	ND
cis-1,2-Dichloroethene	0.917	mg/kg	0.0020	ND
cis-1,3-Dichloropropene	0.917	mg/kg	0.0020	ND
Cyclohexane	0.917	mg/kg	0.0020	ND
Dibromochloromethane	0.917	mg/kg	0.0020	ND
Dichlorodifluoromethane	0.917	mg/kg	0.0020	ND
Ethylbenzene	0.917	mg/kg	0.0010	ND
Isopropylbenzene	0.917	mg/kg	0.0010	ND
m&p-Xylenes	0.917	mg/kg	0.0010	ND
Methyl Acetate	0.917	mg/kg	0.0020	ND
Methylcyclohexane	0.917	mg/kg	0.0020	ND
Methylene chloride	0.917	mg/kg	0.0020	ND
Methyl-t-butyl ether	0.917	mg/kg	0.0010	ND
o-Xylene	0.917	mg/kg	0.0010	ND
Styrene	0.917	mg/kg	0.0020	ND
t-Butyl Alcohol	0.917	mg/kg	0.010	ND
Tetrachloroethene	0.917	mg/kg	0.0020	ND
Toluene	0.917	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	0.917	mg/kg	0.0020	ND
trans-1,3-Dichloropropene	0.917	mg/kg	0.0020	ND

Sample ID: SB05 GRAB
Lab#: AD00475-007
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

Trichloroethene	0.917	mg/kg	0.0020	ND
Trichlorofluoromethane	0.917	mg/kg	0.0020	ND
Vinyl chloride	0.917	mg/kg	0.0020	ND
Xylenes (Total)	0.917	mg/kg	0.0010	ND

Sample ID: SB05 COMP
Lab#: AD00475-008
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% 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	89.9	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	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.037	ND
Acenaphthene	1	mg/kg	0.037	ND
Acenaphthylene	1	mg/kg	0.037	ND
Anthracene	1	mg/kg	0.037	ND
Benzo[a]anthracene	1	mg/kg	0.037	ND
Benzo[a]pyrene	1	mg/kg	0.037	ND
Benzo[b]fluoranthene	1	mg/kg	0.037	ND
Benzo[g,h,i]perylene	1	mg/kg	0.037	ND
Benzo[k]fluoranthene	1	mg/kg	0.037	ND
Chrysene	1	mg/kg	0.037	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	ND
Fluorene	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	ND
Naphthalene	1	mg/kg	0.0094	ND
Phenanthrene	1	mg/kg	0.037	ND
Pyrene	1	mg/kg	0.037	ND

Paint Filter Test 9095B

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.028	ND
Aroclor-1016	1	mg/kg	0.028	ND
Aroclor-1221	1	mg/kg	0.028	ND
Aroclor-1232	1	mg/kg	0.028	ND
Aroclor-1242	1	mg/kg	0.028	ND
Aroclor-1248	1	mg/kg	0.028	ND
Aroclor-1254	1	mg/kg	0.028	ND
Aroclor-1260	1	mg/kg	0.028	ND
Aroclor-1262	1	mg/kg	0.028	ND
Aroclor-1268	1	mg/kg	0.028	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		8.1

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB05 COMP
Lab#: AD00475-008
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

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**	**0.35**
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**	**0.31**
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	67	ND

Sample ID: SB08 GRAB
Lab#: AD00475-009
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		89

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.967	mg/kg	0.0022	ND
1,1,2,2-Tetrachloroethane	0.967	mg/kg	0.0022	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.967	mg/kg	0.0022	ND
1,1,2-Trichloroethane	0.967	mg/kg	0.0022	ND
1,1-Dichloroethane	0.967	mg/kg	0.0022	ND
1,1-Dichloroethene	0.967	mg/kg	0.0022	ND
1,2,3-Trichlorobenzene	0.967	mg/kg	0.0016	ND
1,2,4-Trichlorobenzene	0.967	mg/kg	0.0013	ND
1,2-Dibromo-3-chloropropane	0.967	mg/kg	0.0022	ND
1,2-Dibromoethane	0.967	mg/kg	0.0011	ND
1,2-Dichlorobenzene	0.967	mg/kg	0.0022	ND
1,2-Dichloroethane	0.967	mg/kg	0.0022	ND
1,2-Dichloropropane	0.967	mg/kg	0.0022	ND
1,3-Dichlorobenzene	0.967	mg/kg	0.0022	ND
1,4-Dichlorobenzene	0.967	mg/kg	0.0022	ND
1,4-Dioxane	0.967	mg/kg	0.11	ND
2-Butanone	0.967	mg/kg	0.0022	ND
2-Hexanone	0.967	mg/kg	0.0022	ND
4-Methyl-2-pentanone	0.967	mg/kg	0.0022	ND
Acetone	0.967	mg/kg	0.011	ND
Benzene	0.967	mg/kg	0.0011	ND
Bromochloromethane	0.967	mg/kg	0.0022	ND
Bromodichloromethane	0.967	mg/kg	0.0022	ND
Bromoform	0.967	mg/kg	0.0022	ND
Bromomethane	0.967	mg/kg	0.0022	ND
Carbon disulfide	0.967	mg/kg	0.0022	ND
Carbon tetrachloride	0.967	mg/kg	0.0022	ND
Chlorobenzene	0.967	mg/kg	0.0022	ND
Chloroethane	0.967	mg/kg	0.0022	ND
Chloroform	0.967	mg/kg	0.0022	ND
Chloromethane	0.967	mg/kg	0.0022	ND
cis-1,2-Dichloroethene	0.967	mg/kg	0.0022	ND
cis-1,3-Dichloropropene	0.967	mg/kg	0.0022	ND
Cyclohexane	0.967	mg/kg	0.0022	ND
Dibromochloromethane	0.967	mg/kg	0.0022	ND
Dichlorodifluoromethane	0.967	mg/kg	0.0022	ND
Ethylbenzene	0.967	mg/kg	0.0011	ND
Isopropylbenzene	0.967	mg/kg	0.0011	ND
m&p-Xylenes	0.967	mg/kg	0.0011	ND
Methyl Acetate	0.967	mg/kg	0.0022	ND
Methylcyclohexane	0.967	mg/kg	0.0022	ND
Methylene chloride	0.967	mg/kg	0.0022	ND
Methyl-t-butyl ether	0.967	mg/kg	0.0011	ND
o-Xylene	0.967	mg/kg	0.0011	ND
Styrene	0.967	mg/kg	0.0022	ND
t-Butyl Alcohol	0.967	mg/kg	0.011	ND
Tetrachloroethene	0.967	mg/kg	0.0022	ND
Toluene	0.967	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	0.967	mg/kg	0.0022	ND
trans-1,3-Dichloropropene	0.967	mg/kg	0.0022	ND

Sample ID: SB08 GRAB
Lab#: AD00475-009
Matrix: Soil

Collection Date: 10/5/2017
Receipt Date: 10/6/2017

Trichloroethene	0.967	mg/kg	0.0022	ND
Trichlorofluoromethane	0.967	mg/kg	0.0022	ND
Vinyl chloride	0.967	mg/kg	0.0022	ND
Xylenes (Total)	0.967	mg/kg	0.0011	ND

Sample ID: SB08 COMP
Lab#: AD00475-010
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

% 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	96.6	mg/kg	28	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	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.037	ND
Acenaphthene	1	mg/kg	0.037	ND
Acenaphthylene	1	mg/kg	0.037	ND
Anthracene	1	mg/kg	0.037	ND
Benzo[a]anthracene	1	mg/kg	0.037	ND
Benzo[a]pyrene	1	mg/kg	0.037	ND
Benzo[b]fluoranthene	1	mg/kg	0.037	ND
Benzo[g,h,i]perylene	1	mg/kg	0.037	ND
Benzo[k]fluoranthene	1	mg/kg	0.037	ND
Chrysene	1	mg/kg	0.037	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	ND
Fluorene	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	ND
Naphthalene	1	mg/kg	0.0094	ND
Phenanthrene	1	mg/kg	0.037	ND
Pyrene	1	mg/kg	0.037	ND

Paint Filter Test 9095B

Analyte	DF	Units	RL	Result
Paint Filter Test	1			NEG

PCB 8082

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	mg/kg	0.028	ND
Aroclor-1016	1	mg/kg	0.028	ND
Aroclor-1221	1	mg/kg	0.028	ND
Aroclor-1232	1	mg/kg	0.028	ND
Aroclor-1242	1	mg/kg	0.028	ND
Aroclor-1248	1	mg/kg	0.028	ND
Aroclor-1254	1	mg/kg	0.028	ND
Aroclor-1260	1	mg/kg	0.028	ND
Aroclor-1262	1	mg/kg	0.028	ND
Aroclor-1268	1	mg/kg	0.028	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		7.5

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB08 COMP
Lab#: AD00475-010
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

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	0.29
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	0.11
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	67	ND

Sample ID: SB09 GRAB
Lab#: AD00475-011
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		88

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.971	mg/kg	0.0022	ND
1,1,2,2-Tetrachloroethane	0.971	mg/kg	0.0022	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.971	mg/kg	0.0022	ND
1,1,2-Trichloroethane	0.971	mg/kg	0.0022	ND
1,1-Dichloroethane	0.971	mg/kg	0.0022	ND
1,1-Dichloroethene	0.971	mg/kg	0.0022	ND
1,2,3-Trichlorobenzene	0.971	mg/kg	0.0017	ND
1,2,4-Trichlorobenzene	0.971	mg/kg	0.0013	ND
1,2-Dibromo-3-chloropropane	0.971	mg/kg	0.0022	ND
1,2-Dibromoethane	0.971	mg/kg	0.0011	ND
1,2-Dichlorobenzene	0.971	mg/kg	0.0022	ND
1,2-Dichloroethane	0.971	mg/kg	0.0022	ND
1,2-Dichloropropane	0.971	mg/kg	0.0022	ND
1,3-Dichlorobenzene	0.971	mg/kg	0.0022	ND
1,4-Dichlorobenzene	0.971	mg/kg	0.0022	ND
1,4-Dioxane	0.971	mg/kg	0.11	ND
2-Butanone	0.971	mg/kg	0.0022	ND
2-Hexanone	0.971	mg/kg	0.0022	ND
4-Methyl-2-pentanone	0.971	mg/kg	0.0022	ND
Acetone	0.971	mg/kg	0.011	ND
Benzene	0.971	mg/kg	0.0011	ND
Bromochloromethane	0.971	mg/kg	0.0022	ND
Bromodichloromethane	0.971	mg/kg	0.0022	ND
Bromoform	0.971	mg/kg	0.0022	ND
Bromomethane	0.971	mg/kg	0.0022	ND
Carbon disulfide	0.971	mg/kg	0.0022	ND
Carbon tetrachloride	0.971	mg/kg	0.0022	ND
Chlorobenzene	0.971	mg/kg	0.0022	ND
Chloroethane	0.971	mg/kg	0.0022	ND
Chloroform	0.971	mg/kg	0.0022	ND
Chloromethane	0.971	mg/kg	0.0022	ND
cis-1,2-Dichloroethene	0.971	mg/kg	0.0022	ND
cis-1,3-Dichloropropene	0.971	mg/kg	0.0022	ND
Cyclohexane	0.971	mg/kg	0.0022	ND
Dibromochloromethane	0.971	mg/kg	0.0022	ND
Dichlorodifluoromethane	0.971	mg/kg	0.0022	ND
Ethylbenzene	0.971	mg/kg	0.0011	ND
Isopropylbenzene	0.971	mg/kg	0.0011	ND
m&p-Xylenes	0.971	mg/kg	0.0011	ND
Methyl Acetate	0.971	mg/kg	0.0022	ND
Methylcyclohexane	0.971	mg/kg	0.0022	ND
Methylene chloride	0.971	mg/kg	0.0022	ND
Methyl-t-butyl ether	0.971	mg/kg	0.0011	ND
o-Xylene	0.971	mg/kg	0.0011	ND
Styrene	0.971	mg/kg	0.0022	ND
t-Butyl Alcohol	0.971	mg/kg	0.011	ND
Tetrachloroethene	0.971	mg/kg	0.0022	ND
Toluene	0.971	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	0.971	mg/kg	0.0022	ND
trans-1,3-Dichloropropene	0.971	mg/kg	0.0022	ND

Sample ID: SB09 GRAB
Lab#: AD00475-011
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

Trichloroethene	0.971	mg/kg	0.0022	ND
Trichlorofluoromethane	0.971	mg/kg	0.0022	ND
Vinyl chloride	0.971	mg/kg	0.0022	ND
Xylenes (Total)	0.971	mg/kg	0.0011	ND

Sample ID: SB09 COMP
Lab#: AD00475-012
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		92

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	90.6	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	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.036	ND
Acenaphthene	1	mg/kg	0.036	ND
Acenaphthylene	1	mg/kg	0.036	ND
Anthracene	1	mg/kg	0.036	ND
Benzo[a]anthracene	1	mg/kg	0.036	ND
Benzo[a]pyrene	1	mg/kg	0.036	ND
Benzo[b]fluoranthene	1	mg/kg	0.036	ND
Benzo[g,h,i]perylene	1	mg/kg	0.036	ND
Benzo[k]fluoranthene	1	mg/kg	0.036	ND
Chrysene	1	mg/kg	0.036	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.036	ND
Fluoranthene	1	mg/kg	0.036	0.040
Fluorene	1	mg/kg	0.036	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.036	ND
Naphthalene	1	mg/kg	0.0091	ND
Phenanthrene	1	mg/kg	0.036	ND
Pyrene	1	mg/kg	0.036	0.040

Paint Filter Test 9095B

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
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		7.6

Sample ID: SB09 COMP
Lab#: AD00475-012
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

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**	**0.47**
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**	**0.17**
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	65	ND

Sample ID: SB07 GRAB
Lab#: AD00475-013
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		96

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.861	mg/kg	0.0018	ND
1,1,2,2-Tetrachloroethane	0.861	mg/kg	0.0018	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.861	mg/kg	0.0018	ND
1,1,2-Trichloroethane	0.861	mg/kg	0.0018	ND
1,1-Dichloroethane	0.861	mg/kg	0.0018	ND
1,1-Dichloroethene	0.861	mg/kg	0.0018	ND
1,2,3-Trichlorobenzene	0.861	mg/kg	0.0013	ND
1,2,4-Trichlorobenzene	0.861	mg/kg	0.0011	ND
1,2-Dibromo-3-chloropropane	0.861	mg/kg	0.0018	ND
1,2-Dibromoethane	0.861	mg/kg	0.00090	ND
1,2-Dichlorobenzene	0.861	mg/kg	0.0018	ND
1,2-Dichloroethane	0.861	mg/kg	0.0018	ND
1,2-Dichloropropane	0.861	mg/kg	0.0018	ND
1,3-Dichlorobenzene	0.861	mg/kg	0.0018	ND
1,4-Dichlorobenzene	0.861	mg/kg	0.0018	ND
1,4-Dioxane	0.861	mg/kg	0.090	ND
2-Butanone	0.861	mg/kg	0.0018	ND
2-Hexanone	0.861	mg/kg	0.0018	ND
4-Methyl-2-pentanone	0.861	mg/kg	0.0018	ND
Acetone	0.861	mg/kg	0.0090	ND
Benzene	0.861	mg/kg	0.00090	ND
Bromochloromethane	0.861	mg/kg	0.0018	ND
Bromodichloromethane	0.861	mg/kg	0.0018	ND
Bromoform	0.861	mg/kg	0.0018	ND
Bromomethane	0.861	mg/kg	0.0018	ND
Carbon disulfide	0.861	mg/kg	0.0018	ND
Carbon tetrachloride	0.861	mg/kg	0.0018	ND
Chlorobenzene	0.861	mg/kg	0.0018	ND
Chloroethane	0.861	mg/kg	0.0018	ND
Chloroform	0.861	mg/kg	0.0018	ND
Chloromethane	0.861	mg/kg	0.0018	ND
cis-1,2-Dichloroethene	0.861	mg/kg	0.0018	ND
cis-1,3-Dichloropropene	0.861	mg/kg	0.0018	ND
Cyclohexane	0.861	mg/kg	0.0018	ND
Dibromochloromethane	0.861	mg/kg	0.0018	ND
Dichlorodifluoromethane	0.861	mg/kg	0.0018	ND
Ethylbenzene	0.861	mg/kg	0.00090	ND
Isopropylbenzene	0.861	mg/kg	0.00090	ND
m&p-Xylenes	0.861	mg/kg	0.00090	ND
Methyl Acetate	0.861	mg/kg	0.0018	ND
Methylcyclohexane	0.861	mg/kg	0.0018	ND
Methylene chloride	0.861	mg/kg	0.0018	ND
Methyl-t-butyl ether	0.861	mg/kg	0.00090	ND
o-Xylene	0.861	mg/kg	0.00090	ND
Styrene	0.861	mg/kg	0.0018	ND
t-Butyl Alcohol	0.861	mg/kg	0.0090	ND
Tetrachloroethene	0.861	mg/kg	0.0018	ND
Toluene	0.861	mg/kg	0.00090	ND
trans-1,2-Dichloroethene	0.861	mg/kg	0.0018	ND
trans-1,3-Dichloropropene	0.861	mg/kg	0.0018	ND

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB07 GRAB
Lab#: AD00475-013
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

Trichloroethene	0.861	mg/kg	0.0018	ND
Trichlorofluoromethane	0.861	mg/kg	0.0018	ND
Vinyl chloride	0.861	mg/kg	0.0018	ND
Xylenes (Total)	0.861	mg/kg	0.00090	ND

Sample ID: SB07 COMP
Lab#: AD00475-014
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

% 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	94.5	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	0.00050	ND

PAH Compounds 8270

Analyte	DF	Units	RL	Result
2-Methylnaphthalene	1	mg/kg	0.035	ND
Acenaphthene	1	mg/kg	0.035	ND
Acenaphthylene	1	mg/kg	0.035	ND
Anthracene	1	mg/kg	0.035	ND
Benzo[a]anthracene	1	mg/kg	0.035	ND
Benzo[a]pyrene	1	mg/kg	0.035	ND
Benzo[b]fluoranthene	1	mg/kg	0.035	0.045
Benzo[g,h,i]perylene	1	mg/kg	0.035	ND
Benzo[k]fluoranthene	1	mg/kg	0.035	ND
Chrysene	1	mg/kg	0.035	0.036
Dibenzo[a,h]anthracene	1	mg/kg	0.035	ND
Fluoranthene	1	mg/kg	0.035	0.051
Fluorene	1	mg/kg	0.035	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.035	ND
Naphthalene	1	mg/kg	0.0089	ND
Phenanthrene	1	mg/kg	0.035	ND
Pyrene	1	mg/kg	0.035	0.060

Paint Filter Test 9095B

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
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		8.2

Sample ID: SB07 COMP
Lab#: AD00475-014
Matrix: Soil

Collection Date: 10/6/2017
Receipt Date: 10/6/2017

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	0.34
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	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: Bartow

HC Project #: 7100701

Lab#: AD00475-001 **Sample ID: SB02 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/9/17 23:16	WP

Lab#: AD00475-002 **Sample ID: SB02 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 17:50	SG
Ignitability (EPA 1030)		10/09/17	SDL	EPA 1030	10/9/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/11/17 09:15	aadewusi	EPA 7470A	10/11/17 15:57	OA
PAH Compounds 8270	3510C/3550C	10/09/17 09:30	marie	EPA 8270D	10/10/17 11:06	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/9/17 00:00	SDL
PCB 8082	3510C/3550C	10/10/17 07:30	jkr/jir	EPA 8082A	10/10/17 22:30	MS/ZM/MLC
pH 9040C/9045D				9040C/9045D	10/9/17 12:25	SDL
Reactive Cyanide	SW846 7.3.3	10/09/17	jessica	SW846 7.3.3	10/9/17 14:36	JMP
Reactive Sulfide	SW846 7.3.4	10/09/17	JMP	SW846 7.3.4	10/9/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/11/17 09:15	aadewusi	EPA 6010C	10/11/17 16:21	SRB
TCLP Metals Extraction 1311	EPA 1311	10/09/17 15:03	Ramos		10/10/17 12:30	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/11/17 13:29	RAK/AH/KD

Lab#: AD00475-003 **Sample ID: SB03 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/9/17 23:34	WP

Laboratory Chronicle

Client: Louis Berger & Associates
Project: Bartow

HC Project #: 7100701

Lab#: AD00475-004 **Sample ID: SB03 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 18:10	SG
Ignitability (EPA 1030)		10/09/17	SDL	EPA 1030	10/9/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/11/17 09:15	aadewusi	EPA 7470A	10/11/17 15:58	OA
PAH Compounds 8270	3510C/3550C	10/09/17 09:30	marie	EPA 8270D	10/10/17 16:23	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/9/17 00:00	SDL
PCB 8082	3510C/3550C	10/10/17 07:30	jkr/jir	EPA 8082A	10/10/17 22:46	MS/ZM/MLC
pH 9040C/9045D				9040C/9045D	10/9/17 12:25	SDL
Reactive Cyanide	SW846 7.3.3	10/09/17	jessica	SW846 7.3.3	10/9/17 14:38	JMP
Reactive Sulfide	SW846 7.3.4	10/09/17	JMP	SW846 7.3.4	10/9/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/11/17 09:15	aadewusi	EPA 6010C	10/11/17 16:25	SRB
TCLP Metals Extraction 1311	EPA 1311	10/09/17 15:03	Ramos		10/10/17 12:45	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/11/17 12:40	RAK/AH/KD

Lab#: AD00475-005 **Sample ID: SB04 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/10/17 03:27	WP

Lab#: AD00475-006 **Sample ID: SB04 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 18:30	SG
Ignitability (EPA 1030)		10/09/17	SDL	EPA 1030	10/9/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/11/17 09:15	aadewusi	EPA 7470A	10/11/17 15:59	OA
PAH Compounds 8270	3510C/3550C	10/09/17 09:30	marie	EPA 8270D	10/10/17 16:47	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/9/17 00:00	SDL
PCB 8082	3510C/3550C	10/10/17 07:30	jkr/jir	EPA 8082A	10/10/17 23:01	MS/ZM/MLC
pH 9040C/9045D				9040C/9045D	10/9/17 12:25	SDL
Reactive Cyanide	SW846 7.3.3	10/09/17	jessica	SW846 7.3.3	10/9/17 14:40	JMP
Reactive Sulfide	SW846 7.3.4	10/09/17	JMP	SW846 7.3.4	10/9/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/11/17 09:15	aadewusi	EPA 6010C	10/11/17 16:51	SRB
TCLP Metals Extraction 1311	EPA 1311	10/09/17 15:03	Ramos		10/10/17 15:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/10/17 20:52	RAK/AH/KD

Laboratory Chronicle

Client: Louis Berger & Associates
Project: Bartow

HC Project #: 7100701

Lab#: AD00475-007 **Sample ID: SB05 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/10/17 03:43	WP

Lab#: AD00475-008 **Sample ID: SB05 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 18:50	SG
Ignitability (EPA 1030)		10/09/17	SDL	EPA 1030	10/9/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/11/17 09:15	aadewusi	EPA 7470A	10/11/17 15:50	OA
PAH Compounds 8270	3510C/3550C	10/09/17 09:30	marie	EPA 8270D	10/10/17 16:37	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/9/17 00:00	SDL
PCB 8082	3510C/3550C	10/10/17 07:30	jkr/jir	EPA 8082A	10/10/17 23:16	MS/ZM/MLC
pH 9040C/9045D				9040C/9045D	10/9/17 12:25	SDL
Reactive Cyanide	SW846 7.3.3	10/09/17	jessica	SW846 7.3.3	10/9/17 14:42	JMP
Reactive Sulfide	SW846 7.3.4	10/09/17	JMP	SW846 7.3.4	10/9/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/11/17 09:15	aadewusi	EPA 6010C	10/11/17 16:01	SRB
TCLP Metals Extraction 1311	EPA 1311	10/09/17 15:03	Ramos		10/10/17 13:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/10/17 21:17	RAK/AH/KD

Lab#: AD00475-009 **Sample ID: SB08 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/10/17 04:00	WP

Laboratory Chronicle

Client: Louis Berger & Associates
Project: Bartow

HC Project #: 7100701

Lab#: AD00475-010 **Sample ID: SB08 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 19:09	SG
Ignitability (EPA 1030)		10/09/17	SDL	EPA 1030	10/9/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/11/17 09:15	aadewusi	EPA 7470A	10/11/17 16:04	OA
PAH Compounds 8270	3510C/3550C	10/09/17 09:30	marie	EPA 8270D	10/10/17 13:16	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/9/17 00:00	SDL
PCB 8082	3510C/3550C	10/10/17 07:30	jkr/jir	EPA 8082A	10/10/17 23:32	MS/ZM/MLC
pH 9040C/9045D				9040C/9045D	10/9/17 12:25	SDL
Reactive Cyanide	SW846 7.3.3	10/09/17	jessica	SW846 7.3.3	10/9/17 14:44	JMP
Reactive Sulfide	SW846 7.3.4	10/09/17	JMP	SW846 7.3.4	10/9/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/11/17 09:15	aadewusi	EPA 6010C	10/11/17 16:54	SRB
TCLP Metals Extraction 1311	EPA 1311	10/09/17 15:03	Ramos		10/10/17 13:05	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/11/17 12:16	RAK/AH/KD

Lab#: AD00475-011 **Sample ID: SB09 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/10/17 04:33	WP

Lab#: AD00475-012 **Sample ID: SB09 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 19:30	SG
Ignitability (EPA 1030)		10/09/17	SDL	EPA 1030	10/9/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/11/17 09:15	aadewusi	EPA 7470A	10/11/17 16:05	OA
PAH Compounds 8270	3510C/3550C	10/09/17 09:30	marie	EPA 8270D	10/10/17 17:10	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/9/17 00:00	SDL
PCB 8082	3510C/3550C	10/10/17 07:30	jkr/jir	EPA 8082A	10/10/17 23:47	MS/ZM/MLC
pH 9040C/9045D				9040C/9045D	10/9/17 12:25	SDL
Reactive Cyanide	SW846 7.3.3	10/09/17	jessica	SW846 7.3.3	10/9/17 14:46	JMP
Reactive Sulfide	SW846 7.3.4	10/09/17	JMP	SW846 7.3.4	10/9/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/11/17 09:15	aadewusi	EPA 6010C	10/11/17 16:58	SRB
TCLP Metals Extraction 1311	EPA 1311	10/09/17 15:03	Ramos		10/10/17 15:00	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/11/17 11:51	RAK/AH/KD

Laboratory Chronicle

Client: Louis Berger & Associates

Project: Bartow

HC Project #: 7100701

Lab#: AD00475-013 **Sample ID: SB07 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260C	10/10/17 04:50	WP

Lab#: AD00475-014 **Sample ID: SB07 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	10/9/17 00:00	jessica
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	10/10/17 19:48	SG
Ignitability (EPA 1030)		10/09/17	SDL	EPA 1030	10/9/17 00:00	SDL
Mercury (TCLP) 7470A	EPA 7470A	10/11/17 09:15	aadewusi	EPA 7470A	10/11/17 16:07	OA
PAH Compounds 8270	3510C/3550C	10/09/17 09:30	marie	EPA 8270D	10/10/17 17:00	AH/JB
Paint Filter Test 9095B				EPA 9095B	10/9/17 00:00	SDL
PCB 8082	3510C/3550C	10/10/17 11:30	jkr/jir	EPA 8082A	10/10/17 19:25	MS/ZM/MLC
pH 9040C/9045D				9040C/9045D	10/9/17 12:25	SDL
Reactive Cyanide	SW846 7.3.3	10/09/17	jessica	SW846 7.3.3	10/9/17 14:47	JMP
Reactive Sulfide	SW846 7.3.4	10/09/17	JMP	SW846 7.3.4	10/9/17 00:00	JMP
TCLP Metals 6010	3005&10/3050	10/11/17 09:15	aadewusi	EPA 6010C	10/11/17 17:01	SRB
TCLP Metals Extraction 1311	EPA 1311	10/09/17 15:03	Ramos		10/10/17 14:15	Ramos
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	10/10/17 10:45	lynda	EPA 8015D	10/11/17 13:04	RAK/AH/KD

Chain of Custody

7100701 0040

Hampton-Clarke, Inc. (WBE/DBE/SBE)
1[illegible] 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 Gaither Drive, Mount Laurel, New Jersey 08054
Ph (Service Center): 856-780-6057 Fax: 856-780-6056

Hampton-Clarke WBE/DBE/SBE 800-426-9992

CHAIN OF CUSTODY RECORD

A Women-Owned, Disadvantaged, Small Business Enterprise

NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Project# (Lab Use Only): 7100701

Page 2 [illegible]3

Customer Information

1a) Customer: Louis Berger
Address: 48 Wall Street, 16th Floor
New York, NY 10005
1b) Email/Cell/Fax/Ph: madonovan@louisberger.com
1c) Send Invoice to: jganz@louisberger.com
1d) Send Report to: both above

Project Information

2a) Project: Bartow
2b) Project Mgr: Jon Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 2011040.320.00

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Deliv.
When Available:	Data Summary	Hazsite/CSV
1 Business Day (100%) *	Results + QC (Waste)	EnviroData
2 Business Days (75%) *	NJ Reduced	Excel - NJ Regulatory
3 Business Days (50%) *	NY Reduced	Excel - NY Regulatory
4 Business Days (35%) *	PA Reduced	Excel - PA Regulatory
5 Business Days (25%)	Full / Category B	EQuIS (specify below):
10 Business Days (Stand.)	Category A	4-File/EZ/NYS/Reg. 2 or 5
Other:	Electronic (PDF)	Other:

* Expedited TAT Not Always Available. Please Check with Lab.

FOR LAB USE ONLY ↓

Batch # AD00475

===> Check If Contingent ===>

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)

7) Analysis (specify methods & parameter lists)

<=== Check If Contingent <===

Lab Sample #	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite (C)	Sample Type: Grab (G)	TCL VOC (EPA 8260C)	PAH (EPA 8270C)	TPH DRO/GRO (EPA 8015B	PCB (EPA 8082A/608)	TCLP Metals RCRA 8 (EPA 1311/601B)	RCRA Char. (EPA 9012B/9034, 1030/1010A, 9045C)	Paint Filter Test (EPA 9095B)	8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
001	SB02	S	10/5/17	1010		X	X							↓								
002	SB02	S	10/5/17	1010	X			X	X	X	X	X	X									
003	SB03	S	10/5/17	1125		X	X															
004	SB03	S	10/5/17	1125	X			X	X	X	X	X	X									
005	SB04	S	10/5/17	1150		X	X															
006	SB04	S	10/5/17	1150	X			X	X	X	X	X	X									
007	SB05	S	10/5/17	1355		X	X															
008	SB05	S	10/5/17	1355	X			X	X	X	X	X	X									
009	SB08	S	10/6/17	840		X	X															
010	SB08	S	10/6/17	840	X			X	X	X	X	X	X	↓								

10/7/17

10) Relinquished by:	Accepted by:	Date	Time
[signature]	[signature]	10/6/17	1505
[signature]	[signature]	10.6.17	18:31

Additional Notes
Please Note DDC Contract TATs

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)

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Cooler Temperature: 2.1

11) Sampler (print name): Martin Donovan Date: 10/6/17

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis.

HAZ - 550

7100701 0041

Hampton-Clarke, Inc. (WBE/DBE/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 Gaither Drive, Mount Laurel, New Jersey 08054
Ph (Service Center): 856-780-6057 Fax: 856-780-6056

Hampton-Clarke WBE/DBE/SBE 800-426-9992

CHAIN OF CUSTODY RECORD

A Women-Owned, Disadvantaged, Small Business Enterprise

NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Project# (Lab Use Only): 7100701

Customer Information

1a) Customer: Louis Berger
Address: 48 Wall Street, 16th Floor
New York, NY 10005
1b) Email/Cell/Fax/Ph: madonovan@louisberger.com
1c) Send Invoice to: jganz@louisberger.com
1d) Send Report to: both above

Project Information

2a) Project: Bartow
2b) Project Mgr: Jon Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 2011040.320.00

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Deliv.
When Available:	Data Summary	Hazsite/CSV
1 Business Day (100%) *	Results + QC (Waste)	EnviroData
2 Business Days (75%) *	NJ Reduced	Excel - NJ Regulatory
3 Business Days (50%) *	NY Reduced	Excel - NY Regulatory
4 Business Days (35%) *	PA Reduced	Excel - PA Regulatory
5 Business Days (25%)	Full / Category B	EQuIS (*specify below*):
10 Business Days (Stand.)	Category A	4-File/EZ/NYS/Reg. 2 or 5
Other:	Electronic (PDF)	Other:

* Expedited TAT Not Always Available. Please Check with Lab.

FOR LAB USE ONLY ↓

Batch # AJ00475

===> Check If Contingent ===>

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)

7) Analysis (*specify methods & parameter lists*)

<===== Check If Contingent <===

Lab Sample #	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite (C)	Sample Type: Grab (G)	TCL VOC (EPA 8260C)	PAH (EPA 8270C)	TPH DRO/GRO (EPA 8015B	PCB (EPA 8082A/608)	TCLP Metals RCRA 8 (EPA 1311/601B)	RCRA Char. (EPA 9012B/9034, 1030/1010A, 9045C)	Paint Filter Test (EPA 9095B)	8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
011	SB09	S	10/6/17	925		X	X							1								
012	SB09	S	10/6/17	925	X			X	X	X	X	X	X		MS 10/7/17							
013	SB07	S	10/6/17	1210		X	X															
014	SB07	S	10/6/17	1210	X			X	X	X	X	X	X	↓								

10) Relinquished by:	Accepted by:	Date	Time
[signature]	[signature]	10/6/17	1505
[signature]	[signature]	10/6/17	18:31

Additional Notes
Please Note DDC Contract TATs

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)

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Cooler Temperature: 2.1

11) Sampler (print name): Martin Donovan Date: 10/6/17

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for an[illegible]

HAZ - 551

PROJECT MODIFICATIONS

Client: BERGER-NYC
Project: Bartow

HC Project #: 7100701

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melissa192.168.1.21
10/23/2017 12:38:39 PM

Page 1 of 3 of the COC is the NYC Discharge samples being reported under project 7100624/AC00472.

CONDITION UPON RECEIPT

Batch Number AD00475

Entered By: ricardo
Date Entered 10/7/2017 11:30:00 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	NO	Are the COC seals intact?
4	T0054	<--- Thermometer ID. Please specify the Temperature inside the container (in degC). 2.1
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).

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD00475-001	10/06/17 18:31	RICAR	0	M	Received
AD00475-001	10/07/17 11:30	RICAR	0	M	Login
AD00475-001	10/09/17 07:59	R30	1	A	NONE
AD00475-001	10/09/17 12:59	RG	1	A	VOA
AD00475-001	10/09/17 12:59	R30	1	A	NONE
AD00475-001	10/09/17 07:22	JMP	2	A	solids
AD00475-001	10/09/17 08:31	SDL	2	A	MIXING
AD00475-001	10/09/17 14:47	R12	2	A	NONE
AD00475-002	10/06/17 18:31	RICAR	0	M	Received
AD00475-002	10/07/17 11:30	RICAR	0	M	Login
AD00475-002	10/09/17 07:59	R30	1	A	NONE
AD00475-002	10/09/17 12:30	RG	1	A	GRO
AD00475-002	10/09/17 12:30	R30	1	A	NONE
AD00475-002	10/09/17 07:22	JMP	2	A	solids
AD00475-002	10/09/17 08:31	SDL	2	A	MIXING
AD00475-002	10/09/17 08:40	AP	2	A	PH
AD00475-002	10/09/17 08:41	SDL	2	A	PAINTFILTER
AD00475-002	10/09/17 09:28	MSL	2	A	bn
AD00475-002	10/09/17 09:29	R12	2	A	NONE
AD00475-002	10/09/17 15:02	RAMO	2	A	TCLP
AD00475-002	10/09/17 15:03	RAMO	2	A	R12
AD00475-002	10/10/17 07:08	JKR/JI	2	A	p/p
AD00475-002	10/10/17 10:15	R12	2	A	NONE
AD00475-002	10/10/17 10:45	LV	2	A	tph
AD00475-002	10/10/17 10:46	R12	2	A	NONE
AD00475-002	10/09/17 14:20	R31	3	A	NONE
AD00475-002	10/09/17 14:20	RG	3	A	GRO
AD00475-003	10/06/17 18:31	RICAR	0	M	Received
AD00475-003	10/07/17 11:30	RICAR	0	M	Login
AD00475-003	10/09/17 07:59	R30	1	A	NONE
AD00475-003	10/09/17 12:59	RG	1	A	VOA
AD00475-003	10/09/17 12:59	R30	1	A	NONE
AD00475-003	10/10/17 16:46	RG	1	A	VOA
AD00475-003	10/10/17 16:47	R30	1	A	NONE
AD00475-003	10/09/17 07:22	JMP	2	A	solids
AD00475-003	10/09/17 08:31	SDL	2	A	MIXING
AD00475-003	10/09/17 14:47	R12	2	A	NONE
AD00475-004	10/06/17 18:31	RICAR	0	M	Received
AD00475-004	10/07/17 11:30	RICAR	0	M	Login
AD00475-004	10/09/17 07:59	R30	1	A	NONE
AD00475-004	10/09/17 12:30	R30	1	A	NONE
AD00475-004	10/09/17 12:30	RG	1	A	GRO
AD00475-004	10/09/17 07:22	JMP	2	A	solids
AD00475-004	10/09/17 08:31	SDL	2	A	MIXING
AD00475-004	10/09/17 08:40	AP	2	A	PH
AD00475-004	10/09/17 08:41	SDL	2	A	PAINTFILTER
AD00475-004	10/09/17 08:42	SDL	2	A	IGNIT
AD00475-004	10/09/17 09:28	MSL	2	A	bn
AD00475-004	10/09/17 09:29	R12	2	A	NONE
AD00475-004	10/09/17 15:02	RAMO	2	A	TCLP
AD00475-004	10/09/17 15:03	RAMO	2	A	R12
AD00475-004	10/10/17 07:08	JKR/JI	2	A	p/p
AD00475-004	10/10/17 10:15	R12	2	A	NONE
AD00475-004	10/10/17 10:45	LV	2	A	tph
AD00475-004	10/10/17 10:46	R12	2	A	NONE
AD00475-004	10/09/17 14:20	R31	3	A	NONE
AD00475-004	10/09/17 14:20	RG	3	A	GRO
AD00475-005	10/06/17 18:31	RICAR	0	M	Received
AD00475-005	10/07/17 11:30	RICAR	0	M	Login
AD00475-005	10/09/17 07:59	R30	1	A	NONE
AD00475-005	10/09/17 12:59	RG	1	A	VOA
AD00475-005	10/09/17 12:59	R30	1	A	NONE
AD00475-005	10/10/17 16:46	RG	1	A	VOA
AD00475-005	10/10/17 16:47	R30	1	A	NONE
AD00475-005	10/09/17 07:22	JMP	2	A	solids
AD00475-005	10/09/17 08:31	SDL	2	A	MIXING
AD00475-005	10/09/17 14:47	R12	2	A	NONE
AD00475-006	10/06/17 18:31	RICAR	0	M	Received
AD00475-006	10/07/17 11:30	RICAR	0	M	Login
AD00475-006	10/09/17 07:59	R30	1	A	NONE
AD00475-006	10/09/17 12:30	R30	1	A	NONE
AD00475-006	10/09/17 12:30	RG	1	A	GRO
AD00475-006	10/09/17 07:22	JMP	2	A	solids
AD00475-006	10/09/17 08:31	SDL	2	A	MIXING
AD00475-006	10/09/17 08:40	AP	2	A	PH
AD00475-006	10/09/17 08:41	SDL	2	A	PAINTFILTER
AD00475-006	10/09/17 08:42	SDL	2	A	IGNIT
AD00475-006	10/09/17 09:28	MSL	2	A	bn
AD00475-006	10/09/17 09:29	R12	2	A	NONE
AD00475-006	10/09/17 15:02	RAMO	2	A	TCLP
AD00475-006	10/09/17 15:03	RAMO	2	A	R12
AD00475-006	10/10/17 07:08	JKR/JI	2	A	p/p
AD00475-006	10/10/17 10:15	R12	2	A	NONE
AD00475-006	10/10/17 10:45	LV	2	A	tph
AD00475-006	10/10/17 10:46	R12	2	A	NONE
AD00475-006	10/09/17 14:20	R31	3	A	NONE
AD00475-006	10/09/17 14:20	RG	3	A	GRO
AD00475-007	10/06/17 18:31	RICAR	0	M	Received
AD00475-007	10/07/17 11:30	RICAR	0	M	Login
AD00475-007	10/09/17 07:59	R30	1	A	NONE
AD00475-007	10/09/17 12:59	R30	1	A	NONE
AD00475-007	10/09/17 12:59	RG	1	A	VOA
AD00475-007	10/10/17 16:46	RG	1	A	VOA
AD00475-007	10/10/17 16:47	R30	1	A	NONE
AD00475-007	10/09/17 07:22	JMP	2	A	solids
AD00475-007	10/09/17 08:31	SDL	2	A	MIXING
AD00475-007	10/09/17 14:47	R12	2	A	NONE
AD00475-008	10/06/17 18:31	RICAR	0	M	Received
AD00475-008	10/07/17 11:30	RICAR	0	M	Login
AD00475-008	10/09/17 07:59	R30	1	A	NONE
AD00475-008	10/09/17 12:30	R30	1	A	NONE
AD00475-008	10/09/17 12:30	RG	1	A	GRO
AD00475-008	10/09/17 07:22	JMP	2	A	solids
AD00475-008	10/09/17 08:31	SDL	2	A	MIXING
AD00475-008	10/09/17 08:40	AP	2	A	PH
AD00475-008	10/09/17 08:41	SDL	2	A	PAINTFILTER
AD00475-008	10/09/17 08:42	SDL	2	A	IGNIT
AD00475-008	10/09/17 09:28	MSL	2	A	bn
AD00475-008	10/09/17 09:29	R12	2	A	NONE
AD00475-008	10/09/17 15:02	RAMO	2	A	TCLP
AD00475-008	10/09/17 15:03	RAMO	2	A	R12
AD00475-008	10/10/17 07:08	JKR/JI	2	A	p/p
AD00475-008	10/10/17 10:15	R12	2	A	NONE
AD00475-008	10/10/17 10:45	LV	2	A	tph
AD00475-008	10/10/17 10:46	R12	2	A	NONE
AD00475-008	10/09/17 14:20	R31	3	A	NONE
AD00475-008	10/09/17 14:20	RG	3	A	GRO
AD00475-009	10/06/17 18:31	RICAR	0	M	Received
AD00475-009	10/07/17 11:30	RICAR	0	M	Login
AD00475-009	10/09/17 07:59	R30	1	A	NONE
AD00475-009	10/09/17 12:59	R30	1	A	NONE
AD00475-009	10/09/17 12:59	RG	1	A	VOA
AD00475-009	10/10/17 16:46	RG	1	A	VOA
AD00475-009	10/10/17 16:47	R30	1	A	NONE
AD00475-009	10/09/17 07:22	JMP	2	A	solids
AD00475-009	10/09/17 08:31	SDL	2	A	MIXING
AD00475-009	10/09/17 14:47	R12	2	A	NONE
AD00475-010	10/06/17 18:31	RICAR	0	M	Received
AD00475-010	10/07/17 11:30	RICAR	0	M	Login
AD00475-010	10/09/17 07:59	R30	1	A	NONE
AD00475-010	10/09/17 12:30	R30	1	A	NONE
AD00475-010	10/09/17 12:30	RG	1	A	GRO
AD00475-010	10/09/17 07:22	JMP	2	A	solids
AD00475-010	10/09/17 08:31	SDL	2	A	MIXING
AD00475-010	10/09/17 08:40	AP	2	A	PH
AD00475-010	10/09/17 08:41	SDL	2	A	PAINTFILTER
AD00475-010	10/09/17 08:42	SDL	2	A	IGNIT
AD00475-010	10/09/17 09:28	MSL	2	A	bn
AD00475-010	10/09/17 09:29	R12	2	A	NONE
AD00475-010	10/09/17 15:02	RAMO	2	A	TCLP
AD00475-010	10/09/17 15:03	RAMO	2	A	R12
AD00475-010	10/10/17 07:08	JKR/JI	2	A	p/p
AD00475-010	10/10/17 10:15	R12	2	A	NONE
AD00475-010	10/10/17 10:45	LV	2	A	tph
AD00475-010	10/10/17 10:46	R12	2	A	NONE
AD00475-010	10/09/17 14:20	R31	3	A	NONE
AD00475-010	10/09/17 14:20	RG	3	A	GRO
AD00475-011	10/06/17 18:31	RICAR	0	M	Received
AD00475-011	10/07/17 11:30	RICAR	0	M	Login
AD00475-011	10/09/17 07:59	R30	1	A	NONE

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
AD00475-011	10/09/17 12:59	R30	1	A	NONE
AD00475-011	10/09/17 12:59	RG	1	A	VOA
AD00475-011	10/10/17 16:46	RG	1	A	VOA
AD00475-011	10/10/17 16:47	R30	1	A	NONE
AD00475-011	10/09/17 07:22	JMP	2	A	solids
AD00475-011	10/09/17 08:31	SDL	2	A	MIXING
AD00475-011	10/09/17 14:47	R12	2	A	NONE
AD00475-012	10/06/17 18:31	RICAR	0	M	Received
AD00475-012	10/07/17 11:30	RICAR	0	M	Login
AD00475-012	10/09/17 07:22	JMP	1	A	solids
AD00475-012	10/09/17 08:31	SDL	1	A	MIXING
AD00475-012	10/09/17 08:40	AP	1	A	PH
AD00475-012	10/09/17 08:41	SDL	1	A	PAINTFILTER
AD00475-012	10/09/17 08:42	SDL	1	A	IGNIT
AD00475-012	10/09/17 09:28	MSL	1	A	bn
AD00475-012	10/09/17 09:29	R12	1	A	NONE
AD00475-012	10/09/17 15:02	RAMO	1	A	TCLP
AD00475-012	10/09/17 15:03	RAMO	1	A	R12
AD00475-012	10/10/17 07:08	JKR/JI	1	A	p/p
AD00475-012	10/10/17 10:15	R12	1	A	NONE
AD00475-012	10/10/17 10:45	LV	1	A	tph
AD00475-012	10/10/17 10:46	R12	1	A	NONE
AD00475-012	10/09/17 07:59	R30	2	A	NONE
AD00475-012	10/09/17 12:30	R30	2	A	NONE
AD00475-012	10/09/17 12:30	RG	2	A	GRO
AD00475-012	10/09/17 14:20	RG	3	A	GRO
AD00475-012	10/09/17 14:20	R31	3	A	NONE
AD00475-013	10/06/17 18:31	RICAR	0	M	Received
AD00475-013	10/07/17 11:30	RICAR	0	M	Login
AD00475-013	10/09/17 07:59	R30	1	A	NONE
AD00475-013	10/09/17 12:59	R30	1	A	NONE
AD00475-013	10/09/17 12:59	RG	1	A	VOA
AD00475-013	10/10/17 16:46	RG	1	A	VOA
AD00475-013	10/10/17 16:47	R30	1	A	NONE
AD00475-013	10/09/17 07:22	JMP	2	A	solids
AD00475-013	10/09/17 08:31	SDL	2	A	MIXING
AD00475-013	10/09/17 14:47	R12	2	A	NONE
AD00475-014	10/06/17 18:31	RICAR	0	M	Received
AD00475-014	10/07/17 11:30	RICAR	0	M	Login
AD00475-014	10/09/17 07:59	R30	1	A	NONE
AD00475-014	10/09/17 12:30	R30	1	A	NONE
AD00475-014	10/09/17 12:30	RG	1	A	GRO
AD00475-014	10/09/17 07:22	JMP	2	A	solids
AD00475-014	10/09/17 08:31	SDL	2	A	MIXING
AD00475-014	10/09/17 08:40	AP	2	A	PH
AD00475-014	10/09/17 08:41	SDL	2	A	PAINTFILTER
AD00475-014	10/09/17 08:42	SDL	2	A	IGNIT
AD00475-014	10/09/17 09:28	MSL	2	A	bn
AD00475-014	10/09/17 09:29	R12	2	A	NONE
AD00475-014	10/09/17 15:02	RAMO	2	A	TCLP
AD00475-014	10/09/17 15:03	RAMO	2	A	R12
AD00475-014	10/10/17 07:08	JKR/JI	2	A	p/p
AD00475-014	10/10/17 10:15	R12	2	A	NONE
AD00475-014	10/10/17 10:45	LV	2	A	tph
AD00475-014	10/10/17 10:46	R12	2	A	NONE
AD00475-014	10/09/17 14:20	RG	3	A	GRO
AD00475-014	10/09/17 14:20	R31	3	A	NONE

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis

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: AD00475-001
Client Id: SB02 GRAB
Data File: 6M59666.D
Analysis Date: 10/09/17 23:16
Date Rec/Extracted: 10/06/17-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: 90

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	0.0016	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0013	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	0.0011	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**	**0.0029**
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 #: 439962

Total Target Concentration 0.0029

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (Qt Reviewed)

7100701 0048

SampleID : AD00475-001
Data File: 6M59666.D
Acq On : 10/ 9/17 23:16

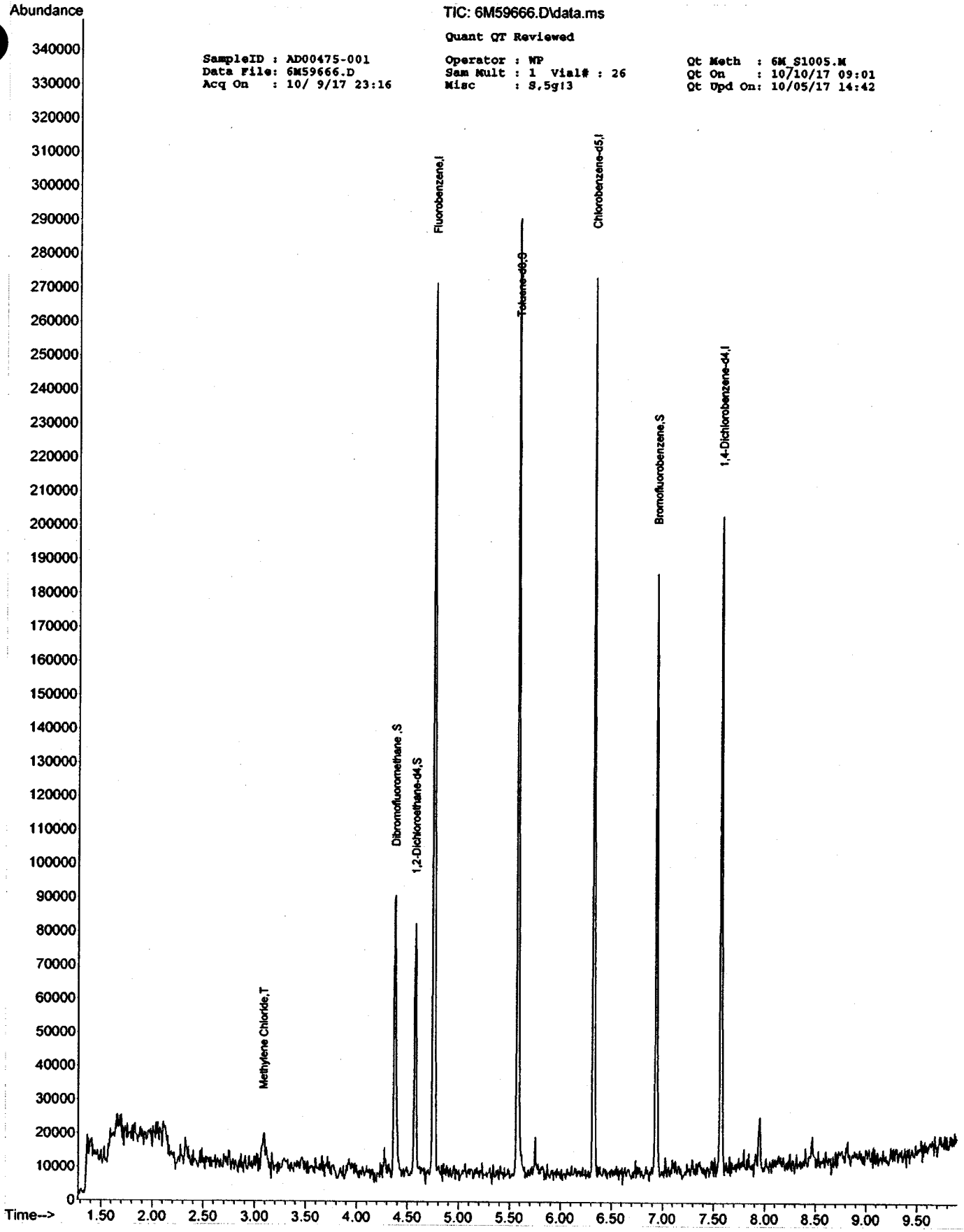
Operator : WP
Sam Mult : 1 Vial# : 26
Misc : S,5g!3

Qt Meth : 6M_S1005.M
Qt On : 10/10/17 09:01
Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.757	96	136277	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.327	117	81006	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.573	152	32446	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.377	111	37582	33.14	ug/l	0.00
Spiked Amount 30.000			Recovery = 110.47%			
39) 1,2-Dichloroethane-d4	4.576	67	15991	31.74	ug/l	0.00
Spiked Amount 30.000			Recovery = 105.80%			
66) Toluene-d8	5.581	98	118496	26.49	ug/l	0.00
Spiked Amount 30.000			Recovery = 88.30%			
76) Bromofluorobenzene	6.935	174	28383	28.13	ug/l	0.00
Spiked Amount 30.000			Recovery = 93.77%			
Target Compounds						Qvalue
15) Methylene Chloride	3.083	84	5459	2.7502	ug/l	62

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



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Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00475-003
Client Id: SB03 GRAB
Data File: 6M59667.D
Analysis Date: 10/09/17 23:34
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.2g
Final Vol: NA
Dilution: 0.962
Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0022	U	108-90-7	Chlorobenzene	0.0022	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0022	U	75-00-3	Chloroethane	0.0022	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0022	U	67-66-3	Chloroform	0.0022	U
79-00-5	1,1,2-Trichloroethane	0.0022	U	74-87-3	Chloromethane	0.0022	U
75-34-3	1,1-Dichloroethane	0.0022	U	156-59-2	cis-1,2-Dichloroethene	0.0022	U
75-35-4	1,1-Dichloroethene	0.0022	U	10061-01-5	cis-1,3-Dichloropropene	0.0022	U
87-61-6	1,2,3-Trichlorobenzene	0.0016	U	110-82-7	Cyclohexane	0.0022	U
120-82-1	1,2,4-Trichlorobenzene	0.0013	U	124-48-1	Dibromochloromethane	0.0022	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0022	U	75-71-8	Dichlorodifluoromethane	0.0022	U
106-93-4	1,2-Dibromoethane	0.0011	U	100-41-4	Ethylbenzene	0.0011	U
95-50-1	1,2-Dichlorobenzene	0.0022	U	98-82-8	Isopropylbenzene	0.0011	U
107-06-2	1,2-Dichloroethane	0.0022	U	79601-23-1	m&p-Xylenes	0.0011	U
78-87-5	1,2-Dichloropropane	0.0022	U	79-20-9	Methyl Acetate	0.0022	U
541-73-1	1,3-Dichlorobenzene	0.0022	U	108-87-2	Methylcyclohexane	0.0022	U
106-46-7	1,4-Dichlorobenzene	0.0022	U	75-09-2	Methylene Chloride	0.0022	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	0.0022	U	95-47-6	o-Xylene	0.0011	U
591-78-6	2-Hexanone	0.0022	U	100-42-5	Styrene	0.0022	U
108-10-1	4-Methyl-2-Pentanone	0.0022	U	75-65-0	t-Butyl Alcohol	0.011	U
67-64-1	Acetone	0.011	U	127-18-4	Tetrachloroethene	0.0022	U
71-43-2	Benzene	0.0011	U	108-88-3	Toluene	0.0011	U
74-97-5	Bromochloromethane	0.0022	U	156-60-5	trans-1,2-Dichloroethene	0.0022	U
75-27-4	Bromodichloromethane	0.0022	U	10061-02-6	trans-1,3-Dichloropropene	0.0022	U
75-25-2	Bromoform	0.0022	U	79-01-6	Trichloroethene	0.0022	U
74-83-9	Bromomethane	0.0022	U	75-69-4	Trichlorofluoromethane	0.0022	U
75-15-0	Carbon Disulfide	0.0022	U	75-01-4	Vinyl Chloride	0.0022	U
56-23-5	Carbon Tetrachloride	0.0022	U	1330-20-7	Xylenes (Total)	0.0011	U

Worksheet #: 439962 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0051

SampleID : AD00475-003 Operator : WP Qt Meth : 6M_S1005.M
Data File: 6M59667.D Sam Mult : 1 Vial# : 27 Qt On : 10/10/17 09:01
Acq On : 10/ 9/17 23:34 Misc : S,5g!3 Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
4) Fluorobenzene	4.756	96	129358	30.00 ug/l	0.00
52) Chlorobenzene-d5	6.327	117	73140	30.00 ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.573	152	32934	30.00 ug/l	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	4.377	111	34672	32.21 ug/l	0.00
Spiked Amount 30.000			Recovery = 107.37%		
39) 1,2-Dichloroethane-d4	4.576	67	17122	35.80 ug/l	0.00
Spiked Amount 30.000			Recovery = 119.33%		
66) Toluene-d8	5.581	98	114817	28.42 ug/l	0.00
Spiked Amount 30.000			Recovery = 94.73%		
76) Bromofluorobenzene	6.935	174	26804	26.17 ug/l	0.00
Spiked Amount 30.000			Recovery = 87.23%		

Target Compounds Qvalue

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

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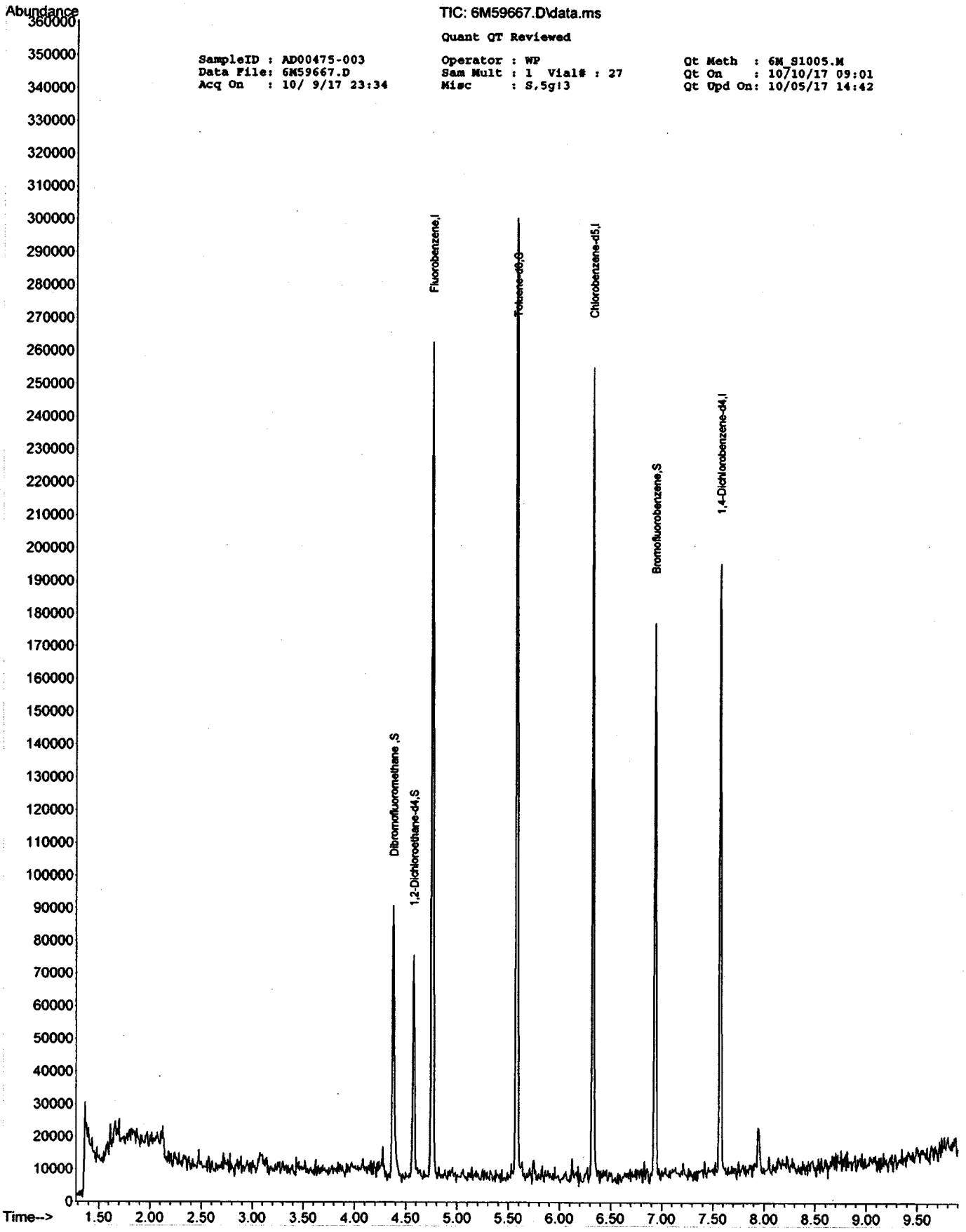

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Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00475-005
Client Id: SB04 GRAB
Data File: 6M59681.D
Analysis Date: 10/10/17 03:27
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.56g
Final Vol: NA
Dilution: 0.899
Solids: 87

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	0.0016	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0012	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	0.0010	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 #: 439962

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0054

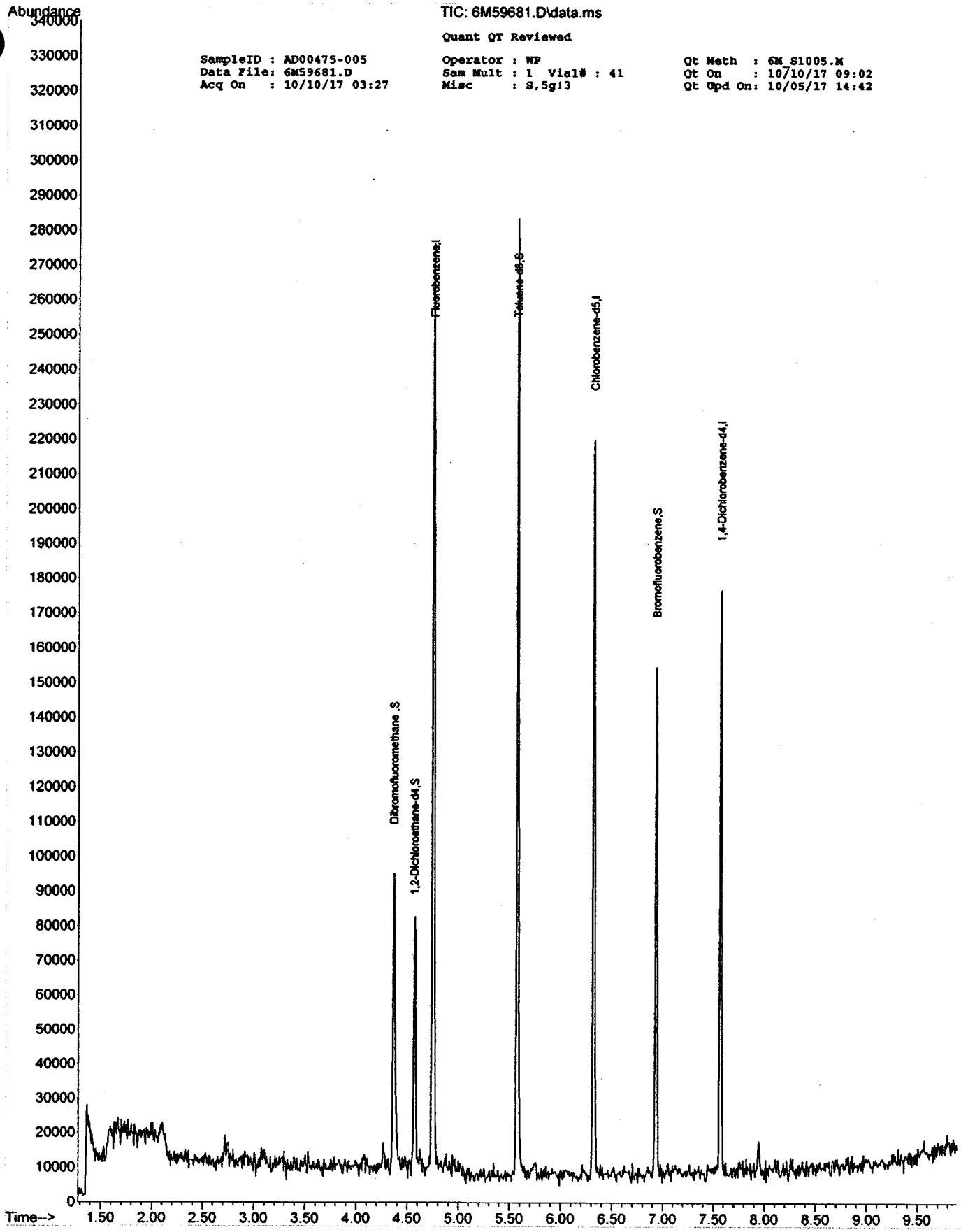
SampleID : AD00475-005 Operator : WP Qt Meth : 6M_S1005.M
Data File: 6M59681.D Sam Mult : 1 Vial# : 41 Qt On : 10/10/17 09:02
Acq On : 10/10/17 03:27 Misc : S,5g!3 Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
4) Fluorobenzene	4.756	96	138885	30.00 ug/l	0.00
52) Chlorobenzene-d5	6.327	117	65114	30.00 ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.572	152	28178	30.00 ug/l	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	4.371	111	40554	35.09 ug/l	0.00
Spiked Amount 30.000			Recovery	= 116.97%	
39) 1,2-Dichloroethane-d4	4.569	67	16565	32.26 ug/l	0.00
Spiked Amount 30.000			Recovery	= 107.53%	
66) Toluene-d8	5.574	98	110021	30.59 ug/l	0.00
Spiked Amount 30.000			Recovery	= 101.97%	
76) Bromofluorobenzene	6.935	174	25059	28.59 ug/l	0.00
Spiked Amount 30.000			Recovery	= 95.30%	

Target Compounds Qvalue

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



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Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00475-007
Client Id: SB05 GRAB
Data File: 6M59682.D
Analysis Date: 10/10/17 03:43
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.45g
Final Vol: NA
Dilution: 0.917
Solids: 91

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	0.0015	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0012	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	0.0010	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 #: 439962 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0057

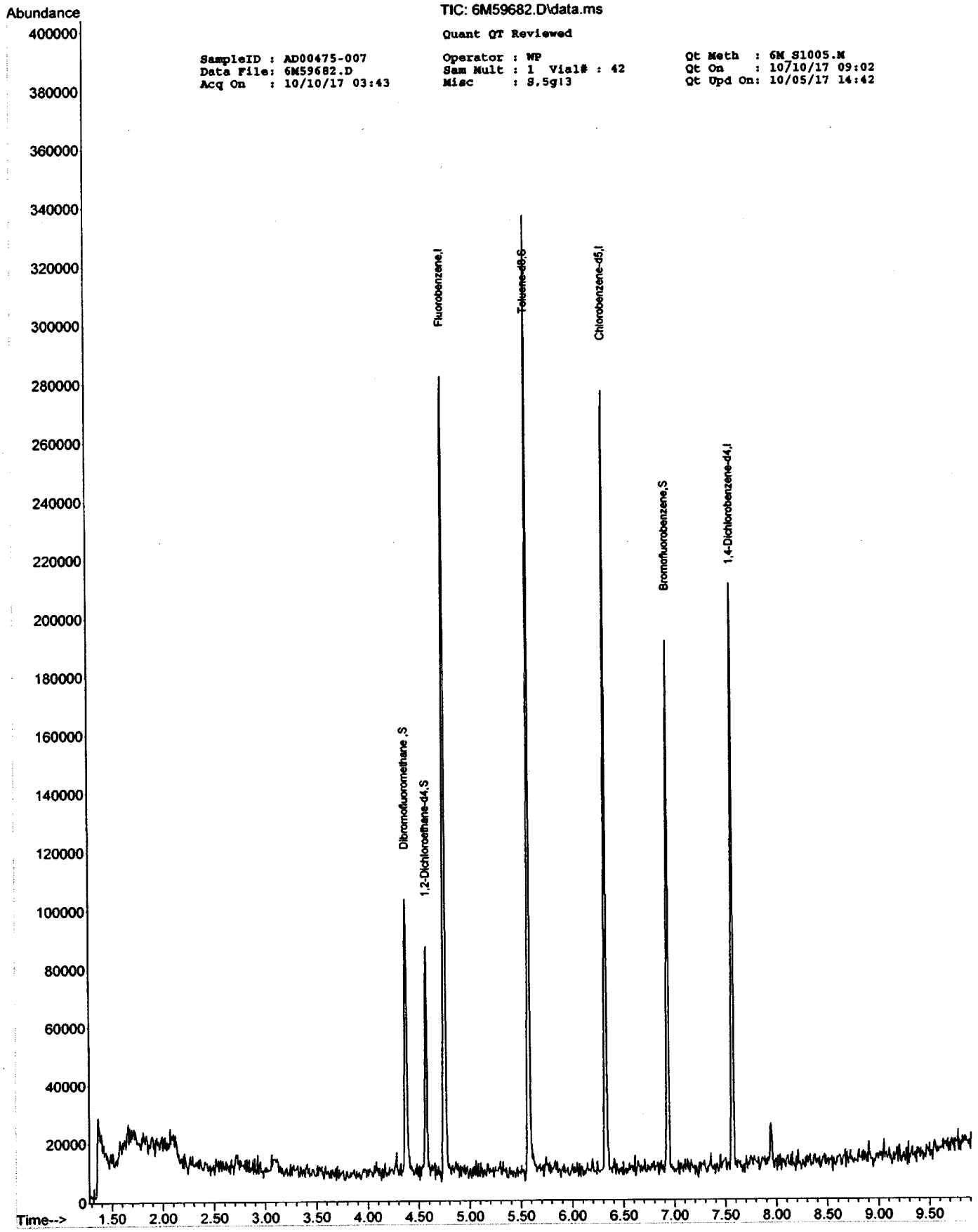
SampleID : AD00475-007 Operator : WP Qt Meth : 6M_S1005.M
Data File: 6M59682.D Sam Mult : 1 Vial# : 42 Qt On : 10/10/17 09:02
Acq On : 10/10/17 03:43 Misc : S,5g!3 Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.755	96	145117	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.326	117	86336	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.572	152	32516	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.370	111	40126	33.23	ug/l	0.00
Spiked Amount 30.000			Recovery = 110.77%			
39) 1,2-Dichloroethane-d4	4.575	67	18590	34.65	ug/l	0.00
Spiked Amount 30.000			Recovery = 115.50%			
66) Toluene-d8	5.574	98	127390	26.72	ug/l	0.00
Spiked Amount 30.000			Recovery = 89.07%			
76) Bromofluorobenzene	6.934	174	27971	27.66	ug/l	0.00
Spiked Amount 30.000			Recovery = 92.20%			

Target Compounds Qvalue

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



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Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00475-009
Client Id: SB08 GRAB
Data File: 6M59683.D
Analysis Date: 10/10/17 04:00
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.17g
Final Vol: NA
Dilution: 0.967
Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0022	U	108-90-7	Chlorobenzene	0.0022	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0022	U	75-00-3	Chloroethane	0.0022	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0022	U	67-66-3	Chloroform	0.0022	U
79-00-5	1,1,2-Trichloroethane	0.0022	U	74-87-3	Chloromethane	0.0022	U
75-34-3	1,1-Dichloroethane	0.0022	U	156-59-2	cis-1,2-Dichloroethene	0.0022	U
75-35-4	1,1-Dichloroethene	0.0022	U	10061-01-5	cis-1,3-Dichloropropene	0.0022	U
87-61-6	1,2,3-Trichlorobenzene	0.0016	U	110-82-7	Cyclohexane	0.0022	U
120-82-1	1,2,4-Trichlorobenzene	0.0013	U	124-48-1	Dibromochloromethane	0.0022	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0022	U	75-71-8	Dichlorodifluoromethane	0.0022	U
106-93-4	1,2-Dibromoethane	0.0011	U	100-41-4	Ethylbenzene	0.0011	U
95-50-1	1,2-Dichlorobenzene	0.0022	U	98-82-8	Isopropylbenzene	0.0011	U
107-06-2	1,2-Dichloroethane	0.0022	U	79601-23-1	m&p-Xylenes	0.0011	U
78-87-5	1,2-Dichloropropane	0.0022	U	79-20-9	Methyl Acetate	0.0022	U
541-73-1	1,3-Dichlorobenzene	0.0022	U	108-87-2	Methylcyclohexane	0.0022	U
106-46-7	1,4-Dichlorobenzene	0.0022	U	75-09-2	Methylene Chloride	0.0022	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	0.0022	U	95-47-6	o-Xylene	0.0011	U
591-78-6	2-Hexanone	0.0022	U	100-42-5	Styrene	0.0022	U
108-10-1	4-Methyl-2-Pentanone	0.0022	U	75-65-0	t-Butyl Alcohol	0.011	U
67-64-1	Acetone	0.011	U	127-18-4	Tetrachloroethene	0.0022	U
71-43-2	Benzene	0.0011	U	108-88-3	Toluene	0.0011	U
74-97-5	Bromochloromethane	0.0022	U	156-60-5	trans-1,2-Dichloroethene	0.0022	U
75-27-4	Bromodichloromethane	0.0022	U	10061-02-6	trans-1,3-Dichloropropene	0.0022	U
75-25-2	Bromoform	0.0022	U	79-01-6	Trichloroethene	0.0022	U
74-83-9	Bromomethane	0.0022	U	75-69-4	Trichlorofluoromethane	0.0022	U
75-15-0	Carbon Disulfide	0.0022	U	75-01-4	Vinyl Chloride	0.0022	U
56-23-5	Carbon Tetrachloride	0.0022	U	1330-20-7	Xylenes (Total)	0.0011	U

Worksheet #: 439962

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0060

SampleID : AD00475-009
Data File: 6M59683.D
Acq On : 10/10/17 04:00

Operator : WP
Sam Mult : 1 Vial# : 43
Misc : S,5g!3

Qt Meth : 6M_S1005.M
Qt On : 10/10/17 09:02
Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
4) Fluorobenzene	4.756	96	142748	30.00 ug/l	0.00
52) Chlorobenzene-d5	6.327	117	77125	30.00 ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.573	152	30230	30.00 ug/l	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	4.371	111	39462	33.22 ug/l	0.00
Spiked Amount 30.000			Recovery	= 110.73%	
39) 1,2-Dichloroethane-d4	4.575	67	19560	37.06 ug/l	0.00
Spiked Amount 30.000			Recovery	= 123.53%	
66) Toluene-d8	5.574	98	112598	26.43 ug/l	0.00
Spiked Amount 30.000			Recovery	= 88.10%	
76) Bromofluorobenzene	6.935	174	25415	27.03 ug/l	0.00
Spiked Amount 30.000			Recovery	= 90.10%	

Target Compounds Qvalue

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

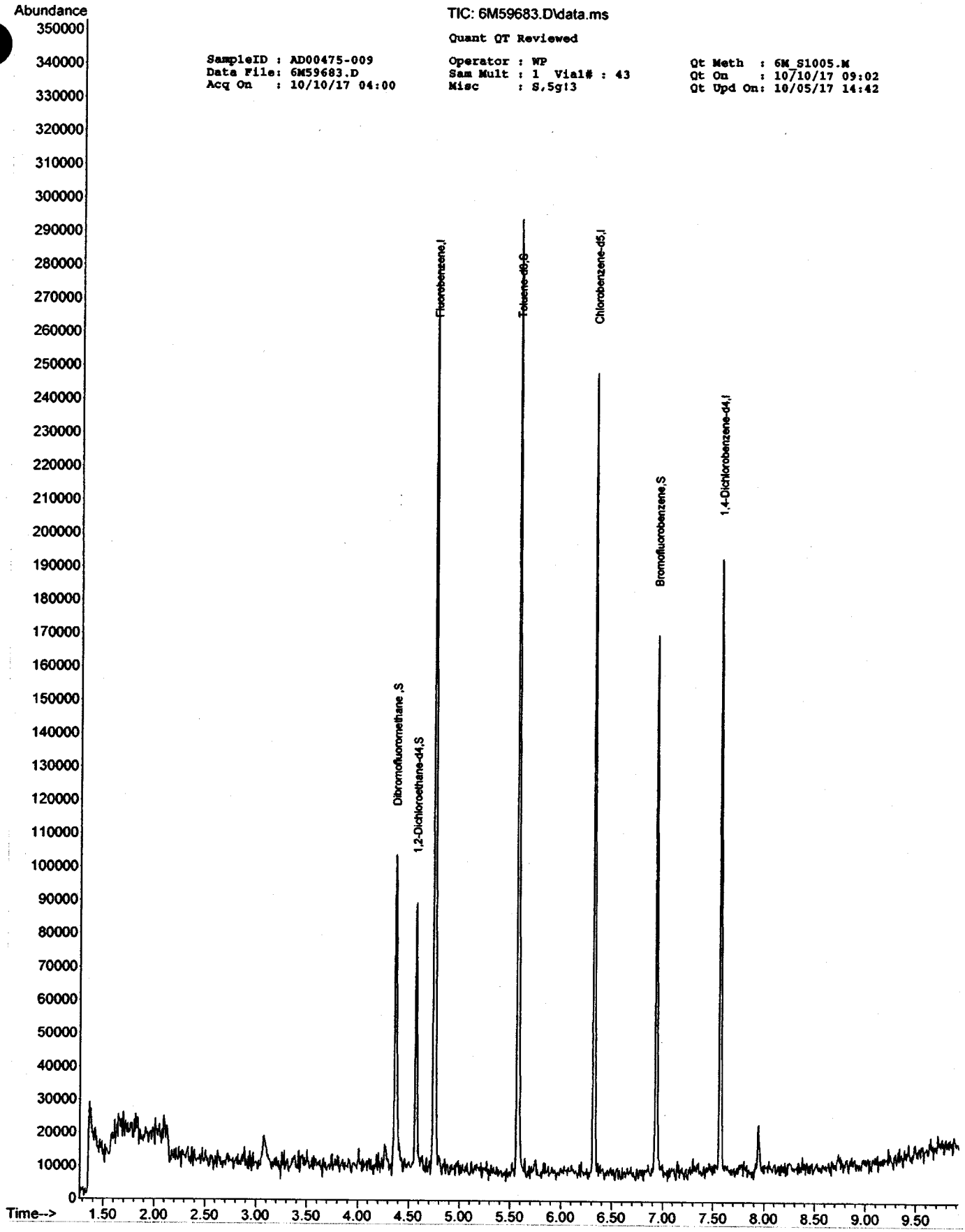
TIC: 6M59683.D\data.ms

Quant QT Reviewed

SampleID : AD00475-009
Data File: 6M59683.D
Acq On : 10/10/17 04:00

Operator : WP
Sam Mult : 1 Vial# : 43
Misc : S,5g!3

Qt Meth : 6M_S1005.M
Qt On : 10/10/17 09:02
Qt Upd On: 10/05/17 14:42



6M_S1005.M Tue Oct 10 18:16:35 2017 RPT1

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Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00475-011
Client Id: SB09 GRAB
Data File: 6M59685.D
Analysis Date: 10/10/17 04:33
Date Rec/Extracted: 10/06/17-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: 88

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0022	U	108-90-7	Chlorobenzene	0.0022	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0022	U	75-00-3	Chloroethane	0.0022	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0022	U	67-66-3	Chloroform	0.0022	U
79-00-5	1,1,2-Trichloroethane	0.0022	U	74-87-3	Chloromethane	0.0022	U
75-34-3	1,1-Dichloroethane	0.0022	U	156-59-2	cis-1,2-Dichloroethene	0.0022	U
75-35-4	1,1-Dichloroethene	0.0022	U	10061-01-5	cis-1,3-Dichloropropene	0.0022	U
87-61-6	1,2,3-Trichlorobenzene	0.0017	U	110-82-7	Cyclohexane	0.0022	U
120-82-1	1,2,4-Trichlorobenzene	0.0013	U	124-48-1	Dibromochloromethane	0.0022	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0022	U	75-71-8	Dichlorodifluoromethane	0.0022	U
106-93-4	1,2-Dibromoethane	0.0011	U	100-41-4	Ethylbenzene	0.0011	U
95-50-1	1,2-Dichlorobenzene	0.0022	U	98-82-8	Isopropylbenzene	0.0011	U
107-06-2	1,2-Dichloroethane	0.0022	U	79601-23-1	m&p-Xylenes	0.0011	U
78-87-5	1,2-Dichloropropane	0.0022	U	79-20-9	Methyl Acetate	0.0022	U
541-73-1	1,3-Dichlorobenzene	0.0022	U	108-87-2	Methylcyclohexane	0.0022	U
106-46-7	1,4-Dichlorobenzene	0.0022	U	75-09-2	Methylene Chloride	0.0022	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	0.0022	U	95-47-6	o-Xylene	0.0011	U
591-78-6	2-Hexanone	0.0022	U	100-42-5	Styrene	0.0022	U
108-10-1	4-Methyl-2-Pentanone	0.0022	U	75-65-0	t-Butyl Alcohol	0.011	U
67-64-1	Acetone	0.011	U	127-18-4	Tetrachloroethene	0.0022	U
71-43-2	Benzene	0.0011	U	108-88-3	Toluene	0.0011	U
74-97-5	Bromochloromethane	0.0022	U	156-60-5	trans-1,2-Dichloroethene	0.0022	U
75-27-4	Bromodichloromethane	0.0022	U	10061-02-6	trans-1,3-Dichloropropene	0.0022	U
75-25-2	Bromoform	0.0022	U	79-01-6	Trichloroethene	0.0022	U
74-83-9	Bromomethane	0.0022	U	75-69-4	Trichlorofluoromethane	0.0022	U
75-15-0	Carbon Disulfide	0.0022	U	75-01-4	Vinyl Chloride	0.0022	U
56-23-5	Carbon Tetrachloride	0.0022	U	1330-20-7	Xylenes (Total)	0.0011	U

Worksheet #: 439962

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0063

SampleID : AD00475-011 Operator : WP Qt Meth : 6M_S1005.M
Data File: 6M59685.D Sam Mult : 1 Vial# : 44 Qt On : 10/10/17 09:02
Acq On : 10/10/17 04:33 Misc : S,5g!3 Qt Upd On: 10/05/17 14:42

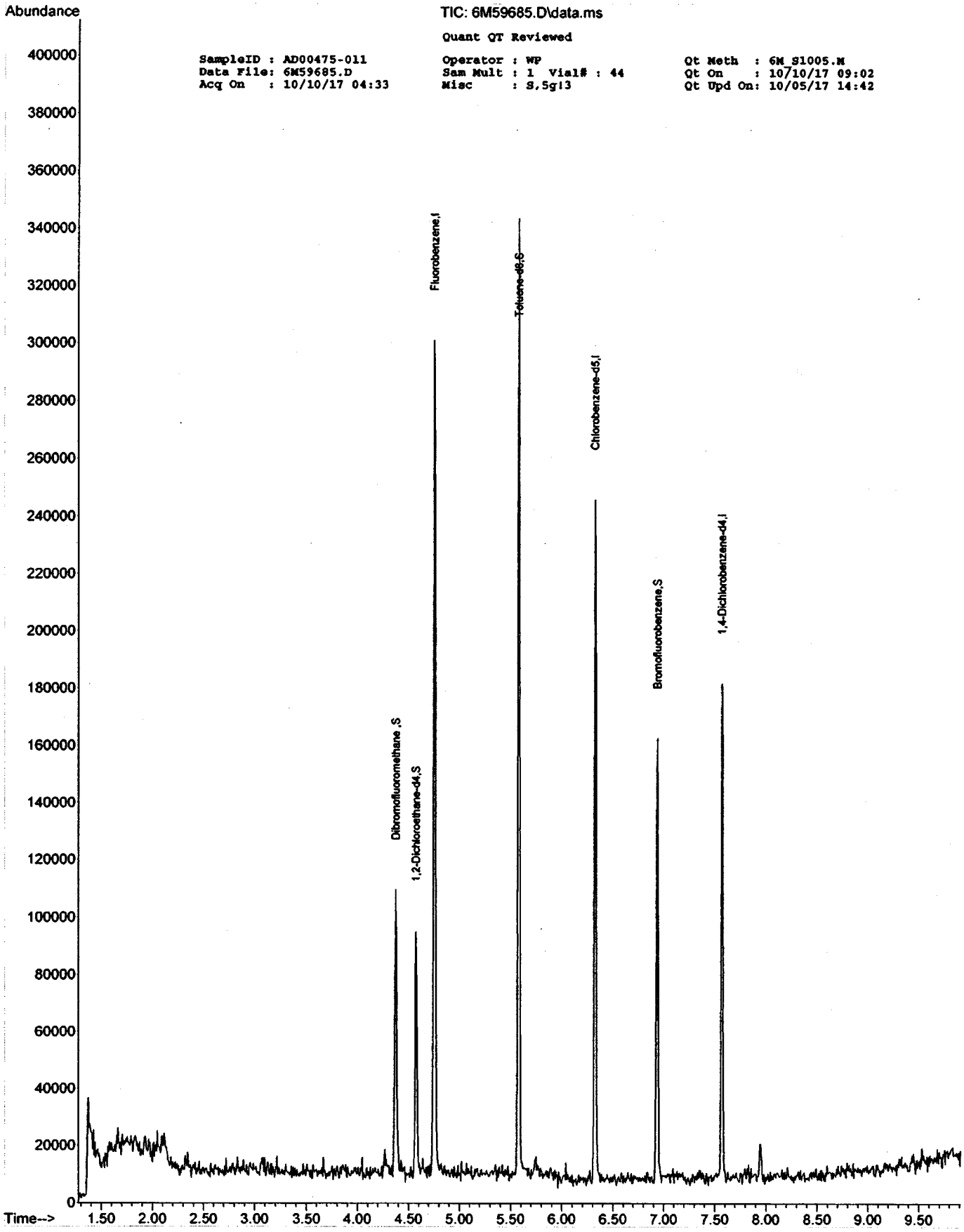
Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	4.750	96	145071	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.321	117	70224	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.567	152	30276	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.371	111	41274	34.19	ug/l	0.00
Spiked Amount 30.000			Recovery	=	113.97%	
39) 1,2-Dichloroethane-d4	4.570	67	18151	33.84	ug/l	0.00
Spiked Amount 30.000			Recovery	=	112.80%	
66) Toluene-d8	5.575	98	132820	34.25	ug/l	0.00
Spiked Amount 30.000			Recovery	=	114.17%	
76) Bromofluorobenzene	6.935	174	24685	26.21	ug/l	0.00
Spiked Amount 30.000			Recovery	=	87.37%	

Target Compounds Qvalue

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

k



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Form1

ORGANICS VOLATILE REPORT

Sample Number: AD00475-013
Client Id: SB07 GRAB
Data File: 6M59686.D
Analysis Date: 10/10/17 04:50
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260C
Matrix: Soil
Initial Vol: 5.81g
Final Vol: NA
Dilution: 0.861
Solids: 96

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0018	U	108-90-7	Chlorobenzene	0.0018	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0018	U	75-00-3	Chloroethane	0.0018	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0018	U	67-66-3	Chloroform	0.0018	U
79-00-5	1,1,2-Trichloroethane	0.0018	U	74-87-3	Chloromethane	0.0018	U
75-34-3	1,1-Dichloroethane	0.0018	U	156-59-2	cis-1,2-Dichloroethene	0.0018	U
75-35-4	1,1-Dichloroethene	0.0018	U	10061-01-5	cis-1,3-Dichloropropene	0.0018	U
87-61-6	1,2,3-Trichlorobenzene	0.0013	U	110-82-7	Cyclohexane	0.0018	U
120-82-1	1,2,4-Trichlorobenzene	0.0011	U	124-48-1	Dibromochloromethane	0.0018	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0018	U	75-71-8	Dichlorodifluoromethane	0.0018	U
106-93-4	1,2-Dibromoethane	0.00090	U	100-41-4	Ethylbenzene	0.00090	U
95-50-1	1,2-Dichlorobenzene	0.0018	U	98-82-8	Isopropylbenzene	0.00090	U
107-06-2	1,2-Dichloroethane	0.0018	U	79601-23-1	m&p-Xylenes	0.00090	U
78-87-5	1,2-Dichloropropane	0.0018	U	79-20-9	Methyl Acetate	0.0018	U
541-73-1	1,3-Dichlorobenzene	0.0018	U	108-87-2	Methylcyclohexane	0.0018	U
106-46-7	1,4-Dichlorobenzene	0.0018	U	75-09-2	Methylene Chloride	0.0018	U
123-91-1	1,4-Dioxane	0.090	U	1634-04-4	Methyl-t-butyl ether	0.00090	U
78-93-3	2-Butanone	0.0018	U	95-47-6	o-Xylene	0.00090	U
591-78-6	2-Hexanone	0.0018	U	100-42-5	Styrene	0.0018	U
108-10-1	4-Methyl-2-Pentanone	0.0018	U	75-65-0	t-Butyl Alcohol	0.0090	U
67-64-1	Acetone	0.0090	U	127-18-4	Tetrachloroethene	0.0018	U
71-43-2	Benzene	0.00090	U	108-88-3	Toluene	0.00090	U
74-97-5	Bromochloromethane	0.0018	U	156-60-5	trans-1,2-Dichloroethene	0.0018	U
75-27-4	Bromodichloromethane	0.0018	U	10061-02-6	trans-1,3-Dichloropropene	0.0018	U
75-25-2	Bromoform	0.0018	U	79-01-6	Trichloroethene	0.0018	U
74-83-9	Bromomethane	0.0018	U	75-69-4	Trichlorofluoromethane	0.0018	U
75-15-0	Carbon Disulfide	0.0018	U	75-01-4	Vinyl Chloride	0.0018	U
56-23-5	Carbon Tetrachloride	0.0018	U	1330-20-7	Xylenes (Total)	0.00090	U

Worksheet #: 439962

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 usea

Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0066

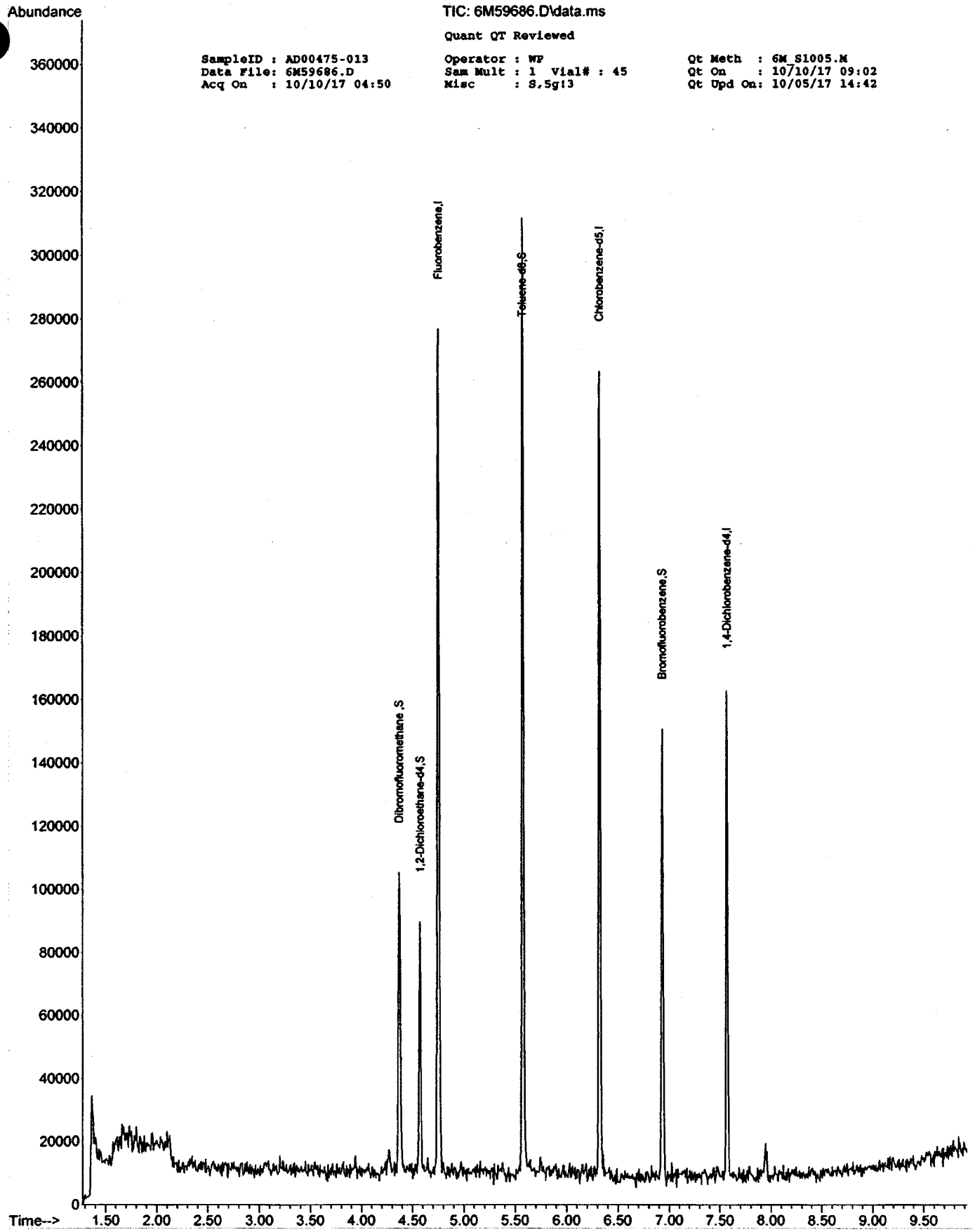
SampleID : AD00475-013 Operator : WP Qt Meth : 6M_S1005.M
Data File: 6M59686.D Sam Mult : 1 Vial# : 45 Qt On : 10/10/17 09:02
Acq On : 10/10/17 04:50 Misc : S,5g!3 Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
4) Fluorobenzene	4.755	96	131411	30.00 ug/l	0.00
52) Chlorobenzene-d5	6.326	117	75524	30.00 ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.572	152	26041	30.00 ug/l	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	4.370	111	40259	36.81 ug/l	0.00
Spiked Amount 30.000			Recovery	= 122.70%	
39) 1,2-Dichloroethane-d4	4.574	67	18933	38.97 ug/l	0.00
Spiked Amount 30.000			Recovery	= 129.90%	
66) Toluene-d8	5.574	98	116666	27.97 ug/l	0.00
Spiked Amount 30.000			Recovery	= 93.23%	
76) Bromofluorobenzene	6.934	174	23762	29.34 ug/l	0.00
Spiked Amount 30.000			Recovery	= 97.80%	

Target Compounds Qvalue

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



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Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 6M59648.D
Analysis Date: 10/09/17 18:18
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	0.0015	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0012	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	0.0010	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 #: 439962 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT/LSC Reviewed)

7100701 0069

SampleID : DAILY BLANK
Data File: 6M59648.D
Acq On : 10/ 9/17 18:18

Operator : WP
Sam Mult : 1 Vial# : 8
Misc : S,5g

Qt Meth : 6M_S1005.M
Qt On : 10/09/17 19:03
Qt Upd On: 10/05/17 14:42

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Qt Path : G:\GcMsData\2017\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
4) Fluorobenzene	4.756	96	117342	30.00 ug/l	0.00
52) Chlorobenzene-d5	6.327	117	56925	30.00 ug/l	0.00
70) 1,4-Dichlorobenzene-d4	7.573	152	29000	30.00 ug/l	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	4.377	111	30757	31.50 ug/l	0.00
Spiked Amount 30.000			Recovery	= 105.00%	
39) 1,2-Dichloroethane-d4	4.575	67	11659	26.87 ug/l	0.00
Spiked Amount 30.000			Recovery	= 89.57%	
66) Toluene-d8	5.580	98	101605	32.32 ug/l	0.00
Spiked Amount 30.000			Recovery	= 107.73%	
76) Bromofluorobenzene	6.941	174	25369	28.13 ug/l	0.00
Spiked Amount 30.000			Recovery	= 93.77%	

Target Compounds Qvalue

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

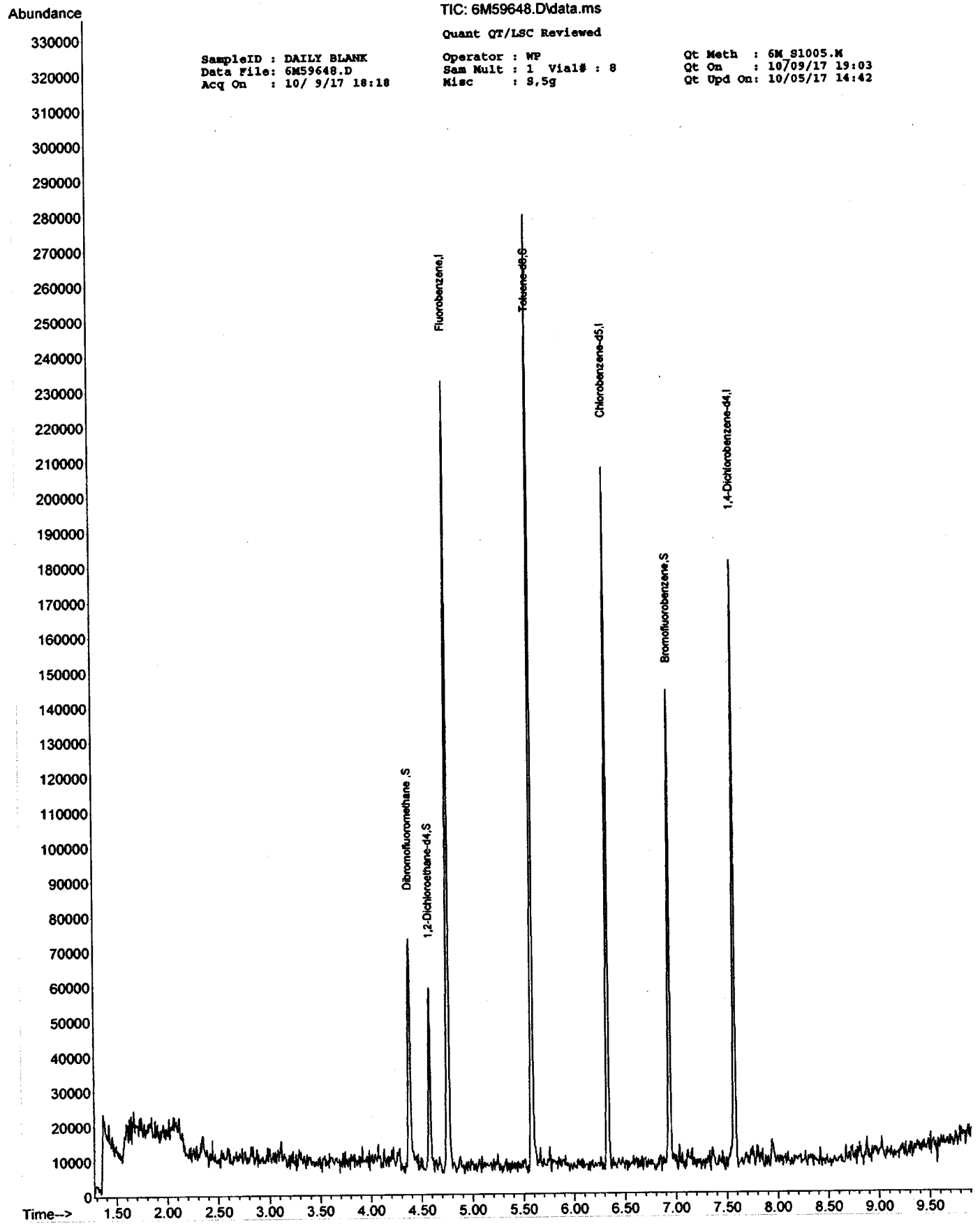
TIC: 6M59648.D\data.ms

Quant QT/LSC Reviewed

SampleID : DAILY BLANK
Data File: 6M59648.D
Acq On : 10/ 9/17 18:18

Operator : WP
Sam Mult : 1 Vial# : 8
Misc : S,5g

Qt Meth : 6M_S1005.M
Qt On : 10/09/17 19:03
Qt Upd On: 10/05/17 14:42



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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
6M59614.D	DAILY BLANK	S	10/09/17 09:03	1		102	112	94	95		
6M59648.D	DAILY BLANK	S	10/09/17 18:18	1		105	90	108	94		
6M59666.D	AD00475-001	S	10/09/17 23:16	1		110	106	88	94		
6M59667.D	AD00475-003	S	10/09/17 23:34	1		107	119	95	87		
6M59681.D	AD00475-005	S	10/10/17 03:27	1		117	108	102	95		
6M59682.D	AD00475-007	S	10/10/17 03:43	1		111	115	89	92		
6M59683.D	AD00475-009	S	10/10/17 04:00	1		111	124	88	90		
6M59685.D	AD00475-011	S	10/10/17 04:33	1		114	113	114	87		
6M59686.D	AD00475-013	S	10/10/17 04:50	1		123	130	93	98		
6M59620.D	MBS64365	S	10/09/17 10:43	1		99	98	97	97		
6M59628.D	AD00453-003	S	10/09/17 12:56	1		102	109	95	90		
6M59656.D	AD00453-003(MS)	S	10/09/17 20:31	1		94	105	107	88		
6M59657.D	AD00453-003(MSD)	S	10/09/17 20:48	1		96	103	108	91		
6M59658.D	MBS64371	S	10/09/17 21:04	1		91	95	97	93		

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8260C

Soil Laboratory Limits

Compound	Spike Amt	Limits
S1=Dibromofluoromethane	30	63-140
S2=1,2-Dichloroethane-d4	30	63-143
S3=Toluene-d8	30	68-122
S4=Bromofluorobenzene	30	64-129

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64365

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59620.D	MBS64365	10/9/2017 10:43:00 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	67.5299	0	50	135*	20	130
Dichlorodifluoromethane	1	45.7037	0	50	91	20	130
Chloromethane	1	45.2147	0	50	90	20	130
Bromomethane	1	41.5383	0	50	83	20	130
Vinyl Chloride	1	48.2409	0	50	96	20	130
Chloroethane	1	45.4239	0	50	91	20	130
Trichlorofluoromethane	1	41.1285	0	50	82	20	130
Ethyl ether	1	37.7335	0	50	75	50	130
Furan	1	44.9939	0	50	90	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	44.1504	0	50	88	50	130
Methylene Chloride	1	41.1209	0	50	82	50	130
Acrolein	1	180.0476	0	200	90	20	130
Acrylonitrile	1	39.6421	0	50	79	20	130
Iodomethane	1	57.9045	0	50	116	50	130
Acetone	1	164.955	0	200	82	20	130
Carbon Disulfide	1	66.4304	0	50	133*	50	130
t-Butyl Alcohol	1	207.6811	0	200	104	20	130
n-Hexane	1	53.2937	0	50	107	50	130
Di-isopropyl-ether	1	45.1342	0	50	90	50	130
1,1-Dichloroethene	1	45.1214	0	50	90	50	130
Methyl Acetate	1	29.1488	0	50	58	50	130
Methyl-t-butyl ether	1	40.9351	0	50	82	50	130
1,1-Dichloroethane	1	43.832	0	50	88	50	130
trans-1,2-Dichloroethene	1	44.2494	0	50	88	50	130
Ethyl-t-butyl ether	1	45.8966	0	50	92	50	130
cis-1,2-Dichloroethene	1	42.4671	0	50	85	50	130
Bromochloromethane	1	25.2566	0	50	51	50	130
2,2-Dichloropropane	1	43.7941	0	50	88	50	130
Ethyl acetate	1	36.9972	0	50	74	50	130
1,4-Dioxane	1	1914.183	0	2500	77	50	130
1,1-Dichloropropene	1	42.7456	0	50	85	50	130
Chloroform	1	38.3875	0	50	77	50	130
Cyclohexane	1	47.1912	0	50	94	50	130
1,2-Dichloroethane	1	39.4265	0	50	79	50	130
2-Butanone	1	56.7604	0	50	114	20	130
1,1,1-Trichloroethane	1	39.3781	0	50	79	50	130
Carbon Tetrachloride	1	40.4909	0	50	81	50	130
Vinyl Acetate	1	40.8119	0	50	82	50	130
Bromodichloromethane	1	39.172	0	50	78	50	130
Methylcyclohexane	1	46.1092	0	50	92	50	130
Dibromomethane	1	31.9608	0	50	64	50	130
1,2-Dichloropropane	1	41.8728	0	50	84	50	130
Trichloroethene	1	42.9595	0	50	86	50	130
Benzene	1	42.3184	0	50	85	50	130
tert-Amyl methyl ether	1	45.9398	0	50	92	50	130
Iso-propylacetate	1	35.8799	0	50	72	50	130
Methyl methacrylate	1	36.9109	0	50	74	50	130
Dibromochloromethane	1	31.9413	0	50	64	50	130
2-Chloroethylvinylether	1	31.9392	0	50	64	50	130
cis-1,3-Dichloropropene	1	37.2898	0	50	75	50	130
trans-1,3-Dichloropropene	1	38.76	0	50	78	50	130
Ethyl methacrylate	1	35.1229	0	50	70	50	130
1,1,2-Trichloroethane	1	32.5834	0	50	65	50	130
1,2-Dibromoethane	1	35.8217	0	50	72	50	130
1,3-Dichloropropane	1	36.8891	0	50	74	50	130
4-Methyl-2-Pentanone	1	35.4645	0	50	71	20	130
2-Hexanone	1	39.24	0	50	78	20	130
Tetrachloroethene	1	33.7147	0	50	67	50	130
Toluene	1	36.6175	0	50	73	50	130
1,1,1,2-Tetrachloroethane	1	35.3425	0	50	71	50	130
Chlorobenzene	1	36.764	0	50	74	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64365

n-Butyl acrylate	1	31.1825	0	50	62	50	130
n-Amyl acetate	1	49.7736	0	50	100	50	130
Bromoform	1	32.9011	0	50	66	20	130
Ethylbenzene	1	45.7662	0	50	92	50	130
1,1,2,2-Tetrachloroethane	1	40.8427	0	50	82	50	130
Styrene	1	48.8356	0	50	98	50	130
m&p-Xylenes	1	76.6444	0	100	77	50	130
o-Xylene	1	48.1229	0	50	96	50	130
trans-1,4-Dichloro-2-butene	1	45.8427	0	50	92	20	130
1,3-Dichlorobenzene	1	41.0424	0	50	82	50	130
1,4-Dichlorobenzene	1	41.9956	0	50	84	50	130
1,2-Dichlorobenzene	1	40.8649	0	50	82	50	130
Isopropylbenzene	1	47.1735	0	50	94	50	130
Cyclohexanone	1	215.5099	0	250	86	50	130
Camphene	1	42.9977	0	50	86	50	130
1,2,3-Trichloropropane	1	39.6171	0	50	79	50	130
2-Chlorotoluene	1	45.4454	0	50	91	50	130
p-Ethyltoluene	1	43.561	0	50	87	50	130
4-Chlorotoluene	1	42.7349	0	50	85	50	130
n-Propylbenzene	1	45.2469	0	50	90	50	130
Bromobenzene	1	42.3601	0	50	85	50	130
1,3,5-Trimethylbenzene	1	47.1668	0	50	94	50	130
Butyl methacrylate	1	38.9832	0	50	78	50	130
t-Butylbenzene	1	45.9358	0	50	92	50	130
1,2,4-Trimethylbenzene	1	45.2018	0	50	90	50	130
sec-Butylbenzene	1	48.1522	0	50	96	50	130
4-Isopropyltoluene	1	47.0932	0	50	94	50	130
n-Butylbenzene	1	46.4262	0	50	93	50	130
p-Diethylbenzene	1	49.1312	0	50	98	50	130
1,2,4,5-Tetramethylbenzene	1	48.7876	0	50	98	50	130
1,2-Dibromo-3-Chloropropane	1	28.9395	0	50	58	50	130
Camphor	1	412.8402	0	500	83	50	130
Hexachlorobutadiene	1	38.5976	0	50	77	50	130
1,2,4-Trichlorobenzene	1	35.8814	0	50	72	50	130
1,2,3-Trichlorobenzene	1	34.3595	0	50	69	50	130
Naphthalene	1	50.6799	0	50	101	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64371

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59658.D	MBS64371	10/9/2017 9:04:00 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	70.786	0	50	142*	20	130
Dichlorodifluoromethane	1	45.9839	0	50	92	20	130
Chloromethane	1	50.7603	0	50	102	20	130
Bromomethane	1	48.3316	0	50	97	20	130
Vinyl Chloride	1	49.2155	0	50	98	20	130
Chloroethane	1	49.1322	0	50	98	20	130
Trichlorofluoromethane	1	45.2474	0	50	90	20	130
Ethyl ether	1	43.3983	0	50	87	50	130
Furan	1	49.9371	0	50	100	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	49.8381	0	50	100	50	130
Methylene Chloride	1	47.4193	0	50	95	50	130
Acrolein	1	196.8382	0	200	98	20	130
Acrylonitrile	1	42.7711	0	50	86	20	130
Iodomethane	1	40.2333	0	50	80	50	130
Acetone	1	205.7228	0	200	103	20	130
Carbon Disulfide	1	75.0798	0	50	150*	50	130
t-Butyl Alcohol	1	199.8634	0	200	100	20	130
n-Hexane	1	60.7266	0	50	121	50	130
Di-isopropyl-ether	1	50.2328	0	50	100	50	130
1,1-Dichloroethene	1	49.8052	0	50	100	50	130
Methyl Acetate	1	45.4692	0	50	91	50	130
Methyl-t-butyl ether	1	44.383	0	50	89	50	130
1,1-Dichloroethane	1	49.1772	0	50	98	50	130
trans-1,2-Dichloroethene	1	50.6531	0	50	101	50	130
Ethyl-t-butyl ether	1	52.7397	0	50	105	50	130
cis-1,2-Dichloroethene	1	45.7986	0	50	92	50	130
Bromochloromethane	1	40.9351	0	50	82	50	130
2,2-Dichloropropane	1	47.0009	0	50	94	50	130
Ethyl acetate	1	35.161	0	50	70	50	130
1,4-Dioxane	1	1734.851	0	2500	69	50	130
1,1-Dichloropropene	1	46.5477	0	50	93	50	130
Chloroform	1	41.2261	0	50	82	50	130
Cyclohexane	1	50.9771	0	50	102	50	130
1,2-Dichloroethane	1	39.9816	0	50	80	50	130
2-Butanone	1	46.7111	0	50	93	20	130
1,1,1-Trichloroethane	1	40.4495	0	50	81	50	130
Carbon Tetrachloride	1	41.1132	0	50	82	50	130
Vinyl Acetate	1	46.5726	0	50	93	50	130
Bromodichloromethane	1	40.0255	0	50	80	50	130
Methylcyclohexane	1	49.0768	0	50	98	50	130
Dibromomethane	1	34.7491	0	50	69	50	130
1,2-Dichloropropane	1	44.5576	0	50	89	50	130
Trichloroethene	1	42.7299	0	50	85	50	130
Benzene	1	44.1495	0	50	88	50	130
tert-Amyl methyl ether	1	43.4552	0	50	87	50	130
Iso-propylacetate	1	38.2848	0	50	77	50	130
Methyl methacrylate	1	35.4428	0	50	71	50	130
Dibromochloromethane	1	33.0307	0	50	66	50	130
2-Chloroethylvinylether	1	36.5147	0	50	73	50	130
cis-1,3-Dichloropropene	1	39.572	0	50	79	50	130
trans-1,3-Dichloropropene	1	40.5042	0	50	81	50	130
Ethyl methacrylate	1	39.9051	0	50	80	50	130
1,1,2-Trichloroethane	1	33.7984	0	50	68	50	130
1,2-Dibromoethane	1	38.3183	0	50	77	50	130
1,3-Dichloropropane	1	40.4084	0	50	81	50	130
4-Methyl-2-Pentanone	1	36.2802	0	50	73	20	130
2-Hexanone	1	38.8085	0	50	78	20	130
Tetrachloroethene	1	37.6039	0	50	75	50	130
Toluene	1	39.3372	0	50	79	50	130
1,1,1,2-Tetrachloroethane	1	36.7645	0	50	74	50	130
Chlorobenzene	1	38.8433	0	50	78	50	130

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Form3
Recovery Data Laboratory Limits
QC Batch: MBS64371

n-Butyl acrylate	1	27.8137	0	50	56	50	130
n-Amyl acetate	1	40.3104	0	50	81	50	130
Bromoform	1	32.0352	0	50	64	20	130
Ethylbenzene	1	44.9894	0	50	90	50	130
1,1,2,2-Tetrachloroethane	1	34.984	0	50	70	50	130
Styrene	1	44.2258	0	50	88	50	130
m&p-Xylenes	1	74.3344	0	100	74	50	130
o-Xylene	1	48.1165	0	50	96	50	130
trans-1,4-Dichloro-2-butene	1	44.6728	0	50	89	20	130
1,3-Dichlorobenzene	1	42.3822	0	50	85	50	130
1,4-Dichlorobenzene	1	41.7763	0	50	84	50	130
1,2-Dichlorobenzene	1	41.3875	0	50	83	50	130
Isopropylbenzene	1	45.1623	0	50	90	50	130
Cyclohexanone	1	242.231	0	250	97	50	130
Camphene	1	42.5263	0	50	85	50	130
1,2,3-Trichloropropane	1	40.2589	0	50	81	50	130
2-Chlorotoluene	1	42.2142	0	50	84	50	130
p-Ethyltoluene	1	46.2317	0	50	92	50	130
4-Chlorotoluene	1	44.63	0	50	89	50	130
n-Propylbenzene	1	44.6392	0	50	89	50	130
Bromobenzene	1	40.1287	0	50	80	50	130
1,3,5-Trimethylbenzene	1	44.6573	0	50	89	50	130
Butyl methacrylate	1	47.0334	0	50	94	50	130
t-Butylbenzene	1	45.5241	0	50	91	50	130
1,2,4-Trimethylbenzene	1	46.1697	0	50	92	50	130
sec-Butylbenzene	1	48.4244	0	50	97	50	130
4-Isopropyltoluene	1	47.4228	0	50	95	50	130
n-Butylbenzene	1	47.7942	0	50	96	50	130
p-Diethylbenzene	1	50.0891	0	50	100	50	130
1,2,4,5-Tetramethylbenzene	1	49.9303	0	50	100	50	130
1,2-Dibromo-3-Chloropropane	1	25.0634	0	50	50	50	130
Camphor	1	562.0222	0	500	112	50	130
Hexachlorobutadiene	1	41.071	0	50	82	50	130
1,2,4-Trichlorobenzene	1	35.2999	0	50	71	50	130
1,2,3-Trichlorobenzene	1	34.8979	0	50	70	50	130
Naphthalene	1	47.4827	0	50	95	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64371

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59656.D	AD00453-003(MS)	10/9/2017 8:31:00 PM
Non Spike(If applicable): 6M59628.D	AD00453-003	10/9/2017 12:56:00 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	90.7251	0	50	181*	20	130
Dichlorodifluoromethane	1	55.346	0	50	111	20	130
Chloromethane	1	25.6169	0	50	51	20	130
Bromomethane	1	49.5466	0	50	99	20	130
Vinyl Chloride	1	60.0973	0	50	120	20	130
Chloroethane	1	58.5506	0	50	117	20	130
Trichlorofluoromethane	1	21.577	0	50	43	20	130
Ethyl ether	1	47.8381	0	50	96	50	130
Furan	1	55.1185	0	50	110	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	51.3652	0	50	103	50	130
Methylene Chloride	1	54.4949	0	50	109	50	130
Acrolein	1	46.7177	0	200	23	20	130
Acrylonitrile	1	19.4125	0	50	39	20	130
Iodomethane	1	68.1072	0	50	136*	50	130
Acetone	1	257.5395	0	200	129	20	130
Carbon Disulfide	1	78.4785	0	50	157*	50	130
t-Butyl Alcohol	1	209.2154	0	200	105	20	130
n-Hexane	1	51.0095	0	50	102	50	130
Di-isopropyl-ether	1	57.2544	0	50	115	50	130
1,1-Dichloroethene	1	31.0771	0	50	62	50	130
Methyl Acetate	1	74.211	0	50	148*	50	130
Methyl-t-butyl ether	1	51.4605	0	50	103	50	130
1,1-Dichloroethane	1	53.5409	0	50	107	50	130
trans-1,2-Dichloroethene	1	55.0298	0	50	110	50	130
Ethyl-t-butyl ether	1	57.3026	0	50	115	50	130
cis-1,2-Dichloroethene	1	51.7496	0	50	103	50	130
Bromochloromethane	1	51.7678	0	50	104	50	130
2,2-Dichloropropane	1	49.2931	0	50	99	50	130
Ethyl acetate	1	18.7503	0	50	38*	50	130
1,4-Dioxane	1	2298.545	0	2500	92	50	130
1,1-Dichloropropene	1	49.3181	0	50	99	50	130
Chloroform	1	48.4104	0	50	97	50	130
Cyclohexane	1	49.5693	0	50	99	50	130
1,2-Dichloroethane	1	43.8289	0	50	88	50	130
2-Butanone	1	54.2981	0	50	109	20	130
1,1,1-Trichloroethane	1	42.4327	0	50	85	50	130
Carbon Tetrachloride	1	39.5381	0	50	79	50	130
Vinyl Acetate	1	51.9753	0	50	104	50	130
Bromodichloromethane	1	41.1218	0	50	82	50	130
Methylcyclohexane	1	42.4032	0	50	85	50	130
Dibromomethane	1	38.3163	0	50	77	50	130
1,2-Dichloropropane	1	46.5881	0	50	93	50	130
Trichloroethene	1	40.5765	0	50	81	50	130
Benzene	1	45.1518	0	50	90	50	130
tert-Amyl methyl ether	1	51.1865	0	50	102	50	130
Iso-propylacetate	1	21.9859	0	50	44*	50	130
Methyl methacrylate	1	62.1208	0	50	124	50	130
Dibromochloromethane	1	34.3975	0	50	69	50	130
2-Chloroethylvinylether	1	43.4166	0	50	87	50	130
cis-1,3-Dichloropropene	1	43.2443	0	50	86	50	130
trans-1,3-Dichloropropene	1	42.3013	0	50	85	50	130
Ethyl methacrylate	1	20.4154	0	50	41*	50	130
1,1,2-Trichloroethane	1	42.5593	0	50	85	50	130
1,2-Dibromoethane	1	39.0478	0	50	78	50	130
1,3-Dichloropropane	1	47.4587	0	50	95	50	130
4-Methyl-2-Pentanone	1	35.5476	0	50	71	20	130
2-Hexanone	1	34.2666	0	50	69	20	130
Tetrachloroethene	1	38.7659	0	50	78	50	130
Toluene	1	42.8058	0	50	86	50	130
1,1,1,2-Tetrachloroethane	1	39.3012	0	50	79	50	130
Chlorobenzene	1	42.6649	0	50	85	50	130

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Form3
Recovery Data Laboratory Limits
QC Batch: MBS64371

n-Butyl acrylate	1	7.4004	0	50	15*	50	130
n-Amyl acetate	1	0	0	50	0*	50	130
Bromoform	1	27.6707	0	50	55	20	130
Ethylbenzene	1	37.2645	0	50	75	50	130
1,1,2,2-Tetrachloroethane	1	36.726	0	50	73	50	130
Styrene	1	41.1845	0	50	82	50	130
m&p-Xylenes	1	62.2463	0	100	62	50	130
o-Xylene	1	40.3637	0	50	81	50	130
trans-1,4-Dichloro-2-butene	1	37.4117	0	50	75	20	130
1,3-Dichlorobenzene	1	32.4818	0	50	65	50	130
1,4-Dichlorobenzene	1	33.0097	0	50	66	50	130
1,2-Dichlorobenzene	1	31.4375	0	50	63	50	130
Isopropylbenzene	1	39.5462	0	50	79	50	130
Cyclohexanone	1	207.4636	0	250	83	50	130
Camphene	1	31.9733	0	50	64	50	130
1,2,3-Trichloropropane	1	37.6182	0	50	75	50	130
2-Chlorotoluene	1	38.7195	0	50	77	50	130
p-Ethyltoluene	1	35.1875	0	50	70	50	130
4-Chlorotoluene	1	40.4386	0	50	81	50	130
n-Propylbenzene	1	37.4533	0	50	75	50	130
Bromobenzene	1	38.0178	0	50	76	50	130
1,3,5-Trimethylbenzene	1	33.3756	0	50	67	50	130
Butyl methacrylate	1	21.9799	0	50	44*	50	130
t-Butylbenzene	1	37.4362	0	50	75	50	130
1,2,4-Trimethylbenzene	1	32.7787	0	50	66	50	130
sec-Butylbenzene	1	36.5869	0	50	73	50	130
4-Isopropyltoluene	1	35.4855	0	50	71	50	130
n-Butylbenzene	1	33.3405	0	50	67	50	130
p-Diethylbenzene	1	34.5687	0	50	69	50	130
1,2,4,5-Tetramethylbenzene	1	33.2998	0	50	67	50	130
1,2-Dibromo-3-Chloropropane	1	25.881	0	50	52	50	130
Camphor	1	315.1925	0	500	63	50	130
Hexachlorobutadiene	1	22.1603	0	50	44*	50	130
1,2,4-Trichlorobenzene	1	21.3273	0	50	43*	50	130
1,2,3-Trichlorobenzene	1	19.0249	0	50	38*	50	130
Naphthalene	1	22.1135	0	50	44*	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64371

Data File	Sample ID:	Analysis Date
Spike or Dup: 6M59657.D	AD00453-003(MSD)	10/9/2017 8:48:00 PM
Non Spike(If applicable): 6M59628.D	AD00453-003	10/9/2017 12:56:00 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	72.6941	0	50	145*	20	130
Dichlorodifluoromethane	1	47.8656	0	50	96	20	130
Chloromethane	1	54.4897	0	50	109	20	130
Bromomethane	1	45.1427	0	50	90	20	130
Vinyl Chloride	1	52.8057	0	50	106	20	130
Chloroethane	1	52.9051	0	50	106	20	130
Trichlorofluoromethane	1	22.7443	0	50	45	20	130
Ethyl ether	1	45.5255	0	50	91	50	130
Furan	1	49.2117	0	50	98	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	49.2679	0	50	99	50	130
Methylene Chloride	1	49.4065	0	50	99	50	130
Acrolein	1	44.6878	0	200	22	20	130
Acrylonitrile	1	37.7271	0	50	75	20	130
Iodomethane	1	57.7643	0	50	116	50	130
Acetone	1	227.778	0	200	114	20	130
Carbon Disulfide	1	72.0329	0	50	144*	50	130
t-Butyl Alcohol	1	215.826	0	200	108	20	130
n-Hexane	1	45.6566	0	50	91	50	130
Di-isopropyl-ether	1	53.5083	0	50	107	50	130
1,1-Dichloroethene	1	26.1761	0	50	52	50	130
Methyl Acetate	1	67.4378	0	50	135*	50	130
Methyl-t-butyl ether	1	47.5547	0	50	95	50	130
1,1-Dichloroethane	1	49.3684	0	50	99	50	130
trans-1,2-Dichloroethene	1	49.4363	0	50	99	50	130
Ethyl-t-butyl ether	1	54.7408	0	50	109	50	130
cis-1,2-Dichloroethene	1	49.1032	0	50	98	50	130
Bromochloromethane	1	48.8464	0	50	98	50	130
2,2-Dichloropropane	1	47.1383	0	50	94	50	130
Ethyl acetate	1	10.7945	0	50	22*	50	130
1,4-Dioxane	1	2214.252	0	2500	89	50	130
1,1-Dichloropropene	1	51.0268	0	50	102	50	130
Chloroform	1	47.1585	0	50	94	50	130
Cyclohexane	1	51.953	0	50	104	50	130
1,2-Dichloroethane	1	47.0662	0	50	94	50	130
2-Butanone	1	59.336	0	50	119	20	130
1,1,1-Trichloroethane	1	45.984	0	50	92	50	130
Carbon Tetrachloride	1	40.4099	0	50	81	50	130
Vinyl Acetate	1	46.011	0	50	92	50	130
Bromodichloromethane	1	38.2496	0	50	76	50	130
Methylcyclohexane	1	38.5675	0	50	77	50	130
Dibromomethane	1	36.587	0	50	73	50	130
1,2-Dichloropropane	1	46.5194	0	50	93	50	130
Trichloroethene	1	36.2778	0	50	73	50	130
Benzene	1	45.9989	0	50	92	50	130
tert-Amyl methyl ether	1	52.8293	0	50	106	50	130
Iso-propylacetate	1	18.3927	0	50	37*	50	130
Methyl methacrylate	1	61.2192	0	50	122	50	130
Dibromochloromethane	1	35.5132	0	50	71	50	130
2-Chloroethylvinylether	1	45.4256	0	50	91	50	130
cis-1,3-Dichloropropene	1	45.2745	0	50	91	50	130
trans-1,3-Dichloropropene	1	45.8402	0	50	92	50	130
Ethyl methacrylate	1	17.8675	0	50	36*	50	130
1,1,2-Trichloroethane	1	44.5978	0	50	89	50	130
1,2-Dibromoethane	1	40.0669	0	50	80	50	130
1,3-Dichloropropane	1	49.8695	0	50	100	50	130
4-Methyl-2-Pentanone	1	34.5561	0	50	69	20	130
2-Hexanone	1	37.3399	0	50	75	20	130
Tetrachloroethene	1	39.9691	0	50	80	50	130
Toluene	1	41.3143	0	50	83	50	130
1,1,1,2-Tetrachloroethane	1	37.7358	0	50	75	50	130
Chlorobenzene	1	43.1008	0	50	86	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: MBS64371

n-Butyl acrylate	1	4.5204	0	50	9*	50	130
n-Amyl acetate	1	2.4675	0	50	4.9*	50	130
Bromoform	1	28.5167	0	50	57	20	130
Ethylbenzene	1	34.2115	0	50	68	50	130
1,1,2,2-Tetrachloroethane	1	39.9334	0	50	80	50	130
Styrene	1	35.0347	0	50	70	50	130
m&p-Xylenes	1	54.0798	0	100	54	50	130
o-Xylene	1	36.1317	0	50	72	50	130
trans-1,4-Dichloro-2-butene	1	34.0467	0	50	68	20	130
1,3-Dichlorobenzene	1	30.2878	0	50	61	50	130
1,4-Dichlorobenzene	1	31.6535	0	50	63	50	130
1,2-Dichlorobenzene	1	31.698	0	50	63	50	130
Isopropylbenzene	1	36.049	0	50	72	50	130
Cyclohexanone	1	194.4385	0	250	78	50	130
Camphene	1	29.8627	0	50	60	50	130
1,2,3-Trichloropropane	1	35.0874	0	50	70	50	130
2-Chlorotoluene	1	34.6443	0	50	69	50	130
p-Ethyltoluene	1	32.3003	0	50	65	50	130
4-Chlorotoluene	1	33.9944	0	50	68	50	130
n-Propylbenzene	1	34.2444	0	50	68	50	130
Bromobenzene	1	37.2257	0	50	74	50	130
1,3,5-Trimethylbenzene	1	34.1889	0	50	68	50	130
Butyl methacrylate	1	17.0326	0	50	34*	50	130
t-Butylbenzene	1	33.8671	0	50	68	50	130
1,2,4-Trimethylbenzene	1	29.5703	0	50	59	50	130
sec-Butylbenzene	1	33.9738	0	50	68	50	130
4-Isopropyltoluene	1	32.2829	0	50	65	50	130
n-Butylbenzene	1	30.7862	0	50	62	50	130
p-Diethylbenzene	1	31.0832	0	50	62	50	130
1,2,4,5-Tetramethylbenzene	1	32.2395	0	50	64	50	130
1,2-Dibromo-3-Chloropropane	1	27.2909	0	50	55	50	130
Camphor	1	502.4417	0	500	100	50	130
Hexachlorobutadiene	1	21.8747	0	50	44*	50	130
1,2,4-Trichlorobenzene	1	19.3776	0	50	39*	50	130
1,2,3-Trichlorobenzene	1	19.9393	0	50	40*	50	130
Naphthalene	1	27.4117	0	50	55	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: MBS64371

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M59657.D	AD00453-003(MSD)	10/9/2017 8:48:00 PM
Duplicate(If applicable):	6M59656.D	AD00453-003(MS)	10/9/2017 8:31:00 PM
Inst Blank(If applicable):			

Method: 8260C Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chlorodifluoromethane	1	72.6941	90.7251	22	30
Dichlorodifluoromethane	1	47.8656	55.346	14	30
Chloromethane	1	54.4897	25.6169	72*	30
Bromomethane	1	45.1427	49.5466	9.3	30
Vinyl Chloride	1	52.8057	60.0973	13	40
Chloroethane	1	52.9051	58.5506	10	30
Trichlorofluoromethane	1	22.7443	21.577	5.3	30
Ethyl ether	1	45.5255	47.8381	5	30
Furan	1	49.2117	55.1185	11	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1	49.2679	51.3652	4.2	30
Methylene Chloride	1	49.4065	54.4949	9.8	30
Acrolein	1	44.6878	46.7177	4.4	30
Acrylonitrile	1	37.7271	19.4125	64*	30
Iodomethane	1	57.7643	68.1072	16	30
Acetone	1	227.778	257.5395	12	30
Carbon Disulfide	1	72.0329	78.4785	8.6	30
t-Butyl Alcohol	1	215.826	209.2154	3.1	30
n-Hexane	1	45.6566	51.0095	11	30
Di-isopropyl-ether	1	53.5083	57.2544	6.8	30
1,1-Dichloroethene	1	26.1761	31.0771	17	40
Methyl Acetate	1	67.4378	74.211	9.6	30
Methyl-t-butyl ether	1	47.5547	51.4605	7.9	30
1,1-Dichloroethane	1	49.3684	53.5409	8.1	40
trans-1,2-Dichloroethene	1	49.4363	55.0298	11	30
Ethyl-t-butyl ether	1	54.7408	57.3026	4.6	30
cis-1,2-Dichloroethene	1	49.1032	51.7496	5.2	30
Bromochloromethane	1	48.8464	51.7678	5.8	30
2,2-Dichloropropane	1	47.1383	49.2931	4.5	30
Ethyl acetate	1	10.7945	18.7503	54*	30
1,4-Dioxane	1	2214.252	2298.545	3.7	30
1,1-Dichloropropene	1	51.0268	49.3181	3.4	30
Chloroform	1	47.1585	48.4104	2.6	40
Cyclohexane	1	51.953	49.5693	4.7	30
1,2-Dichloroethane	1	47.0662	43.8289	7.1	40
2-Butanone	1	59.336	54.2981	8.9	40
1,1,1-Trichloroethane	1	45.984	42.4327	8	30
Carbon Tetrachloride	1	40.4099	39.5381	2.2	40
Vinyl Acetate	1	46.011	51.9753	12	30
Bromodichloromethane	1	38.2496	41.1218	7.2	30
Methylcyclohexane	1	38.5675	42.4032	9.5	30
Dibromomethane	1	36.587	38.3163	4.6	30
1,2-Dichloropropane	1	46.5194	46.5881	0.15	30
Trichloroethene	1	36.2778	40.5765	11	40
Benzene	1	45.9989	45.1518	1.9	40
tert-Amyl methyl ether	1	52.8293	51.1865	3.2	30
Iso-propylacetate	1	18.3927	21.9859	18	30
Methyl methacrylate	1	61.2192	62.1208	1.5	30
Dibromochloromethane	1	35.5132	34.3975	3.2	30
2-Chloroethylvinylether	1	45.4256	43.4166	4.5	30
cis-1,3-Dichloropropene	1	45.2745	43.2443	4.6	30
trans-1,3-Dichloropropene	1	45.8402	42.3013	8	30
Ethyl methacrylate	1	17.8675	20.4154	13	30
1,1,2-Trichloroethane	1	44.5978	42.5593	4.7	30
1,2-Dibromoethane	1	40.0669	39.0478	2.6	30
1,3-Dichloropropane	1	49.8695	47.4587	5	30
4-Methyl-2-Pentanone	1	34.5561	35.5476	2.8	30
2-Hexanone	1	37.3399	34.2666	8.6	30
Tetrachloroethene	1	39.9691	38.7659	3.1	40
Toluene	1	41.3143	42.8058	3.5	40
1,1,1,2-Tetrachloroethane	1	37.7358	39.3012	4.1	30
Chlorobenzene	1	43.1008	42.6649	1	40
n-Butyl acrylate	1	4.5204	7.4004	48*	30
n-Amyl acetate	1	2.4675	0	200*	30

Form3
RPD Data Laboratory Limits
QC Batch: MBS64371

Bromoform	1	28.5167	27.6707	3	30
Ethylbenzene	1	34.2115	37.2645	8.5	30
1,1,2,2-Tetrachloroethane	1	39.9334	36.726	8.4	30
Styrene	1	35.0347	41.1845	16	30
m&p-Xylenes	1	54.0798	62.2463	14	30
o-Xylene	1	36.1317	40.3637	11	30
trans-1,4-Dichloro-2-butene	1	34.0467	37.4117	9.4	30
1,3-Dichlorobenzene	1	30.2878	32.4818	7	30
1,4-Dichlorobenzene	1	31.6535	33.0097	4.2	40
1,2-Dichlorobenzene	1	31.698	31.4375	0.83	40
Isopropylbenzene	1	36.049	39.5462	9.3	30
Cyclohexanone	1	194.4385	207.4636	6.5	30
Camphene	1	29.8627	31.9733	6.8	30
1,2,3-Trichloropropane	1	35.0874	37.6182	7	30
2-Chlorotoluene	1	34.6443	38.7195	11	30
p-Ethyltoluene	1	32.3003	35.1875	8.6	30
4-Chlorotoluene	1	33.9944	40.4386	17	30
n-Propylbenzene	1	34.2444	37.4533	9	40
Bromobenzene	1	37.2257	38.0178	2.1	30
1,3,5-Trimethylbenzene	1	34.1889	33.3756	2.4	30
Butyl methacrylate	1	17.0326	21.9799	25	30
t-Butylbenzene	1	33.8671	37.4362	10	30
1,2,4-Trimethylbenzene	1	29.5703	32.7787	10	30
sec-Butylbenzene	1	33.9738	36.5869	7.4	40
4-Isopropyltoluene	1	32.2829	35.4855	9.5	30
n-Butylbenzene	1	30.7862	33.3405	8	30
p-Diethylbenzene	1	31.0832	34.5687	11	30
1,2,4,5-Tetramethylbenzene	1	32.2395	33.2998	3.2	30
1,2-Dibromo-3-Chloropropane	1	27.2909	25.881	5.3	30
Camphor	1	502.4417	315.1925	46*	30
Hexachlorobutadiene	1	21.8747	22.1603	1.3	30
1,2,4-Trichlorobenzene	1	19.3776	21.3273	9.6	30
1,2,3-Trichlorobenzene	1	19.9393	19.0249	4.7	30
Naphthalene	1	27.4117	22.1135	21	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: 6M59614.D
Matrix: Soil

Blank Analysis Date: 10/09/17 09:03
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
MBS64365	6M59620.D	10/09/17 10:43
AD00453-003	6M59628.D	10/09/17 12:56

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 6M59648.D
Matrix: Soil

Blank Analysis Date: 10/09/17 18:18
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260C

Sample Number	Data File	Analysis Date
AD00475-001	6M59666.D	10/09/17 23:16
AD00475-003	6M59667.D	10/09/17 23:34
AD00475-005	6M59681.D	10/10/17 03:27
AD00475-007	6M59682.D	10/10/17 03:43
AD00475-009	6M59683.D	10/10/17 04:00
AD00475-011	6M59685.D	10/10/17 04:33
AD00475-013	6M59686.D	10/10/17 04:50
MBS64371	6M59658.D	10/09/17 21:04
AD00453-003(MSD	6M59657.D	10/09/17 20:48
AD00453-003(MS)	6M59656.D	10/09/17 20:31

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M59477.D
Analysis Date: 10/05/17 09:14
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.008 to 4.037 min

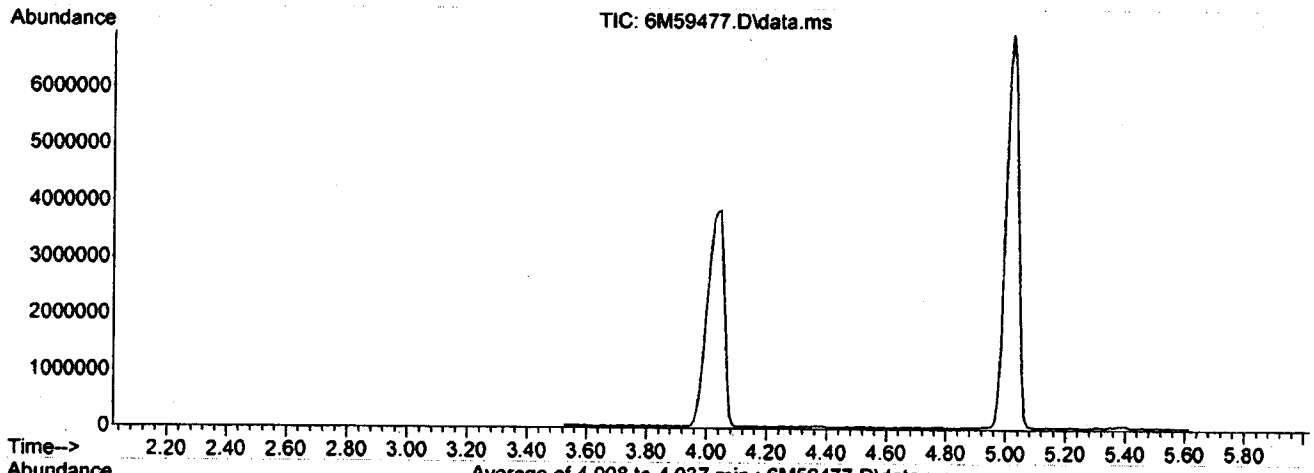
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	22.8	152614	PASS
75	95	30	60	51.9	347376	PASS
95	95	100	100	100.0	668784	PASS
96	95	5	9	7.1	47644	PASS
173	174	0.00	2	0.5	2496	PASS
174	95	50	100	82.1	548864	PASS
175	174	5	9	7.3	39844	PASS
176	174	95	101	98.9	542848	PASS
177	176	5	9	6.2	33510	PASS

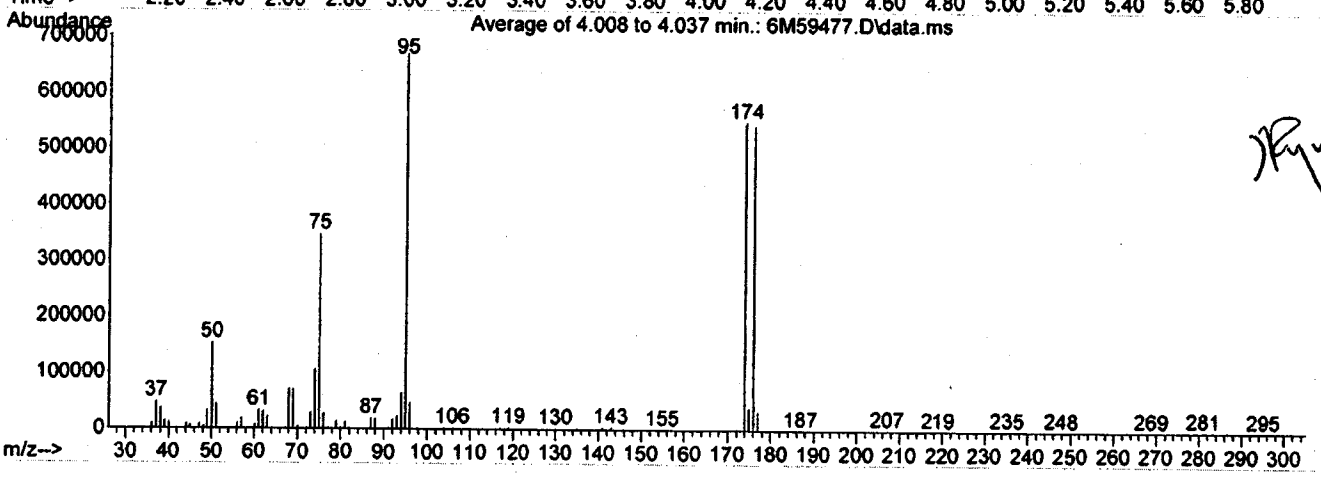
Data File	Sample Number	Analysis Date:
6M59481.D	CAL @ 0.5 PPB	10/05/17 10:16
6M59482.D	CAL @ 1 PPB	10/05/17 10:33
6M59483.D	CAL @ 2 PPB	10/05/17 10:50
6M59484.D	CAL @ 5 PPB	10/05/17 11:06
6M59485.D	CAL @ 20 PPB	10/05/17 11:23
6M59486.D	CAL @ 500 PPB	10/05/17 11:40
6M59488.D	CAL @ 250 PPB	10/05/17 12:13
6M59490.D	CAL @ 100 PPB	10/05/17 12:46
6M59492.D	CAL @ 50 PPB	10/05/17 13:20
6M59495.D	STD	10/05/17 14:09
6M59497.D	ICV	10/05/17 14:31
6M59498.D	BLK	10/05/17 14:48
6M59500.D	BLK	10/05/17 15:21
6M59501.D	DAILY BLANK	10/05/17 15:38
6M59502.D	BLK	10/05/17 15:54
6M59503.D	VER@ 1 PPB	10/05/17 16:11
6M59504.D	VER@ 2 PPB	10/05/17 16:28
6M59505.D	BLK	10/05/17 16:46
6M59506.D	AD00404-008	10/05/17 17:02
6M59507.D	AD00404-003	10/05/17 17:19
6M59508.D	AD00418-005	10/05/17 17:35
6M59509.D	AD00418-003	10/05/17 17:52
6M59510.D	AD00418-001	10/05/17 18:09
6M59511.D	AD00292-007(MS)	10/05/17 18:25
6M59512.D	AD00292-007(MSD	10/05/17 18:42
6M59513.D	MBS64352	10/05/17 18:58

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-05-17\
Data File : 6M59477.D
Acq On : 5 Oct 2017 9:14
Operator : SG
Sample : BFB TUNE
Misc : S,5G
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2017\GCMS_6\MethodQt\6M_S0907.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 07 09:58:16 2017





Spectrum Information: Average of 4.008 to 4.037 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.8	152614	PASS
75	95	30	60	51.9	347376	PASS
95	95	100	100	100.0	668784	PASS
96	95	5	9	7.1	47644	PASS
173	174	0.00	2	0.5	2496	PASS
174	95	50	100	82.1	548864	PASS
175	174	5	9	7.3	39844	PASS
176	174	95	101	98.9	542848	PASS
177	176	5	9	6.2	33510	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M59608.D
Analysis Date: 10/09/17 07:30
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.012 to 4.071 min

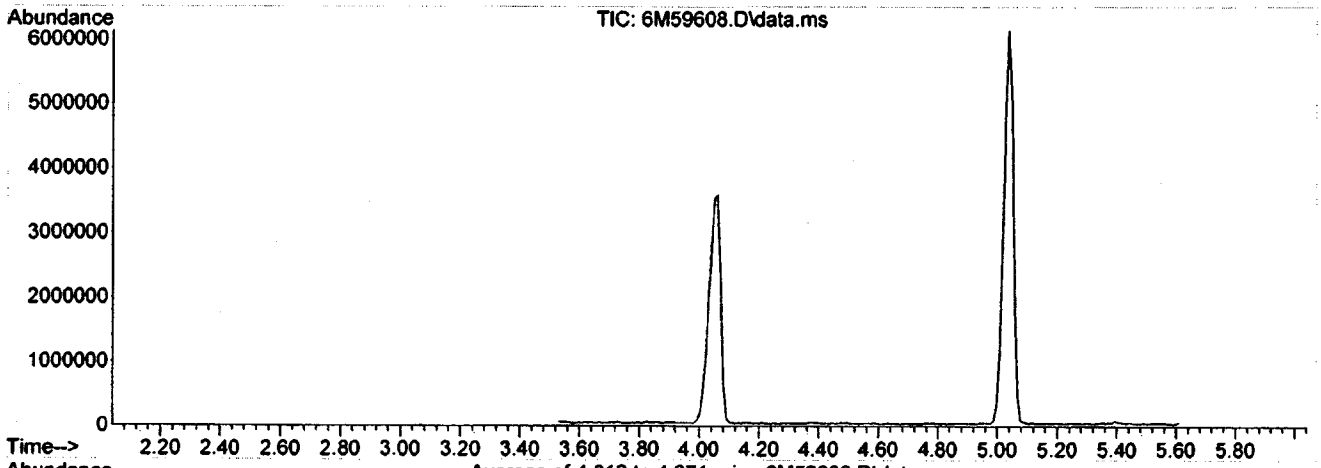
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	23.8	107400	PASS
75	95	30	60	52.1	234935	PASS
95	95	100	100	100.0	450919	PASS
96	95	5	9	7.2	32504	PASS
173	174	0.00	2	0.3	1057	PASS
174	95	50	100	80.2	361817	PASS
175	174	5	9	7.8	28348	PASS
176	174	95	101	99.2	358875	PASS
177	176	5	9	6.8	24225	PASS

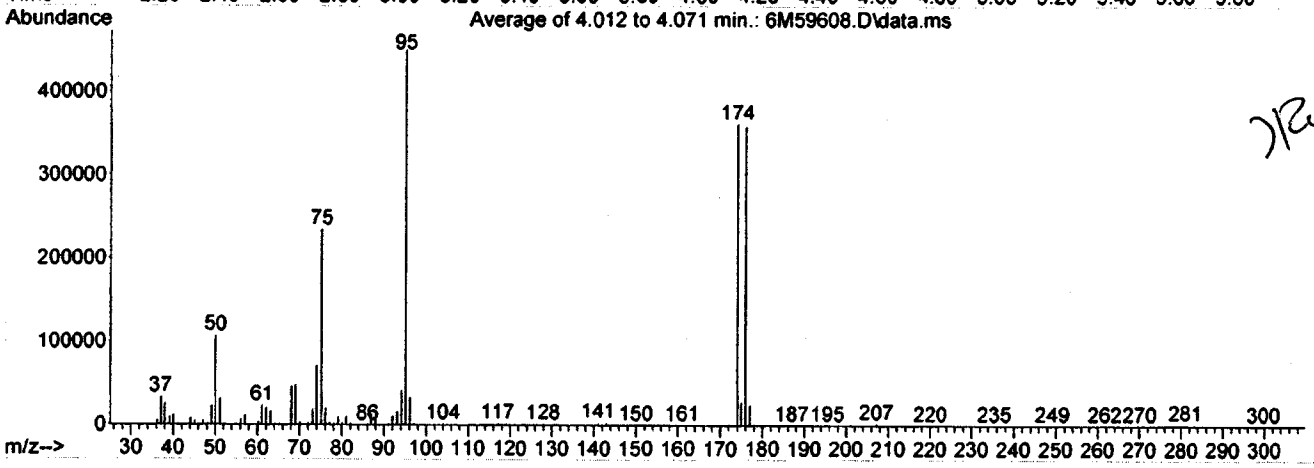
Data File	Sample Number	Analysis Date:
6M59609.D	BLK	10/09/17 07:40
6M59610.D	CAL @ 50 PPB	10/09/17 07:56
6M59611.D	50 PPB	10/09/17 08:13
6M59612.D	BLK	10/09/17 08:30
6M59613.D	BLK	10/09/17 08:46
6M59614.D	DAILY BLANK	10/09/17 09:03
6M59615.D	00453-010(5X)	10/09/17 09:20
6M59616.D	AD00453-008(5X)	10/09/17 09:36
6M59617.D	AD00453-009(5X)	10/09/17 09:53
6M59618.D	AD00453-013(5X)	10/09/17 10:10
6M59619.D	00453-006(5X)	10/09/17 10:27
6M59620.D	MBS64365	10/09/17 10:43
6M59621.D	AD00453-006(5X)	10/09/17 11:00
6M59622.D	AD00418-005(MS)	10/09/17 11:16
6M59623.D	AD00418-005(MSD	10/09/17 11:33
6M59624.D	BLK	10/09/17 11:50
6M59625.D	AD00437-009	10/09/17 12:06
6M59626.D	AD00437-010	10/09/17 12:23
6M59627.D	AD00437-011	10/09/17 12:40
6M59628.D	AD00453-003	10/09/17 12:56
6M59629.D	AD00453-004	10/09/17 13:13
6M59630.D	AD00453-010	10/09/17 13:29
6M59631.D	AD00460-001	10/09/17 13:46
6M59632.D	AD00460-002	10/09/17 14:03
6M59633.D	AD00460-003	10/09/17 14:19
6M59634.D	AD00460-004	10/09/17 14:36
6M59635.D	AD00460-005	10/09/17 14:53
6M59636.D	AD00460-006	10/09/17 15:09
6M59637.D	AD00460-007	10/09/17 15:26
6M59638.D	AD00460-008	10/09/17 15:42
6M59639.D	AD00461-001	10/09/17 15:59
6M59640.D	AD00461-003	10/09/17 16:16
6M59641.D	AD00474-002	10/09/17 16:32
6M59642.D	BLKTEST	10/09/17 16:49

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-09-17\
Data File : 6M59608.D
Acq On : 9 Oct 2017 7:30
Operator : SG
Sample : BFB TUNE
Misc : S,5g
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2017\GCMS_6\MethodQt\6M_S1005.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Oct 05 14:38:09 2017





Spectrum Information: Average of 4.012 to 4.071 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.8	107400	PASS
75	95	30	60	52.1	234935	PASS
95	95	100	100	100.0	450919	PASS
96	95	5	9	7.2	32504	PASS
173	174	0.00	2	0.3	1057	PASS
174	95	50	100	80.2	361817	PASS
175	174	5	9	7.8	28348	PASS
176	174	95	101	99.2	358875	PASS
177	176	5	9	6.8	24225	PASS

Form 5

Tune Name: BFB TUNE
Instrument: GCMS 6

Data File: 6M59643.D
Analysis Date: 10/09/17 17:01
Method: EPA 8260C

Tune Scan/Time Range: Average of 4.021 to 4.080 min

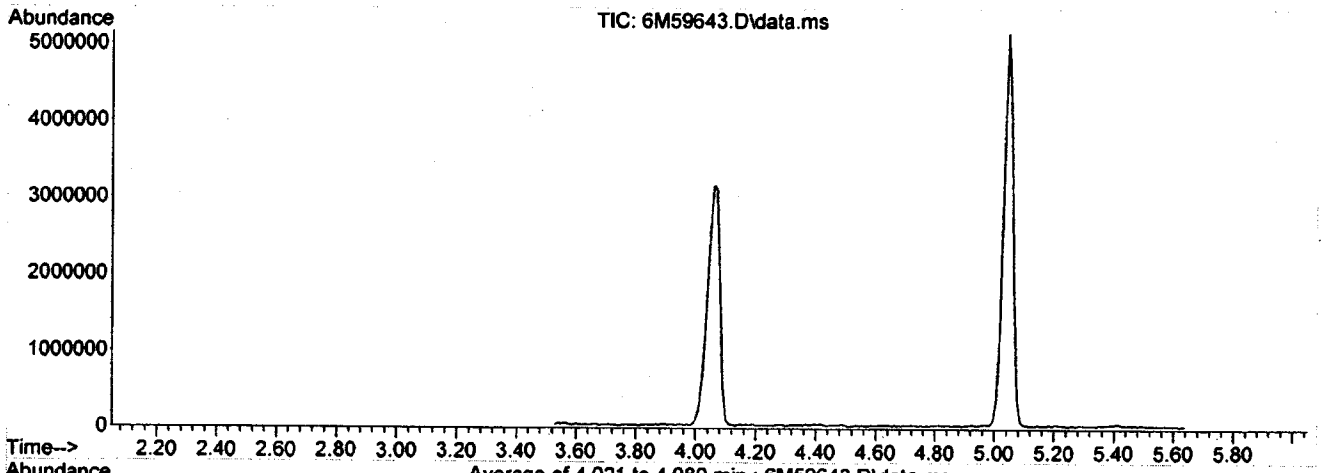
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	24.8	104744	PASS
75	95	30	60	53.2	224949	PASS
95	95	100	100	100.0	423077	PASS
96	95	5	9	7.2	30636	PASS
173	174	0.00	2	0.7	2353	PASS
174	95	50	100	74.2	314110	PASS
175	174	5	9	7.0	21954	PASS
176	174	95	101	97.2	305343	PASS
177	176	5	9	6.4	19684	PASS

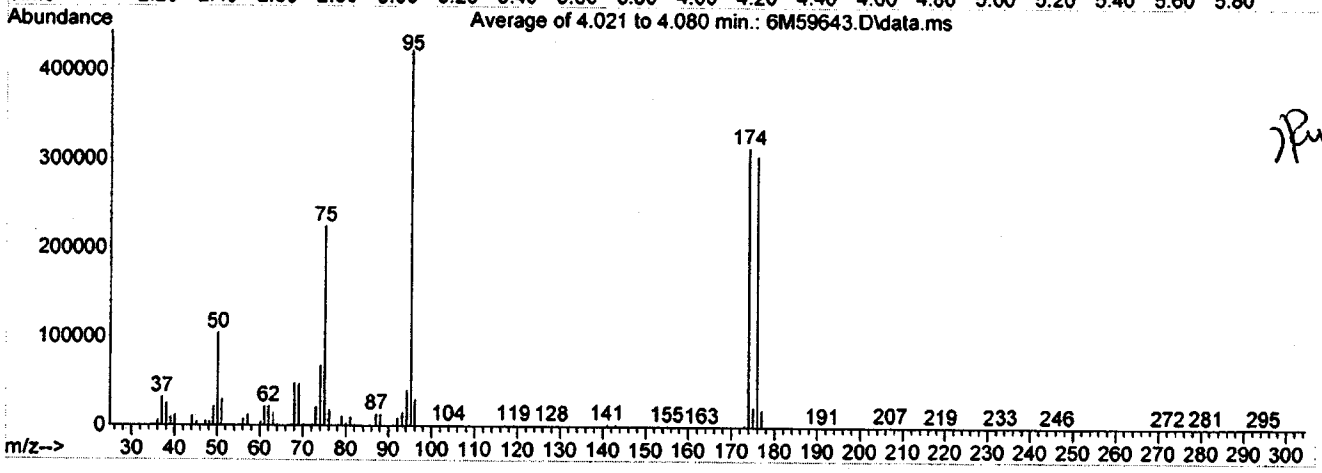
Data File	Sample Number	Analysis Date:
6M59644.D	50 PPB	10/09/17 17:11
6M59645.D	CAL @ 50 PPB	10/09/17 17:28
6M59646.D	BLK	10/09/17 17:44
6M59648.D	DAILY BLANK	10/09/17 18:18
6M59649.D	AD00473-001	10/09/17 18:34
6M59650.D	AD00469-001	10/09/17 18:51
6M59651.D	AD00469-002	10/09/17 19:07
6M59652.D	AD00469-003	10/09/17 19:24
6M59653.D	AD00469-004	10/09/17 19:41
6M59654.D	AD00461-005	10/09/17 19:58
6M59655.D	AD00470-007	10/09/17 20:14
6M59656.D	AD00453-003(MS)	10/09/17 20:31
6M59657.D	AD00453-003(MSD	10/09/17 20:48
6M59658.D	MBS64371	10/09/17 21:04
6M59659.D	BLK	10/09/17 21:21
6M59660.D	AD00470-001	10/09/17 21:37
6M59661.D	AD00470-002	10/09/17 21:54
6M59662.D	AD00470-003	10/09/17 22:08
6M59663.D	AD00470-004	10/09/17 22:27
6M59664.D	AD00470-015	10/09/17 22:44
6M59665.D	AD00470-016	10/09/17 23:01
6M59666.D	AD00475-001	10/09/17 23:16
6M59667.D	AD00475-003	10/09/17 23:34
6M59668.D	BLK	10/09/17 23:50
6M59669.D	AD00488-001	10/10/17 00:07
6M59670.D	AD00488-002	10/10/17 00:24
6M59671.D	AD00488-003	10/10/17 00:40
6M59672.D	AD00484-001	10/10/17 00:57
6M59673.D	AD00453-004(MS)	10/10/17 01:14
6M59674.D	AD00453-004(MSD	10/10/17 01:30
6M59675.D	MBS64370	10/10/17 01:47
6M59676.D	BLK	10/10/17 02:04
6M59677.D	AD00470-018	10/10/17 02:20
6M59678.D	AD00470-020	10/10/17 02:37
6M59679.D	AD00470-021	10/10/17 02:54
6M59680.D	AD00470-022	10/10/17 03:10
6M59681.D	AD00475-005	10/10/17 03:27
6M59682.D	AD00475-007	10/10/17 03:43
6M59683.D	AD00475-009	10/10/17 04:00
6M59684.D	AD00455-001	10/10/17 04:17
6M59685.D	AD00475-011	10/10/17 04:33
6M59686.D	AD00475-013	10/10/17 04:50
6M59687.D	BLK	10/10/17 05:07
6M59688.D	BLK	10/10/17 05:23
6M59689.D	BLK	10/10/17 05:40
6M59690.D	AD00485-002	10/10/17 05:57
6M59691.D	KUFILTER	10/10/17 06:13
6M59692.D	BLK	10/10/17 06:30

Data Path : G:\GcMsData\2017\GCMS_6\Data\10-0917\
Data File : 6M59643.D
Acq On : 9 Oct 2017 17:01
Operator : WP
Sample : BFB TUNE
Misc : S,5g
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2017\GCMS_6\MethodQt\6M_S1005.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Oct 05 14:38:09 2017





Spectrum Information: Average of 4.021 to 4.080 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.8	104744	PASS
75	95	30	60	53.2	224949	PASS
95	95	100	100	100.0	423077	PASS
96	95	5	9	7.2	30636	PASS
173	174	0.00	2	0.7	2353	PASS
174	95	50	100	74.2	314110	PASS
175	174	5	9	7.0	21954	PASS
176	174	95	101	97.2	305343	PASS
177	176	5	9	6.4	19684	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
1	6M59485.D	CAL @ 20 PPB	10/05/17 11:23	2	6M59484.D	CAL @ 5 PPB	10/05/17 11:06
3	6M59483.D	CAL @ 2 PPB	10/05/17 10:50	4	6M59492.D	CAL @ 50 PPB	10/05/17 13:20
5	6M59490.D	CAL @ 100 PPB	10/05/17 12:46	6	6M59488.D	CAL @ 250 PPB	10/05/17 12:13
7	6M59486.D	CAL @ 500 PPB	10/05/17 11:40	8	6M59482.D	CAL @ 1 PPB	10/05/17 10:33
9	6M59481.D	CAL @ 0.5 PPB	10/05/17 10:16				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Chlorodifluoromethane	1	0	Avg	1.0566	1.2411	1.2610	1.1011	1.1310	1.1876	1.2222	----	----	1.17	1.43	1.00	1.00	6.6	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dichlorodifluorometha	1	0	Avg	0.6349	0.6722	0.7683	0.6028	0.6605	0.6926	0.6644	----	----	0.671	1.43	0.999	1.00	7.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloromethane	1	0	Avg	0.6302	0.6676	0.8399	0.6176	0.6293	0.6553	0.6659	----	----	0.672	1.58	1.00	1.00	11	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromomethane	1	0	Avg	0.3937	0.4720	0.4380	0.3636	0.3946	0.4295	0.3799	----	----	0.410	1.96	0.996	0.999	9.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Chloride	1	0	Avg	0.5343	0.6221	0.6130	0.5248	0.5579	0.6011	0.5664	----	----	0.574	1.68	0.999	0.999	6.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroethane	1	0	Avg	0.3984	0.3977	0.5416	0.3780	0.3961	0.4206	0.4214	----	----	0.422	2.05	1.00	1.00	13	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichlorofluoromethan	1	0	Avg	1.2094	1.3160	1.5477	1.1306	1.2311	1.2921	1.3317	----	----	1.29	2.26	1.00	1.00	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl ether	1	0	Avg	0.2401	0.2157	0.2950	0.2311	0.2556	0.2692	0.2435	----	----	0.250	2.49	0.997	0.999	10	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Furan	1	0	Avg	1.3143	1.3343	1.5217	1.2855	1.4340	1.5385	1.3840	----	----	1.40	2.52	0.997	0.999	7.1	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,2-Trichloro-1,2,2-tr	1	0	Avg	0.6308	0.6826	0.7670	0.6134	0.6624	0.6861	0.6702	----	----	0.673	2.68	1.00	1.00	7.3	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methylene Chloride	1	0	Avg	0.4287	0.4883	0.4897	0.3775	0.4137	0.4478	0.4128	----	----	0.437	3.07	0.998	0.999	9.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acrolein	1	0	Avg	0.0221	0.0247	0.0117	0.0201	0.0210	0.0225	0.0196	----	----	0.0203	2.60	0.995	0.999	20		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Acrylonitrile	1	0	Avg	0.0474	0.0496	0.0633	0.0493	0.0493	0.0531	0.0459	----	----	0.0512	3.27	0.995	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iodomethane	1	0	Avg	0.5874	0.5846	0.6857	0.5244	0.6126	0.6843	0.5617	----	----	0.606	2.82	0.989	0.997	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acetone	1	0	Avg	0.0530	0.0711	0.0548	0.0471	0.0456	0.0504	0.0436	----	----	0.0523	2.72	0.995	0.999	18	0.10 a	100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Carbon Disulfide	1	0	Avg	1.1196	1.2064	1.4516	1.1282	1.2244	1.3428	1.3593	----	----	1.26	2.88	1.00	1.00	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
t-Butyl Alcohol	1	0	Qua	0.0087	0.0085	0.0041	0.0083	0.0077	0.0086	0.0067	----	----	0.00757	3.12	0.982	0.997	22		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
n-Hexane	1	0	Avg	0.7751	0.7603	0.8779	0.8499	0.9517	1.0399	0.9550	----	----	0.887	3.52	0.998	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Di-isopropyl-ether	1	0	Avg	1.3459	1.3062	1.5930	1.4186	1.5003	1.6349	1.6106	----	----	1.49	3.67	1.00	1.00	8.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1-Dichloroethene	1	0	Avg	1.0987	1.1473	1.5076	1.1029	1.2101	1.2412	1.2188	----	----	1.22	2.69	1.00	1.00	11	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl Acetate	1	0	Qua	0.2116	0.2535	0.3239	0.1855	0.1912	0.1851	0.1754	----	----	0.218	2.97	0.999	1.00	25	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl-t-butyl ether	1	0	Avg	0.4638	0.4974	0.6577	0.4626	0.4862	0.5434	0.5227	0.6776	----	0.539	3.28	0.999	0.999	16	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1-Dichloroethane	1	0	Avg	1.0559	1.0968	1.1051	0.9844	1.0736	1.1443	1.0972	----	----	1.08	3.64	0.999	1.00	4.6	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,2-Dichloroethe	1	0	Avg	0.5741	0.5597	0.5989	0.5564	0.6118	0.6642	0.6449	----	----	0.601	3.30	0.999	1.00	6.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl-t-butyl ether	1	0	Avg	0.8326	0.8366	0.8315	0.8955	0.9476	1.0490	0.9581	----	----	0.907	3.94	0.998	0.999	9.1	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,2-Dichloroethene	1	0	Avg	1.0378	1.1110	1.0898	1.0007	1.0670	1.1290	1.1206	----	----	1.08	4.07	1.00	1.00	4.4	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromochloromethane	1	0	Avg	0.4471	0.4616	0.6432	0.4162	0.4277	0.4568	0.4500	----	----	0.472	4.23	1.00	1.00	16		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2,2-Dichloropropane	1	0	Avg	0.8611	0.9457	0.9519	0.8353	0.9380	1.0691	1.0540	----	----	0.951	4.08	0.999	0.999	9.2		20.00	5.00	2.00	50.00	100:0	250.0	500.0		
Ethyl acetate	1	0	Qua	0.1808	0.1656	0.2983	0.1615	0.1700	0.1930	0.1569	----	----	0.189	4.10	0.989	0.997	26		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dioxane	1	0	Avg	0.0011	0.0018	0.0013	0.0014	0.0013	0.0017	0.0012	----	----	0.00146	5.13	0.968	0.990	17		1000.	250.0	100.0	2500.	5000.	1250	2500		
1,1-Dichloropropene	1	0	Avg	0.9710	1.0164	1.0570	1.0161	1.0833	1.1580	1.0921	----	----	1.06	4.49	0.999	1.00	5.8		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroform	1	0	Avg	0.9967	1.0807	1.2826	0.9240	1.0104	1.0644	1.0093	----	----	1.05	4.27	0.999	1.00	11	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromofluoromethan	1	0	Avg	0.2698	0.2527	0.2694	0.2354	0.2266	0.2409	0.2112	0.2769	0.2637	0.250	4.37	-1	-1	9.0		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Cyclohexane	1	0	Avg	1.0781	1.1157	1.1763	1.1630	1.3208	1.4273	1.2635	----	----	1.22	4.42	0.996	0.999	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloroethane-d4	1	0	Avg	0.1175	0.1163	0.1150	0.1092	0.1131	0.1007	0.0969	0.1145	0.1147	0.111	4.57	-1	-1	6.5		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
1,2-Dichloroethane	1	0	Avg	0.5978	0.6339	0.7642	0.5457	0.5879	0.6073	0.5508	----	----	0.613	4.61	0.998	1.00	12	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Butanone	1	0	Avg	0.0696	0.0920	0.0535	0.0809	0.0813	0.0783	0.0857	----	----	0.0774	4.08	0.998	1.00	16	0.10 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,1-Trichloroethane	1	0	Avg	1.1179	1.1860	1.2478	1.0601	1.1493	1.2506	1.1946	----	----	1.17	4.39	0.999	0.999	5.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Carbon Tetrachloride	1	0	Avg	0.9695	1.0487	1.0346	0.8982	1.0303	1.0629	0.8948	----	----	0.991	4.49	0.992	0.999	7.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Acetate	1	0	Avg	0.1878	0.2021	0.2547	0.1653	0.1705	0.1900	0.1746	----	----	0.192	3.28	0.998	0.999	16		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromodichloromethan	1	0	Avg	0.5616	0.5718	0.6086	0.5281	0.5593	0.6260	0.5805	----	----	0.577	5.21	0.998	0.999	5.7	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		

Avg Rsd: 11.8

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 RF, Linear, or Quadratic Curve was used for compound.

HAZ - 600

7100701 0090

7100701 0091

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
1	6M59485.D	CAL @ 20 PPB	10/05/17 11:23	2	6M59484.D	CAL @ 5 PPB	10/05/17 11:06
3	6M59483.D	CAL @ 2 PPB	10/05/17 10:50	4	6M59492.D	CAL @ 50 PPB	10/05/17 13:20
5	6M59490.D	CAL @ 100 PPB	10/05/17 12:46	6	6M59488.D	CAL @ 250 PPB	10/05/17 12:13
7	6M59486.D	CAL @ 500 PPB	10/05/17 11:40	8	6M59482.D	CAL @ 1 PPB	10/05/17 10:33
9	6M59481.D	CAL @ 0.5 PPB	10/05/17 10:16				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
																			Calibration Level Concentrations								
Methylcyclohexane	1	0	Avg	0.9424	0.9642	1.0158	0.9998	1.1549	1.2272	1.1337	----	----	1.06	5.05	0.998	0.999	10	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromomethane	1	0	Avg	0.2240	0.2123	0.2873	0.1988	0.1953	0.2123	0.1967	----	----	0.218	5.14	0.999	0.999	15		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloropropane	1	0	Avg	0.4120	0.4592	0.5049	0.4143	0.4407	0.4698	0.4489	----	----	0.450	5.07	0.999	1.00	7.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichloroethene	1	0	Avg	0.6247	0.6577	0.5761	0.5105	0.6455	0.6957	0.4969	----	----	0.601	4.95	0.967	0.995	13	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Benzene	1	0	Avg	1.9761	2.0095	2.3195	1.8829	2.1045	2.2715	1.8411	2.5139	----	2.11	4.61	0.989	0.998	11	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
tert-Amyl methyl ether	1	0	Avg	0.4892	0.4811	0.5081	0.4874	0.5424	0.6111	0.5965	----	----	0.531	4.65	0.999	0.999	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iso-propylacetate	1	0	Avg	0.5728	0.6443	0.7311	0.6672	0.6582	0.7216	0.8009	----	----	0.685	4.61	0.997	1.00	11	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl methacrylate	1	0	Avg	0.4178	0.3523	0.5295	0.4095	0.3865	0.4303	0.4864	----	----	0.430	5.10	0.996	1.00	14	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromochlorometham	1	0	Avg	0.5358	0.5398	0.6263	0.5050	0.5801	0.6151	0.5826	----	----	0.569	6.02	0.999	0.999	7.8	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chloroethylvinylethe	1	0	Avg	0.1521	0.1363	0.1716	0.1537	0.1637	0.1837	0.2252	----	----	0.170	5.34	0.991	1.00	17		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,3-Dichloropropen	1	0	Qua	0.8710	0.7202	0.7590	0.9272	0.9698	1.1059	1.3258	----	----	0.954	5.43	0.993	1.00	22	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,3-Dichloroprop	1	0	Qua	0.5538	0.6492	0.5530	0.6349	0.6620	0.7756	0.9751	----	----	0.686	5.71	0.989	1.00	22	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl methacrylate	1	0	Avg	0.4109	0.4433	0.4338	0.5036	0.5003	0.5426	0.6141	----	----	0.493	5.72	0.996	1.00	14	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,2-Trichloroethane	1	0	Avg	0.3607	0.4453	0.4022	0.3668	0.3587	0.3698	0.4274	----	----	0.390	5.81	0.995	1.00	9.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromoethane	1	0	Qua	0.3675	0.4157	0.3974	0.3274	0.3595	0.3767	0.3751	0.5044	0.8528	0.442	6.09	1.00	1.00	37	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	0.50
1,3-Dichloropropane	1	0	Avg	0.7040	0.6692	0.6314	0.7275	0.7134	0.7190	0.8032	----	----	0.710	5.90	0.997	1.00	7.5		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Methyl-2-Pentanone	1	0	Avg	0.2329	0.3032	0.3601	0.2632	0.2713	0.2988	0.3349	----	----	0.295	5.50	0.997	1.00	15	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Hexanone	1	0	Avg	0.1566	0.1442	0.2298	0.1849	0.1805	0.1911	0.2107	----	----	0.185	5.91	0.998	1.00	16	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Tetrachloroethene	1	0	Avg	1.0349	1.1921	1.1731	1.0995	1.0972	1.0899	1.1255	----	----	1.12	5.89	1.00	1.00	4.8	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Toluene-d8	1	0	Avg	1.6245	1.6839	1.5332	1.7843	1.6715	1.6279	1.8989	1.5277	1.5595	1.66	5.57	-1	-1	7.4		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Toluene	1	0	Avg	2.0861	2.2331	2.2382	2.2777	2.3651	2.3780	2.4887	3.1858	----	2.41	5.61	1.00	1.00	14	0.40	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1,1,2-Tetrachloroeth	1	0	Avg	0.6591	0.6533	0.7270	0.6466	0.6930	0.6831	0.6685	----	----	0.676	6.37	1.00	1.00	4.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chlorobenzene	1	0	Avg	1.8931	2.0194	2.1773	2.1004	2.0425	2.1268	2.4459	----	----	2.12	6.34	0.996	1.00	8.1	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Butyl acrylate	1	0	Qua	1.0705	0.9551	0.8757	1.3497	1.3838	1.6545	1.5238	----	----	1.26	6.58	0.998	0.998	23	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Amyl acetate	1	0	Avg	0.9215	0.7629	0.9200	1.2157	1.1256	1.2949	1.2317	----	----	1.07	6.69	0.999	0.999	19	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromoform	1	0	Avg	0.5463	0.5861	0.6663	0.6086	0.5678	0.6306	0.5883	----	----	0.599	6.77	0.999	0.999	6.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethylbenzene	1	0	Avg	2.0692	2.4497	2.3787	2.2298	2.4210	2.3269	1.7051	2.8806	----	2.31	6.38	0.972	0.999	15	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1,2,2-Tetrachloroeth	1	0	Avg	0.6580	0.7282	0.9453	0.7109	0.6328	0.6447	0.5683	----	----	0.698	6.99	0.996	1.00	17	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromofluorobenzene	1	0	Avg	0.9287	0.8785	0.8790	1.0889	0.9057	0.9177	0.9396	0.9487	0.9102	0.933	6.93	-1	-1	6.8		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Styrene	1	0	Avg	3.4875	3.3597	3.1723	4.3456	4.0545	4.1425	3.5625	----		3.73	6.65	0.994	1.00	12	0.30	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
m&p-Xylenes	1	0	Qua	2.9158	2.5731	3.0370	3.3039	3.1787	3.1386	2.3095	3.1038	4.7986	3.15	6.44	0.974	0.999	22	0.10	40.00	10.00	4.00	100.0	200.0	500.0	1000.	2.00	1.00
o-Xylene	1	0	Avg	2.4962	2.3538	2.2049	2.8529	2.7791	2.7984	2.0188	2.1909	----	2.46	6.65	0.970	0.998	13	0.30	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
trans-1,4-Dichloro-2-b	1	0	Avg	1.1075	1.1672	0.9110	1.3149	1.1635	1.1980	1.0924	----	----	1.14	6.99	0.998	1.00	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3-Dichlorobenzene	1	0	Avg	2.8995	2.9671	3.4132	2.8384	3.0227	3.1290	2.7237	----	----	3.00	7.54	0.995	0.999	7.5	0.60	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dichlorobenzene	1	0	Avg	2.5630	2.9646	2.9094	2.6221	2.7760	2.9109	2.7169	----	----	2.78	7.58	0.999	1.00	5.6	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichlorobenzene	1	0	Avg	2.0976	2.2501	2.3572	1.9336	2.0873	2.3225	2.0902	----	----	2.16	7.80	0.997	0.999	7.0	0.40	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Isopropylbenzene	1	0	Avg	8.1839	7.9634	8.2085	9.7792	9.4806	9.8895	7.9952	9.4321	----	8.87	6.83	0.988	0.999	9.6	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Cyclohexanone	1	0	Avg	0.0940	0.1039	0.1430	0.1137	0.1142	0.1160	0.0995	----	----	0.112	6.99	0.994	0.999	14		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Camphene	1	0	Avg	4.6474	4.9283	5.0726	5.9116	5.5137	5.5576	4.7201	----	----	5.19	6.99	0.993	1.00	9.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,3-Trichloropropane	1	0	Avg	1.0655	1.0280	1.1540	1.1215	0.9517	1.0253	1.0332	----	----	1.05	7.02	1.00	1.00	6.4		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chlorotoluene	1	0	Avg	5.8118	6.3321	5.0300	6.6055	6.3580	6.2277	5.5407	----	----	5.99	7.12	0.996	1.00	9.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0		

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable

Note: Avg Rsd: 11.8
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 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
1	6M59485.D	CAL @ 20 PPB	10/05/17 11:23	2	6M59484.D	CAL @ 5 PPB	10/05/17 11:06
3	6M59483.D	CAL @ 2 PPB	10/05/17 10:50	4	6M59492.D	CAL @ 50 PPB	10/05/17 13:20
5	6M59490.D	CAL @ 100 PPB	10/05/17 12:46	6	6M59488.D	CAL @ 250 PPB	10/05/17 12:13
7	6M59486.D	CAL @ 500 PPB	10/05/17 11:40	8	6M59482.D	CAL @ 1 PPB	10/05/17 10:33
9	6M59481.D	CAL @ 0.5 PPB	10/05/17 10:16				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
p-Ethyltoluene	1	0	Avg	8.8665	8.6500	8.4608	10.688	9.9141	10.013	8.0315	----	----	9.23	7.11	0.986	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Chlorotoluene	1	0	Avg	5.2694	5.4840	5.4667	6.1750	5.7326	5.8028	5.2309	----	----	5.59	7.18	0.997	1.00	6.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Propylbenzene	1	0	Avg	10.232	10.493	9.3267	12.330	11.711	12.145	9.1773	12.233	----	11.0	7.06	0.979	0.998	12		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Bromobenzene	1	0	Avg	3.4195	3.5178	4.1382	3.7131	3.3611	3.5848	3.4910	----	----	3.60	7.02	1.00	1.00	7.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3,5-Trimethylbenzen	1	0	Avg	6.3629	6.3006	5.1842	7.1528	7.0420	6.9447	5.4128	6.8169	----	6.40	7.14	0.983	0.999	12		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Butyl methacrylate	1	0	Avg	1.7828	1.8132	2.0285	2.0598	2.0178	2.2508	2.1709	----	----	2.02	7.15	0.999	0.999	8.5	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
t-Butylbenzene	1	0	Avg	6.1347	5.8888	5.9580	6.9631	6.9946	7.1147	6.0643	6.5471	----	6.46	7.33	0.993	0.999	7.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,2,4-Trimethylbenzen	1	0	Avg	6.2960	6.2290	5.4873	6.2664	6.7165	6.8882	5.4237	7.2569	----	6.32	7.35	0.985	0.999	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
sec-Butylbenzene	1	0	Avg	8.2787	8.0660	7.5864	8.9881	9.8618	10.236	7.9908	8.4647	----	8.68	7.45	0.984	0.998	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
4-Isopropyltoluene	1	0	Avg	6.3206	6.4922	5.9516	6.7745	7.3383	7.5264	6.2316	6.7523	----	6.67	7.52	0.991	0.999	8.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
n-Butylbenzene	1	0	Avg	8.5564	8.5323	7.5646	9.3496	9.9347	10.085	8.4391	9.3567	----	8.98	7.75	0.992	0.999	9.5		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
p-Diethylbenzene	1	0	Avg	4.0801	3.8169	3.7851	4.4323	4.9117	4.9307	3.9996	----	----	4.28	7.74	0.988	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4,5-Tetramethylbe	1	0	Avg	4.1114	3.6890	3.8480	4.8416	5.2397	5.8776	4.6733	----	----	4.61	8.18	0.985	0.997	17		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromo-3-Chloro	1	0	Qua	0.0704	0.0794	0.0208	0.0542	0.0722	0.0797	0.0594	----	----	0.0624	8.24	0.975	0.995	33	0.05 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Camphor	1	0	Avg	0.0131	0.0182	0.0161	0.0180	0.0195	0.0240	0.0202	----	----	0.0185	8.66	0.991	0.996	18		200.0	50.00	20.00	500.0	1000.	2500.	5000.		
Hexachlorobutadiene	1	0	Avg	1.4609	1.5825	1.5853	1.4569	1.4811	1.6299	1.5092	----	----	1.53	8.80	0.998	0.999	4.5		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4-Trichlorobenzen	1	0	Qua	0.9598	1.0406	1.0582	0.9652	1.0676	1.2188	1.0094	----	1.7273	1.13	8.72	0.991	0.997	22	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		0.50
1,2,3-Trichlorobenzen	1	0	Qua	0.6025	0.7805	0.6586	0.6191	0.6691	0.7415	0.5533	----	1.2013	0.728	9.02	0.977	0.996	28		20.00	5.00	2.00	50.00	100.0	250.0	500.0		0.50
Naphthalene	1	0	Avg	0.7063	0.6616	0.7128	0.7452	0.8676	0.9193	0.7798	1.1396	----	0.817	8.88	0.993	0.998	19		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	

Avg Rsd: 11.8

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 RF, Linear, or Quadratic Curve was used for compound.

7100701 0092
HAZ-602

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB **Data File:** 6M59610.D **Instrument:** GCMS 6

Cont Calibration Date/Time 10/9/2017 7:56:00 A Method: EPA 8260C

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.76	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.44	50.83	50	20	0.1	1.172	1.191	1.66	
Dichlorodifluoromethane	1	0		1.43	31.19	50	20	0.1	0.671	0.418	37.63	C1
Chloromethane	1	0		1.58	37.62	50	20	0.1	0.672	0.506	24.76	C1
Bromomethane	1	0		1.97	42.94	50	20	0.1	0.410	0.352	14.11	
Vinyl Chloride	1	0		1.68	41.62	50	20	0.1	0.574	0.478	16.76	
Chloroethane	1	0		2.05	43.86	50	20	0.1	0.422	0.370	12.29	
Trichlorofluoromethane	1	0		2.26	41.63	50	20	0.1	1.294	1.077	16.74	
Ethyl ether	1	0		2.49	46.27	50	20	0.5	0.250	0.231	7.46	
Furan	1	0		2.53	46.93	50	20	0.5	1.402	1.316	6.13	
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		2.68	44.22	50	20	0.1	0.673	0.595	11.55	
Methylene Chloride	1	0		3.08	45.98	50	20	0.1	0.437	0.402	8.05	
Acrolein	1	0		2.60	223.53	250	20		0.020	0.018	10.59	
Acrylonitrile	1	0		3.29	41.04	50	20		0.051	0.042	17.92	
Iodomethane	1	0		2.82	46.20	50	20		0.606	0.560	7.60	
Acetone	1	0		2.72	273.79	250	20	0.1	0.052	0.057	9.52	
Carbon Disulfide	1	0		2.88	44.52	50	20	0.1	1.262	1.123	10.96	
t-Butyl Alcohol	1	0		3.13	186.74	250	20		0.008	0.007	25.31	C1
n-Hexane	1	0		3.52	47.67	50	20		0.887	0.846	4.66	
Di-isopropyl-ether	1	0		3.68	44.82	50	20		1.487	1.333	10.35	
1,1-Dichloroethene	1	0		2.69	44.31	50	20	0.1	1.218	1.079	11.38	
Methyl Acetate	1	0		2.98	41.23	50	20	0.1	0.218	0.159	17.54	
Methyl-t-butyl ether	1	0		3.29	42.43	50	20	0.1	0.539	0.457	15.15	
1,1-Dichloroethane	1	0		3.65	47.21	50	20	0.2	1.080	1.019	5.58	
trans-1,2-Dichloroethene	1	0		3.31	46.83	50	20	0.1	0.601	0.563	6.33	
Ethyl-t-butyl ether	1	0		3.96	49.43	50	20	0.5	0.907	0.897	1.15	
cis-1,2-Dichloroethene	1	0		4.08	46.07	50	20	0.1	1.079	0.995	7.87	
Bromochloromethane	1	0		4.23	43.19	50	20		0.472	0.408	13.62	
2,2-Dichloropropane	1	0		4.08	49.38	50	20		0.951	0.939	1.24	
Ethyl acetate	1	0		4.11	34.93	50	20		0.189	0.143	30.14	C1
1,4-Dioxane	1	0		5.14	1702.89	2500	20		0.001	0.001	31.88	C1
1,1-Dichloropropene	1	0		4.49	48.36	50	20		1.056	1.022	3.29	
Chloroform	1	0		4.27	45.40	50	20	0.2	1.053	0.956	9.20	
Dibromofluoromethane	1	0	S	4.37	28.07	75	**		0.250	0.234	6.42	
Cyclohexane	1	0		4.43	47.80	50	20	0.1	1.221	1.167	4.41	
1,2-Dichloroethane-d4	1	0	S	4.58	32.49	75	**		0.111	0.120	8.28	
1,2-Dichloroethane	1	0		4.62	44.78	50	20	0.1	0.613	0.549	10.44	
2-Butanone	1	0		4.09	53.77	50	20	0.1	0.077	0.083	7.53	
1,1,1-Trichloroethane	1	0		4.39	45.53	50	20	0.1	1.172	1.067	8.95	
Carbon Tetrachloride	1	0		4.49	47.11	50	20	0.1	0.991	0.934	5.77	
Vinyl Acetate	1	0		3.29	40.84	50	20		0.192	0.157	18.31	
Bromodichloromethane	1	0		5.21	44.83	50	20	0.2	0.577	0.517	10.34	
Methylcyclohexane	1	0		5.06	48.44	50	20	0.1	1.063	1.030	3.11	
Dibromomethane	1	0		5.14	39.40	50	20		0.218	0.172	21.20	C1
1,2-Dichloropropane	1	0		5.07	45.30	50	20	0.1	0.450	0.408	9.41	
Trichloroethene	1	0		4.95	46.55	50	20	0.2	0.601	0.560	6.90	
Benzene	1	0		4.61	45.95	50	20	0.5	2.115	1.943	8.11	
tert-Amyl methyl ether	1	0		4.65	49.96	50	20		0.531	0.530	0.08	
Chlorobenzene-d5	1	0	I	6.33	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.61	40.40	50	20	0.5	0.685	0.554	19.20	
Methyl methacrylate	1	0		5.10	42.25	50	20	0.5	0.430	0.364	15.51	
Dibromochloromethane	1	0		6.03	42.99	50	20	0.1	0.569	0.489	14.03	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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 @ 50 PPB **Data File:** 6M59610.D **Instrument:** GCMS 6

Cont Calibration Date/Time 10/9/2017 7:56:00 A Method: EPA 8260C

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.35	41.18	50	20		0.170	0.140	17.65	
cis-1,3-Dichloropropene	1	0		5.44	46.45	50	20	0.2	0.954	0.859	7.10	
trans-1,3-Dichloropropene	1	0		5.71	46.33	50	20	0.1	0.686	0.571	7.34	
Ethyl methacrylate	1	0		5.73	41.56	50	20	0.5	0.493	0.410	16.88	
1,1,2-Trichloroethane	1	0		5.81	41.02	50	20	0.1	0.390	0.320	17.95	
1,2-Dibromoethane	1	0		6.10	40.74	50	20	0.1	0.442	0.300	18.51	
1,3-Dichloropropane	1	0		5.90	43.14	50	20		0.710	0.612	13.71	
4-Methyl-2-Pentanone	1	0		5.50	36.19	50	20	0.1	0.295	0.213	27.61	C1
2-Hexanone	1	0		5.92	41.81	50	20	0.1	0.185	0.155	16.38	
Tetrachloroethene	1	0		5.89	40.35	50	20	0.2	1.116	0.901	19.29	
Toluene-d8	1	0	S	5.57	28.46	75	**		1.657	1.572	5.12	
Toluene	1	0		5.61	42.27	50	20	0.4	2.407	2.035	15.46	
1,1,1,2-Tetrachloroethane	1	0		6.37	42.52	50	20		0.676	0.575	14.96	
Chlorobenzene	1	0		6.34	40.23	50	20	0.5	2.115	1.702	19.55	
1,4-Dichlorobenzene-d4	1	0	I	7.57	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		6.58	35.39	50	20	0.5	1.259	1.139	29.21	C1
n-Amyl acetate	1	0		6.69	48.71	50	20	0.5	1.068	1.040	2.58	
Bromoform	1	0		6.78	39.92	50	20	0.1	0.599	0.478	20.16	
Ethylbenzene	1	0		6.38	51.68	50	20	0.1	2.308	2.385	3.37	
1,1,2,2-Tetrachloroethane	1	0		6.99	42.13	50	20	0.1	0.698	0.589	15.73	
Bromofluorobenzene	1	0	S	6.93	28.92	75	**		0.933	0.899	3.60	
Styrene	1	0		6.66	48.33	50	20	0.3	3.732	3.607	3.34	
m&p-Xylenes	1	0		6.44	80.58	100	20	0.1	3.151	2.927	19.42	
o-Xylene	1	0		6.65	49.59	50	20	0.3	2.462	2.442	0.82	
trans-1,4-Dichloro-2-butene	1	0		7.00	47.77	50	20		1.136	1.086	4.47	
1,3-Dichlorobenzene	1	0		7.54	41.88	50	20	0.6	2.999	2.512	16.23	
1,4-Dichlorobenzene	1	0		7.58	40.88	50	20	0.5	2.780	2.274	18.23	
1,2-Dichlorobenzene	1	0		7.80	42.54	50	20	0.4	2.163	1.840	14.92	
Isopropylbenzene	1	0		6.84	47.56	50	20	0.1	8.867	8.433	4.89	
Cyclohexanone	1	0		7.00	231.73	250	20		0.112	0.104	7.31	
Camphene	1	0		7.00	47.33	50	20		5.193	4.915	5.35	
1,2,3-Trichloropropane	1	0		7.02	45.80	50	20		1.054	0.966	8.40	
2-Chlorotoluene	1	0		7.12	46.82	50	20		5.987	5.606	6.36	
p-Ethyltoluene	1	0		7.12	47.07	50	20		9.232	8.690	5.87	
4-Chlorotoluene	1	0		7.18	43.32	50	20		5.595	4.847	13.36	
n-Propylbenzene	1	0		7.06	45.36	50	20		10.956	9.941	9.27	
Bromobenzene	1	0		7.03	45.03	50	20		3.604	3.246	9.93	
1,3,5-Trimethylbenzene	1	0		7.15	52.14	50	20		6.402	6.676	4.28	
Butyl methacrylate	1	0		7.15	43.23	50	20	0.5	2.018	1.745	13.53	
t-Butylbenzene	1	0		7.33	45.60	50	20		6.458	5.889	8.81	
1,2,4-Trimethylbenzene	1	0		7.36	45.45	50	20		6.321	5.745	9.10	
sec-Butylbenzene	1	0		7.45	46.27	50	20		8.684	8.037	7.46	
4-Isopropyltoluene	1	0		7.52	44.45	50	20		6.673	5.933	11.09	
n-Butylbenzene	1	0		7.75	45.86	50	20		8.977	8.234	8.28	
p-Diethylbenzene	1	0		7.74	46.51	50	20		4.280	3.981	6.97	
1,2,4,5-Tetramethylbenzene	1	0		8.18	44.90	50	20		4.612	4.141	10.20	
1,2-Dibromo-3-Chloropropane	1	0		8.24	34.12	50	20	0.05	0.062	0.059	31.76	C1
Camphor	1	0		8.67	341.98	500	20		0.018	0.013	31.60	C1
Hexachlorobutadiene	1	0		8.80	35.63	50	20		1.529	1.090	28.74	C1
1,2,4-Trichlorobenzene	1	0		8.72	32.61	50	20	0.2	1.131	0.828	34.78	C1
1,2,3-Trichlorobenzene	1	0		9.02	31.61	50	20		0.728	0.517	36.78	C1
Naphthalene	1	0		8.88	34.10	50	20		0.817	0.557	31.80	C1

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

Note: **8260/8270 limits are compared against the %DIFF/R.F.**
624 limits are compared against the concentration found. HAZ - 604
625 limits are compared against the %DIFF.
524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB **Data File:** 6M59645.D **Instrument:** GCMS 6

Cont Calibration Date/Time 10/9/2017 5:28:00 P Method: EPA 8260C

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	4.76	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.44	56.89	50	20	0.1	1.172	1.333	13.78	
Dichlorodifluoromethane	1	0		1.43	32.46	50	20	0.1	0.671	0.435	35.09	C1
Chloromethane	1	0		1.59	42.61	50	20	0.1	0.672	0.573	14.77	
Bromomethane	1	0		1.97	43.06	50	20	0.1	0.410	0.353	13.88	
Vinyl Chloride	1	0		1.69	44.93	50	20	0.1	0.574	0.516	10.15	
Chloroethane	1	0		2.06	47.08	50	20	0.1	0.422	0.397	5.84	
Trichlorofluoromethane	1	0		2.28	45.44	50	20	0.1	1.294	1.176	9.13	
Ethyl ether	1	0		2.50	48.99	50	20	0.5	0.250	0.245	2.02	
Furan	1	0		2.53	50.72	50	20	0.5	1.402	1.422	1.44	
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		2.69	46.95	50	20	0.1	0.673	0.632	6.10	
Methylene Chloride	1	0		3.08	46.06	50	20	0.1	0.437	0.403	7.87	
Acrolein	1	0		2.61	260.30	250	20		0.020	0.021	4.12	
Acrylonitrile	1	0		3.28	47.12	50	20		0.051	0.048	5.76	
Iodomethane	1	0		2.83	44.87	50	20		0.606	0.544	10.27	
Acetone	1	0		2.73	262.04	250	20	0.1	0.052	0.055	4.82	
Carbon Disulfide	1	0		2.89	46.06	50	20	0.1	1.262	1.162	7.87	
t-Butyl Alcohol	1	0		3.14	204.53	250	20		0.008	0.008	18.19	
n-Hexane	1	0		3.53	50.78	50	20		0.887	0.901	1.56	
Di-isopropyl-ether	1	0		3.69	48.94	50	20		1.487	1.456	2.12	
1,1-Dichloroethene	1	0		2.70	48.74	50	20	0.1	1.218	1.188	2.51	
Methyl Acetate	1	0		2.99	45.70	50	20	0.1	0.218	0.176	8.59	
Methyl-t-butyl ether	1	0		3.30	43.88	50	20	0.1	0.539	0.473	12.23	
1,1-Dichloroethane	1	0		3.66	47.90	50	20	0.2	1.080	1.034	4.19	
trans-1,2-Dichloroethene	1	0		3.31	48.79	50	20	0.1	0.601	0.587	2.41	
Ethyl-t-butyl ether	1	0		3.96	49.41	50	20	0.5	0.907	0.897	1.18	
cis-1,2-Dichloroethene	1	0		4.08	47.86	50	20	0.1	1.079	1.033	4.27	
Bromochloromethane	1	0		4.24	45.66	50	20		0.472	0.431	8.67	
2,2-Dichloropropane	1	0		4.09	47.73	50	20		0.951	0.908	4.55	
Ethyl acetate	1	0		4.11	44.79	50	20		0.189	0.182	10.43	
1,4-Dioxane	1	0		5.13	2144.83	2500	20		0.001	0.001	14.21	
1,1-Dichloropropene	1	0		4.50	51.85	50	20		1.056	1.095	3.69	
Chloroform	1	0		4.28	45.88	50	20	0.2	1.053	0.966	8.25	
Dibromofluoromethane	1	0	S	4.38	28.98	75	**		0.250	0.241	3.39	
Cyclohexane	1	0		4.44	51.40	50	20	0.1	1.221	1.255	2.80	
1,2-Dichloroethane-d4	1	0	S	4.58	28.95	75	**		0.111	0.107	3.50	
1,2-Dichloroethane	1	0		4.62	46.70	50	20	0.1	0.613	0.572	6.59	
2-Butanone	1	0		4.08	52.24	50	20	0.1	0.077	0.081	4.49	
1,1,1-Trichloroethane	1	0		4.40	45.39	50	20	0.1	1.172	1.064	9.21	
Carbon Tetrachloride	1	0		4.50	47.07	50	20	0.1	0.991	0.933	5.86	
Vinyl Acetate	1	0		3.30	43.55	50	20		0.192	0.167	12.90	
Bromodichloromethane	1	0		5.21	41.61	50	20	0.2	0.577	0.480	16.78	
Methylcyclohexane	1	0		5.06	45.69	50	20	0.1	1.063	0.971	8.63	
Dibromomethane	1	0		5.15	37.75	50	20		0.218	0.165	24.51	C1
1,2-Dichloropropane	1	0		5.08	43.06	50	20	0.1	0.450	0.388	13.89	
Trichloroethene	1	0		4.95	38.87	50	20	0.2	0.601	0.467	22.26	C1
Benzene	1	0		4.62	44.57	50	20	0.5	2.115	1.885	10.85	
tert-Amyl methyl ether	1	0		4.65	54.82	50	20		0.531	0.582	9.64	
Chlorobenzene-d5	1	0	I	6.33	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.62	61.57	50	20	0.5	0.685	0.844	23.13	C1
Methyl methacrylate	1	0		5.10	51.74	50	20	0.5	0.430	0.445	3.48	
Dibromochloromethane	1	0		6.03	47.89	50	20	0.1	0.569	0.545	4.23	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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 - 605 **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB **Data File:** 6M59645.D **Instrument:** GCMS 6

Cont Calibration Date/Time 10/9/2017 5:28:00 P Method: EPA 8260C

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.35	52.19	50	20		0.170	0.177	4.38	
cis-1,3-Dichloropropene	1	0		5.44	55.93	50	20	0.2	0.954	1.044	11.86	
trans-1,3-Dichloropropene	1	0		5.72	54.61	50	20	0.1	0.686	0.680	9.21	
Ethyl methacrylate	1	0		5.74	54.27	50	20	0.5	0.493	0.535	8.55	
1,1,2-Trichloroethane	1	0		5.81	50.21	50	20	0.1	0.390	0.392	0.42	
1,2-Dibromoethane	1	0		6.10	49.42	50	20	0.1	0.442	0.364	1.17	
1,3-Dichloropropane	1	0		5.90	54.73	50	20		0.710	0.777	9.47	
4-Methyl-2-Pentanone	1	0		5.50	51.66	50	20	0.1	0.295	0.305	3.31	
2-Hexanone	1	0		5.92	51.94	50	20	0.1	0.185	0.193	3.88	
Tetrachloroethene	1	0		5.90	49.59	50	20	0.2	1.116	1.107	0.82	
Toluene-d8	1	0	S	5.58	33.28	75	**		1.657	1.838	10.92	
Toluene	1	0		5.62	49.53	50	20	0.4	2.407	2.384	0.94	
1,1,1,2-Tetrachloroethane	1	0		6.38	47.22	50	20		0.676	0.638	5.56	
Chlorobenzene	1	0		6.34	50.61	50	20	0.5	2.115	2.141	1.23	
1,4-Dichlorobenzene-d4	1	0	I	7.58	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		6.58	40.11	50	20	0.5	1.259	1.290	19.79	
n-Amyl acetate	1	0		6.70	54.45	50	20	0.5	1.068	1.163	8.90	
Bromoform	1	0		6.78	38.94	50	20	0.1	0.599	0.467	22.11	C1
Ethylbenzene	1	0		6.39	50.02	50	20	0.1	2.308	2.309	0.04	
1,1,2,2-Tetrachloroethane	1	0		6.99	44.85	50	20	0.1	0.698	0.626	10.30	
Bromofluorobenzene	1	0	S	6.94	28.23	75	**		0.933	0.878	5.89	
Styrene	1	0		6.66	48.11	50	20	0.3	3.732	3.591	3.78	
m&p-Xylenes	1	0		6.44	78.05	100	20	0.1	3.151	2.838	21.95	C1
o-Xylene	1	0		6.66	46.31	50	20	0.3	2.462	2.280	7.38	
trans-1,4-Dichloro-2-butene	1	0		7.00	49.84	50	20		1.136	1.133	0.32	
1,3-Dichlorobenzene	1	0		7.54	46.99	50	20	0.6	2.999	2.819	6.01	
1,4-Dichlorobenzene	1	0		7.59	47.15	50	20	0.5	2.780	2.622	5.71	
1,2-Dichlorobenzene	1	0		7.81	47.90	50	20	0.4	2.163	2.072	4.20	
Isopropylbenzene	1	0		6.84	46.62	50	20	0.1	8.867	8.268	6.75	
Cyclohexanone	1	0		7.00	239.63	250	20		0.112	0.107	4.15	
Camphene	1	0		7.00	47.83	50	20		5.193	4.968	4.34	
1,2,3-Trichloropropane	1	0		7.03	45.94	50	20		1.054	0.969	8.11	
2-Chlorotoluene	1	0		7.13	45.46	50	20		5.987	5.443	9.09	
p-Ethyltoluene	1	0		7.12	48.45	50	20		9.232	8.947	3.09	
4-Chlorotoluene	1	0		7.19	46.51	50	20		5.595	5.204	6.98	
n-Propylbenzene	1	0		7.06	48.83	50	20		10.956	10.699	2.35	
Bromobenzene	1	0		7.04	46.27	50	20		3.604	3.335	7.47	
1,3,5-Trimethylbenzene	1	0		7.14	53.19	50	20		6.402	6.811	6.38	
Butyl methacrylate	1	0		7.16	52.81	50	20	0.5	2.018	2.131	5.62	
t-Butylbenzene	1	0		7.34	48.93	50	20		6.458	6.320	2.13	
1,2,4-Trimethylbenzene	1	0		7.36	49.17	50	20		6.321	6.215	1.66	
sec-Butylbenzene	1	0		7.46	51.60	50	20		8.684	8.962	3.20	
4-Isopropyltoluene	1	0		7.52	51.25	50	20		6.673	6.840	2.49	
n-Butylbenzene	1	0		7.76	52.69	50	20		8.977	9.460	5.38	
p-Diethylbenzene	1	0		7.74	53.21	50	20		4.280	4.554	6.41	
1,2,4,5-Tetramethylbenzene	1	0		8.19	52.77	50	20		4.612	4.867	5.54	
1,2-Dibromo-3-Chloropropane	1	0		8.25	36.83	50	20	0.05	0.062	0.064	26.33	C1
Camphor	1	0		8.67	615.74	500	20		0.018	0.023	23.15	C1
Hexachlorobutadiene	1	0		8.81	42.50	50	20		1.529	1.300	15.00	
1,2,4-Trichlorobenzene	1	0		8.73	40.47	50	20	0.2	1.131	1.024	19.06	
1,2,3-Trichlorobenzene	1	0		9.02	38.59	50	20		0.728	0.628	22.82	C1
Naphthalene	1	0		8.88	58.54	50	20		0.817	0.956	17.08	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

7100701 0097

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59485.D Method: EPA 8260C

Analysis Date/Time: 10/05/17 11:23

Lab File ID: CAL @ 20 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	193640	4.75	105980	6.33	50209	7.57								
Eval File Area Limit:	96820-387280		52990-211960		25104-100418									
Eval File Rt Limit:	4.25-5.25		5.83-6.83		7.07-8.07									

Data File	Sample						
6M59481.D	CAL @ 0.5 PPB	179287	4.75	101167	6.32	40605	7.57
6M59482.D	CAL @ 1 PPB	184160	4.75	103895	6.32	41803	7.57
6M59483.D	CAL @ 2 PPB	182683	4.75	104420	6.32	46777	7.57
6M59484.D	CAL @ 5 PPB	188092	4.75	98748	6.32	47711	7.57
6M59485.D	CAL @ 20 PPB	193640	4.75	105980	6.33	50209	7.57
6M59486.D	CAL @ 500 PPB	203759	4.76	97513	6.33	53392	7.57
6M59488.D	CAL @ 250 PPB	213407	4.75	120855	6.32	56797	7.57
6M59490.D	CAL @ 100 PPB	228251	4.75	123300	6.32	58337	7.57
6M59492.D	CAL @ 50 PPB	213168	4.75	106214	6.32	45539	7.57
6M59495.D	STD	215949	4.76	109550	6.32	53446	7.57
6M59497.D	ICV	216276	4.75	125142	6.32	48996	7.57
6M59498.D	BLK	184356	4.75	97651	6.32	45382	7.57
6M59500.D	BLK	181897	4.75	108653	6.32	50668	7.57
6M59501.D	DAILY BLANK	157354	4.75	81676	6.32	30661	7.57
6M59502.D	BLK	165635	4.76	72619	6.33	33693	7.58
6M59503.D	VER@ 1 PPB	172139	4.76	89463	6.33	36237	7.57
6M59504.D	VER@ 2 PPB	161262	4.75	95223	6.32	33902	7.57
6M59505.D	BLK	183621	4.75	110973	6.32	37858	7.57
6M59506.D	AD00404-008	167603	4.76	83876	6.32	36323	7.57
6M59507.D	AD00404-003	185884	4.76	101121	6.33	36614	7.58
6M59508.D	AD00418-005	165819	4.76	99118	6.33	34298	7.57
6M59509.D	AD00418-003	164032	4.75	98140	6.33	32053	7.57
6M59510.D	AD00418-001	172966	4.76	87859	6.33	24726A	7.57
6M59511.D	AD00292-007(MS)	187949	4.76	78384	6.33	39481	7.57
6M59512.D	AD00292-007(MSD)	209339	4.75	116900	6.33	54600	7.57
6M59513.D	MBS64352	203844	4.75	110268	6.33	46198	7.57

I1 =	Fluorobenzene	I4 =	I7 =	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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100701 0098

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59610.D Method: EPA 8260C

Analysis Date/Time: 10/09/17 07:56

Lab File ID: CAL @ 50 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	185913	4.76	104151	6.33	44768	7.57								
Eval File Area Limit:	92956-371826		52076-208302		22384-89536									
Eval File Rt Limit:	4.26-5.26		5.83-6.83		7.07-8.07									

Data File	Sample						
6M59609.D	BLK	198834	4.75	111334	6.33	40997	7.57
6M59611.D	50 PPB	183777	4.76	94241	6.33	44480	7.57
6M59612.D	BLK	186097	4.76	108165	6.33	40320	7.57
6M59613.D	BLK	153233	4.76	70539	6.33	29915	7.57
6M59614.D	DAILY BLANK	169708	4.76	83503	6.33	34405	7.57
6M59615.D	00453-010(5X)	134485	4.76	60125	6.33	29888	7.57
6M59616.D	AD00453-008(5X)	144387	4.75	63546	6.33	35690	7.57
6M59617.D	AD00453-009(5X)	157757	4.76	101850	6.33	42362	7.57
6M59618.D	AD00453-013(5X)	145639	4.76	86266	6.33	34877	7.57
6M59619.D	00453-006(5X)	161485	4.77	103153	6.34	45282	7.59
6M59620.D	MBS64365	179821	4.76	107005	6.33	41813	7.57
6M59621.D	AD00453-006(5X)	172946	4.76	103786	6.33	41109	7.57
6M59622.D	AD00418-005(MS)	188147	4.76	111795	6.33	45041	7.57
6M59623.D	AD00418-005(MSD)	146702	4.76	68567	6.33	37856	7.57
6M59624.D	BLK	158948	4.76	95365	6.33	39602	7.57
6M59625.D	AD00437-009	150163	4.76	83691	6.33	28059	7.57
6M59626.D	AD00437-010	160631	4.76	61207	6.33	14751 A	7.58
6M59627.D	AD00437-011	160214	4.76	86796	6.33	25273	7.57
6M59628.D	AD00453-003	176882	4.76	105923	6.33	42562	7.57
6M59629.D	AD00453-004	153489	4.76	87149	6.33	39009	7.57
6M59630.D	AD00453-010	168363	4.76	88705	6.33	38118	7.57
6M59631.D	AD00460-001	146688	4.76	77406	6.33	29065	7.57
6M59632.D	AD00460-002	156127	4.76	93289	6.33	35964	7.57
6M59633.D	AD00460-003	136742	4.76	77682	6.33	30555	7.57
6M59634.D	AD00460-004	144255	4.76	82623	6.33	31655	7.57
6M59635.D	AD00460-005	150001	4.76	61453	6.33	29194	7.58
6M59636.D	AD00460-006	158687	4.76	81262	6.33	31093	7.57
6M59637.D	AD00460-007	146957	4.76	60358	6.33	29117	7.57
6M59638.D	AD00460-008	149997	4.76	65408	6.33	28180	7.57
6M59639.D	AD00461-001	141701	4.76	54797	6.33	20719 A	7.57
6M59640.D	AD00461-003	131951	4.76	62195	6.33	16580 A	7.57
6M59641.D	AD00474-002	149660	4.76	93326	6.33	37507	7.57

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4
I4 =
I5 =
I6 =
I7 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration =5ug/L

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100701 0099

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59645.D Method: EPA 8260C

Analysis Date/Time: 10/09/17 17:28

Lab File ID: CAL @ 50 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	186874	4.76	81769	6.33	44244	7.58								
Eval File Area Limit:	93437-373748		40884-163538		22122-88488									
Eval File Rt Limit:	4.26-5.26		5.83-6.83		7.08-8.08									

Data File	Sample						
6M59644.D	50 PPB	144690	4.76	68438	6.33	37509	7.57
6M59646.D	BLK	156793	4.76	93203	6.33	37327	7.57
6M59648.D	DAILY BLANK	117342	4.76	56925	6.33	29000	7.57
6M59649.D	AD00473-001	165243	4.76	100438	6.33	34985	7.57
6M59650.D	AD00469-001	157113	4.76	84466	6.33	34927	7.57
6M59651.D	AD00469-002	149864	4.76	97455	6.33	32973	7.57
6M59652.D	AD00469-003	124003	4.76	78432	6.33	30301	7.57
6M59653.D	AD00469-004	144441	4.76	85820	6.33	31695	7.57
6M59654.D	AD00461-005	126680	4.76	49666	6.33	20427 A	7.57
6M59655.D	AD00470-007	155960	4.76	87881	6.33	90079 A	7.57
6M59656.D	AD00453-003(MS)	154585	4.76	81363	6.33	40297	7.57
6M59657.D	AD00453-003(MSD)	156411	4.76	74870	6.33	39270	7.57
6M59658.D	MBS64371	179577	4.76	104414	6.33	47499	7.57
6M59659.D	BLK	139693	4.76	70806	6.33	37863	7.57
6M59660.D	AD00470-001	160115	4.76	87124	6.33	34566	7.57
6M59661.D	AD00470-002	140065	4.76	86943	6.33	34424	7.58
6M59662.D	AD00470-003	158141	4.76	94290	6.33	37507	7.57
6M59663.D	AD00470-004	145886	4.75	79551	6.33	31085	7.57
6M59664.D	AD00470-015	135772	4.76	73275	6.33	38888	7.57
6M59665.D	AD00470-016	154218	4.76	92207	6.33	31630	7.57
6M59666.D	AD00475-001	136277	4.76	81006	6.33	32446	7.57
6M59667.D	AD00475-003	129358	4.76	73140	6.33	32934	7.57
6M59668.D	BLK	139565	4.76	85845	6.33	32453	7.57
6M59669.D	AD00488-001	127482	4.76	58340	6.33	29377	7.57
6M59670.D	AD00488-002	151548	4.76	66839	6.33	29607	7.57
6M59671.D	AD00488-003	160887	4.76	71434	6.33	29974	7.57
6M59672.D	AD00484-001	140091	4.75	81813	6.33	33906	7.57
6M59673.D	AD00453-004(MS)	164857	4.76	88429	6.33	39684	7.57
6M59674.D	AD00453-004(MSD)	176447	4.76	80317	6.33	34350	7.57
6M59675.D	MBS64370	171931	4.76	96923	6.32	46902	7.57
6M59676.D	BLK	168314	4.76	86242	6.33	34946	7.58
6M59677.D	AD00470-018	148404	4.76	65093	6.32	28863	7.57

I1 = Fluorobenzene
I2 = Chlorobenzene-d5
I3 = 1,4-Dichlorobenzene-d4
I4 =
I5 =
I6 =
I7 =

625/8270 Internal Standard concentration = 40 mg/L (in final extract)
624/8260 Internal Standard concentration = 30ug/L
524 Internal Standard concentration =5ug/L

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100701 0100

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M59645.D Method: EPA 8260C

Analysis Date/Time: 10/09/17 17:28

Lab File ID: CAL @ 50 PPB

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	186874	4.76	81769	6.33	44244	7.58								
Eval File Area Limit:	93437-373748		40884-163538		22122-88488									
Eval File Rt Limit:	4.26-5.26		5.83-6.83		7.08-8.08									

Data File	Sample						
6M59678.D	AD00470-020	143621	4.76	89717	6.32	32445	7.57
6M59679.D	AD00470-021	132994	4.76	59251	6.33	28572	7.57
6M59680.D	AD00470-022	143333	4.75	82365	6.32	32895	7.57
6M59681.D	AD00475-005	138885	4.76	65114	6.33	28178	7.57
6M59682.D	AD00475-007	145117	4.76	86336	6.33	32516	7.57
6M59683.D	AD00475-009	142748	4.76	77125	6.33	30230	7.57
6M59684.D	AD00455-001	139626	4.76	71828	6.33	29337	7.57
6M59685.D	AD00475-011	145071	4.75	70224	6.32	30276	7.57
6M59686.D	AD00475-013	131411	4.76	75524	6.33	26041	7.57
6M59687.D	BLK	155815	4.75	95328	6.33	34757	7.57
6M59688.D	BLK	142681	4.75	82836	6.32	32413	7.57
6M59689.D	BLK	127355	4.76	68691	6.33	26939	7.57
6M59690.D	AD00485-002	137701	4.75	73870	6.32	26899	7.57
6M59691.D	KUFILTER	89906 A	4.75	38457 A	6.32	8106 A	7.57
6M59692.D	BLK	117397	4.75	55916	6.32	23081	7.57

I1 =	Fluorobenzene	I4 =	I7 =	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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

HAZ - 610

Base Neutral/Acid Extractable Data

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00475-002
Client Id: SB02 COMP
Data File: 7M87161.D
Analysis Date: 10/10/17 11:06
Date Rec/Extracted: 10/06/17-10/10/17
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: 87

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.038	U	218-01-9	Chrysene	0.038	U
83-32-9	Acenaphthene	0.038	U	53-70-3	Dibenzo[a,h]anthracene	0.038	U
208-96-8	Acenaphthylene	0.038	U	**206-44-0**	**Fluoranthene**	**0.038**	**0.044**
120-12-7	Anthracene	0.038	U	86-73-7	Fluorene	0.038	U
56-55-3	Benzo[a]anthracene	0.038	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.038	U
50-32-8	Benzo[a]pyrene	0.038	U	**91-20-3**	**Naphthalene**	**0.0096**	**0.024**
205-99-2	**Benzo[b]fluoranthene**	**0.038**	**0.043**	85-01-8	Phenanthrene	0.038	U
191-24-2	Benzo[g,h,i]perylene	0.038	U	**129-00-0**	**Pyrene**	**0.038**	**0.047**
207-08-9	Benzo[k]fluoranthene	0.038	U				

Worksheet #: 440374

Total Target Concentration 0.16

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0103

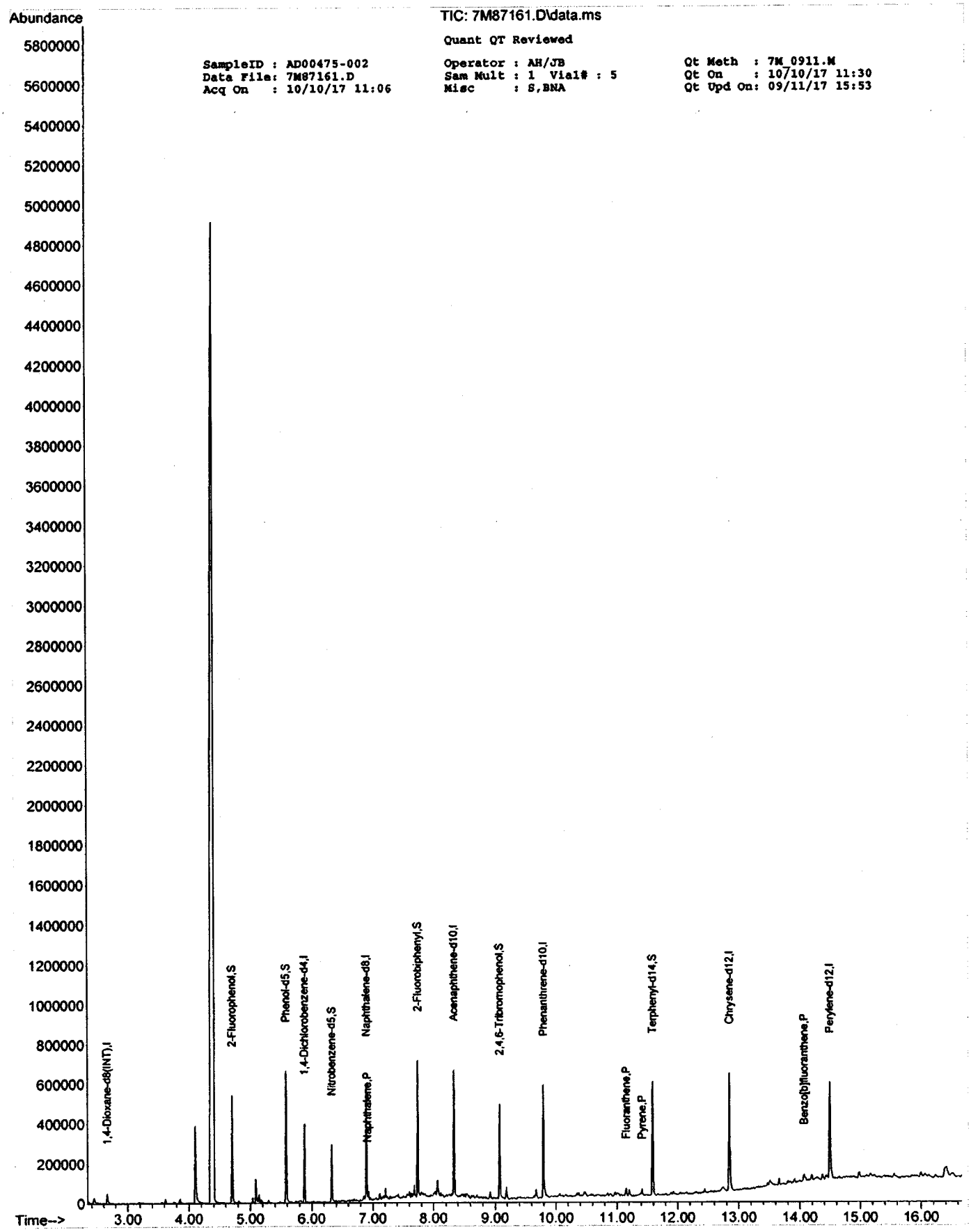
SampleID : AD00475-002 Operator : AH/JB Qt Meth : 7M_0911.M
Data File: 7M87161.D Sam Mult : 1 Vial# : 5 Qt On : 10/10/17 11:30
Acq On : 10/10/17 11:06 Misc : S,BNA Qt Upd On: 09/11/17 15:53

Data Path : G:\GcMsData\2017\GCMS_7\Data\10-10-17\
Qt Path : G:\GCMSDATA\2017\GCMS_7\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dioxane-d8(INT)	2.658	96	25088	40.00	ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.879	152	56817	40.00	ng	0.00
31) Naphthalene-d8	6.894	136	225869	40.00	ng	0.00
50) Acenaphthene-d10	8.331	164	137989	40.00	ng	0.00
77) Phenanthrene-d10	9.795	188	231987	40.00	ng	0.00
91) Chrysene-d12	12.845	240	240179	40.00	ng	0.00
103) Perylene-d12	14.491	264	231987	40.00	ng	0.00
System Monitoring Compounds						
11) 2-Fluorophenol	4.704	112	159945	96.89	ng	0.02
Spiked Amount 100.000			Recovery = 96.89%			
16) Phenol-d5	5.580	99	223739	98.29	ng	0.01
Spiked Amount 100.000			Recovery = 98.29%			
32) Nitrobenzene-d5	6.328	128	41123	42.20	ng	0.00
Spiked Amount 50.000			Recovery = 84.40%			
55) 2-Fluorobiphenyl	7.738	172	203110	44.39	ng	0.00
Spiked Amount 50.000			Recovery = 88.78%			
80) 2,4,6-Tribromophenol	9.074	330	64903	102.96	ng	0.00
Spiked Amount 100.000			Recovery = 102.96%			
94) Terphenyl-d14	11.590	244	177153	49.67	ng	0.00
Spiked Amount 50.000			Recovery = 99.34%			
Target Compounds						Qvalue
41) Naphthalene	6.910	128	7850	1.2407	ng	99
90) Fluoranthene	11.152	202	16879	2.3129	ng	93
92) Pyrene	11.414	202	15886	2.4385	ng	90
105) Benzo[b]fluoranthene	14.069	252	15675m	2.2289	ng	

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

JRyr


Abundance
TIC: 7M87161.D\data.ms
Quant QT Reviewed
SampleID : AD00475-002
Data File: 7M87161.D
Acq On : 10/10/17 11:06
Operator : AH/JB
Sam Mult : 1 Vial# : 5
Misc : S,BNA
Qt Meth : 7M_0911.M
Qt On : 10/10/17 11:30
Qt Upd On: 09/11/17 15:53
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
Naphthalene,P
2-Fluorobiphenyl,S
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene-d12,I
Benzo(b)fluoranthene,P
Perylene-d12,I
Time-->

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00475-004
Client Id: SB03 COMP
Data File: 7M87173.D
Analysis Date: 10/10/17 16:23
Date Rec/Extracted: 10/06/17-10/10/17
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: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.037	U	218-01-9	Chrysene	0.037	U
83-32-9	Acenaphthene	0.037	U	53-70-3	Dibenzo[a,h]anthracene	0.037	U
208-96-8	Acenaphthylene	0.037	U	206-44-0	Fluoranthene	0.037	U
120-12-7	Anthracene	0.037	U	86-73-7	Fluorene	0.037	U
56-55-3	Benzo[a]anthracene	0.037	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.037	U
50-32-8	Benzo[a]pyrene	0.037	U	91-20-3	Naphthalene	0.0094	U
205-99-2	Benzo[b]fluoranthene	0.037	U	85-01-8	Phenanthrene	0.037	U
191-24-2	Benzo[g,h,i]perylene	0.037	U	129-00-0	Pyrene	0.037	U
207-08-9	Benzo[k]fluoranthene	0.037	U				

Worksheet #: 440374 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0106

SampleID : AD00475-004 Operator : AH/JB Qt Meth : 7M_0911.M
Data File: 7M87173.D Sam Mult : 1 Vial# : 16 Qt On : 10/11/17 10:14
Acq On : 10/10/17 16:23 Misc : S,BNA Qt Upd On: 09/11/17 15:53

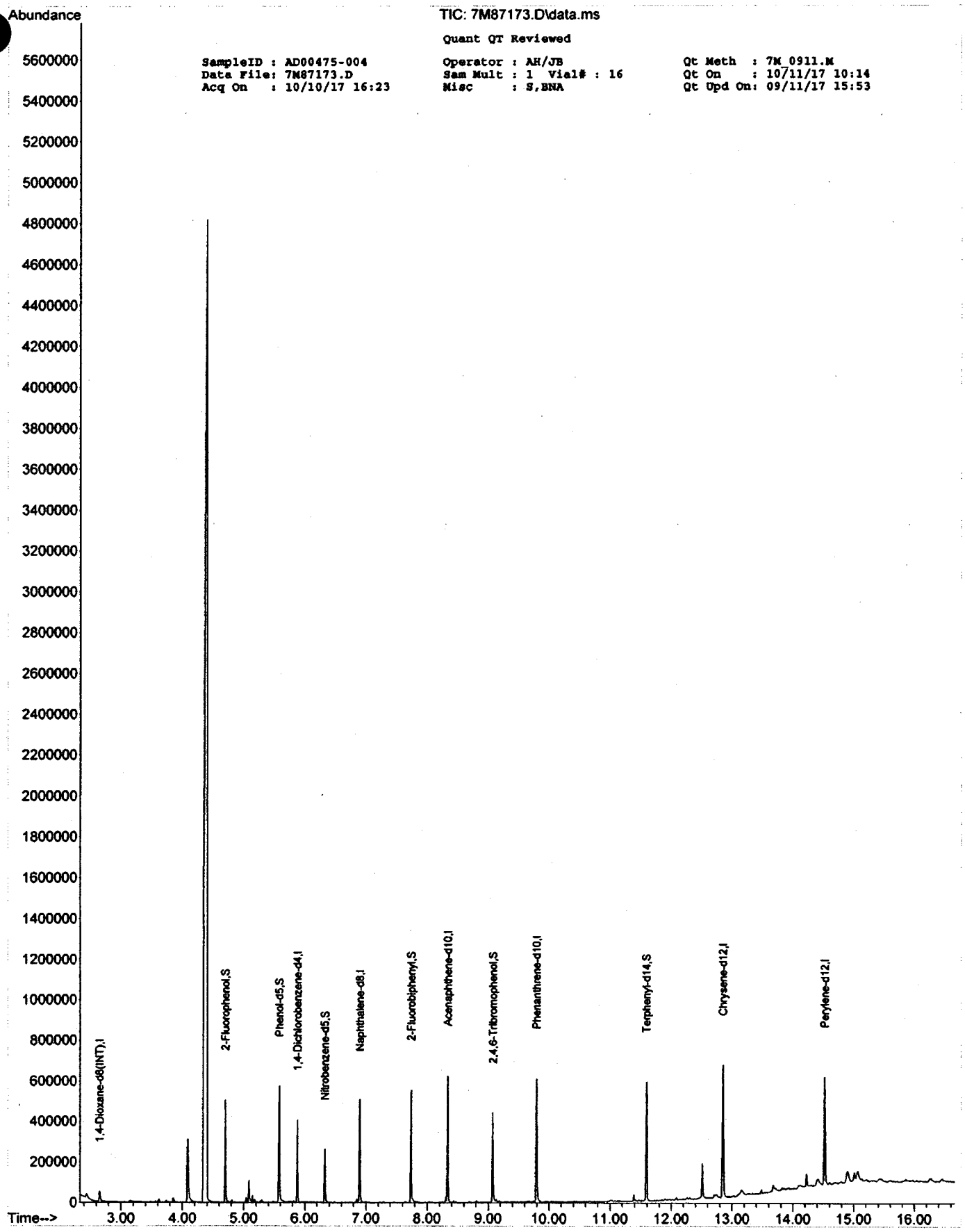
Data Path : G:\GcMsData\2017\GCMS_7\Data\10-1017\
Qt Path : G:\GCMSDATA\2017\GCMS_7\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.652	96	26426	40.00 ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.879	152	57785	40.00 ng	0.00
31) Naphthalene-d8	6.899	136	225311	40.00 ng	0.00
50) Acenaphthene-d10	8.336	164	144662	40.00 ng	0.00
77) Phenanthrene-d10	9.795	188	250561	40.00 ng	0.00
91) Chrysene-d12	12.851	240	263871	40.00 ng	0.00
103) Perylene-d12	14.523	264	247835	40.00 ng	0.03
System Monitoring Compounds					
11) 2-Fluorophenol	4.698	112	145783	83.84 ng	0.01
Spiked Amount 100.000			Recovery = 83.84%		
16) Phenol-d5	5.580	99	205749	85.81 ng	0.01
Spiked Amount 100.000			Recovery = 85.81%		
32) Nitrobenzene-d5	6.328	128	37222	38.29 ng	0.00
Spiked Amount 50.000			Recovery = 76.58%		
55) 2-Fluorobiphenyl	7.743	172	189034	39.41 ng	0.00
Spiked Amount 50.000			Recovery = 78.82%		
80) 2,4,6-Tribromophenol	9.079	330	64607	95.39 ng	0.00
Spiked Amount 100.000			Recovery = 95.39%		
94) Terphenyl-d14	11.590	244	187782	47.93 ng	0.00
Spiked Amount 50.000			Recovery = 95.86%		

Target Compounds Qvalue

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

JRyn



7M_0911.M Mon Oct 16 09:06:25 2017 SYSTEM1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00475-006
Client Id: SB04 COMP
Data File: 7M87174.D
Analysis Date: 10/10/17 16:47
Date Rec/Extracted: 10/06/17-10/10/17
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: 86

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.039	U	218-01-9	Chrysene	0.039	U
83-32-9	Acenaphthene	0.039	U	53-70-3	Dibenzo[a,h]anthracene	0.039	U
208-96-8	Acenaphthylene	0.039	U	206-44-0	Fluoranthene	0.039	U
120-12-7	Anthracene	0.039	U	86-73-7	Fluorene	0.039	U
56-55-3	Benzo[a]anthracene	0.039	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.039	U
50-32-8	Benzo[a]pyrene	0.039	U	91-20-3	Naphthalene	0.0097	U
205-99-2	Benzo[b]fluoranthene	0.039	U	85-01-8	Phenanthrene	0.039	U
191-24-2	Benzo[g,h,i]perylene	0.039	U	129-00-0	Pyrene	0.039	U
207-08-9	Benzo[k]fluoranthene	0.039	U				

Worksheet #: 440374

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100701 0109**

SampleID : AD00475-006 Operator : AH/JB Qt Meth : 7M_0911.M
Data File: 7M87174.D Sam Mult : 1 Vial# : 17 Qt On : 10/11/17 10:58
Acq On : 10/10/17 16:47 Misc : S,BNA Qt Upd On: 09/11/17 15:53

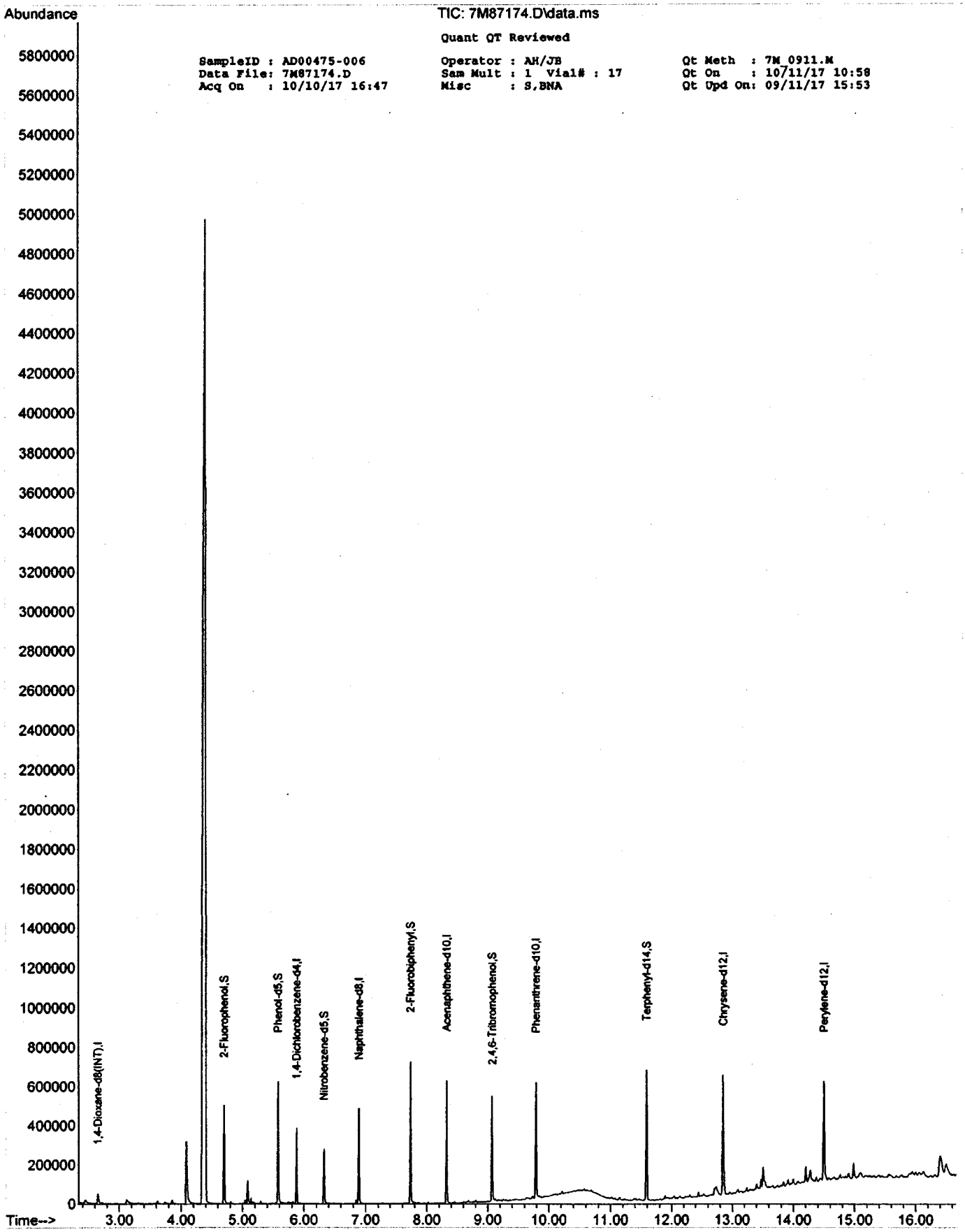
Data Path : G:\GcMsData\2017\GCMS_7\Data\10-1017\
Qt Path : G:\GCMSDATA\2017\GCMS_7\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.652	96	25216	40.00 ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.879	152	54173	40.00 ng	0.00
31) Naphthalene-d8	6.894	136	213499	40.00 ng	0.00
50) Acenaphthene-d10	8.326	164	135200	40.00 ng	-0.01
77) Phenanthrene-d10	9.790	188	234721	40.00 ng	0.00
91) Chrysene-d12	12.845	240	245854	40.00 ng	0.00
103) Perylene-d12	14.496	264	235484	40.00 ng	0.00
System Monitoring Compounds					
11) 2-Fluorophenol	4.704	112	151041	91.03 ng	0.02
Spiked Amount 100.000			Recovery = 91.03%		
16) Phenol-d5	5.580	99	219808	96.07 ng	0.01
Spiked Amount 100.000			Recovery = 96.07%		
32) Nitrobenzene-d5	6.328	128	39965	43.39 ng	0.00
Spiked Amount 50.000			Recovery = 86.78%		
55) 2-Fluorobiphenyl	7.733	172	210257	46.90 ng	-0.01
Spiked Amount 50.000			Recovery = 93.80%		
80) 2,4,6-Tribromophenol	9.074	330	73004	113.62 ng	0.00
Spiked Amount 100.000			Recovery = 113.62%		
94) Terphenyl-d14	11.590	244	208244	57.04 ng	0.00
Spiked Amount 50.000			Recovery = 114.08%		

Target Compounds Qvalue

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

JRyv


Abundance
TIC: 7M87174.D\data.ms
Quant QT Reviewed
SampleID : AD00475-006
Data File: 7M87174.D
Acq On : 10/10/17 16:47
Operator : AH/JB
Sam Mult : 1 Vial# : 17
Misc : S,BNA
Qt Meth : 7M_0911.M
Qt On : 10/11/17 10:58
Qt Upd On: 09/11/17 15:53
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Terphenyl-d14,S
Chrysene-d12,I
Perylene-d12,I
Time-->

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00475-008
Client Id: SB05 COMP
Data File: 10M65417.D
Analysis Date: 10/10/17 16:37
Date Rec/Extracted: 10/06/17-10/10/17
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: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.037	U	218-01-9	Chrysene	0.037	U
83-32-9	Acenaphthene	0.037	U	53-70-3	Dibenzo[a,h]anthracene	0.037	U
208-96-8	Acenaphthylene	0.037	U	206-44-0	Fluoranthene	0.037	U
120-12-7	Anthracene	0.037	U	86-73-7	Fluorene	0.037	U
56-55-3	Benzo[a]anthracene	0.037	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.037	U
50-32-8	Benzo[a]pyrene	0.037	U	91-20-3	Naphthalene	0.0094	U
205-99-2	Benzo[b]fluoranthene	0.037	U	85-01-8	Phenanthrene	0.037	U
191-24-2	Benzo[g,h,i]perylene	0.037	U	129-00-0	Pyrene	0.037	U
207-08-9	Benzo[k]fluoranthene	0.037	U				

Worksheet #: 440374

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100701 0112**

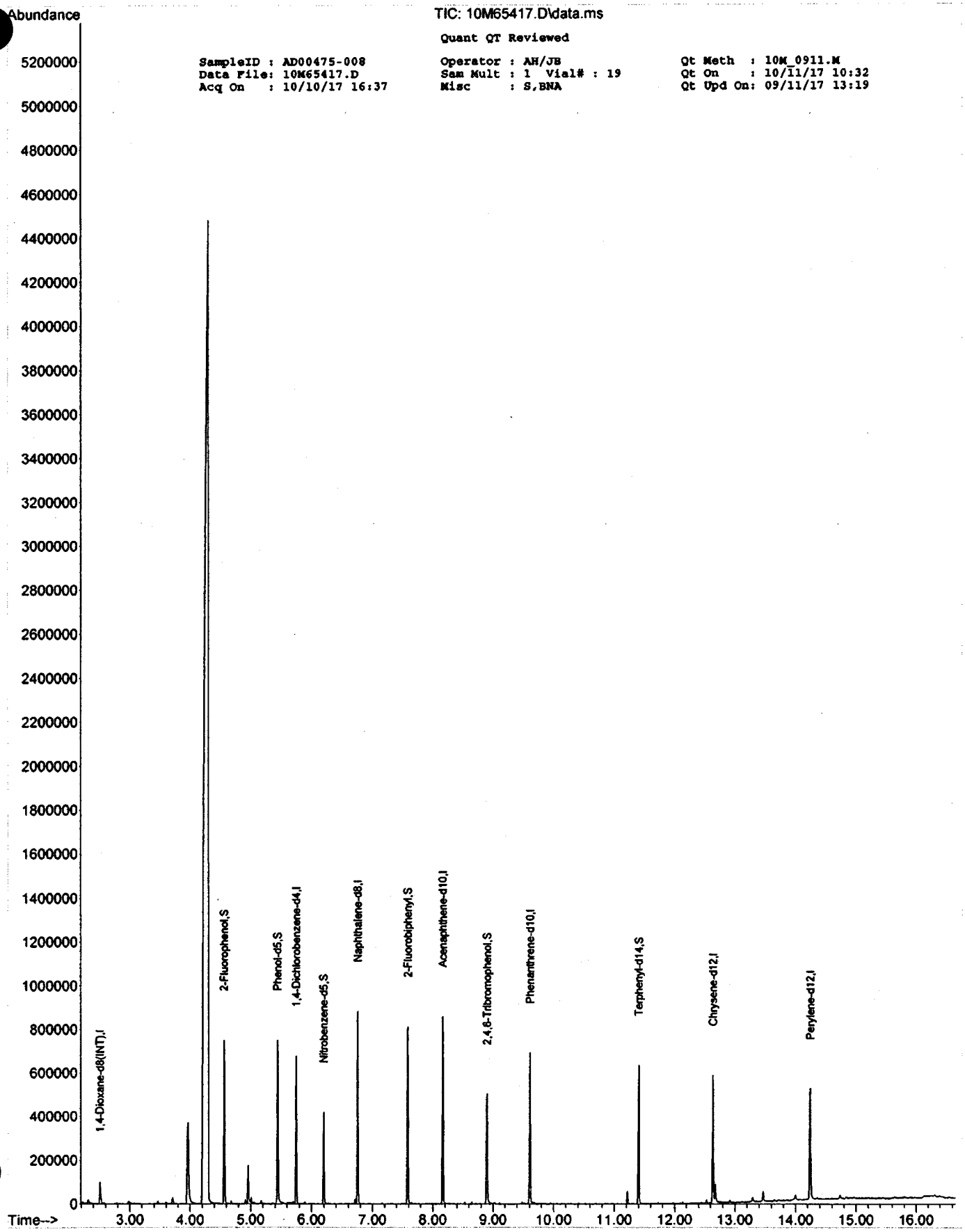
SampleID : AD00475-008 Operator : AH/JB Qt Meth : 10M_0911.M
Data File: 10M65417.D Sam Mult : 1 Vial# : 19 Qt On : 10/11/17 10:32
Acq On : 10/10/17 16:37 Misc : S,BNA Qt Upd On: 09/11/17 13:19

Data Path : G:\GcMsData\2017\GCMS_10\Data\10-10-17\
Qt Path : G:\GCMSDATA\2017\GCMS_10\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.508	96	47939	40.00 ng	0.01
21) 1,4-Dichlorobenzene-d4	5.749	152	93028	40.00 ng	0.00
31) Naphthalene-d8	6.755	136	328215	40.00 ng	0.00
50) Acenaphthene-d10	8.167	164	186158	40.00 ng	0.00
77) Phenanthrene-d10	9.611	188	284586	40.00 ng	0.00
91) Chrysene-d12	12.638	240	246134	40.00 ng	0.00
103) Perylene-d12	14.243	264	213816	40.00 ng	0.00
System Monitoring Compounds					
11) 2-Fluorophenol	4.562	112	213797	69.35 ng	0.01
Spiked Amount 100.000			Recovery = 69.35%		
16) Phenol-d5	5.439	99	274832	66.78 ng	0.00
Spiked Amount 100.000			Recovery = 66.78%		
32) Nitrobenzene-d5	6.198	128	57012	40.49 ng	0.00
Spiked Amount 50.000			Recovery = 80.98%		
55) 2-Fluorobiphenyl	7.589	172	262360	41.34 ng	0.00
Spiked Amount 50.000			Recovery = 82.68%		
80) 2,4,6-Tribromophenol	8.899	330	67392	81.29 ng	0.00
Spiked Amount 100.000			Recovery = 81.29%		
94) Terphenyl-d14	11.402	244	193654	51.12 ng	0.00
Spiked Amount 50.000			Recovery = 102.24%		

Target Compounds Qvalue

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



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Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00475-010
Client Id: SB08 COMP
Data File: 10M65408.D
Analysis Date: 10/10/17 13:16
Date Rec/Extracted: 10/06/17-10/10/17
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: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.037	U	218-01-9	Chrysene	0.037	U
83-32-9	Acenaphthene	0.037	U	53-70-3	Dibenzo[a,h]anthracene	0.037	U
208-96-8	Acenaphthylene	0.037	U	206-44-0	Fluoranthene	0.037	U
120-12-7	Anthracene	0.037	U	86-73-7	Fluorene	0.037	U
56-55-3	Benzo[a]anthracene	0.037	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.037	U
50-32-8	Benzo[a]pyrene	0.037	U	91-20-3	Naphthalene	0.0094	U
205-99-2	Benzo[b]fluoranthene	0.037	U	85-01-8	Phenanthrene	0.037	U
191-24-2	Benzo[g,h,i]perylene	0.037	U	129-00-0	Pyrene	0.037	U
207-08-9	Benzo[k]fluoranthene	0.037	U				

Worksheet #: 440374

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100701 0115**

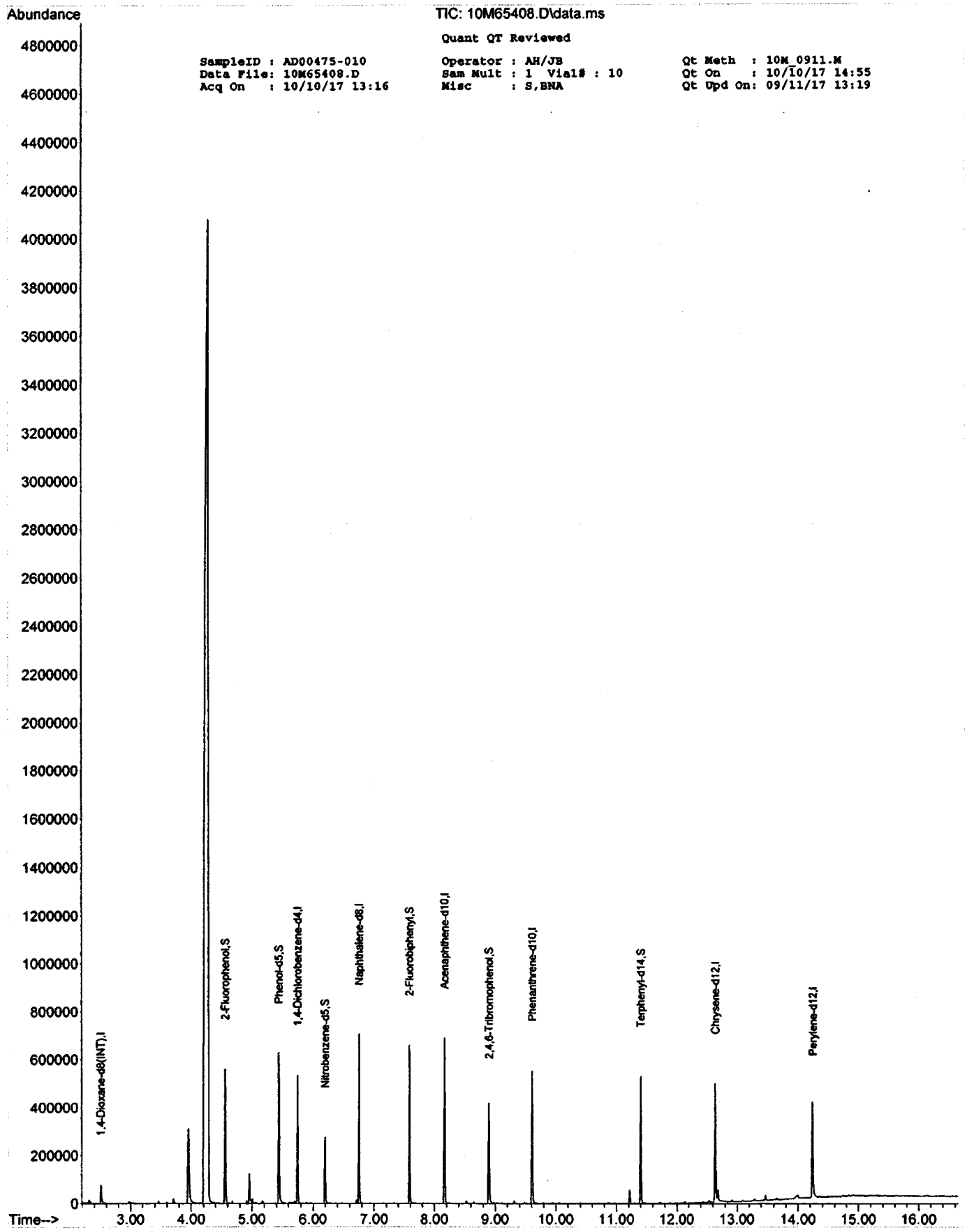
SampleID : AD00475-010 Operator : AH/JB Qt Meth : 10M_0911.M
Data File: 10M65408.D Sam Mult : 1 Vial# : 10 Qt On : 10/10/17 14:55
Acq On : 10/10/17 13:16 Misc : S,BNA Qt Upd On: 09/11/17 13:19

Data Path : G:\GcMsData\2017\GCMS_10\Data\10-10-17\
Qt Path : G:\GCMSDATA\2017\GCMS_10\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.508	96	36418	40.00 ng	0.01
21) 1,4-Dichlorobenzene-d4	5.749	152	72014	40.00 ng	0.00
31) Naphthalene-d8	6.755	136	261927	40.00 ng	0.00
50) Acenaphthene-d10	8.167	164	149219	40.00 ng	0.00
77) Phenanthrene-d10	9.611	188	231666	40.00 ng	0.00
91) Chrysene-d12	12.638	240	206350	40.00 ng	0.00
103) Perylene-d12	14.243	264	176645	40.00 ng	0.00
System Monitoring Compounds					
11) 2-Fluorophenol	4.562	112	163486	69.80 ng	0.01
Spiked Amount 100.000			Recovery = 69.80%		
16) Phenol-d5	5.439	99	213601	68.33 ng	0.00
Spiked Amount 100.000			Recovery = 68.33%		
32) Nitrobenzene-d5	6.198	128	42226	37.58 ng	0.00
Spiked Amount 50.000			Recovery = 75.16%		
55) 2-Fluorobiphenyl	7.584	172	203686	40.04 ng	0.00
Spiked Amount 50.000			Recovery = 80.08%		
80) 2,4,6-Tribromophenol	8.899	330	56074	82.99 ng	0.00
Spiked Amount 100.000			Recovery = 82.99%		
94) Terphenyl-d14	11.403	244	168206	52.97 ng	0.00
Spiked Amount 50.000			Recovery = 105.94%		
Target Compounds					Qvalue

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

JRyu



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Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00475-012
Client Id: SB09 COMP
Data File: 7M87175.D
Analysis Date: 10/10/17 17:10
Date Rec/Extracted: 10/06/17-10/10/17
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: 92

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.036	U	218-01-9	Chrysene	0.036	U
83-32-9	Acenaphthene	0.036	U	53-70-3	Dibenzo[a,h]anthracene	0.036	U
208-96-8	Acenaphthylene	0.036	U	**206-44-0**	**Fluoranthene**	**0.036**	**0.040**
120-12-7	Anthracene	0.036	U	86-73-7	Fluorene	0.036	U
56-55-3	Benzo[a]anthracene	0.036	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.036	U
50-32-8	Benzo[a]pyrene	0.036	U	91-20-3	Naphthalene	0.0091	U
205-99-2	Benzo[b]fluoranthene	0.036	U	85-01-8	Phenanthrene	0.036	U
191-24-2	Benzo[g,h,i]perylene	0.036	U	**129-00-0**	**Pyrene**	**0.036**	**0.040**
207-08-9	Benzo[k]fluoranthene	0.036	U				

Worksheet #: 440374

Total Target Concentration 0.08

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100701 0118**

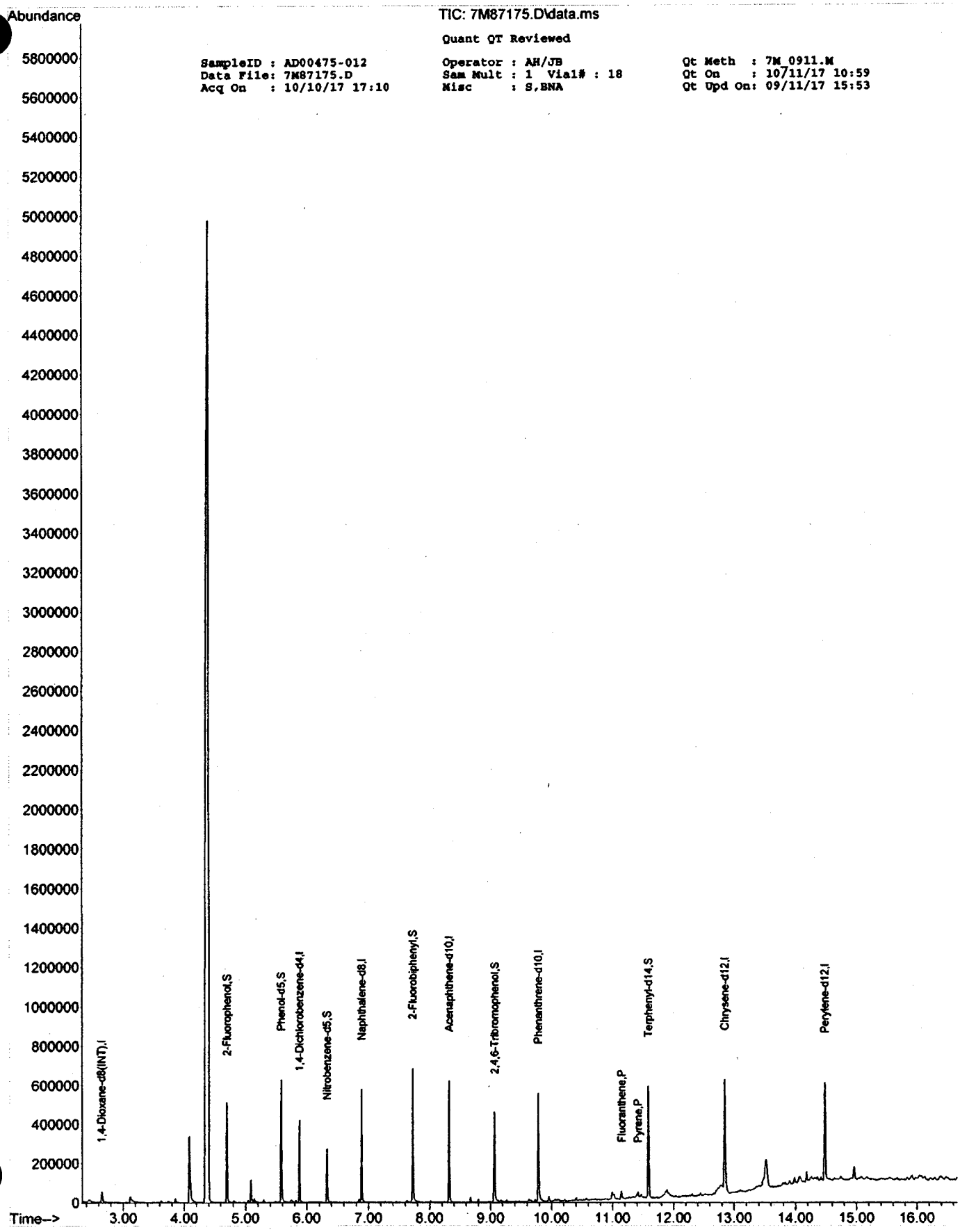
SampleID : AD00475-012 Operator : AH/JB Qt Meth : 7M_0911.M
Data File: 7M87175.D Sam Mult : 1 Vial# : 18 Qt On : 10/11/17 10:59
Acq On : 10/10/17 17:10 Misc : S,BNA Qt Upd On: 09/11/17 15:53

Data Path : G:\GcMsData\2017\GCMS_7\Data\10-1017\
Qt Path : G:\GCMSDATA\2017\GCMS_7\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dioxane-d8(INT)	2.652	96	26909	40.00	ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.879	152	58925	40.00	ng	0.00
31) Naphthalene-d8	6.889	136	224215	40.00	ng	-0.01
50) Acenaphthene-d10	8.320	164	141492	40.00	ng	-0.02
77) Phenanthrene-d10	9.784	188	232342	40.00	ng	-0.01
91) Chrysene-d12	12.845	240	240236	40.00	ng	0.00
103) Perylene-d12	14.480	264	235620	40.00	ng	-0.01
System Monitoring Compounds						
11) 2-Fluorophenol	4.704	112	150438	84.97	ng	0.02
Spiked Amount 100.000			Recovery = 84.97%			
16) Phenol-d5	5.580	99	217127	88.93	ng	0.01
Spiked Amount 100.000			Recovery = 88.93%			
32) Nitrobenzene-d5	6.328	128	39527	40.86	ng	0.00
Spiked Amount 50.000			Recovery = 81.72%			
55) 2-Fluorobiphenyl	7.728	172	201004	42.85	ng	-0.02
Spiked Amount 50.000			Recovery = 85.70%			
80) 2,4,6-Tribromophenol	9.068	330	65699	103.99	ng	0.00
Spiked Amount 100.000			Recovery = 103.99%			
94) Terphenyl-d14	11.585	244	186062	52.16	ng	0.00
Spiked Amount 50.000			Recovery = 104.32%			
Target Compounds						Qvalue
90) Fluoranthene	11.147	202	16157	2.2106	ng	93
92) Pyrene	11.414	202	14329	2.1990	ng	87

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

JRyn



7M_0911.M Mon Oct 16 09:06:36 2017 SYSTEM1 Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD00475-014
Client Id: SB07 COMP
Data File: 10M65418.D
Analysis Date: 10/10/17 17:00
Date Rec/Extracted: 10/06/17-10/10/17
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
91-57-6	2-Methylnaphthalene	0.035	U	**218-01-9**	**Chrysene**	**0.035**	**0.036**
83-32-9	Acenaphthene	0.035	U	53-70-3	Dibenzo[a,h]anthracene	0.035	U
208-96-8	Acenaphthylene	0.035	U	**206-44-0**	**Fluoranthene**	**0.035**	**0.051**
120-12-7	Anthracene	0.035	U	86-73-7	Fluorene	0.035	U
56-55-3	Benzo[a]anthracene	0.035	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.035	U
50-32-8	Benzo[a]pyrene	0.035	U	91-20-3	Naphthalene	0.0089	U
205-99-2	**Benzo[b]fluoranthene**	**0.035**	**0.045**	85-01-8	Phenanthrene	0.035	U
191-24-2	Benzo[g,h,i]perylene	0.035	U	**129-00-0**	**Pyrene**	**0.035**	**0.060**
207-08-9	Benzo[k]fluoranthene	0.035	U				

Worksheet #: 440374 *Total Target Concentration* 0.19 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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100701 0121**

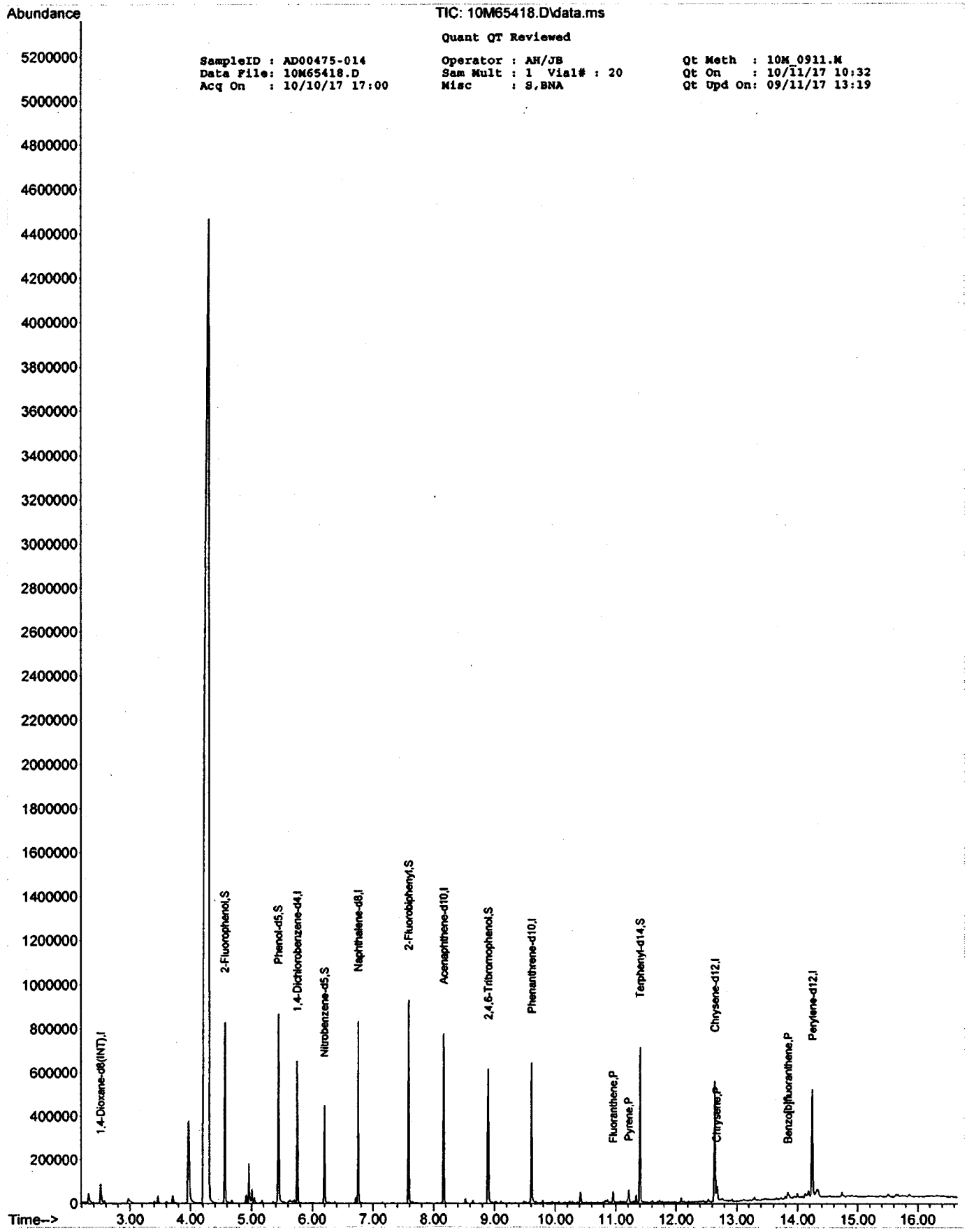
SampleID : AD00475-014 Operator : AH/JB Qt Meth : 10M_0911.M
Data File: 10M65418.D Sam Mult : 1 Vial# : 20 Qt On : 10/11/17 10:32
Acq On : 10/10/17 17:00 Misc : S,BNA Qt Upd On: 09/11/17 13:19

Data Path : G:\GcMsData\2017\GCMS_10\Data\10-10-17\
Qt Path : G:\GCMSDATA\2017\GCMS_10\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.513	96	46418	40.00 ng	0.02
21) 1,4-Dichlorobenzene-d4	5.749	152	86960	40.00 ng	0.00
31) Naphthalene-d8	6.754	136	307418	40.00 ng	0.00
50) Acenaphthene-d10	8.167	164	169240	40.00 ng	0.00
77) Phenanthrene-d10	9.611	188	258314	40.00 ng	0.00
91) Chrysene-d12	12.638	240	219471	40.00 ng	0.00
103) Perylene-d12	14.243	264	207873	40.00 ng	0.00
System Monitoring Compounds					
11) 2-Fluorophenol	4.567	112	234519	78.56 ng	0.02
Spiked Amount 100.000			Recovery = 78.56%		
16) Phenol-d5	5.444	99	303872	76.26 ng	0.00
Spiked Amount 100.000			Recovery = 76.26%		
32) Nitrobenzene-d5	6.198	128	60685	46.01 ng	0.00
Spiked Amount 50.000			Recovery = 92.02%		
55) 2-Fluorobiphenyl	7.589	172	282468	48.95 ng	0.00
Spiked Amount 50.000			Recovery = 97.90%		
80) 2,4,6-Tribromophenol	8.899	330	78909	103.28 ng	0.00
Spiked Amount 100.000			Recovery = 103.28%		
94) Terphenyl-d14	11.402	244	220350	65.24 ng	0.00
Spiked Amount 50.000			Recovery = 130.48%		
Target Compounds					Qvalue
90) Fluoranthene	10.953	202	22757	2.8499 ng	93
92) Pyrene	11.215	202	21324	3.3924 ng	89
101) Chrysene	12.670	228	11744m	2.0088 ng	
105) Benzo[b]fluoranthene	13.841	252	15207m	2.5338 ng	

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

JRyn


Abundance
TIC: 10M65418.D\data.ms
Quant QT Reviewed
SampleID : AD00475-014
Data File: 10M65418.D
Acq On : 10/10/17 17:00
Operator : AH/JB
Sam Mult : 1 Vial# : 20
Misc : S,BNA
Qt Meth : 10M_0911.M
Qt On : 10/11/17 10:32
Qt Upd On: 09/11/17 13:19
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene-d12,I
Chrysene,P
Benzo(b)fluoranthene,P
Perylene-d12,I
Time-->

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: SMB63111
Client Id:
Data File: 7M87159.D
Analysis Date: 10/10/17 10:19
Date Rec/Extracted: NA-10/10/17
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
91-57-6	2-Methylnaphthalene	0.033	U	218-01-9	Chrysene	0.033	U
83-32-9	Acenaphthene	0.033	U	53-70-3	Dibenzo[a,h]anthracene	0.033	U
208-96-8	Acenaphthylene	0.033	U	206-44-0	Fluoranthene	0.033	U
120-12-7	Anthracene	0.033	U	86-73-7	Fluorene	0.033	U
56-55-3	Benzo[a]anthracene	0.033	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.033	U
50-32-8	Benzo[a]pyrene	0.033	U	91-20-3	Naphthalene	0.0083	U
205-99-2	Benzo[b]fluoranthene	0.033	U	85-01-8	Phenanthrene	0.033	U
191-24-2	Benzo[g,h,i]perylene	0.033	U	129-00-0	Pyrene	0.033	U
207-08-9	Benzo[k]fluoranthene	0.033	U				

Worksheet #: 440374

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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT/LSC Reviewed) **7100701 0124**

SampleID : SMB63111
Data File: 7M87159.D
Acq On : 10/10/17 10:19

Operator : AH/JB
Sam Mult : 1 Vial# : 3
Misc : S,BNA

Qt Meth : 7M_0911.M
Qt On : 10/10/17 11:28
Qt Upd On: 09/11/17 15:53

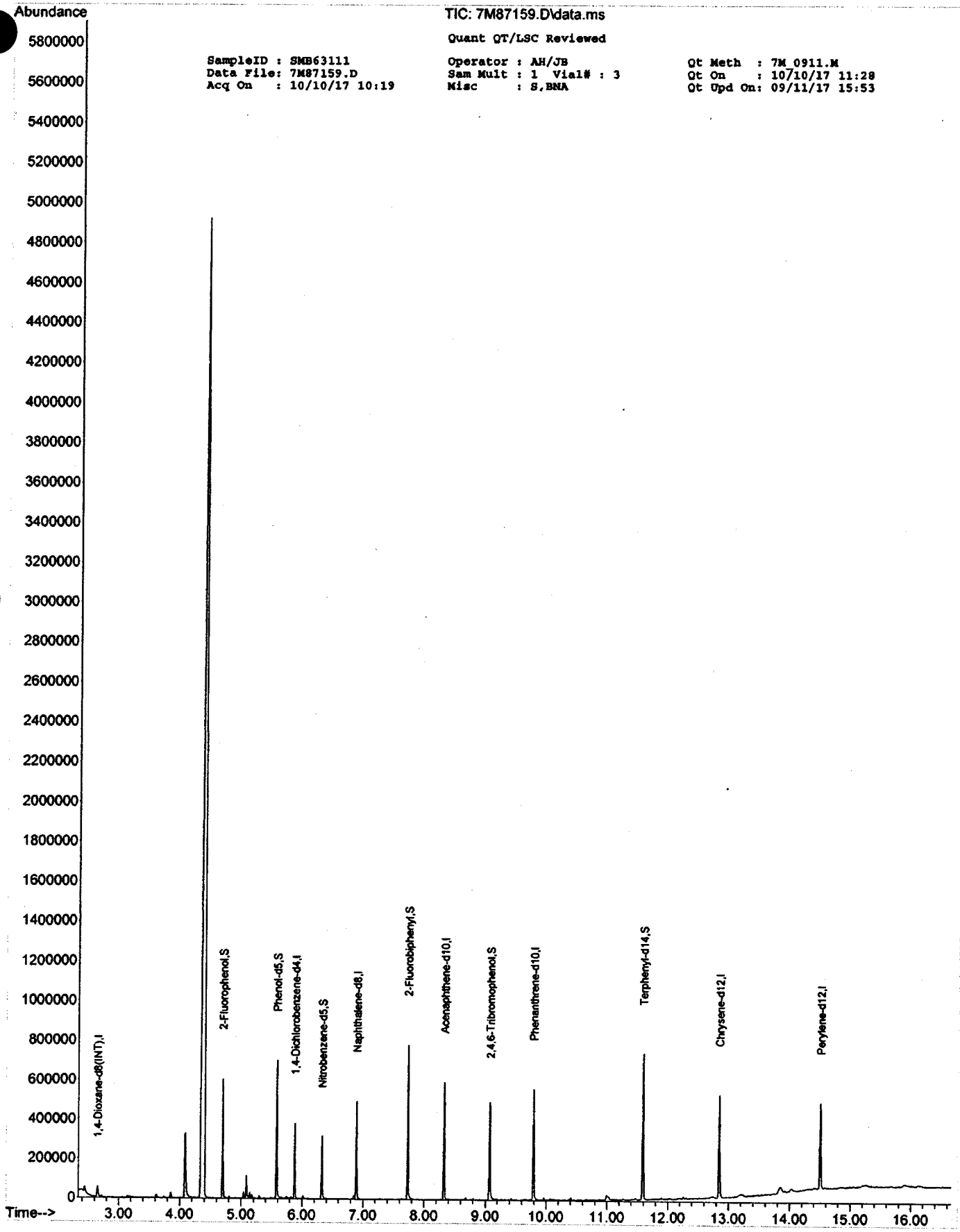
Data Path : G:\GcMsData\2017\GCMS_7\Data\10-10-17\
Qt Path : G:\GCMSDATA\2017\GCMS_7\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.652	96	26460	40.00 ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.879	152	55217	40.00 ng	0.00
31) Naphthalene-d8	6.894	136	211211	40.00 ng	0.00
50) Acenaphthene-d10	8.326	164	134570	40.00 ng	-0.01
77) Phenanthrene-d10	9.790	188	231558	40.00 ng	0.00
91) Chrysene-d12	12.845	240	228884	40.00 ng	0.00
103) Perylene-d12	14.507	264	201043	40.00 ng	0.02
System Monitoring Compounds					
11) 2-Fluorophenol	4.698	112	174873	100.44 ng	0.01
Spiked Amount 100.000			Recovery = 100.44%		
16) Phenol-d5	5.580	99	243102	101.26 ng	0.01
Spiked Amount 100.000			Recovery = 101.26%		
32) Nitrobenzene-d5	6.328	128	45301	49.71 ng	0.00
Spiked Amount 50.000			Recovery = 99.42%		
55) 2-Fluorobiphenyl	7.733	172	228939	51.31 ng	-0.01
Spiked Amount 50.000			Recovery = 102.62%		
80) 2,4,6-Tribromophenol	9.074	330	73049	115.13 ng	0.00
Spiked Amount 100.000			Recovery = 115.13%		
94) Terphenyl-d14	11.590	244	229789	67.61 ng	0.00
Spiked Amount 50.000			Recovery = 135.22%		

Target Compounds Qvalue

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

JRyr



7M_0911.M Mon Oct 16 09:06:20 2017 SYSTEM1

Page: 1

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
7M87159.D	SMB63111	S	10/10/17 10:19	1		NA	NA	99	103	NA	135
7M87161.D	AD00475-002	S	10/10/17 11:06	1		NA	NA	84	89	NA	99
7M87173.D	AD00475-004	S	10/10/17 16:23	1		NA	NA	77	79	NA	96
7M87174.D	AD00475-006	S	10/10/17 16:47	1		NA	NA	87	94	NA	114
10M65417.D	AD00475-008	S	10/10/17 16:37	1		NA	NA	81	83	NA	102
10M65408.D	AD00475-010	S	10/10/17 13:16	1		NA	NA	75	80	NA	106
7M87175.D	AD00475-012	S	10/10/17 17:10	1		NA	NA	82	86	NA	104
10M65418.D	AD00475-014	S	10/10/17 17:00	1		NA	NA	92	98	NA	130
10M65401.D	SMB63111(MS)	S	10/10/17 10:01	1		NA	NA	89	102	NA	138
10M65415.D	AD00475-010(MS)	S	10/10/17 15:52	1		NA	NA	61	75	NA	94
10M65416.D	AD00475-010(MSD)	S	10/10/17 16:15	1		NA	NA	77	80	NA	101

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8270D

Soil Laboratory Limits

Compound	Spike Amt	Limits
S1=2-Fluorophenol	100	43-128
S2=Phenol-d5	100	49-129
S3=Nitrobenzene-d5	50	52-129
S4=2-Fluorobiphenyl	50	58-125
S5=2,4,6-Tribromophenol	100	54-145
S6=Terphenyl-d14	50	58-148

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63111

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M65401.D	SMB63111(MS)	10/10/2017 10:01:00 A
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	20.6241	0	50	41	1	150
N-Nitrosodimethylamine	1	27.8822	0	50	56	50	130
Benzaldehyde	1	131.8797	0	50	264*	20	150
Aniline	1	30.6952	0	50	61	20	150
Pentachloroethane	1	25.3269	0	50	51	50	130
bis(2-Chloroethyl)ether	1	27.625	0	50	55	50	130
N-Decane	1	21.5611	0	50	43	20	130
1,3-Dichlorobenzene	1	28.1273	0	50	56*	60	130
1,4-Dichlorobenzene	1	30.9886	0	50	62	60	130
1,2-Dichlorobenzene	1	31.4218	0	50	63	50	130
Benzyl alcohol	1	35.0388	0	50	70	20	130
bis(2-chloroisopropyl)ether	1	25.535	0	50	51	40	130
Acetophenone	1	34.6525	0	50	69	50	130
Hexachloroethane	1	31.5198	0	50	63	50	130
N-Nitroso-di-n-propylamine	1	33.5231	0	50	67	40	130
Nitrobenzene	1	34.5553	0	50	69*	70	130
Isophorone	1	35.1129	0	50	70	60	130
Benzoic Acid	1	35.7917	0	100	36	20	130
bis(2-Chloroethoxy)methane	1	36.0182	0	50	72	60	130
1,2,4-Trichlorobenzene	1	34.4704	0	50	69	50	130
Naphthalene	1	33.7418	0	50	67	50	130
4-Chloroaniline	1	31.7913	0	50	64	10	150
Hexachlorobutadiene	1	34.5747	0	50	69	60	130
Caprolactam	1	37.931	0	50	76	50	130
2-Methylnaphthalene	1	36.8517	0	50	74	70	130
1-Methylnaphthalene	1	35.7689	0	50	72	70	130
1,1'-Biphenyl	1	33.0987	0	50	66	60	130
1,2,4,5-Tetrachlorobenzene	1	38.7649	0	50	78	70	130
Hexachlorocyclopentadiene	1	21.3151	0	50	43	20	160
2-Chloronaphthalene	1	40.3512	0	50	81	70	130
1,4-Dimethylnaphthalene	1	34.3764	0	50	69*	70	130
Diphenyl Ether	1	42.1974	0	50	84	70	130
2-Nitroaniline	1	45.9945	0	50	92	50	130
Coumarin	1	34.2347	0	50	68*	70	130
Acenaphthylene	1	42.1904	0	50	84	70	130
Dimethylphthalate	1	42.6861	0	50	85	70	130
2,6-Dinitrotoluene	1	43.5077	0	50	87	70	130
Acenaphthene	1	41.3521	0	50	83	50	130
3-Nitroaniline	1	45.3451	0	50	91	10	130
Dibenzofuran	1	42.8374	0	50	86	70	130
2,4-Dinitrotoluene	1	42.8309	0	50	86	40	130
Fluorene	1	42.219	0	50	84	50	130
4-Chlorophenyl-phenylether	1	41.2768	0	50	83	70	130
Diethylphthalate	1	44.4462	0	50	89	70	130
4-Nitroaniline	1	40.7371	0	50	81	50	130
Atrazine	1	62.0967	0	50	124	50	130
n-Nitrosodiphenylamine	1	38.2363	0	50	76	50	130
1,2-Diphenylhydrazine	1	44.2747	0	50	89	70	130
4-Bromophenyl-phenylether	1	45.2584	0	50	91	70	130
Hexachlorobenzene	1	43.4932	0	50	87	70	130
N-Octadecane	1	45.3286	0	50	91	70	130
Phenanthrene	1	42.4806	0	50	85	70	130
Anthracene	1	42.3182	0	50	85	70	130
Carbazole	1	41.9255	0	50	84	70	130
Di-n-butylphthalate	1	44.0487	0	50	88	70	130
Fluoranthene	1	41.2134	0	50	82	70	130
Pyrene	1	51.031	0	50	102	50	130
Benzidine	1	2.7302	0	50	5.5	1	130
Butylbenzylphthalate	1	49.6563	0	50	99	50	130
3,3'-Dichlorobenzidine	1	48.2353	0	50	96	10	130
Benzo[a]anthracene	1	46.9114	0	50	94	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3

Recovery Data Laboratory Limits

QC Batch: SMB63111

Chrysene	1	46.5393	0	50	93	60	130
bis(2-Ethylhexyl)phthalate	1	57.7459	0	50	115	70	130
Di-n-octylphthalate	1	57.0982	0	50	114	70	130
Benzo[b]fluoranthene	1	47.756	0	50	96	70	130
Benzo[k]fluoranthene	1	50.5558	0	50	101	70	130
Benzo[a]pyrene	1	43.3207	0	50	87	70	130
Indeno[1,2,3-cd]pyrene	1	45.142	0	50	90	70	130
Dibenzo[a,h]anthracene	1	44.0532	0	50	88	60	130
Benzo[g,h,i]perylene	1	39.9539	0	50	80	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63111

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M65415.D	AD00475-010(MS)	10/10/2017 3:52:00 PM
Non Spike(If applicable):	10M65408.D	AD00475-010	10/10/2017 1:16:00 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	7.5675	0	50	15	1	150
N-Nitrosodimethylamine	1	19.7944	0	50	40*	50	130
Benzaldehyde	1	111.0044	0	50	222*	20	150
Aniline	1	27.2162	0	50	54	20	150
Pentachloroethane	1	18.1037	0	50	36*	50	130
bis(2-Chloroethyl)ether	1	22.1691	0	50	44*	50	130
N-Decane	1	11.4063	0	50	23	20	130
1,3-Dichlorobenzene	1	20.1045	0	50	40*	60	130
1,4-Dichlorobenzene	1	20.2467	0	50	40*	60	130
1,2-Dichlorobenzene	1	20.7753	0	50	42*	50	130
Benzyl alcohol	1	24.8149	0	50	50	20	130
bis(2-chloroisopropyl)ether	1	19.134	0	50	38*	40	130
Acetophenone	1	27.4598	0	50	55	50	130
Hexachloroethane	1	19.792	0	50	40*	50	130
N-Nitroso-di-n-propylamine	1	25.6731	0	50	51	40	130
Nitrobenzene	1	26.1193	0	50	52*	70	130
Isophorone	1	27.1836	0	50	54*	60	130
Benzoic Acid	1	29.7922	0	100	30	20	130
bis(2-Chloroethoxy)methane	1	28.1966	0	50	56*	60	130
1,2,4-Trichlorobenzene	1	24.3766	0	50	49*	50	130
Naphthalene	1	25.6559	0	50	51	50	130
4-Chloroaniline	1	33.161	0	50	66	10	150
Hexachlorobutadiene	1	23.6786	0	50	47*	60	130
Caprolactam	1	36.7536	0	50	74	50	130
2-Methylnaphthalene	1	29.0125	0	50	58*	70	130
1-Methylnaphthalene	1	28.8143	0	50	58*	70	130
1,1'-Biphenyl	1	28.255	0	50	57*	60	130
1,2,4,5-Tetrachlorobenzene	1	30.0078	0	50	60*	70	130
Hexachlorocyclopentadiene	1	12.4768	0	50	25	20	160
2-Chloronaphthalene	1	31.9603	0	50	64*	70	130
1,4-Dimethylnaphthalene	1	29.2843	0	50	59*	70	130
Diphenyl Ether	1	33.9773	0	50	68*	70	130
2-Nitroaniline	1	38.1627	0	50	76	50	130
Coumarin	1	30.8525	0	50	62*	70	130
Acenaphthylene	1	34.9349	0	50	70	70	130
Dimethylphthalate	1	36.1831	0	50	72	70	130
2,6-Dinitrotoluene	1	36.3859	0	50	73	70	130
Acenaphthene	1	34.5821	0	50	69	50	130
3-Nitroaniline	1	42.5137	0	50	85	10	130
Dibenzofuran	1	36.4642	0	50	73	70	130
2,4-Dinitrotoluene	1	35.838	0	50	72	40	130
Fluorene	1	36.3361	0	50	73	50	130
4-Chlorophenyl-phenylether	1	34.9523	0	50	70	70	130
Diethylphthalate	1	37.7583	0	50	76	70	130
4-Nitroaniline	1	39.2515	0	50	79	50	130
Atrazine	1	58.6036	0	50	117	50	130
n-Nitrosodiphenylamine	1	32.1646	0	50	64	50	130
1,2-Diphenylhydrazine	1	36.9605	0	50	74	70	130
4-Bromophenyl-phenylether	1	36.9604	0	50	74	70	130
Hexachlorobenzene	1	36.8165	0	50	74	70	130
N-Octadecane	1	38.3198	0	50	77	70	130
Phenanthrene	1	36.7665	0	50	74	70	130
Anthracene	1	36.7019	0	50	73	70	130
Carbazole	1	38.9043	0	50	78	70	130
Di-n-butylphthalate	1	39.0654	0	50	78	70	130
Fluoranthene	1	38.4276	0	50	77	70	130
Pyrene	1	38.2426	0	50	76	50	130
Benzidine	1	2.3335	0	50	4.7	1	130
Butylbenzylphthalate	1	39.0813	0	50	78	50	130
3,3'-Dichlorobenzidine	1	44.0823	0	50	88	10	130
Benzo[a]anthracene	1	38.5858	0	50	77	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63111

Chrysene	1	37.4861	0	50	75	60	130
bis(2-Ethylhexyl)phthalate	1	48.4319	0	50	97	70	130
Di-n-octylphthalate	1	43.2565	0	50	87	70	130
Benzo[b]fluoranthene	1	39.6796	0	50	79	70	130
Benzo[k]fluoranthene	1	40.8873	0	50	82	70	130
Benzo[a]pyrene	1	36.2048	0	50	72	70	130
Indeno[1,2,3-cd]pyrene	1	41.1406	0	50	82	70	130
Dibenzo[a,h]anthracene	1	40.4231	0	50	81	60	130
Benzo[g,h,i]perylene	1	38.4841	0	50	77	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63111

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M65416.D	AD00475-010(MSD)	10/10/2017 4:15:00 PM
Non Spike(If applicable):	10M65408.D	AD00475-010	10/10/2017 1:16:00 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	15.6256	0	50	31	1	150
N-Nitrosodimethylamine	1	27.326	0	50	55	50	130
Benzaldehyde	1	147.5368	0	50	295*	20	150
Aniline	1	30.4877	0	50	61	20	150
Pentachloroethane	1	22.2914	0	50	45*	50	130
bis(2-Chloroethyl)ether	1	26.9158	0	50	54	50	130
N-Decane	1	10.814	0	50	22	20	130
1,3-Dichlorobenzene	1	24.0499	0	50	48*	60	130
1,4-Dichlorobenzene	1	24.0154	0	50	48*	60	130
1,2-Dichlorobenzene	1	25.5319	0	50	51	50	130
Benzyl alcohol	1	26.4487	0	50	53	20	130
bis(2-chloroisopropyl)ether	1	22.184	0	50	44	40	130
Acetophenone	1	32.4691	0	50	65	50	130
Hexachloroethane	1	23.9932	0	50	48*	50	130
N-Nitroso-di-n-propylamine	1	29.4551	0	50	59	40	130
Nitrobenzene	1	31.8721	0	50	64*	70	130
Isophorone	1	31.4007	0	50	63	60	130
Benzoic Acid	1	25.3279	0	100	25	20	130
bis(2-Chloroethoxy)methane	1	32.7185	0	50	65	60	130
1,2,4-Trichlorobenzene	1	28.6114	0	50	57	50	130
Naphthalene	1	29.2359	0	50	58	50	130
4-Chloroaniline	1	32.565	0	50	65	10	150
Hexachlorobutadiene	1	27.7605	0	50	56*	60	130
Caprolactam	1	28.6235	0	50	57	50	130
2-Methylnaphthalene	1	30.0089	0	50	60*	70	130
1-Methylnaphthalene	1	30.0209	0	50	60*	70	130
1,1'-Biphenyl	1	28.2507	0	50	57*	60	130
1,2,4,5-Tetrachlorobenzene	1	31.3553	0	50	63*	70	130
Hexachlorocyclopentadiene	1	11.2556	0	50	23	20	160
2-Chloronaphthalene	1	32.7635	0	50	66*	70	130
1,4-Dimethylnaphthalene	1	29.0665	0	50	58*	70	130
Diphenyl Ether	1	34.4963	0	50	69*	70	130
2-Nitroaniline	1	37.0919	0	50	74	50	130
Coumarin	1	28.9814	0	50	58*	70	130
Acenaphthylene	1	33.8528	0	50	68*	70	130
Dimethylphthalate	1	34.6429	0	50	69*	70	130
2,6-Dinitrotoluene	1	33.9407	0	50	68*	70	130
Acenaphthene	1	33.6069	0	50	67	50	130
3-Nitroaniline	1	39.2486	0	50	78	70	130
Dibenzofuran	1	33.9307	0	50	68*	70	130
2,4-Dinitrotoluene	1	33.2308	0	50	66	40	130
Fluorene	1	34.5509	0	50	69	50	130
4-Chlorophenyl-phenylether	1	32.7245	0	50	65*	70	130
Diethylphthalate	1	34.9814	0	50	70	70	130
4-Nitroaniline	1	34.5537	0	50	69	50	130
Atrazine	1	51.5261	0	50	103	50	130
n-Nitrosodiphenylamine	1	30.5434	0	50	61	50	130
1,2-Diphenylhydrazine	1	35.5575	0	50	71	70	130
4-Bromophenyl-phenylether	1	34.4328	0	50	69*	70	130
Hexachlorobenzene	1	33.8577	0	50	68*	70	130
N-Octadecane	1	35.9483	0	50	72	70	130
Phenanthrene	1	33.5461	0	50	67*	70	130
Anthracene	1	33.7377	0	50	67*	70	130
Carbazole	1	34.7546	0	50	70	70	130
Di-n-butylphthalate	1	35.6873	0	50	71	70	130
Fluoranthene	1	33.4963	0	50	67*	70	130
Pyrene	1	39.0659	0	50	78	50	130
Benzidine	1	0	0	50	0*	1	130
Butylbenzylphthalate	1	38.0015	0	50	76	50	130
3,3'-Dichlorobenzidine	1	40.201	0	50	80	10	130
Benzo[a]anthracene	1	36.3157	0	50	73	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63111

Chrysene	1	35.2507	0	50	71	60	130
bis(2-Ethylhexyl)phthalate	1	48.0567	0	50	96	70	130
Di-n-octylphthalate	1	38.2151	0	50	76	70	130
Benzo[b]fluoranthene	1	32.6453	0	50	65*	70	130
Benzo[k]fluoranthene	1	34.7745	0	50	70	70	130
Benzo[a]pyrene	1	33.9844	0	50	68*	70	130
Indeno[1,2,3-cd]pyrene	1	40.9641	0	50	82	70	130
Dibenzo[a,h]anthracene	1	39.3505	0	50	79	60	130
Benzo[g,h,i]perylene	1	37.8542	0	50	76	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: SMB63111

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M65416.D	AD00475-010(MSD)	10/10/2017 4:15:00 PM
Duplicate(If applicable):	10M65415.D	AD00475-010(MS)	10/10/2017 3:52:00 PM
Inst Blank(If applicable):			

Method: 8270D Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Pyridine	1	15.6256	7.5675	69*	30
N-Nitrosodimethylamine	1	27.326	19.7944	32*	30
Benzaldehyde	1	147.5368	111.0044	28	30
Aniline	1	30.4877	27.2162	11	30
Pentachloroethane	1	22.2914	18.1037	21	30
bis(2-Chloroethyl)ether	1	26.9158	22.1691	19	30
N-Decane	1	10.814	11.4063	5.3	30
1,3-Dichlorobenzene	1	24.0499	20.1045	18	30
1,4-Dichlorobenzene	1	24.0154	20.2467	17	40
1,2-Dichlorobenzene	1	25.5319	20.7753	21	30
Benzyl alcohol	1	26.4487	24.8149	6.4	30
bis(2-chloroisopropyl)ether	1	22.184	19.134	15	30
Acetophenone	1	32.4691	27.4598	17	30
Hexachloroethane	1	23.9932	19.792	19	30
N-Nitroso-di-n-propylamine	1	29.4551	25.6731	14	40
Nitrobenzene	1	31.8721	26.1193	20	30
Isophorone	1	31.4007	27.1836	14	30
Benzoic Acid	1	25.3279	29.7922	16	30
bis(2-Chloroethoxy)methane	1	32.7185	28.1966	15	30
1,2,4-Trichlorobenzene	1	28.6114	24.3766	16	40
Naphthalene	1	29.2359	25.6559	13	40
4-Chloroaniline	1	32.565	33.161	1.8	30
Hexachlorobutadiene	1	27.7605	23.6786	16	30
Caprolactam	1	28.6235	36.7536	25	30
2-Methylnaphthalene	1	30.0089	29.0125	3.4	30
1-Methylnaphthalene	1	30.0209	28.8143	4.1	30
1,1'-Biphenyl	1	28.2507	28.255	0.02	30
1,2,4,5-Tetrachlorobenzene	1	31.3553	30.0078	4.4	30
Hexachlorocyclopentadiene	1	11.2556	12.4768	10	30
2-Chloronaphthalene	1	32.7635	31.9603	2.5	30
1,4-Dimethylnaphthalene	1	29.0665	29.2843	0.75	30
Diphenyl Ether	1	34.4963	33.9773	1.5	30
2-Nitroaniline	1	37.0919	38.1627	2.8	30
Coumarin	1	28.9814	30.8525	6.3	30
Acenaphthylene	1	33.8528	34.9349	3.1	30
Dimethylphthalate	1	34.6429	36.1831	4.3	30
2,6-Dinitrotoluene	1	33.9407	36.3859	7	30
Acenaphthene	1	33.6069	34.5821	2.9	40
3-Nitroaniline	1	39.2486	42.5137	8	30
Dibenzofuran	1	33.9307	36.4642	7.2	30
2,4-Dinitrotoluene	1	33.2308	35.838	7.5	40
Fluorene	1	34.5509	36.3361	5	40
4-Chlorophenyl-phenylether	1	32.7245	34.9523	6.6	30
Diethylphthalate	1	34.9814	37.7583	7.6	30
4-Nitroaniline	1	34.5537	39.2515	13	30
Atrazine	1	51.5261	58.6036	13	30
n-Nitrosodiphenylamine	1	30.5434	32.1646	5.2	30
1,2-Diphenylhydrazine	1	35.5575	36.9605	3.9	30
4-Bromophenyl-phenylether	1	34.4328	36.9604	7.1	30
Hexachlorobenzene	1	33.8577	36.8165	8.4	30
N-Octadecane	1	35.9483	38.3198	6.4	30
Phenanthrene	1	33.5461	36.7665	9.2	30
Anthracene	1	33.7377	36.7019	8.4	30
Carbazole	1	34.7546	38.9043	11	30
Di-n-butylphthalate	1	35.6873	39.0654	9	30
Fluoranthene	1	33.4963	38.4276	14	30
Pyrene	1	39.0659	38.2426	2.1	40
Benzidine	1	0	2.3335	200*	30
Butylbenzylphthalate	1	38.0015	39.0813	2.8	40
3,3'-Dichlorobenzidine	1	40.201	44.0823	9.2	30
Benzo[a]anthracene	1	36.3157	38.5858	6.1	30
Chrysene	1	35.2507	37.4861	6.1	30
bis(2-Ethylhexyl)phthalate	1	48.0567	48.4319	0.78	30

Form3
RPD Data Laboratory Limits
QC Batch: SMB63111

Di-n-octylphthalate	1	38.2151	43.2565	12	30
Benzo[b]fluoranthene	1	32.6453	39.6796	19	30
Benzo[k]fluoranthene	1	34.7745	40.8873	16	30
Benzo[a]pyrene	1	33.9844	36.2048	6.3	30
Indeno[1,2,3-cd]pyrene	1	40.9641	41.1406	0.43	30
Dibenzo[a,h]anthracene	1	39.3505	40.4231	2.7	30
Benzo[g,h,i]perylene	1	37.8542	38.4841	1.7	30

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: SMB63111
Blank Data File: 7M87159.D
Matrix: Soil

Blank Analysis Date: 10/10/17 10:19
Blank Extraction Date: 10/10/17
(If Applicable)
Method: EPA 8270D

Sample Number	Data File	Analysis Date
AD00475-002	7M87161.D	10/10/17 11:06
AD00475-004	7M87173.D	10/10/17 16:23
AD00475-006	7M87174.D	10/10/17 16:47
AD00475-008	10M65417.D	10/10/17 16:37
AD00475-010	10M65408.D	10/10/17 13:16
AD00475-012	7M87175.D	10/10/17 17:10
AD00475-014	10M65418.D	10/10/17 17:00
AD00475-010(MSD	10M65416.D	10/10/17 16:15
AD00475-010(MS)	10M65415.D	10/10/17 15:52
SMB63111(MS)	10M65401.D	10/10/17 10:01

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10

Data File: 10M64974.D
Analysis Date: 09/11/17 08:41
Method: EPA 8270D

Tune Scan/Time Range: Scan 1444

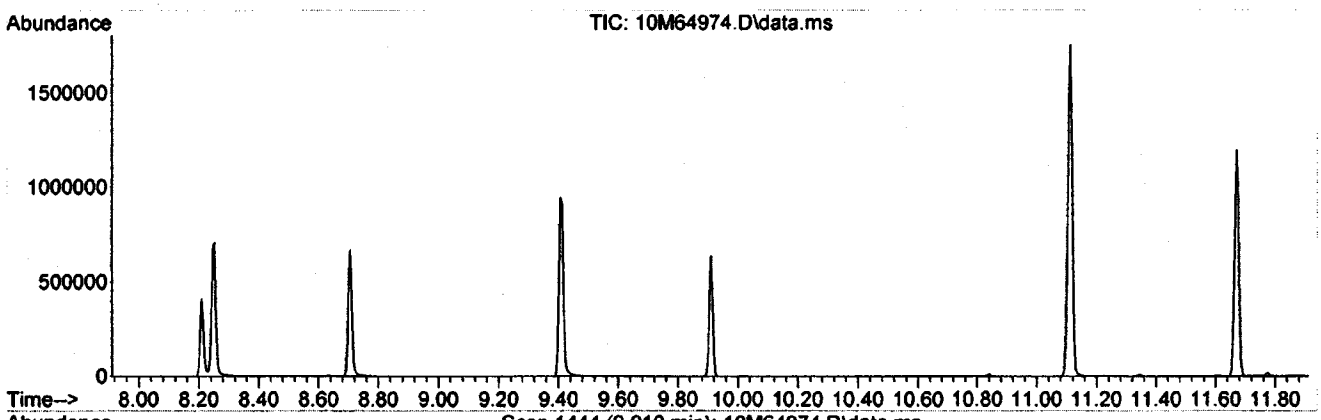
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	31.8	25200	PASS
68	69	0.00	2	1.7	488	PASS
69	198	0.00	100	36.5	28856	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	47.0	37192	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	79128	PASS
199	198	5	9	7.1	5647	PASS
275	198	10	30	26.4	20928	PASS
365	198	1	100	3.3	2636	PASS
441	443	0.01	100	73.4	7335	PASS
442	198	40	100	59.3	46936	PASS
443	442	17	23	21.3	9998	PASS

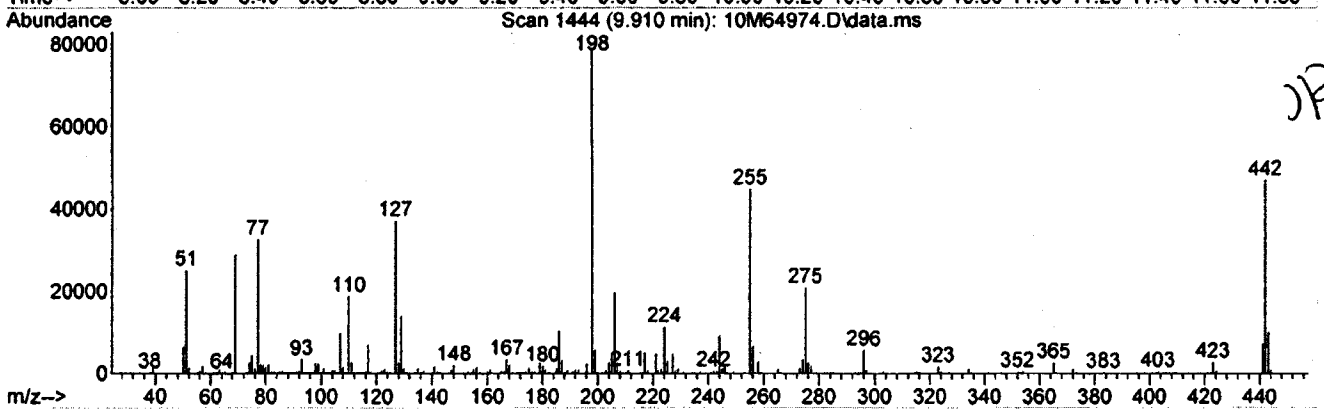
Data File	Sample Number	Analysis Date:
10M64975.D	CAL BNA@10PPM	09/11/17 09:07
10M64976.D	CAL BNA@196PP	09/11/17 09:32
10M64977.D	CAL BNA@160PP	09/11/17 09:55
10M64978.D	CAL BNA@120PP	09/11/17 10:17
10M64979.D	CAL BNA@80PPM	09/11/17 10:39
10M64980.D	CAL BNA@50PPM	09/11/17 11:01
10M64981.D	CAL BNA@20PPM	09/11/17 11:23
10M64982.D	CAL BNA@2PPM	09/11/17 11:46
10M64983.D	CAL BNA@.5PPM	09/11/17 12:08
10M64984.D	CAL BNA@.25PP	09/11/17 12:30
10M64985.D	CAL BNA@50PPM	09/11/17 12:53
10M64986.D	ICV BNA@50PPM	09/11/17 13:15
10M64987.D	EXT MIX#1	09/11/17 14:09
10M64988.D	EXT MIX#1(2ND)	09/11/17 14:31

Data Path : G:\GcMsData\2017\GCMS_10\Data\09-11-17\
Data File : 10M64974.D
Acq On : 11 Sep 2017 8:41
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_10\METHODQT\10M_0808.M
Title : @GCMS_10,mg,625,8270
Last Update : Mon Sep 11 13:08:39 2017





Spectrum Information: Scan 1444

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	31.8	25200	PASS
68	69	0.00	2	1.7	488	PASS
69	198	0.00	100	36.5	28856	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	47.0	37192	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	79128	PASS
199	198	5	9	7.1	5647	PASS
275	198	10	30	26.4	20928	PASS
365	198	1	100	3.3	2636	PASS
441	443	0.01	100	73.4	7335	PASS
442	198	40	100	59.3	46936	PASS
443	442	17	23	21.3	9998	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M86401.D
Analysis Date: 09/11/17 08:45
Method: EPA 8270D

Tune Scan/Time Range: Scan 1452

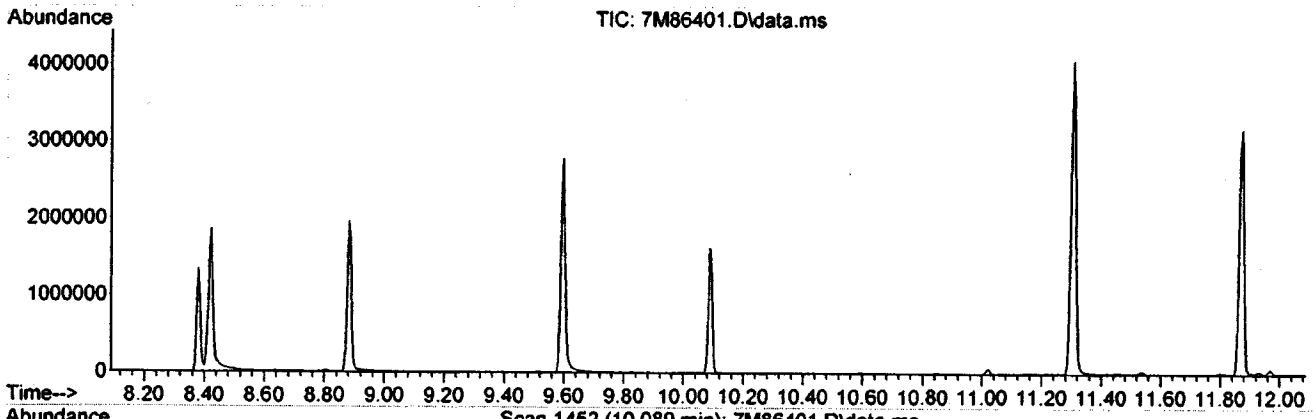
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	35.7	69000	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.8	84784	PASS
70	69	0.00	2	0.7	582	PASS
127	198	40	60	49.3	95416	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	193472	PASS
199	198	5	9	6.9	13323	PASS
275	198	10	30	25.7	49744	PASS
365	198	1	100	3.0	5758	PASS
441	443	0.01	100	78.3	17192	PASS
442	198	40	100	60.0	116064	PASS
443	442	17	23	18.9	21968	PASS

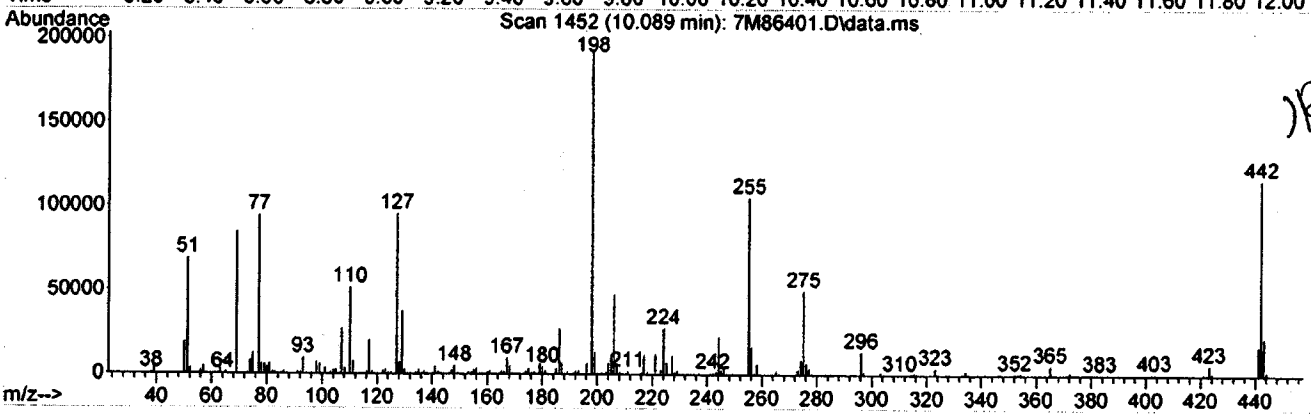
Data File	Sample Number	Analysis Date:
7M86402.D	CAL BNA@10PPM	09/11/17 09:11
7M86403.D	CAL BNA@10PPM	09/11/17 11:02
7M86404.D	CAL BNA@196PP	09/11/17 11:25
7M86405.D	CAL BNA@160PP	09/11/17 11:49
7M86406.D	CAL BNA@120PP	09/11/17 12:12
7M86407.D	CAL BNA@80PPM	09/11/17 12:35
7M86408.D	CAL BNA@10PPM	09/11/17 12:59
7M86409.D	CAL BNA@50PPM	09/11/17 13:22
7M86410.D	CAL BNA@20PPM	09/11/17 13:46
7M86411.D	CAL BNA@2PPM	09/11/17 14:09
7M86412.D	CAL BNA@.25PP	09/11/17 14:41
7M86413.D	CAL BNA@.5PPM	09/11/17 15:05
7M86414.D	ICV BNA@50PPM	09/11/17 15:30

Data Path : G:\GcMsData\2017\GCMS_7\Data\09-11-17\
Data File : 7M86401.D
Acq On : 11 Sep 2017 8:45
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_7\METHODQT\7M_0807.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Aug 14 13:34:47 2017





Spectrum Information: Scan 1452

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	35.7	69000	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.8	84784	PASS
70	69	0.00	2	0.7	582	PASS
127	198	40	60	49.3	95416	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	193472	PASS
199	198	5	9	6.9	13323	PASS
275	198	10	30	25.7	49744	PASS
365	198	1	100	3.0	5758	PASS
441	443	0.01	100	78.3	17192	PASS
442	198	40	100	60.0	116064	PASS
443	442	17	23	18.9	21968	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10

Data File: 10M65399.D
Analysis Date: 10/10/17 08:59
Method: EPA 8270D

Tune Scan/Time Range: Scan 1442

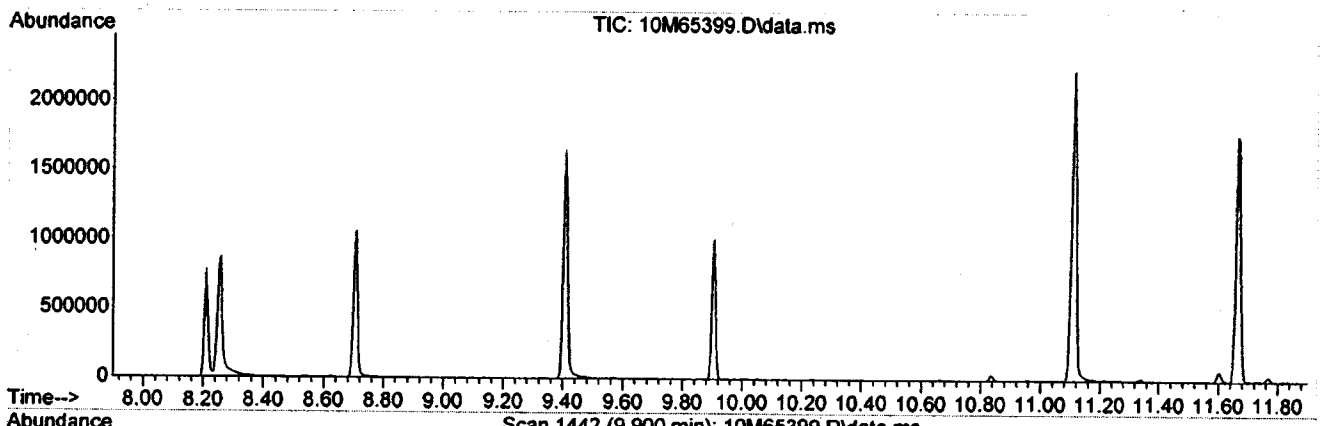
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	39.8	29976	PASS
68	69	0.00	2	1.9	626	PASS
69	198	0.00	100	42.9	32296	PASS
70	69	0.00	2	0.6	189	PASS
127	198	40	60	52.5	39520	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	75248	PASS
199	198	5	9	7.5	5634	PASS
275	198	10	30	23.3	17560	PASS
365	198	1	100	2.8	2094	PASS
441	443	0.01	100	71.1	5022	PASS
442	198	40	100	46.6	35048	PASS
443	442	17	23	20.2	7064	PASS

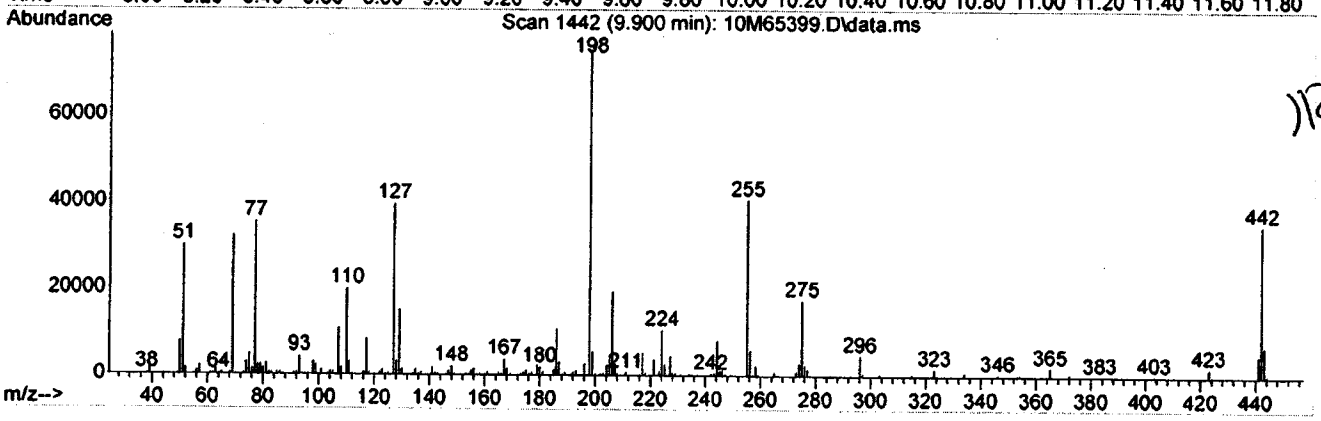
Data File	Sample Number	Analysis Date:
10M65400.D	CAL BNA@50PPM	10/10/17 09:29
10M65401.D	SMB63111(MS)	10/10/17 10:01
10M65402.D	SMB63112(MS)	10/10/17 10:23
10M65403.D	SMB63111	10/10/17 10:45
10M65404.D	SMB63112	10/10/17 11:47
10M65405.D	AD00469-003	10/10/17 12:09
10M65406.D	AD00469-003(MS)	10/10/17 12:31
10M65407.D	AD00469-003(MSD	10/10/17 12:53
10M65408.D	AD00475-010	10/10/17 13:16
10M65409.D	SMB63122(MS)	10/10/17 13:38
10M65410.D	SMB63122	10/10/17 14:00
10M65411.D	AD00441-001	10/10/17 14:23
10M65412.D	AD00441-001(3X)	10/10/17 14:45
10M65413.D	AD00441-001(3X)(	10/10/17 15:08
10M65414.D	AD00441-001(3X)(	10/10/17 15:30
10M65415.D	AD00475-010(MS)	10/10/17 15:52
10M65416.D	AD00475-010(MSD	10/10/17 16:15
10M65417.D	AD00475-008	10/10/17 16:37
10M65418.D	AD00475-014	10/10/17 17:00
10M65419.D	AD00437-010	10/10/17 17:22
10M65420.D	AD00437-011	10/10/17 17:44
10M65421.D	AD00437-012	10/10/17 18:07
10M65422.D	AD00469-001	10/10/17 18:29
10M65423.D	AD00483-001	10/10/17 18:51

Data Path : G:\GcMsData\2017\GCMS_10\Data\10-10-17\
Data File : 10M65399.D
Acq On : 10 Oct 2017 8:59
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_10\METHODQT\10M_0911.M
Title : @GCMS_10,mg,625,8270
Last Update : Mon Sep 11 13:11:29 2017





Spectrum Information: Scan 1442

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.8	29976	PASS
68	69	0.00	2	1.9	626	PASS
69	198	0.00	100	42.9	32296	PASS
70	69	0.00	2	0.6	189	PASS
127	198	40	60	52.5	39520	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	75248	PASS
199	198	5	9	7.5	5634	PASS
275	198	10	30	23.3	17560	PASS
365	198	1	100	2.8	2094	PASS
441	443	0.01	100	71.1	5022	PASS
442	198	40	100	46.6	35048	PASS
443	442	17	23	20.2	7064	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M87157.D
Analysis Date: 10/10/17 09:04
Method: EPA 8270D

Tune Scan/Time Range: Scan 1448

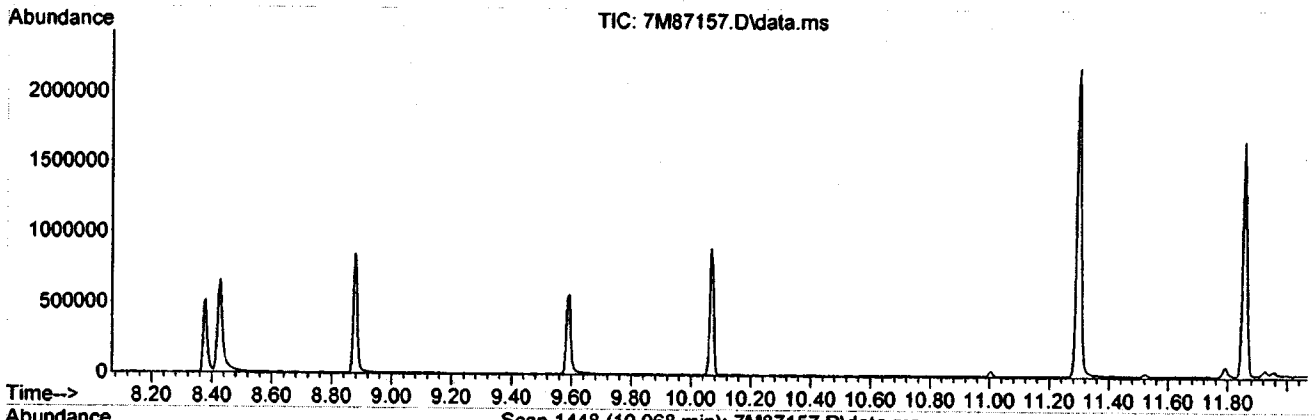
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	33.6	35584	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	39.7	41976	PASS
70	69	0.00	2	0.7	274	PASS
127	198	40	60	47.4	50144	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	105864	PASS
199	198	5	9	6.8	7179	PASS
275	198	10	30	28.3	29912	PASS
365	198	1	100	3.3	3522	PASS
441	443	0.01	100	71.5	11882	PASS
442	198	40	100	75.8	80272	PASS
443	442	17	23	20.7	16608	PASS

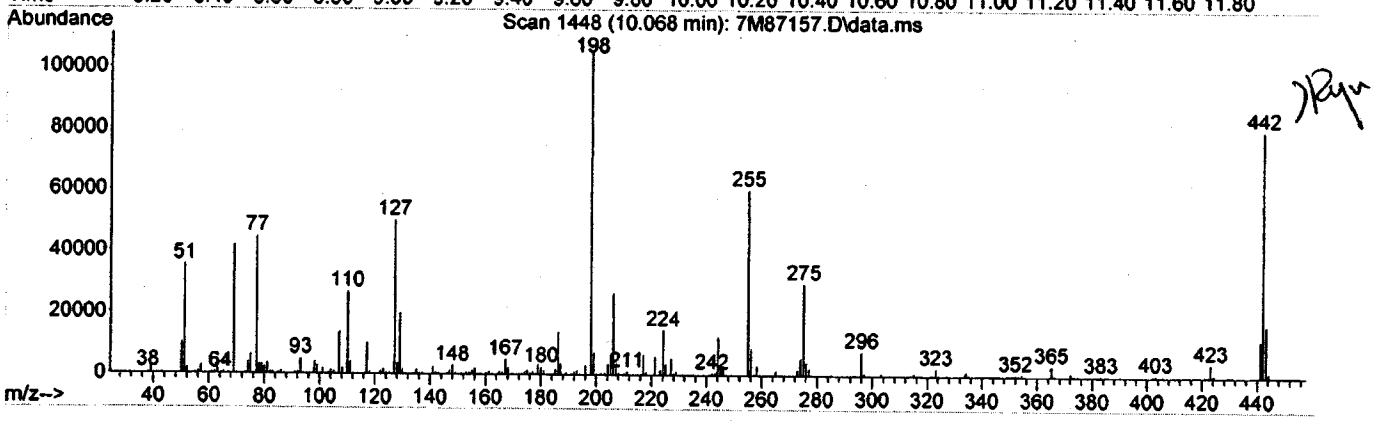
Data File	Sample Number	Analysis Date:
7M87158.D	CAL BNA@50PPM	10/10/17 09:31
7M87159.D	SMB63111	10/10/17 10:19
7M87160.D	SMB63112	10/10/17 10:42
7M87161.D	AD00475-002	10/10/17 11:06
7M87162.D	AD00461-002(3X)	10/10/17 11:29
7M87163.D	AD00453-010(10X)	10/10/17 11:52
7M87164.D	AD00461-004(3X)	10/10/17 12:16
7M87165.D	AD00474-001(5X)	10/10/17 12:39
7M87166.D	AD00437-003(3X)	10/10/17 13:03
7M87167.D	AD00437-005(3X)	10/10/17 13:26
7M87168.D	AD00441-002	10/10/17 13:50
7M87169.D	SMB63122	10/10/17 14:13
7M87170.D	AD00404-003(3X)	10/10/17 14:37

Data Path : G:\GcMsData\2017\GCMS_7\Data\10-10-17\
Data File : 7M87157.D
Acq On : 10 Oct 2017 9:04
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_7\METHODQT\7M_0911.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Sep 11 15:43:33 2017





Spectrum Information: Scan 1448

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	33.6	35584	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	39.7	41976	PASS
70	69	0.00	2	0.7	274	PASS
127	198	40	60	47.4	50144	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	105864	PASS
199	198	5	9	6.8	7179	PASS
275	198	10	30	28.3	29912	PASS
365	198	1	100	3.3	3522	PASS
441	443	0.01	100	71.5	11882	PASS
442	198	40	100	75.8	80272	PASS
443	442	17	23	20.7	16608	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M87171.D
Analysis Date: 10/10/17 15:20
Method: EPA 8270D

Tune Scan/Time Range: Average of 10.068 to 10.068 min

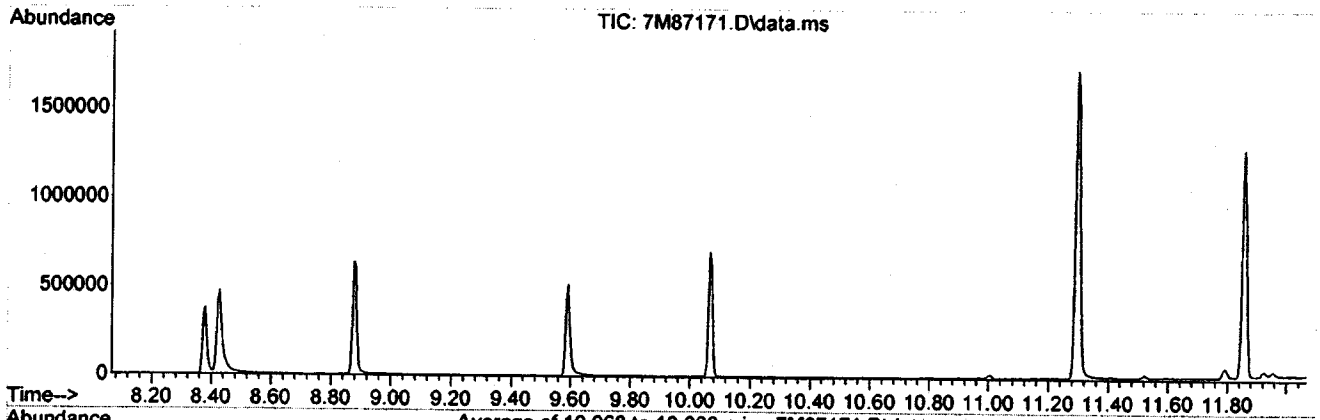
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	35.3	28888	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	40.0	32680	PASS
70	69	0.00	2	0.8	249	PASS
127	198	40	60	47.6	38888	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	81736	PASS
199	198	5	9	6.7	5437	PASS
275	198	10	30	27.4	22424	PASS
365	198	1	100	3.2	2584	PASS
441	443	0.01	100	77.5	9186	PASS
442	198	40	100	74.8	61152	PASS
443	442	17	23	19.4	11846	PASS

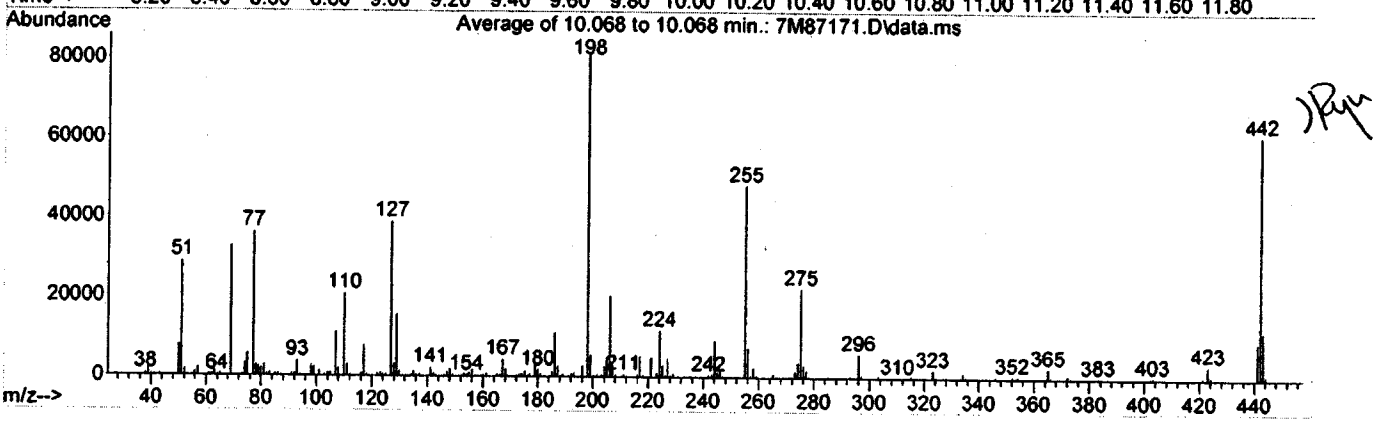
Data File	Sample Number	Analysis Date:
7M87172.D	CAL BNA@50PPM	10/10/17 15:44
7M87173.D	AD00475-004	10/10/17 16:23
7M87174.D	AD00475-006	10/10/17 16:47
7M87175.D	AD00475-012	10/10/17 17:10
7M87176.D	AD00437-001	10/10/17 17:34
7M87177.D	AD00437-002	10/10/17 17:58
7M87178.D	AD00437-004	10/10/17 18:21
7M87179.D	AD00437-006	10/10/17 18:45
7M87180.D	AD00437-007	10/10/17 19:08
7M87181.D	AD00437-008	10/10/17 19:32
7M87182.D	AD00437-009	10/10/17 19:55
7M87183.D	AD00469-002	10/10/17 20:19
7M87184.D	AD00469-004	10/10/17 20:42
7M87185.D	AD00473-001	10/10/17 21:05
7M87186.D	AD00488-007	10/10/17 21:29
7M87187.D	AD00488-006	10/10/17 21:52
7M87188.D	AD00488-005(3X)	10/10/17 22:15
7M87189.D	AD00482-001(5X)	10/10/17 22:39
7M87190.D	AD00468-004	10/10/17 23:02
7M87191.D	AD00468-005	10/10/17 23:25
7M87192.D	AD00468-006	10/10/17 23:48
7M87193.D	AD00468-009	10/11/17 00:12
7M87194.D	AD00468-012	10/11/17 00:35
7M87195.D	AD00468-013	10/11/17 00:58
7M87196.D	AD00468-002	10/11/17 01:21
7M87197.D	AD00468-003	10/11/17 01:44
7M87198.D	AD00468-007(3X)	10/11/17 02:08
7M87199.D	AD00468-008(3X)	10/11/17 02:31
7M87200.D	AD00468-010(5X)	10/11/17 02:54
7M87201.D	AD00468-011(5X)	10/11/17 03:18

Data Path : G:\GcMsData\2017\GCMS_7\Data\10-1017\
Data File : 7M87171.D
Acq On : 10 Oct 2017 15:20
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2017\GCMS_7\METHODQT\7M_0911.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Sep 11 15:43:33 2017





Spectrum Information: Average of 10.068 to 10.068 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	35.3	28888	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	40.0	32680	PASS
70	69	0.00	2	0.8	249	PASS
127	198	40	60	47.6	38888	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	81736	PASS
199	198	5	9	6.7	5437	PASS
275	198	10	30	27.4	22424	PASS
365	198	1	100	3.2	2584	PASS
441	443	0.01	100	77.5	9186	PASS
442	198	40	100	74.8	61152	PASS
443	442	17	23	19.4	11846	PASS

Form 6
Initial Calibration

Method: EPA 8270D

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M64985.D	CAL BNA@50PPM	09/11/17 12:53	2	10M64982.D	CAL BNA@2PPM	09/11/17 11:46
3	10M64975.D	CAL BNA@10PPM	09/11/17 09:07	4	10M64981.D	CAL BNA@20PPM	09/11/17 11:23
5	10M64979.D	CAL BNA@80PPM	09/11/17 10:39	6	10M64978.D	CAL BNA@120PPM	09/11/17 10:17
7	10M64977.D	CAL BNA@160PPM	09/11/17 09:55	8	10M64976.D	CAL BNA@196PPM	09/11/17 09:32
9	10M64983.D	CAL BNA@.5PPM	09/11/17 12:08				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
1,4-Dioxane	1	0	Qua	1.0601	1.4241	1.0861	1.0124	1.0517	0.9868	1.0213	1.0228	1.0994	1.09	2.53	0.999	0.999	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Avg	2.8158	2.2933	2.3681	2.4254	2.9464	2.6773	2.8615	2.9264	----	2.66	3.00	0.998	0.998	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Qua	1.5473	0.8309	1.2596	1.3839	1.5797	1.5628	1.6303	1.6459	----	1.43	2.91	0.999	1.00	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.6004	2.4060	2.4238	2.4521	2.7507	2.5765	2.6999	2.6699	----	2.57	4.55	0.999	0.999	5.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	0.4650	0.4192	0.4131	0.4595	0.4710	0.4712	0.4789	0.4812	----	0.457	5.37	1.00	1.00	5.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Avg	4.1946	3.2044	3.3610	3.6873	4.2588	4.0569	4.1284	4.0212	2.7386	3.74	5.47	0.999	1.00	14		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	1.0256	1.1971	1.0060	0.9903	1.0462	0.9841	0.9951	0.9940	----	1.03	5.51	1.00	1.00	6.9	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethyl)ether	1	0	Avg	2.8719	3.3501	2.8392	2.8350	2.7805	2.6441	2.7274	2.5257	3.1043	2.85	5.53	0.997	0.999	8.6	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Phenol-d5	1	0	Avg	3.5295	3.6054	3.2599	3.3396	3.5386	3.3201	3.4968	3.3792	----	3.43	5.44	0.999	0.999	3.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	3.9098	4.3703	3.6466	3.7395	3.9522	3.6327	3.8294	3.6268	----	3.84	5.45	0.998	0.998	6.5	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	3.1156	3.2917	2.9405	2.9842	3.1097	2.9409	3.0510	3.0170	----	3.06	5.57	0.999	0.999	3.8	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	2.9645	3.5512	2.9447	2.9673	2.8107	2.6240	2.6223	2.5794	----	2.88	5.63	0.999	0.999	11	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	3.3095	4.0112	3.3374	3.3114	3.3808	3.1679	3.2855	3.2006	----	3.38	5.71	0.999	0.999	7.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.6327	2.0319	1.6478	1.6164	1.5478	1.5055	1.5355	1.4760	----	1.62	5.76	0.999	0.999	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.5257	1.8481	1.5788	1.5523	1.4688	1.4316	1.4335	1.3917	----	1.53	5.89	0.999	1.00	9.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.9286	0.8977	0.8187	0.9072	0.9213	0.8701	0.9128	0.8910	----	0.893	5.87	0.999	0.999	4.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	1.7675	2.2017	1.7590	1.7280	1.6487	1.5653	1.6136	1.5229	----	1.73	5.98	0.998	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Qua	1.3150	1.4851	1.2953	1.2763	1.2882	1.2351	1.2753	1.2236	1.2995	1.30	5.96	0.999	0.999	5.8	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	1.8185	2.0244	1.7877	1.8420	1.7587	1.6027	1.6442	1.5205	----	1.75	6.08	0.996	0.999	9.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5931	0.6858	0.5618	0.5730	0.5731	0.5421	0.5592	0.5387	----	0.578	6.17	0.999	0.999	8.1	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitroso-di-n-propyla	1	0	Avg	0.9257	0.9942	0.8902	0.9485	0.8951	0.8089	0.8282	0.7706	0.9103	0.886	6.08	0.996	0.999	8.0	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
3&4-Methylphenol	1	0	Avg	1.3321	1.5286	1.3154	1.3860	1.3071	1.1715	1.2116	1.0960	1.2577	1.29	6.08	0.993	0.998	9.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1749	0.1765	0.1535	0.1647	0.1773	0.1758	0.1780	0.1719	----	0.172	6.20	0.999	1.00	4.9		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.3561	0.3771	0.3389	0.3466	0.3426	0.3289	0.3378	0.3302	----	0.345	6.21	0.999	1.00	4.6	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.6437	0.6806	0.5904	0.6293	0.6352	0.5985	0.6159	0.6028	----	0.625	6.40	0.999	0.999	4.7	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Avg	0.1968	0.1751	0.1664	0.1835	0.2057	0.1960	0.2011	0.1977	----	0.190	6.47	0.999	0.999	7.2	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Qua	0.3593	0.3845	0.3415	0.3490	0.3550	0.3333	0.3451	0.3305	0.3341	0.348	6.49	0.999	0.999	4.9	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Benzoic Acid	1	0	Qua	0.3373	----	0.0563	0.2124	0.4304	0.4464	0.4841	0.4605	----	0.347	6.59	0.997	0.997	46		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.4155	0.4646	0.4060	0.4032	0.4027	0.3696	0.3866	0.3648	----	0.402	6.57	0.997	0.998	7.7	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Qua	0.3176	0.3141	0.2888	0.3079	0.3237	0.3025	0.3103	0.2905	0.2238	0.298	6.65	0.997	0.999	10	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
1,2,4-Trichlorobenzen	1	0	Avg	0.3417	0.4175	0.3351	0.3325	0.3392	0.3146	0.3229	0.3170	----	0.340	6.72	0.999	0.999	9.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Qua	1.1548	1.4265	1.1039	1.0909	1.0834	1.0003	1.0180	0.9688	1.3895	1.14	6.78	0.997	0.999	14	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
4-Chloroaniline	1	0	Qua	0.4126	0.3984	0.3527	0.3730	0.3771	0.3415	0.3075	0.2623	0.3386	0.352	6.81	0.965	0.999	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.1911	0.2262	0.1889	0.1892	0.1941	0.1840	0.1904	0.1876	----	0.194	6.87	1.00	1.00	6.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Qua	0.1169	0.0796	0.0842	0.1100	0.1201	0.1117	0.1306	0.1226	----	0.109	7.09	0.995	0.995	17	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chloro-3-methylphe	1	0	Avg	0.3192	0.3095	0.2919	0.2998	0.3173	0.2952	0.3091	0.2911	----	0.304	7.17	0.998	0.999	3.7	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.7718	0.9317	0.7760	0.7665	0.7501	0.6888	0.7168	0.6614	----	0.758	7.31	0.996	0.998	11	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.7503	0.9068	0.7604	0.7280	0.7170	0.6581	0.6895	0.6474	----	0.732	7.39	0.997	0.998	11	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (	1	0	Avg	0.7606	0.9171	0.7648	0.7520	0.7299	0.6734	0.6993	0.6513	----	0.744	7.31	0.997	0.998	11		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	1.0068	1.2421	1.0208	0.9880	0.9803	0.9112	0.9236	0.8729	----	0.993	7.67	0.997	0.999	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2,4,5-Tetrachloroben	1	0	Avg	0.5551	0.6764	0.5389	0.5473	0.5291	0.5119	0.5214	0.5082	----	0.549	7.44	0.999	1.00	9.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Avg Rsd: 9.45

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 RF, Linear, or Quadratic Curve was used for compound.

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HAZ-056

Form 6
Initial Calibration

Method: EPA 8270D

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M64985.D	CAL BNA@50PPM	09/11/17 12:53	2	10M64982.D	CAL BNA@2PPM	09/11/17 11:46
3	10M64975.D	CAL BNA@10PPM	09/11/17 09:07	4	10M64981.D	CAL BNA@20PPM	09/11/17 11:23
5	10M64979.D	CAL BNA@80PPM	09/11/17 10:39	6	10M64978.D	CAL BNA@120PPM	09/11/17 10:17
7	10M64977.D	CAL BNA@160PPM	09/11/17 09:55	8	10M64976.D	CAL BNA@196PPM	09/11/17 09:32
9	10M64983.D	CAL BNA@.5PPM	09/11/17 12:08				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Hexachlorocyclopenta	1	0	Qua	0.3169	0.1786	0.2137	0.2746	0.3327	0.3349	0.3397	0.3403	----	0.291	7.43	1.00	1.00	22	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Trichlorophenol	1	0	Avg	0.4023	0.3348	0.3222	0.3518	0.3695	0.3742	0.3621	0.3583	----	0.359	7.52	0.999	1.00	6.8	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	0.3748	0.3509	0.3618	0.3822	0.4076	0.3630	0.3928	0.3871	----	0.378	7.56	0.999	0.999	4.9	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.3840	1.6338	1.3148	1.3350	1.3505	1.2815	1.3232	1.2869	----	1.36	7.59	0.999	1.00	8.4		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1345	1.4336	1.1200	1.1150	1.1211	1.0523	1.0635	1.0298	----	1.13	7.70	0.999	1.00	11	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	0.9966	1.2432	0.9897	0.9934	0.9537	0.8827	0.8778	0.8178	----	0.969	7.97	0.996	1.00	13		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	0.9966	1.2432	0.9897	0.9934	0.9537	0.8827	0.8778	0.8178	----	0.969	7.97	0.996	1.00	13		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.8185	1.0169	0.7924	0.8081	0.7899	0.7441	0.7464	0.7076	----	0.803	7.76	0.997	1.00	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3705	0.3434	0.3158	0.3543	0.3635	0.3416	0.3528	0.3327	----	0.347	7.77	0.998	0.999	5.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.5320	0.5921	0.5163	0.5280	0.5122	0.4783	0.4918	0.4548	----	0.513	7.96	0.996	0.999	8.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.8223	2.0202	1.7326	1.7443	1.7724	1.6492	1.6747	1.6048	----	1.75	8.05	0.998	0.999	7.3	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.3423	1.5052	1.2785	1.2958	1.2957	1.2240	1.2390	1.2181	----	1.30	7.92	0.999	1.00	7.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.3057	0.2874	0.2830	0.2924	0.2953	0.2750	0.2729	0.2522	----	0.283	7.97	0.996	0.999	5.8	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1528	1.4734	1.1475	1.1404	1.1088	1.0430	1.0533	1.0084	----	1.14	8.20	0.998	1.00	13	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Avg	0.3307	0.2819	0.2837	0.3191	0.2996	0.2687	0.2623	0.2404	----	0.286	8.12	0.988	0.999	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1306	----	0.0200	0.0754	0.1635	0.1745	0.1937	0.1849	----	0.135	8.21	0.996	0.997	48	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Qua	1.6995	2.0874	1.6507	1.6477	1.6446	1.5310	1.5765	1.5220	2.0824	1.72	8.35	0.999	0.999	13	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
2,4-Dinitrotoluene	1	0	Avg	0.4205	0.3332	0.3442	0.3973	0.4201	0.3945	0.4245	0.4015	----	0.392	8.33	0.999	0.999	8.9	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Qua	0.2458	0.1516	0.1818	0.2149	0.2361	0.2268	0.2381	0.2282	----	0.215	8.25	0.999	0.999	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,3,4,6-Tetrachlorophe	1	0	Avg	0.3519	0.3085	0.3092	0.3207	0.3612	0.3364	0.3591	0.3514	----	0.337	8.46	0.999	0.999	6.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.3611	1.6409	1.3348	1.3287	1.3033	1.2027	1.2426	1.1614	----	1.32	8.67	0.997	0.999	11	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.6580	0.7461	0.6362	0.6538	0.6525	0.5974	0.6318	0.6018	----	0.647	8.66	0.998	0.998	7.1	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.2988	1.4701	1.2244	1.2473	1.3046	1.2115	1.2728	1.2082	----	1.28	8.55	0.998	0.999	6.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Avg	0.3883	0.3314	0.3161	0.3661	0.3795	0.3588	0.3905	0.3623	----	0.362	8.67	0.998	0.998	7.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.2774	0.2526	0.2219	0.2541	0.2817	0.2535	0.2816	0.2600	----	0.260	9.30	0.996	0.996	7.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,6-Dinitro-2-methylph	1	0	Qua	0.1287	----	0.0602	0.0967	0.1430	0.1413	0.1508	0.1538	----	0.125	8.71	0.999	1.00	28	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.6800	0.7467	0.6592	0.6429	0.6427	0.6143	0.6231	0.6178	----	0.653	8.77	0.999	1.00	6.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Tribromophenol	1	0	Qua	0.1188	0.0928	0.0950	0.1037	0.1190	0.1173	0.1225	0.1263	----	0.112	8.90	0.999	1.00	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.7209	0.7381	0.6709	0.6597	0.6680	0.6424	0.6384	0.7047	----	0.680	8.81	0.997	0.998	5.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2335	0.2346	0.2167	0.2166	0.2289	0.2213	0.2260	0.2276	----	0.226	9.15	1.00	1.00	3.1	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2472	0.2937	0.2326	0.2304	0.2412	0.2352	0.2438	0.2446	----	0.246	9.21	0.998	0.999	8.2	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.4609	0.4198	0.4175	0.4267	0.4241	0.3986	0.3939	0.3780	----	0.415	9.49	0.997	0.999	6.1	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.1327	----	0.0634	0.0935	0.1449	0.1475	0.1555	0.1591	----	0.128	9.41	0.999	1.00	28	0.05	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	1.1755	1.4418	1.1589	1.1476	1.1145	1.0470	1.0745	1.0391	----	1.15	9.64	0.999	0.999	11	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	1.1826	1.3522	1.1454	1.1359	1.1420	1.0855	1.0955	1.0654	----	1.15	9.70	0.999	1.00	7.8	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	1.1167	1.2016	1.0846	1.0783	1.0793	1.0072	1.0476	0.9986	----	1.08	9.86	0.998	0.999	6.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Qua	1.2786	1.0950	1.0500	1.1718	1.2526	1.1956	1.2143	1.1779	1.0069	1.16	10.24	0.999	1.00	7.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.3030	1.3564	1.2143	1.2290	1.2383	1.1591	1.2105	1.1811	----	1.24	10.96	0.999	0.999	5.2	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.2157	1.2944	1.1433	1.1157	1.1728	1.0654	1.0790	1.0783	----	1.15	11.22	0.998	0.999	6.9	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Qua	0.6028	0.2147	0.2860	0.4457	0.5716	0.5320	0.4952	0.4772	----	0.453	11.11	0.990	0.999	30		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6331	0.6402	0.5793	0.5758	0.6442	0.5962	0.6191	0.6366	----	0.616	11.41	0.999	0.999	4.5		25.00	1.00	5.00	10.00	40.00	60.00	80.00	96.00	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 9.45
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.

HAZ - 657

Method: EPA 8270D

Form 6
Initial Calibration

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M64985.D	CAL BNA@50PPM	09/11/17 12:53	2	10M64982.D	CAL BNA@2PPM	09/11/17 11:46
3	10M64975.D	CAL BNA@10PPM	09/11/17 09:07	4	10M64981.D	CAL BNA@20PPM	09/11/17 11:23
5	10M64979.D	CAL BNA@80PPM	09/11/17 10:39	6	10M64978.D	CAL BNA@120PPM	09/11/17 10:17
7	10M64977.D	CAL BNA@160PPM	09/11/17 09:55	8	10M64976.D	CAL BNA@196PPM	09/11/17 09:32
9	10M64983.D	CAL BNA@.5PPM	09/11/17 12:08				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
4,4'-DDE	1	0	Avg	0.2675	0.2626	0.2320	0.2338	0.2708	0.2492	0.2627	0.2633	----	0.255	11.34	0.999	0.999	5.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4939	0.4360	0.4286	0.4478	0.4981	0.4670	0.4873	0.4749	----	0.467	11.74	0.999	0.999	5.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Qua	0.5170	0.3779	0.3797	0.4469	0.5229	0.4856	0.5064	0.4932	----	0.466	11.99	0.999	0.999	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.4307	0.3343	0.3620	0.3791	0.4378	0.4076	0.4252	0.4153	----	0.399	12.09	0.999	0.999	9.2		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Qua	0.3446	0.3131	0.3185	0.3142	0.3170	0.3104	0.2921	0.2742	----	0.311	12.61	0.993	1.00	6.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1220	1.2411	1.0420	1.0490	1.0988	1.0490	1.0776	1.0655	----	1.09	12.63	1.00	1.00	6.0	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.0865	1.3022	1.0475	1.0389	1.0540	0.9951	1.0266	0.9732	----	1.07	12.68	0.999	0.999	9.6	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Ethylhexyl)phthal	1	0	Avg	0.7123	0.4982	0.5454	0.6422	0.7132	0.6651	0.6677	0.6472	----	0.636	12.69	0.998	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Qua	1.2986	0.8085	0.8517	1.1209	1.3242	1.2542	1.2821	1.2592	----	1.15	13.43	0.999	0.999	18	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	1.1509	1.3112	1.1196	1.1035	1.0958	1.0661	1.1702	1.2210	----	1.15	13.84	0.997	0.999	6.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	1.1195	1.2649	1.1197	1.1011	1.1515	1.0525	1.1256	1.1797	----	1.14	13.87	0.997	0.998	5.5	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	1.1533	1.1851	1.0326	1.0758	1.1462	1.0993	1.1317	1.1143	----	1.12	14.18	1.00	1.00	4.3	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Indeno[1,2,3-cd]pyren	1	0	Avg	1.3004	1.3209	1.1994	1.1920	1.2929	1.2225	1.3468	1.3039	----	1.27	15.50	0.999	0.999	4.6	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzo[a,h]anthracen	1	0	Avg	1.1028	1.1541	1.0048	1.0038	1.0925	1.0420	1.1390	1.1102	----	1.08	15.52	0.998	0.998	5.4	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[g,h,i]perylene	1	0	Avg	1.0875	1.2182	1.0414	1.0348	1.0840	1.0144	1.1246	1.1031	----	1.09	15.86	0.997	0.998	5.9	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

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HAZ - 658

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 9.45
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 6
Initial Calibration

Method: EPA 8270D

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M86409.D	CAL BNA@50PPM	09/11/17 13:22	2	7M86411.D	CAL BNA@2PPM	09/11/17 14:09
3	7M86403.D	CAL BNA@10PPM	09/11/17 11:02	4	7M86410.D	CAL BNA@20PPM	09/11/17 13:46
5	7M86407.D	CAL BNA@80PPM	09/11/17 12:35	6	7M86406.D	CAL BNA@120PPM	09/11/17 12:12
7	7M86405.D	CAL BNA@160PPM	09/11/17 11:49	8	7M86404.D	CAL BNA@196PPM	09/11/17 11:25
9	7M86413.D	CAL BNA@.5PPM	09/11/17 15:05				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
1,4-Dioxane	1	0	Qua	1.0569	1.7276	1.2302	1.1017	1.0647	1.0295	1.0602	1.0125	0.4239	1.08	2.71	0.999	0.999	31		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Qua	3.2878	2.9063	3.1981	3.1833	3.1918	3.1680	3.2757	3.4070	----	3.20	3.19	0.998	1.00	4.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Qua	1.8639	1.4640	1.6667	1.6920	1.8879	1.9515	1.9631	1.9935	----	1.81	3.10	1.00	1.00	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.6190	2.3063	2.3331	2.4168	2.7055	2.8077	2.9298	2.9371	----	2.63	4.69	0.994	1.00	9.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	0.5451	0.5814	0.5647	0.5725	0.5419	0.5192	0.5011	0.4768	----	0.538	5.51	0.997	1.00	6.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Qua	4.5737	3.3974	3.6271	4.0988	4.5567	4.6557	4.6932	4.6896	2.7945	4.12	5.60	1.00	1.00	17		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	0.9143	1.0557	0.8934	0.9095	0.9118	0.9028	0.9308	0.9082	----	0.928	5.64	1.00	1.00	5.7	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethyl)ether	1	0	Qua	2.8584	3.2662	2.9370	2.9766	2.7998	2.8107	2.8505	2.7884	3.1942	2.94	5.65	1.00	1.00	6.0	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Phenol-d5	1	0	Avg	3.6727	2.9597	3.2880	3.4887	3.7442	3.8553	3.9837	4.0427	----	3.63	5.57	0.999	1.00	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	4.2285	3.7372	3.8210	4.0792	4.2048	4.3130	4.4020	4.4230	----	4.15	5.58	1.00	1.00	6.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.8003	2.5786	2.6268	2.7793	2.8375	2.9035	2.9783	2.9558	----	2.81	5.70	1.00	1.00	5.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	2.6209	3.3517	2.7773	2.7059	2.5578	2.4582	2.4418	2.2988	----	2.65	5.76	0.997	1.00	12	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	2.9343	3.4856	3.0098	3.0052	2.9011	2.9044	2.9310	2.8597	----	3.00	5.84	1.00	1.00	6.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.6368	2.0341	1.6261	1.5822	1.5787	1.5016	1.5238	1.4973	----	1.62	5.90	0.999	1.00	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.5532	1.9323	1.5559	1.5379	1.5129	1.4374	1.4608	1.4319	----	1.55	6.02	0.999	1.00	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	1.0640	0.8225	0.9793	0.9714	1.0622	1.0454	1.0645	1.0828	----	1.01	6.00	1.00	1.00	8.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	1.8832	2.2754	1.8928	1.8761	1.8026	1.7062	1.7045	1.6993	----	1.86	6.11	0.999	1.00	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Qua	1.5099	1.2841	1.3758	1.4443	1.4800	1.4437	1.4723	1.4896	1.1138	1.40	6.09	1.00	1.00	9.1	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	2.1802	2.3715	2.1986	2.1997	2.0749	1.9370	1.8907	1.8463	----	2.09	6.21	0.997	1.00	8.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5909	0.7210	0.5835	0.5652	0.5829	0.5569	0.5713	0.5600	----	0.592	6.30	1.00	1.00	9.1	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitroso-di-n-propyla	1	0	Avg	1.1875	1.2152	1.2006	1.2134	1.1220	1.0403	1.0093	0.9828	1.0408	1.11	6.21	0.995	1.00	8.5	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
3&4-Methylphenol	1	0	Qua	1.5537	1.4489	1.4986	1.4981	1.4910	1.4059	1.3855	1.3639	0.9316	1.40	6.21	0.998	1.00	13		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1808	0.1687	0.1603	0.1633	0.1781	0.1742	0.1794	0.1754	----	0.173	6.33	1.00	1.00	4.4		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.4224	0.4736	0.4125	0.3965	0.4100	0.3891	0.3934	0.3851	----	0.410	6.34	0.999	1.00	7.0	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.8012	0.7702	0.7564	0.7507	0.7837	0.7476	0.7561	0.7460	----	0.764	6.54	0.999	1.00	2.6	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Qua	0.2074	0.1553	0.1810	0.1793	0.2074	0.2031	0.2087	0.2062	----	0.194	6.60	1.00	1.00	10	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Qua	0.3984	0.3569	0.3742	0.3747	0.3875	0.3729	0.3794	0.3704	0.2577	0.364	6.63	0.999	1.00	11	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Benzoic Acid	1	0	Qua	0.2758	----	0.0087	0.0597	0.3846	0.4587	0.5015	0.5366	----	0.318	6.71	0.992	0.999	67		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.4745	0.5103	0.4630	0.4533	0.4582	0.4345	0.4365	0.4278	----	0.457	6.70	0.999	1.00	5.8	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Qua	0.3195	0.2359	0.2745	0.2891	0.3151	0.3071	0.3126	0.3043	0.1719	0.281	6.79	1.00	1.00	17	0.20 a	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
1,2,4-Trichlorobenzen	1	0	Avg	0.3371	0.4113	0.3348	0.3255	0.3256	0.3126	0.3198	0.3102	----	0.335	6.85	0.999	1.00	9.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Qua	1.1200	1.4644	1.1372	1.0920	1.0769	1.0166	1.0202	0.9886	1.4970	1.16	6.92	0.999	1.00	16	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
4-Chloroaniline	1	0	Avg	0.4080	0.3592	0.3710	0.3812	0.3758	0.4690	0.3988	----	0.2782	0.380	6.95	0.987	0.987	14	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0		0.50
Hexachlorobutadiene	1	0	Avg	0.1862	0.2124	0.1797	0.1733	0.1794	0.1725	0.1770	0.1716	----	0.182	7.01	0.999	0.999	7.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Qua	0.1384	0.0763	0.1207	0.1242	0.1427	0.1417	0.1467	0.1618	----	0.132	7.22	0.994	0.998	20	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chloro-3-methylphe	1	0	Qua	0.3675	0.3174	0.3321	0.3311	0.3631	0.3545	0.3612	0.3615	----	0.349	7.32	1.00	1.00	5.4	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.8052	0.9515	0.8052	0.7761	0.7783	0.7444	0.7380	0.7121	----	0.789	7.46	0.998	1.00	9.3	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.7774	0.9143	0.7711	0.7461	0.7402	0.7069	0.7128	0.6891	----	0.757	7.54	0.999	1.00	9.3	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (	1	0	Avg	0.7904	0.9328	0.7873	0.7616	0.7582	0.7259	0.7250	0.7004	----	0.773	7.46	0.999	1.00	9.3		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	1.0401	1.2568	1.0536	1.0102	0.9946	0.9579	0.9549	0.9317	----	1.03	7.83	0.999	1.00	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2,4,5-Tetrachloroben	1	0	Avg	0.5442	0.6401	0.5074	0.5124	0.5177	0.4829	0.4927	0.4779	----	0.522	7.59	0.998	0.999	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 10.7
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.

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HAZ-059

Form 6
Initial Calibration

Method: EPA 8270D

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M86409.D	CAL BNA@50PPM	09/11/17 13:22	2	7M86411.D	CAL BNA@2PPM	09/11/17 14:09
3	7M86403.D	CAL BNA@10PPM	09/11/17 11:02	4	7M86410.D	CAL BNA@20PPM	09/11/17 13:46
5	7M86407.D	CAL BNA@80PPM	09/11/17 12:35	6	7M86406.D	CAL BNA@120PPM	09/11/17 12:12
7	7M86405.D	CAL BNA@160PPM	09/11/17 11:49	8	7M86404.D	CAL BNA@196PPM	09/11/17 11:25
9	7M86413.D	CAL BNA@.5PPM	09/11/17 15:05				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
Hexachlorocyclopenta	1	0	Qua	0.3114	0.1344	0.2053	0.2377	0.3163	0.3054	0.3207	0.3104	----	0.268	7.58	0.999	0.999	26	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Trichlorophenol	1	0	Qua	0.3809	0.2829	0.3097	0.3290	0.3801	0.3693	0.3645	0.3531	----	0.346	7.67	0.998	1.00	10	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,5-Trichlorophenol	1	0	Qua	0.3899	0.3047	0.3681	0.3721	0.3814	0.3678	0.3927	0.3897	----	0.371	7.71	0.999	0.999	7.7	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.3632	1.5825	1.3119	1.3073	1.3272	1.2405	1.2584	1.2185	----	1.33	7.74	0.999	1.00	8.6		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Qua	1.1476	1.3218	1.0959	1.0862	1.0894	1.0192	1.0224	0.9866	----	1.10	7.85	0.998	0.999	9.6	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	1.0132	1.1686	1.0071	0.9897	0.9578	0.8828	0.8711	0.8101	----	0.963	8.13	0.995	1.00	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	1.0132	1.1686	1.0071	0.9897	0.9578	0.8828	0.8711	0.8101	----	0.963	8.13	0.995	1.00	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.8007	0.9205	0.7889	0.7735	0.7664	0.7171	0.7150	0.6845	----	0.771	7.91	0.997	1.00	9.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.4406	0.3650	0.4008	0.4078	0.4240	0.3970	0.3954	0.3818	----	0.402	7.93	0.998	1.00	5.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.5583	0.5743	0.5450	0.5400	0.5412	0.5101	0.5097	0.4885	----	0.533	8.11	0.998	1.00	5.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.8267	1.9410	1.7376	1.7398	1.7476	1.6343	1.6372	1.5881	----	1.73	8.21	0.998	1.00	6.6	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.3940	1.5062	1.3589	1.3316	1.3617	1.2812	1.2858	1.2561	----	1.35	8.07	0.999	1.00	5.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.3213	0.2703	0.2946	0.3078	0.3114	0.2918	0.2851	0.2669	----	0.294	8.13	0.995	1.00	6.6	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1834	1.3863	1.1575	1.1296	1.1341	1.0487	1.0433	1.0071	----	1.14	8.36	0.997	0.999	10	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Qua	0.3477	0.2591	0.3199	0.3270	0.3409	0.3161	0.3002	0.2879	----	0.312	8.28	0.994	1.00	9.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1251	----	0.0201	0.0486	0.1647	0.1715	0.1893	0.1898	----	0.130	8.37	0.997	0.998	53	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Qua	1.7181	2.1102	1.7063	1.6642	1.6620	1.5520	1.5464	1.4992	2.1149	1.73	8.52	0.998	1.00	13	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
2,4-Dinitrotoluene	1	0	Qua	0.4499	0.3098	0.3909	0.4035	0.4500	0.4352	0.4410	0.4390	----	0.415	8.49	1.00	1.00	11	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Qua	0.2678	0.1064	0.1833	0.2272	0.2784	0.2808	0.2856	0.2928	----	0.240	8.41	0.999	1.00	27	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,3,4,6-Tetrachlorophe	1	0	Qua	0.3547	0.2158	0.3115	0.3107	0.3724	0.3631	0.3664	0.3614	----	0.332	8.63	1.00	1.00	16	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.3871	1.5767	1.3733	1.3429	1.3385	1.2466	1.2354	1.1928	----	1.34	8.84	0.998	1.00	9.0	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.6822	0.7906	0.6586	0.6436	0.6632	0.6342	0.6473	0.6299	----	0.669	8.83	0.999	1.00	7.8	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.3893	1.3782	1.3233	1.3223	1.3738	1.3138	1.3144	1.2861	----	1.34	8.71	0.999	1.00	2.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Qua	0.4071	0.2895	0.3768	0.3682	0.4058	0.3878	0.3919	0.3887	----	0.377	8.84	1.00	1.00	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Qua	0.2893	0.2327	0.2526	0.2622	0.2942	0.2894	0.2934	0.2907	----	0.276	9.46	1.00	1.00	8.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,6-Dinitro-2-methylph	1	0	Qua	0.1206	----	0.0493	0.0743	0.1333	0.1352	0.1441	0.1442	----	0.114	8.87	0.999	0.999	33	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.6456	0.6645	0.6202	0.6184	0.6244	0.5865	0.5934	0.5810	----	0.617	8.94	0.999	1.00	4.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Tribromophenol	1	0	Qua	0.1046	0.0601	0.0841	0.0930	0.1096	0.1081	0.1141	0.1153	----	0.0987	9.07	0.999	1.00	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.7945	0.7795	0.7536	0.7626	0.7560	0.7011	0.7019	0.6713	----	0.740	8.98	0.997	1.00	5.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2204	0.2281	0.2030	0.2075	0.2207	0.2158	0.2210	0.2208	----	0.217	9.31	1.00	1.00	3.8	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2404	0.2720	0.2249	0.2273	0.2376	0.2321	0.2389	0.2364	----	0.239	9.39	0.999	0.999	6.1	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.4542	0.4015	0.4146	0.4297	0.4288	0.3851	0.3813	0.3497	----	0.406	9.66	0.991	0.999	8.2	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.1132	----	0.0547	0.0669	0.1336	0.1409	0.1497	0.1532	----	0.116	9.59	0.998	1.00	35	0.05	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	1.1356	1.3962	1.1331	1.1027	1.0966	1.0266	1.0277	1.0034	----	1.12	9.82	0.998	1.00	11	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	1.1544	1.2164	1.1237	1.1108	1.1206	1.0514	1.0574	1.0187	----	1.11	9.88	0.998	1.00	5.7	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	1.1165	1.1463	1.0944	1.0685	1.0898	1.0369	1.0306	1.0114	----	1.07	10.04	0.999	1.00	4.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Qua	1.2994	0.9796	1.1302	1.1783	1.2849	1.2380	1.2320	1.1992	0.7501	1.14	10.42	0.999	1.00	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.2958	1.3448	1.2405	1.2340	1.2908	1.2338	1.2236	1.2027	----	1.26	11.15	0.999	1.00	3.8	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.1463	1.1185	1.0327	1.0654	1.1137	1.0672	1.0823	1.0533	----	1.08	11.41	0.999	1.00	3.5	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Qua	0.5749	0.1828	0.3492	0.4147	0.5808	0.5470	0.5042	0.4748	----	0.454	11.30	0.988	0.999	30		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6063	0.5887	0.5356	0.5524	0.6119	0.6009	0.6220	0.6334	----	0.594	11.59	0.999	1.00	5.7		25.00	1.00	5.00	10.00	40.00	60.00	80.00	96.00	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 10.7
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.

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HAZ - 669

Method: EPA 8270D

Form 6
Initial Calibration

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M86409.D	CAL BNA@50PPM	09/11/17 13:22	2	7M86411.D	CAL BNA@2PPM	09/11/17 14:09
3	7M86403.D	CAL BNA@10PPM	09/11/17 11:02	4	7M86410.D	CAL BNA@20PPM	09/11/17 13:46
5	7M86407.D	CAL BNA@80PPM	09/11/17 12:35	6	7M86406.D	CAL BNA@120PPM	09/11/17 12:12
7	7M86405.D	CAL BNA@160PPM	09/11/17 11:49	8	7M86404.D	CAL BNA@196PPM	09/11/17 11:25
9	7M86413.D	CAL BNA@.5PPM	09/11/17 15:05				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	RF9	AvgRf	RT	Corr1	Corr2	%Rsd		Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8	Lvl9
4,4'-DDE	1	0	Avg	0.2491	0.2314	0.2154	0.2259	0.2500	0.2502	0.2570	0.2556	---	0.242	11.53	1.00	1.00	6.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4932	0.3884	0.4124	0.4352	0.4965	0.4864	0.5021	0.4922	---	0.463	11.93	0.999	0.999	9.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Qua	0.5238	0.3139	0.4132	0.4464	0.5280	0.5138	0.5252	0.5156	---	0.473	12.18	1.00	1.00	16	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.4200	0.2380	0.3282	0.3566	0.4266	0.4132	0.4258	0.4104	---	0.377	12.28	0.999	0.999	18		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Qua	0.3786	0.2498	0.3294	0.3260	0.3830	0.3651	0.3341	0.3180	---	0.336	12.80	0.991	0.999	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1504	1.2133	1.0945	1.0751	1.1423	1.0972	1.1018	1.0812	---	1.12	12.83	0.999	1.00	4.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.0585	1.2638	1.0406	1.0279	1.0493	0.9917	0.9954	0.9572	---	1.05	12.87	0.999	1.00	8.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Ethylhexyl)phthal	1	0	Qua	0.7134	0.4678	0.6044	0.6299	0.6972	0.6497	0.6410	0.6131	---	0.627	12.87	0.996	1.00	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Qua	1.3528	0.6832	1.0555	1.0930	1.3747	1.3346	1.3539	1.2875	---	1.19	13.63	0.998	0.999	20	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	1.3013	1.2146	1.1738	1.1429	1.2726	1.1706	1.2074	1.2169	---	1.21	14.07	0.999	0.999	4.4	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	1.2503	1.3108	1.0829	1.1410	1.2341	1.0462	1.1616	1.1014	---	1.17	14.10	0.995	0.995	7.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	1.1784	1.1015	1.0550	1.0510	1.1703	1.1367	1.1552	1.1344	---	1.12	14.43	1.00	1.00	4.4	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Indeno[1,2,3-cd]pyren	1	0	Avg	1.1836	1.1540	1.0734	1.0760	1.2041	1.1535	1.1925	1.1697	---	1.15	15.83	0.999	0.999	4.4	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzo[a,h]anthracen	1	0	Avg	1.0018	0.9772	0.9137	0.9199	1.0225	0.9669	0.9972	0.9756	---	0.972	15.85	0.999	0.999	3.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[g,h,i]perylene	1	0	Avg	0.9632	1.0359	0.9052	0.8931	0.9783	0.9275	0.9570	0.9361	---	0.950	16.21	0.999	0.999	4.8	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 10.7
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.

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HAZ - 661

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 10M65400.D **Instrument:** GCMS 10

Cont Calibration Date/Time 10/10/2017 9:29:00 Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8(INT)	1	0	I	2.49	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.52	46.78	50	**		1.085	0.957	6.45	
Pyridine	1	0		2.99	47.79	50	**		2.664	2.547	4.42	
N-Nitrosodimethylamine	1	0		2.90	52.02	50	**		1.430	1.591	4.04	
2-Fluorophenol	1	0	S	4.55	51.70	50	**		2.572	2.660	3.40	
Benzaldehyde	1	0		5.37	42.83	50	20	0.01	0.457	0.392	14.34	
Aniline	1	0		5.47	56.11	50	**		3.739	4.196	12.22	
Pentachloroethane	1	0		5.51	51.73	50	**	0.05	1.030	1.065	3.46	
bis(2-Chloroethyl)ether	1	0		5.52	49.07	50	20	0.7	2.853	2.800	1.87	
Phenol-d5	1	0	S	5.44	50.06	50	**		3.434	3.438	0.12	
Phenol	1	0		5.45	49.95	50	20	0.8	3.838	3.835	0.10	
2-Chlorophenol	1	0		5.57	51.25	50	20	0.8	3.056	3.133	2.51	
N-Decane	1	0		5.62	49.96	50	**	0.05	2.883	2.881	0.08	
1,3-Dichlorobenzene	1	0		5.70	50.90	50	**		3.376	3.437	1.81	
1,4-Dichlorobenzene-d4	1	0	I	5.75	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.76	49.38	50	20		1.624	1.604	1.24	
1,2-Dichlorobenzene	1	0		5.89	50.25	50	**		1.529	1.537	0.50	
Benzyl alcohol	1	0		5.87	46.29	50	**		0.893	0.827	7.43	
bis(2-chloroisopropyl)ether	1	0		5.97	46.71	50	20	0.01	1.726	1.612	6.59	
2-Methylphenol	1	0		5.96	50.86	50	20	0.7	1.299	1.318	1.72	
Acetophenone	1	0		6.08	50.68	50	20	0.01	1.750	1.774	1.36	
Hexachloroethane	1	0		6.16	49.62	50	20	0.3	0.578	0.574	0.75	
N-Nitroso-di-n-propylamine	1	0		6.08	51.12	50	20	0.5	0.886	0.906	2.23	
3&4-Methylphenol	1	0		6.08	52.00	50	20		1.290	1.341	4.00	
Naphthalene-d8	1	0	I	6.75	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.20	24.97	25	**		0.172	0.171	0.12	
Nitrobenzene	1	0		6.21	48.10	50	20	0.2	0.345	0.332	3.81	
Isophorone	1	0		6.40	49.68	50	20	0.4	0.625	0.621	0.63	
2-Nitrophenol	1	0		6.46	52.52	50	20	0.1	0.190	0.200	5.03	
2,4-Dimethylphenol	1	0		6.49	50.55	50	20	0.2	0.348	0.358	1.10	
Benzoic Acid	1	0		6.59	43.19	50	**		0.347	0.345	13.61	
bis(2-Chloroethoxy)methane	1	0		6.56	48.02	50	20	0.3	0.402	0.386	3.95	
2,4-Dichlorophenol	1	0		6.65	46.71	50	20	0.2	0.298	0.303	6.58	
1,2,4-Trichlorobenzene	1	0		6.71	48.99	50	**		0.340	0.333	2.02	
Naphthalene	1	0		6.77	49.17	50	20	0.7	1.137	1.081	1.67	
4-Chloroaniline	1	0		6.81	53.68	50	20	0.01	0.352	0.435	7.35	
Hexachlorobutadiene	1	0		6.87	50.12	50	20	0.01	0.194	0.194	0.24	
Caprolactam	1	0		7.09	47.30	50	20	0.01	0.109	0.109	5.40	
4-Chloro-3-methylphenol	1	0		7.17	49.77	50	20	0.2	0.304	0.303	0.46	
2-Methylnaphthalene	1	0		7.31	49.65	50	**	0.4	0.758	0.753	0.69	
1-Methylnaphthalene	1	0		7.38	50.17	50	**	0.4	0.732	0.735	0.35	
Methylnaphthalenes	1	0		7.38	98.89	100	**			0.735	1.11	
1,1'-Biphenyl	1	0		7.67	50.35	50	20	0.01	0.993	1.000	0.69	
Acenaphthene-d10	1	0	I	8.17	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.43	48.19	50	20	0.01	0.549	0.529	3.61	
Hexachlorocyclopentadiene	1	0		7.43	28.40	50	20	0.05	0.291	0.183	43.21	C1
2,4,6-Trichlorophenol	1	0		7.52	50.35	50	20	0.2	0.359	0.362	0.70	
2,4,5-Trichlorophenol	1	0		7.56	52.17	50	20	0.2	0.378	0.394	4.35	
2-Fluorobiphenyl	1	0	S	7.59	25.08	25	**		1.364	1.368	0.33	
2-Chloronaphthalene	1	0		7.70	49.38	50	20	0.8	1.134	1.120	1.25	
1,4-Dimethylnaphthalene	1	0		7.97	50.88	50	**		0.969	0.986	1.76	
Dimethylnaphthalenes	1	0		7.97	50.88	50	20			0.986	1.76	

S-Surrogate Compound I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 10M65400.D **Instrument:** GCMS 10

Cont Calibration Date/Time 10/10/2017 9:29:00 Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.75	49.65	50	**		0.803	0.797	0.71	
2-Nitroaniline	1	0		7.77	52.42	50	20	0.01	0.347	0.364	4.84	
Coumarin	1	0		7.95	49.81		**		0.513			
Acenaphthylene	1	0		8.05	50.63	50	20	0.9	1.753	1.775	1.26	
Dimethylphthalate	1	0		7.92	51.34	50	20	0.01	1.300	1.335	2.68	
2,6-Dinitrotoluene	1	0		7.97	51.69	50	20	0.2	0.283	0.293	3.39	
Acenaphthene	1	0		8.20	49.87	50	20	0.9	1.141	1.138	0.25	
3-Nitroaniline	1	0		8.12	59.92	50	20	0.01	0.286	0.343	19.85	
2,4-Dinitrophenol	1	0		8.21	44.33	50	20	0.01	0.135	0.135	11.34	
Dibenzofuran	1	0		8.35	50.91	50	20	0.8	1.716	1.672	1.83	
2,4-Dinitrotoluene	1	0		8.33	51.80	50	20	0.2	0.392	0.406	3.61	
4-Nitrophenol	1	0		8.25	40.99	50	20	0.01	0.215	0.194	18.03	
2,3,4,6-Tetrachlorophenol	1	0		8.46	49.26	50	20	0.01	0.337	0.332	1.48	
Fluorene	1	0		8.67	49.66	50	20	0.9	1.322	1.313	0.67	
4-Chlorophenyl-phenylether	1	0		8.66	50.06	50	20	0.4	0.647	0.648	0.12	
Diethylphthalate	1	0		8.54	51.17	50	20	0.01	1.280	1.310	2.34	
4-Nitroaniline	1	0		8.67	51.16	50	20	0.01	0.362	0.370	2.31	
Atrazine	1	0		9.30	51.42	50	20	0.01	0.260	0.268	2.85	
Phenanthrene-d10	1	0	I	9.61	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.71	48.46	50	20	0.01	0.125	0.128	3.08	
n-Nitrosodiphenylamine	1	0		8.77	50.56	50	20	0.01	0.653	0.661	1.12	
2,4,6-Tribromophenol	1	0	S	8.90	49.94	50	**		0.112	0.114	0.12	
1,2-Diphenylhydrazine	1	0		8.81	49.88	50	**		0.680	0.679	0.24	
4-Bromophenyl-phenylether	1	0		9.14	50.27	50	20	0.1	0.226	0.227	0.53	
Hexachlorobenzene	1	0		9.22	48.90	50	20	0.1	0.246	0.241	2.20	
N-Octadecane	1	0		9.48	51.90	50	**	0.05	0.415	0.431	3.80	
Pentachlorophenol	1	0		9.41	47.29	50	20	0.05	0.128	0.128	5.43	
Phenanthrene	1	0		9.64	49.24	50	20	0.7	1.150	1.133	1.51	
Anthracene	1	0		9.69	51.27	50	20	0.7	1.151	1.180	2.54	
Carbazole	1	0		9.86	50.30	50	20	0.01	1.077	1.083	0.61	
Di-n-butylphthalate	1	0		10.24	51.62	50	20	0.01	1.160	1.291	3.23	
Fluoranthene	1	0		10.96	50.18	50	20	0.6	1.237	1.241	0.36	
Chrysene-d12	1	0	I	12.64	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.22	49.00	50	20	0.6	1.146	1.123	2.00	
Benzidine	1	0		11.11	44.36	50	**		0.453	0.517	11.29	
Terphenyl-d14	1	0	S	11.40	24.61	25	**		0.616	0.606	1.57	
4,4'-DDE	1	0		11.34	50.12		**		0.255			
4,4'-DDD	1	0		11.73	50.88		**		0.467			
Butylbenzylphthalate	1	0		11.99	51.10	50	20	0.01	0.466	0.518	2.19	
4,4'-DDT	1	0		12.09	48.65		**		0.399			
3,3'-Dichlorobenzidine	1	0		12.61	64.75	50	20	0.01	0.311	0.428	29.51	C1
Benzo[a]anthracene	1	0		12.63	49.25	50	20	0.8	1.093	1.077	1.51	
Chrysene	1	0		12.68	49.08	50	20	0.7	1.066	1.046	1.84	
bis(2-Ethylhexyl)phthalate	1	0		12.69	57.90	50	20	0.01	0.636	0.737	15.80	
Perylene-d12	1	0	I	14.24	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.42	53.10	50	20	0.01	1.150	1.368	6.21	
Benzo[b]fluoranthene	1	0		13.84	53.04	50	20	0.7	1.155	1.225	6.09	
Benzo[k]fluoranthene	1	0		13.87	46.83	50	20	0.7	1.139	1.067	6.34	
Benzo[a]pyrene	1	0		14.18	50.51	50	20	0.7	1.117	1.129	1.01	
Indeno[1,2,3-cd]pyrene	1	0		15.51	50.20	50	20	0.5	1.272	1.277	0.39	
Dibenzo[a,h]anthracene	1	0		15.53	50.54	50	20	0.4	1.081	1.093	1.08	
Benzo[g,h,i]perylene	1	0		15.86	48.21	50	20	0.5	1.089	1.050	3.59	

S-Surrogate Compound I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 10M65400.D **Instrument:** GCMS 10

Cont Calibration Date/Time 10/10/2017 9:29:00 Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Endrin	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	
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	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.744	0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			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	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.969	0.000	100.00	
Diaminotoluene Dihydrochloride	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	
gamma-BHC	1	100		0.00	0.00	10	**			0.000	100.00	

S-Surrogate Compound I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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. 524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87158.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/10/2017 9:31:00 Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8(INT)	1	0	I	2.65	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.69	48.03	50	**		1.079	1.033	3.95	
Pyridine	1	0		3.18	50.03	50	**		3.202	3.104	0.07	
N-Nitrosodimethylamine	1	0		3.10	45.54	50	**		1.810	1.699	8.92	
2-Fluorophenol	1	0	S	4.69	51.86	50	**		2.632	2.730	3.72	
Benzaldehyde	1	0		5.50	30.88	50	20	0.01	0.538	0.332	38.24	C1
Aniline	1	0		5.60	46.34	50	**		4.121	4.213	7.31	
Pentachloroethane	1	0		5.64	54.18	50	**	0.05	0.928	1.006	8.36	
bis(2-Chloroethyl)ether	1	0		5.65	49.33	50	20	0.7	2.942	2.812	1.33	
Phenol-d5	1	0	S	5.58	51.07	50	**		3.629	3.707	2.15	
Phenol	1	0		5.59	48.04	50	20	0.8	4.151	3.989	3.92	
2-Chlorophenol	1	0		5.70	54.84	50	20	0.8	2.808	3.079	9.69	
N-Decane	1	0		5.74	50.42	50	**	0.05	2.652	2.674	0.85	
1,3-Dichlorobenzene	1	0		5.83	53.69	50	**		3.004	3.226	7.38	
1,4-Dichlorobenzene-d4	1	0	I	5.88	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.89	50.63	50	20		1.623	1.643	1.25	
1,2-Dichlorobenzene	1	0		6.02	49.51	50	**		1.553	1.538	0.98	
Benzyl alcohol	1	0		5.99	47.32	50	**		1.012	0.957	5.36	
bis(2-chloroisopropyl)ether	1	0		6.10	42.67	50	20	0.01	1.855	1.583	14.65	
2-Methylphenol	1	0		6.09	47.77	50	20	0.7	1.402	1.390	4.46	
Acetophenone	1	0		6.21	47.28	50	20	0.01	2.087	1.974	5.44	
Hexachloroethane	1	0		6.29	49.15	50	20	0.3	0.592	0.581	1.70	
N-Nitroso-di-n-propylamine	1	0		6.21	47.33	50	20	0.5	1.112	1.053	5.34	
3&4-Methylphenol	1	0		6.22	47.00	50	20		1.398	1.412	6.00	
Naphthalene-d8	1	0	I	6.90	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.33	27.24	25	**		0.173	0.188	8.96	
Nitrobenzene	1	0		6.34	47.01	50	20	0.2	0.410	0.386	5.99	
Isophorone	1	0		6.53	46.81	50	20	0.4	0.764	0.715	6.39	
2-Nitrophenol	1	0		6.60	52.11	50	20	0.1	0.194	0.213	4.21	
2,4-Dimethylphenol	1	0		6.63	49.95	50	20	0.2	0.364	0.388	0.10	
Benzoic Acid	1	0		6.72	15.96	50	**		0.318	0.012	68.09	
bis(2-Chloroethoxy)methane	1	0		6.70	48.30	50	20	0.3	0.457	0.442	3.40	
2,4-Dichlorophenol	1	0		6.79	52.36	50	20	0.2	0.281	0.330	4.71	
1,2,4-Trichlorobenzene	1	0		6.86	52.47	50	**		0.335	0.351	4.94	
Naphthalene	1	0		6.92	51.62	50	20	0.7	1.157	1.122	3.24	
4-Chloroaniline	1	0		6.95	57.94	50	20	0.01	0.380	0.441	15.88	
Hexachlorobutadiene	1	0		7.01	55.74	50	20	0.01	0.182	0.202	11.47	
Caprolactam	1	0		7.24	48.35	50	20	0.01	0.132	0.126	3.31	
4-Chloro-3-methylphenol	1	0		7.33	48.35	50	20	0.2	0.349	0.346	3.29	
2-Methylnaphthalene	1	0		7.46	51.13	50	**	0.4	0.789	0.807	2.25	
1-Methylnaphthalene	1	0		7.54	50.88	50	**	0.4	0.757	0.771	1.77	
Methylnaphthalenes	1	0		7.46	101.88	100	**			0.787	1.88	
1,1'-Biphenyl	1	0		7.83	50.51	50	20	0.01	1.025	1.036	1.02	
Acenaphthene-d10	1	0	I	8.34	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.59	54.28	50	20	0.01	0.522	0.567	8.57	
Hexachlorocyclopentadiene	1	0		7.58	3.51	50	20	0.05	0.268	0.022	92.98	C1
2,4,6-Trichlorophenol	1	0		7.69	48.38	50	20	0.2	0.346	0.370	3.23	
2,4,5-Trichlorophenol	1	0		7.73	54.40	50	20	0.2	0.371	0.407	8.80	
2-Fluorobiphenyl	1	0	S	7.75	26.48	25	**		1.326	1.405	5.92	
2-Chloronaphthalene	1	0		7.86	52.23	50	20	0.8	1.096	1.149	4.47	
1,4-Dimethylnaphthalene	1	0		8.14	54.15	50	**		0.963	1.043	8.31	
Dimethylnaphthalenes	1	0		8.14	54.15	50	20			1.043	8.31	

S-Surrogate Compound I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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 - 665 **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87158.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/10/2017 9:31:00 Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.92	54.02	50	**		0.771	0.833	8.04	
2-Nitroaniline	1	0		7.94	50.20	50	20	0.01	0.402	0.403	0.39	
Coumarin	1	0		8.12	49.83		**		0.533			
Acenaphthylene	1	0		8.22	52.72	50	20	0.9	1.732	1.826	5.44	
Dimethylphthalate	1	0		8.08	51.54	50	20	0.01	1.347	1.388	3.08	
2,6-Dinitrotoluene	1	0		8.14	53.99	50	20	0.2	0.294	0.317	7.99	
Acenaphthene	1	0		8.37	52.22	50	20	0.9	1.136	1.187	4.44	
3-Nitroaniline	1	0		8.29	49.57	50	20	0.01	0.312	0.343	0.86	
2,4-Dinitrophenol	1	0		8.40	43.74	50	20	0.01	0.130	0.115	12.52	
Dibenzofuran	1	0		8.53	51.65	50	20	0.8	1.730	1.725	3.30	
2,4-Dinitrotoluene	1	0		8.50	49.83	50	20	0.2	0.415	0.441	0.35	
4-Nitrophenol	1	0		8.44	34.06	50	20	0.01	0.240	0.181	31.88	C1
2,3,4,6-Tetrachlorophenol	1	0		8.64	44.31	50	20	0.01	0.332	0.323	11.39	
Fluorene	1	0		8.85	52.39	50	20	0.9	1.337	1.401	4.78	
4-Chlorophenyl-phenylether	1	0		8.83	51.48	50	20	0.4	0.669	0.689	2.96	
Diethylphthalate	1	0		8.71	50.62	50	20	0.01	1.338	1.354	1.24	
4-Nitroaniline	1	0		8.85	49.00	50	20	0.01	0.377	0.392	1.99	
Atrazine	1	0		9.47	49.83	50	20	0.01	0.276	0.289	0.34	
Phenanthrene-d10	1	0	I	9.80	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.89	42.59	50	20	0.01	0.114	0.105	14.83	
n-Nitrosodiphenylamine	1	0		8.95	54.89	50	20	0.01	0.617	0.677	9.78	
2,4,6-Tribromophenol	1	0	S	9.08	60.21	50	**		0.099	0.127	20.42	
1,2-Diphenylhydrazine	1	0		8.99	48.49	50	**		0.740	0.718	3.02	
4-Bromophenyl-phenylether	1	0		9.32	55.88	50	20	0.1	0.217	0.243	11.76	
Hexachlorobenzene	1	0		9.40	56.36	50	20	0.1	0.239	0.269	12.73	
N-Octadecane	1	0		9.65	53.45	50	**	0.05	0.406	0.434	6.90	
Pentachlorophenol	1	0		9.60	25.03	50	20	0.05	0.116	0.059	49.95	C1
Phenanthrene	1	0		9.83	51.52	50	20	0.7	1.115	1.149	3.04	
Anthracene	1	0		9.88	53.67	50	20	0.7	1.107	1.188	7.34	
Carbazole	1	0		10.05	51.23	50	20	0.01	1.074	1.101	2.46	
Di-n-butylphthalate	1	0		10.41	51.19	50	20	0.01	1.144	1.318	2.39	
Fluoranthene	1	0		11.16	51.53	50	20	0.6	1.258	1.297	3.06	
Chrysene-d12	1	0	I	12.86	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.42	53.93	50	20	0.6	1.085	1.170	7.87	
Benzidine	1	0		11.30	43.64	50	**		0.454	0.517	12.71	
Terphenyl-d14	1	0	S	11.60	27.14	25	**		0.594	0.645	8.56	
4,4'-DDE	1	0		11.53	55.22		**		0.242			
4,4'-DDD	1	0		11.93	55.97		**		0.463			
Butylbenzylphthalate	1	0		12.17	51.53	50	20	0.01	0.473	0.536	3.06	
4,4'-DDT	1	0		12.28	53.98		**		0.377			
3,3'-Dichlorobenzidine	1	0		12.81	62.21	50	20	0.01	0.336	0.479	24.41	C1
Benzo[a]anthracene	1	0		12.85	50.74	50	20	0.8	1.120	1.136	1.47	
Chrysene	1	0		12.89	49.82	50	20	0.7	1.048	1.044	0.37	
bis(2-Ethylhexyl)phthalate	1	0		12.87	52.30	50	20	0.01	0.627	0.732	4.60	
Perylene-d12	1	0	I	14.53	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.64	48.79	50	20	0.01	1.192	1.341	2.41	
Benzo[b]fluoranthene	1	0		14.11	49.09	50	20	0.7	1.213	1.190	1.82	
Benzo[k]fluoranthene	1	0		14.13	52.30	50	20	0.7	1.166	1.220	4.60	
Benzo[a]pyrene	1	0		14.47	52.28	50	20	0.7	1.123	1.174	4.56	
Indeno[1,2,3-cd]pyrene	1	0		15.91	58.19	50	20	0.5	1.151	1.339	16.39	
Dibenzo[a,h]anthracene	1	0		15.92	59.00	50	20	0.4	0.972	1.147	17.99	
Benzo[g,h,i]perylene	1	0		16.29	58.92	50	20	0.5	0.950	1.119	17.84	

S-Surrogate Compound I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87158.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/10/2017 9:31:00 Method: EPA 8270D

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	
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	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.773	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	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.963	0.000	100.00	
Diaminotoluene Dihydrochloride	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
C1-Compound %Diff exceeds limits

** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87172.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/10/2017 3:44:00 P Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
1,4-Dioxane-d8(INT)	1	0	I	2.66	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.70	47.43	50	**		1.079	1.021	5.14	
Pyridine	1	0		3.18	48.02	50	**		3.202	2.976	3.96	
N-Nitrosodimethylamine	1	0		3.10	46.54	50	**		1.810	1.737	6.91	
2-Fluorophenol	1	0	S	4.70	51.44	50	**		2.632	2.708	2.88	
Benzaldehyde	1	0		5.51	31.22	50	20	0.01	0.538	0.336	37.56	C1
Aniline	1	0		5.60	46.37	50	**		4.121	4.215	7.26	
Pentachloroethane	1	0		5.64	53.47	50	**	0.05	0.928	0.993	6.94	
bis(2-Chloroethyl)ether	1	0		5.65	49.77	50	20	0.7	2.942	2.836	0.46	
Phenol-d5	1	0	S	5.58	50.31	50	**		3.629	3.652	0.62	
Phenol	1	0		5.59	47.39	50	20	0.8	4.151	3.934	5.23	
2-Chlorophenol	1	0		5.70	53.61	50	20	0.8	2.808	3.010	7.22	
N-Decane	1	0		5.74	50.58	50	**	0.05	2.652	2.682	1.16	
1,3-Dichlorobenzene	1	0		5.83	53.38	50	**		3.004	3.207	6.75	
1,4-Dichlorobenzene-d4	1	0	I	5.88	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.89	49.24	50	20		1.623	1.598	1.52	
1,2-Dichlorobenzene	1	0		6.02	48.42	50	**		1.553	1.504	3.17	
Benzyl alcohol	1	0		6.00	46.80	50	**		1.012	0.947	6.41	
bis(2-chloroisopropyl)ether	1	0		6.10	41.63	50	20	0.01	1.855	1.545	16.74	
2-Methylphenol	1	0		6.09	46.27	50	20	0.7	1.402	1.346	7.47	
Acetophenone	1	0		6.20	46.84	50	20	0.01	2.087	1.955	6.32	
Hexachloroethane	1	0		6.30	48.67	50	20	0.3	0.592	0.576	2.66	
N-Nitroso-di-n-propylamine	1	0		6.20	46.61	50	20	0.5	1.112	1.037	6.78	
3&4-Methylphenol	1	0		6.22	47.15	50	20		1.398	1.416	5.69	
Naphthalene-d8	1	0	I	6.90	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.33	27.31	25	**		0.173	0.189	9.25	
Nitrobenzene	1	0		6.34	46.77	50	20	0.2	0.410	0.384	6.47	
Isophorone	1	0		6.53	46.51	50	20	0.4	0.764	0.711	6.98	
2-Nitrophenol	1	0		6.60	52.20	50	20	0.1	0.194	0.214	4.39	
2,4-Dimethylphenol	1	0		6.63	49.22	50	20	0.2	0.364	0.382	1.57	
Benzoic Acid	1	0		6.72	18.74	50	**		0.318	0.035	62.52	
bis(2-Chloroethoxy)methane	1	0		6.70	47.97	50	20	0.3	0.457	0.439	4.05	
2,4-Dichlorophenol	1	0		6.80	52.07	50	20	0.2	0.281	0.328	4.14	
1,2,4-Trichlorobenzene	1	0		6.86	52.52	50	**		0.335	0.352	5.04	
Naphthalene	1	0		6.92	51.59	50	20	0.7	1.157	1.121	3.17	
4-Chloroaniline	1	0		6.95	57.59	50	20	0.01	0.380	0.438	15.17	
Hexachlorobutadiene	1	0		7.01	55.04	50	20	0.01	0.182	0.200	10.09	
Caprolactam	1	0		7.24	48.23	50	20	0.01	0.132	0.126	3.54	
4-Chloro-3-methylphenol	1	0		7.33	48.38	50	20	0.2	0.349	0.346	3.25	
2-Methylnaphthalene	1	0		7.46	50.78	50	**	0.4	0.789	0.801	1.55	
1-Methylnaphthalene	1	0		7.54	50.69	50	**	0.4	0.757	0.768	1.38	
Methylnaphthalenes	1	0		7.46	101.47	100	**			0.784	1.47	
1,1'-Biphenyl	1	0		7.84	50.26	50	20	0.01	1.025	1.030	0.52	
Acenaphthene-d10	1	0	I	8.35	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.60	54.52	50	20	0.01	0.522	0.569	9.03	
Hexachlorocyclopentadiene	1	0		7.58	3.46	50	20	0.05	0.268	0.021	93.08	C1
2,4,6-Trichlorophenol	1	0		7.69	48.69	50	20	0.2	0.346	0.372	2.63	
2,4,5-Trichlorophenol	1	0		7.73	53.92	50	20	0.2	0.371	0.403	7.84	
2-Fluorobiphenyl	1	0	S	7.75	26.56	25	**		1.326	1.409	6.24	
2-Chloronaphthalene	1	0		7.86	52.47	50	20	0.8	1.096	1.154	4.94	
1,4-Dimethylnaphthalene	1	0		8.14	54.06	50	**		0.963	1.041	8.12	
Dimethylnaphthalenes	1	0		8.14	54.06	50	20			1.041	8.12	

S-Surrogate Compound
N/O or N/Q - Not applicable for this run

I-Internal Standard Compound
C1-Compound %Diff exceeds limits

** - No limit specified in method

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. **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87172.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/10/2017 3:44:00 P Method: EPA 8270D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.92	53.82	50	**		0.771	0.830	7.65	
2-Nitroaniline	1	0		7.94	50.49	50	20	0.01	0.402	0.406	0.99	
Coumarin	1	0		8.13	49.93		**		0.533			
Acenaphthylene	1	0		8.22	52.85	50	20	0.9	1.732	1.830	5.70	
Dimethylphthalate	1	0		8.08	51.28	50	20	0.01	1.347	1.381	2.56	
2,6-Dinitrotoluene	1	0		8.14	54.90	50	20	0.2	0.294	0.322	9.81	
Acenaphthene	1	0		8.37	51.92	50	20	0.9	1.136	1.180	3.83	
3-Nitroaniline	1	0		8.29	50.83	50	20	0.01	0.312	0.351	1.67	
2,4-Dinitrophenol	1	0		8.40	41.40	50	20	0.01	0.130	0.106	17.20	
Dibenzofuran	1	0		8.53	51.56	50	20	0.8	1.730	1.722	3.12	
2,4-Dinitrotoluene	1	0		8.51	49.44	50	20	0.2	0.415	0.438	1.13	
4-Nitrophenol	1	0		8.44	33.94	50	20	0.01	0.240	0.180	32.12	C1
2,3,4,6-Tetrachlorophenol	1	0		8.64	46.49	50	20	0.01	0.332	0.339	7.02	
Fluorene	1	0		8.85	52.48	50	20	0.9	1.337	1.403	4.96	
4-Chlorophenyl-phenylether	1	0		8.84	50.49	50	20	0.4	0.669	0.675	0.98	
Diethylphthalate	1	0		8.71	50.54	50	20	0.01	1.338	1.352	1.08	
4-Nitroaniline	1	0		8.86	48.72	50	20	0.01	0.377	0.389	2.56	
Atrazine	1	0		9.47	51.08	50	20	0.01	0.276	0.297	2.16	
Phenanthrene-d10	1	0	I	9.81	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.90	42.05	50	20	0.01	0.114	0.104	15.89	
n-Nitrosodiphenylamine	1	0		8.95	54.10	50	20	0.01	0.617	0.667	8.19	
2,4,6-Tribromophenol	1	0	S	9.09	58.87	50	**		0.099	0.124	17.74	
1,2-Diphenylhydrazine	1	0		8.99	48.47	50	**		0.740	0.717	3.06	
4-Bromophenyl-phenylether	1	0		9.32	54.99	50	20	0.1	0.217	0.239	9.99	
Hexachlorobenzene	1	0		9.40	55.60	50	20	0.1	0.239	0.265	11.20	
N-Octadecane	1	0		9.65	53.90	50	**	0.05	0.406	0.437	7.80	
Pentachlorophenol	1	0		9.61	22.33	50	20	0.05	0.116	0.052	55.33	C1
Phenanthrene	1	0		9.83	51.80	50	20	0.7	1.115	1.155	3.60	
Anthracene	1	0		9.89	54.08	50	20	0.7	1.107	1.197	8.16	
Carbazole	1	0		10.05	51.59	50	20	0.01	1.074	1.108	3.18	
Di-n-butylphthalate	1	0		10.41	51.29	50	20	0.01	1.144	1.321	2.58	
Fluoranthene	1	0		11.16	52.28	50	20	0.6	1.258	1.316	4.57	
Chrysene-d12	1	0	I	12.86	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.42	54.23	50	20	0.6	1.085	1.177	8.45	
Benzidine	1	0		11.30	44.09	50	**		0.454	0.522	11.82	
Terphenyl-d14	1	0	S	11.60	26.99	25	**		0.594	0.641	7.95	
4,4'-DDE	1	0		11.53	54.63		**		0.242			
4,4'-DDD	1	0		11.93	56.68		**		0.463			
Butylbenzylphthalate	1	0		12.17	51.39	50	20	0.01	0.473	0.535	2.77	
4,4'-DDT	1	0		12.28	54.62		**		0.377			
3,3'-Dichlorobenzidine	1	0		12.80	62.54	50	20	0.01	0.336	0.482	25.07	C1
Benzo[a]anthracene	1	0		12.84	51.62	50	20	0.8	1.120	1.156	3.23	
Chrysene	1	0		12.88	49.54	50	20	0.7	1.048	1.038	0.92	
bis(2-Ethylhexyl)phthalate	1	0		12.87	53.30	50	20	0.01	0.627	0.745	6.60	
Perylene-d12	1	0	I	14.51	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.62	49.21	50	20	0.01	1.192	1.352	1.58	
Benzo[b]fluoranthene	1	0		14.08	48.88	50	20	0.7	1.213	1.185	2.24	
Benzo[k]fluoranthene	1	0		14.11	51.46	50	20	0.7	1.166	1.200	2.93	
Benzo[a]pyrene	1	0		14.45	51.77	50	20	0.7	1.123	1.163	3.54	
Indeno[1,2,3-cd]pyrene	1	0		15.87	58.84	50	20	0.5	1.151	1.354	17.68	
Dibenzo[a,h]anthracene	1	0		15.89	59.40	50	20	0.4	0.972	1.155	18.81	
Benzo[g,h,i]perylene	1	0		16.26	59.03	50	20	0.5	0.950	1.121	18.05	

S-Surrogate Compound I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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 - 669 **524.2 limits are compared against the %DIFF**

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M87172.D **Instrument:** GCMS 7

Cont Calibration Date/Time 10/10/2017 3:44:00 P Method: EPA 8270D

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	
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	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.773	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	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.963	0.000	100.00	
Diaminotoluene Dihydrochloride	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 I-Internal Standard Compound

N/O or N/Q - Not applicable for this run C1-Compound %Diff exceeds limits ** - No limit specified in method

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 - 670 **524.2 limits are compared against the %DIFF**

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FORM8

Internal Standard Areas

Evaluation Std Data File: 10M64985.D Method: EPA 8270D

Analysis Date/Time: 09/11/17 12:53

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	35265	2.50	75383	5.75	289381	6.76	181964	8.17	315451	9.62	354383	12.64	329776	14.24
Eval File Area Limit:	17632-70530		37692-150766		144690-578762		90982-363928		157726-630902		177192-708766		164888-659552	
Eval File Rt Limit:	2-3		5.25-6.25		6.26-7.26		7.67-8.67		9.12-10.12		12.14-13.14		13.74-14.74	

Data File	Sample														
10M64975.D	CAL BNA@10PPM	32208	2.50	68334	5.75	268864	6.76	171388	8.17	292677	9.61	338284	12.64	311911	14.24
10M64976.D	CAL BNA@196PPM	32571	2.50	72234	5.75	280842	6.77	177681	8.18	300829	9.62	337898	12.65	308802	14.25
10M64977.D	CAL BNA@160PPM	27541	2.50	60515	5.75	238187	6.76	154215	8.17	276473	9.62	320557	12.65	299384	14.25
10M64978.D	CAL BNA@120PPM	34615	2.50	74837	5.75	292395	6.76	186508	8.18	323232	9.62	362088	12.65	337174	14.25
10M64979.D	CAL BNA@80PPM	31993	2.50	71282	5.75	276755	6.76	178149	8.17	315241	9.62	345890	12.65	321889	14.24
10M64981.D	CAL BNA@20PPM	33868	2.50	71905	5.75	283028	6.76	178213	8.17	315136	9.62	366732	12.64	342612	14.24
10M64982.D	CAL BNA@2PPM	33915	2.50	71735	5.75	281829	6.76	176962	8.17	318752	9.61	366364	12.64	341565	14.24
10M64983.D	CAL BNA@.5PPM	36310	2.50	76457	5.75	299549	6.76	188660	8.17	329396	9.61	392746	12.64	367922	14.24
10M64984.D	CAL BNA@.25PPM	31693	2.50	66518	5.75	259327	6.76	161586	8.17	288281	9.61	323988	12.64	302006	14.24
10M64985.D	CAL BNA@50PPM	35265	2.50	75383	5.75	289381	6.76	181964	8.17	315451	9.62	354383	12.64	329776	14.24
10M64986.D	ICV BNA@50PPM	35339	2.50	74232	5.75	285410	6.76	181175	8.17	317546	9.62	350852	12.64	322097	14.24
10M64987.D	EXT MIX#1	34412	2.50	72975	5.75	284416	6.76	179882	8.17	318593	9.62	361962	12.64	339291	14.24
10M64988.D	EXT MIX#1(2ND)	35118	2.50	72552	5.75	292736	6.76	186676	8.17	327627	9.61	376144	12.64	348626	14.24

HAZ - 671

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

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FORM8

Internal Standard Areas

Evaluation Std Data File: 7M86409.D Method: EPA 8270D

Analysis Date/Time: 09/11/17 13:22

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	44513	2.67	81341	5.88	333846	6.90	216185	8.34	407318	9.79	481166	12.85	436287	14.49
Eval File Area Limit:	22256-89026		40670-162682		166923-667692		108092-432370		203659-814636		240583-962332		218144-872574	
Eval File Rt Limit:	2.17-3.17		5.38-6.38		6.4-7.4		7.84-8.84		9.29-10.29		12.35-13.35		13.99-14.99	

Data File	Sample														
7M86403.D	CAL BNA@10PPM	36744	2.67	69500	5.88	291390	6.90	197241	8.34	382882	9.80	502748	12.84	473995	14.47
7M86404.D	CAL BNA@196PPM	36644	2.67	71365	5.88	312983	6.90	220438	8.34	422789	9.80	490801	12.85	460132	14.48
7M86405.D	CAL BNA@160PPM	37494	2.67	73689	5.88	311629	6.90	213898	8.34	408480	9.80	472636	12.85	433207	14.47
7M86406.D	CAL BNA@120PPM	39940	2.67	78143	5.88	329897	6.90	226107	8.34	434083	9.80	514554	12.85	478323	14.47
7M86407.D	CAL BNA@80PPM	41904	2.67	77920	5.88	323618	6.90	213313	8.34	408041	9.79	486212	12.85	451475	14.47
7M86409.D	CAL BNA@50PPM	44513	2.67	81341	5.88	333846	6.90	216185	8.34	407318	9.79	481166	12.85	436287	14.49
7M86410.D	CAL BNA@20PPM	39352	2.67	75725	5.88	321177	6.90	210445	8.34	396180	9.80	491773	12.84	452925	14.47
7M86411.D	CAL BNA@2PPM	36733	2.67	66985	5.88	272600	6.89	183277	8.33	355503	9.79	469676	12.84	434780	14.47
7M86412.D	CAL BNA@.25PPM	42687	2.67	69978	5.88	275839	6.90	179986	8.33	343013	9.80	418646	12.85	385512	14.51
7M86413.D	CAL BNA@.5PPM	46233	2.67	84320	5.88	338640	6.89	219575	8.33	410815	9.79	494741	12.84	455189	14.48
7M86414.D	ICV BNA@50PPM	45954	2.67	71832	5.88	282544	6.90	180658	8.34	340042	9.80	447040	12.85	432302	14.47

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100701 0163

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M87158.D Method: EPA 8270D

Analysis Date/Time: 10/10/17 09:31

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	28821	2.65	58478	5.88	227639	6.90	144589	8.34	261782	9.80	300675	12.86	289033	14.53
Eval File Area Limit:	14410-57642		29239-116956		113820-455278		72294-289178		130891-523564		150338-601350		144516-578066	
Eval File Rt Limit:	2.15-3.15		5.38-6.38		6.4-7.4		7.84-8.84		9.3-10.3		12.36-13.36		14.03-15.03	

Data File	Sample														
7M87159.D	SMB63111	26460	2.65	55217	5.88	211211	6.89	134570	8.33	231558	9.79	228884	12.85	201043	14.51
7M87160.D	SMB63112	23411	2.65	47706	5.88	181907	6.89	116239	8.33	209111	9.80	229138	12.85	214439	14.49
7M87161.D	AD00475-002	25088	2.66	56817	5.88	225869	6.89	137989	8.33	231987	9.80	240179	12.85	231987	14.49
7M87162.D	AD00461-002(3X)	25084	2.65	52668	5.88	203047	6.90	135740	8.34	237558	9.79	247612	12.85	238031	14.53
7M87163.D	AD00453-010(10X)	25760	2.66	54469	5.88	211307	6.89	138916	8.33	237086	9.79	248701	12.85	247026	14.51
7M87164.D	AD00461-004(3X)	26271	2.65	56822	5.88	213922	6.89	137769	8.33	234673	9.79	244246	12.85	241704	14.51
7M87165.D	AD00474-001(5X)	24937	2.65	55963	5.88	219477	6.90	142418	8.34	251689	9.81	274995	12.86	277467	14.54
7M87166.D	AD00437-003(3X)	26469	2.65	57851	5.88	225985	6.90	151403	8.34	262664	9.80	261381	12.85	259611	14.51
7M87167.D	AD00437-005(3X)	24113	2.65	53900	5.88	219982	6.89	141761	8.34	249312	9.80	256752	12.86	253162	14.53
7M87168.D	AD00441-002	23999	2.65	53954	5.88	209054	6.90	133804	8.34	221619	9.79	232650	12.85	227496	14.51
7M87169.D	SMB63122	19539	2.65	44789	5.88	173243	6.89	113212	8.33	190233	9.79	196409	12.85	193287	14.49
7M87170.D	AD00404-003(3X)	25641	2.65	55714	5.88	216687	6.89	144900	8.33	241250	9.79	263379	12.85	261463	14.50

I1 = 1,4-Dioxane-d8(INT)
I2 = 1,4-Dichlorobenzene-d4
I3 = Naphthalene-d8
I4 = Acenaphthene-d10
I5 = Phenanthrene-d10
I6 = Chrysene-d12
I7 = 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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

7100701 0164

FORM8

Internal Standard Areas

Evaluation Std Data File: 10M65400.D Method: EPA 8270D

Analysis Date/Time: 10/10/17 09:29

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	25047	2.49	55366	5.75	220664	6.75	139105	8.17	243090	9.61	276828	12.64	251521	14.24
Eval File Area Limit:	12524-50094		27683-110732		110332-441328		69552-278210		121545-486180		138414-553656		125760-503042	
Eval File Rt Limit:	1.99-2.99		5.25-6.25		6.25-7.25		7.67-8.67		9.11-10.11		12.14-13.14		13.74-14.74	

Data File	Sample														
10M65401.D	SMB63111(MS)	38878	2.51	76549	5.75	284788	6.76	164103	8.17	267147	9.61	234968	12.64	191412	14.24
10M65402.D	SMB63112(MS)	32300	2.51	66412	5.75	237975	6.75	140514	8.17	224302	9.61	203533	12.64	164699	14.24
10M65403.D	SMB63111	38133	2.51	77976	5.75	283810	6.75	174000	8.17	273925	9.61	248978	12.64	194444	14.24
10M65404.D	SMB63112	30892	2.49	63001	5.75	235005	6.75	142072	8.17	239114	9.61	217612	12.64	192329	14.24
10M65405.D	AD00469-003	32963	2.51	66563	5.75	237104	6.75	132870	8.17	209870	9.61	184027	12.64	177711	14.24
10M65406.D	AD00469-003(MS)	36837	2.51	73056	5.75	269266	6.75	151726	8.17	229897	9.61	197916	12.64	159244	14.24
10M65407.D	AD00469-003(MSD)	28627	2.50	61216	5.75	219828	6.75	136111	8.17	219343	9.61	206213	12.64	198812	14.24
10M65408.D	AD00475-010	36418	2.51	72014	5.75	261927	6.75	149219	8.17	231666	9.61	206350	12.64	176645	14.24
10M65409.D	SMB63122(MS)	33374	2.51	66061	5.75	233501	6.75	136105	8.17	207476	9.61	179320	12.64	150094	14.24
10M65410.D	SMB63122	36054	2.51	70608	5.75	251355	6.75	141221	8.17	218281	9.61	186422	12.64	152934	14.24
10M65411.D	AD00441-001	43640	2.51	85462	5.75	279643	6.75	171134	8.18	264858	9.62	233009	12.64	200111	14.24
10M65412.D	AD00441-001(3X)	30940	2.50	60108	5.75	216552	6.75	130218	8.17	212075	9.61	219236	12.64	217542	14.24
10M65413.D	AD00441-001(3X)(MS)	28345	2.49	60145	5.75	227231	6.75	138594	8.17	227293	9.61	251974	12.64	234411	14.24
10M65414.D	AD00441-001(3X)(MS	27416	2.50	57518	5.75	222442	6.75	140915	8.17	222216	9.61	265679	12.64	231721	14.24
10M65415.D	AD00475-010(MS)	28582	2.49	61190	5.75	232698	6.75	140022	8.17	238928	9.61	261371	12.64	236739	14.24
10M65416.D	AD00475-010(MSD)	33242	2.51	68839	5.75	250171	6.75	145171	8.17	238674	9.61	219070	12.64	213511	14.24
10M65417.D	AD00475-008	47939	2.51	93028	5.75	328215	6.75	186158	8.17	284586	9.61	246134	12.64	213816	14.24
10M65418.D	AD00475-014	46418	2.51	86960	5.75	307418	6.75	169240	8.17	258314	9.61	219471	12.64	207873	14.24
10M65419.D	AD00437-010	39254	2.51	76159	5.75	270575	6.75	151656	8.17	238723	9.61	211399	12.64	216008	14.24
10M65420.D	AD00437-011	27811	2.50	56154	5.75	200333	6.75	114420	8.17	180495	9.61	170523	12.64	182386	14.24
10M65421.D	AD00437-012	29289	2.51	61790	5.75	217938	6.75	122273	8.17	181907	9.61	169569	12.64	182758	14.24
10M65422.D	AD00469-001	34733	2.51	70158	5.75	252235	6.75	143944	8.17	215491	9.61	178141	12.64	173451	14.24
10M65423.D	AD00483-001	34252	2.50	68227	5.81	204511	6.77	150619	8.17	235815	9.61	239552	12.64	226077	14.24

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M87172.D Method: EPA 8270D

Analysis Date/Time: 10/10/17 15:44

Lab File ID: CAL BNA@50PPM

	I1		I2		I3		I4		I5		I6		I7	
	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT	Area	RT
Eval File Area/RT:	28891	2.66	59036	5.88	225456	6.90	141753	8.35	257778	9.81	295337	12.86	282303	14.51
Eval File Area Limit:	14446-57782		29518-118072		112728-450912		70876-283506		128889-515556		147668-590674		141152-564606	
Eval File Rt Limit:	2.16-3.16		5.38-6.38		6.4-7.4		7.85-8.85		9.31-10.31		12.36-13.36		14.01-15.01	

Data File	Sample														
7M87173.D	AD00475-004	26426	2.65	57785	5.88	225311	6.90	144662	8.34	250561	9.79	263871	12.85	247835	14.52
7M87174.D	AD00475-006	25216	2.65	54173	5.88	213499	6.89	135200	8.33	234721	9.79	245854	12.85	235484	14.50
7M87175.D	AD00475-012	26909	2.65	58925	5.88	224215	6.89	141492	8.32	232342	9.78	240236	12.85	235620	14.48
7M87176.D	AD00437-001	22895	2.65	50781	5.88	196486	6.89	121978	8.32	206698	9.78	216490	12.85	212924	14.49
7M87177.D	AD00437-002	25412	2.65	55335	5.88	216431	6.89	134198	8.32	228977	9.78	242871	12.85	236289	14.49
7M87178.D	AD00437-004	23905	2.65	51561	5.88	204980	6.89	125106	8.32	208820	9.78	221816	12.85	219550	14.48
7M87179.D	AD00437-006	25627	2.66	55404	5.88	217756	6.89	130958	8.32	215970	9.78	223635	12.85	229960	14.48
7M87180.D	AD00437-007	24198	2.66	52429	5.88	206728	6.89	129796	8.32	216978	9.78	225320	12.85	228511	14.49
7M87181.D	AD00437-008	27323	2.66	58491	5.88	224233	6.89	137120	8.32	224144	9.78	244675	12.85	244984	14.48
7M87182.D	AD00437-009	22750	2.65	49305	5.88	190585	6.89	118393	8.32	199666	9.78	214812	12.85	221176	14.49
7M87183.D	AD00469-002	25108	2.65	53922	5.88	210467	6.89	132034	8.32	225138	9.78	238448	12.85	234095	14.48
7M87184.D	AD00469-004	23887	2.65	52723	5.88	200506	6.89	125455	8.32	218328	9.78	234663	12.85	229855	14.48
7M87185.D	AD00473-001	22263	2.65	49295	5.88	184072	6.89	112848	8.32	192772	9.78	207949	12.85	216800	14.49
7M87186.D	AD00488-007	22576	2.65	48146	5.88	183133	6.89	114728	8.32	191105	9.78	210309	12.85	214898	14.49
7M87187.D	AD00488-006	22948	2.65	49921	5.88	182849	6.89	114982	8.32	196618	9.78	215796	12.85	222786	14.49
7M87188.D	AD00488-005(3X)	25471	2.65	55110	5.88	212804	6.89	138448	8.32	232618	9.78	240375	12.85	247551	14.49
7M87189.D	AD00482-001(5X)	24593	2.65	52565	5.88	201112	6.89	133308	8.32	221842	9.79	244939	12.85	247983	14.49
7M87190.D	AD00468-004	24567	2.65	51178	5.88	193058	6.89	123055	8.32	206907	9.78	220639	12.85	218995	14.49
7M87191.D	AD00468-005	25642	2.65	54300	5.88	204656	6.89	124381	8.32	212579	9.78	226953	12.85	227329	14.49
7M87192.D	AD00468-006	23167	2.65	49124	5.88	179766	6.88	111300	8.32	189861	9.78	200805	12.85	202947	14.48
7M87193.D	AD00468-009	22313	2.66	48264	5.88	175999	6.89	110886	8.32	185704	9.78	204408	12.85	200310	14.49
7M87194.D	AD00468-012	23710	2.65	50463	5.88	196170	6.89	126124	8.32	218535	9.78	233317	12.85	228349	14.48
7M87195.D	AD00468-013	23907	2.65	50726	5.88	192220	6.89	119166	8.32	207330	9.78	219962	12.85	224397	14.49
7M87196.D	AD00468-002	28724	2.65	61805	5.88	229329	6.89	138706	8.32	233377	9.78	257081	12.85	253149	14.49
7M87197.D	AD00468-003	23551	2.65	51113	5.88	192877	6.89	121961	8.32	210983	9.78	225887	12.85	229983	14.49
7M87198.D	AD00468-007(3X)	24176	2.65	52974	5.88	206592	6.89	133393	8.32	230115	9.78	234259	12.85	231805	14.49
7M87199.D	AD00468-008(3X)	25327	2.65	57062	5.88	225300	6.89	150860	8.32	257245	9.78	264459	12.85	255773	14.49
7M87200.D	AD00468-010(5X)	24881	2.65	53947	5.88	213240	6.89	138757	8.32	240033	9.78	249977	12.85	245085	14.49
7M87201.D	AD00468-011(5X)	24675	2.65	53611	5.88	215666	6.89	138259	8.32	230332	9.79	243078	12.86	250355	14.49

I1 =	1,4-Dioxane-d8(INT)	I4 =	Acenaphthene-d10	I7 =	Perylene-d12
I2 =	1,4-Dichlorobenzene-d4	I5 =	Phenanthrene-d10		
I3 =	Naphthalene-d8	I6 =	Chrysene-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

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.

Flags:

A - Indicates the compound failed the internal standard area criteria

R - Indicates the compound failed the internal standard retention time criteria.

Retention Times: Limit = within +/- 0.5 min of internal standard retention time from the daily cal or mid pt.

PCB Data

Form1

ORGANICS PCB REPORT

Sample Number: AD00475-002
Client Id: SB02 COMP
Data File: 2G125129.D
Analysis Date: 10/10/17 22:30
Date Rec/Extracted: 10/06/17-10/10/17
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: 87

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 #: 440293 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

Indicates the compound was analyzed but not detected.
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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) 7100701 0168

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125129.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 22:30
Operator : MS/ZM/MLC
Sample : AD00475-002
Misc : S,PCB
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:30:44 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

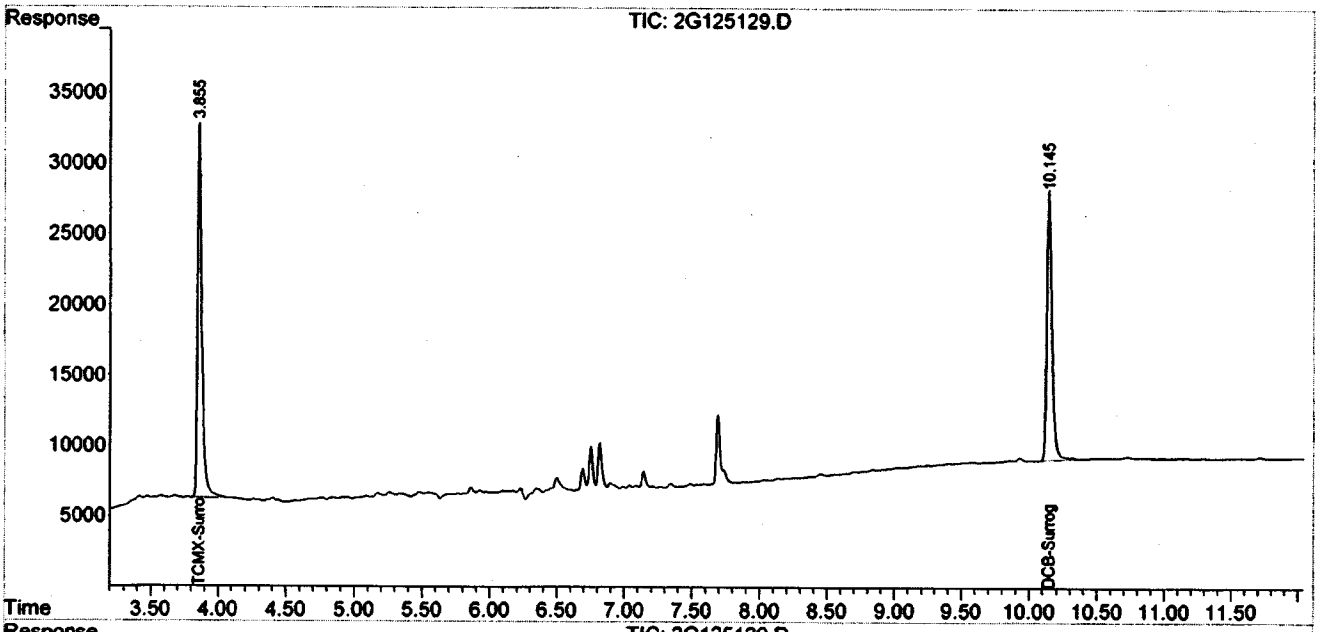
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.856	3.875	605985	481661	83.263	74.032m
45)DCB-Surrogate	10.145	10.780	493236	529679	80.426	76.969

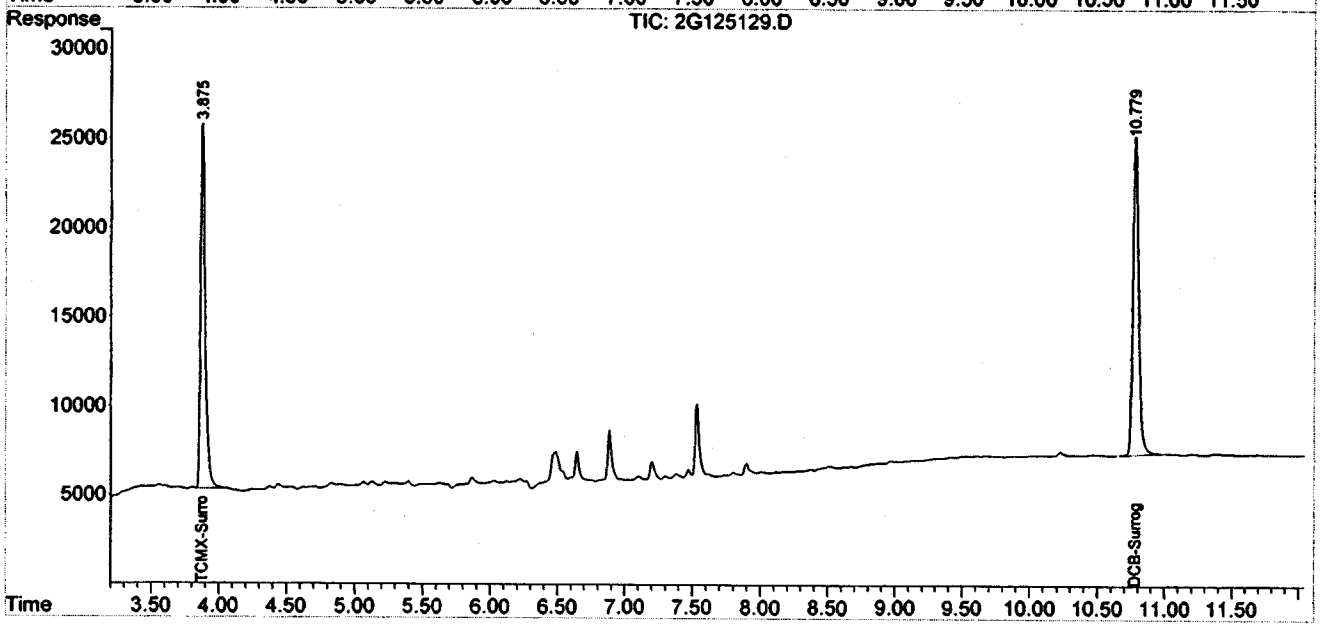
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125129.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 22:30
Operator : MS/ZM/MLC
Sample : AD00475-002
Misc : S,PCB
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:30:44 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: AD00475-004
Client Id: SB03 COMP
Data File: 2G125130.D
Analysis Date: 10/10/17 22:46
Date Rec/Extracted: 10/06/17-10/10/17
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: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.028	U	11097-69-1	Aroclor-1254	0.028	U
11104-28-2	Aroclor-1221	0.028	U	11096-82-5	Aroclor-1260	0.028	U
11141-16-5	Aroclor-1232	0.028	U	37324-23-5	Aroclor-1262	0.028	U
53469-21-9	Aroclor-1242	0.028	U	11100-14-4	Aroclor-1268	0.028	U
12672-29-6	Aroclor-1248	0.028	U	1336-36-3	Aroclor (Total)	0.028	U

Worksheet #: 440293

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125130.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 22:46
Operator : MS/ZM/MLC
Sample : AD00475-004
Misc : S,PCB
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:30:59 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

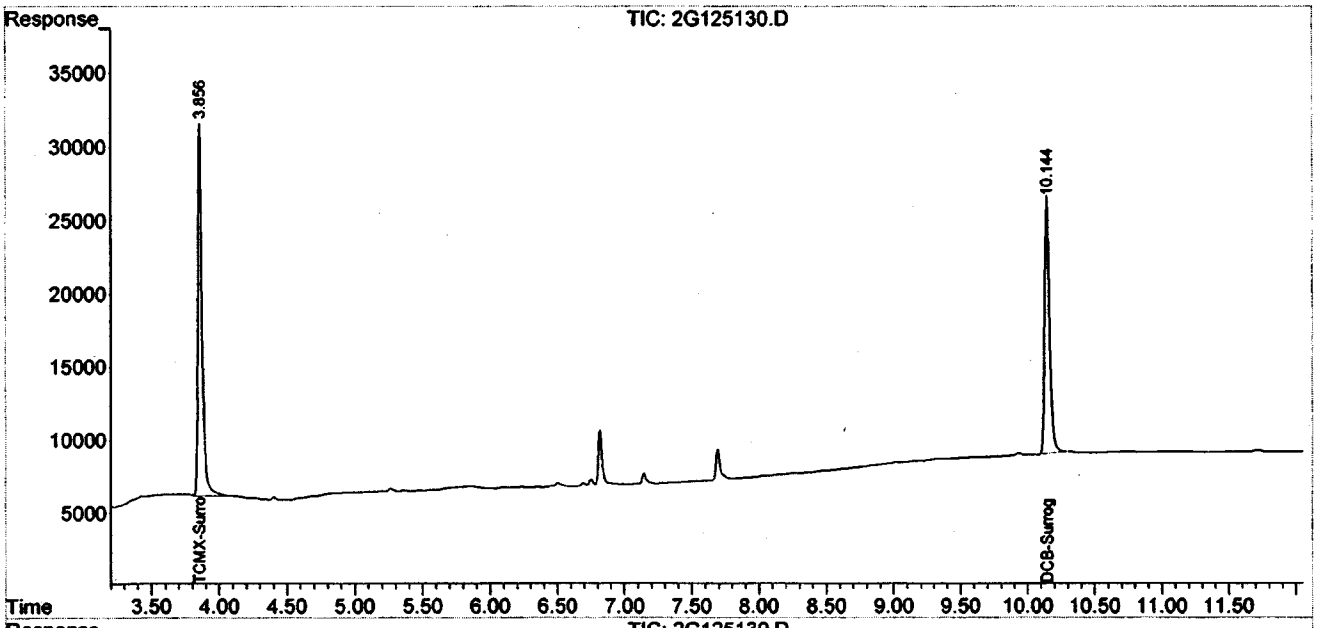
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.856	3.877	564214	446706	77.523m	68.659
45)DCB-Surrogate	10.145	10.779	444755	487799	72.230	70.681

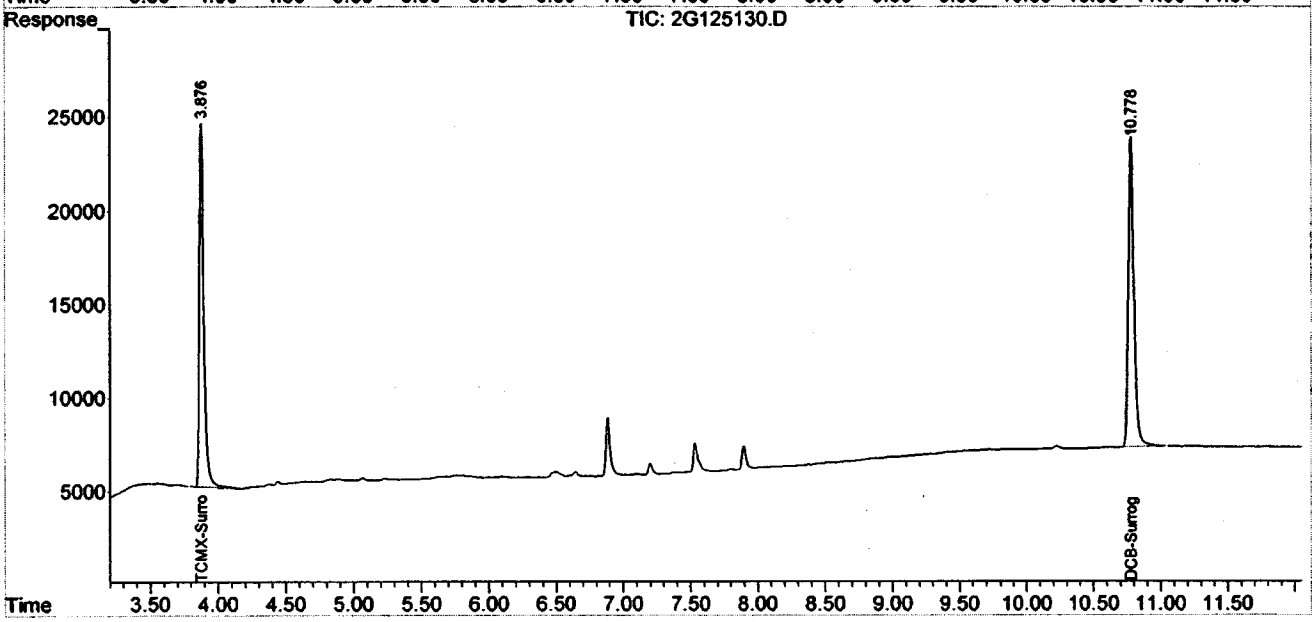
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125130.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 22:46
Operator : MS/ZM/MLC
Sample : AD00475-004
Misc : S,PCB
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:30:59 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: AD00475-006
Client Id: SB04 COMP
Data File: 2G125131.D
Analysis Date: 10/10/17 23:01
Date Rec/Extracted: 10/06/17-10/10/17
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: 86

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 #: 440293 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

- Indicates the compound was analyzed but not detected.
- 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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125131.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 23:01
Operator : MS/ZM/MLC
Sample : AD00475-006
Misc : S,PCB
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:31:09 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

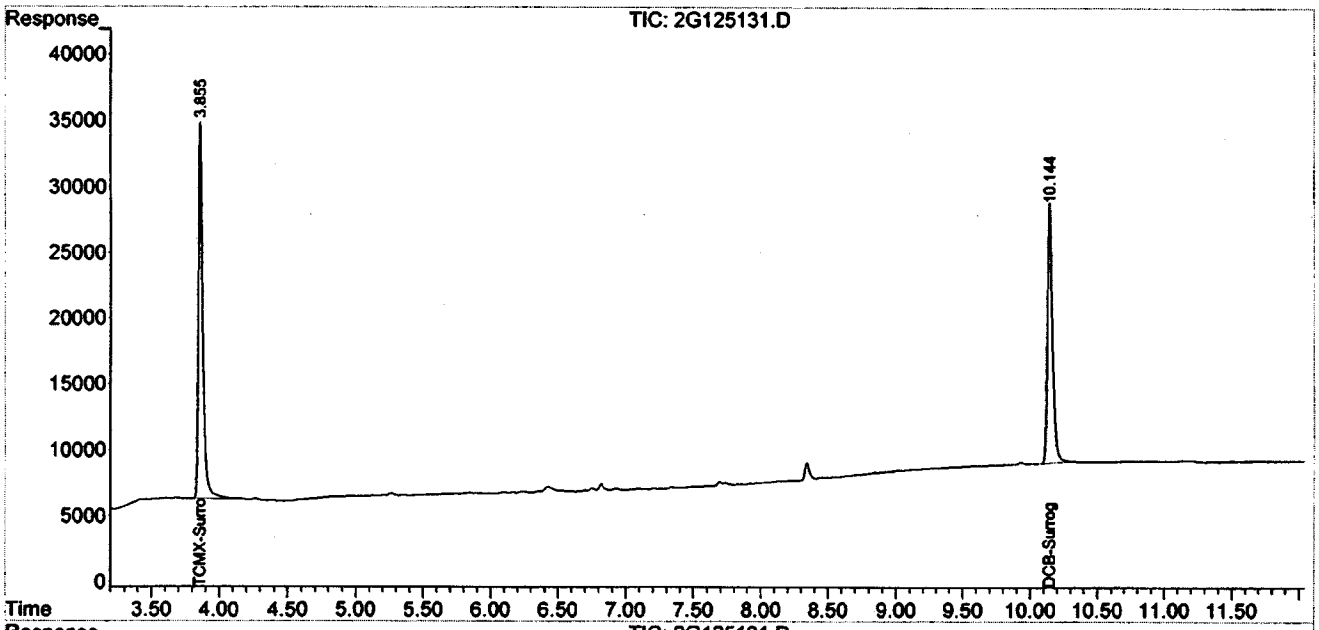
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.855	3.877	639471	522792	87.864m	80.354
45)DCB-Surrogate	10.145	10.779	505113	552254	82.444	80.374

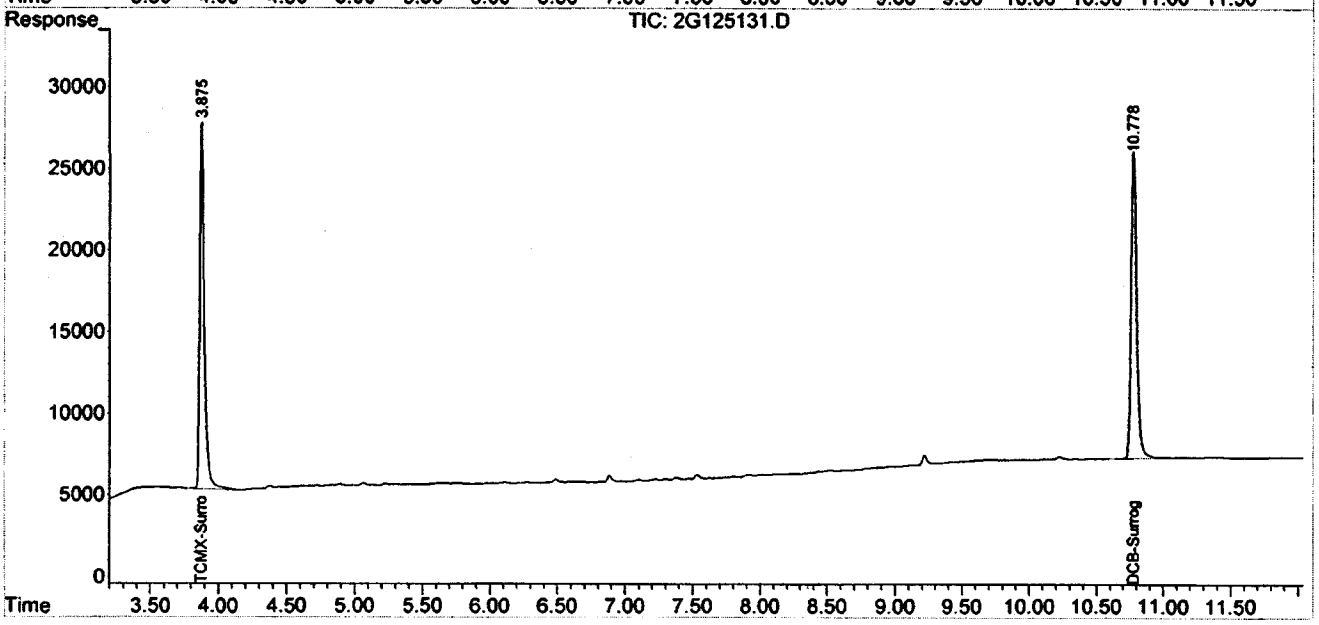
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125131.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 23:01
Operator : MS/ZM/MLC
Sample : AD00475-006
Misc : S,PCB
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:31:09 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: AD00475-008
Client Id: SB05 COMP
Data File: 2G125132.D
Analysis Date: 10/10/17 23:16
Date Rec/Extracted: 10/06/17-10/10/17
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: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.028	U	11097-69-1	Aroclor-1254	0.028	U
11104-28-2	Aroclor-1221	0.028	U	11096-82-5	Aroclor-1260	0.028	U
11141-16-5	Aroclor-1232	0.028	U	37324-23-5	Aroclor-1262	0.028	U
53469-21-9	Aroclor-1242	0.028	U	11100-14-4	Aroclor-1268	0.028	U
12672-29-6	Aroclor-1248	0.028	U	1336-36-3	Aroclor (Total)	0.028	U

Worksheet #: 440293 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125132.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 23:16
Operator : MS/ZM/MLC
Sample : AD00475-008
Misc : S,PCB
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:31:15 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

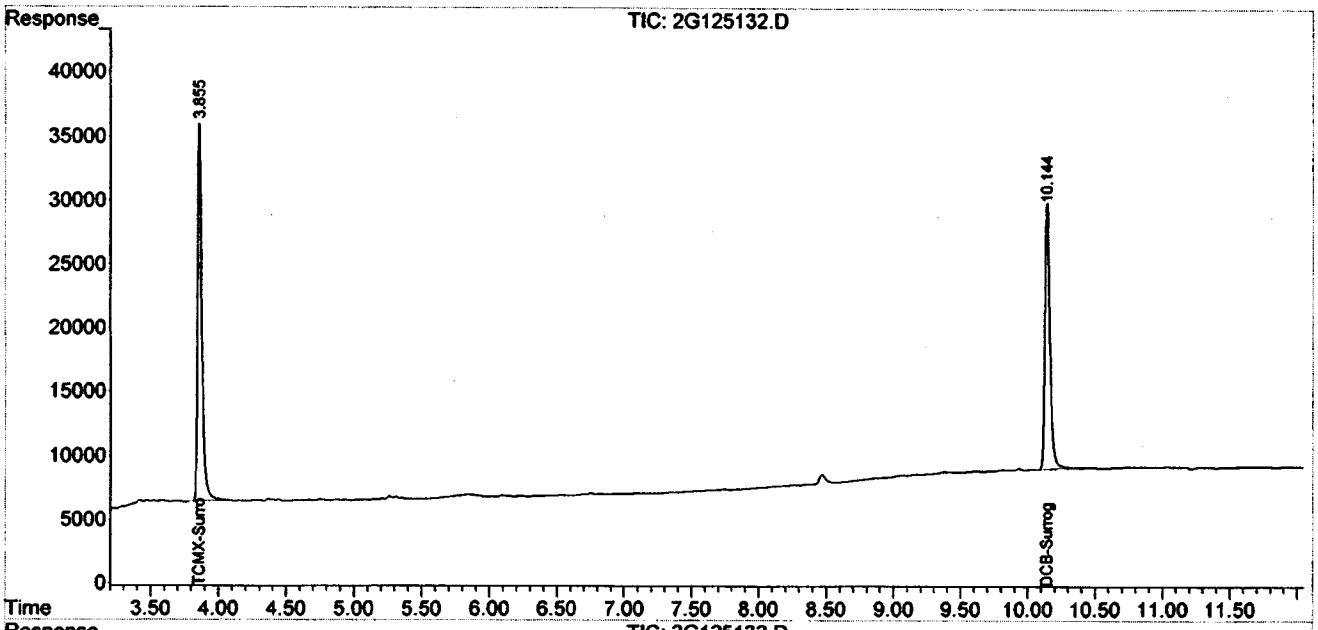
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.856	3.877	648886	560577	89.157	86.162
45)DCB-Surrogate	10.145	10.778	537231	588662	87.924	85.888

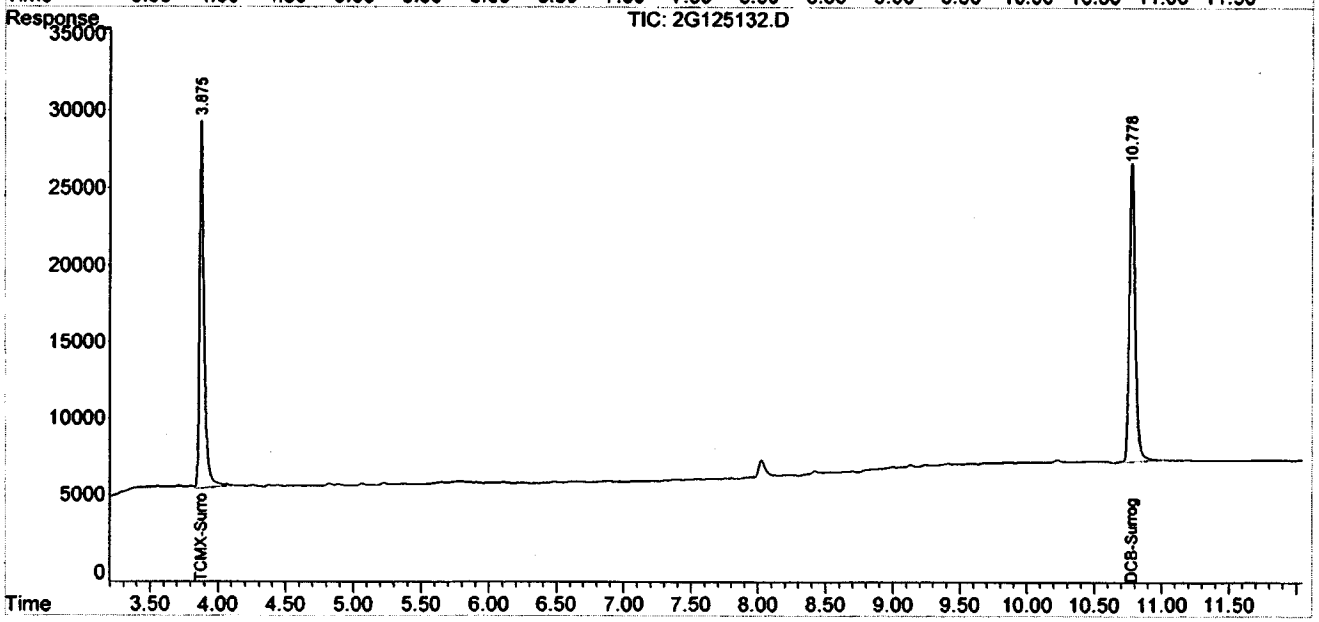
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125132.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 23:16
Operator : MS/ZM/MLC
Sample : AD00475-008
Misc : S,PCB
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:31:15 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: AD00475-010
Client Id: SB08 COMP
Data File: 2G125133.D
Analysis Date: 10/10/17 23:32
Date Rec/Extracted: 10/06/17-10/10/17
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: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.028	U	11097-69-1	Aroclor-1254	0.028	U
11104-28-2	Aroclor-1221	0.028	U	11096-82-5	Aroclor-1260	0.028	U
11141-16-5	Aroclor-1232	0.028	U	37324-23-5	Aroclor-1262	0.028	U
53469-21-9	Aroclor-1242	0.028	U	11100-14-4	Aroclor-1268	0.028	U
12672-29-6	Aroclor-1248	0.028	U	1336-36-3	Aroclor (Total)	0.028	U

Worksheet #: 440293

Total Target Concentration 0

ColumnID: (^) Indicates results from 2nd column

- Indicates the compound was analyzed but not detected.
- 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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125133.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 23:32
Operator : MS/ZM/MLC
Sample : AD00475-010
Misc : S,PCB
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:31:28 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

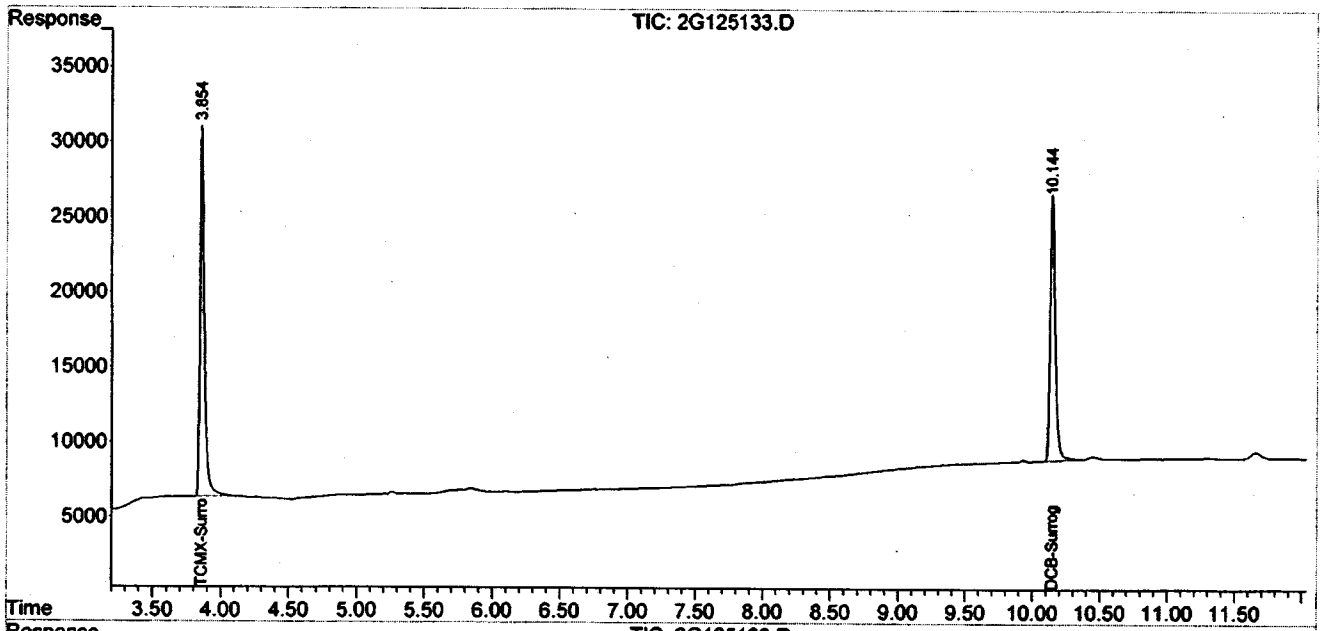
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.854	3.876	566507	470297	77.838m	72.285
45)DCB-Surrogate	10.145	10.780	458888	510099	74.612	74.024

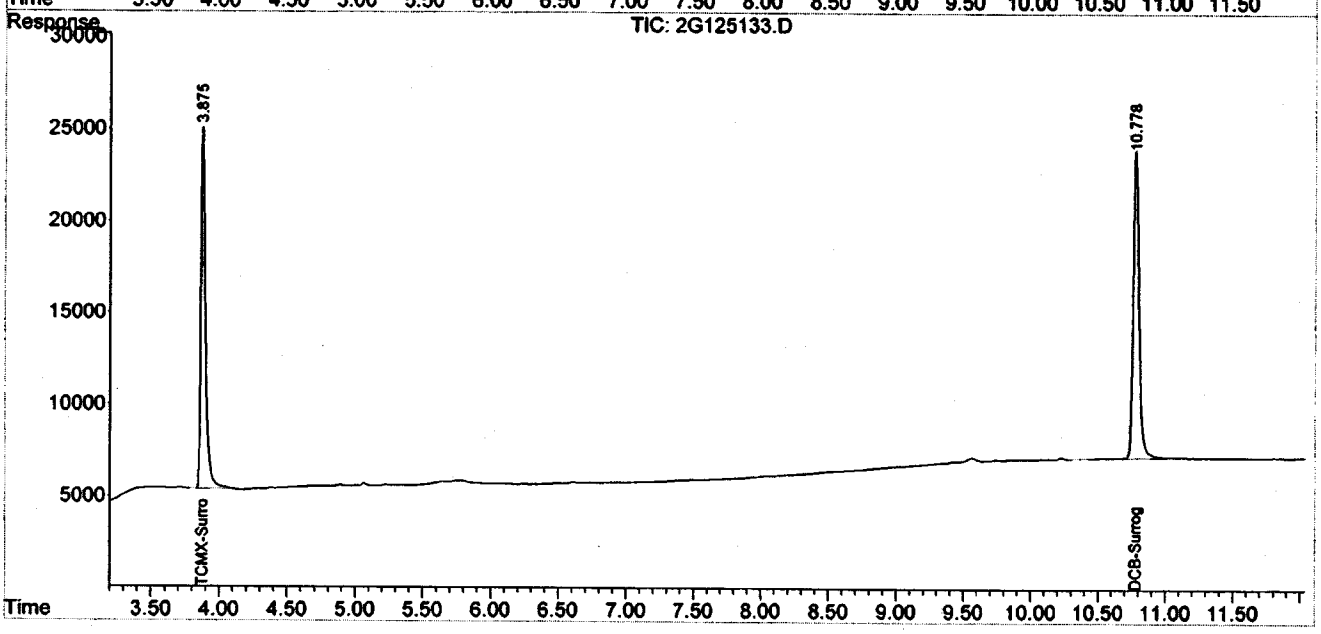
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125133.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 23:32
Operator : MS/ZM/MLC
Sample : AD00475-010
Misc : S,PCB
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:31:28 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: AD00475-012
Client Id: SB09 COMP
Data File: 2G125134.D
Analysis Date: 10/10/17 23:47
Date Rec/Extracted: 10/06/17-10/10/17
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: 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 #: 440293

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125134.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 23:47
Operator : MS/ZM/MLC
Sample : AD00475-012
Misc : S,PCB
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:31:42 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

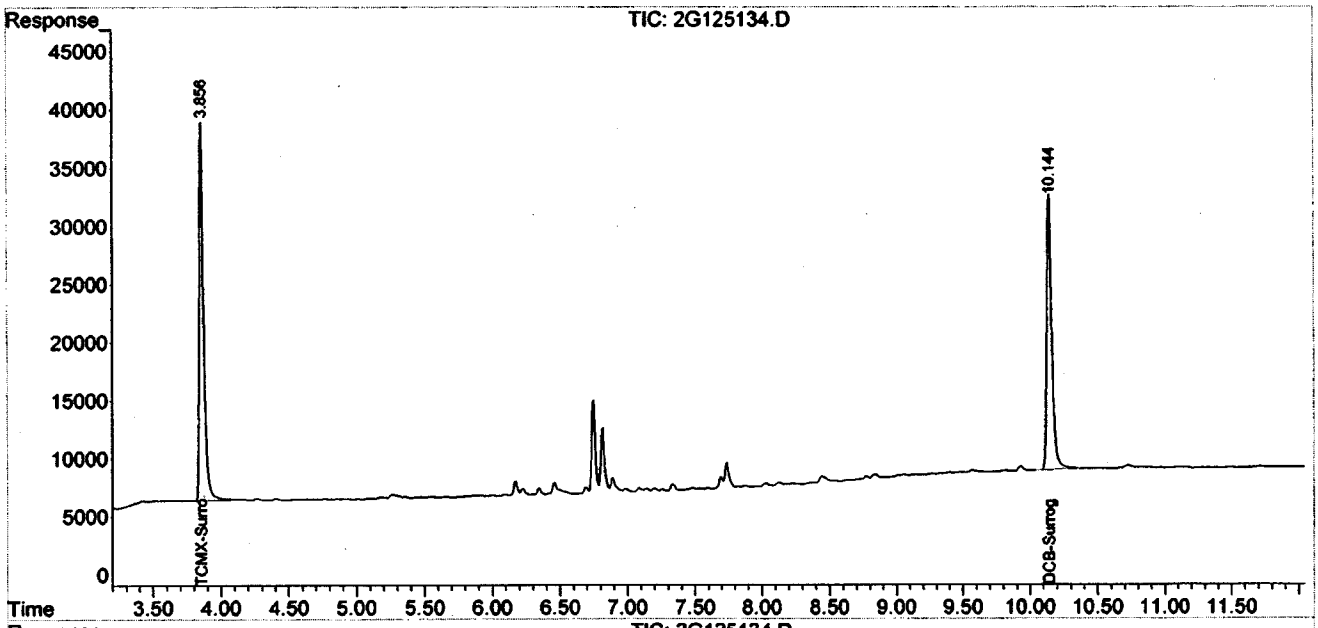
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.856	3.876	723618	602442	99.425m	92.596m
45)DCB-Surrogate	10.145	10.778	610904	657407	100.610	96.381

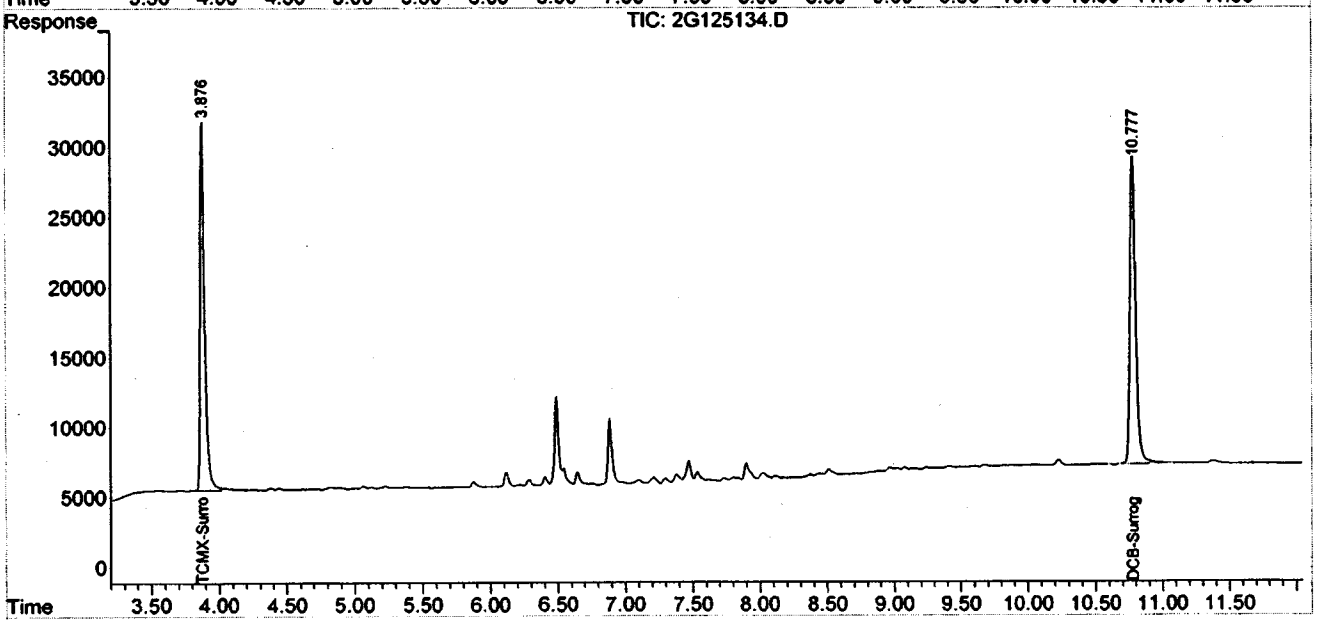
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125134.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 23:47
Operator : MS/ZM/MLC
Sample : AD00475-012
Misc : S,PCB
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:31:42 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: AD00475-014
Client Id: SB07 COMP
Data File: 2G125117.D
Analysis Date: 10/10/17 19:25
Date Rec/Extracted: 10/06/17-10/10/17
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 #: 440293 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

- 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.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 19:25
Operator : MS/ZM/MLC
Sample : AD00475-014
Misc : S,PCB
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:25:58 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

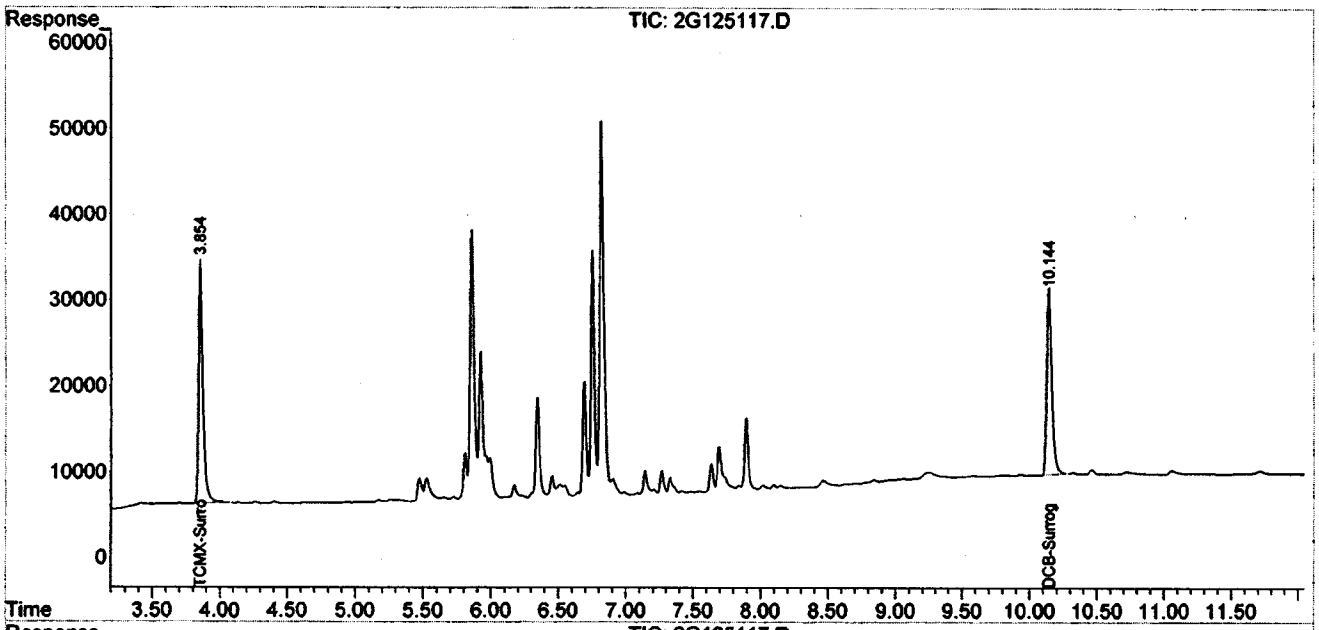
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.855	3.875	637409	558245	87.580	85.803
45)DCB-Surrogate	10.146	10.779	550388	702789	90.177	103.366

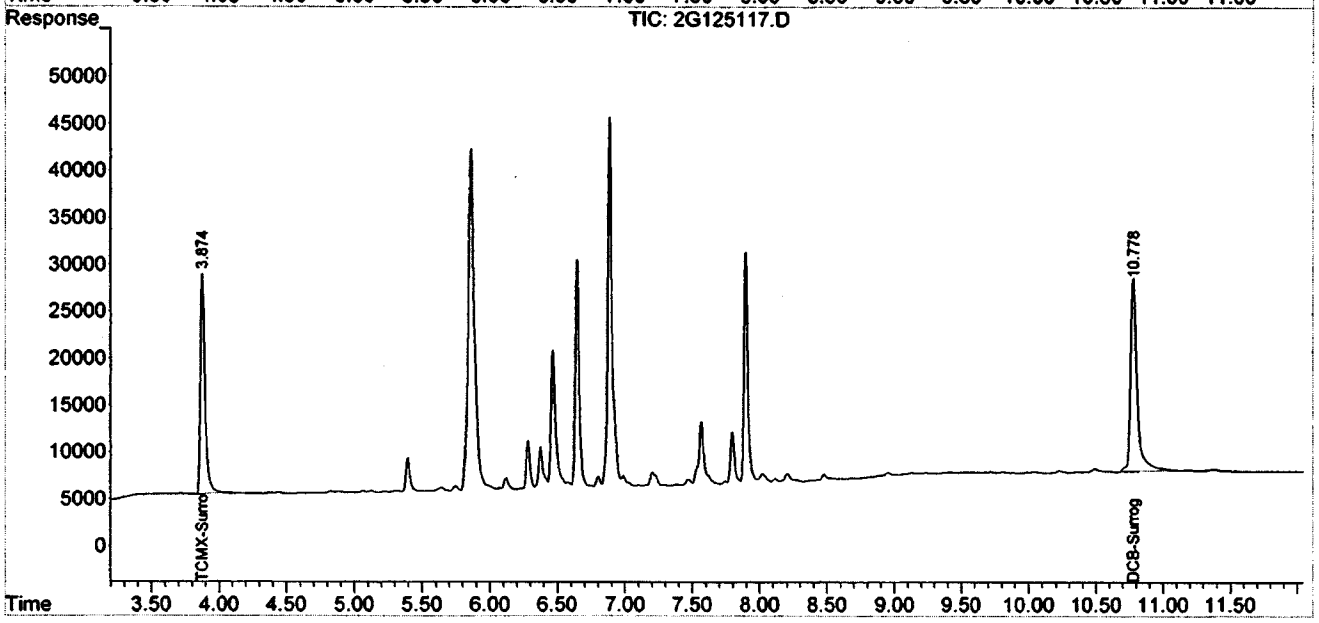
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_2\Data\10-10-17\
Data File : 2G125117.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 19:25
Operator : MS/ZM/MLC
Sample : AD00475-014
Misc : S,PCB
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Oct 11 10:25:58 2017
Quant Method : G:\GCDATA\2017\GC_2\METHODQT\2G_C1006.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Fri Oct 06 14:59:24 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: SMB63116
Client Id:
Data File: 3G104185.D
Analysis Date: 10/10/17 15:58
Date Rec/Extracted: NA-10/10/17
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: 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 #: 440293

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) 7100701 0189

Data Path : G:\Gcdata\2017\GC_3\Data\10-10-17\
Data File : 3G104185.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 15:58
Operator : MS/MLC/ZM
Sample : SMB63116
Misc : S,PCB
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 16:23:18 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32

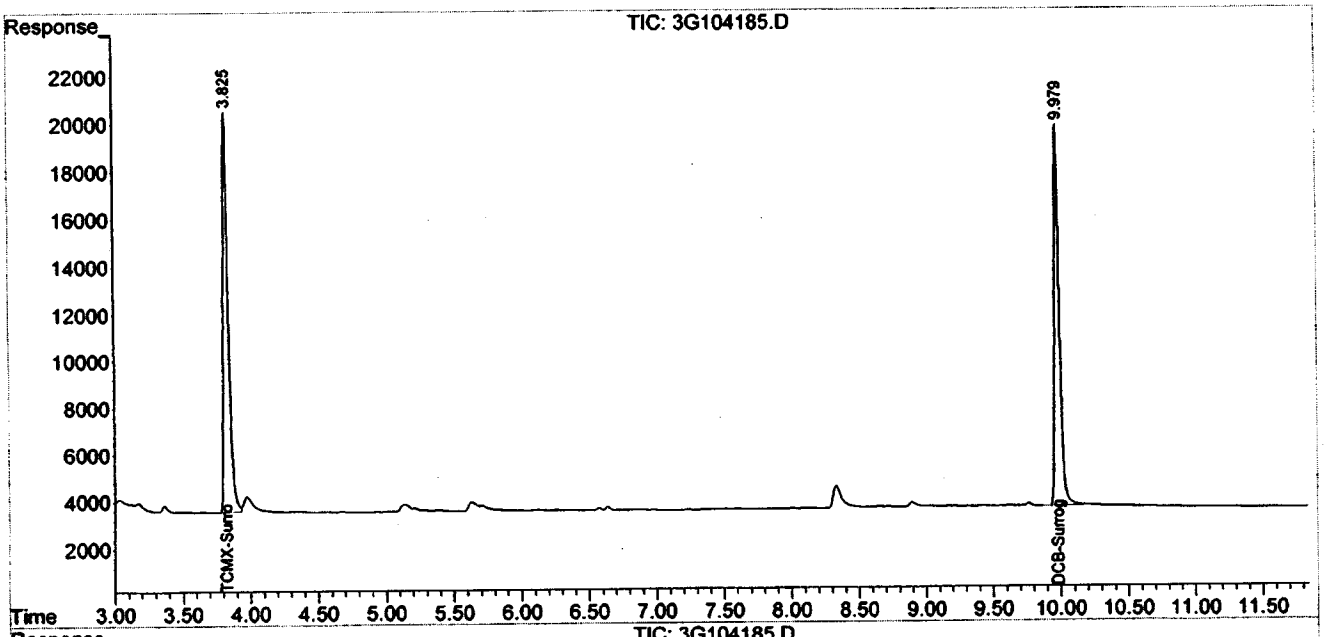
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.826	3.863	436796	680628	82.772	80.266
45)DCB-Surrogate	9.980	10.657	410201	675664	71.974	72.095

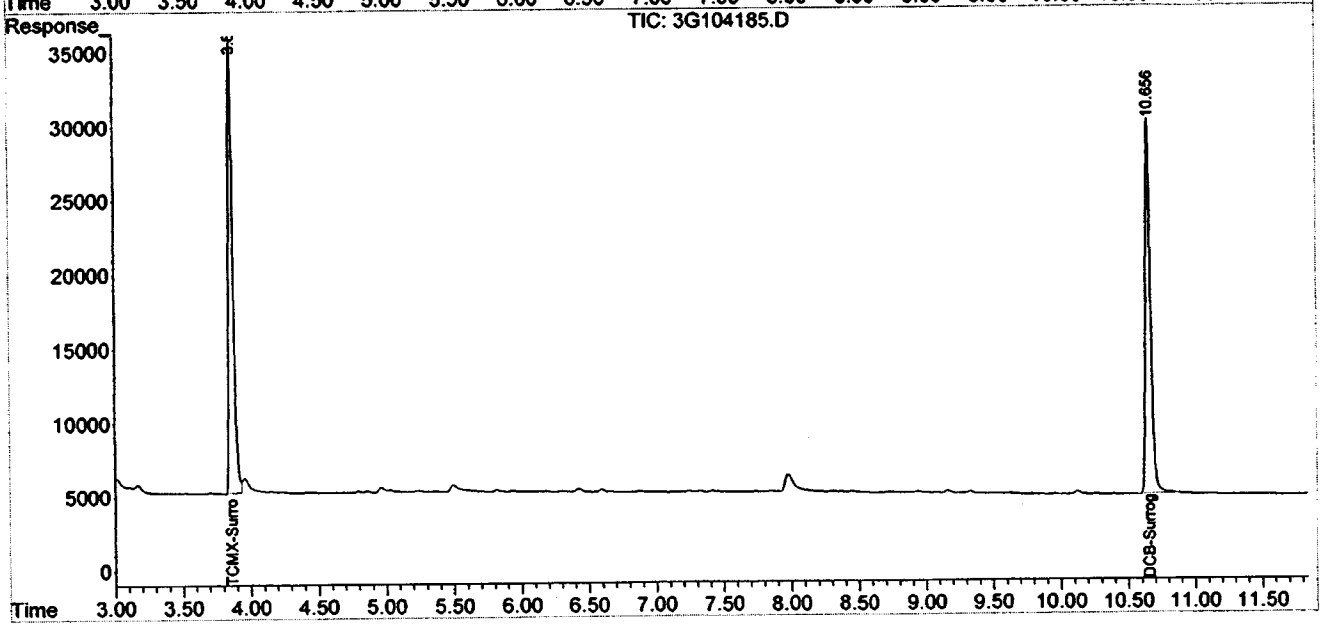
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2017\GC_3\Data\10-10-17\
Data File : 3G104185.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 15:58
Operator : MS/MLC/ZM
Sample : SMB63116
Misc : S,PCB
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 16:23:18 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P Signal #2 Phase: db-17
Signal #1 Info : .32 Signal #2 Info : .32





Form1

ORGANICS PCB REPORT

Sample Number: SMB63117
Client Id:
Data File: 3G104187.D
Analysis Date: 10/10/17 16:27
Date Rec/Extracted: NA-10/10/17
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: 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 #: 440293

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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) 7100701 0192

Data Path : G:\Gcdata\2017\GC_3\Data\10-10-17\
Data File : 3G104187.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 16:27
Operator : MS/MLC/ZM
Sample : SMB63117
Misc : S,PCB
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 16:41:13 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P 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	3.825	3.862	386427	596355	73.227	70.328
45)DCB-Surrogate	9.979	10.656	427482	702492	75.058	75.009

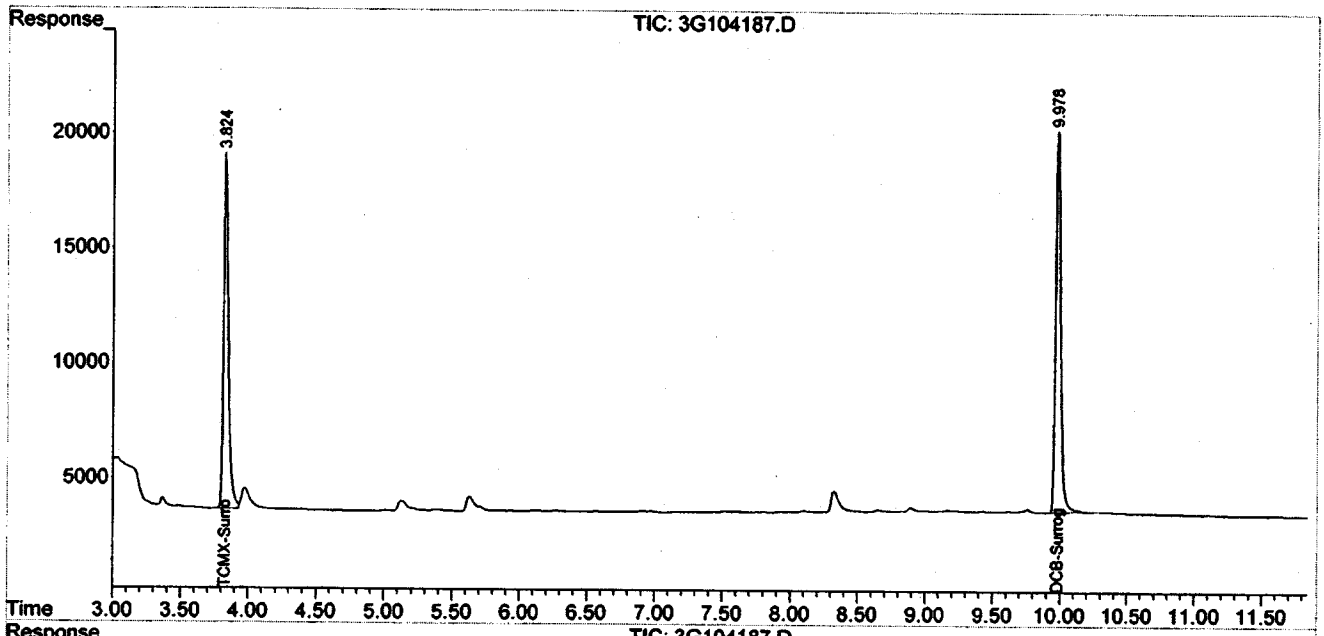
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

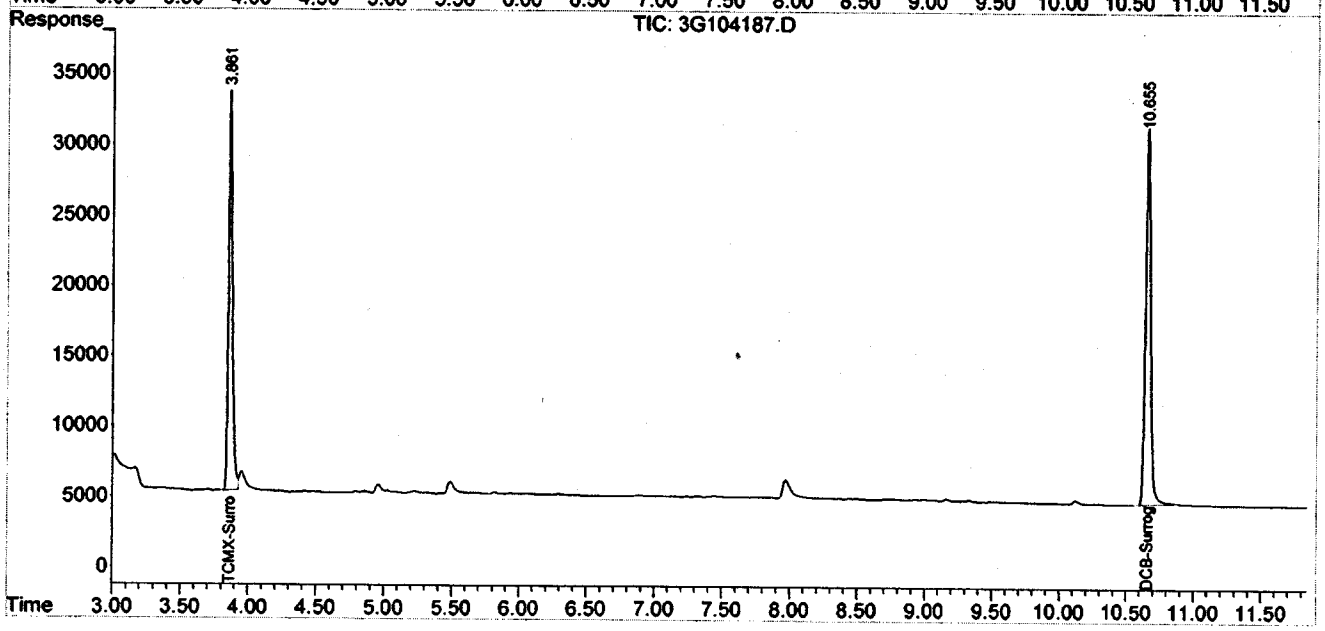
Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_3\Data\10-10-17\
Data File : 3G104187.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 10 Oct 2017 16:27
Operator : MS/MLC/ZM
Sample : SMB63117
Misc : S,PCB
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Oct 10 16:41:13 2017
Quant Method : G:\GCDATA\2017\GC_3\METHODQT\3G_C1006.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Fri Oct 06 13:39:10 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. : 1ul
Signal #1 Phase : db-1701P 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
3G104185.D	SMB63116	S	10/10/17 15:58	1		83	80	72	72		
3G104187.D	SMB63117	S	10/10/17 16:27	1		73	70	75	75		
2G125129.D	AD00475-002	S	10/10/17 22:30	1		83	74	80	77		
2G125130.D	AD00475-004	S	10/10/17 22:46	1		78	69	72	71		
2G125131.D	AD00475-006	S	10/10/17 23:01	1		88	80	82	80		
2G125132.D	AD00475-008	S	10/10/17 23:16	1		89	86	88	86		
2G125133.D	AD00475-010	S	10/10/17 23:32	1		78	72	75	74		
2G125134.D	AD00475-012	S	10/10/17 23:47	1		99	93	101	96		
2G125117.D	AD00475-014	S	10/10/17 19:25	1		88	86	90	103		
2G125114.D	AD00493-002(MS)	S	10/10/17 18:38	1		76	74	77	77		
2G125115.D	AD00493-002(MSD)	S	10/10/17 18:54	1		71	70	68	69		
2G125116.D	AD00493-002	S	10/10/17 19:09	1		102	101	94	97		
3G104186.D	SMB63116(MS)	S	10/10/17 16:13	1		62	60	74	74		
3G104188.D	SMB63117(MS)	S	10/10/17 16:42	1		84	81	78	79		
3G104190.D	AD00455-001(MS)	S	10/10/17 17:54	1		89	82	80	81		
3G104191.D	AD00455-001(MSD)	S	10/10/17 18:09	1		76	72	70	71		
3G104192.D	AD00455-001	S	10/10/17 18:24	1		101	96	101	104		

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8082A

Soil Laboratory Limits

Compound	Spike Amt	Limits
S1=TCMX-Surrogate	100	37-141
S2=TCMX-Surrogate	100	37-141
S3=DCB-Surrogate	100	34-146
S4=DCB-Surrogate	100	34-146

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63116

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104186.D	SMB63116(MS)	10/10/2017 4:13:00 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	1	774.53	0	1000	77	30	163
Aroclor-1260 -Total	1	859.26	0	1000	86	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63117

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104188.D	SMB63117(MS)	10/10/2017 4:42:00 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	1	902.844	0	1000	90	30	163
Aroclor-1260 -Total	1	904.636	0	1000	90	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63116

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104190.D	AD00455-001(MS)	10/10/2017 5:54:00 PM
Non Spike(If applicable):	3G104192.D	AD00455-001	10/10/2017 6:24:00 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	1	964.474	0	1000	96	30	163
Aroclor-1260 -Total	1	973.972	0	1000	97	25	166

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104191.D	AD00455-001(MSD)	10/10/2017 6:09:00 PM
Non Spike(If applicable):	3G104192.D	AD00455-001	10/10/2017 6:24:00 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	1	852.25	0	1000	85	30	163
Aroclor-1260 -Total	1	853.42	0	1000	85	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: SMB63116

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G104191.D	AD00455-001(MSD)	10/10/2017 6:09:00 PM
Duplicate(If applicable):	3G104190.D	AD00455-001(MS)	10/10/2017 5:54:00 PM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Aroclor-1016 -Total	1	852.25	964.474	12	40
Aroclor-1260 -Total	1	853.42	973.972	13	37

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63117

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G125114.D	AD00493-002(MS)	10/10/2017 6:38:00 PM
Non Spike(If applicable):	2G125116.D	AD00493-002	10/10/2017 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	1	824.018	0	1000	82	30	163
Aroclor-1260 -Total	1	770.816	0	1000	77	25	166

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G125115.D	AD00493-002(MSD)	10/10/2017 6:54:00 PM
Non Spike(If applicable):	2G125116.D	AD00493-002	10/10/2017 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	1	774.638	0	1000	77	30	163
Aroclor-1260 -Total	1	727.514	0	1000	73	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: SMB63117

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G125115.D	AD00493-002(MSD)	10/10/2017 6:54:00 PM
Duplicate(If applicable):	2G125114.D	AD00493-002(MS)	10/10/2017 6:38:00 PM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Aroclor-1016 -Total	1	774.638	824.018	6.2	40
Aroclor-1260 -Total	1	727.514	770.816	5.8	37

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: SMB63116
Blank Data File: 3G104185.D
Matrix: Soil

Blank Analysis Date: 10/10/17 15:58
Blank Extraction Date: 10/10/17
(If Applicable)
Method: EPA 8082A

Sample Number	Data File	Analysis Date
AD00475-002	2G125129.D	10/10/17 22:30
AD00475-004	2G125130.D	10/10/17 22:46
AD00475-006	2G125131.D	10/10/17 23:01
AD00475-008	2G125132.D	10/10/17 23:16
AD00475-010	2G125133.D	10/10/17 23:32
AD00475-012	2G125134.D	10/10/17 23:47
AD00455-001	3G104192.D	10/10/17 18:24
AD00455-001(MSD	3G104191.D	10/10/17 18:09
AD00455-001(MS)	3G104190.D	10/10/17 17:54
SMB63116(MS)	3G104186.D	10/10/17 16:13

FORM 4
Blank Summary

Blank Number: SMB63117
Blank Data File: 3G104187.D
Matrix: Soil

Blank Analysis Date: 10/10/17 16:27
Blank Extraction Date: 10/10/17
(If Applicable)
Method: EPA 8082A

Sample Number	Data File	Analysis Date
AD00475-014	2G125117.D	10/10/17 19:25
SMB63117(MS)	3G104188.D	10/10/17 16:42
AD00493-002	2G125116.D	10/10/17 19:09
AD00493-002(MSD	2G125115.D	10/10/17 18:54
AD00493-002(MS)	2G125114.D	10/10/17 18:38

Form 5

Method: EPA 8082A
Instrument: GC_3

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
3G104086.D	CAL 3268@500PPB	10/06/17 10:55	Soil	3G10409	9.9744	0.01	10.6503	0.0216
3G104087.D	CAL 1242@500PPB	10/06/17 11:10	Soil	3G10409	9.9747	0.007	10.6526	0
3G104088.D	CAL 1248@500PPB	10/06/17 11:25	Soil	3G10409	9.9761	0.007	10.6537	0.0103
3G104089.D	CAL 2154@500PPB	10/06/17 11:39	Soil	3G10409	9.9758	0.004	10.6528	0.0019
3G104090.D	CAL 1262@500PPB	10/06/17 11:54	Soil	3G10409	9.9750	0.004	10.6525	0.0009
3G104091.D	CAL 1660@50PPB	10/06/17 12:09	Soil	3G10409	9.9754	0	10.6526	0
3G104092.D	CAL 1660@200PPB	10/06/17 12:24	Soil	3G10409	9.9766	0.012	10.6537	0.0103
3G104093.D	CAL 1660@500PPB	10/06/17 12:39	Soil	3G10409	9.9758	0.004	10.6541	0.0141
3G104094.D	CAL 1660@1000PPB	10/06/17 12:54	Soil	3G10409	9.9756	0.002	10.6531	0.0047
3G104095.D	CAL 1660@2000PPB	10/06/17 13:09	Soil	3G10409	9.9757	0.003	10.6542	0.015
3G104096.D	CAL 1660@4000PPB	10/06/17 13:23	Soil	3G10409	9.9761	0.007	10.6527	0.0009
3G104097.D	ICV	10/06/17 13:38	Soil	3G10409	9.9752	0.002	10.6530	0.0038
3G104098.D	PEST WS	10/06/17 13:53	Soil	3G10409	0.0000	200*	0.0000	200*
3G104099.D	SMB63091	10/06/17 14:21	Soil	3G10409	9.9843	0.0892	10.6546	0.0188
3G104100.D	SMB63091(MS)	10/06/17 14:36	Soil	3G10409	9.9774	0.02	10.6514	0.0113
3G104101.D	AD00415-004	10/06/17 14:50	Soil	3G10409	9.9756	0.002	10.6522	0.0038
3G104102.D	AD00415-002	10/06/17 15:05	Soil	3G10409	9.9763	0.009	10.6540	0.0131
3G104103.D	AD00415-006	10/06/17 15:20	Soil	3G10409	9.9775	0.021	10.6546	0.0188
3G104104.D	AD00415-002(MS)	10/06/17 15:35	Soil	3G10409	9.9766	0.012	10.6534	0.0075
3G104105.D	AD00415-002(MSD)	10/06/17 15:50	Soil	3G10409	9.9768	0.014	10.6520	0.0056
3G104106.D	CAL 1660@2000PPB	10/06/17 16:05	Soil	3G10409	9.9763	0.009	10.6527	0.0009

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 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
2G125054.D	CAL 3268@500PPB	10/06/17 11:51	Soil	2G12505	10.1441	0.0138	10.7765	0.0195
2G125055.D	CAL 1242@500PPB	10/06/17 12:06	Soil	2G12505	10.1460	0.0049	10.7779	0.0065
2G125056.D	CAL 1248@500PPB	10/06/17 12:21	Soil	2G12505	10.1465	0.0099	10.7798	0.0111
2G125057.D	CAL 2154@500PPB	10/06/17 12:36	Soil	2G12505	10.1476	0.0207	10.7802	0.0148
2G125058.D	CAL 1262@500PPB	10/06/17 12:51	Soil	2G12505	10.1463	0.0079	10.7794	0.0074
2G125059.D	CAL 1660@50PPB	10/06/17 13:07	Soil	2G12505	10.1455	0	10.7786	0
2G125060.D	CAL 1660@200PPB	10/06/17 13:22	Soil	2G12505	10.1481	0.0256	10.7811	0.0232
2G125061.D	CAL 1660@500PPB	10/06/17 13:37	Soil	2G12505	10.1466	0.0108	10.7802	0.0148
2G125062.D	CAL 1660@1000PPB	10/06/17 13:53	Soil	2G12505	10.1468	0.0128	10.7796	0.0093
2G125063.D	CAL 1660@2000PPB	10/06/17 14:08	Soil	2G12505	10.1457	0.002	10.7793	0.0065
2G125064.D	CAL 1660@4000PPB	10/06/17 14:23	Soil	2G12505	10.1454	0.001	10.7770	0.0148
2G125065.D	ICV	10/06/17 14:38	Soil	2G12505	10.1455	0	10.7781	0.0046
2G125066.D	PEST WS	10/06/17 14:53	Soil	2G12505	0.0000	200 *	0.0000	200 *
2G125067.D	AD00317-004(100X)	10/06/17 15:09	Soil	2G12505	0.0000	200 *	0.0000	200 *
2G125068.D	AD00317-008	10/06/17 15:24	Soil	2G12505	10.1616	0.1586	10.7929	0.1326
2G125069.D	CAL 1660@1000PPB	10/06/17 15:50	Soil	2G12505	10.1519	0.0631	10.7820	0.0315

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 8082A
Instrument: GC_3

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
3G104180.D	CAL 1660@500PPB	10/10/17 10:23	Soil	3G10418	9.9830	0	10.6567	0
3G104181.D	AD00474-001(5X)	10/10/17 12:53	Soil	3G10418	9.9884	0.0541	10.6581	0.0131
3G104182.D	AD00433-015(100X)	10/10/17 13:08	Soil	3G10418	0.0000	200*	0.0000	200*
3G104183.D	SMB63114	10/10/17 15:28	Soil	3G10418	9.9870	0.0401	10.6572	0.0047
3G104184.D	SMB63114(MS)	10/10/17 15:43	Soil	3G10418	9.9805	0.025	10.6559	0.0075
3G104185.D	SMB63116	10/10/17 15:58	Soil	3G10418	9.9803	0.027	10.6568	0.0009
3G104186.D	SMB63116(MS)	10/10/17 16:13	Soil	3G10418	9.9797	0.0331	10.6567	0
3G104187.D	SMB63117	10/10/17 16:27	Soil	3G10418	9.9792	0.0381	10.6557	0.0094
3G104188.D	SMB63117(MS)	10/10/17 16:42	Soil	3G10418	9.9794	0.0361	10.6561	0.0056
3G104189.D	CAL 1660@1000PPB	10/10/17 16:57	Soil	3G10418	9.9804	0.026	10.6583	0.015
3G104190.D	AD00455-001(MS)	10/10/17 17:54	Soil	3G10418	9.9870	0.0661	10.6573	0.0094
3G104191.D	AD00455-001(MSD)	10/10/17 18:09	Soil	3G10418	9.9794	0.01	10.6546	0.0347
3G104192.D	AD00455-001	10/10/17 18:24	Soil	3G10418	9.9789	0.015	10.6558	0.0235
3G104193.D	AD00473-001	10/10/17 18:39	Soil	3G10418	9.9798	0.006	10.6554	0.0272
3G104194.D	AD00437-001	10/10/17 18:54	Soil	3G10418	9.9804	0	10.6570	0.0122
3G104195.D	AD00437-002	10/10/17 19:09	Soil	3G10418	9.9799	0.005	10.6565	0.0169
3G104196.D	AD00437-004	10/10/17 19:24	Soil	3G10418	9.9797	0.007	10.6570	0.0122
3G104197.D	AD00437-005	10/10/17 19:39	Soil	3G10418	9.9792	0.012	10.6564	0.0178
3G104198.D	AD00437-006	10/10/17 19:54	Soil	3G10418	9.9802	0.002	10.6567	0.015
3G104199.D	AD00437-007	10/10/17 20:09	Soil	3G10418	9.9801	0.003	10.6568	0.0141
3G104200.D	AD00437-008	10/10/17 20:25	Soil	3G10418	9.9783	0.021	10.6552	0.0291
3G104201.D	AD00437-009	10/10/17 20:40	Soil	3G10418	9.9796	0.008	10.6570	0.0122
3G104202.D	AD00437-010	10/10/17 20:55	Soil	3G10418	9.9785	0.019	10.6549	0.0319
3G104203.D	AD00437-011	10/10/17 21:10	Soil	3G10418	9.9785	0.019	10.6567	0.015
3G104204.D	AD00437-012	10/10/17 21:25	Soil	3G10418	9.9793	0.011	10.6554	0.0272
3G104205.D	CAL 1660@1000PPB	10/10/17 21:40	Soil	3G10418	9.9791	0.013	10.6561	0.0206
3G104206.D	2000PPB	10/10/17 21:56	Soil	3G10420	9.9794	0.003	10.6566	0.0047
3G104207.D	AD00454-001(MS)	10/10/17 22:10	Soil	3G10420	9.9781	0.01	10.6559	0.0019
3G104208.D	AD00454-001(MSD)	10/10/17 22:25	Soil	3G10420	9.9792	0.001	10.6562	0.0009
3G104209.D	AD00454-001	10/10/17 22:40	Soil	3G10420	9.9795	0.004	10.6560	0.0009
3G104210.D	AD00454-002	10/10/17 22:55	Soil	3G10420	9.9795	0.004	10.6562	0.0009
3G104211.D	AD00454-003	10/10/17 23:10	Soil	3G10420	9.9791	0	10.6566	0.0047
3G104212.D	AD00460-001	10/10/17 23:25	Soil	3G10420	9.9804	0.013	10.6567	0.0056
3G104213.D	AD00460-002	10/10/17 23:40	Soil	3G10420	9.9792	0.001	10.6567	0.0056
3G104214.D	AD00460-003	10/10/17 23:55	Soil	3G10420	9.9790	0.001	10.6561	0
3G104215.D	AD00460-004	10/11/17 00:10	Soil	3G10420	9.9790	0.001	10.6558	0.0028
3G104216.D	AD00460-005	10/11/17 00:25	Soil	3G10420	9.9792	0.001	10.6560	0.0009
3G104217.D	AD00460-006	10/11/17 00:40	Soil	3G10420	9.9796	0.005	10.6572	0.0103
3G104218.D	AD00460-007	10/11/17 00:55	Soil	3G10420	9.9800	0.009	10.6574	0.0122
3G104219.D	AD00460-008	10/11/17 01:10	Soil	3G10420	9.9780	0.011	10.6560	0.0009
3G104220.D	CAL 1660@1000PPB	10/11/17 01:25	Soil	3G10420	9.9785	0.006	10.6557	0.0038
3G104221.D	2000PPB	10/11/17 01:40	Soil	3G10422	9.9786	0.001	10.6562	0.0047

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 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
2G125097.D	500PPB	10/10/17 11:29	Aoueous					
2G125098.D	CAL 1660@500PPB	10/10/17 12:56	Aoueous	2G12509	10.1472	0	10.7807	0
2G125099.D	AD00433-006	10/10/17 13:13	Soil	2G12509	10.1500	0.0276	10.7837	0.0278
2G125100.D	AD00433-005	10/10/17 13:28	Soil	2G12509	10.1504	0.0315	10.7828	0.0195
2G125101.D	AD00433-008	10/10/17 13:43	Soil	2G12509	10.1517	0.0443	10.7860	0.0492
2G125102.D	AD00433-007	10/10/17 13:58	Soil	2G12509	10.1526	0.0532	10.7877	0.0649
2G125103.D	AD00433-009	10/10/17 14:14	Soil	2G12509	10.1482	0.0099	10.7868	0.0566
2G125104.D	AD00433-010	10/10/17 14:29	Soil	2G12509	10.1513	0.0404	10.7850	0.0399
2G125105.D	AD00433-012	10/10/17 14:44	Soil	2G12509	10.1532	0.0591	10.7875	0.0631
2G125106.D	AD00433-011	10/10/17 14:59	Soil	2G12509	10.1544	0.0709	10.7876	0.064
2G125107.D	AD00433-013	10/10/17 15:14	Soil	2G12509	10.1570	0.0965	10.7891	0.0779
2G125108.D	AD00433-014	10/10/17 15:30	Soil	2G12509	10.1546	0.0729	10.7892	0.0788
2G125109.D	AD00433-002	10/10/17 15:45	Soil	2G12509	10.1542	0.069	10.7880	0.0677
2G125110.D	AD00433-004	10/10/17 16:00	Soil	2G12509	10.1548	0.0749	10.7890	0.077
2G125111.D	AD00433-003	10/10/17 16:16	Soil	2G12509	10.1543	0.0699	10.7878	0.0658
2G125112.D	1000PPB	10/10/17 17:07	Soil	2G12509	10.1524	0.0512	10.7865	0.0538
2G125113.D	CAL 1660@500PPB	10/10/17 18:23	Soil	2G12509	10.1436	0.0355	10.7787	0.0186
2G125114.D	AD00493-002(MS)	10/10/17 18:38	Soil	2G12511	10.1446	0.0099	10.7770	0.0158
2G125115.D	AD00493-002(MSD)	10/10/17 18:54	Soil	2G12511	10.1456	0.0197	10.7793	0.0056
2G125116.D	AD00493-002	10/10/17 19:09	Soil	2G12511	10.1458	0.0217	10.7798	0.0102
2G125117.D	AD00475-014	10/10/17 19:25	Soil	2G12511	10.1455	0.0187	10.7785	0.0019
2G125118.D	AD00459-005	10/10/17 19:40	Soil	2G12511	10.1455	0.0187	10.7798	0.0102
2G125119.D	AD00459-006	10/10/17 19:56	Soil	2G12511	10.1467	0.0306	10.7796	0.0084
2G125120.D	AD00487-001	10/10/17 20:11	Soil	2G12511	10.1447	0.0108	10.7767	0.0186
2G125121.D	AD00487-002	10/10/17 20:27	Soil	2G12511	10.1454	0.0177	10.7799	0.0111
2G125122.D	AD00487-003	10/10/17 20:42	Soil	2G12511	10.1460	0.0237	10.7797	0.0093
2G125123.D	AD00487-004	10/10/17 20:58	Soil	2G12511	10.1468	0.0315	10.7806	0.0176
2G125124.D	AD00461-002	10/10/17 21:13	Soil	2G12511	10.1460	0.0237	10.7789	0.0019
2G125125.D	AD00461-004	10/10/17 21:29	Soil	2G12511	10.1460	0.0237	10.7792	0.0046
2G125126.D	AD00461-006	10/10/17 21:44	Soil	2G12511	10.1443	0.0069	10.7785	0.0019
2G125127.D	CAL 1660@500PPB	10/10/17 21:59	Soil	2G12511	10.1456	0.0197	10.7788	0.0009
2G125128.D	1000PPB	10/10/17 22:15	Soil	2G12512	10.1447	0.0089	10.7785	0.0028
2G125129.D	AD00475-002	10/10/17 22:30	Soil	2G12512	10.1454	0.002	10.7803	0.0139
2G125130.D	AD00475-004	10/10/17 22:46	Soil	2G12512	10.1451	0.0049	10.7789	0.0009
2G125131.D	AD00475-006	10/10/17 23:01	Soil	2G12512	10.1446	0.0099	10.7787	0.0009
2G125132.D	AD00475-008	10/10/17 23:16	Soil	2G12512	10.1446	0.0099	10.7785	0.0028
2G125133.D	AD00475-010	10/10/17 23:32	Soil	2G12512	10.1448	0.0079	10.7798	0.0093
2G125134.D	AD00475-012	10/10/17 23:47	Soil	2G12512	10.1446	0.0099	10.7784	0.0037
2G125135.D	AD00459-002	10/11/17 00:02	Soil	2G12512	10.1448	0.0079	10.7789	0.0009
2G125136.D	AD00459-007	10/11/17 00:18	Soil	2G12512	10.1491	0.0345	10.7815	0.025
2G125137.D	AD00459-003	10/11/17 00:33	Soil	2G12512	10.1472	0.0158	10.7825	0.0343
2G125138.D	AD00437-003	10/11/17 00:49	Soil	2G12512	10.1483	0.0266	10.7812	0.0223
2G125139.D	AD00457-010	10/11/17 01:04	Soil	2G12512	10.1470	0.0138	10.7818	0.0278
2G125140.D	AD00488-005	10/11/17 01:20	Soil	2G12512	10.1481	0.0246	10.7834	0.0427
2G125141.D	AD00488-006	10/11/17 01:35	Soil	2G12512	10.1474	0.0177	10.7812	0.0223
2G125142.D	AD00488-007	10/11/17 01:50	Soil	2G12512	10.1474	0.0177	10.7821	0.0306
2G125143.D	BLK	10/11/17 02:06	Soil	2G12512	10.1481	0.0246	10.7815	0.025
2G125144.D	BLK	10/11/17 02:21	Soil	2G12512	10.1455	0.001	10.7798	0.0093
2G125145.D	CAL 1660@500PPB	10/11/17 02:37	Soil	2G12512	10.1466	0.0099	10.7803	0.0139
2G125146.D	1000PPB	10/11/17 02:52	Soil	2G12514	10.1463	0.003	10.7795	0.0074
2G125147.D	TEST	10/11/17 07:38	Soil	2G12514	10.1510	0.0434	10.7786	0.0158

Drift Compound: DCB-Surrogate

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)

* - Values outside of limits for this column/run

Method: EPA 8082A

Form

Initial Calibration

Instrument: GC_3

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	3G104091.D	CAL 1660@50PPB	10/06/17 12:09	2	3G104092.D	CAL 1660@200PPB	10/06/17 12:24
3	3G104093.D	CAL 1660@500PPB	10/06/17 12:39	4	3G104094.D	CAL 1660@1000PPB	10/06/17 12:54
5	3G104095.D	CAL 1660@2000PPB	10/06/17 13:09	6	3G104096.D	CAL 1660@4000PPB	10/06/17 13:23
7	3G104086.D	CAL 3268@500PPB	10/06/17 10:55	8	3G104087.D	CAL 1242@500PPB	10/06/17 11:10
9	3G104088.D	CAL 1248@500PPB	10/06/17 11:25	10	3G104089.D	CAL 2154@500PPB	10/06/17 11:39

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
TCMX-Surrogate	1	0	Avg	0.5478	0.5248	0.5038	0.5288	0.5315	0.5293	---	---	0.528	3.82	1.00	1.00	2.7	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	1	1	Qua	0.0186	0.0170	0.0158	0.0156	0.0143	0.0131	---	---	0.0158	4.31	0.997	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	2	Qua	0.0366	0.0330	0.0294	0.0280	0.0254	0.0230	---	---	0.0293	4.67	0.997	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	3	Qua	0.0672	0.0615	0.0527	0.0550	0.0483	0.0474	---	---	0.0554	5.13	0.999	0.999	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	4	Avg	0.0181	0.0180	0.0172	0.0173	0.0162	0.0154	---	---	0.0171	5.37	0.999	1.00	6.2	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	5	Qua	0.0469	0.0434	0.0406	0.0405	0.0364	0.0333	---	---	0.0402	5.48	0.997	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	1	Qua	0.0412	0.0388	0.0346	0.0335	0.0303	0.0280	---	---	0.0344	6.97	0.997	1.00	15	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	2	Qua	0.0481	0.0442	0.0400	0.0387	0.0351	0.0326	---	---	0.0398	7.22	0.998	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	3	Avg	0.0217	0.0221	0.0210	0.0210	0.0197	0.0193	---	---	0.0208	7.42	1.00	1.00	5.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	4	Avg	0.0299	0.0277	0.0257	0.0256	0.0237	0.0225	---	---	0.0259	8.00	0.999	1.00	10	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	5	Avg	0.0450	0.0421	0.0395	0.0402	0.0384	0.0379	---	---	0.0406	8.71	1.00	1.00	6.6	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	1	1	Avg	---	---	---	---	---	---	---	---	0.00817	4.11	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	2	Avg	---	---	---	---	---	---	---	---	0.00454	4.25	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	3	Avg	---	---	---	---	---	---	---	---	0.0228	4.31	-1	-1	Lvl=10	500.0							
Aroclor-1232	1	1	Avg	---	---	---	---	---	---	---	---	0.0168	4.31	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	2	Avg	---	---	---	---	---	---	---	---	0.0141	4.67	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	3	Avg	---	---	---	---	---	---	---	---	0.0258	5.13	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	4	Avg	---	---	---	---	---	---	---	---	0.0108	5.26	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	5	Avg	---	---	---	---	---	---	---	---	0.0114	5.72	-1	-1	Lvl=7	500.0							
Aroclor-1242	1	1	Avg	---	---	---	---	---	---	---	---	0.0137	4.31	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	2	Avg	---	---	---	---	---	---	---	---	0.0243	4.67	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	3	Avg	---	---	---	---	---	---	---	---	0.0464	5.13	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	4	Avg	---	---	---	---	---	---	---	---	0.0318	5.48	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	5	Avg	---	---	---	---	---	---	---	---	0.0193	5.72	-1	-1	Lvl=8	500.0							
Aroclor-1248	1	1	Avg	---	---	---	---	---	---	---	---	0.0119	4.67	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	2	Avg	---	---	---	---	---	---	---	---	0.0254	5.13	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	3	Avg	---	---	---	---	---	---	---	---	0.0470	5.47	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	4	Avg	---	---	---	---	---	---	---	---	0.0243	5.82	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	5	Avg	---	---	---	---	---	---	---	---	0.0288	6.41	-1	-1	Lvl=9	500.0							
Aroclor-1254	1	1	Avg	---	---	---	---	---	---	---	---	0.0132	6.61	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	2	Avg	---	---	---	---	---	---	---	---	0.0410	6.81	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	3	Avg	---	---	---	---	---	---	---	---	0.0244	6.98	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	4	Avg	---	---	---	---	---	---	---	---	0.0359	7.09	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	5	Avg	---	---	---	---	---	---	---	---	0.0163	7.47	-1	-1	Lvl=10	500.0							
Aroclor-1262	1	1	Avg	---	---	---	---	---	---	---	---	0.0435	7.65	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	2	Avg	---	---	---	---	---	---	---	---	0.0251	8.64	-1	-1	Lvl=11	500.0							

Avg Rsd Col 1: 10.52 Avg Rsd Col 2: 16.01

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. pch/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

7100701 0207

Form 6
Initial Calibration

Method: EPA 8082A

Instrument: GC_3

Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	3G104091.D	CAL 1660@50PPB	10/06/17 12:09
3	3G104093.D	CAL 1660@500PPB	10/06/17 12:39
5	3G104095.D	CAL 1660@2000PPB	10/06/17 13:09
7	3G104086.D	CAL 3268@500PPB	10/06/17 10:55
9	3G104088.D	CAL 1248@500PPB	10/06/17 11:25

Level #:	Data File:	Cal Identifier:	Analysis Date/Time
2	3G104092.D	CAL 1660@200PPB	10/06/17 12:24
4	3G104094.D	CAL 1660@1000PPB	10/06/17 12:54
6	3G104096.D	CAL 1660@4000PPB	10/06/17 13:23
8	3G104087.D	CAL 1242@500PPB	10/06/17 11:10
10	3G104089.D	CAL 2154@500PPB	10/06/17 11:39

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
Aroclor-1262	1	3	Avg	---	---	---	---	---	---	---	---	0.0506	8.71	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	4	Avg	---	---	---	---	---	---	---	---	0.0241	9.41	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	5	Avg	---	---	---	---	---	---	---	---	0.00852	9.76	-1	-1	Lvl=11	500.0							
Aroclor-1268	1	1	Avg	---	---	---	---	---	---	---	---	0.00875	8.00	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	2	Avg	---	---	---	---	---	---	---	---	0.00713	8.31	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	3	Avg	---	---	---	---	---	---	---	---	0.0612	8.88	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	4	Avg	---	---	---	---	---	---	---	---	0.0169	8.98	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	5	Avg	---	---	---	---	---	---	---	---	0.191	9.75	-1	-1	Lvl=7	500.0							
DCB-Surrogate	1	0	Qua	0.7105	0.6306	0.5749	0.5822	0.5461	0.5285	---	---	0.596	9.98	0.999	1.00	11	5.00	20.00	50.00	100.0	200.0	400.0		
TCMX-Surrogate	2	0	Avg	0.8856	0.8803	0.8183	0.8498	0.8357	0.8178	---	---	0.848	3.86	1.00	1.00	3.5	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	2	1	Qua	0.0304	0.0259	0.0229	0.0215	0.0194	0.0175	---	---	0.0230	4.45	0.996	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	2	Qua	0.0611	0.0535	0.0457	0.0421	0.0371	0.0332	---	---	0.0455	4.86	0.995	1.00	23	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	3	Qua	0.1094	0.1022	0.0907	0.0856	0.0781	0.0722	---	---	0.0898	5.25	0.998	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	4	Qua	0.0507	0.0458	0.0405	0.0380	0.0342	0.0315	---	---	0.0402	5.57	0.997	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	5	Qua	0.0356	0.0311	0.0284	0.0270	0.0244	0.0227	---	---	0.0282	5.94	0.998	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	1	Qua	0.0802	0.0690	0.0597	0.0563	0.0500	0.0462	---	---	0.0603	7.23	0.997	1.00	21	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	2	Qua	0.0828	0.0734	0.0643	0.0608	0.0541	0.0506	---	---	0.0644	7.32	0.998	1.00	19	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	3	Qua	0.0345	0.0291	0.0277	0.0265	0.0237	0.0222	---	---	0.0273	7.94	0.998	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	4	Qua	0.0661	0.0589	0.0526	0.0521	0.0479	0.0464	---	---	0.0540	8.30	0.999	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	5	Qua	0.0586	0.0517	0.0472	0.0462	0.0435	0.0433	---	---	0.0485	9.00	1.00	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	2	1	Avg	---	---	---	---	---	---	---	---	0.0127	4.24	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	2	Avg	---	---	---	---	---	---	---	---	0.00838	4.38	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	3	Avg	---	---	---	---	---	---	---	---	0.0276	4.45	-1	-1	Lvl=10	500.0							
Aroclor-1232	2	1	Avg	---	---	---	---	---	---	---	---	0.0246	4.45	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	2	Avg	---	---	---	---	---	---	---	---	0.0236	4.86	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	3	Avg	---	---	---	---	---	---	---	---	0.0419	5.24	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	4	Avg	---	---	---	---	---	---	---	---	0.0158	5.93	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	5	Avg	---	---	---	---	---	---	---	---	0.0124	6.08	-1	-1	Lvl=7	500.0							
Aroclor-1242	2	1	Avg	---	---	---	---	---	---	---	---	0.0204	4.45	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	2	Avg	---	---	---	---	---	---	---	---	0.0377	4.86	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	3	Avg	---	---	---	---	---	---	---	---	0.0733	5.24	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	4	Avg	---	---	---	---	---	---	---	---	0.0321	5.57	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	5	Avg	---	---	---	---	---	---	---	---	0.0260	5.93	-1	-1	Lvl=8	500.0							
Aroclor-1248	2	1	Avg	---	---	---	---	---	---	---	---	0.0179	4.86	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	2	Avg	---	---	---	---	---	---	---	---	0.0451	5.24	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	3	Avg	---	---	---	---	---	---	---	---	0.0361	5.57	-1	-1	Lvl=9	500.0							

Avg Rsd Col 1: 10.52 Avg Rsd Col 2: 16.01

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. pch/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

7100701 0208

Method: EPA 8082A

Form
Initial Calibration

Instrument: GC_3

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	3G104091.D	CAL 1660@50PPB	10/06/17 12:09	2	3G104092.D	CAL 1660@200PPB	10/06/17 12:24
3	3G104093.D	CAL 1660@500PPB	10/06/17 12:39	4	3G104094.D	CAL 1660@1000PPB	10/06/17 12:54
5	3G104095.D	CAL 1660@2000PPB	10/06/17 13:09	6	3G104096.D	CAL 1660@4000PPB	10/06/17 13:23
7	3G104086.D	CAL 3268@500PPB	10/06/17 10:55	8	3G104087.D	CAL 1242@500PPB	10/06/17 11:10
9	3G104088.D	CAL 1248@500PPB	10/06/17 11:25	10	3G104089.D	CAL 2154@500PPB	10/06/17 11:39

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
Aroclor-1248	2	4	Avg	---	---	---	---	---	---	---	---	0.0318	6.08	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	5	Avg	---	---	---	---	---	---	---	---	0.0420	6.21	-1	-1	Lvl=9	500.0							
Aroclor-1254	2	1	Avg	---	---	---	---	---	---	---	---	0.0568	6.43	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	2	Avg	---	---	---	---	---	---	---	---	0.0193	6.77	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	3	Avg	---	---	---	---	---	---	---	---	0.0491	7.17	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	4	Avg	---	---	---	---	---	---	---	---	0.0235	7.68	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	5	Avg	---	---	---	---	---	---	---	---	0.0227	8.36	-1	-1	Lvl=10	500.0							
Aroclor-1262	2	1	Avg	---	---	---	---	---	---	---	---	0.0550	7.73	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	2	Avg	---	---	---	---	---	---	---	---	0.0441	8.89	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	3	Avg	---	---	---	---	---	---	---	---	0.0504	9.00	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	4	Avg	---	---	---	---	---	---	---	---	0.0529	9.58	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	5	Avg	---	---	---	---	---	---	---	---	0.0144	10.12	-1	-1	Lvl=11	500.0							
Aroclor-1268	2	1	Avg	---	---	---	---	---	---	---	---	0.0103	8.40	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	2	Avg	---	---	---	---	---	---	---	---	0.0162	8.44	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	3	Avg	---	---	---	---	---	---	---	---	0.0993	9.32	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	4	Avg	---	---	---	---	---	---	---	---	0.0264	9.48	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	5	Avg	---	---	---	---	---	---	---	---	0.318	10.12	-1	-1	Lvl=7	500.0							
DCB-Surrogate	2	0	Qua	1.2464	1.0538	0.9501	0.9568	0.8960	0.8661	---	---	0.995	10.65	0.999	1.00	14	5.00	20.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 10.52 Avg Rsd Col 2: 16.01

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. pch/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

Form 6
Initial Calibration

Method: EPA 8082A

Instrument: GC_2

Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	2G125059.D	CAL 1660@50PPB	10/06/17 13:07
2	2G125060.D	CAL 1660@200PPB	10/06/17 13:22
3	2G125061.D	CAL 1660@500PPB	10/06/17 13:37
4	2G125062.D	CAL 1660@1000PPB	10/06/17 13:53
5	2G125063.D	CAL 1660@2000PPB	10/06/17 14:08
6	2G125064.D	CAL 1660@4000PPB	10/06/17 14:23
7	2G125054.D	CAL 3268@500PPB	10/06/17 11:51
8	2G125055.D	CAL 1242@500PPB	10/06/17 12:06
9	2G125056.D	CAL 1248@500PPB	10/06/17 12:21
10	2G125057.D	CAL 2154@500PPB	10/06/17 12:36

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
TCMX-Surrogate	1	0	Avg	0.8354	0.7896	0.7161	0.7123	0.6797	0.6335	----	----	0.728	3.85	0.999	1.00	10	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	1	1	Qua	0.0253	0.0210	0.0186	0.0176	0.0160	0.0143	----	----	0.0188	4.37	0.996	1.00	21	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	2	Qua	0.0500	0.0438	0.0366	0.0340	0.0300	0.0259	----	----	0.0368	4.74	0.992	1.00	24	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	3	Qua	0.0924	0.0777	0.0668	0.0628	0.0568	0.0502	----	----	0.0678	5.21	0.995	1.00	22	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	4	Qua	0.0274	0.0250	0.0222	0.0213	0.0199	0.0178	----	----	0.0223	5.46	0.996	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	5	Qua	0.0671	0.0577	0.0504	0.0473	0.0439	0.0384	----	----	0.0508	5.57	0.995	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	1	Qua	0.0528	0.0465	0.0407	0.0384	0.0339	0.0299	----	----	0.0404	7.08	0.994	1.00	21	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	2	Qua	0.0592	0.0519	0.0458	0.0434	0.0386	0.0343	----	----	0.0456	7.34	0.995	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	3	Qua	0.0292	0.0267	0.0247	0.0244	0.0230	0.0217	----	----	0.0250	7.54	0.999	1.00	11	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	4	Qua	0.0392	0.0335	0.0300	0.0291	0.0266	0.0243	----	----	0.0305	8.12	0.997	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	5	Qua	0.0578	0.0496	0.0459	0.0452	0.0427	0.0404	----	----	0.0470	8.85	0.999	1.00	13	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	1	1	Avg	----	----	----	----	----	----	----	----	0.0103	4.17	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	2	Avg	----	----	----	----	----	----	----	----	0.00633	4.32	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	3	Avg	----	----	----	----	----	----	----	----	0.0265	4.38	-1	-1	Lvl=10	500.0							
Aroclor-1232	1	1	Avg	----	----	----	----	----	----	----	----	0.0180	4.37	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	2	Avg	----	----	----	----	----	----	----	----	0.0168	4.74	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	3	Avg	----	----	----	----	----	----	----	----	0.0291	5.21	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	4	Avg	----	----	----	----	----	----	----	----	0.0145	5.34	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	5	Avg	----	----	----	----	----	----	----	----	0.0139	5.81	-1	-1	Lvl=7	500.0							
Aroclor-1242	1	1	Avg	----	----	----	----	----	----	----	----	0.0158	4.37	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	2	Avg	----	----	----	----	----	----	----	----	0.0292	4.74	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	3	Avg	----	----	----	----	----	----	----	----	0.0534	5.21	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	4	Avg	----	----	----	----	----	----	----	----	0.0388	5.57	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	5	Avg	----	----	----	----	----	----	----	----	0.0238	5.81	-1	-1	Lvl=8	500.0							
Aroclor-1248	1	1	Avg	----	----	----	----	----	----	----	----	0.0137	4.74	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	2	Avg	----	----	----	----	----	----	----	----	0.0330	5.21	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	3	Avg	----	----	----	----	----	----	----	----	0.0575	5.55	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	4	Avg	----	----	----	----	----	----	----	----	0.0306	5.92	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	5	Avg	----	----	----	----	----	----	----	----	0.0345	6.52	-1	-1	Lvl=9	500.0							
Aroclor-1254	1	1	Avg	----	----	----	----	----	----	----	----	0.0156	6.72	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	2	Avg	----	----	----	----	----	----	----	----	0.0472	6.93	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	3	Avg	----	----	----	----	----	----	----	----	0.0291	7.09	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	4	Avg	----	----	----	----	----	----	----	----	0.0416	7.21	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	5	Avg	----	----	----	----	----	----	----	----	0.0175	7.60	-1	-1	Lvl=10	500.0							
Aroclor-1262	1	1	Avg	----	----	----	----	----	----	----	----	0.0506	7.77	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	2	Avg	----	----	----	----	----	----	----	----	0.0284	8.78	-1	-1	Lvl=11	500.0							

Avg Rsd Col 1: 17.75 Avg Rsd Col 2: 19.18

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. pch/chlordane etc..)
Fit = Indicates whehter 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 db-1701 : Signal #2 db-608

7100701 0210

Method: EPA 8082A

Form
Initial Calibration

Instrument: GC_2

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	2G125059.D	CAL 1660@50PPB	10/06/17 13:07	2	2G125060.D	CAL 1660@200PPB	10/06/17 13:22
3	2G125061.D	CAL 1660@500PPB	10/06/17 13:37	4	2G125062.D	CAL 1660@1000PPB	10/06/17 13:53
5	2G125063.D	CAL 1660@2000PPB	10/06/17 14:08	6	2G125064.D	CAL 1660@4000PPB	10/06/17 14:23
7	2G125054.D	CAL 3268@500PPB	10/06/17 11:51	8	2G125055.D	CAL 1242@500PPB	10/06/17 12:06
9	2G125056.D	CAL 1248@500PPB	10/06/17 12:21	10	2G125057.D	CAL 2154@500PPB	10/06/17 12:36

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
Aroclor-1262	1	3	Avg	---	---	---	---	---	---	---	---	0.0582	8.85	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	4	Avg	---	---	---	---	---	---	---	---	0.0279	9.58	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	5	Avg	---	---	---	---	---	---	---	---	0.00960	9.94	-1	-1	Lvl=11	500.0							
Aroclor-1268	1	1	Avg	---	---	---	---	---	---	---	---	0.00811	8.11	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	2	Avg	---	---	---	---	---	---	---	---	0.00852	8.44	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	3	Avg	---	---	---	---	---	---	---	---	0.0639	9.01	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	4	Avg	---	---	---	---	---	---	---	---	0.0185	9.11	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	5	Avg	---	---	---	---	---	---	---	---	0.194	9.93	-1	-1	Lvl=7	500.0							
DCB-Surrogate	1	0	Qua	0.8440	0.7227	0.6427	0.6237	0.5669	0.5179	---	---	0.653	10.15	0.997	1.00	18	5.00	20.00	50.00	100.0	200.0	400.0		
TCMX-Surrogate	2	0	Avg	0.7432	0.6714	0.6450	0.6442	0.6169	0.5827	---	---	0.651	3.87	0.999	1.00	8.4	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	2	1	Qua	0.0235	0.0194	0.0174	0.0161	0.0144	0.0130	---	---	0.0174	4.48	0.996	1.00	22	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	2	Qua	0.0458	0.0406	0.0336	0.0323	0.0283	0.0244	---	---	0.0342	4.90	0.992	1.00	23	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	3	Qua	0.0917	0.0766	0.0662	0.0655	0.0592	0.0524	---	---	0.0686	5.29	0.995	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	4	Qua	0.0395	0.0333	0.0284	0.0275	0.0239	0.0214	---	---	0.0290	5.61	0.995	1.00	22	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	5	Qua	0.0274	0.0236	0.0204	0.0199	0.0178	0.0157	---	---	0.0208	5.99	0.994	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	1	Qua	0.0594	0.0509	0.0436	0.0404	0.0352	0.0307	---	---	0.0434	7.30	0.993	1.00	24	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	2	Qua	0.0648	0.0553	0.0486	0.0446	0.0391	0.0346	---	---	0.0479	7.38	0.994	1.00	23	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	3	Qua	0.0274	0.0225	0.0214	0.0199	0.0179	0.0162	---	---	0.0209	8.01	0.996	1.00	19	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	4	Qua	0.0491	0.0446	0.0397	0.0385	0.0341	0.0313	---	---	0.0396	8.37	0.997	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	5	Qua	0.0439	0.0382	0.0335	0.0329	0.0318	0.0283	---	---	0.0348	9.07	0.996	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	2	1	Avg	---	---	---	---	---	---	---	---	0.00968	4.26	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	2	Avg	---	---	---	---	---	---	---	---	0.00601	4.41	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	3	Avg	---	---	---	---	---	---	---	---	0.0207	4.48	-1	-1	Lvl=10	500.0							
Aroclor-1232	2	1	Avg	---	---	---	---	---	---	---	---	0.0177	4.48	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	2	Avg	---	---	---	---	---	---	---	---	0.0172	4.90	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	3	Avg	---	---	---	---	---	---	---	---	0.0300	5.28	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	4	Avg	---	---	---	---	---	---	---	---	0.0135	5.61	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	5	Avg	---	---	---	---	---	---	---	---	0.00887	6.12	-1	-1	Lvl=7	500.0							
Aroclor-1242	2	1	Avg	---	---	---	---	---	---	---	---	0.0152	4.48	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	2	Avg	---	---	---	---	---	---	---	---	0.0277	4.90	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	3	Avg	---	---	---	---	---	---	---	---	0.0544	5.28	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	4	Avg	---	---	---	---	---	---	---	---	0.0233	5.61	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	5	Avg	---	---	---	---	---	---	---	---	0.0194	5.98	-1	-1	Lvl=8	500.0							
Aroclor-1248	2	1	Avg	---	---	---	---	---	---	---	---	0.0135	4.90	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	2	Avg	---	---	---	---	---	---	---	---	0.0334	5.28	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	3	Avg	---	---	---	---	---	---	---	---	0.0257	5.61	-1	-1	Lvl=9	500.0							

Avg Rsd Col 1: 17.75 Avg Rsd Col 2: 19.18

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. pcb/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

7100701 0211

Form 6
Initial Calibration

Method: EPA 8082A

Instrument: GC_2

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	2G125059.D	CAL 1660@50PPB	10/06/17 13:07	2	2G125060.D	CAL 1660@200PPB	10/06/17 13:22
3	2G125061.D	CAL 1660@500PPB	10/06/17 13:37	4	2G125062.D	CAL 1660@1000PPB	10/06/17 13:53
5	2G125063.D	CAL 1660@2000PPB	10/06/17 14:08	6	2G125064.D	CAL 1660@4000PPB	10/06/17 14:23
7	2G125054.D	CAL 3268@500PPB	10/06/17 11:51	8	2G125055.D	CAL 1242@500PPB	10/06/17 12:06
9	2G125056.D	CAL 1248@500PPB	10/06/17 12:21	10	2G125057.D	CAL 2154@500PPB	10/06/17 12:36

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
Aroclor-1248	2	4	Avg	---	---	---	---	---	---	---	---	0.0238	6.13	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	5	Avg	---	---	---	---	---	---	---	---	0.0309	6.26	-1	-1	Lvl=9	500.0							
Aroclor-1254	2	1	Avg	---	---	---	---	---	---	---	---	0.0446	6.48	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	2	Avg	---	---	---	---	---	---	---	---	0.0142	6.83	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	3	Avg	---	---	---	---	---	---	---	---	0.0373	7.22	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	4	Avg	---	---	---	---	---	---	---	---	0.0183	7.74	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	5	Avg	---	---	---	---	---	---	---	---	0.0172	8.43	-1	-1	Lvl=10	500.0							
Aroclor-1262	2	1	Avg	---	---	---	---	---	---	---	---	0.0410	7.80	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	2	Avg	---	---	---	---	---	---	---	---	0.0318	8.96	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	3	Avg	---	---	---	---	---	---	---	---	0.0362	9.07	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	4	Avg	---	---	---	---	---	---	---	---	0.0380	9.67	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	5	Avg	---	---	---	---	---	---	---	---	0.0105	10.22	-1	-1	Lvl=11	500.0							
Aroclor-1268	2	1	Avg	---	---	---	---	---	---	---	---	0.00644	8.47	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	2	Avg	---	---	---	---	---	---	---	---	0.0117	8.51	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	3	Avg	---	---	---	---	---	---	---	---	0.0683	9.41	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	4	Avg	---	---	---	---	---	---	---	---	0.0184	9.57	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	5	Avg	---	---	---	---	---	---	---	---	0.217	10.22	-1	-1	Lvl=7	500.0							
DCB-Surrogate	2	0	Qua	0.9158	0.7837	0.7107	0.6932	0.6417	0.5876	---	---	0.722	10.78	0.997	1.00	16	5.00	20.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 17.75 Avg Rsd Col 2: 19.18

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. pcb/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

7100701 0212

Form7
Continuing Calibration

Method: EPA 8082A

				2G125113.D			2G125127.D			2G125145.D			3G104180.D			3G104189.D		
Data File:				2G125113.D			2G125127.D			2G125145.D			3G104180.D			3G104189.D		
Method:				8082			8082			8082			8082			8082		
Calibration Name:				CAL 1660@500PP			CAL 1660@500PP			CAL 1660@500PP			CAL 1660@500PP			CAL 1660@1000PP		
Calibration Date/Time				10/10/17 18:23			10/10/17 21:59			10/11/17 02:37			10/10/17 10:23			10/10/17 16:57		
Compound	Limit	Col	Mr	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff
TCMX-Surrogate	20	1	0	46.65	50	6.7	48.53	50	2.9	52.05	50	4.1	44.99	50	10.0	102.4	100	2.4
Aroclor-1016	20	1	1	483.2	500	3.4	522.9	500	4.6	559.8	500	12.0	490.3	500	1.9	1038	1000	3.8
Aroclor-1016	20	1	2	512.4	500	2.5	516	500	3.2	547.6	500	9.5	503.7	500	0.7	1042	1000	4.2
Aroclor-1016	20	1	3	502.6	500	0.5	533.9	500	6.8	559.6	500	11.9	490.5	500	1.9	1101	1000	10.1
Aroclor-1016	20	1	4	472.9	500	5.4	527.7	500	5.5	538.8	500	7.8	478.8	500	4.2	1031	1000	3.1
Aroclor-1016	20	1	5	464.4	500	7.1	588.2	500	17.6	536.3	500	7.3	469.6	500	6.1	1050	1000	5.0
Aroclor-1260	20	1	1	459.2	500	8.2	498.2	500	0.4	542.7	500	8.5	479.7	500	4.1	1044	1000	4.4
Aroclor-1260	20	1	2	452.3	500	9.6	486.0	500	2.8	534	500	6.8	475.4	500	4.9	1042	1000	4.2
Aroclor-1260	20	1	3	427.2	500	14.6	457.6	500	8.5	511.7	500	2.3	446.8	500	10.6	1013	1000	1.3
Aroclor-1260	20	1	4	446.3	500	10.7	462.1	500	7.6	504.8	500	1.0	453.9	500	9.2	986.6	1000	1.3
Aroclor-1260	20	1	5	425	500	15.0	461	500	7.8	484.9	500	3.0	435.6	500	12.9	978.1	1000	2.2
DCB-Surrogate	20	1	0	45.51	50	9.0	46.64	50	6.7	55.16	50	10.3	41.96	50	16.1	93.28	100	6.7
Average Difference	20	1	0			7.7			6.2			7.0			6.9			4.1
TCMX-Surrogate	20	2	0	47.39	50	5.2	47.29	50	5.4	48.48	50	3.0	46.44	50	7.1	102.2	100	2.2
Aroclor-1016	20	2	1	515.6	500	3.1	514.1	500	2.8	532.4	500	6.5	516.1	500	3.2	1050	1000	5.0
Aroclor-1016	20	2	2	499.6	500	0.1	526.7	500	5.3	535.4	500	7.1	526.9	500	5.4	1062	1000	6.2
Aroclor-1016	20	2	3	585.4	500	17.1	521.0	500	4.2	522.9	500	4.6	504.2	500	0.8	1056	1000	5.6
Aroclor-1016	20	2	4	507.9	500	1.6	565.1	500	13.0	543.5	500	8.7	509.9	500	2.0	1065	1000	6.5
Aroclor-1016	20	2	5	493	500	1.4	544.7	500	8.9	519.4	500	3.9	508.7	500	1.7	1067	1000	6.7
Aroclor-1260	20	2	1	471.2	500	5.8	485.6	500	2.9	513.6	500	2.7	504.3	500	0.9	1055	1000	5.5
Aroclor-1260	20	2	2	475.7	500	4.9	478.6	500	4.3	508	500	1.6	500.6	500	0.1	1056	1000	5.6
Aroclor-1260	20	2	3	433.2	500	13.4	432.8	500	13.4	463.4	500	7.3	483.1	500	3.4	1052	1000	5.2
Aroclor-1260	20	2	4	413.7	500	17.3	439.7	500	12.1	462.0	500	7.6	487.8	500	2.5	1033	1000	3.3
Aroclor-1260	20	2	5	399.2	500	20.2	420.5	500	15.9	428.1	500	14.4	456.0	500	8.8	1016	1000	1.6
DCB-Surrogate	20	2	0	43.71	50	12.6	56.31	50	12.6	45.99	50	8.0	41.95	50	16.1	94.11	100	5.9
Average Difference	20	2	0			8.5			8.4			6.3			4.3			4.9

Flags/Notes: **** - Values outside of limits for this column/run***

Form7
Continuing Calibration

Method: EPA 8082A

Data File:				3G104205.D														
Method:				8082														
Calibration Name:				CAL 1660@1000PP														
Calibration Date/Time				10/10/17 21:40														
					Conc			Conc			Conc			Conc			Conc	
Compound	Limit	Col	Mr	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
TCMX-Surrogate	20	1	0	103.5	100	3.5												
Aroclor-1016	20	1	1	1045	1000	4.5												
Aroclor-1016	20	1	2	1053	1000	5.3												
Aroclor-1016	20	1	3	1115	1000	11.5												
Aroclor-1016	20	1	4	1048	1000	4.8												
Aroclor-1016	20	1	5	1067	1000	6.7												
Aroclor-1260	20	1	1	1063	1000	6.3												
Aroclor-1260	20	1	2	1061	1000	6.1												
Aroclor-1260	20	1	3	1027	1000	2.7												
Aroclor-1260	20	1	4	1008	1000	0.8												
Aroclor-1260	20	1	5	1000	1000	0.0												
DCB-Surrogate	20	1	0	96.02	100	4.0												
Average Difference	20	1	0			4.7												
TCMX-Surrogate	20	2	0	104.5	100	4.5												
Aroclor-1016	20	2	1	1080	1000	8.0												
Aroclor-1016	20	2	2	1088	1000	8.8												
Aroclor-1016	20	2	3	1087	1000	8.7												
Aroclor-1016	20	2	4	1106	1000	10.6												
Aroclor-1016	20	2	5	1120	1000	12.0												
Aroclor-1260	20	2	1	1090	1000	9.0												
Aroclor-1260	20	2	2	1093	1000	9.3												
Aroclor-1260	20	2	3	1074	1000	7.4												
Aroclor-1260	20	2	4	1049	1000	4.9												
Aroclor-1260	20	2	5	1014	1000	1.4												
DCB-Surrogate	20	2	0	100.9	100	0.8												
Average Difference	20	2	0			7.1												

Flags/Notes: **** - Values outside of limits for this column/run***

Form7
RtWindow Summary

Method: EPA 8082A

Compound	Col	Mr	2G125059.D CAL 1660@50PPB 10/6/2017 1:07:00 PM Cal RT	Limit	3G104091.D CAL 1660@50PPB 10/6/2017 12:09:00 PM Cal RT	Limit	2G125113.D CAL 1660@500PPB 10/10/2017 6:23:00 PM Cal RT	Limit	2G125127.D CAL 1660@500PPB 10/10/2017 9:59:00 PM Cal RT	Limit	3G104180.D CAL 1660@500PPB 10/10/2017 10:23:00 AM Cal RT	Limit
TCMX-Surrogate	1	0	3.85	(3.79 - 3.91)	3.82	(3.76 - 3.88)	3.85	(3.79 - 3.91)	3.86	(3.80 - 3.92)	3.83	(3.77 - 3.89)
Aroclor-1016	1	1	4.37	(4.33 - 4.41)	4.31	(4.27 - 4.35)	4.37	(4.33 - 4.41)	4.37	(4.33 - 4.41)	4.32	(4.28 - 4.36)
Aroclor-1016	1	2	4.74	(4.70 - 4.78)	4.67	(4.63 - 4.71)	4.74	(4.70 - 4.78)	4.74	(4.70 - 4.78)	4.68	(4.64 - 4.72)
Aroclor-1016	1	3	5.21	(5.17 - 5.25)	5.13	(5.09 - 5.17)	5.20	(5.16 - 5.24)	5.21	(5.17 - 5.25)	5.14	(5.10 - 5.18)
Aroclor-1016	1	4	5.45	(5.41 - 5.49)	5.37	(5.33 - 5.41)	5.45	(5.41 - 5.49)	5.46	(5.42 - 5.50)	5.37	(5.33 - 5.41)
Aroclor-1016	1	5	5.57	(5.53 - 5.61)	5.48	(5.44 - 5.52)	5.57	(5.53 - 5.61)	5.57	(5.53 - 5.61)	5.49	(5.45 - 5.53)
Aroclor-1260	1	1	7.08	(7.04 - 7.12)	6.97	(6.93 - 7.01)	7.08	(7.04 - 7.12)	7.08	(7.04 - 7.12)	6.98	(6.94 - 7.02)
Aroclor-1260	1	2	7.33	(7.29 - 7.37)	7.22	(7.18 - 7.26)	7.33	(7.29 - 7.37)	7.33	(7.29 - 7.37)	7.23	(7.19 - 7.27)
Aroclor-1260	1	3	7.54	(7.50 - 7.58)	7.42	(7.38 - 7.46)	7.53	(7.49 - 7.57)	7.53	(7.49 - 7.57)	7.42	(7.38 - 7.46)
Aroclor-1260	1	4	8.12	(8.08 - 8.16)	8.00	(7.96 - 8.04)	8.12	(8.08 - 8.16)	8.12	(8.08 - 8.16)	8.00	(7.96 - 8.04)
Aroclor-1260	1	5	8.85	(8.81 - 8.89)	8.71	(8.67 - 8.75)	8.84	(8.80 - 8.88)	8.85	(8.81 - 8.89)	8.72	(8.68 - 8.76)
Aroclor-1221	1	1	4.16	(4.12 - 4.20)	4.11	(4.07 - 4.15)						
Aroclor-1221	1	2	4.31	(4.27 - 4.35)	4.25	(4.21 - 4.29)						
Aroclor-1221	1	3	4.37	(4.33 - 4.41)	4.31	(4.27 - 4.35)						
Aroclor-1232	1	1	4.37	(4.33 - 4.41)	4.31	(4.27 - 4.35)						
Aroclor-1232	1	2	4.74	(4.70 - 4.78)	4.67	(4.63 - 4.71)						
Aroclor-1232	1	3	5.21	(5.17 - 5.25)	5.13	(5.09 - 5.17)						
Aroclor-1232	1	4	5.34	(5.30 - 5.38)	5.26	(5.22 - 5.30)						
Aroclor-1232	1	5	5.81	(5.77 - 5.85)	5.72	(5.68 - 5.76)						
Aroclor-1242	1	1	4.37	(4.33 - 4.41)	4.31	(4.27 - 4.35)						
Aroclor-1242	1	2	4.74	(4.70 - 4.78)	4.67	(4.63 - 4.71)						
Aroclor-1242	1	3	5.21	(5.17 - 5.25)	5.13	(5.09 - 5.17)						
Aroclor-1242	1	4	5.57	(5.53 - 5.61)	5.48	(5.44 - 5.52)						
Aroclor-1242	1	5	5.81	(5.77 - 5.85)	5.72	(5.68 - 5.76)						
Aroclor-1248	1	1	4.74	(4.70 - 4.78)	4.67	(4.63 - 4.71)						
Aroclor-1248	1	2	5.21	(5.17 - 5.25)	5.13	(5.09 - 5.17)						
Aroclor-1248	1	3	5.55	(5.51 - 5.59)	5.47	(5.43 - 5.51)						
Aroclor-1248	1	4	5.92	(5.88 - 5.96)	5.82	(5.78 - 5.86)						
Aroclor-1248	1	5	6.52	(6.48 - 6.56)	6.41	(6.37 - 6.45)						
Aroclor-1254	1	1	6.72	(6.68 - 6.76)	6.61	(6.57 - 6.65)						
Aroclor-1254	1	2	6.92	(6.88 - 6.96)	6.81	(6.77 - 6.85)						
Aroclor-1254	1	3	7.09	(7.05 - 7.13)	6.98	(6.94 - 7.02)						
Aroclor-1254	1	4	7.21	(7.17 - 7.25)	7.09	(7.05 - 7.13)						
Aroclor-1254	1	5	7.60	(7.56 - 7.64)	7.47	(7.43 - 7.51)						
Aroclor-1262	1	1	7.76	(7.72 - 7.80)	7.65	(7.61 - 7.69)						
Aroclor-1262	1	2	8.77	(8.73 - 8.81)	8.64	(8.60 - 8.68)						
Aroclor-1262	1	3	8.84	(8.80 - 8.88)	8.71	(8.67 - 8.75)						
Aroclor-1262	1	4	9.57	(9.53 - 9.61)	9.41	(9.37 - 9.45)						
Aroclor-1262	1	5	9.93	(9.89 - 9.97)	9.76	(9.72 - 9.80)						
Aroclor-1268	1	1	8.11	(8.07 - 8.15)	8.00	(7.96 - 8.04)						
Aroclor-1268	1	2	8.44	(8.40 - 8.48)	8.31	(8.27 - 8.35)						
Aroclor-1268	1	3	9.01	(8.97 - 9.05)	8.89	(8.85 - 8.93)						
Aroclor-1268	1	4	9.11	(9.07 - 9.15)	8.98	(8.94 - 9.02)						
Aroclor-1268	1	5	9.93	(9.89 - 9.97)	9.76	(9.72 - 9.80)						
DCB-Surrogate	1	0	10.15	(10.09 - 10.21)	9.98	(9.92 - 10.04)	10.14	(10.08 - 10.20)	10.15	(10.09 - 10.21)	9.98	(9.92 - 10.04)
TCMX-Surrogate	2	0	3.87	(3.81 - 3.93)	3.86	(3.80 - 3.92)	3.87	(3.81 - 3.93)	3.88	(3.82 - 3.94)	3.86	(3.80 - 3.92)
Aroclor-1016	2	1	4.48	(4.44 - 4.52)	4.45	(4.41 - 4.49)	4.48	(4.44 - 4.52)	4.48	(4.44 - 4.52)	4.45	(4.41 - 4.49)
Aroclor-1016	2	2	4.90	(4.86 - 4.94)	4.86	(4.82 - 4.90)	4.90	(4.86 - 4.94)	4.90	(4.86 - 4.94)	4.87	(4.83 - 4.91)
Aroclor-1016	2	3	5.29	(5.25 - 5.33)	5.24	(5.20 - 5.28)	5.28	(5.24 - 5.32)	5.29	(5.25 - 5.33)	5.25	(5.21 - 5.29)
Aroclor-1016	2	4	5.61	(5.57 - 5.65)	5.57	(5.53 - 5.61)	5.61	(5.57 - 5.65)	5.61	(5.57 - 5.65)	5.57	(5.53 - 5.61)
Aroclor-1016	2	5	5.98	(5.94 - 6.02)	5.94	(5.90 - 5.98)	5.98	(5.94 - 6.02)	5.99	(5.95 - 6.03)	5.94	(5.90 - 5.98)
Aroclor-1260	2	1	7.30	(7.26 - 7.34)	7.23	(7.19 - 7.27)	7.29	(7.25 - 7.33)	7.30	(7.26 - 7.34)	7.24	(7.20 - 7.28)
Aroclor-1260	2	2	7.38	(7.34 - 7.42)	7.32	(7.28 - 7.36)	7.38	(7.34 - 7.42)	7.38	(7.34 - 7.42)	7.32	(7.28 - 7.36)
Aroclor-1260	2	3	8.01	(7.97 - 8.05)	7.94	(7.90 - 7.98)	8.01	(7.97 - 8.05)	8.01	(7.97 - 8.05)	7.95	(7.91 - 7.99)
Aroclor-1260	2	4	8.37	(8.33 - 8.41)	8.30	(8.26 - 8.34)	8.37	(8.33 - 8.41)	8.37	(8.33 - 8.41)	8.30	(8.26 - 8.34)
Aroclor-1260	2	5	9.07	(9.03 - 9.11)	9.00	(8.96 - 9.04)	9.07	(9.03 - 9.11)	9.07	(9.03 - 9.11)	9.00	(8.96 - 9.04)
Aroclor-1221	2	1	4.26	(4.22 - 4.30)	4.24	(4.20 - 4.28)						
Aroclor-1221	2	2	4.41	(4.37 - 4.45)	4.38	(4.34 - 4.42)						
Aroclor-1221	2	3	4.48	(4.44 - 4.52)	4.45	(4.41 - 4.49)						
Aroclor-1232	2	1	4.48	(4.44 - 4.52)	4.45	(4.41 - 4.49)						
Aroclor-1232	2	2	4.90	(4.86 - 4.94)	4.86	(4.82 - 4.90)						
Aroclor-1232	2	3	5.28	(5.24 - 5.32)	5.24	(5.20 - 5.28)						
Aroclor-1232	2	4	5.61	(5.57 - 5.65)	5.93	(5.89 - 5.97)						
Aroclor-1232	2	5	6.12	(6.08 - 6.16)	6.08	(6.04 - 6.12)						
Aroclor-1242	2	1	4.48	(4.44 - 4.52)	4.45	(4.41 - 4.49)						
Aroclor-1242	2	2	4.90	(4.86 - 4.94)	4.86	(4.82 - 4.90)						
Aroclor-1242	2	3	5.28	(5.24 - 5.32)	5.24	(5.20 - 5.28)						
Aroclor-1242	2	4	5.61	(5.57 - 5.65)	5.57	(5.53 - 5.61)						
Aroclor-1242	2	5	5.98	(5.94 - 6.02)	5.93	(5.89 - 5.97)						
Aroclor-1248	2	1	4.90	(4.86 - 4.94)	4.86	(4.82 - 4.90)						
Aroclor-1248	2	2	5.28	(5.24 - 5.32)	5.24	(5.20 - 5.28)						
Aroclor-1248	2	3	5.61	(5.57 - 5.65)	5.57	(5.53 - 5.61)						
Aroclor-1248	2	4	6.13	(6.09 - 6.17)	6.08	(6.04 - 6.12)						
Aroclor-1248	2	5	6.26	(6.22 - 6.30)	6.21	(6.17 - 6.25)						
Aroclor-1254	2	1	6.48	(6.44 - 6.52)	6.43	(6.39 - 6.47)						
Aroclor-1254	2	2	6.83	(6.79 - 6.87)	6.77	(6.73 - 6.81)						
Aroclor-1254	2	3	7.22	(7.18 - 7.26)	7.17	(7.13 - 7.21)						
Aroclor-1254	2	4	7.74	(7.70 - 7.78)	7.68	(7.64 - 7.72)						
Aroclor-1254	2	5	8.43	(8.39 - 8.47)	8.36	(8.32 - 8.40)						
Aroclor-1262	2	1	7.80	(7.76 - 7.84)	7.73	(7.69 - 7.77)						
Aroclor-1262	2	2	8.96	(8.92 - 9.00)	8.89	(8.85 - 8.93)						
Aroclor-1262	2	3	9.07	(9.03 - 9.11)	9.00	(8.96 - 9.04)						
Aroclor-1262	2	4	9.67	(9.63 - 9.71)	9.58	(9.54 - 9.62)						
Aroclor-1262	2	5	10.22	(10.18 - 10.26)	10.12	(10.08 - 10.16)						
Aroclor-1268	2	1	8.47	(8.43 - 8.51)	8.40	(8.36 - 8.44)						
Aroclor-1268	2	2	8.51	(8.47 - 8.55)	8.44	(8.40 - 8.48)						
Aroclor-1268	2	3	9.41	(9.37 - 9.45)	9.32	(9.28 - 9.36)						
Aroclor-1268	2	4	9.57	(9.53 - 9.61)	9.48	(9.44 - 9.52)						
Aroclor-1268	2	5	10.22	(10.18 - 10.26)	10.12	(10.08 - 10.16)						
DCB-Surrogate	2	0	10.78	(10.72 - 10.84)	10.65	(10.59 - 10.71)	10.78	(10.72 - 10.84)	10.78	(10.72 - 10.84)	10.66	(10.60 - 10.72)

Form7

RtWindow Summary

Method: EPA 8082A

Data File:			3G104189.D									
Calibration Name:			CAL 1660@1000PPB									
Calibration Date/Time			10/10/2017 4:57:00 PM									
Compound	Col	Mr	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
TCMX-Surrogate	1	0	3.83	(3.77 - 3.89)								
Aroclor-1016	1	1	4.32	(4.28 - 4.36)								
Aroclor-1016	1	2	4.67	(4.63 - 4.71)								
Aroclor-1016	1	3	5.13	(5.09 - 5.17)								
Aroclor-1016	1	4	5.37	(5.33 - 5.41)								
Aroclor-1016	1	5	5.48	(5.44 - 5.52)								
Aroclor-1260	1	1	6.97	(6.93 - 7.01)								
Aroclor-1260	1	2	7.22	(7.18 - 7.26)								
Aroclor-1260	1	3	7.42	(7.38 - 7.46)								
Aroclor-1260	1	4	8.00	(7.96 - 8.04)								
Aroclor-1260	1	5	8.71	(8.67 - 8.75)								
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	9.98	(9.92 - 10.04)								
TCMX-Surrogate	2	0	3.86	(3.80 - 3.92)								
Aroclor-1016	2	1	4.45	(4.41 - 4.49)								
Aroclor-1016	2	2	4.87	(4.83 - 4.91)								
Aroclor-1016	2	3	5.25	(5.21 - 5.29)								
Aroclor-1016	2	4	5.57	(5.53 - 5.61)								
Aroclor-1016	2	5	5.94	(5.90 - 5.98)								
Aroclor-1260	2	1	7.24	(7.20 - 7.28)								
Aroclor-1260	2	2	7.32	(7.28 - 7.36)								
Aroclor-1260	2	3	7.95	(7.91 - 7.99)								
Aroclor-1260	2	4	8.30	(8.26 - 8.34)								
Aroclor-1260	2	5	9.00	(8.96 - 9.04)								
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	10.66	(10.60 - 10.72)								

TPH Data

Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00475-002
Client Id: SB02 COMP
Data File: 4G58638.D
Analysis Date: 10/11/17 13:29
Date Rec/Extracted: 10/06/17-10/10/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 87

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	**69**	**77**				

Worksheet #: 440310 *Total Target Concentration* 77 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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58638.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 13:29
Operator : RAK/AH/KD
Sample : AD00475-002
Misc : S.TPH
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 14:50:14 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.987	215246	9.577	
22)	O-Terphenyl	8.297	681025	14.121	m
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.297f	18553624	431.519	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.

RAK

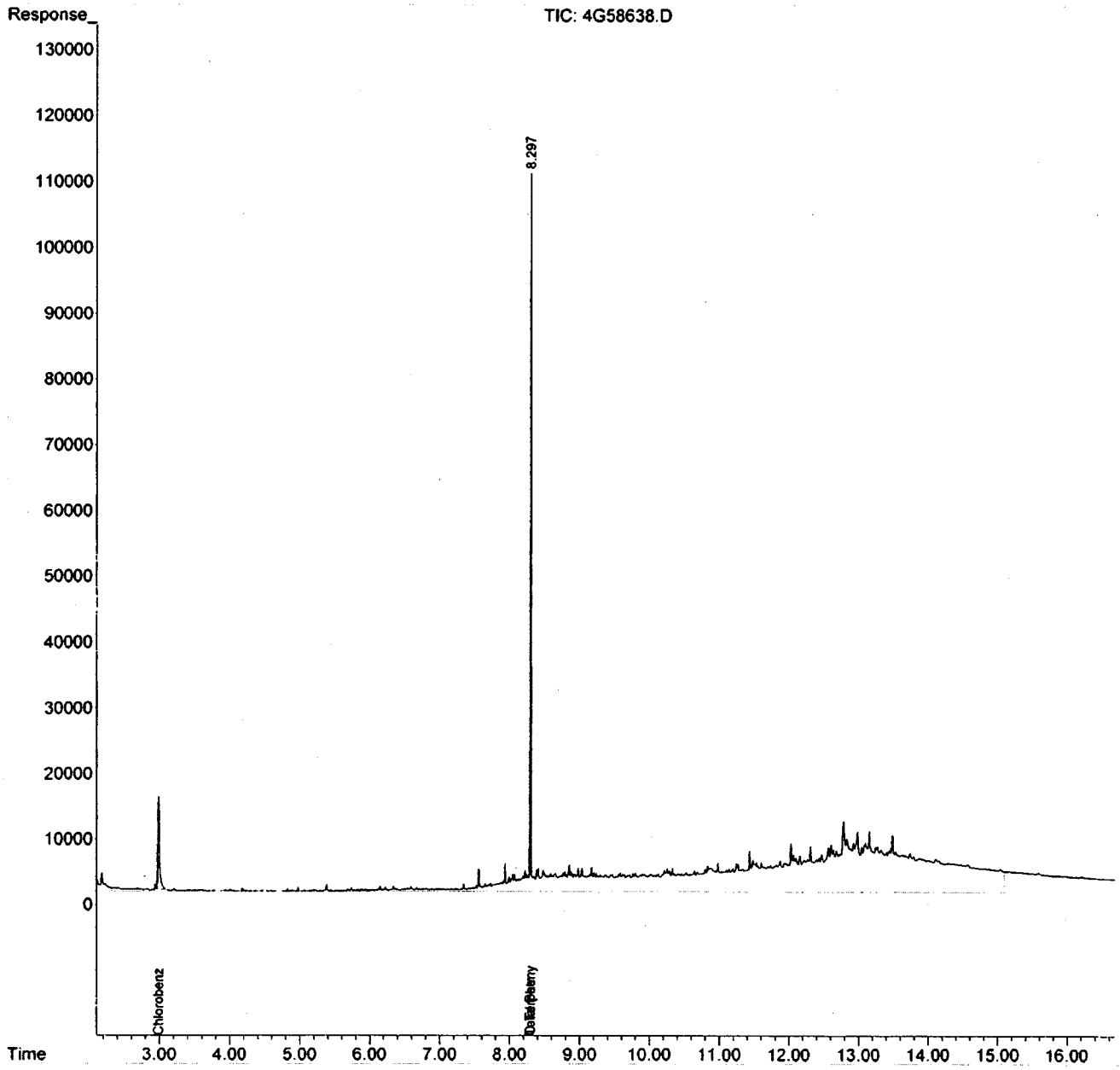
Quantitation Report (QT Reviewed)

7100701 0220

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58638.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 13:29
Operator : RAK/AH/KD
Sample : AD00475-002
Misc : S.TPH
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 14:50:14 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00475-004
Client Id: SB03 COMP
Data File: 4G58636.D
Analysis Date: 10/11/17 12:40
Date Rec/Extracted: 10/06/17-10/10/17
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 #: 440310 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100701 0222**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58636.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 12:40
Operator : RAK/AH/KD
Sample : AD00475-004
Misc : S.TPH
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:17:08 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.985	195461	8.697	
22)	O-Terphenyl	8.294	742134	15.388	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.293f	8189347	190.467	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.

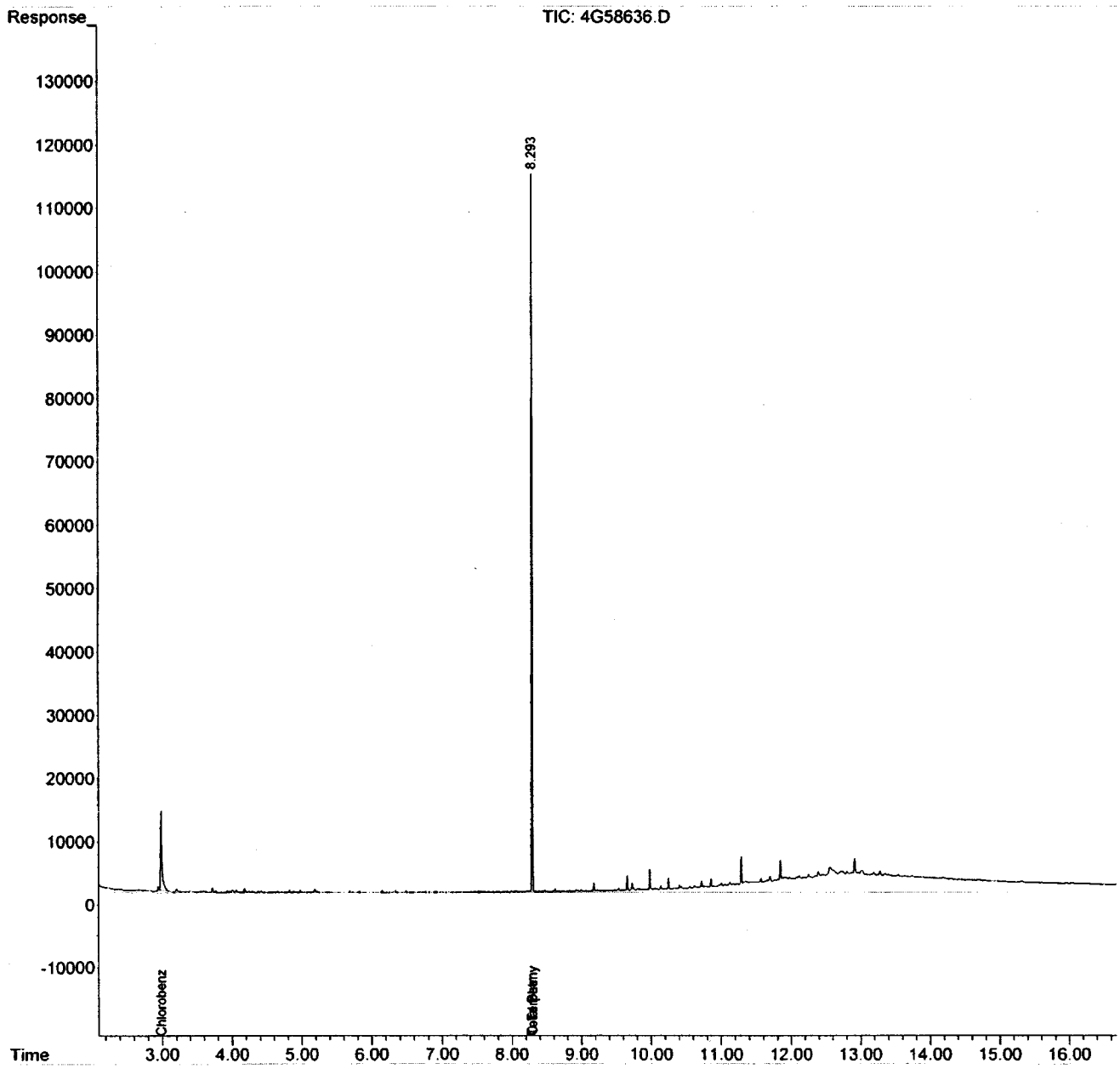
RMC

Quantitation Report (QT Reviewed) **7100701 0223**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58636.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 12:40
Operator : RAK/AH/KD
Sample : AD00475-004
Misc : S.TPH
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:17:08 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00475-006
Client Id: SB04 COMP
Data File: 4G58621.D
Analysis Date: 10/10/17 20:52
Date Rec/Extracted: 10/06/17-10/10/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 86

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	70	U				

Worksheet #: 440310 *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 a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58621.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 20:52
Operator : RAK/AH/KD
Sample : AD00475-006
Misc : S.TPH
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:38:09 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.978	178866	7.959	
22)	O-Terphenyl	8.287	666449	13.818	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.287f	6898043	160.434	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.

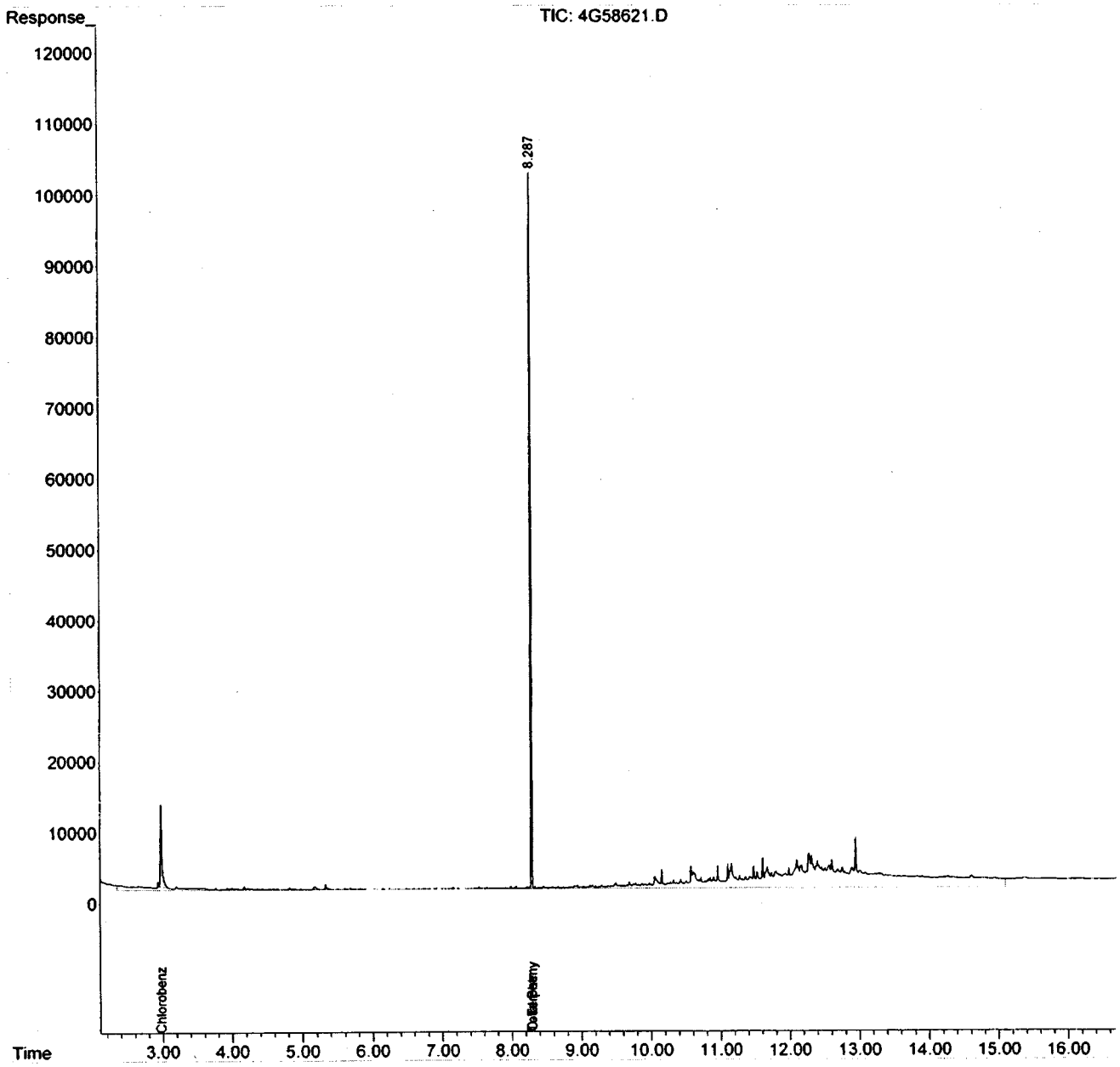
LAC

Quantitation Report (QT Reviewed) **7100701 0226**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58621.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 20:52
Operator : RAK/AH/KD
Sample : AD00475-006
Misc : S.TPH
ALS Vial : 12 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:38:09 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00475-008
Client Id: SB05 COMP
Data File: 4G58622.D
Analysis Date: 10/10/17 21:17
Date Rec/Extracted: 10/06/17-10/10/17
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 #: 440310 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100701 0228**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58622.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 21:17
Operator : RAK/AH/KD
Sample : AD00475-008
Misc : S.TPH
ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:39:05 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.984	169053	7.522	
22)	O-Terphenyl	8.289	570235	11.823	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.289f	4992325	116.111	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

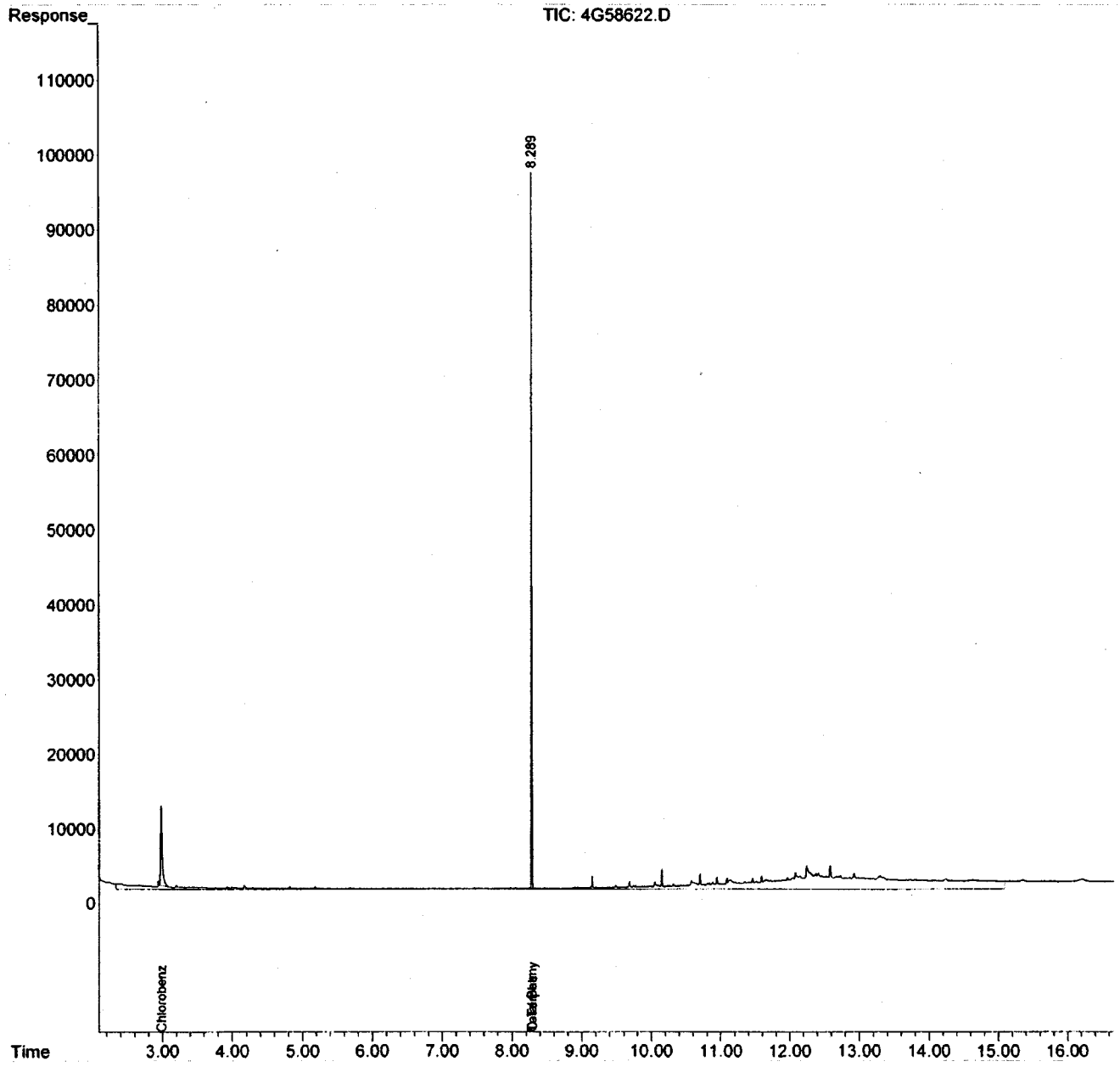
(f)=RT Delta > 1/2 Window (m)=manual int.

RRC

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58622.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 21:17
Operator : RAK/AH/KD
Sample : AD00475-008
Misc : S.TPH
ALS Vial : 13 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:39:05 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00475-010
Client Id: SB08 COMP
Data File: 4G58635.D
Analysis Date: 10/11/17 12:16
Date Rec/Extracted: 10/06/17-10/10/17
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 #: 440310 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0231

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58635.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 12:16
Operator : RAK/AH/KD
Sample : AD00475-010
Misc : S.TPH
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 12:56:40 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.987	226270	10.068	
22)	O-Terphenyl	8.297	798502	16.556	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.297f	4712324	109.599	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

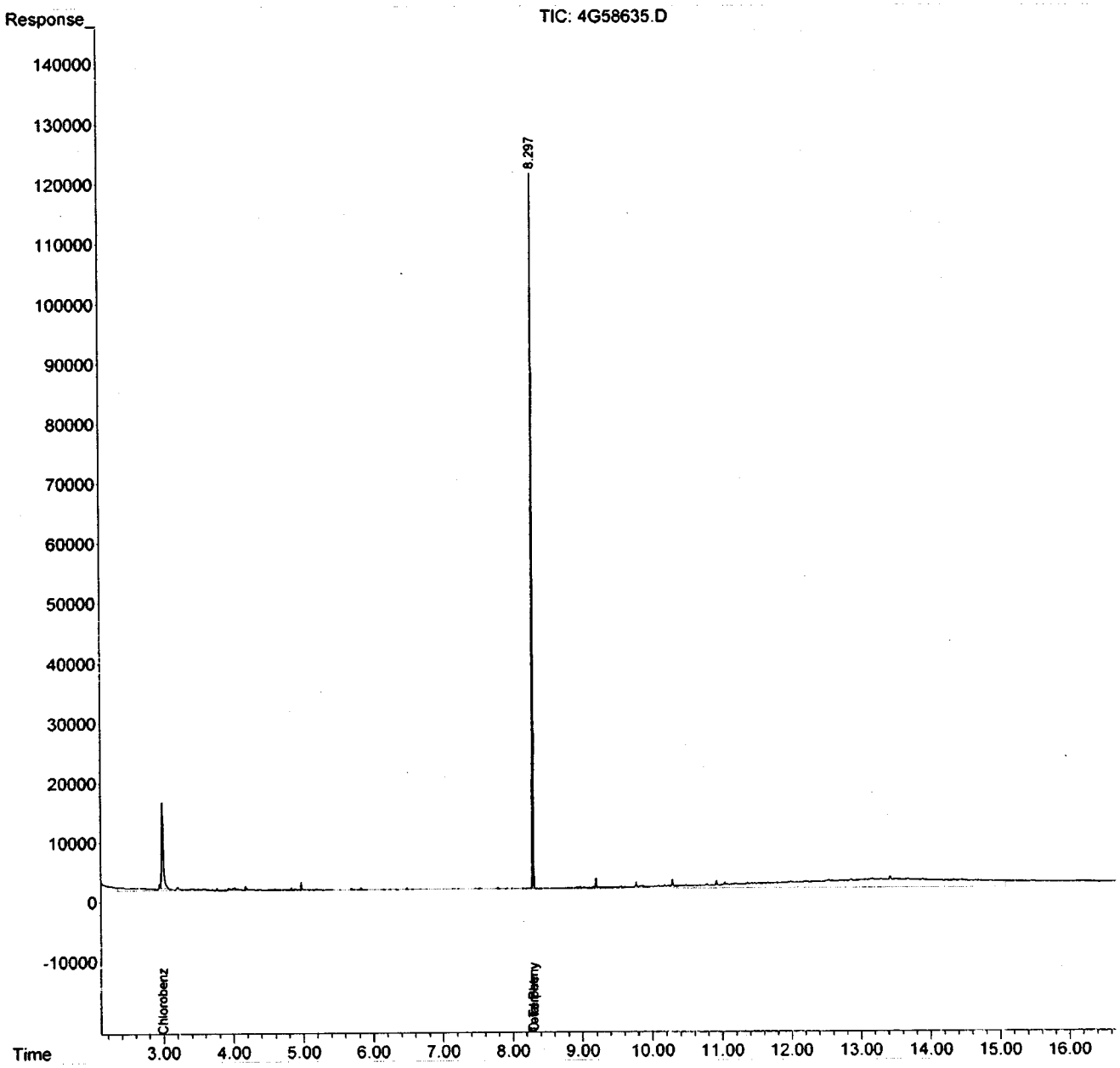
(f)=RT Delta > 1/2 Window (m)=manual int.

Rank

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58635.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 12:16
Operator : RAK/AH/KD
Sample : AD00475-010
Misc : S.TPH
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 12:56:40 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00475-012
Client Id: SB09 COMP
Data File: 4G58634.D
Analysis Date: 10/11/17 11:51
Date Rec/Extracted: 10/06/17-10/10/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 92

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	65	U				

Worksheet #: 440310 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58634.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 11:51
Operator : RAK/AH/KD
Sample : AD00475-012
Misc : S.TPH
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 12:19:58 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.988	143453	6.383	
22)	O-Terphenyl	8.295	686978	14.244	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.295f	5592253	130.064	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.

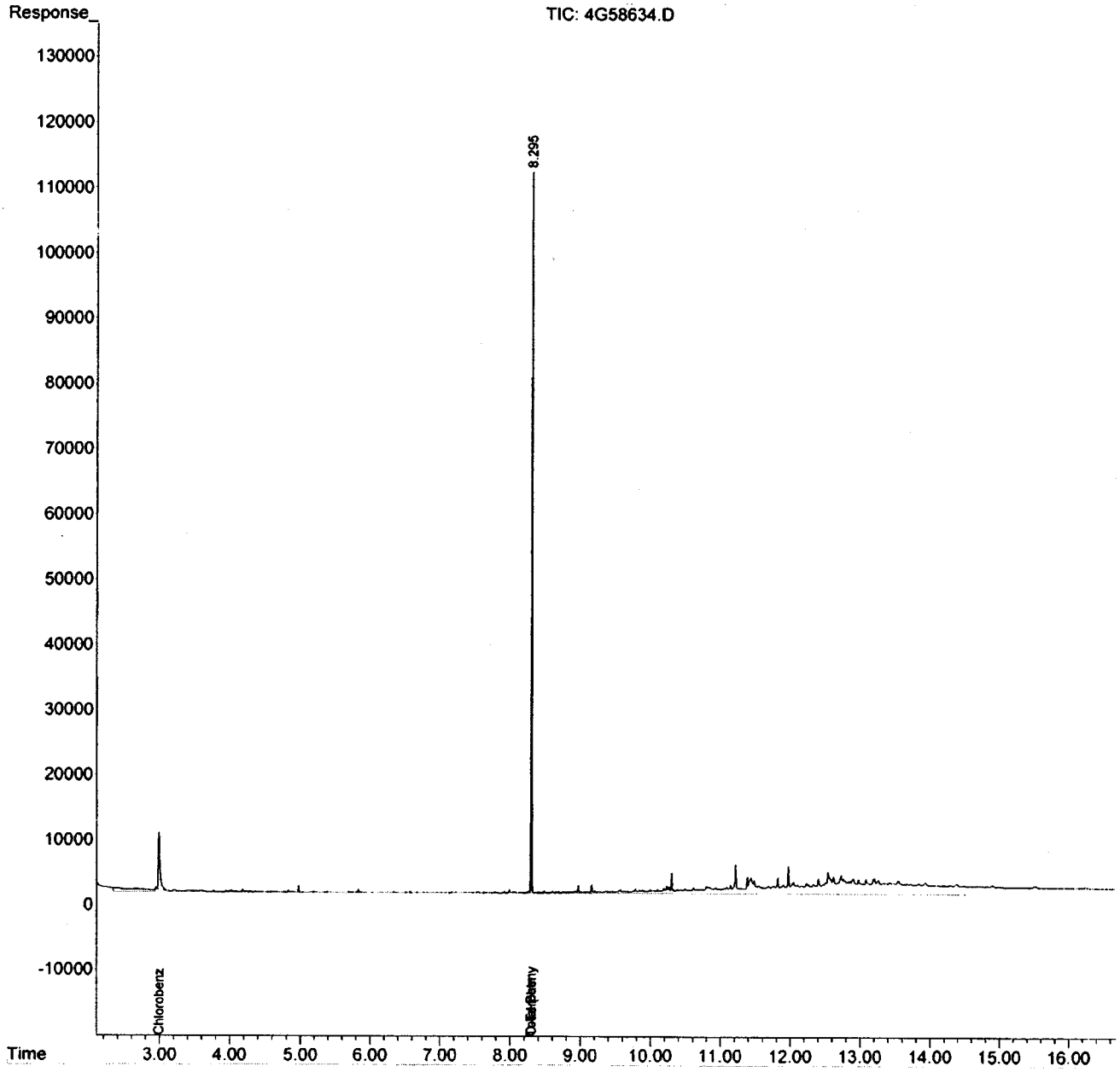
RMC

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58634.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 11:51
Operator : RAK/AH/KD
Sample : AD00475-012
Misc : S.TPH
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 12:19:58 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD00475-014
Client Id: SB07 COMP
Data File: 4G58637.D
Analysis Date: 10/11/17 13:04
Date Rec/Extracted: 10/06/17-10/10/17
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 Hydrocarbo	64	U				

Worksheet #: 440310 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed)

7100701 0237

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58637.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 13:04
Operator : RAK/AH/KD
Sample : AD00475-014
Misc : S.TPH
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 14:49:27 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.986	198877	8.849	
22)	O-Terphenyl	8.298	716421	14.854	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	8.298f	5320644	123.747	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.

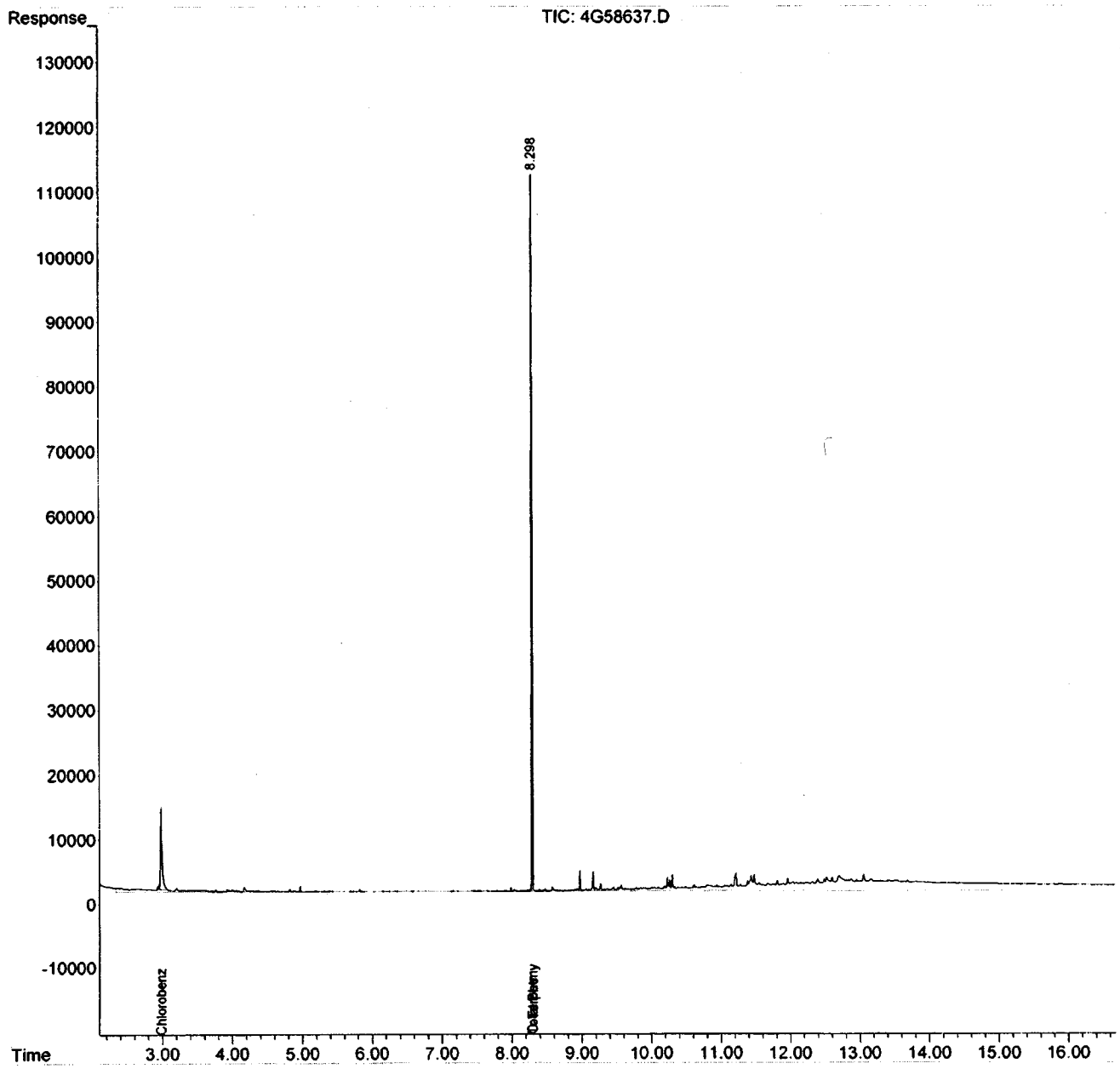
RAK

Quantitation Report (QT Reviewed) **7100701 0238**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58637.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 13:04
Operator : RAK/AH/KD
Sample : AD00475-014
Misc : S.TPH
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 14:49:27 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: SMB63118
Client Id:
Data File: 4G58613.D
Analysis Date: 10/10/17 17:35
Date Rec/Extracted: NA-10/10/17
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 100

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	60	U				

Worksheet #: 440310 *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 usea
Chlordane (Total) is sum of a-Chlordane and y-Chlordane.

Quantitation Report (QT Reviewed) **7100701 0240**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58613.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 17:35
Operator : RAK/AH/KD
Sample : SMB63118
Misc : S.TPH
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:29:59 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	2.984	162766	7.242	
22)	O-Terphenyl	8.289	468150	9.707	
23)d	Diesel Range Organics(T	8.288f	745034	17.539	m
24)t	Total Petroleum Hydroca	8.288f	2185419	50.828	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.

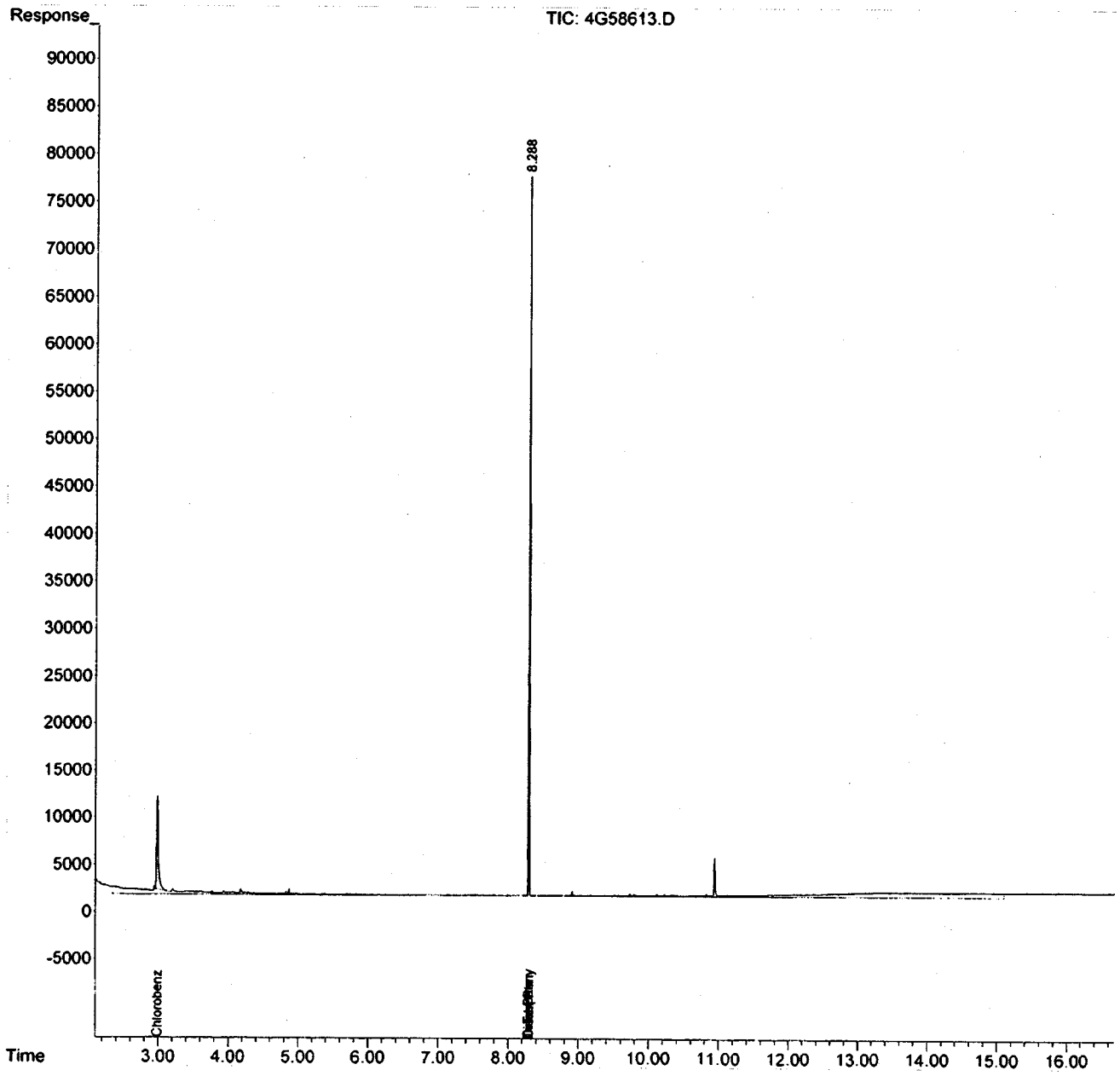
RAC

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58613.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 17:35
Operator : RAK/AH/KD
Sample : SMB63118
Misc : S.TPH
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:29:59 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

7100701 0242

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58611.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 16:43
Operator : RAK/AH/KD
Sample : INST BLK
Misc : S.TPH
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:26:16 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	0.000	0	N.D.	d
22)	O-Terphenyl	0.000	0	N.D.	d
23)d	Diesel Range Organics(T	5.826	142632	3.358	m
24)t	Total Petroleum Hydroca	2.331	1148880	26.721	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

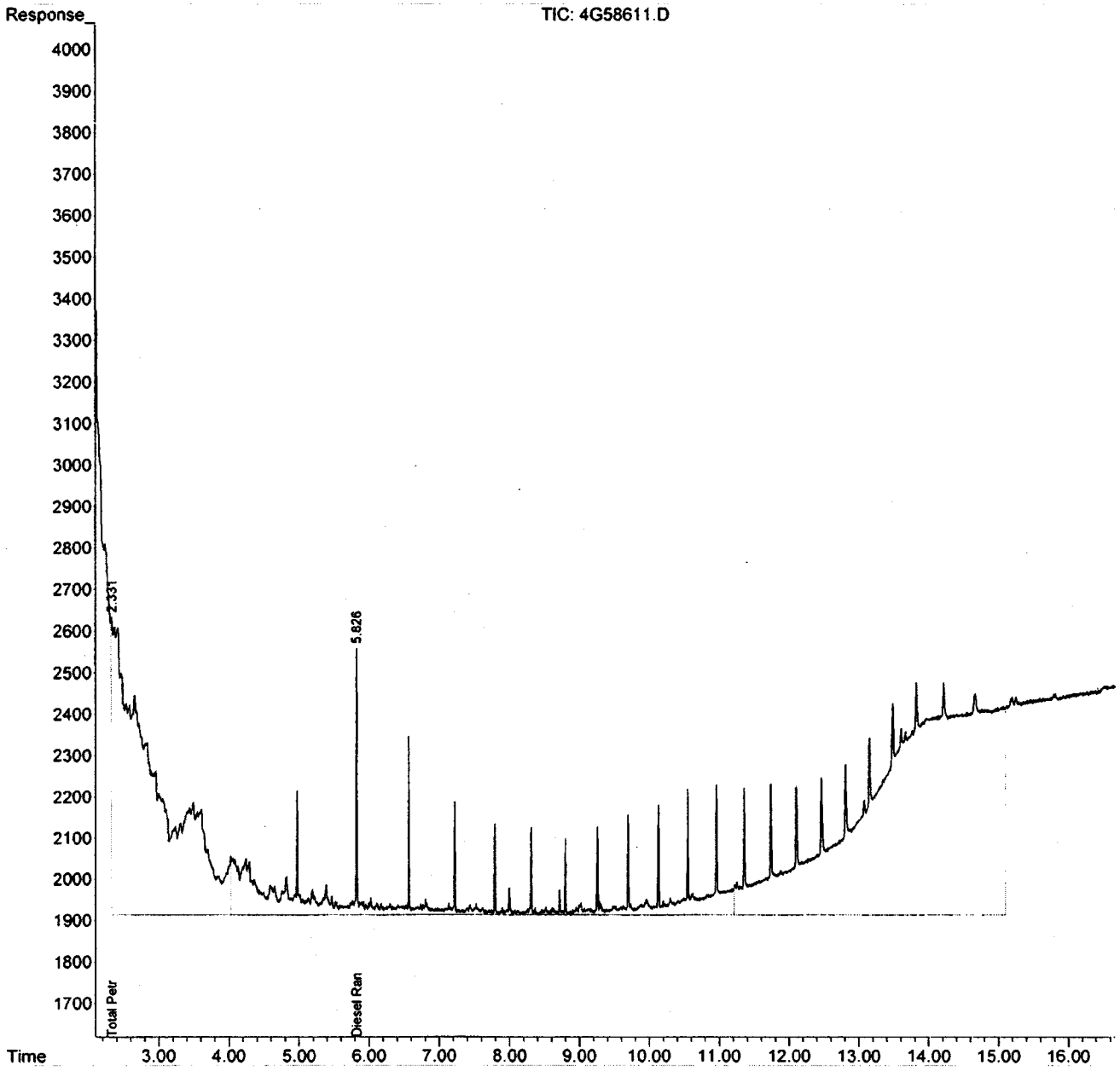
(f)=RT Delta > 1/2 Window (m)=manual int.

RAC

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58611.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 16:43
Operator : RAK/AH/KD
Sample : INST BLK
Misc : S.TPH
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 08:26:16 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed) **7100701 0244**

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58629.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 9:37
Operator : RAK/AH/KD
Sample : INST BLK
Misc : S.TPH
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 10:29:54 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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	0.000	0	N.D.	d
22)	O-Terphenyl	0.000	0	N.D.	d
23)d	Diesel Range Organics(T	5.826	370090	8.712	m
24)t	Total Petroleum Hydroca	12.948f	3123314	72.642	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

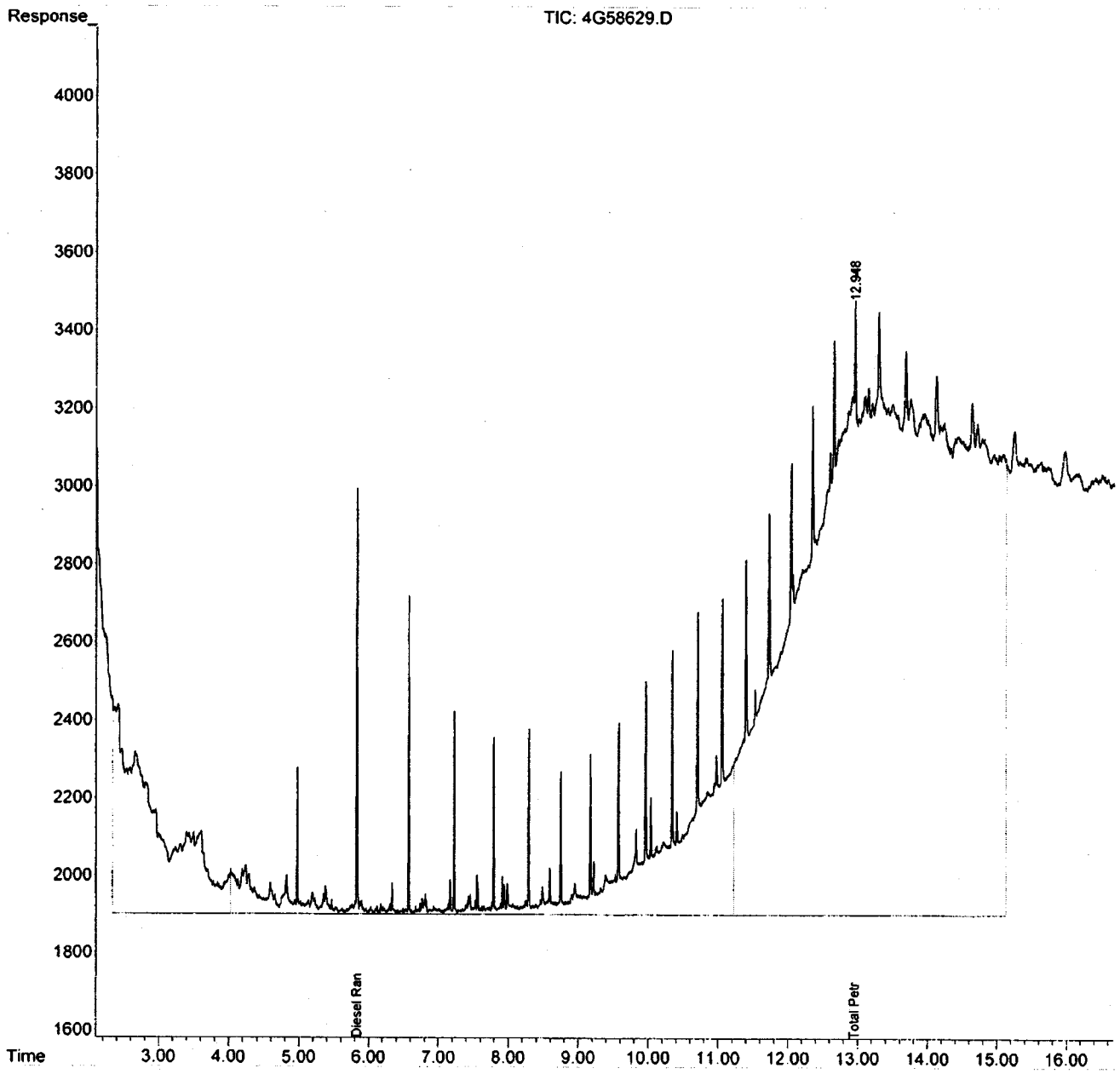
(f)=RT Delta > 1/2 Window (m)=manual int.

RMC

Data Path : G:\Gcdata\2017\GC_4\Data\10-10-17\
Data File : 4G58629.D
Signal(s) : FID1A.CH
Acq On : 11 Oct 2017 9:37
Operator : RAK/AH/KD
Sample : INST BLK
Misc : S.TPH
ALS Vial : 2 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 10:29:54 2017
Quant Method : G:\GCDATA\2017\GC_4\METHODQT\4G_T1009.M
Quant Title : @GC_4,mg,8015
QLast Update : Mon Oct 09 16:28:03 2017
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
4G58613.D	SMB63118	S	10/10/17 17:35	1		36	49				
4G58638.D	AD00475-002	S	10/11/17 13:29	1		48	71				
4G58636.D	AD00475-004	S	10/11/17 12:40	1		44	77				
4G58621.D	AD00475-006	S	10/10/17 20:52	1		40	69				
4G58622.D	AD00475-008	S	10/10/17 21:17	1		38	59				
4G58635.D	AD00475-010	S	10/11/17 12:16	1		50	83				
4G58634.D	AD00475-012	S	10/11/17 11:51	1		32	71				
4G58637.D	AD00475-014	S	10/11/17 13:04	1		44	74				
4G58612.D	SMB63118(MS)	S	10/10/17 17:11	1		75	102				
4G58630.D	AD00427-001(3X)(MS)	S	10/11/17 10:01	3		39	117				
4G58631.D	AD00427-001(3X)(MSD)	S	10/11/17 10:26	3		42	127				
4G58632.D	AD00427-001(3X)	S	10/11/17 10:50	3		53	110				

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8015D

Soil Laboratory Limits

Compound	Spike Amt	Limits
S1=Chlorobenzene	20	20-117
S2=O-Terphenyl	20	30-146

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63118

	Data File	Sample ID:	Analysis Date
Spike or Dup:	4G58612.D	SMB63118(MS)	10/10/2017 5:11:00 PM
Non Spike(If applicable):			
Inst Blank(If applicable):	4G58611.D	INST BLK	10/10/2017 4:43:00 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	2745.71	0	3000	92	40	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data Laboratory Limits
QC Batch: SMB63118

	Data File	Sample ID:	Analysis Date
Spike or Dup:	4G58630.D	AD00427-001(3X)(MS)	10/11/2017 10:01:00 A
Non Spike(If applicable):	4G58632.D	AD00427-001(3X)	10/11/2017 10:50:00 A
Inst Blank(If applicable):	4G58629.D	INST BLK	10/11/2017 9:37:00 AM

Method: 8015 Matrix: Soil QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	7943.22	6255.9	3000	56	40	130

	Data File	Sample ID:	Analysis Date
Spike or Dup:	4G58631.D	AD00427-001(3X)(MSD)	10/11/2017 10:26:00 A
Non Spike(If applicable):	4G58632.D	AD00427-001(3X)	10/11/2017 10:50:00 A
Inst Blank(If applicable):	4G58629.D	INST BLK	10/11/2017 9:37:00 AM

Method: 8015 Matrix: Soil QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	9358.08	6255.9	3000	103	40	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD Data Laboratory Limits
QC Batch: SMB63118

	Data File	Sample ID:	Analysis Date
Spike or Dup:	4G58631.D	AD00427-001(3X)(MSD)	10/11/2017 10:26:00 A
Duplicate(If applicable):	4G58630.D	AD00427-001(3X)(MS)	10/11/2017 10:01:00 A
Inst Blank(If applicable):	4G58629.D	INST BLK	10/11/2017 9:37:00 AM

Method: 8015 Matrix: Soil QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Diesel Range Organics	1	9358.08	7943.22	16	40

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

FORM 4
Blank Summary

Blank Number: SMB63118
Blank Data File: 4G58613.D
Matrix: Soil

Blank Analysis Date: 10/10/17 17:35
Blank Extraction Date: 10/10/17
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD00475-002	4G58638.D	10/11/17 13:29
AD00475-004	4G58636.D	10/11/17 12:40
AD00475-006	4G58621.D	10/10/17 20:52
AD00475-008	4G58622.D	10/10/17 21:17
AD00475-010	4G58635.D	10/11/17 12:16
AD00475-012	4G58634.D	10/11/17 11:51
AD00475-014	4G58637.D	10/11/17 13:04
AD00427-001(3X)	4G58632.D	10/11/17 10:50
AD00427-001(3X)(	4G58631.D	10/11/17 10:26
AD00427-001(3X)(	4G58630.D	10/11/17 10:01
SMB63118(MS)	4G58612.D	10/10/17 17:11

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
4G58586.D	INST BLK	10/09/17 09:00	Soil					
4G58587.D	CAL TPH@20PPM	10/09/17 09:24	Soil		8.4143	0		
4G58588.D	CAL TPH@20PPM	10/09/17 09:53	Soil		8.2996	0		
4G58589.D	CAL TPH@20PPM	10/09/17 10:52	Soil		8.3407	0		
4G58590.D	CAL TPH@20PPM	10/09/17 11:17	Soil	4G58593.	8.3035	0.1		
4G58591.D	CAL TPH@40PPM	10/09/17 11:42	Soil	4G58593.	8.3075	0.1482		
4G58592.D	CAL TPH@10PPM	10/09/17 12:16	Soil	4G58593.	8.3071	0.1434		
4G58593.D	CAL TPH@5PPM	10/09/17 12:40	Soil	4G58593.	8.2952	0		
4G58594.D	CAL TPH@500PPM	10/09/17 13:05	Soil	4G58593.	8.3541	0.7075		
4G58595.D	CAL TPH@100PPM	10/09/17 13:30	Soil	4G58593.	8.3092	0.1686		
4G58596.D	ICV TPH@20PPM	10/09/17 13:58	Soil	4G58593.	8.2977	0.0301		

Drift Compound: O-Terphenyl

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)

* - Values outside of limits for this column/run

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
4G58608.D	INST BLK	10/10/17 09:27	Soil					
4G58609.D	20PPM	10/10/17 09:51	Soil					
4G58610.D	CAL TPH@20PPM	10/10/17 15:04	Soil	4G58610.	8.2990	0		
4G58611.D	INST BLK	10/10/17 16:43	Soil	4G58610.	0.0000	200		
4G58612.D	SMB63118(MS)	10/10/17 17:11	Soil	4G58610.	8.3047	0.0687		
4G58613.D	SMB63118	10/10/17 17:35	Soil	4G58610.	8.2886	0.1254		
4G58614.D	AD00418-006	10/10/17 18:00	Soil	4G58610.	8.2896	0.1133		
4G58615.D	AD00418-002	10/10/17 18:24	Soil	4G58610.	8.2889	0.1218		
4G58616.D	AD00418-004	10/10/17 18:49	Soil	4G58610.	8.2880	0.1326		
4G58617.D	AD00406-001	10/10/17 19:14	Soil	4G58610.	8.2916	0.0892		
4G58618.D	AD00427-001(MS)	10/10/17 19:39	Soil	4G58610.	8.3107	0.1409		
4G58619.D	AD00427-001(MSD)	10/10/17 20:03	Soil	4G58610.	8.3115	0.1505		
4G58620.D	AD00427-001	10/10/17 20:28	Soil	4G58610.	8.3054	0.0771		
4G58621.D	AD00475-006	10/10/17 20:52	Soil	4G58610.	8.2875	0.1387		
4G58622.D	AD00475-008	10/10/17 21:17	Soil	4G58610.	8.2894	0.1157		
4G58623.D	AD00427-002	10/10/17 21:41	Soil	4G58610.	8.3113	0.1481		
4G58624.D	CAL TPH@20PPM	10/10/17 22:06	Soil	4G58610.	8.2940	0.0603		
4G58625.D	20PPM	10/10/17 22:30	Soil	4G58624.	8.2949	0.0109		
4G58626.D	INST BLK	10/11/17 08:17	Soil	4G58624.	0.0000	200		
4G58627.D	AD00457-010	10/11/17 08:41	Soil	4G58624.	8.2970	0.0362		
4G58628.D	CAL TPH@20PPM	10/11/17 09:06	Soil	4G58624.	8.2973	0.0398		
4G58629.D	INST BLK	10/11/17 09:37	Soil	4G58628.	0.0000	200		
4G58630.D	AD00427-001(3X)(MS)	10/11/17 10:01	Soil	4G58628.	8.3014	0.0494		
4G58631.D	AD00427-001(3X)(MSD)	10/11/17 10:26	Soil	4G58628.	8.3060	0.1048		
4G58632.D	AD00427-001(3X)	10/11/17 10:50	Soil	4G58628.	8.3037	0.0771		
4G58633.D	AD00427-002(3X)	10/11/17 11:26	Soil	4G58628.	8.3182	0.2516		
4G58634.D	AD00475-012	10/11/17 11:51	Soil	4G58628.	8.2951	0.0265		
4G58635.D	AD00475-010	10/11/17 12:16	Soil	4G58628.	8.2970	0.0036		
4G58636.D	AD00475-004	10/11/17 12:40	Soil	4G58628.	8.2935	0.0458		
4G58637.D	AD00475-014	10/11/17 13:04	Soil	4G58628.	8.2983	0.012		
4G58638.D	AD00475-002	10/11/17 13:29	Soil	4G58628.	8.2966	0.0084		
4G58639.D	CAL TPH@20PPM	10/11/17 13:53	Soil	4G58628.	8.2961	0.0145		

Drift Compound: O-Terphenyl

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)

* - Values outside of limits for this column/run

7100701 0253

Form 6
Initial Calibration

Method: EPA 8015D

Instrument: GC_4

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	4G58593.D	CAL TPH@5PPM	10/09/17 12:40	2	4G58592.D	CAL TPH@10PPM	10/09/17 12:16
3	4G58590.D	CAL TPH@20PPM	10/09/17 11:17	4	4G58591.D	CAL TPH@40PPM	10/09/17 11:42
5	4G58595.D	CAL TPH@100PPM	10/09/17 13:30	6	4G58594.D	CAL TPH@500PPM	10/09/17 13:05

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
C8	1	0	Avg	2.3405	2.4512	2.4982	2.4997	2.5677	2.8279	----	----	2.53	2.52	1.00	1.00	6.5	5.00	10.00	20.00	40.00	100.0	500.0		
C9	1	0	Avg	2.9552	2.9625	2.9768	2.9204	2.9851	3.2114	----	----	3.00	3.43	0.999	1.00	3.5	5.00	10.00	20.00	40.00	100.0	500.0		
C10	1	0	Avg	3.0974	3.1706	3.2780	3.2579	3.3260	3.5590	----	----	3.28	4.19	1.00	1.00	4.8	5.00	10.00	20.00	40.00	100.0	500.0		
C12	1	0	Avg	3.3408	3.4206	3.5503	3.5410	3.6103	3.7904	----	----	3.54	5.38	1.00	1.00	4.4	5.00	10.00	20.00	40.00	100.0	500.0		
C14	1	0	Avg	3.7026	3.8441	3.9454	3.9481	4.0016	4.1459	----	----	3.93	6.34	1.00	1.00	3.8	5.00	10.00	20.00	40.00	100.0	500.0		
C16	1	0	Avg	3.9640	4.0851	4.1433	4.1240	4.1819	4.3103	----	----	4.13	7.17	1.00	1.00	2.8	5.00	10.00	20.00	40.00	100.0	500.0		
C17	1	0	Qua	4.1252	4.3728	4.2715	4.2393	5.5800	7.1462	----	----	4.96	7.56	0.998	1.00	24	5.00	10.00	20.00	40.00	100.0	500.0		
Pristane	1	0	Qua	3.5628	3.6374	3.8610	3.6727	2.8298	1.4653	----	----	3.17	7.57	0.966	0.999	29	5.00	10.00	20.00	40.00	100.0	500.0		
C18	1	0	Avg	4.2272	4.3582	4.3817	4.3615	4.5041	5.7964	----	----	4.60	7.92	0.998	1.00	13	5.00	10.00	20.00	40.00	100.0	500.0		
Phytane	1	0	Avg	3.7393	3.8553	3.9603	3.8299	3.8296	2.7294	----	----	3.66	7.95	0.977	1.00	13	5.00	10.00	20.00	40.00	100.0	500.0		
C20	1	0	Avg	4.4804	4.6160	4.5846	4.5725	4.6723	4.7186	----	----	4.61	8.61	1.00	1.00	1.8	5.00	10.00	20.00	40.00	100.0	500.0		
C22	1	0	Avg	4.5258	4.6427	4.5996	4.5751	4.7029	4.6982	----	----	4.62	9.26	1.00	1.00	1.5	5.00	10.00	20.00	40.00	100.0	500.0		
C24	1	0	Avg	4.7707	4.8917	4.8439	4.8076	4.9437	4.9199	----	----	4.86	9.88	1.00	1.00	1.4	5.00	10.00	20.00	40.00	100.0	500.0		
C26	1	0	Avg	4.8151	4.9108	4.8588	4.8180	4.9603	4.9229	----	----	4.88	10.49	1.00	1.00	1.2	5.00	10.00	20.00	40.00	100.0	500.0		
C28	1	0	Avg	4.8957	5.0025	4.9541	4.9049	5.0342	5.0096	----	----	4.97	11.08	1.00	1.00	1.2	5.00	10.00	20.00	40.00	100.0	500.0		
C30	1	0	Avg	4.9157	5.0294	4.9774	4.9471	5.0707	5.0393	----	----	5.00	11.67	1.00	1.00	1.2	5.00	10.00	20.00	40.00	100.0	500.0		
C32	1	0	Avg	5.1017	5.2311	5.1939	5.1658	5.2861	5.2553	----	----	5.21	12.24	1.00	1.00	1.3	5.00	10.00	20.00	40.00	100.0	500.0		
C34	1	0	Avg	4.8152	5.0580	5.0743	5.0526	5.1760	5.1324	----	----	5.05	12.80	1.00	1.00	2.5	5.00	10.00	20.00	40.00	100.0	500.0		
C36	1	0	Avg	4.6059	5.1058	5.1243	5.1291	5.2618	5.1987	----	----	5.07	13.37	1.00	1.00	4.6	5.00	10.00	20.00	40.00	100.0	500.0		
C40	1	0	Avg	3.9467	4.9272	5.2441	5.0678	5.2137	5.0758	----	----	4.91	14.96	1.00	1.00	9.9	5.00	10.00	20.00	40.00	100.0	500.0		
Chlorobenzene	1	0	Avg	2.1802	2.2069	2.2478	2.2309	2.2703	2.3482	----	----	2.25	2.99	1.00	1.00	2.6	5.00	10.00	20.00	40.00	100.0	500.0		
O-Terphenyl	1	0	Avg	4.6892	4.8167	4.8288	4.7847	4.8327	4.9854	----	----	4.82	8.30	1.00	1.00	2.0	5.00	10.00	20.00	40.00	100.0	500.0		
Diesel Range Organics(TO	1	0	Avg	4.0959	4.2160	4.2487	4.2040	4.3213	4.4009	----	----	4.25	4.19	1.00	1.00	2.5	65.00	130.0	260.0	520.0	1300.	6500.		
Total Petroleum Hydrocarb	1	0	Avg	4.0964	4.2786	4.3161	4.2717	4.3869	4.4476	----	----	4.30	2.52	1.00	1.00	2.8	100.0	200.0	400.0	800.0	2000.	10000		
Ext. Petroleum Hydrocarbo	1	0	Avg	4.2023	4.3441	4.3655	4.3260	4.4420	4.5027	----	----	4.36	3.43	1.00	1.00	2.4	90.00	180.0	360.0	720.0	1800.	9000.		
Mineral Spirits(TOTAL)	1	0	Avg	3.0873	3.1698	3.2497	3.2334	3.2981	3.5069	----	----	3.26	2.99	1.00	1.00	4.4	25.00	50.00	100.0	200.0	500.0	2500.		
Stoddard Solvent(TOTAL)	1	0	Avg	3.0873	3.1698	3.2497	3.2334	3.2981	3.5069	----	----	3.26	2.99	1.00	1.00	4.4	25.00	50.00	100.0	200.0	500.0	2500.		

Avg Rsd Col 1: 6.14 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. pcb/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

HAZ - 763

Form7
Continuing Calibration

Method: EPA 8015D

Data File:				4G58610.D			4G58624.D			4G58628.D			4G58639.D										
Method:				8015			8015			8015			8015										
Calibration Name:				CAL TPH@20PPM			CAL TPH@20PPM			CAL TPH@20PPM			CAL TPH@20PPM										
Calibration Date/Time				10/10/17 15:04			10/10/17 22:06			10/11/17 09:06			10/11/17 13:53										
Compound	Limit	Col	Mr	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff
C8	20	1	0	19.88	20	0.6	20.24	20	1.2	20.23	20	1.1	20.79	20	4.0								
C9	20	1	0	20.38	20	1.9	20.01	20	0.1	20.05	20	0.2	20.89	20	4.4								
C10	20	1	0	20.02	20	0.1	20.73	20	3.6	20.71	20	3.5	21.85	20	9.3								
C12	20	1	0	20.04	20	0.2	20.89	20	4.4	20.76	20	3.8	22.11	20	10.6								
C14	20	1	0	20.01	20	0.1	20.92	20	4.6	20.6	20	3.0	22.06	20	10.3								
C16	20	1	0	19.97	20	0.2	20.99	20	4.9	20.4	20	2.0	21.89	20	9.4								
C17	20	1	0	17.11	20	14.5	17.97	20	10.2	15.7	20	21.5*	17.13	20	14.4								
Pristane	20	1	0	25.67	20	28.4*	25.96	20	29.8*	26.27	20	31.4*	27.9	20	39.5*								
C18	20	1	0	19	20	5.0	20.04	20	0.2	19.31	20	3.5	20.73	20	3.6								
Phytane	20	1	0	21.13	20	5.6	22.19	20	11.0	21.33	20	6.6	22.86	20	14.3								
C20	20	1	0	19.93	20	0.3	21.05	20	5.2	20.14	20	0.7	21.63	20	8.1								
C22	20	1	0	19.83	20	0.9	20.96	20	4.8	19.97	20	0.2	21.45	20	7.3								
C24	20	1	0	19.8	20	1.0	20.89	20	4.4	19.87	20	0.6	21.33	20	6.6								
C26	20	1	0	19.78	20	1.1	20.84	20	4.2	19.77	20	1.1	21.24	20	6.2								
C28	20	1	0	19.82	20	0.9	20.83	20	4.2	19.75	20	1.3	21.22	20	6.1								
C30	20	1	0	19.88	20	0.6	20.87	20	4.4	19.75	20	1.3	21.2	20	6.0								
C32	20	1	0	20.11	20	0.6	20.96	20	4.8	19.53	20	2.3	21.18	20	5.9								
C34	20	1	0	20.46	20	2.3	21.57	20	7.8	19.62	20	1.9	21.03	20	5.2								
C36	20	1	0	21.16	20	5.8	22.2	20	11.0	19.63	20	1.9	21.18	20	5.9								
C40	20	1	0	21.84	20	9.2	22.82	20	14.1	18.73	20	6.4	20.5	20	2.5								
Chlorobenzene	20	1	0	20.18	20	0.9	20.47	20	2.3	20.52	20	2.6	21.38	20	6.9								
O-Terphenyl	20	1	0	20.01	20	0.1	21.48	20	7.4	20.74	20	3.7	22.31	20	11.6								
Average Difference	20	1	0			3.6			6.6			4.6			9.0								

Flags/Notes: **** - Values outside of limits for this column/run***

Form7

RtWindow Summary

Method: EPA 8015D

Data File:
Calibration Name:
Calibration Date/Time

Compound	Col	Mr	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
C8	1	0										
C9	1	0										
C10	1	0										
C12	1	0										
C14	1	0										
C16	1	0										
C17	1	0										
Pristane	1	0										
C18	1	0										
Phytane	1	0										
C20	1	0										
C22	1	0										
C24	1	0										
C26	1	0										
C28	1	0										
C30	1	0										
C32	1	0										
C34	1	0										
C36	1	0										
C40	1	0										
Chlorobenzene	1	0										
O-Terphenyl	1	0	8.31	(8.27 - 8.35)	8.30	(8.26 - 8.34)	8.30	(8.26 - 8.34)				
Diesel Range Organic	1	0										
Total Petroleum Hydr	1	0										
Ext. Petroleum Hydro	1	0										
Mineral Spirits	1	0										
Stoddard Solvent	1	0										

GRO Data

Form1

ORGANICS REPORT

Sample Number: AD00475-002
Client Id: SB02 COMP
Data File: 13M07942.D
Analysis Date: 10/10/17 17:50
Date Rec/Extracted: 10/06/17-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: 87

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	27	U				

Worksheet #: 440071

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 usea

7100701 0258

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07942.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 17:50
Operator : SG
Sample : AD00475-002
Misc : M,MEXT!3
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:37:02 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.463	21294	32.300	m
Target Compounds				

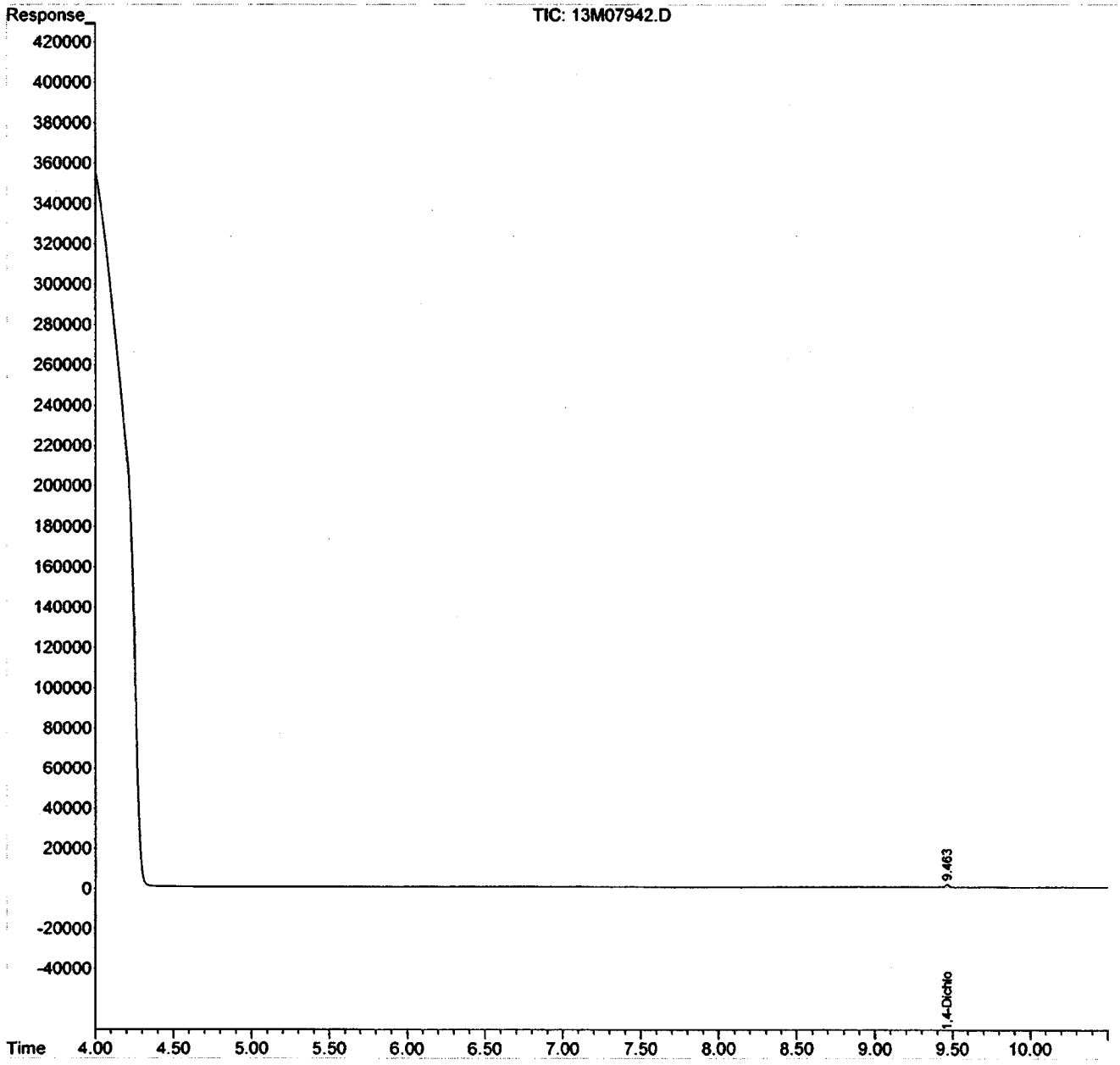
(f)=RT Delta > 1/2 Window (m)=manual int.

7100701 0259

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07942.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 17:50
Operator : SG
Sample : AD00475-002
Misc : M,MEXT!3
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:37:02 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD00475-004
Client Id: SB03 COMP
Data File: 13M07943.D
Analysis Date: 10/10/17 18:10
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.14g:10ml
Final Vol: NA
Dilution: 97.3
Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	27	U				

Worksheet #: 440071 *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

Quantitation Report (QT Reviewed)

7100701 0261

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07943.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:10
Operator : SG
Sample : AD00475-004
Misc : M,MEXT!3
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:37:16 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.477	21680	32.886	m
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

k

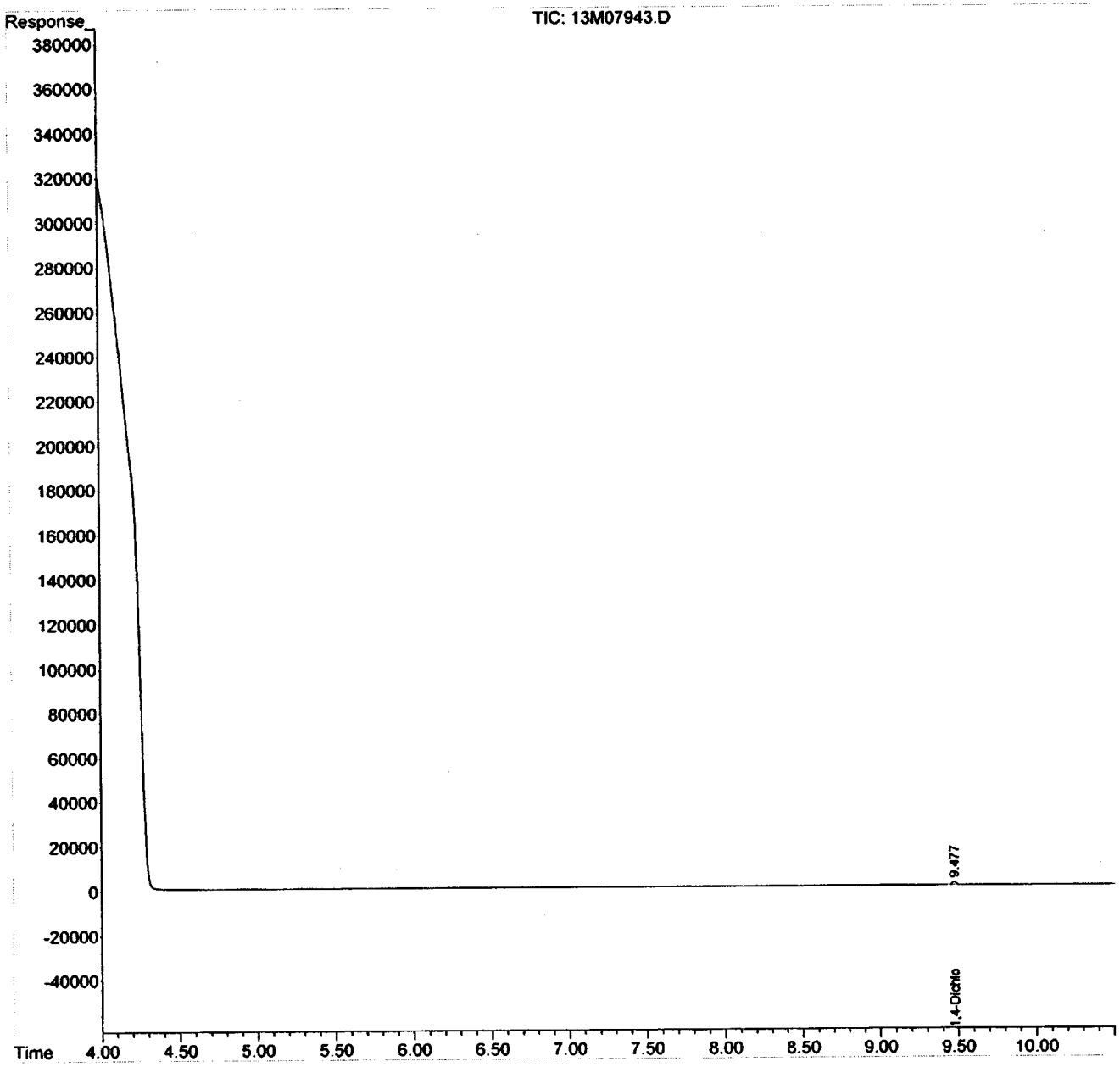
Quantitation Report (QT Reviewed)

7100701 0262

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07943.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:10
Operator : SG
Sample : AD00475-004
Misc : M,MEXT!3
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:37:16 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD00475-006
Client Id: SB04 COMP
Data File: 13M07944.D
Analysis Date: 10/10/17 18:30
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.23g:10ml
Final Vol: NA
Dilution: 95.6
Solids: 86

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	28	U				

Worksheet #: 440071

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 usea

Quantitation Report (QT Reviewed)

7100701 0264

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07944.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:30
Operator : SG
Sample : AD00475-006
Misc : M,MEXT!3
ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:37:32 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.476	21779	33.036	m
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

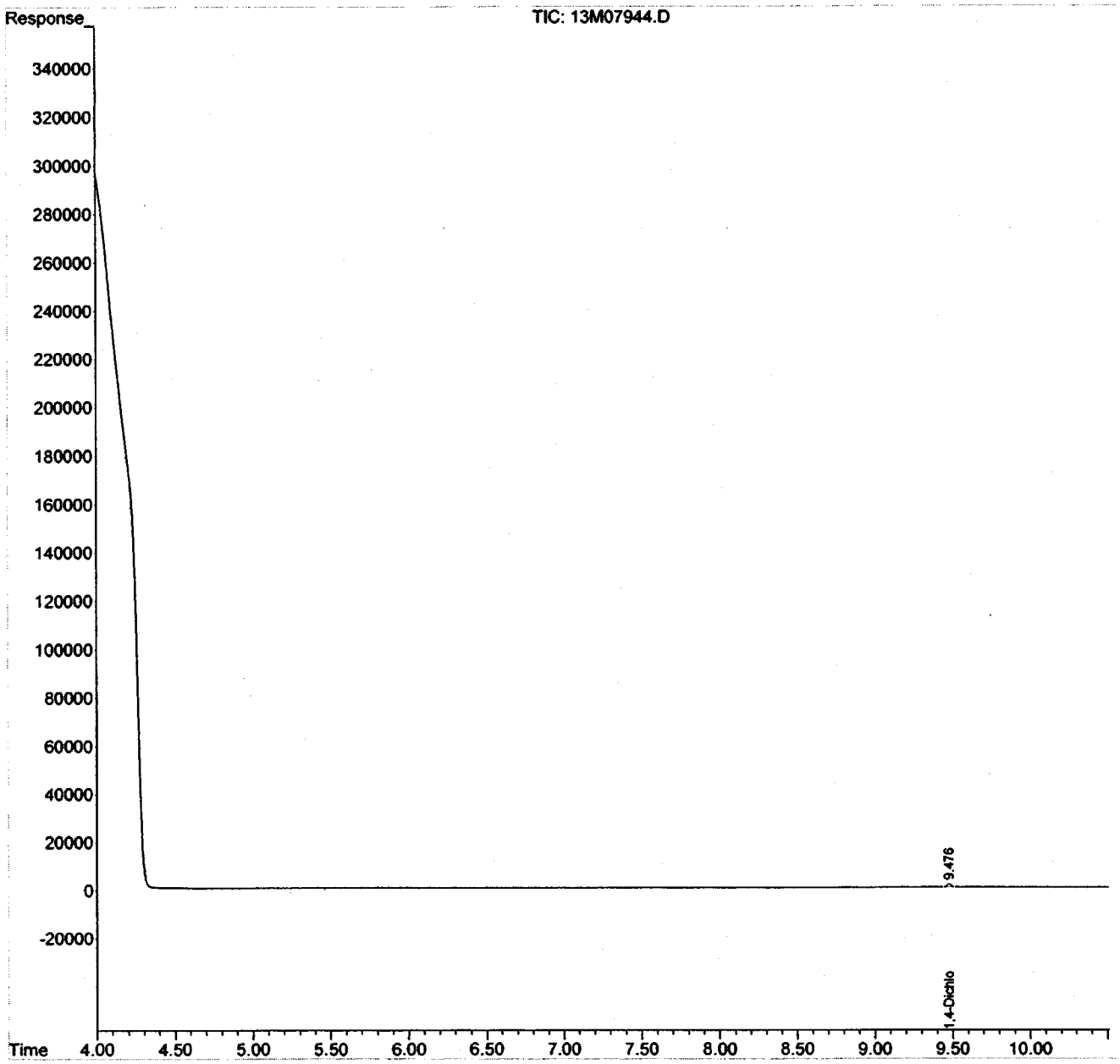
Quantitation Report (QT Reviewed)

7100701 0265

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07944.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:30
Operator : SG
Sample : AD00475-006
Misc : M,MEXT!3
ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:37:32 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD00475-008
Client Id: SB05 COMP
Data File: 13M07945.D
Analysis Date: 10/10/17 18:50
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.56g: 10ml
Final Vol: NA
Dilution: 89.9
Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	25	U				

Worksheet #: 440071 *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

7100701 0267

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07945.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:50
Operator : SG
Sample : AD00475-008
Misc : M,MEXT!3
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:37:46 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.469	21081	31.977	m
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

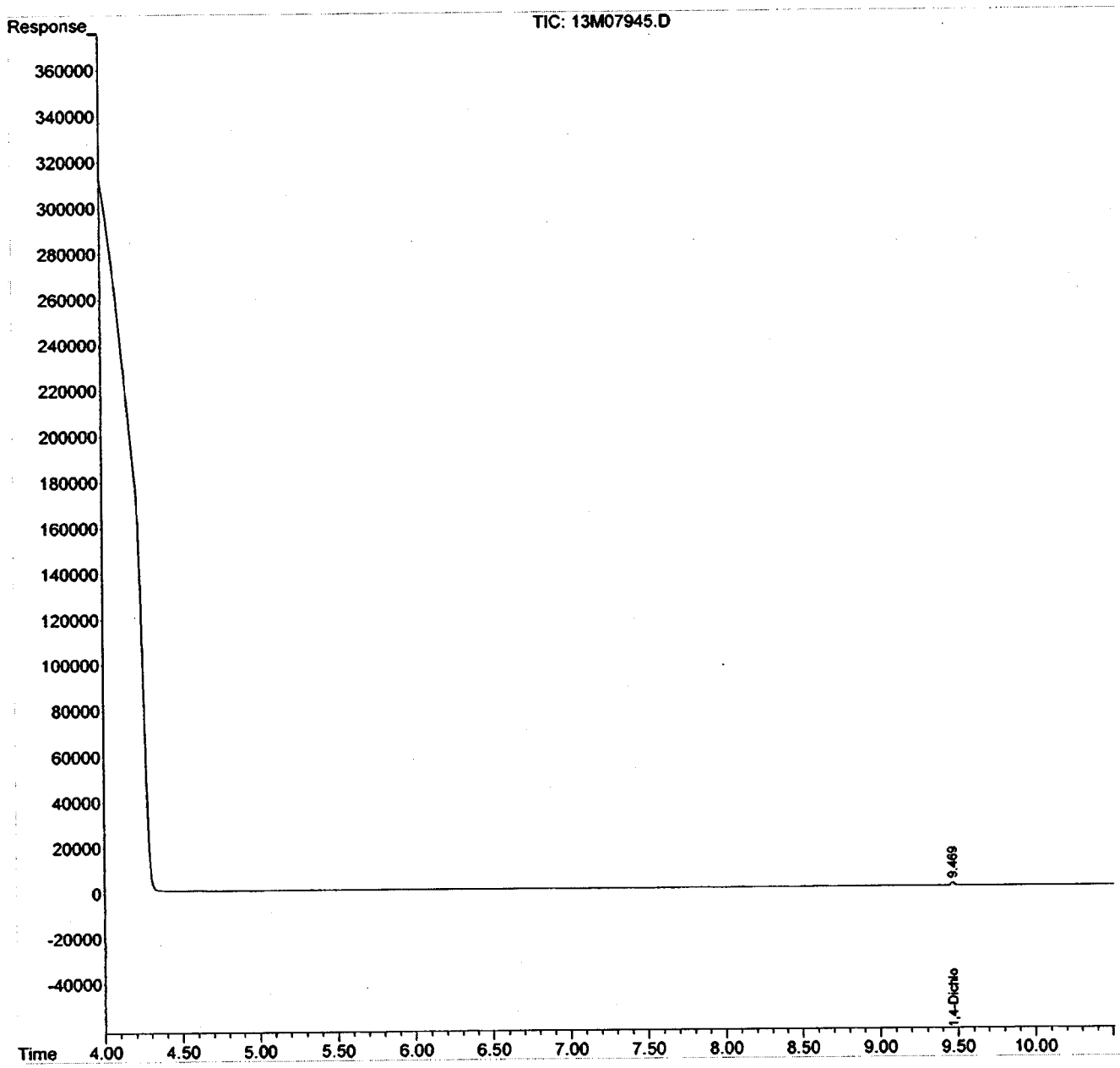
k

7100701 0268

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07945.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 18:50
Operator : SG
Sample : AD00475-008
Misc : M,MEXT!3
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:37:46 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD00475-010
Client Id: SB08 COMP
Data File: 13M07946.D
Analysis Date: 10/10/17 19:09
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.07g:10ml
Final Vol: NA
Dilution: 98.6
Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	28	U				

Worksheet #: 440071 *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 usea

7100701 0270

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07946.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 19:09
Operator : SG
Sample : AD00475-010
Misc : M,MEXT!3
ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:38:00 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.464	21881	33.191	m
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

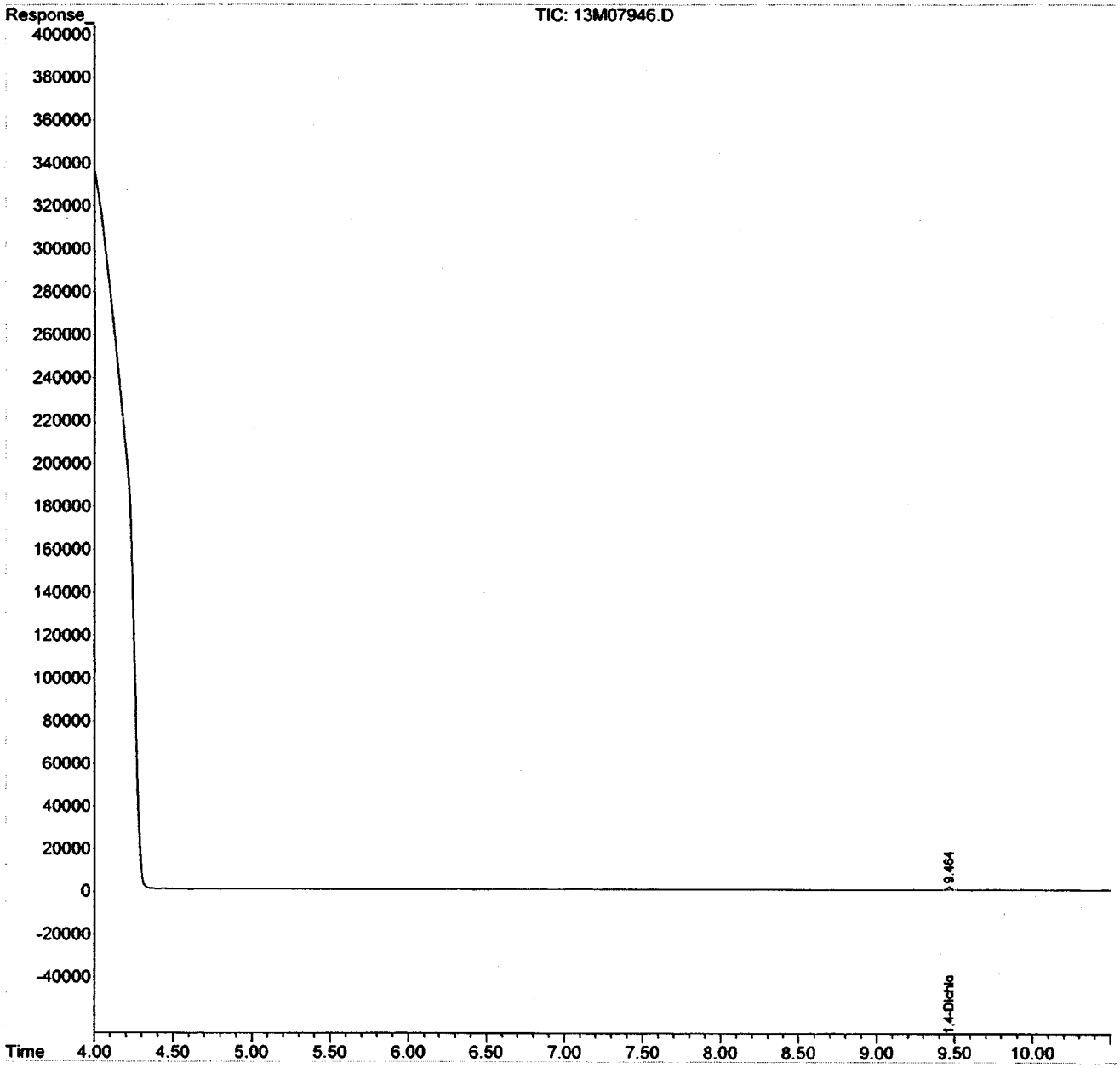
Quantitation Report (QT Reviewed)

7100701 0271

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07946.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 19:09
Operator : SG
Sample : AD00475-010
Misc : M,MEXT!3
ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:38:00 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD00475-012
Client Id: SB09 COMP
Data File: 13M07947.D
Analysis Date: 10/10/17 19:30
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.52g:10ml
Final Vol: NA
Dilution: 90.6
Solids: 92

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	25	U				

Worksheet #: 440071 *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 usea

Quantitation Report (QT Reviewed)

7100701 0273

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07947.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 19:30
Operator : SG
Sample : AD00475-012
Misc : M,MEXT!3
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:38:18 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.463	21044	31.921	m
Target Compounds				

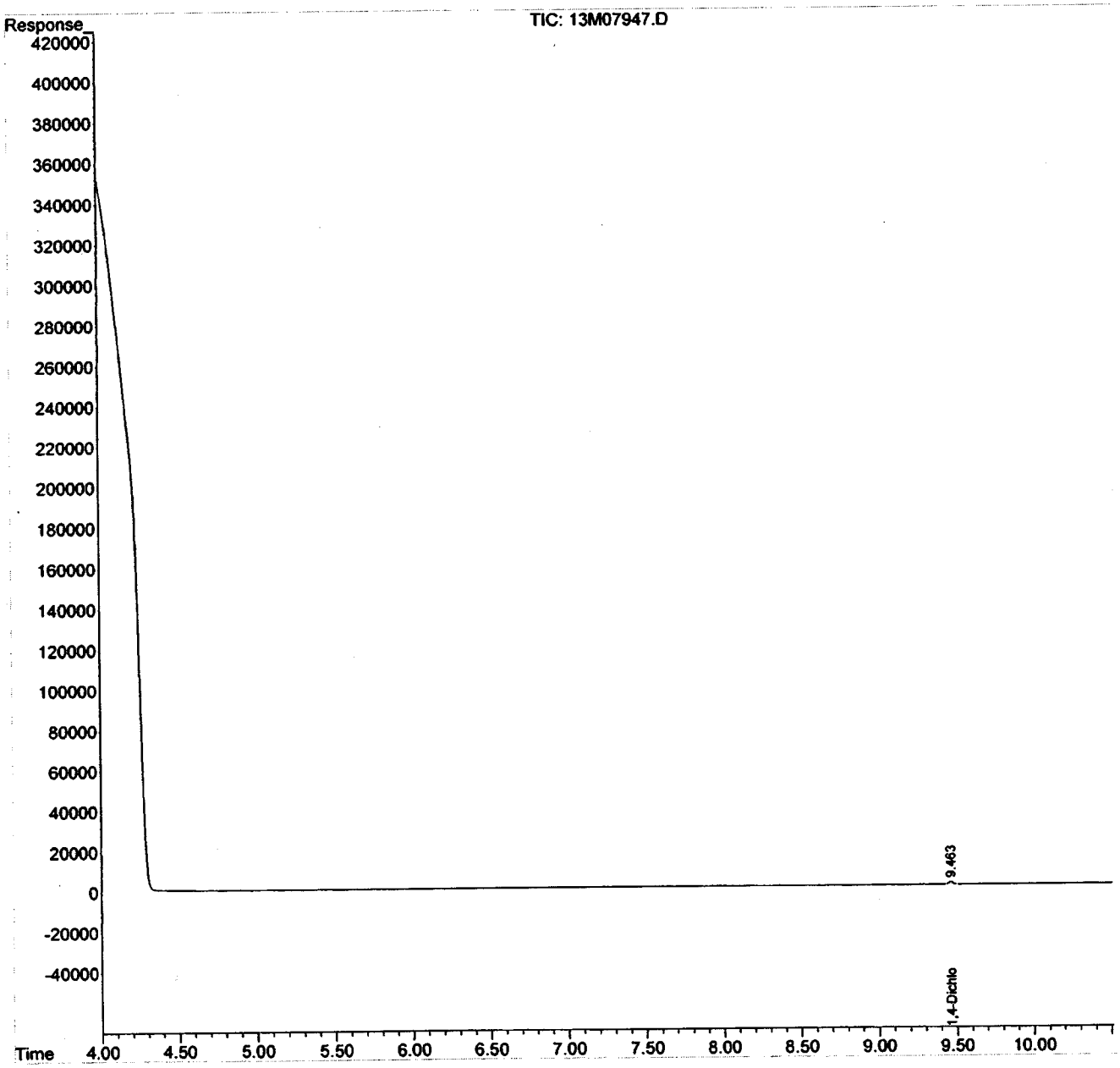
(f)=RT Delta > 1/2 Window (m)=manual int.

lh

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07947.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 19:30
Operator : SG
Sample : AD00475-012
Misc : M,MEXT!3
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:38:18 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD00475-014
Client Id: SB07 COMP
Data File: 13M07948.D
Analysis Date: 10/10/17 19:48
Date Rec/Extracted: 10/06/17-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.29g:10ml
Final Vol: NA
Dilution: 94.5
Solids: 94

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	25	U				

Worksheet #: 440071 *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 usea

Quantitation Report (QT Reviewed)

7100701 0276

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07948.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 19:48
Operator : SG
Sample : AD00475-014
Misc : M,MEXT!3
ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:38:32 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.473	20824	31.588	m
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

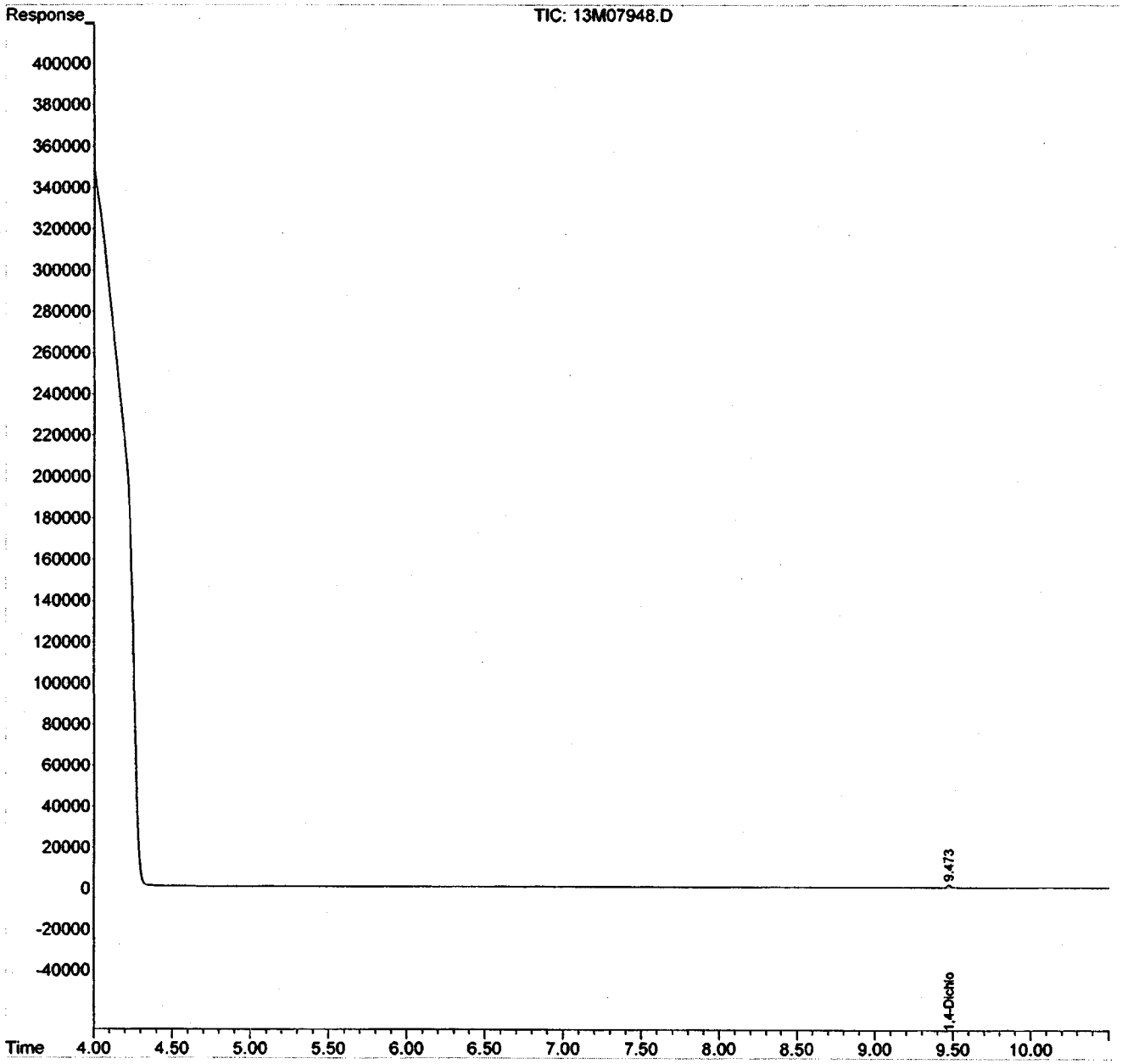
k

7100701 0277

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07948.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 19:48
Operator : SG
Sample : AD00475-014
Misc : M,MEXT!3
ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:38:32 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 13M07937.D
Analysis Date: 10/10/17 16:12
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 #: 440071 *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 usea

Quantitation Report (QT Reviewed)

7100701 0279

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07937.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 16:12
Operator : SG
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:38:48 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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	9.474	20645	31.316		m
Target Compounds					

(f)=RT Delta > 1/2 Window (m)=manual int.

k

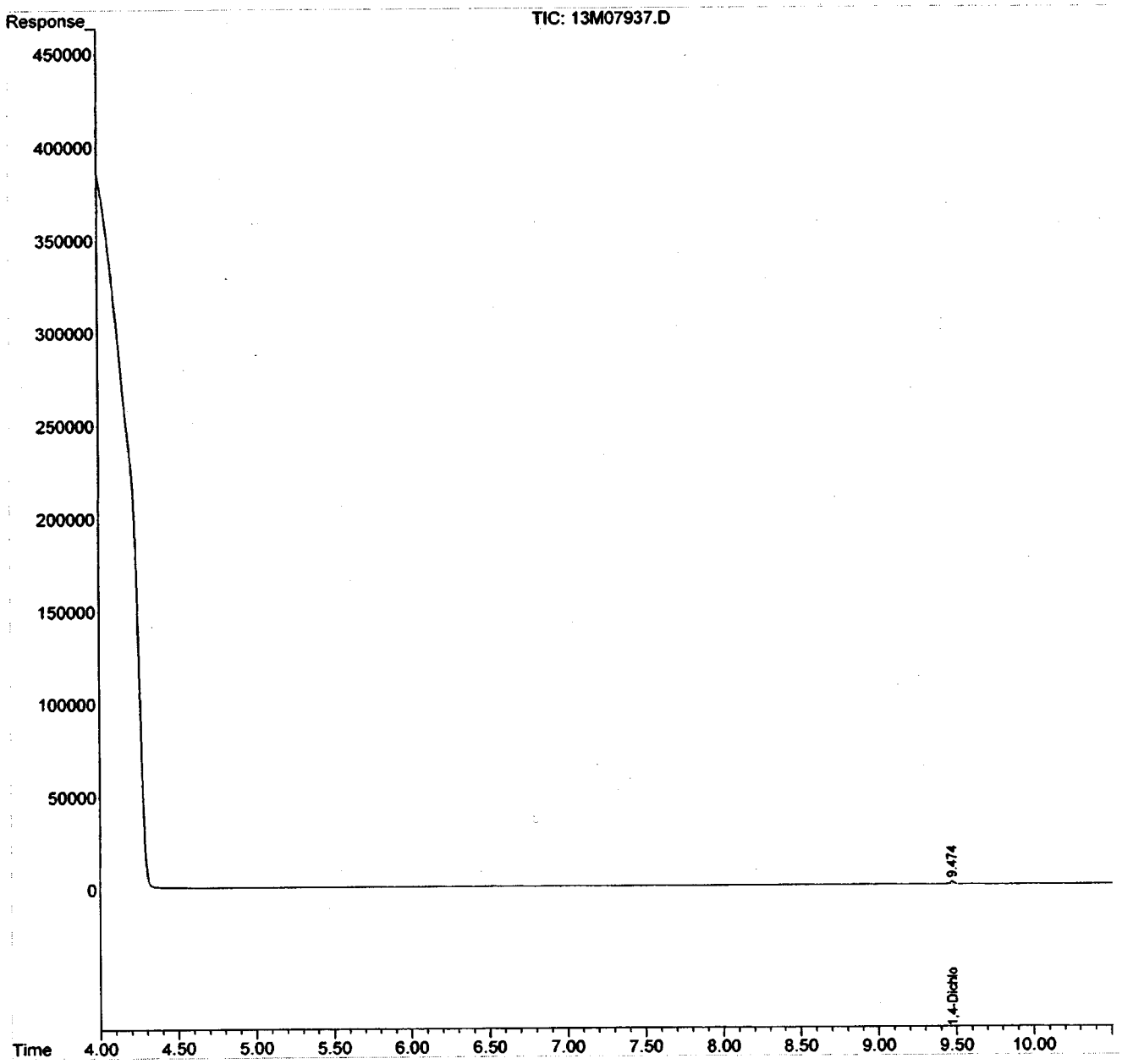
Quantitation Report (QT Reviewed)

7100701 0280

Data Path : G:\GcMsData\2017\GC_13\Data\10-10-17\
Data File : 13M07937.D
Signal(s) : FID1A.CH
Acq On : 10 Oct 2017 16:12
Operator : SG
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Oct 11 13:38:48 2017
Quant Method : G:\GcMsData\2017\GC_13\MethodQt\13M_G1009.M
Quant Title : @GC_13,ug,8015
QLast Update : Tue Oct 10 12:33:23 2017
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
13M07843.D	DAILY BLANK	M	10/02/17 11:06	1		76					
13M07859.D	DAILY BLANK	M	10/03/17 10:43	1		85					
13M07937.D	DAILY BLANK	M	10/10/17 16:12	1		104					
13M07942.D	AD00475-002	M	10/10/17 17:50	1		108					
13M07943.D	AD00475-004	M	10/10/17 18:10	1		110					
13M07944.D	AD00475-006	M	10/10/17 18:30	1		110					
13M07945.D	AD00475-008	M	10/10/17 18:50	1		107					
13M07946.D	AD00475-010	M	10/10/17 19:09	1		111					
13M07947.D	AD00475-012	M	10/10/17 19:30	1		106					
13M07948.D	AD00475-014	M	10/10/17 19:48	1		105					
13M07860.D	MBS64331	M	10/03/17 11:03	1		113					
13M07866.D	AD00362-006	M	10/03/17 13:01	1		90					
13M07938.D	MBS64381	M	10/10/17 16:32	1		132					
13M07939.D	AD00362-006(MS)	M	10/10/17 16:52	1		141					
13M07940.D	AD00362-006(MSD)	M	10/10/17 17:13	1		139					

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: MBS64331

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07860.D	MBS64331	10/3/2017 11:03:00 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	1613.4	0	2000	81	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS64381

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07938.D	MBS64381	10/10/2017 4:32:00 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	1765.28	0	2000	88	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS64381

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07939.D	AD00362-006(MS)	10/10/2017 4:52:00 PM
Non Spike(If applicable):	13M07866.D	AD00362-006	10/3/2017 1:01:00 PM
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	2236.83	0	2000	112	11	181

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07940.D	AD00362-006(MSD)	10/10/2017 5:13:00 PM
Non Spike(If applicable):	13M07866.D	AD00362-006	10/3/2017 1:01:00 PM
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	2220.04	0	2000	111	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD DATA
QC Batch: MBS64381

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M07940.D	AD00362-006(MSD)	10/10/2017 5:13:00 PM
Duplicate(If applicable):	13M07939.D	AD00362-006(MS)	10/10/2017 4:52:00 PM
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	2220.04	2236.83	0.75	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: 13M07859.D
Matrix: Methanol

Blank Analysis Date: 10/03/17 10:43
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD00362-006	13M07866.D	10/03/17 13:01
MBS64331	13M07860.D	10/03/17 11:03

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 13M07937.D
Matrix: Methanol

Blank Analysis Date: 10/10/17 16:12
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD00475-002	13M07942.D	10/10/17 17:50
AD00475-004	13M07943.D	10/10/17 18:10
AD00475-006	13M07944.D	10/10/17 18:30
AD00475-008	13M07945.D	10/10/17 18:50
AD00475-010	13M07946.D	10/10/17 19:09
AD00475-012	13M07947.D	10/10/17 19:30
AD00475-014	13M07948.D	10/10/17 19:48
AD00362-006(MSD	13M07940.D	10/10/17 17:13
AD00362-006(MS)	13M07939.D	10/10/17 16:52
MBS64381	13M07938.D	10/10/17 16:32

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
13M07468.D	BLK	09/08/17 07:12	Aqueous					
13M07470.D	2000 PPB	09/08/17 07:52	Aqueous					
13M07471.D	2000 PPB	09/08/17 08:21	Aqueous					
13M07477.D	2000 PPB	09/08/17 13:39	Aqueous					
13M07478.D	2000 PPB	09/08/17 14:00	Aqueous					
13M07481.D	CAL @ 250 PPB	09/08/17 15:01	Aqueous	13M0748	9.4809	0.1837		
13M07482.D	CAL @ 500 PPB	09/08/17 15:21	Aqueous	13M0748	9.4759	0.1309		
13M07483.D	CAL @ 750 PPB	09/08/17 15:42	Aqueous	13M0748	9.4777	0.1499		
13M07484.D	CAL @ 1000 PPB	09/08/17 16:02	Aqueous	13M0748	9.4757	0.1288		
13M07485.D	CAL @ 1500 PPB	09/08/17 16:22	Aqueous	13M0748	9.4735	0.1056		
13M07486.D	CAL @ 2000 PPB	09/08/17 16:42	Aqueous	13M0748	9.4704	0.0729		
13M07487.D	CAL @ 4000 PPB	09/08/17 17:02	Aqueous	13M0748	9.4635	0		
13M07491.D	ICV	09/08/17 18:21	Aqueous	13M0748	9.4618	0.018		

Drift Compound: 1,4-Dichloroben

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)

* - 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
13M07839.D	BLK	10/02/17 09:30	Aqueous	13M0785	9.5162	0.1872		
13M07840.D	BLK	10/02/17 09:49	Aqueous	13M0785	9.5099	0.121		
13M07841.D	CAL @ 2000 PPB	10/02/17 10:10	Aqueous	13M0784	9.5218	0		
13M07842.D	BLK	10/02/17 10:49	Methanol	13M0784	9.5354	0.1427		
13M07843.D	DAILY BLANK	10/02/17 11:06	Methanol	13M0784	9.5032	0.1955		
13M07844.D	MBS64320	10/02/17 11:32	Methanol	13M0784	9.5331	0.1186		
13M07845.D	AD00290-004(MS)	10/02/17 11:52	Methanol	13M0784	9.5213	0.0052		
13M07846.D	AD00290-004(MSD)	10/02/17 12:12	Methanol	13M0784	9.5229	0.0115		
13M07847.D	BLK	10/02/17 12:30	Methanol	13M0784	9.5221	0.0032		
13M07848.D	AD00331-002	10/02/17 12:49	Methanol	13M0784	9.5224	0.0063		
13M07849.D	AD00331-004	10/02/17 13:08	Methanol	13M0784	9.5151	0.0704		
13M07850.D	BLK	10/02/17 13:27	Methanol	13M0784	9.5194	0.0252		
13M07851.D	CAL @ 2000 PPB	10/02/17 13:48	Aqueous	13M0784	9.4984	0.2461		
13M07853.D	BLK	10/02/17 14:25	Aqueous	13M0785	9.4892	0.0969		

Drift Compound: 1,4-Dichloroben

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)

* - 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
13M07855.D	BLK	10/03/17 09:22	Aqueous	13M0787	9.5290	0.2353		
13M07856.D	BLK	10/03/17 09:40	Aqueous	13M0787	9.5083	0.0179		
13M07857.D	CAL @ 2000 PPB	10/03/17 10:02	Aqueous	13M0785	9.5216	0		
13M07858.D	BLK	10/03/17 10:22	Methanol	13M0785	9.4814	0.4231		
13M07859.D	DAILY BLANK	10/03/17 10:43	Methanol	13M0785	9.4823	0.4136		
13M07860.D	MBS64331	10/03/17 11:03	Methanol	13M0785	9.4763	0.4769		
13M07861.D	AD00331-002(MS)	10/03/17 11:23	Methanol	13M0785	9.4854	0.3809		
13M07862.D	AD00331-002(MSD)	10/03/17 11:43	Methanol	13M0785	9.4875	0.3588		
13M07863.D	BLK	10/03/17 12:03	Methanol	13M0785	9.4838	0.3978		
13M07864.D	AD00362-002	10/03/17 12:22	Methanol	13M0785	9.4864	0.3704		
13M07865.D	AD00362-004	10/03/17 12:41	Methanol	13M0785	9.4941	0.2892		
13M07866.D	AD00362-006	10/03/17 13:01	Methanol	13M0785	9.4915	0.3166		
13M07867.D	AD00362-008	10/03/17 13:21	Methanol	13M0785	9.4955	0.2745		
13M07868.D	AD00362-010	10/03/17 13:40	Methanol	13M0785	9.5032	0.1934		
13M07869.D	BLK	10/03/17 14:00	Methanol	13M0785	9.5044	0.1808		
13M07870.D	CAL @ 2000 PPB	10/03/17 14:19	Aqueous	13M0785	9.5066	0.1577		
13M07872.D	BLK	10/03/17 14:56	Aqueous	13M0787	9.5004	0.0652		

Drift Compound: 1,4-Dichloroben

Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph)

* - 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
13M07902.D	BLK	10/09/17 18:58	Methanol	13M0792	9.4978	0.1578		
13M07903.D	CAL @ 250 PPB	10/09/17 19:18	Aqueous	13M0790	9.4994	0.0968		
13M07904.D	CAL @ 500 PPB	10/09/17 19:39	Aqueous	13M0790	9.4945	0.1484		
13M07905.D	CAL @ 750 PPB	10/09/17 19:59	Aqueous	13M0790	9.4948	0.1452		
13M07906.D	CAL @ 1000 PPB	10/09/17 20:18	Aqueous	13M0790	9.4903	0.1926		
13M07907.D	CAL @ 1500 PPB	10/09/17 20:38	Aqueous	13M0790	9.4960	0.1326		
13M07908.D	CAL @ 2000 PPB	10/09/17 20:58	Aqueous	13M0790	9.4962	0.1305		
13M07909.D	CAL @ 4000 PPB	10/09/17 21:18	Aqueous	13M0790	9.5086	0		
13M07911.D	ICV	10/09/17 21:58	Aqueous	13M0790	9.4863	0.2348		
13M07913.D	DAILY BLANK	10/09/17 22:37	Methanol	13M0790	9.4886	0.2106		
13M07914.D	MBS64379	10/09/17 22:56	Methanol	13M0790	9.4853	0.2453		
13M07915.D	AD00362-004(MS)	10/09/17 23:16	Methanol	13M0790	9.4794	0.3076		
13M07916.D	AD00362-004(MSD)	10/09/17 23:37	Methanol	13M0790	9.4858	0.2401		
13M07917.D	BLK	10/09/17 23:57	Methanol	13M0790	9.4854	0.2443		
13M07918.D	AD00453-012	10/10/17 00:17	Methanol	13M0790	9.4999	0.0915		
13M07919.D	AD00406-001	10/10/17 00:34	Methanol	13M0790	9.4935	0.1589		
13M07920.D	AD00418-006	10/10/17 00:54	Methanol	13M0790	9.4877	0.22		
13M07921.D	AD00418-004	10/10/17 01:15	Methanol	13M0790	9.4848	0.2506		
13M07922.D	AD00418-002	10/10/17 01:33	Methanol	13M0790	9.4875	0.2222		
13M07923.D	CAL @ 2000 PPB	10/10/17 06:56	Aqueous	13M0790	9.5128	0.0442		

Drift Compound: 1,4-Dichloroben Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - 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
13M07929.D	CAL @ 2000 PPB	10/10/17 13:12	Aqueous	13M0792	9.5237	0		
13M07930.D	2000 PPB	10/10/17 13:41	Aqueous	13M0792	9.5183	0.0567		
13M07931.D	BLK	10/10/17 14:02	Aqueous	13M0792	9.5147	0.0945		
13M07932.D	BLK	10/10/17 14:23	Aqueous	13M0792	9.5084	0.1608		
13M07933.D	BLK	10/10/17 14:43	Aqueous	13M0792	0.0000	200		
13M07934.D	BLK	10/10/17 15:06	Methanol	13M0792	9.4845	0.4125		
13M07935.D	BLK	10/10/17 15:34	Methanol	13M0792	9.4996	0.2534		
13M07936.D	BLK	10/10/17 15:52	Methanol	13M0792	9.4784	0.4768		
13M07937.D	DAILY BLANK	10/10/17 16:12	Methanol	13M0792	9.4744	0.519		
13M07938.D	MBS64381	10/10/17 16:32	Methanol	13M0792	9.4719	0.5454		
13M07939.D	AD00362-006(MS)	10/10/17 16:52	Methanol	13M0792	9.4760	0.5021		
13M07940.D	AD00362-006(MSD)	10/10/17 17:13	Methanol	13M0792	9.4797	0.4631		
13M07941.D	BLK	10/10/17 17:31	Methanol	13M0792	9.4691	0.575		
13M07942.D	AD00475-002	10/10/17 17:50	Methanol	13M0792	9.4629	0.6404		
13M07943.D	AD00475-004	10/10/17 18:10	Methanol	13M0792	9.4770	0.4916		
13M07944.D	AD00475-006	10/10/17 18:30	Methanol	13M0792	9.4761	0.5011		
13M07945.D	AD00475-008	10/10/17 18:50	Methanol	13M0792	9.4687	0.5792		
13M07946.D	AD00475-010	10/10/17 19:09	Methanol	13M0792	9.4636	0.6331		
13M07947.D	AD00475-012	10/10/17 19:30	Methanol	13M0792	9.4631	0.6383		
13M07948.D	AD00475-014	10/10/17 19:48	Methanol	13M0792	9.4730	0.5338		
13M07949.D	BLK	10/10/17 20:07	Methanol	13M0792	9.4686	0.5802		
13M07950.D	CAL @ 2000 PPB	10/10/17 20:26	Aqueous	13M0792	9.4654	0.614		
13M07951.D	2000 PPB	10/10/17 20:44	Aqueous	13M0795	0.0000	200		
13M07952.D	BLK	10/10/17 21:00	Aqueous	13M0795	9.4808	0.1626		
13M07953.D	BLK	10/10/17 21:18	Aqueous	13M0795	9.4729	0.0792		

Drift Compound: 1,4-Dichloroben Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

7100701 0293

Method: EPA 8015D

Form 6
Initial Calibration

Instrument: GC_13

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	13M07487.	CAL @ 4000 PPB	09/08/17 17:02	2	13M07486.	CAL @ 2000 PPB	09/08/17 16:42
3	13M07485.	CAL @ 1500 PPB	09/08/17 16:22	4	13M07484.	CAL @ 1000 PPB	09/08/17 16:02
5	13M07483.	CAL @ 750 PPB	09/08/17 15:42	6	13M07482.	CAL @ 500 PPB	09/08/17 15:21
7	13M07481.	CAL @ 250 PPB	09/08/17 15:01				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
1,4-Dichlorobenzene-d4	1	0	Avg	0.1044	0.0810	0.0762	0.0693	0.0709	0.0628	0.0620	---	0.0753	9.46	-1	-1	19	30.00	30.00	30.00	30.00	30.00	30.00	30.00	
2-Methylpentane	1	0	Avg	0.0007	0.0007	0.0006	0.0004	0.0005	0.0006	0.0005	---	0.000620	5.46	0.987	0.987	16	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
1,2,4-Trimethylbenzene	1	0	Avg	0.0018	0.0019	0.0018	0.0018	0.0021	0.0023	0.0028	---	0.00209	9.27	0.998	0.998	18	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
Gasoline Range Organics	1	0	Qua	0.0809	0.0783	0.0798	0.0779	0.0901	0.1066	0.1556	---	0.0956	7.75	0.995	0.999	30	4000.	2000.	1500.	1000.	750.0	500.0	250.0	

Avg Rsd Col 1: 41.4 Avg Rsd Col 2: -1

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. pcb/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

HAZ - 803

7100701 0294

Method: EPA 8015D

Form 6
Initial Calibration

Instrument: GC_13

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	13M07909.	CAL @ 4000 PPB	10/09/17 21:18	2	13M07908.	CAL @ 2000 PPB	10/09/17 20:58
3	13M07907.	CAL @ 1500 PPB	10/09/17 20:38	4	13M07906.	CAL @ 1000 PPB	10/09/17 20:18
5	13M07905.	CAL @ 750 PPB	10/09/17 19:59	6	13M07904.	CAL @ 500 PPB	10/09/17 19:39
7	13M07903.	CAL @ 250 PPB	10/09/17 19:18				

Compound	Col	Mr	Fit:	RF1	RF2	RF3	RF4	RF5	RF6	RF7	RF8	AvgRf	RT	Corr1	Corr2	%Rsd	Calibration Level Concentrations Lvl1	Lvl2	Lvl3	Lvl4	Lvl5	Lvl6	Lvl7	Lvl8
1,4-Dichlorobenzene-d4	1	0	Avg	----	0.0779	0.0718	0.0654	0.0630	0.0596	0.0576	----	0.0659	9.51	-1	-1	12		30.00	30.00	30.00	30.00	30.00	30.00	
2-Methylpentane	1	0	Avg	0.0002	0.0002	0.0002	0.0003	0.0003	0.0002	0.0001	----	0.000270	5.48	0.992	0.992	16	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
1,2,4-Trimethylbenzene	1	0	Avg	0.0016	0.0016	0.0016	0.0015	0.0016	0.0016	0.0017	----	0.00164	9.31	1.00	1.00	3.0	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
Gasoline Range Organics	1	0	Avg	0.0577	0.0571	0.0582	0.0612	0.0654	0.0716	0.0899	----	0.0659	7.77	0.999	1.00	18	4000.	2000.	1500.	1000.	750.0	500.0	250.0	

Avg Rsd Col 1: 24.3 Avg Rsd Col 2: -1

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. pcb/chlordane etc..)
Fit = Indicates whehter Avg RF, Linear, or Quadratic Curve was used for compound.
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

HAZ - 804

Form7
Continuing Calibration

Method: EPA 8015D

Data File:				13M07841.D			13M07851.D			13M07857.D			13M07870.D			13M07929.D		
Method:				8015			8015			8015			8015			8015		
Calibration Name:				CAL @ 2000 PPB			CAL @ 2000 PPB			CAL @ 2000 PPB			CAL @ 2000 PPB			CAL @ 2000 PPB		
Calibration Date/Time				10/02/17 10:10			10/02/17 13:48			10/03/17 10:02			10/03/17 14:19			10/10/17 13:12		
					Conc			Conc			Conc			Conc			Conc	
Compound	Limit	Col	Mr	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
Gasoline Range Orga	20	1	0	1618	2000	19.1	1801	2000	10.0	1624	2000	18.8	1744	2000	12.8	1601	2000	19.9

Flags/Notes: **** - Values outside of limits for this column/run***

Form7
Continuing Calibration

Method: EPA 8015D

Data File:				13M07950.D														
Method:				8015														
Calibration Name:				CAL @ 2000 PPB														
Calibration Date/Time				10/10/17 20:26														
				Conc			Conc			Conc			Conc			Conc		
Compound	Limit	Col	Mr	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff	Conc	Exp	%Diff
Gasoline Range Orga	20	1	0	1706	2000	14.7												

Flags/Notes: **** - Values outside of limits for this column/run***

TCLP Metal Data

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD00475-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB02 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

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	10/11/17	62678	T21573A2	33	P	PEICP2A
7440-39-3	Barium	0.25	0.66	1	50	50	10/11/17	62678	T21573A2	33	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/11/17	62678	T21573A2	33	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	33	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/11/17	62678	T21573A2	33	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/11/17	62678	H21573T	18	CV	HGCV1A
7440-02-0	Nickel	0.10	0.38	1	50	50	10/11/17	62678	T21573A2	33	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	33	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/11/17	62678	T21573A2	33	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:	AD00475-004	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB03 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

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	10/11/17	62678	T21573A2	34	P	PEICP2A
7440-39-3	Barium	0.25	0.43	1	50	50	10/11/17	62678	T21573A2	34	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/11/17	62678	T21573A2	34	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	34	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/11/17	62678	T21573A2	34	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/11/17	62678	H21573T	19	CV	HGCV1A
7440-02-0	Nickel	0.10	0.10	1	50	50	10/11/17	62678	T21573A2	34	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	34	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/11/17	62678	T21573A2	34	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:	AD00475-006	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB04 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

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	10/11/17	62678	T21573A2	40	P	PEICP2A
7440-39-3	Barium	0.25	0.57	1	50	50	10/11/17	62678	T21573A2	40	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/11/17	62678	T21573A2	40	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	40	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/11/17	62678	T21573A2	40	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/11/17	62678	H21573T	20	CV	HGCV1A
7440-02-0	Nickel	0.10	0.31	1	50	50	10/11/17	62678	T21573A2	40	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	40	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/11/17	62678	T21573A2	40	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:	AD00475-008	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB05 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

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	100	100	10/11/17	62678	T21573A2	28	P	PEICP2A
7440-39-3	Barium	0.25	0.35	1	100	100	10/11/17	62678	T21573A2	28	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	100	100	10/11/17	62678	T21573A2	28	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	100	100	10/11/17	62678	T21573A2	28	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	100	100	10/11/17	62678	T21573A2	28	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/11/17	62678	H21573T	14	CV	HGCV1A
7440-02-0	Nickel	0.10	0.31	1	100	100	10/11/17	62678	T21573A2	28	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	100	100	10/11/17	62678	T21573A2	28	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	100	100	10/11/17	62678	T21573A2	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:	AD00475-010	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB08 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

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	10/11/17	62678	T21573A2	41	P	PEICP2A
7440-39-3	Barium	0.25	0.29	1	50	50	10/11/17	62678	T21573A2	41	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/11/17	62678	T21573A2	41	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	41	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/11/17	62678	T21573A2	41	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/11/17	62678	H21573T	23	CV	HGCV1A
7440-02-0	Nickel	0.10	0.11	1	50	50	10/11/17	62678	T21573A2	41	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	41	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/11/17	62678	T21573A2	41	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:	AD00475-012	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB09 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

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	10/11/17	62678	T21573A2	42	P	PEICP2A
7440-39-3	Barium	0.25	0.47	1	50	50	10/11/17	62678	T21573A2	42	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/11/17	62678	T21573A2	42	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	42	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/11/17	62678	T21573A2	42	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/11/17	62678	H21573T	24	CV	HGCV1A
7440-02-0	Nickel	0.10	0.17	1	50	50	10/11/17	62678	T21573A2	42	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	42	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/11/17	62678	T21573A2	42	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:	AD00475-014	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB07 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	10/7/2017	Contract:		Case No:	
Level:	LOW						

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	10/11/17	62678	T21573A2	43	P	PEICP2A
7440-39-3	Barium	0.25	0.34	1	50	50	10/11/17	62678	T21573A2	43	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/11/17	62678	T21573A2	43	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	43	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/11/17	62678	T21573A2	43	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/11/17	62678	H21573T	25	CV	HGCV1A
7440-02-0	Nickel	0.10	ND	1	50	50	10/11/17	62678	T21573A2	43	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	43	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/11/17	62678	T21573A2	43	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 62678 (1)
Client Id: MB 62678 (1)
Matrix: TCLP
Level: LOW

% Solid: 0
Units: MG/L

Lab Name: Hampton-Clarke
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	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-36-0	Antimony	0.070	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-38-2	Arsenic	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-39-3	Barium	0.25	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-41-7	Beryllium	0.012	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-43-9	Cadmium	0.050	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-70-2	Calcium	5.0	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-47-3	Chromium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-48-4	Cobalt	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-50-8	Copper	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7439-89-6	Iron	1.0	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7439-92-1	Lead	0.050	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7439-95-4	Magnesium	5.0	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7439-96-5	Manganese	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/11/17	62678	H21573T	11	CV	HGCV1A
7439-98-7	Molybdenum	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-02-0	Nickel	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7782-49-2	Selenium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-22-4	Silver	0.050	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-28-0	Thallium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-31-5	Tin	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-32-6	Titanium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-62-2	Vanadium	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	P	PEICP2A
7440-66-6	Zinc	0.10	ND	1	50	50	10/11/17	62678	T21573A2	12	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

FORM 2
(ICV/CCV Summary)

Date Analyzed: 10/11/17
Data File: T21573A2
Prep Batch: 62678
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: 7100701

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

Analyte	ICV/CCV Amt	ICV V-263834-7	Rec	CCV V-263834-15	Rec	CCV V-263834-25	Rec	CCV V-263834-37	Rec	CCV V-263834-47	Rec	CCV V-263834-55	Rec		Rec		Rec
Arsenic	.5/.5	0.48673	97	0.48166	96	0.48898	98	0.48013	96	0.48412	97	0.48438	97				
Barium	.5/.5	0.49656	99	0.48352	97	0.49536	99	0.49297	99	0.49228	98	0.48577	97				
Cadmium	.5/.5	0.49559	99	0.48351	97	0.49653	99	0.49432	99	0.49353	99	0.48975	98				
Chromium	.5/.5	0.50877	102	0.49645	99	0.50866	102	0.50686	101	0.50676	101	0.50059	100				
Copper	.5/.5	0.50363	101	0.49212	98	0.50814	102	0.50317	101	0.49947	100	0.49694	99				
Lead	.5/.5	0.49183	98	0.48660	97	0.49108	98	0.48687	97	0.49155	98	0.48826	98				
Nickel	.5/.5	0.49587	99	0.48361	97	0.49427	99	0.49354	99	0.49472	99	0.48893	98				
Selenium	.5/.5	0.49395	99	0.49199	98	0.49529	99	0.48973	98	0.49227	98	0.49032	98				
Silver	0.1/0.1	0.09860	99	0.09584	96	0.09789	98	0.09769	98	0.09798	98	0.09691	97				
Zinc	.5/.5	0.50467	101	0.49235	98	0.50483	101	0.50218	100	0.49996	100	0.49729	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: 10/11/17
Data File: T21573A2
Prep Batch: 62678
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: 7100701

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SPEX

Analyte	LLICV/ LLCCV Amt	LLICV [leach] V-265123-	Rec	LLCCV [leach] V-265123-16	Rec	LLCCV [leach] V-265123-26	Rec	LLCCV [leach] V-265123-38	Rec	LLCCV [leach] V-265123-48	Rec	LLCCV [leach] V-265123-56	Rec		Rec		Rec
Arsenic	0.1/0.1	0.0968198	97	0.0966502	97	0.0951759	95	0.0923658	92	0.0980174	98	0.0965674	97				
Barium	0.25/0.25	0.239362	96	0.241971	97	0.241306	97	0.231064	92	0.241055	96	0.241390	97				
Cadmium	0.05/0.05	0.0495403	99	0.0497487	99	0.0498726	100	0.0483754	97	0.0504787	101	0.0502439	100				
Chromium	0.1/0.1	0.0983050	98	0.0981954	98	0.0984750	98	0.0946513	95	0.0993985	99	0.0996452	100				
Copper	0.1/0.1	0.0991335	99	0.0991284	99	0.0986096	99	0.0943914	94	0.0985526	99	0.0987178	99				
Lead	0.05/0.05	0.0527207	105	0.0532884	107	0.0532304	106	0.0529149	106	0.0543655	109	0.0530035	106				
Nickel	0.1/0.1	0.0960657	96	0.0962783	96	0.0960302	96	0.0928656	93	0.0980431	98	0.0976233	98				
Selenium	0.1/0.1	0.102033	102	0.0957167	96	0.0945918	95	0.0987541	99	0.0976996	98	0.100069	100				
Silver	0.05/0.05	0.0456144	91	0.0456257	91	0.0455753	91	0.0434563	87	0.0460814	92	0.0460818	92				
Zinc	0.1/0.1	0.0983372	98	0.0979656	98	0.0982145	98	0.0946807	95	0.0994606	99	0.0995119	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: 10/11/17
Data File: H21573T
Prep Batch: 62678
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: 7100701

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

		ICV (2)-9		CCV-21		CCV-33									
Analyte	ICV/CCV Amt		Rec		Rec		Rec		Rec		Rec		Rec		Rec
Mercury	20/10	18.84787	94	9.18850	92	9.02850	90								

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: 10/11/17
Data File: T21573A2
Prep Batch: 62678
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: 7100701

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-261851-9	CCB-17	CCB-27	CCB-39	CCB-49	CCB-57	MB 62678 (1)-12	EF-V-264966-18
Arsenic	.1 U	.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	.25 U
Cadmium	.05 U	.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	.1 U
Copper	.1 U	.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	.05 U
Nickel	.1 U	.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	.1 U
Silver	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U
Zinc	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U	.1 U	.1 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: 10/11/17
Data File: H21573T
Prep Batch: 62678
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: 7100701

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB-10	CCB-22	CCB-34	MB 62678 (1)-11	EF-V-264966-32			
Mercury	.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 4
(ICSA/ICSAB Summary)

Date Analyzed: 10/11/17
Data File: T21573A2
Prep Batch: 62678
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: 7100701

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICSA/ICSAB: SOURCE: SCP Science

Analyte	Spk Amt	ICSA V-263927-10	Rec	ICSAB V-263293-11	Rec	ICSA V-263927-23	Rec	ICSAB V-263293-24	Rec	ICSA V-263927-35	Rec	ICSAB V-263293-36	Rec	ICSA V-263927-53	Rec	ICSAB V-263293-54	Rec
Aluminum	500	491.001	98	497.12900	99	490.49	98	494.84600	99	496.031	99	486.33500	97	496.195	99	494.82100	99
Arsenic	1	U		0.98342	98	U		0.96313	96	U		0.95876	96	U		0.97622	98
Barium	.5	U		0.51159	102	U		0.50844	102	U		0.49935	100	U		0.50577	101
Cadmium	1	U		1.01561	102	U		1.01078	101	U		1.00142	100	U		1.01705	102
Calcium	500	487.196	97	492.61200	99	486.521	97	491.39500	98	492.389	98	482.99600	97	494.275	99	492.61600	99
Chromium	.5	U		0.51136	102	U		0.50899	102	U		0.50440	101	U		0.50906	102
Copper	.5	U		0.54721	109	U		0.54749	109	U		0.53753	108	U		0.54794	110
Iron	200	194.138	97	196.06400	98	193.551	97	195.07700	98	195.642	98	192.88100	96	197.177	99	196.00700	98
Lead	1	U		0.96286	96	U		0.95130	95	U		0.94723	95	U		0.95795	96
Magnesium	500	505.26	101	511.45100	102	503.445	101	509.37800	102	509.135	102	499.65600	100	512.459	102	510.64500	102
Nickel	1	U		0.97483	97	U		0.96061	96	U		0.95689	96	U		0.96727	97
Selenium	1	U		1.06809	107	U		1.05573	106	U		1.03194	103	U		1.04746	105
Silver	1	U		1.08458	108	U		1.07946	108	U		1.06650	107	U		1.08486	108
Zinc	1	U		1.00890	101	U		1.00107	100	U		0.98953	99	U		1.00891	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

FORM5/FORM7

SPIKE RECOVERY DATA

PREP BATCH: 62678

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: TCLP SampleID: LCSW MR 62678

Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	62678	1	T21573A2	14	0.5156	0.5	103		80	120
Barium	62678	1	T21573A2	14	0.5246	0.5	105		80	120
Cadmium	62678	1	T21573A2	14	0.5233	0.5	105		80	120
Chromium	62678	1	T21573A2	14	0.5241	0.5	105		80	120
Lead	62678	1	T21573A2	14	0.5210	0.5	104		80	120
Mercury	62678	1	H21573T	13	9.6678	10	97		80	120
Nickel	62678	1	T21573A2	14	0.5196	0.5	104		80	120
Selenium	62678	1	T21573A2	14	0.5179	0.5	104		80	120
Silver	62678	1	T21573A2	14	0.1035	0.100	103		80	120

TxtQcType: LCS Matrix: TCLP SampleID: LCSW 62678

Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	62678	1	T21573A2	13	0.5140	0.5	103		80	120
Barium	62678	1	T21573A2	13	0.5297	0.5	106		80	120
Cadmium	62678	1	T21573A2	13	0.5244	0.5	105		80	120
Chromium	62678	1	T21573A2	13	0.5289	0.5	106		80	120
Lead	62678	1	T21573A2	13	0.5171	0.5	103		80	120
Mercury	62678	1	H21573T	12	9.5029	10	95		80	120
Nickel	62678	1	T21573A2	13	0.5248	0.5	105		80	120
Selenium	62678	1	T21573A2	13	0.5181	0.5	104		80	120
Silver	62678	1	T21573A2	13	0.1045	0.100	104		80	120

TxtQcType: MS Matrix: TCLP SampleID: AD00475-008

Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	62678	1	T21573A2	30	T21573A2	28	0.5755	0.1U	0.5	115		50	
Barium	62678	1	T21573A2	30	T21573A2	28	0.9222	0.3532	0.5	114		50	
Cadmium	62678	1	T21573A2	30	T21573A2	28	0.5670	0.05U	0.5	113		50	
Chromium	62678	1	T21573A2	30	T21573A2	28	0.5540	0.1U	0.5	111		50	
Lead	62678	1	T21573A2	30	T21573A2	28	0.5614	0.05U	0.5	112		50	
Mercury	62678	1	H21573T	16	H21573T	14	9.6797	0.50U	10	97		50	
Nickel	62678	1	T21573A2	30	T21573A2	28	0.8745	0.3131	0.5	112		50	
Selenium	62678	1	T21573A2	30	T21573A2	28	0.5982	0.1U	0.5	120		50	
Silver	62678	1	T21573A2	30	T21573A2	28	0.1145	0.05U	0.10	114		50	

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: 62678

ument Type: ICP/HG

Analytical Method(s):6010/200.7/7470A/7471A/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: PS Matrix: TCLP SampleID: AD00475-008

Analyte	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Arsenic	1	T21573A2	31	T21573A2	28	0.5411	0.1U	0.5	108		80	120
Barium	1	T21573A2	31	T21573A2	28	0.8907	0.3532	0.5	107		80	120
Cadmium	1	T21573A2	31	T21573A2	28	0.5472	0.05U	0.5	109		80	120
Chromium	1	T21573A2	31	T21573A2	28	0.5362	0.1U	0.5	107		80	120
Lead	1	T21573A2	31	T21573A2	28	0.5346	0.05U	0.5	107		80	120
Nickel	1	T21573A2	31	T21573A2	28	0.8449	0.3131	0.5	106		80	120
Selenium	1	T21573A2	31	T21573A2	28	0.5681	0.1U	0.5	114		80	120
Silver	1	T21573A2	31	T21573A2	28	0.0875	0.05U	0.1	88		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: 62678

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: TCLP SampleID: LCSW MR 62678

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	62678	T21573A2	14	T21573A2	13	0.5156	0.5140	.31	20
Barium	62678	T21573A2	14	T21573A2	13	0.5246	0.5297	.98	20
Cadmium	62678	T21573A2	14	T21573A2	13	0.5233	0.5244	.21	20
Chromium	62678	T21573A2	14	T21573A2	13	0.5241	0.5289	.92	20
Lead	62678	T21573A2	14	T21573A2	13	0.5210	0.5171	.75	20
Mercury	62678	H21573T	13	H21573T	12	9.6678	9.5029	1.7	20
Nickel	62678	T21573A2	14	T21573A2	13	0.5196	0.5248	.98	20
Selenium	62678	T21573A2	14	T21573A2	13	0.5179	0.5181	.039	20
Silver	62678	T21573A2	14	T21573A2	13	0.1035	0.1045	.92	20

TxtQcType: MR Matrix: TCLP SampleID: AD00475-008

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	62678	T21573A2	29	T21573A2	28	0.1U	0.1U	---	20
Barium	62678	T21573A2	29	T21573A2	28	0.3843	0.3532	8.4	20
Cadmium	62678	T21573A2	29	T21573A2	28	0.05U	0.05U	---	20
Chromium	62678	T21573A2	29	T21573A2	28	0.1U	0.1U	---	20
Lead	62678	T21573A2	29	T21573A2	28	0.05U	0.05U	---	20
Mercury	62678	H21573T	15	H21573T	14	0.50U	0.50U	---	20
Nickel	62678	T21573A2	29	T21573A2	28	0.3385	0.3131	7.8	20
Selenium	62678	T21573A2	29	T21573A2	28	0.1U	0.1U	---	20
Silver	62678	T21573A2	29	T21573A2	28	0.05U	0.05U	---	20

TxtQcType: SD Matrix: TCLP SampleID: AD00475-008

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff		Limit
Arsenic	62678	T21573A2	32	T21573A2	28	5	0.0067	0.0065	418	c	10
Barium	62678	T21573A2	32	T21573A2	28	5	0.0663	0.3532	6.1		10
Cadmium	62678	T21573A2	32	T21573A2	28	5	0.0017	0.0017	396	c	10
Chromium	62678	T21573A2	32	T21573A2	28	5	0.0023	0.0049	141	a	10
Lead	62678	T21573A2	32	T21573A2	28	5	0.0072	0.0170	111	c	10
Nickel	62678	T21573A2	32	T21573A2	28	5	0.0611	0.3131	2.4		10
Selenium	62678	T21573A2	32	T21573A2	28	5	0.0051	-0.0046	---		10
Silver	62678	T21573A2	32	T21573A2	28	5	0.0008	0.0014	198	c	10

a-Indicates Rpd Failed the criteria

b-Method Rep Out but concentrations < 5*RL

c-Serial dilution Out but conc < 10 * IDL

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP2A\T21573A2.txt

Analysis Date: 10/11/17

Instrument: PEICP2A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-261851	1	CAL	14:09	1							V-261851(ICB/CCB)
CALST1 V-264991	1	CAL	14:12	2							V-264991(ICS1 Lowest std)
CALST2 V-263538	1	CAL	14:15	3							V-263538(ICS2- Low Std)
CALST3 V-263925	1	CAL	14:19	4							V-263925(ICS3 - Middle Std)
CALST4 V-263540	1	CAL	14:24	5							V-263540(ICS4 High std)
ICS3 V-263925	1	ICS	14:28	6							V-263925(ICS3 - Middle Std)
ICV V-263834	1	ICV	14:33	7							V-263834(CCV)
LLICV [leach] V-265123	1	LLICV	14:38	8		TCLP	TCLP	SW846	62678		V-265123(LLICV/CCV leachate)
ICB V-261851	1	ICB	14:41	9							V-261851(ICB/CCB)
ICSA V-263927	1	ICSA	14:45	10							V-263927(ICSA)
ICSAB V-263293	1	ICSAB	14:50	11							V-263293(ICSAB)
MB 62678 (1)	1	MB	14:55	12		TCLP	TCLP	SW846	62678		0
LCSW 62678	1	LCS	14:59	13		TCLP	TCLP	SW846	62678		0
LCSW MR 62678	1	LCS	15:04	14		TCLP	TCLP	SW846	62678		0
CCV V-263834	1	CCV	15:09	15							V-263834(CCV)
LLCCV [leach] V-265123	1	LLCCV	15:13	16		TCLP	TCLP	SW846	62678		V-265123(LLICV/CCV leachate)
CCB	1	CCB	15:17	17							0
EF-V-264966	1	EF	15:20	18		TCLP	TCLP	SW846	62678		V-264966(EF-1 WARNING)
AD00474-001	1	SMP	15:24	19	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00415-002	1	SMP	15:28	20	PB-TCLP	TCLP	TCLP	SW846	62678		0
AD00415-004	1	SMP	15:31	21	PB-TCLP	TCLP	TCLP	SW846	62678		0
AD00451-001	1	SMP	15:35	22	METALS-TCLP	TCLP	TCLP	SW846	62678		0
ICSA V-263927	1	ICSA	15:39	23							V-263927(ICSA)
ICSAB V-263293	1	ICSAB	15:44	24							V-263293(ICSAB)
CCV V-263834	1	CCV	15:50	25							V-263834(CCV)
LLCCV [leach] V-265123	1	LLCCV	15:54	26		TCLP	TCLP	SW846	62678		V-265123(LLICV/CCV leachate)
CCB	1	CCB	15:58	27							0
AD00475-008	1	SMP	16:01	28	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-008	1	MR	16:05	29	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-008	1	MS	16:08	30	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-008	1	PS	16:13	31	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-008	5	SD	16:18	32	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-002	1	SMP	16:21	33	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-004	1	SMP	16:25	34	METALS-TCLP	TCLP	TCLP	SW846	62678		0
ICSA V-263927	1	ICSA	16:28	35							V-263927(ICSA)
ICSAB V-263293	1	ICSAB	16:34	36							V-263293(ICSAB)
CCV V-263834	1	CCV	16:39	37							V-263834(CCV)
LLCCV [leach] V-265123	1	LLCCV	16:44	38		TCLP	TCLP	SW846	62678		V-265123(LLICV/CCV leachate)
CCB	1	CCB	16:47	39							0
AD00475-006	1	SMP	16:51	40	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-010	1	SMP	16:54	41	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-012	1	SMP	16:58	42	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-014	1	SMP	17:01	43	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00469-001	1	SMP	17:05	44	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00469-002	1	SMP	17:08	45	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00469-003	1	SMP	17:12	46	METALS-TCLP	TCLP	TCLP	SW846	62678		0
CCV V-263834	1	CCV	17:15	47							V-263834(CCV)
LLCCV [leach] V-265123	1	LLCCV	17:20	48		TCLP	TCLP	SW846	62678		V-265123(LLICV/CCV leachate)
CCB	1	CCB	17:23	49							0
AD00469-004	1	SMP	17:27	50	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00432-002	1	SMP	17:30	51	METALS-TCLP	TCLP	TCLP	SW846	62678		0
AD00457-010	1	SMP	17:34	52	METALS-TCLP	TCLP	TCLP	SW846	62678		0
ICSA V-263927	1	ICSA	17:38	53							V-263927(ICSA)
ICSAB V-263293	1	ICSAB	17:44	54							V-263293(ICSAB)
CCV V-263834	1	CCV	17:49	55							V-263834(CCV)
LLCCV [leach] V-265123	1	LLCCV	17:54	56		TCLP	TCLP	SW846	62678		V-265123(LLICV/CCV leachate)
CCB	1	CCB	17:57	57							0

Comments/Reviewedby:

2.168.1.89 10/12/2017 9:50:15 AM

OK

10/12/17

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\HGCV1A\H21573T.txt

Analysis Date: 10/11/17 **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	15:29	1							0
.2 PPB	1	CAL	15:31	2							0
.5 PPB	1	CAL	15:32	3							0
1 PPB	1	CAL	15:33	4							0
2 PPB	1	CAL	15:35	5							0
5 PPB	1	CAL	15:36	6							0
10 PPB	1	CAL	15:37	7							0
25 PPB	1	CAL	15:39	8							0
ICV (2)	1	ICV	15:41	9							0
ICB	1	ICB	15:44	10							0
MB 62678 (1)	1	MB	15:45	11		TCLP	TCLP	SW846	62678		0
LCSW 62678	1	LCS	15:46	12		TCLP	TCLP	SW846	62678		0
LCSW MR 62678	1	LCS	15:48	13		TCLP	TCLP	SW846	62678		0
AD00475-008	1	SMP	15:50	14	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-008	1	MR	15:52	15	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-008	1	MS	15:53	16	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00474-001	1	SMP	15:55	17	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-002	1	SMP	15:57	18	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-004	1	SMP	15:58	19	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-006	1	SMP	15:59	20	HG-TCLP	TCLP	TCLP	SW846	62678		0
CCV	1	CCV	16:01	21							0
CCB	1	CCB	16:03	22							0
AD00475-010	1	SMP	16:04	23	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-012	1	SMP	16:05	24	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00475-014	1	SMP	16:07	25	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00469-001	1	SMP	16:08	26	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00469-002	1	SMP	16:09	27	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00469-003	1	SMP	16:11	28	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00469-004	1	SMP	16:12	29	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00432-002	1	SMP	16:13	30	HG-TCLP	TCLP	TCLP	SW846	62678		0
AD00457-010	1	SMP	16:15	31	HG-TCLP	TCLP	TCLP	SW846	62678		0
EF-V-264966	1	EF	16:16	32		TCLP	TCLP	SW846	62678		V-264966(EF-1 WARNING)
CCV	1	CCV	16:18	33							0
CCB	1	CCB	16:20	34							0

Comments/Reviewedby:

olufemi
192.168.1.25 10/11/2017 4:42:23 PM

RUN IS OK

10/11/17

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-265127

Hampton-Clarke

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 3010A 3005A 3050B 200.7/200.8 OTHER _____

Batch No.: 21573 **Analyst:** [illegible]

QC Number: 62678 **Prep Date:** 10/11/17

Matrix: TCLP **Reviewed By:** [illegible]

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	50ml	50ml				–	Balance used: N/A
LCS						–	Pipettes used: 149
LCSD						–	
1. BC00475-008					V264966	00475-008	Hot Block used: 9
MR 00475-008							
MS 00475-008							
~~MSD~~							
2. 00474-001	50ml	50ml			V264966	00475-008	
3. 00415-002							
4. -004							
5. 00475-002							
6. -004							
7. -006							
8. -010							
9. -012							
10. -014							
11. 00469-001							
12. -002							
13. -003							
14. -004							
15. 00451-001							
16. 001432-002							
17. 00457-010							
18. V-264966							
19.							
20.							

Hot Plate Temperature: 92.1 C (90-95° C) **Start Time:** 9:15 **End Time:** 13:49

	Volume mL	Lot #
LCS, LCSD	0.25ml	V-11062, 11063
LLLCS, LLLCSD		V-
MS, MSD	0.25ml	V-11062, 11063
LLMS, LLMSD		V-

Acid	Vol mL	Lot#
HNO_3	3ml	V-11187
HCl		V-
H_2O_2		V-

Acid	Vol mL	Lot#
1:1 HNO_3		V-
1:1 HCl	5ml	V-262677

Relinquished By [illegible] **Date** 10/11/17

Received By [illegible] **Date** 10/11/17

T:\QC\FORMS\LOGBOOK FORMS\METALS\ICP sample prep log 2016 DOD.DOC

HG SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 245.1 (7470A) 7471B OTHER_____

Batch No.:* 21573

QC Number: 62678

Matrix: TCLP

Analyst: [illegible]

Prep Date: 10/11/17

Review By: [illegible]

LAB ID#	MERCURY INITIAL	MERCURY FINAL	COMMENTS	STANDARDS
Method blank	25ml	25ml		CAL CURVE BLK 0ppb V-265076
LCS				
LCSD				STD 0.2 ppb V-265077
DD475-008				STD 0.5 ppb V-265078
MR DD475-008				STD 1.0 ppb V-265079
MS DD475-008				STD 2.0 ppb V-265080
MSD				STD 5.0 ppb V-265081
2 DD475-001	25ml	25ml		STD 10.0 ppb V-265082
3 DD475-002				STD 25.0 ppb V-265083
4 -004				ICV 10.0 ppb V-265074
5 -006				CCV 20.0 ppb V-265075
6 -010				
7 -012				
8 -014				Balance used: NR
9 DD469-001				Pipettes used: 121, 132, 135, 150
10 -002				
11 -003				Hot Block used: 7
12 -004				
13 ~~DD451-001~~	10/11/17			
14 DD432-002				
15 DD457-010				
16 V-264966				
17				
18				
19				
20				

Lot Numbers	Acid	Volume (mL)		Lot #
$KMnO_4$: V-264409	HNO_3	0.625ml		V- 11137
$K_2S_2O_8$: V-264408	HCl			V-
NH_2OH: V-264409	H_2SO_4	1.25ml		V- 11059
	Aqua Regia			V-

**Block Temp.: °C 93

Time in Block: 10:20

Time Out of Block: 12:20

Spike Volume & Lot #

☐ LCS V-265073 0.15ml (0.25 ml)

☐ MS V-265073 0.50 ml

☐ Standards/Control Batch B-23827

Start time: 9:15 End Time: 12:20

**Temperature 245.1 / 7470A: 90-95C 7471B : 92-98C

Relinquished By: [illegible]

*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 Veriprog using the standard batch number and the corresponding V #s.

HG PREP 2016

Wet Chemistry Data

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD00475-002
Matrix Soil
Client SampleID: SB02 COMP

Project Number: 7100701
Received Date: 10/6/2017
Collect Date: 10/5/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/09/17	10/09/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/09/17	10/09/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/09/17	10/09/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/09/17	10/09/17
Paint Filter Test	PAINT FILTER	1	NEG				10/09/17
pH	PH-SOIL	1	7.9	pH			10/09/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/09/17	10/09/17

Lab#: AD00475-004
Matrix Soil
Client SampleID: SB03 COMP

Project Number: 7100701
Received Date: 10/6/2017
Collect Date: 10/5/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/09/17	10/09/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/09/17	10/09/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/09/17	10/09/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/09/17	10/09/17
Paint Filter Test	PAINT FILTER	1	NEG				10/09/17
pH	PH-SOIL	1	8.4	pH			10/09/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/09/17	10/09/17

Lab#: AD00475-006
Matrix Soil
Client SampleID: SB04 COMP

Project Number: 7100701
Received Date: 10/6/2017
Collect Date: 10/5/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/09/17	10/09/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/09/17	10/09/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/09/17	10/09/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/09/17	10/09/17
Paint Filter Test	PAINT FILTER	1	NEG				10/09/17
pH	PH-SOIL	1	6.7	pH			10/09/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/09/17	10/09/17

Lab#: AD00475-008
Matrix Soil
Client SampleID: SB05 COMP

Project Number: 7100701
Received Date: 10/6/2017
Collect Date: 10/5/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/09/17	10/09/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/09/17	10/09/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/09/17	10/09/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/09/17	10/09/17
Paint Filter Test	PAINT FILTER	1	NEG				10/09/17
pH	PH-SOIL	1	8.1	pH			10/09/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/09/17	10/09/17

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD00475-010
Matrix Soil
Client SampleID: SB08 COMP

Project Number: 7100701
Received Date: 10/6/2017
Collect Date: 10/6/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/09/17	10/09/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/09/17	10/09/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/09/17	10/09/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/09/17	10/09/17
Paint Filter Test	PAINT FILTER	1	NEG				10/09/17
pH	PH-SOIL	1	7.5	pH			10/09/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/09/17	10/09/17

Lab#: AD00475-012
Matrix Soil
Client SampleID: SB09 COMP

Project Number: 7100701
Received Date: 10/6/2017
Collect Date: 10/6/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/09/17	10/09/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/09/17	10/09/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/09/17	10/09/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/09/17	10/09/17
Paint Filter Test	PAINT FILTER	1	NEG				10/09/17
pH	PH-SOIL	1	7.6	pH			10/09/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/09/17	10/09/17

Lab#: AD00475-014
Matrix Soil
Client SampleID: SB07 COMP

Project Number: 7100701
Received Date: 10/6/2017
Collect Date: 10/6/2017

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	10/09/17	10/09/17
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			10/09/17	10/09/17
Burning Rate (mm/sec)	IGNIT-1030	1	NA			10/09/17	10/09/17
Ignitability Screen (POS/NEG)	IGNIT-1030	1	NEG			10/09/17	10/09/17
Paint Filter Test	PAINT FILTER	1	NEG				10/09/17
pH	PH-SOIL	1	8.2	pH			10/09/17
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	10/09/17	10/09/17

VERITECH Wet Chem Form1 Analysis Summary
% Solids

TestGroupName: % Solids SM2540G **Project #: 7100701**

TestGroup: %SOLIDS

Lab#	Client SampleID	Matrix	Dilution:	Result	Units:	RL	Prep Date	Analysis Date	Received Date	Collect Date
AD00475-001	SB02 GRAB	Soil	1	90	Percent			10/09/17	10/06/17	10/05/17
AD00475-002	SB02 COMP	Soil	1	87	Percent			10/09/17	10/06/17	10/05/17
AD00475-003	SB03 GRAB	Soil	1	89	Percent			10/09/17	10/06/17	10/05/17
AD00475-004	SB03 COMP	Soil	1	89	Percent			10/09/17	10/06/17	10/05/17
AD00475-005	SB04 GRAB	Soil	1	87	Percent			10/09/17	10/06/17	10/05/17
AD00475-006	SB04 COMP	Soil	1	86	Percent			10/09/17	10/06/17	10/05/17
AD00475-007	SB05 GRAB	Soil	1	91	Percent			10/09/17	10/06/17	10/05/17
AD00475-008	SB05 COMP	Soil	1	89	Percent			10/09/17	10/06/17	10/05/17
AD00475-009	SB08 GRAB	Soil	1	89	Percent			10/09/17	10/06/17	10/05/17
AD00475-010	SB08 COMP	Soil	1	89	Percent			10/09/17	10/06/17	10/06/17
AD00475-011	SB09 GRAB	Soil	1	88	Percent			10/09/17	10/06/17	10/06/17
AD00475-012	SB09 COMP	Soil	1	92	Percent			10/09/17	10/06/17	10/06/17
AD00475-013	SB07 GRAB	Soil	1	96	Percent			10/09/17	10/06/17	10/06/17
AD00475-014	SB07 COMP	Soil	1	94	Percent			10/09/17	10/06/17	10/06/17

Calibration Summary:

Instrument: DA1
Analysis Meth: SW846 7.3.3

Analyte	Batch ID	Run#	Qc Type	Recov	Spk Amt	Limit
Cyanide (Reactive)	20171009134	9	ICV	106	0.4	90-110
Cyanide (Reactive)	20171009134	21	CCV	105	0.4	90-110
Cyanide (Reactive)	20171009134	32	CCV	104	0.4	90-110

Blank Summary

Instrument: DA1

Qc Type: Method Blank Summary Prep Date: 10/9/17

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20171009134	10/9/17 14:03	MBS-1093	11	Cyanide (	ND	0.50

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20171009134	10/9/17 14:01	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
20171009134	10/9/17 14:29	CCB	22	Cyanide (	ND	0.020
20171009134	10/9/17 14:51	CCB	33	Cyanide (	ND	0.020

LCS Recoveries

				BatchRunID/RunID:===>	201710091340-12										
				QcBatchID:===>	LCSS-1093										
				Date/Time:===>	10/09/17 14:05										
				Analytical Method:===>	SW846 7.3.3										
				Matrix:===>	Soil		Soil		Soil		Soil		Soil		
	SW846 7.3.														
Analyte	Amt	Limits	Amt	Limits	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags	
Cyanide (Rea	0.4	75-125			103										

MS/MSD/DUP Recovery

7100701 0326

Prep Batch: S-1093 Sample ID: AD00439-001
Method: SW846 7.3.3 Matrix: Soil

Qc Type: MS

Analyte	Amt	Limits Recov	Dil	MS Conc	Sample Conc	% Rec	Flag	MS/MSD/DUP Batch	RunID	Analysis Date	Non Spike Batch	RunID	Analysis Date
Cyanide (Reactive)	0.4	75-125	1	0.4217	0	105		20171009134	13	10/09/17 14:08	20171009134	15	10/09/17 14:12

Qc Type: MSD

Analyte	Amt	Limits Recov	Rpd	Dil	MSD Conc	Sample Conc	% Rec	Rpd	Flag	MS/MSD/DUP Batch	RunID	Analysis Date	Non Spike Batch	RunID	Analysis Date
Cyanide (Reactive)	0.4	75-125	20	1	0.4114	0	103	2.5		20171009134	14	10/09/17 14:10	20171009134	15	10/09/17 14:12

Analysis Type: PAINT FILT

7100701 0327

Batch Number: PAINT FILT-905

Units:

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00453-003	0	NA	NA	#Error	NA	NA	

Calibration Curve Information

Analytical Method(s)

EPA 9095B

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Pos/Neg	Prep Date	Prep By	Anal Date	Anal By
AD00453-003	DUP				100	0	NEG			10/09/17	SDL
AD00453-003	Sample				100	0	NEG			10/09/17	SDL
AD00414-003	Sample				100	0	NEG			10/09/17	SDL
AD00453-006	Sample				100	0	NEG			10/09/17	SDL
AD00453-007	Sample				100	0	NEG			10/09/17	SDL
AD00453-008	Sample				100	0	NEG			10/09/17	SDL
AD00453-009	Sample				100	0	NEG			10/09/17	SDL
AD00453-011	Sample				100	0	NEG			10/09/17	SDL
AD00453-013	Sample				100	0	NEG			10/09/17	SDL
AD00475-002	Sample				100	0	NEG			10/09/17	SDL
AD00475-004	Sample				100	0	NEG			10/09/17	SDL
AD00475-006	Sample				100	0	NEG			10/09/17	SDL
[illegible]0475-008	Sample				100	0	NEG			10/09/17	SDL
[illegible]0475-010	Sample				100	0	NEG			10/09/17	SDL
AD00475-012	Sample				100	0	NEG			10/09/17	SDL
AD00475-014	Sample				100	0	NEG			10/09/17	SDL

BD 10/9/17

JW 10/9/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Analysis Type: PH-S

Batch Number: PH-S-1516

Units: pH

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD00457-010	0	NA	20	7.88	NA	0.63	
LCS	LCS	4.4	75-125	NA	4.39	100	NA	

Calibration Curve Information

Analytical Method(s)

9040C/9045D

Sam #	Type	MB	Result	RL	Per Sol	Full Result	PH	Prep Date	Prep By	Anal Date	Anal By
LCS	LCS		4.4		100	4.39	4.39			10/09/17	SDL
AD00457-010	DUP		7.9		100	7.88	7.88			10/09/17	SDL
AD00457-010	Sample		7.9		100	7.93	7.93			10/09/17	SDL
AD00469-001	Sample		7.0		100	7	7.00			10/09/17	SDL
AD00469-002	Sample		8.6		100	8.63	8.63			10/09/17	SDL
AD00469-003	Sample		6.4		100	6.45	6.45			10/09/17	SDL
AD00469-004	Sample		8.5		100	8.46	8.46			10/09/17	SDL
AD00475-002	Sample		7.9		100	7.92	7.92			10/09/17	SDL
AD00475-004	Sample		8.4		100	8.38	8.38			10/09/17	SDL
AD00475-006	Sample		6.7		100	6.68	6.68			10/09/17	SDL
AD00475-008	Sample		8.1		100	8.13	8.13			10/09/17	SDL
AD00475-010	Sample		7.5		100	7.52	7.52			10/09/17	SDL
AD00475-012	Sample		7.6		100	7.57	7.57			10/09/17	SDL
AD00475-014	Sample		8.2		100	8.18	8.18			10/09/17	SDL

BJ 10/9/17

JW 10/9/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Analysis Type: RS

Batch Number: RS-1093

Units: mg/kg

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-10/09/17	16	90-110	NA	16.03	100	NA	
LCS	LCS	400	75-125	NA	420.7875	105	NA	
MS	AD00439-001	400	75-125	NA	420.7875	105	NA	
MSD	AD00439-001	400	75-125	20	430.80625	108	2.4	

Analytical Method(s)

SW846 7.3.4

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Titr Vol	Iod Vol	DF	Sam Wt (g)	Scrb Vol (ml)	Prep Date	Prep By	Anal Date	Anal By
CAL-01-10/09/17	CAL-01		16		100	16.03	6.0	10	1	250	250			10/09/17	JMP
MB-1-10/09/17	MB	MB-1-10/09/17	ND	100	100	10.019	9.9	10	1	10	250	10/09/17	JMP	10/09/17	JMP
LCS	LCS	MB-1-10/09/17	420	100	100	420.79	5.8	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00439-001	MS	MB-1-10/09/17	420	100	100	420.79	5.8	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00439-001	MSD	MB-1-10/09/17	430	100	100	430.81	5.7	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00439-001	Sample	MB-1-10/09/17	ND	100	100	30.056	9.7	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00439-002	Sample	MB-1-10/09/17	ND	100	100	20.038	9.8	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00438-001	Sample	MB-1-10/09/17	ND	100	100	40.075	9.6	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00457-010	Sample	MB-1-10/09/17	ND	100	91	30.056	9.7	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00469-001	Sample	MB-1-10/09/17	ND	100	84	20.038	9.8	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00469-002	Sample	MB-1-10/09/17	ND	100	73	50.094	9.5	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00469-003	Sample	MB-1-10/09/17	ND	100	95	20.038	9.8	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00469-004	Sample	MB-1-10/09/17	ND	100	83	10.019	9.9	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00475-002	Sample	MB-1-10/09/17	ND	100	87	30.056	9.7	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00475-004	Sample	MB-1-10/09/17	ND	100	89	20.038	9.8	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00475-006	Sample	MB-1-10/09/17	ND	100	86	10.019	9.9	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00475-008	Sample	MB-1-10/09/17	ND	100	89	40.075	9.6	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00475-010	Sample	MB-1-10/09/17	ND	100	89	20.038	9.8	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00475-012	Sample	MB-1-10/09/17	ND	100	92	30.056	9.7	10	1	10	250	10/09/17	JMP	10/09/17	JMP
AD00475-014	Sample	MB-1-10/09/17	ND	100	94	10.019	9.9	10	1	10	250	10/09/17	JMP	10/09/17	JMP

JMP 10/9/17

JW 10/9/17

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL) Rp - RPD failed specified criteria.
Na - Not Applicable Nc - Not Checked ..either one or both values =ND

% Solids Report

Analysis Type: SOLIDS-SS
BatchID: SOLIDS-SS-7185

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AD00473-001	82	81.88215	Percent	1.37	12.74	10.68	10/09/17	jessica	0.73	5
Sample	AD00473-001	81	81.28917	Percent	1.39	12.56	10.46	10/09/17	jessica		
Sample	AD00475-001	90	90.17391	Percent	1.36	12.86	11.73	10/09/17	jessica		
Sample	AD00475-002	87	86.54292	Percent	1.39	14.32	12.58	10/09/17	jessica		
Sample	AD00475-003	89	89.48636	Percent	1.38	13.84	12.53	10/09/17	jessica		
Sample	AD00475-004	89	88.93409	Percent	1.37	13.66	12.30	10/09/17	jessica		
Sample	AD00475-005	87	87.25024	Percent	1.37	11.88	10.55	10/09/17	jessica		
Sample	AD00475-006	86	86.29283	Percent	1.38	11.01	9.69	10/09/17	jessica		
Sample	AD00475-007	91	90.75286	Percent	1.38	13.60	12.47	10/09/17	jessica		
Sample	AD00475-008	89	89.29712	Percent	1.39	13.91	12.57	10/09/17	jessica		
Sample	AD00475-009	89	88.83633	Percent	1.39	11.96	10.78	10/09/17	jessica		
Sample	AD00475-010	89	88.53211	Percent	1.36	14.44	12.93	10/09/17	jessica		
Sample	AD00475-011	88	88.07069	Percent	1.34	14.92	13.29	10/09/17	jessica		
Sample	AD00475-012	92	92.39888	Percent	1.34	15.68	14.59	10/09/17	jessica		
Sample	AD00475-013	96	95.70000	Percent	1.36	11.36	10.93	10/09/17	jessica		
Sample	AD00475-014	94	94.21433	Percent	1.37	16.58	15.69	10/09/17	jessica		
Sample	AD00479-001	90	89.60931	Percent	1.35	13.38	12.13	10/09/17	jessica		
Sample	AD00479-002	92	91.53195	Percent	1.36	14.35	13.24	10/09/17	jessica		
Sample	AD00479-003	89	88.54167	Percent	1.36	14.80	13.27	10/09/17	jessica		
Sample	AD00480-001	83	83.43778	Percent	1.38	12.55	10.70	10/09/17	jessica		
Sample	AD00480-002	77	77.41071	Percent	1.36	12.56	10.03	10/09/17	jessica		

* - Indicates Failed Rpd Criteria

Miscellaneous Data

Hampton-Clarke, Inc.

LEACHATE PREPARATION LOG
(TCLP, SPLP)

Start Date: 10/9/17 TIME 15:03 Finish Date: 10/10/17

**TCLP Ext. Fluid #1 pH: 4.87 (criteria: 4.93 ± 0.5)
**TCLP Ext. Fluid #2 pH: (criteria: 2.88 ± 0.05)
**SPLP Ext. Fluid #3 pH: 4.20 (criteria: 4.20 ± 0.5)

Sample #	pH (units)	pH in HCL (units)	Final pH (units)	Ext. Fluid (number)	Wt./Vol of Sample (g or mL)	Start Time	Finish Time	Filter Time	Analyst (s)	Ext. Type*	Comments
00474-001	8.77	2.09	5.14	EFI® 264966	100g/2L	17:30	10:00	3:10	ER	T	Balance ID: D37 Metals only
00415-002	9.34	1.70	5.27					12:45			pH Meter ID: B38168
-004	10.03	1.68	5.65					12:30			
00475-002	8.63	1.57	5.04					12:30			
-004	8.94	1.59	5.03					12:45			
-006	7.62	1.59	5.01					3:00			
-008	8.13	1.58	5.04					1:00			
-010	8.47	1.59	5.07					1:05			
-012	8.13	1.52	5.11					3:00			
-014	9.60	1.65	5.48					2:15			
00469-001	7.53	1.58	5.04		150g/3L			3:20			Metals & Org.
00469-002	9.32	1.63	5.76					3:20			
00469-003	9.08	1.63	5.29					3:40			
00469-004	7.68	1.59	5.01					3:30			
00451-001	9.23	1.90	5.49		100g/2L			3:05			Metals only.
00432-002	9.87	1.79	5.88					3:05			
00457-010	8.39	1.75	5.09					3:10			
00280-003	9.58	1.81	5.51					3:46			Organics only
-005	9.61	1.82	5.61					5:55			
-007	9.73	1.82	5.10					5:25			
-015	8.99	1.72	5.02	EFI® 264966				5:05			
00282-001	9.89	1.78	5.96					6:15			Organics only.
00282-015	9.45	1.79	5.19					6:00			
00282-025	9.66	1.82	5.44					5:00			

* Ext. Type: TCLP = T (Method 1311) LAMP=L (Methods 1311 / ANSI/NEMA C78.LL 1256-2003)
SPLP = P (Method 1312) MEP=M (Method 1320)
ZHE = Z (Method 1311/1312)

** The pH of the extraction fluid must be checked prior to use and must be within limits specified above

HAZ - 842

Hampton-Clarke, Inc.

LEACHATE PREPARATION LOG
(TCLP, SPLP)

Start Date: 10/9/17 TIME 15:03 Finish Date: 10/10/17

**TCLP Ext. Fluid #1 pH: 4.89 (criteria: 4.93 ± 0.5)
**TCLP Ext. Fluid #2 pH: 2.88 (criteria: 2.88 ± 0.05)
**SPLP Ext. Fluid #3 pH: 4.20 (criteria: 4.20 ± 0.5)

Sample #	pH (units)	pH in HCL (units)	Final pH (units)	Ext. Fluid (number)	Wt./Vol of Sample (g or mL)	Start Time	Finish Time	Filter Time	Analyst (s)	Ext. Type*	Comments
00283-003	9.48	1.82	5.78	EF1 264466	100g/2L	17:30	10:00	5:40	GR	T	Balance ID: 037 ~~Metals~~ only/
-005	9.71	1.82	5.74					4:00			pH Meter ID: 038168 Organics
-007	9.25	1.79	5.32					5:00			
-015	9.40	1.82	5.53					5:10			
-023	9.52	1.82	5.47					5:50			
-027	9.84	1.82	5.33					6:05			
-045	9.14	1.79	5.57					5:50			
EP 264466 (A)	4.89	—	5.00	EF1 264466	3L			12:25			Metals & Org.
EP 264466 (B)	4.89	—	5.01	EF2 264466				12:25			
00305-003	—	—	9.94	SPLP 264500	100g/2L			6:30		P	Organics only.
SPLP 264500	4.20	—	10.16		2L			12:30			

* Ext. Type: TCLP = T (Method 1311) LAMP=L (Methods 1311 / ANSI/NEMA C78.LL 1256-2003)
SPLP = P (Method 1312) MEP=M (Method 1320)
ZHE = Z (Method 1311/1312)

** The pH of the extraction fluid must be checked prior to use and must be within limits specified above

prep log 20171

Hampton-Clarke
Analytical & Field Services

Last Page of Report

JB-PAGES (3.0)

JOINT BID

NOTICE

THE PAGES CONTAINED IN THIS JOINT BID SECTION (JB-PAGES 3.0) REPRESENT ADDITIONAL CONTRACT REQUIREMENTS APPLYING TO WORK PERFORMED WHERE PRIVATELY OWNED UTILITY FACILITIES EXIST.

THIS JOINT BID DOCUMENT IS ONLY APPLICABLE TO THE BOROUGHS OF THE BRONX, QUEENS, BROOKLYN, AND STATEN ISLAND.

(NO TEXT THIS PAGE)

JOINT BID

DATED: February 08, 2018

The City is bidding jointly Project ID: SER200151. The City has combined its Public Work, Interference Work, and Utility Work into one bid contract package. All prospective bidders should be alerted to the fact that the City has prepared all specifications, drawings, and all other necessary contract documents for the Public Work, Interference Work, and Utility Work.

SPECIFICATIONS FOR AND REQUIREMENTS OF A JOINT BID PROJECT:

1. The Contractor shall be responsible for compliance with all the provisions of the following Articles, Appendixes, Specifications, Sketches and Scope of Work, which are hereby made a part of the original contract documents:

   A. The "JOINT BID WITH PRIVATE UTILITY COMPANIES SPECIAL PROVISIONS" (Pages JB-1 through JB-7); and
   the following **Con Edison** specialty work items (contained on Pages JB-8 through JB-17):

   JB 350 – Accommodation Of Con Edison Overhead Utility Facilities, Poles And Appurtenances
   JB 351 – Utility Pole Supports
   JB 802 – Special Modification Of Work For Installation Of New Curbs And Sidewalks
   The following **Verizon** specialty work items (contained on pages JB-18 through JB-29):
   JB 350T/TWC – Overhead Accommodation Protection Of Overhead Facilities, Poles And Appurtenances
   JB 402T - Horizontal And Vertical Adjustment Of Telecommunications Facilities
   JB 403T – Furnish And Install Steel Protection Plates For Telecommunications Facilities
   JB 636M – Modification Of Work Methods To Accommodate Utility Hardware During Pavement Milling And Resurfacing Operations
   JB 803 – Line Cut By Pneumatic Tools In Lieu Of Saw Cut Associated With Roadway Removal Operations

   B. The Private Utilities reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", dated August 1, 2005, which is applicable to Work in the Boroughs of The Bronx, Queens, Brooklyn, and Staten Island, and which 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;

   C. Private Utilities Participating List (Page JB-30)

D. Private Utilities Scope of Work (**ConEd** Pages JB-32 through JB-39, **Verizon** Pages JB-40 through JB-45, **Time Warner/Charter** Pages JB-46 through JB-48, **Crown Castle** Pages JB-49 through JB-50, **National Grid** Pages JB-51 through JB-52,); and, Sketches (**Time Warner/Charter** Pages JB-54 through JB-56); and,

E. Private Utility drawings (10 Sheets) consisting of:

- **Drawing JB1, General Notes & Conditions (All Utilities) (1 Sheet).**
- **Drawing JB2 to JB3, Conduit And Duct Occupancy Plate (CONED) (2 Sheets).**
- **Drawing JB4 to JB5, Low Tension Mains And Services Plate (CONED) (2 Sheets).**
- **Drawing JB6, Existing Facility Plan (Verizon) (1 Sheet).**
- **Drawing JB7 to JB8, Overhead Conditions Plan (Verizon) (2 Sheets)**
- **Drawing JB9, Overhead / Underground System (Charter) (1 Sheet)**
- **Drawing JB10, Aerial Fiber And Underground Fiber (Crown Castle) (1 Sheet)**

2. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 450, pages 56, 57, and 58;

   Note: Items under JB 450 are task driven operation items and are not based on crew size. These items are divided into three unique types, each of which provides a description of applicability and typical use. The "Method of Measurement", on page 57, states that "The actual crew performing the operation will not be considered by the facility operator, in consultation with the Resident Engineer, when determining the applicable Unit Item Type, which shall be only as per the task performed."

3. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 225, page 10, Article A. Description;

   Delete the last four lines of text in their entirety, beginning with the words: "accordance with Specification under Addendum #1, . . .";

   Substitute the following revised text: "accordance with Specification Section 7.18 – Controlled Low Strength Material (CLSM), in the Standard Highway Specification. All backfill within the maximum excavation limits shown in Sketch No. JB 225 shall be of controlled low strength material (CLSM) in compliance with requirements of Section 7.18, and its cost shall be deemed included in this item."

4. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 225, page 10, Article B. Materials;

   Delete the first sentence in its entirety, beginning with the words: "Furnish Controlled Low Strength Material fill or backfill . . .";

   Substitute the following revised sentence: "Furnish Controlled Low Strength Material fill or backfill as required and specified in Section 7.18 – Controlled Low Strength Material (CLSM), of the Standard Highway Specification."

5. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 226, page 12, Article A. Description;

   Delete the last five lines of text in their entirety, beginning with the words: "accordance with Specification under Addendum #1, . . .";

   Substitute the following revised text: "accordance with Specification Section 7.18 – Controlled Low Strength Material (CLSM), in the Standard Highway Specification. All backfill within the maximum excavation limits shown in Sketch No. JB 225 shall be of controlled low strength material (CLSM) backfill in compliance with Section 7.18 in the Standard Highway Specifications, and its cost shall be deemed included in this item."

6. Refer to the Private Utility reference document called "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 226, page 12, Article B. Materials;

   Delete the first sentence in its entirety, beginning with the words: "Furnish controlled low strength material fill or backfill . . .";

   Substitute the following revised sentence: "Furnish controlled low strength material fill or backfill as required and specified in Section 7.18 – Controlled Low Strength Material (CLSM), of the Standard Highway Specification."

PERFORMANCE OF A JOINT BID PROJECT:

7. The bid items, specifications, and estimated quantities have been designed to fully compensate the Contractor for its costs to perform the Public Work, Interference Work, Shared Items, and Utility Work.

8. The Contractor agrees that its bid items and prices for the Public Work, Interference Work, and Utility Work shall include all incremental costs and/ or additional compensation for performing Public Work including: coordination of its work with the Utilities, loss of productivity and efficiency, idle time, delays (including any delays occasioned by negotiation of a contract change), change in operations, mobilization, remobilization, demobilization, added cost or expense, loss of profit, other damages or impact costs that may be suffered by the Contractor because of direct or indirect obstructions due to the presence of Utility

Facilities, such as conduits, ducts or duct banks containing conductors for live and/or abandoned electric, telephone, cable TV, any type of communication cables, "Non Cost Sharing" gas mains and services, steam mains, and various non-hazardous encasement materials or utility structures located within the Public Work project area.

9. The Contractor agrees that it shall be paid based on the single Multiplier submitted and that such single Multiplier shall apply to the Public Work, Interference Work, Shared Items, and Utility Work. The Contractor further agrees that in the performance of the contract, the Multiplier shall be applied to every item in the Unit Price book (excluding fixed sum items, e.g.: Item Nos. 6.85 A, 6.52 FED, HW-904, JB-900, UTL-GCS-2WS etc.) that is or may be necessary to perform the Joint Bid Project, regardless of whether the work is performed for the City or a Utility.

10. The Contractor agrees that the Utilities are third party beneficiaries of the contract for a Joint Bid Project, and that the Utilities shall be entitled to rely upon and enforce any and all terms and conditions of the contract for a Joint Bid Project as it pertains to the Contractor and the performance of the Public Work, Interference Work, Shared Items and Utility Work.

11. If the Contractor claims or alleges that delays were caused by a utility for failure to supply and/or provide Specialty Contractors in a timely manner, than the Contractor may bring a claim against the Utility. Neither the Contractor nor the Utility shall bring a delay claim against the City either in a Court of Law or the City's contract dispute resolution board process; and to the extent the Contractor alleges a delay was caused by a Utility, the Contractor will be limited to bringing such legal action in a Court of Law and will not be able to seek arbitration over any delay claims or delay-related claims. If the Contractor and Utility initiate a legal action against each other, this legal action will be outside the jurisdiction of the City's contract dispute resolution board process and the City shall not be a party in the litigation process.

DEFINITIONS:

"Business Days" or "Days" shall mean Monday through Friday, excluding holidays.

"City Accommodations" shall mean any changes made to the Public Work at the request and expense of the Utility during Pre-engineering or at any other time and may include, but shall not be limited to, altering the location of City Facilities; changing the type of City Facilities constructed; extending the length or number of City Facilities constructed, including additional paving; and, changing or adding materials used for the Public Work project.

"City Facility(ies)" shall mean any facility owned by the City, including, but not limited to, roadways, streets, highways, parkways and other thoroughfares, bridges, sewers, culverts, catch basins, chutes and water mains.

"City's RE" or "RE" shall mean the City's resident engineer, who will have the overall responsibility for overseeing and managing all issues concerning safety, design, coordination, schedules and payments for the Joint Bid Project.

"Commissioner" shall mean the Commissioner of DDC.

"Contract" or "Contract Documents" shall mean each of the various parts of the Agreement, including these JB-Pages, and all addendums issued by the City.

"Contingent Items" shall mean the items identified in the Unit Price Book and/or specifications of this Contract and shall include all labor, material and equipment necessary to complete extra work and for which unit prices have been fixed in the City's Contract.

"DDC" or "Department" shall mean the City's Department of Design and Construction, or any other agency or department that is acting as the Department's agent in the development or construction of Public Work projects for Joint Bid Projects.

"DEP" shall mean the City's Department of Environmental Protection.

"DOT" shall mean the City's Department of Transportation.

"Extra Work" shall have the meaning defined in these Contract Documents.

"Gas Agreement" shall mean a separate gas cost sharing allocation agreement, dated June 29, 1989, as amended, between the City and Con Ed and National Grid.

"Joint Bid Project(s)" or "joint bid project(s)" or "JBP" shall mean a construction project that the City and Utilities agree will be awarded pursuant to the PPB Rules and will include both City Facilities and Utility Facilities.

"Interference Work" shall mean such work as is required to be performed by the Contractor during the performance of Public Work, as defined herein, in order to maintain, protect, support, shift, alter, relocate, remove, and/or replace Utility Facilities at the Utilities' expense.

"Lay Outs" shall mean the Utilities' plans and schedules for any proposed Specialty Utility work.

"MPS" shall mean the maintenance and protection of the construction site of a Joint Bid Project.

"MPT" shall mean the maintenance and protection of the traffic on and near a Joint Bid Project.

"Other Public Agency" shall mean any government entity other than DOT or DEP. Other government entities include, but are not limited to, the Port Authority of New York and New Jersey and the Transit Authority.

"PPB Rules" shall mean the City's Procurement Policy Board rules, as amended.

"Pre-engineer" or "Pre-engineering" shall mean a process undertaken by the Utilities on all Joint Bid Projects whereby the Utilities will determine and mark-out current Utility Facilities, and design the location and/or re-location of Utility Facilities in a manner that is to the extent practicable, efficient and cost-effective for both the City and the Utilities to avoid or ameliorate disturbances to the City Facilities and the Utilities Facilities, and in which the City and Utility participate in prior to the award of a Joint Bid Project contract.

"Project Manager" shall mean the individual(s) designated by each Utility to the Joint Bid Project as a full-time person with the authority to represent the Utility, render binding decisions on behalf of the Utility, coordinate all Utility Work and facilitate all necessary decisions regarding Utility Facilities.

"Public Work" or "PW" shall mean the following:

(a) Construction, reconstruction, installation, alteration, maintenance, repair, grading, re-grading, regulating and improvement of roadways, highways, streets, parkways and other thoroughfares, and bridges located within Manhattan; and including all City Accommodations.

(b) Construction, reconstruction, installation, alteration, maintenance, repair, and improvement of sewers, culverts, catch basins, chutes and water mains; and including all City Accommodations.

"REI" shall mean the resident engineering and inspection services procured by the City for this Joint Bid Project.

"Shared Items" shall mean the bid items in the Contract Documents in which the total cost will be paid for by the City and the Utilities in accordance with their respective shares, as mutually agreed upon by the City and Utilities.

"Specific Public Work Items" or "Public Work Items" shall mean a detailed set of specifications prepared by the City based on the City's engineering, design and plans that will represent the Public Work portion of the Joint Bid Project.

"Specific Shared Items" or "Shared Items" shall mean a detailed set of specifications prepared by the City based on the City's engineering, design and plans that will represent the Shared Items portion of the Joint Bid Project.

"Specialty Contractors" shall mean any third party contractors hired by a Utility or Contractor to perform Specialty Utility Work.

"Specialty Utility Work" shall mean work performed by the Utility using its own forces or Specialty Contractors or work performed or managed by the Contractor, if certified by the Utility or if the subcontractor is certified by the Utility, as agreed to by the Utility, that is necessary for the

completion of the Joint Bid Project including, but not limited to, the installation and removal of insulation, "live" gas and steam work, pipe ripping, cable-related work and environmental clean-up work.

"Specific Utility Work Items" or "Utility Work Items" shall mean a detailed set of specifications prepared by the Utilities based on the Utility's Pre-engineering that will represent the Utility Work portion of the Joint Bid Project.

"Utility Capital Work" shall mean construction of new, relocation or replacement Utility Facilities, the cost of which is not normally expensed by the Utility in accordance with the New York State Public Service Commission's Uniform System of Accounts or generally accepted accounting principles, and which is not Interference Work, as defined herein.

"Utility Facility(ies)" shall mean the property owned by a Utility including, but not limited to, pipes, poles, conduits, wires, lines and other facilities, structures or property that may be below-ground, at ground-level or above-ground, which could disturb or interfere with the Public Work.

"Utility" or "Utilities" shall mean the entities referenced in the Private Utilities Participation List.

"Utility Work" shall mean all Interference Work and Utility Capital Work, and pertains to all Utility Facilities.

(NO FURTHER TEXT THIS PAGE)

Con Edison specialty work items

JB 350 – ACCOMMODATION OF CON EDISON OVERHEAD UTILITY FACILITIES, POLES AND APPURTENANCES

A. Description

Under this section, the Contractor shall provide all supervision, labor, materials, tools, equipment and incidentals required to perform its work in the presence of overhead utilities, including, but not limited to, electric facilities (primary, aerial, secondary and service conductors) fiber optic communications facilities, utility poles and equipment on the poles and related appurtenances. These utilities are subsequently referred to in this specification as "overhead facilities". Tree pruning and removal work under JB 352 and JB 353 as well as utility pole supports under JB 351 are not included in this specification.

B. Materials – N/A

C. Method of Construction

The Contractor shall inspect the site prior to bidding and shall utilize sketches JB-350A, JB-350B, to evaluate the potential impact, if any, of overhead facilities upon performance of the work. The Contractor shall employ a method of operation, including use of appropriate equipment and tools that will enable him to maintain adequate clearances from the overhead facilities during all phases of construction as directed by the facility operator. The Contractor is responsible for performing the work in accordance with all applicable Federal, New York State and Local regulations. The Contractor and/or his agents shall be solely responsible for damages to any overhead lines and appurtenances due to failure to comply with applicable rules, procedures, and practices.

D. Method of Measurement

The quantity to be measured for payment shall be a lump sum measurement to complete the work in the presence of crossing and paralleling overhead facilities.

Crossing Overhead Facilities
Overhead crossing encountered during the installation of City facilities. Any and all contractor operations associated with the complete installation of a City facility including final restoration shall be considered as one utility crossing. Multiple stacked overhead lines/conductors in the same vertical space shall be considered as one utility crossing.

Paralleling Overhead Facilities
Parallel span between two poles within the project limits encountered during the installation of a City facility that parallels the overhead facilities and requires the Contractor to change its operation in order to maintain adequate clearance as directed by the facility operator and as described in sketch JB 350A and JB 350B. Any and all contractor operations associated with the complete installation of a City facility including final restoration shall be considered as one parallel span. All overhead lines/conductors within a span between two poles shall be considered as one parallel span.

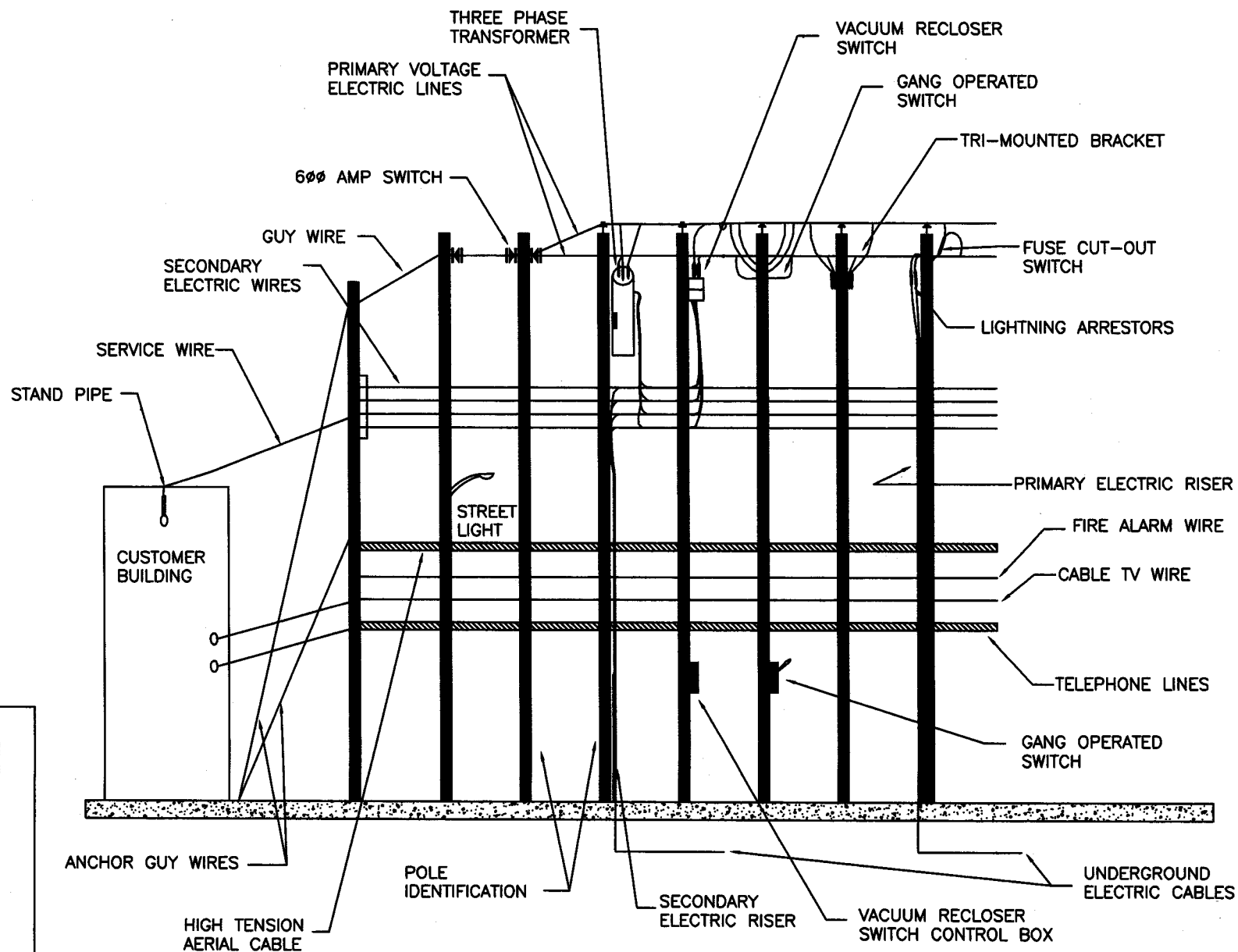
E. Price to Cover

The price shall be a lump sum for all supervision, labor, materials, tools, equipment and incidentals required to perform the work in the presence of overhead utilities and to maintain adequate clearance from the overhead facilities during all phases of construction. The price includes, but is not limited, to modification of any methods of operation, use of appropriate equipment, maintenance of traffic, extended performance, loss of productivity, protective measures, delays, change in sequencing and scheduling, breakdown and build up for pile driving equipment (manual and hydraulic) in direct interference with overhead facilities and any other costs that may be incurred by the Contractor.

Partial payments shall be made in proportion to the percentage (%) of contract completion as determined by the facility operator.

F. Reference Drawings

JB-350A
JB-350B



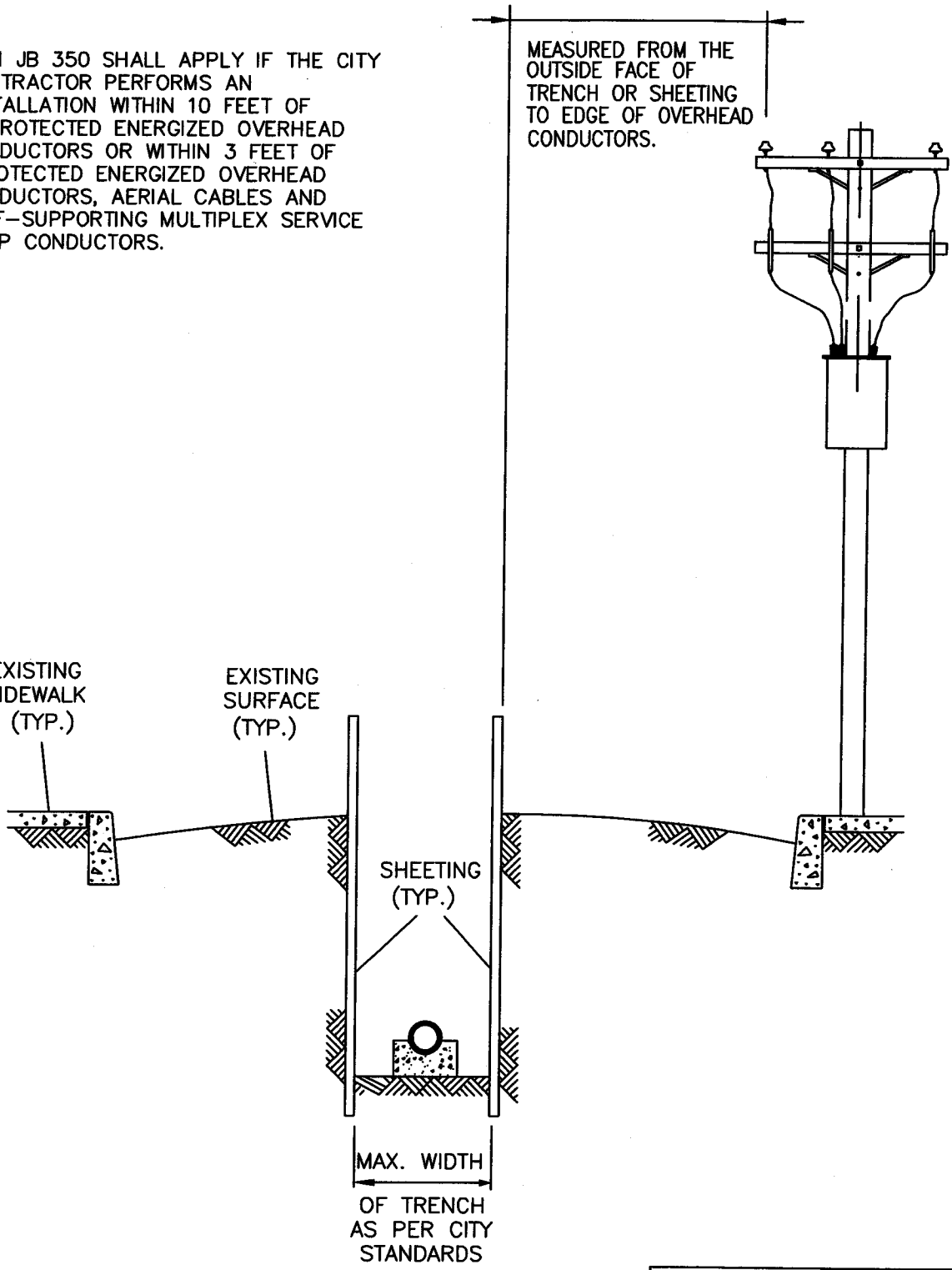
OVERHEAD WIRES & EQUIPMENT – TYPICAL PROFILE

N.T.S.

TYPICAL ARRANGEMENT OF OVERHEAD FACILITIES POLES & APPURTENANCES	
LAST REVISION 9/30/2015	SKETCH NO. JB 350 A

JB-11

ITEM JB 350 SHALL APPLY IF THE CITY CONTRACTOR PERFORMS AN INSTALLATION WITHIN 10 FEET OF UNPROTECTED ENERGIZED OVERHEAD CONDUCTORS OR WITHIN 3 FEET OF *PROTECTED ENERGIZED OVERHEAD CONDUCTORS, AERIAL CABLES AND SELF-SUPPORTING MULTIPLEX SERVICE DROP CONDUCTORS.



* CONDUCTOR PROTECTION SHALL BE BY APPROVED DEVICES SUCH AS LINE GUARDS, RUBBER HOSES OR BLANKETS OR ANY OTHER DEVICE APPROVED BY THE FACILITY OPERATOR(S) FOR THIS PURPOSE.

REQUIRED CLEARANCES TO ELECTRIC OVERHEAD FACILITIES, POLES & APPURTENANCES	
LAST REVISION 9/30/2015	SKETCH NO. JB 350 B

JB 351 - UTILITY POLE SUPPORTS

A. Description

This section describes the temporary supports for utility poles at locations directed by the facility operator(s), in order to maintain such poles in their existing upright position without disturbing attached wires and equipment. The Contractor shall provide all labor, material, equipment, insurance, and incidentals required to construct, install and maintain an effective support system that will meet the stated objective.

B. Materials

All materials required to construct and maintain an effective support system shall be supplied by the Contractor and approved by the facility operator.

C. Method of Construction

Where directed by the utility representative, the Contractor shall furnish, install and remove utility pole supports and maintain utility poles as shown on sketch JB 351. Alternate methods proposed by the Contractor will be permitted if approved by the facility operator.

D. Method of Measurement

The quantity of utility pole supports to be measured for payment shall be the number of utility poles supported. The Contractor will be paid only once for each utility pole supported and maintained no matter how many different construction operations have an impact on the pole.

E. Price to Cover

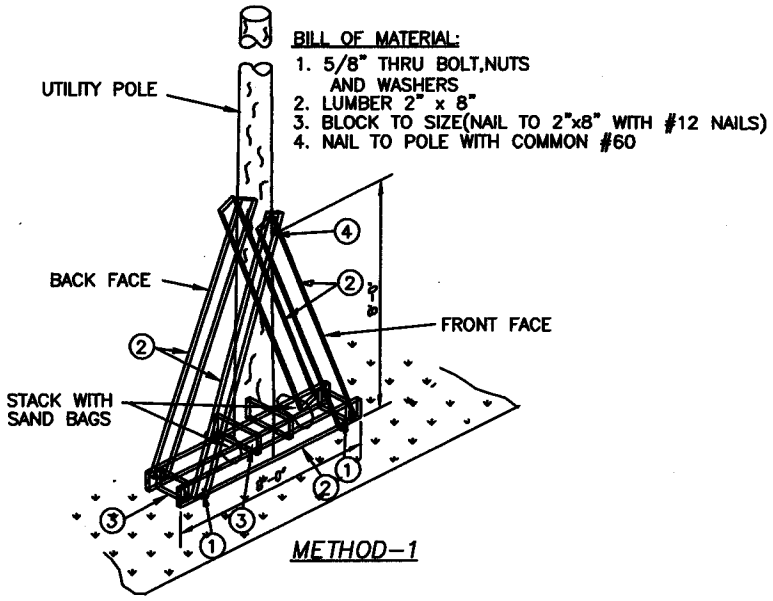
The price shall cover the cost of all labor, material, equipment, insurance, and incidentals necessary to furnish, install, maintain and remove utility pole supports to completely support, maintain, protect, and accommodate the integrity of utility poles without disruption of service to customers. The price bid shall also include all additional impact cost associated with working around utility pole supports, poles and appurtenances.

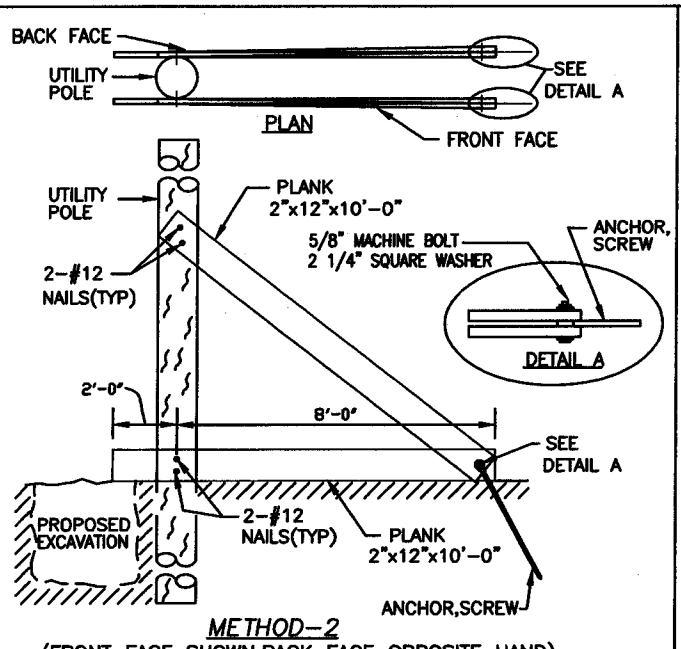
Separate payment will be made for the protection of overhead facilities under the Item JB 360.

F. References

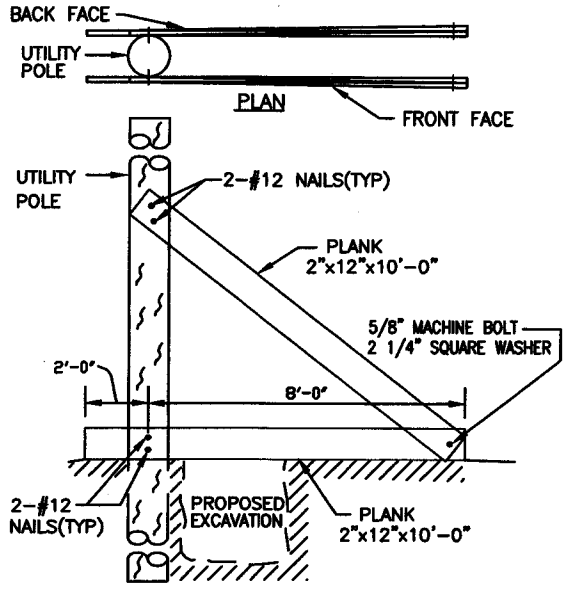
1. Sketch JB 351
2. JB 350

METHODS OF SHORING UTILITY POLES





METHOD-2
(FRONT FACE SHOWN,BACK FACE OPPOSITE HAND)



METHOD-3
(FRONT FACE SHOWN,BACK FACE OPPOSITE HAND)

NOTES:
1. THESE METHODS OF SHORING ARE GENERAL GUIDES. FIELD CONDITIONS WILL DICTATE WHICH METHOD WILL BE USED.VARIATIONS OF THESE METHODS WHICH ACCOMPLISH THE SAME PURPOSE MAY ALSO BE UTILIZED WHEN APPROVED BY OVERHEAD CONSTRUCTION DEPARTMENT.
2. ANY INFORMATION NOT SHOWN WILL BE DETERMINED IN THE FIELD TO SUIT THE FIELD CONDITIONS WHEN APPROVED BY THE OVERHEAD CONSTRUCTION DEPARTMENT.

METHODS OF SHORING UTILITY POLES	
LAST REVISION 9/30/2015	SKETCH NO. JB 351

JB 802 - SPECIAL MODIFICATION OF WORK FOR INSTALLATION OF NEW CURBS AND SIDEWALKS

A. Description

Under this Section, the Contractor shall be required to modify work methods of installing new curb and sidewalk in order to maintain, protect and accommodate the integrity of private Utility Facilities located within a zone of protection immediately beneath existing sidewalk and curb designated to be replaced under other Contract items. The zone of protection shall define an area of curb and sidewalk where: work is within the vicinity of private Utility Facilities as shown on the Special Care Excavation Plan or where utilities are encountered during construction that are within 18 inches of either face of curb and/or 12 inches of the base material of proposed curb and/or sidewalk.

B. Materials – N/A

C. Method of Operation/Construction

Once clearances have been verified by available records to the satisfaction of the facility operator, the Contractor shall exercise extreme caution to install new curb and sidewalks within zoned areas of protection. Exercising extreme caution shall mean utilizing appropriate methods of operation/construction, special operations and sequencing, and by employing hand labor, using hand held tools only, under the personal direction of the appropriate facility operator. The work shall incorporate, but not be limited by, the following restrictions:

1. Removal of Existing Curb and Sidewalk

Removal of existing curb and sidewalk material shall be performed by saw cutting the curb and sidewalk, for a depth of not less than 2", to assist the Contractor in breaking up the concrete curb and sidewalk for removal by hand. Curb and sidewalk removal shall be done with hand labor, using hand held tools only while working from adjacent undisturbed sidewalk and/or pavement. Furthermore, it shall be understood to mean that digging and/or excavating directly with power-mechanized earth moving equipment will not be permitted. Power mechanized earth moving equipment may only be used as a depository of material removed from the excavation by hand as described above. All equipment, methods, and maintenance and protection provisions shall require full authorization by the facility operator.

2. Preparation and Installation of New Curb and Temporary and New Sidewalk

Backfilling, filling, grading of sub base, and installation of new curb and both temporary and new sidewalk, as required under other Contract Items, shall be performed utilizing materials, equipment and methods of construction that will insure the integrity of the private utility facilities and at the same time meet all requirements for this work as specified in other sections of this contract.

3. Compaction

The Contractor shall compact all sub-grade and new sub-base materials by utilizing native and/or blended fill material, equipment and methods of construction that will ensure integrity of private Utility Facilities and at the same time meet all requirements for compaction as specified in Section 4.11 of the Standard Highway Specifications.

4. Powered Excavating Equipment Limitations

The Contractor shall not employ powered or mechanical excavating equipment within the zone of protection. Powered or mechanical excavating equipment may only be used as a depository for material removed from the excavation by hand as described above.

The Contractor shall not be permitted to store, stand and/or travel equipment/vehicles on specified unpaved zoned protection areas.

D. <u>Method of Measurement</u>

1. JB 802A

The quantity of "Special Care Excavation and Restoration for Sidewalk Work" to be measured for payment shall be the number of square feet (S.F.) of new sidewalk actually installed under other contract items within the zone of protection areas requested by the facility operator. For payment purposes, the horizontal limits for a zone of protection area shall be defined as the area designated on the plans or an area equal to the length of the designated facility multiplied by its width plus 18 inches on each side. Where overlapping of zones occur due to multiple facilities, the area will be modified to one zone measured from the outside limits. Where the 18-inch area falls beyond the curb line the outside boundary shall be the curb line.

2. JB 802B

The quantity of "Special Care Excavation and Restoration for Curb Work" to be measured for payment shall be equal to the number of linear feet (L.F.) of new curb actually installed under other contract items within the zone of protection areas requested by the facility operator.

E. Price to Cover

1. JB 802A

The contract price per square foot for "Special Care Excavation and Restoration for Sidewalk Work" shall be the incremental cost difference of all labor, materials, equipment, insurance and incidentals required for excavation and disposal of pavement, base and all other material to new sub-grade within and adjacent to zone of protection areas; saw cutting, grading, preparation of sub-grades, backfilling and compaction within zone of protection areas; all in accordance with the plans, the specifications and the directions of the facility operator. The price shall further include the cost of maintaining, protecting and accommodating the integrity of private Utility Facilities during the performance of sidewalk reconstruction (under other Contract Items) within zone of protection areas designated on the plans or as directed by the facility operator.

2. JB 802B

The contract price per linear foot for "Special Care Excavation and Restoration for Curb Work" shall be the incremental cost difference of all labor, materials, equipment, insurance and incidentals required to install new curbs and temporary restoration material under other Contract items, within and adjacent to zone of protection areas; all in accordance with the plans, the specifications and the directions of the facility operator. The price shall further include the cost of maintaining, protecting, and accommodating the integrity of private Utility Facilities during the performance of curb reconstruction (under other Contract Items) within zone of protection areas designated on the plans or as directed by the facility operator.

Payment for all work specified herein shall be made on a one-time basis only; no payment will be made for the same area of sidewalk or length of curb more than one time. When the installation of curb and sidewalk are performed as separate operations on the same location, payment shall be made separately for each operation. In addition, work under these items shall not be paid in combination with other utility items.

F. References

1. Section 4.11 Standard Highway Specification

Verizon specialty work items

JB 350T/TWC – OVERHEAD ACCOMMODATION PROTECTION OF OVERHEAD FACILITIES, POLES AND APPURTENANCES

A. Description

The Contractor shall provide all supervision, labor, materials, tools, equipment and incidentals required to perform its work in the presence of overhead telephone facilities (JB 350T), cable television facilities (JB 350TWC), including fiber optic communications facilities, utility poles and equipment on the poles and related appurtenances. These utilities are subsequently referred to in this specification as "overhead facilities". Utility pole supports under JB 351 are not included in this specification.

B. Materials – N/A

C. Method of Construction

The Contractor shall inspect the site prior to bidding to evaluate the potential impact, if any, of overhead facilities upon performance of the work. The Contractor shall employ a method of operation, including use of appropriate equipment and tools that will enable him to maintain adequate clearances from the overhead facilities during all phases of construction. The Contractor is responsible for performing the work in accordance with all applicable Federal, New York State and Local regulations. The Contractor and/or his agents shall be solely responsible for damages to any overhead lines and appurtenances due to failure to comply with applicable rules, procedures, and practices.

D. Method of Measurement

The quantity to be measured for payment shall be a lump sum measurement to complete the work in the presence of overhead facilities.

E. Price to Cover

The price shall be a lump sum for all supervision, labor, materials, tools, equipment and incidentals required to perform the work in the presence of overhead utilities and to maintain adequate clearance from the overhead facilities during all phases of construction. The price includes, but is not limited, to modification of any methods of operation, use of appropriate equipment, extended performance, loss of productivity, protective measures, delays, change in sequencing and scheduling, and any other costs that may be incurred by the Contractor. Partial payments shall be made in proportion to the percentage (%) of contract completion as determined by the facility operator in consultation with the Resident Engineer.
The price shall cover the lowering and raising of pile driver boom under Verizon and Time Warner main line cables only. Verizon service wires will be disconnected and reconnected by Verizon for any pile driving operations only. The contractor shall work under the Verizon & Time Warner Cable service wires under all other work operations. The locations of the mainline cables are shown on the attached sketch.
The price shall include disconnecting and reconnecting, by the contractor, the impacted Time Warner service wires for the pile operation.

F. References

N/A

JB 402T - HORIZONTAL AND VERTICAL ADJUSTMENT OF TELECOMMUNICATIONS FACILITIES

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to adjust and support and protect and maintain and accommodate the integrity of telecommunication facilities including but not limited to:

1. Conduit(s);
2. Cables and Air Pipe
3. Concrete Encased/Capped Conduit Banks

The work shall be performed in accordance with specifications and at the direction of the facility operator in consultation with the Resident Engineer.

B. Materials

All materials used to adjust and support and protect and maintain and accommodate the integrity of utility facilities shall be similar to those indicated on the standard Sketches JB 100 A & 100 A-1 and shall be supplied by the Contractor and be approved by the facility operator in consultation with the Resident Engineer .

Materials used for replacing conduit(s) removed under this item shall be supplied by and installed by the Contractor and shall include but not be limited to the following:

1. Bends
2. Split and Solid Conduit(s) PVC and Steel
3. Couplings and Adapters PVC, Tile and Steel
4. Straps or plastic ties

PVC conduit and fittings shall be as supplied by American Pipe and Plastics, Type "C" or approved equal.
Steel Pipe and fittings shall conform to ASTM A53 Schedule 40
Tile to PVC adaptors shall be as supplied American U-Tel or approved equal.

C. Methods of Construction

Lengths of "wing-back" shall be determined by the facility operator in consultation with the Resident Engineer. All work performed prior to that approval shall be at the contractors risk.

Methods of construction shall include but not be limited to the following:

1 Removal and Support

a. Break with hand held power tools, remove and dispose of plain or reinforced concrete encasement.

b. Break with hand held power tools, remove and dispose of conduit(s) enclosures and conduit that contain conductor(s) and/or cable(s) except steel/Iron conduits, inner ducts and 1 ¼" to 1 ½" PVC "quad ducts. Breaking – "ringing and ripping" - of steel/iron conduits belonging to ECS shall be performed by ECS forces only. Contractor shall make safe the work area to accommodate the ECS forces.

c. Support and protect exposed conduits, cables, innerduct and airpipe as shown in Sketch JB 100A-1 and approved by the facility operator in consultation with the Resident Engineer.

d. ECS tenants cables may require inspection, testing and encapsulation before they can be shifted. Contractor shall make safe the work area to accommodate these forces. Contractor shall be notified by the facility operator of the ECS tenant requirements before the conduits are broken-out.

2 <u>Adjust or Move Conductor(s) and/or cable(s) and support</u>

a. Cable shall be relocated horizontally and/or vertically as directed by the facility operator in consultation with the Resident Engineer

b. Support and protect conductors and/or cables as shown on Sketch # JB 100 A-1 and/or as directed by the facility operator.

3. <u>Replacement, Encasement, Protection and Support</u>

a. Replace vacant and loaded conduit(s) with solid and/or split conduit(s) and adapters.

1) <u>Vacant Conduit</u> - Repairs to conduits shall not be permitted. All damaged or impaired lengths of conduit(s) shall be removed and replaced with new conduit(s). The number of vacant conduits replaced shall be confirmed by the facility operator.

2) <u>Loaded Conduit</u> - Replacement of conduits that are removed from around existing cable(s) or innerduct shall be accomplished with split plastic (PVC) or split steel conduits as directed by the facility operator. Where split and solid plastic or steel conduit is used, the conduit(s) shall be spaced 1½ inches from each other. All split PVC shall be secured with plastic straps spaced at a maximum distance of eighteen (18") inches. Plastic conduit shall be joined with plastic couplings.

3) <u>Adapting</u> - Joining plastic conduit to existing conduits of other diameters or material shall be done using single or multiple adapters, (supplied by contractor).

b. If due to subsurface conditions, the cover is less than 20" from finished grade, the duct shall be protected with steel plates furnished by the contractor and measured for payment under Item JB 403T.

c. Support and protect cable(s) and/or conductor(s) and conduit(s).

d. Verify vacant conduits and provide pull ropes.

e. Encase all exposed conduit with concrete (f'c = 1200 to 1500 psi maximum) with slump commensurate to completely fill voids around conduits. Concrete encasement shall extend to two (2") inches beyond the limits of the duct bank vertically and horizontally.

D. Method of Measurement

The quantity to be measured for breaking out conduits, removing concrete, moving, protecting and supporting conductors and replacing conduits with split and solid conduit, shall be paid for by the linear foot (L.F.) of each conduit replaced. A linear foot of conduit shall be defined as one (1) single conduit measured along its longitudinal axis that has been broken out or moved from its original location either horizontally and/or vertically and measured in its final location. Quad PVC ducts produced as one unit shall be consider one duct for each quad unit. All conduits removed and not restored shall be covered for payment under the appropriate bid items for Removal of Abandoned Masonry for Utility Facilities and/or Removal of Abandoned Utility Conduits.

Multiple tile duct bank with concrete protection cover is not considered concrete encasement.

Each type of utility adjustment shall be paid for separately, the types of utility adjustments are defined as follows:

JB-402T.1 Existing Concrete Encased Non-Steel/Iron Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB-402T.1A Existing Concrete Encased Non-Steel/Iron Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.2 Existing Non-Concrete Encased Non-Steel/Iron Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB-402T.2A Existing Non-Concrete Encased Non-Steel/Iron Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.R1A Existing Concrete Encased Steel/Iron Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.R2A Existing Non-Concrete Encased Steel/Iron Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.V1 Existing Vacant Concrete Encased Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB-402T.V1A Existing Vacant Concrete Encased Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.V2 Existing Vacant Non-Concrete Encased Conduits Placed in Final Position without Concrete Encasement. (L.F.)

JB-402T.V2A Existing Vacant Non-Concrete Encased Conduits Placed in Final Position with Concrete Encasement. (L.F.)

JB-402T.J1 Existing Concrete Encased Conduits Placed in Final Position without Concrete Encasement. (L.F.) in Which Only Conduit Joints are Broken Out and Conduits Remain Intact.

JB-402T.J1A Existing Concrete Encased Conduits Placed in Final Position with Concrete Encasement. (L.F.) in Which Only Conduit Joints are Broken Out and Conduits Remain Intact.

JB-402T.J2 Existing Non-Concrete Encased Conduits Placed in Final Position without Concrete Encasement. (L.F.) in Which Only Conduit Joints are Broken Out and Conduits Remain Intact.

JB-402T.J2A Existing Non-Concrete Encased Conduits Placed in Final Position with Concrete Encasement. (L.F.) in Which Only Conduit Joints are Broken Out and Conduits Remain Intact.

E. Price to Cover

The unit price bid per linear foot (L.F.) of conduit shall cover the cost of all labor, material, equipment, insurance, and incidentals necessary to shift, adjust, support, protect, maintain and accommodate the integrity of utilities without disruption of service to the facility operator's customers and in accordance with contract documents. The price bid shall also include the cost of: breaking out, removal and disposal of plain or reinforced concrete encasements, replacement with field split, split and solid conduits, adapters, clamps, straps and couplings ; verify vacant conduits and provide pull ropes; furnish and install concrete encasement, supports, slings and beams for utility support; changes of sheeting method and/or configuration when required and where necessary to accommodate the utilities during all phases of contract work;; and removal of sheeting around the utilities, and all else necessary and required to complete the work.
The unit price shall include providing access to the facility operator tenants to verify and test cables before, during and after the pipe ripping operation completed by the facility operator or specialized contractor hired by the facility operator and after conduit removal by the Contractor The unit price shall include, but not limited to, opening and closing of fences; removal and replacement of temporary timber curb and opening and closing of traffic plates. Access to adjacent manholes impacted by the run is included in this item. JB 450 shall not be used in conjunction with JB-402T as these items cover access to the work site at all times.

F. References

1. Sketches JB 100A and 100A-1
2. JB 403T
3. American Pipe and Plastics, P.O. Box 577, Binghamton, N.Y. 13902
4. American U-Tel, 9760 Smith Rd., Willoughby, Ohio 44094

JB 403T – FURNISH AND INSTALL STEEL PROTECTION PLATES FOR TELECOMMUNICATIONS FACILITIES

A. Description

Under this section, the Contractor shall furnish and install as required permanent steel protection plates over telecommunications facilities where directed by the facility operator(s).

B. Materials

Material shall be:

¼" thick ASTM A-36 plates. Maximum size 24" by 48".

3/8" thick ASTM A-36 plates. Maximum size 12" by 18".

Thickness to be determined by the facility operator(s)

C. Method of Construction

Steel protection plates shall be placed in accordance with the attached facility operator(s) standard sketch JB 403T. All protective plates shall overlap a minimum of 3".

D. Method of Measurement

The quantity for payment shall be the area of permanent steel plating protection furnished and installed (excluding overlap) and measured in place in Square Feet (S.F.).

JB 403T.1 – Furnish and Install 1/4" thick steel plate (S.F.)

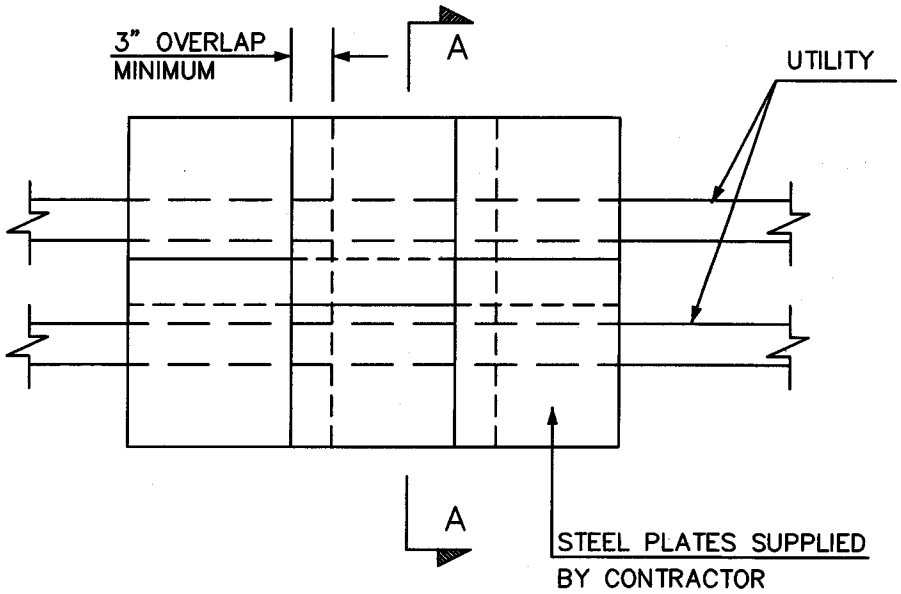
JB 403T.2 – Furnish and Install 3/8" thick steel plate (S.F.)

E. Price to Cover

The price shall cover the cost of all labor, material, equipment, insurance, and incidentals necessary to complete the work.

F. References

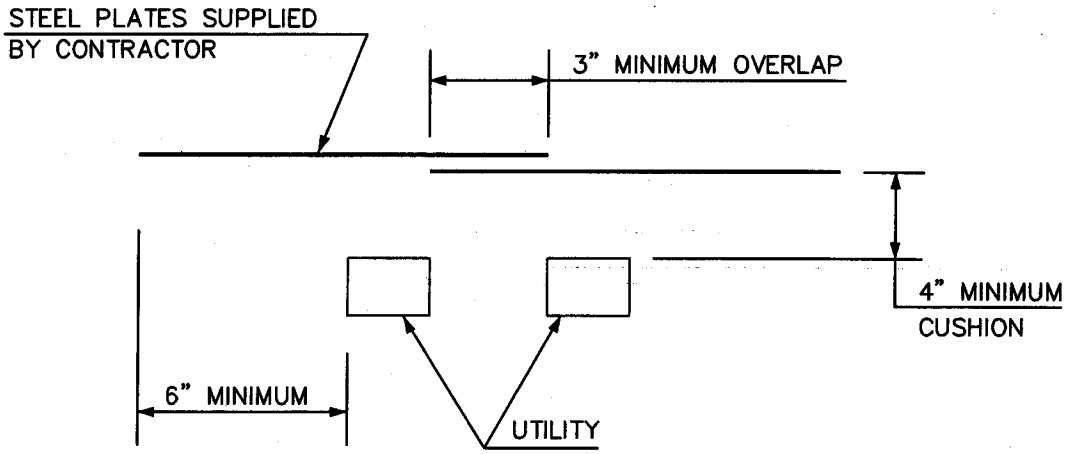
Sketch JB 403T



AREA FOR PAYMENT
SHALL BE AS MEASURED
IN PLACE (EXCLUDE OVERLAP)

PLAN

NOT TO SCALE



SECTION A–A

NOT TO SCALE

TYPICAL PLATE SIZES:
6" x 48" x 1/4"
12" x 48" x 1/4"
24" x 48" x 1/4"
12" x 24" x 3/8"

REVISIONS
09/13/2017

J.B. SKETCH	
PLACING STEEL PROTECTION PLATES FOR COMMUNICATION FACILITIES	
CONTRACT NO.	SKETCH NO. JB 403 T

JB 636 M - MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE DURING PAVEMENT MILLING AND RESURFACING OPERATIONS

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance, and incidentals required to maintain, protect, and accommodate the integrity of utility hardware during pavement milling and resurfacing operations. Hardware includes castings, frames, and covers on utility structures, valve box cover castings, concrete collars around steam castings, and all other hardware protecting utility facilities.

B. Materials – N/A

C. Method of Construction

Removal of existing pavement around utility hardware shall be performed by the Contractor with extreme caution by utilizing appropriate methods of operation, by employing specialized construction equipment, and by special operations and sequencing.

The Contractor shall not mill existing pavement within 12" of the perimeter of utility hardware. Removal of pavement within 12" of the perimeter of utility hardware shall be by cutting with pavement breakers or other methods as proposed by the Contractor. All methods shall be presented to the facility operator and the Resident Engineer by the Contractor prior to the start of construction and shall be approved by the facility operator in consultation with the Resident Engineer.

During removal of existing pavement and for the duration of project, the Contractor shall protect utility hardware from damage by the Contractor's operations and traffic. Contractor shall also provide all necessary protection to pedestrians to prevent injury to pedestrians when crossing utility hardware during the project. Utility street hardware damaged by the Contractor or others during the project shall be replaced by the Contractor at Contractor's expense.

The Contractor shall not place any paving materials over utility hardware during the project and shall maintain free and unobstructed access to all structures at all times. The contractor shall maintain all covers free of debris and protect the covers, if necessary, from residue that results from the paving operation.

D. Method of Measurement

The quantity to be measured for payment shall be the number of utility hardware units (ea) in each size group actually adjusted as specified under each item. The size of each hardware unit, measured in width, shall be defined as either, the diameter of the exposed edge of the casting, the exposed edge of elliptical castings measured along the major axis, or the exposed edge of the longest side of rectangular frames.

Item 636 MB – Modification of Work Methods to Accommodate Utility Hardware (7" to under 14" Width)

Item 636 MC – Modification of Work Methods to Accommodate Utility Hardware (14" to under 30" Width)
Item 636 MD – Modification of Work Methods to Accommodate Utility Hardware (30" to under 34" Width)
Item 636 ME – Modification of Work Methods to Accommodate Utility Hardware (34" to under 41" Width)
Item 636 MG – Modification of Work Methods to Accommodate Utility Hardware (41" to under 75" Width)
Item 636 MH – Modification of Work Methods to Accommodate Utility Hardware (75" to under 125" Width)
Item 636 MI – Modification of Work Methods to Accommodate Utility Hardware (125" to under 170" Width)
Item 636 SMB – Modification of Work Methods to Accommodate Utility Steam Hardware (Under and including 8" Width)
Item 636 SMC – Modification of Work Methods to Accommodate Utility Steam Hardware (Above 8" to 34" Width)

A. Price to Cover

The price to modify work methods to accommodate Utility Hardware during pavement milling and resurfacing operations shall include the cost of all incremental labor, materials, time, equipment, insurance and incidentals required for removal and disposal of existing pavement, installation and compaction of base and wearing course materials, installation and compaction and removal of temporary asphalt concrete mixture, tack coating; in accordance with the plans, the specifications and the directions of the facility operator in consultation with the Resident Engineer. The price to cover shall further include the cost of maintaining, protecting, and accommodating the integrity of utility street hardware during the project and during the performance of milling and resurfacing and the incremental additional work and effort made necessary to protect pedestrians from injury when crossing utility hardware during the project. The price to cover shall further include additional areas of modification of work methods beyond 12" of the perimeter of the utility street hardware due to the milling equipment and the location of other utility hardware, city street hardware, utility poles, street lights, traffic signals, curbs, sidewalks, medians, guide rails, pavement stops, cobblestones, and pavers. The price to cover for Items 636 SMB and 636 SMC shall also include modification of work methods due to existing concrete collars surrounding these castings.

Payment for all work herein specified shall be made on a one-time basis only; no payment for work herein specified shall be made for the same area more than one time. Adjustment to utility hardware shall be paid for under the appropriate JB 636E item.

F. References

JB 803 - LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS

A. Description

Under this section, the Contractor shall provide all incremental labor, equipment, insurance and incidentals required to maintain, protect, support and accommodate the integrity of utility facilities that include but are not limited to oil o static facilities, and any other facilities of various sizes and configurations paralleling or crossing proposed saw cut areas located within a zone of protection associated with roadway removal operations, as determined by the utility operator. Utility facilities which cross under and between the saw cut area are included within this item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and determined by the facility operator(s).

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect, support and accommodate the integrity of all utility facilities of various sizes and configurations paralleling or crossing the saw cut area within a zone of protection as determined by the Facility Operator, during the roadway saw cut. The facility operator(s) shall identify the locations of all utilities within the contract area as required by New York State Industrial Code Rule 753. As provided by the Rule, the Contractor shall use pneumatic tools to line cut the pavement in lieu of saw cut by machine. It is the sole discretion of the facility operator(s) to determine relationships and/or dimensions, and advise the Contractor to proceed with pneumatic tools to line cut existing roadway structure.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of line cut performed by pneumatic tools measured along the length of cut. The contract item specified under this section shall not be measured for payment in conjunction with other types of utility items. Modifications to work methods required in areas between zones of protection for multiple utilities or JB facilities shall not be measured for payment and are included in the price bid for this item.

JB 803.1 Line cut Asphalt Roadway (LF)
JB 803.2 Line cut any combination of Asphalt and Concrete Roadway (LF)
JB 803.3 Line cut any combination of Asphalt, Concrete, and Belgium Block (LF)

E. Price to Cover

The unit price per linear foot shall include the incremental cost for all labor, equipment, insurance and incidentals required to maintain, protect, support and accommodate the integrity of utility facilities paralleling or crossing the saw cut area associated with the removal of roadway designated for protection of utilities by the facility operator(s).

The unit price shall also include any additional cutting, removing and disposing of roadway materials; and any backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The price shall also include the incremental cost for providing all vehicular and pedestrian traffic maintenance necessary to perform the work.

The Contractor shall be responsible for any and all damages resulting from and/or due to saw cutting operations that are not performed in accordance with the specifications.

F. References

1. NYS Industrial Code Rule 753

Project ID # SER200151

LISTING OF COMPANIES NAMED FOR THIS CONTRACT

COMPANY NAME	CONTACT NAME	CONTACT TELEPHONE
CON EDISON	O'NEIL WRIGHT	212-460-3870
VERIZON	AUBREY MAKHANLALL	718- 977-8165
CHARTER	JOHN PIAZZA	718-888-4261
CROWN CASTLE	LEROY FRANCIS	917-567-8742
NATIONAL GRID	NEVILLE JACOBS JR.	718-963-5612

PRIVATE UTILITY
SCOPE OF WORK

(NO TEXT IN THIS SECTION)

JOINT BID WORKSHEET

CONTRACT NO.- SER200151

FOR INFORMATION ONLY

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE

FOR CONSOLIDATED EDISON CO.

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION

JOINT BID ITEM NUMBER	DESCRIPTION	Unit of Measure	Unit Price	Quantity	Total
JB 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .1)	EA	$ 323.00	2	$ 646.00
JB 100.3	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .3)	EA	$ 895.00	1	$ 895.00
JB 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EA	$ 2,740.00	2	$ 5,480.00
JB 101.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3)	EA	$ 4,509.00	1	$ 4,509.00
JB 104.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	EA	$ 3,558.00	2	$ 7,116.00
JB 104.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .3)	EA	$ 5,269.00	1	$ 5,269.00
JB 108.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)	EA	$ 440.00	1	$ 440.00
JB 108.3	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCL. 12" DIAMETER (TYPE .3)	EA	$ 2,245.00	3	$ 6,735.00
JB 200	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	L.F.	$ 108.00	76	$ 8,208.00
JB 226	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	$ 3,349.00	1	$ 3,349.00
JB 227	REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	$ 1,741.00	1	$ 1,741.00
JB 300	SPECIAL CARE EXCAVATION & BACKFILLING	C.Y.	$ 209.00	1	$ 209.00
JB 330E.1	SUPPORT AND PROTECTION OF UTILITY STRUCTURES WITHIN THE TRENCH	L.F.	$ 22.00	3	$ 66.00
JB 330E.3	SUPPORT AND PROTECTION OF UTILITY STRUCTURES WITHIN THE TRENCH	L.F.	$ 31.00	75	$ 2,325.00
JB 350	ACCOMODATION OF OH FACILITIES, POLES & APPURTENANCE	L.S.	$ 26,000.00	1	$ 26,000.00
JB 351	UTILITY POLE SUPPORT	EA	$ 800.00	1	$ 800.00
JB 400	TEST PITS FOR UTILITY FACILITIES	C.Y.	$ 179.00	30	$ 5,370.00
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	C.Y.	$ 216.00	33	$ 7,128.00
JB 402.2	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONCRETE ENCASEMENT	L.F.	$ 40.00	450	$ 18,000.00
JB 450.1	CONSTRUCTION FIELD SUPPORT - SURVEY CREW	CrHrs	$ 249.00	8	$ 1,992.00
JB 450.2	CONSTRUCTION FIELD SUPPORT - SMALL CREW	CrHrs	$ 245.00	20	$ 4,900.00
JB 450.3	CONSTRUCTION FIELD SUPPORT - MEDIUM CREW	CrHrs	$ 700.00	28	$ 19,600.00
JB 802A	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	SF	$ 3.00	1395	$ 4,185.00
JB 802B	SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	L.F.	$ 6.00	6	$ 36.00
JB 900	EXTRA WORK ALLOWANCE	F.S.	$ 39,233.40	1	$ 39,233.40

JB 100.1 **UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .1)** **EA**

At the following locations:

9' N/N/C O'gorman Ave. and 4' W/E/C Bartow St.
9' N/N/C O'gorman Ave. and 10' E/W/C Bartow St.

Total Quantity for JB 100.1 = 2

JB 100.3 **UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TESTPIT (TYPE .3)** **EA**

At the following locations:

4' N/S/C S. Railroad Ave. and 16' E/E/C Ainsworth Ave.

Total Quantity for JB 100.3 = 1

JB 101.1 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .1)** **EA**

At the following locations:

7' S/N/C South Railroad Ave. and 14' E/W/C Bartow St.
9' N/N/C O'gorman Ave. and 14' E/W/C Bartow St.

Total Quantity for JB 101.1 = 2

JB 101.3 **UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCL. 24" DIAMETER (TYPE .3)** **EA**

At the following locations:

4' N/S/C S. Railroad Ave. and 14' E/W/C Bartow St.

Total Quantity for JB 101.3 = 1

JB 104.1 **UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)** **EA**

At the following locations:

7' S/N/C South Railroad Ave. and 8' W/E/C Bartow St.
9' N/N/C O'gorman Ave. and 6' W/E/C Bartow St.

Total Quantity for JB 104.1 = 2

JB 104.3 **UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .3)** **EA**

At the following locations:

4' N/S/C S. Railroad Ave. and 8' W/E/C Bartow St.

Total Quantity for JB 104.3 = 1

JB 108.1 **UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)** **EA**

At the following locations:

7' S/N/C South Railroad Ave. and 5' E/W/C Bartow St.

Total Quantity for JB 108.1 = 1

JB 108.3 **UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .3)** **EA**

At the following locations:

9' N/S/C S. Railroad Ave. and 6' W/E/C Ainsworth Ave.
4' N/S/C S. Railroad Ave. and 4' E/W/C Bartow St.
2' N/S/C South Railroad Ave. and 21' E/E/C Bartow St.

Total Quantity for JB 108.3 = 3

JB 200 **EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES** **LF**

At the following locations:

4' N/S/C S. Railroad Ave. and 16' E/E/C Ainsworth Ave.
9' N/N/C O'gorman Ave. and 4' W/E/C Bartow St.
9' N/N/C O'gorman Ave. and 10' E/W/C Bartow St.

Total Quantity for JB 200 = 76

JB 226 **INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES** **EA**

At the following locations:

4' N/S/C S. Railroad Ave. and 16' E/E/C Ainsworth Ave.

Total Quantity for JB 226 = 1

JB 227 **REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES** **EA**

At the following locations:

S/E/C S. Railroad Ave. and Ainsworth Ave.

Total Quantity for JB 227 = 1

JB 300 **SPECIAL CARE EXCAVATION AND BACKFILING** **CY**

At the following locations:

F/O House #26 Bartow St. Bet. South Railroad Ave. and O'gorman Ave.
F/O House #46 Bartow St. Bet. South Railroad Ave. and O'gorman Ave.

Total Quantity for JB 300 = 1

JB 330E.1 **SUPPORT & PROTECT ELEC, GAS & STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE W/IN TRENCH LIMITS (TYPE .1)** **LF**

At the following locations:

9' N/N/C O'gorman Ave. and 10' E/W/C Bartow St.

Total Quantity for JB 330E.1 = 3

JB 330E.3 **SUPPORT & PROTECT ELEC, GAS & STEAM FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE W/IN TRENCH LIMITS (TYPE .3)** **LF**

At the following locations:

S/E/C S. Railroad Ave. and Bartow St.

Total Quantity for JB 330E.3 = 75

JB 350 **ACCOMODATION OF OH FACILITIES, POLES & APPURTENANCES** **LS**

At the following locations:

Various Locations

Total Quantity for JB 350 = 1

JB 351 **UTILITY POLE SUPPORT** **EA**

At the following locations:

S/W/C Amboy Rd. and Ainsworth Ave.

Total Quantity for JB 351 = 1

JB 400 **TEST PITS FOR UTILITY FACILITIES** **CY**

At the following locations:

Various Locations

Total Quantity for JB 400 = 30

JB 401 **TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES** **CY**

At the following locations:

S/W/C South Railroad Ave. and Bartow St.

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for JB 401 = 33

JB 402.2 **EXISTING OCCUPIED NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONCRETE ENCASEMENT** **LF**

At the following locations:

S/W/C South Railroad Ave. and Bartow St.

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for JB 402.2 = 450

JB 450.1 **CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SIZE SURVEY CREW PERFORMING TYPICAL SURVEY FUNCTIONS (TYPE .1)** **CRHRS**

At the following locations:

Various Locations

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for JB 450.1 = 8

JB 450.2 **CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE SMALL SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .2)** **CRHRS**

At the following locations:

Various Locations

Total Quantity for JB 450.2 = 20

JB 450.3 **CONSTRUCTION FIELD SUPPORT REQUIRING AVERAGE MEDIUM SIZE CREW CAPABLE OF PERFORMING VARIOUS TASKS (TYPE .3)** **CRHRS**

At the following locations:

Various Locations

Total Quantity for JB 450.3 = 28

JB 802A **SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK** **SF**

At the following locations:

East Sidewalk Bartow St. from South Railroad Ave. to O'gorman Ave.

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for JB 802A = 1,395

JB 802B **SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK** **LF**

At the following locations:

S/E/C S. Railroad Ave. and Bartow St.
N/E/C Bartow St. and O'gorman Ave.

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for JB 802B = 6

JB 900 **EXTRA UTILITY WORK COSTS ALLOWANCE** **FS**

At the following locations:

Various Locations

AS ENCOUNTERED AND DIRECTED BY A CON EDISON REPRESENTATIVE

Total Quantity for JB 900 = 1

CON EDISON CONTRACT INCLUSION ANALYSIS
CITY BID ITEMS ESTIMATED QUANTITIES
SER200151
AMBOY RD. (UNDERPASS) AND SOUTH RAILROAD AVE.
BOROUGH OF STATEN ISLAND

CITY BID ITEM NUMBER	DESCRIPTION	UNIT	TOTAL QUANTITY
4.02 AF	ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	SY	33
4.02 CA	ASPHALTIC BINDER MIXTURE	TONS	3
4.04 B	CONCRETE BASE, 6" MINIMUM	CY	4

4.02 AF	**ASPHALTIC CONCRETE WEARING COURSE, 2" THICK**	**SY**
	At the following locations:	
	S/E/C South Railroad Ave. and Bartow St.	
	Total Quantity for 4.02 AF = 33	
4.02 CA	**ASPHALTIC BINDER MIXTURE**	**TONS**
	At the following locations:	
	S/E/C South Railroad Ave. and Bartow St.	
	Total Quantity for 4.02 CA = 3	
4.04 B	**CONCRETE BASE, 6" MINIMUM**	**CY**
	At the following locations:	
	S/E/C South Railroad Ave. and Bartow St.	
	Total Quantity for 4.04 B = 4	

JOINT BID WORKSHEET

SER200151 - SANITARY SEWER AND WATER MAIN REPLACEMENT
IN AMBOY ROAD AND SOUTH RAILROAD AVENUE ETC
BOROUGH OF STATEN ISLAND
FOR INFORMATION ONLY
ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE
FOR VERIZON

JOINT BID ITEM NUMBER	DESCRIPTION	Unit of Measure	Estimated Quantity	Unit Price	TOTAL
JB 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .1)	EA.	2.00	$595.00	$1,190.00
JB 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EA.	4.00	$2,364.00	$9,456.00
JB 104.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	EA.	3.00	$4,037.00	$12,111.00
JB 108.1	UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)	EA.	6.00	$886.00	$5,316.00
JB 225	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EA.	1.00	$2,925.00	$2,925.00
JB 330T1	SUPPORT & PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN	L.F.	539.00	$115.00	$61,985.00
JB 350T	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES AND APPURTENANCES	L.S.	1.00	$27,352.00	$27,352.00
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES	C.Y.	32.00	$228.00	$7,296.00
JB 402T.2A	EXISTING OCCUPIED NON-CONCRETE ENCASED NON-STEEL/IRON CONDUITS PLACED IN FINAL POSITION WITH CONCRETE	L.F.	260.00	$44.00	$11,440.00
JB 402T.V2A	EXISTING VACANT NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT.	L.F.	25.00	$26.00	$650.00
JB 900	EXTRA UTILITY WORK ALLOWANCE	F.S.	1.00	$60,000	$60,000.00
				TOTAL	**$199,721.00**

VERIZON JOINT BIDDING SCOPE OF WORK

SUPPORT & PROTECTION

SER200151 - SANITARY SEWER AND WATER MAIN REPLACEMENT

IN AMBOY ROAD AND SOUTH RAILROAD AVENUE ETC

BOROUGH OF STATEN ISLAND

JB 100.1	**UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECT. AND/OR TEST PIT (TYPE .1)**	**EA.**
	At the following locations:	
	W/S OF AINSWORTH AVENUE, S/O S. RAILROAD ROAD	1.00
	INT. OF AINSWORTH AVENUE AND S. RAILROAD AVENUE	1.00
	Total quantity for JB 100.1 = 2.00	
JB 101.1	**UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)**	**EA.**
	At the following locations:	
	W/S OF BARTOW STREET, S/O S. RAILROAD AVENUE	1.00
	W/S OF BARTOW STREET, N/O O'GORMAN AVENUE	1.00
	N/S OF S. RAILROAD AVENUE, E/O AINSWORTH AVENUE	1.00
	W/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE	1.00
	Total quantity for JB 101.1 = 4.00	
JB 104.1	**UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)**	**EA.**
	At the following locations:	
	E/S OF BARTOW STREET, S/O S. RAILROAD AVENUE	1.00
	E/S OF BARTOW STREET, N/O O'GORMAN AVENUE	1.00
	E/S OF BARTOW STREET, S/O RAILROAD AVENUE	1.00
	Total quantity for JB 104.1 = 3.00	
JB 108.1	**UTILITIES CROSSING TRENCH FOR WATERMAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)**	**EA.**
	At the following locations:	
	W/S OF BARTOW STREET, S/O S. RAILROAD AVENUE	1.00
	S/S S. RAILROAD AVENUE, E/O AINSWORTH AVENUE	1.00
	S/S S. RAILROAD AVENUE, E/O AMBOY ROAD	1.00
	W/S OF BARTOW STREET, N/O O'GORMAN AVENUE	1.00
	W/S OF BARTOW STREET, S/O RAILROAD AVENUE	1.00
	S/S OF RAILROAD AVENUE, E/O OF BARTOW STREET	1.00
	Total quantity for JB 108.1 = 6.00	
JB 225	**INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES**	**EA.**
	At the following locations:	
	W/S OF AINSWORTH AVENUE, S/O S. RAILROAD AVENUE	1.00
	Total quantity for JB 225 = 1.00	

VERIZON JOINT BIDDING SCOPE OF WORK

SUPPORT & PROTECTION

SER200151 - SANITARY SEWER AND WATER MAIN REPLACEMENT

IN AMBOY ROAD AND SOUTH RAILROAD AVENUE ETC

BOROUGH OF STATEN ISLAND

JB 330T1	**SUPPORT & PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN FACILITIES LIE IN OR CLOSE PROXIMITY TO TRENCH LIMITS**	**L.F.**
	At the following locations:	
	W/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE	303.00
	E/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE	236.00
	Total quantity for JB 330T1 = 539.00	
JB 350T	**OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES AND APPURTENANCE**	**L.S.**
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE	1.00
	Total quantity for JB 350T = 1.00	
JB 401	**TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITIES**	**C.Y.**
	At the following locations:	
	S/S OF S. RAILROAD AVENUE, E/O AMBOY ROAD	6.00
	S/S OF S. RAILROAD AVENUE, W/O AINSWORTH AVENUE	20.00
	E/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE	6.00
	Total quantity for JB 401 = 32.00	
JB 402T.2A	**EXISTING OCCUPIED NON-CONCRETE ENCASED NON-STEEL/IRON CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT**	**L.F.**
	At the following locations:	
	S/S OF S. RAILROAD AVENUE, E/O AMBOY ROAD	40.00
	S/S OF S. RAILROAD AVENUE, W/O AINSWORTH AVENUE	200.00
	E/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE	20.00
	Total quantity for JB 402T.2A = 260.00	
JB 402T.V2A	**EXISTING VACANT NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT.**	**L.F.**
	At the following locations:	
	S/S OF S. RAILROAD AVENUE, W/O AINSWORTH AVENUE	25.00
	Total quantity for JB 402T.V2A = 25.00	
JB 900	**EXTRA UTILITY WORK ALLOWANCE**	**F.S.**
	At the following locations:	
	AS ENCOUNTERED OR DIRECTED BY VERIZON FIELD REPRESENTATIVE	1.00
	Total quantity for JB 900 = 1.00	

VERIZON
SER200151 - SANITARY SEWER AND WATER MAIN REPLACEMENT
IN AMBOY ROAD AND SOUTH RAILROAD AVENUE ETC.
Contingency Item List
(05/11/2017)

ITEM	DESCRIPTION	UNIT	PRICE
JB 100.2	Utilities Crossing Trench for CB Chute Connection &/or Test Pits (Type .2)	EA	$ 808.00
JB 100.3	Utilities Crossing Trench for CB Chute Connection &/or Test Pits (Type .3)	EA	$ 998.00
JB 101.2	Utilities Crossing Trench for Sewers 12" to 24" Diameter (Type .2)	EA	$ 2,394.00
JB 101.3	Utilities Crossing Trench for Sewers 12" to 24" Diameter (Type .3)	EA	$ 3,309.00
JB 104.2	Utilities Crossing Trench for Sewers over 48" to 54" Diameter (Type .2)	EA	$ 4,037.00
JB 104.3	Utilities Crossing Trench for Sewers over 48" to 54" Diameter (Type .3)	EA	$ 4,966.00
JB 108.2	Utilities Crossing Trench for Water Main up to & incl. 12" Diameter (Type .2)	EA	$ 1,097.00
JB 108.3	Utilities Crossing Trench for Water Main up to & incl. 12" Diameter (Type .3)	EA	$ 1,322.00
JB 200	Extra Depth Excavation of Catch Basin Chute Connection Pipes	LF	$ 170.00
JB 226	Installation of Catch Basins with Interference	EA	$ 1,463.00
JB 227	Removal of Catch Basins with Interference	EA	$ 1,463.00
JB 300	Special Care Excavation & Backfilling	CY	$ 167.00
JB 400	Test Pits for Utility Facilities	CY	$ 218.00
JB 401AT	Special Care Pavement Excavation for Adjustment of Telecommunication Utility Facilities Connected to or Near the Base Pavement	L.F.	$ 76.00
JB 402T.1	Existing Concrete Encased Conduits Placed in Final Position without Concrete Encasement	L.F.	$ 47.00
JB 402T.1A	Existing Concrete Encased Telecommunication Conduits Placed in Final Position with Concrete Encasement	L.F.	$ 53.00
JB 402T.2	Existing Non-Concrete Encased Telecommunication Conduits Placed in Final Position without Concrete Encasement	L.F.	$ 39.00
JB 402T.V2	Existing Vacant Non-Concrete Encased Telecommunication Conduits Placed in Final Position without Concrete Encasement	L.F.	$ 21.00
JB 403T.2	Placing Steel Protection Plates for Utility Facilities	SF	$ 14.85
JB 500	Removal of Abandoned Utility Conduits (Non-Concrete Encased)	LF	$ 4.00
JB 501	Removal of Abandoned Masonry for Utility Facilities	CY	$ 231.00
JB 636EE	Priv. Owned Utility Structure Hardware Adjustment (34" to under 41")	EA	$ 490.00
JB 636 ME	Modification of Methods to Accommodate Utility Street Hardware during Pavement Milling and Resurfacing Operations (34" to under 41" width)	EA	$ 150.00
JB 700	Special Modification Of Work Method To Accommodate/Protect Underground Facilities With Limited Cover	CY	$ 95.00
JB 803.2	Line Cut By Pneumatic Tools in Lieu of Saw Cut Associated with Roadway Removal Operations	LF	$ 15.80

UTILITY CONTRACT INCLUSION ANALYSIS
BID ITEM ACCOMMODATION
SER200151 - SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE ETC BOROUGH OF STATEN ISLAND

FOR INFORMATION ONLY

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE FOR VERIZON

CET ITEM NUMBER	DESCRIPTION	Unit of Measure	Estimated Quantity
4.02 AB	ASPHALTIC CONCRETE WEARING COURSE, 1.5" THICK	S.Y.	28.00
4.02 CA	BINDER MIXTURE	TONS.	7.00
4.04H	CONCRETE BASE FOR PAVEMENT 9", VARIABLE THICKNESS, FOR TRENCH RESTORATION (HIGH EARLY STRENGTH)	C.Y.	8.00
6.02 AAN	UNCLASSIFIED EXCAVATION	C.Y.	10.00
6.55	SAWCUTTING EXISTING PAVEMENT	L.F.	130.00

UTILITY INCLUSION SCOPE OF WORK

BID ITEM ACCOMMODATION

SER200151 - SANITARY SEWER AND WATER MAIN REPLACEMENT

IN AMBOY ROAD AND SOUTH RAILROAD AVENUE ETC

BOROUGH OF STATEN ISLAND

4.02 AB **ASPHALTIC CONCRETE WEARING COURSE, 1.5" THICK** **S.Y.**

At the following locations:

S/S OF S. RAILROAD AVENUE, E/O AMBOY ROAD
S/S OF S. RAILROAD AVENUE, W/O AINSWORTH AVENUE
E/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE

Total quantity for 4.02 AB = 28.00

4.02 CA **BINDER MIXTURE** **TONS.**

At the following locations:

S/S OF S. RAILROAD AVENUE, E/O AMBOY ROAD
S/S OF S. RAILROAD AVENUE, W/O AINSWORTH AVENUE
E/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE

Total quantity for 4.02 CA = 7.00

4.04H **CONCRETE BASE FOR PAVEMENT 9", VARIABLE THICKNESS, FOR TRENCH RESTORATION (HIGH EARLY STRENGTH)** **C.Y.**

At the following locations:

S/S OF S. RAILROAD AVENUE, E/O AMBOY ROAD
S/S OF S. RAILROAD AVENUE, W/O AINSWORTH AVENUE
E/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE

Total quantity for 4.04H = 8.00

6.02 AAN **UNCLASSIFIED EXCAVATION** **C.Y.**

At the following locations:

S/S OF S. RAILROAD AVENUE, E/O AMBOY ROAD
S/S OF S. RAILROAD AVENUE, W/O AINSWORTH AVENUE
E/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE

Total quantity for 6.02 AAN = 10.00

6.55 **SAWCUTTING EXISTING PAVEMENT** **L.F.**

At the following locations:

S/S OF S. RAILROAD AVENUE, E/O AMBOY ROAD
S/S OF S. RAILROAD AVENUE, W/O AINSWORTH AVENUE
E/S OF BARTOW STREET BETWEEN RAILROAD AVENUE AND O'GORMAN AVENUE

Total quantity for 6.55 = 130.00

FOR INFORMATION ONLY
ENGINEER'S ESTIMATE OF QUANTITIES AND TYPES OF INTERFERENCE
CHARTER SPECTRUM
SER-200151
NEW STORM AND SANITARY SEWERS EXTENSION
SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY RD AND SOUTH RAILROAD AVE, ETC.
Borough of Staten Island

JB ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY	UNIT PRICE	TOTAL
JB 101.1	UTILITIES CROSSING TRENCH FOR SEWERS UP TO & INCLUDING 24" DIAMETER	EA	2	$2,000.00	$4,000.00
JB 104.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER	EA	2	$4,000.00	$8,000.00
JB 106.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER	EA	2	$600.00	$1,200.00
JB 350 TWC	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES	LS	1	$7,758.54	$7,758.54
JB 500	REMOVAL OF ABANDONED UTILITY CONDUITS	LF	529	$4.00	$2,116.00
JB 900	EXTRA UTILITY WORK COSTS ALLOWANCE ($3,461.18) THREE THOUSAND FOUR HUNDRED SIXTY ONE DOLLARS AND EIGHTEEN CENTS	FS	1	$3,461.18	$3,461.18
				TOTAL	$26,535.72

CHARTER SPECTRUM
SUPPORT & PROTECTION
SER-200151
New Storm and Sanitary Sewers Extension
Sanitary Sewer and Water Main Replacement in Amboy Rd and South Railroad Ave, etc.
Borough of Staten Island

JB 101.1	UTILITIES CROSSING TRENCH FOR SEWERS UP TO AND INCLUDING 24" DIAMETER		EA
	At the following locations:		
	IFO # 06_ Bartow St- S of South Railroad Ave		1
	IFO # 42_ Bartow St- N of O'Gorman Ave		1
		Total quantity for JB 101.1	2
JB 104.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER		EA
	At the following locations:		
	IFO # 06_ Bartow St- S of South Railroad Ave		1
	IFO # 42_ Bartow St- N of O'Gorman Ave		1
		Total quantity for JB 104.1	2
JB 108.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER		EA
	At the following locations:		
	IFO # 06_ Bartow St- S of South Railroad Ave		1
	IFO # 42_ Bartow St- N of O'Gorman Ave		1
		Total quantity for JB 108.1	2
JB 350 TWC	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES AND APPURTENANCES AS ENCOUNTERED:		LS
			1
		Total quantity for JB 350 TWC	1
JB 500	REMOVAL OF ABANDONED UTILITY CONDUITS		LF
	At the following locations:		
	IFO # 06 Bartow St to Intersection of Bartow St and O'Gorman Ave		529
		Total quantity for JB 500	529
JB 900	EXTRA UTILITY WORK ALLOWANCE		FS
			1
		Total quantity for JB 900	1

FOR INFORMATION ONLY
CONTINGENCY ITEMS
CHARTER/ SPECTRUM
SER-200151
New Storm and Sanitary Sewers Extension
Sanitary Sewer and Water Main Replacement in Amboy Rd and South Railroad Ave, Etc.
Borough of Staten Island

JOINT BID ITEM	DESCRIPTION	UNITS	JB PRICE
JB 100.1	UTILITIES CROSSING TRENCH FOR CB CHUTE CONNECTION	EA	$550.00
JB 102.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER	EA	$3,000.00
JB 103.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER	EA	$3,500.00
JB 105.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER	EA	$4,200.00
JB 106.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER	EA	$4,400.00
JB 107.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER	EA	$4,500.00
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" TO 24" DIAMETER	EA	$1,000.00
JB 110.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" TO 36" DIAMETER	EA	$1,400.00
JB 111.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" TO 48" DIAMETER	EA	$1,500.00
JB 112.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" TO 54" DIAMETER	EA	$1,600.00
JB 113.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" TO 60" DIAMETER	EA	$1,800.00
JB 114.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" TO 72" DIAMETER	EA	$2,000.00
JB 115.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" TO 84" DIAMETER	EA	$2,200.00
JB 200	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	LF	$150.00
JB 225	REMOVAL AND INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EA	$2,800.00
JB 226	INSTALLATION OF CATCH BASIN WITH UTILITY INTERFERENCES	EA	$1,400.00
JB 227	REMOVAL OF CATCH BASIN WITH UTILITY INTERFERENCES	EA	$1,400.00
JB 300	SPECIAL CARE EXCAVATION & BACKFILLING	CY	$150.00
JB 300A	UTILITY PARALLELING CITY FACILITY TRENCH	LF	$60.00
JB 330T1	SUPPORT & PROTECTION OF UTILITY IN CITY TRENCH	LF	$100.00
JB 400	TEST PITS FOR UTILITY FACILITIES	CY	$175.00
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	CY	$200.00
JB 401AC	SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF CABLE TV FACILITIES CONNECTED TO THE BASE PAVEMENT	CY	$75.00
JB 402.1	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONC. ENCASEMENT	DF	$35.00
JB 402.1A	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONC. ENCASEMENT	DF	$45.00
JB 402.2	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION W/O CONC. ENCASEMENT	DF	$25.00
JB 402.2A	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	DF	$35.00
JB 403	PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES	SF	$4.00
JB 405.1	TRENCH EXCAVATIONS FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN FIVE FEET	CY	$150.00
JB 405.2	TRENCH EXCAVATIONS FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS EQUAL TO OR GREATER THAN FIVE FEET, REQUIRING SHEETING	CY	$200.00
JB 406	EXCAVATION FOR UTILITY STRUCTURE	CY	$150.00
JB 501	REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES	CY	$200.00
JB 501.1	REMOVAL OF ABANDONED CABLE TELEVISION SIDEWALK PULL BOXES	EA	$500.00
JB 603T.1	INSTALL 1 ea. 2", 4" or 1 1/4" QUAD (PVC or STEEL) IN ANY COMBINATION	LF	$5.00
JB 603T.2	INSTALL 2 ea. 2", 4" or 1 1/4" QUAD (PVC or STEEL) IN ANY COMBINATION	LF	$8.00
JB 603T.3	INSTALL 4 ea. 2", 4" or 1 1/4" QUAD (PVC or STEEL) IN ANY COMBINATION	LF	$12.00
JB 636EG	ADJUSTMENT OF UTILITY HARDWARE	EA	$500.00
JB 636N	INSTALLATION OF FIELD CONSTRUCTED UTILITY STRUCTURE	CY	$1,054.00
JB 636R	BREAKOUT & REMOVE UTILITY STRUCTURE	CY	$350.00
JB 700	SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER	CY	$75.00
JB 800	MODIFICATION OF TROLLEY STRUCTURE REMOVAL WHEN CROSSING UTILITY FACILITIES	LF	$190.00
JB 801	MODIFICATION OF TROLLEY STRUCTURE REMOVAL PARALLEL TO UTILITY FACILITIES	LF	$80.00

Crown Castle

JOINT BID WORKSHEET

SER-200151

MASTER JB LIST

NEW STORM AND SANITARY SEWERS EXTENSION, SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY ROAD (UNDERPASS) AND SOUTH RAILROAD AVENUE, ETC. IN THE BOROUGH OF STATEN ISLAND

ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE FOR CROWN CASTLE IN THE BOROUGH OF STATEN ISLAND

JOINT BID ITEM NUMBER	DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITIY	UNITE PRICE	TOTAL
JB 350 (CC)	OVERHEAD ACCOMMODATION, PROTECTION OF OVERHEAD FACILITIES, POLES & APPURTENANCES	LS	1	-	$ 5616
JB 900 (CC)	EXTRA UTILITY WORK COSTS ALLOWANCE	FS	1	-	$ 1500
				TOTAL	$ 7116

** Crown Castle does not recognize parallel interference payments for water/sewer installation including curb and sidewalk work performed.

JB 350 **ACCOMODATION OF OH FACILITIES, POLES & APPURTENANCES** **LS**

At the following locations:

Various Locations

Total Quantity for JB 350 = 1

JB 900 **EXTRA UTILITY WORK COSTS ALLOWANCE** **FS**

At the following locations:

Various Locations

AS ENCOUNTERED AND DIRECTED BY A Crown Castle | REPRESENTATIVE

Total Quantity for JB 900 = 1

nationalgrid

287 Maspeth Avenue
Brooklyn, N.Y. 11211-1788

JB Item Number	Extra Utility Work Costs Allowance
900	At the following locations: AS ENCOUNTERED AND REQUIRED BY NATIONAL GRID Quantity – $3000.00 FS

nationalgrid

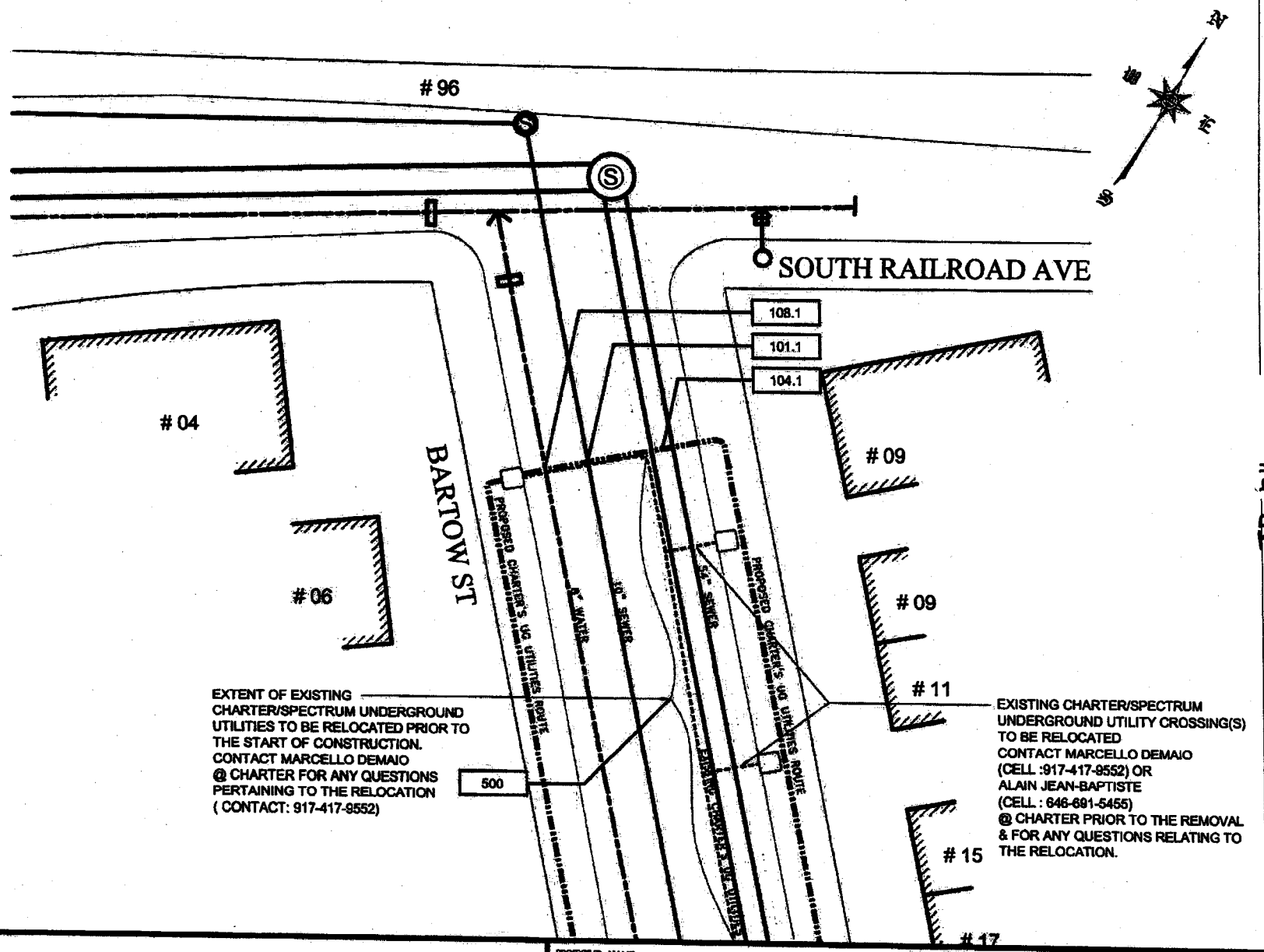
287 Maspeth Avenue
Brooklyn, New York 11211

Support & Protection
CONTRACT NO. SER200151
Amboy Rd Area
Borough of Staten Island

JB Item Number	Description	Unit of Measure	Estimated Quantity	Unit Price	Total
900	Extra Utility Work Costs Allowance	FS			$3,000.00
				TOTAL	$3,000.00

SKETCHES

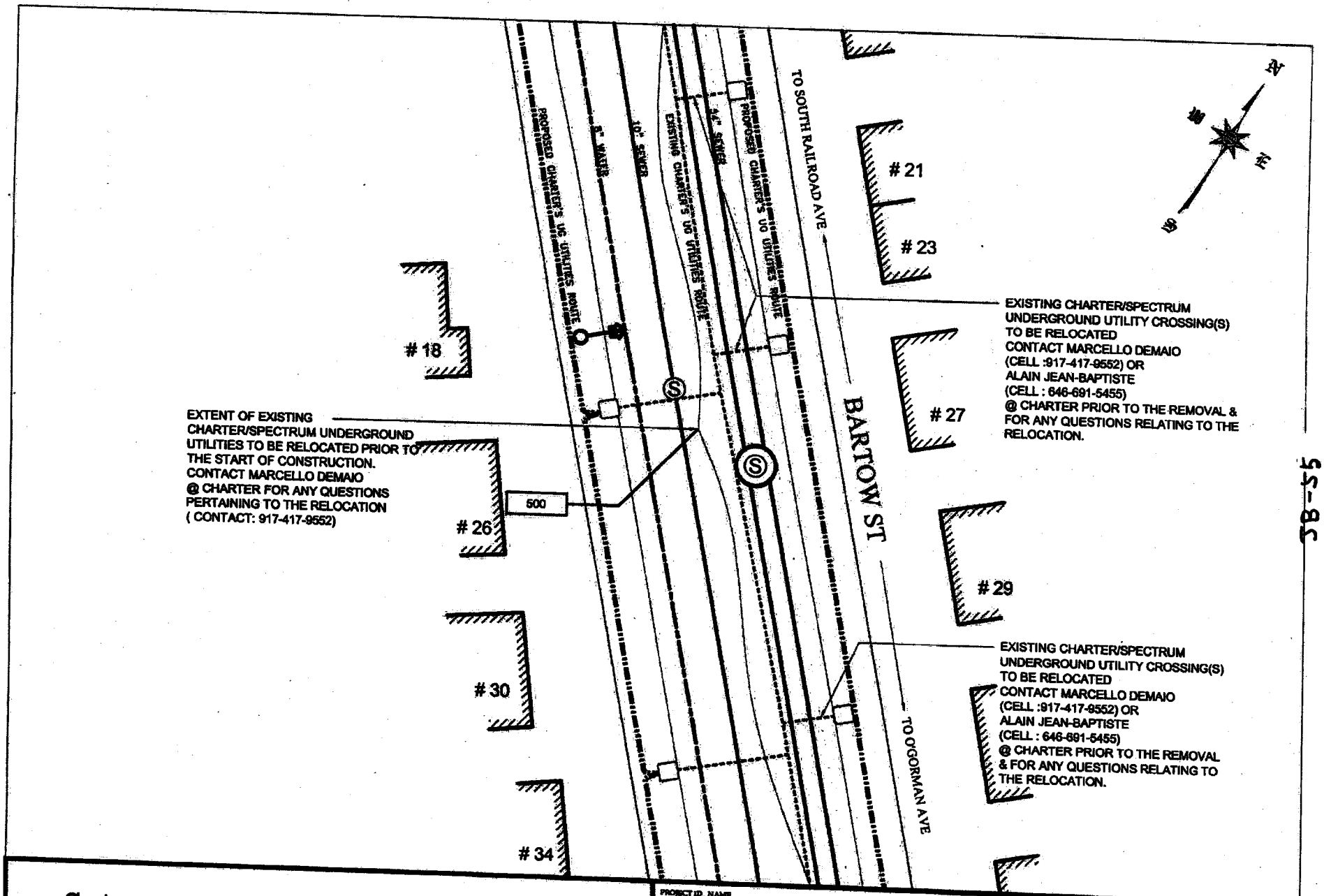
(NO TEXT IN THIS SECTION)



Charter Spectrum

PROJECT ID, NAME SER-200151_ NEW STORM AND SANITARY SEWERS EXTENSION SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY RD AND S. RAILROAD	SCALE: 1:30	U SHEET # 1 / 3
PROJECT TITLE CHARTER/SPECTRUM- SYSTEM PRINTS	DATE 12.04.17	

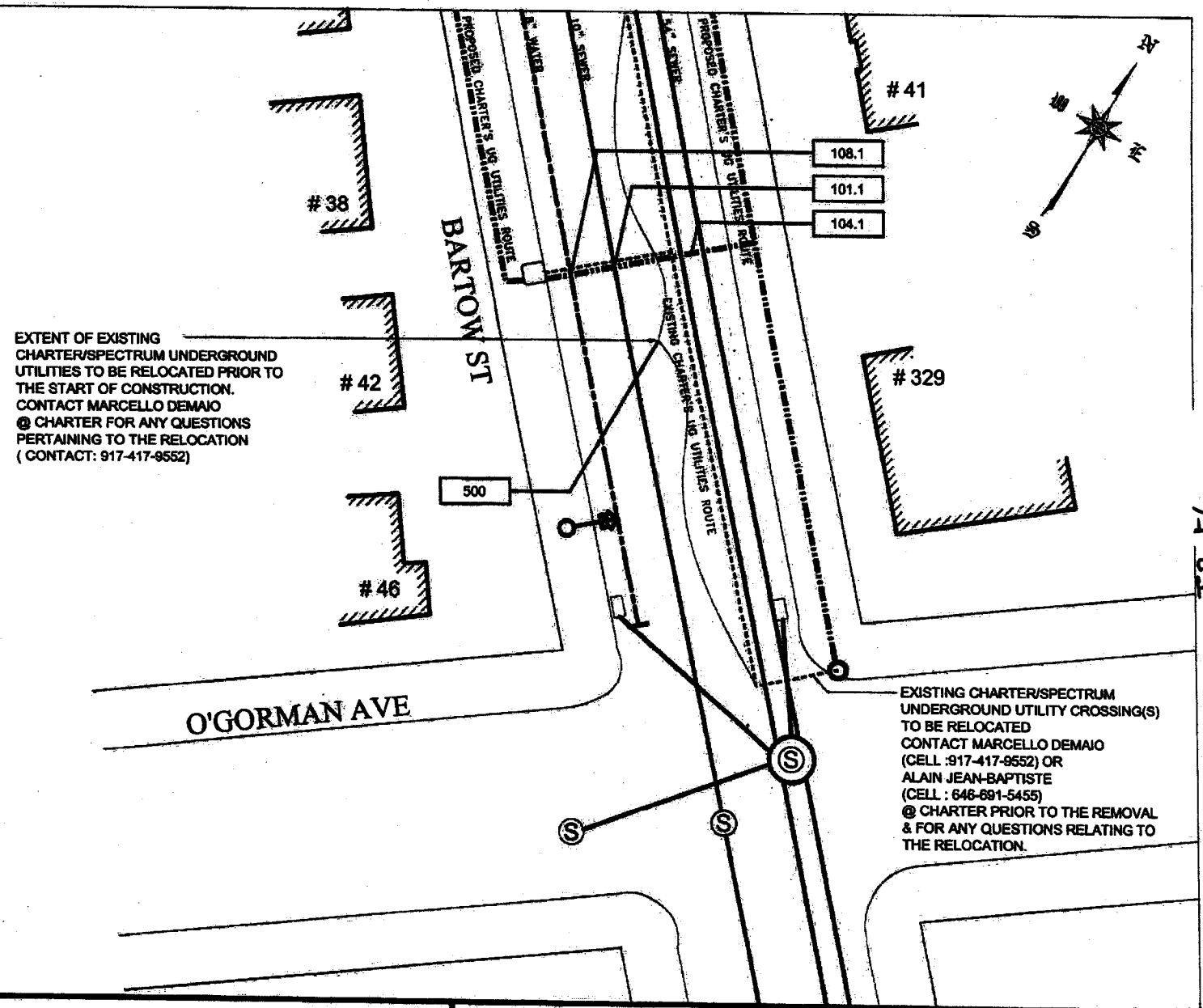
JB-54



Charter Spectrum

PROJECT ID. NAME: SER-200151_ NEW STORM AND SANITARY SEWERS EXTENSION SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY RD AND S. RAILROAD	SCALE: 1:30	SHEET # 2 / 3
PROJECT TITLE: CHARTER/SPECTRUM- SYSTEM PRINTS	DATE: 12.04.17	

JB-55



Charter Spectrum

PROJECT ID, NAME: SER-200151_ NEW STORM AND SANITARY SEWERS EXTENSION SANITARY SEWER AND WATER MAIN REPLACEMENT IN AMBOY RD AND S. RAILROAD	SCALE: 1:30	U.SHEET #: 3 / 3
PROJECT TITLE: CHARTER/SPECTRUM- SYSTEM PRINTS	DATE: 12.04.17	

95-85

END OF JB-PAGES

THE JB-PAGES CONSIST OF FIFTY SEVEN (57) PAGES AND TEN (10) SHEETS OF PRIVATE UTILITY DRAWINGS ARE ATTACHED TO THE CONTRACT PLANS

Department of Design and Construction

INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

VOLUME 3 OF 3

PROJECT ID: SER200151

NEW STORM AND SANITARY SEWERS EXTENSION AND WATER MAIN REPLACEMENT IN AMBOY ROAD AND SOUTH RAILROAD AVENUE, ETC.

Together With All Work Incidental Thereto
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

_____
Contractor

_____

Dated_____, **20**___

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