CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE
VOLUME 1 – BID BOOKLET

TABLE OF CONTENTS

Introduction 2

Bid Submission Requirements 3

Notices to Bidders 4

- Pre Bid Questions (PBQs) 4
- NYC Contract Financing Loan Fund 4

M/WBE Notice to Prospective Contractors 5

Affirmation 13

Item Grid and Bid Schedule 15

Pre-Award Process 17

Project References 19

- A. Contracts completed by the bidder 19
- B. Contracts currently under construction by the bidder 20
- C. Pending contracts not yet started by the bidder 21

Introduction

This Bid Booklet is intended to provide general information necessary for bidding on a DDC public works project and is part of the Contract Documents, as per Article 1.1 of the Standard Construction Contract.

As this contract is solicited via the PASSPort system, the bidder will be required to complete all of the PASSPort forms and questionnaires. These forms and questionnaires, along with the bidder's responses, will become part of the Bid Booklet.

Additional information on the PASSPort system can be found at the following website:
https://www1.nyc.gov/site/mocs/systems/passport-user-materials.page

Bid Submission Requirements

THE FOLLOWING MUST BE COMPLETED AND SUBMITTED FOR THE BID TO BE CONSIDERED RESPONSIVE:

1. Completed electronic bid submission in PASSPort;
    a. All required fields in PASSPort must be completed.
2. One-page signed Bid Submission Form delivered in person to DDC before the bid due date; and
3. Bid security, if required.
    a. If Bid security is in a form of a bid bond, bidders must include it with their electronic PASSPort submission.
    b. If Bid security is in a form of a certified check, bidders must deliver the certified check with the signed Bid Submission Form.

BIDDERS ARE ADVISED THAT PAPER BID SUBMISSIONS WILL BE DEEMED NON-RESPONSIVE. BIDDERS MUST SUBMIT THEIR BIDS ELECTRONICALLY IN PASSPORT, PROVIDE THE BID SECURITY, AND DELIVER TO DDC THE ONE-PAGE SIGNED BID SUBMISSION FOR THE BID TO BE CONSIDERED RESPONSIVE.

THE FOLLOWING MAY RESULT IN THE BID BEING FOUND NON-RESPONSIVE:

1. Any discrepancy between the total bid price listed on the Bid Submission Form and the bid information submitted in PASSPort.
2. Failure to upload required files or documents as part of a mandatory PASSPort Questionnaire response.
3. Uploading an incorrect file as part of a mandatory PASSPort Questionnaire response.

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 the PASSPort procurement.

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.

While the PASSPort system has a facility for submitting inquiries, bidders are directed to send PBQs as directed above instead of using the PASSPort inquiry system.

Inquiries sent using the PASSPort inquiry system will not be considered PBQs.

NYC Contract Financing Loan Fund

If your business is working as a prime or subcontractor on a project with a City agency or City-funded entity, you may be eligible for a Contract Financing Loan from a participating lender coordinated with the NYC Department of Small Business Services (SBS). Loan repayment terms align with the contract payment schedule.

For more information: Call 311 or visit https://www1.nyc.gov/nycbusiness/article/contract-financing-loan-fund

M/WBE Notice to Prospective Contractors

PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT (9/2020 version)

ARTICLE I. M/WBE PROGRAM

Section 6-129 of the Administrative Code of the City of New York ("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. Contracts solicited through the Procurement and Sourcing Solutions Portal (PASSPort) will contain a Schedule B in the format outlined in the Schedule B – M/WBE Utilization Plan & PASSPort rider. The provisions of this notice will apply to contracts subject to the M/WBE Program established by Section 6-129 regardless of solicitation source.

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.

References to MBEs or WBEs shall also include such businesses certified pursuant to the executive law where credit is required by section 311 of the New York City Charter or other provision of law.

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 1 to this Contract (see Page 1, Line 1 Total Participation Goals) or will be set forth on Schedule B, Part 1 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 DSBS 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 2 (see Pages1-2) 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; (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; as well as the name, addresses, and telephone numbers of the M/WBE subcontractors if required by the solicitation; and (d) the prospective contractor's required certification and affirmations. 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 2 (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 non-responsive.

(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 2 (see Pages 1-2) 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; (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; as well as the name, addresses, and telephone numbers of the M/WBE subcontractors if required by the solicitation; and (d) the prospective contractor's required certification and affirmations. 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 2). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART 3). 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 multi-year 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 city-certified 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) 513-6451, or by visiting or writing DSBS at One Liberty Plaza, New York, New York, 10006, 11th 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 3 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 MWBEModification@ddc.nyc.gov**. **Full or partial waiver requests that are received later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due may be rejected as untimely**. Bidders, proposers, or contractors, as applicable, who have submitted timely 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 the Contractor was required to identify in its bid or proposal the MBEs and/or WBEs they intended to use in connection with the performance of the Contract or Task Order, substitutions to the identified firms may only be made with the approval of the Agency, which shall only be given when the Contractor has proposed to use a firm that would satisfy the **Participation Goals** to the same extent as the firm previously identified, unless the Agency determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good faith efforts. In making such determination, the Agency shall require evidence of the efforts listed in Section 11(a) above, as applicable, along with any other relevant factors.

13. 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.

14. 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.

15. 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 a **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 a **M/WBE** Utilization Plan shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.

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

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

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

ARTICLE II. ENFORCEMENT

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

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

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

(a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;

(b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;

(c) making a finding that the Contractor is in default of the Contract;

(d) terminating the Contract;

(e) declaring the Contractor to be in breach of Contract;

(f) withholding payment or reimbursement;

(g) determining not to renew the Contract;

(h) assessing actual and consequential damages;

(i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the M/WBE Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional

procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;

(j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or

(k) taking any other appropriate remedy.

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

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

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

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

Affirmation

The 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 disclosed in PASSPort.

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

6. 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 shall mean the individual bidder, firm, partnership or corporation executing this bid).

7. 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. M/WBE UTILIZATION PLAN: By signing its bid, the bidder agrees to the M/WBE Vendor Certification and Required Affirmations set forth below, unless a full waiver of the Participation Goals is granted.

    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

    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.

Item Grid and Bid Schedule

The Item Grid in the PASSPort system contains 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 HW-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 DEP Specifications for Trunk Main Work; ***AND*** NYC DEP Sewer Design Standards; ***AND*** NYC DEP 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.

Item Number Format	Applicable Specifications
UTL-XXX	Gas Cost Sharing Standard Specifications in the EP7-Pages, located in Volume 3 of 3 herein.
83X.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.

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, the bidder must submit such information 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 email and will specify the types of information which must be submitted directly to DDC.

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 in 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.

BID SUBMISSION FORM

Bidder Name: Perfetto Enterprises Company

Procurement Title: 85022B0043-RED386 REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC

RFx Name: 85022B0043-RED386 REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC

The above-named bidder affirms and declares:

1. The bidder has completed and submitted all required information for the above procurement in the PASSPort system;
2. Any discrepancy between the bid price listed on this Bid Submission Form and the bid information submitted in PASSPort may result in the agency finding the bid non-responsive; and
3. This bid is being submitted in accordance with New York State General Municipal Law § 103.

Total Bid Price: (a/k/a Total Proposal Amount) $ 6,566,734.77

Bidder Signature

EIN (if applicable): 20-0602614
(EIN must match the EIN of the entity that submitted bid information in PASSPort)

Bidder Name: Perfetto Enterprises Company

By: Claudio Perfetto
(Name of Partner of Corporate Officer)

Signature:
(Signature of Partner of Corporate Officer)

Code	Item No.	Label	Quantity	Unit	Unit Price	Total	Price Criteria	Field type
bid_1	4.02 AB-R	ASPHALTIC CONCRETE WEARING	4030	S.Y.	32	128960		Required Item
bid_2	4.02 CA	BINDER MIXTURE	1600	TONS	120	192000		Required Item
bid_3	4.04 H	CONCRETE BASE FOR PAVEMENT,	50	C.Y.	500	25000		Required Item
bid_4	4.05 AX	HIGH-EARLY STRENGTH REINFORCED	100	C.Y.	300	30000		Required Item
bid_5	4.08 BA	CONCRETE CURB (21" DEEP)	415	L.F.	65	26975		Required Item
bid_6	4.09 AE	STRAIGHT STEEL FACED CONCRETE	200	L.F.	175	35000		Required Item
bid_7	4.09 BD	DEPRESSED STEEL FACED CONCRETE	100	L.F.	200	20000		Required Item
bid_8	4.09 CD	CORNER STEEL FACED CONCRETE	100	L.F.	200	20000		Required Item
bid_9	4.13 AAS	4" CONCRETE SIDEWALK	2280	S.F.	16	36480		Required Item
bid_10	4.13 BAS	7" CONCRETE SIDEWALK	150	S.F.	20	3000		Required Item
bid_11	4.13 DE	EMBEDDED PREFORMED	100	S.F.	35	3500		Required Item
bid_12	4.15	TOPSOIL	100	C.Y.	100	10000		Required Item
bid_13	4.18 A	MAINTENANCE TREE PRUNING	64	EACH	150	9600		Required Item
bid_14	4.18 B	MAINTENANCE TREE PRUNING (12"	10	EACH	150	1500		Required Item
bid_15	4.18 C	MAINTENANCE TREE PRUNING (18"	10	EACH	150	1500		Required Item
bid_16	4.18 D	MAINTENANCE TREE PRUNING (24"	25	EACH	150	3750		Required Item
bid_17	4.19	SODDING	100	S.Y.	50	5000		Required Item
bid_18	4.21	TREE CONSULTANT	1275	P/HR	65	82875		Required Item
bid_19	51.41S001	STANDARD CATCH BASIN, TYPE 1	1	EACH	10000	10000		Required Item
bid_20	52.11D12	12" DUCTILE IRON PIPE BASIN	100	L.F.	150	15000		Required Item
bid_21	52.41C06R	6" C.I.S.P. HOUSE CONNECTION	700	L.F.	5	3500		Required Item
bid_22	52.41C08R	8" C.I.S.P. HOUSE CONNECTION	700	L.F.	5	3500		Required Item
bid_23	52.41D06R	6" D.I.P. HOUSE CONNECTION	700	L.F.	5	3500		Required Item
bid_24	52.41D08R	8" D.I.P. HOUSE CONNECTION	700	L.F.	5	3500		Required Item
bid_25	52.41V06R	6" E.S.V.P. HOUSE CONNECTION	700	L.F.	5	3500		Required Item
bid_26	52.41V08R	8" E.S.V.P. HOUSE CONNECTION	700	L.F.	5	3500		Required Item
bid_27	6.02 AAN	UNCLASSIFIED EXCAVATION	1480	C.Y.	65	96200		Required Item
bid_28	6.25 RS	TEMPORARY SIGNS	799	S.F.	5	3995		Required Item
bid_29	6.26	TIMBER CURB	6935	L.F.	5	34675		Required Item
bid_30	6.28 AA	LIGHTED TIMBER BARRICADES	99	L.F.	5	495		Required Item
bid_31	6.40 CU	ENGINEER'S FIELD OFFICE (JOINT	24	MONTH	4500	108000		Required Item

bid_32	6.44	THERMOPLASTIC REFLECTORIZED	6935	L.F.	1	6935		Required Item
bid_33	6.49	TEMPORARY PAVEMENT MARKINGS	6935	L.F.	1	6935		Required Item
bid_34	6.52 CG	CROSSING GUARD	8530	P/HR	30	255900		Required Item
bid_35	6.53	REMOVE EXISTING LANE MARKINGS	6935	L.F.	1	6935		Required Item
bid_36	6.55	SAWCUTTING EXISTING PAVEMENT	660	L.F.	5	3300		Required Item
bid_37	6.87	PLASTIC BARRELS	935	EACH	5	4675		Required Item
bid_38	6.91	REFLECTIVE CRACKING MEMBRANE	660	L.F.	10	6600		Required Item
bid_39	60.11R520	FURNISHING AND DELIVERING 20-	4150	L.F.	225	933750		Required Item
bid_40	60.11R606	FURNISHING AND DELIVERING 6-	300	L.F.	50	15000		Required Item
bid_41	60.11R608	FURNISHING AND DELIVERING 8-	100	L.F.	80	8000		Required Item
bid_42	60.11R612	FURNISHING AND DELIVERING 12-	1590	L.F.	120	190800		Required Item
bid_43	60.12D06	LAYING 6-INCH DUCTILE IRON PIPE	360	L.F.	25	9000		Required Item
bid_44	60.12D08	LAYING 8-INCH DUCTILE IRON PIPE	140	L.F.	225	31500		Required Item
bid_45	60.12D12	LAYING 12-INCH DUCTILE IRON PIPE	1850	L.F.	150	277500		Required Item
bid_46	60.12D20	LAYING 20-INCH DUCTILE IRON PIPE	4700	L.F.	180	846000		Required Item
bid_47	60.13M0A24	FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT	25	TONS	1000	25000		Required Item
bid_48	60.18BJC20EL	FURNISHING, DELIVERING AND	15	EACH	1000	15000		Required Item
bid_49	61.11DMM06	FURNISHING AND DELIVERING 6-	23	EACH	1500	34500		Required Item
bid_50	61.11DMM08	FURNISHING AND DELIVERING 8-	1	EACH	2500	2500		Required Item
bid_51	61.11DMM12	FURNISHING AND DELIVERING 12-	8	EACH	4000	32000		Required Item
bid_52	61.11DMM20	FURNISHING AND DELIVERING 20-	4	EACH	23000	92000		Required Item
bid_53	61.11TWC03	FURNISHING AND DELIVERING 3-	4	EACH	100	400		Required Item
bid_54	61.11TWC04	FURNISHING AND DELIVERING 4-	4	EACH	100	400		Required Item
bid_55	61.11TWC06	FURNISHING AND DELIVERING 6-	3	EACH	100	300		Required Item
bid_56	61.11TWC08	FURNISHING AND DELIVERING 8-	2	EACH	100	200		Required Item
bid_57	61.12DMM06	SETTING 6-INCH MECHANICAL JOINT	23	EACH	1500	34500		Required Item
bid_58	61.12DMM08	SETTING 8-INCH MECHANICAL JOINT	1	EACH	1500	1500		Required Item
bid_59	61.12DMM12	SETTING 12-INCH MECHANICAL	8	EACH	1500	12000		Required Item
bid_60	61.12DMM20	SETTING 20-INCH MECHANICAL	4	EACH	5000	20000		Required Item
bid_61	61.12TWC03	SETTING 3-INCH WET CONNECTION	4	EACH	100	400		Required Item
bid_62	61.12TWC04	SETTING 4-INCH WET CONNECTION	4	EACH	100	400		Required Item

bid_63	61.12TWC06	SETTING 6-INCH WET CONNECTION	3	EACH	100	300		Required Item
bid_64	61.12TWC08	SETTING 8-INCH WET CONNECTION	2	EACH	100	200		Required Item
bid_65	62.11SD	FURNISHING AND DELIVERING	23	EACH	4000	92000		Required Item
bid_66	62.12SG	SETTING HYDRANTS COMPLETE	23	EACH	2500	57500		Required Item
bid_67	62.13RH	REMOVING HYDRANTS	20	EACH	250	5000		Required Item
bid_68	62.14FS	FURNISHING, DELIVERING AND	50	EACH	500	25000		Required Item
bid_69	63.11VC	FURNISHING AND DELIVERING	29	TONS	2500	72500		Required Item
bid_70	64.11EL	WITHDRAWING AND REPLACING	60	EACH	300	18000		Required Item
bid_71	64.11ST	WITHDRAWING AND REPLACING	171	EACH	225	38475		Required Item
bid_72	64.12COEG	CUTTING AND OFFSETTING HOUSE	90	L.F.	50	4500		Required Item
bid_73	64.12COLT	CUTTING AND OFFSETTING HOUSE	520	L.F.	50	26000		Required Item
bid_74	64.12ESEG	EXTENDING HOUSE SERVICE WATER	90	L.F.	100	9000		Required Item
bid_75	64.12ESLT	EXTENDING HOUSE SERVICE WATER	520	L.F.	100	52000		Required Item
bid_76	64.13WC08	FURNISHING, DELIVERING AND	1	EACH	1000	1000		Required Item
bid_77	64.13WC12	FURNISHING, DELIVERING AND	7	EACH	1000	7000		Required Item
bid_78	64.13WC20	FURNISHING, DELIVERING AND	5	EACH	1000	5000		Required Item
bid_79	65.11BR	FURNISHING, DELIVERING AND	2595	LBS.	2	5190		Required Item
bid_80	65.21PS	FURNISHING AND PLACING	10300	L.F.	2	20600	Unit price bid	Required Item
bid_81	65.31FF	FURNISHING, DELIVERING AND	70000	S.F.	0.1	7000	Unit price bid	Required Item
bid_82	65.51PC	FURNISHING AND PLACING CAST-IN-	25	C.Y.	500	12500		Required Item
bid_83	65.61SS	FURNISHING, DELIVERING AND	4000	LBS.	1	4000		Required Item
bid_84	65.71SG	FURNISHING, DELIVERING AND	1101	C.Y.	25	27525		Required Item
bid_85	7.13 B	MAINTENANCE OF SITE	18	MONTH	8000	144000	Unit price bid	Required Item
bid_86	7.36	PEDESTRIAN STEEL BARRICADES	6935	L.F.	2	13870		Required Item
bid_87	7.88 AA	RODENT INFESTATION SURVEY AND	1	L.S.	15	15	Unit price bid	Required Item
bid_88	7.88 AB	RODENT BAIT STATIONS	720	EACH	60	43200	Unit price bid	Required Item
bid_89	7.88 AC	BAITING OF RODENT BAIT STATIONS	720	EACH	9.5	6840	Unit price bid	Required Item
bid_90	7.88 AD	WATERBUG BAIT APPLICATIONS	336	BLOCK	65	21840	Unit price bid	Required Item
bid_91	70.21DK	DECKING	20	S.Y.	75	1500	Unit price bid	Required Item
bid_92	70.31FN	FENCING	10472	L.F.	2	20944	Unit price bid	Required Item
bid_93	70.51EO	EXCAVATION OF BOULDERS IN OPEN	10	C.Y.	50	500	Unit price bid	Required Item
bid_94	70.61RE	ROCK EXCAVATION	50	C.Y.	50	2500		Required Item

bid_95	70.71SB	STONE BALLAST	10	C.Y.	15	150	Unit price bid	Required Item
bid_96	70.81CB	CLEAN BACKFILL	3145	C.Y.	15	47175	Unit price bid	Required Item
bid_97	70.91SW12	FURNISHING AND PLACING	2250	S.F.	0.01	22.5		Required Item
bid_98	70.91SW20	FURNISHING AND PLACING	58070	S.F.	0.01	580.7		Required Item
bid_99	73.11AB	ADDITIONAL BRICK MASONRY	20	C.Y.	62.5	1250	Unit price bid	Required Item
bid_100	73.21AC	ADDITIONAL CONCRETE	30	C.Y.	62.5	1875	Unit price bid	Required Item
bid_101	73.31AE0	ADDITIONAL EARTH EXCAVATION	107	C.Y.	20	2140	Unit price bid	Required Item
bid_102	73.41AG	ADDITIONAL SELECT GRANULAR	20	C.Y.	15	300	Unit price bid	Required Item
bid_103	73.51AS	ADDITIONAL STEEL REINFORCING	200	LBS.	1	200	Unit price bid	Required Item
bid_104	8.01 C1	HANDLING, TRANSPORTING AND	2300	TONS	85	195500	Unit price bid	Required Item
bid_105	8.01 C2	SAMPLING AND TESTING OF	12	SETS	2000	24000	Unit price bid	Required Item
bid_106	8.01 H	HANDLING, TRANSPORTING AND	380	TONS	400	152000	Unit price bid	Required Item
bid_107	8.01 S	HEALTH AND SAFETY	1	L.S.	20000	20000	Unit price bid shall not be	Required Item
bid_108	8.01 W1	REMOVAL, TREATMENT, AND	180	DAY	1700	306000	Unit price bid	Required Item
bid_109	8.01 W2	SAMPLING AND TESTING OF	180	SETS	1400	252000	Unit price bid	Required Item
bid_110	9.30	STORM WATER POLLUTION	1	L.S.	15000	15000		Required Item
bid_111	UTL-6.01.8 (NG)	GAS SERVICES CROSSING TRENCHES	60	EACH	465	27900	Unit price bid	Required Item
bid_112	UTL-6.01.9 (NG)	GAS MAIN CROSSING WATER MAIN	8	EACH	485	3880	Unit price bid	Required Item
bid_113	UTL-6.03 (NG)	REMOVAL OF ABANDONED GAS	200	L.F.	15	3000	Unit price bid	Required Item
bid_114	UTL-6.03.1 (NG)	REMOVAL OF ABANDONED GAS	50	L.F.	25	1250	Unit price bid	Required Item
bid_115	UTL-6.04 (NG)	ADJUST HARDWARE TO GRADE	10	EACH	35	350	Unit price bid	Required Item
bid_116	UTL-6.05 (NG)	ADJUST HARDWARE TO GRADE BY	5	EACH	65	325	Unit price bid	Required Item
bid_117	UTL-6.06 (NG)	SPECIAL CARE EXCAVATION AND	300	C.Y.	180	54000	Unit price bid	Required Item
bid_118	UTL-6.07 (NG)	TEST PITS FOR GAS FACILITIES	25	C.Y.	100	2500	Unit price bid	Required Item

Code	Item No.	Label	Unit	Allowance Am	YOU MUST I	Allowance Amount_1	Field type
fs_1	6.84 B	LOLLIPOP TYPE BUS	F.S.	12000	1	12000	Additional Fees
fs_2	JB-FS-CE	CON EDISON JB FIXED	F.S.	57325	1	57325	Additional Fees
fs_3	JB-FS-SP	CHARTER-SPECTRUM-	F.S.	11172.25	1	11172.25	Additional Fees
fs_4	JB-FS-VZ	ECS-VERIZON JB FIXED	F.S.	585905.32	1	585905.32	Additional Fees
fs_5	UTL-GCS-2WS (NG)	GAS INTERFERENCES AND	F.S.	100000	1	100000	Additional Fees

QUALIFICATION FORM

Name of Contractor: Perfetto Enterprises Company Inc.

Name of Project: RED - 376

Location of Project: Staten Island, NY

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

Name: Monzer Shahin

Title: EIC Phone Number: (718) 982-5018

Brief description of the Project completed or the Project in progress: Replacement of Water Mains in Clove Road etc.

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

Amount of Contract, Subcontract or Sub-subcontract: 7,300,000

Start Date and Completion Date: 12/11/17 - 6/8/19

****

Name of Contractor: Perfetto Enterprises Company Inc.

Name of Project: SER002323

Location of Project: Staten Island NY

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

Name: Hitendra Patel

Title: Deputy Director Phone Number: (646) 739-7126

Brief description of the Project completed or the Project in progress: Replacement of Sanitary, installation of storm sewers and watermains.

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

Amount of Contract, Subcontract or Sub-subcontract: 7,900,000.68

Start Date and Completion Date: 12/17/18 - 6/13/20

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS. That we, Perfetto Enterprises Co., Inc.
2074 Richmond Terrace
Staten Island, NY 10302

hereinafter referred to as the "Principal", and
Nationwide Mutual Insurance Company
7 WTC 250 Greenwich Street, 37th Floor
New York, NY 10007

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

Ten Percent of Amount Bid

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

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for Project No: RED386

EPin No: 85022B0043 Replacement of Distribution Water Main and Appurtenances in South Avenue

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.

In the event that the Proposal of the Principal shall be accepted and the Contract be awarded to the Principal 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 23 day of February, 2022.

(Seal)

Perfetto Enterprises Co., Inc. (L.S.)
Principal

By: _____
Claudio Perfetto, President

(Seal)

Nationwide Mutual Insurance Company
Surety

By: _____
Michael Culnen, Attorney-In-Fact

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of NEW YORK County of RICHMOND ss:
On this 15TH day of FEBRUARY 2022, before me personally came Claudio Perfetto to me known, who, being by me duly sworn, did depose and say that he/she/they resides at 134 Chapin Ave Staten Island NY 10304 that he/she/they is the President of Perfetto Enterprises Company Inc. the corporation described in and which executed the foregoing instrument; that he/she/they 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/she/they signed his name thereto by like order.

BRADLEY SCAMMELL
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01SC6391527
Qualified in Richmond County
Commission Expires May 13,2023

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/she/they acknowledged to me that he/she/they 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/she/they executed the same.

_____

Notary Public

AFFIX ACKNOWLEDGMENTS AND JUSTIFICATION OF SURETIES

SURETY ACKNOWLEDGEMENT

State of **New Jersey**
SS:
County of **Morris**

On this **23rd** day of **February** , **2022,** before me personally comes **Michael Culnen** to me known, who, being by me duly sworn, deposes and says that he resides in **Mendham Township, NJ** that he is the Attorney-In-Fact of the **Nationwide Mutual Insurance Company** the Corporation described in and which executed the foregoing instrument; that he knows that seal of said Corporation; that the seal affixed to the said instrument is such Corporate seal; that it was so affixed by the order of the Board of Directors of the said Corporation, and that he signed his name thereto by like order.

NICOLE KAETZEL
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 4/9/2025

Nicole Kaetzel

(Signature and Title of Official Taking Acknowledgement)

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

MICHAEL CULNEN; PAMELA LIPKIN;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

UNLIMITED

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 20th day of August, 2021.

Antonio C. Albanese, **Vice President** of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

STATE OF NEW YORK COUNTY OF NEW YORK: ss
On this 20th day of August, 2021, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.

Stephanie Rubino McArthur
Notary Public, State of New York
No. 02MC6270117
Qualified in New York County
Commission Expires October 19, 2024

Notary Public
My Commission Expires
October 19, 2024

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 23 day of February, 2022.

Laura B. Guy

Assistant Secretary

BDJ 1(08-21)00

DocuSign Envelope ID: 640AC243-A80C-43FE-A6B1-B3C25A99D869

NATIONWIDE MUTUAL INSURANCE COMPANY
AND SUBSIDIARIES AND AFFILIATES

Consolidated and Combined Statutory Statements of Admitted Assets, Liabilities and Surplus

(in millions)	December 31, 2020	December 31, 2019
Admitted assets		
Invested assets		
Bonds	$ 17,725	$ 17,249
Stocks	8,352	8,031
Mortgage loans, net of allowance	1,892	2,126
Owner occupied real estate, at cost (less accumulated depreciation of $457 and $453 as of December 31, 2020 and 2019, respectively)	404	454
Cash, cash equivalents and short-term investments	1,187	718
Other invested assets	5,357	4,914
Total invested assets	$ 34,917	$ 33,492
Premiums in course of collection	4,182	4,079
Accrued investment income	135	143
Corporate-owned life insurance	1,580	1,506
Deferred federal income tax asset	1,990	1,764
Other assets	963	1,159
Total admitted assets	$ 43,767	$ 42,143
Liabilities and surplus		
Liabilities		
Losses and loss expense reserves	$ 14,792	$ 14,189
Unearned premiums	7,972	7,718
Accrued expenses and taxes, other than federal income taxes	803	692
Agents' security compensation plan reserve	1,085	1,146
Other liabilities	2,630	2,650
Total liabilities	$ 27,282	$ 26,395
Surplus		
Surplus notes, net of unamortized issue discount of $9 and $7 as of December 31, 2020 and 2019, respectively	$ 3,545	$ 2,197
Unassigned surplus	12,940	13,551
Total surplus	$ 16,485	$ 15,748
Total liabilities and surplus	$ 43,767	$ 42,143

Certification

I, Jennifer Kemp, VP, Controller, do hereby certify that the foregoing is a true and correct statement of the statutory balance sheet of said Corporation as of December 31, 2020 and 2019 to the best of my knowledge and belief.

Jennifer Kemp

Jennifer Kemp

NOTARIAL SEAL STATE OF OHIO

JEFFREY BOYD
Notary Public, State of Ohio
My Commission Expires 08-22-2021

Jeffrey Boyd
3-25-2021

NYC Mayor's Office of Contract Services

SCHEDULE B – M/WBE Utilization Plan

Part 1: M/WBE Participation Goals

Contract Overview (To be completed by contracting agency)

APT E-Pin# 8502020WM0011C
FMS Project ID# RED 386
Project Title Replacement of Distrubtion Water Mains and Appurtenances
Agency PIN# TBD
Contracting Agency NYC Department of Design and Construction
Bid/Proposal Response Date TBD
Agency Address 30-30 Thompson Avenue
City Long Island City State NY ZIP 11101
Contact Person Tempestt B.
Title MWBE Outreach and Compliance Analyst
Telephone 718-391-2604
Email Bellamyte@ddc.nyc.gov

Project Description (attach additional pages if necessary)

Replacement of Distrubtion Water Mains and Appurtenances in South Avenue Between Richmond Terrace and Netherland Avenue, Arlington Place Between South Avenue and Arlington Avenue.

Bidder or proposer ☒ is required OR ☐ is not required to specifically identify the contact information of all M/WBE firms they intend to use as a subcontractor on this contract, including the M/WBE vendor name, address and telephone number in the space provided below in Part 2 Section 4.

M/WBE Participation Goals for Services

Enter the percentage amount for each category or for an unspecified Goal.

Prime Contract Industry: Construction

Category and Breakdown:

Unspecified 2.00 %
Black American 9.00 %
Hispanic American 8.00 %
Asian American 0.00 %
Women 0.00 %

Total Participation Goals 19.00 %
Line 1

Part 2: M/WBE Participation Plan

(To be completed by the bidder/proposer unless granted a full waiver, which must be submitted with the bid/proposal in lieu of this form)

Section 1: Prime Contractor Contact Information

Tax ID# 20-0602614
FMS Vendor ID#
Business Name Perfetto Enterprises Company
Contact Person Claudio Perfetto
Business Address 2074 Richmond Terrace
City Staten Island State NY ZIP 10302
Telephone 718-442-4212
Email cperfetto@perfettoent.com

Section 3: Contractor M/WBE Utilization Plan

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 in the panels in Section 2, 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 in the panels in Section 2, 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 in the panels in Section 2, as applicable.

Section 2: M/WBE Utilization Goal Calculation

Prime Contractor Adopting Agency Participation Goals
For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.

Total Bid/Proposal Value $ 6,566,734.77
multiplied by x
Total Participation Goals 19.00 %
(Line 1 above)

Calculated M/WBE Participation Amount $ 1,247,679.61
Line 2

OR

Prime Contractor With Partial Waiver Approval Adopting Revised Participation Goals
For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Revised M/WBE Participation Goals.

Total Bid/Proposal Value $
multiplied by x
Total Revised Participation Goals %

Calculated M/WBE Participation Amount $
Line 3

Tax ID# 20-0602614 APT E-Pin#

Section 4: 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? 19.00 %

Enter a brief description of the type(s) and dollar value of subcontracts for all services you plan to subcontract if awarded this contract, along with the anticipated start and end dates for such subcontracts. For each item, indicate whether the work is designated for participation by an M/WBE. Where the contracting agency's solicitation has indicated a requirement that the bidder or proposer specifically identify the contact information of all M/WBEs they intend to use on this contract, vendors must also include the M/WBE vendor name, address and telephone number in the space provided below. Use additional sheets if necessary.

	Description of Work	Start Date (MM/YY)	End Date (MM/YY)	Planned $ Amount	Designated for M/WBE Y	Designated for M/WBE N	M/WBE Vendor Name	M/WBE Address	M/WBE Telephone
1.	Transporting non-hazardous and hazardous oil	N/A /	N/A /	$ 283,000.00	☒	☐	JC Transport	39-43 Porete Avenue North Arlington, NY 07031	( ) -
2.	Pest Control	N/A /	N/A /	$ 70,000.00	☒	☐	Advanced Pest Management	78-07 Myrtle Avenue Glendale, NY 11385	( ) -
3.	CROSSING GUARD	N/A /	N/A /	$ 200,000.00	☒	☐	Cape Mount Heavy Construction & Associates, LLC	52 Roe Street Staten Island, NY 10310	( ) -
4.	Transportation & Purchasing of Construction Ma	N/A /	N/A /	$ 455,000	☒	☐	C.Francis Construction	01 East 93rd Street Brooklyn, NY 11212	( ) -
5.	Soil & Water Sampling, SWPPP	N/A /	N/A /	$ 240,000	☒	☐	AMC Engineering PLLC	18-36 42nd Street Astoria, NY 11105	( ) -
6.		/	/	$	☐	☐			( ) -
7.		/	/	$	☐	☐			( ) -
8.		/	/	$	☐	☐			( ) -
9.		/	/	$	☐	☐			( ) -
10.		/	/	$	☐	☐			( ) -

Section 5: 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 2/28/22

Print Name Claudio Perfetto Title President

The City of New York Department of Small Business Services
Division of Labor Services Contract Compliance Unit
1 Liberty Plaza, New York, New York 10006
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 X 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 X

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

5. Are you a Union contractor? Yes X No ____ If yes, please list which local(s) you affiliated with 731, 1010, 15, 14, 1556

6. Are you a Veteran owned company? Yes ____ No X

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

7. 20-0602614
Employer Identification Number or Federal Tax I.D. — Email Address

8. Perfetto Enterprises Company Inc.
Company Name

9. 2074 Richmond Terrace S.I., N.Y. 10302
Company Address and Zip Code

10. Claudio Perfetto — (718) 442-4212
Chief Operating Officer — Telephone Number

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

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

13. Number of employees in your company: 50 +

14. Contract information:

(a) Nyc DDC
Contracting Agency (City Agency)

(b) 6,566,734
Contract Amount

(c) _____
Procurement Identification Number (PIN)

(d) RED386
Contract Registration Number (CT#)

(e) _____
Projected Commencement Date

(f) _____
Projected Completion Date

(g) Description and location of proposed contract:
Replacement of distribution water Mains in South Ave - Borough of Staten Island

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___ No X

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_X_

If yes, attach a copy of such certificate.

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

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

(d) Were any deficiencies found? Yes___ No_X_

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_X_ 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.

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

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

_X_ (c) Employee Policy/Handbook

____ (d) Personnel Policy/Manual

____ (e) Supervisor's Policy/Manual

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

_X_ (g) Collective bargaining agreement(s).

_X_ (h) Employment Application(s)

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

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

_X_ (k) Sexual Harassment 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 X	No___
(b) After a conditional job offer	Yes___	No___
(c) After a job offer	Yes X	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 X	No___

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

at 2074 Richmond Terrace Staten Island NY 10302, in employee folders. Always accessible

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.

attached

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 X No___

If yes, please attach a copy of this policy. provided by respective unions

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) Claudio Perfetto 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.

Perfetto Enterprises Company Inc.
Contractor's Name

Anthony Perfetto — PM
Name of person who prepared this Employment Report — Title

Claudio Perfetto — President
Name of official authorized to sign on behalf of the contractor — Title

(718) 442-4212
Telephone Number

Signature of authorized official — 3/9/22
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 09 day of March 2022

Ellen Shaw — Ellen Shaw — 03/09/2022
Notary Public — Authorized Signature — Date

ELLEN SHAW
NOTARY PUBLIC, STATE OF NEW YORK
Registration No. 01SH6328201
Qualified in Richmond County
Commission Expires JULY 27 2023

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

1. Do you plan to subcontractor work on this contract? Yes X 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
See attached				

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

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

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

(J) 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: 731, 1010 / Laborers

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	2	1	5							
H										
A										
TRN										
TOT	2	T 1	5							

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

Unions

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

Trade:
Operating Engineers

Union Affiliation, if applicable
14/15

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	2									
H										
A										
TRN										
TOT	2	T								

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

Unions

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: Timberman

Union Affiliation, if applicable: 1556

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	1				
H					
A					
TRN					
TOT	1	T			

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)?

Union

FOR OFFICIAL USE ONLY: File No._____

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. This Safety Questionnaire will be reviewed as per Section V of the Safety Requirements for Construction Contracts, found in Volume 2 of the Contract.

1. Bidder Information:

Company Name: Perfetto Enterprises Company Inc.

DDC Project Number: Red 386

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:

Identify the types of work that the Bidder has performed in the last three years, and the types of work that are part of this Contract.

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) Watermain installation	☐	☒

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 Bidder / Contractor may obtain its EMR by contacting its insurance broker or the NCCI. If the Bidder cannot obtain its EMR, it must submit a written explanation as to why.

The Bidder 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
2021	1.27	1.27
2020	1.63	1.63
2019	1.85	1.85

If the Intrastate and/or Interstate EMR for any of the past three years is greater than 1.00, the Bidder / 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 a New York City Department of Buildings (NYCDOB) construction-related violation 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 (work-related in-patient hospitalization, amputation and all loss of an eye).**

The OSHA Form 300 "Log of Work-Related Injuries and Illnesses" and OSHA Form 300A "Summary of Work-Related Injuries and Illnesses" must be submitted for the last three years for Contractors with more than ten employees.

The Bidder / Contractor must indicate the total number of hours worked by its employees, as reflected in payroll records for the past three (3) years.

The Bidder / Contractor must submit the Incident Rate for Lost Time Injuries (the Incident Rate) for the past three (3) 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 Form 300 and OSHA Form 300A. The 200,000 hours represents the equivalent of 100 employees working forty hours a week, fifty (50) 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
2021	87,720	2.27
2020	103,630.5	0
2019	110,502	2.0

If the Bidder's / 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 Bidder / 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 Fatality or an incident requiring OSHA notification within 24 hours (work-related in-patient hospitalization, amputation and all loss of an eye) on DDC Project(s) within the last three (3) years.

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

The Bidder hereby affirms that all the information provided in this Safety Questionnaire and all additional pages and/or attachments, if applicable, consist of accurate representations.

Date: 3/1/22 By: _____
(Signature of Bidder: Owner, Partner, Corporate Officer)

Title: President

Project References

A. Contracts completed by the bidder

List all contracts substantially completed within the last 4 years, up to a maximum of 10 projects, 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)
D264375 / Queens	Pedestrian Ramps	910,000	10/21	NYS DOT	Audrey Thompson
SEK201BS7 / Brooklyn	Sewer	8,236,607	2/21	NYC DEP	Fathi Husein (347) 924-2265
SER002323 / Staten Island	Watermain & Sewer	7,900,000	6/20	NYC DDC	Hitendra Patel (646) 739-7126
SER002012A / S.I.	Sewers	11,100,000	4/20	NYC DEP	Fathi Husein (347) 924-2265
SEK201BN7 / B.K.	Sewers	7,200,000	11/19	NYC DEP	"
SEK201BS6 / B.K.	Sewers	6,900,000	8/19	NYC DEP	"
RED376 / S.I.	Water Mains	7,300,000	6/19	NYC DDC	Monzer Shahin (917) 337-6031
SER002012 / S.I.	Sewers	7,500,000	9/19	NYC DEP	Fathi Husein (347) 924-2265
SER200249 / S.I.	Water Main / Sewers	5,950,000	6/19	NYC DDC	Hitendra Patel (646) 739-7126

B. Contracts currently under construction by the bidder

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

Project & Location	Contract Type	Contract Amount ($000)	Subcontracted to Others ($000)	Uncompleted Portion ($000)	Date Scheduled to Complete	Owner Reference & Tel. No.	Architect/ Engineer Reference & Tel. No. (if different from owner)
SEP0202B / S.I.	Sewers	11,100,000	555,000	3,000,000	6/22	NYC DEP	Fathi Husein (347) 924-2265
HWK 779W / Brooklyn	Water Main / Sewers / Sidewalk etc.	18,568,344	2,500,000	7,668,344	11/22	NYC DDC	Leonid Goldenberg (646) 235-1119
TI-5 / Queens	Site work / Drainage	10,873,245	2,893,635	8,587,761	3/23	NYC DEP	Shannon Chen (347) 461-7381
B223-119MA / Brooklyn	Site work / Drainage	5,346,265	1,500,000	2,000,000	4/22	NYC DPR	Noel Brown (646) 477-4450

C. 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)
B113A-119M Brooklyn	site work / Drainage	3,711,669	N/A	NYC DPR	

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, NY, 11101
TEL: 718.391.1000
WEB: www.nyc.gov/ddc

TO BE FILLED IN BY THE BIDDER:

BIDDER'S NAME:

_____

_____

BID SECURITY (CIRCLE ONE):
BID BOND / CERTIFIED CHECK

NUMBER OF ADDENDUMS RECEIVED AND ATTACHED TO BID:
____ ADDENDUMS

DDC CLIENT AGENCY:
THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
PREPARED BY:
IN-HOUSE DESIGN
DATE PREPARED:
November 17, 2021

VOLUME 2 OF 3

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: RED386

INFORMATION FOR BIDDERS
CONTRACT
PERFORMANCE AND PAYMENT BONDS
PREVAILING WAGE SCHEDULE

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC

TOGETHER WITH ALL WORK INCIDENTAL THERETO
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

Department of Design and Construction

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE
30-30 THOMSON AV□N□□
LONG ISLAND CITY, NY, 11101
T□L□□1□3□1□1000
W□□□www□nyc□gov□ddc

TO BE FILLED IN BY THE BIDDER□

□IDD□R□S NAM□□

_____

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□ID □OND □C□RTIFI□D CH□CK

N□M□□R OF ADD□ND□MS R□C□IV□D AND ATTACH□D TO □ID□
_____ ADD□ND□MS

DDC CLIENT AGENCY□
THE DEPARTMENT OF ENVIRONMENTAL PROTECTION
PREPARED BY□
IN-HOUSE DESIGN
DATE PREPARED□
March 1, 2017

VOLUME 2 OF 3

FOR F□RNISHING ALL LA□OR AND MAT□RIALS N□C□SSARY AND R□□□IR□D FOR□

INFORMATION FOR BIDDERS

CONTRACT

PERFORMANCE AND PAYMENT BONDS

PREVAILING WAGE SCHEDULE

NOTICE TO BIDDERS

Please be advised that a Rider to the March 2017 New York City Standard Construction Contract regarding Non-Compensable Delays and Grounds for Extension has been attached and incorporated in this Invitation for Bid. Other than provisions specifically delineated in the Rider, all other terms of the March 2017 New York City Standard Construction Contract continue to apply in full force and effect.

(NO TEXT ON THIS PAGE)

CITY OF NEW YORK

DEPARTMENT OF DESIGN AND CONSTRUCTION

INFORMATION FOR BIDDERS

December 2021

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CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION

INFORMATION FOR BIDDERS

TABLE OF CONTENTS

1.	Description and Location of Work	1
2.	Time and Place for Receipt of Bids	1
3.	Definitions	1
4.	Invitation For Bids and Contract Documents	1
5.	Pre-Bid Conference	1
6.	Agency Contact	1
7.	Bidder's Oath	1
8.	Examination and Viewing of Site, Consideration of Other Sources of Information and Changed Conditions	2
9.	Examination of Proposed Contract	2
10.	Form of Bid	2
11.	Irrevocability of Bid	3
12.	Acknowledgment of Amendments	3
13.	Bid Samples and Descriptive Literature	3
14.	Proprietary Information/Trade Secrets	3
15.	Pre-Opening Modification or Withdrawal of Bids	3
16.	Bid Evaluation and Award	3
17.	Late Bids, Late Withdrawals and Late Modifications	3
18.	Withdrawal of Bids.	3
19.	Mistake in Bids	4
20.	Low Tie Bids	4
21.	Rejection of Bids	5
22.	Right to Appeal Determinations of Non-Responsiveness or Non-Responsibility and Right to Protest Solicitations and Award	5
23.	Affirmative Action and Equal Employment Opportunity	5
25.	Complaints About the Bid Process	6
26.	Bid, Performance and Payment Security	6
27.	Failure to Execute Contract	7
28.	Bidder Responsibilities and Qualifications	7
29.	Employment Report	7
30.	Labor Law Requirements	8
31.	Insurance	8
32.	Lump Sum Contracts	8
33.	Unit Price Contracts	8

34. Excise Tax 9
35. Licenses and Permits 9
36. Multiple Prime Contractors 9
37. Locally Based Enterprise Requirements (LBE) 9
38. Bid Submission Requirements 11
39. Comptroller's Certificate 11
40. Procurement Policy Board Rules 11
41. DDC Safety Requirements 11

1. Description and Location of Work

The description and location of the work for which bids are requested are specified in the PASSPort RFx field "Description".

2. Time and Place for Receipt of Bids

Sealed bids shall be received on or before the date and hour specified in the PASSPort RFx, at which time they will be publicly opened and read aloud in the presence of the Commissioner or the Commissioner's 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 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 in the PASSPort RFx.

5. Pre-Bid Conference

A pre-bid conference shall be held as set forth in the PASSPort RFx. 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 the PASSPort RFx.

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, Consideration of Other Sources of Information and Changed Conditions

(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 The PASSPort RFx.

(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 the Commissioner finds that they do so materially differ, or that they could not reasonably have been anticipated by the contractor and were not anticipated by the City, the Contract may be modified with the Commissioner's 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 the PASSPort RFx, 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 the bidder's option, may ask to be relieved of the bidder's 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.

(B) 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. PASSPort COMPLIANCE

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 using PASSPort.

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.

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)669-2323.

26. Bid, Performance and Payment Security

(A) Bid Security: Each bid must be accompanied by bid security in an amount and type specified in the PASSPort RFx questionnaire. 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 the PASSPort RFx. 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 the PASSPort RFx. The performance and payment security shall be delivered by the contractor prior to or at the time of execution of the Contract. If a contractor fails to deliver the required performance and payment security, its bid security shall be enforced, and an award of Contract may be made to the next lowest responsible and responsive bidder, or the contract may be rebid.

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

(1) a one-time bond in a form satisfactory to the City;

(2) a bank certified check or money order;

(3) obligations of the City of New York; or

(4) other financial instruments as determined by the Office of Construction in consultation with the Comptroller.

Whenever the successful bidder deposits obligations of the City of New York as performance and payment security, the Comptroller may sell and use the proceeds thereof for any purpose for which the principal or

surety on such bond would be liable under the terms of the Contract. If the money is deposited with the Comptroller, the successful bidder shall not be entitled to receive interest on such money from the City.

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

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

The Department of the Treasury of the United States advises that information concerning approved surety companies may be obtained as follows: (1) from the Government Printing Office at 215-364-6465; (2) through the Internet at https://www.fiscal.treasury.gov/surety-bonds/.

(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 the bidder’s 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 the bidder’s 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 PASSPort Vendor Profile.

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. Bid Submission Requirements

The Bid Submission Requirements are set forth in the PASSPort RFx.

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.

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CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
SAFETY REQUIREMENTS FOR CONSTRUCTION CONTRACTS

January 2020

THE DDC SAFETY REQUIREMENTS FOR CONSTRUCTION CONTRACTS INCLUDE THE FOLLOWING SECTIONS:

I. POLICY ON SITE SAFETY

II. PURPOSE

III. DEFINITIONS

IV. RESPONSIBILITIES

V. SAFETY QUESTIONNAIRE

VI. 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 contracts must, at a minimum, comply with the most current versions of all applicable federal, state and city laws, rules, and regulations, including without limitation:

- Code of Federal Regulations, Title 29, Part 1926 (29 CFR 1926) and applicable Sub-parts of Part 1910 – U.S. Occupational Safety and Health Administration (OSHA);
- Federal Highway Administration – Manual on Uniform Traffic Control Devices (MUTCD);
- New York Codes, Rules and Regulations (NYCRR), Title 12, Part 23 – Protection in Construction, Demolition and Excavation Operations;
- New York Codes, Rules and Regulations (NYCRR), Title 16, Part 753 – Protection of Underground Facilities;
- New York City Administrative Code, Title 28 – New York City Construction Codes;
- Rules of the City of New York, Title 15, Chapter 13 – Rules Pertaining To the Prevention of the Emission of Dust from Construction Related Activities;
- Rules of the City of New York, Title 15, Chapter 28 – Citywide Construction Noise Mitigation;
- Rules of the City of New York, Title 34 Chapter 2 – NYCDOT Highway Rules.

The Contractor will be required to comply with all new and/or revised federal, state and city laws, rules, and regulations, issued during the course of the project, at the expense of the Contractor without any additional costs to the DDC.

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 will mean the person delegated authority by the Commissioner to organize and supervise the procurement activity of subordinate Agency staff in conjunction with the City Chief Procurement Officer (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. This individual will have completed, at a minimum an authorized 30-hour OSHA Construction Safety Course. The Contractor may be required to provide more than one competent person due to construction operations and based on the number of active work sites.

Construction Safety Auditor: A representative of the Office of Construction Safety 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 audits, reviewing safety plans, reviewing construction permits, drawings, verifying Contractor's compliance with applicable federal, state and city laws, rules, regulations, and DDC Contract Safety Requirements, etc. and rendering technical advice and assistance to DDC Resident Engineers and Project Managers.

Office of Construction Safety: A unit of DDC Safety and Site Support that assesses contractor's safety on DDC jobsites and advises responsible parties of needed corrective actions.

Registered Construction Superintendent: For certain projects, as defined in New York City Construction Codes – Title 28, the contractor will provide a Construction Superintendent registered with the NYC Department of Buildings and responsible for all duties as defined in Chapter 33 of Title 1 of the Rules of the City of New York.

Contractor: For purposes of these Safety Requirements, the term "Contractor" will mean any person or entity that enters into a contract for the performance of construction work on a DDC project. The term "Contractor" will 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 briefings, given to all jobsite personnel at project site by the Contractor before work begins and/or if hazards or potential hazards are discovered while working, with the purpose of discussing the scheduled activities for the day, the hazards related to these activities, activity specific safety procedures, and Job Hazard Analysis associated with the scheduled construction work. Daily jobsite briefings will be documented, available at the jobsite, and will include at a minimum, topics, name and signature of the person conducting the briefing session, names and signatures of attendants, name of the designated competent person, contactor's name, DDC Project ID, date, time, and location.

Director – Office of Construction Safety: Responsible for the operations of the Office of Construction Safety and the DDC Site Safety management programs.

Job Hazard Analysis (JHA): A process of identifying the major job tasks and any potential site-specific hazards that may be present during construction and establishing the means and methods to eliminate or control those hazards. A JHA will be documented, available at the jobsite and will include at a minimum work tasks, being performed, identified hazards, control methods for the identified hazards, contractor's name, DDC Project ID, location, date, name and signature of certifying person. A JHA is a living document that will be re-evaluated and revised to address new hazards and tasks that may develop and will be present at the worksite and produced upon request.

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, maintenance and protection of traffic, and excavation protective system, 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 will have at a minimum an OSHA 30-hour Construction Safety Course and other safety training applicable to Contractor's/subcontractor's project work. This individual will be responsible to oversee safety performance of the required construction work, conduct documented daily safety inspections, and implement corrective actions to maintain a safe work site. The Project Safety Representative must have sufficient experience and skills necessary to thoroughly understand the health and safety hazards and controls and must have authority to undertake corrective actions. A dedicated full-time Project Safety Representative may be required on large projects and projects deemed by DDC to be particularly high risk. DDC reserves the right to request a dedicated full-time Project Safety Representative for any reason at any time during the course of the project at the expense of the Contractor without any additional costs to the DDC. The full-time Project Safety Representative will be present at the site during all work activities.

Resident Engineer ("RE"): Representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the work. The RE may be a consultant retained by DDC, including a Construction Management (CM) or Resident Engineer Inspection (REI) firm. If DDC has retained a CM, REI or other consultant firm to perform management and oversite for the Project (e.g., CM-Builder, CM-Design-Builder, Project Manager, Program Manager), that CM, REI or other consultant is the Resident Engineer for purposes of these Safety Requirements.

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 New York City Construction Codes – Title 28, the Contractor will provide a Site Safety Manager with a Site Safety Manager License issued by the New York City Department of Building.

Site Safety Plan: A site-specific safety plan developed by the Contractor for a DDC project. The Site Safety Plan will identify the project work scope, identify hazards associated with the project work and include project specific safety procedures and training appropriate and necessary to complete the work. The Site Safety Plan will be submitted within 30 days from the Award Date or as otherwise directed and is subject to review and acceptance by the Office of Construction Safety prior to the commencement of work at the site.

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 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. Weekly safety meetings will be documented and will include at a minimum, topics, name and signature of the person conducting the meeting, names and signatures of attendees, contractor's name, DDC Project ID, date, and location.

Work: The construction required by the Contractor's 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. For the purposes of these Safety Requirements, the term "Work" includes all Utility Interference work (commonly referred to as "Section U", "EP-7", and "Joint Bid" work) performed in association with this Contract.

IV. RESPONSIBILITIES

All persons who manage, perform, and provide support for construction projects will 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. Resident Engineer

1. Review and facilitate Contractor(s) Site Safety Plan submittals to DDC for acceptability.
2. Notify the Office of Construction Safety of the commencement of construction work.
3. Develop and implement a training verification process to ensure that all CM/REI, consultant, Contractor, and subcontractor employees are properly trained. Maintain all applicable initial and refresher training records and assures documentation availability on site.
4. Maintain documentation of and attend weekly safety meetings and daily safety job briefings.
5. Assure that Contractor(s) JHA's are current to reflect the work tasks being performed, hazards, and control methods to mitigate the identified hazards. Verify that all employees at the job site are trained on the JHAs and maintain supporting documentation on site.
6. Assure adequate planning for all critical construction activities (crane operation, excavation, confined space entry, etc.) including coordination between Contractor(s) /DDC/ other Agencies as required.
7. Maintain custody of all construction related permits, plans, approvals, drawings, etc., related to the project and assure their availability on site.
8. Recognize, minimize, or eliminate jobsite and public hazards, through required planning, inspection, verification, and corrective action process.
9. Monitor the conditions at the site for conformance with the Contractor's Site Safety Plan, DDC policies, permits, and all applicable regulations and documentation that pertain to construction safety.
10. Notify the Contractor and DDC immediately upon determination of any condition or activity existing which 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. Direct the Contractor to provide such labor, materials, equipment, and supervision to remedy such conditions.

11. Notify the Office of Construction Safety and the ACCO's Insurance and Risk Management Unit of project-related accidents, incidents, and near misses as per DDC's Construction Safety Emergency and Accident Notification and Response Procedure within two (2) hours.
12. In case of an accident, incident, or near miss, RE is responsible to protect the integrity of the accident site including but not limited to: the safeguarding of all evidence, documentation of all personnel on site at the time of the accident, gather facts related to all accidents, incidents, or near miss, and prepare required DDC Construction Accident Report as per DDC's Construction Safety Emergency and Accident Notification and Response Procedure. Maintain all records pertaining to accidents, incidents, and near miss and have them available upon request.
13. Notify the Office of Construction Safety within two (2) hours of the start of an inspection by any outside/ regulatory agency personnel, including NYS, OSHA, NYC DOB or any other City/State/Federal oversight entity and forward a copy of the inspection report within one business day of its receipt.
14. Escort and assist Construction Safety Auditors during all field and record audits.
15. Report any emergency conditions to the Office of Construction Safety immediately.

Note: In addition to the responsibilities listed above, if the Resident Engineer is a CM/REI or other non-City party hired by the City to manage the Project, the Resident Engineer is also required to do the following:

16. Provide personnel who are certified and or trained appropriately for the requirements of the project.
17. Perform an investigation for any project-related accidents, incidents, and near misses. Within 24-hours of the time of the accident, incident, or near miss, the CM/REI will submit an investigation report to the Office of Construction Safety. Such report will include proposed remedial measures and implementation of corrective actions to prevent recurrence.

DDC reserves the right to request that the CM/REI replace any CM/REI personnel for any reason at any time during the project.

B. Construction Contractors

Note: For CM-Build and CM-Design-Build Projects, the CM will meet all requirements listed in this section, as well as the Resident Engineer section above.

1. Submit a completed Safety Questionnaire and other safety performance related documentation with its bid or as part of a pre-qualification package.
2. Submit a Site Safety Plan within 30 days from the Award Date or as otherwise directed. The Site Safety Plan is subject to review and acceptance by the Office of Construction Safety prior to the commencement of work at the site. The Site Safety Plan will be revised and updated as necessary during the course of the project. If requested by the Office of Construction Safety, the Site Safety Plan must be developed and submitted for approval using a web-based system, the Site Safety Plan Application (SSP App).
3. Designate and identify a Project Safety Representative in the Site Safety Plan. The Contractor will immediately notify the Office of Construction Safety, in a form and manner acceptable to the Office of Construction Safety, of any permanent change to the designated Project Safety Representative. In the event the primary designated Project Safety Representative is temporary unable to perform his or her duties, an alternate Project Safety Representative will be provided. Resumes, outlining the qualification and experience for the Project Safety Representative (s) will be included in the Site Safety Plan and available upon request. DDC reserves the right to request the Contractor to replace a Project Safety Representative for any reason at any time during the course of the project.
4. Designate and identify a Competent Person(s) in the Site Safety Plan. Contractor/subcontractor may be required to provide more than one competent person due to construction operations and based on a number of work tasks/areas. DDC reserves the right to request the Contractor to replace a Competent Person or provide additional Competent Person(s) for any reason at any time during the course of the project. The Competent Person will be present at the site during all work activities.
5. For certain projects, as defined in New York City Construction Codes – Title 28, designate and identify the Licensed Site Safety Manager or Registered Construction Superintendent. Resumes, outlining the qualification and experience for the Licensed Site Safety Manager or Registered Construction Superintendent will be included in the Site Safety Plan and available upon request. The Contractor will immediately notify the Office

of Construction Safety, in a form and manner acceptable to the Office of Construction Safety, of any permanent change to the designated Site Safety Manager and/or Construction Superintendent. In the event the primary designated Site Safety Manager or Construction Superintendent is temporarily unable to perform his or her duties, an alternate Licensed Site Safety Manager and/or Registered Construction Superintendent will be provided. The Office of Construction Safety must be informed of such change. DDC reserves the right to request the Contractor to replace Site Safety Manager or Construction Superintendent for any reason at any time during the course of the project.

6. Develop a written Job Hazard Analysis (JHA) that identifies safety hazards and control methods for project specific work tasks. A preliminary JHA will be included in the Site Safety Plan submitted by the Contractor. A JHA is a living document that will be re-evaluated and revised to address new hazards and tasks that may develop during the course of the project and will be present at the worksite and produced upon request.
7. Develop project specific safety procedures to protect employees, general public, and property during all construction activities for the duration of the project.
8. 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 new employee and site-specific safety orientation for all Contractor and subcontractor 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 will conduct this training prior to mobilization and if necessary during the course of the project. Documentation will be provided to the RE.
9. Prior to performing any work on DDC projects all Contractor's and subcontractor's employees will, at a minimum, have successfully completed, within the previous five calendar years, an OSHA 10-hour construction safety course.

   All training records (OSHA 10-hour, flagger, scaffold, fall protection, confined space, etc.) will be provided to the RE prior to mobilization, included in the Site Safety Plan, kept current during the course of the project, and available for review.
10. Conduct and document weekly safety meetings and daily job briefing sessions for the duration of the project. Attendance at weekly safety meetings and daily job briefing sessions is mandatory. A written record of weekly safety meetings will be available upon request and job briefing sessions will be available at the worksite.
11. As part of the Site Safety Plan, prepare site specific procedures, such as maintenance and protection of traffic plan, steel erection plan, confined space program, fall protection plan, demolition plan, site specific emergency evacuation plan, etc. (if not otherwise provided in the contract documents) and comply with all of its provisions.
12. Have immediately available for review at the project site where actual construction activities are being performed all applicable documentation, including but not limited to: JHAs for work tasks being performed, all required training records, MPT plan (where applicable), Noise and Dust Mitigation Plans, excavation protective system drawings (where applicable), Emergency Evacuation plan, fall protection program (where applicable), confined space program (where applicable), all required permits, daily job briefing records, all required documentation for crane operation (where applicable), daily inspection checklist, scaffold and sidewalk drawings (when applicable), safety data sheets for chemicals in use.
13. Comply with all federal, state and local safety and health rules, laws, and regulations.
14. Comply with all provisions of the Site Safety Plan.
15. 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.). The project specific MPT plan will be developed, implemented, and reviewed during the course of the project.
16. The Project Safety Representative will conduct daily safety inspections, document the inspection results, implement corrective actions for the identified hazards. Maintain the inspection records and have them available upon request.
17. **Report unsafe or unhealthy conditions to the RE as soon as practical, but no more than 24 hours after discovery, and take prompt actions to remove or abate such conditions. Should an imminent dangerous condition be discovered, Contractor will stop all work in the area of danger until corrections are made.**
18. Report all accidents, incidents and near misses involving injuries to workers or the general public, as well as property damage, to the RE within one (1) hour.
19. Following an accident or incident, unless otherwise directed, the Contractor will not remove or alter any equipment, structure, material, or evidence related to the accident or incident. 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. Take

additional measures as necessary to secure the accident or incident site and to protect against any further injury or property damage.

20. The Contractor will perform an investigation into the root cause of the accident, incident, or near miss. Within 24 hours of an accident, incident, or near miss, the Contractor will prepare and submit to the RE a written investigation report detailing findings, corrective actions, and hazard mitigation implementation to prevent recurrence.
21. Notify the RE within two (2) hours of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB, or others.
22. Maintain all records pertaining to all required safety compliance documents, accidents and incidents reports. DDC reserves the right to request copy of any records pertaining to the safety of the project and required by DDC and other federal, state, and city agencies, including but not limited to permits, training records, safety inspection records, drawings, equipment records, etc.
23. Cooperate with DDC Office of Construction Safety/ RE and address DDC recommendations on safety, which will 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 will 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 will 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 site safety plan submittals; etc.)

Criteria 6: OSHA violation history for the last three (3) years;

Criteria 7: Contractor will 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 Office of Construction Safety 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. SITE SAFETY PLAN

Within thirty (30) days from the Award Date or as otherwise directed, the Contractor will submit the Site Safety Plan. The Site Safety Plan will 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 Site Safety Plan is subject to review and acceptance by the Office of Construction Safety prior to the commencement of work at the site. Due to the project work scope and project duration, the Office of Construction Safety may grant a conditional acceptance for a Site Safety Plan without all sections being complete. In a case of a "Conditional Acceptance" of a Site Safety Plan,

the Contractor will provide the remaining sections previously incomplete and/or not submitted for review and acceptance by the Office of Construction Safety prior to the commencement of the construction activities. The Office of Construction Safety reserves the right to withdraw the initial "Conditional Acceptance" if the Contractor fails to provide the remaining sections of a Site Safety Plan. Failure by the Contractor to submit an acceptable Site Safety Plan will be grounds for default.

Site Safety Plan requirements: The Site Safety Plan will be a written document and will apply to all project specific Contractor and subcontractor operations, and will have at a minimum, the following elements with each 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). All Site Safety Plan sections will be numbered in the order listed below. For sections, which are not applicable for the type of the work being performed by the Contractor on DDC project, the Contractor will in writing indicate "Not applicable based on the project work scope." The Site Safety Plan will include Contractor's name, DDC project ID, project location (s), and development and revision dates. The Site Safety Plan will include the sections, attachments, and appendixes provided in the Site Safety Plan. All pages of the Site Safety Plan will be numbered. If requested by the Office of Construction Safety, the Site Safety Plan must be developed and submitted for approval using a web-based system, the Site Safety Plan Application (SSP App).

1. Project Work Scope – Detailed information regarding work tasks that will be performed by Contractor and subcontractors under the project.
2. Responsibility and Organization – Contractor's organization chart with responsible personnel for the project, including titles, names, contact information, roles, and responsibilities. All Contractor's personnel required by the DDC Safety Requirements will be identified.
3. 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.
4. Job Hazard Analysis (JHA) – Project specific Job Hazard Analysis including work tasks, identified hazards, hazard control methods (administrative, engineering, PPE) to protect workers, property and general public, Contractor's name, project id, location, name and signature of a certifying person, hazard assessment date.
5. Protection of Public – Project specific procedures covering safety of the general public during all project construction activities.
6. Hazard Corrective Actions - Procedures for hazard identification, including responsible person(s), frequency of safety inspections, implementation of corrective actions, safety inspection checklist.
7. Accident/Exposure Investigation – Project specific procedures for accident/incident/near miss investigation and implementation of corrective actions. Accident/incident/near miss notification procedure of DDC project staff (timer frame and responsible personnel).
8. Recording and Reporting Injuries – Procedures to meet 29 CFR 1904 requirements.
9. First Aid and Medical Attention – Responsible staff, location and inspection of First Aid kit, directions to local hospitals; emergency telephone numbers.
10. Project Specific Fire Protection and Prevention Program – Project specific procedures, including responsible staff, fire alarm system/methods, hot work procedures, etc.
11. Housekeeping Procedure.
12. Project Specific Illumination Procedure.
13. Project Specific Sanitation Procedure.
14. Personal Protective Equipment (PPE), including Respiratory Protection Program and Hearing Conservation Program, if required.
15. Hazard Communication Program – Contractor's Hazard Communication Program, responsible staff; training; SDS records, project specific list of chemicals; location of the program and SDS records.
16. 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.
17. Employee Emergency Action Plan – Project specific: responsible staff, emergency alarm system/devices, evacuation procedure, procedure to account for employees after evacuation, etc.
18. Evacuation Plan – Project specific evacuation plan (drawing/scheme) with exists and evacuation routes.
19. Ionizing/Nonionizing Radiation – Competent person, license and qualification requirements, type of radiation, employee's exposure and protection, safety procedures, etc.

20. Material Handling, Storage, Use and Disposal – Project specific information regarding material storage, disposal, and handling: procedures, plan/drawings, etc.
21. Signs, Signals, and Barricades – Use of danger/warning signs, safety instruction signs, sidewalk closure and pedestrian fencing and barricades (if not included in the MPT plan), etc.
22. Tools – Hand and Power – Safety procedures for the type of tools to be used.
23. Scaffold – Project specific scaffold types, procedures, training requirements, scaffold drawings, designed, sealed, and signed by NYS Licensed Professional Engineer, or as otherwise directed; competent person, criteria for project specific scaffold, falling object protection, procedures for aerial lifts/scissor lifts.
24. 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 (if not covered by Contractor's Fire Prevention and Protection program, FDNY certificate requirements).
25. Electrical Safety – Project specific procedures, including lock out-tag out.
26. Fall Protection – Project specific information regarding selected fall protection systems, fall protection plan, responsible staff.
27. 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.
28. Excavation Safety – Competent person; excavation procedures; project specific protective system, including drawings, designed, sealed, and signed by NYS Licensed Professional Engineer, or as otherwise directed.
29. Protection of Underground Facilities and Utilities Procedure, including responsible staff and responsibilities.
30. Concrete and Masonry Construction Procedures
31. Maintenance and Protection of Traffic Plan – Project specific MPT plan, designed, sealed, and signed by NYS Licensed Professional Engineer, or as otherwise directed; flagmen training, public safety, etc.
32. Steel Erection – Site specific erection plan, requirements for applicable written notifications, competent person, fall protection plan, training requirements, etc.
33. 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.
34. Blasting and the Use of Explosives – Project specific safety procedures, warning signs, training/qualification, transportation, storage and use of explosives, inspection.
35. Stairways and Ladders – Types of stairs and ladders, safety procedures, training requirements.
36. Alcohol and Drug Abuse Policy
37. Rodents and Vermin Controls
38. Toxic and Hazardous Substances – Safety procedures for substances that Contractor's and subcontractor's employees can be exposed on project.
39. Noise Mitigation Plan – Completed project specific Noise Mitigation Plan, and noise mitigation procedures.
40. Confined Space Program – Project specific Confined Space Program, responsible staff, training records, equipment information, rescue procedure, list of project specific confined spaces, forms.
41. Construction Vehicles/Heavy Equipment – Type of construction vehicles/heavy equipment to be used on site, procedures
42. Dust Mitigation Plan – Completed project specific Dust Mitigation Plan, and dust mitigation procedures.
43. Working Over and Near Water. Diving Operations – safety procedures including personal protective equipment, fall protection, rescue services, etc.

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 will conduct a site and task assessment to identify the tasks 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 will be communicated to all Contractor/subcontractor personnel on site. The JHA will include safety hazard identification and controls to protect employees, general public, and property.

The initial JHA will be included in the Contractor's Site Safety Plan and the current JHA form will be available at the construction site for reference. A JHA is a living document that will be re-evaluated and revised to address new hazards and tasks that may develop and will be present at the worksite and produced upon request.

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

Prior to the start of construction activities on all DDC projects, RE will invite the Office of Construction Safety to the construction kick-off meeting. The Office of Construction Safety representative(s) will participate in this meeting with the Contractor and RE for the purpose of:

A. Reviewing DDC Contract Safety Requirements
B. Reviewing site-specific safety issues based on a project work scope, location, and any other factors which may impact safety of workers and general public.
C. Reviewing the Site Safety Plan and JHA requirements.
D. Reviewing Accident/Incident reporting and investigation procedures.
E. Reviewing designated safety contacts, roles, and responsibilities.
F. Discussing planned inspections and audits of the site by the Office of Construction Safety 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 Office of Construction Safety (or other designated DDC representative) and the RE during regular inspections and comprehensive audits of the job site. Field Exit Conferences will be held with the RE and Contractor Project Safety Representatives.
B. The RE will continually monitor the safety and environmental performance of the Contractor's employees and work methods. Deficiencies will be brought to the attention of the Contractor's Project Safety Representative on site for immediate correction. The RE will maintain a written record of these deficiencies and have these records available upon request. Any critical deficiencies will be immediately reported to the Office of Construction Safety via telephone (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 – Office of Construction Safety, or his/her designee will meet with the Contractor's Project Safety Representative and other representatives, the RE, 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, the Commissioner may, without limitation, declare the Contractor in default.
E. The Contractor will within 1 hour inform the RE of all accidents/incidents/near misses 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 will notify the Office of Construction Safety as per DDC's Construction Safety Emergency and Accident Notification and Response Procedure and will maintain a record of all Contractor accidents/incidents for the project.
F. The Contractor and the RE will notify the Office of Construction Safety 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 will be a reason to rate a Contractor unsatisfactory which may be reflected in the City's PASSPort system and will be considered for future procurement actions as set forth in the City's Procurement Policy Board Rules.

RIDER TO NEW YORK CITY STANDARD CONSTRUCTION CONTRACT (MARCH 2017) REGARDING NON-COMPENSABLE DELAYS AND GROUNDS FOR EXTENSION

The following provisions supersede the corresponding provisions in the March 2017 version of the New York City Standard Construction Contract:

1. Section **11.5.1** provides as follows:

   11.5.1 The acts or omissions of public or government bodies (other than **City** agencies) or of any third parties who are disclosed in the **Contract Documents,** or those third parties who are ordinarily encountered or who are generally recognized as related to the **Work**, including but not limited to, **Other Contractors**, utilities or private enterprises;

2. Section **11.5.6** provides as follows:

   11.5.6 Climatic conditions, storms, floods, droughts, tidal waves, fires, hurricanes, earthquakes, landslides or other catastrophes or acts of God; acts of war or of the public enemy or terrorist acts; disruption, outage or power failure caused by a utility's inability or failure to provide service, pandemics, epidemics, outbreaks of infectious disease or any other public health emergency; other states of emergency declared by the City, State or Federal government , quarantine restrictions, and freight embargoes; including the **City's** reasonable responses to any of the above; and

3. Section **13.3** provides as follows:

   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 any of the acts or omissions of the **City**, its officials, agents or employees set forth in Articles **11.4.1.1** through **11.4.1.9**; or

   13.3.2 By or attributable to any of the items set forth in Articles **11.5.1** through **11.5.7**.

   13.3.3 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.

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CITY OF NEW YORK

STANDARD CONSTRUCTION CONTRACT

March 2017

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CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT

TABLE OF CONTENTS

CHAPTER I: THE CONTRACT AND DEFINITIONS 1
ARTICLE 1. THE CONTRACT 1
ARTICLE 2. DEFINITIONS 1
CHAPTER II: THE WORK AND ITS PERFORMANCE 4
ARTICLE 3. CHARACTER OF THE WORK 4
ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION 4
ARTICLE 5. COMPLIANCE WITH LAWS 5
ARTICLE 6. INSPECTION 10
ARTICLE 7. PROTECTION OF WORK AND OF PERSONS AND PROPERTY; NOTICES AND INDEMNIFICATION 11
CHAPTER III: TIME PROVISIONS 12
ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK 12
ARTICLE 9. PROGRESS SCHEDULES 13
ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL 13
ARTICLE 11. NOTICE OF CONDITIONS CAUSING DELAY AND DOCUMENTATION OF DAMAGES CAUSED BY DELAY 14
ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS 18
ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE 19
ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK 21
ARTICLE 15. LIQUIDATED DAMAGES 23
ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION 23
CHAPTER IV: SUBCONTRACTS AND ASSIGNMENTS 24
ARTICLE 17. SUBCONTRACTS 24
ARTICLE 18. ASSIGNMENTS 26
CHAPTER V: CONTRACTOR'S SECURITY AND GUARANTEE 26
ARTICLE 19. SECURITY DEPOSIT 26
ARTICLE 20. PAYMENT GUARANTEE 27
ARTICLE 21. RETAINED PERCENTAGE 29
ARTICLE 22. INSURANCE 30
ARTICLE 23. MONEY RETAINED AGAINST CLAIMS 36
ARTICLE 24. MAINTENANCE AND GUARANTY 37
CHAPTER VI: CHANGES, EXTRA WORK, AND DOCUMENTATION OF CLAIM 38
ARTICLE 25. CHANGES 38
ARTICLE 26. METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK 38
ARTICLE 27. RESOLUTION OF DISPUTES 41
ARTICLE 28. RECORD KEEPING FOR EXTRA OR DISPUTED WORK OR WORK ON A TIME & MATERIALS BASIS 45
ARTICLE 29. OMITTED WORK 46
ARTICLE 30. NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS 46
CHAPTER VII: POWERS OF THE RESIDENT ENGINEER,THE ENGINEER OR ARCHITECT AND THE COMMISSIONER 48
ARTICLE 31. THE RESIDENT ENGINEER 48
ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER 48
ARTICLE 33. THE COMMISSIONER 48
ARTICLE 34. NO ESTOPPEL 49
CHAPTER VIII: LABOR PROVISIONS 49
ARTICLE 35. EMPLOYEES 49
ARTICLE 36. NO DISCRIMINATION 57
ARTICLE 37. LABOR LAW REQUIREMENTS 59

ARTICLE 38. PAYROLL REPORTS **64**
ARTICLE 39. DUST HAZARDS **64**
CHAPTER IX: PARTIAL AND FINAL PAYMENTS 65
ARTICLE 40. CONTRACT PRICE **65**
ARTICLE 41. BID BREAKDOWN ON LUMP SUM **65**
ARTICLE 42. PARTIAL PAYMENTS **65**
ARTICLE 43. PROMPT PAYMENT **66**
ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT **66**
ARTICLE 45. FINAL PAYMENT **67**
ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT **68**
ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION **69**
CHAPTER X: CONTRACTOR'S DEFAULT 69
ARTICLE 48. COMMISSIONER'S RIGHT TO DECLARE CONTRACTOR IN DEFAULT **69**
ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT **71**
ARTICLE 50. QUITTING THE SITE **71**
ARTICLE 51. COMPLETION OF THE WORK **71**
ARTICLE 52. PARTIAL DEFAULT **71**
ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK **72**
ARTICLE 54. OTHER REMEDIES **72**
CHAPTER XI: MISCELLANEOUS PROVISIONS 72
ARTICLE 55. CONTRACTOR'S WARRANTIES **72**
ARTICLE 56. CLAIMS AND ACTIONS THEREON **73**
ARTICLE 57. INFRINGEMENT **73**
ARTICLE 58. NO CLAIM AGAINST OFFICIALS, AGENTS OR EMPLOYEES **74**
ARTICLE 59. SERVICE OF NOTICES **74**
ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT **74**
ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED **74**
ARTICLE 62. TAX EXEMPTION **74**
ARTICLE 63. INVESTIGATION(S) CLAUSE **76**
ARTICLE 64. TERMINATION BY THE CITY **78**
ARTICLE 65. CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE **80**
ARTICLE 66. PARTICIPATION IN AN INTERNATIONAL BOYCOTT **81**
ARTICLE 67. LOCALLY BASED ENTERPRISE PROGRAM **82**
ARTICLE 68. ANTITRUST **82**
ARTICLE 69. MACBRIDE PRINCIPLES PROVISIONS **83**
ARTICLE 70. ELECTRONIC FILING/NYC DEVELOPMENT HUB **85**
ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS **85**
ARTICLE 72. CONFLICTS OF INTEREST **85**
ARTICLE 73. MERGER CLAUSE **85**
ARTICLE 74. STATEMENT OF WORK **85**
ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR **85**
ARTICLE 76. ELECTRONIC FUNDS TRANSFER **85**
ARTICLE 77. RECORDS RETENTION **86**
ARTICLE 78. EXAMINATION AND VIEWING OF SITE, CONSIDERATION OF OTHER SOURCES OF INFORMATION AND CHANGED SITE CONDITIONS **86**

ARTICLE 79: PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT ……87

SIGNATURES ……95

ACKNOWLEDGMENT BY CORPORATION ……96
ACKNOWLEDGMENT BY PARTNERSHIP……96
ACKNOWLEDGMENT BY INDIVIDUAL ……96

ACKNOWLEDGMENT BY COMMISSIONER ……97

AUTHORITY ……98
COMPTROLLER'S CERTIFICATE ……98
MAYOR'S CERTIFICATE ……99
PERFORMANCE BOND #1 ……100
PERFORMANCE BOND #2……104
PAYMENT BOND ……108

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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 **Contrac**t necessarily extending the time for completion of the **Work** or resulting from acceleration directed by the **Commissioner** and required to maintain the progress schedule, occasioned solely by any act or omission to act of the **City** listed below. The **Contractor** also agrees that delay from any other cause shall be

compensated, if at all, solely by an extension of time to complete the performance of the **Work**.

11.4.1.1 The failure of the **City** to take reasonable measures to coordinate and progress the **Work** to the extent required by the **Contract**, except that the City shall not be responsible for the **Contractor's** obligation to coordinate and progress the **Work** of its **Subcontractors**.

11.4.1.2 Unreasonable delays attributable to the review of shop drawings, the issuance of change orders, or the cumulative impact of change orders that were not brought about by any act or omission of the **Contractor**.

11.4.1.3 The unavailability of the **Site** caused by acts or omissions of the **City**..

11.4.1.4 The issuance by the **Engineer** of a stop work order that was not brought about through any act or omission of the **Contractor**.

11.4.1.5 Differing site conditions or environmental hazards that were neither known nor reasonably ascertainable on a pre-bid inspection of the **Site** or review of the bid documents or other publicly available sources, and that are not ordinarily encountered in the **Project**'s geographical area or neighborhood or in the type of **Work** to be performed.

11.4.1.6 Delays caused by the **City's** bad faith or its willful, malicious, or grossly negligent conduct;

11.4.1.7 Delays not contemplated by the parties;

11.4.1.8 Delays so unreasonable that they constitute an intentional abandonment of the **Contract** by the **City**; and

11.4.1.9 Delays resulting from the **City's** breach of a fundamental obligation of the **Contract**.

11.4.2 No claim may be made for any alleged delay in **Substantial Completion** of the **Work** if the **Work** will be or is substantially completed by the date of **Substantial Completion** provided for in Schedule A unless acceleration has been directed by the **Commissioner** to meet the date of **Substantial Completion** set forth in Schedule A, or unless there is a provision in the **Contract** providing for additional compensation for early completion.

11.4.3 The provisions of this Article 11 apply only to claims for additional costs attributable to delay and do not preclude determinations by the **Commissioner** allowing reimbursements for additional costs for **Extra Work** pursuant to Articles 25 and 26 of this **Contract**. To the extent that any cost attributable to delay is reimbursed as part of a change order, no additional claim for compensation under this Article 11 shall be allowed.

11.5 Non-Compensable Delays. The **Contractor** agrees to make no claim for, and is deemed to have included in its bid prices for the various items of the **Contract**, the extra/additional costs attributable to any delays caused by or attributable to the items set forth below. For such items, the **Contractor** shall be compensated, if at all, solely by an extension of time to complete the performance of the **Work**, in accordance with the provisions of Article 13. Such extensions of time will be granted, if at all, pursuant to the grounds set forth in Article 13.3.

11.5.1 The acts or omissions of any third parties, including but not limited to **Other Contractors**, public/ governmental bodies (other than **City Agencies**), utilities or private enterprises, who are disclosed in the **Contract Documents** or are ordinarily encountered or generally recognized as related to the **Work**;

11.5.2 Any situation which was within the contemplation of the parties at the time of entering into the **Contract**, including any delay indicated or disclosed in the **Contract Documents** or that would be generally recognized by a reasonably prudent contractor as related to the nature of the **Work**, and/or the existence of any facility or appurtenance owned, operated or maintained by any third party, as indicated or disclosed in the **Contract Documents** or ordinarily encountered or generally recognized as related to the nature of the **Work**;

11.5.3 Restraining orders, injunctions or judgments issued by a court which were caused by a Contractor's submission, action or inaction or by a Contractor's **Means and Methods of Construction**, or by third parties, unless such order, injunction or judgment was the result of an act or omission by the **City**;

11.5.4 Any labor boycott, strike, picketing, lockout or similar situation;

11.5.5 Any shortages of supplies or materials, or unavailability of equipment, required by the **Contract Work**;

11.5.6 Climatic conditions, storms, floods, droughts, tidal waves, fires, hurricanes, earthquakes, landslides or other catastrophes or acts of God, or acts of war or of the public enemy or terrorist acts, including the **City's** reasonable responses thereto; and

11.5.7 **Extra Work** which does not significantly affect the overall completion of the **Contract**, reasonable delays in the review or issuance of change orders or field orders and/or in shop drawing reviews or approvals.

11.6 Required Content of Submission of Statement of Delay Damages

11.6.1 In the verified written statement of delay damages required by Article 11.1.2, the following information shall be provided by the **Contractor**:

11.6.1.1 For each delay, the start and end dates of the claimed periods of delay and, in addition, a description of the operations that were delayed, an explanation of how they were delayed, and the reasons for the delay, including identifying the applicable act or omission of the City listed in Article 11.4.

11.6.1.2 A detailed factual statement of the claim providing all necessary dates, locations and items of **Work** affected by the claim.

11.6.1.3 The estimated amount of additional compensation sought and a breakdown of that amount into categories as described in Article 11.7.

11.6.1.4 Any additional information requested by the **Commissioner**.

11.7 Recoverable Costs

11.7.1 Delay damages may be recoverable for the following costs actually and necessarily incurred in the performance of the **Work**:

11.7.1.1 Direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits, based on time and materials records;

11.7.1.2 Necessary materials (including transportation to the **Site**), based on time and material records;

11.7.1.3 Reasonable rental value of necessary plant and equipment other than small tools, plus fuel/energy costs according to the applicable formula set forth in Articles 26.2.4 and/or 26.2.8, based on time and material records;

11.7.1.4 Additional insurance and bond costs;

11.7.1.5 Extended **Site** overhead, field office rental, salaries of field office staff, on-site project managers and superintendents, field office staff vehicles, **Project-**specific storage, field office utilities and telephone, and field office consumables;

11.7.1.6 Labor escalation costs based on actual costs;

11.7.1.7 Materials and equipment escalation costs based on applicable industry indices unless documentation of actual increased cost is provided;

11.7.1.8 Additional material and equipment storage costs based on actual documented costs and additional costs necessitated by extended manufacturer warranty periods; and

11.7.1.9 Extended home office overhead calculated based on the following formula:

(1) Subtract from the original **Contract** amount the amount earned by original contractual **Substantial Completion** date (not including change orders);

(2) Remove 15% overhead and profit from the calculation in item (1) by dividing the results of item (1) by 1.15;

(3) Multiply the result of item (2) by 7.25% for the total home office overhead;

(4) Multiply the result of item (3) by 7.25% for the total profit; and

(5) The total extended home office overhead will be the total of items (3) and (4).

11.7.2 Recoverable Subcontractor Costs. When the **Work** is performed by a **Subcontractor**, the **Contractor** may be paid the actual and necessary costs of such subcontracted **Work** as outlined above in Articles 11.7.1.1 through 11.7.1.8, and an additional overhead of 5% of the costs outlined in Articles 11.7.1.1 through 11.7.1.3.

11.7.3 Non-Recoverable Costs. The parties agree that the **City** will have no liability for the following items and the **Contractor** agrees it shall make no claim for the following items:

11.7.3.1 Profit, or loss of anticipated or unanticipated profit, except as provided in Article 11.7.1.9;

11.7.3.2 Consequential damages, including, but not limited to, construction or bridge loans or interest paid on such loans, loss of bonding capacity, bidding opportunities, or interest in investment, or any resulting insolvency;

11.7.3.3 Indirect costs or expenses of any nature except those included in Article 11.7.1;

11.7.3.4 Direct or indirect costs attributable to performance of **Work** where the **Contractor**, because of situations or conditions within its control, has not progressed the **Work** in a satisfactory manner; and

11.7.3.5 Attorneys' fees and dispute and claims preparation expenses.

11.8 Any claims for delay under this Article 11 are not subject to the jurisdiction of the Contract Dispute Resolution Board pursuant to the dispute resolution process set forth in Article 27.

11.9 Any compensation provided to the **Contractor** in accordance with this Article 11 will be made pursuant to a claim filed with the **Comptroller**. Nothing in this Article 11 extends the time for the **Contractor** to file an action with respect to a claim within six months after **Substantial Completion** pursuant to Article 56.

ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS

12.1 During the progress of the **Work**, **Other Contractors** may be engaged in performing other work or may be awarded other contracts for additional work on this **Project**. In that event, the **Contractor** shall coordinate the **Work** to be done hereunder with the work of such **Other Contractors** and the **Contractor** shall fully cooperate with such **Other Contractors** and carefully fit its own **Work** to that provided under other contracts as may be directed by the **Engineer**. The **Contractor** shall not commit or permit any act which will interfere with the performance of work by any **Other Contractors**.

12.2 If the **Engineer** determines that the **Contractor** is failing to coordinate its **Work** with the work of **Other Contractors** as the **Engineer** has directed, then the **Commissioner** shall have the right to withhold any payments otherwise due hereunder until the **Contractor** completely complies with the **Engineer's** directions.

12.3 The **Contractor** shall notify the **Engineer** in writing if any **Other Contractor** on this **Project** is failing to coordinate its work with the **Work** of this **Contract**. If the **Engineer** finds such charges to be true, the **Engineer** shall promptly issue such directions to the **Other Contractor** with respect thereto as the situation may require. The **City** shall not, however, be liable for any damages suffered by any **Other Contractor's** failure to coordinate its work with the **Work** of this **Contract** or by reason of the **Other Contractor's** failure to promptly comply with the directions so issued by the **Engineer**, or by reason of any **Other Contractor's** default in performance, it being understood that the **City** does not guarantee the responsibility or continued efficiency of any contractor. The **Contractor** agrees to make no claim against the **City** for any damages relating to or arising out of any directions issued by the **Engineer** pursuant to this Article 12 (including but not limited to the failure of any **Other Contractor** to comply or promptly comply with such directions), or the failure of any **Other Contractor** to coordinate its work, or the default in performance of any **Other Contractor**.

12.4 The **Contractor** shall indemnify and hold the **City** harmless from any and all claims or judgments for damages and from costs and expenses to which the **City** may be subjected or which it may suffer or incur by reason of the **Contractor's** failure to comply with the **Engineer's** directions promptly; and the **Comptroller** shall have the right to exercise the powers reserved in Article 23 with respect to any claims which may be made for damages due to the **Contractor's** failure to comply with the **Engineer's** directions promptly. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.5 Should the **Contractor** sustain any damage through any act or omission of any **Other Contractor** having a contract with the **City** for the performance of work upon the **Site** or of work which may be necessary to be performed for the proper prosecution of the **Work** to be performed hereunder, or through any act or omission of a subcontractor of such **Other Contractor**, the **Contractor** shall have no claim against the **City** for such damage, but shall have a right to recover such damage from the **Other**

Contractor under the provision similar to the following provisions which apply to this **Contract** and have been or will be inserted in the contracts with such **Other Contractors**:

12.5.1 Should any **Other Contractor** having or who shall hereafter have a contract with the **City** for the performance of work upon the **Site** sustain any damage through any act or omission of the **Contractor** hereunder or through any act or omission of any **Subcontractor** of the **Contractor**, the **Contractor** agrees to reimburse such **Other Contractor** for all such damages and to defend at its own expense any action based upon such claim and if any judgment or claim (even if the allegations of the action are without merit) against the **City** shall be allowed the **Contractor** shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith and agrees to indemnify and hold the **City** harmless from all such claims. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.6 The **City's** right to indemnification hereunder shall in no way be diminished, waived or discharged by its recourse to assessment of liquidated damages as provided in Article 15, or by the exercise of any other remedy provided for by **Contract** or by **Law**.

ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE

13.1 If performance by the **Contractor** is delayed for a reason set forth in Article 13.3, the **Contractor** may be allowed a reasonable extension of time in conformance with this Article 13 and the **PPB** Rules.

13.2 Any extension of time may be granted only by the **ACCO** or by the Board for the Extension of Time (hereafter "Board") (as set forth below) upon written application by the **Contractor**.

13.3 Grounds for Extension: If such application is made, the **Contractor** shall be entitled to an extension of time for delay in completion of the **Work** caused solely:

13.3.1 By the acts or omissions of the **City**, its officials, agents or employees; or

13.3.2 By the act or omissions of **Other Contractors** on this **Project**; or

13.3.3 By supervening conditions entirely beyond the control of either party hereto (such as, but not limited to, acts of God or the public enemy, excessive inclement weather, war or other national emergency making performance temporarily impossible or illegal, or strikes or labor disputes not brought about by any act or omission of the **Contractor**).

13.3.4 The **Contractor** shall, however, be entitled to an extension of time for such causes only for the number of **Days** of delay which the **ACCO** or the Board may determine to be due solely to such causes, and then only if the **Contractor** shall have strictly complied with all of the requirements of Articles 9 and 10.

13.4 The **Contractor** shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the **Work** as determined by the **ACCO** or the Board, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the **Contractor** or of its **Subcontractors** or **Materialmen**, and would of itself (irrespective

of the concurrent causes) have delayed the **Work**, no extension of time will be allowed for the period of delay resulting from such act, fault or omission.

13.5 The determination made by the **ACCO** or the Board on an application for an extension of time shall be binding and conclusive on the **Contractor**.

13.6 The **ACCO** or the Board acting entirely within their discretion may grant an application for an extension of time for causes of delay other than those herein referred.

13.7 Permitting the **Contractor** to continue with the **Work** after the time fixed for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment to the **Contractor** after such time, shall in no way operate as a waiver on the part of the **City** of any of its rights under this **Contract**.

13.8 Application for Extension of Time:

13.8.1 Before the **Contractor's** time extension request will be considered, the **Contractor** shall notify the **ACCO** of the condition which allegedly has caused or is causing the delay, and shall submit a written application to the **ACCO** identifying:

13.8.1(a) The **Contractor**; the registration number; and **Project** description;

13.8.1(b) Liquidated damage assessment rate, as specified in the **Contract**;

13.8.1(c) Original total bid price;

13.8.1(d) The original **Contract** start date and completion date;

13.8.1(e) Any previous time extensions granted (number and duration); and

13.8.1(f) The extension of time requested.

13.8.2 In addition, the application for extension of time shall set forth in detail:

13.8.2(a) The nature of each alleged cause of delay in completing the **Work**;

13.8.2(b) The date upon which each such cause of delay began and ended and the number of **Days** attributable to each such cause;

13.8.2(c) A statement that the **Contractor** waives all claims except for those delineated in the application, and the particulars of any claims which the **Contractor** does not agree to waive. For time extensions for **Substantial Completion** and final completion payments, the application shall include a detailed statement of the dollar amounts of each element of claim item reserved; and

13.8.2(d) A statement indicating the **Contractor's** understanding that the time extension is granted only for purposes of permitting continuation of **Contract** performance and payment for **Work** performed and that the **City** retains its right to conduct an investigation and assess liquidated damages as appropriate in the future.

13.9 Analysis and Approval of Time Extensions:

13.9.1 For time extensions for partial payments, a written determination shall be made by the **ACCO** who may, for good and sufficient cause, extend the time for the performance of the **Contract** as follows:

13.9.1(a) If the **Work** is to be completed within six (6) months, the time for performance may be extended for sixty (60) **Days**;

13.9.1(b) If the **Work** is to be completed within less than one (1) year but more than six (6) months, an extension of ninety (90) **Days** may be granted;

13.9.1(c) If the **Contract** period exceeds one (1) year, besides the extension granted in Article 13.9.1(b), an additional thirty (30) **Days** may be granted for each multiple of six (6) months involved beyond the one (1) year period; or

13.9.1(d) If exceptional circumstances exist, the **ACCO** may extend the time for performance beyond the extensions in Articles 13.9.1(a), 13.9.1(b), and 13.9.1(c). In that event, the **ACCO** shall file with the Mayor's Office of Contract Services a written explanation of the exceptional circumstances.

13.9.2 For extensions of time for **Substantial Completion** and final completion payments, the **Engineer**, in consultation with the **ACCO**, shall prepare a written analysis of the delay (including a preliminary determination of the causes of delay, the beginning and end dates for each such cause of delay, and whether the delays are excusable under the terms of this **Contract**). The report shall be subject to review by and approval of the Board, which shall have authority to question its analysis and determinations and request additional facts or documentation. The report as reviewed and made final by the Board shall be made a part of the **Agency** contract file. Neither the report itself nor anything contained therein shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

13.9.3 Approval Mechanism for Time Extensions for **Substantial Completion** or Final Completion Payments: An extension shall be granted only with the approval of the Board which is comprised of the **ACCO** of the **Agency**, the **City** Corporation Counsel, and the **Comptroller**, or their authorized representatives.

13.9.4 Neither the granting of any application for an extension of time to the **Contractor** or any **Other Contractor** on this **Project** nor the papers, records or reports related to any application for or grant of an extension of time or determination related thereto shall be referred to or offered in evidence by the **Contractor** or its attorneys in any action or proceeding.

13.10 No Damage for Delay: The **Contractor** agrees to make no claim for damages for delay in the performance of this **Contract** occasioned by any act or omission to act of the **City** or any of its representatives, except as provided for in Article 11.

ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK

14.1 Date for **Substantial Completion**: The **Contractor** shall substantially complete the **Work** within the time fixed in Schedule A of the General Conditions, or within the time to which such **Substantial Completion** may be extended.

14.2 Determining the Date of **Substantial Completion**: The **Work** will be deemed to be substantially complete when the two conditions set forth below have been met.

14.2.1 Inspection: The **Engineer** or **Resident Engineer**, as applicable, has inspected the **Work** and has made a written determination that it is substantially complete.

14.2.2 Approval of **Final Approved Punch List** and Date for **Final Acceptance**: Following inspection of the **Work**, the **Engineer/Resident Engineer** shall furnish the **Contractor** with a final punch list, specifying all items of **Work** to be completed and proposing dates for the completion of each specified item of **Work**. The **Contractor** shall then submit in writing to the **Engineer/Resident Engineer** within ten (10) **Days** of the **Engineer/Resident Engineer** furnishing the final punch list either acceptance of the dates or proposed alternative dates for the completion of each specified item of **Work**. If the **Contractor** neither accepts the dates nor proposes alternative dates within ten (10) **Days**, the schedule proposed by the **Engineer/Resident Engineer** shall be deemed accepted. If the **Contractor** proposes alternative dates, then, within a reasonable time after receipt, the **Engineer/Resident Engineer**, in a written notification to the **Contractor**, shall approve the **Contractor's** completion dates or, if they are unable to agree, the **Engineer/Resident Engineer** shall establish dates for the completion of each item of **Work**. The latest completion date specified shall be the date for **Final Acceptance** of the **Work**.

14.3 Date of **Substantial Completion**. The date of approval of the **Final Approved Punch List**, shall be the date of **Substantial Completion**. The date of approval of the **Final Approved Punch List** shall be either (a) if the **Contractor** approves the final punch list and proposed dates for completion furnished by the **Engineer/Resident Engineer**, the date of the **Contractor**'s approval; or (b) if the **Contractor** neither accepts the dates nor proposes alternative dates, ten (10) **Days** after the **Engineer/Resident Engineer** furnishes the **Contractor** with a final punch list and proposed dates for completion; or (c) if the **Contractor** proposes alternative dates, the date that the **Engineer/Resident Engineer** sends written notification to the **Contractor** either approving the **Contractor**'s proposed alternative dates or establishing dates for the completion for each item of **Work**.

14.4 Determining the Date of **Final Acceptance**: The **Work** will be accepted as final and complete as of the date of the **Engineer**'s/**Resident Engineer**'s inspection if, upon such inspection, the **Engineer/Resident Engineer** finds that all items on the **Final Approved Punch List** are complete and no further **Work** remains to be done. The **Commissioner** will then issue a written determination of **Final Acceptance**.

14.5 Request for Inspection: Inspection of the **Work** by the **Engineer/Resident Engineer** for the purpose of **Substantial Completion** or **Final Acceptance** shall be made within fourteen (14) **Days** after receipt of the **Contractor's** written request therefor.

14.6 Request for Re-inspection: If upon inspection for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer/Resident Engineer** determines that there are items of **Work** still to be performed, the **Contractor** shall promptly perform them and then request a re-inspection. If upon re-inspection, the **Engineer/Resident Engineer** determines that the **Work** is substantially complete or finally accepted, the date of such re-inspection shall be the date of **Substantial Completion** or **Final Acceptance**. Re-inspection by the **Engineer/Resident Engineer** shall be made within ten (10) **Days** after receipt of the **Contractor's** written request therefor.

14.7 Initiation of Inspection by the **Engineer/Resident Engineer**: If the **Contractor** does not request inspection or re-inspection of the **Work** for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer/Resident Engineer** may initiate such inspection or re-inspection.

ARTICLE 15. LIQUIDATED DAMAGES

15.1 In the event the **Contractor** fails to substantially complete the **Work** within the time fixed for such **Substantial Completion** in Schedule A of the General Conditions, plus authorized time extensions, or if the **Contractor**, in the sole determination of the **Commissioner**, has abandoned the **Work**, the **Contractor** shall pay to the **City** the sum fixed in Schedule A of the General Conditions, for each and every **Day** that the time consumed in substantially completing the **Work** exceeds the time allowed therefor; which said sum, in view of the difficulty of accurately ascertaining the loss which the **City** will suffer by reason of delay in the **Substantial Completion** of the **Work** hereunder, is hereby fixed and agreed as the liquidated damages that the **City** will suffer by reason of such delay, and not as a penalty. This Article 15 shall also apply to the **Contractor** whether or not the **Contractor** is defaulted pursuant to Chapter X of this **Contract**. Neither the failure to assess liquidated damages nor the granting of any time extension shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

15.2 Liquidated damages received hereunder are not intended to be nor shall they be treated as either a partial or full waiver or discharge of the **City's** right to indemnification, or the **Contractor's** obligation to indemnify the **City**, or to any other remedy provided for in this **Contract** or by **Law**.

15.3 The **Commissioner** may deduct and retain out of the monies which may become due hereunder, the amount of any such liquidated damages; and in case the amount which may become due hereunder shall be less than the amount of liquidated damages suffered by the **City**, the **Contractor** shall be liable to pay the difference.

ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION

16.1 Unless otherwise provided for in the **Specifications**, the **Commissioner** may take over, use, occupy or operate any part of the **Work** at any time prior to **Final Acceptance**, upon written notification to the **Contractor**. The **Engineer** or **Resident Engineer**, as applicable, shall inspect the part of the **Work** to be taken over, used, occupied, or operated, and will furnish the **Contractor** with a written statement of the **Work**, if any, which remains to be performed on such part. The **Contractor** shall not object to, nor interfere with, the **Commissioner's** decision to exercise the rights granted by Article 16. In the event the **Commissioner** takes over, uses, occupies, or operates any part of the **Work:**

16.1.1 the **Engineer/Resident Engineer** shall issue a written determination of **Substantial Completion** with respect to such part of the **Work**;

16.1.2 the **Contractor** shall be relieved of its absolute obligation to protect such part of the unfinished **Work** in accordance with Article 7;

16.1.3 the **Contractor's** guarantee on such part of the **Work** shall begin on the date of such use by the **City**; and;

16.1.4 the **Contractor** shall be entitled to a return of so much of the amount retained in accordance with Article 21 as it relates to such part of the **Work**, except so much thereof as may be retained under Articles 24 and 44.

CHAPTER IV: SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 17. SUBCONTRACTS

17.1 The **Contractor** shall not make subcontracts totaling an amount more than the percentage of the total **Contract** price fixed in Schedule A of the General Conditions, without prior written permission from the **Commissioner**. All subcontracts made by the **Contractor** shall be in writing. No **Work** may be performed by a **Subcontractor** prior to the **Contractor** entering into a written subcontract with the **Subcontractor** and complying with the provisions of this Article 17.

17.2 Before making any subcontracts, the **Contractor** shall submit a written statement to the **Commissioner** giving the name and address of the proposed **Subcontractor**; the portion of the **Work** and materials which it is to perform and furnish; the cost of the subcontract; the VENDEX questionnaire if required; the proposed subcontract if requested by the **Commissioner**; and any other information tending to prove that the proposed **Subcontractor** has the necessary facilities, skill, integrity, past experience, and financial resources to perform the **Work** in accordance with the terms and conditions of this **Contract**.

17.3 In addition to the requirements in Article 17.2, **Contractor** is required to list the **Subcontractor** in the web based Subcontractor Reporting System through the City's Payee Information Portal (PIP), available at www.nyc.gov/pip.[1] For each **Subcontractor** listed, **Contractor** is required to provide the following information: maximum contract value, description of **Subcontractor's** Work, start and end date of the subcontract and identification of the **Subcontractor**'s industry. Thereafter, **Contractor** will be required to report in the system the payments made to each **Subcontractor** within 30 days of making the payment. If any of the required information changes throughout the Term of the **Contract**, **Contractor** will be required to revise the information in the system.

Failure of the **Contractor** to list a **Subcontractor** and/or to report **Subcontractor** payments in a timely fashion may result in the **Commissioner** declaring the **Contractor** in default of the **Contract** and will subject **Contractor** to liquidated damages in the amount of $100 per day for each day that the **Contractor** fails to identify a **Subcontractor** along with the required information about the **Subcontractor** and/or fails to report payments to a **Subcontractor**, beyond the time frames set forth herein or in the notice from the **City**. Article 15 shall govern the issue of liquidated damages.

17.4 If an approved **Subcontractor** elects to subcontract any portion of its subcontract, the proposed sub-subcontract shall be submitted in the same manner as directed above.

17.5 The **Commissioner** will notify the **Contractor** in writing whether the proposed **Subcontractor** is approved. If the proposed **Subcontractor** is not approved, the **Contractor** may submit another proposed **Subcontractor** unless the **Contractor** decides to do the **Work**. No **Subcontractor** shall be permitted to enter or perform any work on the **Site** unless approved.

17.6 Before entering into any subcontract hereunder, the **Contractor** shall provide the proposed **Subcontractor** with a complete copy of this document and inform the proposed **Subcontractor** fully and completely of all provisions and requirements of this **Contract** relating either directly or indirectly to the **Work** to be performed and the materials to be furnished under such subcontract, and every such

[1] In order to use the new system, a PIP account will be required. Detailed instructions on creating a PIP account and using the new system are also available at www.nyc.gov/pip. Additional assistance with PIP may be obtained by emailing the Financial Information Services Agency Help Desk at pip@fisa.nyc.gov.

Subcontractor shall expressly stipulate that all labor performed and materials furnished by the **Subcontractor** shall strictly comply with the requirements of this **Contract**.

17.7 Documents given to a prospective **Subcontractor** for the purpose of soliciting the **Subcontractor's** bid shall include either a copy of the bid cover or a separate information sheet setting forth the **Project** name, the **Contract** number (if available), the **Agency** (as noted in Article 2.1.6), and the **Project's** location.

17.8 The **Commissioner's** approval of a **Subcontractor** shall not relieve the **Contractor** of any of its responsibilities, duties, and liabilities hereunder. The **Contractor** shall be solely responsible to the **City** for the acts or defaults of its **Subcontractor** and of such **Subcontractor's** officers, agents, and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the **Contractor** to the extent of its subcontract.

17.9 If the **Subcontractor** fails to maintain the necessary facilities, skill, integrity, past experience, and financial resources (other than due to the **Contractor's** failure to make payments where required) to perform the **Work** in accordance with the terms and conditions of this **Contract**, the **Contractor** shall promptly notify the **Commissioner** and replace such **Subcontractor** with a newly approved **Subcontractor** in accordance with this Article 17.

17.10 The **Contractor** shall be responsible for ensuring that all **Subcontractors** performing **Work** at the **Site** maintain all insurance required by **Law**.

17.11 The **Contractor** shall promptly, upon request, file with the **Engineer** a conformed copy of the subcontract and its cost. The subcontract shall provide the following:

17.11.1 Payment to **Subcontractors**: The agreement between the **Contractor** and its **Subcontractor** shall contain the same terms and conditions as to method of payment for **Work**, labor, and materials, and as to retained percentages, as are contained in this **Contract**.

17.11.2 Prevailing Rate of Wages: The agreement between the **Contractor** and its **Subcontractor** shall include the prevailing wage rates and supplemental benefits to be paid in accordance with Labor Law Section 220.

17.11.3 Section 6-123 of the Administrative Code: Pursuant to the requirements of Section 6-123 of the Administrative Code, every agreement between the **Contractor** and a **Subcontractor** in excess of fifty thousand ($50,000) dollars shall include a provision that the **Subcontractor** shall not engage in any unlawful discriminatory practice as defined in Title VIII of the Administrative Code (Section 8-101 *et seq.*).

17.11.4 All requirements required pursuant to federal and/or state grant agreement(s), if applicable to the **Work**.

17.12 The **Commissioner** may deduct from the amounts certified under this **Contract** to be due to the **Contractor**, the sum or sums due and owing from the **Contractor** to the **Subcontractors** according to the terms of the said subcontracts, and in case of dispute between the **Contractor** and its **Subcontractor**, or **Subcontractors**, as to the amount due and owing, the **Commissioner** may deduct and withhold from the amounts certified under this **Contract** to be due to the **Contractor** such sum or sums as may be claimed by such **Subcontractor**, or **Subcontractors**, in a sworn affidavit, to be due and owing until such time as such claim or claims shall have been finally resolved.

17.13 On contracts where performance bonds and payment bonds are executed, the **Contractor** shall include on each requisition for payment the following data: **Subcontractor's** name, value of the subcontract, total amount previously paid to **Subcontractor** for **Work** previously requisitioned, and the amount, including retainage, to be paid to the **Subcontractor** for **Work** included in the requisition.

17.14 On **Contracts** where performance bonds and payment bonds are not executed, the **Contractor** shall include with each requisition for payment submitted hereunder, a signed statement from each and every **Subcontractor** and/or **Materialman** for whom payment is requested in such requisition. Such signed statement shall be on the letterhead of the **Subcontractor** and/or **Materialman** for whom payment is requested and shall (i) verify that such **Subcontractor** and/or **Materialman** has been paid in full for all **Work** performed and/or material supplied to date, exclusive of any amount retained and any amount included on the current requisition, and (ii) state the total amount of retainage to date, exclusive of any amount retained on the current requisition.

ARTICLE 18. ASSIGNMENTS

18.1 The **Contractor** shall not assign, transfer, convey or otherwise dispose of this **Contract**, or the right to execute it, or the right, title or interest in or to it or any part thereof, or assign, by power of attorney or otherwise any of the monies due or to become due under this **Contract**, unless the previous written consent of the **Commissioner** shall first be obtained thereto, and the giving of any such consent to a particular assignment shall not dispense with the necessity of such consent to any further or other assignments.

18.2 Such assignment, transfer, conveyance or other disposition of this **Contract** shall not be valid until filed in the office of the **Commissioner** and the **Comptroller**, with the written consent of the **Commissioner** endorsed thereon or attached thereto.

18.3 Failure to obtain the previous written consent of the **Commissioner** to such an assignment, transfer, conveyance or other disposition, may result in the revocation and annulment of this **Contract**. The **City** shall thereupon be relieved and discharged from any further liability to the **Contractor**, its assignees, transferees or sublessees, who shall forfeit and lose all monies therefor earned under the **Contract**, except so much as may be required to pay the **Contractor's** employees.

18.4 The provisions of this clause shall not hinder, prevent, or affect an assignment by the **Contractor** for the benefit of its creditors made pursuant to the **Laws** of the State of New York.

18.5 This **Contract** may be assigned by the **City** to any corporation, agency or instrumentality having authority to accept such assignment.

CHAPTER V: CONTRACTOR'S SECURITY AND GUARANTEE

ARTICLE 19. SECURITY DEPOSIT

19.1 If performance and payment bonds are required, the **City** shall retain the bid security to ensure that the successful bidder executes the **Contract** and furnishes the required payment and performance security within ten (10) **Days** after notice of the award of the **Contract**. If the successful bidder fails to execute the **Contract** and furnish the required payment and performance security, the **City** shall retain such bid security as set forth in the Information for Bidders. If the successful bidder executes the

Contract and furnishes the required payment and performance security, the **City** shall return the bid security within a reasonable time after the furnishing of such bonds and execution of the **Contract** by the **City**.

19.2 If performance and payment bonds are not required, the bid security shall be retained by the **City** as security for the **Contractor**'s faithful performance of the **Contract**. If partial payments are provided, the bid security will be returned to the **Contractor** after the sum retained under Article 21 equals the amount of the bid security, subject to other provisions of this **Contract**. If partial payments are not provided, the bid security will be released when final payment is certified by the **City** for payment.

19.3 If the **Contractor** is declared in default under Article 48 prior to the return of the deposit, or if any claim is made such as referred to in Article 23, the amount of such deposit, or so much thereof as the **Comptroller** may deem necessary, may be retained and then applied by the **Comptroller**:

19.3.1 To compensate the **City** for any expense, loss or damage suffered or incurred by reason of or resulting from such default, including the cost of re-letting and liquidated damages; or

19.3.2 To indemnify the **City** against any and all claims.

ARTICLE 20. PAYMENT GUARANTEE

20.1 On **Contracts** where one hundred (100%) percent performance bonds and payment bonds are executed, this Article 20 does not apply.

20.2 In the event the terms of this **Contract** do not require the **Contractor** to provide a payment bond or where the **Contract** does not require a payment bond for one hundred (100%) percent of the **Contract** price, the **City** shall, in accordance with the terms of this Article 20, guarantee payment of all lawful claims for:

20.2.1 Wages and compensation for labor performed and/or services rendered; and

20.2.2 Materials, equipment, and supplies provided, whether incorporated into the **Work** or not, when demands have been filed with the **City** as provided hereinafter by any person, firm, or corporation which furnished labor, material, equipment, supplies, or any combination thereof, in connection with the **Work** performed hereunder (hereinafter referred to as the "beneficiary") at the direction of the **City** or the **Contractor**.

20.3 The provisions of Article 20.2 are subject to the following limitations and conditions:

20.3.1 If the **Contractor** provides a payment bond for a value that is less than one hundred (100%) percent of the value of the **Contract Work**, the payment bond provided by the **Contractor** shall be primary (and non-contributing) to the payment guarantee provided under this Article 20.

20.3.2 The guarantee is made for the benefit of all beneficiaries as defined in Article 20.2 provided that those beneficiaries strictly adhere to the terms and conditions of Article 20.3.4 and 20.3.5.

20.3.3 Nothing in this Article 20 shall prevent a beneficiary providing labor, services or material for the **Work** from suing the **Contractor** for any amounts due and owing the beneficiary by the **Contractor**.

20.3.4 Every person who has furnished labor or material, to the **Contractor** or to a **Subcontractor** of the **Contractor**, in the prosecution of the **Work** and who has not been paid in full therefor before the expiration of a period of ninety (90) **Days** after the date on which the last of the labor was performed or material was furnished by him/her for which the claim is made, shall have the right to sue on this payment guarantee in his/her own name for the amount, or the balance thereof, unpaid at the time of commencement of the action; provided, however, that a person having a direct contractual relationship with a **Subcontractor** of the **Contractor** but no contractual relationship express or implied with the **Contractor** shall not have a right of action upon the guarantee unless he/she shall have given written notice to the **Contractor** within one hundred twenty (120) **Days** from the date on which the last of the labor was performed or the last of the material was furnished, for which his/her claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the material was furnished or for whom the labor was performed. The notice shall be served by delivering the same personally to the **Contractor** or by mailing the same by registered mail, postage prepaid, in an envelope addressed to the **Contractor** at any place where it maintains an office or conducts its business; provided, however, that where such notice is actually received by the **Contractor** by other means, such notice shall be deemed sufficient.

20.3.5 Except as provided in Labor Law Section 220-g, no action on this payment guarantee shall be commenced after the expiration of the one-year limitations period set forth in Section 137(4)(b) of the State Finance Law.

20.3.6 The **Contractor** shall promptly forward to the **City** any notice or demand received pursuant to Article 20.3.4. The **Contractor** shall inform the **City** of any defenses to the notice or demand and shall forward to the **City** any documents the **City** requests concerning the notice or demand.

20.3.7 All demands made against the **City** by a beneficiary of this payment guarantee shall be presented to the **Engineer** along with all written documentation concerning the demand which the **Engineer** deems reasonably appropriate or necessary, which may include, but shall not be limited to: the subcontract; any invoices presented to the **Contractor** for payment; the notarized statement of the beneficiary that the demand is due and payable, that a request for payment has been made of the **Contractor** and that the demand has not been paid by the **Contractor** within the time allowed for such payment by the subcontract; and copies of any correspondence between the beneficiary and the **Contractor** concerning such demand. The **City** shall notify the **Contractor** that a demand has been made. The **Contractor** shall inform the **City** of any defenses to the demand and shall forward to the **City** any documents the **City** requests concerning the demand.

20.3.8 The **City** shall make payment only if, after considering all defenses presented by the **Contractor**, it determines that the payment is due and owing to the beneficiary making the demand.

20.3.9 No beneficiary shall be entitled to interest from the **City**, or to any other costs, including, but not limited to, attorneys' fees, except to the extent required by State Finance Law Section 137.

20.4 Upon the receipt by the **City** of a demand pursuant to this Article 20, the **City** may withhold from any payment otherwise due and owing to the **Contractor** under this **Contract** an amount sufficient to satisfy the demand.

20.4.1 In the event the **City** determines that the demand is valid, the **City** shall notify the **Contractor** of such determination and the amount thereof and direct the **Contractor** to immediately pay such amount to the beneficiary. In the event the **Contractor**, within seven (7) **Days** of receipt of such notification from the **City**, fails to pay the beneficiary, such failure shall constitute an automatic and irrevocable assignment of payment by the **Contractor** to the beneficiary for the amount of the demand determined by the **City** to be valid. The **Contractor**, without further notification or other process, hereby gives its unconditional consent to such assignment of payment to the beneficiary and authorizes the **City**, on its behalf, to take all necessary actions to implement such assignment of payment, including without limitation the execution of any instrument or documentation necessary to effectuate such assignment.

20.4.2 In the event that the amount otherwise due and owing to the **Contractor** by the **City** is insufficient to satisfy such demand, the **City** may, at its option, require payment from the **Contractor** of an amount sufficient to cover such demand and exercise any other right to require or recover payment which the **City** may have under **Law** or **Contract**.

20.4.3 In the event the **City** determines that the demand is invalid, any amount withheld pending the **City**'s review of such demand shall be paid to the **Contractor**; provided, however, no lien has been filed. In the event a claim or an action has been filed, the terms and conditions set forth in Article 23 shall apply. In the event a lien has been filed, the parties will be governed by the provisions of the Lien Law of the State of New York.

20.5 The provisions of this Article 20 shall not prevent the **City** and the **Contractor** from resolving disputes in accordance with the **PPB** Rules, where applicable.

20.6 In the event the **City** determines that the beneficiary is entitled to payment pursuant to this Article 20, such determination and any defenses and counterclaims raised by the **Contractor** shall be taken into account in evaluating the **Contractor's** performance.

20.7 Nothing in this Article 20 shall relieve the **Contractor** of the obligation to pay the claims of all persons with valid and lawful claims against the **Contractor** relating to the **Work**.

20.8 The **Contractor** shall not require any performance, payment or other bonds of any **Subcontractor** if this **Contract** does not require such bonds of the **Contractor**.

20.9 The payment guarantee made pursuant to this Article 20 shall be construed in a manner consistent with Section 137 of the State Finance Law and shall afford to persons furnishing labor or materials to the **Contractor** or its **Subcontractors** in the prosecution of the **Work** under this **Contract** all of the rights and remedies afforded to such persons by such section, including but not limited to, the right to commence an action against the **City** on the payment guarantee provided by this Article 20 within the one-year limitations period set forth in Section 137(4)(b).

ARTICLE 21. RETAINED PERCENTAGE

21.1 If this **Contract** requires one hundred (100%) percent performance and payment security, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and

retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.2 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded does not exceed one million ($1,000,000) dollars, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.3 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded exceeds one million ($1,000,000) dollars, then as further security for the faithful performance of this **Contract,** the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, up to ten (10%) percent of the value of **Work** certified for payment in each partial payment voucher. The percentage to be retained is set forth in Schedule A of the General Conditions.

ARTICLE 22. INSURANCE

22.1 Types of Insurance: The **Contractor** shall procure and maintain the following types of insurance if, and as indicated, in Schedule A of the General Conditions (with the minimum limits and special conditions specified in Schedule A). Such insurance shall be maintained from the date the **Contractor** is required to provide Proof of Insurance pursuant to Article 22.3.1 through the date of completion of all required **Work** (including punch list work as certified in writing by the **Resident Engineer**), except for insurance required pursuant to Article 22.1.4, which may terminate upon **Substantial Completion** of the **Contract**. All insurance shall meet the requirements set forth in this Article 22. Wherever this Article requires that insurance coverage be "at least as broad" as a specified form (including all ISO forms), there is no obligation that the form itself be used, provided that the **Contractor** can demonstrate that the alternative form or endorsement contained in its policy provides coverage at least as broad as the specified form.

22.1.1 Commercial General Liability Insurance: The **Contractor** shall provide Commercial General Liability Insurance covering claims for property damage and/or bodily injury, including death, which may arise from any of the operations under this **Contract**. Coverage under this insurance shall be at least as broad as that provided by the latest edition of Insurance Services Office ("ISO") Form CG 0001. Such insurance shall be "occurrence" based rather than "claims-made" and include, without limitation, the following types of coverage: premises operations; products and completed operations; contractual liability (including the tort liability of another assumed in a contract); broad form property damage; independent contractors; explosion, collapse and underground (XCU); construction means and methods; and incidental malpractice. Such insurance shall contain a "per project" aggregate limit, as specified in Schedule A, that applies separately to operations under this **Contract**.

22.1.1(a) Such Commercial General Liability Insurance shall name the **City** as an Additional Insured. Coverage for the City shall specifically include the **City's** officials and employees, be at least as broad as the latest edition of ISO Form CG 20 10 and provide completed operations coverage at least as broad as the latest edition of ISO Form CG 20 37.

22.1.1(b) Such Commercial General Liability Insurance shall name all other entities designated as additional insureds in Schedule A but only for claims arising from the

Contractor's operations under this **Contract**, with coverage at least as broad as the latest edition of ISO Form CG 20 26.

22.1.1(c) If the **Work** requires a permit from the Department of Buildings pursuant to 1 RCNY Section 101-08, the **Contractor** shall provide Commercial General Liability Insurance with limits of at least those required by 1 RCNY section 101-08 or greater limits required by the Agency in accordance with Schedule A. If the **Work** does not require such a permit, the minimum limits shall be those provided for in Schedule A.

22.1.1(d) If any of the **Work** includes repair of a waterborne vessel owned by or to be delivered to the **City**, such Commercial General Liability shall include, or be endorsed to include, Ship Repairer's Legal Liability Coverage to protect against, without limitation, liability arising from navigation of such vessels prior to delivery to and acceptance by the **City**.

22.1.2 Workers' Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance: The **Contractor** shall provide, and shall cause its **Subcontractors** to provide, Workers Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance in accordance with the **Laws** of the State of New York on behalf of all employees providing services under this **Contract** (except for those employees, if any, for which the **Laws** require insurance only pursuant to Article 22.1.3).

22.1.3 United States Longshoremen's and Harbor Workers Act and/or Jones Act Insurance: If specified in Schedule A of the General Conditions or if required by **Law**, the **Contractor** shall provide insurance in accordance with the United States Longshoremen's and Harbor Workers Act and/or the Jones Act, on behalf of all qualifying employees providing services under this **Contract**.

22.1.4 Builders Risk Insurance: If specified in Schedule A of the General Conditions, the **Contractor** shall provide Builders Risk Insurance on a completed value form for the total value of the **Work** through **Substantial Completion** of the **Work** in its entirety. Such insurance shall be provided on an All Risk basis and include coverage, without limitation, for windstorm (including named windstorm), storm surge, flood and earth movement. Unless waived by the **Commissioner**, it shall include coverage for ordinance and law, demolition and increased costs of construction, debris removal, pollutant clean up and removal, and expediting costs. Such insurance shall cover, without limitation, (a) all buildings and/or structures involved in the **Work**, as well as temporary structures at the **Site**, and (b) any property that is intended to become a permanent part of such building or structure, whether such property is on the **Site**, in transit or in temporary storage. Policies shall name the **Contractor** as Named Insured and list the **City** as both an Additional Insured and a Loss Payee as its interest may appear.

22.1.4(a) Policies of such insurance shall specify that, in the event a loss occurs at an occupied facility, occupancy of such facility is permitted without the consent of the issuing insurance company.

22.1.4(b) Such insurance may be provided through an Installation Floater, at the **Contractor's** option, if it otherwise conforms with the requirements of this Article 22.1.4.

22.1.5 Commercial Automobile Liability Insurance: The **Contractor** shall provide Commercial Automobile Liability Insurance for liability arising out of ownership,

maintenance or use of any owned (if any), non-owned and hired vehicles to be used in connection with this **Contract**. Coverage shall be at least as broad as the latest edition of ISO Form CA0001. If vehicles are used for transporting hazardous materials, the Automobile Liability Insurance shall be endorsed to provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90.

22.1.6 Contractors Pollution Liability Insurance: If specified in Schedule A of the General Conditions, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Contractors Pollution Liability Insurance covering bodily injury and property damage. Such insurance shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants (including asbestos), including any loss, cost or expense incurred as a result of any cleanup of pollutants (including asbestos) or in the investigation, settlement or defense of any claim, action, or proceedings arising from the operations under this **Contract**. Such insurance shall be in the **Contractor's** name and list the **City** as an Additional Insured and any other entity specified in Schedule A. Coverage shall include, without limitation, (a) loss of use of damaged property or of property that has not been physically injured, (b) transportation, and (c) non-owned disposal sites.

22.1.6(a) Coverage for the **City** as Additional Insured shall specifically include the **City's** officials and employees and be at least as broad as provided to the **Contractor** for this **Project**.

22.1.6(b) If such insurance is written on a claims-made policy, such policy shall have a retroactive date on or before the effective date of this **Contract**, and continuous coverage shall be maintained, or an extended discovery period exercised, for a period of not less than three (3) years from the time the **Work** under this **Contract** is completed.

22.1.7 Marine Insurance:

22.1.7(a) Marine Protection and Indemnity Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such Work to maintain, Marine Protection and Indemnity Insurance with coverage at least as broad as Form SP-23. The insurance shall provide coverage for the **Contractor** or **Subcontractor** (whichever is doing this **Work**) and for the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured for bodily injury and property damage arising from marine operations under this **Contract**. Coverage shall include, without limitation, injury or death of crew members (if not fully provided through other insurance), removal of wreck, damage to piers, wharves and other fixed or floating objects and loss of or damage to any other vessel or craft, or to property on such other vessel or craft.

22.1.7(b) Hull and Machinery Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Hull and Machinery Insurance with coverage for the **Contractor** or **Subcontractor** (whichever is doing this Work) and for the **City** (together with its officials and employees) as Additional Insured at least as broad as the latest edition of American Institute Tug Form for all tugs used under this

Contract and Collision Liability at least as broad as the latest edition of American Institute Hull Clauses.

22.1.7(c) Marine Pollution Liability Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such Work to maintain, Marine Pollution Liability Insurance covering itself (or the Subcontractor doing such Work) as Named Insured and the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured. Coverage shall be at least as broad as that provided by the latest edition of Water Quality Insurance Syndicate Form and include, without limitation, liability arising from the discharge or substantial threat of a discharge of oil, or from the release or threatened release of a hazardous substance including injury to, or economic losses resulting from, the destruction of or damage to real property, personal property or natural resources.

22.1.8 The **Contractor** shall provide such other types of insurance, at such minimum limits and with such conditions, as are specified in Schedule A of the General Conditions.

22.2 General Requirements for Insurance Coverage and Policies:

22.2.1 All required insurance policies shall be maintained with companies that may lawfully issue the required policy and have an A.M. Best rating of at least A-/VII or a Standard and Poor's rating of at least A, unless prior written approval is obtained from the **City** Corporation Counsel.

22.2.2 The **Contractor** shall be solely responsible for the payment of all premiums for all required policies and all deductibles and self-insured retentions to which such policies are subject, whether or not the **City** is an insured under the policy.

22.2.3 In his/her sole discretion, the **Commissioner** may, subject to the approval of the **Comptroller** and the **City** Corporation Counsel, accept Letters of Credit and/or custodial accounts in lieu of required insurance.

22.2.4 The **City's** limits of coverage for all types of insurance required pursuant to Schedule A of the General Conditions shall be the greater of (i) the minimum limits set forth in Schedule A or (ii) the limits provided to the **Contractor** as Named Insured under all primary, excess, and umbrella policies of that type of coverage.

22.2.5 The **Contractor** may satisfy its insurance obligations under this Article 22 through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein.

22.2.6 Policies of insurance provided pursuant to this Article 22 shall be primary and non-contributing to any insurance or self-insurance maintained by the **City**.

22.3 Proof of Insurance:

22.3.1 For all types of insurance required by Article 22.1 and Schedule A, except for insurance required by Articles 22.1.4 and 22.1.7, the **Contractor** shall file proof of insurance in accordance with this Article 22.3 within ten (10) **Days** of award. For insurance

provided pursuant to Articles 22.1.4 and 22.1.7, proof shall be filed by a date specified by the **Commissioner** or ten (10) **Days** prior to the commencement of the portion of the **Work** covered by such policy, whichever is earlier.

22.3.2 For Workers' Compensation Insurance provided pursuant to Article 22.1.2, the **Contractor** shall submit one of the following forms: C-105.2 Certificate of Workers' Compensation Insurance; U-26.3 - State Insurance Fund Certificate of Workers' Compensation Insurance; Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. For Disability Benefits Insurance provided pursuant to Article 22.1.2, the Contractor shall submit DB-120.1 - Certificate Of Insurance Coverage Under The NYS Disability Benefits Law, Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. ACORD forms are not acceptable.

22.3.3 For policies provided pursuant to all of Article 22.1 other than Article 22.1.2, the **Contractor** shall submit one or more Certificates of Insurance on forms acceptable to the **Commissioner**. All such Certificates of Insurance shall certify (a) the issuance and effectiveness of such policies of insurance, each with the specified minimum limits (b) for insurance secured pursuant to Article 22.1.1 that the **City** and any other entity specified in Schedule A is an Additional Insured thereunder; (c) in the event insurance is required pursuant to Article 22.1.6 and/or Article 22.1.7, that the City is an Additional Insured thereunder; (d) the company code issued to the insurance company by the National Association of Insurance Commissioners (the NAIC number); and (e) the number assigned to the **Contract** by the **City**. All such Certificates of Insurance shall be accompanied by either a duly executed "Certification by Insurance Broker or Agent" in the form contained in Part III of Schedule A or copies of all policies referenced in such Certificate of Insurance as certified by an authorized representative of the issuing insurance carrier. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

22.3.4 Documentation confirming renewals of insurance shall be submitted to the **Commissione**r 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 C**ontract** 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.

DocuSign Envelope ID: 7A2F9153-9F57-487A-BE6F-4F088343EC5D

CONTRACT SIGNATURE PAGE

This Contract is entered by and between the City of New York ("City"), acting by and through the **DEPARTMENT OF DESIGN AND CONSTRUCTION**, and **PERFETTO ENTERPRISES COMPANY INC** ("Contractor").

This Contract consists of this contract signature page as well as the following documents ("Contract Documents") which are located in the Documents tab of the PASSPort record titled **85022B0043-RED386** .

1. **(Question answer) - RED368-BOND.pdf - Apr 20 2022 7:21PM**
2. **(Question answer) - Water Main Qualification.pdf - Apr 20 2022 7:21PM**
3. **BID BREAKDOWN - Apr 26 2022 8:38PM**
4. **Broker's Certification - May 2 2022 1:39PM**
5. **Certificate of Insurance - May 2 2022 1:40PM**
6. **Disability Insurance - May 2 2022 1:39PM**
7. **NOTICE TO BIDDERS - COVID19 R3 - Apr 20 2022 7:21PM**
8. **RED 386 Drawings ([Addendum 1] - Apr 20 2022 7:21PM**
9. **RED 386 Volume 2 - Apr 20 2022 7:21PM**
10. **RED386 - Addendum 7. - Apr 20 2022 7:21PM**
11. **RED386 Addendum 1 - May 9 2022 5:20PM**
12. **RED386 Addendum 2 - Apr 20 2022 7:21PM**
13. **RED386 Addendum 3 - Apr 20 2022 7:21PM**
14. **RED386 Addendum 4 - Apr 20 2022 7:21PM**
15. **RED386 Addendum 5 - Apr 20 2022 7:21PM**
16. **RED386 Addendum 6 - Apr 20 2022 7:21PM**
17. **RED386 Addendum 8 - Apr 20 2022 7:21PM**
18. **RED386 VOL 3 [Addendum 6] - Apr 20 2022 7:21PM**
19. **Security/Bond - May 2 2022 1:30PM**
20. **V1 Infra Bid Booklet PASSPort - Apr 20 2022 7:21PM**
21. **Worker's Compensation - May 2 2022 1:40PM**

The above order does not represent an order of precedence. The Contract shall be governed by the order of precedence, if any, in the Contract Documents or by ordinary contract principles if no such order of precedence exists.

Each party is signing this Contract electronically on the date stated in that party's electronic signature.

The City of New York
By: **DEPARTMENT OF DESIGN AND CONSTRUCTION**

DocuSigned by:
ERIC MACFARLANE
1A87ABA0188B41C...
(Signature)

Name: ERIC MACFARLANE

Title: Deputy Commissioner

Date: 6/8/2022 | 11:34:54 PDT

Contractor
By: **PERFETTO ENTERPRISES COMPANY INC**

DocuSign Envelope ID: 7A2F9153-9F57-487A-BE6F-4F088343EC5D

DocuSigned by:

Claudio Perfetto

C3254FCDDA704B5...

(Signature)

Name: Claudio Perfetto

Title: President

Date: 6/8/2022 | 13:35:56 EDT

ACKNOWLEDGEMENT 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

ACKNOWLEDGEMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

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

_____
Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

_____
Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT BY COMMISSIONER

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally came _____ to me known, and known to be the Deputy Commissioner of the Department of Design and Construction of The City of New York, the person described as such in and who as such executed the foregoing instrument and acknowledged to me that he executed the same as Deputy Commissioner for the purposes therein mentioned.

_____
Notary Public or Commissioner of Deeds

A U T H O R I T Y

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

_____

_____

Dollars ($ _____)

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

_____

_____

_____
Department of Design and Construction

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

_____
Commissioner

COMPTROLLER'S CERTIFICATE

The City of New York_____

Pursuant to the provisions of Section 6-101 of the Administrative Code of the City of New York, I hereby certify that there remains unapplied and unexpended a balance of the above mentioned fund applicable to this Contract sufficient to pay the estimated expense of executing the same viz:

$_____

_____
Comptroller

MAYOR'S CERTIFICATE OR CERTIFICATE OF THE DIRECTOR OF THE BUDGET

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

Bond No: BD757481

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS:,

That we, Perfetto Enterprises Co., Inc.

2074 Richmond Terrace

Staten Island, NY 10302

hereinafter referred to as the "Principal,"

and, Nationwide Mutual Insurance Company

7 WTC 250 Greenwich Street, 37th Floor

New York, NY 10007

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

Six Million Five Hundred Sixty Six Thousand Seven Hundred Thirty Four Dollars and Seventy Seven Cents

($ 6,566,734.77) 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

RED386 Replacement of Distribution Water Main and Appurtenances in South Avenue, Borough of Staten Island

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

21 day of April 20 22.

(Seal) Perfetto Enterprises Co., Inc.

Claudio Perfetto, Principal (L.S.)

By: Nationwide Mutual Insurance Company

(Seal) Surety

By: Michael Culnen, Attorney-in-Fact

(Seal) Surety

By:

(Seal) Surety

By:

(Seal) Surety

By:

(Seal) Surety

By:

Bond Premium Rate 28.75/17.25/11.15/8.62/8.05.

Bond Premium Cost 66,950.00.

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 New York County of Richmond ss:

On this 21th day of April, 20 22 before me personally came Claudio Perfetto,
to me known, who, being by me duly sworn did depose and say that he resides
at 134 Chapin Ave
Staten Island, NY 10304 ; that he/she is the President Perfetto Enterprises Co., Inc
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.

LINDA E. COLABELLA
Notary Public, State of New York
No. 01CO6250248
Qualified in Richmond County
Commission Expires ~~10/24/20~~ 6/1/2024

LINDA E. COL
Notary Public, State
No. 01CO62
Qualified in Richm
Commission Expire
6/1/2024

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.

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

PAYMENT BOND

Bond No: BD757481

KNOW ALL PERSONS BY THESE PRESENTS, That we,

Perfetto Enterprises Co., Inc.

2074 Richmond Terrace

Staten Island, NY 10302

hereinafter referred to as the "Principal", and

Nationwide Mutual Insurance Company

7 WTC 250 Greenwich Street, 37th Floor

New York, NY 10007

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

Six Million Five Hundred Sixty Six Thousand Seven Hundred Thirty Four Dollars and Seventy Seven Cents

($ 6,566,734.77) 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

RED386 Replacement of Distribution Water Main and Appurtenances in South Avenue, Borough of Staten Island

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns and other Subcontractors to whom Work under this Contract is sublet and his or their successors and assigns shall promptly pay or cause to be paid all lawful claims for

(a) Wages and compensation for labor performed and services rendered by all persons engaged in the prosecution of the Work under said Contract, and any amendment or extension thereof or addition thereto, whether such persons be agents servants or employees of the Principal or any such Subcontractor, including all persons so engaged who perform the work of laborers or mechanics at or in the vicinity of the site

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

of the Project regardless of any contractual relationship between the Principal or such Subcontractors, or his or their successors or assigns, on the one hand and such laborers or mechanics on the other, but not including office employees not regularly stationed at the site of the project; and

(b) Materials and supplies (whether incorporated in the permanent structure or not), as well as teams, fuels, oils, implements or machinery furnished, used or consumed by said Principal or any subcontractor at or in the vicinity of the site of the Project in the prosecution of the Work under said Contract and any amendment or extension thereof or addition thereto; then this obligation shall be void, otherwise to remain in full force and effect.

This bond is subject to the following additional conditions, limitations and agreements:

(a) The Principal and Surety (Sureties) agree that this bond shall be for the benefit of any materialmen or laborer having a just claim, as well as the City itself.

(b) All persons who have performed labor, rendered services or furnished materials and supplies, as aforesaid, shall have a direct right of action against the Principal and his, its or their successors and assigns, and the Surety (Sureties) herein, or against either or both or any of them and their successors and assigns. Such persons may sue in their own name, and may prosecute the suit to judgment and execution without the necessity of joining with any other persons as party plaintiff.

(c) The Principal and Surety (Sureties) agree that neither of them will hold the City liable for any judgment for costs of otherwise, obtained by either or both of them against a laborer or materialman in a suit brought by either a laborer or materialman under this bond for moneys allegedly due for performing work or furnishing material.

(d) The Surety (Sureties) or its successors and assigns shall not be liable for any compensation recoverable by an employee or laborer under the Workmen's Compensation Law.

(e) In no event shall the Surety (Sureties), or its successors or assigns, be liable for a greater sum than the penalty of this bond or be subject to any suit, action or proceeding hereon that is instituted by any person, firm, or corporation hereunder later than two years after the complete performance of said Contract and final settlement thereof.

The Principal, for himself and his successors and assigns, and the Surety (Sureties), for itself and its successors and assigns, do hereby expressly waive any objection that might be interposed as to the right of the City to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either of them might interpose to an action brought hereon by any person, firm or corporation, including subcontractors, materialmen and third persons, for work, labor, services, supplies or material performed rendered, or furnished as aforesaid upon the ground that there is no law authorizing the City to require the foregoing provisions to be place in this bond.

And the Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties), and its bonds shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or of the said Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any part thereof, or of any Work to be performed, or any moneys due to become due thereunder and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, Subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done or in relation to said Principal.

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

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 21 day of April, 2022.

Perfetto Enterprises Co., Inc.

(Seal) _____(L.S.)
Claudio Perfetto, Principal

By: _____

(Seal) Nationwide Mutual Insurance Company
Surety

By: _____
Michael Culnen, Attorney-in-Fact

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

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

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Richmond ss:

On this 21st day of April, 2022, before me personally came Claudio Perfetto to me known, who, being by me duly sworn did depose and say that he resides at 134 Chapin Ave, S.I., NY 10304 that he is the President of Perfetto Enterprises Co. Inc. 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

LINDA E. COLABELLA
Notary Public, State of New York
No. 01CO6250248
Qualified in Richmond County
Commission Expires ~~10/24/2015~~ 6/7/2024

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

* * * * * * * *

Affix Acknowledgments and Justification of Sureties.

SURETY ACKNOWLEDGEMENT

State of **New Jersey**
SS:
County of **Essex**

On this **21st** day of **April** , **2022,** before me personally comes **Michael Culnen** to me known, who, being by me duly sworn, deposes and says that he resides in **Mendham Township, NJ** that he is the Attorney-In-Fact of the **Nationwide Mutual Insurance Company** the Corporation described in and which executed the foregoing instrument; that he knows that seal of said Corporation; that the seal affixed to the said instrument is such Corporate seal; that it was so affixed by the order of the Board of Directors of the said Corporation, and that he signed his name thereto by like order.

NICOLE KAETZEL
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 4/8/2025

(Signature and Title of Official Taking Acknowledgement)

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

MICHAEL CULNEN; PAMELA LIPKIN;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

UNLIMITED

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 20th day of August, 2021.

Antonio C. Albanese, **Vice President** of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

STATE OF NEW YORK COUNTY OF NEW YORK: ss
On this 20th day of August, 2021, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.

Stephanie Rubino McArthur
Notary Public, State of New York
No. 02MC6270117
Qualified in New York County
Commission Expires October 19, 2024

Notary Public
My Commission Expires
October 19, 2024

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this 21 day of April, 2022.

Laura B. Guy

Assistant Secretary

BDJ 1(08-21)00

NATIONWIDE MUTUAL INSURANCE COMPANY
AND SUBSIDIARIES AND AFFILIATES

Consolidated and Combined Statutory Statements of Admitted Assets, Liabilities and Surplus

(in millions)	December 31, 2021	December 31, 2020
Admitted assets		
Invested assets		
Bonds	$ 21,081	$ 17,725
Stocks	7,935	8,352
Mortgage loans, net of allowance	1,985	1,892
Owner occupied real estate, at cost (less accumulated depreciation of $431 and $457 as of December 31, 2021 and 2020, respectively)	341	404
Cash, cash equivalents and short-term investments	558	1,187
Other invested assets	6,372	5,357
Total invested assets	$ 38,272	$ 34,917
Premiums in course of collection	4,449	4,182
Accrued investment income	164	135
Corporate-owned life insurance	1,657	1,580
Deferred federal income tax asset	1,747	1,990
Other assets	1,416	963
Total admitted assets	$ 47,705	$ 43,767
Liabilities and surplus		
Liabilities		
Losses and loss expense reserves	$ 16,628	$ 14,792
Unearned premiums	8,447	7,972
Accrued expenses and taxes, other than federal income taxes	791	803
Agents' security compensation plan reserve	993	1,085
Other liabilities	2,824	2,630
Total liabilities	$ 29,683	$ 27,282
Surplus		
Surplus notes, net of unamortized issue discount of $9 as of December 31, 2021 and 2020	$ 3,545	$ 3,545
Unassigned surplus	14,477	12,940
Total surplus	$ 18,022	$ 16,485
Total liabilities and surplus	$ 47,705	$ 43,767

Certification

I, Jodi Abbate, VP, Controller, do hereby certify that the foregoing is a true and correct statement of the statutory balance sheet of said Corporation as of December 31, 2021 and 2020 to the best of my knowledge and belief.

Jodi Abbate

Jodi Abbate

NOTARIAL SEAL STATE OF OHIO

ANDREW SWARTZEL
NOTARY PUBLIC • STATE OF OHIO
Comm. No. 2021-RE-839107
My Commission Expires Oct. 24, 2026

County of FRANKLIN

3-22-2022

Client#: 1335944 PERFEENT2

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 4/21/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
USI Insurance Services - CL
180 Park Avenue
Suite 103
Florham Park, NJ 07932

CONTACT NAME: Kalten M. Yesse
PHONE (A/C, No, Ext): 973 965-3100 FAX (A/C, No): 610 537-2349
E-MAIL ADDRESS: katlen.yesse@usi.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Travelers Indemnity Company of CT	25682
INSURER B : Travelers Indemnity Company	25658
INSURER C : Starr Indemnity & Liability Company	38318
INSURER D : Phoenix Insurance Company	25623
INSURER E : Travelers Property Cas. Co. of America	25674
INSURER F :	

INSURED
Perfetto Enterprises Co., Inc.
2074 Richmond Terrace
Staten Island, NY 10302

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY	X	X	DT1NCO9M842435	01/29/2022	01/29/2023	EACH OCCURRENCE	$2,000,000
	CLAIMS-MADE X OCCUR			TCT22			DAMAGE TO RENTED PREMISES (Ea occurrence)	$300,000
	X BI/PD Ded:10000						MED EXP (Any one person)	$5,000
							PERSONAL & ADV INJURY	$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$4,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$4,000,000
	OTHER:							$
D	AUTOMOBILE LIABILITY			BA2L5522312226G	01/29/2022	01/29/2023	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS			Comp Ded: $1,000			BODILY INJURY (Per accident)	$
	X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY			Coll Ded: $1,000			PROPERTY DAMAGE (Per accident)	$
	X Phys Damage							$
B	X UMBRELLA LIAB X OCCUR	X	X	CUP9M8724032226G	01/29/2022	01/29/2023	EACH OCCURRENCE	$9,000,000
C	X EXCESS LIAB CLAIMS-MADE	X	X	1000585556221	01/29/2022	01/29/2023	AGGREGATE	$9,000,000
	DED RETENTION $							$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			UB2L5521022226G	01/29/2022	01/29/2023	X PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					E.L. EACH ACCIDENT	$1,000,000
							E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
E	Contractor's Equipment/ Property			QT6601N177260TIL22 ($1,000 Ded)	01/29/2022	01/29/2023	Own/Sched: See Val Bel Leased/Rented: $250,000 Bldg/BPP/BI: $2,671,000	

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

RE: Project ID.: RED386- South Avenue between Richmond Terrace and Netherland Avenue, Arlington Place between South Avenue and Arlington Avenue - Borough of Staten Island.
The General Liability policy includes an automatic Additional Insured endorsement that provides Additional Insured status to the Certificate Holder only when there is a written contract that requires such status, and only with regard to work performed by or on behalf of the named insured.

CERTIFICATE HOLDER

New York City Department of Design & 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

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CITY OF NEW YORK

CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker or agent represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

USI Insurance Services, LLC
[Name of broker or agent (typewritten)]

180 Park Avenue, 1st Floor, Florham Park, NJ 07932
[Address of broker or agent (typewritten)]

katlen.yesse@usi.com
[Email address of broker or agent (typewritten)]

973-965-3166/610-537-4508
[Phone number/Fax number of broker or agent (typewritten)]

[Signature of authorized official, broker, or agent]

Katlen M. Yesse, Broker
[Name and title of authorized official, broker, or agent (typewritten)]

State of ...New Jersey.....)
) ss.:
County of Morris .....)

Sworn to before me this 21st day of April 2022

NOTARY PUBLIC FOR THE STATE OF

MARYELLEN YESSE
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 11/14/2022

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) P□RF□TTO □NT□RPRIS□S CO□, INC□ □0□□ RICHMOND T□RRAC□ STAT□N ISLAND, NY 1030□	1b. Business Telephone Number of Insured □1□-□□□-□□1□
Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., Wrap-Up Policy)	1c. Federal Employer Identification Number of Insured or Social Security Number □0-0□0□□1□
2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) New York City Department of Design and Construction 30-30 Thomson Avenue Long Island City, NY 11101	3a. Name of Insurance Carrier Shelterpoint Life Insurance Co□ 3b. Policy Number of Entity Listed in Box "1a" d□1□□□□□1 3c. Policy effective period 1□1□□0□□ to 1□1□□0□3

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 1□□□□0□□ By KMYesse
(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of

Telephone Number □□3-□□□-31□□ Name and Title Katlen M□Yesse, □roker

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.

CERTIFICATE OF
NYS WORKERS' COMPENSATION INSURANCE COVERAGE

1a. Legal Name & Address of Insured (use street address only) Perfetto □nterprises Co□, Inc□ □0□□ Richmond Terrace Staten Island, NY 1030□ Work Location of Insured *(Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)*	1b. Business Telephone Number of Insured □1□-□□□-□□1□ 1c. NYS Unemployment Insurance Employer Registration Number of Insured 1d. Federal Employer Identification Number of Insured or Social Security Number □0-0□0□□1□
2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) New York City Department of Design & Construction 30-30 Thompson Avenue Long Island City, NY 11001	3a. Name of Insurance Carrier Phoeni□ Insurance Company 3b. Policy Number of Entity Listed in Box "1a" □□□L□□□10□□□□□G 3c. Policy effective period 1□□□□0□□ to 1□□□□0□3 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".

The insurance carrier must notify the above certificate holder and the Workers' Compensation Board within 10 days IF a policy is canceled 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 the coverage indicated on this Certificate. (These notices may be sent by regular mail.) **Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent, or until the policy expiration date listed in box "3c", whichever is earlier.**

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a 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: Andy Castle
(Print name of authorized representative or licensed agent of insurance carrier)

Approved by: _____ 1□□□□0□□
(Signature) (Date)

Title: □roker

Telephone Number of authorized representative or licensed agent of insurance carrier: □□3-□□□-31□□

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.

(NO TEXT ON THIS PAGE)

LABOR LAW ARTICLE 8 - NYC PUBLIC WORKS

Workers, Laborers and Mechanics employed on a public work project must receive not less than the prevailing rate of wage and benefits for the classification of work performed by each upon such public work. Pursuant to New York Labor Law Article 8 the Comptroller of the City of New York has promulgated this schedule solely for Workers, Laborers and Mechanics engaged by private contractors on New York City public work projects. Prevailing rates are required to be annexed to and form part of the public work contract pursuant to Labor Law section 220 (3).

This schedule is a compilation of separate determinations of the prevailing rate of wage and supplements made by the Comptroller for each trade classification listed herein pursuant to Labor Law section 220 (5). The source of the wage and supplement rates, whether a collective bargaining agreement, survey data or other, is listed at the end of each classification.

Agency Chief Contracting Officers should contact the Bureau of Labor Law's Classification Unit with any questions concerning trade classifications, prevailing rates or prevailing practices with respect to procurement on New York City public work contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on public work contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to public work contracts in the procurement stage must contact the contracting agency responsible for the procurement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

Any questions concerning trade classifications, prevailing rates or prevailing practices on New York City public work contracts that have already been awarded may be directed to the Bureau of Labor Law's Classification Unit by calling (212) 669-4443. All callers must have the agency name and contract registration number available when calling with questions on public work contracts. Please direct all other compliance issues to: Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 651, New York, N.Y. 10007; Fax (212) 669-4002.

Pursuant to Labor Law § 220 (3-a) (a), the appropriate schedule of prevailing wages and benefits must be posted in a prominent and accessible place at all public work sites along with the Construction Poster provided on our web site at comptroller.nyc.gov/wages. In addition, covered employees must be given the appropriate schedule of prevailing wages and benefits along with the Worker Notice provided on our web site at the time the public work project begins, and with the first paycheck to each such employee after July first of each year.

This schedule is applicable to work performed during the effective period, unless otherwise noted. Changes to this schedule are published on our web site comptroller.nyc.gov/wages. Contractors must pay the wages and supplements in effect when the worker, laborer, mechanic performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site comptroller.nyc.gov/wages.

Prevailing rates and ratios for apprentices are published in the Construction Apprentice Prevailing Wage Schedule. Pursuant to Labor Law § 220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant, registered with the

New York State Department of Labor, may be paid at the apprentice rates. Apprentices who are not so registered must be paid as journey persons.

New York City public work projects awarded pursuant to a Project Labor Agreement ("PLA") in accordance with Labor Law section 222 may have different labor standards for shift, premium and overtime work. Please refer to the PLA's pre-negotiated labor agreements for wage and benefit rates applicable to work performed outside of the regular workday. More information is available at the Mayor's Office of Contract Services (MOCS) web page at:

https://www1.nyc.gov/site/mocs/legal-forms/project-labor-agreements.page

All the provisions of Labor Law Article 8 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller in accordance with the trade classifications in this schedule; however, we will enforce shift, premium, overtime and other non-standard rates as they appear in a project's pre-negotiated labor agreement.

In order to meet their obligation to provide prevailing supplemental benefits to each covered employee, employers must either:

1) **Provide bona fide fringe benefits which cost the employer no less than the prevailing supplemental benefits rate; or**
2) **Supplement the employee's hourly wage by an amount no less than the prevailing supplemental benefits rate; or**
3) **Provide a combination of bona fide fringe benefits and wage supplements which cost the employer no less than the prevailing supplemental benefits rate in total.**

Although prevailing wage laws do not require employers to provide bona fide fringe benefits (as opposed to wage supplements) to their employees, other laws may. For example, the Employee Retirement Income Security Act, 29 U.S.C. § 1001 et seq., the Patient Protection and Affordable Care Act, 42 U.S.C. § 18001 et seq., and the New York City Paid Sick Leave Law, N.Y.C. Admin. Code § 20-911 et seq., require certain employers to provide certain benefits to their employees. Labor agreements to which employers are a party may also require certain benefits. The Comptroller's Office does not enforce these laws or agreements.

Employers must provide prevailing supplemental benefits at the straight time rate for each hour worked unless otherwise noted in the classification.

Paid Holidays, Vacation and Sick Leave when listed must be paid or provided in addition to the prevailing hourly supplemental benefit rate.

For more information, please refer to the Comptroller's Prevailing Wage Law Regulations in Title 44 of the Rules of the City of New York, Chapter 2, available at comptroller.nyc.gov/wages.

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

TABLE OF CONTENTS

CLASSIFICATION	PAGE
ASBESTOS HANDLER	5
BLASTER	5
BOILERMAKER	6
BRICKLAYER	7
CARPENTER - BUILDING COMMERCIAL	8
CARPENTER - HEAVY CONSTRUCTION WORK	9
CARPENTER - HIGH RISE CONCRETE FORMS	10
CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST	11
CARPENTER - WOOD WATER STORAGE TANK	12
CEMENT & CONCRETE WORKER	13
CEMENT MASON	14
CORE DRILLER	14
DERRICKPERSON AND RIGGER	16
DIVER	17
DOCKBUILDER - PILE DRIVER	18
DRIVER: TRUCK (TEAMSTER)	19
ELECTRICIAN - ALARM TECHNICIAN	24
ELEVATOR CONSTRUCTOR	26
ELEVATOR REPAIR & MAINTENANCE	27
ENGINEER	28
ENGINEER - CITY SURVEYOR AND CONSULTANT	33
ENGINEER - FIELD (BUILDING CONSTRUCTION)	34
ENGINEER - FIELD (HEAVY CONSTRUCTION)	35
ENGINEER - FIELD (STEEL ERECTION)	36
ENGINEER - OPERATING	37
FLOOR COVERER	45
GLAZIER	45
GLAZIER - REPAIR & MAINTENANCE	46
HAZARDOUS MATERIAL HANDLER	47
HEAT AND FROST INSULATOR	48
HOUSE WRECKER	49
IRON WORKER - ORNAMENTAL	50
IRON WORKER - STRUCTURAL	51
LABORER	52
LANDSCAPING	52

MARBLE MECHANIC 54
MASON TENDER 55
MASON TENDER (INTERIOR DEMOLITION WORKER) 56
METALLIC LATHER 57
MILLWRIGHT 58
MOSAIC MECHANIC 59
PAINTER 60
PAINTER - LINE STRIPING (ROADWAY) 60
PAINTER - METAL POLISHER 62
PAINTER - SIGN 63
PAINTER - STRUCTURAL STEEL 64
PAPERHANGER 65
PAVER AND ROADBUILDER 66
PLASTERER 68
PLASTERER - TENDER 69
PLUMBER 69
PLUMBER (MECHNICAL EQUIPMENT AND SERVICE) 70
PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION) 71
PLUMBER: PUMP & TANK 72
POINTER, WATERPROOFER, CAULKER, SANDBLASTER, STEAMBLASTER 73
ROOFER 73
SHEET METAL WORKER 74
SHEET METAL WORKER - SPECIALTY 75
SHIPYARD WORKER 76
SIGN ERECTOR 78
STEAMFITTER 78
STEAMFITTER - REFRIGERATION AND AIR CONDITIONER 79
STONE MASON - SETTER 80
TAPER 81
TELECOMMUNICATION WORKER 82
TILE FINISHER 83
TILE LAYER - SETTER 84
TIMBERPERSON 85
TUNNEL WORKER 85
UTILITY LOCATOR 87
WELDER 89

ASBESTOS HANDLER
SEE HAZARDOUS MATERIAL HANDLER

BLASTER

Blaster

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.71
Supplemental Benefit Rate per Hour: $48.63

Blaster - Hydraulic Trac Drill

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $50.85
Supplemental Benefit Rate per Hour: $48.63

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $50.02
Supplemental Benefit Rate per Hour: $48.63

Blaster - Journeyperson

(Laborer, Chipper/Jackhammer including Walk Behind Self Propelled Hydraulic Asphalt and Concrete Breakers and Hydro (Water) Demolition, Powder Carrier, Hydraulic Chuck Tender, Chuck Tender and Nipper)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $43.50
Supplemental Benefit Rate per Hour: $48.63

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $21.75
Supplemental Benefit Rate per Hour: $48.63

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)

BOILERMAKER

Boilermaker

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $63.38
Supplemental Benefit Rate per Hour: $46.67
Supplemental Note: For time and one half overtime - $69.56 For double overtime - $92.44

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
On jobs requiring two (2) or three (3) shifts, the first shift shall work eight (8) hours at the regular straight-time hourly rate. The second shift shall work eight (8) hours and receive eight hours at the regular straight time hourly rate plus two dollars ($2.00) per hour. The third shift shall work eight (8) hours and receive eight hours at the regular straight time hourly rate plus two dollars and twenty-five cents ($2.25) per hour.

(Local #5)

BRICKLAYER

Bricklayer

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $57.64
Supplemental Benefit Rate per Hour: $35.95

Overtime Description
Time and one half the regular rate after a 7 hour day. If working on a job that is predominately Pointer, Cleaner, Caulker work, then Time and one half the regular rate after an 8 hour day.

Overtime
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 second shift wage rate shall be a 15% wage premium with no premium for supplemental benefits. There must be a first shift in order to work a second shift. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, eight hours will be paid at straight time rate for seven hours of work.

(Bricklayer District Council)

CARPENTER - BUILDING COMMERCIAL

Building Commercial

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $54.75
Supplemental Benefit Rate per Hour: $47.13

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. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

CARPENTER - HEAVY CONSTRUCTION WORK
(Construction of Engineered Structures and Building Foundations including all form work)

Heavy Construction Work

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.93
Supplemental Benefit Rate per Hour: $53.49

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. When two (2) or more shifts of Carpenters are employed, single time will be paid for each shift.

(Carpenters District Council)

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

Carpenter High Rise A

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $50.78
Supplemental Benefit Rate per Hour: $44.44

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $40.19
Supplemental Benefit Rate per Hour: $17.75

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. However, any shift beginning after 5:00 P.M. shall be paid at time and one half the regular hourly rate. There must be a first shift in order to work a second shift. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST

Carpenter - Hod Hoist

(Assisted by Mason Tender)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $52.00
Supplemental Benefit Rate per Hour: $47.40

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 112% of the straight time hourly rate. Benefit fund contributions shall be paid at the straight time rate. There must be a first shift in order to work a second shift. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

CARPENTER - WOOD WATER STORAGE TANK

Tank Mechanic

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $35.69
Supplemental Benefit Rate per Hour: $22.24

Tank Helper

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $28.23
Supplemental Benefit Rate per Hour: $22.24

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
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Day after Thanksgiving
1/2 day on Christmas Eve if work is performed in the A.M.
Christmas Day
1/2 day on New Year's Eve if work is performed in the A.M.

Vacation

Employed for one (1) year.....one (1) week vacation (40 hours)
Employed for three (3) years.....two (2) weeks vacation (80 hours)
Employed for more than twenty (20) years.....three (3) weeks vacation (120 hours)

SICK LEAVE:
Two (2) sick days after being employed for twenty (20) years.

(Carpenters District Council)

CEMENT & CONCRETE WORKER

Cement & Concrete Worker

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $45.28
Supplemental Benefit Rate per Hour: $30.20
Supplemental Note: $34.20 on Saturdays; $38.20 on Sundays & Holidays

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $34.80
Supplemental Benefit Rate per Hour: $22.20
Supplemental Note: $24.20 on Saturdays; $26.20 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 16)

CEMENT MASON

Cement Mason

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $45.77
Supplemental Benefit Rate per Hour: $41.01
Supplemental Note: Supplemental benefit time and one half rate: $71.97; Double time rate: double the base supplemental benefit rate.

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. Four Days a week at Ten (10) hours straight time is allowed.

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 off shift 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.

(Local #780) (BCA)

CORE DRILLER

Core Driller

Effective Period: 7/1/2021 - 10/17/2021

Wage Rate per Hour: $41.74
Supplemental Benefit Rate per Hour: $29.40

Effective Period: 10/18/2021 - 6/30/2022
Wage Rate per Hour: $42.27
Supplemental Benefit Rate per Hour: $30.60

Core Driller Helper

Effective Period: 7/1/2021 - 10/17/2021
Wage Rate per Hour: $32.92
Supplemental Benefit Rate per Hour: $29.40

Effective Period: 10/18/2021 - 6/30/2022
Wage Rate per Hour: $33.47
Supplemental Benefit Rate per Hour: $30.60

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2021 - 10/17/2021
Wage Rate per Hour: $29.63
Supplemental Benefit Rate per Hour: $29.40

Effective Period: 10/18/2021 - 6/30/2022
Wage Rate per Hour: $30.12
Supplemental Benefit Rate per Hour: $30.60

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2021 - 10/17/2021
Wage Rate per Hour: $26.34
Supplemental Benefit Rate per Hour: $29.40

Effective Period: 10/18/2021 - 6/30/2022
Wage Rate per Hour: $26.78
Supplemental Benefit Rate per Hour: $30.60

Core Driller Helper (First year in the industry)

Effective Period: 7/1/2021 - 10/17/2021
Wage Rate per Hour: $23.04
Supplemental Benefit Rate per Hour: $29.40

Effective Period: 10/18/2021 - 6/30/2022
Wage Rate per Hour: $23.43
Supplemental Benefit Rate per Hour: $30.60

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

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 two dollars ($2.00) 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $53.99
Supplemental Benefit Rate per Hour: $55.10
Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. $56.52 - For work performed in Staten Island.

Derrick Person & Rigger - Site Work

Assists the Stone Mason-Setter in the setting of stone and paving stone.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $44.86
Supplemental Benefit Rate per Hour: $43.37

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $71.80
Supplemental Benefit Rate per Hour: $53.49

Diver Tender (Marine)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $51.34
Supplemental Benefit Rate per Hour: $53.49

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.93
Supplemental Benefit Rate per Hour: $53.49

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $43.83
Supplemental Benefit Rate per Hour: $51.55
Supplemental Note: Over 40 hours worked: at time and one half rate - $22.50; at double time rate - $30.00

Driver - Tractor Trailer

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $46.12
Supplemental Benefit Rate per Hour: $51.50
Supplemental Note: Over 40 hours worked: at time and one half rate - $22.50; at double time rate - $30.00

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $46.68
Supplemental Benefit Rate per Hour: $51.50
Supplemental Note: Over 40 hours worked: at time and one half rate - $22.50; at double time rate - $30.00

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 shift work commencing between 6:00 P.M. and 4:30 A.M. shall work eight and one half (8 1/2) 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $40.89
Supplemental Benefit Rate per Hour: $47.01
Supplemental Note: Over 40 hours worked: time and one half rate $18.01; double time rate $24.01

Overtime Description

For Paid Holidays: Employees who do not work on a contractual holiday shall be compensated two (2) hours extra pay in straight time wages and benefits for every day on which the Employee does not pass up a day's work during the calendar week (Sunday through Saturday) of the holiday, up to a maximum of ten (10) hours in wages and eight (8) hours in benefit contributions for the holiday

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
President's Day
Columbus Day
Veteran's Day

Triple time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day

Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Christmas Day

(Local #282)

ELECTRICIAN

(Including installation of low voltage cabling carrying data, video and/or voice on building construction/alteration/renovation projects.)

Electrician "A" (Regular Day / Day Shift)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $58.00
Supplemental Benefit Rate per Hour: $54.86
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician "A" (Regular Day Overtime after 7 hrs / Day Shift Overtime after 8 hrs)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $87.00
Supplemental Benefit Rate per Hour: $56.73
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician "A" (Swing Shift)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $68.05
Supplemental Benefit Rate per Hour: $62.39
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

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

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: $102.08
Supplemental Benefit Rate per Hour: $64.58
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $76.23
Supplemental Benefit Rate per Hour: $68.74
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $114.35
Supplemental Benefit Rate per Hour: $71.19
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

* Supplemental Benefit Rate per Hour Note

In addition to the Supplemental Benefit Rates per Hour listed above, the employer must provide an additional 6.2% of taxable gross pay earned on covered work only. This additional Supplemental Benefit Rate will terminate when the employee has contributed the maximum annual Social Security tax required by law, on all work performed.

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

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 $21.86 - See * Supplemental Benefit Rate per Hour Note above.

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $30.50
Supplemental Benefit Rate per Hour: $24.45
First and Second Year "M" Wage Rate Per Hour: $26.00
First and Second Year "M" Supplemental Rate: $22.06

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $45.75
Supplemental Benefit Rate per Hour: $26.38
First and Second Year "M" Wage Rate Per Hour: $39.00
First and Second Year "M" Supplemental Rate: $23.70

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $33.90
Supplemental Benefit Rate per Hour: $18.43
Supplemental Note: $16.80 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.
Time and one half 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 8:30 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $58.00
Supplemental Benefit Rate per Hour: $56.83
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $43.16
Supplemental Benefit Rate per Hour: $42.15
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

Electrician - Electro Pole Maintainer

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $37.11
Supplemental Benefit Rate per Hour: $38.04
*** Supplemental Note: See Supplemental Benefit Rate per Hour Note below**

* Supplemental Benefit Rate per Hour Note

In addition to the Supplemental Benefit Rates per Hour listed above, the employer must provide an additional 6.2% of taxable gross pay earned on covered work only. This additional Supplemental Benefit Rate will terminate when the employee has contributed the maximum annual Social Security tax required by law, on all work performed.

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: 7/1/2021 - 3/16/2022
Wage Rate per Hour: $72.29
Supplemental Benefit Rate per Hour: $38.29

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate per Hour: $75.14
Supplemental Benefit Rate per Hour: $39.10

Overtime Description
For New Construction: work performed after an 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: 7/1/2021 - 3/16/2022
Wage Rate per Hour: $56.77
Supplemental Benefit Rate per Hour: $38.19

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate per Hour: $59.09
Supplemental Benefit Rate per Hour: $39.00

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $74.65
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $119.44

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $72.40
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $115.84

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $68.62
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $109.79

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $72.05
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $115.28

Engineer - Heavy Construction Maintenance Engineer II

On Base Mounted Tower Cranes

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $95.02
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $152.03

Engineer - Heavy Construction Maintenance Engineer III

On Generators, Light Towers

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $47.10
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $75.36

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $48.35
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $77.36

Engineer - Heavy Construction Service Engineer

Gradalls: Concrete Pumps: Power Houses: Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $64.82
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $103.71

Engineer - Heavy Construction Service Mechanic

Shovels: Cranes: Draglines: Backhoes: Keystones: Pavers: Trenching Machines: Gunite Machines: Compressors (three (3) or more in Battery): Crawler Cranes- having a straight lattice boom with no attachment or luffing boom, no jib and no auxiliary attachment.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $44.45
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $71.12

Engineer - Steel Erection Maintenance Engineers

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $68.93
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $110.29

Engineer - Steel Erection Oiler I

On a Truck Crane

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $64.43
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $103.09

Engineer - Steel Erection Oiler II

On a Crawler Crane

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $48.72
Supplemental Benefit Rate per Hour: $42.06
Supplemental Note: $76.72 on overtime
Shift Wage Rate: $77.95

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $64.11
Supplemental Benefit Rate per Hour: $41.15
Supplemental Note: $74.90 on overtime

Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $49.49
Supplemental Benefit Rate per Hour: $41.15
Supplemental Note: $74.90 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $60.89
Supplemental Benefit Rate per Hour: $41.15
Supplemental Note: $74.90 on overtime

Engineer - Building Work Oilers II

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $44.88
Supplemental Benefit Rate per Hour: $41.15
Supplemental Note: $74.90 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

When two (2) or more shifts are employed, single time will be paid for each shift.

(Local #15)

ENGINEER - CITY SURVEYOR AND CONSULTANT

Party Chief

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $41.98
Supplemental Benefit Rate per Hour: $24.40
Supplemental Note: Overtime Benefit Rate - $29.35 per hour (time & one half) $34.30 per hour (double time).

Instrument Person

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $34.32
Supplemental Benefit Rate per Hour: $24.40
Supplemental Note: Overtime Benefit Rate - $29.35 per hour (time & one half) $34.30 per hour (double time).

Rodperson

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $29.49
Supplemental Benefit Rate per Hour: $24.40
Supplemental Note: Overtime Benefit Rate - $29.35 per hour (time & one half) $34.30 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $66.42
Supplemental Benefit Rate per Hour: $37.16
Supplemental Note: Overtime Benefit Rate - $52.27 per hour (time & one half) $67.37 per hour (double time).

Field Engineer - BC Instrument Person

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $51.37
Supplemental Benefit Rate per Hour: $37.16
Supplemental Note: Overtime Benefit Rate - $52.27 per hour (time & one half) $67.37 per hour (double time).

Field Engineer - BC Rodperson

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $32.84
Supplemental Benefit Rate per Hour: $37.16
Supplemental Note: Overtime Benefit Rate - $52.27 per hour (time & one half) $67.37 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $77.31
Supplemental Benefit Rate per Hour: $39.64
Supplemental Note: Overtime benefit rate - $55.86 per hour (time & one half), $72.08 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.50
Supplemental Benefit Rate per Hour: $39.64
Supplemental Note: Overtime benefit rate - $55.86 per hour (time & one half), $72.08 per hour (double time).

Field Engineer - HC Rodperson

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $47.23
Supplemental Benefit Rate per Hour: $39.64
Supplemental Note: Overtime benefit rate - $55.86 per hour (time & one half), $72.08 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $71.98
Supplemental Benefit Rate per Hour: $39.14
Supplemental Note: Overtime benefit rate - $55.11 per hour (time & one half), $71.08 per hour (double time).

Field Engineer - Steel Erection Instrument Person

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $55.85
Supplemental Benefit Rate per Hour: $39.14
Supplemental Note: Overtime benefit rate - $55.11 per hour (time & one half), $71.08 per hour (double time).

Field Engineer - Steel Erection Rodperson

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $36.99
Supplemental Benefit Rate per Hour: $39.14
Supplemental Note: Overtime benefit rate - $55.11 per hour (time & one half), $71.08 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $86.05
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $137.68

Operating Engineer - Road & Heavy Construction II

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $89.05
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $142.48

Operating Engineer - Road & Heavy Construction III

Mine Hoists (Cranes, etc. when used as Mine Hoists)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $91.89
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $147.02

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $89.70
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours

Shift Wage Rate: $143.52

Operating Engineer - Road & Heavy Construction V

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $87.94
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $140.70

Operating Engineer - Road & Heavy Construction VI

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $83.59
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $133.74

Operating Engineer - Road & Heavy Construction VII

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $67.71
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $108.34

Operating Engineer - Road & Heavy Construction VIII

Utility Compressors

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $52.77
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $66.26

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $79.56

Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $127.30

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $73.21
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $117.14

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $57.06
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $91.30

Operating Engineer - Road & Heavy Construction XII

All Drills and Machines of a similar nature.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $84.48
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $135.17

Operating Engineer - Road & Heavy Construction XIII

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $81.85
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $130.96

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: $78.28
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $125.25

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $53.11
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $84.98

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $74.81
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $119.70

Operating Engineer - Road & Heavy Construction XVII

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $75.36
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $120.58

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $107.75
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $172.40

Operating Engineer - Paving I

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $83.59
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $133.74

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $81.47
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $130.35

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $69.04
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $110.46

Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $89.31
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours

Operating Engineer - Concrete II

Compressors

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $53.51
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours

Operating Engineer - Concrete III

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $71.55
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $92.36
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $147.78

Operating Engineer - Steel Erection II

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $88.77
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $142.03

Operating Engineer - Steel Erection III

Compressors, Welding Machines.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $53.07
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $84.91

Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine. (Public Works Only)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $50.56
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
Shift Wage Rate: $80.90

Operating Engineer - Building Work I

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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $70.94
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $53.12
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $84.16
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $89.10
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $78.81
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $77.98
Supplemental Benefit Rate per Hour: $34.55

Supplemental Note: $63.15 overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $62.01
Supplemental Benefit Rate per Hour: $34.55
Supplemental Note: $63.15 overtime hours
For New House Car projects Wage Rate per Hour $49.50
For New House Car projects: Supplemental Benefit overtime hours: $48.85

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
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
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates

When two (2) or more shifts are employed, single time will be paid for each shift.
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $54.75
Supplemental Benefit Rate per Hour: $47.13

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
Day before Christmas
Christmas Day
Day before New Year's Day

Shift Rates
Two shifts may be utilized with the first shift working 8 a.m. to the end of the shift at straight time rate of pay. The wage rate for the second shift consisting of 7 hours shall be paid at 114.29% of straight time wage rate. The wage rate for the second shift consisting of 8 hours shall be paid 112.5% of the straight time wage rate. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Carpenters District Council)

GLAZIER
(New Construction, Remodeling, and Alteration)

Glazier

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $46.55
Supplemental Benefit Rate per Hour: $47.74
Supplemental Note: Supplemental Benefit Overtime Rate: $71.62

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

Shift Rates
Shifts shall be any 8 consecutive hours after the normal working day for which the Glazier shall receive 9 hours pay for 8 hours worked.

(Local #1281)

GLAZIER - REPAIR & MAINTENANCE
(For the Installation of Glass - All repair and maintenance work on a particular building.)

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $26.40
Supplemental Benefit Rate per Hour: $24.09

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 rate for work on the following holiday(s).
Time and one half the regular hourly rate after 40 straight time 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
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Local #1281)

HAZARDOUS MATERIAL HANDLER
(Removal, abatement, encapsulation or decontamination of asbestos, lead, mold, or other toxic or hazardous waste/materials)

Handler

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $38.05
Supplemental Benefit Rate per Hour: $17.75

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 straight time hours in any work week.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day
Easter

Paid Holidays
None

(Local #78 and Local #12A)

HEAT AND FROST INSULATOR

Heat & Frost Insulator

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $62.21
Supplemental Benefit Rate per Hour: $41.91

Overtime Description
Double time shall be paid for supplemental benefits during overtime work.
8th hour paid at time and one half.

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
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.There must be a first shift to work the second shift, and a second shift to work the third shift. Off-hour jobs in occupied

buildings may be worked on weekdays with an increment of one-dollar ($1.00) per hour and eight (8) hours pay for seven (7) hours worked.

(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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $37.63
Supplemental Benefit Rate per Hour: $30.37

House Wrecker - Tier B

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $26.86
Supplemental Benefit Rate per Hour: $22.78

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $46.15
Supplemental Benefit Rate per Hour: $59.62
Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description
Time and one half the regular rate after a 7 hour day for a maximum of two hours on any regular work day (the 8th and 9th hour) and double time shall be paid for all work on a regular work day thereafter, time and one half the regular rate for Saturday for the first seven hours of work and double time shall be paid for all work on a Saturday thereafter.

Overtime
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
When two or three shifts are employed on a job, Monday through Friday, the second and third shift are paid eight and one half (8 ½) hours at the straight time rate for seven (7) hours of work, and ten (10) hours at the straight time rate for eight (8) hours of work. When it is not possible to conduct alteration or repair work during regular working hours in a building occupied by tenants, eight hours will be paid at straight time rate for seven hours of work, and all overtime shall be paid at time and one-half the regular straight time rates but on Sundays and Holidays, time and one-half the regular straight time rate shall be paid for all work up to seven (7) hours and double time shall be paid for all work thereafter.

(Local #580)

IRON WORKER - STRUCTURAL

Iron Worker - Structural

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $54.20
Supplemental Benefit Rate per Hour: $82.81
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. Four Days a week at Ten (10) hours straight time is allowed.

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.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday.

(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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $43.50
Supplemental Benefit Rate per Hour: $48.63

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, such as tree pruning, tree removing and spraying in connection with Green Infrastructure maintenance and the planting of street

trees and trees in City parks, but not when such activities are performed as part of construction or reconstruction projects.)

Landscaper (Year 6 and above)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $33.90
Supplemental Benefit Rate per Hour: $17.05

Landscaper (Year 3 - 5)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $32.81
Supplemental Benefit Rate per Hour: $17.05

Landscaper (up to 3 years)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $30.06
Supplemental Benefit Rate per Hour: $17.05

Groundperson

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $30.06
Supplemental Benefit Rate per Hour: $17.05

Tree Remover / Pruner

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $39.42
Supplemental Benefit Rate per Hour: $17.05

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $28.41
Supplemental Benefit Rate per Hour: $17.05

Watering - Plant Maintainer

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $22.88
Supplemental Benefit Rate per Hour: $17.05

Overtime Description

For all overtime work performed, supplemental benefits shall include an additional seventy-five ($0.75) cents per hour.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Shift Rates

Work performed on a 4pm to 12am shift has a 15% differential. Work performed on a 12am to 8am shift has a 20% differential.

(Local #175)

MARBLE MECHANIC

Marble Setter

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.73
Supplemental Benefit Rate per Hour: $41.76

Marble Finisher

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $44.32
Supplemental Benefit Rate per Hour: $38.96

Marble Polisher

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $42.91
Supplemental Benefit Rate per Hour: $31.61

Marble Maintenance Finisher

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $26.73
Supplemental Benefit Rate per Hour: $13.59

Overtime Description
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
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $39.20
Supplemental Benefit Rate per Hour: $31.24

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. When it is not possible to conduct alteration work during regular working hours in a building occupied by tenants, the rule for the second shift will apply.

(Local #79)

MASON TENDER (INTERIOR DEMOLITION WORKER)

Mason Tender Tier A

Tier A Interior Demolition Worker performs all burning, chopping, and other technically skilled tasks related to interior demolition work.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $37.29
Supplemental Benefit Rate per Hour: $25.75

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $26.48
Supplemental Benefit Rate per Hour: $20.07

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $46.40
Supplemental Benefit Rate per Hour: $49.80
Supplemental Note: For time and one half overtime - $61.55 For double overtime - $77.10

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
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

Off-shift work outside of normal working hours shall receive straight time rate plus $12 per hour for the first eight (8) hours.

(Local #46)

MILLWRIGHT

Millwright

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $57.00
Supplemental Benefit Rate per Hour: $54.76

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.
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
Veteran's 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
Second and third shifts receives the straight time rate of pay plus fifteen (15%) percent allowing for one half hour for a meal. There must be a first shift to work a second and third shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) percent for weekday hours.

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $51.66
Supplemental Benefit Rate per Hour: $43.67

Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $50.06
Supplemental Benefit Rate per Hour: $43.67

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $50.06
Supplemental Benefit Rate per Hour: $43.67

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $43.00
Supplemental Benefit Rate per Hour: $36.70
Supplemental Note: $43.79 on overtime

Spray & Scaffold / Decorative / Sandblast

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $46.00
Supplemental Benefit Rate per Hour: $36.70
Supplemental Note: $43.79 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 - LINE STRIPING (ROADWAY)

Striping - Machine Operator

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $37.00
Supplemental Benefit Rate per Hour: $14.37
Supplemental Note: Overtime Supplemental Benefit rate - $16.25

Lineperson (Thermoplastic)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $41.00
Supplemental Benefit Rate per Hour: $14.37
Supplemental Note: Overtime Supplemental Benefit rate - $16.25

Striping Assistant & Traffic Safety

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $36.75
Supplemental Benefit Rate per Hour: $14.37
Supplemental Note: Overtime Supplemental Benefit rate - $16.25

Overtime Description

Time and one half the regular rate for all work in excess of ten (10) straight time hours per day and in excess of forty (40) straight time hours per week.

For Paid Holidays: Employees will only receive Holiday Pay for holidays not worked if said employee worked both the regularly scheduled workday before and after the holiday.

Overtime

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
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

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.

(Local #1010)

PAINTER - METAL POLISHER

METAL POLISHER

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $31.88
Supplemental Benefit Rate per Hour: $10.29

METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $32.83
Supplemental Benefit Rate per Hour: $10.29

METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $35.38
Supplemental Benefit Rate per Hour: $10.29

ASSISTANT METAL POLISHER

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $24.66
Supplemental Benefit Rate per Hour: $9.81

ASSISTANT METAL POLISHER - NEW CONSTRUCTION

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $25.41
Supplemental Benefit Rate per Hour: $9.81

ASSISTANT METAL POLISHER - SCAFFOLD OVER 34 FEET

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $27.16
Supplemental Benefit Rate per Hour: $9.81

Overtime Description

All work performed on Saturdays shall be paid at time-in-a half. The exception being; for suspended scaffold work and work deemed as a construction project; an eight (8) hour shift lost during the week due to circumstances beyond the control of the employer, up to a maximum of eight (8) hours per week, may be worked on Saturday at the straight time rate.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.
Triple time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election 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 - SIGN

Sign Painter

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $44.32
Supplemental Benefit Rate per Hour: $21.70

Assistant Sign Painter

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $37.66
Supplemental Benefit Rate per Hour: $19.93

Overtime Description

If any employee is required to work on any of the paid holidays then the employee shall receive double time rate of wages as well as the holiday pay for that day.

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.

Paid Holidays

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation

At least 1 year of employment.....1 week
2 years or more of employment.....2 weeks
8 years or more of employment.....3 weeks

(Local #8A-28A)

PAINTER - STRUCTURAL STEEL

Painters on Structural Steel

Effective Period: 7/1/2021 - 9/30/2021
Wage Rate per Hour: $51.50
Supplemental Benefit Rate per Hour: $48.28

Effective Period: 10/1/2021 - 6/30/2022
Wage Rate per Hour: $53.00
Supplemental Benefit Rate per Hour: $49.83

Painter - Power Tool

Effective Period: 7/1/2021 - 9/30/2021
Wage Rate per Hour: $57.50
Supplemental Benefit Rate per Hour: $48.28
Overtime Wage Rate: $6.00 above the "Painters on Structural Steel" overtime rate.

Effective Period: 10/1/2021 - 6/30/2022
Wage Rate per Hour: $59.50
Supplemental Benefit Rate per Hour: $49.83
Overtime Wage Rate: $6.50 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

Second shift is paid at regular hourly wage rates plus a ten percent (10%) differential. There must be a first shift in order to work a second shift.

(Local #806)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $46.87
Supplemental Benefit Rate per Hour: $37.49
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $47.85
Supplemental Benefit Rate per Hour: $48.51
Supplemental Note: For time and one half overtime - $52.64 For double overtime - $56.76

Paver & Roadbuilder - Laborer

Paving and road construction work, regardless of material used, including but not limited to preparation of job sites, removal of old surfaces, asphalt and/or concrete, by whatever method, including but not limited to milling; laying of concrete; laying of asphalt for temporary, patchwork, and utility paving (but not production paving); site preparation and incidental work for installation of rubberized materials and similar surfaces; installation and repair of temporary construction fencing; slurry/seal coating, paving stones, maintenance of safety surfaces; play equipment installation, and other related work.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $43.98
Supplemental Benefit Rate per Hour: $48.51
Supplemental Note: For time and one half overtime - $52.64 For double overtime - $56.76

Production Paver & Roadbuilder - Screed Person

(Production paving is asphalt paving when using a paving machine or on a project where a paving machine is traditionally used)

Adjustment of paving machinery on production paving jobs.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $48.45
Supplemental Benefit Rate per Hour: $48.51
Supplemental Note: For time and one half overtime - $52.64 For double overtime - $56.76

Production Paver & Roadbuilder - Raker

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $47.85
Supplemental Benefit Rate per Hour: $48.51
Supplemental Note: For time and one half overtime - $52.64 For double overtime - $56.76

Production Paver & Roadbuilder - Shoveler

General laborer (except removal of surfaces - see Paver and Roadbuilder-Laborer) including but not limited to tamper, AC paint and liquid tar work.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $43.98
Supplemental Benefit Rate per Hour: $48.51
Supplemental Note: For time and one half overtime - $52.64 For double overtime - $56.76

Overtime Description

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

For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day

Paid Holidays

Memorial Day
Independence Day
Labor Day
Thanksgiving Day

Shift Rates

When two shifts are employed, the work period for each shift shall be a continuous eight (8) hours. When three shifts are employed, each shift will work seven and one half (7 ½) hours but will be paid for eight (8) hours at the straight time rate 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: 7/1/2021 - 7/31/2021
Wage Rate per Hour: $45.73
Supplemental Benefit Rate per Hour: $30.37

Effective Period: 8/1/2021 - 6/30/2022
Wage Rate per Hour: $46.00
Supplemental Benefit Rate per Hour: $28.20

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 work during regular working hours (between 6:30am and 4:30pm), a shift differential shall be paid at the regular hourly rate plus a twelve percent (12%) per hour differential. Workers on shift work shall be allowed a paid one-half hour meal break.

(Local #262)

PLASTERER - TENDER

Plasterer - Tender

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $39.20
Supplemental Benefit Rate per Hour: $31.24

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $71.25
Supplemental Benefit Rate per Hour: $39.95
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $57.08
Supplemental Benefit Rate per Hour: $31.88

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

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

Plumber

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $44.37
Supplemental Benefit Rate per Hour: $18.31

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $49.47
Supplemental Benefit Rate per Hour: $28.68

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $69.33
Supplemental Benefit Rate per Hour: $27.98

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.77
Supplemental Benefit Rate per Hour: $29.91

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 4:00 P.M.) is to be paid at time and one half the regular rate. However, the employer may establish one (1) or two (2) shifts starting at or after 4:00 P.M. to be paid at the regular hourly rate plus a 10% differential.

(Bricklayer District Council)

ROOFER

Roofer

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $44.25
Supplemental Benefit Rate per Hour: $34.81

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. There must be a first shift to work the second shift, and a second shift to work the third shift. All other work outside the regular work day (an eight hour workday between the hours of 5:00 A.M. and 4:00 P.M.) is to be paid at time and one half the regular rate.

(Local #8)

SHEET METAL WORKER

Sheet Metal Worker

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $51.36
Supplemental Benefit Rate per Hour: $53.34
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $41.09
Supplemental Benefit Rate per Hour: $53.34

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $18.49
Supplemental Benefit Rate per Hour: $11.94

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $48.18
Supplemental Benefit Rate per Hour: $26.87
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $28.50
Supplemental Benefit Rate per Hour: $3.95

Shipyard Mechanic - Second Class

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $19.07
Supplemental Benefit Rate per Hour: $3.59

Shipyard Laborer - First Class

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $23.40
Supplemental Benefit Rate per Hour: $3.75

Shipyard Laborer - Second Class

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $17.38
Supplemental Benefit Rate per Hour: $3.52

Shipyard Dockhand - First Class

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $21.57
Supplemental Benefit Rate per Hour: $3.68

Shipyard Dockhand - Second Class

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $17.28
Supplemental Benefit Rate per Hour: $3.52

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 straight time 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $52.29
Supplemental Benefit Rate per Hour: $57.49

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
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

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $59.05
Supplemental Benefit Rate per Hour: $58.14
Supplemental Note: Overtime supplemental benefit rate: $115.54

Steamfitter -Temporary Services

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $44.88
Supplemental Benefit Rate per Hour: $47.31

Overtime Description
Double time after a 7 hour day except for Temporary Services.

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

Paid Holidays
None

Shift Rates
May be performed outside of the regular workday except Saturday, Sunday and Holidays. When shift work is performed the wage rate for regular time worked is a 15% percent premium on wage and 15% percent premium on supplemental benefits.

Local 638

STEAMFITTER - REFRIGERATION AND AIR CONDITIONER
(Maintenance and Installation Service Person)

Refrigeration and Air Conditioner Mechanic

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $42.85
Supplemental Benefit Rate per Hour: $19.46

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.

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 #638-B)

STONE MASON - SETTER

Stone Mason - Setter

(Assisted by Derrickperson and Rigger)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.43
Supplemental Benefit Rate per Hour: $48.52

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $48.47
Supplemental Benefit Rate per Hour: $29.06

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

(Install/maintain/repair telecommunications cables carrying data, video, and/or voice except for installation on building construction/alteration/renovation projects.)

Telecommunication Worker

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $47.03
Supplemental Benefit Rate per Hour: $23.15
Supplemental Note: The above rate applies for Manhattan, Bronx, Brooklyn, Queens. $22.84 for Staten Island only.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $43.71
Supplemental Benefit Rate per Hour: $35.10

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.42
Supplemental Benefit Rate per Hour: $39.75

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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $52.50
Supplemental Benefit Rate per Hour: $52.94

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. Benefits for off-shift work shall be paid at the straight time rate.

(Local #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $68.58
Supplemental Benefit Rate per Hour: $60.19

Tunnel Workers (Compressed Air Rates)

Includes shield driven liner plate portions or solidification portions work (8 hour shift) during excavation phase.

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $66.14
Supplemental Benefit Rate per Hour: $58.29

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $65.04
Supplemental Benefit Rate per Hour: $57.14

Outside Lock Tender, Outside Gauge Tender,Muck Lock Tender (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $63.74
Supplemental Benefit Rate per Hour: $56.20

Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $63.74
Supplemental Benefit Rate per Hour: $56.20

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $56.04
Supplemental Benefit Rate per Hour: $52.83

Blasters (Free Air Rates)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $65.41
Supplemental Benefit Rate per Hour: $57.80

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $62.58
Supplemental Benefit Rate per Hour: $55.38

All Others (Free Air Rates)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: $57.84
Supplemental Benefit Rate per Hour: $51.26

Microtunneling (Free Air Rates)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $50.06
Supplemental Benefit Rate per Hour: $44.30

Overtime Description

For work performed during excavation and primary concrete tunnel lining phases - Double time the regular rate after an 8 hour day and Saturday, Sunday and on the following holiday(s) listed below.
For Repair-Maintenance Work on Existing Equipment and Facilities - Time and one half the regular rate after a 7 hour day, Saturday, Sunday and double time the regular rate for work on the following holiday(s) listed below.
For Small-Bore Micro Tunneling Machines - Time and one-half the regular rate shall be paid for all overtime.
For work not listed above - Time and one half the regular rate after an 8 hour day and Saturday and double time the regular rate on Sunday and on the following holiday(s) listed below.

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)

UTILITY LOCATOR
(Locate & mark underground utilities for street excavation.)

Utility Locator (Year 7 and above)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $31.56
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 5 - 6)

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: $22.85
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 4)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $21.54
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 3)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $20.30
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 2)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $19.13
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Year 1)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $18.04
Supplemental Benefit Rate per Hour: $1.43

Utility Locator (Up to 1 year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $17.00
Supplemental Benefit Rate per Hour: $1.43
Supplemental Note: No benefits for the first 90 days of employment.

Overtime

Time and one half the regular rate for work on the following holiday(s).
Time and one half the regular hourly rate after 40 straight time hours in any work week.

Paid Holidays

New Year's Day
Memorial Day
Independence Day
Thanksgiving Day
Christmas Day

Shift Rates

10% shift differential to employees working any shift starting between noon and 5 AM.

Vacation

For up to 1 year 0 hours
For year 1 - 2 48 hours per year
For year 3 - 9 96 hours per year
For year 10 or more 144 hours per year

Sick Days:
For up to 1 year employee receives 40 hours paid sick leave.
For year 1 employee earns 2 hours of paid sick leave for every 100 overtime hours worked.
For year 2 - 9 years employee earns 4 hours of paid sick leave for every 100 overtime hours worked.
For year 10 or more employee earns 6 hours of paid sick leave for every 100 overtime hours worked.

(C.W.A.)

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

OFFICE OF THE COMPTROLLER

CITY OF NEW YORK

CONSTRUCTION APPRENTICE PREVAILING WAGE SCHEDULE

Pursuant to Labor Law § 220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant and registered with the New York State Department of Labor, may be paid at the apprentice rates in this schedule. Apprentices who are not so registered must be paid as journey persons in accordance with the trade classification of the work they actually performed.

Apprentice ratios are established to ensure the proper safety, training and supervision of apprentices. A ratio establishes the number of journey workers required for each apprentice in a program and on a job site. Ratios are interpreted as follows: in the case of a 1:1, 1:4 ratio, there must be one journey worker for the first apprentice, and four additional journey workers for each subsequent apprentice.

TABLE OF CONTENTS

CLASSIFICATION	PAGE
BOILERMAKER	3
BRICKLAYER	4
CARPENTER	5
CARPENTER - HIGH RISE CONCRETE FORMS	5
CEMENT MASON	6
CEMENT AND CONCRETE WORKER	7
DERRICKPERSON & RIGGER (STONE)	7
DOCKBUILDER/PILE DRIVER	8
ELECTRICIAN	9
ELEVATOR CONSTRUCTOR	10
ELEVATOR REPAIR & MAINTENANCE	11
ENGINEER	12
ENGINEER - OPERATING	13
FLOOR COVERER	14
GLAZIER	14
HAZARDOUS MATERIAL HANDLER	15
HEAT & FROST INSULATOR	16
HOUSE WRECKER	16
IRON WORKER - ORNAMENTAL	17
IRON WORKER - STRUCTURAL	18
LABORER (FOUNDATION, CONCRETE, EXCAVATING, STREET PIPE LAYER & COMMON)	18
MARBLE MECHANICS	19
MASON TENDER	21
METALLIC LATHER	21
MILLWRIGHT	22
PAINTER	23
PAINTER - METAL POLISHER	24
PAINTER - STRUCTURAL STEEL	24
PAVER AND ROADBUILDER	25
PLASTERER	25
PLASTERER - TENDER	26
PLUMBER	27
POINTER, WATERPROOFER, CAULKER, SANDBLASTER, STEAMBLASTER	28
ROOFER	29
SHEET METAL WORKER	29
SIGN ERECTOR	30
STEAMFITTER	32
STEAMFITTER - REFRIGERATION & AIR CONDITIONER	33
STONE MASON - SETTER	33
TAPER	34
TILE LAYER - SETTER	35
TIMBERPERSON	36

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

Boilermaker (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $33.12

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $35.05

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $37.01

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $38.92

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $40.87

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $42.82

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $44.74

(Local #5)

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

Bricklayer (First 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $22.95

Bricklayer (Second 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $22.95

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $22.95

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $22.95

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $22.95

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $22.95

(Bricklayer District Council)

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

Carpenter (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour For Building Apprentice: $19.55
Supplemental Benefit Rate Per Hour For Building Apprentice: $16.35

Wage Rate Per Hour For Heavy Apprentice: $23.37
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $35.49

Carpenter (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour For Building Apprentice: $22.55
Supplemental Benefit Rate Per Hour For Building Apprentice: $17.85

Wage Rate Per Hour For Heavy Apprentice: $28.97
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $35.49

Carpenter (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour For Building Apprentice: $26.80
Supplemental Benefit Rate Per Hour For Building Apprentice: $21.45

Wage Rate Per Hour For Heavy Apprentice: $37.35
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $35.49

Carpenter (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour For Building Apprentice: $34.68
Supplemental Benefit Rate Per Hour For Building Apprentice: $23.45

Wage Rate Per Hour For Heavy Apprentice: $45.74
Supplemental Benefit Rate Per Hour For Heavy Apprentice: $35.49

(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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $18.27
Supplemental Benefit Rate per Hour: $16.55

Carpenter - High Rise (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $24.70
Supplemental Benefit Rate per Hour: $16.73

Carpenter - High Rise (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $31.28
Supplemental Benefit Rate per Hour: $16.95

Carpenter - High Rise (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $38.90
Supplemental Benefit Rate per Hour: $17.20

(Carpenters District Council)

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

Cement Mason (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $19.57
Supplemental Benefit Rate per Hour: $15.61

Cement Mason (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $24.40
Supplemental Benefit Rate per Hour: $15.91

Cement Mason (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $29.68
Supplemental Benefit Rate per Hour: $16.02

(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: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 53% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.79

Cement & Concrete Worker (Second 1333 hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 69% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $19.72

Cement & Concrete Worker (Last 1334 hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $21.30

(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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: $23.37
Supplemental Benefit Rate Per Hour: $35.49

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: $28.97
Supplemental Benefit Rate Per Hour: $35.49

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: $37.35
Supplemental Benefit Rate Per Hour: $35.49

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: $45.74

Supplemental Benefit Rate Per Hour: $35.49

(Carpenters District Council)

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

Electrician (First Term: 0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $17.25
Supplemental Benefit Rate per Hour: $14.93
Overtime Supplemental Rate Per Hour: $16.07

Electrician (First Term: 7-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $17.75
Supplemental Benefit Rate per Hour: $15.19
Overtime Supplemental Rate Per Hour: $16.36

Electrician (Second Term: 0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $18.75
Supplemental Benefit Rate per Hour: $15.70
Overtime Supplemental Rate Per Hour: $16.95

Electrician (Second Term: 7-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $19.75
Supplemental Benefit Rate per Hour: $16.22
Overtime Supplemental Rate Per Hour: $17.53

Electrician (Third Term: 0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $20.75
Supplemental Benefit Rate per Hour: $16.74
Overtime Supplemental Rate Per Hour: $18.11

Electrician (Third Term: 7-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $21.75
Supplemental Benefit Rate per Hour: $17.26
Overtime Supplemental Rate Per Hour: $18.70

Electrician (Fourth Term: 0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $22.75
Supplemental Benefit Rate per Hour: $17.77
Overtime Supplemental Rate Per Hour: $19.28

Electrician (Fourth Term: 7-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $24.75
Supplemental Benefit Rate per Hour: $18.81
Overtime Supplemental Rate Per Hour: $20.45

Electrician (Fifth Term: 0-12 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $26.00
Supplemental Benefit Rate per Hour: $22.06
Overtime Supplemental Rate Per Hour: $23.70

Electrician (Fifth Term: 13-18 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $30.50
Supplemental Benefit Rate per Hour: $24.45
Overtime Supplemental Rate Per Hour: $26.38

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: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $32.76

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $33.38

Elevator (Constructor) - Second Year

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $33.31

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $33.96

Elevator (Constructor) - Third Year

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $34.42

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $35.10

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $35.52

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $36.24

(Local #1)

ELEVATOR REPAIR & MAINTENANCE
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: $32.71

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: $33.33

Elevator Service/Modernization Mechanic (Second Year)

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: $33.26

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: $33.90

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: $34.35

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: $35.03

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2021 - 3/16/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: $35.45

Effective Period: 3/17/2022 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: $36.17

(Local #1)

ENGINEER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Engineer - First Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: $25.38
Supplemental Benefit Rate per Hour: $28.51

Engineer - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $31.72
Supplemental Benefit Rate per Hour: $28.51

Engineer - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $34.89
Supplemental Benefit Rate per Hour: $28.51

Engineer - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $38.06
Supplemental Benefit Rate per Hour: $28.51

(Local #15)

ENGINEER - OPERATING
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Operating Engineer - First Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 40% of Operating Engineer - Road & Heavy Construction V's Rate
Supplemental Benefit Per Hour: $24.05

Operating Engineer - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 50% of Operating Engineer - Road & Heavy Construction V's Rate
Supplemental Benefit Per Hour: $24.05

Operating Engineer - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 60% of Operating Engineer - Road & Heavy Construction V's Rate
Supplemental Benefit Per Hour: $24.05

(Local #14)

FLOOR COVERER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Floor Coverer (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $24.55
Supplemental Benefit Rate per Hour: $16.35

Floor Coverer (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $27.55
Supplemental Benefit Rate per Hour: $17.85

Floor Coverer (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $31.80
Supplemental Benefit Rate per Hour: $21.45

Floor Coverer (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $39.68
Supplemental Benefit Rate per Hour: $23.45

(Carpenters District Council)

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

Glazier (First Year)

Effective Period: 7/1/2021 - 6/30/2022

Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Glazier (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Glazier (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Glazier (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #1281)

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

Handler (First 1000 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 78% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.25

Handler (Second 1000 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.25

Handler (Third 1000 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 83% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.25

Handler (Fourth 1000 Hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 89% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $14.25

(Local #78)

HEAT & FROST INSULATOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Heat & Frost Insulator (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 70% 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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $20.20
Supplemental Benefit Rate per Hour: $10.07

House Wrecker - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $22.15
Supplemental Benefit Rate per Hour: $10.07

House Wrecker - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $23.65
Supplemental Benefit Rate per Hour: $10.07

House Wrecker - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $26.15
Supplemental Benefit Rate per Hour: $10.07

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Iron Worker (Ornamental) - First Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $20.63
Supplemental Benefit Rate per Hour: $17.61

Iron Worker (Ornamental) - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $24.22
Supplemental Benefit Rate per Hour: $18.86

Iron Worker (Ornamental) - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $27.80
Supplemental Benefit Rate per Hour: $20.12

Iron Worker (Ornamental) - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $31.38
Supplemental Benefit Rate per Hour: $21.38

(Local #580)

IRON WORKER - STRUCTURAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $28.21
Supplemental Benefit Rate per Hour: $57.12

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $28.81
Supplemental Benefit Rate per Hour: $57.12

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $29.42
Supplemental Benefit Rate per Hour: $57.12

(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: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $48.63

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Second 1000 hours

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $48.63

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Third 1000 hours

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $48.63

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Fourth 1000 hours

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Rate Per Hour: $48.63

(Local #731)

MARBLE MECHANICS
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cutters & Setters - First 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Cutters & Setters - Second 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 45% of Journeyperson's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Cutters & Setters - Seventh 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Cutters & Setters - Eighth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Cutters & Setters - Ninth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Cutters & Setters - Tenth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

Polishers & Finishers - First 900 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Polishers & Finishers - Second 900 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

Polishers & Finishers - Third 900 Hours

Effective Period: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $20.20
Supplemental Benefit Rate per Hour: $10.07

Mason Tender - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $22.15
Supplemental Benefit Rate per Hour: $10.07

Mason Tender - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $23.65
Supplemental Benefit Rate per Hour: $10.07

Mason Tender - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $26.15
Supplemental Benefit Rate per Hour: $10.07

(Local #79)

METALLIC LATHER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metallic Lather (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $21.00
Supplemental Benefit Rate per Hour: $17.87

Metallic Lather (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $22.00
Supplemental Benefit Rate per Hour: $16.87

Metallic Lather (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $33.10
Supplemental Benefit Rate per Hour: $21.32

Metallic Lather (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $35.60
Supplemental Benefit Rate per Hour: $21.82

(Local #46)

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

Millwright (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $30.74
Supplemental Benefit Rate per Hour: $35.19

Millwright (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $36.19
Supplemental Benefit Rate per Hour: $38.89

Millwright (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $41.64
Supplemental Benefit Rate per Hour: $43.24

Millwright (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $52.54
Supplemental Benefit Rate per Hour: $50.00

(Local #740)

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

Painter - Brush & Roller - First Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $17.20
Supplemental Benefit Rate per Hour: $16.67

Painter - Brush & Roller - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $21.50
Supplemental Benefit Rate per Hour: $21.44

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $25.80
Supplemental Benefit Rate per Hour: $25.27

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $34.40
Supplemental Benefit Rate per Hour: $32.51

(District Council of Painters)

PAINTER - METAL POLISHER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metal Polisher (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $16.00
Supplemental Benefit Rate per Hour: $7.36
New Construction - Wage Rate Per Hour: $16.39
Scaffold Over 34 Feet - Wage Rate Per Hour: $18.50

Metal Polisher (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $17.00
Supplemental Benefit Rate per Hour: $7.36
New Construction - Wage Rate Per Hour: $17.44
Scaffold Over 34 Feet - Wage Rate Per Hour: $19.50

Metal Polisher (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $18.00
Supplemental Benefit Rate per Hour: $7.36
New Construction - Wage Rate Per Hour: $18.54
Scaffold Over 34 Feet - Wage Rate Per Hour: $20.50

(Local 8A-28)

PAINTER - STRUCTURAL STEEL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painters - Structural Steel (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #806)

PAVER AND ROADBUILDER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Paver and Roadbuilder - First Year (Minimum 1000 hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $29.86
Supplemental Benefit Rate per Hour: $23.55

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $31.50
Supplemental Benefit Rate per Hour: $23.55

(Local #1010)

PLASTERER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)
(Each Term is 800 Hours.)

Plasterer - First Term

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $17.48

Plasterer - Second Term

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $18.63

Plasterer - Third Term

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $20.93

Plasterer - Fourth Term

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $22.10

(Local #262)

PLASTERER - TENDER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plasterer Tender - First Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $20.20
Supplemental Benefit Rate per Hour: $10.07

Plasterer Tender - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $22.15
Supplemental Benefit Rate per Hour: $10.07

Plasterer Tender - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $23.65
Supplemental Benefit Rate per Hour: $10.07

Plasterer Tender - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate per Hour: **$26.15**
Supplemental Benefit Rate per Hour: **$10.07**

(Local #79)

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

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **$16.78**
Supplemental Benefit Rate per Hour: **$5.43**

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **$19.78**
Supplemental Benefit Rate per Hour: **$6.43**

Plumber - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **$28.36**
Supplemental Benefit Rate per Hour: **$21.19**

Plumber - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **$30.46**
Supplemental Benefit Rate per Hour: **$21.19**

Plumber - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **$33.31**
Supplemental Benefit Rate per Hour: **$21.19**

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: **$34.71**

Supplemental Benefit Rate per Hour: $21.19

Plumber - Fifth Year: 2nd Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $46.78
Supplemental Benefit Rate per Hour: $21.19

(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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $28.92
Supplemental Benefit Rate per Hour: $14.81

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $32.58
Supplemental Benefit Rate per Hour: $19.86

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $37.63
Supplemental Benefit Rate per Hour: $23.61

Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $45.44
Supplemental Benefit Rate per Hour: $24.61

(Bricklayer District Council)

ROOFER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Roofer - First Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $3.51

Roofer - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $17.54

Roofer - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $20.99

Roofer - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $26.18

(Local #8)

SHEET METAL WORKER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Sheet Metal Worker (0-6 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 25% of Journeyperson's rate
Supplemental Rate Per Hour: $6.76

Sheet Metal Worker (7-18 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $19.55

Sheet Metal Worker (19-30 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $26.65

Sheet Metal Worker (31-36 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $31.50

Sheet Metal Worker (37-42 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $31.50

Sheet Metal Worker (43-48 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $38.78

Sheet Metal Worker (49-54 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $38.78

Sheet Metal Worker (55-60 Months)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $43.65

(Local #28)

SIGN ERECTOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $16.51

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $18.74

Sign Erector - Second Year: 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $20.96

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $23.21

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $31.44

Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $34.20

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $37.76

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $40.62

Sign Erector - Fifth Year

Effective Period: 7/1/2021 - 6/30/2022

Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $43.44

Sign Erector - Sixth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $46.27

(Local #137)

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

Steamfitter - First Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate and Supplemental Per Hour: 40% of Journeyperson's rate

Steamfitter - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate and Supplemental Rate Per Hour: 50% of Journeyperson's rate.

Steamfitter - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate and Supplemental Rate per Hour: 65% of Journeyperson's rate.

Steamfitter - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

Steamfitter - Fifth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate and Supplemental Rate Per Hour: 85% of Journeyperson's rate.

(Local #638)

STEAMFITTER - REFRIGERATION & AIR CONDITIONER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Refrigeration & Air Conditioner (First Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $20.75
Supplemental Benefit Rate per Hour: $12.99

Refrigeration & Air Conditioner (Second Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $25.04
Supplemental Benefit Rate per Hour: $14.23

Refrigeration & Air Conditioner (Third Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $29.17
Supplemental Benefit Rate per Hour: $15.53

Refrigeration & Air Conditioner (Fourth Year)

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $35.22
Supplemental Benefit Rate per Hour: $17.29

(Local #638-B)

STONE MASON - SETTER
(Ratio Apprentice of Journeyperson: 1 to 1, 1 to 2)

Stone Mason - Setters - First 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2021 - 6/30/2022

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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
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: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $20.97
Supplemental Benefit Rate per Hour: $13.55

Drywall Taper - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $24.24
Supplemental Benefit Rate per Hour: $20.31

Drywall Taper - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $29.08
Supplemental Benefit Rate per Hour: $22.06

Drywall Taper - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate per Hour: $38.78
Supplemental Benefit Rate per Hour: $25.56

(Local #1974)

TILE LAYER - SETTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour:35% of Journeyperson's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour 40% of Journeyperson's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Tile Layer - Setter - Seventh 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Tile Layer - Setter - Eighth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Tile Layer - Setter - Ninth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour:80% of Journeyperson's rate

Tile Layer - Setter - Tenth 750 Hours

Effective Period: 7/1/2021 - 6/30/2022
Wage and Supplemental Rate Per Hour: 90% of Journeyperson's rate

(Local #7)

TIMBERPERSON
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Timberperson - First Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: $21.42
Supplemental Rate Per Hour: $35.22

Timberperson - Second Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: $26.53
Supplemental Rate Per Hour: $35.22

Timberperson - Third Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: $34.18

Supplemental Rate Per Hour: $35.22

Timberperson - Fourth Year

Effective Period: 7/1/2021 - 6/30/2022
Wage Rate Per Hour: $41.84
Supplemental Rate Per Hour: $35.22

(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

DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN

VOLUME 2 OF 3

PROJECT ID: RED386

R□PLAC□M□NT OF DISTRI□□TION WAT□R MAINS
AND APP□RT□NANC□S IN SO□TH AV□N□□
□□TW□□N RICHMOND T□RRAC□ AND N□TH□RLAND AV□N□□,
ARLINGTON PLAC□ □□TW□□N SO□TH AV□N□□ AND ARLINGTON
PLAC□, □TC□

TOG□TH□R WITH ALL WORK INCID□NTAL TH□R□TO
□ORO□GH OF STAT□N ISLAND
CITY OF N□W YORK

_____

Contractor

_____

Dated_____, 20___

_____

APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY

_____

Acting Corporation Counsel

_____

Dated_____, 20___

_____

Department of Design and Construction

DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN

VOLUME 2 OF 3

PROJECT ID: RED386

REPLACEMENT OF DISTRIBUTION WATER MAINS
AND APPURTENANCES IN SOUTH AVENUE
BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE,
ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON
PLACE, ETC.

TOGETHER WITH ALL WORK INCIDENTAL THERETO
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

_____
Contractor

_____

Dated_____, 20___

_____

APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY

_____ N.T. 12/17/21
Acting Corporation Counsel

_____

Dated December 17, 2021

_____

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, NY, 11101
TEL: 718.391.1000
WEB: www.nyc.gov/ddc

TO BE FILLED IN BY THE BIDDER:

BIDDER'S NAME:

_____

_____

BID SECURITY (CIRCLE ONE):
BID BOND / CERTIFIED CHECK

NUMBER OF ADDENDUMS RECEIVED AND ATTACHED TO BID:
_____ ADDENDUMS

DDC CLIENT AGENCY:
THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

PREPARED BY:
IN-HOUSE DESIGN

DATE PREPARED:
November 17, 2021

VOLUME 3 OF 3

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: RED386

SCHEDULE A SPECIFICATIONS AND REVISIONS TO STANDARD SPECIFICATIONS

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

TOGETHER WITH ALL WORK INCIDENTAL THERETO
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

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

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 2, 2022; between 8:30 AM and 11:00 AM
BID OPENING DATE/ TIME: February 2, 2022; 11:30 AM

PROJECT No. : RED386

TITLE: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents	1	1/24/2022	1/24/2020	KT
#				

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

1/24/2022

ADDENDUM No. # 1

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0043– RED386

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Bidders Questions and Responses to Questions:**
   See Attachment A.

2. **Revisions to Documents:**
   See Attachment B.

3. **Revisions to PASSPort forms:**
   See Attachment C.

Transferring Data Between Rounds of an RFX: A new document titled "Transferring Data Between Rounds of an RFX" has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI CDT
Executive Director, Specifications

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	Specification Bulletin 19-001 issued on 1/25/2019 states that in Staten Island projects, watermain trenches must be backfilled from a depth of no less than 1-ft above the pipe to the underside of the pavement with Select Granular Fill meeting the requirements of 26.01.2.(B). Please advise if payment for this backfill material will be deemed included in the unit bid prices of the watermain pipe items or if a separate payment will be made under item 73.41AG – Additional Select Granular.	For Select Granular Fill meeting the requirements of 26.01.2.(B), the cost is deemed included in the prices bid for all contract items of work.
2	Volume 3, Pages R-1 and R-2 list various Specifications Bulletins that are included in the contract. This list leaves the bulletins issued since 2019. Please advise if subsequent bulletins (SB 20 and SB 21 series) are included in this contract.	Refer to Attachment B of this addendum
3	Volume 3, Page SA-9, states that Professional Liability insurance is required to be carried by "The Contractor's Professional Engineer". Can this requirement be clarified? What engineering is anticipated to be required by the contractor on this project necessitating this policy?	Professional Liability Insurance in the minimum amount of $1,000,000 per claim is required. This requirement is due to various conditions that would require the Contractor to procure engineering services from a Professional Engineer. Possible examples include but are not limited to: - Support of Excavation calculations - Maintenance and Protection of Traffic plan
4	We are inquiring about a bid schedule or schedule of values or quantities for this project. we scrolled and did not find the schedule within the documents posted. also please advise if there is an engineer's estimate for this project?	Please refer to the Item Grid in the PASSPort RFx. Yes, there is an engineer's estimate for the Project; however, DDC will not be disclosing it.
5	Please provide the plan holders list	Refer to Attachment B of this addendum

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

1. Volume 3 has been updated. Changes are Listed below:
    - Revised R-Pages.

2. Contract Drawing number 6 of 7; "DISTRIBUTION WATER MAIN PLAN"; 6 of 7 was revised (see the changes shown in bubbles).

3. Plan holders list added to documents

DDC PROJECT #: **RED386**

PROJECT NAME: **REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None

Item Grid Changes:

Quantities of the follow items were changed:

- 60.11R608
- 60.11R612
- 60.12D08
- 60.12D12
- 61.11DMM06
- 61.11DMM08
- 61.11DMM12
- 61.12DMM06
- 61.12DMM08
- 61.12DMM12
- 62.14FS
- 64.13WC08
- 64.13WC12

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

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 9, 2022; between 8:30 AM and 11:00 AM
BID OPENING DATE/ TIME: February 9, 2022; 11:30 AM

PROJECT No. : RED386

TITLE: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents	1	01/21/2022		
#2 Revised Bid Opening Date 02/09/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents.		01/27/2022	1/27/2022	N.A.

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

1/27/2022

ADDENDUM No. # 2

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0043– RED386

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **The Bid Opening for the contract described below scheduled for February 02, 2022, at 11:30 AM is rescheduled to February 09, 2022 at 11:30 AM.**

2. **Bidders Questions and Responses to Questions:**
   No Attachment A is included with this Addendum.

3. **Revisions to Documents:**
   No Attachment B is included with this Addendum.

4. **Revisions to PASSPort forms:**
   No Attachment C is included with this Addendum.

Transferring Data Between Rounds of an RFX: A new document titled "Transferring Data Between Rounds of an RFX" has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

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Richard Jones, PE CWI CDT
Executive Director, Specifications

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

None.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

None.

DDC PROJECT #: **RED386**

PROJECT NAME: **REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.**

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None.

Item Grid Changes:

None.

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

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 23, 2022; between 8:30 AM and 11:00 AM
BID OPENING DATE/ TIME: February 23, 2022; 11:30 AM

PROJECT No. : RED386

TITLE: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents	1	01/21/2022		
#2 Revised Bid Opening Date 02/09/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		01/27/2022		
#3 Revised Bid Opening Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/08/2022	2/8/2022	N.A.

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

2/8/2022

ADDENDUM No. # 3

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0043– RED386

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **The Bid Opening for the contract described below scheduled for February 09, 2022, at 11:30 AM is rescheduled to February 23, 2022 at 11:30 AM.**

2. **Bidders Questions and Responses to Questions:**
   No Attachment A is included with this Addendum.

3. **Revisions to Documents:**
   No Attachment B is included with this Addendum.

4. **Revisions to PASSPort forms:**
   No Attachment C is included with this Addendum.

Transferring Data Between Rounds of an RFX: A new document titled "Transferring Data Between Rounds of an RFX" has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

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If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

2/8/2022

for

Richard Jones, PE CWI CDT
Executive Director, Specifications

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

None.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

None.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None.

Item Grid Changes:

None.

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

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 23, 2022; between 8:30 AM and 11:00 AM
BID OPENING DATE/ TIME: February 23, 2022; 11:30 AM

PROJECT No. : RED386

TITLE: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents	1	01/21/2022		
#2 Revised Bid Opening Date 02/09/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		01/27/2022		
#3 Revised Bid Opening Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/08/2022		
#4 Revised Response Due Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/08/2022	2/8/2022	N.A.

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

2/8/2022

ADDENDUM No. # 4

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0043– RED386

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Revised Response Due Date for the contract described below scheduled for February 09, 2022, at 11:00 AM is rescheduled to February 23, 2022 at 11:00 AM.**

2. **Bidders Questions and Responses to Questions:**
   No Attachment A is included with this Addendum.

3. **Revisions to Documents:**
   No Attachment B is included with this Addendum.

4. **Revisions to PASSPort forms:**
   No Attachment C is included with this Addendum.

Transferring Data Between Rounds of an RFX: A new document titled "Transferring Data Between Rounds of an RFX" has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

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If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

2/8/2022

for _____
Richard Jones, PE CWI CDT
Executive Director, Specifications

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

None.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

None.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 2 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None.

Item Grid Changes:

None.

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

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 23, 2022; between 8:30 AM and 11:00 AM
BID OPENING DATE/ TIME: February 23, 2022; 11:30 AM

PROJECT No. : RED386

TITLE: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents	1	01/21/2022		
#2 Revised Bid Opening Date 02/09/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		01/27/2022		
#3 Revised Bid Opening Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/03/2022		
#4 Revised Response Due Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/08/2022		
#5 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/09/2022	2/9/2022	lsk 2-11-22

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

2/9/2022

ADDENDUM No. # 5

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0043– RED386

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Bidders Questions and Responses to Questions:**
   Attachment A is included with this Addendum.

2. **Revisions to Documents:**
   Attachment B is included with this Addendum.

3. **Revisions to PASSPort forms:**
   No Attachment C is included with this Addendum.

Transferring Data Between Rounds of an RFX: A new document titled "Transferring Data Between Rounds of an RFX" has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

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Richard Jones, PE CWI CDT
Executive Director, Specifications

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1.	Please confirm the frequency required for testing for contaminated water. As the proposal is currently structured, it requires environmental testing every day the contractor is conducting dewatering operations. Reference quantities for items 8.01 W1 and 8.01 W2.	The specification requires one set of sample(s) for eachday of dewatering as define in Subsection 8.01 W1.3 and 8.01 W2.2 of HAZ-PAGES.
2	Sheet 5 of 37 of the contract documents, our work is shown not getting closer than 72' from the south end of the Railroad Right of Way, and 94' away from the north end. Our RR Insurance provider advises than, since work is not within 50' of the Railroad ROW, Railroad Insurance may not be required. Please confirm that RR Insurance is required, and if so, what work should be covered under the policy.	Raid road insurance is required for this project.
3	Is the work shown on Drawing TS1, Sheet 13 of 37, proposed work or existing? If it is proposed, then the items for this work were not included in the bid item schedule.	The drawing 13 of 37 is an existing traffic signal design drawing and it is for “REFERENCE ONLY” as indicated.
4	Item 4.05 AX calls for the installation of concrete bus pads. There are currently no concrete bus pads on the project. Is this item for the installation of new bus pads? If so, what is the size and location of the proposed bus pads?	Bidders should refer to the quantity and scope in the bid schedule.
5	In doing our due diligence by reviewing the contract bid documents we believe that the JB Utility prices that are listed in “Section B” are not reflective of the actual nature and scope of work required for this specific project. We understand that the City and their JB partners are representing these utility unit prices are based on historical data. Since we as a bidder are not able to alter, adjust, modify or submit what we believe are the true and reflective costs for the JB Utility unit prices that comprise the JB Fixed Sum Items for the work specific to this distinctive project where in our bid submission can we adjust our bid to reflect those true costs?	Bidder should price the City work. The NYC Utility Price List covers supporting and protecting private utilities while performing the City work.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

1. Volume 3 has been updated. Changes are Listed below:

   - SCHEDULE A:
     1- Removed Article 74 from page SA-2.
     2- Under “Railroad Protection Liability Policy”,“Consolidated Rail Corporation” added under “Named Insureds:” at page SA-8.

   - EP-7 Pages Revised: Replaced sketches on pages EP7-26A and EP7-26B.

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DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 3 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None.

Item Grid Changes:

None.

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

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 23, 2022; between 8:30 AM and 11:00 AM
BID OPENING DATE/ TIME: February 23, 2022; 11:30 AM

PROJECT No. : RED386

TITLE: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	APPROVED BY: GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents	1	01/21/2022		
#2 Revised Bid Opening Date 02/09/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		01/27/2022		
#3 Revised Bid Opening Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/03/2022		
#4 Revised Response Due Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/08/2022		
#5 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/09/2022		
#6 Questions from Bidders and Responses to Questions; Revisions to Documents Revisions to PASSPort Forms.		2/17/2022	2/17/2022	KT

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

2/17/2022

ADDENDUM No. # 6

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0043– RED386

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Bidders Questions and Responses to Questions:**
   Attachment A is included with this Addendum.

2. **Revisions to Documents:**
   Attachment B is included with this Addendum.

3. **Revisions to PASSPort forms:**
   Attachment C is included with this Addendum.

Transferring Data Between Rounds of an RFX: A new document titled "Transferring Data Between Rounds of an RFX" has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

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If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

Richard Jones, PE CWI CDT
Executive Director, Specifications

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1.	As this contract contains a fixed price list for Joint Bid items, the contractor can perform a comprehensive cost estimate utilizing the price list information and utilizing the applicable items on that list by analyzing the existing utilities shown on the contract bid documents. However, what will happen, if after the bid is turned in and any of the participating utility companies install additional utilities that interfere with the city work, or the conditions on the bid documents are different in the field, and the applicable joint bid item fixed prices is less than the contractor's cost plus overhead and markup. How will the contractor be compensated for such short falls?	Extra Work will be handled in accordance with the requirements set forth in the Standard Construction Contract and Section A.2 of the JB-Pages.
2	Is the referenced project subject to a Project Labor Agreement or only Prevailing Wage?	This Project is not subject to a Project Labor Agreement, but it is subject to the Prevailing Wage requirements.
3	Refer to the latest volume 3 specification book, JB specification section, sheet JB-A5. Item A4. Talks about "Specialty JB Items." What exactly are these items? Do we have specialty joint bid items in this contract RED386 ? Please confirm	There are no JB specialty items in this Project.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
4	According to Contract Book 3 Page SW-13: "(4) Refer to Subsection 10.24 – Damaged Water Service Pipes To Be Repaired By A Licensed Plumber, page I-14: Add the following to Subsection 10.24: If the damaged or cut water service pipe is lead, galvanized steel, or galvanized iron, the service pipe must not be partially replaced, but fully replaced from the main to the house control valve. If the service pipe was damaged, cut, or otherwise interrupted due to the Contractor's actions or means & methods (including selection of shoring systems), the water service pipe will be replaced at the Contractor's own cost." 1) Will you please supply the Tap cards and/or record of lead services? 2) Should such records be unavailable, will you be including bid items to cover the work? Samples of the necessary items are: GI-64.14A REPLACEMENT OF SERVICE LINE UP TO 1 IN, UP TO 40 FT GI-64.14AL ADDITIONAL LENGTH OF SERVICE LINE UP TO 1 IN, BEYOND 40 FT GI-64.14AM REPLACEMENT OF SERVICE LINE UP TO 1 IN, BETWEEN BUILDING CONTROL VALVE AND METER GI-64.14B REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, UP TO 40 FT GI-64.14BL ADDITIONAL LENGTH OF SERVICE LINE 1 -1/4 TO 2 IN, BEYOND 40 FT GI-64.14BM REPLACEMENT OF SERVICE LINE 1-1/4 TO 2 IN, BETWEEN BUILDING CONTROL VALVE AND METER GI-64.14V INSTALL NEW BUILDING CONTROL VALVE 2 IN AND UNDER	1) The bidder can request Tap Cards record from DEP Borough Office. Please see https://www1.nyc.gov/site/dep/about/request-records.page 2) Where a lead or galvanized steel service line requires full replacement due to a relocated water main, the replacement service line will be paid for under items 64.12ESEG or 64.12ESLT and 64.11EL or 64.11ST depending on the service line size etc.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

VOLUME 3 OF 3:

JB-PAGES (4.0):

1- Refer to page JB-A6 & JB-A7, Article A.2.F and A.2.G revised.
2- SECTION B. NYC JOINT BID ITEM PRICE LIST revised.

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DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum initiates Round 4 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None.

Item Grid Changes:

The fixed sum amounts for Item numbers JB-FS-VZ, JB-FS-SP, and JB-FS-CE updated.

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

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 23, 2022; between 8:30 AM and 11:00 AM
BID OPENING DATE/ TIME: February 23, 2022; 11:30 AM

PROJECT No. : RED386

TITLE: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ADDENDA ISSUED	NO. OF DWG	DATE	APPROVED BY: SPECS UNIT	GENERAL COUNSEL
#1 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents	1	01/21/2022		
#2 Revised Bid Opening Date 02/09/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		01/27/2022		
#3 Revised Bid Opening Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/03/2022		
#4 Revised Response Due Date 02/23/2022; Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/08/2022		
#5 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		02/09/2022		
#6 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		2/17/2022		
#7 Questions from Bidders and Responses to Questions;		2/22/2022	2/22/2022	

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

2/22/2022

ADDENDUM No. # 7

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0043– RED386

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Bidders Questions and Responses to Questions:**
   Attachment A is included with this Addendum.

2. **Revisions to Documents:**
   No Attachment B is included with this Addendum.

3. **Revisions to PASSPort forms:**
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   .

Transferring Data Between Rounds of an RFX: A new document titled "Transferring Data Between Rounds of an RFX" has been added to the Documents section of the View RFx tab. Please refer to this document when an addendum has been issued. Note: Whenever an addendum is issued, the RFX item grid will be cleared. You can import the work you have already done by following the steps on this document.

DDC strongly advises vendors to finalize and submit bids 48 hours prior to due date and time. The City is not responsible for technical issues (e.g. internet connection, power outages, technology malfunction, computer errors, etc.) related to bid submissions.

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1041 or by email at CSB_projectinquiries@ddc.nyc.gov.

2/22/2022

for _____
Richard Jones, PE CWI CDT
Executive Director, Specifications

DDC PROJECT #: **RED386**

PROJECT NAME: **REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCESIN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.**

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1.	In response to your answers for our above indicated item #1 RFI question, we are not clear about your answers, truth to be told, we are more confused than before due to very ambiguous answers. Please clarify the following questions as explicitly as possible without referring to specification and / or any other document: a. If the owner's provided JB item quantities that can be individual JB bid items and/ or constitute larger Joint Bid Lump Sum Allowance fixed price items, overrun, when will the city negotiates for the JB new unit prices and JB FS items? i. Please explain the procedure step by step clearly. Your answer on the Section A.2, page JB-A5 paragraph E- Overruns is very vague. ii. Does the contractor have the right to negotiate the unit revised prices and new JB FS item price after 1% overrun or at what specific overrun percentage will be contractor entitled to negotiate the new unit prices? b. Please confirm that if there is any additional work and/ or additional work quantity regarding any of JB and JB FS items, it will be considered as an Extra work and the contractor will have the right negotiate /re-negotiate for any additional work and overrun quantity for the work that aforementioned. Please note that it is impossible for anyone to foresee any field conditions regarding any shared utility, Joint bid, private utility work during the bid phase. Thus, the owner, NYCDDC, must recognize this problem and grant the right to the Contractor to re-negotiate the new JB FS price and any new JB work item prices as we encounter different site conditions in the field just to be fair.	• The Owner DOES NOT provide JB Item quantities. All Utility interference "Support and Protect" items of work encountered and covered by applicable JB Items listed on the Utility pricelist or applicable City Bid items accommodations are to be performed by City Contractor. The City/DDC will charge the appropriate Utility JB Fixed Sum for any such Utility work performed. • The JB FIXED SUM is not an allowance and is not bid upon and therefore not negotiable by bidders. The JB FIXED SUM budget represent the estimated cost of a Utility Co scope of work that it developed during Its pre-engineering. All bidders have the same budget amount on their bids. The City/DDC does not negotiate the JB Fixed Sum; it's a Utility budget provided and funded by the participating Utility Companies. • JB4.0 Overruns means that there are applicable Utility Price list or City bid items but, the JB FIXED SUM Budget balance is Zero. In such cases the concerned Utility Company has two choices: o Submit 100% of the extra fund required to allow the DDC to register an increase of the JB FIXED SUM Budget and all payments will be subject to the City 125% contract rule or, o Negotiate scope of work quantities and pay directly to City contractor for work actually performed at appropriate Utility Price List or City bid item prices. • JB 4.0 EXTRA Utility work means that there are no applicable Utility Price List items and no applicable bid items. In such case: o Concerned Utility Company and the City contractor will negotiate directly with each other, as prescribed under Section U procedures, which are specified in the contract. o If Utility work is performed as a T&E price agreement between the Contractor and Utility Co and if price settlement conforms with Article 26 of the City contract, then the Utility Company may pay directly as per procedures specify in the contract or elect to have DDC pay for the T&E out of any remaining JB FIXED SUM balance or, o If Article 26 contract procedures are not followed then Utility Co. pays Contractor directly, outside Co of City contract as specified in the City contract.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

None.

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DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

This Addendum is included within Round 4 of the procurement.

Please note that numbering of addenda is independent of rounds.

Questionnaire Changes:

None.

Item Grid Changes:

None.

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

ADDENDA CONTROL SHEET

BID SUBMISSION DATE/ TIME: February 23, 2022; between 8:30 AM and 3:00 PM
BID OPENING DATE/ TIME: February 23, 2022; 3:30 PM

PROJECT No. : RED386

TITLE: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEENRICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

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#6 Questions from Bidders and Responses to Questions; Revisions to PASSPort Forms; Revisions to Documents		2/17/2022		
#7 Questions from Bidders and Responses to Questions;		2/22/2022		
#3 Revised Bid Opening time 02/23/2022 at 3:30 PM		2/23/2022	2/23/2022	N.A.

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

2/23/2022

ADDENDUM No. # 8

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

85022B0043– RED386

REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

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The bidder is advised that the items listed below apply to the project:

1. **The Bid Opening for the contract described below scheduled for February 23, 2022, at 11:30 AM is rescheduled to February 23, 2022, at 3:30 PM**.
2. **Bidders Questions and Responses to Questions:**
   No Attachment A is included with this Addendum.
3. **Revisions to Documents:**
   No Attachment B is included with this Addendum.
4. **Revisions to PASSPort forms:**
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Richard Jones, PE CWI CDT
Executive Director, Specifications

DDC PROJECT #: **RED386**

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ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

None.

DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT B – REVISIONS TO THE DOCUMENTS

None.

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DDC PROJECT #: **RED386**

PROJECT NAME: REPLACEMENT OF DISTRIBUTION WATER MAIN AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

ATTACHMENT C – REVISIONS TO PASSPORT FORMS

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Questionnaire Changes:

None.

Item Grid Changes:

None.

Project ID: RED386

VOLUME 3 OF 3

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGES
SPECIFICATIONS	AND STANDARDS OF NEW YORK CITY	1 OF 2 AND 2 OF 2
SCHEDULE A	GENERAL CONDITIONS TO CONSTRUCTION CONTRACT	SA-1 to SA-12
C-PAGES	LIST OF DRAWINGS	C-1
R - PAGES	REVISIONS TO STANDARD SPECIFICATIONS	R-1 to R-2
S – PAGES	SPECIAL PROVISIONS PAGES	S-1 to S-20
SW - PAGES	SEWER AND WATER MAIN SPECIFICATIONS	SW-1 to SW- 15
EP7 – PAGES	GAS COST SHARING (EP-7) STANDARD SPECIFICATIONS	EP7-1 to EP7-29
HAZ-PAGES	SPECIFICATIONS FOR HANDLING, TRANSPORTATION AND DISPOSAL OF NONHAZARDOUS AND POTENTIALLY HAZARDOUS CONTAMINATED MATERIALS	HAZ-1 to HAZ-552
JB PAGES (4.0)	JOINT BID	JB-1 to JB-G3

(NO TEXT ON THIS PAGE)

SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

a- The following New York City Department of Transportation (NYCDOT) reference documents are available online at: http://www1.nyc.gov/site/ddc/resources/publications.page and https://www1.nyc.gov/html/dot/html/about/dotlibrary.shtml#spec or for purchase between 9:00 A.M. and 3:00 P.M. Bid Window, at 55 Water St., Ground Floor, NYC, N.Y. 10041. Tel. (212) 839-9435.

1. NYCDOT Standard Highway Specifications, August 1, 2015
2. NYC DOT Standard Details of Construction, July 2010 (Revised March 15, 2016)
3. NYCDOT Division of Street Lighting Specifications
4. NYCDOT Division of Street Lighting Standard Drawings
5. NYCDOT Standard Specifications for Traffic Signals
6. NYCDOT Standard Drawings for Traffic Signals

b- The 2010 Americans with Disabilities Act (ADA) Standards; available online at: https://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm

c- The 2013 Public Rights-of-Way Accessibility Guidelines (PROWAG); available online at: https://www.access-board.gov/files/prowag/PROW-SUP-SNPRM-2013.pdf

d- The following reference documents for New York City Department of Environmental Protection (NYCDEP) are available online at: http://www1.nyc.gov/site/ddc/resources/publications.page or for pick up by calling (718) 391-1041 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.

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
5. NYCDEP Water Main Standard Drawings, November 2010
6. Specifications for Trunk Main Work, July 2014
7. Standard Green Infrastructure Specifications September 1,2021
8. Water main work material specifications are available from the Department of Design and Construction, contact: Mr. Richard Jones, P.E., Tel. (718) 391-1417, E-mail: jonesri@ddc.nyc.gov

e- Standard Design and Guidelines for Green Infrastructure Practices, latest version, available only online at: https://www1.nyc.gov/assets/dep/downloads/pdf/water/stormwater/green-infrastructure/green-infrastructure-standard-designs.pdf

f- Standard Specifications and Drawings for New York City Fire Department Communications facilities of New York City are available online at https://www1.nyc.gov/assets/fdny/downloads/pdf/about/fdny-plant-operations-standard-drawings-specifications.pdf or for pick up from the FDNY Facilities Management Bureau, Plant Operations Engineering, 316 Sgt. Beers Avenue Cluster 1 Box 16, Fort Totten, N.Y. 11359.
Contact: Mr. Ed Durkin, Tel. (718) 281-3933

g- 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

Joint Bidding Private Utility Work reference document "JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR LOWER MANHATTAN Issued August 1, 2005" is available online at:
http://www1.nyc.gov/site/ddc/resources/publications.page
or for pick up by calling (718) 391-2085 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.

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 Representative
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.	2500.00 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 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: _____ _____ Dollars ($_____)
CONTRACT ARTICLE 79. **PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT**	See M/WBE Utilization Plan in Passport

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.	$ 500.00 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.	$ 400.00 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 _____545_____consecutive calendar days ("ccds").

The Final Contract Duration shall be the Base Contract Duration when a check mark is indicated before the word "NO", below, and shall be the Base Contract Duration adjusted by the table set forth below when a check mark is indicated before the word "YES", below.

__√__ YES _____ NO

When the Final Contract Duration is indicated above to be adjusted by the table below, the table may increase the Base Contract Duration depending on the date of scheduled substantial completion to avoid a scheduled substantial completion of the Work during the winter months. The date of scheduled substantial completion shall be determined by adding the Base Contract Duration to the date specified to commence work in the written Notice to Proceed. The Final Contract Duration shall then be determined as follows:

(a) Find the row that corresponds to the month of substantial completion based on the Base Contract Duration added to the date specified to commence work in the written Notice to Proceed.

(b) Find the number of days to be added to the Base Contract Duration in the table below. Add that number of days to the Base Contract Duration to obtain the Final Contract Duration in consecutive calendar days.

Month of Substantial Completion based on the Base Contract Duration	Number of Days of adjustment
January	150
February	120
March	90
April	60
May	30
June	0
July	0
August	0
September	0
October	0
November –December 15	0
December 16 – December 31	180

In addition, should Item No. 9.30, "Storm Water Pollution Prevention," exist in the Contract and the required Storm Water Pollution Prevention Plan (SWPPP) does not conform to NYSDEC's recommended Standards, an additional 60 ccd shall be added to the above Final Contract Duration.

(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART II. TYPES OF INSURANCE, MINIMUM LIMITS AND SPECIAL CONDITIONS

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- **For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;**
- **Policy limits consistent with the requirements listed below;**
- **Additional insureds or loss payees consistent with the requirements listed below; and**
- **The number assigned to the Contract by the City (in the "Description of Operations" field).**

Insurance indicated by a blackened box (■) or by X in a □ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
■ 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. Consolidated Edison, Inc. 4. Verizon 5. Charter Spectrum 6. 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:
☐ 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. Consolidated Rail Corporation

[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.	

Per **Article 22.2.5** of **the Standard Construction Contract**: The Contractor may satisfy its insurance obligations as defined in this Schedule A through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein

SCHEDULE A
(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)
(GENERAL CONDITIONS RELATING TO ARTICLE 22 – INSURANCE)

PART III. CERTIFICATES OF INSURANCE

All certificates of insurance (except certificates of insurance solely evidencing Workers' Compensation Insurance, Employer's Liability Insurance, and/or Disability Benefits Insurance) must be accompanied by one of the following:

(1) the Certification by Insurance Broker or Agent on the following page setting forth the required information and signatures;

-- OR --

(2) copies of all policies as certified by an authorized representative of the issuing insurance carrier that are referenced in such certificate of insurance. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

CITY OF NEW YORK

CERTIFICATION BY INSURANCE BROKER OR AGENT

The undersigned insurance broker represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

_____
[Name of broker or agent (typewritten)]

_____
[Address of broker or agent (typewritten)]

_____
[Email address of broker or agent (typewritten)]

_____
[Phone number/Fax number of broker or agent (typewritten)]

_____
[Signature of authorized official, broker, or agent]

_____
[Name and title of authorized official, broker, or agent (typewritten)]

State of ……)
) ss.:
County of ……)

Sworn to before me this _____ day of _____, 20____

_____
NOTARY PUBLIC FOR THE STATE OF _____

SCHEDULE A

(GENERAL CONDITIONS TO CONSTRUCTION CONTRACT)

PART IV. ADDRESS OF COMMISSIONER

Wherever reference is made in Article 7 or Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth below or, in the absence of such address, to the **Commissioner's** address as provided elsewhere in this **Contract**.

DDC Director, Insurance Risk Manager

30 – 30 Thomson Avenue, 4th Floor (IDCNY Building)

Long Island City, NY 11101

(NO FURTHER TEXT ON THIS PAGE)

LIST OF DRAWINGS

SHEET NO.	TOTAL SHEET NO.	DESCRIPTION
1 OF 7	1 OF 37	TITLE SHEET
2 OF 7	2 OF 37	KEY PLAN / LIST OF DRAWINGS/ LEGEND
3 OF 7	3 OF 37	GENERAL NOTES/ STATEN ISLAND RAILWAY NOTES
4 - 7 OF 7	4 - 7 OF 37	DISTRIBUTION WATER MAIN PLAN
MPT1 - MPT3	8 - 10 OF 37	MAINTENANCE AND PROTECTION OF TRAFFIC DRAWINGS
FD1-FD2	11- 12 OF 37	FIRE DEPARTMENT BASE MAPS
TS1 - TS1	13 OF 37	TRAFFIC SIGNALS DRAWING
JB-G1 - JB-G24	14 - 37 OF 37	UTILITY DRAWINGS

R - PAGES

REVISIONS TO STANDARD SPECIFICATIONS

NOTICE

The Specification □ulletin□s□□"S□□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 □□1□□01□□
- New York City Department of □nvironmental Protection □"NYC D□P"□Standard Sewer and Water Main Specifications, dated □□1□□01□□and
- NYC D□P Specifications for Trunk Main Work, dated □□□01□□

The S□□s□modify and supersede portions of the applica□le Standard Specifications□The provisions contained in this Contract's I-Pages, S-Pages and SW-Pages may further modify the applica□le Standard Specifications□

The following S□□s□are included as part of this contract□

- S□ 1□-001 – R□VISIONS TO TH□ NYC DOT STANDARD HIGHWAY SP□CIFICATIONS□
- S□ 1□-00□ – R□VISIONS TO TH□ NYC D□P STANDARD S□W□R AND WAT□R MAIN SP□CIFICATIONS□
- S□ 1□-001 – □V C□R□D-IN-PLAC□-PIP□ □CIPP□LINING M□THOD
- *SB 17-002 – SUPERSEDED BY SB 18-001*
- S□ 1□-003 – □NGIN□□RS FI□LD OFFIC□
- S□ 1□-00□ – FIR□ D□PARTM□NT FACILITI□S
- S□ 1□-00□ – DIGITAL PHOTOGRAPHS
- S□ 1□-00□ – R□CORDS OF S□□S□RFAC□ STR□CT□R□S
- S□ 1□-00□ – MO□ILI□ATION
- S□ 1□-00□ – □□ALIFICATION CARDS
- S□ 1□-00□ – SALVAG□A□L□ MAT□RIALS
- S□ 1□-010 – MILL□D ASPHALTIC CONCR□T□ AGGR□GAT□
- *SB 17-011 – SUPERSEDED BY SB 21-004*

- S□ 1□-01□ – T□MPORARY HO□S□ CONN□CTION MAT□RIAL
- S□ 1□-001 – ROD□NT AND WAT□R□□G P□ST CONTROL
- S□ 1□-00□ – COLOR S□RFAC□ TR□ATM□NT FOR PAV□M□NTS
- S□ 1□-003 – WAT□R AND S□W□R G□N□RAL PROVISIONS
- S□ 1□-00□ – C□TTING D□CTIL□ IRON PIP□
- S□ 1□-00□ – STOCKPIL□S
- S□ 1□-001 – R□STORATION OF PAV□M□NT S□RFAC□
- S□ 1□-00□ – SCH□D□L□ OF OP□RATIONS
- S□ □1-001 – SALVAG□A□L□ MAT□RIALS
- S□ □1-00□ – HYDRANTS
- S□ □1-003 – □ACK □P ALARMS, MAINT□NANC□ OF SIT□
- S□ □1-00□ – D□T□CTA□L□ WARNING □NITS

The S□□s□are availa□le online at□ http□□www1□nyc□gov□site□ddc□resources□specification-□ulletins□page or for pickup □etween □□00 AM and □□00 PM at 30-30 Thomson Avenue, 3rd Floor, Division of Infrastructure, Long Island City, NY 11101□Contacts□

- Mr□Richard □ones, □□1□□3□1-1□1□
- Mr□Salman Macktoom, □□1□□3□1-□0□1

(NO FURTHER TEXT THIS PAGE)

S - PAGES

GENERAL AND SPECIAL PROVISIONS:

(A) GENERAL PROVISIONS
(B) HIGHWAY PROJECT SPECIFIC PROVISIONS
(C) SEWER & WATER MAIN PROJECT SPECIFIC PROVISIONS
(D) GREEN INFRASTRUCTURE PROVISIONS

NOTICE

THE PAGES CONTAINED HEREIN (S-PAGES) ARE GENERAL AND SPECIAL PROVISIONS THAT WILL APPLY TO AND BECOME PART OF THE CONTRACT.

(NO TEXT ON THIS PAGE)

TABLE OF CONTENTS

(A) GENERAL PROVISIONS

ARTICLE	DESCRIPTION	PAGE NO.
A	LINES AND GRADES	S-1
B	SPECIFIC TRAFFIC STIPULATIONS	S-1
C	HOLIDAYS CONSTRUCTION EMBARGO	S-1
D	CONTRACT ITEMS THAT INCLUDE BACKFILL AS PART OF THEIR WORK	S-2
E	ACCELERATED PROJECT SCHEDULE AND COMBINATION OF STAGES	S-2
F	DISPOSAL OF EXCESS EXCAVATED MATERIAL	S-2
G	NO EXTENSIONS OF TIME FOR WINTER SHUT-DOWN	S-2
H	PRIVATE UTILITY HARDWARE ADJUSTMENTS	S-2
I	SURVEY MONUMENTS	S-2
J	RESTORATION OF ADJACENT AREAS	S-2
K	FLAGGERS	S-2
L	FUEL COST	S-3
M	NYCDPR CONSTRUCTION PERMITS AND OTHER REQUIREMENTS	S-3
N	START OF CONTRACT WORK	S-4
O	VIBRATORY ROLLERS	S-4
P	N.Y.C. TRANSIT INSURANCE	S-4
Q	STANDARD WORKING HOURS	S-7
R	TREE BARRIERS	S-7
S	UTILITIES	S-7
T	HOUSE CONNECTIONS	S-7
U	VICTAULIC STYLE 77 COUPLING	S-7
V	STREET LIGHT AND TRAFFIC SIGNAL	S-7

ARTICLE	DESCRIPTION	PAGE NO.
W	SAW CUT	S-7
X	PRE-CONSTRUCTION STAGE	S-7
Y	EXISTING SEWERS. WATER AND APPURTENANCE	S-8
Z	RECONNECTING EXISTING SEWERS TO NEW MANHOLES	S-8
AA	VIBRATION MONITORING	S-8
AB	CITY ASSETS	S-8
AC	"AS-BUILT" DRAWINGS FOR WATER MAINS AND APPURTENANCES 24-INCHES (600-MM.) AND LARGER	S-8
AD	SIDEWALK PEDESTRIAN RAMPS STANDARD DRAWING	S-9
AE	NO ADDITIONAL PAYMENT	S-10
AF	SHEETING AND EXCAVATION AT TRANSIT FACILITIES	S-10
AG	PAYMENT FOR PAVEMENT MARKINGS	S-10
AH	ARCHAEOLOGICAL DISCOVERIES	S-10
AI	USE OF CITY WATER	S-11
AJ	PUBLIC DISSEMINATION OF INFORMATION	S-11
AK	PRICES TO INCLUDE	S-12
ATTACHMENT 1	PAVEMENT MARKINGS CONVERSION TABLE	S-13
ATTACHMENT 2	TYPICAL PAVEMENT MARKINGS	S-16

(B) HIGHWAY PROJECT SPECIFIC PROVISIONS

ARTICLE	DESCRIPTION	PAGE NO.
A.	OCMC TRAFFIC STIPULATIONS	S-17

(C) SEWER & WATER MAIN PROJECT SPECIFIC PROVISIONS

(NO TEXT) S-22

(D) GREEN INFRASTRUCTURE PROVISIONS

(NO TEXT) S-23

(NO TEXT ON THIS PAGE)

(A) GENERAL PROVISIONS

A. LINES AND GRADES. The Contractor must furnish lines and grades in accordance with Section 1.06.27 of the NYCDOT Standard Highway Specifications, except that survey controls established for this project may no longer exist and the Contractor will be required to re-establish the survey control information using official Borough Survey Control Monuments and Bench Marks, where they exist. The Contractor must check with Topographic Section of the Borough President's Office as to the reliability and accuracy of the data to be used for lines and grades.

B. SPECIFIC TRAFFIC STIPULATIONS. Under this contract, the Contractor must perform the work in strict accordance with the requirements of Section 6.70 in the Standard Highway Specifications, specific traffic stipulations as called for on the plans, Office of Construction Mitigation and Coordination (OCMC) Traffic Stipulations attached to the end of these Special Provisions, and the directions of the Engineer. In case of a conflict, the Engineer's decision will be final.

In addition, the cost of compliance with requirements of the OCMC Traffic Stipulations, unless otherwise provided for, will be deemed included in the prices bid for all scheduled items.

C. HOLIDAY CONSTRUCTION EMBARGO. A special Holiday Construction Embargo will be in effect on the Friday of the week preceding Thanksgiving Day week from 6:00 AM to 11:59 PM and again from the Monday of Thanksgiving Day week from 6:00 AM through January 2, at 11:59 PM. Roadway and sidewalk construction activities will be restricted during the embargo period on the streets listed below*.

Any permits issued prior to the date of this notice, for work during this embargo period on the streets listed below* which do not already have the permit stipulation "410" are hereby suspended for the period noted above. All permittees must comply with this embargo unless a special waiver is granted by OCMC. Waiver requests must be filed at least thirteen days before Thanksgiving Day, in the Permit Office by filing a "Request for Roadway/Sidewalk Permits During "Embargo Periods" and submitting supporting documentation. Waiver requests should only be submitted for critical reasons for a specific project. If a waiver is granted, the applicant will be notified so they can apply for the approved permits. Waivers **are not** required for ongoing Building Construction Activity Permits which already include the "410" permit stipulation. Waiver request forms may be obtained at any Permit Office or on the Department of Transportation's website at:
http://www.nyc.gov/html/dot/downloads/pdf/holidayembapp.pdf
Prior to this embargo period all necessary measures must be taken so that all roadways and sidewalks are in proper condition to allow for the expeditious and safe movement of vehicular, bicycle and pedestrian traffic. Tool carts, cable reels, containers, and material stored on roadways must be removed during the embargo period.

The opening of utility access covers is prohibited on any of the streets noted below** between the hours of 6:00 AM and midnight unless the utility or Contractor files for an Emergency Authorization Number as required by Section 2-07 of the Department of Transportation's Highway Rules. The planned opening of utility access covers may occur during the hours of 12:01 AM and 5:59 AM where no authorization number is required.

Temporary restoration of the streets and sidewalks and removal thereof, if required for the Holiday Embargo period, will be paid for under the appropriate scheduled items.

No extension of time due to the shutdown period will be granted to the Contractor for completion of the work.

*** Please note that this embargo only applies to NYCDOT construction permits.**
**** List of street and maps of the affected locations are available by borough on the Department of Transportation's website at:**
http://www.nyc.gov/html/dot/html/motorist/trafalrt.shtml

D. CONTRACT ITEMS THAT INCLUDE BACKFILL AS A PART OF THEIR WORK. The following will pertain to all contract items that have backfill as a part of their work: Backfilling will comply with Subsection 4.11.3 of the Standard Specifications and no additional payment will be made for any Highway or Street Lighting work item requiring Contractor to furnish additional fill material to meet these requirements when backfilling.

E. ACCELERATED PROJECT SCHEDULE AND COMBINATION OF STAGES. Contractor will plan and/or stage his/her work schedule using all hours/days available. Contractor is advised that all applicable unit prices will include, for the purpose of this contract, all overtime costs, premium time costs, shift differentials required to complete construction within the specified "Time(s) of Completion" stipulated in this contract.

Contractor will be permitted to accelerate this project, to combine stages and/or work sequences. Any such changes will be shown in the construction schedule, to be furnished in accordance with the General Provisions of the Standard Specifications.

F. DISPOSAL OF EXCESS EXCAVATED MATERIAL. All excess excavated material, with the exception of contaminated material, will become the property of the Contractor and will be properly disposed of away from the site, at the Contractor's expense. Contaminated material will be disposed of separately in accordance with contract requirements.

G. NO EXTENSION OF TIME FOR WINTER SHUT-DOWN. Where the Contractor's approved work schedule for installing sidewalk, curb, roadway base and/or pavement falls within the winter period of December 1st through April 1st, the Contractor will NOT be granted an extension of time for completion of this contract due to the winter shut-down period, unless otherwise provided in Schedule A.

H. PRIVATE UTILITY HARDWARE ADJUSTMENTS. will be performed by the owning utility company or its agent, at its expense. The Contractor must notify the utility company 72 hours prior to start of work at each location where its hardware requires adjustment.

I. SURVEY MONUMENTS. When working in the vicinity of survey monument the Contractor will hand excavate per Item 8.02 AB-S, 8.02JA, 8.02JB, 8.02 A and 8.02 B (as applicable), at City Survey Monuments, for a distance of five (5) feet around each monument, as directed by the Engineer.

J. RESTORATION OF ADJACENT AREAS. The Contractor will be required to remove all form work. In planting strip areas, the Contractor will be required to restore areas damaged as a result of the Contractor's operations, to the satisfaction of the Engineer, with sod. The Contractor will also, as directed by the Engineer, make safe adjacent areas to the Contractor's work, such as: restoring missing or damaged pavement markings that were removed or damaged as a result of the Contractor's operations (as per requirements of Section 6.44 in the Standard Specifications); resetting granite blocks in tree pits; and, applying binder mixture (Item 4.02 CA or as applicable) where badly broken sidewalk or curb may create a dangerous condition just outside his area of operation, where and when directed by the Engineer.

All restoration work must be performed to the satisfaction of the Engineer.

K. FLAGGERS. 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 will mean the Item No. "6.52 CG" and the words "Crossing Guard", respectively. The Contractor is advised that until the Comptroller of the City of New York sets a prevailing wage rate for crossing guards, there are no prevailing wage rates for crossing guards.

For projects that require compliance with the Davis-Bacon Act, wherever the Item No. “6.52” and words “flagger”, “flagperson” and “flagman” are used in the contract documents and drawings it will mean the Item No. “6.52 FED” and the words “Uniformed Flagperson”, respectively.

L. FUEL COST. 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.

M. NYCDPR CONSTRUCTION PERMITS AND OTHER REQUIREMENTS.

1. At least thirty (30) days prior to the upcoming start of construction at or near the New York City Department of Parks and Recreation (NYCDPR) land , the Contractor is required to issue a notice to NYCDPR about the start of construction activity. At least 30 days in advance of the Order to Work Date, the Contractor must notify the New York City Department of Parks and Recreation (NYCDPR) of the upcoming start of construction by emailing interagency@parks.nyc.gov.

2. Parks Construction Permits are required for all work on Parkland. Construction Permits may also be required for work on sidewalks adjacent to Parks properties or other areas maintained by NYCDPR such as Greenstreets depending on the scope of work. It is the Contractor’s responsibility to coordinate with Parks via email at interagency@parks.nyc.gov to establish whether Construction Permits are required for the contract scope of work.

3. The Contractor will not be permitted to store, stage, stockpile, barricade, lay down construction materials or equipment, or otherwise impede access to Parkland, Greenstreets, or sidewalks in the right-of-way fronting Park properties unless such permission is granted by NYCDPR via issuance of a Parks Construction Permit.

4. The Contractor must obtain the necessary Parks Construction Permit from NYCDPR prior to the start of work on Parkland or areas under Parks’ jurisdiction. The Construction Permit application is found online at https://www.nycgovparks.org/permits/construction.

5. When no Construction Permit is required, the contactor must notify Parks at interagency@parks.nyc.gov at least one week in advance of any construction adjacent to Greenstreets or in the right-of-way fronting Parks properties to allow for coordination as needed.

6. The Contractor is responsible for the protection of any Greenstreets, sidewalks, and other landscape features under NYCDPR jurisdiction that are adjacent to or enclosed by the construction area, including hardscape, landscape, shrubs, and trees. Any areas and features disturbed or damaged during construction activity are the responsibility of the Contractor to restore and repair.

7. Many NYCDPR properties are indicated on the publicly accessible online mapping resource of the New York City Department of Information Technology and Telecommunications (DOITT) at http://maps.nyc.gov/doitt/nycitymap/. However, the map is not exhaustive, and Contractors should confirm Parks properties in the vicinity of their work with NYCDPR.

8. The contractor must take necessary precautions to prevent interference with or damage to utilities or other facilities during construction. The cost of all work connected with maintaining and protecting utilities affected by the work be borne by the Contractor and the cost will be deemed included in the price bid for the various items in the contract.

9. In the event the Contractor damages an existing utility or interrupts utility service, the Contractor will immediately notify its owner and the Engineer and must commence repair/replacement work as instructed by the Engineer.

10. In the event the Contractor causes an interruption in utility service, the Contractor will immediately arrange for service to be restored and may not cease the repair work until service is restored. The Contractor will not continue work until the service is restored, unless otherwise directed by the Engineer. All corrective utility work will be acceptable to the engineer and the subject utility owner.

11. If any utility service or connection of unknown ownership is encountered during construction which appears to enter or serve Parkland, Contractor must contact Parks at interagency@parks.nyc.gov to inquire if Parks is the owner of such utility.

N. START OF CONTRACT WORK. The Contractor is notified that a Notice To Proceed (NTP) date will be issued for work to commence within 21 to 30 Days of Contract Registration.

O. VIBRATORY ROLLERS. For Federal Highway Administration (FHWA) project the use of vibratory rollers is prohibited within the project limits.

[ARTICLE "P" IS ONLY APPLICABLE WHEN WORKING NEAR OR AT MTA FACILITIES]

P. N.Y.C. TRANSIT INSURANCE. The Contractor (Permittee) must 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 will carry or cause to carried and will 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 will 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 will 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 will 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, will be voided, where necessary; and,
- Additional Insured Endorsement (I.S.O. Form CG 20 26 07/04 version or equivalent) approved the Permitter 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 Permitter is required if Permitee'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 will be required as specified in Schedule A.

(e) Environmental/Pollution Exposures In the event environmental or pollution exposures exist, the Permittee will require the environmental contractor or sub-contactor to provide the applicable insurance covering such exposure. The limits and type of insurance provided will 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 will 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 will deliver evidence of such policies.

(b) Except for Workers Compensation, all references to forms and coverages referred to above will 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 must furnish evidence of all policies before any work is started to the Permittor using the following link

https://us.marketplace.asite.com/marketplace/main/detail/28/1/1/5512158/forms

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 will 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 will 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 will 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 will 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 will not exceed $100,000, unless such increased deductible or retention is approved by Permittor/MTA. The Permittee will 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 will deliver to the Authority, within forty-five (45) days of be 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 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 will 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 will 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.

Q. STANDARD WORKING HOURS: In absence of OCMC Traffic Stipulations, standard working hours are 7:00 A.M. and 6:00 P.M., Monday through Friday. Work performed outside the standard working hours must be pre-approved by DDC.

R. TREE BARRIERS. The Contractor will furnish, install, maintain and subsequently remove temporary Protective Tree Barriers. Protective Tree Barriers will be Type B, unless otherwise directed by the Engineer, and will 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.

Price of the tree barriers must be included in the in the unit prices bid for all scheduled items.

S. UTILITIES. 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.

T. HOUSE CONNECTIONS. All existing house connections will be maintained and supported during construction. The Contractor will 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.

U. VICTAULIC STYLE 77 COUPLING. 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, will be replaced with Bolted Split-Sleeve Restrained Coupling.

V. STREET LIGHT AND TRAFFIC SIGNAL. The Contractor is responsible for any damage to the existing street lighting 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 will be performed according to NYCDOT Bureau of Traffic's Standard Drawings and Specifications and City of New York DOT System Engineering Specifications (dated November 2013) at the sole expense of the Contractor.

It is the Contractor's responsibility to secure an approved electrical contractor to perform all traffic signal work (if any). For list of approved electrical contractors, contact Mr. Michael R. LeFosse of New York City Department of Transportation at (212) 839-3799.

W. SAW CUT. 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.

X. PRE-CONSTRUCTION STAGE. The Contractor is advised that the Base Contract Duration (consecutive calendar days "ccds") must also include pre-construction stage from the Notice To Proceed date. During this stage the Contractor is required to submit the necessary shop drawings, obtain all permits and submit the health and safety plan for review and approval. The Engineer's field office will also need to be established during this pre-construction stage period. Failure to comply with the pre-construction stage requirements may result in assessing liquidated damages to the Contractor for everyday beyond the pre-construction stage duration. The liquidated damage will be of equivalent value as identified in the Schedule A for work beyond the construction completion date.

Y. EXISTING SEWERS, WATER AND APPURTENANCE. The Contractor is notified that at some locations there may 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 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 will make all repairs to the existing structures to the satisfaction of and as directed by the Engineer. The cost of such repair will 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 deemed included in all bid items for work.

Z. RECONNECTING EXISTING SEWERS TO NEW MANHOLES. If there are locations on the contract plans, where the Contractor is required to reconnect all existing sewers to the proposed manholes in this contract. The said manholes will 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 will be deemed included in the prices bid for all items of work. No additional payment will be made.

[ARTICLE "AA" IS ONLY APPLICABLE IF ITEMS FOR VIBRATION MONITORING ITEM NO. 76.31 IS IN THE BID SCHEDULE]

AA. VIBRATION MONITORING. In case of structures requiring vibration monitoring, the Contractor, in addition to Continuous Real Time Monitoring for Vibrations as determined in the Construction Report must provide Continuous Real Time Monitoring for Vibrations of existing buildings/structures adjacent to or in the proximity of different types of construction activities being conducted including, but not limited to, installation of sheeting for construction of proposed water and sewer mains, installation of sheeting for excavation of jacking/receiving pits, direct jacking of sewers, piling work or as directed by the Engineer.

AB. CITY ASSETS. 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 will be replaced in kind and as directed by the Engineer. The cost of such work will be deemed included in the prices bid for all items of work under this contract.

[ARTICLE "AC" IS ONLY APPLICABLE FOR WATERMAIN 24-INCHES AND HIGHER]

AC. "AS-BUILT" DRAWINGS FOR WATER MAINS AND APPURTENANCES 24-INCHES (600-MM.) AND LARGER: Upon the completion of the work for each Capital Project and as a condition precedent to obtaining the certificate for substantial completion for each Capital Project under Article 44 of the Contract, the Contractor will furnish "As-Built" drawings for water mains and appurtenances 24-inches and larger to the City. The Contractor will prepare and submit the "As-Built" record drawings to the Engineer for approval. Approved "As-Built" drawings will be delivered to the Department of Design and Construction, 30-30 Thomson Avenue, Long Island City, New York, 11101-3045. The following guideline is provided for the preparation of "As-Built" record drawings:

1. The Contractor will prepare the "As-Built" drawings on AutoCAD and will provide to the City two (2) sets of Mylar and AutoCAD files on a CD. The drawings on CD's and the plotted Mylar's will conform

to the standard size of 22“ x 36” (559-mm. x 914-mm.) using a 1”=30’ (1:360) horizontal and 1”=10’ (1:120) vertical scale. The Mylar will be 3-mil in thickness.

2. The “As-Built” drawings will include but not be limited to the following guidelines summarized below:

(a) Drawings will consist of the same legend and layout of title boxes shown on the contract drawings.

(b) Each plotted Mylar drawing will contain the signature and stamp of the Contractor’s NYS Professional Engineer/Registered Architect.

(c) The drawings will include:

- street name and crossing street(s) or distance from;
- north arrow;
- property lines and widths;
- legal and existing street widths, street alignment and grades;
- “new” curb lines and widths;
- water main center line measured off the “new” curb line;
- horizontal stationing for all valves, hydrants, outlets, blow-offs, house service connections, etc., measured on a horizontal line as established by the Borough Office Bureau of Topographic;
- alignment and appurtenance location stationing, and deflection angles;
- cover and elevations (Datum used will be that of the Borough where work is located);
- location of pipe joints;
- profile of all piping;
- complete details of all outlet piping roundabouts;
- complete details of all blow-off connections to the sewer;
- complete details of all air cocks;
- location of taps and access manholes;
- location of all cathodic protection stations;
- Venturi sensing lines plans and profiles;
- all appropriate notes.

3. The cost of preparing and submitting “As-Built” approved drawings will be deemed included in the prices bid for all scheduled bid items in the contract. No separate or additional payment will be made for this work.

AD. SIDEWALK PEDESTRIAN RAMPS STANDARD DRAWING. The Contractor is advised that NYCDOT Standard Drawing number H-1011 dated 7/1/10, SIDEWALK PEDESTRIAN RAMPS, is no longer to be used for the purpose of determining geometry, dimensions, and tolerances for the construction of sidewalk ramps. NYSDOT Standard Sheet 608-01 (Pedestrian

Facilities) must be used for determining geometry, dimensions, and tolerances for the construction of sidewalk ramps, except that Type 8 must not be used. All requirements of the NYCDOT Standard Highway Specifications will still apply; this does not mandate or allow the use of any NYSDOT Standard Specifications as an alternate unless specifically called for in the contract documents.

NYSDOT Standard Sheet 608-01 is available at the following link:
https://www.dot.ny.gov/main/business-center/engineering/cadd-info/drawings/standard-sheets-us

AE. NO ADDITIONAL PAYMENT. The Contractor is advised that any fences, guardrails, boulders, asphalt walkway of the park, fixtures, other encumbrances removed within project limits during construction will be replaced in kind to the satisfaction of the Engineer. The cost of such work will be deemed included in the prices bid for all contract items of work and no additional or separate payment will be made.

AF. SHEETING AND EXCAVATION AT TRANSIT FACILITIES. In case of transit facilities like MTA, LIRR, METRO NORTH etc., the Contractor will exercise extreme caution and take all necessary precautions in placing sheeting and excavation to prevent any damage to the existing underground or overhead structures and its appurtenances during construction work throughout the project area. The Contractor must take full responsibility to protect the said structures and its appurtenances and any damage caused by the Contractor's operations must be made good by the Contractor to the satisfaction of the Engineer at no additional cost to the City.

The Contractor must submit shop drawings to the Transit facilities 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 structures and its appurtenances, with necessary design calculations for approval prior to starting of the construction. The design will 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 will be deemed included in the price bid for all items of work under this contract.

[ARTICLE "AG" IS ONLY APPLICABLE IF PAVEMENT MARKING ITEMS LIKE ITEM NUMBERS 6.44, 6.44CST, 6.49 ETC., ARE IN THE BID SCHEDULE]

AG. PAYMENT FOR PAVEMENT MARKINGS Pavement Markings such as those detailed in the Pavement Markings Conversion Table attached herein and shown on the Typical Pavement Markings word messages attached herein Attachment 1 and Attachment 2, will be payable in quantities of LF (Linear Feet).

[ARTICLE "AH" IS ONLY APPLICABLE IF ITEMS ITEM NO. HW-908 FOR ARCHAEOLOGICAL DISCOVERIES IS IN THE BID SCHEDULE]

AH. ARCHAEOLOGICAL DISCOVERIES. The Contractor is notified that if requested by the Resident Engineer and the City, the Contractor will be required retain the services of an Archaeologist (the "City's Archaeologist") for this project.

The City's Archaeologist will be notified in advance and will be present on site during sub-surface excavations as deemed necessary. The City's Archaeologist will be authorized to halt construction at any time in order to record and/or recover any archaeological resources encountered during excavations, and to stabilize in place any human remains encountered.

For the purpose of evaluating and recording archaeological resources, the City's Archaeologist will be allowed to enter trenches provided all standard safety requirements are met. It is understood that some construction down time may be necessary.

In the event that human remains, and/or other significant archaeological deposits are encountered during construction or archaeological investigations, Landmarks Preservation Commission (LPC) will be notified as directed by the City's Archaeologist and the State Historic Preservation Office (SHPO) requires that the following protocol is implemented:

1. At all times human remains must be treated with the utmost dignity and respect. Should human remains be encountered work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.

2. Human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

3. The County coroner and local law enforcement as well as the SHPO and the involved agency will be notified immediately. The coroner and local law enforcement will make the official ruling on the nature of the remains, being either forensic or archeological. If the remains are archeological in nature, a bio-archaeologist will confirm the identification as human.

4. If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their protection or removal can be generated. The involved agency will consult SHPO and appropriate Native American groups to determine a plan of action that is consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) guidance.

5. If human remains are determined to be Euro-American, African- American, etc., the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Consultation with the SHPO and other appropriate parties will be required to determine a plan of action.

Should extra work be ordered by the Resident Engineer as a result of any archaeological discoveries, it will be paid for from the Fixed Sum included in, and in accordance with Item HW-908 Allowance for Extra Work Due To Archaeological Discoveries.

AI. USE OF CITY WATER. Please refer to page 15 of NYCDOT STANDARD SPECIFICATIONS (August 1, 2015), VOLUME I OF II under GENERAL CONDITIONS, Sub Section 1.06.23: Rules, Laws, and Requirements; (A) PERMITS.

AJ. PUBLIC DISSEMINATION OF INFORMATION. The Contractor agrees to hold confidential, both during and after the completion or termination of this Contract, all of the reports, information, or data, furnished to, or prepared, assembled or used by, the Contractor under this Contract. The Contractor agrees to maintain the confidentiality of such reports, information, or data by using a reasonable degree of care, and using at least the same degree of care that the Contractor uses to preserve the confidentiality of its own confidential information. The Contractor agrees that such reports, information, or data will not be made available to any person or entity without the prior written approval of the Commissioner. The obligation under this Section to hold reports, information or data confidential will not apply

where the Contractor is legally required to disclose such reports, information or data by virtue of a subpoena, court order or otherwise ("disclosure demand"), provided that the Contractor complies with the following: (1) the Contractor will provide advance notice to the Commissioner, in writing or by e-mail, that it received a disclosure demand for such reports, information or data and (2) if requested by the Commissioner, the Contractor will not disclose such reports, information or data until the City has exhausted its legal rights, if any, to prevent disclosure of all or a portion of such reports, information, or data. The previous sentence will not apply if the Contractor is prohibited by law from disclosing to the City the disclosure demand for such reports, information or data.

The Contractor will restrict access to confidential information to persons who have a legitimate work-related purpose to access such information. The Contractor agrees that it will instruct its officers, employees, and agents to maintain the confidentiality of any and all information required to be kept confidential by this Contract.

The Contractor, and its officers, employees, and agents will notify the Commissioner, at any time either during or after completion or termination of this Contract, of any intended statement to the press or any intended issuing of any material for publication in any media of communication (print, news, television, radio, Internet, etc.) regarding the services provided or the data collected pursuant to this Contract at least twenty-four (24) hours prior to any statement to the press or at least five (5) business days prior to the submission of the material for publication, or such shorter periods as are reasonable under the circumstances. The Contractor may not issue any statement or submit any material for publication that includes confidential information as prohibited by this Section.

At the request of the Commissioner, the Contractor will return to the Commissioner any and all confidential information in the possession of the Contractor or its subcontractors. If the Contractor or its subcontractors are legally required to retain any confidential information, the Contractor will notify the Commissioner in writing and set forth the confidential information that it intends to retain and the reasons why it is legally required to retain such information. The Contractor will confer with the Commissioner, in good faith, regarding any issues that arise from the Contractor retaining such confidential information. If the Commissioner does not request such information, or the Law does not require otherwise, such information will be maintained in accordance with the requirements set forth in the Contract Documents.

AK. PRICES TO INCLUDE. No direct payment will be made for costs incurred in complying with the foregoing Special Provisions, unless otherwise provided. Said costs will be deemed to have been included in the prices bid for all the scheduled contract items.

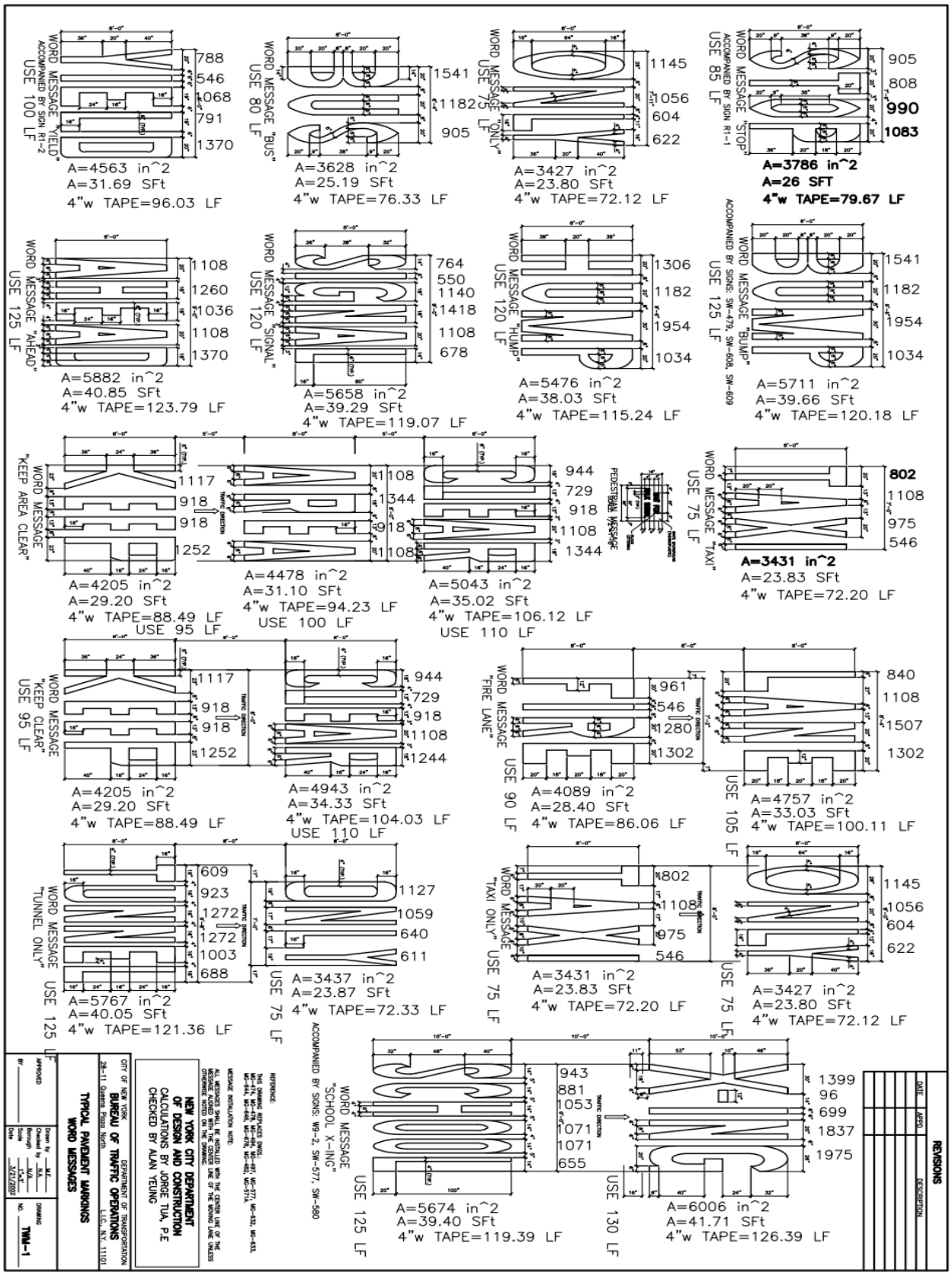
Attachment 1: Pavement Markings Conversion Table

Symbol	Area (in^2)	Area ($Feet^2$)	4" w Tape (LF)	Use (LF)
STOP	3786	26.29	79.67	85
BUMP	5711	39.66	120.18	125
TAXI	3431	23.83	72.2	75
ONLY	3427	23.8	72.12	75
HUMP	5476	38.06	115.24	120
BUS	3628	25.19	76.33	80
SIGNAL	5658	39.29	119.07	125
YIELD	4563	31.69	96.03	100
AHEAD	5882	40.85	123.79	125
TAXI ONLY	6858	47.63	144.32	150
TAXI	3431	23.83	72.2	75
ONLY	3427	23.8	72.12	75
SCHOOL X-ING	11680	81.11	245.79	255
SCHOOL	5674	39.4	119.4	125
X-ING	6006	41.71	126.39	130
FINE LANE	8846	61.43	186.17	195
FIRE	4089	28.4	86.06	90
LANE	4757	33.03	100.11	105
KEEP AREA CLEAR	13726	95.32	288.84	305
KEEP	4205	29.2	88.49	95
AREA	4478	31.1	94.23	100
CLEAR	5043	35.02	106.12	110
TUNNEL ONLY	9204	63.92	193.69	200
TUNNEL	5767	40.05	121.36	125
ONLY	3437	23.87	72.33	75

Symbol	Area (in^2)	Area ($Feet^2$)	4" w Tape (LF)	Use (LF)
KEEP CLEAR	9248	64.22	194.61	205
KEEP	4205	29.2	88.49	95
CLEAR	5043	35.02	106.12	110
BICYCLE TRAIL	741	5.15	15.59	20
BICYCLE LANE	494	3.43	10.4	15
BIKE LANE ARROW	328	2.28	6.9	10
HOV LANE DIAMOND	1403	9.74	29.52	35
SKATER SYMBOL	539	3.74	11.34	15
PEDESTRIAN SYMBOL	980	6.81	20.62	25
YIELD AHEAD TRIANGLE				
45 MPH or GREATER	1315	9.13	27.67	30
LESS THAN 45 MPH	932	6.47	19.61	25
YIELD LINE LAYOUT				
LARGE (4)	432	3	9.1	40
SMALL (6)	108	0.75	2.27	18
STRAIGHT ONLY	1772	12.31	37.29	40
LEFT ONLY	2224	15.44	46.8	50
RIGHT ONLY	2224	15.44	46.8	50
STRAIGHT AND LEFT ONLY	4117	28.59	86.64	90
STRAIGHT AND RIGHT ONLY	4117	28.59	86.64	90
WRONG-WAY ARROW	4121	28.62	86.72	90
SPECIAL PAVEMENT ARROW	1837	12.76	38.66	40

Symbol	Area (in^2)	Area ($Feet^2$)	4" w Tape (LF)	Use (LF)
ELONGATED HIGHWAY ARROWS				
STRAIGHT AND LEFT ONLY	4580	31.81	96.38	100
STRAIGHT AND RIGHT ONLY	4580	31.81	96.38	100
STRAIGHT ONLY	1852	12.86	38.97	40
LEFT AND RIGHT ONLY	1783	12.38	37.52	40

Attachment 2: Typical Pavement Markings



(B) HIGHWAY PROJECT SPECIFIC PROVISIONS

OCMC TRAFFIC STIPULATIONS.

NEW YORK CITY DOT Department of Transportation

POLLY TROTTENBERG, Commissioner

OCMC TRAFFIC STIPULATIONS

9/14/2020

OCMC FILE NO: REC-20-362
CONTRACT NO: RED386
PROJECT: Replacement of Distribution Water Mains and Appurtenances in South Avenue
LOCATION(S): South Avenue between Richmond Terrace and Netherland Avenue. Borough of Staten Island

PERMISSION IS HEREBY GRANTED TO THE **NYC DDC** 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. **PROTECTION OF NYC DEP GREEN INFRASTRUCTURE**: THE PERMITTEE SHALL TAKE PRECAUTION OF NYC DEP GREEN INFRASTRUCTURE IN THE RIGHT-OF-WAY. THE PERMITTEE MUST PROTECT NYC DEP GREEN INFRASTRUCTURE DOWNSTREAM OF THE WORK OR WITHIN FIVE (5) FEET OF THE WORK AREA. THE PERMITTEE MUST EMAIL NYC DEP AT SUSTAINABILITY@DEP.NYC.GOV FOR PROTECTION REQUIREMENTS PRIOR TO COMMENCING WORK. THE PERMITTEE IS RESPONSIBLE FOR RESTORATION OF DAMAGED NYC DEP INFRASTRUCTURE AS DIRECTED BY NYC DEP.

F. **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.

G. **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.

H. **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.

I. **METERS** – THE PERMITTEE SHALL NOT REMOVE OR RELOCATE PARKING METERS WITHOUT FIRST OBTAINING APPROVAL FROM NYCDOT PARKING METER DIVISION AT 718 – 894 – 8651.

J. **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.

K. **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.

L. **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.

M. **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.

NYC Department of Transportation
Bureau of Permit Management and Construction Control
55 Water Street - 7th Floor, New York, NY 10041
T: 212.839.9637 F: 212.839.8970
www.nyc.gov/dot

I. SPECIAL STIPULATIONS (CONTINUED)

N. **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.

O. **CONSTRUCTION INFORMATIONAL SIGNS** – THIS PROJECT REQUIRES A CONSTRUCTION PROJECT INFORMATIONAL SIGN (CPIS) IN ACCORDANCE WITH NYCDOT HIGHWAY RULE SECTION 2-02 (4) AND (5). 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

P. **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. SOUTH AVENUE BETWEEN RICHMOND TERRACE AND ARLINGTON PLACE

B. SOUTH AVENUE BETWEEN ARLINGTON PLACE AND BRABANT STREET

C. SOUTH AVENUEV BETWEEN BRABANT STREET AND CONTINENTAL PLACE

D. SOUTH AVENUE BETWEEN CABLE WAY AND NETHERLAND AVENUE

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday - Friday
2. During the working hours the contractor shall maintain one 12ft lane for two-way traffic with the help of flaggers at both ends of the work zone.
3. 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
4. After working hours, the contractor shall restore all travelling lanes for traffic.
5. Must coordinate with MTA Bus Company regarding Bus lines/stops before mobilization.

E. SOUTH AVENUE BETWEEN CONTINENTAL PLACE AND CABLEWAY

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday - Friday
2. During the working hours the contractor shall maintain one 12ft lane for two-way traffic with the help of flaggers at both ends of the work zone.
3. 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
4. After working hours, the contractor shall restore all travelling lanes for traffic.

F. ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON AVENUE

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday – Friday
2. During the working hours the contractor shall maintain one 12ft lane for two-way traffic with the help of flaggers at both ends of the work zone
3. The contractor shall maintain a 5ft sidewalk at all times
4. After working hours, the contractor shall restore all travelling lanes for traffic.
5. Must coordinate with MTA Bus Company regarding Bus lines/stops before mobilization.

II. MAINTENANCE AND PROTECTION OF TRAFFIC (CONTINUED)

G. CONTINENTAL PLACE BETWEEN SOUTH AVENUE AND GRANDVIEW AVENUE

H. CONTINENTAL PLACE BETWEEN GRANDVIEW AVENUE AND MERSEREAU AVENUE

I. GRANDVIEW AVENUE BETWEEN CONTINENTAL PLACE AND BRABANT STREET

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday – Friday
2. The contractor shall maintain 2-11ft lanes for traffic, one in each direction at all times.
3. The contractor shall maintain a 5ft sidewalk at all times
4. Must coordinate with MTA Bus Company regarding Bus lines/stops before mobilization.
5. After working hours, the contractor shall restore all travel lanes for traffic and may contain a maximum of 25 linear feet, 8 feet adjacent to the curb during non-working hours. This containment is only to restrict parking and for storage of excavated materials/fills

J. CABLEWAY BETWEEN SOUTH AVENUE AND DEAD END

K. GRANDVIEW AVENUE BETWEEN CONTINETAL PLACE AND DOWNEY PLACE

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday – Friday
2. The contractor shall maintain 2-11ft lanes for traffic, one in each direction at all times.
3. The contractor shall maintain a 5ft sidewalk at all times
4. After working hours, the contractor shall restore all travel lanes for traffic and may contain a maximum of 25 linear feet, 8 feet adjacent to the curb during non-working hours. This containment is only to restrict parking and for storage of excavated materials/fills

L. INTERSECTION OF SOUTH AVENUE AND RICHMOND TERRACE

M. INTERSECTION OF CONTINENTAL PLACE AND GRANDVIEW AVENUE

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday - Friday
2. During working hours, the contractor shall maintain one 12ft lane for traffic for two-way traffic on both roadways.
3. Flagmen must be provided to assist traffic and pedestrians during working hours.
4. The contractor may occupy/close one crosswalk at a time.
5. After working hours, the contractor shall restore all travelling lanes for traffic.

N. INTERSECTION OF SOUTH AVENUE AND ARLINGTON PLACE

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday - Friday
2. During working hours, the contractor shall maintain one 12ft lane for traffic for two-way traffic on both South Avenue & west leg of cross street, with no impact on east leg of cross street.
3. Flagmen must be provided to assist traffic and pedestrians during working hours.
4. The contractor may occupy/close one crosswalk at a time.
5. After working hours, the contractor shall restore all travelling lanes for traffic.

O. INTERSECTION OF SOUTH AVENUE AND BRABANT STREET

P. INTERSECTION OF ARLINGTON PLACE AND ARLINGTON AVENUE

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday - Friday
2. During working hours, the contractor shall maintain one 12ft lane for traffic for two-way traffic on South Avenue with no impact on cross street.
3. During working hours, the contractor shall maintain one 12ft lane for traffic for two-way traffic on Arlington Place with no impact on cross street.
4. Flagmen must be provided to assist traffic and pedestrians during working hours.
5. The contractor may occupy/close one crosswalk at a time.
6. After working hours, the contractor shall restore all travelling lanes for traffic.

II. MAINTENANCE AND PROTECTION OF TRAFFIC (CONTINUED)

Q. INTERSECTION OF SOUTH AVENUE AND CABLEWAY

R. INTERSECTION OF SOUTH AVENUE AND CONTINENTAL PLACE

1. Work hours shall be as follows: 9:00 AM – 4:00 PM Monday - Friday
2. During working hours, the contractor shall maintain one 12ft lane for traffic for two-way traffic on both roadways.
3. Flagmen must be provided to assist traffic and pedestrians during working hours.
4. The contractor may occupy/close one crosswalk at a time.
5. After working hours, the contractor shall restore all travelling lanes for traffic.

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 CONTRACTOR IS ADVISED THAT OTHER CONTRACTORS MAY BE WORKING IN THE GENERAL AREA DURING THE TERM OF THIS STIPULATION. IN WHICH EVENT, THE CONTRACTOR 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.

III. GENERAL NOTES (CONTINUED)

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 CONTRACTOR 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.**

J. FOR THIS PROJECT THE CONTRACTOR 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 CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING HIS CONSTRUCTION SIGNAGE. THE IDENTIFICATION SHALL INCLUDE THE CONTRACTOR'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 C. Barra

DUANE C. BARRA
DIRECTOR
OCMC-STREETS

Duane C. Barra for

HEBA GUIRGUIS
PROJECT MANAGER
OCMC-STREETS

(C) SEWER & WATER MAIN PROJECT SPECIFIC PROVISIONS

(NO TEXT)

(D) GREEN INFRASTRUCTURE PROVISIONS

(NO TEXT)

(NO TEXT ON 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 August 2018), 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. REVISIONS TO THE STANDARD HIGHWAY SPECIFICATIONS
C. REVISIONS TO THE STANDARD SEWER AND WATER MAIN SPECIFICATIONS
D. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

(NO TEXT ON THIS PAGE)

A. NOTICE TO BIDDERS

(1) The Contractor is 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 must be performed according to NYCDOT Bureau of Traffic's Standard Drawings and Specifications at the sole expense of the Contractor.

It is the Contractor's responsibility to secure an approved electrical contractor to perform all traffic signal work (if any). For list of approved electrical contractors, contact Mr. Michael R. LeFosse of New York City Department of Transportation at (212) 839-3799.

(2) 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 must properly support and protect the said existing sewers and water mains during the construction of new sewer(s). The Contractor will take full responsibility for any damage to the said existing water mains and must submit support and protection systems and design computations to DDC 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 will be deemed to be included in all bid items of work.

(3) The Contractor is notified that at some locations, existing sewers, manholes, water mains, etc. which are to remain undisturbed are in close proximity to the line of the proposed work. The Contractor must exercise extreme care, minimize the trench width of the proposed water main and take all necessary precautions in placing sheeting and during excavation of the trenches to prevent damage to the existing city-owned structures that are to remain undisturbed. Any damage to existing city-owned structures caused by the Contractor's construction operations will be repaired or replaced as directed by the engineer. The cost of such repair or replacement will be borne solely at the Contractor's own expense.

B. REVISIONS TO THE STANDARD HIGHWAY SPECIFICATIONS

(1) Refer to Standard Highway Specifications Volume II (August 1, 2015), Page 372:

Add the following new Section 6.39 B:

SECTION 6.39 B – MOBILIZATION

6.39.1. DESCRIPTION. Under this section, the Contractor must set up all necessary general plant and facilities, including shops, storage areas, office and such sanitary and other facilities as are required by City, State or Federal law or regulation. Unless otherwise provided, the cost of required bonds and/or any other similar significant initial expenses required for the initiation of the contract work must also be included in this section. The determination of the adequacy of Contractor's facilities, except as noted above, will be made by the Engineer.

6.39.2. MATERIALS. Unless otherwise specified, materials required under this section are not part of the completed contract and may be as selected by the Contractor.

6.39.3. CONSTRUCTION METHODS. Such work as is done in providing the facilities and services under this section must be done in a safe and workmanlike manner and must conform with any pertinent City, State or Federal law, regulation or code. The Contractor must provide facilities and services under this section that are planned and executed to ensure the maintenance of safety and good housekeeping at the construction site.

6.39.4. PRICE TO COVER.

Payment will be made by lump sum. The amount bid will include the furnishing and maintaining of any plant, services or other facilities noted under "Description" to the extent and at the time the Contractor deems them necessary for the Contractor's operations, consistent with the requirements of this section and the contract. The amount bid for this lump sum item will be payable to the Contractor when the following items are submitted and approved by the Engineer:

1. The provision of a Field Office per Section 6.40 of the NYCDOT Standard Highway Specifications;
2. The Site Safety Plan per the City of New York Department of Design and Construction Safety Requirements for Construction Contracts dated January 2020;
3. The Schedule of Operations (project baseline schedule) per Section 1.06.25 of the NYCDOT Standard Highway Specifications;
4. The Progress Schedule per Standard Construction Contract Article 9;
5. Preconstruction Photographs per Section 6.43 of the NYCDOT Standard Highway Specifications are submitted to the Engineer; and
6. Construction Report per Item 76.11CR of the NYCDEP Standard Sewer and Water Main Specifications, if item is required as part of the Contract.

However, should the Contract be terminated, or its term expires prior to completion of at least fifty percent (50%) of the original price bid for the Contract, then the Contractor will be paid a proportionate amount of this item (hereinafter referred to as the "Adjusted Mobilization Payment") based on the following formula:

$$\text{Adjusted Mobilization Payment} = \text{As Bid Mobilization Cost} \times \frac{\text{Total Actual Payments to the Contractor approved by the Engineer}}{\text{Original Total Bid Price + Approved and Registered Change Orders}}$$

Where the Contractor has already received the original total payment for this item and the Contract has been terminated or expired prior to completion of at least fifty percent (50%) of the work covered under the original price bid for the Contract, then any monies owed by the City due to the above specified reduction in payment will be withheld from the monies the City owes to the Contractor and/or the City reserves a claim to such funds from the Contractor. The amount bid for Mobilization must not exceed eight percent (8%) of the total contract price, excluding the price bid for Mobilization, and in no case will payment under this item exceed the original price bid for this item.

Payment will be made under:

Item No.	Item	Pay Unit
6.39 B	MOBILIZATION	L.S.

C. REVISIONS 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 must notify CON EDISON at least seventy-two (72) hours prior to the start of construction by contacting Mr. Alunan Carlo at (917) 484-0883.

(2) NATIONAL GRID

There are NATIONAL GRID facilities in the area of construction. The Contractor must 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 must notify VERIZON at least seventy-two (72) hours prior to the start of construction by contacting Mr. Aubrey Makhanlall at (516) 758-3705

(4) SPECTRUM

There are SPECTRUM facilities in the area of construction. The Contractor must notify SPECTRUM at least seventy-two (72) hours prior to the start of construction by contacting Mr. Mario Rijo at (347) 752-3707.

(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 must notify Ms. Sol Posada, 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 (718) 595-4347 at least thirty (30) days prior to the start of construction.

(2) NEW YORK CITY FIRE DEPARTMENT

The Contractor must notify the Bureau of Fire Communications at least thirty (30) days prior to the start of construction by contacting Mr. Ed Durkin at (718) 624-4194 or (718) 624-3752.

(3) N.Y.C. DEPARTMENT OF TRANSPORTATION

The Contractor must notify Mr. Michael Lefosse / Mr. Akmal Mikhail - Signal/Street Lighting Operations, 34-02 Queens Blvd., Long Island City, N.Y. 11101 at (212) 839-3799/ (212) 839-3359, at least seventy-two (72) hours prior to the start of construction.

(4) N.Y.C. DEPARTMENT OF PARKS AND RECREATION

The Contractor must notify the Parks Department at least seventy-two (72) hours prior to the start of construction by contacting Mr. Mona Fakahani at (718) 390-2084.

(5) N.Y.C. TRANSIT AUTHORITY

(a) The Contractor must notify Outside Projects at least seven (7) days prior to the start of construction.

The Contractor must 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 must notify the Transit Authority at least two (2) weeks prior to the start of construction, in order to make the necessary arrangements:

Arrangements must 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) 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 must notify the Transit Authority as required and specified in **Section 10.25 paragraph (A)**,

(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.

REQUIRED INDEMNITEES (by Location of Work):

☐ **All NYCT Agreements (Except 2 Broadway, 2460 2ND Avenue, NYC, and 180 Livingston Street, Brooklyn, NY):** New York City Transit Authority ("NYCT"), the Manhattan and Bronx Surface Transit Operating Authority ("MaBSTOA"), the Staten Island Rapid Transit Operating Authority ("SIRTOA"), the Metropolitan Transportation Authority ("MTA") including its subsidiaries and affiliates, MTA Capital Construction ("MTACC"), MTA Bus Company ("MTA Bus"), and the City of New York ("City" as Owner) and the respective affiliates and subsidiaries existing currently or in the future of and successors to each Indemnified Parties listed herein.

☐ **NYCT 2 Broadway Agreements (when work is done at 2 Broadway, New York, NY 10004):** New York City Transit Authority (NYCT), the Manhattan and Bronx Surface Transit Operating Authority (MaBSTOA), the Staten Island Rapid Transit Operating Authority (SIRTOA), Triborough Bridge & Tunnel Authority (B&T), Metro North Commuter Railroad Company, (MNR), Long Island Rail Road (LIRR), MTA Capital Construction ("MTACC"), MTA

Bus Company ("MTA Bus"), Metropolitan Transportation Authority ("MTA") including its subsidiaries and affiliates, the State of New York and the City of New York ("City" as Owner),.United States Trust Company of New York as Trustee under the 2 Broadway Ground Lease Trust, Two Broadway LLC, ZAR Realty, CBRE, Inc. and any successor thereto as property manager and the respective affiliates and subsidiaries existing currently or in the future of and successors to each Indemnified Parties listed herein.

☐ **NYCT 2460 2ND Avenue Agreements (when work is done at 2460 2ND Avenue. , New York, NY 10035):** New York City Transit Authority ("NYCT"), the Manhattan and Bronx Surface Transit Operating Authority ("MaBSTOA"), the Staten Island Rapid Transit Operating Authority ("SIRTOA"), the Metropolitan Transportation Authority ("MTA") including its subsidiaries and affiliates, MTA Capital Construction ("MTACC"), MTA Bus Company ("MTA Bus"), and the City of New York ("City" as Owner) and the respective affiliates and subsidiaries existing currently or in the future of and successors to each Indemnified Parties listed herein, CBRE, Inc. and any successor thereto as property manager.

☐ **NYCT 180 Livingston Street Agreements (when work is done at 180 Livingston Street, Brooklyn, NY):** New York City Transit Authority ("NYCT"), the Manhattan and Bronx Surface Transit Operating Authority ("MaBSTOA"), the Staten Island Rapid Transit Operating Authority ("SIRTOA"), the Metropolitan Transportation Authority ("MTA") including its subsidiaries and affiliates, MTA Capital Construction ("MTACC"), MTA Bus Company ("MTA Bus"), and the City of New York ("City" as Owner) and the respective affiliates and subsidiaries existing currently or in the future of and successors to each Indemnified Parties listed herein, Thor 180 Livingston LLC, Thor/MIGMEN 180 Livingston LP, The 180 Livingston Street Condominium, Thor Management Company LLC & Thor Equities LLC are listed as additional insureds as per written contract.

Attached are the Guidelines & Instructions for Submission of Evidence of Insurance and the Mocked-up Samples of how to complete the ACORD Certificate forms.

For additional tools: Go to this Landing Page for:

- Guidelines,
- Samples and instructions for completing the form
- and a list of the Indemnitees, which you can copy directly to your Certificate of Insurance and Endorsements: http://www.mta.info/vendor-insurance.

(4) **Refer** to **Subsection 10.24 – Damaged Water Service Pipes To Be Repaired By A Licensed Plumber,** page I-14:
Add the following to **Subsection 10.24**:

If the damaged or cut water service pipe is lead, galvanized steel, or galvanized iron, the service pipe must not be partially replaced, but fully replaced from the main to the house control valve. If the service pipe was damaged, cut, or otherwise interrupted due to the Contractor's actions or means & methods (including selection of shoring systems), the water service pipe will be replaced at the Contractor's own cost.

(5) **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.

(7) **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:

(A) In Streets Not Requiring Overlay:

(a) The permanent restoration over the **trench width and cutbacks only** will consist of a top course of one and one-half (1-1/2) inches of asphaltic concrete wearing course on a base course of a minimum of four and one-half (4-1/2) inches of binder mixture, or a top course of one and one-half (1-1/2) inches of asphaltic concrete wearing course on a minimum of one and one-half (1-1/2) 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.

(1) The following requirements apply:

(a) Before the top course is installed, an additional width of asphalt beyond the edge of new base course must 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 must be in accordance with paragraph (b) below.

(b) Pavement excavation along with saw cutting of pavements for sewer and water main trenches must be in accordance with **Section 71.21 - Pavement Excavation** of the Standard Sewer And Water Main Specifications.

The following streets are protected by New York City Administrative Code §19-144 (Local Law No. 14):

1. Grandview Avenue from Netherland Avenue to Brabant Street is Protected until 6/28/2024.

2. Richmond Terrace, intersection of South Avenue and Richmond Terrace. Protected until 08/28/2022.

(c) At locations requiring the installation of a concrete base course, a reflective cracking membrane be installed over joints prior to restoration, the cost of which must be deemed included in the prices bid for all pavement restoration items. Additionally, appropriate pavement keys as described below must be used.

(d) Pavement keys **Type B-1** must 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** must be used in all intersections. Both keys are to be per Department Of Transportation 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 will be deemed included in the prices bid for all pavement restoration items.

(f) Payment for placement of temporary pavement marking will be made under Item No. 6.49 - TEMPORARY PAVEMENT MARKINGS (4" WIDE).

(g) Payment for removal of existing pavement markings will 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) will be made under Item No. 6.44 - THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE).

(i) Payment for pavement restoration will 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 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.)
4.05 AX	High Early Strength Reinforced Concrete Pavement (Bus Stops)	(For reinforced concrete pavement at Bus stops)

D. REVISIONS TO THE SPECIFICATIONS FOR TRUNK MAIN WORK

(NO TEXT)

END OF SECTION
This Section consists of fifteen (15) pages plus five (5) pages of attachments.

NO TEXT ON THIS PAGE

EP7 (1.0) - PAGES

GAS COST SHARING (EP-7) STANDARD SPECIFICATIONS

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)

EP7 (1.0) - PAGES

GAS COST SHARING (EP-7) STANDARD SPECIFICATIONS

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)

TABLE OF CONTENT

I - NOTICE TO ALL BIDDERS; GAS COST SHARING WORK

II - GENERAL PROVISIONS; GAS COST SHARING WORK

1. General
2. Gas Interferences And Accommodations
   2a. Water Main Accommodations
   2b. Sewer Accommodations
3. Quantity Overruns, EP-7 Funded Bid Items
4. Changes And Extra Work
5. Excavation
6. Backfilling And Street Restoration
7. Non-Responsive Bids
8. Minimum Clearances
9. Work By Facility Operator
10. Materials Furnished By Facility Operator
11. Liability And Insurance
12. Width And Depth Of Excavation
13. Depth And Crossing Angles Of Gas Facilities
14. Maintenance Of Traffic For Gas Work
15. Relocated Gas And Temporary Systems Installation
16. Role Of Company Inspector
17. Coordination With Gas Company

III - TECHNICAL SECTION

SECTION 6.01 - Trench Crossings; Support And Protection Of Gas Facilities And Services.
SECTION 6.02 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Gas Interferences.
SECTION 6.02.1 - Extra Excavation For The Installation Of Catch Basin Sewer Drain Pipes With Upstream Inverts Greater Than Six (6) Feet.
SECTION 6.03 - Removal Of Abandoned Gas Facilities. All Sizes.
SECTION 6.03.1 - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For National Grid Work Only)
SECTION 6.03.1a - Removal Of Abandoned Gas Facilities With Possible Coal Tar Wrap. All Sizes. (For Con Edison Work Only)
SECTION 6.04 - Adjust Hardware To Grade Using Spacer Rings/Adaptors. (Street Repaving.)
SECTION 6.05 - Adjust Hardware To Grade By Resetting. (Road Reconstruction.)
SECTION 6.06 - Special Care Excavation And Backfilling.
SECTION 6.07 - Test Pits For Gas Facilities.
SECTION 6.08 - "No Text"
SECTION 6.09 - Trench Excavation and Backfill for New Gas Mains and Services (For National Grid Work Only)
SECTION 6.09a - Trench Excavation and Backfill for New Gas Mains and Services (For Con Edison Work Only)

IV - STANDARD SKETCHES; GAS COST SHARING WORK

NO. 1 - Support Requirements For Gas Mains And Services Crossing Excavation Greater Than 4'-0" Wide At Any Angle
NO. 1A - Support Requirements For Gas Mains Over 16" Diameter Up To And Including 48" Diameter Crossing Excavation At Any Angle
NO. 2 - Typical Methods Of Measurement For Gas Crossings
NO. 3 - Utility Crossings During Catch Basin Chute Connection Pipe Installation

NO. 4 - Utility Crossings During Catch Basin Chute Connection Pipe Installation (Extra Depth)
NO. 5 - Gas Main Encroachment On And/Or Parallel To Excavation Of Unsheeted Trench

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. The Engineer will notify the gas facility operator in writing of overruns. The Contractor must invoice the gas facility operator for payment of all overruns, which will be paid by the gas facility operator at the contract bid price. Gas facility operator will 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:

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.

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.

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

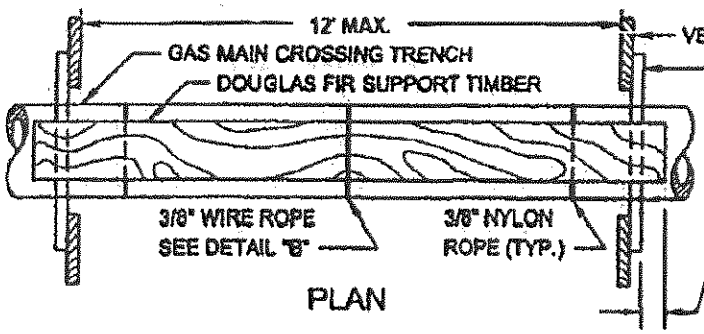
Sketch No. 3 - Utility Crossings During Catch Basin Chute Connection Pipe Installation

Sketch No. 4 - Utility Crossings During Catch Basin Chute Connection Pipe Installation (Extra Depth)

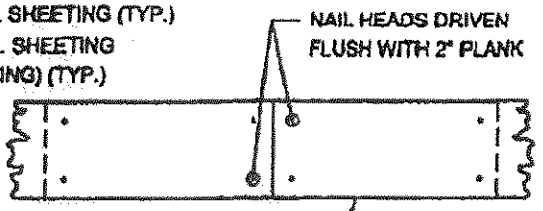
Sketch No. 5 - Gas Main Encroachment On And/Or Parallel To Excavation Of Unsheeted Trench

GAS COST SHARING WORK (SKETCH NO. 1)

SUPPORT REQUIREMENTS FOR GAS MAINS SUSPENDED IN EXCAVATIONS UP TO 12'-0" WIDE AT ANY ANGLE



PLAN



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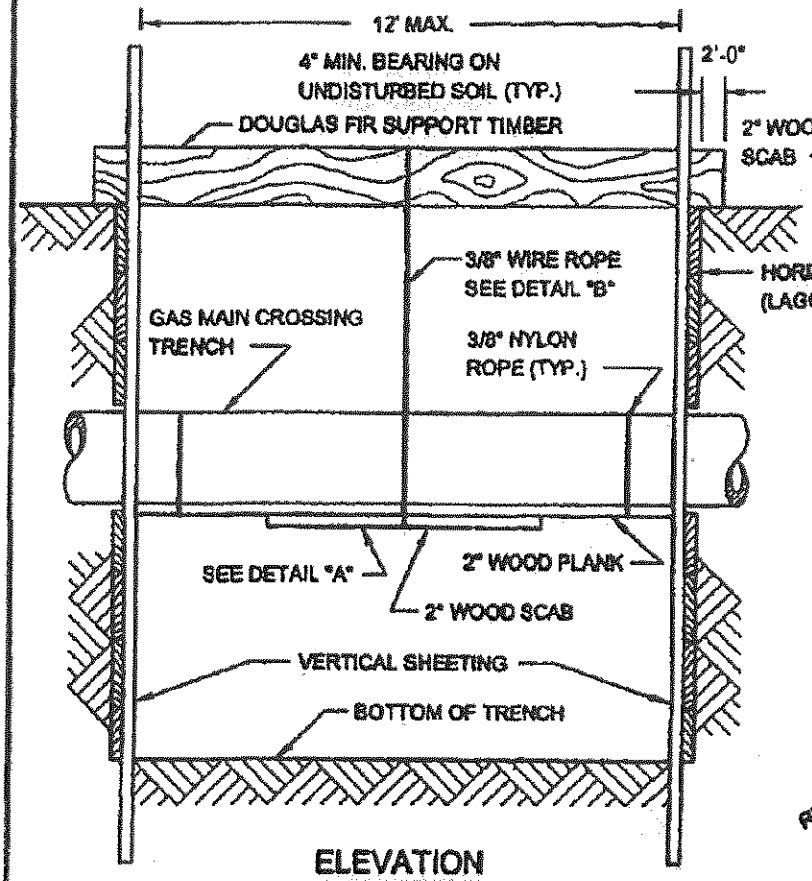
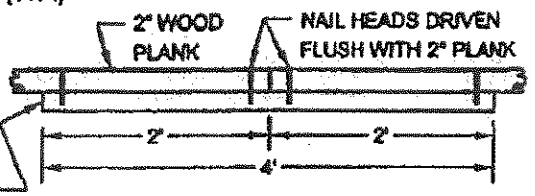
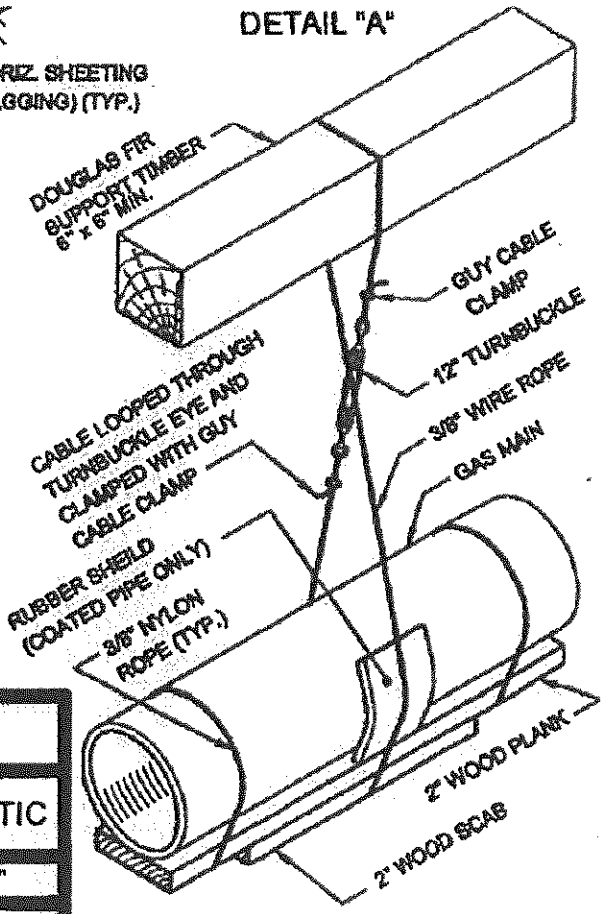


ELEVATION



ELEVATION

DETAIL "A"



DETAIL "B"

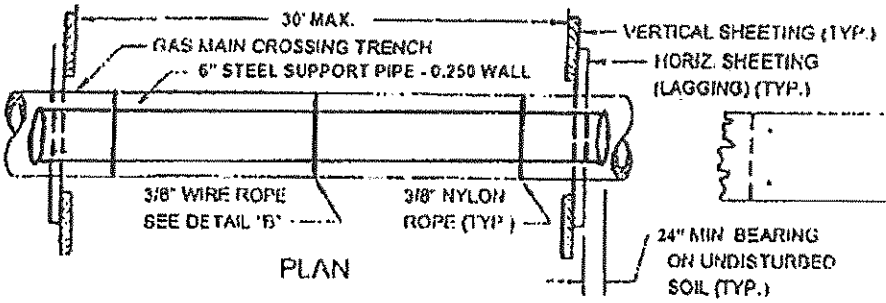
CABLE SUPPORT SPACING

PIPE SIZE	CAST IRON	STEEL	PLASTIC
UP TO 2"	-	10'-0"	3'-0"
3" TO 4"	4'-0"	15'-0"	6'-0"
6" TO 10"	4'-0"	15'-0"	6'-0"
12" OR LARGER	6'-0"	15'-0"	6'-0"

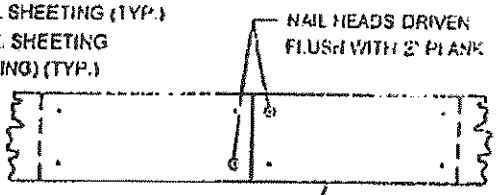
NOTE: SUPPORTS FOR GAS TRANSMISSION FACILITIES SHALL BE REVIEWED WITH GAS ENGINEERING PRIOR TO INSTALLATION.

REVISED DEC. 2019 - J.Y.P.

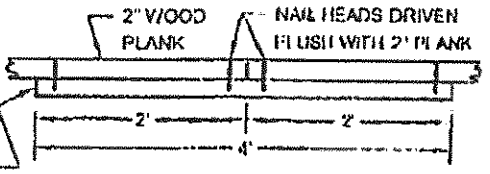
GAS COST SHARING WORK (SKETCH NO. 1A)
SUPPORT REQUIREMENTS FOR GAS MAINS SUSPENDED IN EXCAVATIONS BETWEEN 12'-0" AND 30'-0" WIDE AT ANY ANGLE



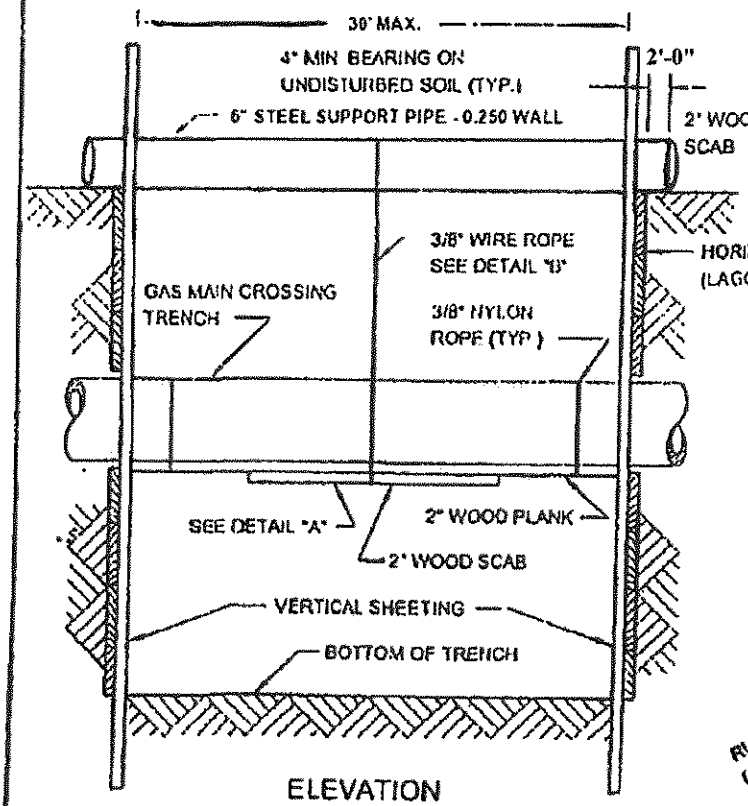
PLAN



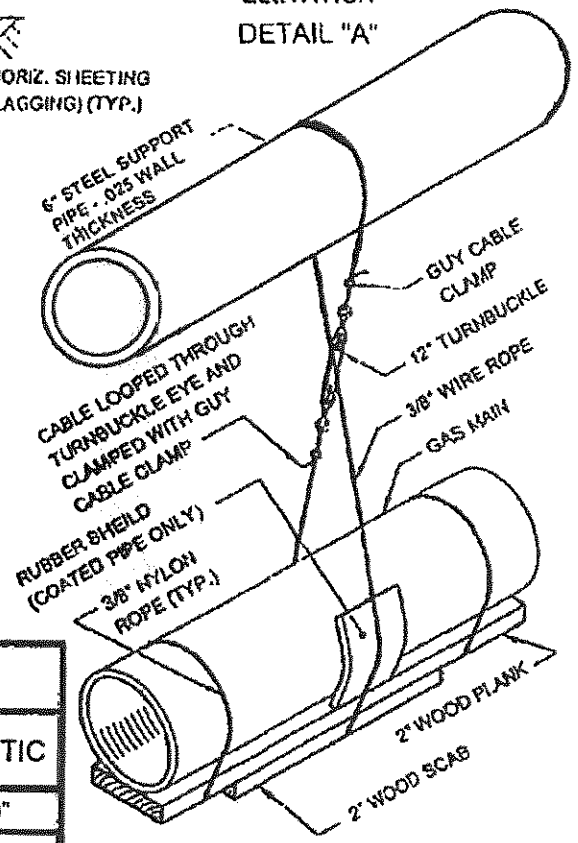
PLAN



ELEVATION
DETAIL "A"



ELEVATION



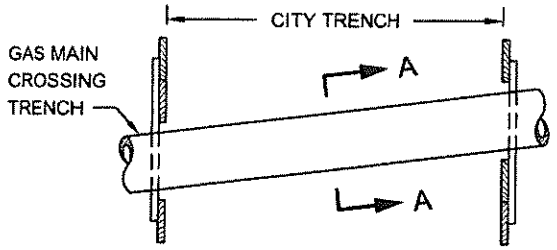
DETAIL "B"

CABLE SUPPORT SPACING			
PIPE SIZE	CAST IRON	STEEL	PLASTIC
UP TO 2"	-	10'-0"	3'-0"
3" TO 4"	4'-0"	15'-0"	6'-0"
6" TO 10"	4'-0"	15'-0"	6'-0"
12" OR LARGER	6'-0"	15'-0"	6'-0"

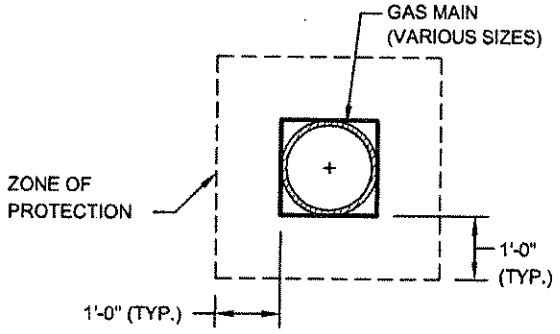
NOTE: SUPPORTS FOR GAS TRANSMISSION FACILITIES SHALL BE REVIEWED WITH GAS ENGINEERING PRIOR TO INSTALLATION.

GAS COST SHARING WORK (SKETCH NO. 2)

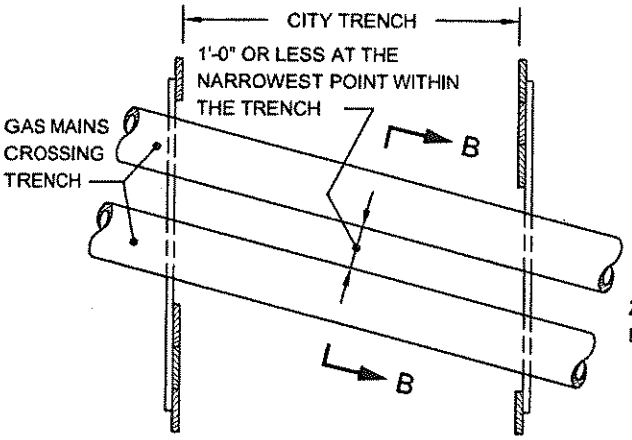
TYPICAL METHODS OF MEASUREMENT FOR GAS CROSSINGS



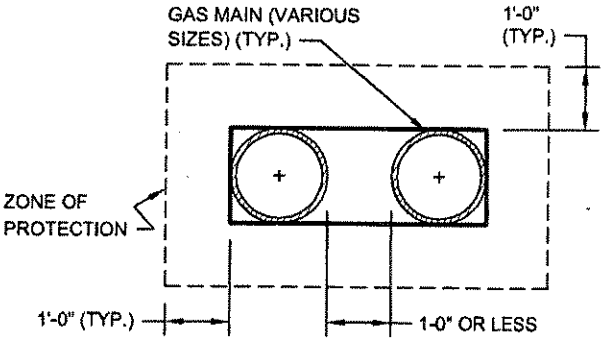
SINGLE FACILITY CROSSING



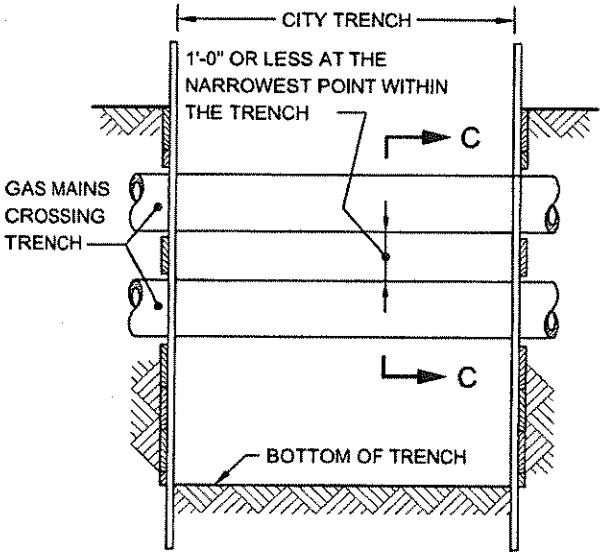
SECTION A-A



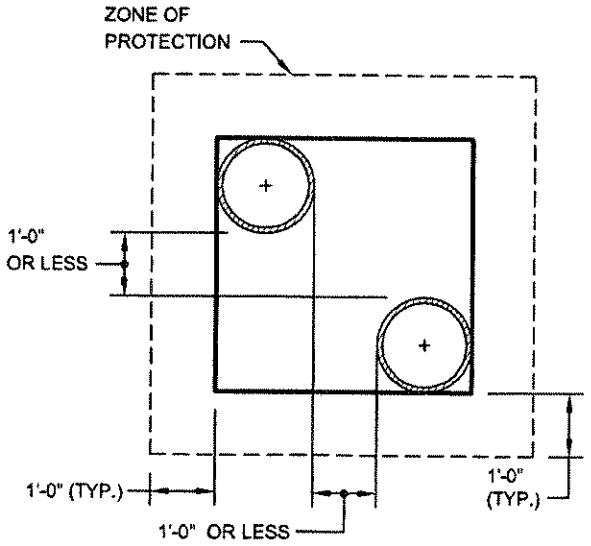
MULTIPLE FACILITIES
(GAS MAINS AT SAME ELEVATION)



SECTION B-B



MULTIPLE FACILITIES
(ONE CROSSING AT DIFFERENT ELEVATIONS)



SECTION C-C

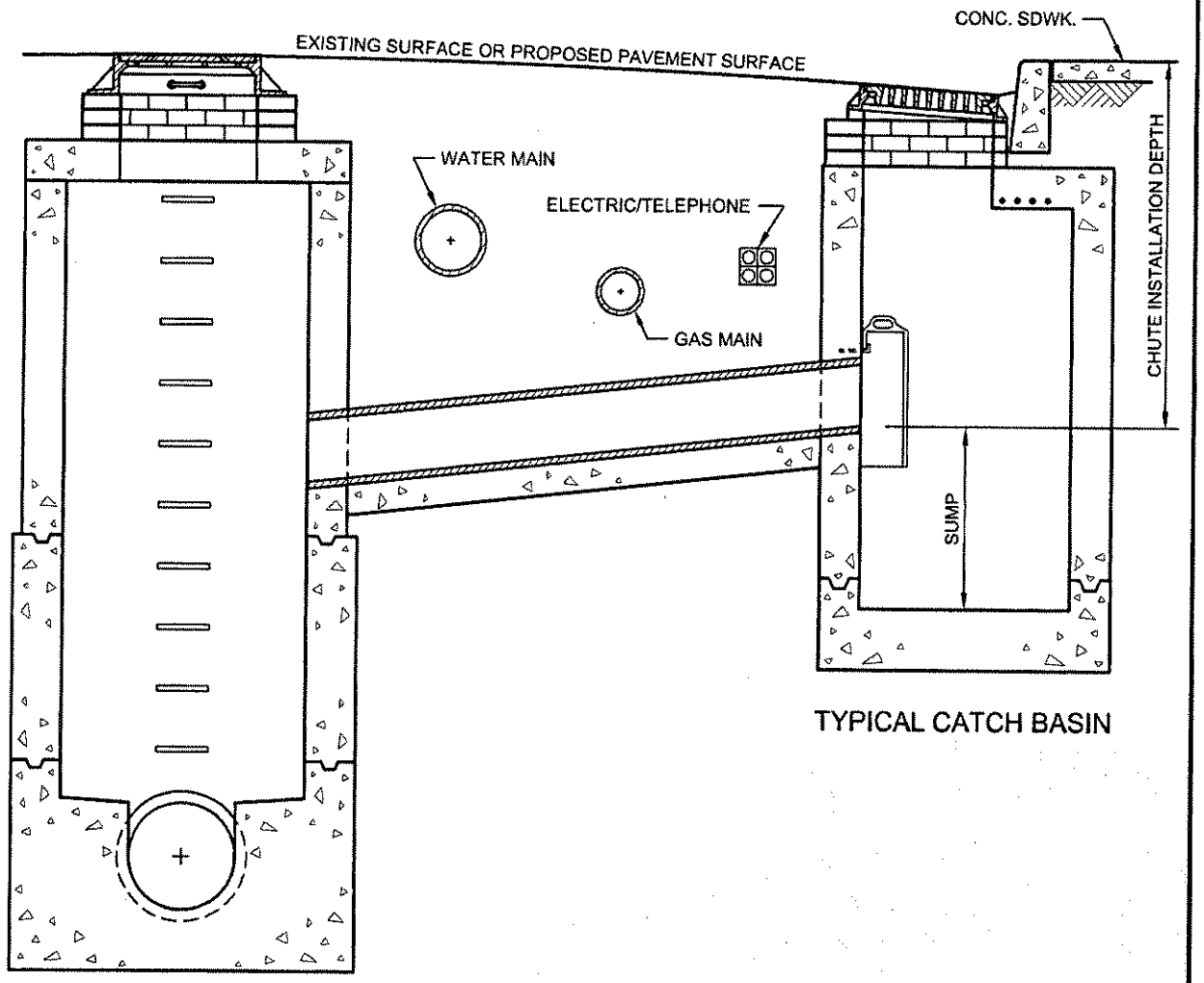
NOTE:

GAS MAINS MAY OR MAY NOT BE PARALLEL TO EACH OTHER.

REVISED SEPT. 2004 - J. ADRIEN
REVISED SEPT. 2004 - J. WONG/W. PATALANO/P. MOY

GAS COST SHARING WORK (SKETCH NO. 3)

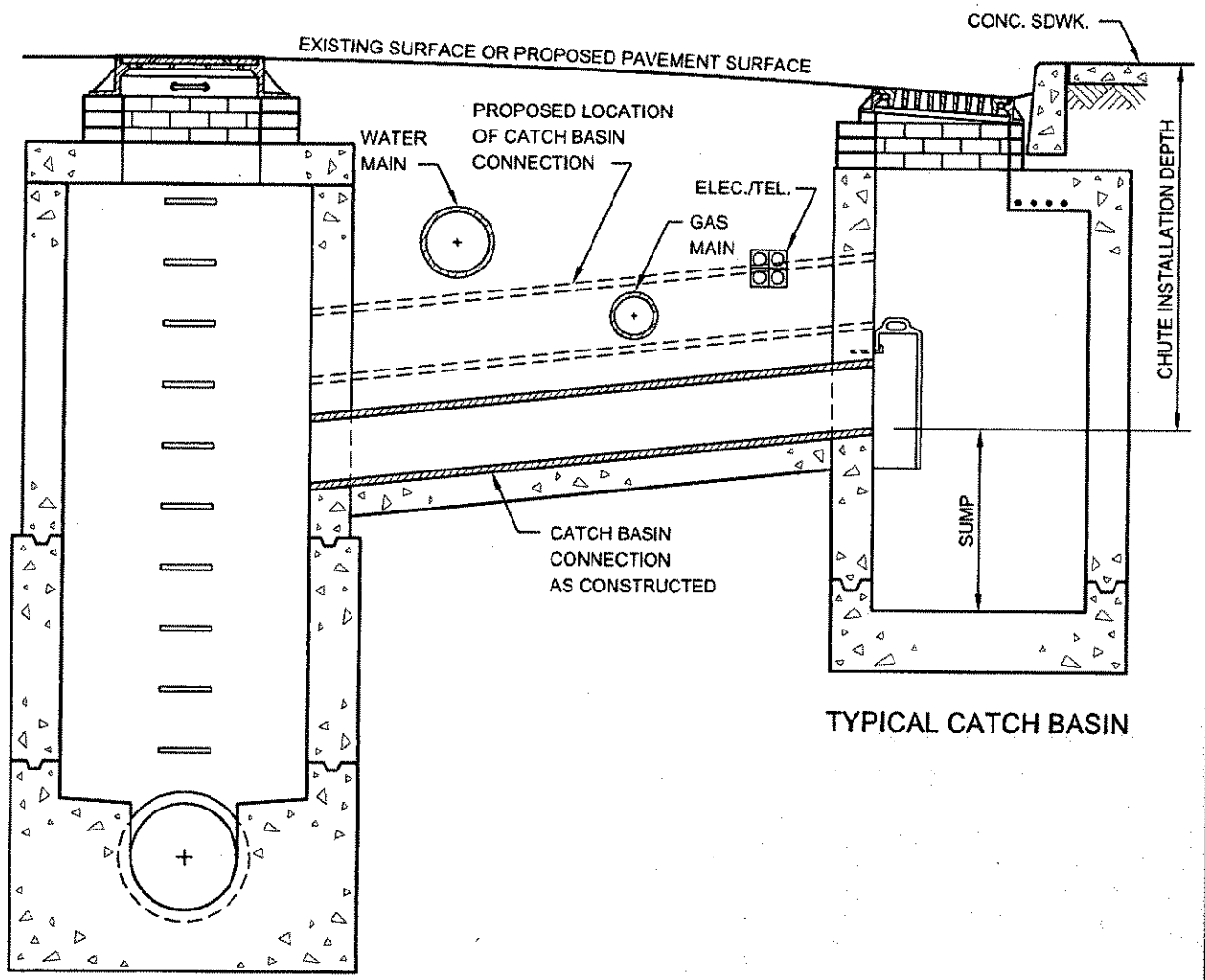
UTILITY CROSSINGS DURING CATCH BASIN CHUTE CONNECTION PIPE INSTALLATION



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)



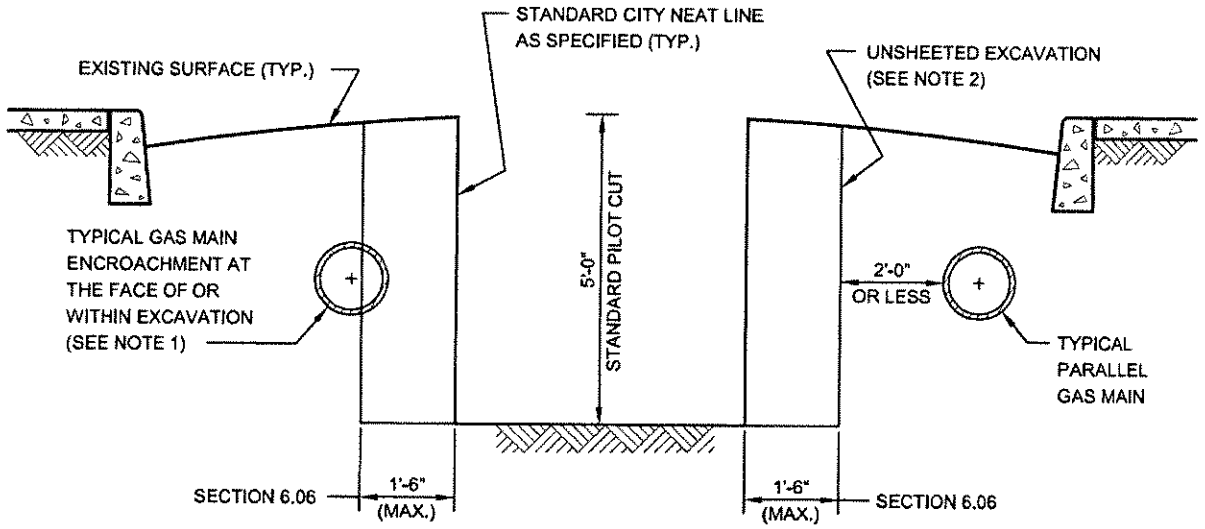
TYPICAL CATCH BASIN

TYPICAL SEWER MANHOLE

REVISED OCT. 2004 - I. ADRIEN
REVISED OCT. 1998 - J. WONG/N. PATALANOIP, 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:

- NO CAPITAL WORK IS ANTICIPATED AT THIS TIME.
- 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
  Tel: (718) 963-5612
  Neville.Jacobs@nationalgrid.com

(NO TEXT IN THIS AREA, TURN PAGE)

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 NUMBER RED-386

The City of New York Department of Design and Construction is planning 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.

6.01.8(NG) - Support & Protect Gas Services Crossing Trenches and/or Excavations (Ea.)

60 in Various Locations As Required

6.01.9(NG) - Support & Protect Gas Main Crossing Water Main Up To 20" In Diameter (Ea.)

1 in South Ave & Richmond Terrace.
1 in South Ave & Private St.
4 in South Ave & Arlington Pl.
1 in South Ave & Cable Way.
1 in South Ave & Continental Pl.

6.03(NG) - Removal Of Abandoned Gas Facilities. All Sizes (L.F.)

200 in Various Locations As Required

6.03.1(NG) - Removal Of Abandoned Gas facilities with Possible Coal Tar Wrap. All sizes. (L.F.) (For National Grid work Only)

50 in Various Locations As Required

6.04(NG) - Adjust Hardware to Grade Using Spacer Rings/Adaptors (Street repaving) (Ea.)

10 in Various Locations As Required

6.05(NG) - Adjust Hardware to Grade by Resetting (Road Reconstruction) (Ea.)

5 in Various Locations As Required

6.06(NG) - Special Care Excavation & Backfilling (C.Y.)

300 in various locations, as required, including but not limited to all gas services crossing unsheeted water main trenches.

6.07(NG) - Test Pits For Gas Facilities (C.Y.)

25 in Various Locations As Required

END OF EP7-PAGES

THE EP7-PAGES CONSIST OF THIRTY-SIX (36) PAGES

HAZ - PAGES

SPECIFICATIONS FOR HANDLING, TRANSPORTATION AND DISPOSAL OF NONHAZARDOUS AND POTENTIALLY HAZARDOUS CONTAMINATED MATERIALS

NOTICE

THE PAGES CONTAINED IN THIS SECTION ARE ISSUED FOR THE PURPOSE OF SPECIFYING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND HEREBY MADE PART OF SAID CONTRACT DOCUMENTS.

SPECIFICATIONS FOR
HANDLING, TRANSPORTATION, AND DISPOSAL
OF POTENTIAL AND IDENTIFIED
CONTAMINATED AND HAZARDOUS MATERIALS

REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.

BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

Project ID: RED-386

Prepared By:

Department of Design and Construction
30-30 Thomson Avenue
Long Island City, New York 11101

November 8, 2021

Table of Contents

ITEM 8.01 C1 HANDLING, TRANSPORTING, AND DISPOSAL OF NON-HAZARDOUS, CONTAMINATED SOIL 1

ITEM 8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES 8

ITEM 8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL 11

ITEM 8.01 S HEALTH AND SAFETY 17

ITEM 8.01 W1 REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER 22

ITEM 8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER 28

ATTACHMENT 1: NYCDEP LIMITATIONS FOR DISCHARGE TO SEWER 30

ATTACHMENT 2: APPLICABLE REGULATIONS 33

ATTACHMENT 3: DEFINITIONS 36

ATTACHMENT 4: PHASE II SUBSURFACE CORRIDOR INVESTIGATION REPORT 38

ITEM 8.01 C1 HANDLING, TRANSPORTING, AND DISPOSAL OF NON-HAZARDOUS, CONTAMINATED SOIL

8.01 C1.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of contaminated soils. The materials covered by this specification are soils that are contaminated with petroleum or chemical products but cannot be classified as hazardous waste. For the purpose of this specification, soil will be defined as any material excavated below the pavement (concrete and/or asphalt) and pavement base (concrete and/or asphalt).

Soil to be excavated can be classified as non-contaminated, contaminated, or hazardous soil. Non-contaminated soils are defined as soils not exhibiting any of the following characteristics.

- Exceedances of New York State Department of Environmental Conservation (NYSDEC) Part 375-6 Restricted Commercial Soil Cleanup Objectives (SCOs) for street work, Restricted Residential SCOs for work areas in parkland, or Residential SCOs for housing projects.
- Elevated Photo-Ionization Detector (PID) readings, subsequently confirmed by laboratory analysis and showed exceedances of applicable SCOs.
- Visual evidence of contamination, such as the presence of staining, discoloration.
- Petroleum and/or chemical odors, subsequently confirmed by laboratory analysis and showed exceedances of applicable SCOs.
- Physical evidence of coal ash, municipal solid waste, construction and demolition debris, or dredged spoils.

Contaminated soils are defined as soils exhibiting one or more of the above characteristics. Contaminated soils must be handled, transported, and disposed of in accordance with the specifications for Item 8.01 C1 – Handling, Transporting, and Disposal of Non-Hazardous Contaminated Soil.

Hazardous soils are defined as soils showing exceedances of Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels for Hazardous Waste published in Resource Conservation and Recovery Act (RCRA), 6 New York Codes, Rules, and Regulations (NYCRR) Part 371, or 40 Code of Federal Regulations (CFR) Section 261. Hazardous soils must be handled, transported, and disposed of in accordance with the specifications of this section.

This entire specification 8.01 covers the handling, transportation, and disposal of contaminated soils and hazardous soils only. Non-contaminated soil can be reused at the project site, provided it meets other contract requirements. Excess non-contaminated soil becomes the property of the Contractor.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of contaminated soils are in compliance with all applicable Federal, State, and City statutes and regulations.

The Contractor must supply all equipment, material and labor required to conduct the specified work of this Item. The Contractor must document the excavation, handling, transportation and disposal of contaminated soils.

B. Request for Approval of Subcontractors

A subcontractor/subconsultant, such as the independent Environmental Consultant and the waste hauler, is not permitted to start work until approved by the Engineer. If the Contractor performs work using a subcontractor/subconsultant prior to approval, the Contractor will not be paid for the work performed by that subcontractor/subconsultant and the Contractor may be subject to sanctions including, but not limited to, initiation of default proceedings.

The Contractor must submit a completed original Request for Approval of Subcontractors (RFAS) form and all required documents, such as legal identity, project reference list, Corporate Health and Safety Plan (HASP), waste transporter permits, Occupational Safety and Health Administration (OSHA) 10 certification, Hazardous Waste and Emergency Response (HAZWOPER) certification, etc., to the Engineer at least 30 days prior to the scheduled subcontract work start date. The Engineer must then submit the original RFAS to DDC Safety and Site Support, Office of Environmental and Geotechnical Services (OEGS) for review and approval. If the RFAS is denied by OEGS, OEGS will issue the final denial and return the original RFAS to the Engineer. If the RFAS is approved by OEGS, OEGS will forward the original RFAS package and an approval memo to the DDC ACCO for further review and approval. The ACCO's Vendor Integrity Unit and Office of Contract Opportunity (OCO) will review the subcontractor/subconsultant's overall business integrity and compliance with Vendor Exchange System (VENDEX), Executive Order 50, Local Law 1, and Minority- and Women-Owned Business Enterprise/ Disadvantaged Business Enterprise (MWBE/DBE) participation as per the contract. ACCO will issue the final Approval or Denial. The original RFAS will be returned to the Engineer, who will subsequently notify and return the original RFAS to the Contractor.

C. Independent Environmental Consultant

The Contractor must retain an independent Environmental Consultant to obtain all permits, prepare the plans required in the specification 8.01, and perform all field screening, sampling, air monitoring, and other health and safety services. The independent Environmental Consultant must be approved under the RFAS process and must demonstrate the minimum requirements as set forth below:

1. The independent Environmental Consultant project supervisor on site and other designated key personnel must have a minimum of three (3) years of experience in the environmental field dealing with issues associated with contaminated soils. Such experience must include oversight on environmental, specifically volatile organic compounds and dust monitoring services as a routine part of its daily operations.

2. The independent Environmental Consultant must be experienced in work of similar nature, size, and complexity and must have previous experience in working with DDC.

3. The independent Environmental Consultant must furnish a project listing identifying the location, nature of services provided, owner, owner's contact, contact's working telephone number, project duration and value for at least five (5) projects within the last 3 years.

D. Sampling and Analysis

Prior to the performance of soil sampling, the Contractor will submit a Field Sampling Plan (FSP). Soil sampling must not be conducted until OEGS has approved the FSP. The Contractor must conduct sampling and analysis of the impacted soils as specified under Item 8.01 C2 – Sampling And Testing Of Contaminated/Potentially Hazardous Soil For Disposal Purposes. The laboratory results must be forwarded to OEGS for review to determine if the soils would be handled and disposed of as contaminated soils or hazardous soils.

E. Material Handling Plan

At least 45 days prior to the commencement of work, the Contractor must submit to the OEGS for review a Material Handling Plan (MHP). The MHP must be approved by the OEGS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying contaminated soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling contaminated soils. The procedures must include personnel safety and health as well as environmental protection considerations.
3. For the proposed laboratory for analysis of representative soil samples, provide the following: (a) name, (b) address, (c) telephone number, and (d) New York State Department of Health's (NYSDOH) Environmental Laboratories Accreditation Program (ELAP) status.
4. Identification of the Contractor's proposed waste transporter(s) (hauler). This information must include:
    1. Name and Waste Transporter Permit Number
    2. Address
    3. Name of responsible contact for the waste transporter
    4. Telephone number for the contact
    5. All necessary permit authorizations for each type of waste transported
    6. Previous experience in performing the type of work specified herein
5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures on controlling trucks leaving the work site and en-route to the off-site scale.
6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.
7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area or presented by some other unforeseen difficulty.
8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for contaminated soils (primary and back-up) for final disposal of the soils. Both primary and backup TSD facilities must be currently state-licensed disposal facilities approved to receive contaminated soil. The information required for each facility must include:
    a. General Information
        1. Facility name and the State identification number
        2. Facility location

3. Name of responsible contact for the facility

4. Telephone number for contact

5. Signed letter of agreement to accept waste as specified in this contract. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary.

6. Unit of measure utilized at disposal facility for costing purposes

b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.

c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.

d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.

e. The Contractor must provide the date of the proposed facility's last compliance inspection.

f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.

9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

8.01 C1.2 MATERIALS

A. The Contractor must provide containers as specified in the United State Department of Transportation (USDOT) regulations.

B. The Contractor must provide polyethylene sheeting, which is to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.

C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of contaminated material during transportation.

D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

8.01 C1.3 CONSTRUCTION DETAILS

A. <u>Material Handling</u>

1. Immediately after excavation of non-hazardous contaminated soil the Contractor must:

a. Load material directly onto trucks/tankers/roll offs for disposal off site; or

b. If interim stockpiling is required, place contaminated soil on a minimum of 20 mil. polyethylene sheeting and cover it securely by minimum of 10 mil. polyethylene sheeting to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the DDC to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Contaminated soils must be stockpiled separately from uncontaminated and hazardous soil at an off-site location approved by DDC or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.

2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the public from contaminated materials as described in the approved MHP, Site HASP, and Item 8.01 S - Health and Safety.

3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the independent Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.

4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

5. Provide and operate field organic vapor test equipment, a photoionization detector (PID) or a flame ionization detector (FID), to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated and/or as directed by the independent Environmental Consultant.

B. <u>Off-Site Transportation to Disposal Facility</u>

1. General

a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport contaminated material from the work area to the off-site disposal facility, and any other items and services required for transporting contaminated material for disposal at an off-site facility.

b. The Contractor will be responsible for tracking all materials and vehicles from the site to the off-site scale.

c. The Contractor must submit to the Engineer the certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.

d. Contaminated soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.

e. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.

f. The Contractor must inspect all vehicles leaving the project site to ensure that contaminated soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.

g. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments.

h. The Contractor must provide waste profile forms to OEGS for review and approval before transporting contaminated soil to the approved TSD facility.

2. Hauling

a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two (2) records occurs, the matter is to be reported immediately to the Engineer and to be resolved by the Contractor to the satisfaction of the Engineer.

b. The Contractor will be held responsible, at its own cost for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.

c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptances of loads. Trucks with loaded contaminated soil must be covered securely with tarps before leaving the project site to prevent generation of airborne dust during hauling.

d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitute or additional transporters.

f. The Contractor must develop, document, and implement a policy for accident prevention.

g. The Contractor must not combine contaminated materials from other projects with material from this project.

h. No material will be transported until approval by the Engineer is obtained.

3. Off-Site Disposal

a. The Contractor must use only the disposal facility(ies) identified in the approved MHP for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facility.

b. The Contractor must be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.

c. The City reserves the right to contact and visit the TSD facility and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.

d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.

e. The Contractor must obtain manifest forms, and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.

4. Equipment and Vehicle Decontamination

a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle contaminated soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.

b. Water generated during the decontamination process must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

8.01 C1.4 METHOD OF MEASUREMENT

Quantities for contaminated soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 C1(3)(B)(1), that are capable of generating load tickets.

8.01 C1.5 PRICE TO COVER

A. The unit bid price per ton for Item 8.01 C1 must include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of non-hazardous contaminated soil.

B. Final disposal of hazardous soil will be paid for under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soil. Disposal of decontamination water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

C. Backfill will be paid for under its respective item as specified in the contract document.

D. The independent Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

Payment will be made under:

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 PURPOSES

8.01 C2.1 WORK TO INCLUDE

A. Description

The work will consist of collecting and analyzing representative samples of soil to be excavated in-situ and/or ex-situ from stockpiles for parameters typically requested by the disposal facilities to determine if the soil to be excavated is suitable for reuse, or to be hauled off-site for disposal purposes as contaminated and/or hazardous soil.

B. Sampling and Laboratory Analysis

1. At least forty-five (45) days prior to the commencement of work, the Contractor's independent Environmental Consultant must submit an FSP and an Investigation Health and Safety Plan (Investigation HASP) to OEGS for review and approval, prior to conducting the field sampling. The FSP must include, at a minimum, the following information:

   a. Project information

   b. Description of sample collection methodology for soil to be excavated and soil which appears to contain unknown contaminants based on field observation

   c. Type of analyses

   d. Sample preservation and handling

   e. Training and experience of the personnel who will collect the samples

   f. Equipment Decontamination

   g. Analytical laboratory's name, address, New York State Department of Health's ELAP certification number, and telephone number

   h. Map of the project area

   i. Sample location plan

   j. Chain of Custody

   The Investigation HASP must identify actual and potential hazards associated with planned sampling field activities and stipulate appropriate health and safety procedures, so as to minimize field personnel exposures to physical, biological, and chemical hazards that may be present in the sampling media. The Investigation HASP must include, at a minimum, the following information:

   a. Project information

   b. Description of work to be performed

   c. Names of responsible health and safety personnel

   d. Worker training

   e. Job hazard analysis

   f. Confined Space Entry Plan (if applicable)

   g. Personal monitoring (if applicable)

h. Community Air Monitoring Plan (CAMP, if applicable)

i. Personnel Protection Equipment (PPE)

j. Decontamination

k. Safety rules

l. Spill prevention and control, dust control, vapor/odor suppression procedures

m. Identification of nearest hospital and route

n. Emergency Incident Reporting

2. The Contractor's Environmental Consultant must collect one (1) grab and one (1) composite sample per 500 cubic yards of soil to be excavated in-situ and/or ex-situ from stockpiles. Sample locations must be placed throughout along the project area. For in-situ sampling, each grab soil sample must be collected from either the 6-inch interval above the water table (when encountered) or the 6-inch interval above the bottom of the proposed excavation depth (where recovery allowed), or from the 6-inch interval showing the highest potential for contamination based on field observation. For composite soil sampling, grid sampling must be performed for projects with excavation depth deeper than six (6) feet below grade. Each composite sample must consist of five (5) grab samples collected from various intervals along the depth of excavation at each sampling location. For stockpiled soils, each composite sample must consist of five (5) grab samples collected from various depths within each soil stockpile, at least two feet below the soil surface. For drummed soil, one (1) composite sample per 10 drums must be collected. Each composite soil sample must consist of one (1) grab sample from each of the 10 drums.

3. The quality of the data from the sampling program is the Contractor's responsibility. The Contractor must furnish all qualified personnel, materials, equipment and instruments necessary to carry out the sampling. Unless directed otherwise, all sampling procedures must follow the NYSDEC sampling guidelines and protocols. All sampling must be conducted by a qualified person trained in sampling protocols using standard accepted practices for obtaining representative samples.

4. Each grab and composite sample must be analyzed for all parameters required by disposal facilities accepting contaminated and hazardous soil. .

5. All sample containers must be marked and identified with legible sample labels, which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized and other information that may be useful in determining the character of the sample. Chain-of-custody must be tracked from laboratory issuance of sample containers through laboratory receipt of the samples.

6. The Contractor must maintain a bound sample logbook. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, at a minimum, must be recorded to the log:

a. Sample identification number

b. Sample location

c. Field observation

d. Sample type

e. Analyses

f. Date/time of collection

g. Collector's name

h. Sample procedures and equipment utilized

i. Date sent to laboratory and name of laboratory

7. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described in subsection 8.01 C2(1)(B)(4), if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described in subsection 8.01 C2(1)(B)(4), as determined by industry laboratory pricing standards.

8. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the sampling location, and must be properly disposed after use.

9. The Contractor's Environmental Consultant must prepare a Field Sampling Result Report (FSSR), tabulate the analytical results, and compare the data to the applicable NYSDEC Part 375.6 Soil Cleanup Objectives, and TCLP for Hazardous Waste published in RCRA and 6 NYCRR Part 371, or 40 CFR Section 261. If the soil is to be disposed of in a disposal facility outside of the State of New York, the soil sampling data must also be compared to the applicable regulatory criteria established by the state in which the disposal facility is located. The FSSR, with the tabulated tables and laboratory analytical data, must be submitted to OEGS for review and approval prior to any soil reuse or disposal activities.

10. Soils exceeding any of the hazardous characteristic criteria meet the legal definition of hazardous soils (rather than non-hazardous contaminated soils) and must be transported or disposed of under Item 8.01 H – Handling, Transporting and Disposal of Hazardous Soil. All analyses must be done by a laboratory that has received approval from the ELAP for the methods to be used. The Contractor must specify the laboratory in the MHP.

11. The Contractor must contact the disposal facility where the waste will be sent for permanent disposal, and arrange to collect any additional samples required by the facility. The cost associated with additional sampling and testing must be included in the bid price of this Item.

8.01 C2.2 METHOD OF MEASUREMENT

Quantities for samples must be measured as the number of sets of samples that are tested. A set will be defined as one (1) grab and one (1) composite samples per 500 cubic yards to be analyzed for the full range of parameters as specified in subsection 8.01 C2(1)(B)(4).

8.01 C2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 C2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance necessary for sampling, handling, transporting, testing, documentation, fees, permits, and any other incidentals necessary to complete the work as specified herein for in-situ and ex-situ soil sampling and analysis for waste disposal parameters.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 C2	Sampling and Testing of Contaminated/ Potentially Hazardous Soil for Disposal Purposes	Set

ITEM 8.01 H HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL

8.01 H.1 WORK TO INCLUDE

A. General

This work will consist of the handling, transportation, and disposal of hazardous soils, which are defined as soils showing exceedances of TCLP for Hazardous Waste published in RCRA, 6 NYCRR Part 371, or 40 CFR Section 261. Hazardous soil can also be contaminated soils, as defined in Item 8.01 C1, but must be handled, transported, and disposed of as hazardous soil under Item 8.01 H, in accordance with the specifications herein. For the purpose of this specification, soils will be defined as any materials excavated below the pavement and base for pavement.

The Contractor must ensure that all operations associated with the handling, sampling, loading, transportation, and disposal of hazardous materials are in compliance with the applicable Federal, State, and Local statutes and regulations. The Contractor must supply all equipment, material and labor required to conduct the specified work under this section.

The Contractor must document the excavation, handling, sampling, and testing, transportation, and disposal of hazardous soils. The City must be listed in the disposal documents as the waste generator.

The Contractor must decontaminate all equipment prior to its removal from the exclusion zone and/or following contact with hazardous materials, as detailed in Item 8.01 S - Health and Safety. Water generated during the decontamination process must be disposed of under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

The Contractor must retain an independent Environmental Consultant, meeting the requirements specified in Section 8.01 C1. The independent Environmental Consultant must conduct sampling for laboratory analysis of soil to be excavated to determine whether the soil is contaminated and/or hazardous.

All work under Item 8.01 H must be performed under the direct supervision of the Contractor's Environmental Consultant, as approved by the OEGS.

B. Material Handling Plan:

At least 45 days prior to the commencement of work, the Contractor must submit to the OEGS for review a MHP. The MHP must be approved by the OEGS prior to the Contractor beginning any soil excavation work. The MHP must, at a minimum, consist of:

1. The Contractor's procedures for identifying hazardous soils during excavation, including the specific model and manufacturer of intended organic vapor monitoring equipment and calibration procedures to be used. It should also include the training and experience of the personnel who will operate the equipment.
2. The Contractor's procedures for safely handling hazardous soils or soils which have not yet been tested but are believed to be potentially hazardous. The procedures must include personnel safety and health as well as environmental protection considerations.
3. Name, address, NYSDOH ELAP status and telephone number of the proposed laboratory for analysis of representative soil samples.
4. Identification of the Contractor's proposed waste transporter(s). This information must include:
    1. Name and Waste Transporter Permit Number
    2. Address
    3. Name of responsible contact for the waste transporter

4. Telephone number for the contact

5. All necessary permit authorizations for each type of waste transported

6. Previous experience in performing the type of work specified herein

5. The name and location of the facility where an off-site scale is located. The Contractor must outline the procedures on controlling trucks leaving the work site and en-route to the off-site scale.

6. All staging/stockpiling areas (if stockpiling areas are intended and available), or alternate procedures that will be used. Alternate procedures may include, but are not limited to, agreements from the intended disposal facilities to accept boring data and/or analytical data previously obtained during the site characterization so that materials may be directly loaded into vehicles for shipment to the disposal facility.

7. A backup facility must be provided, should the staging/stockpile areas become unavailable, insufficient in area or not be present by some other unforeseen difficulty.

8. Identification of the Contractor's two proposed Treatment Storage or Disposal (TSD) facilities for hazardous soils (primary and back-up) for final disposal of the hazardous soils. Both primary and backup TSD facilities must be currently USEPA or State-approved RCRA TSD facilities for hazardous soils. The information required for each facility must include:

   a. General Information

      7. Facility name and the USEPA identification number

      8. Facility location

      9. Name of responsible contact for the facility

      10. Telephone number for contact

      11. Signed letter of agreement to accept waste as specified in this contract. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed necessary.

      12. Unit of measure utilized at disposal facility for costing purposes

   b. A listing of all permits, licenses, letters of approval, and other authorizations to operate, which are currently held and valid for the proposed facility.

   c. A listing of all permits, licenses, letters of approval, and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued.

   d. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.

   e. The Contractor must provide the date of the proposed facility's last compliance inspection under RCRA.

   f. A list of all active (unresolved) compliance orders (or agreements), enforcement notices, or notices of violations issued to the proposed facility must be provided. The source and nature of the cause of violation must be stated, if known.

9. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

8.01 H.2 MATERIALS

A. The Contractor must provide containers as specified in the USDOT regulations.

B. The Contractor must provide polyethylene sheeting, which is to be placed under (20 mil. thickness minimum) and over (10 mil. thickness minimum) soil piles.

C. The Contractor must assure that the waste transporter's appropriate choice of vehicles and operating practices are fitted to prevent spillage or leakage of contaminated material during transportation.

D. The Contractor must provide, install, and maintain any temporary stockpiling or loading facilities on site as required until completion of material handling activities. The location and design of any such facilities must be included in the MHP.

8.01 H.3 CONSTRUCTION DETAILS

A. Material Handling

1. Immediately after excavation of hazardous soil the Contractor must:

   a. Load material directly onto drums/trucks/tankers/roll offs for disposal off site. Containers must be labeled as hazardous soil while being held for disposal; or

   b. If interim stockpiling is required, place hazardous soil on a minimum of 20 mil. polyethylene sheeting and cover it securely by minimum of 10 mil. polyethylene sheeting to protect against cross contamination, airborne dust, leaching or runoff of contaminants into the subsurface, groundwater, or stormwater. Weight or secure the sheeting by appropriate means and seal seams as approved by the Engineer to prevent tearing or removal by wind or weather. Grade surrounding surface to provide for positive drainage away from pile. Each stockpile must not exceed 500 cubic yards. Hazardous soils must be stockpiled separately from uncontaminated and contaminated soil at an off-site location approved by the Engineer or secured on-site by the Contractor, meeting all required Federal, State and Local stipulations. Stockpiles must be labelled as hazardous soil and situated at least 800 feet away from any sensitive receptors, such as schools, daycare center, hospitals, nursing homes, etc., and at least 100 feet away from any water body.

2. Institute appropriate procedures and security measures to ensure the protection of site personnel and the protection of the public from hazardous soils as described in the approved MHP, Site HASP, and Item 8.01 S - Health and Safety.

3. Any soil encountered that appears to contain unknown contaminants (based on visual, odor, or other observation), or that vary substantially from the material originally identified must be segregated in stockpiles and the independent Environmental Consultant promptly notified to collect soil samples for analysis. Construct stockpiles to the same requirements as stated in subsection (A)(1)(b) above.

4. Provide any dewatering that is necessary to complete the work. Contaminated water must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

5. Provide and operate field organic vapor test equipment, a PID or a FID, to detect general organic vapor levels at intervals of approximately 50 cubic yards of soil excavated, when visual or odor observations indicate the material may substantially differ from the soil previously excavated and/or as directed by the independent Environmental Consultant.

C. Off-Site Transportation to Disposal Facility

1. General

a. The Contractor must furnish all labor, equipment, supplies and incidental costs required to transport contaminated material from the work area to the off-site disposal facility, and any other items and services required for transporting hazardous material for disposal at an off-site facility.

b. The Contractor is responsible for obtaining the USEPA hazardous waste generator identification number for the City. The application must be submitted to OEGS for review and approval prior to submission to USEPA. The Contractor must prepare the annual hazardous waste report for the project and submit to the NYSDEC and USEPA.

c. The Contractor will be responsible for tracking all material/vehicles from the site to the off-site scale and to the approved disposal facility.

d. The Contractor must provide to the Engineer certified tare and gross weight slips for each load received at the accepted facility which must be attached to each returned manifest. These documents must be maintained and kept with project field records.

e. Hazardous soils must be delivered to the disposal or treatment facility within 30 calendar days after excavation.

f. The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule.

g. The Contractor must inspect all vehicles leaving the project site to ensure that hazardous soils adhering to the wheels or undercarriage are removed prior to the vehicle leaving the site.

h. The Contractor must obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments.

i. The Contractor must provide waste profile forms to OEGS for review and approval before transporting hazardous soil to the approved TSD facility.

2. Hauling

a. The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must be measured and recorded upon arrival at the disposal facility. If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and to be resolved by the Contractor to the satisfaction of the Engineer.

b. The Contractor will be responsible, at its own cost for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.

c. The Contractor must ensure that trucks are protected against contamination by properly covering and lining them with polyethylene sheeting or by decontaminating them prior to and between acceptances of loads. Trucks with loaded contaminated soil must be covered securely with tarp before leaving the project site to prevent generation of airborne dust during hauling.

d. The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

e. The Contractor must only use the transporter(s) identified in the approved MHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYSDEC may transport hazardous soil. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitute or additional transporters.

f. The Contractor must develop, document, and implement a policy for accident prevention.

g. The Contractor must not combine hazardous materials from other projects with material from this project.

h. No material will be transported until approval by the Engineer is obtained.

3. Off-Site Disposal

a. The Contractor must use only the disposal facility(ies) identified in the approved MPH for the performance of the work. A revised MHP or an addendum to the original approved MHP must be submitted to OEGS for review and approval at no additional cost to the City for any use of substitutions or additions of disposal facility.

b. The Contractor will be responsible for acceptance of the materials at an approved facility, for ensuring that the facility is properly permitted to accept the stated materials, and for ensuring that the facility provides the stated treatment and/or disposal services.

c. The City reserves the right to contact and visit the TSD facility and regulatory agencies to verify the agreement to accept the stated materials and to verify any other information provided.

d. In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done at no extra cost or delay to the City.

e. The Contractor must obtain manifest forms, and complete the shipment manifest records required by the appropriate regulatory agencies for verifying the material and quantity of each load in unit of volume and weight. Copies of each manifest must be submitted to the Engineer within four (4) business days following shipment, and within three (3) business days after notification of receipt of the facility. The signed manifests must be maintained and kept with the project field records. Any manifest discrepancies must be reported immediately to the Engineer and be resolved by the Contractor to the satisfaction of the Engineer.

f. The Contractor must submit all results and weights to the Engineer.

g. The Contractor is responsible to pay all fees associated with the generation and disposal of all excavated hazardous waste. These fees include, but are not limited to, the New York State Department of Finance and Taxation (DFT) quarterly fees for hazardous waste and the NYSDEC annual hazardous waste regulatory fee program. The Contractor must submit a copy of proof of payment to the Engineer and OEGS.

4. Equipment and Vehicle Decontamination

   a. The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles that have been used to handle contaminated soil. The cost for this work will be paid under Item 8.01 S - Health and Safety.

   b. Water generated during the decontamination process must be disposed of in accordance with Item 8.01 W1 – Removal, Treatment, and Discharge/Disposal of Contaminated Water.

8.01 H.4 METHOD OF MEASUREMENT

Quantities for hazardous soils will be measured in tons. The tonnage will be determined by off-site truck scales, as per Subsection 8.01 H1.3.B, that are capable of generating load tickets.

8.01 H.5 PRICE TO COVER

B. The unit bid price bid per ton for Item 8.01 H will include the cost of furnishing all labor, materials, equipment, plan, and insurance for excavation, handling, transportation, disposal, documentation, fees, permits, loading, stockpiling, hauling, and any other incidentals necessary to complete all the work as specified herein for handling, transporting, and disposal of hazardous soil.

B. Final disposal of contaminated soil will be paid for under Item 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soils. Disposal of decontamination water will be paid for under Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

C. Backfill will be paid for under its respective item as specified in the contract document.

D. The independent Environmental Consultant will be paid under Item 8.01 S – Health and Safety.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 H	Handling, Transporting, and Disposal of Hazardous Soil	Tons

ITEM 8.01 S HEALTH AND SAFETY

8.01 S.1 WORK TO INCLUDE

Health and Safety Requirements

A. Scope of Work

It is the Contractor's responsibility to stage and conduct the Contractor's work in a safe manner. The Contractor must implement a Health and Safety Plan (HASP) for contaminated/hazardous soil intrusive activities as set forth in OSHA Standards 1910.120 and 1926.650-652. The Contractor must ensure that all workers have at a minimum hazard awareness training. The Contractor must segregate contaminated work area in secured exclusion zones. These zones must limit access to Contractor personnel specifically trained to enter the work area. The exclusion zone must be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area. In addition, the Contractor must protect the public from on-site hazards, including subsurface contaminants associated with on-site activities. The HASP must be signed off by a Certified Industrial Hygienist and reviewed and approved by OEGS.

Work must include, but not be limited to:

1. Implementation of a baseline medical program.
2. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and providing all other health and safety measures.
3. Providing, installing, operating and maintaining on-site emergency medical first aid equipment as specified in this section for which payment is not provided under other pay items in this Contract.
4. Providing, installing, operating, maintaining and decommissioning all equipment and personnel decontamination facilities specified within this section, including, but not limited to, the decontamination pad, decontamination water supply, decontamination water collection equipment and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract.
5. Provide the minimum health and safety requirements for excavation activities within the limits of this Contract.
6. Implement and enforce a HASP: The HASP as presented in these specifications is dynamic with provisions for change to reflect new information, new practices or procedures, changing site environmental conditions or other situations which may affect site workers and the public. The HASP will also address measures for community protection, accident prevention, personnel protection, emergency response/contingency planning, air monitoring, odor control and hazardous chemicals expected on site. Providing a Confined Space Entry Program as defined in the Occupational Safety and Health Act, Confined Space Entry Standard, 29 CFR 1910.146.

B. Environmental Consulting Services

The Contractor must retain an independent Environmental Consultant to obtain all permits and perform all field screening, air monitoring, community air monitoring, soil and water sampling, and health and safety services.

4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its independent Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated materials must have completed a minimum of forty (40) hours of Health and Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the independent Environmental Consultant must provide site specific training.

5. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

C. Submittals

1. The Contractor must submit a written HASP, as specified herein, to OEGS for review and approval. The written HASP must be submitted, within thirty (30) calendar days after the availability of analytical results of the soil and groundwater testing, as required under Section 8.01 C2 and Section 8.01 W2. The Contractor must make all necessary revisions required by OEGS and resubmit the HASP to OEGS for acceptance. Start-up work for the project will not be permitted until written acceptance has been issued by OEGS.

2. Daily safety logs must be maintained by the Contractor and must be submitted to the Engineer either on request or on completion of the work. Training logs must be maintained by the Contractor and submitted to the Engineer either on request or on completion of the work. Daily logs on air monitoring during excavation activities must be prepared and maintained by the Contractor and submitted to the Engineer either on request or upon completion of the work.

3. A closeout report must be submitted by the Contractor to the Engineer upon completion of the work within the defined exclusion zones. This report must summarize the daily safety and monitoring logs and provides an overview of the Contractor's performance regarding environmental and safety issues. The report must carefully document all areas where contamination has been found including pictures, addresses of locations, and potential sources.

4. Medical Surveillance Examinations: The Contractor must submit to the Engineer the name, office address and telephone number of the medical consultant utilized. Evidence of baseline medical examinations together with the evidence of the ability to wear National Institute for Occupational Safety and Health (NIOSH) approved respirators (as specified in American National Standards Institute (ANSI) Z88.6) must be provided to the Engineer for all construction personnel who are to enter the exclusion zones.

5. Accident Reports: All accidents, spills, or other health and safety incidents must be reported to the Engineer.

D. Health and Safety Plan

The HASP must comply with OSHA regulations 29 CFR 1910.120/1926.65. This document must at a minimum contain the following:

1. Description of work to be performed
2. Site description
3. Key personnel
4. Worker training procedures

5. Work practices and segregation of work area
6. Hazardous substance evaluation
7. Hazard assessment
8. Personal and community air monitoring procedures and action levels
9. Personal protective equipment
10. Decontamination procedures
11. Safety rules
12. Emergency procedures
13. Spill prevention and control, as well as spill reporting procedures
14. Dust control, vapor/odor suppression procedures
15. Identification of the nearest hospital and route
16. Confined space procedures
17. Excavation safety procedures

8.01 S.2 MEASUREMENT

Health and Safety Requirements

A. 25% of the lump sum price will be paid when the following items are implemented or mobilized:

Medical surveillance program
Health and safety training
Health and safety plan
Environmental and personnel monitoring
Instrumentation
Spill control
Dust control
Personnel and equipment decontamination facilities
Personnel protective clothing
Communications
Mobilization

B. 50% will be paid in proportional monthly amounts over the period of work.

C 25% will be paid when the operation is demobilized and removed from the project site.

8.01 S.3 PRICE TO COVER

Health and Safety Requirements

The lump sum price bid for the health and safety requirements will include all labor, materials, equipment, and insurance necessary to complete the work in accordance with these specifications. The price bid will include, but not be limited to, the following:

A. Providing training, safety personnel, air monitoring and medical examinations as specified.

B. Providing safety equipment and protective clothing for site personnel, including maintenance of equipment on a daily basis; replacement of disposable equipment as required; decontamination of clothing, equipment and personnel; and all other health and safety activities or costs not paid for under other pay items in this Contract.

C. Providing, installing, operating and maintaining on-site emergency medical and first aid equipment. This includes all furnishings, equipment, supplies and maintenance of all medical equipment, and all other health and safety items and services for which payment is not provided under other pay items in this Contract.

D. Providing, installing, operating, maintaining, and decommissioning all personnel and equipment decontamination facilities, including decontamination pad, decontamination water supply, and all other items and services required for the implementation of the health and safety requirements for which pay items are not provided elsewhere in this Contract. Vehicle decontamination pads will be included in the price of this item. Disposal of decontamination fluid will be paid for under Item 8.01 W1 – Removal, Treatment, and Discharge/Disposal of Contaminated Water.

E. Spill Control

1. Payment will account for furnishing, installing, and maintaining all spill control equipment and facilities. Payment will include equipment and personnel to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage during work within the exclusion zones and handling of excavated soils and liquids from these areas. This collected spill material will be properly disposed of.

2. Payment under this item will not include testing, handling, transportation or disposal of petroleum-contaminated/potentially hazardous soils excavated during construction. The price for this work will be paid for under Items 8.01 C1 – Handling, Transporting and Disposal of Non-Hazardous Contaminated Soils, 8.01 C2 – Sampling and Testing of Contaminated/Potentially Hazardous Soil for Disposal Purposes or 8.01 H – Handling, Transporting, and Disposal of Hazardous Soil, as appropriate.

F. Dust Control

Payment will account for furnishing, installing, and maintaining dust control equipment and facilities to be used whenever applicable dust levels are exceeded. Payment will include all necessary labor, equipment, clean water, foam, and all other materials required by the Dust Control Plan. The NYSDOH Community Air Monitoring Plan (CAMP) may be used as guidance.

G. Vapor/Odor Suppression

Payment will account for furnishing, installing and maintaining vapor/odor control equipment and facilities to be used whenever organic vapor monitoring or the presence of odors indicates that vapor suppression is required to protect workers or the public. Payment will include all necessary labor, equipment, clean water, foam and all other materials required by the Vapor/Odor Suppression Plan.

H. Mobilization/Demobilization

1. Mobilization

Payment will include the following, but not be limited to:

a. All work required to furnish, install and maintain all signs, fencing, support zone facilities, parking areas and all temporary utilities;

b. All work required to furnish, install, and maintain an office space with phone and utilities for health and safety personnel;

c. All work required for complete preparation of lay down area for roll-off containers, including sampling, and any required fencing;

d. All direct invoiced cost from bonding companies and government agencies for permits and costs of insurance; and

e. All other items and services required for mobilization and site preparation.

2. Demobilization

Payment will include but not be limited to: All work required to sample the area; remove from the site all equipment, temporary utilities and supporting facilities; performance of necessary decontamination and repairs; disposal of disposable equipment and protective gear and other items and services required for complete demobilization.

Payment will be made under:

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 must consist of the proper removal and disposal of all contaminated groundwater and decontamination water generated during construction operations. The Contractor must be solely responsible for the proper disposal or discharge of all contaminated water generated at the job site. The Contractor will have the option of treating water on-site for discharge to the sewer system or removing contaminated water for off-site disposal. The Contractor must be responsible to choose a method compatible to the construction work and will be compensated on a per day basis regardless of method employed. The Contractor will be compensated for only those days where the system is in full operation.

The Contractor must retain a dewatering/water treatment Specialist (hereinafter the "Specialist") and laboratory as specified under Item 8.01 W2 – Sampling and Testing of Contaminated Water, to conduct any testing that may be required for disposal of impacted water.

The dewatering/water treatment Specialist is responsible to obtain all permits; perform all water sampling, testing; and provide ancillary services related to dewatering and water treatment. The Specialist must at a minimum provide documentation to OEGS demonstrating the minimum requirements as set forth below:

1. The Specialist must demonstrate that it has, at a minimum, three (3) years' experience in the design of dewatering plans. The Specialist should demonstrate expertise dealing with issues associated with contaminated water. During that three (3) year period, the Specialist must demonstrate that it provided dewatering and water treatment systems as a routine part of its daily operations.
2. The Specialist must be experienced in work of this nature, size, and complexity and must have previous experience in working with the NYSDEC.
3. The Specialist must furnish a project listing identifying the location, nature of services provided, owner, owner's contact, contact's telephone number, project duration and value for at least five (5) projects within the last three (3) years of a similar nature, size, and complexity to this one.
4. If conditions within the exclusion zone are deemed hazardous, then the Contractor and its independent Environmental Consultant must ensure that all personnel working within identified exclusion zones and/or involved (direct contact) with the handling, storage or transport of hazardous and contaminated material must have completed a minimum of forty (40) hours of Health and Safety Training on Hazardous Waste Sites in accordance with 29 CFR 1910.120(e). The training program must be conducted by a qualified safety instructor. If conditions in the exclusion zone are deemed to be non-hazardous, the Specialist will be responsible to provide site-specific training to its employees and other affected personnel.
5. The Contractor must ensure that on-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations must receive the training specified in above and at least eight (8) additional hours of specialized training on managing such operations at the time of job assignment.

The Contractor must document all operations associated with the handling, sampling and disposal of contaminated water, and ensure that they are in compliance with applicable Federal, State and Local statutes and regulations.

The Contractor must supply all labor, equipment, transport, plant, material, treatment, and other incidentals required to conduct the specified work of this section.

If water will be disposed of into the sewer system, the Contractor must ensure the Specialist treats the water to comply with the New York City Department of Environmental Protection (NYCDEP) Sewer Effluent Limit concentrations prior to discharge. The Contractor is responsible for providing settling or filtering tanks and any other apparatus required by NYCDEP. Alternatively, the Contractor can provide a plan for transport and disposal at an off-site waste disposal facility.

Within forty-five (45) calendar days after award of Contract, the Contractor must submit to OEGS for review and approval, a Water Handling Plan (WHP). The WHP must be approved by OEGS prior to the Contractor's commencement of work. The minimum requirements for the WHP are specified herein Item 8.01W 1.2, for each type of disposal (disposal into the sewer or off-site disposal). The Contractor must maintain a complete, up to date copy of the WHP on the job site at all times.

8.01 W1.2 CONSTRUCTION DETAILS

For each disposal method the Contractor proposes to utilize (disposal to sewer or off-site disposal), the WHP must include the information required in paragraphs A and B below, as appropriate.

A. <u>On-site treatment and discharge into New York City sewers.</u>

1. Regulations: The Contractor must comply with all applicable regulations. This includes but may not be limited to:

   Title 15-New NYCDEP Sewer Use Regulations.

2. Permits: The Contractor is solely responsible to obtain all necessary and appropriate Federal, State and Local permits and approvals. The Contractor will be responsible for performing all and any system pilot tests required for permit approval. This includes but may not be limited to:

   a. Industrial waste approval for the New York City sewer system.

   b. Groundwater discharge permit for the New York City sewer system (NYCDEP Division of Sewer Regulation and Control), if discharge to sewer exceeds 10,000 gallons per day.

   c. The Contractor must comply with NYSDEC State Pollutant Discharge Elimination System (SPDES) Permit Number GP-0-10-001, General Permit for Stormwater Discharges.

   d. Long Island well permit for Brooklyn and Queens sites, if well points are used for dewatering.

   e. Wastewater quality control application, NYCDEP.

3. The WHP for this portion of the work must include the following at a minimum:

   a. Identification and design of Contractor's proposed treatment to assure that the water meets the NYCDEP sewer use guidelines prior to discharge to the sewer, including identification of all materials, procedures, settling or filtering tanks, filters and other appurtenances proposed for treatment and disposal of contaminated water.

   b. The name, address and telephone number of the contact for the Contractor's proposed chemical laboratory, as well as the laboratory's certifications under Federal, State or non-governmental bodies.

c. The name, address and telephone number of the contact for the Contractor's proposed independent Environmental Consultant.

d. Copies of all submitted permit applications and approved permits the Contractor have received.

4. Materials

The Contractor must supply all settling or filtering tanks, pumps, filters, treatment devices and other appurtenances for treatment, temporary storage and disposal of contaminated water. All equipment must be suitable for the work described herein.

5. Execution

a. The Contractor is solely responsible for disposal of all water, in accordance with all Federal, State and Local regulations.

b. The Contractor is solely responsible for any treatment required to assure that water discharged into the sewer is in compliance with all permits and Federal, State and Local statutes and regulations.

c. The Contractor is solely responsible for the quality of the water disposed of into the sewers.

d. The Contractor is responsible for sampling and testing of water for the NYCDEP Sewer Effluent Limit concentrations. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.

e. The Contractor will be responsible to maintain the discharge rate to the sewer such that all permit requirements are met, the capacity of the sewer is not exceeded and no surcharging occurs downstream due to the Contractor's actions. Dewatering by means of well points or deep wells will not be allowed in the Boroughs of Brooklyn or Queens where the rate of pumping exceeds forty-five (45) gallons per minute unless the appropriate permit has been secured from the NYSDEC.

f. Disposal of Treatment Media

(1) The Contractor will be responsible for disposal or recycling of treatment media in accordance with all Federal, State and Local regulations.

(2) The Contractor must provide the Engineer with all relevant documentation concerning the disposal of treatment media, including manifests, bills of lading, certificates of recycling or destruction and other applicable documentation.

(3) **Disposal of treatment media will not be considered as a separate pay item; instead it will be considered as incidental work thereto and included in the unit price bid.**

B. <u>Off-Site Disposal</u>

1. Regulations: The Contractor must conform to all applicable Federal, State and Local regulations pertaining to the transportation, storage and disposal of any hazardous and/or non-hazardous materials as listed in Attachment 2.

2. The following must be submitted to the Engineer prior to initiating any off-site disposal:

a. (1) Name and waste transporter permit number

(2) Address

(3) Name of responsible contact for the waste transporter

(4) Any and all necessary permit authorizations for each type of waste transported

(5) Previous experience in performing the type of work specified herein

b. General information for each proposed treatment/disposal facility and at least one backup treatment/disposal facility

(1) Facility name and USEPA identification number

(2) Facility location

(3) Name of responsible contact for the facility

(4) Telephone number for contact

(5) Unit of measure utilized at facility for costing purposes

c. A listing of all permits, licenses, letters of approval and other authorizations to operate, which are currently held and valid for the proposed facility as they pertain to receipt and management of the wastes derived from this Contract.

d. A listing of all permits, licenses, letters of approval and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued. Provide dates of application(s) submitted. Planned submittals must also be noted.

e. The Contractor must specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste and provide dates of construction and beginning of use, if applicable. Drawings may be provided. The Contractor must identify the capacity available in the units and the capacity reserved for the subject waste.

f. The Contractor must provide the date of the proposed facility's last compliance inspection.

g. A list of all active (unresolved) compliance orders, agreements, enforcement notices or notices of violations issued to the proposed facility must be submitted. The source and nature of the cause of violation must be stated, if known. If groundwater contamination is noted, details of the facility's groundwater monitoring program must be provided.

h. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

3. Materials

All vessels for temporary storage and transport to an off-site disposal facility must be as required in DOT regulations.

4. Execution

a. General

(1) The Contractor must organize and maintain the material shipment records/manifests required by Federal, State and Local laws. The Contractor must include all bills of lading, certificates of destruction, recycling or treatment and other applicable documents.

(2) The Contractor must coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule must be compatible with the availability of equipment and personnel for material handling at the job site.

(3) The Contractor must inspect all vehicles leaving the project site to ensure that contaminated liquids are not spilling and are contained for transport.

(4) The Contractor must obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipment. The letter must indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed as necessary.

(5) The Contractor must verify the volume of each shipment of water from the site.

(6) The Contractor is responsible for sampling and testing of water for off-site disposal. The quality of the data is the Contractor's responsibility. Any sampling and testing must be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.

(7) The Contractor is responsible for any additional analyses required by the TSD facility, and for the acceptance of the water at an approved TSD facility.

b. Hauling

(1) The Contractor must not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.

(2) The Contractor must coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities must also be measured and recorded upon arrival at the TSD facility(ies). If any deviation between the two records occurs, the matter is to be reported immediately to the Engineer and must be resolved by the Contractor to the satisfaction of the Engineer.

(3) The Contractor will be responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site. This cleanup must be accomplished at the Contractor's expense.

(4) The Contractor will be responsible for inspecting the access routes for road conditions, overhead clearance and weight restrictions.

(5) The Contractor must only use the transporter(s) identified in the WHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from NYSDEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the Engineer at no additional cost to the City.

(6) The Contractor must develop, document, and implement a policy for accident prevention.

(7) The Contractor must not combine waste materials from other projects with material from this project.

(8) The Contractor must obtain for the City a hazardous waste generator identification number and will sign the manifest as the generator, if necessary.

(9) No material must be transported until approved by the Engineer.

c. Disposal Facilities

(1) The Contractor must use only the TSD facility(ies) identified in the WHP for the performance of the work. Substitutions or additions must not be permitted without prior written approval from OEGS, and, if approved, must be at no extra cost to the City.

(2) The Contractor will be responsible for acceptance of the material at an approved TSD facility, for ensuring that the facility is properly permitted to accept the stated material, and that the facility provides the stated storage and/or disposal services.

(3) The City reserves the right to contact and visit the disposal facility and regulatory agencies to verify the agreement to accept the stated material and to verify any other information provided. This does not in any way relieve the Contractor of the Contractor's responsibilities under this Contract.

(4) In the event that the identified and approved facility ceases to accept the stated materials or the facility ceases operations, it is the Contractor's responsibility to locate an alternate approved and permitted facility(ies) for accepting materials. The Contractor is responsible for making the necessary arrangements to utilize the facility(ies), and the alternate facility(ies) must be approved in writing by the Engineer in the same manner and with the same requirements as for the original facility(ies). This must be done with no extra cost or delay to the City.

d. Equipment and Vehicle Decontamination

(1) The Contractor must design and construct a portable decontamination station to be used to decontaminate equipment and vehicles exiting the exclusion zone. The cost for this work will be paid under Item 8.01 S – Health and Safety.

8.01 W1.3 METHOD OF MEASUREMENT

The quantity for on-site treatment and discharge or off-site disposal will be on a per day basis.

8.01 W1.4 PRICE TO COVER

A. The per day price bid for Item 8.01 W1 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transportation, disposal, documentation, permits, hauling, mobilization and demobilization, and any other incidentals thereto to complete the work.

B. The Contractor will not be paid for water that is within the NYCDEP Sewer Discharge Limits.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 W1	Removal, Treatment, and Disposal/Discharge of Contaminated Water	Day

ITEM 8.01 W2 SAMPLING AND TESTING OF CONTAMINATED WATER

8.01 W2.1 WORK TO INCLUDE

A. Description

The work will consist of sampling and testing of potentially contaminated groundwater, surface runoff within the excavated area and all contaminated water generated during the decontamination process.

B. Sampling and Testing

1. The Contractor is responsible, at a minimum, for sampling and testing of contaminated water for the NYCDEP Sewer Effluent Limit concentrations as listed in Attachment 1, and in accordance with the Engineer-approved SSP/FSP and the Investigation HASP, as specified in 8.01 C2. The quality of the data is the Contractor's responsibility. Any additional testing required by the Federal, State and/or disposal facilities must be included in the bid price of this Item.

2. All sampling and testing must be conducted by a person trained in sampling protocols using accepted standard practices and/or the NYSDEC sampling guidelines and protocols.

3. All sample containers must be marked with legible sample labels which must indicate the project name, sample location and/or container, the sample number, the date and time of sampling, preservatives utilized, how the sample was chilled to 4 degrees Celsius, and other information that may be useful in determining the character of the sample.

4. Chain-of-custody must be tracked from laboratory issuance of sample containers through receipt of the samples.

5. The Contractor must maintain a bound sample log book. The Contractor must provide the Engineer access to it at all times and must turn it over to the Engineer in good condition at the completion of the work. The following information, as a minimum, must be recorded to the log:

   a. Sample identification number

   b. Sample location

   c. Field observation

   d. Sample type

   e. Analyses

   f. Date/time of collection

   g. Collector's name

   h. Sample procedures and equipment used

   i. Date sent to laboratory/name of laboratory

6. Only dedicated sampling equipment may be used to collect these samples. All equipment involved in field sampling must be decontaminated before being brought to the site, and must be properly disposed of after use.

7. Samples must be submitted to the Contractor's laboratory within the holding times for the parameters analyzed.

8. All analyses must be done by a laboratory that has received approval from the NYSDOH's ELAP for the methods to be done. The Contractor must specify the laboratory in the WHP.
9. Analytical results for water discharged to the sewer and for off-site disposal must be submitted to the Engineer no later than five (5) days after sample collection.
10. The City reserves the right to direct the Contractor to conduct alternative sampling in lieu of the parameters described above, if the situation warrants. The substitute sampling parameters will be of equal or lesser monetary value than those described above, as determined by industry laboratory pricing standards.

8.01 W2.2 METHOD OF MEASUREMENT

Quantities for samples will be measured as the number of sets of samples that are tested for the NYCDEP Sewer Effluent Limit concentrations. A set will be defined as one (1) representative sample analyzed for the full range of NYCDEP parameters as specified in Attachment 1.

8.01 W2.3 PRICE TO COVER

The unit price bid per set for Item 8.01 W2 will include the cost of furnishing all labor, materials, equipment, plan, and insurance for handling, transport, sampling, testing, documentation, permits, other incidentals necessary to complete the work of sampling and testing of contaminated water. Any additional costs incurred by the Contractor for sampling and testing of contaminated water will be included in the bid price of this Item.

Payment will be made under:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 W2	Sampling and Testing of Contaminated Water	Set

ATTACHMENT 1: NYCDEP LIMITATIONS FOR DISCHARGE TO SEWER

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT

Limitations for Effluent to Sanitary or Combined Sewers

Parameter[1]	Daily Limit	Units	Sample Type	Monthly Limit
Non-polar material[2]	50	mg/l	Instantaneous	---
pH	5-11	SU's	Instantaneous	---
Temperature	< 150	Degree F	Instantaneous	---
Flash Point	> 140	Degree F	Instantaneous	---
Cadmium	2 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 must be performed in accordance with 40 C.F.R. pt. 136. If 40 C.F.R. pt. 136 does not cover the

pollutant in question, the handling, preservation, and analysis must be performed in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater." All analyses must be performed using a detection level less than the lowest applicable regulatory discharge limit. If a parameter does not have a limit, then the detection level is defined as the least of the Practical Quantitation Limits identified in NYSDEC's Analytical Detectability and Quantitation Guidelines for Selected Environmental Parameters, December 1988

2 Analysis for ***non-polar materials*** must be done by USEPA method 1664 Rev. A. Non-Polar Material will mean that portion of the oil and grease that is not eliminated from a solution containing N–Hexane, or any other extraction solvent the USEPA will prescribe, by silica gel absorption.

3 Analysis for PCBs is required if ***both*** conditions listed below are met:
1) if proposed discharge ≥ 10,000 gpd;
2) if duration of a discharge > 10 days.
Analysis for PCBs must be done by USEPA method 608 with MDL=<65 ppt. PCB's (total) is the sum of PCB-1242 (Arochlor 1242), PCB-1254 (Arochlor 1254), PCB-1221 (Arochlor 1221), PCB-1232 (Arochlor 1232), PCB-1248 (Arochlor 1248), PCB-1260 (Arochlor 1260) and PCB-1016 (Arochlor 1016).

4 For discharge ≥ 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.

ATTACHMENT 2: APPLICABLE REGULATIONS

Applicable regulations include, but are not limited to:

1. 49 CFR 100 to 179 - DOT Hazardous Materials Transport and Manifest System Requirements
2. 6 NYCRR 375-6 - NYSDEC Remedial Program Soil Cleanup Objectives
3. 6 NYCRR 360-1 NYSDEC Solid Waste Management Facilities
4. 6 NYCRR 364- Waste Transporter permits
5. Local restrictions on transportation of waste/debris
6. 40 CFR 260 to 272 - Hazardous Waste Management (RCRA)
7. 6 NYCRR 371 - Identification and Listing of Hazardous Wastes
8. 6 NYCRR 372 - Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
9. 6 NYCRR 373-1 - Hazardous Waste Treatment, Storage and Disposal Facility Permitting Requirements
10. 6 NYCRR 376 - Land Disposal Restrictions
11. Posted weight limitations on roads or bridges
12. Transportation Skills Programs, Inc. 1985 - Hazardous Materials and Waste Shipping Papers and Manifests
13. Other local restrictions on transportation of waste/debris
14. Occupational Safety and Health Administration (OSHA), Standards and Regulations, 29 CFR 1910 (General Industry)
15. OSHA 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
16. OSHA Safety and Health Standards 29 CFR 1926 (Construction Industry)
17. OSHA 29 CFR 1910.146 Confined Space Entry Standard
18. Standard Operating Safety Guidelines, USEPA Office of Emergency and Remedial Response Publication, 9285.1-03
19. NIOSH / OSHA / USCG / USEPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (1986)
20. U.S. Department of Health and Human Services (DHHS) "NIOSH Sampling and Analytical Methods," DHHS (NIOSH) Publication 84-100
21. ANSI, Practice for Respiratory Protection, Z88.2 (1980)
22. ANSI, Emergency Eyewash and Shower Equipment, Z41.1 (1983)
23. ANSI, Protective Footwear, Z358.1 (1981)
24. ANSI, Physical Qualifications for Respirator Use, Z88.6 (1984)
25. ANSI, Practice for Occupational and Educational Eye and Face Protection, Z87.1 (1968)
26. Water Pollution Control Federation "Manual of Practice No. 1, Safety in Wastewater Works"
27. NFPA No. 327 "Standard Procedures for Cleaning and Safeguarding Small Tanks and Containers"
28. Occupational Safety and Health Act Confined Space Entry Standard 29 CFR 1910.146.87

29. Department of Transportation 49 CFR 100 through 179
30. Department of Transportation 49 CFR 387 (46 FR 30974, 47073)
31. Environmental Protection Agency 40 CFR 136 (41 FR 52779)
32. Environmental Protection Agency 40 CFR 262 and 761
33. Resource Conservation and Recovery Act (RCRA)
34. Any transporter of hazardous or non-hazardous materials must be licensed in the State of New York and all other states traversed in accordance with all applicable regulations.

ATTACHMENT 3: DEFINITIONS

Contaminated Groundwater and Decontamination Fluids: Groundwater within the excavation trench or decontamination water that contains regulated compounds above the NYCDEP Discharge to Sewer Effluent limits.

Disposal or Treatment Facility: A facility licensed to accept either non-hazardous regulated waste or hazardous waste for either treatment or disposal.

Exclusion Zone: Work area that will be limited to access by Contractor personnel specifically trained to enter the work area only. The exclusion zone will be set up to secure the area from the public and untrained personnel. The project health and safety program will apply to all construction personnel including persons entering the work area.

Hazard Assessment: An assessment of any physical hazards that may be encountered on a work site.

Hazardous Soils: Soils that exhibit any of the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and toxicity, as defined in 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.

Hazardous Substance Evaluation: An evaluation of the possible or known presence of any hazardous substances that may be encountered on a job site. This evaluation is included in the Health and Safety Plan and will include the identification and description of any hazardous substances expected to be encountered. Material Safety Data Sheets (MSDS) will be included for each substance.

Health and Safety Plan: A plan employed at a work site that describes all the measures that will be taken to assure that all work is conducted in a safe manner, and that the health of the workers and the public will be insured.

Material Handling Plan: A plan outlining the methods that will be employed to handle, transport and dispose of contaminated materials.

Non-Hazardous Contaminated Soils: Soils which exhibit a distinct chemical or petroleum odor, or exhibit elevated photoionization detector readings but are not classified as hazardous waste under 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261.

New York State Health Department's Environmental Laboratory Approval Program: A program by which the state of New York approves and accredits environmental testing laboratories.

PCBs: Polychlorinated biphenyls are a group of toxic compounds commonly used as a coolant in transformers and other electrical components.

Photoionization Detector: A hand held instrument used to measure volatile organic compounds in air. The instrument ionizes the organic molecules through the use of an ultraviolet lamp.

RCRA Hazardous Waste Characteristics: Characteristics of a material which may indicate the material is hazardous. These include: ignitability corrosivity, reactivity, and toxicity.

Total Petroleum Hydrocarbons: An analytical procedure used to determine the total amount of petroleum compounds in a material.

ATTACHMENT 4: PHASE II SUBSURFACE CORRIDOR INVESTIGATION REPORT

- Final -

Phase II Subsurface Corridor Investigation
for
Replacement of Distribution Water Mains and Appurtenances in South Avenue between Richmond Terrace and Netherland Avenue, etc. Staten Island, New York

DDC PROJECT NO. RED386

WORK ORDER NO. OEHS-20201409799-WOL-125

CONTRACT REGISTRATION NO. 20201409799

Prepared for:

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PROJECT NO. 31402661.100

November 5, 2021

TABLE OF CONTENTS

EXECUTIVE SUMMARY **1**

1.0 INTRODUCTION **1**
1.1 SUMMARY OF PREVIOUS ENVIRONMENTAL INVESTIGATIONS 1
1.2 SCOPE OF WORK 2

2.0 CORRIDOR INFORMATION **4**
2.1 CORRIDOR LOCATION, DESCRIPTION AND USE 4
2.2 DESCRIPTION OF SURROUNDING PROPERTIES 4
2.3 CORRIDOR AND REGIONAL TOPOGRAPHIC SETTING 4
2.4 CORRIDOR AND REGIONAL GEOLOGY 5
2.5 CORRIDOR AND REGIONAL HYDROGEOLOGY 6

3.0 CORRIDOR EVALUATION **8**
3.1 SOIL QUALITY INVESTIGATION 8
3.2 GROUNDWATER QUALITY INVESTIGATION 10
3.3 LABORATORY ANALYSES 10
3.4 DATA EVALUATION 11

4.0 FINDINGS **12**
4.1 FIELD SCREENING 12
4.2 LABORATORY ANALYTICAL RESULTS 12
4.2.1 Target Compound List (TCL) Volatile Organic Compounds (VOCs) in Soils 12
4.2.2 Polycyclic Aromatic Hydrocarbons (PAHs) in Soils 12
4.2.3 Polychlorinated Biphenyls (PCBs) in Soils 12
4.2.4 Waste Classification of Soil 12
4.2.5 NYCDEP Sewer Discharge Parameters 13

5.0 CONCLUSIONS AND RECOMMENDATIONS **14**

6.0 STATEMENT OF LIMITATIONS **17**

Tables
1 Summary of Environmental Boring Data
2 Summary of TCL VOCs Detected in Soil
3 Summary of PAHs Detected in Soil
4 Summary of PCBs Detected in Soil
5 Summary of Waste Classification Results in Soil
6 Groundwater Quality Compared to NYCDEP Limitations for Effluent to Sanitary or Combined Sewers

Figures
1 Topographic Corridor Location Map
2 Soil Boring Location Plan – Northwest Corridor Segment

Appendices
A Boring Location Plans
B Geologic Boring Logs
C Laboratory Analytical Results

EXECUTIVE SUMMARY

On behalf of the New York City (NYC) Department of Design and Construction (DDC), Louis Berger U.S., Inc., a WSP Company (Louis Berger) conducted a Phase II Subsurface Corridor Investigation (Phase II SCI) for the RED386 Corridor located in the Arlington section of the Borough of Staten Island, New York (hereinafter referred to as the "Corridor") to determine if the Corridor's environmental condition might impact the proposed construction activities.

The activities consist of infrastructure improvement, including the replacement of aging infrastructure to meet NYC Department of Environmental Protection (DEP) Standards to improve water quality and residual pressure in the project area.

The approximately 0.97-mile (5,145-foot) long Corridor is identified on Figure 1 Topographic Corridor Location Map and is comprised of the following street segments:

Street Segments	Length (feet)
South Avenue from Netherland Avenue to Richmond Terrace	3,735
Grandview Avenue from 60 feet north to 60 feet south of Continental Place	160
Cable Way from South Avenue to 500 feet west of South Avenue	500
Continental Place from South Avenue to 60 feet east of Grandview Avenue	385
Brabant Street from South Avenue to 25 feet east of South Street	25
Arlington Place from South to Arlington Avenues	340

The proposed depth of excavation for the Corridor was estimated to be 6 feet below grade (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 nine soil borings and the collection of soil and groundwater samples to characterize the subsurface conditions that may be encountered during construction. Groundwater samples were proposed to be collected from temporary well points installed in two of the soil boring locations.

The Phase II SCI of the RED386 Corridor was conducted by Louis Berger on September 27 and 28, 2021, and consisted of the following components:

- The advancement of nine soil borings (SB01 to SB09) utilizing hand tools and/or Vactron and air knife. Soil borings were proposed to a depth of 6 ftbg. However, due to shallow groundwater, soil borings were advanced to terminal depths ranging from 3.5 to 6 ftbg;

- To ensure the clearance of sensitive subsurface utility lines and features, boring locations were advanced to their terminal depths using evasive methods such as hand augers and/or Vactron and air knife;

- 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 grab soil sample from each of the nine soil borings. The grab soil samples were collected from the 6-inch interval above the encountered refusal or the proposed bottom depth of the boring. The grab soil samples were analyzed for Target Compound List (TCL) VOCs using U.S. Environmental Protection Agency (USEPA) Method 8260C;

- The collection of one waste classification soil sample from each soil boring. The waste classification sample was a composite of the soil column from the ground surface to encountered refusal. 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 the three RCRA Characteristics, ignitability, reactivity, and corrosivity, by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, as well as Paint Filter Test by USEPA Method 9095B; and,

- The collection of two groundwater samples from TWPs installed in soil borings SB02 and SB09. The groundwater samples were analyzed for the New York City Department of Environmental Protection (NYCDEP) Sanitary or Combined Sewer Discharge Parameters.

In order to evaluate subsurface soil and groundwater quality for waste classification purposes, laboratory analytical results of soil and groundwater samples were compared with regulatory standards identified in: New York State Department of Environmental Conservation (NYSDEC) Subpart 375-6: Commercial Use (Track 2) Soil Cleanup Objectives (SCOs), Toxicity Characteristic Regulatory Levels for Hazardous Waste published in RCRA and 6 New York Codes, Rules and Regulations (NYCRR) Part 371, and NYCDEP Sanitary or Combined Sewer Discharge Parameters.

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 indications of contamination were observed in any of the nine soil borings, including PID readings;

- Fill material consisting of dusky yellowish brown to light brown, coarse to medium gravelly sand, and silty sandy to sandy silty clay was observed in all nine borings at depths ranging from 0 to 6 ftbg. Anthropogenic fill (such as wood, concrete and glass) was not observed in any of the nine soil borings;

- Bedrock was not encountered at any of the boring locations;

- Groundwater was encountered in soil borings SB01, SB02 and SB09 at depths of 5.0, 2.5, and 3.0 ftbg, respectively. Following the installation of the TWPs, groundwater levels were measured in SB02/TWP01 at a depth of 2.9 ftbg and in SB09/TWP02 at a depth of 4.3 ftbg. It is noted that although the boring SB09 was terminated at 3.5 ftbg, the bottom of the well screen of TWP02 was pushed down to 5.0 ftbg to allow for more of the water table to be screened while collecting the groundwater sample;

- Three VOCs were detected above the laboratory's reporting limits across eight of the nine soil samples; however, all concentrations were below the applicable regulatory standards;

- Several PAHs were detected above the laboratory's reporting limits in seven of the nine soil samples; however, all concentrations were below the applicable regulatory standards;

- One PCB was detected above the laboratory's reporting limits in one of the nine soil samples; however, all concentrations were below the applicable regulatory standards;

- The analytical laboratory results of the nine waste classification soil samples show that the RCRA parameters (reactivity, ignitability, and 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 for reactivity, ignitability, and corrosivity;

- Waste classification laboratory results indicate that TCLP barium was detected in eight of the nine soil samples (SB01, SB02, and SB04 through SB09) with concentrations ranging from 0.26 mg/L (SB09) to 1.4 mg/L (SB02); however, all concentrations were below the applicable RCRA Hazardous Waste Level. TCLP lead was detected in four of the nine soil samples (SB01, SB02, SB05, and SB06) with concentrations ranging from 0.058 mg/L (SB01) to 0.40 mg/L (SB02); however, all concentrations were below the applicable RCRA Hazardous Waste Level. TCLP nickel was detected in one of the nine soils samples (SB-02) with a concentration of 0.17 mg/L; however, there is no applicable regulatory standard for nickel;

- TPH-DRO was detected above the laboratory's reporting limits in four of the nine waste classification soil samples at concentrations ranging from 72 ppm (SB03) to 600 ppm (SB02) while no TPH-GRO was detected above the laboratory's reporting limits in any of the nine soil samples. There are no regulatory standards for TPH; and,

- Analytical laboratory results of the groundwater samples showed total suspended solids exceeded the NYCDEP Sewer Discharge Criterion in both TWP01 and TWP02 at concentrations of 410 mg/L and 3,100 mg/L, respectively.

Based on the results of the field investigation and laboratory analytical results, the following recommendations are provided:

Recommendations

- The contract documents should identify provisions and a contingency for managing, handling, transporting and disposing of any non-hazardous contaminated soils. The Contractor should be required to submit a Material Handling Plan to identify the specific protocol and procedures that will be employed to manage the waste in accordance with applicable regulations;

- Dust control procedures are recommended during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor may implement dust control measures to minimize potential airborne contaminants (i.e., SVOCs, TPH and metals) released into the ambient environment as a direct result of construction activities;

- Groundwater was encountered during the Phase II SCI activities across the Corridor at depths ranging from 2.5 to 5.0 ftbg. If dewatering is necessary, the Contractor will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis prior to discharge into 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 (NYC) Department of Design and Construction (DDC), Louis Berger US, Inc., a WSP Company (Louis Berger) conducted a Phase II Subsurface Corridor Investigation (Phase II SCI) for the RED386 Corridor located in the Arlington section of the Borough of Staten Island, New York (hereinafter referred to as the "Corridor") to determine if the Corridor's environmental condition might impact the proposed construction activities.

The activities consist of infrastructure improvement, including the replacement of aging infrastructure to meet NYC Department of Environmental Protection (DEP) Standards to improve water quality and residual pressure in the project area.

The approximately 0.97-mile (5,145-foot) long Corridor is identified on Figure 1 Topographic Corridor Location Map and is comprised of the following street segments:

Street Segments	Length (feet)
South Avenue from Netherland Avenue to Richmond Terrace	3,735
Grandview Avenue from 60 feet north to 60 feet south of Continental Place	160
Cable Way from South Avenue to 500 feet west of South Avenue	500
Continental Place from South Avenue to 60 feet east of Grandview Avenue	385
Brabant Street from South Avenue to 25 feet east of South Street	25
Arlington Place from South to Arlington Avenues	340

The proposed depth of excavation for the Corridor was estimated to be 6 feet below grade (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 nine soil borings and the collection of soil and groundwater samples to characterize the subsurface conditions that may be encountered during construction. Groundwater samples were proposed to be collected from temporary well points installed in two of the soil boring locations.

1.1 Summary of Previous Environmental Investigations

No prior reports for the Corridor were made available to Louis Berger for review.

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 PAL Environmental Services (PAL). Soil boring oversight and soil sample collection were conducted by Mr. Harry August, Environmental Engineer of Louis Berger. Laboratory analyses were provided by Hampton-Clarke (HC) 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 September 27 and 28, 2021, and consisted of the following components:

- The advancement of nine soil borings (SB01 to SB09) utilizing hand tools and/or Vactron and air knife. Soil borings were proposed to a depth of 6 ftbg. However, due to shallow groundwater, soil borings were advanced to terminal depths ranging from 3.5 to 6 ftbg.

- To ensure the clearance of sensitive subsurface utility lines and features, boring locations were advanced to their terminal depths using evasive methods such as hand augers and/or Vactron and air knife;

- 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 grab soil sample from each of the nine soil borings. The grab soil samples were collected from the 6-inch interval above the encountered refusal or the proposed bottom depth of the boring. The grab soil samples were analyzed for Target Compound List (TCL) VOCs using U.S. Environmental Protection Agency (USEPA) Method 8260C;

- The collection of one waste classification soil sample from each soil boring. The waste classification sample was a composite of the soil column from the ground surface to

encountered refusal. 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 the three RCRA Characteristics, ignitability, reactivity, and corrosivity, by USEPA Methods 9012B/9034, 1030/1010A, and 9045C, as well as Paint Filter Test by USEPA Method 9095B;

- The collection of two groundwater samples from TWPs installed in soil borings SB02 and SB09. 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 0.97-mile (5,145-foot) long Corridor is located in the Arlington section of the Borough of Staten Island, New York. The Corridor is developed with paved roadways, sidewalk areas, and existing infrastructure systems, and exhibits evidence of utilities, such as manholes, pavement scars, utility mark-outs, and valve covers. This indicates the presence of buried utilities, including gas, sewer, water, electric, and communications; in addition, overhead utilities are also present along the Corridor. Adjoining property usage is a mixture of residential, commercial, and institutional, as follows:

- Clean Water of New York at 3249 Richmond Terrace.
- Kirby Offshore Marine at 3245 Richmond Terrace.
- Laundry Corner Laundromat at 158 South Avenue.
- Mariners Harbor Library at 206 South Avenue.
- Staten Mix Inc. at 264 South Avenue.
- 264 South Ave Staten Island Cable Company at 100 Cable Way.
- Total Electric at 388 South Avenue.

The Corridor is shown on Figure 2.

2.2 Description of Surrounding Properties

Surrounding property usage is a mixture of residential and commercial properties to the south, east and west. Newark Bay is located to the north. Commercial properties to the west include Falcone Landscaping and Construction, Bayview Auto Wreckers, and Moove Lubricants.

The Staten Island Railway (SIR) crosses through the central portion of the Corridor.

2.3 Corridor and Regional Topographic Setting

Louis Berger reviewed the United States Geologic Survey (USGS) *7.5-minute Topographic Quadrangle Map for Staten Island, New York* (2014) to identify the topography at the Corridor. The northern portion of the Corridor between the SIR and Richmond Terrace slopes to the north from 51 above mean sea level (msl) where South Avenue crosses the SIR to a minimum elevation of 12 feet above msl where South Avenue meets Richmond Terrace. Under natural conditions,

surface runoff in the northern portion of the Corridor would be expected to follow the surrounding topography, which slopes toward Newark Bay located 325 feet to the north. The southern portion of the Corridor between the SIR and Zeluff Avenue slopes to the south from 51 msl where South Avenue crosses the SIR to a minimum elevation of 15 feet above msl where South Avenue meets Zeluff Avenue. Under natural conditions, surface runoff in the southern portion of the Corridor would be expected to follow the surrounding topography, which slopes toward Old Place Creek located 1,700 feet to the south. However, storm drains manage storm runoff within the Corridor.

2.4 Corridor and Regional Geology

Based on the *NYC Detailed Soil Survey* via Web Soil Survey (National Cooperative Soil Survey, Version 6, October 28, 2019), the majority of the Corridor (57.0 percent) is situated within the Urban land, Flatbush complex (UFA), which consists of 75 percent Urban land outwash substratum, 12 percent Flatbush and similar soils, and 13 percent minor components, with slopes between 0 to 3 percent. The Urban land outwash substratum (UoA) comprising 17.5 percent of the Corridor makes up the second largest part of the Corridor and is comprised of 92 percent urban land outwash substratum and 8 percent minor components, with slopes between 0 to 3 percent. The Urban Land-Verrazano Complex (UVA) and the Urban land, Flatbush complex (UFB) together comprise 14 percent of the Corridor, and the Deerfield loamy fine sand complex, Flatbush Greenbelt complex, and the Urban land sandy substratum all comprise less than 1 percent of the Corridor.

The *NYC Reconnaissance Soil Survey* (2005) indicates that the Corridor is underlain by the Pavement & Buildings Wet Substratum-Laguardia-Ebbets complex, the Pavement & Buildings-Windsor-Verrazano complex, and the Pavement & Buildings-Foresthills-Wethersfield complex. The Pavement & Buildings Wet Substratum-Laguardia-Ebbets complex is classified as nearly level to gently sloping urbanized areas filled with a mixture of natural soil materials and construction debris over swamp, tidal marsh, or water; a mixture of anthropogenic soils which vary in coarse fragment content, with 50 to 80 percent of the surface covered by impervious pavement and buildings. The Pavement & Buildings-Windsor-Verrazano complex is classified as nearly level to gently sloping urbanized areas of sandy outwash plains and dunes that have been partially filled for residential and commercial use and consist of a mixture of sandy outwash soils and loamy-capped anthropogenic soils, with 50 to 80 percent of the surface covered by impervious pavement and buildings.

The Pavement & Buildings-Foresthills-Wethersfield complex is classified as nearly level to gently sloping areas of urbanized till plains that have been cut and filled for residential use; a mixture of

anthropogenic and red till soils, with 50 to 80 percent of the surface covered by impervious pavement and buildings.

Based on *Geologic and Geohydrologic Reconnaissance of Staten Island, New York* (Soren, 1988), surficial soils are underlain by Upper Pleistocene deposits consisting primarily of Wisconsinan glacial drift. The drift consists of ground moraine deposits comprised of reddish-brown clayey till. Local bodies of stratified sand and gravel commonly occur within the ground moraine. These ground moraine deposits can reach a maximum thickness of 150 feet underlying the Corridor. The Upper Pleistocene deposits are, in turn, underlain by the Palisades Diabase, which is a thick sill of diabase that is of Late Triassic to Jurassic Age.

During the advancement of soil borings for this Phase II SCI, fill material consisting of dusky yellowish brown to light brown, coarse to medium gravelly sand, and silty sandy to sandy silty clay was observed in all nine borings at depths ranging from 0 to 6 ftbg. Anthropogenic fill (such as wood, concrete and glass) was not observed in any of the nine soil borings.

2.5 Corridor and Regional Hydrogeology

Based on surrounding water bodies and topography, groundwater depth is estimated to range between 3 ftbg at the northern and southern portions of the Corridor and 45 ftbg near the point where the SIR crosses South Avenue. Shallow groundwater in the northern portion of the Corridor is expected to flow towards Newark Bay, whereas groundwater in the southern portion is expected to flow southwest towards Old Creek. Groundwater was encountered at approximately 2.5 ftbg in the southwestern portion of the Corridor and at approximately 3.5 ftbg in the northern portion of the Corridor during the Phase II SCI field activities. All references to groundwater flow direction/hydraulic gradient in this report are based upon these assumptions. Groundwater flow can also be influenced by seasonal fluctuations in precipitation, local variations in geology, underground anthropogenic structures, and/or local dewatering operations.

According to both the U.S. Fish and Wildlife Service (USFWS) *National Wetlands Inventory* and the NYSDEC *Environmental Resource Mapper*, no wetlands are located along the Corridor. The nearest wetland is located at the intersection of South Avenue and Zeluff Avenue immediately adjacent to the Corridor. This wetland is classified by the USFWS as a Freshwater Forested/Shrub Wetland (PFO1E). Wetlands of these classifications are nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 parts per thousand (ppt). They are characterized by woody vegetation that is 18 feet tall or taller, and surface water is present for

extended periods (generally for more than a month) during the growing season but is absent by the end of the season in most years.

Federal Emergency Management Agency (FEMA) *Flood Insurance Rate Maps* (FIRM) were accessed from the FEMA website. One map panel (*Panel Number 3604970168F*, revision September 5, 2007) shows that no portion of the Corridor is within the 100- or 500-year flood zones.

3.0 CORRIDOR EVALUATION

Louis Berger provided oversight for the advancement of nine soil borings and collected soil samples during the field investigation conducted on September 27 and 28, 2021, in the vicinity of the planned construction. Drilling services for the advancement of the soil borings were provided by PAL. The soil samples from the borings were transferred into laboratory-supplied sample jars and properly labeled. The samples were stored with ice in a cooler to preserve the samples at approximately 4 degrees Celsius prior to and during shipment. A chain-of-custody was prepared prior to sample shipment. A summary of the field observations and details of the soil borings are provided in Table 1.

3.1 Soil Quality Investigation

To ensure the clearance of sensitive subsurface utilities and features, all soil boring locations were advanced via evasive methods (i.e., Vactron and/or air knife and hand auger/hand tools) to terminal depths ranging from 3.5 to 6 ftbg. In soil borings where the groundwater table was encountered before the planned termination depth of 6 ftbg, the terminal depth was adjusted to the groundwater table. 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, which document soil classification information, including stratigraphy, are provided in Appendix B. The location of each boring is described below:

- **SB01** – Located in the grass right-of-way along the eastern side of South Avenue, 33 feet and 4 inches east of the western curb line of South Avenue, and 133 feet north of the northern curb line of Netherland Avenue

- **SB02/TWP01 –** Located in the dirt along the southern side of Cable Way, 36 feet and 1 inch south of the northern curb line of Cable Way, and 347 feet and 8 inches west of the western curb line of South Avenue.

- **SB03** – Located in the grass right-of-way along the western side of Grandview Avenue, 39 feet and 4 inches west of the eastern curb line of Grandview Avenue, and 39 feet south of the southern curb line of Continental Place.

- **SB04** – Located in the grass right-of-way along the eastern side of South Avenue, 34 feet and 1 inch east of the western curb line of South Avenue, and 290 feet and 4 inches north of the northern curb line of Continental Place.

- **SB05** – Located in the grass right-of-way along the western side of South Avenue, 35 feet and 10 inches west of the eastern curb line of South Avenue, and 47 feet and 5 inches north of the northern curb line of Brabant Street.

- **SB06** – Located in the grass right-of-way along the western side of South Avenue, 39 feet and 4 inches west of the eastern curb line of South Avenue, and 323 feet south of the southern curb line of Arlington Place.

- **SB07** – Located in the grass right-of-way along the northern side of Arlington Place, 29 feet and 6 inches north of the southern curb line of Arlington Place, and 114 feet and 10 inches west of the western curb line of South Avenue.

- **SB08** – Located in the grass right-of-way along the western side of South Avenue, 31 feet and 6 inches west of the eastern curb line of South Avenue, and 699 feet and 6 inches north of the northern curb line of Arlington Place.

- **SB09/TWP02** – Located in the grass right-of-way along the western side of South Avenue, 36 feet and 1 inch west of the eastern curb line of South Avenue, and 76 feet south of the southern curb line of Richmond Terrace.

Soil from each boring was 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 at all five boring locations.

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 were collected from the entire soil column except where groundwater was encountered, where the sample was 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 groundwater 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 observations. For soil borings SB02 and SB09, where groundwater was encountered, the grab sample was collected from the 6-inch interval above the encountered groundwater table.

All equipment was decontaminated by rinsing and scrubbing with Liquinox® three times to prevent cross contamination. Following the completion of each boring, the boreholes were backfilled with removed material.

3.2 Groundwater Quality Investigation

Two groundwater samples (TWP01 and TWP02) were collected from temporary well points installed at soil borings SB02 and SB09, respectively. Groundwater in the TWPs was measured at depths of approximately 2.9 ftbg in SB02/TWP01 and 4.3 ftbg in SB09/TWP02. It is noted that although the boring SB09 was terminated at 3.5 ftbg, the bottom of the well screen of TWP02 was pushed down to 5.0 ftbg to allow for better groundwater recovery while collecting the groundwater sample.

The TWPs were constructed of ¾-inch schedule 40 PVC and were installed to the base of the boring, such that the screen bridged the water table. Prior to sampling, the TWPs were purged using a peristaltic pump and dedicated tubing until approximately three well volumes were purged, and purge water appeared to be clear. After purging, samples TWP01 and TWP02 were collected using a peristaltic pump and dedicated polyethylene tubing directly into laboratory-provided jars.

3.3 Laboratory Analyses

All soil and groundwater samples were analyzed on a 5-day turn-around time (TAT). Soil and groundwater samples were stored on ice in coolers at approximately 4 degrees Celsius under chain of custody prior to delivery to the laboratory. Laboratory analyses for soil and groundwater was provided by Hampton-Clarke (HC) of Fairfield, New Jersey, which is a NYSDOH ELAP-certified analytical laboratory (No. 11408).

The grab soil samples SB01 through SB09 were analyzed for TCL VOCs using USEPA Method 8260C. The composite soil samples were analyzed for PAHs by USEPA Method 8270C, TPH-DRO/GRO by USEPA Method 8015B, PCBs by USEPA Method 8082A/608, TCLP Metals

(RCRA 8) by USEPA Method 1311/6010B, 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 (TWP01 and TWP02) were analyzed for NYC DEP Sanitary and Combined Sewer Discharge Parameters.

3.4 Data Evaluation

In order to evaluate surface and 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 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 of 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 laboratory analytical data report is included in Appendix C.

4.1 Field Screening

No visual or olfactory indications of contamination were observed in any of the nine borings, including PID readings. 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 Soils

Three VOCs, 2-butanone, acetone, and methylene chloride, were detected above the laboratory's reporting limits across eight of the nine soil samples (SB02 through SB09); however, all concentrations were below the applicable regulatory standards. A summary of the VOCs detections is provided as Table 2.

4.2.2 Polycyclic Aromatic Hydrocarbons (PAHs) in Soils

Several PAHs were detected above the laboratory's reporting limits in seven of the nine soil samples (SB01 through SB06, and SB08); however, all concentrations were below the applicable regulatory standards. A summary of the SVOC detections is provided as Table 3.

4.2.3 Polychlorinated Biphenyls (PCBs) in Soils

One PCB, Aroclor-1260, was detected above the laboratory's reporting limits in one of the nine soil samples (SB06); however, all concentrations were below the applicable regulatory standards. A summary of the PCBs detections is provided as Table 4.

4.2.4 Waste Classification of Soil

RCRA Parameters (Reactivity, Corrosivity, Ignitability)
The analytical laboratory results of the five waste classification soil samples show that the RCRA parameters (reactivity, ignitability, or corrosivity) were within the RCRA standards. The pH

(corrosivity indicator) 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 all 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 with respect to reactivity, corrosivity and ignitability. A summary of the waste classification parameters is provided as Table 5.

TCLP Metals

Waste classification laboratory results indicate that TCLP barium was detected in eight of the nine soil samples (SB01, SB02, and SB04 through SB09) with concentrations ranging from 0.26 mg/L (SB09) to 1.4 mg/L (SB02); however, all concentrations were below the applicable RCRA Hazardous Waste Level. TCLP lead was detected in four of the nine soil samples (SB01, SB02, SB05, and SB06) with concentrations ranging from 0.058 mg/L (SB01) to 0.40 mg/L (SB02); however, all concentrations were below the applicable RCRA Hazardous Waste Level. TCLP nickel was detected in one of the nine soil samples (SB-02) with a concentration of 0.17 mg/L; however, there is no applicable regulatory standard for nickel.

A summary of the waste classification parameters is provided as Table 5.

Total Petroleum Hydrocarbons (TPH)

TPH-DRO was detected above the laboratory's reporting limits in four of the nine waste classification soil samples at concentrations ranging from 72 ppm (SB03) to 600 ppm (SB02) while no TPH-GRO was detected above the laboratory's reporting limits in any of the nine soil samples. There are no regulatory standards for TPH. A summary of the waste classification parameters is provided as Table 5.

4.2.5 NYCDEP Sewer Discharge Parameters

Several metals, chloride, total Kjeldahl nitrogen, total suspended solids and total solids were present in both of the groundwater samples. However, only total suspended solids exceeded the NYCDEP Sanitary or Combined Sewer Discharge Parameters in both TWP01 and TWP02 at concentrations of 410 mg/L and 3,100 mg/L, respectively.

A summary of the results is provided as Table 9.

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 indications of contamination were observed in any of the nine soil borings, including PID readings;

- Fill material consisting of dusky yellowish brown to light brown, coarse to medium gravelly sand, and silty sandy to sandy silty clay was observed in all nine borings at depths ranging from 0 to 6 ftbg. Anthropogenic fill (such as wood, concrete and glass) was not observed in any of the nine soil borings;

- Bedrock was not encountered at any of the boring locations;

- Groundwater was encountered in soil borings SB01, SB02 and SB09 at depths of 5.0, 2.5, and 3.0 ftbg, respectively. Following the installation of the TWPs, groundwater levels were measured in SB02/TWP01 at a depth of 2.9 ftbg and in SB09/TWP02 at a depth of 4.3 ftbg. It is noted that although the boring SB09 was terminated at 3.5 ftbg, the bottom of the well screen of TWP02 was pushed down to 5.0 ftbg to allow for more of the water table to be screened while collecting the groundwater sample;

- Three VOCs were detected above the laboratory's reporting limits across eight of the nine soil samples; however, all concentrations were below the applicable regulatory standards;

- Several PAHs were detected above the laboratory's reporting limits in seven of the nine soil samples; however, all concentrations were below the applicable regulatory standards;

- One PCB was detected above the laboratory's reporting limits in one of the nine soil samples; however, all concentrations were below the applicable regulatory standards;

- The analytical laboratory results of the nine waste classification soil samples show that the RCRA parameters (reactivity, ignitability, and 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 for reactivity, ignitability, and corrosivity;

- Waste classification laboratory results indicate that TCLP barium was detected in eight of the nine soil samples (SB01, SB02, and SB04 through SB09) with concentrations ranging from 0.26 mg/L (SB09) to 1.4 mg/L (SB02); however, all concentrations were below the applicable RCRA Hazardous Waste Level. TCLP lead was detected in four of the nine soil samples (SB01, SB02, SB05, and SB06) with concentrations ranging from 0.058 mg/L (SB01) to 0.40 mg/L (SB02); however, all concentrations were below the applicable RCRA Hazardous Waste Level. TCLP nickel was detected in one of the nine soils samples (SB-02) with a concentration of 0.17 mg/L; however, there is no applicable regulatory standard for nickel;

- TPH-DRO was detected above the laboratory's reporting limits in four of the nine waste classification soil samples at a concentration ranging from 72 ppm (SB03) to 600 ppm (SB02) while no TPH-GRO was detected above the laboratory's reporting limits in any of the nine soil samples. There are no regulatory standards for TPH; and,

- Analytical laboratory results of the groundwater samples showed total suspended solids exceeded the NYCDEP Sewer Discharge Criterion both TWP01 and TWP02 at concentrations of 410 mg/L and 3,100 mg/L, respectively.

Based on the results of the field investigation and laboratory analytical results, the following recommendations are provided:

Recommendations

- The contract documents should identify provisions and a contingency for managing, handling, transporting and disposing of any non-hazardous contaminated soils. The Contractor should be required to submit a Material Handling Plan to identify the specific protocol and procedures that will be employed to manage the waste in accordance with applicable regulations;

- Dust control procedures are recommended during excavation activities to minimize the creation and dispersion of fugitive airborne dust. The Contractor may implement dust control measures to minimize potential airborne contaminants (i.e., VOCs, PAHs, TPH and metals) released into the ambient environment as a direct result of construction activities;

- Groundwater was encountered during the Phase II SCI activities across the Corridor at depths ranging from 2.5 to 5.0 ftbg. If dewatering is necessary, the Contractor will be required to obtain a NYCDEP sewer discharge permit and perform sampling and laboratory analysis prior to discharge into 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 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:

Jonathan Ganz, PG
Project Manager

Fameeda Ali, CHMM, ENV SP
Project Manager

STATEMENT OF LIMITATIONS

The data presented, and the opinions expressed in this report are qualified as follows:

The sole purpose of the investigation and of this report is to assess the physical characteristics of the Site with respect to the presence or absence in the environment of oil or hazardous materials and substances as defined in the applicable state and federal environmental laws and regulations and to gather information regarding current and past environmental conditions at the Site.

Louis Berger derived the data in this report primarily from visual inspections, examination of records in the public domain, interviews with individuals with information about the Site, and a limited number of subsurface explorations made on the dates indicated. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in the report.

In preparing this report, Louis Berger has relied upon and presumed accurate certain information (or the absence thereof) about the Site and adjacent properties provided by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, Louis Berger has not attempted to verify the accuracy or completeness of any such information.

The data reported, and the findings, observations, and conclusions expressed in the report are limited by the Scope of Services, including the extent of subsurface exploration and other tests. The Scope of Services was defined by the requests of the Client, the time and budgetary constraints imposed by the Client, and the availability of access to the Site.

Because of the limitations stated above, the findings, observations, and conclusions expressed by Louis Berger in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation. No warranty or guarantee, whether express or implied, is made with respect to the data reported or findings, observations, and conclusions expressed in this report. Further, such data, findings, observations, and conclusions are based solely upon site conditions in existence at the time of investigation.

This report has been prepared on behalf of and for the exclusive use of the Client and is subject to and issued in connection with the Agreement and the provisions thereof.

TABLES

TABLE 1 – SUMMARY OF ENVIRONMENTAL BORING DATA
TABLE 2 – SUMMARY OF TCL VOCS DETECTED IN SOIL
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 LIMITATIONS FOR EFFLUENT TO SANITARY OR COMBINED SEWERS

Table 1. Summary of Environmental Boring Data
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

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	4.5 - 5.0	ND	-	No	5.0	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 5.0	-	7.043				
SB02/ TWP01	SB02	<1	2.0 - 2.5	0.036	-	No	2.5	3.5	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 2.5	-	9.02				
SB03	SB03	<1	5.5 - 6.0	0.014	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material (wood) was observed.
			0.0 - 6.0	-	0.38				
SB04	SB04	<1	5.5 - 6.0	0.0035	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 6.0	-	1.225				
SB05	SB05	<1	5.5 - 6.0	0.1093	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material (RCA) was observed.
			0.0 - 6.0	-	1.73				
SB06	SB06	<1	5.5 - 6.0	0.0024	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 6.0	-	1.478				
SB07	SB07	<1	5.5 - 6.0	0.0031	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material (glass) was observed.
			0.0 - 6.0	-	ND				
SB08	SB08	<1	5.5 - 6.0	0.0063	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 6.0	-	0.34				
SB09/ TWP02	SB09	<1	2.5 - 3.0	0.0026	-	No	3.0	3.5	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 3.0	-	ND				

Notes:
[1] - TCLP metal(s) exceeds Resource Conservation and Recovery Act (RCRA) Hazardous Waste
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 grade

Table 2. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Soil
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

TCL VOCs	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth								
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09
		9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021
		4.5 - 5.0	2.0 - 2.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5
2-Butanone	500	ND	ND	ND	ND	0.016	ND	ND	ND	ND
Acetone	500	ND	0.033	ND	ND	0.090	ND	ND	ND	ND
Methylene chloride	500	ND	0.0030	0.014	0.0035	0.0033	0.0024	0.0031	0.0063	0.0026

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 Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

PAHs	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth								
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09
		9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021
		0.0 - 5.0	0.0 - 3.5	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 3.5
Acenaphthylene	500	0.22	ND	ND	0.047	ND	ND	ND	ND	ND
Anthracene	500	0.093	0.23	ND	ND	0.038	ND	ND	ND	ND
Benzo[a]anthracene	5.6	0.76	0.87	0.12	0.11	0.16	0.13	ND	0.042	ND
Benzo[a]pyrene	1	0.69	0.84	0.14	0.13	0.16	0.13	ND	0.040	ND
Benzo[b]fluoranthene	5.6	0.95	1.3	0.19	0.21	0.34	0.22	ND	0.059	ND
Benzo[g,h,i]perylene	500	0.42	0.52	0.080	0.082	0.089	0.086	ND	ND	ND
Benzo[k]fluoranthene	56	0.35	0.32	0.070	0.054	0.081	0.077	ND	ND	ND
Chrysene	56	0.70	0.90	0.14	0.13	0.23	0.16	ND	0.047	ND
Dibenzo[a,h]anthracene	0.56	0.13	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	500	1.0	1.3	0.23	0.16	0.23	0.27	ND	0.082	ND
Fluorene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	5.6	0.41	0.45	0.072	0.076	0.087	0.075	ND	ND	ND
Phenanthrene	500	0.33	0.89	0.11	0.046	0.055	0.10	ND	ND	ND
Pyrene	500	0.99	1.4	0.23	0.18	0.26	0.23	ND	0.070	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)
NA = Not Analyzed
NS = No Standard

Table 4. Summary of Polychlorinated Biphenyls (PCBs) Detected in Soil
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

PCBs	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth								
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09
		9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021
		0.0 - 5.0	0.0 - 3.5	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 3.5
Aroclor-1260	1	ND	ND	ND	ND	ND	0.052	ND	ND	ND
Aroclor (Total)*	1	ND	ND	ND	ND	ND	0.052	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)
* Refers to the total concentration of PCBs in the sample
NA = Not Analyzed

Table 5. Summary of Waste Classification Results in Soil
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

Analyte	Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels	Sample ID, Date Collected, and Depth								
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09
		9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021
		0.0 - 5.0	0.0 - 3.5	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 3.5
RCRA (Including TCLP Metals)										
pH	2 - 12.5*	7.3	7.6	7.8	8.1	7.5	7.8	6.2	7.7	6.9
Ignitability	>140 °F**	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
Paint Filter Test	NS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
Reactive Cyanide	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
Reactive Sulfide	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	100	0.28	1.4	ND	0.69	0.83	0.31	0.38	0.45	0.26
Cadmium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	5	0.058	0.40	ND	ND	0.17	0.13	ND	ND	ND
Mercury	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	NS	ND	0.17	ND	ND	ND	ND	ND	ND	ND
Selenium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
TPH DRO/GRO (mg/kg)										
TPH - Diesel Range Organics	NS	ND	600	72	85	85	ND	ND	ND	ND
TPH - Gasoline Range Organics	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND

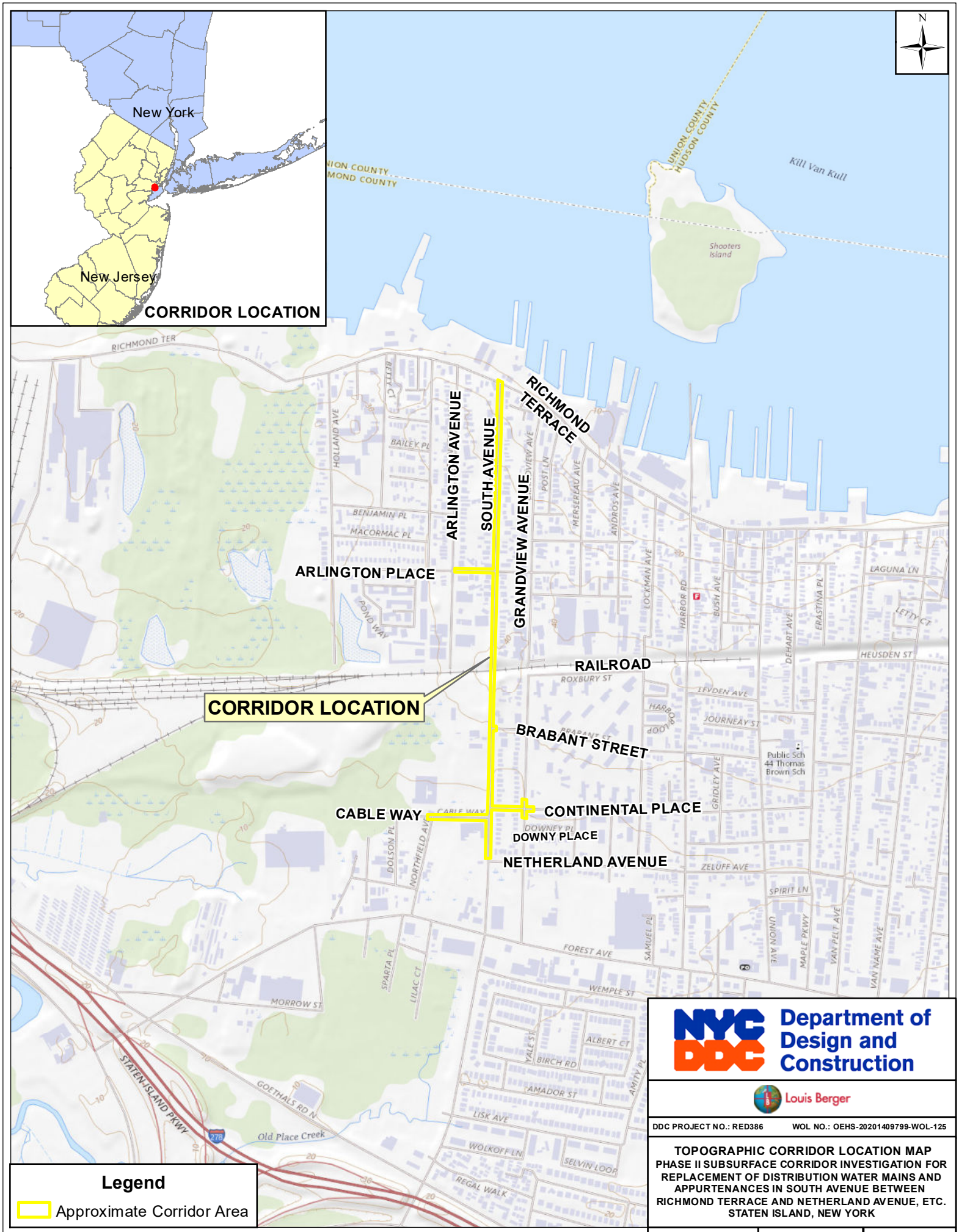
Notes:
All concentrations are in parts per million, milligrams per kilogram, or milligrams per liter (ppm, mg/kg, or mg/L), unless otherwise noted
TCLP = Toxicity Characteristic Leaching Procedure
NS = No Standard
NA = Not Applicable or Not Analyzed
*A solid waste exhibits the characteristic of corrosivity 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 140 °F
°F = Degrees Fahrenheit
NEG = Negative (flash point was not detected below 140 °F) or Negative (free liquids were not detected during Paint Filter Test) or Negative (flame did not propagate down the 200 millimeter track)
ND = Compound not detected above method detection limit (see attached lab report for MDLs)

Table 6. Groundwater Quality Compared to New York City Department of Environmental Protection Limitations for Effluent to Sanitary or Combined Sewers
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue, Staten Island, NY

Parameter[1]	NYC DEP Limitations to Sanitary or Combined Sewers	Sample ID and Date Collected	
		TWP01	TWP02
		9/24/2021	9/24/2021
Non-Polar Material[2]	50 mg/L	ND	ND
Flash Point - Liquid/Solid	>140 °F	>141°F	>141°F
pH	≥5 and ≤12	8.1	7.9
Cadmium (Instantaneous or Composite)	2 or 0.69 mg/L	0.0017 mg/L	0.0058 mg/L
Chromium Hexavalent (VI)	5 mg/L	ND	ND
Copper	5 mg/L	0.39 mg/L	0.54 mg/L
Lead	2 mg/L	0.76 mg/L	1.9 mg/L
Mercury	0.05 mg/L	0.0032 mg/L	0.0021 mg/L
Nickel	3 mg/L	0.061 mg/L	0.3 mg/L
Zinc	5 mg/L	1.4 mg/L	2.5 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	ND	ND
Total Suspended Solids[4]	350 mg/L	410 mg/L	3,100 mg/L
CBOD[5]	NS	ND	ND
Chloride[5]	NS	29 mg/L	470 mg/L
Total Kjeldahl Nitrogen	NS	0.23 mg/L	0.59 mg/L
Total Solids[5]	NS	780 mg/L	4,300 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 discharge ≥ 10,000 gpd.

FIGURE 1 – TOPOGRAPHIC CORRIDOR LOCATION MAP



Source: USGS Quadrangles Elizabeth, New Jersey and Arthur Kill, New York (2020)

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TOPOGRAPHIC CORRIDOR LOCATION MAP

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 1000'	DATE: 11/04/2021	FIGURE: 1

FIGURE 2 – SOIL BORING LOCATION PLAN

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BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 300'	DATE: 11/04/2021	FIGURE: 2

APPENDIX A
BORING LOCATION PLANS

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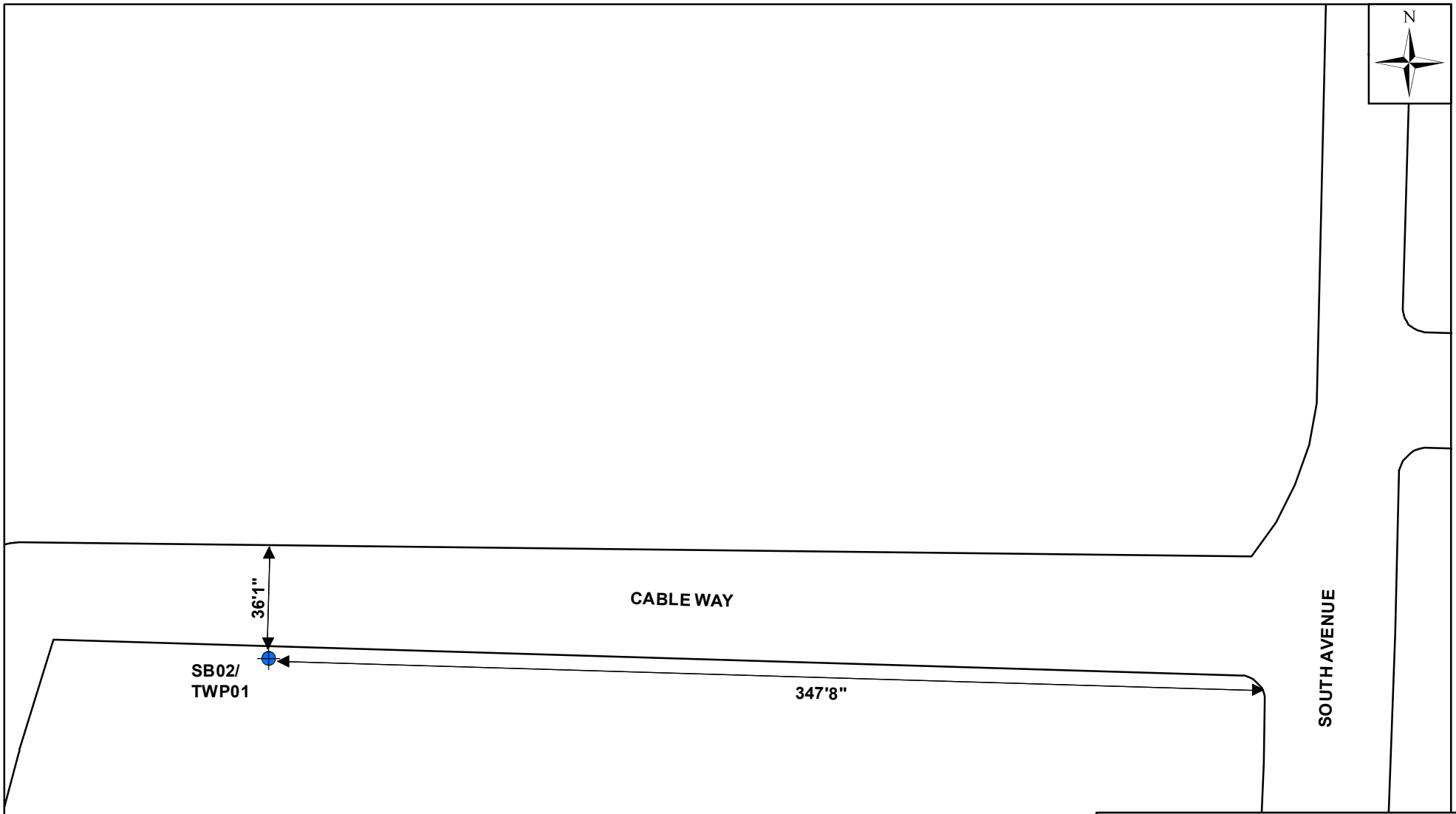
BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-1



Legend

Soil Boring Location/Temporary Well Point

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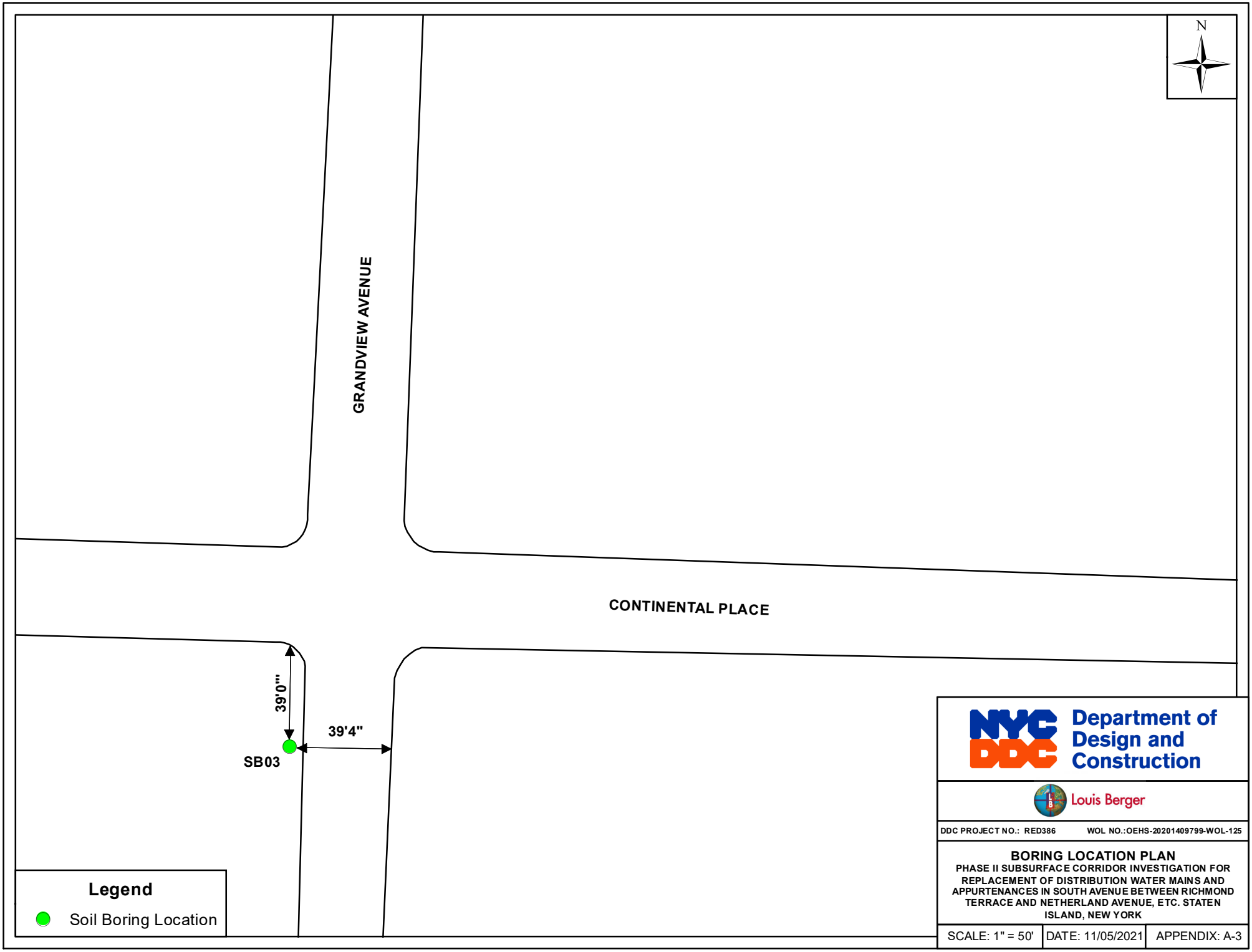
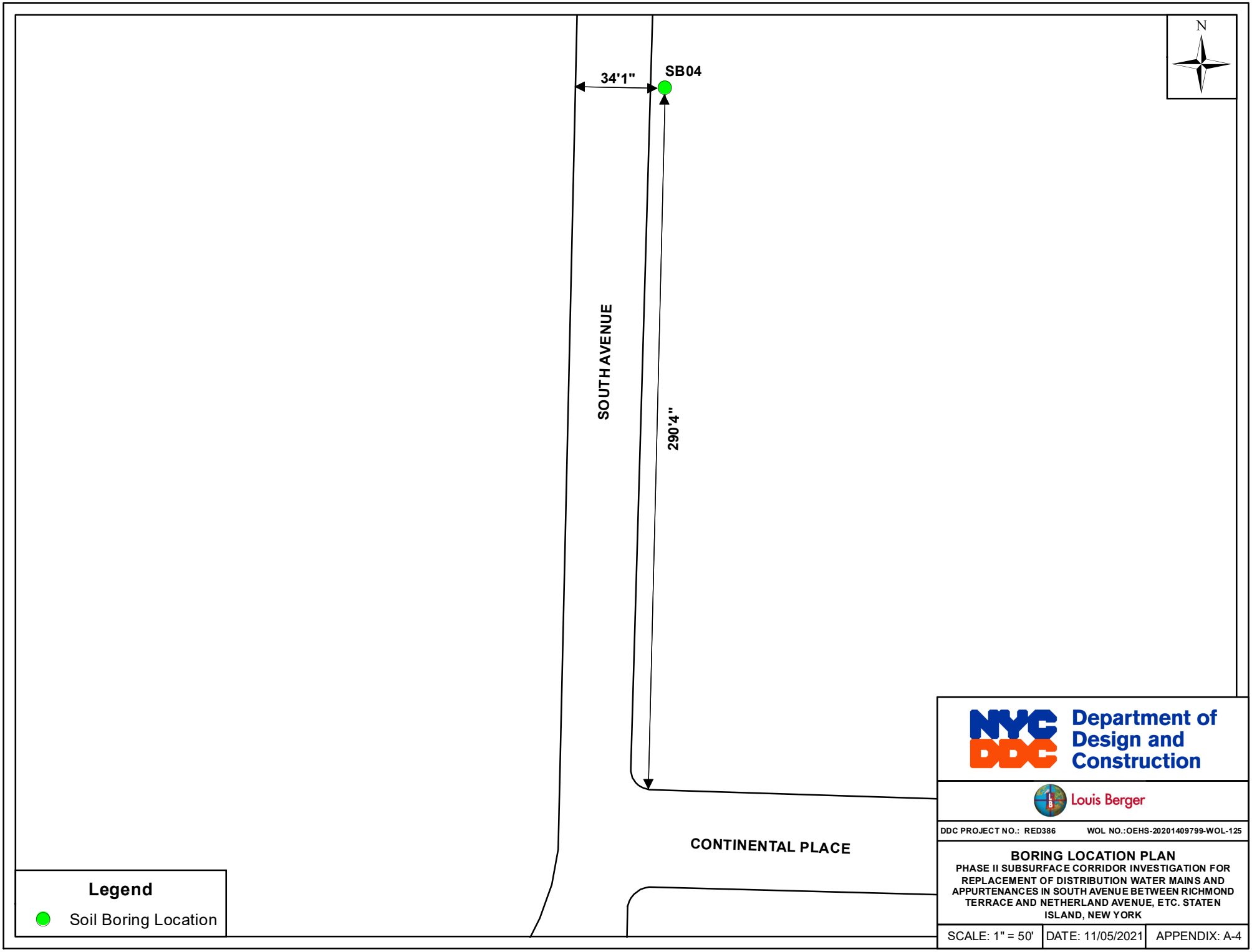
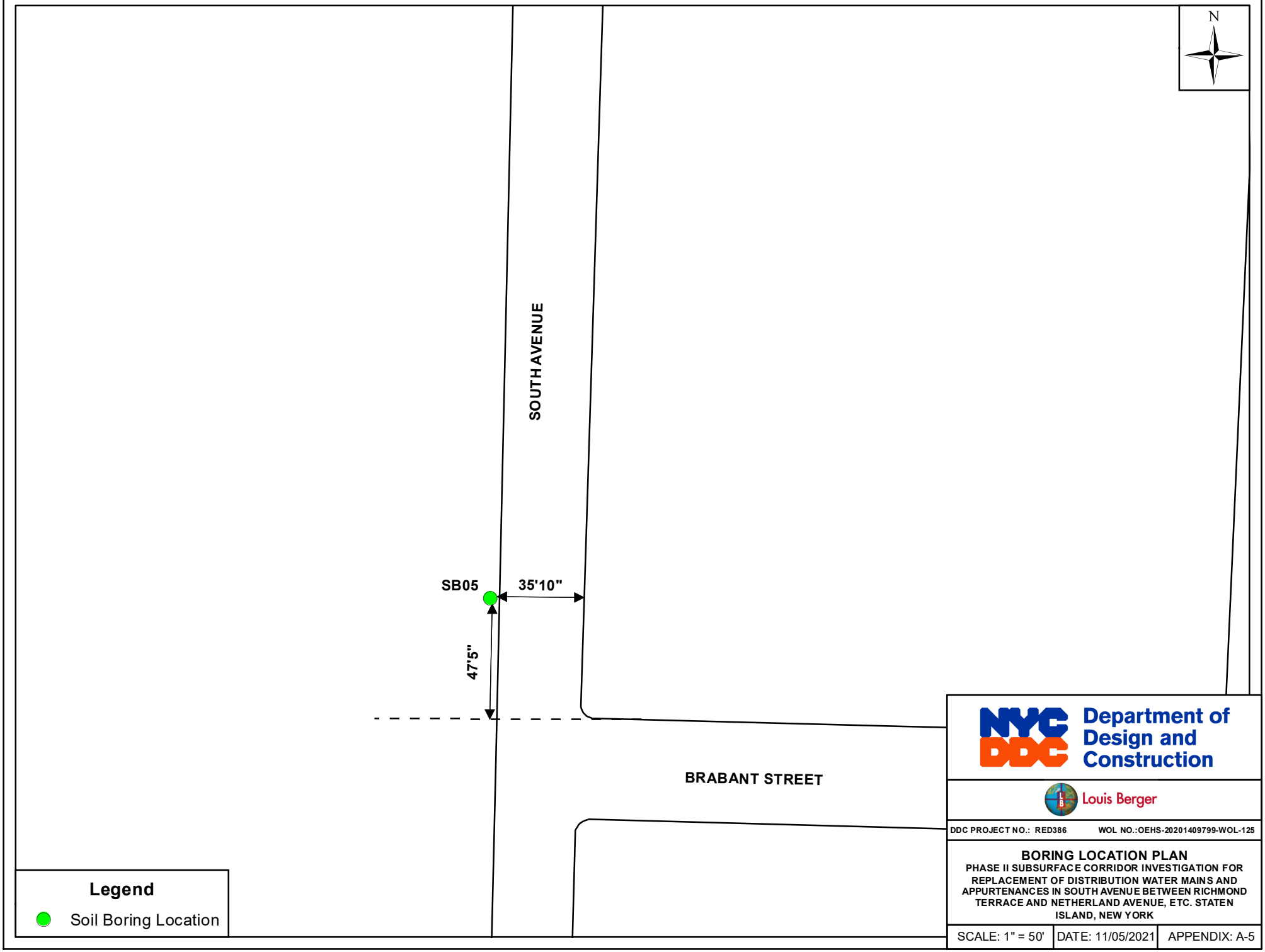
BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-2


N
GRANDVIEW AVENUE
CONTINENTAL PLACE
39'0"'
39'4"
SB03
Legend
Soil Boring Location
Department of Design and Construction
Louis Berger
DDC PROJECT NO.: RED386
WOL NO.:OEHS-20201409799-WOL-125
BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK
SCALE: 1" = 50'
DATE: 11/05/2021
APPENDIX: A-3


N
34'1"
SB04
SOUTH AVENUE
290'4"
CONTINENTAL PLACE
Legend
Soil Boring Location
Department of Design and Construction
Louis Berger
DDC PROJECT NO.: RED386
WOL NO.:OEHS-20201409799-WOL-125
BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK
SCALE: 1" = 50'
DATE: 11/05/2021
APPENDIX: A-4



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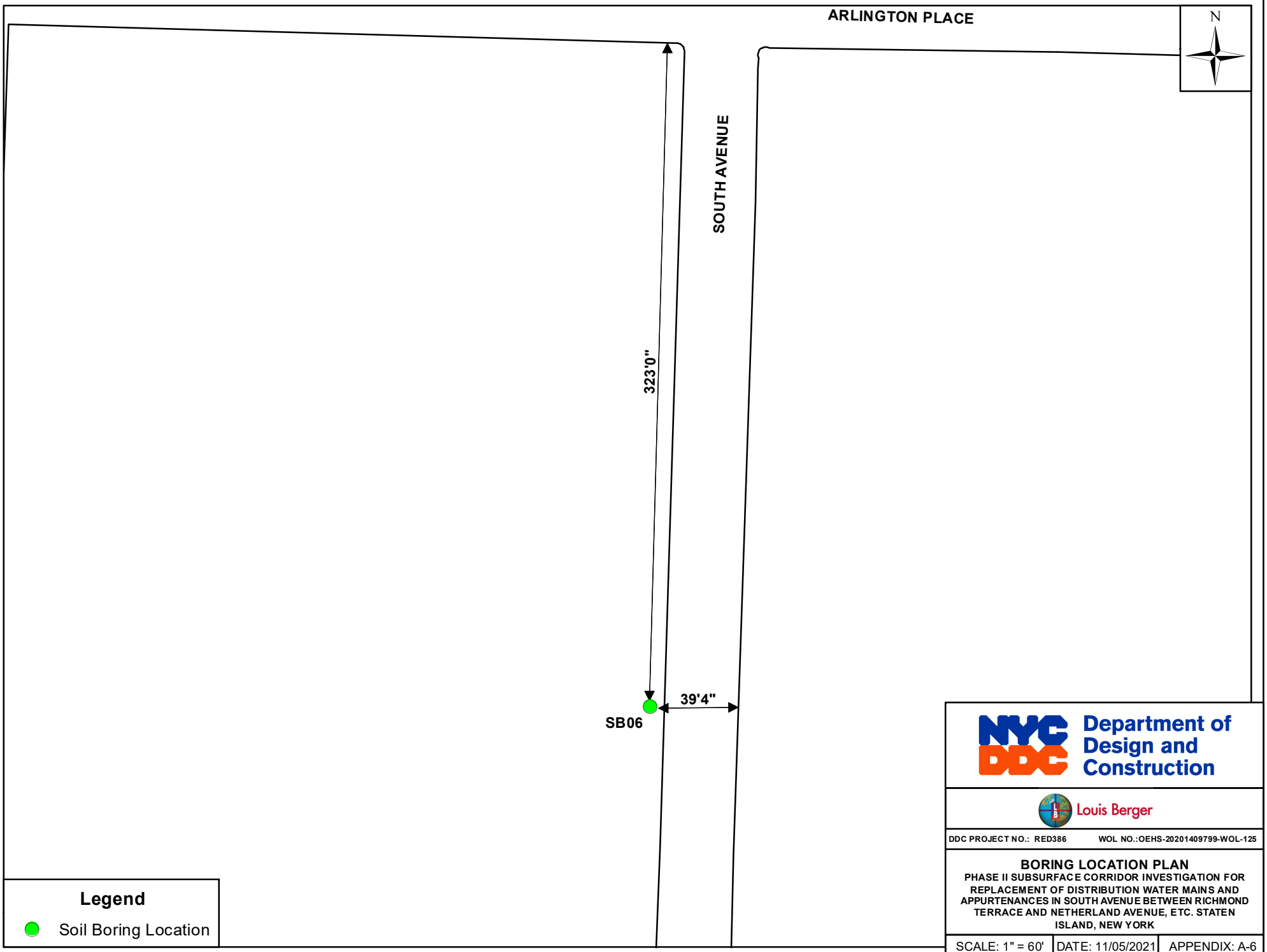
BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-5



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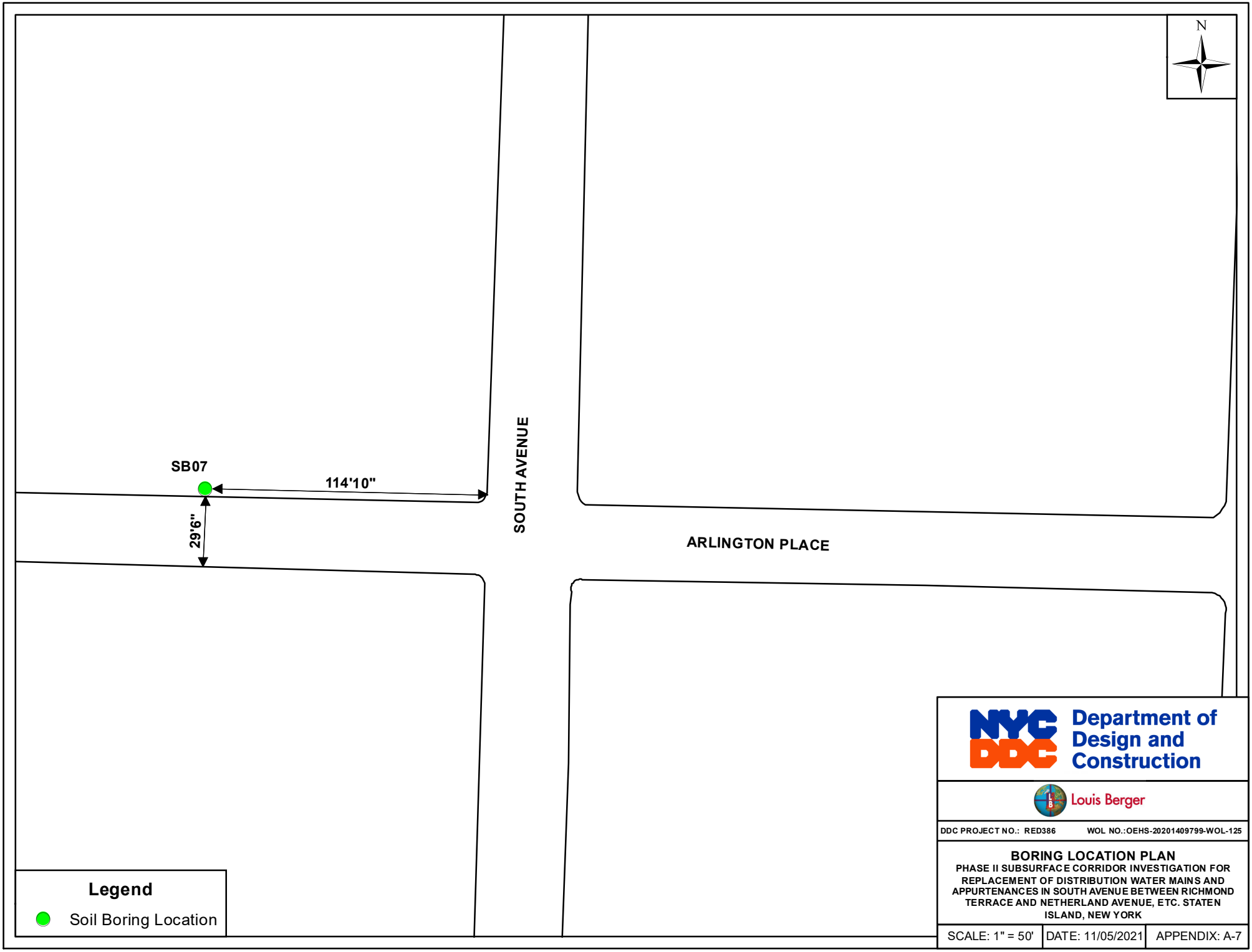
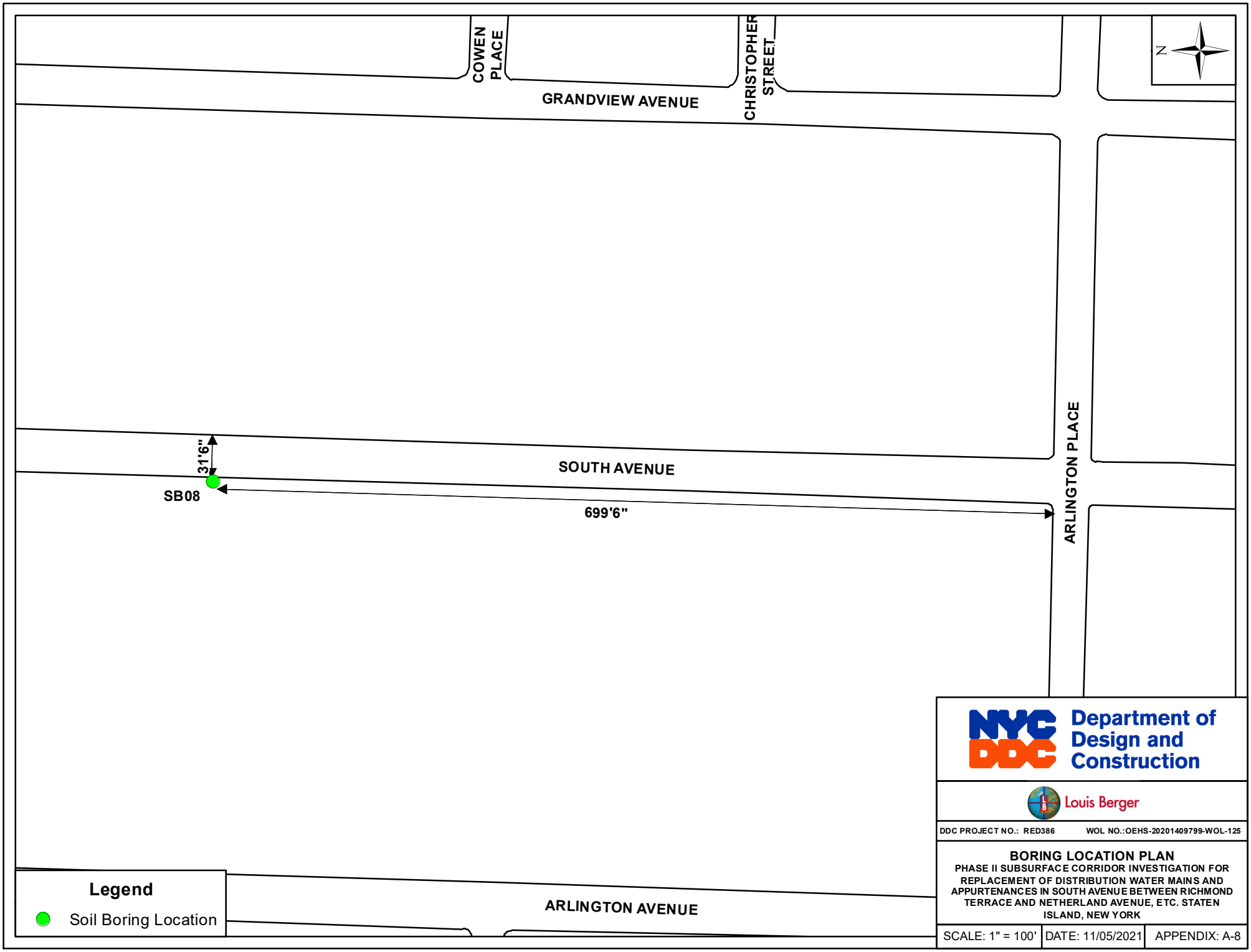
BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 60'	DATE: 11/05/2021	APPENDIX: A-6


N
SB07
114'10"
29'6"
SOUTH AVENUE
ARLINGTON PLACE
Legend
Soil Boring Location
Department of Design and Construction
Louis Berger
DDC PROJECT NO.: RED386
WOL NO.:OEHS-20201409799-WOL-125
BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK
SCALE: 1" = 50'
DATE: 11/05/2021
APPENDIX: A-7


COWEN PLACE
CHRISTOPHER STREET
GRANDVIEW AVENUE
N
ARLINGTON PLACE
SOUTH AVENUE
31'6"
SB08
699'6"
ARLINGTON AVENUE
Legend
Soil Boring Location
Department of Design and Construction
Louis Berger
DDC PROJECT NO.: RED386
WOL NO.:OEHS-20201409799-WOL-125
BORING LOCATION PLAN
PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK
SCALE: 1" = 100'
DATE: 11/05/2021
APPENDIX: A-8

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DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-9

APPENDIX B
GEOLOGIC BORING LOGS

Drilling Log

Page 1 of 1

BORING NO.: SB01

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	168662.604
Depth to Water (ft.): 5.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938074.6116
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
			TOPSOIL			<1	Moderate brown (5YR 3/4), coarse to fine SAND, little Clay, little coarse to fine Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Moderate reddish brown (10R 4/6), coarse to fine SAND, little Silt, little coarse to fine Gravel, moist.	**Sand (Fill). Collected grab sample SB01 from 4.5 to 5.0 ftbg and composite sample SB01 from 0 to 5.0 ftbg.**
▽			FILL			<1	Moderate reddish brown (10R 4/6), coarse to fine SAND, some Clay, saturated.	**Clayey Sand (Fill)**
							Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB02/TWP01

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/24/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 3.5	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	168864.5764
Depth to Water (ft.): 2.5	**Depth to Water (ft.):** N/A	**EASTING (ft):**	937680.8899
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.
Groundwater sample TWP01 collected from a temporary well point.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Dusky yellowish brown (10YR 2/2) to moderate brown (5YR 4/4), coarse to fine SAND, some coarse to fine Gravel, moist.	**Gravelly Sand (Topsoil)**
			FILL			<1	Moderate brown (5YR 4/4), coarse to fine GRAVEL, some Silty Clay, saturated	**Silty Clayey Gravel (Fill). Collected grab sample SB02 from 2.0 to 2.5 ftbg and composite sample SB02 from 0 to 2.5 ftbg.**
▽	2						Total Depth of Boring 3.5 feet.	
	4							
	6							

Drilling Log

Page 1 of 1

BORING NO.: SB03

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	168888.7355
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938333.9316
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
			TOPSOIL			<1	Moderate brown (5YR 4/4), coarse to fine SAND, trace coarse to fine Gravel, moist.	**Sand (Topsoil)**
	2		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, moist.	**Sand (Fill). Collected grab sample SB03 from 5.5 to 6.0 ftbg and composite sample SB03 from 0 to 6.0 ftbg.**
	4							
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB04

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
DATE FINISHED:	9/23/2021		
DRIILER:	T. Portillo		
INSPECTOR:	H. August		
NORTHING (ft):	169273.0528		
EASTING (ft):	938094.8586		
SURFACE ELEVATION (ft):	N/A		

BOREHOLE DATA		**WELL DATA**	
Diameter (in):	6	**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.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Dusky yellowish brown (10YR 2/2), coarse to fine SAND, moist.	**Sand (Topsoil)**
			FILL			<1	Moderate brown (5YR 3/4), CLAY, and coarse to fine Sand, moist.	**Sandy Clay (Fill)**
	2		FILL			<1	Dusky yellowish brown (10YR 2/2), CLAY, little coarse to fine Sand, moist.	**Clay (Fill)**
			FILL			<1	Moderate reddish brown (10R 4/6), CLAY, moist.	**Collected grab sample SB04 from 5.5 to 6.0 ftbg and composite sample SB04 from 0 to 6.0 ftbg.**
	4							
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB05

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	169706.1358
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938063.5828
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
			TOPSOIL			<1	Dusky yellowish brown (10YR 2/2), coarse GRAVEL, and coarse to fine Sand, moist.	**Sandy Gravel (Fill)**
			FILL			<1	Dusky red (5R 3/4), CLAY, trace coarse to fine Sand, some coarse to fine Gravel, moist.	**Gravely Clay (Fill)**
	2		FILL			<1	Dusky red (5R 3/4), CLAY, moist.	**Clay (Fill). Collected grab sample SB05 from 5.5 to 6.0 ftbg and composite sample SB05 from 0 to 6.0 ftbg.**
	4							
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB06

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	170639.9711
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938088.5889
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
			TOPSOIL			<1	Moderate brown (5YR 3/4), coarse to fine SAND, trace coarse to medium Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Pale reddish brown (10R 5/4) to dark yellowish orange (10YR 6/6), Silty CLAY, and coarse to fine Sand, moist.	**Sandy Silty Clay (Fill)**
	2		FILL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, moist.	**Sand (Fill). Collected grab sample SB06 from 5.5 to 6.0 ftbg and composite sample SB06 from 0 to 6.0 ftbg.**
	4							
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB07

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	171001.4348
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	937988.6634
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
			TOPSOIL			<1	Grayish brown (5YR 3/2) to dark yellowish orange (10YR 6/6), coarse to fine SAND, little coarse to medium Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, moist.	**Sand (Fill)**
	2							
			FILL			<1	Moderate reddish brown (10R 4/6), coarse to fine SAND, moist.	
	4							
			FILL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, trace fine Sand, moist.	**Silty Clay (Fill). Collected grab sample SB07 from 5.5 to 6.0 ftbg and composite sample SB07 from 0 to 6.0 ftbg.**
							Total Depth of Boring 6 feet.	
	6							

Drilling Log

Page 1 of 1

BORING NO.: SB08

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
DATE FINISHED:	9/23/2021		
DRIILER:	T. Portillo		
INSPECTOR:	H. August		
NORTHING (ft):	171697.3649		
EASTING (ft):	938124.4583		
SURFACE ELEVATION (ft):	N/A		

BOREHOLE DATA		**WELL DATA**	
Diameter (in):	6	**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.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Dusky yellowish brown (10YR 2/2) to moderate reddish brown (10R 4/6), coarse to fine SAND, little medium to fine Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Moderate reddish brown (10R 4/6), SILT, and fine Sand, little medium to fine Gravel, moist.	**Sandy Silt (Fill)**
	2							
	4							
			FILL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, little fine Sand, moist.	**Silty Clay. Collected grab sample SB08 from 5.5 to 6.0 ftbg and composite sample SB08 from 0 to 6.0 ftbg.**
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB09/TWP02

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/24/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 3.5	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	172500.7816
Depth to Water (ft.): 3.0	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938148.9361
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.
Groundwater sample TWP02 collected from a temporary well point.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, little Silt, trace coarse to fine Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Moderate reddish brown (10R 4/6), Clayey SILT, trace coarse to fine Sand, trace coarse Gravel, moist.	**Clayey Silt (Fill). Collected grab sample SB09 from 2.5 to 3.0 ftbg and composite sample SB09 from 0 to 3.0 ftbg.**
▽	2		FILL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, trace coarse to fine Sand, trace coarse Gravel, saturated. Total Depth of Boring 3.5 feet.	**Silty Clay (Fill)**
	4							
	6							

APPENDIX C
LABORATORY ANALYTICAL RESULTS

Hampton-Clarke
Analytical & Field Services

175 US Highway 46, STE D · Fairfield, NJ 07004-2327
2 Madison Road, Fairfield, NJ 07004-2327
800-426-9992 · 973-244-9770
FAX: 973-244-9787
WWW.HCVLAB.COM

Project: South Ave

Client PO: 31402661.100

Report To: WSP USA, Inc.
96 Morton St.
8th Floor
New York, NY 10014
Attn: Jon Ganz

Received Date: 9/23/2021

Report Date: 10/22/2021

Deliverables: NYDOH-R

Lab ID: AD26217

Lab Project No: 1092401

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.

Sean Berls - Quality Assurance Officer OR **Jean Revolus - Laboratory Director**

NJ	(07071)	NY	(ELAP11408)	CT	(PH-0671)
PA	(68-00463)	KY	(90124)		

Table of Contents - 1092401

Sample Summary 1

Case Narrative 2

Executive Summary 3

Report of Analysis 8

Reporting Definitions / Data Qualifiers 44

Laboratory Chronicles 45

Chain of Custody Forms 51

- Chain of Custody
- Condition Upon Receipt Forms
- Preservation Documentation Forms (If Applicable)
- Internal Chain Of Custody Records

Volatile Data 57

- Form 1 Sample and Blank Results
- Form 2 Surrogate Recovery
- Form 3 Spike Recovery
- Form 4 Method Blank Summary
- Form 5 Tune Summary
- Form 6,7 Calibration & RT Summary
- Form 8 Internal Standard Area Summary

Base Neutral/Acid Extractable Data 114

- Form 1 Sample and Blank Results
- Form 2 Surrogate Recovery
- Form 3 Spike Recovery
- Form 4 Method Blank Summary
- Form 5 Tune Summary
- Form 6,7 Calibration & RT Summary
- Form 8 Internal Standard Area Summary

PCB Data 209

- Form 1 Sample and Blank Results
- 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

TPH Data **257**

Form 1 Sample and Blank Results

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 **298**

Form 1 Sample and Blank Results

Form 2 Surrogate Recovery

Form 3 Spike Recovery

Form 4 Method Blank Summary

Form 5 Run Logs & BFB Spectra

Form 6, 7 Calibration Summary

TCLP Metal Data **339**

Form 1 Sample Results

Metals Form 2 Calibration Summary

Metals Form 3 Blank Summary

Metals Form 4 ICP Interference Check Sample Summary

Metals Form 5/7 Spike / LCS Recovery Data

Metals Form 6/9 Duplicate / Serial Dilution Sample Data

Wet Chemistry Data **368**

Form 1 Sample Results

Inorganic Spreadsheet / QC Summary

Miscellaneous Data **382**

Sample Summary

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#	SampleID	Matrix	Collection Date	Receipt Date
AD26217-001	SB09 GRAB	Soil	9/23/2021	9/23/2021
AD26217-002	SB09 COMP	Soil	9/23/2021	9/23/2021
AD26217-003	SB08 GRAB	Soil	9/23/2021	9/23/2021
AD26217-004	SB08 COMP	Soil	9/23/2021	9/23/2021
AD26217-005	SB07 GRAB	Soil	9/23/2021	9/23/2021
AD26217-006	SB07 COMP	Soil	9/23/2021	9/23/2021
AD26217-007	SB06 GRAB	Soil	9/23/2021	9/23/2021
AD26217-008	SB06 COMP	Soil	9/23/2021	9/23/2021
AD26217-009	SB05 GRAB	Soil	9/23/2021	9/23/2021
AD26217-010	SB05 COMP	Soil	9/23/2021	9/23/2021
AD26217-011	SB04 GRAB	Soil	9/23/2021	9/23/2021
AD26217-012	SB04 COMP	Soil	9/23/2021	9/23/2021
AD26217-013	SB03 GRAB	Soil	9/23/2021	9/23/2021
AD26217-014	SB03 COMP	Soil	9/23/2021	9/23/2021
AD26217-015	SB02 GRAB	Soil	9/23/2021	9/23/2021
AD26217-016	SB02 COMP	Soil	9/23/2021	9/23/2021
AD26217-017	SB01 GRAB	Soil	9/23/2021	9/23/2021
AD26217-018	SB01 COMP	Soil	9/23/2021	9/23/2021

HC Case Narrative

Client: WSP USA
Project: South Ave

HC Project: 1092401

This case narrative is in the form of an exception report. Method specific and/or QA/QC anomalies related to this report only are detailed below.

Volatile Organic Analysis:

The VO soil samples were not collected as encores. Any reported sample concentrations below 200 ug/kg may be biased low due to the samples not being collected according to 5035A low-level specifications.

Methylene chloride was recovered in samples AD26217-001, 003, 005, 007, 009, 011, 013, 015, 017 due to possible laboratory contamination.

The Method Blank Spike for batch 96807 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries. Please refer to Form 4 to see which samples are associated with the Method Blank Spike.

The MS/MSD RPD, Matrix Spike and/or Matrix Spike Duplicate for batch 96807 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Base Neutral Analysis:

The Method Blank Spike for batch 95086 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries. Please refer to Form 4 to see which samples are associated with the Method Blank Spike.

PCB Analysis:

Sample AD26206-002 has a surrogate recovery outside QC limits. Please refer to the applicable Form 2 for the recoveries.

Total Petroleum Hydrocarbon Analysis:

The Matrix Spike and/or Matrix Spike Duplicate for batch 95065 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Gasoline Range Organics Analysis:

Data conforms to method requirements.

TCLP Metals Analysis:

The Post Spike for batch 94441 had recoveries outside QC limits. Please refer to the applicable Form 5/7 for the recoveries.

Wet Chemistry Analysis:

Samples AD26217-002, 004, 006, 008, 010, 012, 014, 016, 018 were analyzed for Reactivity using SW-846 7.3. SW-846 7.3 is not a NELAP accredited parameter.

Sean Berls Quality Assurance Officer	Or	Jean Revolus Laboratory Director	10/25/21 Date

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-001 **Sample ID: SB09 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0023	0.0026	EPA 8260D

Lab#: AD26217-002 **Sample ID: SB09 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		6.9	9040C/9045D
Temperature	c		23.6	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.26	EPA 6010D
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-003 **Sample ID: SB08 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0025	0.0063	EPA 8260D

Lab#: AD26217-004 **Sample ID: SB08 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.7	9040C/9045D
Temperature	c		23.3	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.45	EPA 6010D
Benzo[a]anthracene	mg/kg	0.040	0.042	EPA 8270E
Benzo[a]pyrene	mg/kg	0.040	0.040	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.040	0.059	EPA 8270E
Chrysene	mg/kg	0.040	0.047	EPA 8270E
Fluoranthene	mg/kg	0.040	0.082	EPA 8270E
Pyrene	mg/kg	0.040	0.070	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-005 **Sample ID: SB07 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0024	0.0031	EPA 8260D

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-006 **Sample ID: SB07 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		6.2	9040C/9045D
Temperature	c		23.5	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.38	EPA 6010D
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-007 **Sample ID: SB06 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0021	0.0024	EPA 8260D

Lab#: AD26217-008 **Sample ID: SB06 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.8	9040C/9045D
Temperature	c		23.0	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			AN	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.31	EPA 6010D
Lead	mg/l	0.050	0.13	EPA 6010D
Aroclor (Total)	mg/kg	0.027	0.052	EPA 8082A
Aroclor-1260	mg/kg	0.027	0.052	EPA 8082A
Benzo[a]anthracene	mg/kg	0.036	0.13	EPA 8270E
Benzo[a]pyrene	mg/kg	0.036	0.13	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.036	0.22	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.036	0.086	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.036	0.077	EPA 8270E
Chrysene	mg/kg	0.036	0.16	EPA 8270E
Fluoranthene	mg/kg	0.036	0.27	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.036	0.075	EPA 8270E
Phenanthrene	mg/kg	0.036	0.10	EPA 8270E
Pyrene	mg/kg	0.036	0.23	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-009 **Sample ID: SB05 GRAB**

Analyte	Units	RL	Result	Analytical Method
2-Butanone	mg/kg	0.0023	0.016	EPA 8260D
Acetone	mg/kg	0.012	0.090	EPA 8260D
Methylene chloride	mg/kg	0.0023	0.0033	EPA 8260D

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-010 **Sample ID: SB05 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.5	9040C/9045D
Temperature	c		23.3	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.83	EPA 6010D
Lead	mg/l	0.050	0.17	EPA 6010D
Total Petroleum Hydrocarbons	mg/kg	68	85	EPA 8015D
Anthracene	mg/kg	0.038	0.038	EPA 8270E
Benzo[a]anthracene	mg/kg	0.038	0.16	EPA 8270E
Benzo[a]pyrene	mg/kg	0.038	0.16	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.038	0.34	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.038	0.089	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.038	0.081	EPA 8270E
Chrysene	mg/kg	0.038	0.23	EPA 8270E
Fluoranthene	mg/kg	0.038	0.23	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.038	0.087	EPA 8270E
Phenanthrene	mg/kg	0.038	0.055	EPA 8270E
Pyrene	mg/kg	0.038	0.26	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-011 **Sample ID: SB04 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0024	0.0035	EPA 8260D

Lab#: AD26217-012 **Sample ID: SB04 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.1	9040C/9045D
Temperature	c		23.1	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.69	EPA 6010D
Total Petroleum Hydrocarbons	mg/kg	71	85	EPA 8015D
Acenaphthylene	mg/kg	0.039	0.047	EPA 8270E
Benzo[a]anthracene	mg/kg	0.039	0.11	EPA 8270E
Benzo[a]pyrene	mg/kg	0.039	0.13	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.039	0.21	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.039	0.082	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.039	0.054	EPA 8270E
Chrysene	mg/kg	0.039	0.13	EPA 8270E
Fluoranthene	mg/kg	0.039	0.16	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.039	0.076	EPA 8270E
Phenanthrene	mg/kg	0.039	0.046	EPA 8270E
Pyrene	mg/kg	0.039	0.18	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-013 **Sample ID: SB03 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0024	0.014	EPA 8260D

Lab#: AD26217-014 **Sample ID: SB03 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.8	9040C/9045D
Temperature	c		23.3	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Total Petroleum Hydrocarbons	mg/kg	67	72	EPA 8015D
Benzo[a]anthracene	mg/kg	0.037	0.12	EPA 8270E
Benzo[a]pyrene	mg/kg	0.037	0.14	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.037	0.19	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.037	0.080	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.037	0.070	EPA 8270E
Chrysene	mg/kg	0.037	0.14	EPA 8270E
Fluoranthene	mg/kg	0.037	0.23	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.037	0.072	EPA 8270E
Phenanthrene	mg/kg	0.037	0.11	EPA 8270E
Pyrene	mg/kg	0.037	0.23	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-015 **Sample ID: SB02 GRAB**

Analyte	Units	RL	Result	Analytical Method
Acetone	mg/kg	0.013	0.033	EPA 8260D
Methylene chloride	mg/kg	0.0026	0.0030	EPA 8260D

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-016 **Sample ID: SB02 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.6	9040C/9045D
Temperature	c		23.2	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	1.4	EPA 6010D
Lead	mg/l	0.050	0.40	EPA 6010D
Nickel	mg/l	0.10	0.17	EPA 6010D
Total Petroleum Hydrocarbons	mg/kg	77	600	EPA 8015D
Anthracene	mg/kg	0.21	0.23	EPA 8270E
Benzo[a]anthracene	mg/kg	0.21	0.87	EPA 8270E
Benzo[a]pyrene	mg/kg	0.21	0.84	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.21	1.3	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.21	0.52	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.21	0.32	EPA 8270E
Chrysene	mg/kg	0.21	0.90	EPA 8270E
Fluoranthene	mg/kg	0.21	1.3	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.21	0.45	EPA 8270E
Phenanthrene	mg/kg	0.21	0.89	EPA 8270E
Pyrene	mg/kg	0.21	1.4	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-018 **Sample ID: SB01 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.3	9040C/9045D
Temperature	c		23.1	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.28	EPA 6010D
Lead	mg/l	0.050	0.058	EPA 6010D
Acenaphthylene	mg/kg	0.041	0.22	EPA 8270E
Anthracene	mg/kg	0.041	0.093	EPA 8270E
Benzo[a]anthracene	mg/kg	0.041	0.76	EPA 8270E
Benzo[a]pyrene	mg/kg	0.041	0.69	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.041	0.95	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.041	0.42	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.041	0.35	EPA 8270E
Chrysene	mg/kg	0.041	0.70	EPA 8270E
Dibenzo[a,h]anthracene	mg/kg	0.041	0.13	EPA 8270E
Fluoranthene	mg/kg	0.041	1.0	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.041	0.41	EPA 8270E
Phenanthrene	mg/kg	0.041	0.33	EPA 8270E
Pyrene	mg/kg	0.041	0.99	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

HC Report of Analysis

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Sample ID: SB09 GRAB
Lab#: AD26217-001
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.982	mg/kg	0.0023	ND
1,1,2,2-Tetrachloroethane	0.982	mg/kg	0.0023	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.982	mg/kg	0.0023	ND
1,1,2-Trichloroethane	0.982	mg/kg	0.0023	ND
1,1-Dichloroethane	0.982	mg/kg	0.0023	ND
1,1-Dichloroethene	0.982	mg/kg	0.0023	ND
1,2,3-Trichlorobenzene	0.982	mg/kg	0.0023	ND
1,2,4-Trichlorobenzene	0.982	mg/kg	0.0023	ND
1,2-Dibromo-3-chloropropane	0.982	mg/kg	0.0023	ND
1,2-Dibromoethane	0.982	mg/kg	0.00058	ND
1,2-Dichlorobenzene	0.982	mg/kg	0.0023	ND
1,2-Dichloroethane	0.982	mg/kg	0.0023	ND
1,2-Dichloropropane	0.982	mg/kg	0.0023	ND
1,3-Dichlorobenzene	0.982	mg/kg	0.0023	ND
1,4-Dichlorobenzene	0.982	mg/kg	0.0023	ND
1,4-Dioxane	0.982	mg/kg	0.12	ND
2-Butanone	0.982	mg/kg	0.0023	ND
2-Hexanone	0.982	mg/kg	0.0023	ND
4-Methyl-2-pentanone	0.982	mg/kg	0.0023	ND
Acetone	0.982	mg/kg	0.012	ND
Benzene	0.982	mg/kg	0.0012	ND
Bromochloromethane	0.982	mg/kg	0.0023	ND
Bromodichloromethane	0.982	mg/kg	0.0023	ND
Bromoform	0.982	mg/kg	0.0023	ND
Bromomethane	0.982	mg/kg	0.0023	ND
Carbon disulfide	0.982	mg/kg	0.0039	ND
Carbon tetrachloride	0.982	mg/kg	0.0023	ND
Chlorobenzene	0.982	mg/kg	0.0023	ND
Chloroethane	0.982	mg/kg	0.0023	ND
Chloroform	0.982	mg/kg	0.0023	ND
Chloromethane	0.982	mg/kg	0.0023	ND
cis-1,2-Dichloroethene	0.982	mg/kg	0.0023	ND
cis-1,3-Dichloropropene	0.982	mg/kg	0.0023	ND
Cyclohexane	0.982	mg/kg	0.0023	ND
Dibromochloromethane	0.982	mg/kg	0.0023	ND
Dichlorodifluoromethane	0.982	mg/kg	0.0023	ND
Ethylbenzene	0.982	mg/kg	0.0012	ND
Isopropylbenzene	0.982	mg/kg	0.0012	ND
m&p-Xylenes	0.982	mg/kg	0.0014	ND
Methyl Acetate	0.982	mg/kg	0.0023	ND
Methylcyclohexane	0.982	mg/kg	0.0023	ND
Methylene chloride	**0.982**	**mg/kg**	**0.0023**	**0.0026**
Methyl-t-butyl ether	0.982	mg/kg	0.0012	ND
o-Xylene	0.982	mg/kg	0.0012	ND

Sample ID: SB09 GRAB
Lab#: AD26217-001
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Styrene	0.982	mg/kg	0.0023	ND
t-Butyl Alcohol	0.982	mg/kg	0.012	ND
Tetrachloroethene	0.982	mg/kg	0.0023	ND
Toluene	0.982	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.982	mg/kg	0.0023	ND
trans-1,3-Dichloropropene	0.982	mg/kg	0.0023	ND
Trichloroethene	0.982	mg/kg	0.0023	ND
Trichlorofluoromethane	0.982	mg/kg	0.0023	ND
Vinyl chloride	0.982	mg/kg	0.0023	ND
Xylenes (Total)	0.982	mg/kg	0.0012	ND

Sample ID: SB09 COMP
Lab#: AD26217-002
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99	mg/kg	29	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.011	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		6.9

NOTE: Soil Results are reported to Dry Weigh

Sample ID: SB09 COMP
Lab#: AD26217-002
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.6

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.26
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	71	ND

Sample ID: SB08 GRAB
Lab#: AD26217-003
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		81

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.996	mg/kg	0.0025	ND
1,1,2,2-Tetrachloroethane	0.996	mg/kg	0.0025	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.996	mg/kg	0.0025	ND
1,1,2-Trichloroethane	0.996	mg/kg	0.0025	ND
1,1-Dichloroethane	0.996	mg/kg	0.0025	ND
1,1-Dichloroethene	0.996	mg/kg	0.0025	ND
1,2,3-Trichlorobenzene	0.996	mg/kg	0.0025	ND
1,2,4-Trichlorobenzene	0.996	mg/kg	0.0025	ND
1,2-Dibromo-3-chloropropane	0.996	mg/kg	0.0025	ND
1,2-Dibromoethane	0.996	mg/kg	0.00061	ND
1,2-Dichlorobenzene	0.996	mg/kg	0.0025	ND
1,2-Dichloroethane	0.996	mg/kg	0.0025	ND
1,2-Dichloropropane	0.996	mg/kg	0.0025	ND
1,3-Dichlorobenzene	0.996	mg/kg	0.0025	ND
1,4-Dichlorobenzene	0.996	mg/kg	0.0025	ND
1,4-Dioxane	0.996	mg/kg	0.12	ND
2-Butanone	0.996	mg/kg	0.0025	ND
2-Hexanone	0.996	mg/kg	0.0025	ND
4-Methyl-2-pentanone	0.996	mg/kg	0.0025	ND
Acetone	0.996	mg/kg	0.012	ND
Benzene	0.996	mg/kg	0.0012	ND
Bromochloromethane	0.996	mg/kg	0.0025	ND
Bromodichloromethane	0.996	mg/kg	0.0025	ND
Bromoform	0.996	mg/kg	0.0025	ND
Bromomethane	0.996	mg/kg	0.0025	ND
Carbon disulfide	0.996	mg/kg	0.0042	ND
Carbon tetrachloride	0.996	mg/kg	0.0025	ND
Chlorobenzene	0.996	mg/kg	0.0025	ND
Chloroethane	0.996	mg/kg	0.0025	ND
Chloroform	0.996	mg/kg	0.0025	ND
Chloromethane	0.996	mg/kg	0.0025	ND
cis-1,2-Dichloroethene	0.996	mg/kg	0.0025	ND
cis-1,3-Dichloropropene	0.996	mg/kg	0.0025	ND
Cyclohexane	0.996	mg/kg	0.0025	ND
Dibromochloromethane	0.996	mg/kg	0.0025	ND
Dichlorodifluoromethane	0.996	mg/kg	0.0025	ND
Ethylbenzene	0.996	mg/kg	0.0012	ND
Isopropylbenzene	0.996	mg/kg	0.0012	ND
m&p-Xylenes	0.996	mg/kg	0.0015	ND
Methyl Acetate	0.996	mg/kg	0.0025	ND
Methylcyclohexane	0.996	mg/kg	0.0025	ND
Methylene chloride	**0.996**	**mg/kg**	**0.0025**	**0.0063**
Methyl-t-butyl ether	0.996	mg/kg	0.0012	ND
o-Xylene	0.996	mg/kg	0.0012	ND
Styrene	0.996	mg/kg	0.0025	ND
t-Butyl Alcohol	0.996	mg/kg	0.012	ND
Tetrachloroethene	0.996	mg/kg	0.0025	ND
Toluene	0.996	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.996	mg/kg	0.0025	ND
trans-1,3-Dichloropropene	0.996	mg/kg	0.0025	ND

Sample ID: SB08 GRAB
Lab#: AD26217-003
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.996	mg/kg	0.0025	ND
Trichlorofluoromethane	0.996	mg/kg	0.0025	ND
Vinyl chloride	0.996	mg/kg	0.0025	ND
Xylenes (Total)	0.996	mg/kg	0.0012	ND

Sample ID: SB08 COMP
Lab#: AD26217-004
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		84

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99.2	mg/kg	30	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.040	ND
Acenaphthene	1	mg/kg	0.040	ND
Acenaphthylene	1	mg/kg	0.040	ND
Anthracene	1	mg/kg	0.040	ND
Benzo[a]anthracene	**1**	**mg/kg**	**0.040**	**0.042**
Benzo[a]pyrene	**1**	**mg/kg**	**0.040**	**0.040**
Benzo[b]fluoranthene	**1**	**mg/kg**	**0.040**	**0.059**
Benzo[g,h,i]perylene	1	mg/kg	0.040	ND
Benzo[k]fluoranthene	1	mg/kg	0.040	ND
Chrysene	**1**	**mg/kg**	**0.040**	**0.047**
Dibenzo[a,h]anthracene	1	mg/kg	0.040	ND
Fluoranthene	**1**	**mg/kg**	**0.040**	**0.082**
Fluorene	1	mg/kg	0.040	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.040	ND
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.040	ND
Pyrene	**1**	**mg/kg**	**0.040**	**0.070**

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	0.030	ND
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Aroclor-1268	1	mg/kg	0.030	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		7.7

Sample ID: SB08 COMP
Lab#: AD26217-004
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.3

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.45
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	71	ND

Sample ID: SB07 GRAB
Lab#: AD26217-005
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		82

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.996	mg/kg	0.0024	ND
1,1,2,2-Tetrachloroethane	0.996	mg/kg	0.0024	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.996	mg/kg	0.0024	ND
1,1,2-Trichloroethane	0.996	mg/kg	0.0024	ND
1,1-Dichloroethane	0.996	mg/kg	0.0024	ND
1,1-Dichloroethene	0.996	mg/kg	0.0024	ND
1,2,3-Trichlorobenzene	0.996	mg/kg	0.0024	ND
1,2,4-Trichlorobenzene	0.996	mg/kg	0.0024	ND
1,2-Dibromo-3-chloropropane	0.996	mg/kg	0.0024	ND
1,2-Dibromoethane	0.996	mg/kg	0.00061	ND
1,2-Dichlorobenzene	0.996	mg/kg	0.0024	ND
1,2-Dichloroethane	0.996	mg/kg	0.0024	ND
1,2-Dichloropropane	0.996	mg/kg	0.0024	ND
1,3-Dichlorobenzene	0.996	mg/kg	0.0024	ND
1,4-Dichlorobenzene	0.996	mg/kg	0.0024	ND
1,4-Dioxane	0.996	mg/kg	0.12	ND
2-Butanone	0.996	mg/kg	0.0024	ND
2-Hexanone	0.996	mg/kg	0.0024	ND
4-Methyl-2-pentanone	0.996	mg/kg	0.0024	ND
Acetone	0.996	mg/kg	0.012	ND
Benzene	0.996	mg/kg	0.0012	ND
Bromochloromethane	0.996	mg/kg	0.0024	ND
Bromodichloromethane	0.996	mg/kg	0.0024	ND
Bromoform	0.996	mg/kg	0.0024	ND
Bromomethane	0.996	mg/kg	0.0024	ND
Carbon disulfide	0.996	mg/kg	0.0041	ND
Carbon tetrachloride	0.996	mg/kg	0.0024	ND
Chlorobenzene	0.996	mg/kg	0.0024	ND
Chloroethane	0.996	mg/kg	0.0024	ND
Chloroform	0.996	mg/kg	0.0024	ND
Chloromethane	0.996	mg/kg	0.0024	ND
cis-1,2-Dichloroethene	0.996	mg/kg	0.0024	ND
cis-1,3-Dichloropropene	0.996	mg/kg	0.0024	ND
Cyclohexane	0.996	mg/kg	0.0024	ND
Dibromochloromethane	0.996	mg/kg	0.0024	ND
Dichlorodifluoromethane	0.996	mg/kg	0.0024	ND
Ethylbenzene	0.996	mg/kg	0.0012	ND
Isopropylbenzene	0.996	mg/kg	0.0012	ND
m&p-Xylenes	0.996	mg/kg	0.0015	ND
Methyl Acetate	0.996	mg/kg	0.0024	ND
Methylcyclohexane	0.996	mg/kg	0.0024	ND
Methylene chloride	**0.996**	**mg/kg**	**0.0024**	**0.0031**
Methyl-t-butyl ether	0.996	mg/kg	0.0012	ND
o-Xylene	0.996	mg/kg	0.0012	ND
Styrene	0.996	mg/kg	0.0024	ND
t-Butyl Alcohol	0.996	mg/kg	0.012	ND
Tetrachloroethene	0.996	mg/kg	0.0024	ND
Toluene	0.996	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.996	mg/kg	0.0024	ND
trans-1,3-Dichloropropene	0.996	mg/kg	0.0024	ND

Sample ID: SB07 GRAB
Lab#: AD26217-005
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.996	mg/kg	0.0024	ND
Trichlorofluoromethane	0.996	mg/kg	0.0024	ND
Vinyl chloride	0.996	mg/kg	0.0024	ND
Xylenes (Total)	0.996	mg/kg	0.0012	ND

Sample ID: SB07 COMP
Lab#: AD26217-006
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		84

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	98.6	mg/kg	29	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.040	ND
Acenaphthene	1	mg/kg	0.040	ND
Acenaphthylene	1	mg/kg	0.040	ND
Anthracene	1	mg/kg	0.040	ND
Benzo[a]anthracene	1	mg/kg	0.040	ND
Benzo[a]pyrene	1	mg/kg	0.040	ND
Benzo[b]fluoranthene	1	mg/kg	0.040	ND
Benzo[g,h,i]perylene	1	mg/kg	0.040	ND
Benzo[k]fluoranthene	1	mg/kg	0.040	ND
Chrysene	1	mg/kg	0.040	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.040	ND
Fluoranthene	1	mg/kg	0.040	ND
Fluorene	1	mg/kg	0.040	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.040	ND
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.040	ND
Pyrene	1	mg/kg	0.040	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	0.030	ND
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Aroclor-1268	1	mg/kg	0.030	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		6.2

Sample ID: SB07 COMP
Lab#: AD26217-006
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.5

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.38
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	71	ND

Sample ID: SB06 GRAB
Lab#: AD26217-007
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		94

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.978	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.978	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.978	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.978	mg/kg	0.0021	ND
1,1-Dichloroethane	0.978	mg/kg	0.0021	ND
1,1-Dichloroethene	0.978	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.978	mg/kg	0.0021	ND
1,2,4-Trichlorobenzene	0.978	mg/kg	0.0021	ND
1,2-Dibromo-3-chloropropane	0.978	mg/kg	0.0021	ND
1,2-Dibromoethane	0.978	mg/kg	0.00052	ND
1,2-Dichlorobenzene	0.978	mg/kg	0.0021	ND
1,2-Dichloroethane	0.978	mg/kg	0.0021	ND
1,2-Dichloropropane	0.978	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.978	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.978	mg/kg	0.0021	ND
1,4-Dioxane	0.978	mg/kg	0.10	ND
2-Butanone	0.978	mg/kg	0.0021	ND
2-Hexanone	0.978	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.978	mg/kg	0.0021	ND
Acetone	0.978	mg/kg	0.010	ND
Benzene	0.978	mg/kg	0.0010	ND
Bromochloromethane	0.978	mg/kg	0.0021	ND
Bromodichloromethane	0.978	mg/kg	0.0021	ND
Bromoform	0.978	mg/kg	0.0021	ND
Bromomethane	0.978	mg/kg	0.0021	ND
Carbon disulfide	0.978	mg/kg	0.0035	ND
Carbon tetrachloride	0.978	mg/kg	0.0021	ND
Chlorobenzene	0.978	mg/kg	0.0021	ND
Chloroethane	0.978	mg/kg	0.0021	ND
Chloroform	0.978	mg/kg	0.0021	ND
Chloromethane	0.978	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.978	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.978	mg/kg	0.0021	ND
Cyclohexane	0.978	mg/kg	0.0021	ND
Dibromochloromethane	0.978	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.978	mg/kg	0.0021	ND
Ethylbenzene	0.978	mg/kg	0.0010	ND
Isopropylbenzene	0.978	mg/kg	0.0010	ND
m&p-Xylenes	0.978	mg/kg	0.0012	ND
Methyl Acetate	0.978	mg/kg	0.0021	ND
Methylcyclohexane	0.978	mg/kg	0.0021	ND
Methylene chloride	**0.978**	**mg/kg**	**0.0021**	**0.0024**
Methyl-t-butyl ether	0.978	mg/kg	0.0010	ND
o-Xylene	0.978	mg/kg	0.0010	ND
Styrene	0.978	mg/kg	0.0021	ND
t-Butyl Alcohol	0.978	mg/kg	0.010	ND
Tetrachloroethene	0.978	mg/kg	0.0021	ND
Toluene	0.978	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	0.978	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.978	mg/kg	0.0021	ND

Sample ID: SB06 GRAB
Lab#: AD26217-007
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.978	mg/kg	0.0021	ND
Trichlorofluoromethane	0.978	mg/kg	0.0021	ND
Vinyl chloride	0.978	mg/kg	0.0021	ND
Xylenes (Total)	0.978	mg/kg	0.0010	ND

Sample ID: SB06 COMP
Lab#: AD26217-008
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% 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	99.6	mg/kg	27	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			AN
Ignitability (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	0.13
Benzo[a]pyrene	1	mg/kg	0.036	0.13
Benzo[b]fluoranthene	1	mg/kg	0.036	0.22
Benzo[g,h,i]perylene	1	mg/kg	0.036	0.086
Benzo[k]fluoranthene	1	mg/kg	0.036	0.077
Chrysene	1	mg/kg	0.036	0.16
Dibenzo[a,h]anthracene	1	mg/kg	0.036	ND
Fluoranthene	1	mg/kg	0.036	0.27
Fluorene	1	mg/kg	0.036	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.036	0.075
Naphthalene	1	mg/kg	0.010	ND
Phenanthrene	1	mg/kg	0.036	0.10
Pyrene	1	mg/kg	0.036	0.23

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	0.052
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	0.052
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		7.8

Sample ID: SB06 COMP
Lab#: AD26217-008
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.0

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	**1**	**mg/l**	**0.25**	**0.31**
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	**1**	**mg/l**	**0.050**	**0.13**
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	65	ND

Sample ID: SB05 GRAB
Lab#: AD26217-009
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.992	mg/kg	0.0023	ND
1,1,2,2-Tetrachloroethane	0.992	mg/kg	0.0023	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.992	mg/kg	0.0023	ND
1,1,2-Trichloroethane	0.992	mg/kg	0.0023	ND
1,1-Dichloroethane	0.992	mg/kg	0.0023	ND
1,1-Dichloroethene	0.992	mg/kg	0.0023	ND
1,2,3-Trichlorobenzene	0.992	mg/kg	0.0023	ND
1,2,4-Trichlorobenzene	0.992	mg/kg	0.0023	ND
1,2-Dibromo-3-chloropropane	0.992	mg/kg	0.0023	ND
1,2-Dibromoethane	0.992	mg/kg	0.00058	ND
1,2-Dichlorobenzene	0.992	mg/kg	0.0023	ND
1,2-Dichloroethane	0.992	mg/kg	0.0023	ND
1,2-Dichloropropane	0.992	mg/kg	0.0023	ND
1,3-Dichlorobenzene	0.992	mg/kg	0.0023	ND
1,4-Dichlorobenzene	0.992	mg/kg	0.0023	ND
1,4-Dioxane	0.992	mg/kg	0.12	ND
2-Butanone	**0.992**	**mg/kg**	**0.0023**	**0.016**
2-Hexanone	0.992	mg/kg	0.0023	ND
4-Methyl-2-pentanone	0.992	mg/kg	0.0023	ND
Acetone	**0.992**	**mg/kg**	**0.012**	**0.090**
Benzene	0.992	mg/kg	0.0012	ND
Bromochloromethane	0.992	mg/kg	0.0023	ND
Bromodichloromethane	0.992	mg/kg	0.0023	ND
Bromoform	0.992	mg/kg	0.0023	ND
Bromomethane	0.992	mg/kg	0.0023	ND
Carbon disulfide	0.992	mg/kg	0.0040	ND
Carbon tetrachloride	0.992	mg/kg	0.0023	ND
Chlorobenzene	0.992	mg/kg	0.0023	ND
Chloroethane	0.992	mg/kg	0.0023	ND
Chloroform	0.992	mg/kg	0.0023	ND
Chloromethane	0.992	mg/kg	0.0023	ND
cis-1,2-Dichloroethene	0.992	mg/kg	0.0023	ND
cis-1,3-Dichloropropene	0.992	mg/kg	0.0023	ND
Cyclohexane	0.992	mg/kg	0.0023	ND
Dibromochloromethane	0.992	mg/kg	0.0023	ND
Dichlorodifluoromethane	0.992	mg/kg	0.0023	ND
Ethylbenzene	0.992	mg/kg	0.0012	ND
Isopropylbenzene	0.992	mg/kg	0.0012	ND
m&p-Xylenes	0.992	mg/kg	0.0014	ND
Methyl Acetate	0.992	mg/kg	0.0023	ND
Methylcyclohexane	0.992	mg/kg	0.0023	ND
Methylene chloride	**0.992**	**mg/kg**	**0.0023**	**0.0033**
Methyl-t-butyl ether	0.992	mg/kg	0.0012	ND
o-Xylene	0.992	mg/kg	0.0012	ND
Styrene	0.992	mg/kg	0.0023	ND
t-Butyl Alcohol	0.992	mg/kg	0.012	ND
Tetrachloroethene	0.992	mg/kg	0.0023	ND
Toluene	0.992	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.992	mg/kg	0.0023	ND
trans-1,3-Dichloropropene	0.992	mg/kg	0.0023	ND

Sample ID: SB05 GRAB
Lab#: AD26217-009
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.992	mg/kg	0.0023	ND
Trichlorofluoromethane	0.992	mg/kg	0.0023	ND
Vinyl chloride	0.992	mg/kg	0.0023	ND
Xylenes (Total)	0.992	mg/kg	0.0012	ND

Sample ID: SB05 COMP
Lab#: AD26217-010
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		88

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	98.8	mg/kg	28	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.038
Benzo[a]anthracene	1	mg/kg	0.038	0.16
Benzo[a]pyrene	1	mg/kg	0.038	0.16
Benzo[b]fluoranthene	1	mg/kg	0.038	0.34
Benzo[g,h,i]perylene	1	mg/kg	0.038	0.089
Benzo[k]fluoranthene	1	mg/kg	0.038	0.061
Chrysene	1	mg/kg	0.038	0.23
Dibenzo[a,h]anthracene	1	mg/kg	0.038	ND
Fluoranthene	1	mg/kg	0.038	0.23
Fluorene	1	mg/kg	0.038	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.038	0.087
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.038	0.055
Pyrene	1	mg/kg	0.038	0.26

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

Sample ID: SB05 COMP
Lab#: AD26217-010
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.3

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.83
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.17
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	68	85

Sample ID: SB04 GRAB
Lab#: AD26217-011
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		83

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.986	mg/kg	0.0024	ND
1,1,2,2-Tetrachloroethane	0.986	mg/kg	0.0024	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.986	mg/kg	0.0024	ND
1,1,2-Trichloroethane	0.986	mg/kg	0.0024	ND
1,1-Dichloroethane	0.986	mg/kg	0.0024	ND
1,1-Dichloroethene	0.986	mg/kg	0.0024	ND
1,2,3-Trichlorobenzene	0.986	mg/kg	0.0024	ND
1,2,4-Trichlorobenzene	0.986	mg/kg	0.0024	ND
1,2-Dibromo-3-chloropropane	0.986	mg/kg	0.0024	ND
1,2-Dibromoethane	0.986	mg/kg	0.00059	ND
1,2-Dichlorobenzene	0.986	mg/kg	0.0024	ND
1,2-Dichloroethane	0.986	mg/kg	0.0024	ND
1,2-Dichloropropane	0.986	mg/kg	0.0024	ND
1,3-Dichlorobenzene	0.986	mg/kg	0.0024	ND
1,4-Dichlorobenzene	0.986	mg/kg	0.0024	ND
1,4-Dioxane	0.986	mg/kg	0.12	ND
2-Butanone	0.986	mg/kg	0.0024	ND
2-Hexanone	0.986	mg/kg	0.0024	ND
4-Methyl-2-pentanone	0.986	mg/kg	0.0024	ND
Acetone	0.986	mg/kg	0.012	ND
Benzene	0.986	mg/kg	0.0012	ND
Bromochloromethane	0.986	mg/kg	0.0024	ND
Bromodichloromethane	0.986	mg/kg	0.0024	ND
Bromoform	0.986	mg/kg	0.0024	ND
Bromomethane	0.986	mg/kg	0.0024	ND
Carbon disulfide	0.986	mg/kg	0.0040	ND
Carbon tetrachloride	0.986	mg/kg	0.0024	ND
Chlorobenzene	0.986	mg/kg	0.0024	ND
Chloroethane	0.986	mg/kg	0.0024	ND
Chloroform	0.986	mg/kg	0.0024	ND
Chloromethane	0.986	mg/kg	0.0024	ND
cis-1,2-Dichloroethene	0.986	mg/kg	0.0024	ND
cis-1,3-Dichloropropene	0.986	mg/kg	0.0024	ND
Cyclohexane	0.986	mg/kg	0.0024	ND
Dibromochloromethane	0.986	mg/kg	0.0024	ND
Dichlorodifluoromethane	0.986	mg/kg	0.0024	ND
Ethylbenzene	0.986	mg/kg	0.0012	ND
Isopropylbenzene	0.986	mg/kg	0.0012	ND
m&p-Xylenes	0.986	mg/kg	0.0014	ND
Methyl Acetate	0.986	mg/kg	0.0024	ND
Methylcyclohexane	0.986	mg/kg	0.0024	ND
Methylene chloride	**0.986**	**mg/kg**	**0.0024**	**0.0035**
Methyl-t-butyl ether	0.986	mg/kg	0.0012	ND
o-Xylene	0.986	mg/kg	0.0012	ND
Styrene	0.986	mg/kg	0.0024	ND
t-Butyl Alcohol	0.986	mg/kg	0.012	ND
Tetrachloroethene	0.986	mg/kg	0.0024	ND
Toluene	0.986	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.986	mg/kg	0.0024	ND
trans-1,3-Dichloropropene	0.986	mg/kg	0.0024	ND

Sample ID: SB04 GRAB
Lab#: AD26217-011
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.986	mg/kg	0.0024	ND
Trichlorofluoromethane	0.986	mg/kg	0.0024	ND
Vinyl chloride	0.986	mg/kg	0.0024	ND
Xylenes (Total)	0.986	mg/kg	0.0012	ND

Sample ID: SB04 COMP
Lab#: AD26217-012
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99.2	mg/kg	29	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.047
Anthracene	1	mg/kg	0.039	ND
Benzo[a]anthracene	1	mg/kg	0.039	0.11
Benzo[a]pyrene	1	mg/kg	0.039	0.13
Benzo[b]fluoranthene	1	mg/kg	0.039	0.21
Benzo[g,h,i]perylene	1	mg/kg	0.039	0.082
Benzo[k]fluoranthene	1	mg/kg	0.039	0.054
Chrysene	1	mg/kg	0.039	0.13
Dibenzo[a,h]anthracene	1	mg/kg	0.039	ND
Fluoranthene	1	mg/kg	0.039	0.16
Fluorene	1	mg/kg	0.039	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.039	0.076
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.039	0.046
Pyrene	1	mg/kg	0.039	0.18

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		8.1

Sample ID: SB04 COMP
Lab#: AD26217-012
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	**1**	**c**	**23.1**

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	**1**	**mg/l**	**0.25**	**0.69**
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**	**71**	**85**

Sample ID: SB03 GRAB | **Collection Date: 9/23/2021**
Lab#: AD26217-013 | **Receipt Date: 9/23/2021**
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		83

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.992	mg/kg	0.0024	ND
1,1,2,2-Tetrachloroethane	0.992	mg/kg	0.0024	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.992	mg/kg	0.0024	ND
1,1,2-Trichloroethane	0.992	mg/kg	0.0024	ND
1,1-Dichloroethane	0.992	mg/kg	0.0024	ND
1,1-Dichloroethene	0.992	mg/kg	0.0024	ND
1,2,3-Trichlorobenzene	0.992	mg/kg	0.0024	ND
1,2,4-Trichlorobenzene	0.992	mg/kg	0.0024	ND
1,2-Dibromo-3-chloropropane	0.992	mg/kg	0.0024	ND
1,2-Dibromoethane	0.992	mg/kg	0.00060	ND
1,2-Dichlorobenzene	0.992	mg/kg	0.0024	ND
1,2-Dichloroethane	0.992	mg/kg	0.0024	ND
1,2-Dichloropropane	0.992	mg/kg	0.0024	ND
1,3-Dichlorobenzene	0.992	mg/kg	0.0024	ND
1,4-Dichlorobenzene	0.992	mg/kg	0.0024	ND
1,4-Dioxane	0.992	mg/kg	0.12	ND
2-Butanone	0.992	mg/kg	0.0024	ND
2-Hexanone	0.992	mg/kg	0.0024	ND
4-Methyl-2-pentanone	0.992	mg/kg	0.0024	ND
Acetone	0.992	mg/kg	0.012	ND
Benzene	0.992	mg/kg	0.0012	ND
Bromochloromethane	0.992	mg/kg	0.0024	ND
Bromodichloromethane	0.992	mg/kg	0.0024	ND
Bromoform	0.992	mg/kg	0.0024	ND
Bromomethane	0.992	mg/kg	0.0024	ND
Carbon disulfide	0.992	mg/kg	0.0041	ND
Carbon tetrachloride	0.992	mg/kg	0.0024	ND
Chlorobenzene	0.992	mg/kg	0.0024	ND
Chloroethane	0.992	mg/kg	0.0024	ND
Chloroform	0.992	mg/kg	0.0024	ND
Chloromethane	0.992	mg/kg	0.0024	ND
cis-1,2-Dichloroethene	0.992	mg/kg	0.0024	ND
cis-1,3-Dichloropropene	0.992	mg/kg	0.0024	ND
Cyclohexane	0.992	mg/kg	0.0024	ND
Dibromochloromethane	0.992	mg/kg	0.0024	ND
Dichlorodifluoromethane	0.992	mg/kg	0.0024	ND
Ethylbenzene	0.992	mg/kg	0.0012	ND
Isopropylbenzene	0.992	mg/kg	0.0012	ND
m&p-Xylenes	0.992	mg/kg	0.0014	ND
Methyl Acetate	0.992	mg/kg	0.0024	ND
Methylcyclohexane	0.992	mg/kg	0.0024	ND
Methylene chloride	**0.992**	**mg/kg**	**0.0024**	**0.014**
Methyl-t-butyl ether	0.992	mg/kg	0.0012	ND
o-Xylene	0.992	mg/kg	0.0012	ND
Styrene	0.992	mg/kg	0.0024	ND
t-Butyl Alcohol	0.992	mg/kg	0.012	ND
Tetrachloroethene	0.992	mg/kg	0.0024	ND
Toluene	0.992	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.992	mg/kg	0.0024	ND
trans-1,3-Dichloropropene	0.992	mg/kg	0.0024	ND

Sample ID: SB03 GRAB
Lab#: AD26217-013
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.992	mg/kg	0.0024	ND
Trichlorofluoromethane	0.992	mg/kg	0.0024	ND
Vinyl chloride	0.992	mg/kg	0.0024	ND
Xylenes (Total)	0.992	mg/kg	0.0012	ND

Sample ID: SB03 COMP | **Collection Date: 9/23/2021**
Lab#: AD26217-014 | **Receipt Date: 9/23/2021**
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	99.6	mg/kg	28	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.12
Benzo[a]pyrene	1	mg/kg	0.037	0.14
Benzo[b]fluoranthene	1	mg/kg	0.037	0.19
Benzo[g,h,i]perylene	1	mg/kg	0.037	0.080
Benzo[k]fluoranthene	1	mg/kg	0.037	0.070
Chrysene	1	mg/kg	0.037	0.14
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	0.23
Fluorene	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	0.072
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.037	0.11
Pyrene	1	mg/kg	0.037	0.23

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		7.8

Sample ID: SB03 COMP
Lab#: AD26217-014
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.3

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	ND
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	ND
Nickel	1	mg/l	0.10	ND
Selenium	1	mg/l	0.10	ND
Silver	1	mg/l	0.050	ND

Total PetroleumHydrocarbons8015D(C8-C40)

Analyte	DF	Units	RL	Result
Total Petroleum Hydrocarbons	1	mg/kg	67	72

Sample ID: SB02 GRAB
Lab#: AD26217-015
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		76

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	mg/kg	0.0026	ND
1,1,2,2-Tetrachloroethane	1	mg/kg	0.0026	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	mg/kg	0.0026	ND
1,1,2-Trichloroethane	1	mg/kg	0.0026	ND
1,1-Dichloroethane	1	mg/kg	0.0026	ND
1,1-Dichloroethene	1	mg/kg	0.0026	ND
1,2,3-Trichlorobenzene	1	mg/kg	0.0026	ND
1,2,4-Trichlorobenzene	1	mg/kg	0.0026	ND
1,2-Dibromo-3-chloropropane	1	mg/kg	0.0026	ND
1,2-Dibromoethane	1	mg/kg	0.00066	ND
1,2-Dichlorobenzene	1	mg/kg	0.0026	ND
1,2-Dichloroethane	1	mg/kg	0.0026	ND
1,2-Dichloropropane	1	mg/kg	0.0026	ND
1,3-Dichlorobenzene	1	mg/kg	0.0026	ND
1,4-Dichlorobenzene	1	mg/kg	0.0026	ND
1,4-Dioxane	1	mg/kg	0.13	ND
2-Butanone	1	mg/kg	0.0026	ND
2-Hexanone	1	mg/kg	0.0026	ND
4-Methyl-2-pentanone	1	mg/kg	0.0026	ND
Acetone	**1**	**mg/kg**	**0.013**	**0.033**
Benzene	1	mg/kg	0.0013	ND
Bromochloromethane	1	mg/kg	0.0026	ND
Bromodichloromethane	1	mg/kg	0.0026	ND
Bromoform	1	mg/kg	0.0026	ND
Bromomethane	1	mg/kg	0.0026	ND
Carbon disulfide	1	mg/kg	0.0045	ND
Carbon tetrachloride	1	mg/kg	0.0026	ND
Chlorobenzene	1	mg/kg	0.0026	ND
Chloroethane	1	mg/kg	0.0026	ND
Chloroform	1	mg/kg	0.0026	ND
Chloromethane	1	mg/kg	0.0026	ND
cis-1,2-Dichloroethene	1	mg/kg	0.0026	ND
cis-1,3-Dichloropropene	1	mg/kg	0.0026	ND
Cyclohexane	1	mg/kg	0.0026	ND
Dibromochloromethane	1	mg/kg	0.0026	ND
Dichlorodifluoromethane	1	mg/kg	0.0026	ND
Ethylbenzene	1	mg/kg	0.0013	ND
Isopropylbenzene	1	mg/kg	0.0013	ND
m&p-Xylenes	1	mg/kg	0.0016	ND
Methyl Acetate	1	mg/kg	0.0026	ND
Methylcyclohexane	1	mg/kg	0.0026	ND
Methylene chloride	**1**	**mg/kg**	**0.0026**	**0.0030**
Methyl-t-butyl ether	1	mg/kg	0.0013	ND
o-Xylene	1	mg/kg	0.0013	ND
Styrene	1	mg/kg	0.0026	ND
t-Butyl Alcohol	1	mg/kg	0.013	ND
Tetrachloroethene	1	mg/kg	0.0026	ND
Toluene	1	mg/kg	0.0013	ND
trans-1,2-Dichloroethene	1	mg/kg	0.0026	ND
trans-1,3-Dichloropropene	1	mg/kg	0.0026	ND

Sample ID: SB02 GRAB
Lab#: AD26217-015
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	1	mg/kg	0.0026	ND
Trichlorofluoromethane	1	mg/kg	0.0026	ND
Vinyl chloride	1	mg/kg	0.0026	ND
Xylenes (Total)	1	mg/kg	0.0013	ND

Sample ID: SB02 COMP
Lab#: AD26217-016
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		78

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	100	mg/kg	32	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	5	mg/kg	0.21	ND
Acenaphthene	5	mg/kg	0.21	ND
Acenaphthylene	5	mg/kg	0.21	ND
Anthracene	5	mg/kg	0.21	0.23
Benzo[a]anthracene	5	mg/kg	0.21	0.87
Benzo[a]pyrene	5	mg/kg	0.21	0.84
Benzo[b]fluoranthene	5	mg/kg	0.21	1.3
Benzo[g,h,i]perylene	5	mg/kg	0.21	0.52
Benzo[k]fluoranthene	5	mg/kg	0.21	0.32
Chrysene	5	mg/kg	0.21	0.90
Dibenzo[a,h]anthracene	5	mg/kg	0.21	ND
Fluoranthene	5	mg/kg	0.21	1.3
Fluorene	5	mg/kg	0.21	ND
Indeno[1,2,3-cd]pyrene	5	mg/kg	0.21	0.45
Naphthalene	5	mg/kg	0.062	ND
Phenanthrene	5	mg/kg	0.21	0.89
Pyrene	5	mg/kg	0.21	1.4

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	0.032	ND
Aroclor-1016	1	mg/kg	0.032	ND
Aroclor-1221	1	mg/kg	0.032	ND
Aroclor-1232	1	mg/kg	0.032	ND
Aroclor-1242	1	mg/kg	0.032	ND
Aroclor-1248	1	mg/kg	0.032	ND
Aroclor-1254	1	mg/kg	0.032	ND
Aroclor-1260	1	mg/kg	0.032	ND
Aroclor-1262	1	mg/kg	0.032	ND
Aroclor-1268	1	mg/kg	0.032	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		7.6

Sample ID: SB02 COMP
Lab#: AD26217-016
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.2

Reactive Cyanide

Analyte	DF	Units	RL	Result
Cyanide (Reactive)	1	mg/kg	0.50	ND

Reactive Sulfide

Analyte	DF	Units	RL	Result
Sulfide (Reactive)	1	mg/kg	100	ND

TCLP Metals 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	1.4
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.40
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	77	600

Sample ID: SB01 GRAB
Lab#: AD26217-017
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		81

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	mg/kg	0.0025	ND
1,1,2,2-Tetrachloroethane	1	mg/kg	0.0025	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	mg/kg	0.0025	ND
1,1,2-Trichloroethane	1	mg/kg	0.0025	ND
1,1-Dichloroethane	1	mg/kg	0.0025	ND
1,1-Dichloroethene	1	mg/kg	0.0025	ND
1,2,3-Trichlorobenzene	1	mg/kg	0.0025	ND
1,2,4-Trichlorobenzene	1	mg/kg	0.0025	ND
1,2-Dibromo-3-chloropropane	1	mg/kg	0.0025	ND
1,2-Dibromoethane	1	mg/kg	0.00062	ND
1,2-Dichlorobenzene	1	mg/kg	0.0025	ND
1,2-Dichloroethane	1	mg/kg	0.0025	ND
1,2-Dichloropropane	1	mg/kg	0.0025	ND
1,3-Dichlorobenzene	1	mg/kg	0.0025	ND
1,4-Dichlorobenzene	1	mg/kg	0.0025	ND
1,4-Dioxane	1	mg/kg	0.12	ND
2-Butanone	1	mg/kg	0.0025	ND
2-Hexanone	1	mg/kg	0.0025	ND
4-Methyl-2-pentanone	1	mg/kg	0.0025	ND
Acetone	1	mg/kg	0.012	ND
Benzene	1	mg/kg	0.0012	ND
Bromochloromethane	1	mg/kg	0.0025	ND
Bromodichloromethane	1	mg/kg	0.0025	ND
Bromoform	1	mg/kg	0.0025	ND
Bromomethane	1	mg/kg	0.0025	ND
Carbon disulfide	1	mg/kg	0.0042	ND
Carbon tetrachloride	1	mg/kg	0.0025	ND
Chlorobenzene	1	mg/kg	0.0025	ND
Chloroethane	1	mg/kg	0.0025	ND
Chloroform	1	mg/kg	0.0025	ND
Chloromethane	1	mg/kg	0.0025	ND
cis-1,2-Dichloroethene	1	mg/kg	0.0025	ND
cis-1,3-Dichloropropene	1	mg/kg	0.0025	ND
Cyclohexane	1	mg/kg	0.0025	ND
Dibromochloromethane	1	mg/kg	0.0025	ND
Dichlorodifluoromethane	1	mg/kg	0.0025	ND
Ethylbenzene	1	mg/kg	0.0012	ND
Isopropylbenzene	1	mg/kg	0.0012	ND
m&p-Xylenes	1	mg/kg	0.0015	ND
Methyl Acetate	1	mg/kg	0.0025	ND
Methylcyclohexane	1	mg/kg	0.0025	ND
Methylene chloride	1	mg/kg	0.0025	ND
Methyl-t-butyl ether	1	mg/kg	0.0012	ND
o-Xylene	1	mg/kg	0.0012	ND
Styrene	1	mg/kg	0.0025	ND
t-Butyl Alcohol	1	mg/kg	0.012	ND
Tetrachloroethene	1	mg/kg	0.0025	ND
Toluene	1	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	1	mg/kg	0.0025	ND
trans-1,3-Dichloropropene	1	mg/kg	0.0025	ND

Sample ID: SB01 GRAB
Lab#: AD26217-017
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	1	mg/kg	0.0025	ND
Trichlorofluoromethane	1	mg/kg	0.0025	ND
Vinyl chloride	1	mg/kg	0.0025	ND
Xylenes (Total)	1	mg/kg	0.0012	ND

Sample ID: SB01 COMP
Lab#: AD26217-018
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		82

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99	mg/kg	30	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.041	ND
Acenaphthene	1	mg/kg	0.041	ND
Acenaphthylene	1	mg/kg	0.041	0.22
Anthracene	1	mg/kg	0.041	0.093
Benzo[a]anthracene	1	mg/kg	0.041	0.76
Benzo[a]pyrene	1	mg/kg	0.041	0.69
Benzo[b]fluoranthene	1	mg/kg	0.041	0.95
Benzo[g,h,i]perylene	1	mg/kg	0.041	0.42
Benzo[k]fluoranthene	1	mg/kg	0.041	0.35
Chrysene	1	mg/kg	0.041	0.70
Dibenzo[a,h]anthracene	1	mg/kg	0.041	0.13
Fluoranthene	1	mg/kg	0.041	1.0
Fluorene	1	mg/kg	0.041	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.041	0.41
Naphthalene	1	mg/kg	0.012	ND
Phenanthrene	1	mg/kg	0.041	0.33
Pyrene	1	mg/kg	0.041	0.99

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	0.030	ND
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Aroclor-1268	1	mg/kg	0.030	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		7.3

Sample ID: SB01 COMP
Lab#: AD26217-018
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.1

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.28
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.058
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	73	ND

HC Reporting Limit Definitions/Data Qualifiers

REPORTING DEFINITIONS

DF = Dilution Factor

DUP = Duplicate

LCS = Laboratory Control Spike

MBS = Method Blank Spike

MDL = Method Detection Limit

MR = Matrix Replicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

NA = Not Applicable

ND = Not Detected

PS = Post Digestion Spike

RL* = Reporting Limit

RT = Retention Time

SD = Serial Dilution

**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: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-001 **Sample ID: SB09 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 10:28	WP

Lab#: AD26217-002 **Sample ID: SB09 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 01:48	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 11:52	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 18:14	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 10:47	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:06	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:01	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 11:45	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 10:45	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 13:18	AH/RR/ABM

Lab#: AD26217-003 **Sample ID: SB08 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 10:49	WP

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-004 **Sample ID: SB08 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 02:04	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 11:57	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/30/21	lynda	EPA 8270E	9/30/21 14:38	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 10:32	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:08	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:05	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:22	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 10:53	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 13:41	AH/RR/ABM

Lab#: AD26217-005 **Sample ID: SB07 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 11:10	WP

Lab#: AD26217-006 **Sample ID: SB07 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/24/21 21:54	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 11:58	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 19:47	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:14	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:11	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:09	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:25	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 10:53	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 14:05	AH/RR/ABM

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-007 **Sample ID: SB06 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 11:30	WP

Lab#: AD26217-008 **Sample ID: SB06 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/24/21 22:11	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:00	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 17:39	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 10:17	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:18	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:29	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:13	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:13	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 15:14	AH/RR/ABM

Lab#: AD26217-009 **Sample ID: SB05 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 11:51	WP

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-010 **Sample ID: SB05 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/24/21 22:28	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:05	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 18:03	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:28	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:20	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:41	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:25	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:13	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 15:37	AH/RR/ABM

Lab#: AD26217-011 **Sample ID: SB04 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 12:11	WP

Lab#: AD26217-012 **Sample ID: SB04 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 00:40	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:06	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 18:26	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:43	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:22	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:29	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:45	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:22	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 16:00	AH/RR/ABM

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-013 **Sample ID: SB03 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 12:32	WP

Lab#: AD26217-014 **Sample ID: SB03 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 00:57	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:08	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 18:50	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 10:02	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:24	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:49	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:33	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:22	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 16:23	AH/RR/ABM

Lab#: AD26217-015 **Sample ID: SB02 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 12:52	WP

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-016 **Sample ID: SB02 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 01:14	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:09	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/30/21 12:19	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:47	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:26	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:53	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:36	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:43	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 17:10	AH/RR/ABM

Lab#: AD26217-017 **Sample ID: SB01 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 13:13	WP

Lab#: AD26217-018 **Sample ID: SB01 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 01:31	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:11	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/30/21 08:48	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:58	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:28	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:40	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:57	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:43	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 16:47	AH/RR/ABM

Chain of Custody

1092401 0052

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
NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Hampton-Clarke
WBE/DBE/SBE 800-426-9992
A Women-Owned, Disadvantaged, Small Business Enterprise

CHAIN OF CUSTODY RECORD

Project# (Lab Use Only): 1092401

Page 1 of 2

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Data Deliv.
When Available:	Summary	NJ Hazsite
1 Business Day (100%) *	Results + QC (Waste)	Excel Reg. NJ / NY / PA
2 Business Days (75%) *	Reduced:	EnviroData
3 Business Days (50%) *	[ ] NJ [ ] NY	EQuIS:
4 Business Days (35%) *	[ ] PA [ ] Other___	[ ] 4-File [ ] EZ
5 Business Days (25%) *	NJ Full / NY ASP CatB	[ ] NYDEC
8 Business Days (Stand.)	NY ASP CatA	[ ] Region 2 or 5
Other: _____		Other: _____

* Expedited TAT Not Always Available. Please Check with Lab.

Customer Information

1a) Customer: Louis Berger
Address: 96 Morton St. 8th Floor New York, NY, 10014
1b) Email/Cell/Fax/Ph: Jon.ganz@wsp.com
1c) Send Invoice to: Jon.Ganz@wsp.com
1d) Send Report to: Jonathan Ganz

Project Information

2a) Project: South Ave
2b) Project Mgr: Jonathan Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 31402661.100

FOR LAB USE ONLY ↓

Batch # A026217

===> 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)	TCL VOCs	TCL SVOCs	PCBs (8082)	PAHs (8270C)	TPH DRO/GRO (SW8)	PCBs (8082A/608)	TCLP Metals (RCRA8) (BIL/6010B)	RCRA Characteristic (9014/9034/9050A/9040)	Paint Filter Test (9095B)			8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
001	SB09	S	9/23/21	7:50		X	X											1								
002	SB09			750	X					X	X	X	X	X	X			1								
003	SB08			920		X	X											1								
004	SB08			920	X					X	X	X	X	X	X			1								
005	SB07			1030		X	X											1								
006	SB07			1030	X					X	X	X	X	X	X			1								
007	SB06			1110		X	X											1								
008	SB06			1110	X					X	X	X	X	X	X			1								
009	SB05			1155		X	X											1								
010	SB05			1155	X					X	X	X	X	X	X			1								

10) Relinquished by:	Accepted by:	Date	Time
Harry August	[signature]	9/23/21	17:25

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
- [ ] BN or BNA (8270E SIM)
- [ ] VOC (8260D SIM or 8011)
- [ ] SPLP (BN, BNA, Metals)
- [ ] 1,4 Dioxane

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Check if applicable:
- [ ] Project-Specific Reporting Limits
- [ ] High Contaminant Concentrations
- [ ] NJ LSRP Project (also check boxes above/right)

Cooler Temperature: 3.0

11) Sampler (print name): Harry August Date: 9/23/21

Additional Notes

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.

Internal use: sampling plan (check box) HC [ ] or client [ ] FSP#

1092401 0053

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

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): 1092401

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Data Deliv.
When Available:	Summary	NJ Hazsite
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3 Business Days (50%) *	[ ] NJ [ ] NY	EQuIS:
4 Business Days (35%) *	[ ] PA [ ] Other___	[ ] 4-File [ ] EZ
5 Business Days (25%)	NJ Full / NY ASP CatB	[ ] NYDEC
8 Business Days (Stand.)	NY ASP CatA	[ ] Region 2 or 5
Other: _____		Other: _____

* Expedited TAT Not Always Available. Please Check with Lab.

Customer Information

1a) Customer: Louis Berger
Address: 96 Morton St. 8th Floor New York, NY, 10014
1b) Email/Cell/Fax/Ph: Jon.Ganz@wsp.com
1c) Send Invoice to: Jonathan Ganz
1d) Send Report to: Jonathan Ganz

Project Information

2a) Project: South Ave
2b) Project Mgr: Jonathan Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 31402661.100

FOR LAB USE ONLY ↓

Batch # AD26217

===> 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 VOCs	PAHs (8270C)	TPH DRO/GRO (8015B)	PCBs (8082A/608)	TCLP metals (RCRA8) (B11/6010B)	RCRA Character (9012B/9014/9030/9034)	Paint Filter Test (9095B)					8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
011	SB04	S	9/23/21	~~1330~~		X	X											1								1400 sample time
012	SB04			~~1330~~	X			X	X	X	X	X	X					1								1400 sample time
013	SB03			1500		X	X											1								
014	SB03			1500	X			X	X	X	X	X	X					1								
015	SB02			1330		X	X											1								
016	SB02			1330	X			X	X	X	X	X	X					1								
017	SB01			1430		X	X											1								
018	SB01			1430	X			X	X	X	X	X	X					1								

10) Relinquished by:	Accepted by:	Date	Time
Harry August	[signature]	9/23/21	17:20

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
- [ ] BN or BNA (8270E SIM)
- [ ] VOC (8260D SIM or 8011)
- [ ] SPLP (BN, BNA, Metals)
- [ ] 1,4 Dioxane

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Check if applicable:
- [ ] Project-Specific Reporting Limits
- [ ] High Contaminant Concentrations
- [ ] NJ LSRP Project (also check boxes above/right)

Cooler Temperature: 3.0

11) Sampler (print name): Harry August Date: 9/23/21

Additional Notes

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.

Internal use: sampling plan (check box) HC [ ] or client [ ] FSP#

Haz. - 151

CONDITION UPON RECEIPT

Batch Number AD26217

Entered By: maxwell
Date Entered 9/24/2021 9:19:00 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). 3.0
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	No	Are samples preserved correctly? Samples for VOA not collected as Encore/Terracore.
12	Yes	Was temperature blank present (Place comment below if not)? If not was temperature of samples verified?
13	NA	Other comments ...Specify (TB date, sample matrix, any missing info, etc.)
14	NA	Corrective actions (Specify item number and corrective action taken).
15	NA	Were any samples for ortho-phosphate or dissolved ferrous iron field filtered?

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD26217-001	09/23/21 17:25	MAXW	0	M	Received
AD26217-001	09/24/21 09:19	MAXW	0	M	Login
AD26217-001	09/24/21 10:31	R30	1	A	NONE
AD26217-001	09/24/21 14:05	JM	1	A	VOA
AD26217-001	09/24/21 14:07	R30	1	A	NONE
AD26217-001	09/24/21 15:03	R12	2	A	NONE
AD26217-001	09/24/21 21:30	PA	2	A	mx
AD26217-001	09/24/21 21:31	R12	2	A	NONE
AD26217-001	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-001	09/27/21 09:37	R12	2	A	NONE
AD26217-002	09/23/21 17:25	MAXW	0	M	Received
AD26217-002	09/24/21 09:19	MAXW	0	M	Login
AD26217-002	09/24/21 15:03	R12	1	A	NONE
AD26217-002	09/24/21 21:30	PA	1	A	mx
AD26217-002	09/24/21 21:31	R12	1	A	NONE
AD26217-002	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-002	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-002	09/27/21 11:26	R12	1	A	NONE
AD26217-002	09/27/21 12:21	KS	1	A	RS
AD26217-002	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-002	09/27/21 13:39	R12	1	A	NONE
AD26217-002	09/28/21 16:05	MSL	1	A	TPH
AD26217-002	09/28/21 16:06	R12	1	A	NONE
AD26217-002	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-002	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-002	09/29/21 12:06	R12	1	A	NONE
AD26217-002	09/29/21 16:19	MSL	1	A	P/P
AD26217-002	09/29/21 16:21	R12	1	A	NONE
AD26217-002	09/24/21 16:36	JM	2	A	GRO
AD26217-002	09/24/21 17:33	R30	2	A	NONE
AD26217-002	09/24/21 18:58	JM	3	A	GRO
AD26217-003	09/23/21 17:25	MAXW	0	M	Received
AD26217-003	09/24/21 09:19	MAXW	0	M	Login
AD26217-003	09/24/21 10:31	R30	1	A	NONE
AD26217-003	09/24/21 14:05	JM	1	A	VOA
AD26217-003	09/24/21 14:07	R30	1	A	NONE
AD26217-003	09/24/21 15:03	R12	2	A	NONE
AD26217-003	09/24/21 21:30	PA	2	A	mx
AD26217-003	09/24/21 21:31	R12	2	A	NONE
AD26217-003	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-003	09/27/21 09:37	R12	2	A	NONE
AD26217-004	09/23/21 17:25	MAXW	0	M	Received
AD26217-004	09/24/21 09:19	MAXW	0	M	Login
AD26217-004	09/24/21 15:03	R12	1	A	NONE
AD26217-004	09/24/21 21:30	PA	1	A	mx
AD26217-004	09/24/21 21:31	R12	1	A	NONE
AD26217-004	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-004	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-004	09/27/21 11:26	R12	1	A	NONE
AD26217-004	09/27/21 12:21	KS	1	A	RS
AD26217-004	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-004	09/27/21 13:39	R12	1	A	NONE
AD26217-004	09/28/21 16:05	MSL	1	A	TPH
AD26217-004	09/28/21 16:06	R12	1	A	NONE
AD26217-004	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-004	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-004	09/29/21 12:06	R12	1	A	NONE
AD26217-004	09/29/21 16:19	MSL	1	A	P/P
AD26217-004	09/29/21 16:21	R12	1	A	NONE
AD26217-004	09/30/21 10:06	AMAN	1	A	BN/BNA
AD26217-004	09/30/21 14:17	R12	1	A	NONE
AD26217-004	09/24/21 16:36	JM	2	A	GRO
AD26217-004	09/24/21 17:33	R30	2	A	NONE
AD26217-004	09/24/21 18:58	JM	3	A	GRO
AD26217-005	09/23/21 17:25	MAXW	0	M	Received
AD26217-005	09/24/21 09:19	MAXW	0	M	Login
AD26217-005	09/24/21 10:31	R30	1	A	NONE
AD26217-005	09/24/21 14:05	JM	1	A	VOA
AD26217-005	09/24/21 14:07	R30	1	A	NONE
AD26217-005	09/24/21 15:03	R12	2	A	NONE
AD26217-005	09/24/21 21:30	PA	2	A	mx
AD26217-005	09/24/21 21:31	R12	2	A	NONE
AD26217-005	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-005	09/27/21 09:37	R12	2	A	NONE
AD26217-006	09/23/21 17:25	MAXW	0	M	Received

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD26217-006	09/24/21 09:19	MAXW	0	M	Login
AD26217-006	09/24/21 15:03	R12	1	A	NONE
AD26217-006	09/24/21 21:30	PA	1	A	mx
AD26217-006	09/24/21 21:31	R12	1	A	NONE
AD26217-006	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-006	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-006	09/27/21 11:26	R12	1	A	NONE
AD26217-006	09/27/21 12:21	KS	1	A	RS
AD26217-006	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-006	09/27/21 13:39	R12	1	A	NONE
AD26217-006	09/28/21 16:05	MSL	1	A	TPH
AD26217-006	09/28/21 16:06	R12	1	A	NONE
AD26217-006	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-006	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-006	09/29/21 12:06	R12	1	A	NONE
AD26217-006	09/29/21 16:19	MSL	1	A	P/P
AD26217-006	09/29/21 16:21	R12	1	A	NONE
AD26217-006	09/24/21 16:36	JM	2	A	GRO
AD26217-006	09/24/21 17:33	R30	2	A	NONE
AD26217-006	09/24/21 18:58	JM	3	A	GRO
AD26217-007	09/23/21 17:25	MAXW	0	M	Received
AD26217-007	09/24/21 09:19	MAXW	0	M	Login
AD26217-007	09/24/21 10:31	R30	1	A	NONE
AD26217-007	09/24/21 14:05	JM	1	A	VOA
AD26217-007	09/24/21 14:07	R30	1	A	NONE
AD26217-007	09/24/21 15:03	R12	2	A	NONE
AD26217-007	09/24/21 21:30	PA	2	A	mx
AD26217-007	09/24/21 21:31	R12	2	A	NONE
AD26217-007	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-007	09/27/21 09:37	R12	2	A	NONE
AD26217-008	09/23/21 17:25	MAXW	0	M	Received
AD26217-008	09/24/21 09:19	MAXW	0	M	Login
AD26217-008	09/24/21 15:03	R12	1	A	NONE
AD26217-008	09/24/21 21:30	PA	1	A	mx
AD26217-008	09/24/21 21:31	R12	1	A	NONE
AD26217-008	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-008	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-008	09/27/21 11:26	R12	1	A	NONE
AD26217-008	09/27/21 12:21	KS	1	A	RS
AD26217-008	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-008	09/27/21 13:39	R12	1	A	NONE
AD26217-008	09/28/21 16:05	MSL	1	A	TPH
AD26217-008	09/28/21 16:06	R12	1	A	NONE
AD26217-008	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-008	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-008	09/29/21 12:06	R12	1	A	NONE
AD26217-008	09/29/21 16:19	MSL	1	A	P/P
AD26217-008	09/29/21 16:21	R12	1	A	NONE
AD26217-008	09/24/21 16:36	JM	2	A	GRO
AD26217-008	09/24/21 17:33	R30	2	A	NONE
AD26217-008	09/24/21 18:58	JM	3	A	GRO
AD26217-009	09/23/21 17:25	MAXW	0	M	Received
AD26217-009	09/24/21 09:19	MAXW	0	M	Login
AD26217-009	09/24/21 10:31	R30	1	A	NONE
AD26217-009	09/24/21 14:05	JM	1	A	VOA
AD26217-009	09/24/21 14:07	R30	1	A	NONE
AD26217-009	09/24/21 15:03	R12	2	A	NONE
AD26217-009	09/24/21 21:30	PA	2	A	mx
AD26217-009	09/24/21 21:31	R12	2	A	NONE
AD26217-009	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-009	09/27/21 09:37	R12	2	A	NONE
AD26217-010	09/23/21 17:25	MAXW	0	M	Received
AD26217-010	09/24/21 09:19	MAXW	0	M	Login
AD26217-010	09/24/21 15:03	R12	1	A	NONE
AD26217-010	09/24/21 21:30	PA	1	A	mx
AD26217-010	09/24/21 21:31	R12	1	A	NONE
AD26217-010	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-010	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-010	09/27/21 11:26	R12	1	A	NONE
AD26217-010	09/27/21 12:21	KS	1	A	RS
AD26217-010	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-010	09/27/21 13:39	R12	1	A	NONE
AD26217-010	09/28/21 16:05	MSL	1	A	TPH
AD26217-010	09/28/21 16:06	R12	1	A	NONE
AD26217-010	09/29/21 09:37	AMAN	1	A	BN/BNA

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
AD26217-010	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-010	09/29/21 12:06	R12	1	A	NONE
AD26217-010	09/29/21 16:19	MSL	1	A	P/P
AD26217-010	09/29/21 16:21	R12	1	A	NONE
AD26217-010	09/24/21 16:36	JM	2	A	GRO
AD26217-010	09/24/21 17:33	R30	2	A	NONE
AD26217-010	09/24/21 18:58	JM	3	A	GRO
AD26217-011	09/23/21 17:25	MAXW	0	M	Received
AD26217-011	09/24/21 09:19	MAXW	0	M	Login
AD26217-011	09/24/21 10:31	R30	1	A	NONE
AD26217-011	09/24/21 14:05	JM	1	A	VOA
AD26217-011	09/24/21 14:07	R30	1	A	NONE
AD26217-011	09/24/21 15:03	R12	2	A	NONE
AD26217-011	09/24/21 21:30	PA	2	A	mx
AD26217-011	09/24/21 21:31	R12	2	A	NONE
AD26217-011	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-011	09/27/21 09:37	R12	2	A	NONE
AD26217-012	09/23/21 17:25	MAXW	0	M	Received
AD26217-012	09/24/21 09:19	MAXW	0	M	Login
AD26217-012	09/24/21 15:03	R12	1	A	NONE
AD26217-012	09/24/21 21:30	PA	1	A	mx
AD26217-012	09/24/21 21:31	R12	1	A	NONE
AD26217-012	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-012	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-012	09/27/21 11:26	R12	1	A	NONE
AD26217-012	09/27/21 12:21	KS	1	A	RS
AD26217-012	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-012	09/27/21 13:39	R12	1	A	NONE
AD26217-012	09/28/21 16:05	MSL	1	A	TPH
AD26217-012	09/28/21 16:06	R12	1	A	NONE
AD26217-012	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-012	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-012	09/29/21 12:06	R12	1	A	NONE
AD26217-012	09/29/21 16:19	MSL	1	A	P/P
AD26217-012	09/29/21 16:21	R12	1	A	NONE
AD26217-012	09/24/21 16:36	JM	2	A	GRO
AD26217-012	09/24/21 17:33	R30	2	A	NONE
AD26217-012	09/24/21 18:58	JM	3	A	GRO
AD26217-013	09/23/21 17:25	MAXW	0	M	Received
AD26217-013	09/24/21 09:19	MAXW	0	M	Login
AD26217-013	09/24/21 10:31	R30	1	A	NONE
AD26217-013	09/24/21 14:05	JM	1	A	VOA
AD26217-013	09/24/21 15:03	R12	2	A	NONE
AD26217-013	09/24/21 21:30	PA	2	A	mx
AD26217-013	09/24/21 21:31	R12	2	A	NONE
AD26217-013	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-013	09/27/21 09:37	R12	2	A	NONE
AD26217-014	09/23/21 17:25	MAXW	0	M	Received
AD26217-014	09/24/21 09:19	MAXW	0	M	Login
AD26217-014	09/24/21 15:03	R12	1	A	NONE
AD26217-014	09/24/21 21:30	PA	1	A	mx
AD26217-014	09/24/21 21:31	R12	1	A	NONE
AD26217-014	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-014	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-014	09/27/21 11:26	R12	1	A	NONE
AD26217-014	09/27/21 12:21	KS	1	A	RS
AD26217-014	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-014	09/27/21 13:39	R12	1	A	NONE
AD26217-014	09/28/21 16:05	MSL	1	A	TPH
AD26217-014	09/28/21 16:06	R12	1	A	NONE
AD26217-014	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-014	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-014	09/29/21 12:06	R12	1	A	NONE
AD26217-014	09/29/21 16:19	MSL	1	A	P/P
AD26217-014	09/29/21 16:21	R12	1	A	NONE
AD26217-014	09/24/21 16:36	JM	2	A	GRO
AD26217-014	09/24/21 17:33	R30	2	A	NONE
AD26217-014	09/24/21 18:58	JM	3	A	GRO
AD26217-015	09/23/21 17:25	MAXW	0	M	Received
AD26217-015	09/24/21 09:19	MAXW	0	M	Login
AD26217-015	09/24/21 10:31	R30	1	A	NONE
AD26217-015	09/24/21 14:05	JM	1	A	VOA
AD26217-015	09/24/21 14:07	R30	1	A	NONE
AD26217-015	09/24/21 15:03	R12	2	A	NONE
AD26217-015	09/24/21 21:30	PA	2	A	mx
AD26217-015	09/24/21 21:31	R12	2	A	NONE
AD26217-015	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-015	09/27/21 09:37	R12	2	A	NONE
AD26217-016	09/23/21 17:25	MAXW	0	M	Received
AD26217-016	09/24/21 09:19	MAXW	0	M	Login
AD26217-016	09/24/21 15:03	R12	1	A	NONE
AD26217-016	09/24/21 21:30	PA	1	A	mx
AD26217-016	09/24/21 21:31	R12	1	A	NONE
AD26217-016	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-016	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-016	09/27/21 11:26	R12	1	A	NONE
AD26217-016	09/27/21 12:21	KS	1	A	RS
AD26217-016	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-016	09/27/21 13:39	R12	1	A	NONE
AD26217-016	09/28/21 16:05	MSL	1	A	TPH
AD26217-016	09/28/21 16:06	R12	1	A	NONE
AD26217-016	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-016	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-016	09/29/21 12:06	R12	1	A	NONE
AD26217-016	09/29/21 16:19	MSL	1	A	P/P
AD26217-016	09/29/21 16:21	R12	1	A	NONE
AD26217-016	09/24/21 16:36	JM	2	A	GRO
AD26217-016	09/24/21 17:33	R30	2	A	NONE
AD26217-016	09/24/21 18:58	JM	3	A	GRO
AD26217-017	09/23/21 17:25	MAXW	0	M	Received
AD26217-017	09/24/21 09:19	MAXW	0	M	Login
AD26217-017	09/24/21 10:31	R30	1	A	NONE
AD26217-017	09/24/21 14:05	JM	1	A	VOA
AD26217-017	09/24/21 14:07	R30	1	A	NONE
AD26217-017	09/24/21 15:03	R12	2	A	NONE
AD26217-017	09/24/21 21:30	PA	2	A	mx
AD26217-017	09/24/21 21:31	R12	2	A	NONE
AD26217-017	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-017	09/27/21 09:37	R12	2	A	NONE
AD26217-018	09/23/21 17:25	MAXW	0	M	Received
AD26217-018	09/24/21 09:19	MAXW	0	M	Login
AD26217-018	09/24/21 15:03	R12	1	A	NONE
AD26217-018	09/24/21 23:51	PA	1	A	mx
AD26217-018	09/24/21 23:52	R12	1	A	NONE
AD26217-018	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-018	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-018	09/27/21 11:26	R12	1	A	NONE
AD26217-018	09/27/21 12:21	KS	1	A	RS
AD26217-018	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-018	09/27/21 13:39	R12	1	A	NONE
AD26217-018	09/28/21 16:05	MSL	1	A	TPH
AD26217-018	09/28/21 16:06	R12	1	A	NONE
AD26217-018	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-018	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-018	09/29/21 12:06	R12	1	A	NONE
AD26217-018	09/29/21 16:19	MSL	1	A	P/P
AD26217-018	09/29/21 16:21	R12	1	A	NONE
AD26217-018	09/24/21 16:36	JM	2	A	GRO
AD26217-018	09/24/21 17:33	R30	2	A	NONE
AD26217-018	09/24/21 18:58	JM	3	A	GRO

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: AD26217-001
Client Id: SB09 GRAB
Data File: 6M145232.D
Analysis Date: 09/25/21 10:28
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.09g
Final Vol: NA
Dilution: 0.982
Solids: 85

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	0.0023	U	110-82-7	Cyclohexane	0.0023	U
120-82-1	1,2,4-Trichlorobenzene	0.0023	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	0.00058	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0023	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0023	U	79601-23-1	m&p-Xylenes	0.0014	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**	**0.0026**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0023	U	95-47-6	o-Xylene	0.0012	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	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0023	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	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	0.0039	U	75-01-4	Vinyl Chloride	0.0023	U
56-23-5	Carbon Tetrachloride	0.0023	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840

Total Target Concentration 0.0026

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.

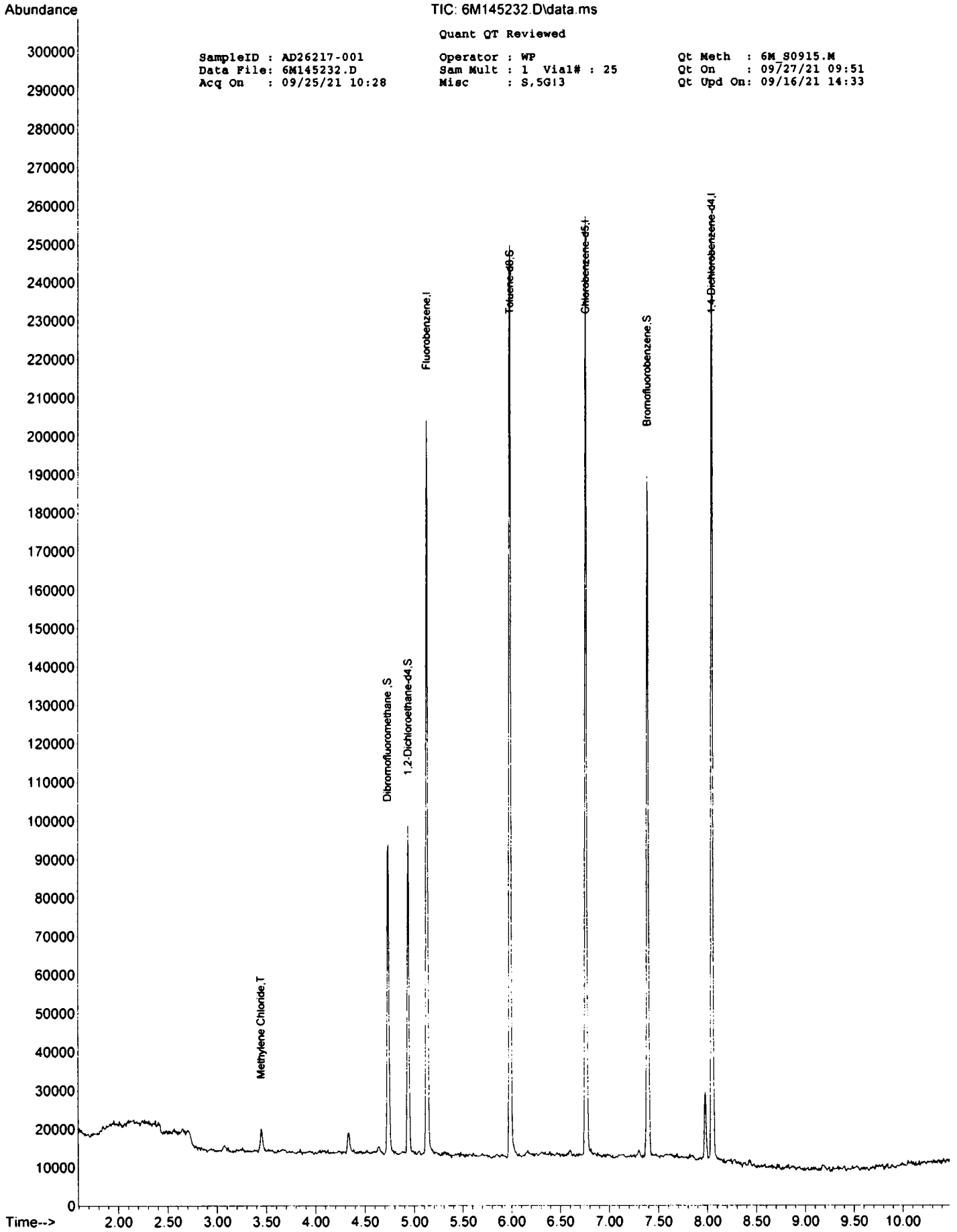
Quantitation Report (QT Reviewed)

SampleID : AD26217-001 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145232.D Sam Mult : 1 Vial# : 25 Qt On : 09/27/21 09:51
Acq On : 09/25/21 10:28 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	107710	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	91774	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	44760	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.733	111	32246	31.93	ug/l	0.00
Spiked Amount 30.000			Recovery = 106.43%			
39) 1,2-Dichloroethane-d4	4.940	67	17089	28.49	ug/l	0.00
Spiked Amount 30.000			Recovery = 94.97%			
66) Toluene-d8	5.989	98	105554	28.59	ug/l	0.00
Spiked Amount 30.000			Recovery = 95.30%			
76) Bromofluorobenzene	7.391	174	33915	30.72	ug/l	0.00
Spiked Amount 30.000			Recovery = 102.40%			
Target Compounds						Qvalue
15) Methylene Chloride	3.446	84	2089	2.2871	ug/l	88

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



6M_S0915.M Thu Sep 30 15:01:10 2021 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-003
Client Id: SB08 GRAB
Data File: 6M145233.D
Analysis Date: 09/25/21 10:49
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.02g
Final Vol: NA
Dilution: 0.996
Solids: 81

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0025	U	108-90-7	Chlorobenzene	0.0025	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0025	U	75-00-3	Chloroethane	0.0025	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0025	U	67-66-3	Chloroform	0.0025	U
79-00-5	1,1,2-Trichloroethane	0.0025	U	74-87-3	Chloromethane	0.0025	U
75-34-3	1,1-Dichloroethane	0.0025	U	156-59-2	cis-1,2-Dichloroethene	0.0025	U
75-35-4	1,1-Dichloroethene	0.0025	U	10061-01-5	cis-1,3-Dichloropropene	0.0025	U
87-61-6	1,2,3-Trichlorobenzene	0.0025	U	110-82-7	Cyclohexane	0.0025	U
120-82-1	1,2,4-Trichlorobenzene	0.0025	U	124-48-1	Dibromochloromethane	0.0025	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0025	U	75-71-8	Dichlorodifluoromethane	0.0025	U
106-93-4	1,2-Dibromoethane	0.00061	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0025	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0025	U	79601-23-1	m&p-Xylenes	0.0015	U
78-87-5	1,2-Dichloropropane	0.0025	U	79-20-9	Methyl Acetate	0.0025	U
541-73-1	1,3-Dichlorobenzene	0.0025	U	108-87-2	Methylcyclohexane	0.0025	U
106-46-7	1,4-Dichlorobenzene	0.0025	U	**75-09-2**	**Methylene Chloride**	**0.0025**	**0.0063**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0025	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0025	U	100-42-5	Styrene	0.0025	U
108-10-1	4-Methyl-2-Pentanone	0.0025	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0025	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0025	U	156-60-5	trans-1,2-Dichloroethene	0.0025	U
75-27-4	Bromodichloromethane	0.0025	U	10061-02-6	trans-1,3-Dichloropropene	0.0025	U
75-25-2	Bromoform	0.0025	U	79-01-6	Trichloroethene	0.0025	U
74-83-9	Bromomethane	0.0025	U	75-69-4	Trichlorofluoromethane	0.0025	U
75-15-0	Carbon Disulfide	0.0042	U	75-01-4	Vinyl Chloride	0.0025	U
56-23-5	Carbon Tetrachloride	0.0025	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 ***Total Target Concentration*** 0.0063 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.

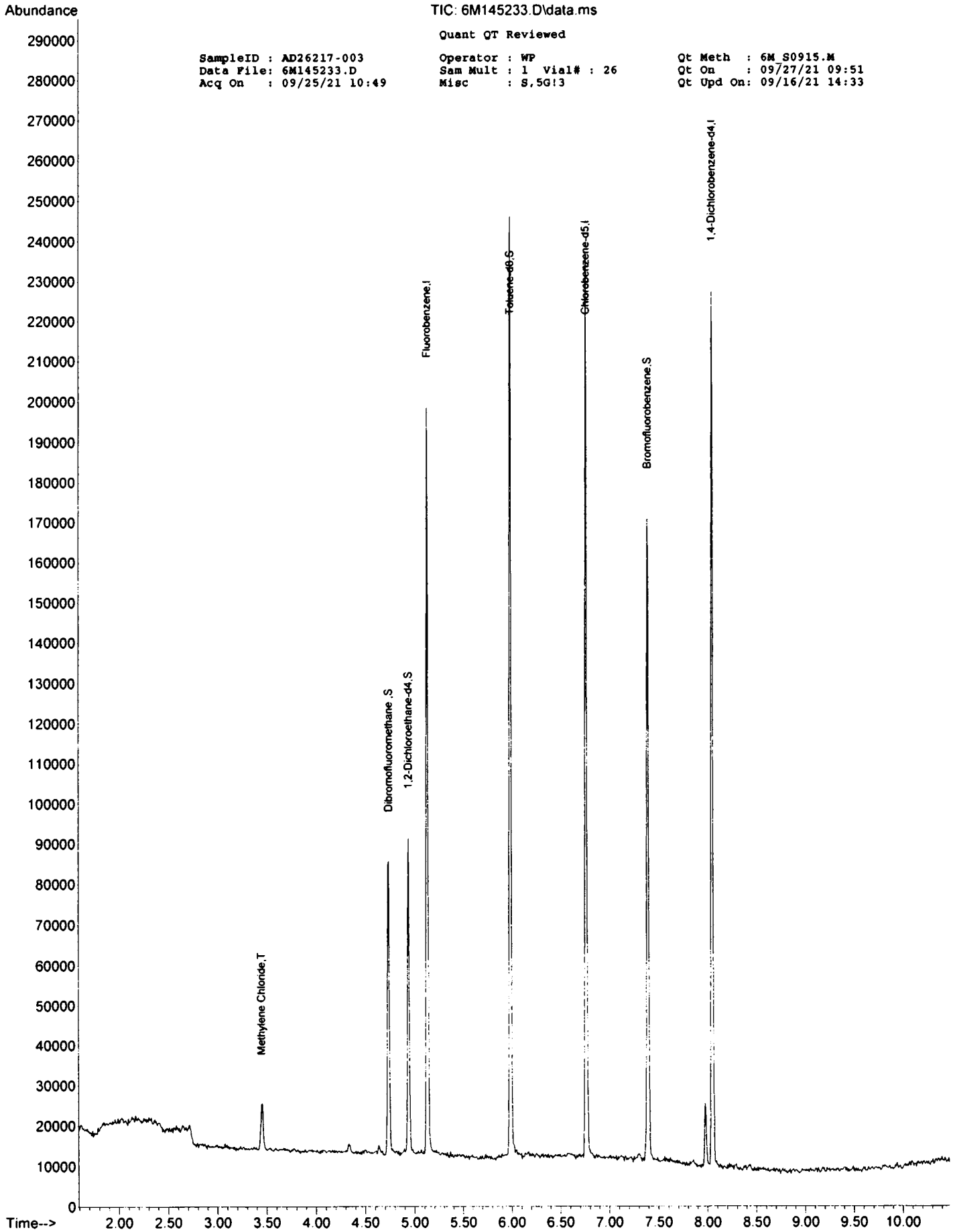
Quantitation Report (QT Reviewed)

SampleID : AD26217-003 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145233.D Sam Mult : 1 Vial# : 26 Qt On : 09/27/21 09:51
Acq On : 09/25/21 10:49 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	101854	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	82978	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	42101	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	30097	31.52	ug/l	0.00
Spiked Amount 30.000			Recovery = 105.07%			
39) 1,2-Dichloroethane-d4	4.940	67	15197	26.79	ug/l	0.00
Spiked Amount 30.000			Recovery = 89.30%			
66) Toluene-d8	5.989	98	102130	30.59	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.97%			
76) Bromofluorobenzene	7.391	174	31490	30.33	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.10%			
Target Compounds						Qvalue
15) Methylene Chloride	3.447	84	4444	5.1451	ug/l	84

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



6M_S0915.M Thu Sep 30 15:01:13 2021 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-005
Client Id: SB07 GRAB
Data File: 6M145234.D
Analysis Date: 09/25/21 11:10
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.02g
Final Vol: NA
Dilution: 0.996
Solids: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0024	U	108-90-7	Chlorobenzene	0.0024	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0024	U	75-00-3	Chloroethane	0.0024	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0024	U	67-66-3	Chloroform	0.0024	U
79-00-5	1,1,2-Trichloroethane	0.0024	U	74-87-3	Chloromethane	0.0024	U
75-34-3	1,1-Dichloroethane	0.0024	U	156-59-2	cis-1,2-Dichloroethene	0.0024	U
75-35-4	1,1-Dichloroethene	0.0024	U	10061-01-5	cis-1,3-Dichloropropene	0.0024	U
87-61-6	1,2,3-Trichlorobenzene	0.0024	U	110-82-7	Cyclohexane	0.0024	U
120-82-1	1,2,4-Trichlorobenzene	0.0024	U	124-48-1	Dibromochloromethane	0.0024	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0024	U	75-71-8	Dichlorodifluoromethane	0.0024	U
106-93-4	1,2-Dibromoethane	0.00061	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0024	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0024	U	79601-23-1	m&p-Xylenes	0.0015	U
78-87-5	1,2-Dichloropropane	0.0024	U	79-20-9	Methyl Acetate	0.0024	U
541-73-1	1,3-Dichlorobenzene	0.0024	U	108-87-2	Methylcyclohexane	0.0024	U
106-46-7	1,4-Dichlorobenzene	0.0024	U	**75-09-2**	**Methylene Chloride**	**0.0024**	**0.0031**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0024	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0024	U	100-42-5	Styrene	0.0024	U
108-10-1	4-Methyl-2-Pentanone	0.0024	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0024	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0024	U	156-60-5	trans-1,2-Dichloroethene	0.0024	U
75-27-4	Bromodichloromethane	0.0024	U	10061-02-6	trans-1,3-Dichloropropene	0.0024	U
75-25-2	Bromoform	0.0024	U	79-01-6	Trichloroethene	0.0024	U
74-83-9	Bromomethane	0.0024	U	75-69-4	Trichlorofluoromethane	0.0024	U
75-15-0	Carbon Disulfide	0.0041	U	75-01-4	Vinyl Chloride	0.0024	U
56-23-5	Carbon Tetrachloride	0.0024	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *Total Target Concentration* 0.0031 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.

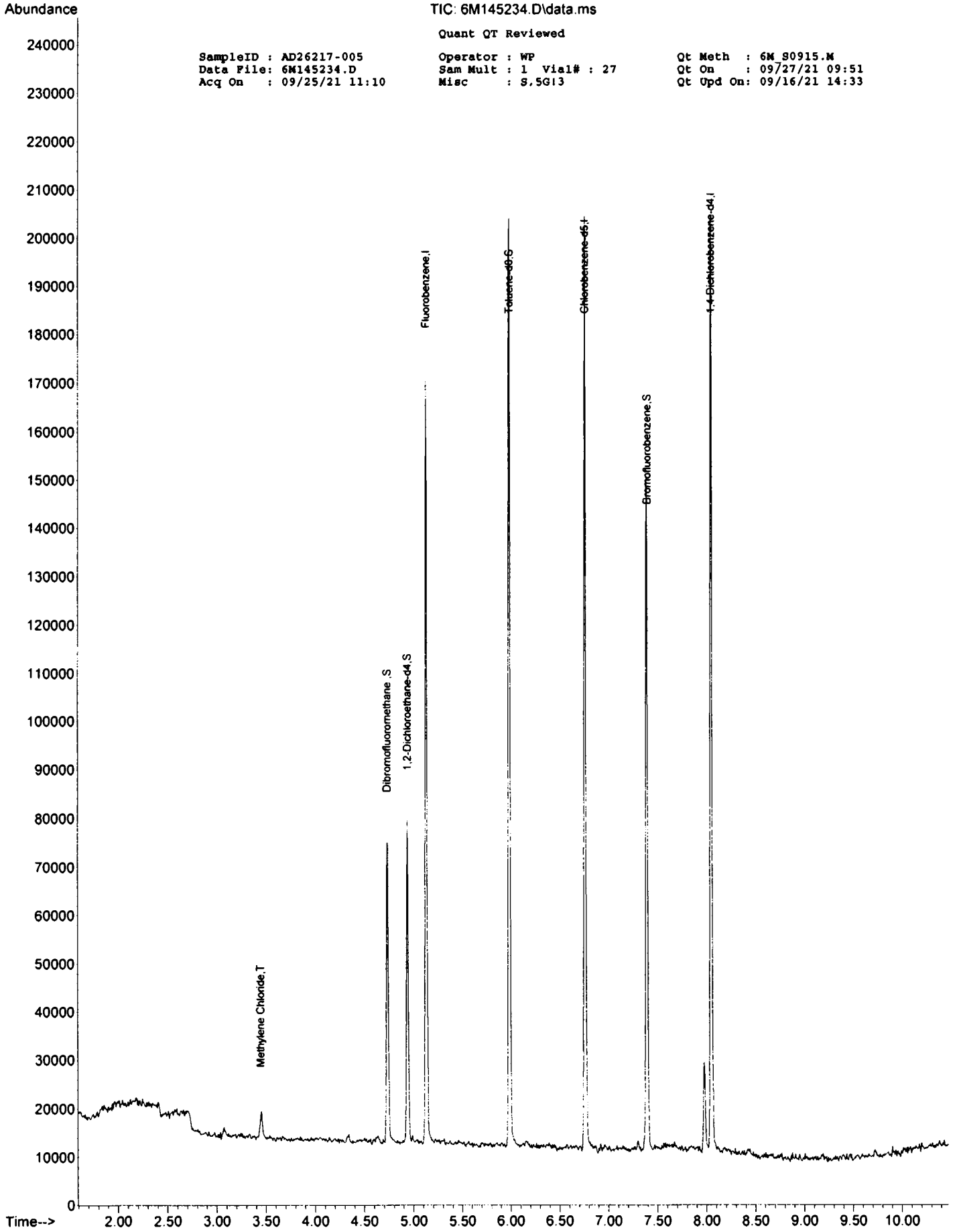
Quantitation Report (QT Reviewed)

SampleID : AD26217-005 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145234.D Sam Mult : 1 Vial# : 27 Qt On : 09/27/21 09:51
Acq On : 09/25/21 11:10 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	85085	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	70623	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	36820	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.733	111	25199	31.59	ug/l	0.00
Spiked Amount 30.000			Recovery = 105.30%			
39) 1,2-Dichloroethane-d4	4.940	67	14297	30.17	ug/l	0.00
Spiked Amount 30.000			Recovery = 100.57%			
66) Toluene-d8	5.989	98	85426	30.06	ug/l	0.00
Spiked Amount 30.000			Recovery = 100.20%			
76) Bromofluorobenzene	7.397	174	27028	29.76	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.20%			
Target Compounds						Qvalue
15) Methylene Chloride	3.446	84	1832	2.5390	ug/l	86

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



6M_S0915.M Thu Sep 30 15:01:16 2021 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-007
Client Id: SB06 GRAB
Data File: 6M145235.D
Analysis Date: 09/25/21 11:30
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.11g
Final Vol: NA
Dilution: 0.978
Solids: 94

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0021	U	108-90-7	Chlorobenzene	0.0021	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0021	U	75-00-3	Chloroethane	0.0021	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0021	U	67-66-3	Chloroform	0.0021	U
79-00-5	1,1,2-Trichloroethane	0.0021	U	74-87-3	Chloromethane	0.0021	U
75-34-3	1,1-Dichloroethane	0.0021	U	156-59-2	cis-1,2-Dichloroethene	0.0021	U
75-35-4	1,1-Dichloroethene	0.0021	U	10061-01-5	cis-1,3-Dichloropropene	0.0021	U
87-61-6	1,2,3-Trichlorobenzene	0.0021	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0021	U	124-48-1	Dibromochloromethane	0.0021	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0021	U	75-71-8	Dichlorodifluoromethane	0.0021	U
106-93-4	1,2-Dibromoethane	0.00052	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	0.0012	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**	**0.0024**
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	0.0035	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 #: 610840 ***Total Target Concentration*** 0.0024 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.

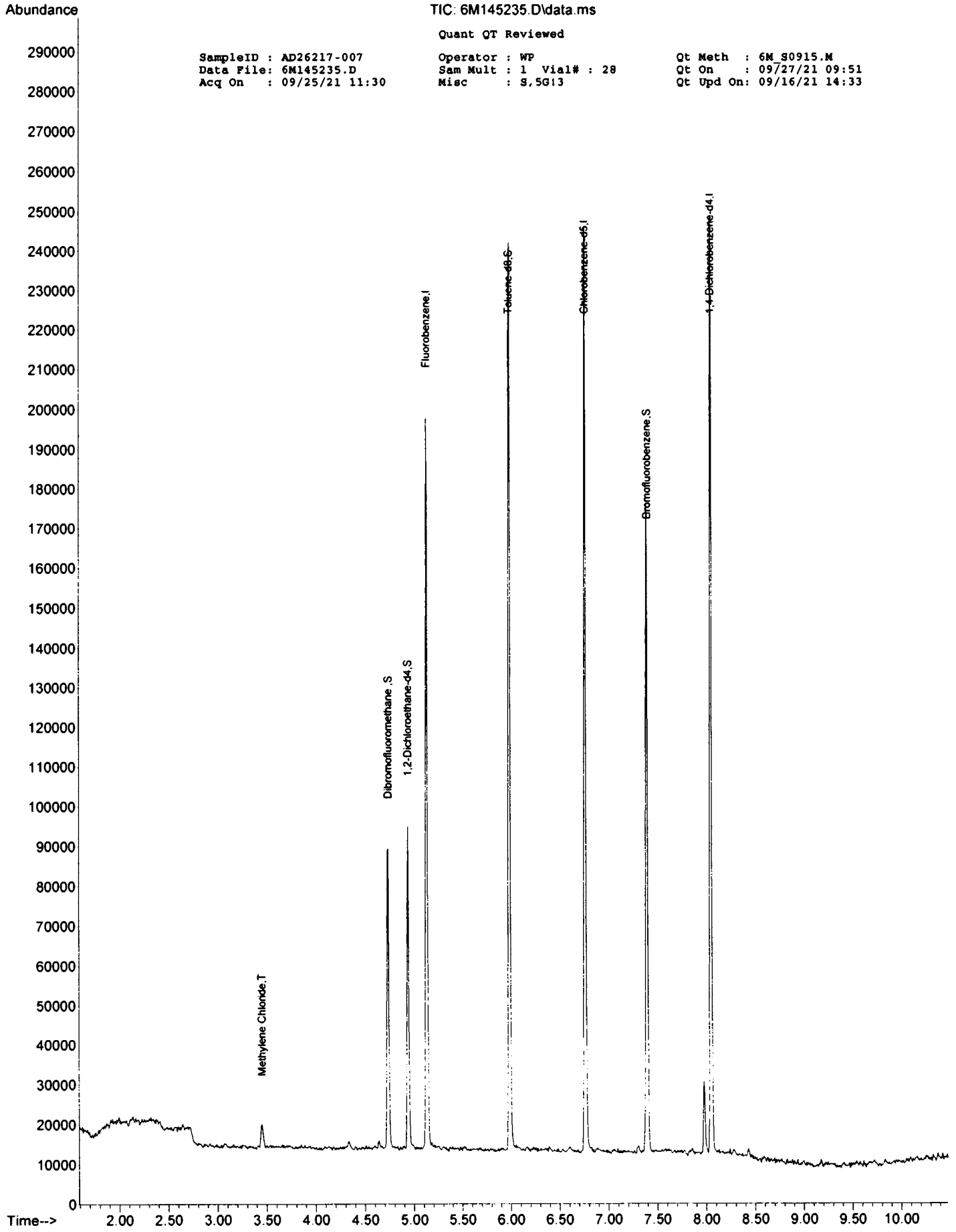
Quantitation Report (QT Reviewed)

SampleID : AD26217-007 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145235.D Sam Mult : 1 Vial# : 28 Qt On : 09/27/21 09:51
Acq On : 09/25/21 11:30 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	103709	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	85925	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	43679	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	30388	31.25	ug/l	0.00
Spiked Amount 30.000			Recovery = 104.17%			
39) 1,2-Dichloroethane-d4	4.940	67	15385	26.64	ug/l	0.00
Spiked Amount 30.000			Recovery = 88.80%			
66) Toluene-d8	5.983	98	103263	29.87	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.57%			
76) Bromofluorobenzene	7.397	174	32239	29.93	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.77%			
Target Compounds						Qvalue
15) Methylene Chloride	3.453	84	2004	2.2786	ug/l	94

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



6M_S0915.M Thu Sep 30 15:01:19 2021 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-009
Client Id: SB05 GRAB
Data File: 6M145236.D
Analysis Date: 09/25/21 11:51
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.04g
Final Vol: NA
Dilution: 0.992
Solids: 85

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	0.0023	U	110-82-7	Cyclohexane	0.0023	U
120-82-1	1,2,4-Trichlorobenzene	0.0023	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	0.00058	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0023	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0023	U	79601-23-1	m&p-Xylenes	0.0014	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**	**0.0033**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	**2-Butanone**	**0.0023**	**0.016**	95-47-6	o-Xylene	0.0012	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	0.012	U
67-64-1	**Acetone**	**0.012**	**0.090**	127-18-4	Tetrachloroethene	0.0023	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	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	0.0040	U	75-01-4	Vinyl Chloride	0.0023	U
56-23-5	Carbon Tetrachloride	0.0023	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 ***Total Target Concentration*** 0.11 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.

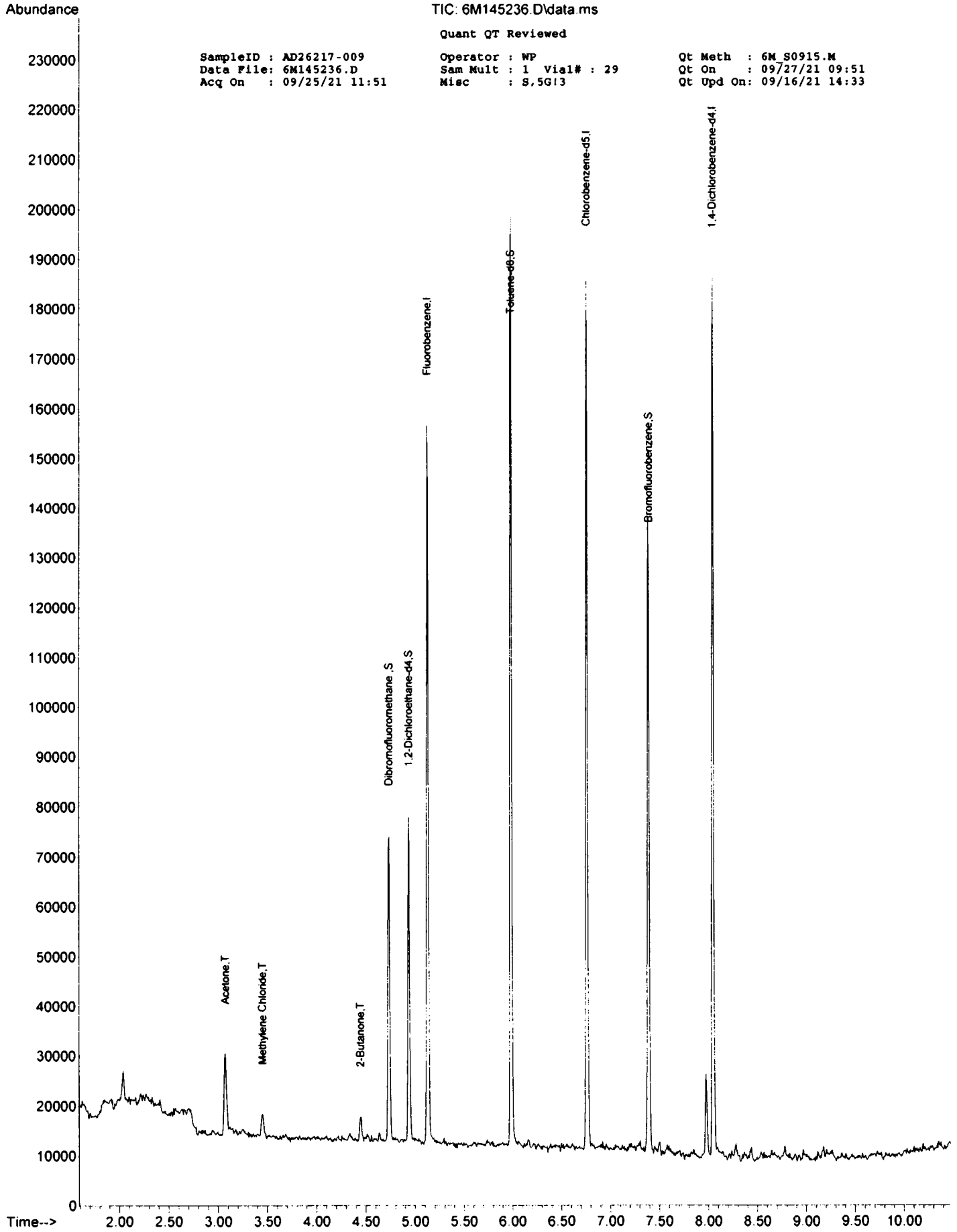
Quantitation Report (QT Reviewed)

SampleID : AD26217-009 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145236.D Sam Mult : 1 Vial# : 29 Qt On : 09/27/21 09:51
Acq On : 09/25/21 11:51 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	80526	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	65845	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	32595	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	24625	32.62	ug/l	0.00
Spiked Amount 30.000			Recovery = 108.73%			
39) 1,2-Dichloroethane-d4	4.940	67	13182	29.39	ug/l	0.00
Spiked Amount 30.000			Recovery = 97.97%			
66) Toluene-d8	5.989	98	80621	30.43	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.43%			
76) Bromofluorobenzene	7.397	174	24025	29.89	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.63%			
Target Compounds						Qvalue
15) Methylene Chloride	3.453	84	1934	2.8321	ug/l	91
19) Acetone	3.075	43	19738	76.8862	ug/l	90
41) 2-Butanone	4.446	43	5257	13.5341	ug/l	89

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



6M_S0915.M Thu Sep 30 15:01:22 2021 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-011
Client Id: SB04 GRAB
Data File: 6M145237.D
Analysis Date: 09/25/21 12:11
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.07g
Final Vol: NA
Dilution: 0.986
Solids: 83

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0024	U	108-90-7	Chlorobenzene	0.0024	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0024	U	75-00-3	Chloroethane	0.0024	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0024	U	67-66-3	Chloroform	0.0024	U
79-00-5	1,1,2-Trichloroethane	0.0024	U	74-87-3	Chloromethane	0.0024	U
75-34-3	1,1-Dichloroethane	0.0024	U	156-59-2	cis-1,2-Dichloroethene	0.0024	U
75-35-4	1,1-Dichloroethene	0.0024	U	10061-01-5	cis-1,3-Dichloropropene	0.0024	U
87-61-6	1,2,3-Trichlorobenzene	0.0024	U	110-82-7	Cyclohexane	0.0024	U
120-82-1	1,2,4-Trichlorobenzene	0.0024	U	124-48-1	Dibromochloromethane	0.0024	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0024	U	75-71-8	Dichlorodifluoromethane	0.0024	U
106-93-4	1,2-Dibromoethane	0.00059	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0024	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0024	U	79601-23-1	m&p-Xylenes	0.0014	U
78-87-5	1,2-Dichloropropane	0.0024	U	79-20-9	Methyl Acetate	0.0024	U
541-73-1	1,3-Dichlorobenzene	0.0024	U	108-87-2	Methylcyclohexane	0.0024	U
106-46-7	1,4-Dichlorobenzene	0.0024	U	**75-09-2**	**Methylene Chloride**	**0.0024**	**0.0035**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0024	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0024	U	100-42-5	Styrene	0.0024	U
108-10-1	4-Methyl-2-Pentanone	0.0024	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0024	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0024	U	156-60-5	trans-1,2-Dichloroethene	0.0024	U
75-27-4	Bromodichloromethane	0.0024	U	10061-02-6	trans-1,3-Dichloropropene	0.0024	U
75-25-2	Bromoform	0.0024	U	79-01-6	Trichloroethene	0.0024	U
74-83-9	Bromomethane	0.0024	U	75-69-4	Trichlorofluoromethane	0.0024	U
75-15-0	Carbon Disulfide	0.0040	U	75-01-4	Vinyl Chloride	0.0024	U
56-23-5	Carbon Tetrachloride	0.0024	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *Total Target Concentration* 0.0035 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.

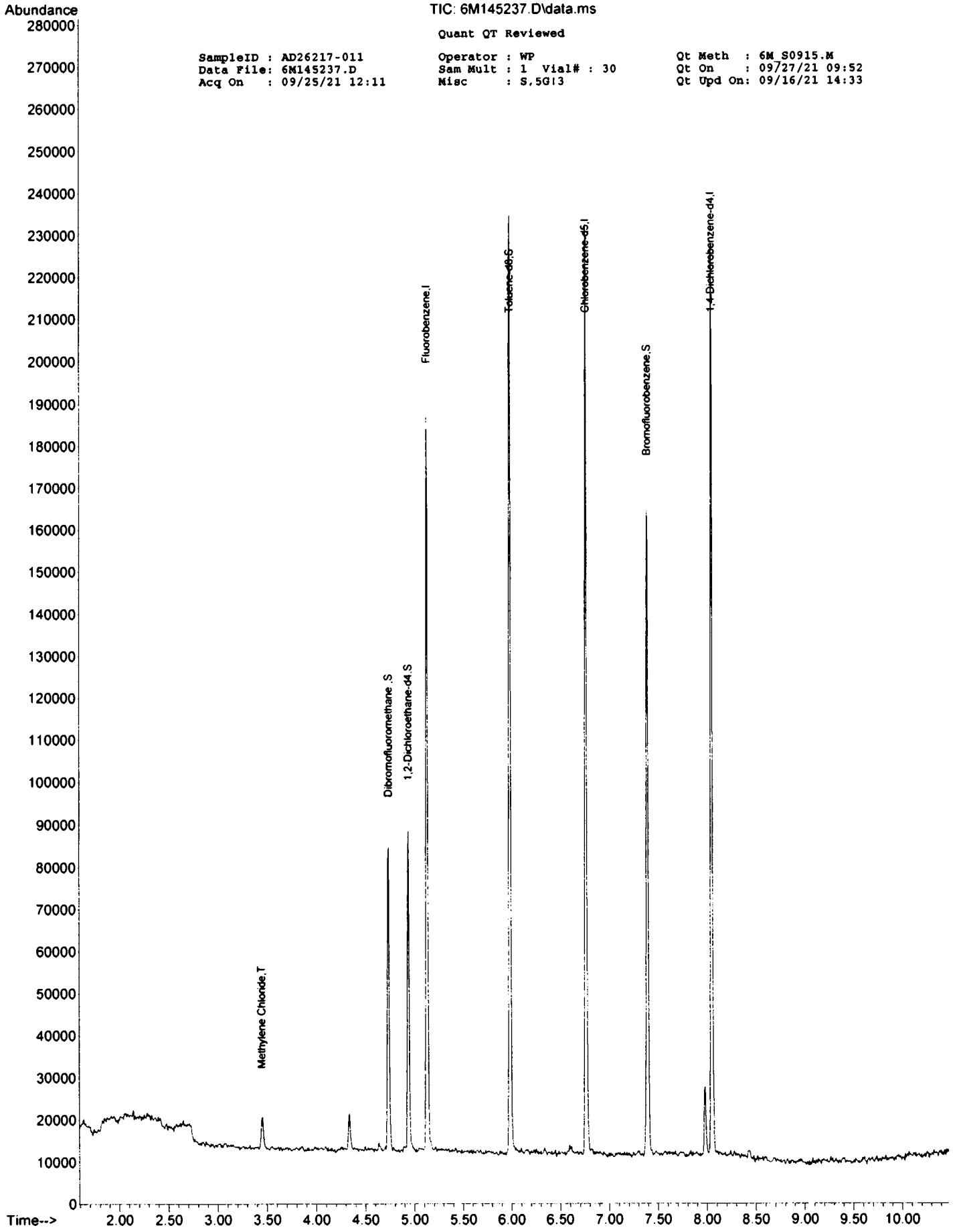
Quantitation Report (QT Reviewed)

SampleID : AD26217-011 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145237.D Sam Mult : 1 Vial# : 30 Qt On : 09/27/21 09:52
Acq On : 09/25/21 12:11 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	99848	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	81141	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.050	152	40615	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	29209	31.20	ug/l	0.00
Spiked Amount 30.000			Recovery = 104.00%			
39) 1,2-Dichloroethane-d4	4.940	67	15252	27.43	ug/l	0.00
Spiked Amount 30.000			Recovery = 91.43%			
66) Toluene-d8	5.989	98	97588	29.89	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.63%			
76) Bromofluorobenzene	7.391	174	29933	29.88	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.60%			
Target Compounds						Qvalue
15) Methylene Chloride	3.447	84	2490	2.9407	ug/l	94

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



6M_S0915.M Thu Sep 30 15:01:25 2021 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-013
Client Id: SB03 GRAB
Data File: 6M145238.D
Analysis Date: 09/25/21 12:32
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.04g
Final Vol: NA
Dilution: 0.992
Solids: 83

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0024	U	108-90-7	Chlorobenzene	0.0024	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0024	U	75-00-3	Chloroethane	0.0024	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0024	U	67-66-3	Chloroform	0.0024	U
79-00-5	1,1,2-Trichloroethane	0.0024	U	74-87-3	Chloromethane	0.0024	U
75-34-3	1,1-Dichloroethane	0.0024	U	156-59-2	cis-1,2-Dichloroethene	0.0024	U
75-35-4	1,1-Dichloroethene	0.0024	U	10061-01-5	cis-1,3-Dichloropropene	0.0024	U
87-61-6	1,2,3-Trichlorobenzene	0.0024	U	110-82-7	Cyclohexane	0.0024	U
120-82-1	1,2,4-Trichlorobenzene	0.0024	U	124-48-1	Dibromochloromethane	0.0024	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0024	U	75-71-8	Dichlorodifluoromethane	0.0024	U
106-93-4	1,2-Dibromoethane	0.00060	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0024	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0024	U	79601-23-1	m&p-Xylenes	0.0014	U
78-87-5	1,2-Dichloropropane	0.0024	U	79-20-9	Methyl Acetate	0.0024	U
541-73-1	1,3-Dichlorobenzene	0.0024	U	108-87-2	Methylcyclohexane	0.0024	U
106-46-7	1,4-Dichlorobenzene	0.0024	U	**75-09-2**	**Methylene Chloride**	**0.0024**	**0.014**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0024	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0024	U	100-42-5	Styrene	0.0024	U
108-10-1	4-Methyl-2-Pentanone	0.0024	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0024	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0024	U	156-60-5	trans-1,2-Dichloroethene	0.0024	U
75-27-4	Bromodichloromethane	0.0024	U	10061-02-6	trans-1,3-Dichloropropene	0.0024	U
75-25-2	Bromoform	0.0024	U	79-01-6	Trichloroethene	0.0024	U
74-83-9	Bromomethane	0.0024	U	75-69-4	Trichlorofluoromethane	0.0024	U
75-15-0	Carbon Disulfide	0.0041	U	75-01-4	Vinyl Chloride	0.0024	U
56-23-5	Carbon Tetrachloride	0.0024	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *Total Target Concentration* 0.014 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.

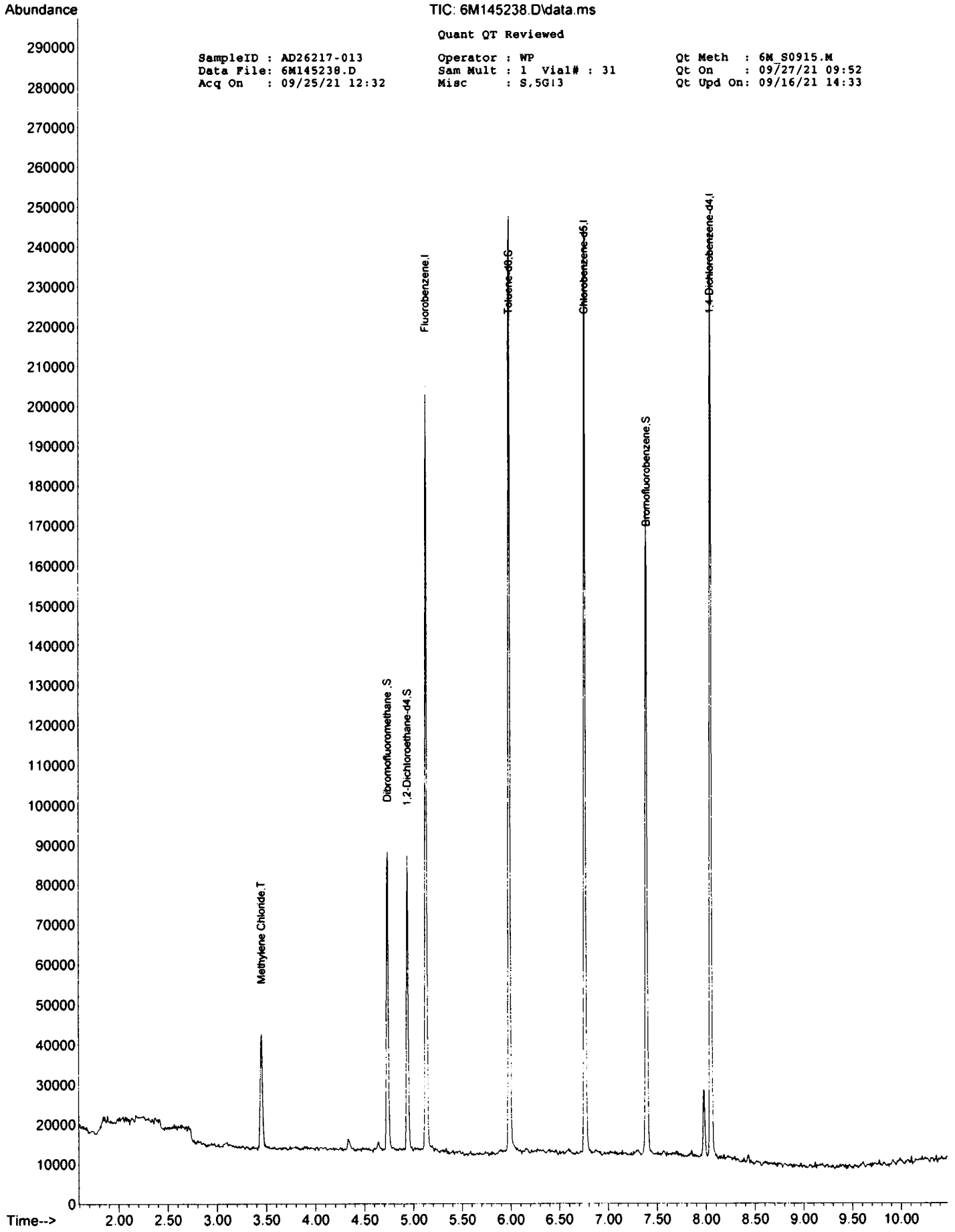
Quantitation Report (QT Reviewed)

SampleID : AD26217-013 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145238.D Sam Mult : 1 Vial# : 31 Qt On : 09/27/21 09:52
Acq On : 09/25/21 12:32 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	102435	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	85319	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	43429	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	29672	30.90	ug/l	0.00
Spiked Amount 30.000			Recovery = 103.00%			
39) 1,2-Dichloroethane-d4	4.940	67	15995	28.04	ug/l	0.00
Spiked Amount 30.000			Recovery = 93.47%			
66) Toluene-d8	5.989	98	102849	29.96	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.87%			
76) Bromofluorobenzene	7.397	174	32533	30.37	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.23%			
Target Compounds						Qvalue
15) Methylene Chloride	3.453	84	10307	11.8653	ug/l	96

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



6M_S0915.M Thu Sep 30 15:01:28 2021 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-015
Client Id: SB02 GRAB
Data File: 6M145239.D
Analysis Date: 09/25/21 12:52
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 4.98g
Final Vol: NA
Dilution: 1.00
Solids: 76

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	0.0026	U	110-82-7	Cyclohexane	0.0026	U
120-82-1	1,2,4-Trichlorobenzene	0.0026	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	0.00066	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	0.0016	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**	**0.0030**
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	U	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**	**0.033**	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	0.0045	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 #: 610840 *Total Target Concentration* 0.036 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.

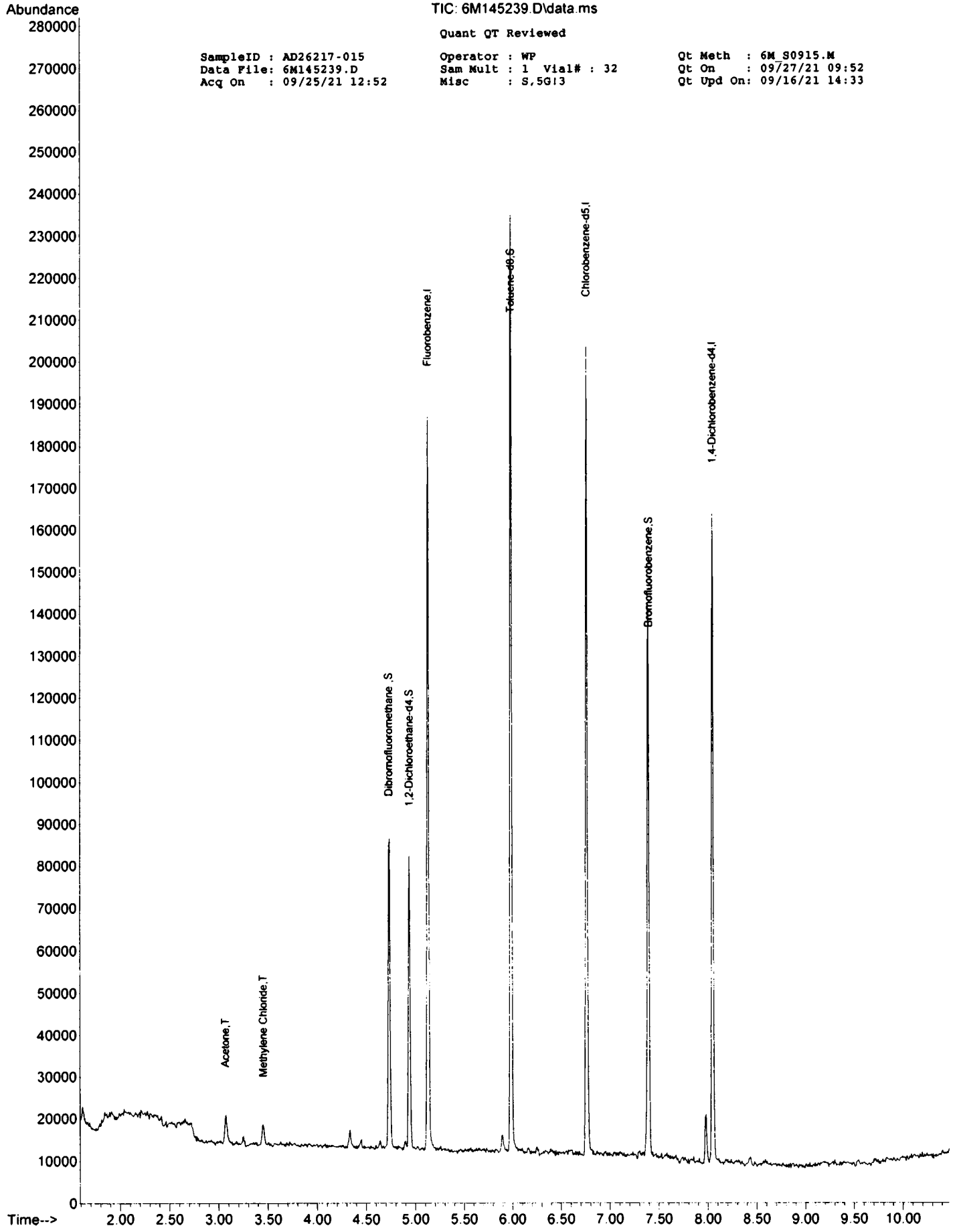
Quantitation Report (QT Reviewed)

SampleID : AD26217-015 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145239.D Sam Mult : 1 Vial# : 32 Qt On : 09/27/21 09:52
Acq On : 09/25/21 12:52 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	96581	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	73017	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	29389	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.733	111	29225	32.28	ug/l	0.00
Spiked Amount 30.000			Recovery = 107.60%			
39) 1,2-Dichloroethane-d4	4.940	67	15204	28.27	ug/l	0.00
Spiked Amount 30.000			Recovery = 94.23%			
66) Toluene-d8	5.989	98	95689	32.57	ug/l	0.00
Spiked Amount 30.000			Recovery = 108.57%			
76) Bromofluorobenzene	7.397	174	25422	35.07	ug/l	0.00
Spiked Amount 30.000			Recovery = 116.90%			
Target Compounds						Qvalue
15) Methylene Chloride	3.453	84	1858	2.2686	ug/l	94
19) Acetone	3.069	43	7624	24.7613	ug/l	70

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


Abundance
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Quant QT Reviewed
SampleID : AD26217-015
Data File: 6M145239.D
Acq On : 09/25/21 12:52
Operator : WP
Sam Mult : 1 Vial# : 32
Misc : S,5G13
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:52
Qt Upd On: 09/16/21 14:33
Acetone,T
Methylene Chloride,T
Dibromofluoromethane,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->
6M_S0915.M Thu Sep 30 15:01:31 2021 RPT1
Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-017
Client Id: SB01 GRAB
Data File: 6M145240.D
Analysis Date: 09/25/21 13:13
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 4.99g
Final Vol: NA
Dilution: 1.00
Solids: 81

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0025	U	108-90-7	Chlorobenzene	0.0025	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0025	U	75-00-3	Chloroethane	0.0025	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0025	U	67-66-3	Chloroform	0.0025	U
79-00-5	1,1,2-Trichloroethane	0.0025	U	74-87-3	Chloromethane	0.0025	U
75-34-3	1,1-Dichloroethane	0.0025	U	156-59-2	cis-1,2-Dichloroethene	0.0025	U
75-35-4	1,1-Dichloroethene	0.0025	U	10061-01-5	cis-1,3-Dichloropropene	0.0025	U
87-61-6	1,2,3-Trichlorobenzene	0.0025	U	110-82-7	Cyclohexane	0.0025	U
120-82-1	1,2,4-Trichlorobenzene	0.0025	U	124-48-1	Dibromochloromethane	0.0025	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0025	U	75-71-8	Dichlorodifluoromethane	0.0025	U
106-93-4	1,2-Dibromoethane	0.00062	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0025	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0025	U	79601-23-1	m&p-Xylenes	0.0015	U
78-87-5	1,2-Dichloropropane	0.0025	U	79-20-9	Methyl Acetate	0.0025	U
541-73-1	1,3-Dichlorobenzene	0.0025	U	108-87-2	Methylcyclohexane	0.0025	U
106-46-7	1,4-Dichlorobenzene	0.0025	U	75-09-2	Methylene Chloride	0.0025	U
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0025	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0025	U	100-42-5	Styrene	0.0025	U
108-10-1	4-Methyl-2-Pentanone	0.0025	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0025	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0025	U	156-60-5	trans-1,2-Dichloroethene	0.0025	U
75-27-4	Bromodichloromethane	0.0025	U	10061-02-6	trans-1,3-Dichloropropene	0.0025	U
75-25-2	Bromoform	0.0025	U	79-01-6	Trichloroethene	0.0025	U
74-83-9	Bromomethane	0.0025	U	75-69-4	Trichlorofluoromethane	0.0025	U
75-15-0	Carbon Disulfide	0.0042	U	75-01-4	Vinyl Chloride	0.0025	U
56-23-5	Carbon Tetrachloride	0.0025	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *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)

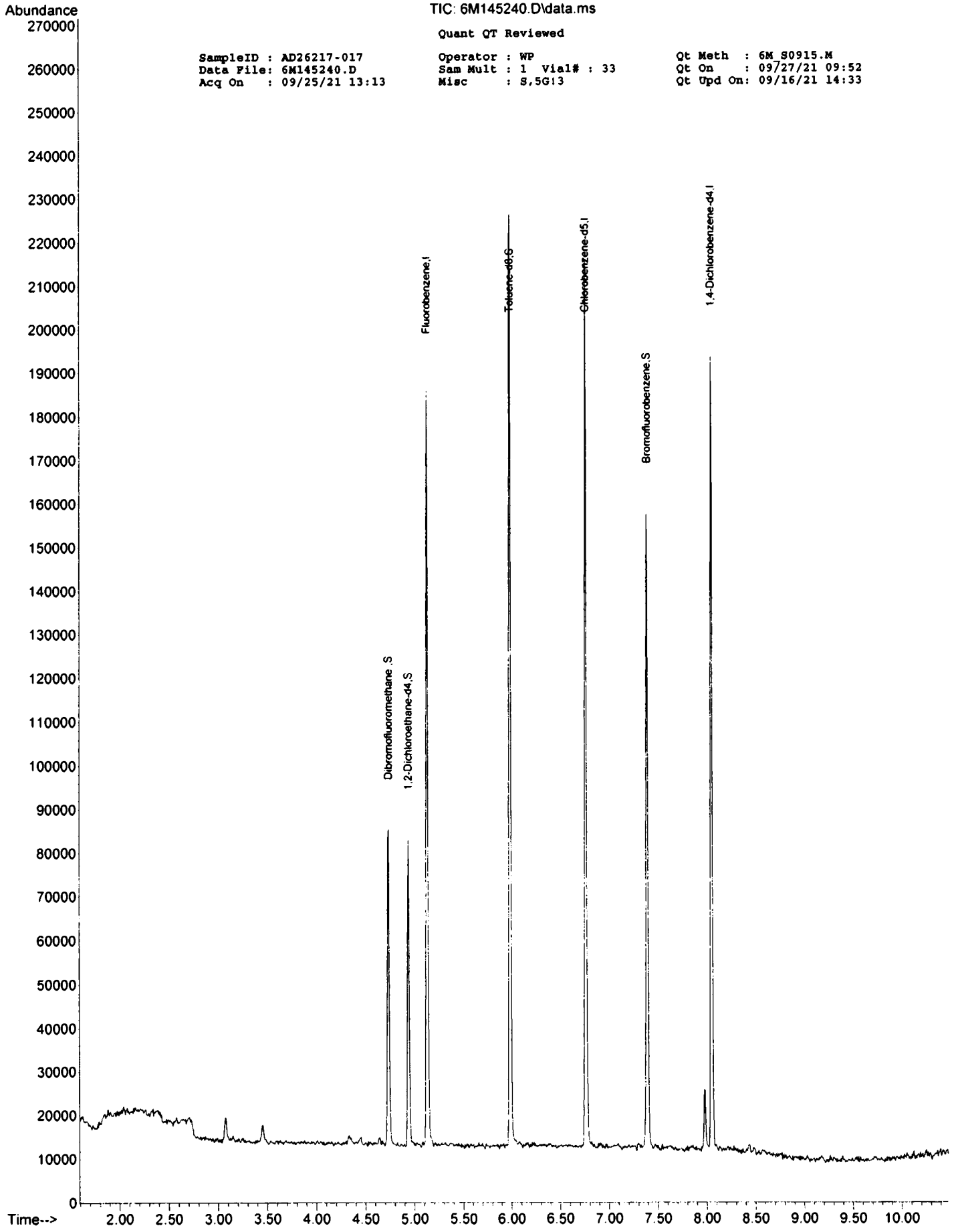
SampleID : AD26217-017 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145240.D Sam Mult : 1 Vial# : 33 Qt On : 09/27/21 09:52
Acq On : 09/25/21 13:13 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	95167	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	76497	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	33578	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	28954	32.45	ug/l	0.00
Spiked Amount 30.000			Recovery = 108.17%			
39) 1,2-Dichloroethane-d4	4.940	67	15250	28.77	ug/l	0.00
Spiked Amount 30.000			Recovery = 95.90%			
66) Toluene-d8	5.989	98	96747	31.43	ug/l	0.00
Spiked Amount 30.000			Recovery = 104.77%			
76) Bromofluorobenzene	7.391	174	28253	34.12	ug/l	0.00
Spiked Amount 30.000			Recovery = 113.73%			

Target Compounds Qvalue

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



6M_S0915.M Thu Sep 30 15:01:34 2021 RPT1

Page: 1

Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 6M145218.D
Analysis Date: 09/25/21 05:41
Date Rec/Extracted:
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5g
Final Vol: NA
Dilution: 1.00
Solids: 100

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0020	U	108-90-7	Chlorobenzene	0.0020	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0020	U	75-00-3	Chloroethane	0.0020	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0020	U	67-66-3	Chloroform	0.0020	U
79-00-5	1,1,2-Trichloroethane	0.0020	U	74-87-3	Chloromethane	0.0020	U
75-34-3	1,1-Dichloroethane	0.0020	U	156-59-2	cis-1,2-Dichloroethene	0.0020	U
75-35-4	1,1-Dichloroethene	0.0020	U	10061-01-5	cis-1,3-Dichloropropene	0.0020	U
87-61-6	1,2,3-Trichlorobenzene	0.0020	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0020	U	124-48-1	Dibromochloromethane	0.0020	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0020	U	75-71-8	Dichlorodifluoromethane	0.0020	U
106-93-4	1,2-Dibromoethane	0.00050	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	0.0012	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	0.0034	U	75-01-4	Vinyl Chloride	0.0020	U
56-23-5	Carbon Tetrachloride	0.0020	U				

Worksheet #: 610840 *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)

SampleID : DAILY BLANK
Data File: 6M145218.D
Acq On : 09/25/21 05:41

Operator : WP
Sam Mult : 1 Vial# : 11
Misc : S,5G

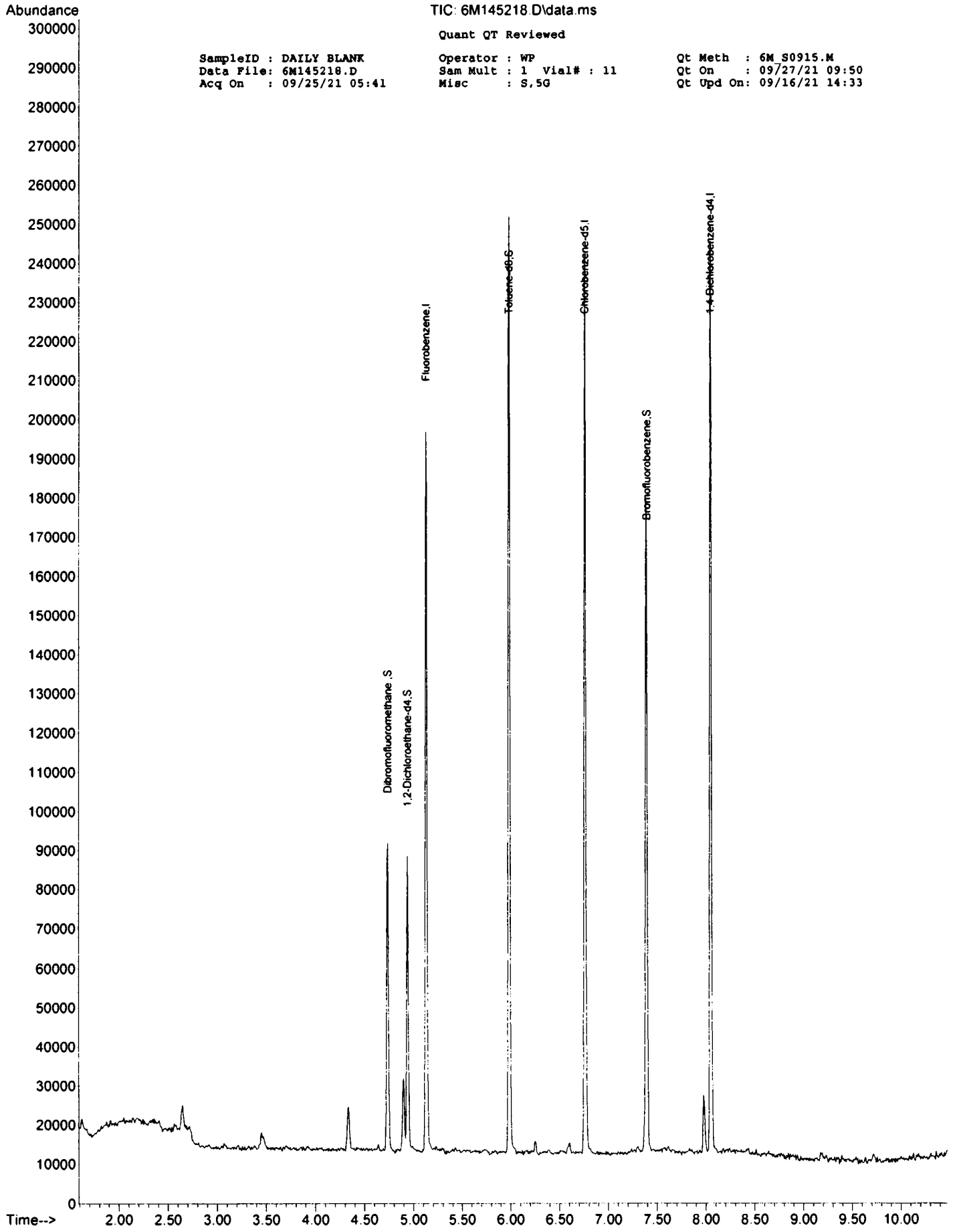
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:50
Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	107889	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	86007	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	42952	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	29865	29.52	ug/l	0.00
Spiked Amount 30.000			Recovery = 98.40%			
39) 1,2-Dichloroethane-d4	4.940	67	15591	25.95	ug/l	0.00
Spiked Amount 30.000			Recovery = 86.50%			
66) Toluene-d8	5.989	98	105222	30.41	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.37%			
76) Bromofluorobenzene	7.397	174	32980	31.13	ug/l	0.00
Spiked Amount 30.000			Recovery = 103.77%			

Target Compounds Qvalue

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



6M_S0915.M Thu Sep 30 15:01:07 2021 RPT1

Page: 1

FORM2

Surrogate Recovery

Method: EPA 8260D

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
6M145218.D	DAILY BLANK	S	09/25/21 05:41	1		98	86	101	104		
6M145232.D	AD26217-001	S	09/25/21 10:28	1		106	95	95	102		
6M145233.D	AD26217-003	S	09/25/21 10:49	1		105	89	102	101		
6M145234.D	AD26217-005	S	09/25/21 11:10	1		105	101	100	99		
6M145235.D	AD26217-007	S	09/25/21 11:30	1		104	89	100	100		
6M145236.D	AD26217-009	S	09/25/21 11:51	1		109	98	101	100		
6M145237.D	AD26217-011	S	09/25/21 12:11	1		104	91	100	100		
6M145238.D	AD26217-013	S	09/25/21 12:32	1		103	93	100	101		
6M145239.D	AD26217-015	S	09/25/21 12:52	1		108	94	109	117		
6M145240.D	AD26217-017	S	09/25/21 13:13	1		108	96	105	114		
6M145219.D	MBS96807	S	09/25/21 06:02	1		100	89	103	104		
6M145221.D	AD26074-005	S	09/25/21 06:43	1		105	95	104	111		
6M145222.D	AD26074-005(MS)	S	09/25/21 07:03	1		100	88	106	107		
6M145223.D	AD26074-005(MSD)	S	09/25/21 07:24	1		101	88	104	101		

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8260D

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: MBS96807

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M145219.D	MBS96807	9/25/2021 6:02:00 AM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	40.9701	0	50	82	20	130
Dichlorodifluoromethane	1	113.8408	0	50	228*	20	130
Chloromethane	1	48.4936	0	50	97	20	130
Bromomethane	1	53.6712	0	50	107	20	130
Vinyl Chloride	1	53.483	0	50	107	20	130
Chloroethane	1	50.3585	0	50	101	20	130
Trichlorofluoromethane	1	53.7763	0	50	108	20	130
Ethyl ether	1	40.8978	0	50	82	50	130
Furan	1	37.5392	0	50	75	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	46.0484	0	50	92	50	130
Methylene Chloride	1	43.4688	0	50	87	50	130
Acrolein	1	192.29	0	200	96	20	130
Acrylonitrile	1	35.1948	0	50	70	20	130
Iodomethane	1	45.771	0	50	92	50	130
Acetone	1	174.3952	0	200	87	20	130
Carbon Disulfide	1	45.1362	0	50	90	50	130
t-Butyl Alcohol	1	184.8276	0	200	92	20	130
n-Hexane	1	38.8129	0	50	78	50	130
Di-isopropyl-ether	1	37.9146	0	50	76	50	130
1,1-Dichloroethene	1	39.3419	0	50	79	50	130
Methyl Acetate	1	37.4646	0	50	75	50	130
Methyl-t-butyl ether	1	44.0891	0	50	88	50	130
1,1-Dichloroethane	1	42.0076	0	50	84	50	130
trans-1,2-Dichloroethene	1	45.0144	0	50	90	50	130
Ethyl-t-butyl ether	1	41.4068	0	50	83	50	130
cis-1,2-Dichloroethene	1	41.0223	0	50	82	50	130
Bromochloromethane	1	37.6575	0	50	75	50	130
2,2-Dichloropropane	1	33.9949	0	50	68	50	130
Ethyl acetate	1	34.6131	0	50	69	50	130
1,4-Dioxane	1	2324.638	0	2500	93	50	130
1,1-Dichloropropene	1	43.7891	0	50	88	50	130
Chloroform	1	43.3076	0	50	87	50	130
Cyclohexane	1	38.8253	0	50	78	50	130
1,2-Dichloroethane	1	39.7732	0	50	80	50	130
2-Butanone	1	30.8498	0	50	62	20	130
1,1,1-Trichloroethane	1	45.0596	0	50	90	50	130
Carbon Tetrachloride	1	45.9269	0	50	92	50	130
Vinyl Acetate	1	35.1153	0	50	70	50	130
Bromodichloromethane	1	43.6839	0	50	87	50	130
Methylcyclohexane	1	45.4334	0	50	91	50	130
Dibromomethane	1	47.4967	0	50	95	50	130
1,2-Dichloropropane	1	40.9185	0	50	82	50	130
Trichloroethene	1	46.4605	0	50	93	50	130
Benzene	1	46.0096	0	50	92	50	130
tert-Amyl methyl ether	1	45.4508	0	50	91	50	130
Iso-propylacetate	1	36.6737	0	50	73	50	130
Methyl methacrylate	1	37.5223	0	50	75	50	130
Dibromochloromethane	1	47.5664	0	50	95	50	130
2-Chloroethylvinylether	1	57.632	0	50	115	50	130
cis-1,3-Dichloropropene	1	44.6	0	50	89	50	130
trans-1,3-Dichloropropene	1	44.9405	0	50	90	50	130
Ethyl methacrylate	1	36.3616	0	50	73	50	130
1,1,2-Trichloroethane	1	45.4121	0	50	91	50	130
1,2-Dibromoethane	1	46.1065	0	50	92	50	130
1,3-Dichloropropane	1	43.9998	0	50	88	50	130
4-Methyl-2-Pentanone	1	37.2365	0	50	74	20	130
2-Hexanone	1	36.894	0	50	74	20	130
Tetrachloroethene	1	43.4627	0	50	87	50	130
Toluene	1	46.0194	0	50	92	50	130
1,1,1,2-Tetrachloroethane	1	46.4481	0	50	93	50	130
Chlorobenzene	1	45.4029	0	50	91	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	40.1408	0	50	80	50	130
n-Amyl acetate	1	39.8878	0	50	80	50	130
Bromoform	**1**	**49.8548**	**0**	**50**	**100**	**20**	**130**
Ethylbenzene	**1**	**49.94**	**0**	**50**	**100**	**50**	**130**
1,1,2,2-Tetrachloroethane	**1**	**46.9736**	**0**	**50**	**94**	**50**	**130**
Styrene	**1**	**48.4563**	**0**	**50**	**97**	**50**	**130**
m&p-Xylenes	**1**	**101.6396**	**0**	**100**	**102**	**50**	**130**
o-Xylene	**1**	**49.3139**	**0**	**50**	**99**	**50**	**130**
trans-1,4-Dichloro-2-butene	1	39.6971	0	50	79	20	130
1,3-Dichlorobenzene	**1**	**44.9443**	**0**	**50**	**90**	**50**	**130**
1,4-Dichlorobenzene	**1**	**44.1387**	**0**	**50**	**88**	**50**	**130**
1,2-Dichlorobenzene	**1**	**46.0417**	**0**	**50**	**92**	**50**	**130**
Isopropylbenzene	**1**	**47.7623**	**0**	**50**	**96**	**50**	**130**
Cyclohexanone	1	178.3555	0	250	71	50	130
Camphene	1	47.1291	0	50	94	50	130
1,2,3-Trichloropropane	1	44.898	0	50	90	50	130
2-Chlorotoluene	1	45.513	0	50	91	50	130
p-Ethyltoluene	1	44.5022	0	50	89	50	130
4-Chlorotoluene	1	45.4867	0	50	91	50	130
n-Propylbenzene	1	47.0935	0	50	94	50	130
Bromobenzene	1	44.4902	0	50	89	50	130
1,3,5-Trimethylbenzene	1	47.2819	0	50	95	50	130
Butyl methacrylate	1	38.4118	0	50	77	50	130
t-Butylbenzene	1	47.743	0	50	95	50	130
1,2,4-Trimethylbenzene	1	47.1351	0	50	94	50	130
sec-Butylbenzene	1	48.1052	0	50	96	50	130
4-Isopropyltoluene	1	45.5025	0	50	91	50	130
n-Butylbenzene	1	45.0811	0	50	90	50	130
p-Diethylbenzene	1	42.9132	0	50	86	50	130
1,2,4,5-Tetramethylbenzene	1	40.2773	0	50	81	50	130
1,2-Dibromo-3-Chloropropane	**1**	**46.1656**	**0**	**50**	**92**	**50**	**130**
Camphor	1	396.8035	0	500	79	50	130
Hexachlorobutadiene	1	44.0547	0	50	88	50	130
1,2,4-Trichlorobenzene	**1**	**40.2505**	**0**	**50**	**81**	**50**	**130**
1,2,3-Trichlorobenzene	**1**	**40.2083**	**0**	**50**	**80**	**50**	**130**
Naphthalene	1	38.4118	0	50	77	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M145222.D	AD26074-005(MS)	9/25/2021 7:03:00 AM
Non Spike(If applicable):	6M145221.D	AD26074-005	9/25/2021 6:43:00 AM
Inst Blank(If applicable):			

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	36.5466	0	50	73	20	130
Dichlorodifluoromethane	1	113.5979	0	50	227*	20	130
Chloromethane	1	47.0729	0	50	94	20	130
Bromomethane	1	44.6237	0	50	89	20	130
Vinyl Chloride	1	52.637	0	50	105	20	130
Chloroethane	1	48.321	0	50	97	20	130
Trichlorofluoromethane	1	52.6269	0	50	105	20	130
Ethyl ether	1	39.1606	0	50	78	50	130
Furan	1	35.4154	0	50	71	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	46.1849	0	50	92	50	130
Methylene Chloride	1	39.7931	0	50	80	50	130
Acrolein	1	10.0886	0	200	5*	20	130
Acrylonitrile	1	24.0474	0	50	48	20	130
Iodomethane	1	32.8149	0	50	66	50	130
Acetone	1	159.3897	0	200	80	20	130
Carbon Disulfide	1	39.1485	0	50	78	50	130
t-Butyl Alcohol	1	168.7036	0	200	84	20	130
n-Hexane	1	30.1341	0	50	60	50	130
Di-isopropyl-ether	1	35.5747	0	50	71	50	130
1,1-Dichloroethene	1	36.4974	0	50	73	50	130
Methyl Acetate	1	32.8332	0	50	66	50	130
Methyl-t-butyl ether	1	41.4936	0	50	83	50	130
1,1-Dichloroethane	1	40.3712	0	50	81	50	130
trans-1,2-Dichloroethene	1	40.8174	0	50	82	50	130
Ethyl-t-butyl ether	1	39.5344	0	50	79	50	130
cis-1,2-Dichloroethene	1	34.3477	0	50	69	50	130
Bromochloromethane	1	34.707	0	50	69	50	130
2,2-Dichloropropane	1	29.6286	0	50	59	50	130
Ethyl acetate	1	2.9291	0	50	5.9*	50	130
1,4-Dioxane	1	1995.264	0	2500	80	50	130
1,1-Dichloropropene	1	39.2727	0	50	79	50	130
Chloroform	1	41.5113	0	50	83	50	130
Cyclohexane	1	34.5843	0	50	69	50	130
1,2-Dichloroethane	1	36.9359	0	50	74	50	130
2-Butanone	1	28.1889	0	50	56	20	130
1,1,1-Trichloroethane	1	41.5389	0	50	83	50	130
Carbon Tetrachloride	1	43.0844	0	50	86	50	130
Vinyl Acetate	1	21.2062	0	50	42*	50	130
Bromodichloromethane	1	39.8498	0	50	80	50	130
Methylcyclohexane	1	35.4372	0	50	71	50	130
Dibromomethane	1	43.4055	0	50	87	50	130
1,2-Dichloropropane	1	39.2251	0	50	78	50	130
Trichloroethene	1	41.0174	0	50	82	50	130
Benzene	1	42.1759	0	50	84	50	130
tert-Amyl methyl ether	1	43.4899	0	50	87	50	130
Iso-propylacetate	1	5.2275	0	50	10*	50	130
Methyl methacrylate	1	38.8614	0	50	78	50	130
Dibromochloromethane	1	42.6443	0	50	85	50	130
2-Chloroethylvinylether	1	62.2297	15.1041	50	94	50	130
cis-1,3-Dichloropropene	1	37.7882	0	50	76	50	130
trans-1,3-Dichloropropene	1	36.8659	0	50	74	50	130
Ethyl methacrylate	1	5.1913	0	50	10*	50	130
1,1,2-Trichloroethane	1	42.3425	0	50	85	50	130
1,2-Dibromoethane	1	40.146	0	50	80	50	130
1,3-Dichloropropane	1	40.5628	0	50	81	50	130
4-Methyl-2-Pentanone	1	24.7687	0	50	50	20	130
2-Hexanone	1	16.3348	0	50	33	20	130
Tetrachloroethene	1	38.8564	0	50	78	50	130
Toluene	1	41.9706	0	50	84	50	130
1,1,1,2-Tetrachloroethane	1	40.6237	0	50	81	50	130
Chlorobenzene	1	38.3803	0	50	77	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	0	0	50	0*	50	130
n-Amyl acetate	1	0	0	50	0*	50	130
Bromoform	**1**	**42.3458**	**0**	**50**	**85**	**20**	**130**
Ethylbenzene	**1**	**42.7257**	**0**	**50**	**85**	**50**	**130**
1,1,2,2-Tetrachloroethane	**1**	**41.1088**	**0**	**50**	**82**	**50**	**130**
Styrene	**1**	**39.7464**	**0**	**50**	**79**	**50**	**130**
m&p-Xylenes	**1**	**87.6912**	**0**	**100**	**88**	**50**	**130**
o-Xylene	**1**	**43.1962**	**0**	**50**	**86**	**50**	**130**
trans-1,4-Dichloro-2-butene	1	25.6628	0	50	51	20	130
1,3-Dichlorobenzene	**1**	**34.035**	**0**	**50**	**68**	**50**	**130**
1,4-Dichlorobenzene	**1**	**33.7845**	**0**	**50**	**68**	**50**	**130**
1,2-Dichlorobenzene	**1**	**34.7492**	**0**	**50**	**69**	**50**	**130**
Isopropylbenzene	**1**	**40.5823**	**0**	**50**	**81**	**50**	**130**
Cyclohexanone	1	163.4312	0	250	65	50	130
Camphene	1	32.4764	0	50	65	50	130
1,2,3-Trichloropropane	1	37.2539	0	50	75	50	130
2-Chlorotoluene	1	37.0804	0	50	74	50	130
p-Ethyltoluene	1	33.0069	0	50	66	50	130
4-Chlorotoluene	1	36.5968	0	50	73	50	130
n-Propylbenzene	1	38.0911	0	50	76	50	130
Bromobenzene	1	36.2696	0	50	73	50	130
1,3,5-Trimethylbenzene	1	37.1645	0	50	74	50	130
Butyl methacrylate	1	5.0459	0	50	10*	50	130
t-Butylbenzene	1	37.5025	0	50	75	50	130
1,2,4-Trimethylbenzene	1	35.281	0	50	71	50	130
sec-Butylbenzene	1	34.9844	0	50	70	50	130
4-Isopropyltoluene	1	27.3863	0	50	55	50	130
n-Butylbenzene	1	29.162	0	50	58	50	130
p-Diethylbenzene	1	30.0689	0	50	60	50	130
1,2,4,5-Tetramethylbenzene	1	25.3308	0	50	51	50	130
1,2-Dibromo-3-Chloropropane	**1**	**38.4781**	**0**	**50**	**77**	**50**	**130**
Camphor	1	342.0806	0	500	68	50	130
Hexachlorobutadiene	1	18.4085	0	50	37*	50	130
1,2,4-Trichlorobenzene	**1**	**23.2547**	**0**	**50**	**47***	**50**	**130**
1,2,3-Trichlorobenzene	**1**	**20.9275**	**0**	**50**	**42***	**50**	**130**
Naphthalene	1	20.7373	0	50	41*	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M145223.D	AD26074-005(MSD)	9/25/2021 7:24:00 AM
Non Spike(If applicable):	6M145221.D	AD26074-005	9/25/2021 6:43:00 AM
Inst Blank(If applicable):			

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	31.5122	0	50	63	20	130
Dichlorodifluoromethane	**1**	**88.8191**	**0**	**50**	**178***	**20**	**130**
Chloromethane	**1**	**37.6363**	**0**	**50**	**75**	**20**	**130**
Bromomethane	**1**	**36.1327**	**0**	**50**	**72**	**20**	**130**
Vinyl Chloride	**1**	**40.0632**	**0**	**50**	**80**	**20**	**130**
Chloroethane	**1**	**38.5917**	**0**	**50**	**77**	**20**	**130**
Trichlorofluoromethane	**1**	**40.2053**	**0**	**50**	**80**	**20**	**130**
Ethyl ether	1	30.6068	0	50	61	50	130
Furan	1	28.6202	0	50	57	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	**1**	**34.0714**	**0**	**50**	**68**	**50**	**130**
Methylene Chloride	**1**	**32.1355**	**0**	**50**	**64**	**50**	**130**
Acrolein	1	0	0	200	0*	20	130
Acrylonitrile	1	18.9428	0	50	38	20	130
Iodomethane	1	25.4827	0	50	51	50	130
Acetone	**1**	**122.6929**	**0**	**200**	**61**	**20**	**130**
Carbon Disulfide	**1**	**30.7871**	**0**	**50**	**62**	**50**	**130**
t-Butyl Alcohol	**1**	**141.6134**	**0**	**200**	**71**	**20**	**130**
n-Hexane	1	23.6483	0	50	47*	50	130
Di-isopropyl-ether	1	27.3696	0	50	55	50	130
1,1-Dichloroethene	**1**	**28.3871**	**0**	**50**	**57**	**50**	**130**
Methyl Acetate	**1**	**23.5804**	**0**	**50**	**47***	**50**	**130**
Methyl-t-butyl ether	**1**	**32.6013**	**0**	**50**	**65**	**50**	**130**
1,1-Dichloroethane	**1**	**31.3202**	**0**	**50**	**63**	**50**	**130**
trans-1,2-Dichloroethene	**1**	**32.3078**	**0**	**50**	**65**	**50**	**130**
Ethyl-t-butyl ether	1	30.3232	0	50	61	50	130
cis-1,2-Dichloroethene	**1**	**26.4901**	**0**	**50**	**53**	**50**	**130**
Bromochloromethane	**1**	**26.5612**	**0**	**50**	**53**	**50**	**130**
2,2-Dichloropropane	1	21.9644	0	50	44*	50	130
Ethyl acetate	1	10.6292	0	50	21*	50	130
1,4-Dioxane	**1**	**1765.84**	**0**	**2500**	**71**	**50**	**130**
1,1-Dichloropropene	1	29.669	0	50	59	50	130
Chloroform	**1**	**33.0778**	**0**	**50**	**66**	**50**	**130**
Cyclohexane	**1**	**26.6172**	**0**	**50**	**53**	**50**	**130**
1,2-Dichloroethane	**1**	**29.5197**	**0**	**50**	**59**	**50**	**130**
2-Butanone	**1**	**23.652**	**0**	**50**	**47**	**20**	**130**
1,1,1-Trichloroethane	**1**	**31.749**	**0**	**50**	**63**	**50**	**130**
Carbon Tetrachloride	**1**	**32.1423**	**0**	**50**	**64**	**50**	**130**
Vinyl Acetate	1	16.3194	0	50	33*	50	130
Bromodichloromethane	**1**	**31.769**	**0**	**50**	**64**	**50**	**130**
Methylcyclohexane	**1**	**27.5366**	**0**	**50**	**55**	**50**	**130**
Dibromomethane	1	35.6969	0	50	71	50	130
1,2-Dichloropropane	**1**	**30.9725**	**0**	**50**	**62**	**50**	**130**
Trichloroethene	**1**	**32.7485**	**0**	**50**	**65**	**50**	**130**
Benzene	**1**	**32.5371**	**0**	**50**	**65**	**50**	**130**
tert-Amyl methyl ether	1	32.0033	0	50	64	50	130
Iso-propylacetate	1	3.4079	0	50	6.8*	50	130
Methyl methacrylate	1	28.6715	0	50	57	50	130
Dibromochloromethane	**1**	**33.7419**	**0**	**50**	**67**	**50**	**130**
2-Chloroethylvinylether	1	75.7482	15.1041	50	121	50	130
cis-1,3-Dichloropropene	**1**	**28.3113**	**0**	**50**	**57**	**50**	**130**
trans-1,3-Dichloropropene	**1**	**28.4332**	**0**	**50**	**57**	**50**	**130**
Ethyl methacrylate	1	2.9073	0	50	5.8*	50	130
1,1,2-Trichloroethane	**1**	**32.0398**	**0**	**50**	**64**	**50**	**130**
1,2-Dibromoethane	**1**	**30.1426**	**0**	**50**	**60**	**50**	**130**
1,3-Dichloropropane	1	31.8286	0	50	64	50	130
4-Methyl-2-Pentanone	**1**	**17.4339**	**0**	**50**	**35**	**20**	**130**
2-Hexanone	**1**	**10.648**	**0**	**50**	**21**	**20**	**130**
Tetrachloroethene	**1**	**30.6716**	**0**	**50**	**61**	**50**	**130**
Toluene	**1**	**32.077**	**0**	**50**	**64**	**50**	**130**
1,1,1,2-Tetrachloroethane	1	32.4971	0	50	65	50	130
Chlorobenzene	**1**	**30.749**	**0**	**50**	**61**	**50**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	0	0	50	0*	50	130
n-Amyl acetate	1	0	0	50	0*	50	130
Bromoform	**1**	**33.698**	**0**	**50**	**67**	**20**	**130**
Ethylbenzene	**1**	**30.863**	**0**	**50**	**62**	**50**	**130**
1,1,2,2-Tetrachloroethane	**1**	**32.362**	**0**	**50**	**65**	**50**	**130**
Styrene	**1**	**29.1881**	**0**	**50**	**58**	**50**	**130**
m&p-Xylenes	**1**	**64.4869**	**0**	**100**	**64**	**50**	**130**
o-Xylene	**1**	**33.4924**	**0**	**50**	**67**	**50**	**130**
trans-1,4-Dichloro-2-butene	1	19.26	0	50	39	20	130
1,3-Dichlorobenzene	**1**	**27.0882**	**0**	**50**	**54**	**50**	**130**
1,4-Dichlorobenzene	**1**	**25.5207**	**0**	**50**	**51**	**50**	**130**
1,2-Dichlorobenzene	**1**	**27.392**	**0**	**50**	**55**	**50**	**130**
Isopropylbenzene	**1**	**31.666**	**0**	**50**	**63**	**50**	**130**
Cyclohexanone	1	134.4696	0	250	54	50	130
Camphene	1	24.808	0	50	50	50	130
1,2,3-Trichloropropane	1	29.4329	0	50	59	50	130
2-Chlorotoluene	1	28.115	0	50	56	50	130
p-Ethyltoluene	1	24.0185	0	50	48*	50	130
4-Chlorotoluene	1	26.3379	0	50	53	50	130
n-Propylbenzene	1	29.0793	0	50	58	50	130
Bromobenzene	1	27.9108	0	50	56	50	130
1,3,5-Trimethylbenzene	1	29.1574	0	50	58	50	130
Butyl methacrylate	1	2.9461	0	50	5.9*	50	130
t-Butylbenzene	1	28.3868	0	50	57	50	130
1,2,4-Trimethylbenzene	1	26.2393	0	50	52	50	130
sec-Butylbenzene	1	27.1507	0	50	54	50	130
4-Isopropyltoluene	1	18.7529	0	50	38*	50	130
n-Butylbenzene	1	22.0811	0	50	44*	50	130
p-Diethylbenzene	1	23.0265	0	50	46*	50	130
1,2,4,5-Tetramethylbenzene	1	19.088	0	50	38*	50	130
1,2-Dibromo-3-Chloropropane	**1**	**32.0858**	**0**	**50**	**64**	**50**	**130**
Camphor	1	301.6844	0	500	60	50	130
Hexachlorobutadiene	1	14.1614	0	50	28*	50	130
1,2,4-Trichlorobenzene	**1**	**18.1451**	**0**	**50**	**36***	**50**	**130**
1,2,3-Trichlorobenzene	**1**	**16.6826**	**0**	**50**	**33***	**50**	**130**
Naphthalene	1	16.526	0	50	33*	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: MBS96807

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M145223.D	AD26074-005(MSD)	9/25/2021 7:24:00 AM
Duplicate(If applicable):	6M145222.D	AD26074-005(MS)	9/25/2021 7:03:00 AM
Inst Blank(If applicable):			

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chlorodifluoromethane	1	31.5122	36.5466	15	30
Dichlorodifluoromethane	1	88.8191	113.5979	24	30
Chloromethane	1	37.6363	47.0729	22	30
Bromomethane	1	36.1327	44.6237	21	30
Vinyl Chloride	1	40.0632	52.637	27	40
Chloroethane	1	38.5917	48.321	22	30
Trichlorofluoromethane	1	40.2053	52.6269	27	30
Ethyl ether	1	30.6068	39.1606	25	30
Furan	1	28.6202	35.4154	21	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1	34.0714	46.1849	30	30
Methylene Chloride	1	32.1355	39.7931	21	30
Acrolein	1	0	10.0886	200*	30
Acrylonitrile	1	18.9428	24.0474	24	30
Iodomethane	1	25.4827	32.8149	25	30
Acetone	1	122.6929	159.3897	26	30
Carbon Disulfide	1	30.7871	39.1485	24	30
t-Butyl Alcohol	1	141.6134	168.7036	17	30
n-Hexane	1	23.6483	30.1341	24	30
Di-isopropyl-ether	1	27.3696	35.5747	26	30
1,1-Dichloroethene	1	28.3871	36.4974	25	40
Methyl Acetate	1	23.5804	32.8332	33*	30
Methyl-t-butyl ether	1	32.6013	41.4936	24	30
1,1-Dichloroethane	1	31.3202	40.3712	25	40
trans-1,2-Dichloroethene	1	32.3078	40.8174	23	30
Ethyl-t-butyl ether	1	30.3232	39.5344	26	30
cis-1,2-Dichloroethene	1	26.4901	34.3477	26	30
Bromochloromethane	1	26.5612	34.707	27	30
2,2-Dichloropropane	1	21.9644	29.6286	30	30
Ethyl acetate	1	10.6292	2.9291	114*	30
1,4-Dioxane	1	1765.84	1995.264	12	30
1,1-Dichloropropene	1	29.669	39.2727	28	30
Chloroform	1	33.0778	41.5113	23	40
Cyclohexane	1	26.6172	34.5843	26	30
1,2-Dichloroethane	1	29.5197	36.9359	22	40
2-Butanone	1	23.652	28.1889	18	40
1,1,1-Trichloroethane	1	31.749	41.5389	27	30
Carbon Tetrachloride	1	32.1423	43.0844	29	40
Vinyl Acetate	1	16.3194	21.2062	26	30
Bromodichloromethane	1	31.769	39.8498	23	30
Methylcyclohexane	1	27.5366	35.4372	25	30
Dibromomethane	1	35.6969	43.4055	19	30
1,2-Dichloropropane	1	30.9725	39.2251	24	30
Trichloroethene	1	32.7485	41.0174	22	40
Benzene	1	32.5371	42.1759	26	40
tert-Amyl methyl ether	1	32.0033	43.4899	30	30
Iso-propylacetate	1	3.4079	5.2275	42*	30
Methyl methacrylate	1	28.6715	38.8614	30	30
Dibromochloromethane	1	33.7419	42.6443	23	30
2-Chloroethylvinylether	1	75.7482	62.2297	20	30
cis-1,3-Dichloropropene	1	28.3113	37.7882	29	30
trans-1,3-Dichloropropene	1	28.4332	36.8659	26	30
Ethyl methacrylate	1	2.9073	5.1913	56*	30
1,1,2-Trichloroethane	1	32.0398	42.3425	28	30
1,2-Dibromoethane	1	30.1426	40.146	28	30
1,3-Dichloropropane	1	31.8286	40.5628	24	30
4-Methyl-2-Pentanone	1	17.4339	24.7687	35*	30
2-Hexanone	1	10.648	16.3348	42*	30
Tetrachloroethene	1	30.6716	38.8564	24	40
Toluene	1	32.077	41.9706	27	40
1,1,1,2-Tetrachloroethane	1	32.4971	40.6237	22	30
Chlorobenzene	1	30.749	38.3803	22	40

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: MBS96807

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
n-Butyl acrylate	1	0	0	NA	30
n-Amyl acetate	1	0	0	NA	30
Bromoform	**1**	**33.698**	**42.3458**	**23**	**30**
Ethylbenzene	**1**	**30.863**	**42.7257**	**32 ***	**30**
1,1,2,2-Tetrachloroethane	**1**	**32.362**	**41.1088**	**24**	**30**
Styrene	**1**	**29.1881**	**39.7464**	**31 ***	**30**
m&p-Xylenes	**1**	**64.4869**	**87.6912**	**30**	**30**
o-Xylene	**1**	**33.4924**	**43.1962**	**25**	**30**
trans-1,4-Dichloro-2-butene	1	19.26	25.6628	29	30
1,3-Dichlorobenzene	**1**	**27.0882**	**34.035**	**23**	**30**
1,4-Dichlorobenzene	**1**	**25.5207**	**33.7845**	**28**	**40**
1,2-Dichlorobenzene	**1**	**27.392**	**34.7492**	**24**	**40**
Isopropylbenzene	**1**	**31.666**	**40.5823**	**25**	**30**
Cyclohexanone	1	134.4696	163.4312	19	30
Camphene	1	24.808	32.4764	27	30
1,2,3-Trichloropropane	1	29.4329	37.2539	23	30
2-Chlorotoluene	1	28.115	37.0804	28	30
p-Ethyltoluene	1	24.0185	33.0069	32 *	30
4-Chlorotoluene	1	26.3379	36.5968	33 *	30
n-Propylbenzene	1	29.0793	38.0911	27	40
Bromobenzene	1	27.9108	36.2696	26	30
1,3,5-Trimethylbenzene	1	29.1574	37.1645	24	30
Butyl methacrylate	1	2.9461	5.0459	53 *	30
t-Butylbenzene	1	28.3868	37.5025	28	30
1,2,4-Trimethylbenzene	1	26.2393	35.281	29	30
sec-Butylbenzene	1	27.1507	34.9844	25	40
4-Isopropyltoluene	1	18.7529	27.3863	37 *	30
n-Butylbenzene	1	22.0811	29.162	28	30
p-Diethylbenzene	1	23.0265	30.0689	27	30
1,2,4,5-Tetramethylbenzene	1	19.088	25.3308	28	30
1,2-Dibromo-3-Chloropropane	**1**	**32.0858**	**38.4781**	**18**	**30**
Camphor	1	301.6844	342.0806	13	30
Hexachlorobutadiene	1	14.1614	18.4085	26	30
1,2,4-Trichlorobenzene	**1**	**18.1451**	**23.2547**	**25**	**30**
1,2,3-Trichlorobenzene	**1**	**16.6826**	**20.9275**	**23**	**30**
Naphthalene	1	16.526	20.7373	23	30

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 6M145218.D
Matrix: Soil

Blank Analysis Date: 09/25/21 05:41
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260D

Sample Number	Data File	Analysis Date
AD26217-001	6M145232.D	09/25/21 10:28
AD26217-003	6M145233.D	09/25/21 10:49
AD26217-005	6M145234.D	09/25/21 11:10
AD26217-007	6M145235.D	09/25/21 11:30
AD26217-009	6M145236.D	09/25/21 11:51
AD26217-011	6M145237.D	09/25/21 12:11
AD26217-013	6M145238.D	09/25/21 12:32
AD26217-015	6M145239.D	09/25/21 12:52
AD26217-017	6M145240.D	09/25/21 13:13
AD26074-005(MSD	6M145223.D	09/25/21 07:24
AD26074-005(MS)	6M145222.D	09/25/21 07:03
AD26074-005	6M145221.D	09/25/21 06:43
MBS96807	6M145219.D	09/25/21 06:02

Form 5

Tune Name: BFB TUNE **Data File:** 6M144906.D
Instrument: GCMS 6 **Analysis Date:** 09/15/21 19:07
Method: EPA 8260D
Tune Scan/Time Range: Average of 7.367 to 7.409 min

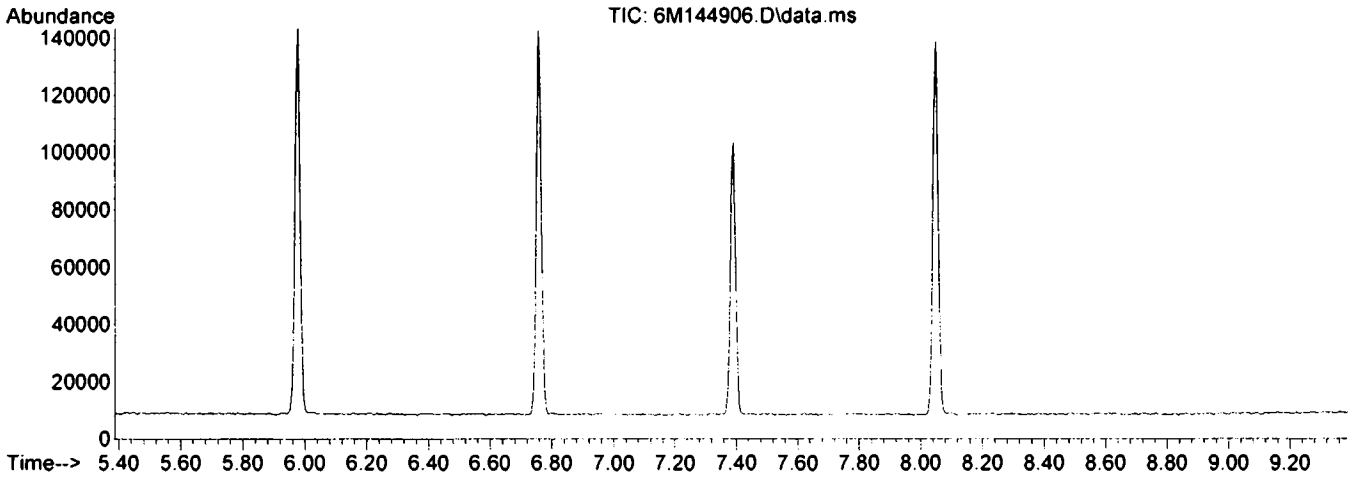
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	26.2	1981	PASS
75	95	30	60	51.2	3874	PASS
95	95	100	100	100.0	7571	PASS
96	95	5	9	6.8	513	PASS
173	174	0.00	2	0.6	36	PASS
174	95	50	100	80.7	6111	PASS
175	174	5	9	7.7	472	PASS
176	174	95	101	95.8	5854	PASS
177	176	5	9	6.7	395	PASS

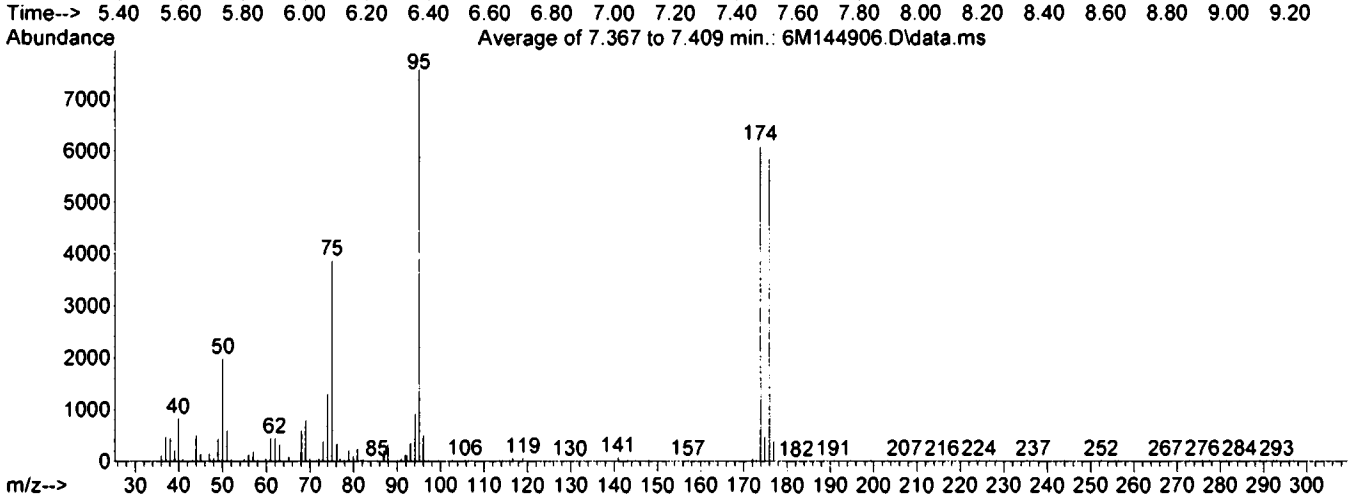
Data File	Sample Number	Analysis Date:
6M144909.D	CAL @ 0.5 PPB	09/15/21 20:13
6M144910.D	CAL @ 1 PPB	09/15/21 20:34
6M144911.D	CAL @ 2 PPB	09/15/21 20:55
6M144912.D	CAL @ 5 PPB	09/15/21 21:16
6M144913.D	CAL @ 20 PPB	09/15/21 21:36
6M144914.D	CAL @ 50 PPB	09/15/21 21:57
6M144915.D	CAL @ 500 PPB	09/15/21 22:18
6M144917.D	CAL @ 250 PPB	09/15/21 22:59
6M144919.D	CAL @ 100 PPB	09/15/21 23:40
6M144922.D	ICV	09/16/21 00:42

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-15-21\
Data File : 6M144906.D
Acq On : 15 Sep 2021 19:07
Operator : WP
Sample : BFB TUNE
Misc : S,5G
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2021\GCMS_6\MethodQt\6M_S0915.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 16 14:20:25 2021





Spectrum Information: Average of 7.367 to 7.409 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.2	1981	PASS
75	95	30	60	51.2	3874	PASS
95	95	100	100	100.0	7571	PASS
96	95	5	9	6.8	513	PASS
173	174	0.00	2	0.6	36	PASS
174	95	50	100	80.7	6111	PASS
175	174	5	9	7.7	472	PASS
176	174	95	101	95.8	5854	PASS
177	176	5	9	6.7	395	PASS

Form 5

Tune Name: BFB TUNE **Data File:** 6M145053.D
Instrument: GCMS 6 **Analysis Date:** 09/21/21 05:52
Method: EPA 8260D
Tune Scan/Time Range: Average of 7.397 to 7.403 min

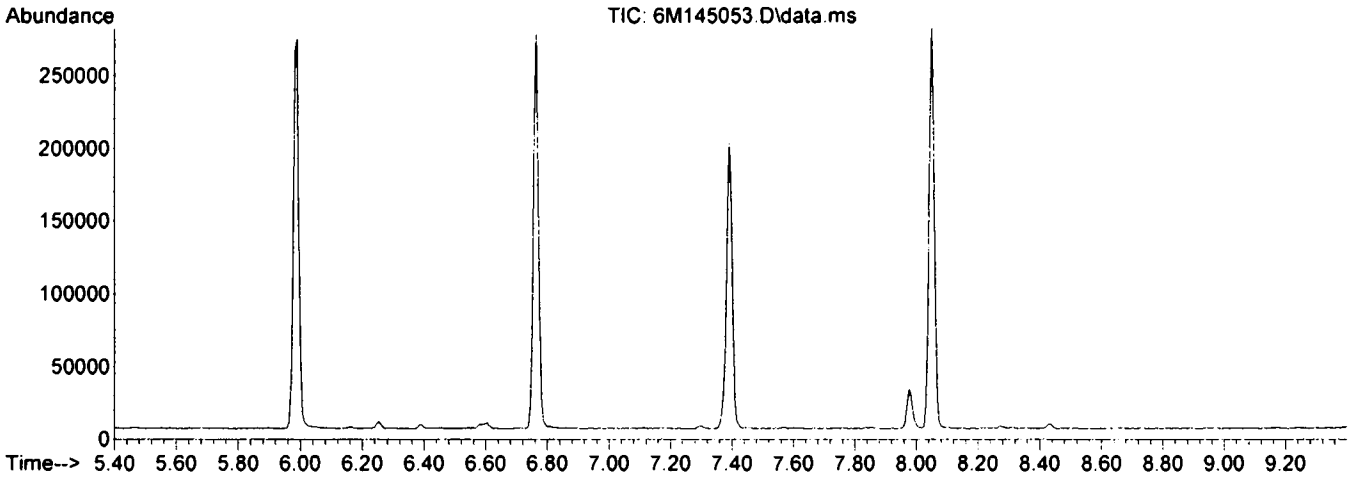
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	27.1	5864	PASS
75	95	30	60	55.3	11976	PASS
95	95	100	100	100.0	21652	PASS
96	95	5	9	5.7	1226	PASS
173	174	0.00	2	1.5	299	PASS
174	95	50	100	93.5	20252	PASS
175	174	5	9	7.9	1608	PASS
176	174	95	101	96.7	19574	PASS
177	176	5	9	6.6	1299	PASS

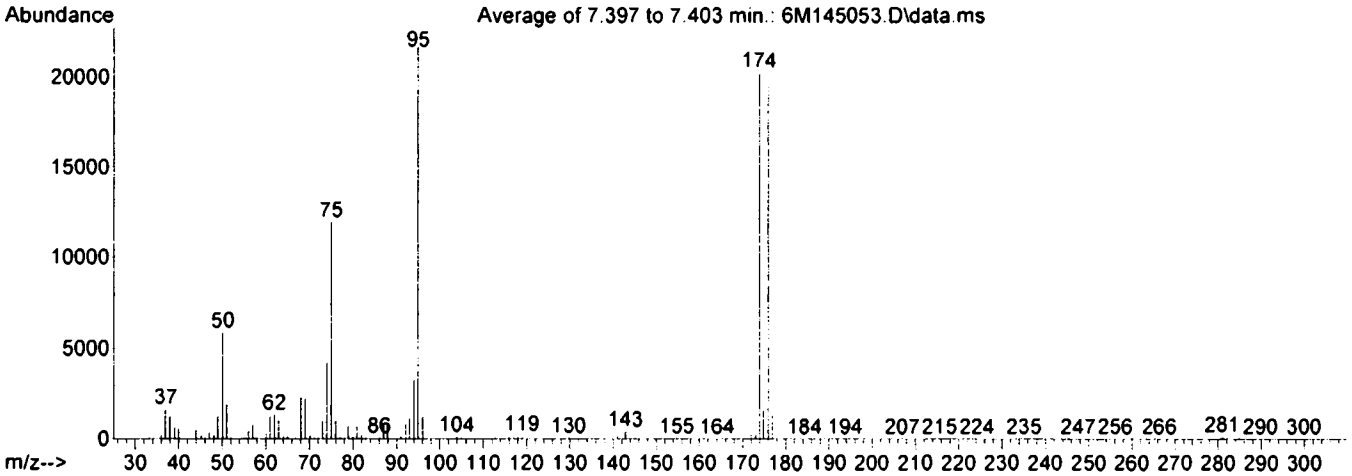
Data File	Sample Number	Analysis Date:
6M145054.D	50 PPB	09/21/21 06:12
6M145055.D	CAL @ 50 PPB	09/21/21 06:33
6M145056.D	BLK	09/21/21 06:54
6M145057.D	BLK	09/21/21 07:14
6M145058.D	BLK	09/21/21 07:35
6M145059.D	DAILY BLANK	09/21/21 07:56
6M145060.D	AD26072-001	09/21/21 08:16
6M145061.D	MBS96776	09/21/21 08:37
6M145062.D	AD26073-001	09/21/21 08:57
6M145063.D	AD26072-001(MS)	09/21/21 09:18
6M145064.D	AD26072-001(MSD	09/21/21 09:39
6M145065.D	MBS96777	09/21/21 09:59
6M145066.D	BLK	09/21/21 10:20
6M145067.D	BLK	09/21/21 10:40
6M145068.D	AD26072-005	09/21/21 11:01
6M145069.D	AD26072-003	09/21/21 11:22
6M145070.D	AD26074-001	09/21/21 11:42
6M145071.D	AD26074-005	09/21/21 12:03
6M145072.D	AD26074-003	09/21/21 12:24
6M145073.D	AD26075-001	09/21/21 12:44
6M145074.D	AD26075-005	09/21/21 13:05
6M145075.D	AD26075-003	09/21/21 13:26
6M145076.D	AD26076-001	09/21/21 13:46
6M145077.D	AD26076-005	09/21/21 14:07
6M145078.D	AD26076-003	09/21/21 14:28
6M145079.D	AD26084-001	09/21/21 14:48
6M145080.D	AD26084-002	09/21/21 15:09
6M145081.D	AD26088-001	09/21/21 15:30
6M145082.D	AD26088-003	09/21/21 15:51
6M145083.D	AD26089-001	09/21/21 16:11
6M145084.D	26009-002	09/21/21 16:32
6M145085.D	AD26069-002(5X)	09/21/21 16:53
6M145086.D	26079-001(5X)	09/21/21 17:14
6M145087.D	BLK	09/21/21 17:34

Data Path : G:\GcMsData\2021\GCMS_6\Data\0921-21\
Data File : 6M145053.D
Acq On : 21 Sep 2021 05:52
Operator : WP
Sample : BFB TUNE
Misc : S,5G
ALS Vial : 5 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2021\GCMS_6\MethodQt\6M_S0915.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 16 14:20:25 2021





Spectrum Information: Average of 7.397 to 7.403 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.1	5864	PASS
75	95	30	60	55.3	11976	PASS
95	95	100	100	100.0	21652	PASS
96	95	5	9	5.7	1226	PASS
173	174	0.00	2	1.5	299	PASS
174	95	50	100	93.5	20252	PASS
175	174	5	9	7.9	1608	PASS
176	174	95	101	96.7	19574	PASS
177	176	5	9	6.6	1299	PASS

Form 5

Tune Name: BFB TUNE **Data File:** 6M145213.D
Instrument: GCMS 6 **Analysis Date:** 09/25/21 03:58
Method: EPA 8260D
Tune Scan/Time Range: Average of 7.379 to 7.391 min

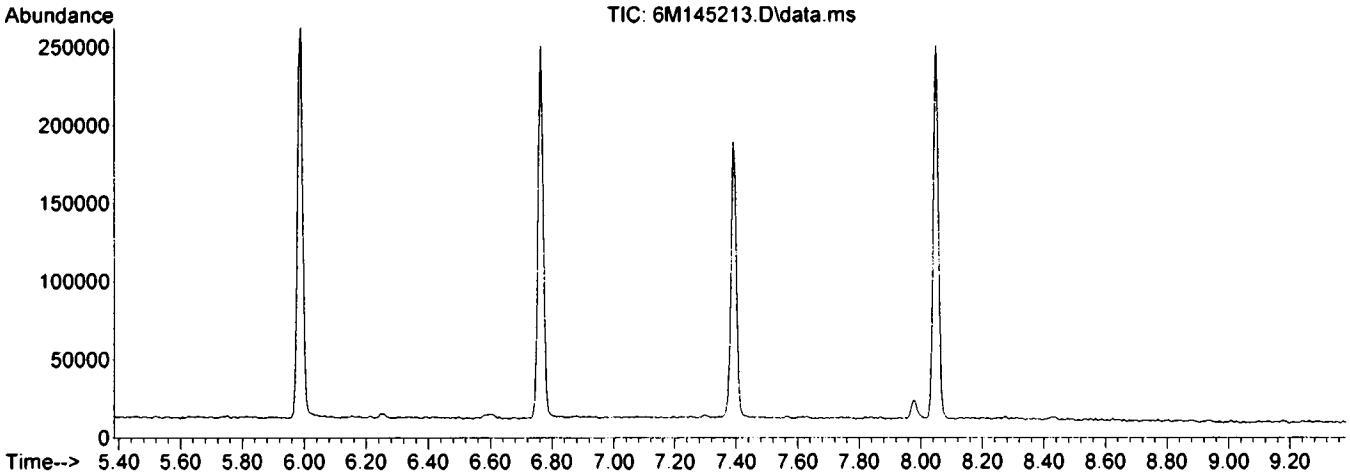
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	26.0	5477	PASS
75	95	30	60	52.5	11081	PASS
95	95	100	100	100.0	21090	PASS
96	95	5	9	7.5	1572	PASS
173	174	0.00	2	1.6	235	PASS
174	95	50	100	70.1	14776	PASS
175	174	5	9	7.0	1034	PASS
176	174	95	101	95.5	14107	PASS
177	176	5	9	7.1	1006	PASS

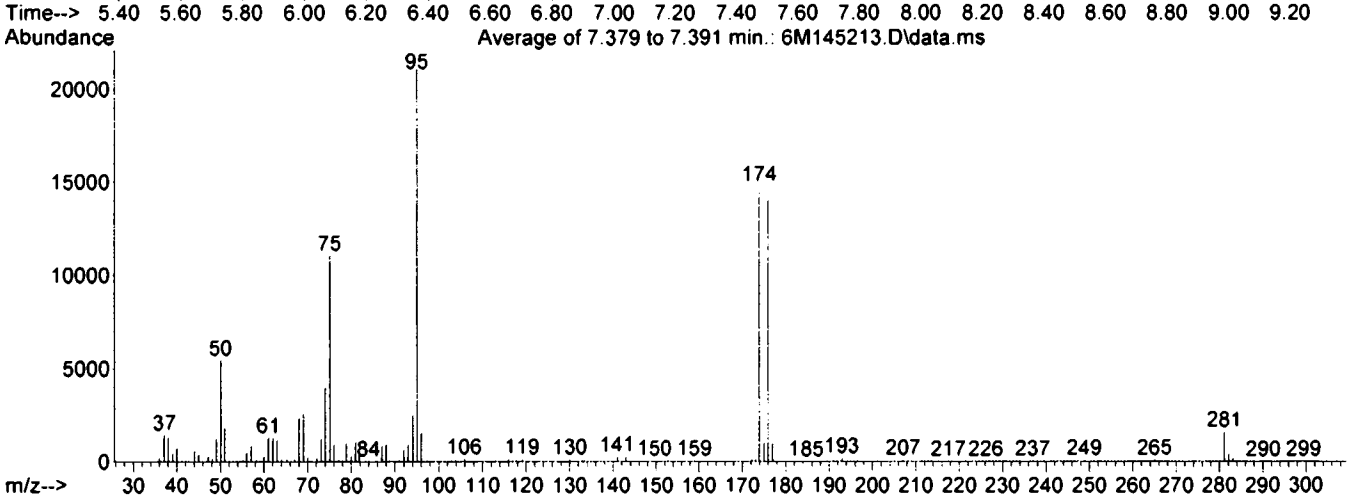
Data File	Sample Number	Analysis Date:
6M145214.D	CAL @ 50 PPB	09/25/21 04:19
6M145216.D	BLK	09/25/21 05:00
6M145217.D	BLK	09/25/21 05:20
6M145218.D	DAILY BLANK	09/25/21 05:41
6M145219.D	MBS96807	09/25/21 06:02
6M145220.D	BLK	09/25/21 06:22
6M145221.D	AD26074-005	09/25/21 06:43
6M145222.D	AD26074-005(MS)	09/25/21 07:03
6M145223.D	AD26074-005(MSD	09/25/21 07:24
6M145224.D	MBS96808	09/25/21 07:44
6M145225.D	BLK	09/25/21 08:05
6M145226.D	AD26206-001	09/25/21 08:25
6M145227.D	AD26206-003	09/25/21 08:46
6M145228.D	AD26178-003	09/25/21 09:06
6M145229.D	AD26178-005	09/25/21 09:27
6M145230.D	AD26178-001	09/25/21 09:47
6M145231.D	AD26177-011	09/25/21 10:08
6M145232.D	AD26217-001	09/25/21 10:28
6M145233.D	AD26217-003	09/25/21 10:49
6M145234.D	AD26217-005	09/25/21 11:10
6M145235.D	AD26217-007	09/25/21 11:30
6M145236.D	AD26217-009	09/25/21 11:51
6M145237.D	AD26217-011	09/25/21 12:11
6M145238.D	AD26217-013	09/25/21 12:32
6M145239.D	AD26217-015	09/25/21 12:52
6M145240.D	AD26217-017	09/25/21 13:13
6M145241.D	AD26203-001	09/25/21 13:34
6M145242.D	AD26203-002	09/25/21 13:54
6M145243.D	AD26203-003	09/25/21 14:15
6M145244.D	AD26203-004	09/25/21 14:35
6M145245.D	AD26203-005	09/25/21 14:56
6M145246.D	BLK	09/25/21 15:17

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Data File : 6M145213.D
Acq On : 25 Sep 2021 03:58
Operator : WP
Sample : BFB TUNE
Misc : S,5G
ALS Vial : 6 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2021\GCMS_6\MethodQt\6M_S0915.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 16 14:20:25 2021





Spectrum Information: Average of 7.379 to 7.391 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.0	5477	PASS
75	95	30	60	52.5	11081	PASS
95	95	100	100	100.0	21090	PASS
96	95	5	9	7.5	1572	PASS
173	174	0.00	2	1.6	235	PASS
174	95	50	100	70.1	14776	PASS
175	174	5	9	7.0	1034	PASS
176	174	95	101	95.5	14107	PASS
177	176	5	9	7.1	1006	PASS

1092401 0104

Method: EPA 8260D

Form 6
Initial Calibration

Instrument: GCMS_6

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M144913.D	CAL @ 20 PPB	09/15/21 21:36	2	6M144912.D	CAL @ 5 PPB	09/15/21 21:16
3	6M144911.D	CAL @ 2 PPB	09/15/21 20:55	4	6M144914.D	CAL @ 50 PPB	09/15/21 21:57
5	6M144919.D	CAL @ 100 PPB	09/15/21 23:40	6	6M144917.D	CAL @ 250 PPB	09/15/21 22:59
7	6M144915.D	CAL @ 500 PPB	09/15/21 22:18	8	6M144910.D	CAL @ 1 PPB	09/15/21 20:34
9	6M144909.D	CAL @ 0.5 PPB	09/15/21 20:13				

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	0.4689	0.4853	0.5001	0.4773	0.4658	0.5026	0.4881	-----	-----	0.484	1.67	1.00	1.00	3.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dichlorodifluorometha	1	0	Avg	0.1149	0.1275	0.1407	0.1145	0.1110	0.1211	0.1165	-----	-----	0.121	1.65	0.999	1.00	8.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloromethane	1	0	Avg	0.3057	0.3420	0.3819	0.3117	0.2980	0.3229	0.3072	-----	-----	0.324	1.84	0.999	1.00	9.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromomethane	1	0	Qua	0.1597	0.2189	0.2457	0.1393	0.1595	0.1604	0.1501	-----	-----	0.176	2.25	0.999	1.00	23	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Chloride	1	0	Avg	0.2861	0.3029	0.3269	0.2791	0.2738	0.2923	0.2820	-----	-----	0.292	1.93	1.00	1.00	6.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroethane	1	0	Avg	0.1619	0.1757	0.1879	0.1694	0.1673	0.1782	0.1719	-----	-----	0.173	2.34	1.00	1.00	4.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichlorofluoromethan	1	0	Avg	0.3543	0.3905	0.3898	0.3360	0.3396	0.3670	0.3510	-----	-----	0.361	2.57	0.999	1.00	6.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl ether	1	0	Avg	0.1976	0.2057	0.1981	0.1871	0.1903	0.2040	0.2028	-----	-----	0.198	2.82	1.00	1.00	3.5	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Furan	1	0	Avg	0.3823	0.4017	0.4209	0.3861	0.3843	0.4125	0.3962	-----	-----	0.398	2.86	1.00	1.00	3.7	0.50 a	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	0.1924	0.1906	0.2110	0.1836	0.1930	0.2069	0.1978	-----	-----	0.197	3.04	0.999	1.00	4.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methylene Chloride	1	0	Avg	0.2478	0.2869	0.3097	0.2300	0.2294	0.2423	0.2344	-----	-----	0.254	3.45	1.00	1.00	12	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acrolein	1	0	Avg	0.0426	0.0418	0.0416	0.0462	0.0449	0.0483	0.0456	-----	-----	0.0445	2.94	0.999	1.00	5.7		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Acrylonitrile	1	0	Avg	0.1193	0.1196	0.1485	0.1198	0.1148	0.1227	0.1192	-----	-----	0.123	3.65	1.00	1.00	9.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iodomethane	1	0	Qua	0.1423	0.0855	0.0694	0.1958	0.1995	0.2448	0.2486	-----	-----	0.169	3.18	0.999	0.999	43		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acetone	1	0	Avg	0.0948	0.1135	0.1228	0.0894	0.0837	0.0826	0.0824	-----	-----	0.0956	3.07	1.00	1.00	17	0.10 a	100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Carbon Disulfide	1	0	Avg	0.6510	0.7181	0.8081	0.6412	0.6494	0.7060	0.6746	-----	-----	0.693	3.25	0.999	1.00	8.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
t-Butyl Alcohol	1	0	Avg	0.0283	0.0312	0.0382	0.0291	0.0310	0.0330	0.0334	-----	-----	0.0321	3.52	1.00	1.00	10		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
n-Hexane	1	0	Avg	0.3337	0.3367	0.3690	0.3467	0.3614	0.4025	0.3901	-----	-----	0.363	3.92	0.999	0.999	7.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Di-isopropyl-ether	1	0	Avg	0.9349	0.9566	0.9962	0.9669	0.9784	1.0551	1.0527	-----	-----	0.992	4.07	1.00	1.00	4.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1-Dichloroethene	1	0	Avg	0.3837	0.4204	0.4187	0.3763	0.3860	0.4126	0.3958	-----	-----	0.399	3.04	0.999	1.00	4.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl Acetate	1	0	Avg	0.2559	0.2728	0.3233	0.2549	0.2576	0.2669	0.2577	-----	-----	0.270	3.36	1.00	1.00	9.1	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl-t-butyl ether	1	0	Avg	0.5456	0.5274	0.6120	0.5418	0.5599	0.6151	0.6258	0.6162	-----	0.581	3.69	1.00	1.00	7.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1-Dichloroethane	1	0	Avg	0.4693	0.5206	0.5255	0.4612	0.4637	0.5012	0.4775	-----	-----	0.488	4.04	0.999	1.00	5.6	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,2-Dichloroethe	1	0	Avg	0.2255	0.2429	0.2643	0.2239	0.2242	0.2411	0.2366	-----	-----	0.237	3.70	1.00	1.00	6.1	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl-t-butyl ether	1	0	Avg	0.7009	0.6750	0.7129	0.7114	0.7244	0.7759	0.7743	-----	-----	0.725	4.34	1.00	1.00	5.2	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,2-Dichloroethene	1	0	Avg	0.4607	0.4689	0.5286	0.4773	0.4810	0.5285	0.5161	-----	-----	0.494	4.45	1.00	1.00	5.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromochloromethane	1	0	Avg	0.2867	0.3202	0.3794	0.2728	0.2652	0.2727	0.2631	-----	-----	0.294	4.60	1.00	1.00	14		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2,2-Dichloropropane	1	0	Qua	0.1953	0.1677	0.1746	0.2483	0.2976	0.3456	0.3288	-----	-----	0.251	4.45	0.998	0.999	30		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl acetate	1	0	Avg	0.2966	0.3135	0.3579	0.3163	0.3198	0.3335	0.3330	-----	-----	0.324	4.47	1.00	1.00	6.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dioxane	1	0	Avg	0.0029	0.0030	0.0026	0.0029	0.0029	0.0030	0.0030	-----	-----	0.00296	5.53	1.00	1.00	5.7		1000.	250.0	100.0	2500.	5000.	1250	2500		
1,1-Dichloropropene	1	0	Avg	0.3067	0.3210	0.3354	0.3118	0.3211	0.3496	0.3382	-----	-----	0.326	4.86	1.00	1.00	4.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroform	1	0	Avg	0.4480	0.5060	0.5693	0.4334	0.4361	0.4593	0.4439	-----	-----	0.471	4.64	1.00	1.00	11	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromofluoromethan	1	0	Avg	0.2742	0.2824	0.2903	0.2751	0.2720	0.2746	0.2713	0.2962	0.2949	0.281	4.74	-1	-1	3.6		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Cyclohexane	1	0	Avg	0.4199	0.4317	0.4514	0.4252	0.4538	0.5050	0.4902	-----	-----	0.454	4.81	0.999	0.999	7.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloroethane-d4	1	0	Avg	0.1680	0.1707	0.1707	0.1635	0.1595	0.1593	0.1601	0.1791	0.1724	0.167	4.94	-1	-1	4.1		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
1,2-Dichloroethane	1	0	Avg	0.4112	0.4380	0.4904	0.4001	0.3816	0.4069	0.4029	-----	-----	0.419	4.98	1.00	1.00	8.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Butanone	1	0	Avg	0.1485	0.1518	0.1656	0.1236	0.1344	0.1425	0.1463	-----	-----	0.145	4.45	0.999	1.00	9.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,1-Trichloroethane	1	0	Avg	0.3775	0.3897	0.4483	0.3674	0.3822	0.4128	0.3932	-----	-----	0.396	4.77	0.999	1.00	6.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Carbon Tetrachloride	1	0	Avg	0.3247	0.3072	0.2908	0.3168	0.3227	0.3537	0.3463	-----	-----	0.323	4.87	1.00	1.00	6.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Acetate	1	0	Avg	0.7638	0.7933	0.8132	0.8026	0.8398	0.9827	0.9819	-----	-----	0.854	4.07	0.999	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromodichloromethan	1	0	Avg	0.3508	0.3737	0.4286	0.3464	0.3431	0.3664	0.3659	-----	-----	0.368	5.60	1.00	1.00	7.9	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: 9.00
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. - 202

1092401 0105

Method: EPA 8260D

Form 6
Initial Calibration

Instrument: GCMS_6

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M144913.D	CAL @ 20 PPB	09/15/21 21:36	2	6M144912.D	CAL @ 5 PPB	09/15/21 21:16
3	6M144911.D	CAL @ 2 PPB	09/15/21 20:55	4	6M144914.D	CAL @ 50 PPB	09/15/21 21:57
5	6M144919.D	CAL @ 100 PPB	09/15/21 23:40	6	6M144917.D	CAL @ 250 PPB	09/15/21 22:59
7	6M144915.D	CAL @ 500 PPB	09/15/21 22:18	8	6M144910.D	CAL @ 1 PPB	09/15/21 20:34
9	6M144909.D	CAL @ 0.5 PPB	09/15/21 20:13				

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	0.3416	0.3401	0.3324	0.3446	0.3790	0.4176	0.4103	-----	-----	0.367	5.45	1.00	1.00	9.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromomethane	1	0	Avg	0.1584	0.1637	0.1652	0.1481	0.1456	0.1575	0.1565	-----	-----	0.156	5.53	1.00	1.00	4.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloropropane	1	0	Avg	0.2875	0.2976	0.3288	0.2784	0.2806	0.3017	0.3024	-----	-----	0.297	5.46	1.00	1.00	5.8	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichloroethene	1	0	Avg	0.2421	0.2445	0.2805	0.2372	0.2436	0.2613	0.2583	-----	-----	0.253	5.34	1.00	1.00	6.0	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Benzene	1	0	Avg	0.8984	0.9266	0.9617	0.8925	0.8976	0.9696	0.9515	0.9276	-----	0.928	4.98	1.00	1.00	3.3	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	0.5523	0.5358	0.5309	0.5557	0.5672	0.6042	0.6095	-----	-----	0.565	5.03	1.00	1.00	5.5		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iso-propylacetate	1	0	Avg	0.6595	0.6525	0.6895	0.6828	0.7005	0.7445	0.7433	-----	-----	0.696	4.98	1.00	1.00	5.3	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl methacrylate	1	0	Avg	0.3310	0.3260	0.2521	0.3344	0.3411	0.3627	0.3501	-----	-----	0.328	5.48	1.00	1.00	11	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromochloromethan	1	0	Avg	0.3138	0.3021	0.3276	0.3228	0.3211	0.3388	0.3322	-----	-----	0.323	6.45	1.00	1.00	3.8	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chloroethylvinylethe	1	0	Qua	0.0069	0.0117	0.0135	0.0045	0.0018	0.0027	0.0032	-----	-----	0.00636	5.78	0.979	0.992	73		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,3-Dichloropropen	1	0	Avg	0.4260	0.4214	0.4133	0.4399	0.4497	0.4970	0.4909	-----	-----	0.448	5.84	1.00	1.00	7.5	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,3-Dichloroprop	1	0	Avg	0.3684	0.3574	0.3437	0.3902	0.3952	0.4367	0.4424	-----	-----	0.391	6.12	1.00	1.00	9.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl methacrylate	1	0	Avg	0.3300	0.3154	0.3286	0.3501	0.3598	0.3837	0.3762	-----	-----	0.349	6.14	1.00	1.00	7.4	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,2-Trichloroethane	1	0	Avg	0.2705	0.2893	0.3254	0.2650	0.2570	0.2698	0.2632	-----	-----	0.277	6.23	1.00	1.00	8.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromoethane	1	0	Avg	0.2642	0.2851	0.3122	0.2665	0.2688	0.2819	0.2714	0.2540	0.3404	0.283	6.53	1.00	1.00	9.6	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	0.4637	0.4906	0.4996	0.4715	0.4595	0.4829	0.4729	-----	-----	0.477	6.32	1.00	1.00	3.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Methyl-2-Pentanone	1	0	Avg	0.3615	0.3737	0.3751	0.3840	0.3808	0.3998	0.3888	-----	-----	0.381	5.90	1.00	1.00	3.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Hexanone	1	0	Avg	0.2464	0.2330	0.2663	0.2696	0.2750	0.2878	0.2815	-----	-----	0.266	6.33	1.00	1.00	7.3	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Tetrachloroethene	1	0	Avg	0.2391	0.2437	0.2777	0.2331	0.2431	0.2574	0.2484	-----	-----	0.249	6.32	1.00	1.00	5.9	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Toluene-d8	1	0	Avg	1.2359	1.1884	1.1857	1.2546	1.2654	1.2267	1.2073	1.1462	1.1525	1.21	5.99	-1	-1	3.5		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Toluene	1	0	Avg	0.7206	0.7024	0.7701	0.7181	0.7341	0.7842	0.7518	0.7149	-----	0.737	6.03	0.999	1.00	3.9	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	0.2774	0.2782	0.3112	0.2775	0.2838	0.3032	0.2946	-----	-----	0.289	6.81	1.00	1.00	4.8		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chlorobenzene	1	0	Avg	0.8013	0.8428	0.9459	0.7830	0.7999	0.8453	0.8171	-----	-----	0.834	6.78	1.00	1.00	6.5	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Butyl acrylate	1	0	Avg	0.9974	0.9239	0.9893	1.1105	1.2179	1.3496	1.3020	-----	-----	1.13	7.02	0.999	0.999	15	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Amyl acetate	1	0	Avg	0.9358	0.8311	0.8583	1.0130	1.0900	1.1905	1.1377	-----	-----	1.01	7.13	0.999	0.999	14	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromoform	1	0	Avg	0.3568	0.3806	0.3827	0.3690	0.3845	0.4169	0.3945	-----	-----	0.384	7.23	0.999	0.999	5.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethylbenzene	1	0	Avg	0.5951	0.6120	0.6556	0.6175	0.6576	0.7465	0.6785	0.5179	-----	0.635	6.82	0.998	0.999	11	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	0.6487	0.6800	0.7157	0.6421	0.6350	0.6706	0.6323	-----	-----	0.661	7.45	0.999	1.00	4.6	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromofluorobenzene	1	0	Avg	0.7265	0.7607	0.7367	0.7415	0.7584	0.7397	0.7389	0.7400	0.7163	0.740	7.40	-1	-1	1.9		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Styrene	1	0	Avg	1.4708	1.4405	1.3325	1.5174	1.6477	1.8133	1.6893	-----	-----	1.56	7.10	0.998	0.999	11	0.30	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
m&p-Xylenes	1	0	Avg	0.8843	0.8700	0.8168	0.9186	0.9773	1.0635	0.9789	0.8399	0.6579	0.890	6.88	0.998	0.999	13	0.10	40.00	10.00	4.00	100.0	200.0	500.0	1000.	2.00	1.00
o-Xylene	1	0	Avg	0.8810	0.8483	0.8867	0.8885	0.9550	1.0544	0.9889	0.6845	-----	0.898	7.10	0.999	0.999	12	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	0.3396	0.3661	0.4154	0.3659	0.3814	0.4308	0.4096	-----	-----	0.387	7.47	0.999	0.999	8.4		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3-Dichlorobenzene	1	0	Avg	1.1133	1.1701	1.1280	1.0772	1.1353	1.2214	1.1629	-----	-----	1.14	8.02	0.999	1.00	4.0	0.60	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dichlorobenzene	1	0	Avg	1.0959	1.1408	1.2978	1.0698	1.1146	1.2139	1.1487	-----	-----	1.15	8.07	0.999	0.999	6.8	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichlorobenzene	1	0	Avg	1.0603	1.0714	1.1623	1.0034	1.0579	1.1530	1.1046	-----	-----	1.09	8.29	0.999	0.999	5.2	0.40	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Isopropylbenzene	1	0	Avg	2.2835	2.3015	2.2309	2.3150	2.5273	2.7495	2.4795	2.0130	-----	2.36	7.29	0.997	0.999	9.4	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Cyclohexanone	1	0	Avg	0.0236	0.0299	0.0319	0.0271	0.0339	0.0261	0.0323	-----	-----	0.0293	7.37	0.990	0.996	13		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Camphene	1	0	Avg	0.7971	0.7838	0.7637	0.8008	0.8903	0.9775	0.9008	-----	-----	0.845	7.47	0.998	0.999	9.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,3-Trichloropropane	1	0	Avg	0.7590	0.8715	0.8697	0.7742	0.7992	0.8672	0.8309	-----	-----	0.825	7.48	0.999	1.00	5.8		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chlorotoluene	1	0	Avg	1.5451	1.6020	1.6424	1.5177	1.5897	1.7124	1.5945	-----	-----	1.60	7.59	0.999	0.999	4.0		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: 9.00
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. - 203

1092401 0106

Method: EPA 8260D

Form 6
Initial Calibration

Instrument: GCMS_6

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M144913.D	CAL @ 20 PPB	09/15/21 21:36	2	6M144912.D	CAL @ 5 PPB	09/15/21 21:16
3	6M144911.D	CAL @ 2 PPB	09/15/21 20:55	4	6M144914.D	CAL @ 50 PPB	09/15/21 21:57
5	6M144919.D	CAL @ 100 PPB	09/15/21 23:40	6	6M144917.D	CAL @ 250 PPB	09/15/21 22:59
7	6M144915.D	CAL @ 500 PPB	09/15/21 22:18	8	6M144910.D	CAL @ 1 PPB	09/15/21 20:34
9	6M144909.D	CAL @ 0.5 PPB	09/15/21 20:13				

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	2.3782	2.3685	2.3716	2.3795	2.5061	2.7661	2.5352	-----	-----	2.47	7.58	0.998	0.999	5.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Chlorotoluene	1	0	Avg	1.5321	1.5595	1.5126	1.4977	1.5859	1.7125	1.5288	-----	-----	1.56	7.65	0.997	0.999	4.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Propylbenzene	1	0	Avg	2.8104	2.8693	2.8504	2.8416	3.0102	3.2459	2.9490	2.5002	-----	2.88	7.52	0.998	0.999	7.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Bromobenzene	1	0	Avg	1.4774	1.5929	1.6483	1.4765	1.5648	1.6786	1.5540	-----	-----	1.57	7.49	0.998	0.999	4.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3,5-Trimethylbenzen	1	0	Avg	1.9807	1.9260	1.8133	1.9102	2.0718	2.2129	2.0649	1.4820	-----	1.93	7.60	0.999	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Butyl methacrylate	1	0	Avg	0.9183	0.8802	0.8393	0.9082	0.9864	1.0595	0.9942	0.6686	-----	0.907	7.61	0.999	0.999	13	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
t-Butylbenzene	1	0	Avg	1.8580	1.9463	1.7530	1.8732	2.0350	2.2199	2.0774	1.5770	-----	1.92	7.81	0.999	0.999	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,2,4-Trimethylbenzen	1	0	Avg	1.9624	1.9225	1.8346	1.9454	2.0788	2.2782	2.1103	1.7743	-----	1.99	7.83	0.998	0.999	8.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
sec-Butylbenzene	1	0	Avg	2.4687	2.4340	2.3929	2.4953	2.6842	2.9235	2.7281	1.9376	-----	2.51	7.93	0.999	0.999	12		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
4-Isopropyltoluene	1	0	Avg	2.0026	2.0466	2.1116	2.0105	2.1749	2.4028	2.2512	2.2163	-----	2.15	8.00	0.999	0.999	6.4		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
n-Butylbenzene	1	0	Avg	2.4243	2.3653	2.2672	2.3986	2.5394	2.8098	2.6237	2.1982	-----	2.45	8.24	0.999	0.999	8.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
p-Diethylbenzene	1	0	Avg	1.1492	1.1418	1.0018	1.1953	1.2998	1.4670	1.4126	-----	-----	1.24	8.22	0.999	0.999	13		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4,5-Tetramethylbe	1	0	Avg	1.3265	1.2603	1.1915	1.4305	1.6556	1.9103	1.8745	-----	-----	1.52	8.68	0.999	0.999	19		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromo-3-Chloro	1	0	Avg	0.1307	0.1313	0.1174	0.1373	0.1410	0.1558	0.1535	-----	-----	0.138	8.74	1.00	1.00	9.7	0.05	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Camphor	1	0	Qua	0.0400	0.0407	0.0463	0.0513	0.0608	0.0672	0.0671	-----	-----	0.0534	9.18	0.999	0.999	22		200.0	50.00	20.00	500.0	1000.	2500.	5000.		
Hexachlorobutadiene	1	0	Avg	0.3878	0.4140	0.4035	0.3736	0.4066	0.4509	0.4429	-----	-----	0.411	9.32	0.999	0.999	6.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4-Trichlorobenzen	1	0	Avg	0.6265	0.6613	0.6771	0.6484	0.7048	0.7981	0.7964	-----	-----	0.702	9.23	0.999	0.999	9.9	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,3-Trichlorobenzen	1	0	Avg	0.5852	0.6426	0.6282	0.5915	0.6555	0.7432	0.7516	-----	-----	0.657	9.54	0.999	0.999	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Naphthalene	1	0	Qua	1.4178	1.2518	1.1737	1.5910	1.7724	2.0143	1.9819	1.0591	-----	1.53	9.40	0.999	0.999	24		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	

Haz. - 204

Flags	*Note:* Avg Rsd: 9.00
a - failed the min rf criteria	*Corr 1 = Correlation Coefficient for linear Eq.*
	Corr 2 = Correlation Coefficient for quad Eq.
c - failed the minimum correlation coeff criteria(if applicable)	*Fit = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.*

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB **Data File:** 6M145055.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/21/2021 6:33:00 A Method: EPA 8260D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	5.13	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.67	43.14	50	20	0.1	0.484	0.418	13.72	
Dichlorodifluoromethane	1	0		1.65	15.73	50	20	0.1	0.121	0.038	68.53	C1
Chloromethane	1	0		1.84	29.02	50	20	0.1	0.324	0.188	41.95	C1
Bromomethane	1	0		2.25	41.70	50	20	0.1	0.176	0.137	16.60	
Vinyl Chloride	1	0		1.93	34.41	50	20	0.1	0.292	0.201	31.18	C1
Chloroethane	1	0		2.34	42.85	50	20	0.1	0.173	0.148	14.29	
Trichlorofluoromethane	1	0		2.57	45.18	50	20	0.1	0.361	0.326	9.63	
Ethyl ether	1	0		2.82	46.53	50	20	0.5	0.198	0.184	6.94	
Furan	1	0		2.86	47.98	50	20	0.5	0.398	0.382	4.04	
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		3.03	45.78	50	20	0.1	0.197	0.180	8.44	
Methylene Chloride	1	0		3.45	45.69	50	20	0.1	0.254	0.232	8.61	
Acrolein	1	0		2.94	234.56	250	20		0.044	0.042	6.18	
Acrylonitrile	1	0		3.65	47.30	50	20		0.123	0.117	5.39	
Iodomethane	1	0		3.18	40.23	50	20		0.169	0.179	19.55	
Acetone	1	0		3.07	235.43	250	20	0.1	0.096	0.090	5.83	
Carbon Disulfide	1	0		3.25	38.32	50	20	0.1	0.693	0.531	23.36	C1
t-Butyl Alcohol	1	0		3.52	250.02	250	20		0.032	0.032	0.01	
n-Hexane	1	0		3.92	43.96	50	20		0.363	0.319	12.08	
Di-isopropyl-ether	1	0		4.07	49.71	50	20		0.992	0.986	0.57	
1,1-Dichloroethene	1	0		3.04	44.57	50	20	0.1	0.399	0.356	10.86	
Methyl Acetate	1	0		3.36	46.89	50	20	0.1	0.270	0.253	6.21	
Methyl-t-butyl ether	1	0		3.68	48.12	50	20	0.1	0.581	0.559	3.77	
1,1-Dichloroethane	1	0		4.04	48.80	50	20	0.2	0.488	0.477	2.40	
trans-1,2-Dichloroethene	1	0		3.70	45.73	50	20	0.1	0.237	0.217	8.54	
Ethyl-t-butyl ether	1	0		4.33	51.53	50	20	0.5	0.725	0.747	3.06	
cis-1,2-Dichloroethene	1	0		4.45	49.20	50	20	0.1	0.494	0.487	1.61	
Bromochloromethane	1	0		4.60	49.17	50	20		0.294	0.289	1.66	
2,2-Dichloropropane	1	0		4.45	40.76	50	20		0.251	0.269	18.47	
Ethyl acetate	1	0		4.47	49.81	50	20		0.324	0.323	0.39	
1,4-Dioxane	1	0		5.52	2473.69	2500	20		0.003	0.003	1.05	
1,1-Dichloropropene	1	0		4.86	47.98	50	20		0.326	0.313	4.05	
Chloroform	1	0		4.64	49.68	50	20	0.2	0.471	0.468	0.65	
Dibromofluoromethane	1	0	S	4.73	29.87	75	**		0.281	0.280	0.43	
Cyclohexane	1	0		4.81	44.70	50	20	0.1	0.454	0.406	10.60	
1,2-Dichloroethane-d4	1	0	S	4.94	30.15	75	**		0.167	0.168	0.49	
1,2-Dichloroethane	1	0		4.98	51.25	50	20	0.1	0.419	0.429	2.49	
2-Butanone	1	0		4.45	44.36	50	20	0.1	0.145	0.128	11.27	
1,1,1-Trichloroethane	1	0		4.77	48.76	50	20	0.1	0.396	0.386	2.47	
Carbon Tetrachloride	1	0		4.87	52.12	50	20	0.1	0.323	0.337	4.23	
Vinyl Acetate	1	0		4.07	49.09	50	20		0.854	0.838	1.82	
Bromodichloromethane	1	0		5.60	50.94	50	20	0.2	0.368	0.375	1.87	
Methylcyclohexane	1	0		5.45	46.69	50	20	0.1	0.367	0.342	6.63	
Dibromomethane	1	0		5.53	48.79	50	20		0.156	0.153	2.42	
1,2-Dichloropropane	1	0		5.46	47.67	50	20	0.1	0.297	0.283	4.66	
Trichloroethene	1	0		5.34	47.56	50	20	0.2	0.253	0.240	4.88	
Benzene	1	0		4.98	48.51	50	20	0.5	0.928	0.901	2.98	
tert-Amyl methyl ether	1	0		5.03	51.12	50	20		0.565	0.578	2.24	
Chlorobenzene-d5	1	0	I	6.76	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.98	52.41	50	20	0.5	0.696	0.730	4.82	
Methyl methacrylate	1	0		5.48	54.07	50	20	0.5	0.328	0.355	8.14	
Dibromochloromethane	1	0		6.45	51.95	50	20	0.1	0.323	0.335	3.89	

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 @ 50 PPB **Data File:** 6M145055.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/21/2021 6:33:00 A Method: EPA 8260D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.78	70.83	50	20		0.006	0.004	41.66	C1
cis-1,3-Dichloropropene	1	0		5.83	51.91	50	20	0.2	0.448	0.465	3.81	
trans-1,3-Dichloropropene	1	0		6.12	53.64	50	20	0.1	0.391	0.419	7.28	
Ethyl methacrylate	1	0		6.14	54.45	50	20	0.5	0.349	0.380	8.91	
1,1,2-Trichloroethane	1	0		6.22	50.78	50	20	0.1	0.277	0.282	1.55	
1,2-Dibromoethane	1	0		6.53	47.61	50	20	0.1	0.283	0.269	4.78	
1,3-Dichloropropane	1	0		6.32	50.16	50	20		0.477	0.479	0.32	
4-Methyl-2-Pentanone	1	0		5.90	53.72	50	20	0.1	0.381	0.409	7.44	
2-Hexanone	1	0		6.33	54.21	50	20	0.1	0.266	0.288	8.42	
Tetrachloroethene	1	0		6.32	46.26	50	20	0.2	0.249	0.230	7.48	
Toluene-d8	1	0	S	5.99	31.39	75	**		1.207	1.263	4.62	
Toluene	1	0		6.03	49.57	50	20	0.4	0.737	0.731	0.87	
1,1,1,2-Tetrachloroethane	1	0		6.81	50.92	50	20		0.289	0.295	1.84	
Chlorobenzene	1	0		6.78	47.26	50	20	0.5	0.834	0.788	5.47	
1,4-Dichlorobenzene-d4	1	0	I	8.05	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		7.02	54.60	50	20	0.5	1.127	1.231	9.20	
n-Amyl acetate	1	0		7.14	55.62	50	20	0.5	1.008	1.121	11.23	
Bromoform	1	0		7.23	51.93	50	20	0.1	0.384	0.398	3.87	
Ethylbenzene	1	0		6.82	52.27	50	20	0.1	0.635	0.664	4.54	
1,1,2,2-Tetrachloroethane	1	0		7.44	52.40	50	20	0.1	0.661	0.692	4.80	
Bromofluorobenzene	1	0	S	7.39	31.78	75	**		0.740	0.784	5.92	
Styrene	1	0		7.10	51.57	50	20	0.3	1.559	1.608	3.15	
m&p-Xylenes	1	0		6.88	107.42	100	20	0.1	0.890	0.956	7.42	
o-Xylene	1	0		7.10	51.91	50	20	0.3	0.898	0.933	3.82	
trans-1,4-Dichloro-2-butene	1	0		7.47	54.72	50	20		0.387	0.424	9.43	
1,3-Dichlorobenzene	1	0		8.02	47.94	50	20	0.6	1.144	1.097	4.11	
1,4-Dichlorobenzene	1	0		8.06	46.54	50	20	0.5	1.155	1.075	6.91	
1,2-Dichlorobenzene	1	0		8.29	48.59	50	20	0.4	1.088	1.057	2.82	
Isopropylbenzene	1	0		7.29	51.87	50	20	0.1	2.363	2.451	3.73	
Cyclohexanone	1	0		7.37	186.43	250	20		0.029	0.022	25.43	C1
Camphene	1	0		7.47	51.54	50	20		0.845	0.871	3.08	
1,2,3-Trichloropropane	1	0		7.48	52.25	50	20		0.825	0.862	4.50	
2-Chlorotoluene	1	0		7.59	49.34	50	20		1.601	1.580	1.31	
p-Ethyltoluene	1	0		7.58	50.43	50	20		2.472	2.493	0.85	
4-Chlorotoluene	1	0		7.65	50.80	50	20		1.561	1.586	1.60	
n-Propylbenzene	1	0		7.52	51.42	50	20		2.885	2.967	2.85	
Bromobenzene	1	0		7.49	51.14	50	20		1.570	1.606	2.28	
1,3,5-Trimethylbenzene	1	0		7.60	51.20	50	20		1.933	1.979	2.39	
Butyl methacrylate	1	0		7.61	56.86	50	20	0.5	0.907	1.031	13.72	
t-Butylbenzene	1	0		7.81	51.45	50	20		1.918	1.973	2.90	
1,2,4-Trimethylbenzene	1	0		7.82	51.86	50	20		1.988	2.062	3.71	
sec-Butylbenzene	1	0		7.93	51.66	50	20		2.508	2.591	3.32	
4-Isopropyltoluene	1	0		8.00	48.55	50	20		2.152	2.090	2.91	
n-Butylbenzene	1	0		8.24	51.23	50	20		2.453	2.514	2.46	
p-Diethylbenzene	1	0		8.22	49.40	50	20		1.238	1.223	1.21	
1,2,4,5-Tetramethylbenzene	1	0		8.68	48.01	50	20		1.521	1.461	3.98	
1,2-Dibromo-3-Chloropropane	1	0		8.74	51.29	50	20	0.05	0.138	0.142	2.59	
Camphor	1	0		9.18	457.42	500	20		0.053	0.058	8.52	
Hexachlorobutadiene	1	0		9.32	46.89	50	20		0.411	0.386	6.21	
1,2,4-Trichlorobenzene	1	0		9.23	46.52	50	20	0.2	0.702	0.653	6.95	
1,2,3-Trichlorobenzene	1	0		9.54	46.23	50	20		0.657	0.607	7.53	
Naphthalene	1	0		9.39	42.65	50	20		1.533	1.630	14.71	

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 @ 50 PPB **Data File:** 6M145214.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/25/2021 4:19:00 A Method: EPA 8260D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	5.13	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.67	40.83	50	20	0.1	0.484	0.395	18.35	
Dichlorodifluoromethane	1	0		1.65	94.95	50	20	0.1	0.121	0.230	89.90	C1
Chloromethane	1	0		1.84	45.94	50	20	0.1	0.324	0.298	8.12	
Bromomethane	1	0		2.25	50.21	50	20	0.1	0.176	0.165	0.41	
Vinyl Chloride	1	0		1.93	50.39	50	20	0.1	0.292	0.294	0.77	
Chloroethane	1	0		2.34	49.95	50	20	0.1	0.173	0.173	0.11	
Trichlorofluoromethane	1	0		2.57	53.93	50	20	0.1	0.361	0.390	7.86	
Ethyl ether	1	0		2.82	46.11	50	20	0.5	0.198	0.183	7.78	
Furan	1	0		2.86	45.38	50	20	0.5	0.398	0.361	9.23	
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		3.03	50.44	50	20	0.1	0.197	0.198	0.88	
Methylene Chloride	1	0		3.45	48.71	50	20	0.1	0.254	0.248	2.58	
Acrolein	1	0		2.94	207.90	250	20		0.044	0.037	16.84	
Acrylonitrile	1	0		3.65	38.57	50	20		0.123	0.095	22.85	C1
Iodomethane	1	0		3.18	43.39	50	20		0.169	0.193	13.23	
Acetone	1	0		3.07	176.34	250	20	0.1	0.096	0.067	29.47	C1
Carbon Disulfide	1	0		3.25	44.72	50	20	0.1	0.693	0.620	10.55	
t-Butyl Alcohol	1	0		3.51	187.29	250	20		0.032	0.024	25.09	C1
n-Hexane	1	0		3.92	46.87	50	20		0.363	0.340	6.26	
Di-isopropyl-ether	1	0		4.07	38.75	50	20		0.992	0.768	22.51	C1
1,1-Dichloroethene	1	0		3.04	47.22	50	20	0.1	0.399	0.377	5.55	
Methyl Acetate	1	0		3.36	37.28	50	20	0.1	0.270	0.201	25.44	C1
Methyl-t-butyl ether	1	0		3.68	45.10	50	20	0.1	0.581	0.524	9.80	
1,1-Dichloroethane	1	0		4.04	45.92	50	20	0.2	0.488	0.449	8.16	
trans-1,2-Dichloroethene	1	0		3.69	50.94	50	20	0.1	0.237	0.241	1.89	
Ethyl-t-butyl ether	1	0		4.33	43.91	50	20	0.5	0.725	0.637	12.19	
cis-1,2-Dichloroethene	1	0		4.45	43.74	50	20	0.1	0.494	0.433	12.52	
Bromochloromethane	1	0		4.60	39.19	50	20		0.294	0.231	21.62	C1
2,2-Dichloropropane	1	0		4.45	37.55	50	20		0.251	0.247	24.90	C1
Ethyl acetate	1	0		4.47	36.32	50	20		0.324	0.236	27.36	C1
1,4-Dioxane	1	0		5.52	2337.09	2500	20		0.003	0.003	6.52	
1,1-Dichloropropene	1	0		4.86	48.28	50	20		0.326	0.315	3.44	
Chloroform	1	0		4.64	46.57	50	20	0.2	0.471	0.439	6.86	
Dibromofluoromethane	1	0	S	4.74	30.59	75	**		0.281	0.287	1.96	
Cyclohexane	1	0		4.81	44.22	50	20	0.1	0.454	0.401	11.55	
1,2-Dichloroethane-d4	1	0	S	4.94	26.01	75	**		0.167	0.145	13.29	
1,2-Dichloroethane	1	0		4.98	42.23	50	20	0.1	0.419	0.354	15.54	
2-Butanone	1	0		4.45	31.85	50	20	0.1	0.145	0.092	36.31	C1
1,1,1-Trichloroethane	1	0		4.77	48.43	50	20	0.1	0.396	0.383	3.14	
Carbon Tetrachloride	1	0		4.87	53.43	50	20	0.1	0.323	0.345	6.86	
Vinyl Acetate	1	0		4.07	36.95	50	20		0.854	0.631	26.11	C1
Bromodichloromethane	1	0		5.60	45.58	50	20	0.2	0.368	0.335	8.84	
Methylcyclohexane	1	0		5.45	52.50	50	20	0.1	0.367	0.385	5.00	
Dibromomethane	1	0		5.53	49.41	50	20		0.156	0.155	1.17	
1,2-Dichloropropane	1	0		5.46	43.90	50	20	0.1	0.297	0.261	12.21	
Trichloroethene	1	0		5.34	49.86	50	20	0.2	0.253	0.252	0.27	
Benzene	1	0		4.98	49.09	50	20	0.5	0.928	0.911	1.82	
tert-Amyl methyl ether	1	0		5.03	46.38	50	20		0.565	0.524	7.24	
Chlorobenzene-d5	1	0	I	6.76	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.98	37.92	50	20	0.5	0.696	0.528	24.15	C1
Methyl methacrylate	1	0		5.48	38.60	50	20	0.5	0.328	0.253	22.80	C1
Dibromochloromethane	1	0		6.45	47.68	50	20	0.1	0.323	0.308	4.63	

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 @ 50 PPB **Data File:** 6M145214.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/25/2021 4:19:00 A Method: EPA 8260D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.78	67.99	50	20		0.006	0.003	35.98	C1
cis-1,3-Dichloropropene	1	0		5.83	46.54	50	20	0.2	0.448	0.417	6.92	
trans-1,3-Dichloropropene	1	0		6.12	46.24	50	20	0.1	0.391	0.361	7.52	
Ethyl methacrylate	1	0		6.14	36.74	50	20	0.5	0.349	0.257	26.53	C1
1,1,2-Trichloroethane	1	0		6.22	46.64	50	20	0.1	0.277	0.259	6.71	
1,2-Dibromoethane	1	0		6.53	46.02	50	20	0.1	0.283	0.260	7.97	
1,3-Dichloropropane	1	0		6.32	45.71	50	20		0.477	0.436	8.58	
4-Methyl-2-Pentanone	1	0		5.90	37.42	50	20	0.1	0.381	0.285	25.16	C1
2-Hexanone	1	0		6.33	36.27	50	20	0.1	0.266	0.193	27.47	C1
Tetrachloroethene	1	0		6.32	48.48	50	20	0.2	0.249	0.241	3.03	
Toluene-d8	1	0	S	5.99	30.77	75	**		1.207	1.238	2.56	
Toluene	1	0		6.03	48.51	50	20	0.4	0.737	0.715	2.98	
1,1,1,2-Tetrachloroethane	1	0		6.81	49.13	50	20		0.289	0.284	1.73	
Chlorobenzene	1	0		6.78	46.86	50	20	0.5	0.834	0.781	6.29	
1,4-Dichlorobenzene-d4	1	0	I	8.05	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		7.02	42.18	50	20	0.5	1.127	0.951	15.64	
n-Amyl acetate	1	0		7.14	41.14	50	20	0.5	1.008	0.829	17.73	
Bromoform	1	0		7.23	50.56	50	20	0.1	0.384	0.388	1.12	
Ethylbenzene	1	0		6.82	53.65	50	20	0.1	0.635	0.681	7.29	
1,1,2,2-Tetrachloroethane	1	0		7.45	48.76	50	20	0.1	0.661	0.644	2.49	
Bromofluorobenzene	1	0	S	7.40	31.29	75	**		0.740	0.772	4.29	
Styrene	1	0		7.10	51.35	50	20	0.3	1.559	1.601	2.70	
m&p-Xylenes	1	0		6.88	109.57	100	20	0.1	0.890	0.975	9.57	
o-Xylene	1	0		7.10	54.42	50	20	0.3	0.898	0.978	8.83	
trans-1,4-Dichloro-2-butene	1	0		7.47	41.23	50	20		0.387	0.319	17.54	
1,3-Dichlorobenzene	1	0		8.02	50.29	50	20	0.6	1.144	1.151	0.59	
1,4-Dichlorobenzene	1	0		8.07	49.56	50	20	0.5	1.155	1.144	0.89	
1,2-Dichlorobenzene	1	0		8.29	49.22	50	20	0.4	1.088	1.071	1.56	
Isopropylbenzene	1	0		7.29	54.60	50	20	0.1	2.363	2.580	9.20	
Cyclohexanone	1	0		7.37	161.39	250	20		0.029	0.019	35.45	C1
Camphene	1	0		7.47	53.11	50	20		0.845	0.897	6.22	
1,2,3-Trichloropropane	1	0		7.48	47.10	50	20		0.825	0.777	5.80	
2-Chlorotoluene	1	0		7.59	48.50	50	20		1.601	1.553	3.00	
p-Ethyltoluene	1	0		7.58	50.02	50	20		2.472	2.473	0.03	
4-Chlorotoluene	1	0		7.65	48.54	50	20		1.561	1.516	2.92	
n-Propylbenzene	1	0		7.52	53.53	50	20		2.885	3.088	7.05	
Bromobenzene	1	0		7.49	48.62	50	20		1.570	1.527	2.77	
1,3,5-Trimethylbenzene	1	0		7.60	54.19	50	20		1.933	2.095	8.37	
Butyl methacrylate	1	0		7.61	40.50	50	20	0.5	0.907	0.734	19.01	
t-Butylbenzene	1	0		7.81	54.04	50	20		1.918	2.073	8.08	
1,2,4-Trimethylbenzene	1	0		7.83	52.34	50	20		1.988	2.081	4.68	
sec-Butylbenzene	1	0		7.93	55.92	50	20		2.508	2.805	11.84	
4-Isopropyltoluene	1	0		8.00	51.94	50	20		2.152	2.236	3.88	
n-Butylbenzene	1	0		8.24	52.45	50	20		2.453	2.574	4.91	
p-Diethylbenzene	1	0		8.22	49.94	50	20		1.238	1.237	0.12	
1,2,4,5-Tetramethylbenzene	1	0		8.68	44.67	50	20		1.521	1.359	10.67	
1,2-Dibromo-3-Chloropropane	1	0		8.74	48.59	50	20	0.05	0.138	0.134	2.83	
Camphor	1	0		9.18	401.97	500	20		0.053	0.051	19.61	
Hexachlorobutadiene	1	0		9.32	50.29	50	20		0.411	0.414	0.58	
1,2,4-Trichlorobenzene	1	0		9.23	47.72	50	20	0.2	0.702	0.670	4.55	
1,2,3-Trichlorobenzene	1	0		9.54	48.14	50	20		0.657	0.632	3.72	
Naphthalene	1	0		9.39	42.60	50	20		1.533	1.628	14.80	

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

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M144913.D Method: EPA 8260D

Analysis Date/Time: 09/15/21 21:36

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:		155180	5.13	124317	6.76	71473	8.05								
Eval File Area Limit:		77590-310360		62158-248634		35736-142946									
Eval File Rt Limit:		4.63-5.63		6.26-7.26		7.55-8.55									
Data File	Sample														
6M144909.D	CAL @ 0.5 PPB	146738	5.13	122143	6.76	65206	8.05								
6M144910.D	CAL @ 1 PPB	142879	5.13	122100	6.76	64470	8.05								
6M144911.D	CAL @ 2 PPB	146695	5.13	121578	6.76	65637	8.05								
6M144912.D	CAL @ 5 PPB	148614	5.13	120215	6.76	65898	8.05								
6M144913.D	CAL @ 20 PPB	155180	5.13	124317	6.76	71473	8.05								
6M144914.D	CAL @ 50 PPB	161330	5.13	126806	6.76	72834	8.05								
6M144915.D	CAL @ 500 PPB	162352	5.13	135190	6.76	76396	8.05								
6M144917.D	CAL @ 250 PPB	164184	5.13	132714	6.76	71260	8.05								
6M144919.D	CAL @ 100 PPB	171847	5.13	136855	6.76	74816	8.05								
6M144922.D	ICV	170763	5.13	135559	6.76	73961	8.05								

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.

1092401 0112

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M145055.D Method: EPA 8260D

Analysis Date/Time: 09/21/21 06:33

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:	134398	5.13	104810	6.76	56626	8.05								
Eval File Area Limit:	67199-268796		52405-209620		28313-113252									
Eval File Rt Limit:	4.63-5.63		6.26-7.26		7.55-8.55									
Data File Sample														
6M145054.D 50 PPB	128497	5.13	98681	6.76	55606	8.05								
6M145056.D BLK	122564	5.13	101762	6.76	50532	8.05								
6M145057.D BLK	116839	5.13	95829	6.76	48185	8.05								
6M145058.D BLK	122878	5.13	101684	6.76	50851	8.05								
6M145059.D DAILY BLANK	120054	5.13	96336	6.76	49390	8.05								
6M145060.D AD26072-001	118994	5.13	94750	6.76	43665	8.05								
6M145061.D MBS96776	129446	5.13	99417	6.76	55508	8.05								
6M145062.D AD26073-001	119247	5.13	97257	6.76	73048	8.05								
6M145063.D AD26072-001(MS)	160195	5.13	127641	6.76	69503	8.05								
6M145064.D AD26072-001(MSD)	162398	5.13	125260	6.76	68203	8.05								
6M145065.D MBS96777	150360	5.13	117088	6.76	63172	8.05								
6M145066.D BLK	142965	5.13	115134	6.76	60365	8.05								
6M145067.D BLK	139313	5.13	114105	6.76	57588	8.05								
6M145068.D AD26072-005	132943	5.13	107781	6.76	49560	8.05								
6M145069.D AD26072-003	131937	5.13	105275	6.76	47313	8.05								
6M145070.D AD26074-001	131308	5.13	104833	6.76	46049	8.05								
6M145071.D AD26074-005	126182	5.13	102236	6.76	45893	8.05								
6M145072.D AD26074-003	132481	5.13	105176	6.76	46104	8.05								
6M145073.D AD26075-001	128699	5.13	99769	6.76	45807	8.05								
6M145074.D AD26075-005	126669	5.13	99669	6.76	44726	8.05								
6M145075.D AD26075-003	123033	5.13	98647	6.76	46074	8.05								
6M145076.D AD26076-001	118779	5.13	91144	6.76	41982	8.05								
6M145077.D AD26076-005	116565	5.13	95194	6.76	42998	8.05								
6M145078.D AD26076-003	117502	5.13	95321	6.76	43122	8.05								
6M145079.D AD26084-001	114509	5.13	95087	6.76	43275	8.05								
6M145080.D AD26084-002	98529	5.13	79633	6.76	40400	8.05								
6M145081.D AD26088-001	114079	5.13	88471	6.76	36007	8.05								
6M145082.D AD26088-003	115105	5.13	88071	6.76	38261	8.05								
6M145083.D AD26089-001	98548	5.13	76913	6.76	37919	8.05								
6M145084.D 26009-002	132771	5.13	108099	6.76	57485	8.05								
6M145085.D AD26069-002(5X)	115733	5.13	82593	6.76	30064	8.05								
6M145086.D 26079-001(5X)	130776	5.13	105770	6.76	54859	8.05								

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.

Haz. - 210

1092401 0113

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M145214.D Method: EPA 8260D

Analysis Date/Time: 09/25/21 04:19

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:	115642	5.13	92421	6.76	49491	8.05								
Eval File Area Limit:	57821-231284		46210-184842		24746-98982									
Eval File Rt Limit:	4.63-5.63		6.26-7.26		7.55-8.55									

Data File	Sample						
6M145216.D	BLK	111200	5.13	88641	6.76	45662	8.05
6M145217.D	BLK	109722	5.13	89518	6.76	46037	8.05
6M145218.D	DAILY BLANK	107889	5.13	86007	6.76	42952	8.05
6M145219.D	MBS96807	117353	5.13	92638	6.76	49411	8.05
6M145220.D	BLK	108212	5.13	87673	6.76	45435	8.05
6M145221.D	AD26074-005	108603	5.13	86979	6.76	38987	8.05
6M145222.D	AD26074-005(MS)	113714	5.13	87668	6.76	45517	8.05
6M145223.D	AD26074-005(MSD)	112930	5.13	88245	6.76	46047	8.05
6M145224.D	MBS96808	119280	5.13	93814	6.76	51338	8.05
6M145225.D	BLK	109823	5.13	89505	6.76	46820	8.05
6M145226.D	AD26206-001	109445	5.13	86603	6.76	43958	8.05
6M145227.D	AD26206-003	108140	5.13	90079	6.76	45257	8.05
6M145228.D	AD26178-003	95330	5.13	76031	6.76	38256	8.05
6M145229.D	AD26178-005	96484	5.13	79239	6.76	41174	8.05
6M145230.D	AD26178-001	107964	5.13	85985	6.76	39968	8.05
6M145231.D	AD26177-011	87240	5.13	67036	6.76	30640	8.05
6M145232.D	AD26217-001	107710	5.13	91774	6.76	44760	8.05
6M145233.D	AD26217-003	101854	5.13	82978	6.76	42101	8.05
6M145234.D	AD26217-005	85085	5.13	70623	6.76	36820	8.05
6M145235.D	AD26217-007	103709	5.13	85925	6.76	43679	8.05
6M145236.D	AD26217-009	80526	5.13	65845	6.76	32595	8.05
6M145237.D	AD26217-011	99848	5.13	81141	6.76	40615	8.05
6M145238.D	AD26217-013	102435	5.13	85319	6.76	43429	8.05
6M145239.D	AD26217-015	96581	5.13	73017	6.76	29389	8.05
6M145240.D	AD26217-017	95167	5.13	76497	6.76	33578	8.05
6M145241.D	AD26203-001	81826	5.13	63777	6.76	31511	8.05
6M145242.D	AD26203-002	84313	5.13	66396	6.76	30550	8.05
6M145243.D	AD26203-003	80943	5.13	66902	6.76	33030	8.05
6M145244.D	AD26203-004	84920	5.13	67259	6.76	30944	8.05
6M145245.D	AD26203-005	95267	5.13	70271	6.76	27662	8.05
6M145246.D	BLK	102203	5.13	83797	6.76	41796	8.05

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.

Haz. - 211

Base Neutral/Acid Extractable Data

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-002
Client Id: SB09 COMP
Data File: 9M108570.D
Analysis Date: 09/29/21 18:14
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 85

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	0.011	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 #: 610828

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)

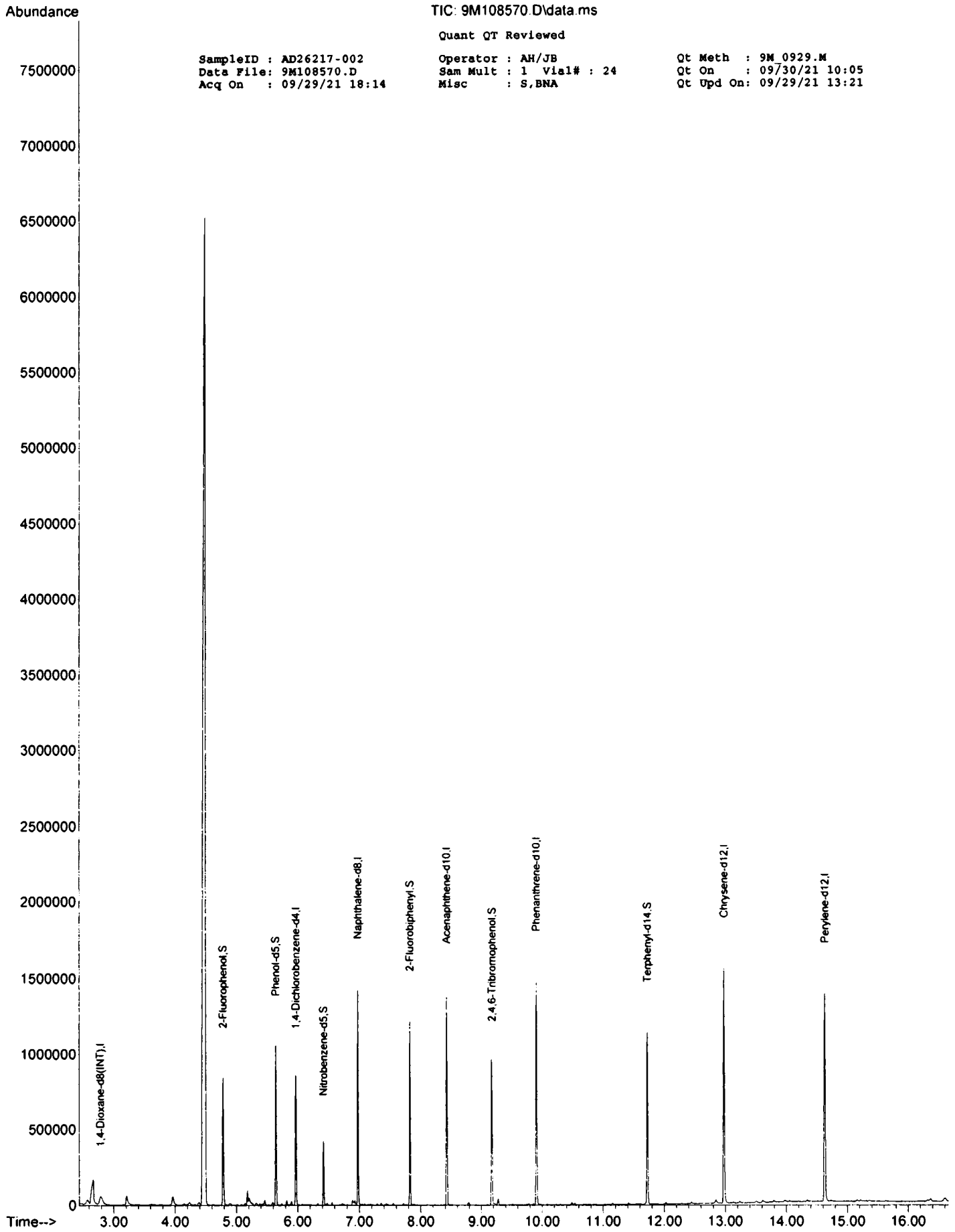
SampleID : AD26217-002 Operator : AH/JB Qt Meth : 9M_0929.M
Data File: 9M108570.D Sam Mult : 1 Vial# : 24 Qt On : 09/30/21 10:05
Acq On : 09/29/21 18:14 Misc : S,BNA Qt Upd On: 09/29/21 13:21

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\GCMS_9\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.784	96	76383	40.00 ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.972	152	147478	40.00 ng	0.00
31) Naphthalene-d8	6.978	136	587639	40.00 ng	0.00
50) Acenaphthene-d10	8.425	164	299152	40.00 ng	0.00
77) Phenanthrene-d10	9.907	188	572661	40.00 ng	0.00
91) Chrysene-d12	12.977	240	574519	40.00 ng	0.00
103) Perylene-d12	14.630	264	663987	40.00 ng	-0.03
System Monitoring Compounds					
11) 2-Fluorophenol	4.784	112	282446	65.11 ng	0.00
Spiked Amount 100.000			Recovery = 65.11%		
16) Phenol-d5	5.643	99	355868	68.63 ng	0.00
Spiked Amount 100.000			Recovery = 68.63%		
32) Nitrobenzene-d5	6.419	128	68847	34.14 ng	0.00
Spiked Amount 50.000			Recovery = 68.28%		
55) 2-Fluorobiphenyl	7.825	172	347245	35.85 ng	0.00
Spiked Amount 50.000			Recovery = 71.70%		
80) 2,4,6-Tribromophenol	9.178	330	157484	82.55 ng	0.00
Spiked Amount 100.000			Recovery = 82.55%		
94) Terphenyl-d14	11.725	244	390244	45.45 ng	0.00
Spiked Amount 50.000			Recovery = 90.90%		

Target Compounds Qvalue

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



9M_0929.M Thu Sep 30 14:34:54 2021 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-004(R)
Client Id: SB08 COMP
Data File: 9M108587.D
Analysis Date: 09/30/21 14:38
Date Rec/Extracted: 09/23/21-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.040	U	**218-01-9**	**Chrysene**	**0.040**	**0.047**
83-32-9	Acenaphthene	0.040	U	53-70-3	Dibenzo[a,h]anthracene	0.040	U
208-96-8	Acenaphthylene	0.040	U	**206-44-0**	**Fluoranthene**	**0.040**	**0.082**
120-12-7	Anthracene	0.040	U	86-73-7	Fluorene	0.040	U
56-55-3	**Benzo[a]anthracene**	**0.040**	**0.042**	193-39-5	Indeno[1,2,3-cd]pyrene	0.040	U
50-32-8	**Benzo[a]pyrene**	**0.040**	**0.040**	91-20-3	Naphthalene	0.011	U
205-99-2	**Benzo[b]fluoranthene**	**0.040**	**0.059**	85-01-8	Phenanthrene	0.040	U
191-24-2	Benzo[g,h,i]perylene	0.040	U	**129-00-0**	**Pyrene**	**0.040**	**0.070**
207-08-9	Benzo[k]fluoranthene	0.040	U				

Worksheet #: 610878

Total Target Concentration 0.34

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.

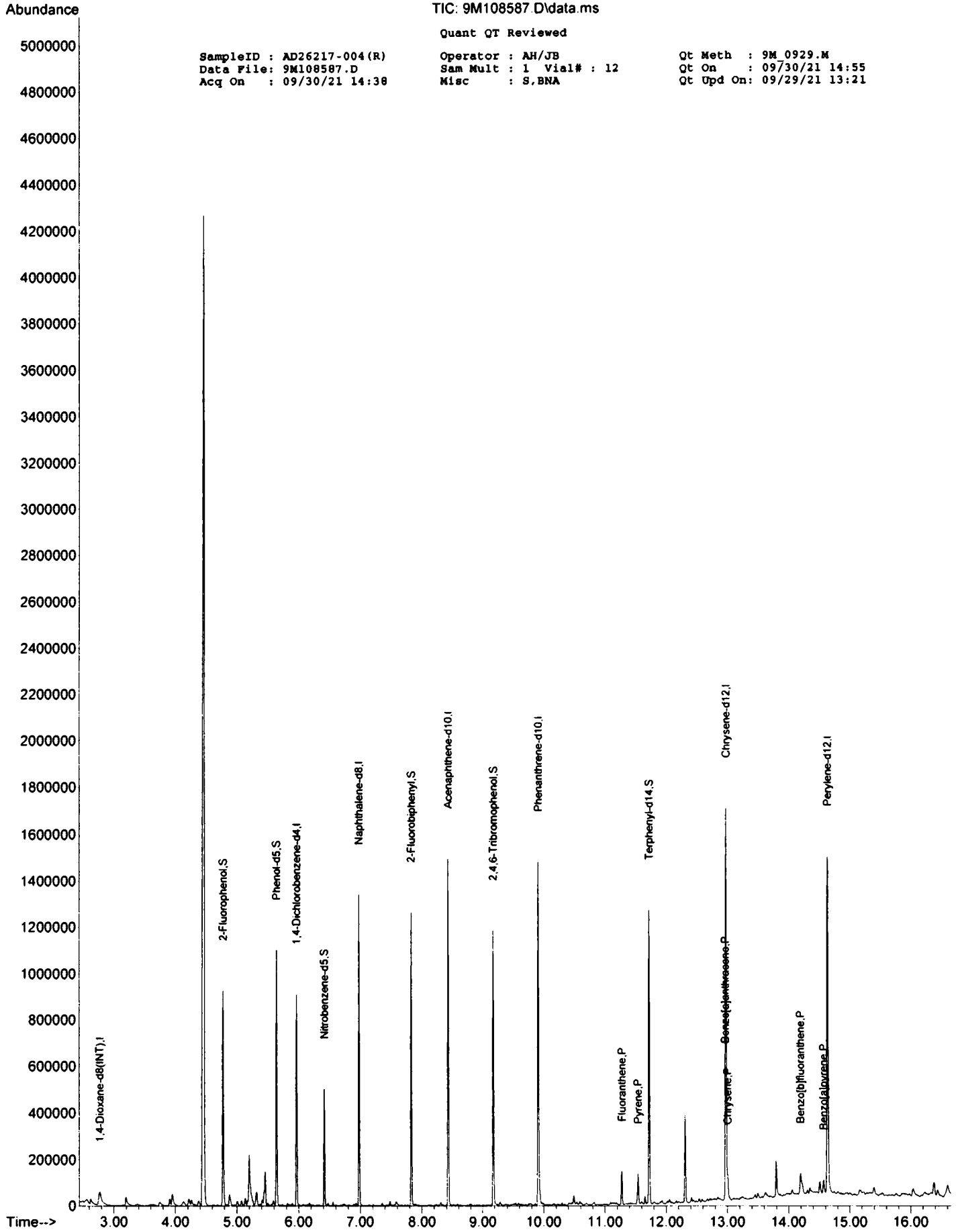
Quantitation Report (QT Reviewed)

SampleID : AD26217-004(R) Operator : AH/JB Qt Meth : 9M_0929.M
Data File: 9M108587.D Sam Mult : 1 Vial# : 12 Qt On : 09/30/21 14:55
Acq On : 09/30/21 14:38 Misc : S,BNA Qt Upd On: 09/29/21 13:21

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-30-21\
Qt Path : G:\GCMSDATA\2021\GCMS_9\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dioxane-d8(INT)	2.772	96	71377	40.00	ng	-0.03
21) 1,4-Dichlorobenzene-d4	5.966	152	138681	40.00	ng	0.00
31) Naphthalene-d8	6.978	136	567267	40.00	ng	0.00
50) Acenaphthene-d10	8.431	164	311039	40.00	ng	0.00
77) Phenanthrene-d10	9.913	188	617905	40.00	ng	0.00
91) Chrysene-d12	12.977	240	640912	40.00	ng	0.00
103) Perylene-d12	14.636	264	738367	40.00	ng	-0.02
System Monitoring Compounds						
11) 2-Fluorophenol	4.778	112	303502	74.87	ng	0.00
Spiked Amount 100.000			Recovery = 74.87%			
16) Phenol-d5	5.643	99	362793	74.87	ng	0.00
Spiked Amount 100.000			Recovery = 74.87%			
32) Nitrobenzene-d5	6.413	128	75610	38.84	ng	0.00
Spiked Amount 50.000			Recovery = 77.68%			
55) 2-Fluorobiphenyl	7.831	172	390393	38.76	ng	0.00
Spiked Amount 50.000			Recovery = 77.52%			
80) 2,4,6-Tribromophenol	9.178	330	183268	89.03	ng	0.00
Spiked Amount 100.000			Recovery = 89.03%			
94) Terphenyl-d14	11.725	244	424599	44.33	ng	0.00
Spiked Amount 50.000			Recovery = 88.66%			
Target Compounds						Qvalue
90) Fluoranthene	11.278	202	68439	4.1161	ng	88
92) Pyrene	11.542	202	59388	3.5131	ng	86
100) Benzo[a]anthracene	12.966	228	36364m	2.1153	ng	
101) Chrysene	13.007	228	39203	2.3781	ng	96
105) Benzo[b]fluoranthene	14.195	252	54183m	2.9859	ng	
107) Benzo[a]pyrene	14.571	252	34085	2.0400	ng	89

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



9M_0929.M Thu Sep 30 15:49:02 2021 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-006
Client Id: SB07 COMP
Data File: 9M108574.D
Analysis Date: 09/29/21 19:47
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.040	U	218-01-9	Chrysene	0.040	U
83-32-9	Acenaphthene	0.040	U	53-70-3	Dibenzo[a,h]anthracene	0.040	U
208-96-8	Acenaphthylene	0.040	U	206-44-0	Fluoranthene	0.040	U
120-12-7	Anthracene	0.040	U	86-73-7	Fluorene	0.040	U
56-55-3	Benzo[a]anthracene	0.040	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.040	U
50-32-8	Benzo[a]pyrene	0.040	U	91-20-3	Naphthalene	0.011	U
205-99-2	Benzo[b]fluoranthene	0.040	U	85-01-8	Phenanthrene	0.040	U
191-24-2	Benzo[g,h,i]perylene	0.040	U	129-00-0	Pyrene	0.040	U
207-08-9	Benzo[k]fluoranthene	0.040	U				

Worksheet #: 610828

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 (Not Reviewed)

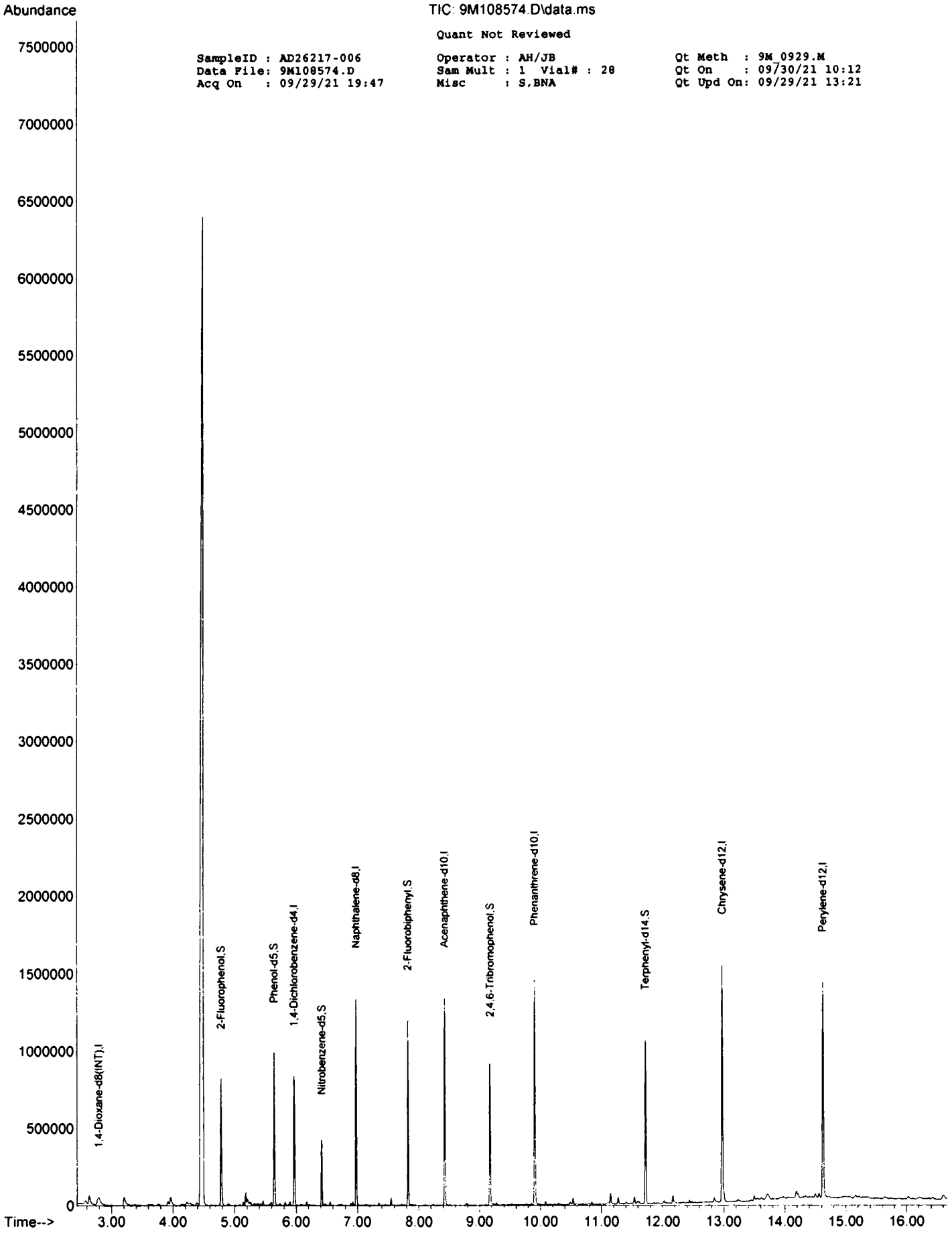
SampleID : AD26217-006 Operator : AH/JB Qt Meth : 9M_0929.M
Data File: 9M108574.D Sam Mult : 1 Vial# : 28 Qt On : 09/30/21 10:12
Acq On : 09/29/21 19:47 Misc : S,BNA Qt Upd On: 09/29/21 13:21

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\GCMS_9\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dioxane-d8(INT)	2.790	96	71827	40.00	ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.966	152	143119	40.00	ng	0.00
31) Naphthalene-d8	6.978	136	573975	40.00	ng	0.00
50) Acenaphthene-d10	8.425	164	291213	40.00	ng	0.00
77) Phenanthrene-d10	9.907	188	566689	40.00	ng	0.00
91) Chrysene-d12	12.977	240	564229	40.00	ng	0.00
103) Perylene-d12	14.624	264	655606	40.00	ng	-0.04
System Monitoring Compounds						
11) 2-Fluorophenol	4.784	112	272441	66.79	ng	0.00
Spiked Amount 100.000			Recovery = 66.79%			
16) Phenol-d5	5.643	99	337115	69.13	ng	0.00
Spiked Amount 100.000			Recovery = 69.13%			
32) Nitrobenzene-d5	6.419	128	68641	34.85	ng	0.00
Spiked Amount 50.000			Recovery = 69.70%			
55) 2-Fluorobiphenyl	7.825	172	343650	36.45	ng	0.00
Spiked Amount 50.000			Recovery = 72.90%			
80) 2,4,6-Tribromophenol	9.178	330	152664	80.87	ng	0.00
Spiked Amount 100.000			Recovery = 80.87%			
94) Terphenyl-d14	11.719	244	368320	43.68	ng	0.00
Spiked Amount 50.000			Recovery = 87.36%			

Target Compounds Qvalue

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



9M_0929.M Thu Sep 30 14:34:57 2021 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-008
Client Id: SB06 COMP
Data File: 7M116802.D
Analysis Date: 09/29/21 17:39
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
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**	**0.16**
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**	**0.27**
120-12-7	Anthracene	0.036	U	86-73-7	Fluorene	0.036	U
56-55-3	**Benzo[a]anthracene**	**0.036**	**0.13**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.036**	**0.075**
50-32-8	**Benzo[a]pyrene**	**0.036**	**0.13**	91-20-3	Naphthalene	0.010	U
205-99-2	**Benzo[b]fluoranthene**	**0.036**	**0.22**	**85-01-8**	**Phenanthrene**	**0.036**	**0.10**
191-24-2	**Benzo[g,h,i]perylene**	**0.036**	**0.086**	**129-00-0**	**Pyrene**	**0.036**	**0.23**
207-08-9	**Benzo[k]fluoranthene**	**0.036**	**0.077**				

Worksheet #: 610828 *Total Target Concentration* 1.5 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.

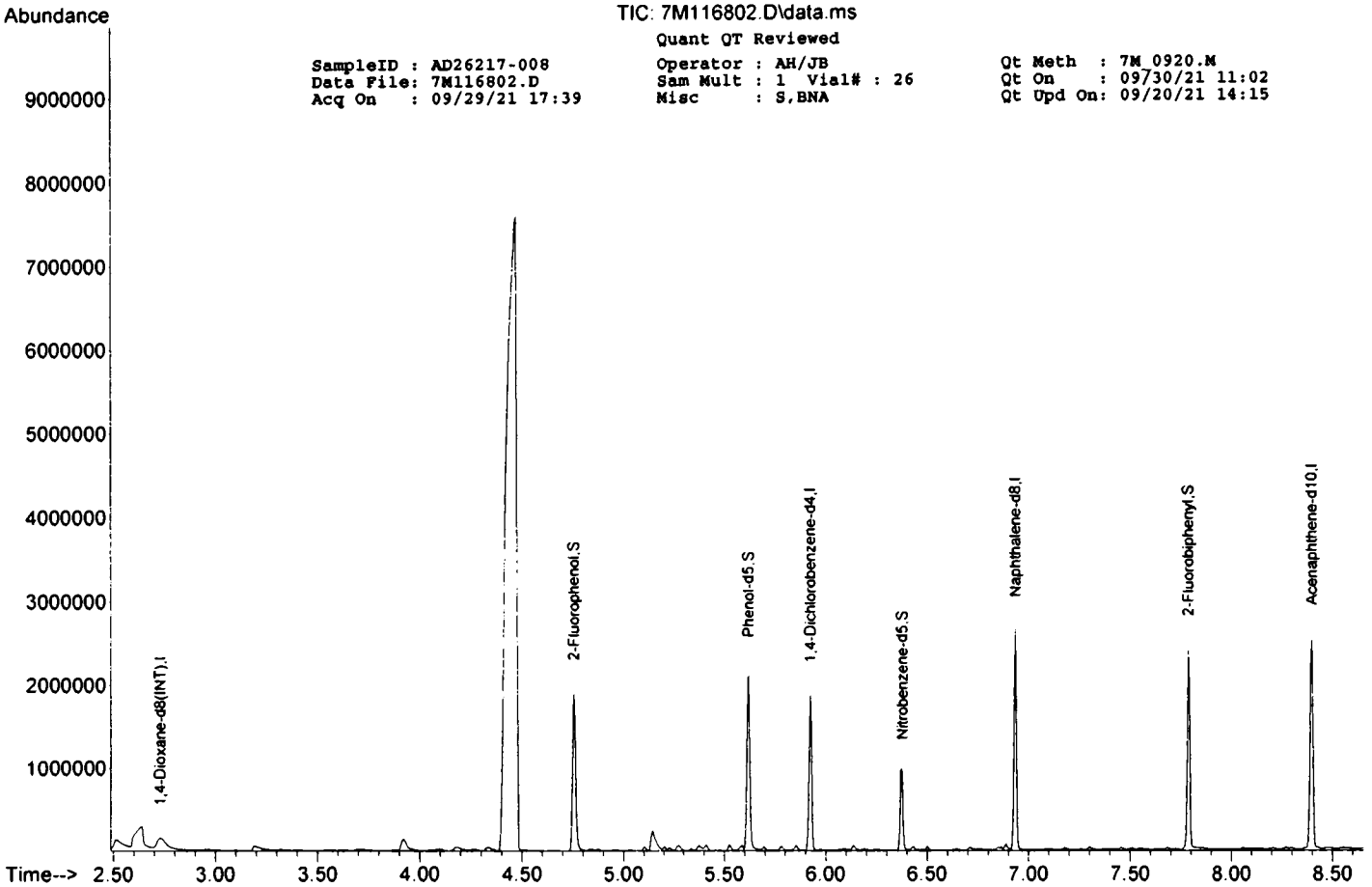
Quantitation Report (QT Reviewed)

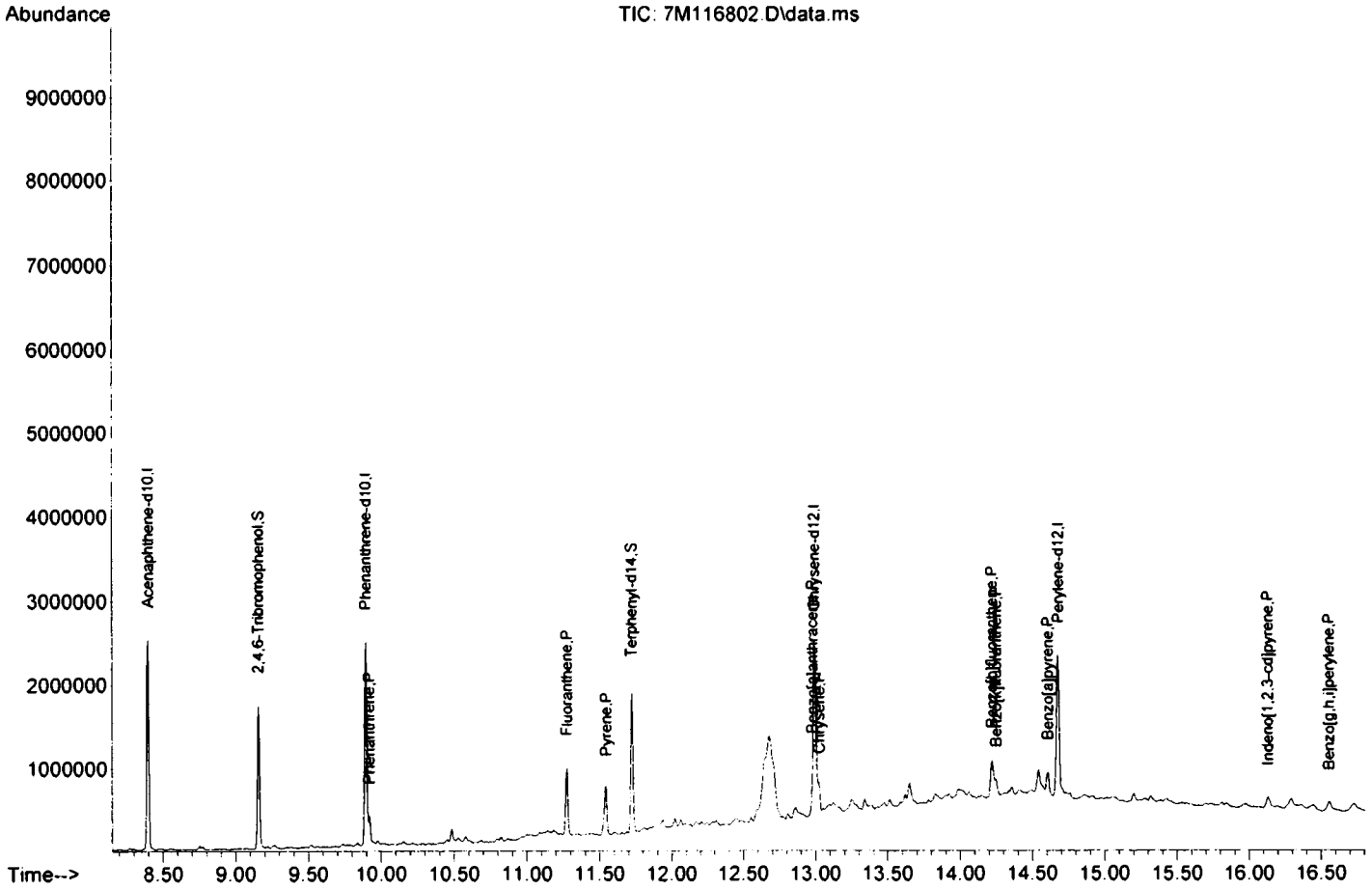
SampleID : AD26217-008 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116802.D Sam Mult : 1 Vial# : 26 Qt On : 09/30/21 11:02
Acq On : 09/29/21 17:39 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.728	96	148669	40.00	ng	0.00
21) 1,4-Dichlorobenzene-d4	5.924	152	272151	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1080446	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	525200	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	937039	40.00	ng	0.00
91) Chrysene-d12	12.993	240	739821	40.00	ng	0.00
103) Perylene-d12	14.679	264	809078	40.00	ng	0.00
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	584354	74.29	ng	0.02
Spiked Amount 100.000			Recovery = 74.29%			
16) Phenol-d5	5.619	99	738410	82.57	ng	0.01
Spiked Amount 100.000			Recovery = 82.57%			
32) Nitrobenzene-d5	6.377	128	155315	38.46	ng	0.00
Spiked Amount 50.000			Recovery = 76.92%			
55) 2-Fluorobiphenyl	7.787	172	674233	40.39	ng	-0.01
Spiked Amount 50.000			Recovery = 80.78%			
80) 2,4,6-Tribromophenol	9.156	330	213429	86.26	ng	0.00
Spiked Amount 100.000			Recovery = 86.26%			
94) Terphenyl-d14	11.724	244	557992	45.49	ng	0.00
Spiked Amount 50.000			Recovery = 90.98%			
Target Compounds						Qvalue
86) Phenanthrene	9.920	178	122533	5.6782	ng	99
90) Fluoranthene	11.277	202	348387	14.7711	ng	96
92) Pyrene	11.547	202	280143	12.9548	ng	91
100) Benzo[a]anthracene	12.981	228	148777m	7.2354	ng	
101) Chrysene	13.028	228	176109m	8.9341	ng	
105) Benzo[b]fluoranthene	14.221	252	231451m	11.8826	ng	
106) Benzo[k]fluoranthene	14.250	252	81615m	4.2537	ng	
107) Benzo[a]pyrene	14.608	252	134475	7.1723	ng	93
108) Indeno[1,2,3-cd]pyrene	16.130	276	85330m	4.1321	ng	
110) Benzo[g,h,i]perylene	16.553	276	81770	4.7380	ng	95

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





7M_0920.M Thu Sep 30 14:35:01 2021 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-010
Client Id: SB05 COMP
Data File: 7M116803.D
Analysis Date: 09/29/21 18:03
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 88

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**	**0.23**
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**	**0.23**
120-12-7	**Anthracene**	**0.038**	**0.038**	86-73-7	Fluorene	0.038	U
56-55-3	**Benzo[a]anthracene**	**0.038**	**0.16**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.038**	**0.087**
50-32-8	**Benzo[a]pyrene**	**0.038**	**0.16**	91-20-3	Naphthalene	0.011	U
205-99-2	**Benzo[b]fluoranthene**	**0.038**	**0.34**	**85-01-8**	**Phenanthrene**	**0.038**	**0.055**
191-24-2	**Benzo[g,h,i]perylene**	**0.038**	**0.089**	**129-00-0**	**Pyrene**	**0.038**	**0.26**
207-08-9	**Benzo[k]fluoranthene**	**0.038**	**0.081**				

Worksheet #: 610828 *Total Target Concentration* 1.7 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
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.

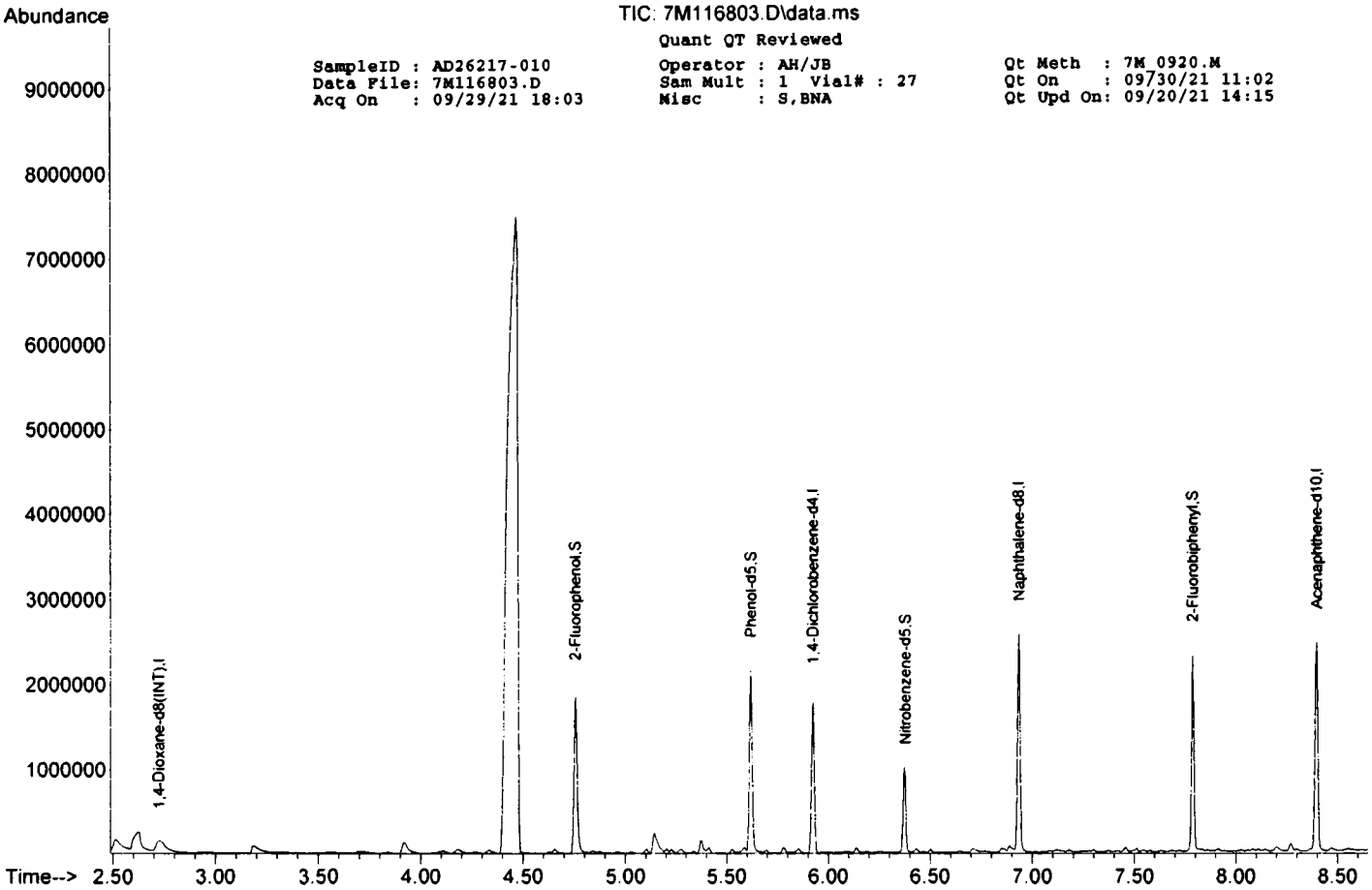
Quantitation Report (QT Reviewed)

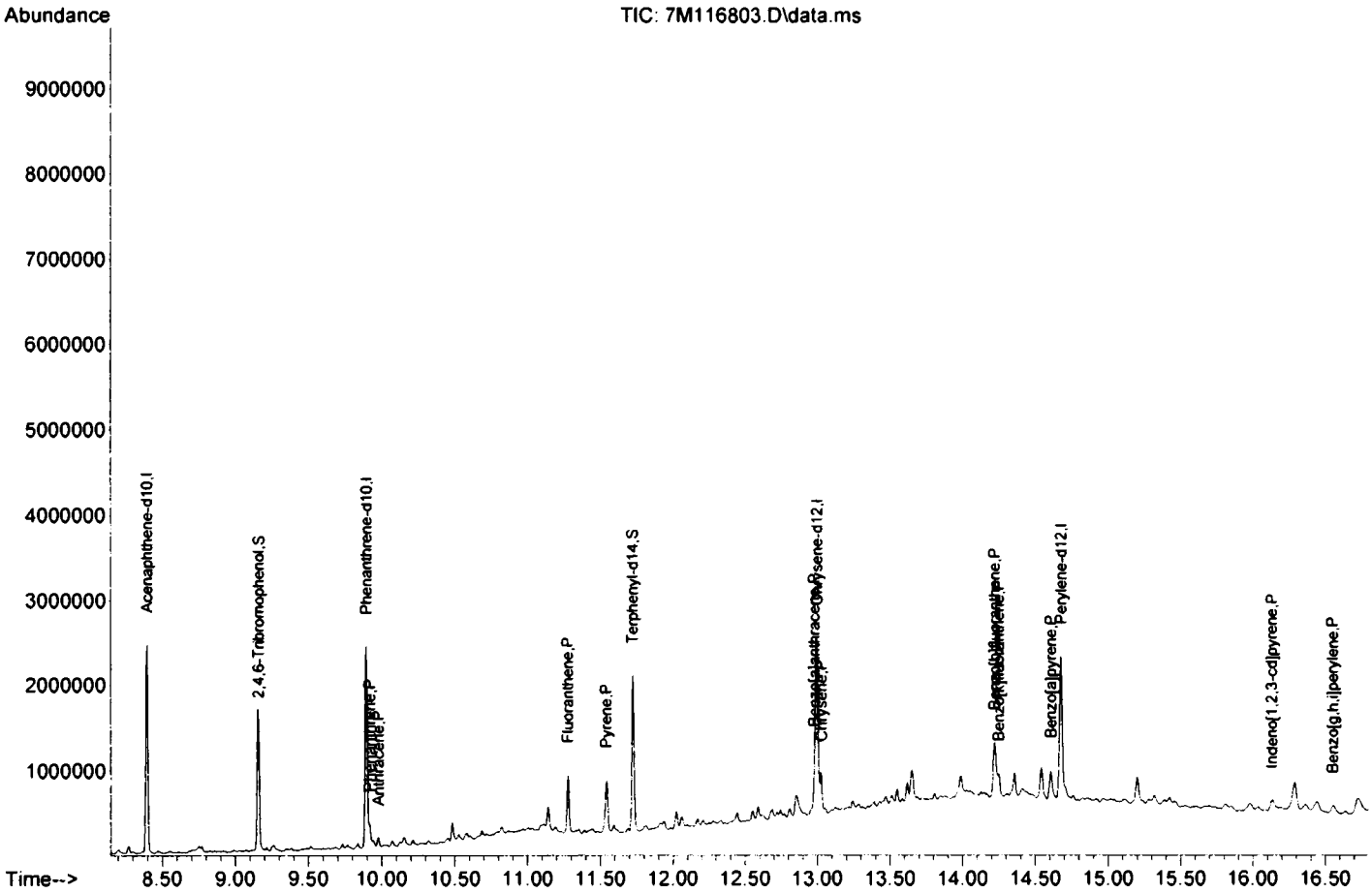
SampleID : AD26217-010 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116803.D Sam Mult : 1 Vial# : 27 Qt On : 09/30/21 11:02
Acq On : 09/29/21 18:03 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.722	96	151034	40.00	ng	0.00
21) 1,4-Dichlorobenzene-d4	5.925	152	265873	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1061146	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	514886	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	912177	40.00	ng	0.00
91) Chrysene-d12	12.999	240	718600	40.00	ng	0.01
103) Perylene-d12	14.679	264	790009	40.00	ng	0.00
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	579005	72.46	ng	0.02
Spiked Amount 100.000			Recovery = 72.46%			
16) Phenol-d5	5.619	99	737390	81.16	ng	0.01
Spiked Amount 100.000			Recovery = 81.16%			
32) Nitrobenzene-d5	6.377	128	151569	38.21	ng	0.00
Spiked Amount 50.000			Recovery = 76.42%			
55) 2-Fluorobiphenyl	7.787	172	656671	40.13	ng	-0.01
Spiked Amount 50.000			Recovery = 80.26%			
80) 2,4,6-Tribromophenol	9.162	330	213290	88.44	ng	0.00
Spiked Amount 100.000			Recovery = 88.44%			
94) Terphenyl-d14	11.724	244	541716	45.47	ng	0.00
Spiked Amount 50.000			Recovery = 90.94%			
Target Compounds						Qvalue
86) Phenanthrene	9.920	178	60548	2.8823	ng	99
87) Anthracene	9.979	178	43892m	2.0285	ng	
90) Fluoranthene	11.277	202	273205	11.8992	ng	100
92) Pyrene	11.542	202	284923	13.5650	ng	96
100) Benzo[a]anthracene	12.981	228	169077	8.4654	ng	91
101) Chrysene	13.028	228	235254	12.2870	ng	98
105) Benzo[b]fluoranthene	14.221	252	342724m	18.0200	ng	
106) Benzo[k]fluoranthene	14.250	252	79858m	4.2626	ng	
107) Benzo[a]pyrene	14.609	252	149909	8.1885	ng	92
108) Indeno[1,2,3-cd]pyrene	16.130	276	92967	4.6106	ng	85
110) Benzo[g,h,i]perylene	16.553	276	78858	4.6795	ng	96

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





7M_0920.M Thu Sep 30 14:35:04 2021 RPT1 Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-012
Client Id: SB04 COMP
Data File: 7M116804.D
Analysis Date: 09/29/21 18:26
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 85

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**	**0.13**
83-32-9	Acenaphthene	0.039	U	53-70-3	Dibenzo[a,h]anthracene	0.039	U
208-96-8	**Acenaphthylene**	**0.039**	**0.047**	**206-44-0**	**Fluoranthene**	**0.039**	**0.16**
120-12-7	Anthracene	0.039	U	86-73-7	Fluorene	0.039	U
56-55-3	**Benzo[a]anthracene**	**0.039**	**0.11**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.039**	**0.076**
50-32-8	**Benzo[a]pyrene**	**0.039**	**0.13**	91-20-3	Naphthalene	0.011	U
205-99-2	**Benzo[b]fluoranthene**	**0.039**	**0.21**	**85-01-8**	**Phenanthrene**	**0.039**	**0.046**
191-24-2	**Benzo[g,h,i]perylene**	**0.039**	**0.082**	**129-00-0**	**Pyrene**	**0.039**	**0.18**
207-08-9	**Benzo[k]fluoranthene**	**0.039**	**0.054**				

Worksheet #: 610828 ***Total Target Concentration*** 1.2 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.

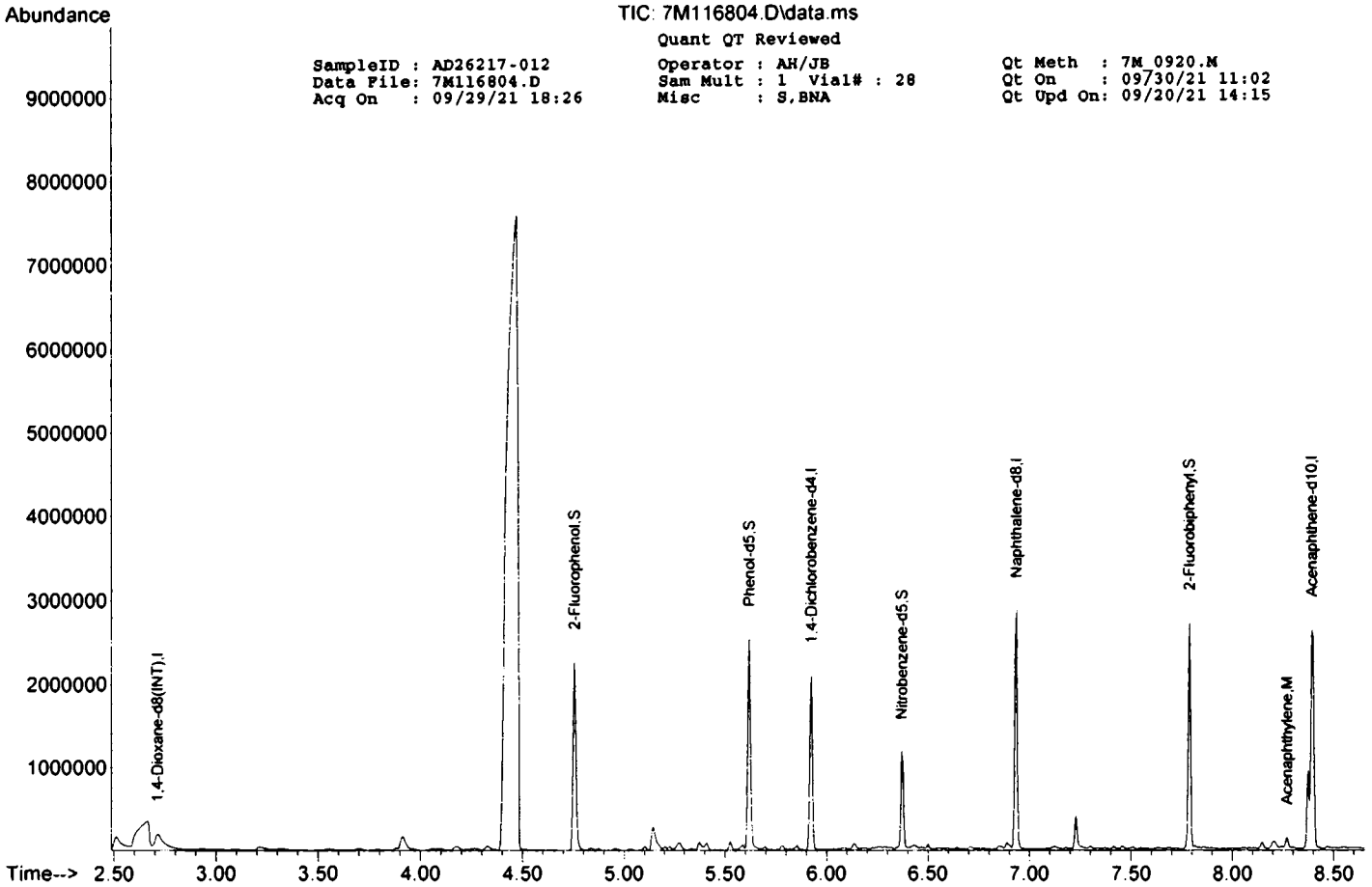
Quantitation Report (QT Reviewed)

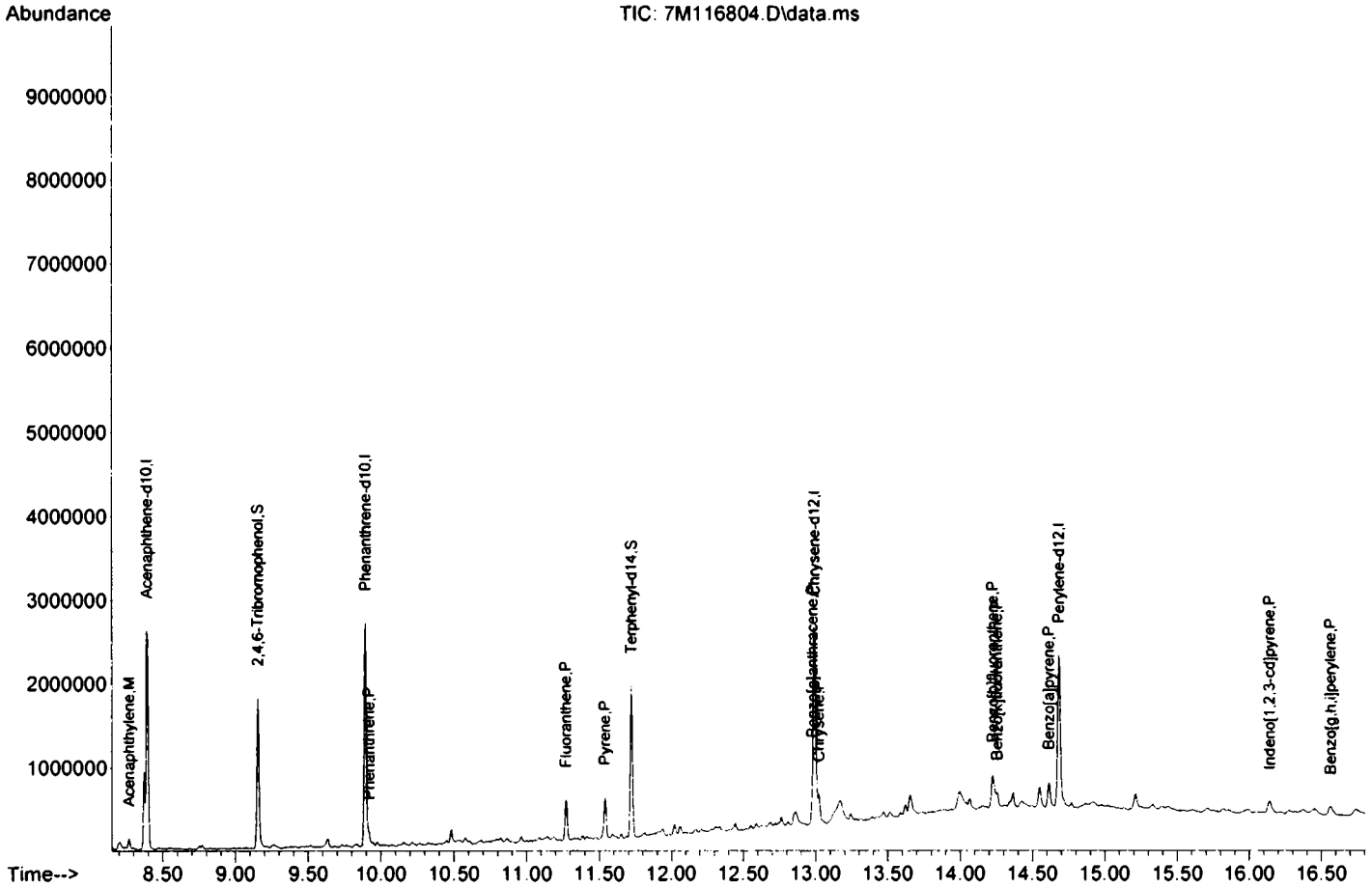
SampleID : AD26217-012 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116804.D Sam Mult : 1 Vial# : 28 Qt On : 09/30/21 11:02
Acq On : 09/29/21 18:26 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.710	96	174192	40.00	ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.924	152	308115	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1218216	40.00	ng	0.00
50) Acenaphthene-d10	8.392	164	579336	40.00	ng	-0.01
77) Phenanthrene-d10	9.896	188	1036709	40.00	ng	0.00
91) Chrysene-d12	12.993	240	817556	40.00	ng	0.00
103) Perylene-d12	14.685	264	879093	40.00	ng	0.01
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	662918	71.93	ng	0.02
Spiked Amount 100.000			Recovery = 71.93%			
16) Phenol-d5	5.619	99	830358	79.25	ng	0.01
Spiked Amount 100.000			Recovery = 79.25%			
32) Nitrobenzene-d5	6.371	128	177020	38.87	ng	0.00
Spiked Amount 50.000			Recovery = 77.74%			
55) 2-Fluorobiphenyl	7.787	172	721375	39.18	ng	-0.01
Spiked Amount 50.000			Recovery = 78.36%			
80) 2,4,6-Tribromophenol	9.156	330	216272	79.35	ng	0.00
Spiked Amount 100.000			Recovery = 79.35%			
94) Terphenyl-d14	11.724	244	559469	41.27	ng	0.00
Spiked Amount 50.000			Recovery = 82.54%			
Target Compounds						Qvalue
62) Acenaphthylene	8.269	152	56286	2.4147	ng	99
86) Phenanthrene	9.920	178	55853	2.3394	ng	99
90) Fluoranthene	11.271	202	209256	8.0192	ng	100
92) Pyrene	11.541	202	215571	9.0209	ng	96
100) Benzo[a]anthracene	12.981	228	130049m	5.7232	ng	
101) Chrysene	13.022	228	141431m	6.4927	ng	
105) Benzo[b]fluoranthene	14.227	252	222761m	10.5256	ng	
106) Benzo[k]fluoranthene	14.256	252	57620m	2.7639	ng	
107) Benzo[a]pyrene	14.614	252	137132	6.7315	ng	93
108) Indeno[1,2,3-cd]pyrene	16.142	276	87352	3.8932	ng	84
110) Benzo[g,h,i]perylene	16.565	276	78048	4.1621	ng	93

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





7M_0920.M Thu Sep 30 14:35:07 2021 RPT1 Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-014
Client Id: SB03 COMP
Data File: 7M116805.D
Analysis Date: 09/29/21 18:50
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
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**	**0.14**
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**	**0.23**
120-12-7	Anthracene	0.037	U	86-73-7	Fluorene	0.037	U
56-55-3	**Benzo[a]anthracene**	**0.037**	**0.12**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.037**	**0.072**
50-32-8	**Benzo[a]pyrene**	**0.037**	**0.14**	91-20-3	Naphthalene	0.011	U
205-99-2	**Benzo[b]fluoranthene**	**0.037**	**0.19**	**85-01-8**	**Phenanthrene**	**0.037**	**0.11**
191-24-2	**Benzo[g,h,i]perylene**	**0.037**	**0.080**	**129-00-0**	**Pyrene**	**0.037**	**0.23**
207-08-9	**Benzo[k]fluoranthene**	**0.037**	**0.070**				

Worksheet #: 610828 *Total Target Concentration* 1.4 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.

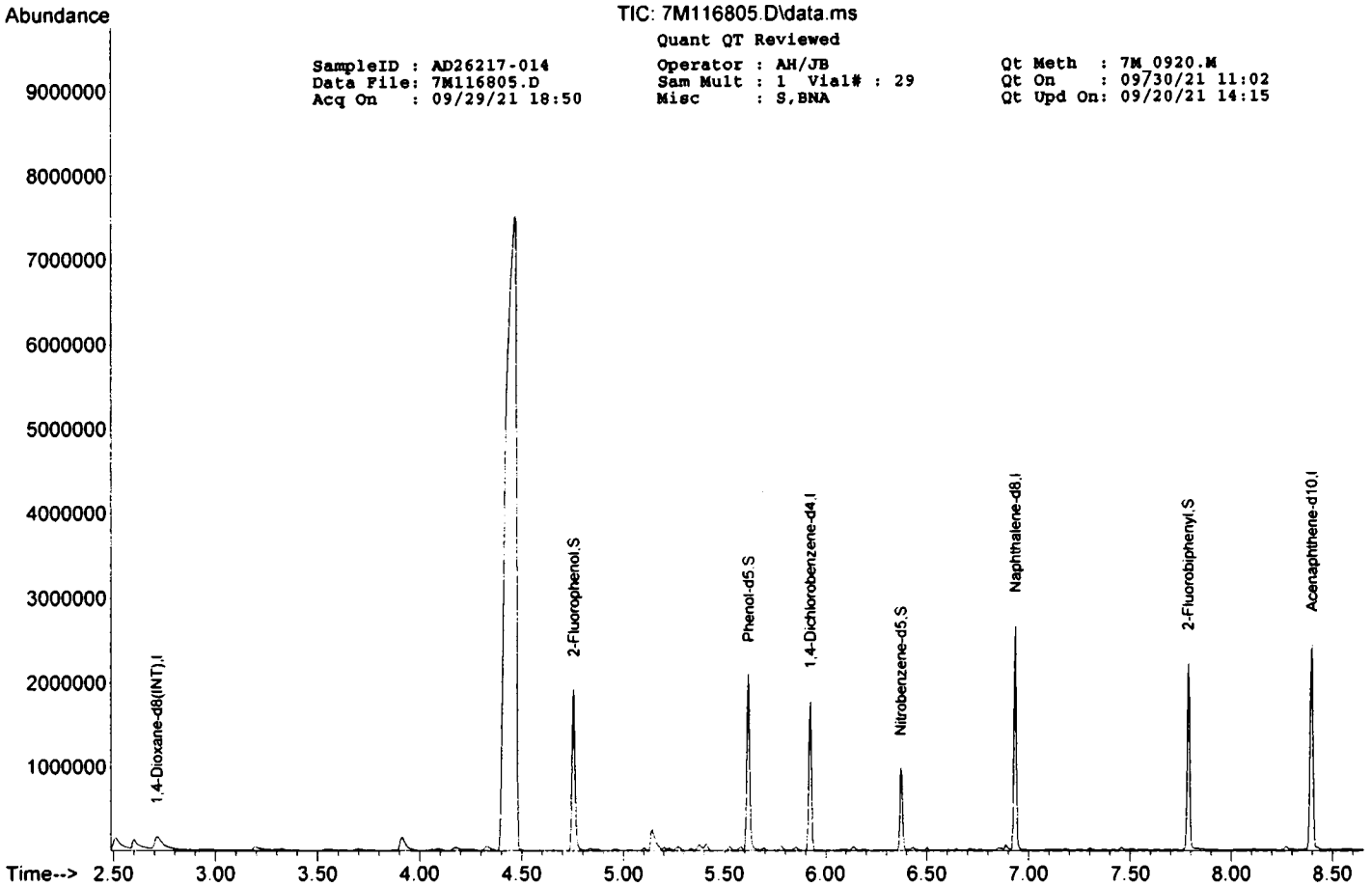
Quantitation Report (QT Reviewed)

SampleID : AD26217-014 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116805.D Sam Mult : 1 Vial# : 29 Qt On : 09/30/21 11:02
Acq On : 09/29/21 18:50 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.711	96	147968	40.00	ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.925	152	259863	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1037271	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	500079	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	887848	40.00	ng	0.00
91) Chrysene-d12	12.993	240	697448	40.00	ng	0.00
103) Perylene-d12	14.691	264	752263	40.00	ng	0.02
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	567785	72.52	ng	0.02
Spiked Amount 100.000			Recovery = 72.52%			
16) Phenol-d5	5.619	99	709577	79.72	ng	0.01
Spiked Amount 100.000			Recovery = 79.72%			
32) Nitrobenzene-d5	6.371	128	147670	38.08	ng	0.00
Spiked Amount 50.000			Recovery = 76.16%			
55) 2-Fluorobiphenyl	7.787	172	647907	40.77	ng	-0.01
Spiked Amount 50.000			Recovery = 81.54%			
80) 2,4,6-Tribromophenol	9.162	330	203586	86.82	ng	0.00
Spiked Amount 100.000			Recovery = 86.82%			
94) Terphenyl-d14	11.724	244	537929	46.52	ng	0.00
Spiked Amount 50.000			Recovery = 93.04%			
Target Compounds						Qvalue
86) Phenanthrene	9.920	178	123562	6.0431	ng	99
90) Fluoranthene	11.277	202	273257	12.2276	ng	95
92) Pyrene	11.547	202	247616	12.1463	ng	91
100) Benzo[a]anthracene	12.981	228	122999m	6.3451	ng	
101) Chrysene	13.022	228	135358m	7.2840	ng	
105) Benzo[b]fluoranthene	14.233	252	183899m	10.1544	ng	
106) Benzo[k]fluoranthene	14.262	252	66840m	3.7468	ng	
107) Benzo[a]pyrene	14.620	252	126969	7.2834	ng	94
108) Indeno[1,2,3-cd]pyrene	16.148	276	73430	3.8244	ng	86
110) Benzo[g,h,i]perylene	16.571	276	68580	4.2738	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed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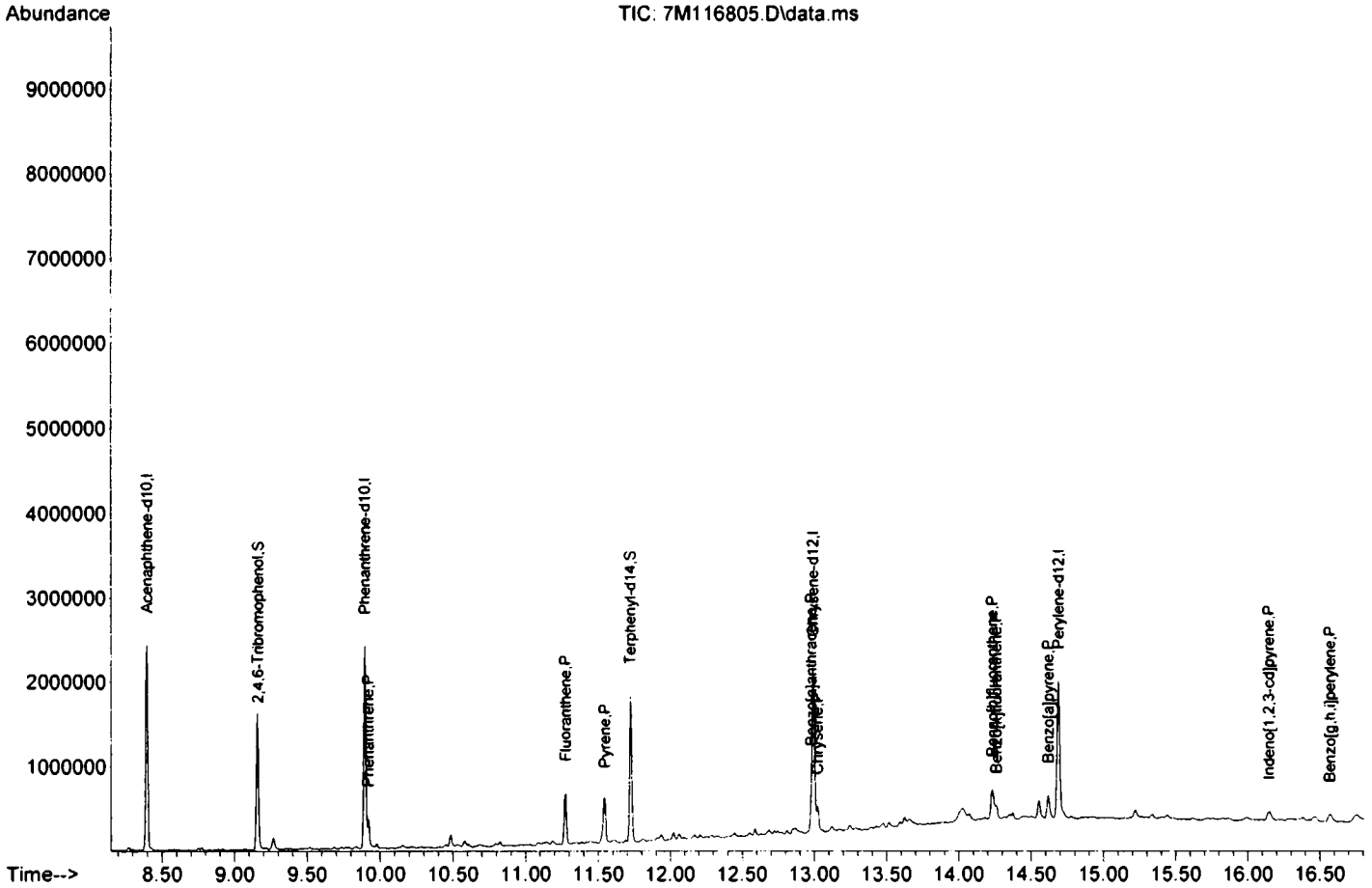
Quant QT Reviewed
SampleID : AD26217-014
Data File: 7M116805.D
Acq On : 09/29/21 18:50
Operator : AH/JB
Sam Mult : 1 Vial# : 29
Misc : S,BNA
Qt Meth : 7M_0920.M
Qt On : 09/30/21 11:02
Qt Upd On: 09/20/21 14:15
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthene-d10,I
Time-->


Abundance
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Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene,P
Perylene-d12,I
Benzo[a]pyrene,P
Indeno[1,2,3-cd]pyrene,P
Benzo[g,h,i]perylene,P
Time-->

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-016(5X)
Client Id: SB02 COMP
Data File: 7M116818.D
Analysis Date: 09/30/21 12:19
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 5
Solids: 78

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.21	U	**218-01-9**	**Chrysene**	**0.21**	**0.90**
83-32-9	Acenaphthene	0.21	U	53-70-3	Dibenzo[a,h]anthracene	0.21	U
208-96-8	Acenaphthylene	0.21	U	**206-44-0**	**Fluoranthene**	**0.21**	**1.3**
120-12-7	**Anthracene**	**0.21**	**0.23**	86-73-7	Fluorene	0.21	U
56-55-3	**Benzo[a]anthracene**	**0.21**	**0.87**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.21**	**0.45**
50-32-8	**Benzo[a]pyrene**	**0.21**	**0.84**	91-20-3	Naphthalene	0.062	U
205-99-2	**Benzo[b]fluoranthene**	**0.21**	**1.3**	**85-01-8**	**Phenanthrene**	**0.21**	**0.89**
191-24-2	**Benzo[g,h,i]perylene**	**0.21**	**0.52**	**129-00-0**	**Pyrene**	**0.21**	**1.4**
207-08-9	**Benzo[k]fluoranthene**	**0.21**	**0.32**				

Worksheet #: 610828 *Total Target Concentration* 9 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.

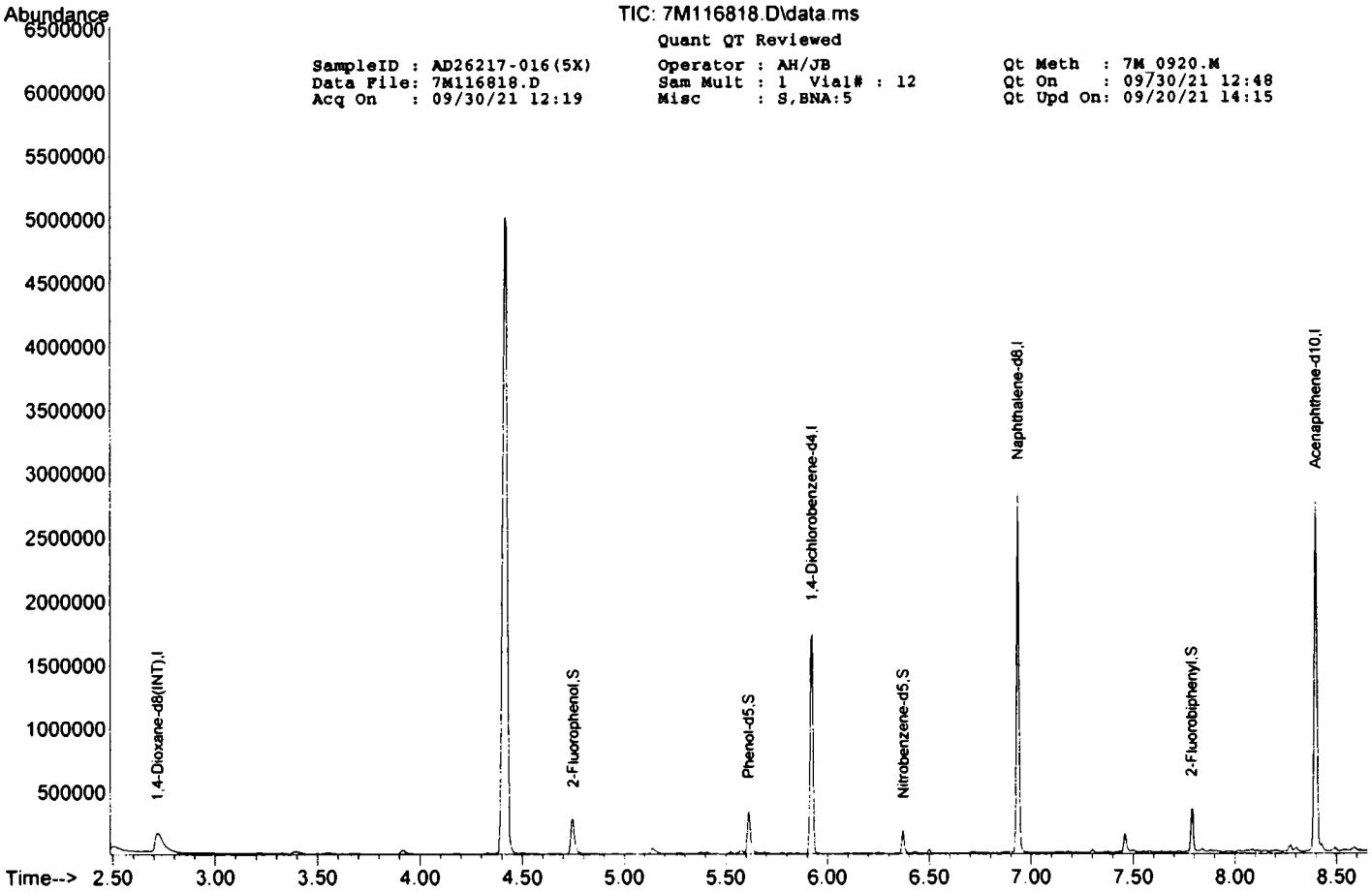
Quantitation Report (QT Reviewed)

SampleID : AD26217-016(5X) Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116818.D Sam Mult : 1 Vial# : 12 Qt On : 09/30/21 12:48
Acq On : 09/30/21 12:19 Misc : S,BNA:5 Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-30-21\
Qt Path : G:\GCMSDATA\2021\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)	2.716	96	162715	40.00	ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.924	152	284492	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1097319	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	531908	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	928392	40.00	ng	0.00
91) Chrysene-d12	12.993	240	730040	40.00	ng	0.00
103) Perylene-d12	14.685	264	772064	40.00	ng	0.01
System Monitoring Compounds						
11) 2-Fluorophenol	4.749	112	103109	11.98	ng	0.01
Spiked Amount 100.000			Recovery = 11.98%			
16) Phenol-d5	5.613	99	124292	12.70	ng	0.00
Spiked Amount 100.000			Recovery = 12.70%			
32) Nitrobenzene-d5	6.371	128	24564	5.99	ng	0.00
Spiked Amount 50.000			Recovery = 11.98%			
55) 2-Fluorobiphenyl	7.787	172	107772	6.38	ng	-0.01
Spiked Amount 50.000			Recovery = 12.76%			
80) 2,4,6-Tribromophenol	9.162	330	29931	12.80	ng	0.00
Spiked Amount 100.000			Recovery = 12.80%			
94) Terphenyl-d14	11.724	244	81403	6.73	ng	0.00
Spiked Amount 50.000			Recovery = 13.46%			
Target Compounds						Qvalue
86) Phenanthrene	9.920	178	178881	8.3666	ng	99
87) Anthracene	9.979	178	46723m	2.1216	ng	
90) Fluoranthene	11.277	202	283476	12.1309	ng	95
92) Pyrene	11.547	202	286868	13.4436	ng	89
100) Benzo[a]anthracene	12.981	228	165285m	8.1459	ng	
101) Chrysene	13.028	228	163622m	8.4118	ng	
105) Benzo[b]fluoranthene	14.227	252	221449m	11.9141	ng	
106) Benzo[k]fluoranthene	14.256	252	54372m	2.9697	ng	
107) Benzo[a]pyrene	14.614	252	140753	7.8670	ng	94
108) Indeno[1,2,3-cd]pyrene	16.142	276	82694	4.1965	ng	83
110) Benzo[g,h,i]perylene	16.571	276	80496	4.8878	ng	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed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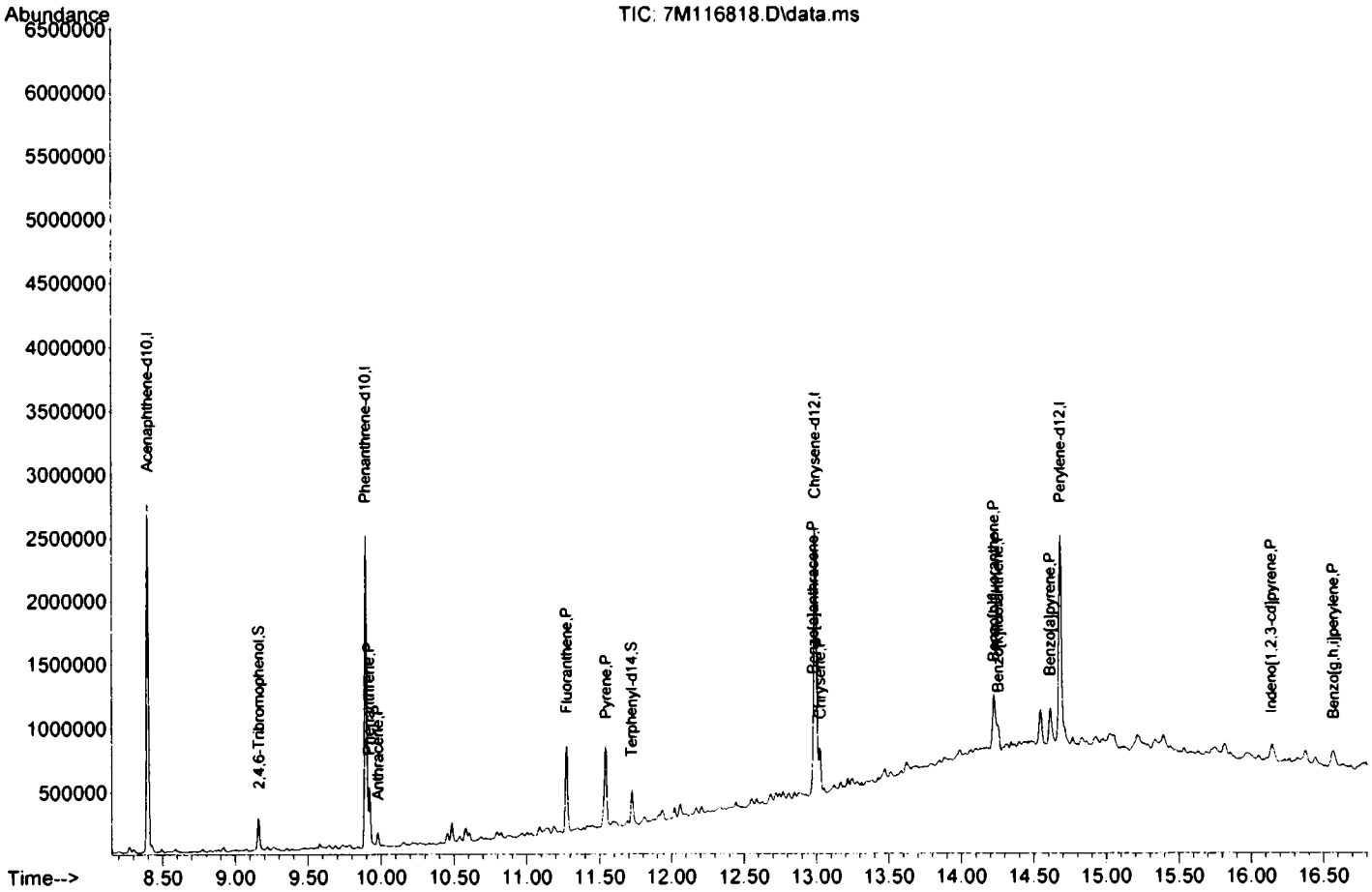
SampleID : AD26217-016(5X)
Data File: 7M116818.D
Acq On : 09/30/21 12:19
Operator : AH/JB
Sam Mult : 1 Vial# : 12
Misc : S,BNA:5
Qt Meth : 7M_0920.M
Qt On : 09/30/21 12:48
Qt Upd On: 09/20/21 14:15
Abundance
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthene-d10,I
Time-->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Phenanthrene-d10,I
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene-d12,I
Perylene-d12,I
Benzo(a)pyrene,P
Indeno(1,2,3-cd)pyrene,P
Benzo(g,h,i)perylene,P
Time-->

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-018
Client Id: SB01 COMP
Data File: 7M116809.D
Analysis Date: 09/30/21 08:48
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.041	U	**218-01-9**	**Chrysene**	**0.041**	**0.70**
83-32-9	Acenaphthene	0.041	U	**53-70-3**	**Dibenzo[a,h]anthracene**	**0.041**	**0.13**
208-96-8	**Acenaphthylene**	**0.041**	**0.22**	**206-44-0**	**Fluoranthene**	**0.041**	**1.0**
120-12-7	**Anthracene**	**0.041**	**0.093**	86-73-7	Fluorene	0.041	U
56-55-3	**Benzo[a]anthracene**	**0.041**	**0.76**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.041**	**0.41**
50-32-8	**Benzo[a]pyrene**	**0.041**	**0.69**	91-20-3	Naphthalene	0.012	U
205-99-2	**Benzo[b]fluoranthene**	**0.041**	**0.95**	**85-01-8**	**Phenanthrene**	**0.041**	**0.33**
191-24-2	**Benzo[g,h,i]perylene**	**0.041**	**0.42**	**129-00-0**	**Pyrene**	**0.041**	**0.99**
207-08-9	**Benzo[k]fluoranthene**	**0.041**	**0.35**				

Worksheet #: 610828

Total Target Concentration

7

ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
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.

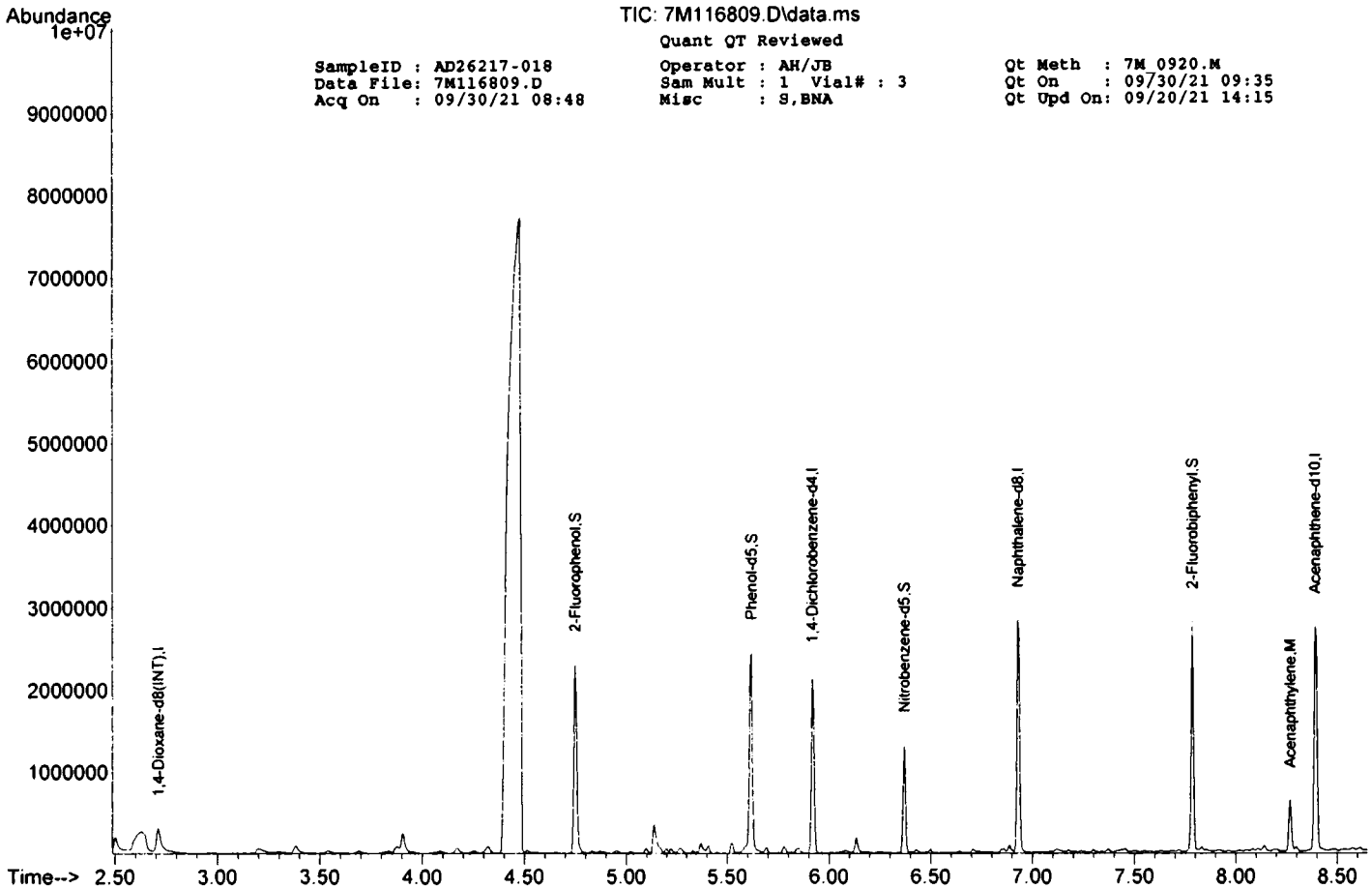
Quantitation Report (QT Reviewed)

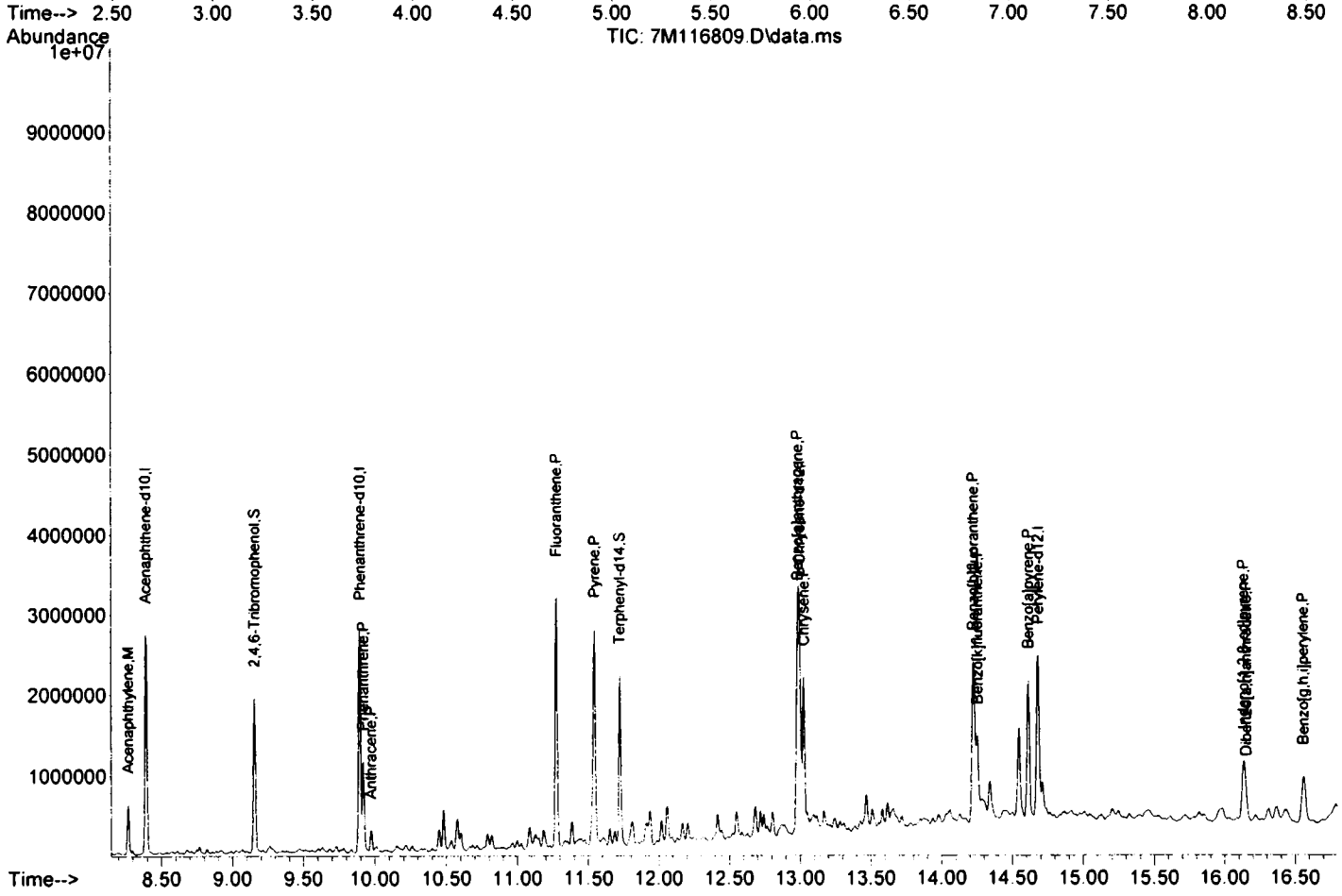
SampleID : AD26217-018 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116809.D Sam Mult : 1 Vial# : 3 Qt On : 09/30/21 09:35
Acq On : 09/30/21 08:48 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-30-21\
Qt Path : G:\GCMSDATA\2021\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)	2.710	96	182320	40.00	ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.919	152	314101	40.00	ng	0.00
31) Naphthalene-d8	6.929	136	1251307	40.00	ng	-0.01
50) Acenaphthene-d10	8.392	164	596228	40.00	ng	-0.01
77) Phenanthrene-d10	9.896	188	1064891	40.00	ng	0.00
91) Chrysene-d12	12.999	240	862848	40.00	ng	0.01
103) Perylene-d12	14.685	264	956987	40.00	ng	0.01
System Monitoring Compounds						
11) 2-Fluorophenol	4.749	112	676402	70.12	ng	0.01
Spiked Amount 100.000			Recovery = 70.12%			
16) Phenol-d5	5.619	99	862013	78.60	ng	0.01
Spiked Amount 100.000			Recovery = 78.60%			
32) Nitrobenzene-d5	6.371	128	178804	38.23	ng	0.00
Spiked Amount 50.000			Recovery = 76.46%			
55) 2-Fluorobiphenyl	7.787	172	768476	40.55	ng	-0.01
Spiked Amount 50.000			Recovery = 81.10%			
80) 2,4,6-Tribromophenol	9.156	330	233841	83.32	ng	0.00
Spiked Amount 100.000			Recovery = 83.32%			
94) Terphenyl-d14	11.724	244	616870	43.12	ng	0.00
Spiked Amount 50.000			Recovery = 86.24%			
Target Compounds						Qvalue
62) Acenaphthylene	8.269	152	260986	10.8794	ng	99
86) Phenanthrene	9.920	178	401367	16.3664	ng	100
87) Anthracene	9.973	178	115526m	4.5735	ng	
90) Fluoranthene	11.277	202	1324007	49.3962	ng	97
92) Pyrene	11.547	202	1222314	48.4649	ng	93
100) Benzo[a]anthracene	12.987	228	900052m	37.5305	ng	
101) Chrysene	13.028	228	793018m	34.4941	ng	
105) Benzo[b]fluoranthene	14.227	252	1077922m	46.7869	ng	
106) Benzo[k]fluoranthene	14.256	252	387374m	17.0693	ng	
107) Benzo[a]pyrene	14.614	252	753933	33.9964	ng	93
108) Indeno[1,2,3-cd]pyrene	16.136	276	492653	20.1697	ng	85
109) Dibenzo[a,h]anthracene	16.154	278	127967m	6.2707	ng	
110) Benzo[g,h,i]perylene	16.559	276	421563	20.6513	ng	95

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





7M_0920.M Thu Sep 30 14:35:17 2021 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: SMB95075
Client Id:
Data File: 7M116800.D
Analysis Date: 09/29/21 16:52
Date Rec/Extracted: NA-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
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	0.0096	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 #: 610828

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)

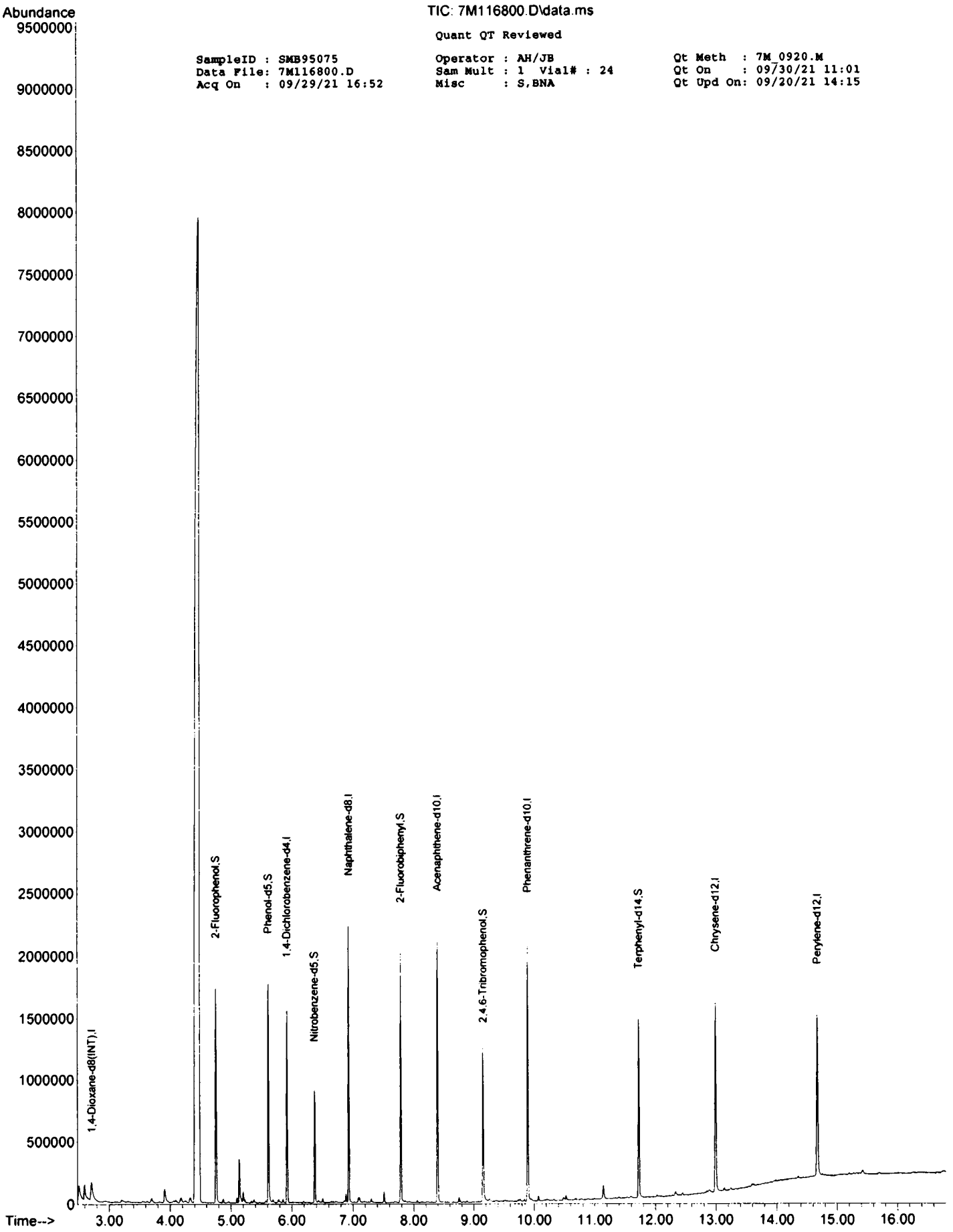
SampleID : SMB95075 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116800.D Sam Mult : 1 Vial# : 24 Qt On : 09/30/21 11:01
Acq On : 09/29/21 16:52 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.716	96	129925	40.00	ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.925	152	233433	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	918984	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	447071	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	800635	40.00	ng	0.00
91) Chrysene-d12	12.993	240	614745	40.00	ng	0.00
103) Perylene-d12	14.673	264	653038	40.00	ng	0.00
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	526988	76.66	ng	0.02
Spiked Amount 100.000			Recovery = 76.66%			
16) Phenol-d5	5.619	99	650446	83.23	ng	0.01
Spiked Amount 100.000			Recovery = 83.23%			
32) Nitrobenzene-d5	6.371	128	136008	39.59	ng	0.00
Spiked Amount 50.000			Recovery = 79.18%			
55) 2-Fluorobiphenyl	7.787	172	568079	39.98	ng	-0.01
Spiked Amount 50.000			Recovery = 79.96%			
80) 2,4,6-Tribromophenol	9.162	330	169460	80.45	ng	0.00
Spiked Amount 100.000			Recovery = 80.45%			
94) Terphenyl-d14	11.724	244	483137	47.40	ng	0.00
Spiked Amount 50.000			Recovery = 94.80%			

Target Compounds Qvalue

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



7M_0920.M Thu Sep 30 14:34:51 2021 RPT1

Page: 1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: SMB95086
Client Id:
Data File: 9M108600.D
Analysis Date: 10/01/21 09:14
Date Rec/Extracted: NA-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
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	0.0096	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 #: 612067

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)

SampleID : SMB95086
Data File: 9M108600.D
Acq On : 10/ 1/21 09:14

Operator : AH/JB
Sam Mult : 1 Vial# : 4
Misc : S,BNA

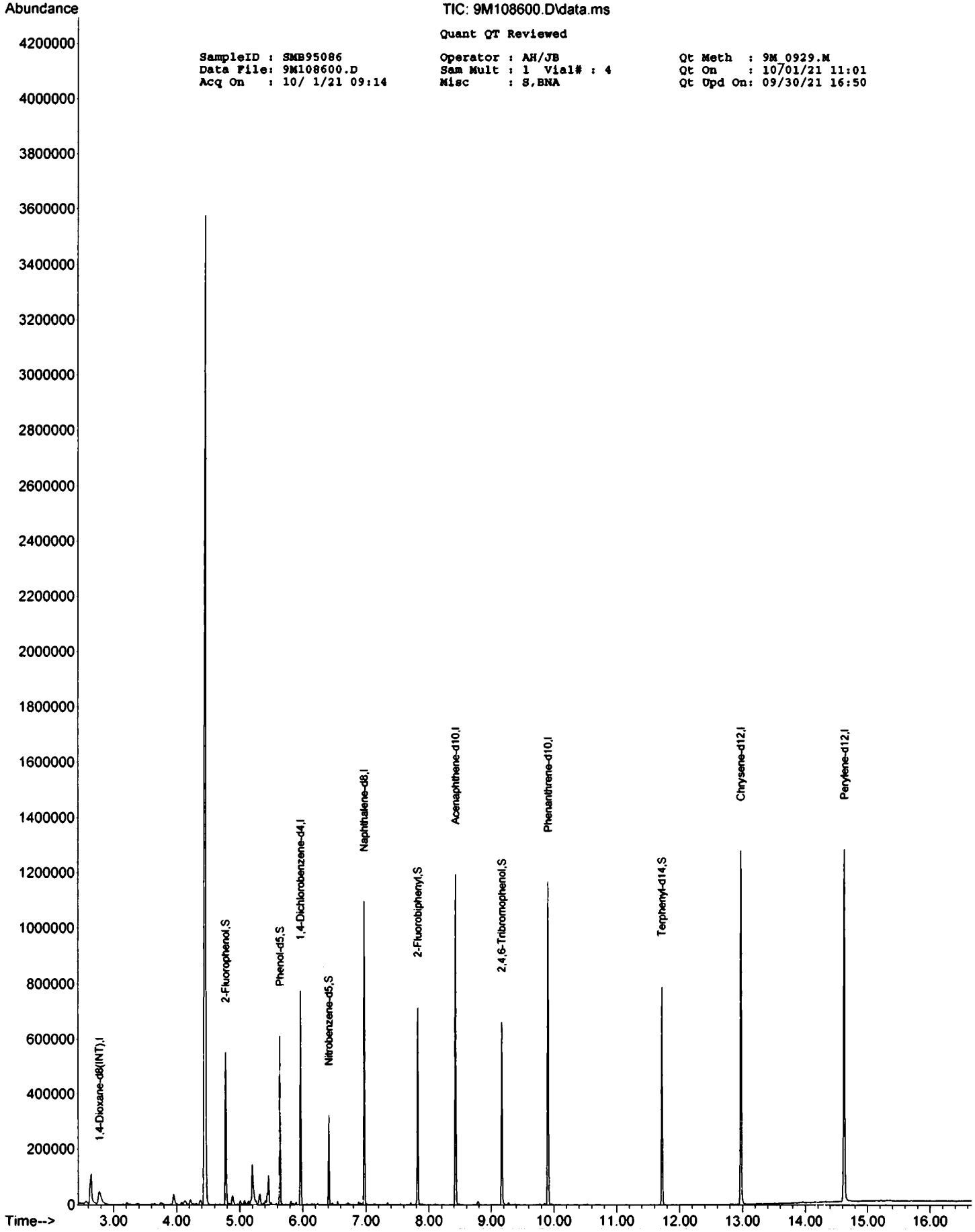
Qt Meth : 9M_0929.M
Qt On : 10/01/21 11:01
Qt Upd On: 09/30/21 16:50

Data Path : G:\GcMsData\2021\GCMS_9\Data\10-01-21\
Qt Path : G:\GCMSDATA\2021\GCMS_9\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.778	96	61013	40.00 ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.966	152	122476	40.00 ng	0.00
31) Naphthalene-d8	6.972	136	483600	40.00 ng	0.00
50) Acenaphthene-d10	8.425	164	250806	40.00 ng	0.00
77) Phenanthrene-d10	9.907	188	495184	40.00 ng	0.00
91) Chrysene-d12	12.972	240	522670	40.00 ng	-0.01
103) Perylene-d12	14.624	264	612219	40.00 ng	-0.04
System Monitoring Compounds					
11) 2-Fluorophenol	4.778	112	185668	53.58 ng	0.00
Spiked Amount 100.000			Recovery = 53.58%		
16) Phenol-d5	5.643	99	219263	52.94 ng	0.00
Spiked Amount 100.000			Recovery = 52.94%		
32) Nitrobenzene-d5	6.413	128	47101	28.38 ng	0.00
Spiked Amount 50.000			Recovery = 56.76%		
55) 2-Fluorobiphenyl	7.825	172	236107	29.07 ng	0.00
Spiked Amount 50.000			Recovery = 58.14%		
80) 2,4,6-Tribromophenol	9.172	330	106954	64.84 ng	0.00
Spiked Amount 100.000			Recovery = 64.84%		
94) Terphenyl-d14	11.719	244	259198	33.18 ng	0.00
Spiked Amount 50.000			Recovery = 66.36%		

Target Compounds Qvalue

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



9M_0929.M Mon Oct 11 11:05:26 2021 SYSTEM1

Page: 1

FORM2

Surrogate Recovery

Method: EPA 8270E

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
7M116800.D	SMB95075	S	09/29/21 16:52	1		NA	NA	79	80	NA	95
9M108600.D	SMB95086	S	10/01/21 09:14	1		NA	NA	57	58	NA	66
9M108570.D	AD26217-002	S	09/29/21 18:14	1		NA	NA	68	72	NA	91
9M108587.D	AD26217-004(R)	S	09/30/21 14:38	1		NA	NA	78	78	NA	89
9M108574.D	AD26217-006	S	09/29/21 19:47	1		NA	NA	70	73	NA	87
7M116802.D	AD26217-008	S	09/29/21 17:39	1		NA	NA	77	81	NA	91
7M116803.D	AD26217-010	S	09/29/21 18:03	1		NA	NA	76	80	NA	91
7M116804.D	AD26217-012	S	09/29/21 18:26	1		NA	NA	78	78	NA	83
7M116805.D	AD26217-014	S	09/29/21 18:50	1		NA	NA	76	82	NA	93
7M116818.D	AD26217-016(5X)	S	09/30/21 12:19	5		NA	NA	60	64	NA	67
7M116809.D	AD26217-018	S	09/30/21 08:48	1		NA	NA	76	81	NA	86
10M87558.D	SMB95075(MS)	S	09/29/21 15:09	1		NA	NA	80	82	NA	94
9M108571.D	AD26217-002(MS)	S	09/29/21 18:37	1		NA	NA	77	81	NA	92
9M108572.D	AD26217-002(MSD)	S	09/29/21 19:00	1		NA	NA	84	87	NA	96
9M108599.D	SMB95086(MS)	S	10/01/21 08:52	1		NA	NA	74	80	NA	90

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8270E

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: SMB95075

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M87558.D	SMB95075(MS)	9/29/2021 3:09:00 PM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	28.7602	0	50	58	1	150
N-Nitrosodimethylamine	1	32.0087	0	50	64	50	130
Benzaldehyde	1	19.7434	0	50	39	20	220
Aniline	1	19.8543	0	50	40	20	150
Pentachloroethane	1	32.4401	0	50	65	50	130
bis(2-Chloroethyl)ether	1	32.3272	0	50	65	50	130
N-Decane	1	25.949	0	50	52	20	130
1,3-Dichlorobenzene	1	30.7134	0	50	61	60	130
1,4-Dichlorobenzene	1	35.2858	0	50	71	60	130
1,2-Dichlorobenzene	1	35.0839	0	50	70	50	130
Benzyl alcohol	1	43.0749	0	50	86	20	130
bis(2-chloroisopropyl)ether	1	33.7913	0	50	68	40	130
Acetophenone	1	41.3408	0	50	83	50	130
Hexachloroethane	1	34.0698	0	50	68	50	130
N-Nitroso-di-n-propylamine	1	39.0344	0	50	78	40	130
Nitrobenzene	1	39.7243	0	50	79	70	130
Isophorone	1	37.1613	0	50	74	60	130
Benzoic Acid	1	98.3589	0	100	98	20	130
bis(2-Chloroethoxy)methane	1	40.1657	0	50	80	60	130
1,2,4-Trichlorobenzene	1	38.301	0	50	77	50	130
Naphthalene	**1**	**35.9961**	**0**	**50**	**72**	**50**	**130**
4-Chloroaniline	1	21.5991	0	50	43	10	150
Hexachlorobutadiene	1	36.5097	0	50	73	60	130
Caprolactam	1	50.2751	0	50	101	50	130
2-Methylnaphthalene	**1**	**40.7605**	**0**	**50**	**82**	**70**	**130**
1-Methylnaphthalene	1	46.4865	0	50	93	70	130
1,1'-Biphenyl	1	40.9517	0	50	82	60	130
1,2,4,5-Tetrachlorobenzene	1	41.8615	0	50	84	70	130
Hexachlorocyclopentadiene	1	26.6845	0	50	53	20	160
2-Chloronaphthalene	1	40.4284	0	50	81	70	130
1,4-Dimethylnaphthalene	1	42.3853	0	50	85	70	130
Diphenyl Ether	1	43.6967	0	50	87	70	130
2-Nitroaniline	1	46.8477	0	50	94	50	130
Coumarin	1	45.5644	0	50	91	70	130
Acenaphthylene	**1**	**41.3447**	**0**	**50**	**83**	**70**	**130**
Dimethylphthalate	1	43.6123	0	50	87	70	130
2,6-Dinitrotoluene	1	43.8171	0	50	88	70	130
Acenaphthene	**1**	**41.0082**	**0**	**50**	**82**	**50**	**130**
3-Nitroaniline	1	35.4795	0	50	71	10	130
Dibenzofuran	1	42.4496	0	50	85	70	130
2,4-Dinitrotoluene	1	44.1446	0	50	88	40	130
Fluorene	**1**	**41.3396**	**0**	**50**	**83**	**50**	**130**
4-Chlorophenyl-phenylether	1	42.5343	0	50	85	70	130
Diethylphthalate	1	44.2036	0	50	88	70	130
4-Nitroaniline	1	43.6704	0	50	87	50	130
Atrazine	1	48.0589	0	50	96	50	130
n-Nitrosodiphenylamine	1	37.0647	0	50	74	50	130
1,2-Diphenylhydrazine	1	42.8104	0	50	86	70	130
4-Bromophenyl-phenylether	1	44.5826	0	50	89	70	130
Hexachlorobenzene	1	41.9703	0	50	84	70	130
N-Octadecane	1	48.7615	0	50	98	70	130
Phenanthrene	**1**	**44.8235**	**0**	**50**	**90**	**70**	**130**
Anthracene	**1**	**44.1137**	**0**	**50**	**88**	**70**	**130**
Carbazole	1	45.0855	0	50	90	70	130
Di-n-butylphthalate	1	47.648	0	50	95	70	130
Fluoranthene	**1**	**45.7319**	**0**	**50**	**91**	**70**	**130**
Pyrene	**1**	**44.8309**	**0**	**50**	**90**	**50**	**130**
Benzidine	1	4.5761	0	50	9.2	0	130
Butylbenzylphthalate	1	48.4124	0	50	97	50	130
3,3'-Dichlorobenzidine	1	33.5653	0	50	67	10	130
Benzo[a]anthracene	**1**	**41.835**	**0**	**50**	**84**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chrysene	**1**	**46.3698**	**0**	**50**	**93**	**60**	**130**
bis(2-Ethylhexyl)phthalate	1	50.7678	0	50	102	70	130
Di-n-octylphthalate	1	50.5374	0	50	101	70	130
Benzo[b]fluoranthene	**1**	**47.2128**	**0**	**50**	**94**	**70**	**130**
Benzo[k]fluoranthene	**1**	**47.6587**	**0**	**50**	**95**	**70**	**130**
Benzo[a]pyrene	**1**	**46.2443**	**0**	**50**	**92**	**70**	**130**
Indeno[1,2,3-cd]pyrene	**1**	**45.2965**	**0**	**50**	**91**	**70**	**130**
Dibenzo[a,h]anthracene	**1**	**45.8616**	**0**	**50**	**92**	**60**	**130**
Benzo[g,h,i]perylene	**1**	**44.768**	**0**	**50**	**90**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95086

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108599.D	SMB95086(MS)	10/1/2021 8:52:00 AM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	21.1737	0	50	42	1	150
N-Nitrosodimethylamine	1	25.6424	0	50	51	50	130
Benzaldehyde	1	17.0677	0	50	34	20	220
Aniline	1	15.7481	0	50	31	20	150
Pentachloroethane	1	27.0041	0	50	54	50	130
bis(2-Chloroethyl)ether	1	28.4699	0	50	57	50	130
N-Decane	1	18.7095	0	50	37	20	130
1,3-Dichlorobenzene	1	28.5815	0	50	57*	60	130
1,4-Dichlorobenzene	1	29.8008	0	50	60	60	130
1,2-Dichlorobenzene	1	29.4785	0	50	59	50	130
Benzyl alcohol	1	34.5503	0	50	69	20	130
bis(2-chloroisopropyl)ether	1	23.8512	0	50	48	40	130
Acetophenone	1	32.7531	0	50	66	50	130
Hexachloroethane	1	28.4639	0	50	57	50	130
N-Nitroso-di-n-propylamine	1	29.2129	0	50	58	40	130
Nitrobenzene	1	33.7757	0	50	68*	70	130
Isophorone	1	32.0701	0	50	64	60	130
Benzoic Acid	1	107.6267	0	100	108	20	130
bis(2-Chloroethoxy)methane	1	34.3242	0	50	69	60	130
1,2,4-Trichlorobenzene	1	35.7692	0	50	72	50	130
Naphthalene	**1**	**34.7034**	**0**	**50**	**69**	**50**	**130**
4-Chloroaniline	1	22.3851	0	50	45	10	150
Hexachlorobutadiene	1	34.9167	0	50	70	60	130
Caprolactam	1	42.285	0	50	85	50	130
2-Methylnaphthalene	**1**	**37.9355**	**0**	**50**	**76**	**70**	**130**
1-Methylnaphthalene	1	40.5635	0	50	81	70	130
1,1'-Biphenyl	1	37.6342	0	50	75	60	130
1,2,4,5-Tetrachlorobenzene	1	37.2705	0	50	75	70	130
Hexachlorocyclopentadiene	1	41.462	0	50	83	20	160
2-Chloronaphthalene	1	37.7375	0	50	75	70	130
1,4-Dimethylnaphthalene	1	36.2687	0	50	73	70	130
Diphenyl Ether	1	38.375	0	50	77	70	130
2-Nitroaniline	1	38.7336	0	50	77	50	130
Coumarin	1	37.4571	0	50	75	70	130
Acenaphthylene	**1**	**39.0813**	**0**	**50**	**78**	**70**	**130**
Dimethylphthalate	1	39.9215	0	50	80	70	130
2,6-Dinitrotoluene	1	39.7967	0	50	80	70	130
Acenaphthene	**1**	**37.9703**	**0**	**50**	**76**	**50**	**130**
3-Nitroaniline	1	32.3479	0	50	65	10	130
Dibenzofuran	1	40.4341	0	50	81	70	130
2,4-Dinitrotoluene	1	41.4001	0	50	83	40	130
Fluorene	**1**	**38.6756**	**0**	**50**	**77**	**50**	**130**
4-Chlorophenyl-phenylether	1	40.9617	0	50	82	70	130
Diethylphthalate	1	39.624	0	50	79	70	130
4-Nitroaniline	1	39.3181	0	50	79	50	130
Atrazine	1	44.3926	0	50	89	50	130
n-Nitrosodiphenylamine	1	32.6363	0	50	65	50	130
1,2-Diphenylhydrazine	1	35.1719	0	50	70	70	130
4-Bromophenyl-phenylether	1	42.578	0	50	85	70	130
Hexachlorobenzene	1	41.7064	0	50	83	70	130
N-Octadecane	1	32.0983	0	50	64*	70	130
Phenanthrene	**1**	**40.5949**	**0**	**50**	**81**	**70**	**130**
Anthracene	**1**	**39.3676**	**0**	**50**	**79**	**70**	**130**
Carbazole	1	37.7249	0	50	75	70	130
Di-n-butylphthalate	1	41.1014	0	50	82	70	130
Fluoranthene	**1**	**41.9812**	**0**	**50**	**84**	**70**	**130**
Pyrene	**1**	**38.9692**	**0**	**50**	**78**	**50**	**130**
Benzidine	1	0	0	50	0	0	130
Butylbenzylphthalate	1	38.1118	0	50	76	50	130
3,3'-Dichlorobenzidine	1	24.4775	0	50	49	10	130
Benzo[a]anthracene	**1**	**38.0637**	**0**	**50**	**76**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95086

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chrysene	**1**	**42.5913**	**0**	**50**	**85**	**60**	**130**
bis(2-Ethylhexyl)phthalate	1	38.3477	0	50	77	70	130
Di-n-octylphthalate	1	35.3815	0	50	71	70	130
Benzo[b]fluoranthene	**1**	**42.4265**	**0**	**50**	**85**	**70**	**130**
Benzo[k]fluoranthene	**1**	**40.558**	**0**	**50**	**81**	**70**	**130**
Benzo[a]pyrene	**1**	**39.0988**	**0**	**50**	**78**	**70**	**130**
Indeno[1,2,3-cd]pyrene	**1**	**40.4865**	**0**	**50**	**81**	**70**	**130**
Dibenzo[a,h]anthracene	**1**	**40.0986**	**0**	**50**	**80**	**60**	**130**
Benzo[g,h,i]perylene	**1**	**40.2364**	**0**	**50**	**80**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108571.D	AD26217-002(MS)	9/29/2021 6:37:00 PM
Non Spike(If applicable):	9M108570.D	AD26217-002	9/29/2021 6:14:00 PM
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	25.9381	0	50	52	1	150
N-Nitrosodimethylamine	1	33.8054	0	50	68	50	130
Benzaldehyde	1	20.0607	0	50	40	20	220
Aniline	1	29.109	0	50	58	20	150
Pentachloroethane	1	31.3736	0	50	63	50	130
bis(2-Chloroethyl)ether	1	37.0733	0	50	74	50	130
N-Decane	1	24.5707	0	50	49	20	130
1,3-Dichlorobenzene	1	34.9636	0	50	70	60	130
1,4-Dichlorobenzene	1	38.1595	0	50	76	60	130
1,2-Dichlorobenzene	1	37.3162	0	50	75	50	130
Benzyl alcohol	1	43.3483	0	50	87	20	130
bis(2-chloroisopropyl)ether	1	33.4383	0	50	67	40	130
Acetophenone	1	37.5181	0	50	75	50	130
Hexachloroethane	1	35.8857	0	50	72	50	130
N-Nitroso-di-n-propylamine	1	38.3309	0	50	77	40	130
Nitrobenzene	1	41.3476	0	50	83	70	130
Isophorone	1	38.3023	0	50	77	60	130
Benzoic Acid	1	106.5374	0	100	107	20	130
bis(2-Chloroethoxy)methane	1	41.6388	0	50	83	60	130
1,2,4-Trichlorobenzene	1	42.0768	0	50	84	50	130
Naphthalene	**1**	**38.8981**	**0**	**50**	**78**	**50**	**130**
4-Chloroaniline	1	33.2565	0	50	67	10	150
Hexachlorobutadiene	1	39.5084	0	50	79	60	130
Caprolactam	1	43.79	0	50	88	50	130
2-Methylnaphthalene	**1**	**43.4587**	**0**	**50**	**87**	**70**	**130**
1-Methylnaphthalene	1	44.2855	0	50	89	70	130
1,1'-Biphenyl	1	39.1978	0	50	78	60	130
1,2,4,5-Tetrachlorobenzene	1	39.8107	0	50	80	70	130
Hexachlorocyclopentadiene	1	44.4771	0	50	89	20	160
2-Chloronaphthalene	1	43.9714	0	50	88	70	130
1,4-Dimethylnaphthalene	1	39.8744	0	50	80	70	130
Diphenyl Ether	1	41.3235	0	50	83	70	130
2-Nitroaniline	1	46.6757	0	50	93	50	130
Coumarin	1	41.5277	0	50	83	70	130
Acenaphthylene	**1**	**45.4722**	**0**	**50**	**91**	**70**	**130**
Dimethylphthalate	1	45.7228	0	50	91	70	130
2,6-Dinitrotoluene	1	45.1356	0	50	90	70	130
Acenaphthene	**1**	**44.5714**	**0**	**50**	**89**	**50**	**130**
3-Nitroaniline	1	41.4785	0	50	83	70	130
Dibenzofuran	1	45.9212	0	50	92	70	130
2,4-Dinitrotoluene	1	45.6127	0	50	91	40	130
Fluorene	**1**	**44.643**	**0**	**50**	**89**	**50**	**130**
4-Chlorophenyl-phenylether	1	45.7788	0	50	92	70	130
Diethylphthalate	1	45.9025	0	50	92	70	130
4-Nitroaniline	1	47.8575	0	50	96	50	130
Atrazine	1	45.489	0	50	91	50	130
n-Nitrosodiphenylamine	1	38.4085	0	50	77	50	130
1,2-Diphenylhydrazine	1	43.9071	0	50	88	70	130
4-Bromophenyl-phenylether	1	46.976	0	50	94	70	130
Hexachlorobenzene	1	44.6369	0	50	89	70	130
N-Octadecane	1	40.1542	0	50	80	70	130
Phenanthrene	**1**	**47.2699**	**0**	**50**	**95**	**70**	**130**
Anthracene	**1**	**45.8325**	**0**	**50**	**92**	**70**	**130**
Carbazole	1	42.0537	0	50	84	70	130
Di-n-butylphthalate	1	49.0612	0	50	98	70	130
Fluoranthene	**1**	**48.8333**	**0**	**50**	**98**	**70**	**130**
Pyrene	**1**	**46.8544**	**0**	**50**	**94**	**50**	**130**
Benzidine	1	0	0	50	0	0	130
Butylbenzylphthalate	1	49.1597	0	50	98	50	130
3,3'-Dichlorobenzidine	1	37.5907	0	50	75	10	130
Benzo[a]anthracene	**1**	**43.514**	**0**	**50**	**87**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chrysene	**1**	**50.1285**	**0**	**50**	**100**	**60**	**130**
bis(2-Ethylhexyl)phthalate	1	48.7865	0	50	98	70	130
Di-n-octylphthalate	1	48.71	0	50	97	70	130
Benzo[b]fluoranthene	**1**	**47.7513**	**0**	**50**	**96**	**70**	**130**
Benzo[k]fluoranthene	**1**	**50.599**	**0**	**50**	**101**	**70**	**130**
Benzo[a]pyrene	**1**	**46.2462**	**0**	**50**	**92**	**70**	**130**
Indeno[1,2,3-cd]pyrene	**1**	**47.2822**	**0**	**50**	**95**	**70**	**130**
Dibenzo[a,h]anthracene	**1**	**47.0082**	**0**	**50**	**94**	**60**	**130**
Benzo[g,h,i]perylene	**1**	**46.5984**	**0**	**50**	**93**	**70**	**130**

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Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108572.D	AD26217-002(MSD)	9/29/2021 7:00:00 PM
Non Spike(If applicable):	9M108570.D	AD26217-002	9/29/2021 6:14:00 PM
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	33.012	0	50	66	1	150
N-Nitrosodimethylamine	1	37.5097	0	50	75	50	130
Benzaldehyde	1	22.9238	0	50	46	20	220
Aniline	1	30.8946	0	50	62	20	150
Pentachloroethane	1	36.2355	0	50	72	50	130
bis(2-Chloroethyl)ether	1	40.9817	0	50	82	50	130
N-Decane	1	29.0914	0	50	58	20	130
1,3-Dichlorobenzene	1	39.1942	0	50	78	60	130
1,4-Dichlorobenzene	1	40.7046	0	50	81	60	130
1,2-Dichlorobenzene	1	40.105	0	50	80	50	130
Benzyl alcohol	1	46.4237	0	50	93	20	130
bis(2-chloroisopropyl)ether	1	35.8135	0	50	72	40	130
Acetophenone	1	41.5656	0	50	83	50	130
Hexachloroethane	1	38.9069	0	50	78	50	130
N-Nitroso-di-n-propylamine	1	40.6549	0	50	81	40	130
Nitrobenzene	1	44.3561	0	50	89	70	130
Isophorone	1	41.4651	0	50	83	60	130
Benzoic Acid	1	98.6414	0	100	99	20	130
bis(2-Chloroethoxy)methane	1	45.2069	0	50	90	60	130
1,2,4-Trichlorobenzene	1	45.5014	0	50	91	50	130
Naphthalene	**1**	**44.342**	**0**	**50**	**89**	**50**	**130**
4-Chloroaniline	1	33.9506	0	50	68	10	150
Hexachlorobutadiene	1	42.7895	0	50	86	60	130
Caprolactam	1	47.3148	0	50	95	50	130
2-Methylnaphthalene	**1**	**47.0765**	**0**	**50**	**94**	**70**	**130**
1-Methylnaphthalene	1	48.9302	0	50	98	70	130
1,1'-Biphenyl	1	43.6861	0	50	87	60	130
1,2,4,5-Tetrachlorobenzene	1	44.109	0	50	88	70	130
Hexachlorocyclopentadiene	1	47.1266	0	50	94	20	160
2-Chloronaphthalene	1	47.7548	0	50	96	70	130
1,4-Dimethylnaphthalene	1	43.6172	0	50	87	70	130
Diphenyl Ether	1	45.9235	0	50	92	70	130
2-Nitroaniline	1	49.085	0	50	98	50	130
Coumarin	1	43.7972	0	50	88	70	130
Acenaphthylene	**1**	**48.5635**	**0**	**50**	**97**	**70**	**130**
Dimethylphthalate	1	48.5478	0	50	97	70	130
2,6-Dinitrotoluene	1	47.4035	0	50	95	70	130
Acenaphthene	**1**	**47.9022**	**0**	**50**	**96**	**50**	**130**
3-Nitroaniline	1	42.5391	0	50	85	70	130
Dibenzofuran	1	49.0153	0	50	98	70	130
2,4-Dinitrotoluene	1	47.8122	0	50	96	40	130
Fluorene	**1**	**48.21**	**0**	**50**	**96**	**50**	**130**
4-Chlorophenyl-phenylether	1	48.8988	0	50	98	70	130
Diethylphthalate	1	48.3938	0	50	97	70	130
4-Nitroaniline	1	49.1459	0	50	98	50	130
Atrazine	1	48.7833	0	50	98	50	130
n-Nitrosodiphenylamine	1	39.9907	0	50	80	50	130
1,2-Diphenylhydrazine	1	46.3324	0	50	93	70	130
4-Bromophenyl-phenylether	1	49.6621	0	50	99	70	130
Hexachlorobenzene	1	48.3253	0	50	97	70	130
N-Octadecane	1	43.3858	0	50	87	70	130
Phenanthrene	**1**	**49.2646**	**0**	**50**	**99**	**70**	**130**
Anthracene	**1**	**47.3591**	**0**	**50**	**95**	**70**	**130**
Carbazole	1	44.4022	0	50	89	70	130
Di-n-butylphthalate	1	51.8826	0	50	104	70	130
Fluoranthene	**1**	**50.4397**	**0**	**50**	**101**	**70**	**130**
Pyrene	**1**	**48.7983**	**0**	**50**	**98**	**50**	**130**
Benzidine	1	0	0	50	0	0	130
Butylbenzylphthalate	1	51.6743	0	50	103	50	130
3,3'-Dichlorobenzidine	1	39.0329	0	50	78	10	130
Benzo[a]anthracene	**1**	**45.8428**	**0**	**50**	**92**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chrysene	1	51.6912	0	50	103	60	130
bis(2-Ethylhexyl)phthalate	1	51.1284	0	50	102	70	130
Di-n-octylphthalate	1	50.9201	0	50	102	70	130
Benzo[b]fluoranthene	1	50.959	0	50	102	70	130
Benzo[k]fluoranthene	1	51.8476	0	50	104	70	130
Benzo[a]pyrene	1	48.6023	0	50	97	70	130
Indeno[1,2,3-cd]pyrene	1	49.6111	0	50	99	70	130
Dibenzo[a,h]anthracene	1	49.3619	0	50	99	60	130
Benzo[g,h,i]perylene	1	48.822	0	50	98	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: SMB95075

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108572.D	AD26217-002(MSD)	9/29/2021 7:00:00 PM
Duplicate(If applicable):	9M108571.D	AD26217-002(MS)	9/29/2021 6:37:00 PM
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Pyridine	1	33.012	25.9381	24	30
N-Nitrosodimethylamine	1	37.5097	33.8054	10	30
Benzaldehyde	1	22.9238	20.0607	13	30
Aniline	1	30.8946	29.109	6	30
Pentachloroethane	1	36.2355	31.3736	14	30
bis(2-Chloroethyl)ether	1	40.9817	37.0733	10	30
N-Decane	1	29.0914	24.5707	17	30
1,3-Dichlorobenzene	1	39.1942	34.9636	11	30
1,4-Dichlorobenzene	1	40.7046	38.1595	6.5	40
1,2-Dichlorobenzene	1	40.105	37.3162	7.2	30
Benzyl alcohol	1	46.4237	43.3483	6.9	30
bis(2-chloroisopropyl)ether	1	35.8135	33.4383	6.9	30
Acetophenone	1	41.5656	37.5181	10	30
Hexachloroethane	1	38.9069	35.8857	8.1	30
N-Nitroso-di-n-propylamine	1	40.6549	38.3309	5.9	40
Nitrobenzene	1	44.3561	41.3476	7	30
Isophorone	1	41.4651	38.3023	7.9	30
Benzoic Acid	1	98.6414	106.5374	7.7	30
bis(2-Chloroethoxy)methane	1	45.2069	41.6388	8.2	30
1,2,4-Trichlorobenzene	1	45.5014	42.0768	7.8	40
Naphthalene	**1**	**44.342**	**38.8981**	**13**	**40**
4-Chloroaniline	1	33.9506	33.2565	2.1	30
Hexachlorobutadiene	1	42.7895	39.5084	8	30
Caprolactam	1	47.3148	43.79	7.7	30
2-Methylnaphthalene	**1**	**47.0765**	**43.4587**	**8**	**30**
1-Methylnaphthalene	1	48.9302	44.2855	10	30
1,1'-Biphenyl	1	43.6861	39.1978	11	30
1,2,4,5-Tetrachlorobenzene	1	44.109	39.8107	10	30
Hexachlorocyclopentadiene	1	47.1266	44.4771	5.8	30
2-Chloronaphthalene	1	47.7548	43.9714	8.2	30
1,4-Dimethylnaphthalene	1	43.6172	39.8744	9	30
Diphenyl Ether	1	45.9235	41.3235	11	30
2-Nitroaniline	1	49.085	46.6757	5	30
Coumarin	1	43.7972	41.5277	5.3	30
Acenaphthylene	**1**	**48.5635**	**45.4722**	**6.6**	**30**
Dimethylphthalate	1	48.5478	45.7228	6	30
2,6-Dinitrotoluene	1	47.4035	45.1356	4.9	30
Acenaphthene	**1**	**47.9022**	**44.5714**	**7.2**	**40**
3-Nitroaniline	1	42.5391	41.4785	2.5	30
Dibenzofuran	1	49.0153	45.9212	6.5	30
2,4-Dinitrotoluene	1	47.8122	45.6127	4.7	40
Fluorene	**1**	**48.21**	**44.643**	**7.7**	**40**
4-Chlorophenyl-phenylether	1	48.8988	45.7788	6.6	30
Diethylphthalate	1	48.3938	45.9025	5.3	30
4-Nitroaniline	1	49.1459	47.8575	2.7	30
Atrazine	1	48.7833	45.489	7	30
n-Nitrosodiphenylamine	1	39.9907	38.4085	4	30
1,2-Diphenylhydrazine	1	46.3324	43.9071	5.4	30
4-Bromophenyl-phenylether	1	49.6621	46.976	5.6	30
Hexachlorobenzene	1	48.3253	44.6369	7.9	30
N-Octadecane	1	43.3858	40.1542	7.7	30
Phenanthrene	**1**	**49.2646**	**47.2699**	**4.1**	**30**
Anthracene	**1**	**47.3591**	**45.8325**	**3.3**	**30**
Carbazole	1	44.4022	42.0537	5.4	30
Di-n-butylphthalate	1	51.8826	49.0612	5.6	30
Fluoranthene	**1**	**50.4397**	**48.8333**	**3.2**	**30**
Pyrene	**1**	**48.7983**	**46.8544**	**4.1**	**40**
Benzidine	1	0	0	NA	30
Butylbenzylphthalate	1	51.6743	49.1597	5	40
3,3'-Dichlorobenzidine	1	39.0329	37.5907	3.8	30
Benzo[a]anthracene	**1**	**45.8428**	**43.514**	**5.2**	**30**

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: SMB95075

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chrysene	**1**	**51.6912**	**50.1285**	**3.1**	**30**
bis(2-Ethylhexyl)phthalate	1	51.1284	48.7865	4.7	30
Di-n-octylphthalate	1	50.9201	48.71	4.4	30
Benzo[b]fluoranthene	**1**	**50.959**	**47.7513**	**6.5**	**30**
Benzo[k]fluoranthene	**1**	**51.8476**	**50.599**	**2.4**	**30**
Benzo[a]pyrene	**1**	**48.6023**	**46.2462**	**5**	**30**
Indeno[1,2,3-cd]pyrene	**1**	**49.6111**	**47.2822**	**4.8**	**30**
Dibenzo[a,h]anthracene	**1**	**49.3619**	**47.0082**	**4.9**	**30**
Benzo[g,h,i]perylene	**1**	**48.822**	**46.5984**	**4.7**	**30**

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

FORM 4
Blank Summary

Blank Number: SMB95075
Blank Data File: 7M116800.D
Matrix: Soil

Blank Analysis Date: 09/29/21 16:52
Blank Extraction Date: 09/29/21
(If Applicable)
Method: EPA 8270E

Sample Number	Data File	Analysis Date
AD26217-002	9M108570.D	09/29/21 18:14
AD26217-006	9M108574.D	09/29/21 19:47
AD26217-008	7M116802.D	09/29/21 17:39
AD26217-010	7M116803.D	09/29/21 18:03
AD26217-012	7M116804.D	09/29/21 18:26
AD26217-014	7M116805.D	09/29/21 18:50
AD26217-016(5X)	7M116818.D	09/30/21 12:19
AD26217-018	7M116809.D	09/30/21 08:48
AD26217-002(MSD	9M108572.D	09/29/21 19:00
AD26217-002(MS)	9M108571.D	09/29/21 18:37
SMB95075(MS)	10M87558.D	09/29/21 15:09

FORM 4
Blank Summary

Blank Number: SMB95086
Blank Data File: 9M108600.D
Matrix: Soil

Blank Analysis Date: 10/01/21 09:14
Blank Extraction Date: 09/30/21
(If Applicable)
Method: EPA 8270E

Sample Number	Data File	Analysis Date
AD26217-004(R)	9M108587.D	09/30/21 14:38
SMB95086(MS)	9M108599.D	10/01/21 08:52

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10

Data File: 10M87364.D
Analysis Date: 09/20/21 09:05
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.067 to 10.078 min

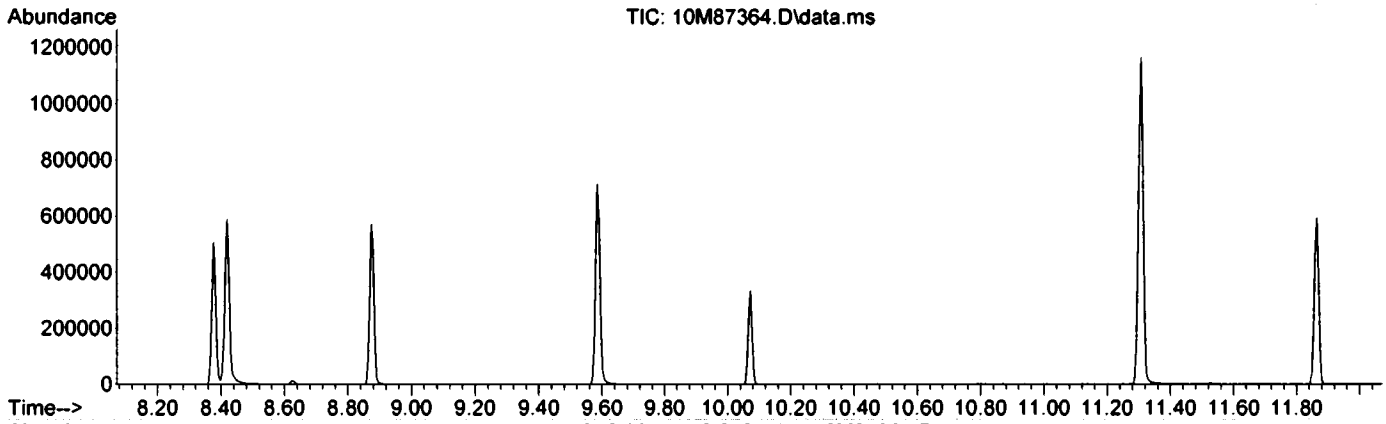
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	42.8	13738	PASS
68	69	0.00	2	2.0	257	PASS
69	198	0.00	100	40.0	12846	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	52.1	16750	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	32120	PASS
199	198	5	9	6.6	2128	PASS
275	198	10	30	20.8	6688	PASS
365	198	1	100	2.2	716	PASS
441	443	0.01	100	78.2	3305	PASS
442	198	40	100	72.3	23209	PASS
443	442	17	23	18.2	4227	PASS

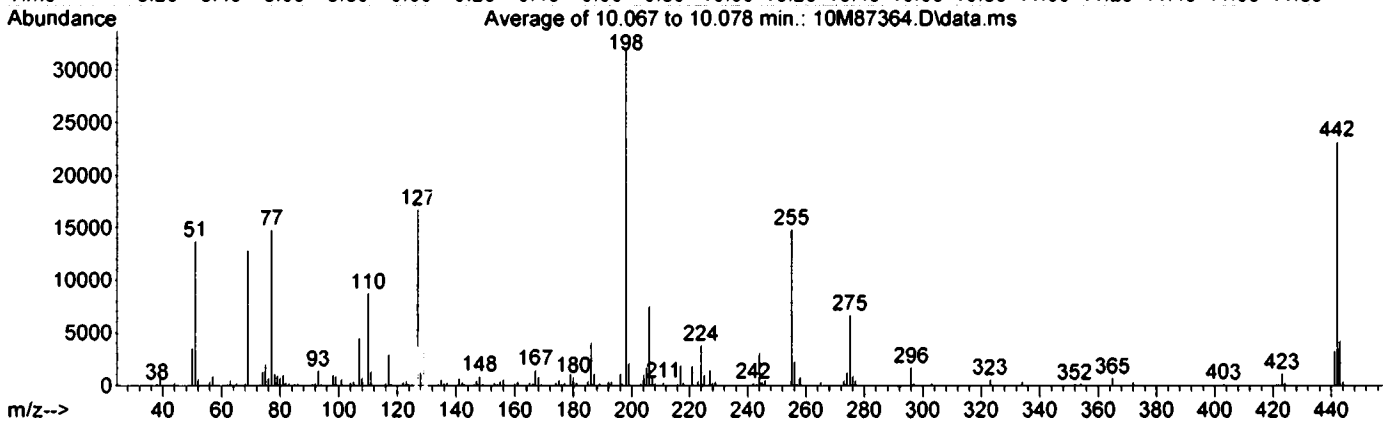
Data File	Sample Number	Analysis Date:
10M87365.D	CAL BNA@10PPM	09/20/21 09:29
10M87366.D	CAL BNA@2PPM	09/20/21 09:51
10M87367.D	CAL BNA@196PP	09/20/21 10:13
10M87368.D	CAL BNA@160PP	09/20/21 10:35
10M87369.D	CAL BNA@120PP	09/20/21 10:57
10M87370.D	CAL BNA@80PPM	09/20/21 11:19
10M87371.D	CAL BNA@20PPM	09/20/21 11:42
10M87372.D	CAL BNA@0.5PP	09/20/21 12:04
10M87373.D	CAL BNA@50PPM	09/20/21 12:26
10M87374.D	ICV BNA@50PPM	09/20/21 13:25

Data Path : G:\GcMsData\2021\GCMS_10\Data\09-20-21\
Data File : 10M87364.D
Acq On : 20 Sep 2021 9:05
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_10\METHODQT\10M_0823.M
Title : @GCMS_10,mg,625,8270
Last Update : Mon Aug 23 13:30:22 2021





Spectrum Information: Average of 10.067 to 10.078 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.8	13738	PASS
68	69	0.00	2	2.0	257	PASS
69	198	0.00	100	40.0	12846	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	52.1	16750	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	32120	PASS
199	198	5	9	6.6	2128	PASS
275	198	10	30	20.8	6688	PASS
365	198	1	100	2.2	716	PASS
441	443	0.01	100	78.2	3305	PASS
442	198	40	100	72.3	23209	PASS
443	442	17	23	18.2	4227	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M116590.D
Analysis Date: 09/20/21 09:09
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.161 to 10.173 min

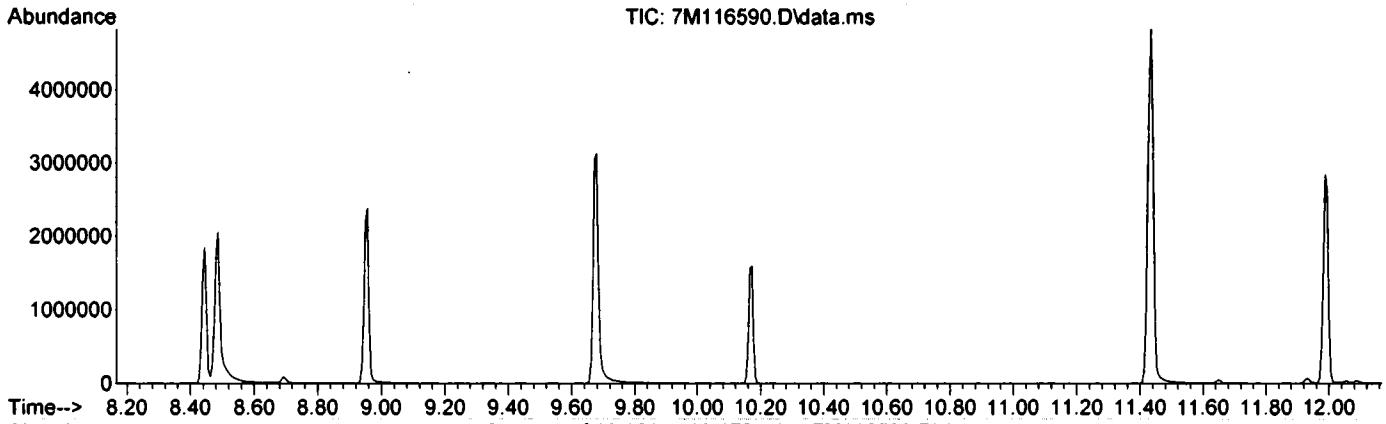
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	37.7	54664	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.3	62781	PASS
70	69	0.00	2	0.7	440	PASS
127	198	40	60	54.4	79021	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	145139	PASS
199	198	5	9	6.8	9914	PASS
275	198	10	30	25.7	37281	PASS
365	198	1	100	2.9	4192	PASS
441	443	0.01	100	78.2	15349	PASS
442	198	40	100	69.8	101355	PASS
443	442	17	23	19.4	19633	PASS

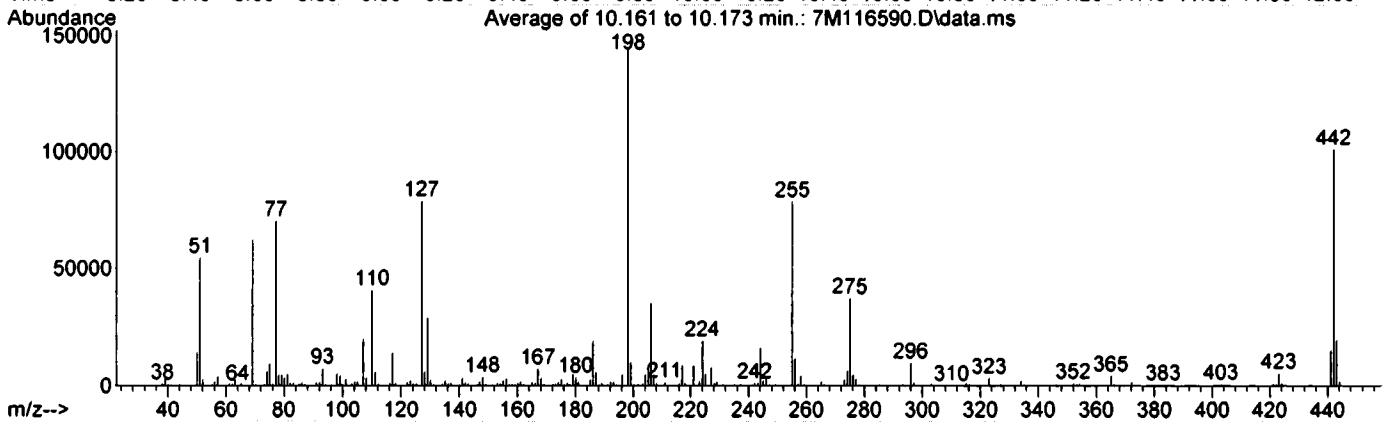
Data File	Sample Number	Analysis Date:
7M116591.D	CAL BNA@2PPM	09/20/21 09:33
7M116592.D	CAL BNA@10PPM	09/20/21 09:56
7M116593.D	CAL BNA@196PP	09/20/21 10:19
7M116594.D	CAL BNA@160PP	09/20/21 10:45
7M116595.D	CAL BNA@120PP	09/20/21 11:08
7M116596.D	CAL BNA@80PPM	09/20/21 11:32
7M116597.D	CAL BNA@20PPM	09/20/21 11:55
7M116598.D	CAL BNA@0.5PP	09/20/21 12:19
7M116599.D	CAL BNA@50PPM	09/20/21 12:43
7M116600.D	ICV BNA@50PPM	09/20/21 13:30

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-20-21\
Data File : 7M116590.D
Acq On : 20 Sep 2021 9:09
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_7\METHODQT\7M_0823.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Aug 23 12:58:25 2021





Spectrum Information: Average of 10.161 to 10.173 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.7	54664	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.3	62781	PASS
70	69	0.00	2	0.7	440	PASS
127	198	40	60	54.4	79021	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	145139	PASS
199	198	5	9	6.8	9914	PASS
275	198	10	30	25.7	37281	PASS
365	198	1	100	2.9	4192	PASS
441	443	0.01	100	78.2	15349	PASS
442	198	40	100	69.8	101355	PASS
443	442	17	23	19.4	19633	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M116777.D
Analysis Date: 09/29/21 07:45
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.167 to 10.173 min

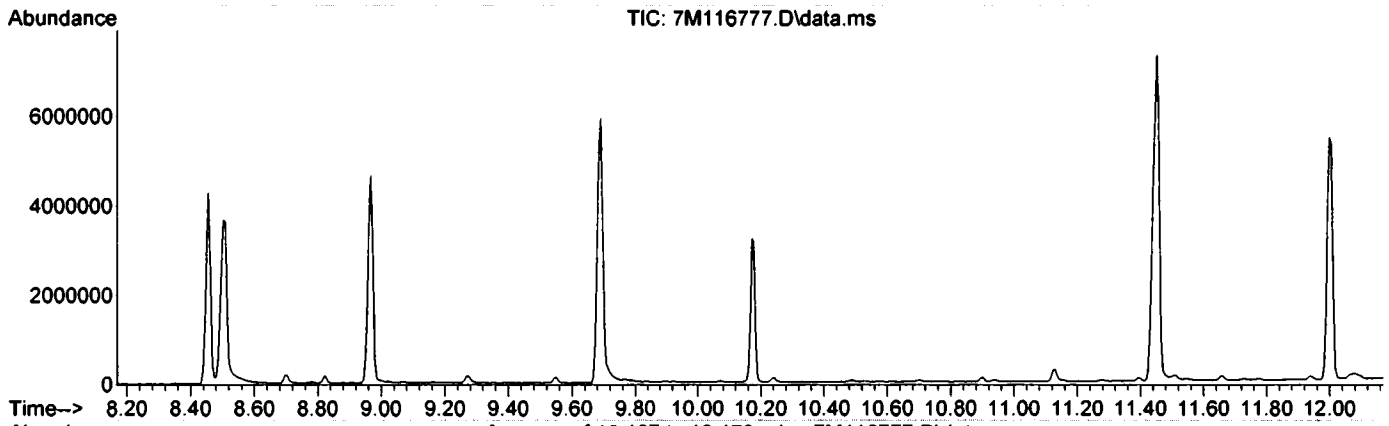
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	39.5	106400	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.9	121120	PASS
70	69	0.00	2	1.0	1230	PASS
127	198	40	60	53.8	145080	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	269632	PASS
199	198	5	9	6.9	18691	PASS
275	198	10	30	25.3	68288	PASS
365	198	1	100	2.5	6810	PASS
441	443	0.01	100	73.9	24647	PASS
442	198	40	100	61.6	165960	PASS
443	442	17	23	20.1	33366	PASS

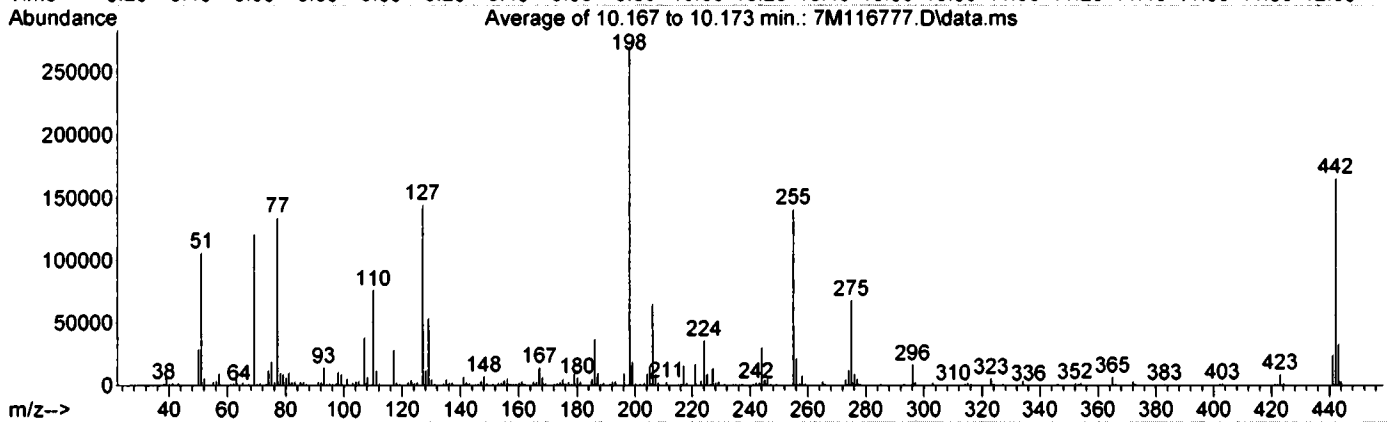
Data File	Sample Number	Analysis Date:
7M116778.D	CAL BNA@50PPM	09/29/21 08:08
7M116779.D	SMB95060	09/29/21 08:32
7M116780.D	AD26140-003	09/29/21 08:56
7M116781.D	AD26250-001	09/29/21 09:19
7M116782.D	AD26250-002	09/29/21 09:43
7M116783.D	AD26250-003	09/29/21 10:07
7M116784.D	AD26250-004	09/29/21 10:31
7M116785.D	AD26250-015(3X)	09/29/21 10:55
7M116786.D	AD26166-008	09/29/21 11:19
7M116787.D	AD26166-010	09/29/21 11:43
7M116788.D	AD26166-013	09/29/21 12:07
7M116789.D	AD26166-014	09/29/21 12:30
7M116790.D	AD26166-004	09/29/21 12:54
7M116791.D	AD26166-007	09/29/21 13:18
7M116792.D	AD26166-009	09/29/21 13:42
7M116793.D	AD26250-015(20X)	09/29/21 14:05
7M116794.D	AD26274-001(3X)	09/29/21 14:29
7M116795.D	AD26178-002	09/29/21 14:53
7M116796.D	AD26178-004	09/29/21 15:17
7M116797.D	AD25993-001(5X)	09/29/21 15:41
7M116798.D	AD26274-001(3X)(	09/29/21 16:04
7M116799.D	AD26274-001(3X)(	09/29/21 16:28
7M116800.D	SMB95075	09/29/21 16:52
7M116801.D	AD26094-009	09/29/21 17:15
7M116802.D	AD26217-008	09/29/21 17:39
7M116803.D	AD26217-010	09/29/21 18:03
7M116804.D	AD26217-012	09/29/21 18:26
7M116805.D	AD26217-014	09/29/21 18:50
7M116806.D	AD26206-004	09/29/21 19:13

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Data File : 7M116777.D
Acq On : 29 Sep 2021 7:45
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_7\METHODQT\7M_0920.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Sep 20 13:06:38 2021





Spectrum Information: Average of 10.167 to 10.173 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.5	106400	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.9	121120	PASS
70	69	0.00	2	1.0	1230	PASS
127	198	40	60	53.8	145080	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	269632	PASS
199	198	5	9	6.9	18691	PASS
275	198	10	30	25.3	68288	PASS
365	198	1	100	2.5	6810	PASS
441	443	0.01	100	73.9	24647	PASS
442	198	40	100	61.6	165960	PASS
443	442	17	23	20.1	33366	PASS

Form 5

Tune Name: CAL DFTPP **Data File:** 10M87539.D
Instrument: GCMS 10 **Analysis Date:** 09/29/21 08:04
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.062 to 10.073 min

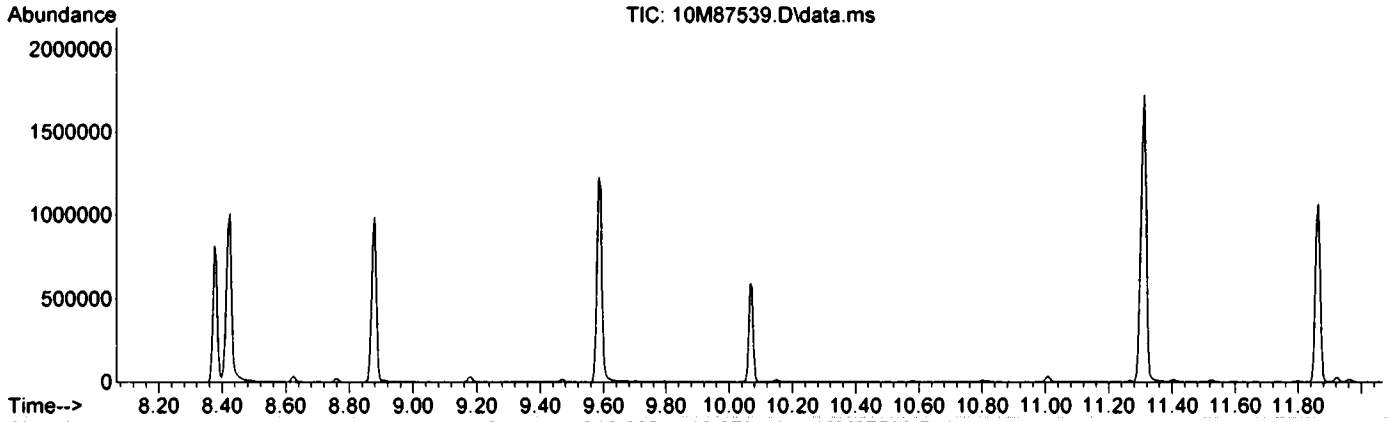
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	47.6	27419	PASS
68	69	0.00	2	1.7	435	PASS
69	198	0.00	100	45.3	26125	PASS
70	69	0.00	2	0.9	247	PASS
127	198	40	60	54.7	31552	PASS
197	198	0.00	1	0.3	169	PASS
198	198	100	100	100.0	57635	PASS
199	198	5	9	6.7	3871	PASS
275	198	10	30	19.7	11352	PASS
365	198	1	100	2.1	1195	PASS
441	443	0.01	100	73.2	5038	PASS
442	198	40	100	59.9	34512	PASS
443	442	17	23	19.9	6882	PASS

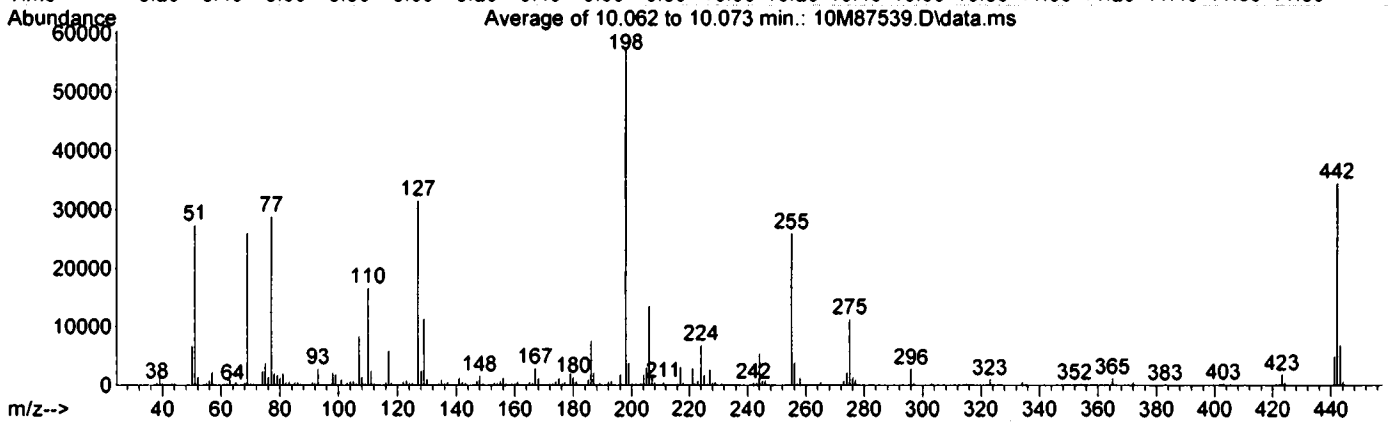
Data File	Sample Number	Analysis Date:
10M87540.D	CAL BNA@50PPM	09/29/21 08:26
10M87541.D	SMB95060(MS)	09/29/21 08:51
10M87542.D	SMB95061(MS)	09/29/21 09:13
10M87543.D	SMB95061	09/29/21 09:35
10M87544.D	SMB95060	09/29/21 09:58
10M87545.D	AD26166-005	09/29/21 10:20
10M87546.D	AD26166-006	09/29/21 10:42
10M87547.D	AD26166-011	09/29/21 11:05
10M87548.D	AD26166-012	09/29/21 11:27
10M87549.D	AD26166-015	09/29/21 11:49
10M87550.D	AD26166-016	09/29/21 12:11
10M87551.D	AD26166-017	09/29/21 12:34
10M87552.D	AD26166-005(MS)	09/29/21 12:56
10M87553.D	AD26166-005(MSD	09/29/21 13:18
10M87554.D	AD26194-001	09/29/21 13:40
10M87555.D	AD26178-006	09/29/21 14:02
10M87556.D	OMB95073	09/29/21 14:25
10M87557.D	OMB95073(MS)	09/29/21 14:47
10M87558.D	SMB95075(MS)	09/29/21 15:09
10M87559.D	SMB95075	09/29/21 15:32
10M87560.D	AD26185-001	09/29/21 16:28

Data Path : G:\GcMsData\2021\GCMS_10\Data\09-29-21\
Data File : 10M87539.D
Acq On : 29 Sep 2021 8:04
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_10\METHODQT\10M_0920.M
Title : @GCMS_10,mg,625,8270
Last Update : Mon Sep 20 12:52:28 2021





Spectrum Information: Average of 10.062 to 10.073 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.6	27419	PASS
68	69	0.00	2	1.7	435	PASS
69	198	0.00	100	45.3	26125	PASS
70	69	0.00	2	0.9	247	PASS
127	198	40	60	54.7	31552	PASS
197	198	0.00	1	0.3	169	PASS
198	198	100	100	100.0	57635	PASS
199	198	5	9	6.7	3871	PASS
275	198	10	30	19.7	11352	PASS
365	198	1	100	2.1	1195	PASS
441	443	0.01	100	73.2	5038	PASS
442	198	40	100	59.9	34512	PASS
443	442	17	23	19.9	6882	PASS

Form 5

Tune Name: CAL DFTPP **Data File:** 9M108547.D
Instrument: GCMS 9 **Analysis Date:** 09/29/21 09:24
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.172 to 10.177 min

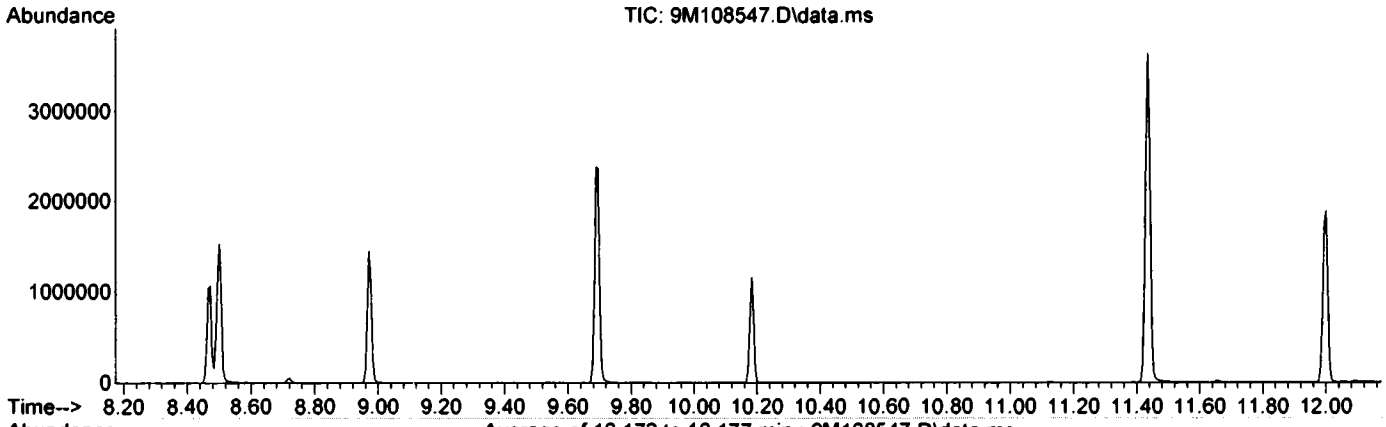
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	49.8	21505	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.8	21921	PASS
70	69	0.00	2	0.4	98	PASS
127	198	40	60	57.6	24886	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	43171	PASS
199	198	5	9	7.1	3065	PASS
275	198	10	30	25.7	11109	PASS
365	198	1	100	3.2	1360	PASS
441	443	0.01	100	70.0	4643	PASS
442	198	40	100	70.9	30597	PASS
443	442	17	23	21.7	6630	PASS

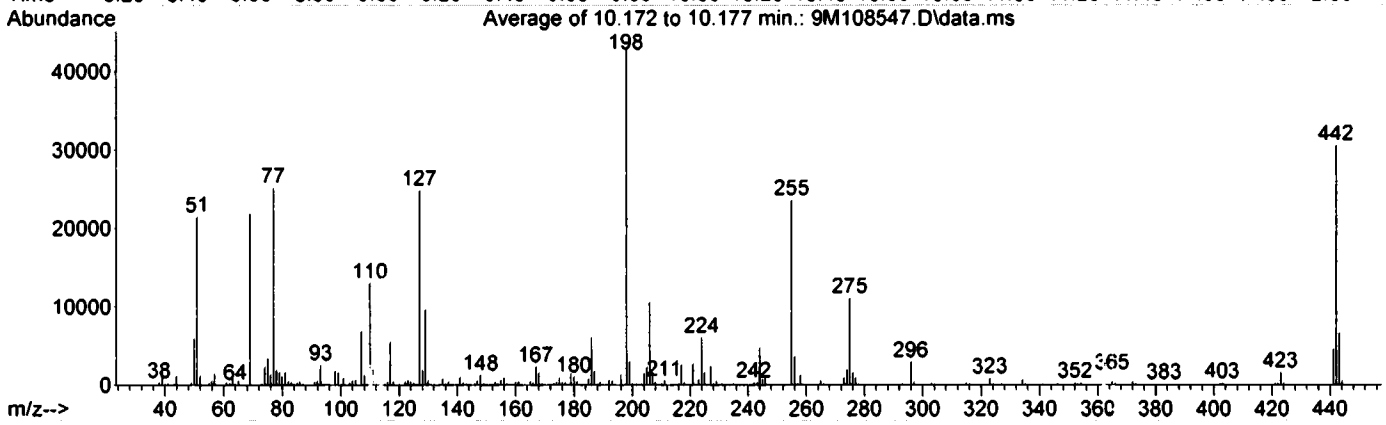
Data File	Sample Number	Analysis Date:
9M108548.D	CAL BNA@10PPM	09/29/21 09:47
9M108549.D	CAL BNA@2PPM	09/29/21 10:10
9M108550.D	CAL BNA@196PP	09/29/21 10:33
9M108551.D	CAL BNA@160PP	09/29/21 10:56
9M108552.D	CAL BNA@120PP	09/29/21 11:19
9M108553.D	CAL BNA@80PPM	09/29/21 11:42
9M108554.D	CAL BNA@50PPM	09/29/21 12:05
9M108555.D	CAL BNA@20PPM	09/29/21 12:28
9M108556.D	CAL BNA@0.5PP	09/29/21 12:51
9M108557.D	ICV BNA@50PPM	09/29/21 13:15
9M108558.D	AD26228-001	09/29/21 13:38
9M108559.D	AD26228-002	09/29/21 14:01
9M108560.D	AD26228-003	09/29/21 14:24
9M108561.D	AD26228-004	09/29/21 14:47
9M108562.D	AD26228-005	09/29/21 15:10
9M108563.D	WMB95071	09/29/21 15:33
9M108564.D	95071	09/29/21 15:56
9M108565.D	MBS-1	09/29/21 16:19
9M108566.D	MBS-2	09/29/21 16:42
9M108567.D	MBS-3	09/29/21 17:05
9M108568.D	MBS-4	09/29/21 17:28
9M108569.D	SMB95075	09/29/21 17:51
9M108570.D	AD26217-002	09/29/21 18:14
9M108571.D	AD26217-002(MS)	09/29/21 18:37
9M108572.D	AD26217-002(MSD	09/29/21 19:00
9M108573.D	AD26217-004	09/29/21 19:24
9M108574.D	AD26217-006	09/29/21 19:47

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-29-21\
Data File : 9M108547.D
Acq On : 29 Sep 2021 9:24
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_9\METHODQT\9M_0924.M
Title : @GCMS_9,mg,625,8270
Last Update : Fri Sep 24 13:06:09 2021





Spectrum Information: Average of 10.172 to 10.177 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.8	21505	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.8	21921	PASS
70	69	0.00	2	0.4	98	PASS
127	198	40	60	57.6	24886	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	43171	PASS
199	198	5	9	7.1	3065	PASS
275	198	10	30	25.7	11109	PASS
365	198	1	100	3.2	1360	PASS
441	443	0.01	100	70.0	4643	PASS
442	198	40	100	70.9	30597	PASS
443	442	17	23	21.7	6630	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M116807.D
Analysis Date: 09/30/21 08:00
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.161 to 10.178 min

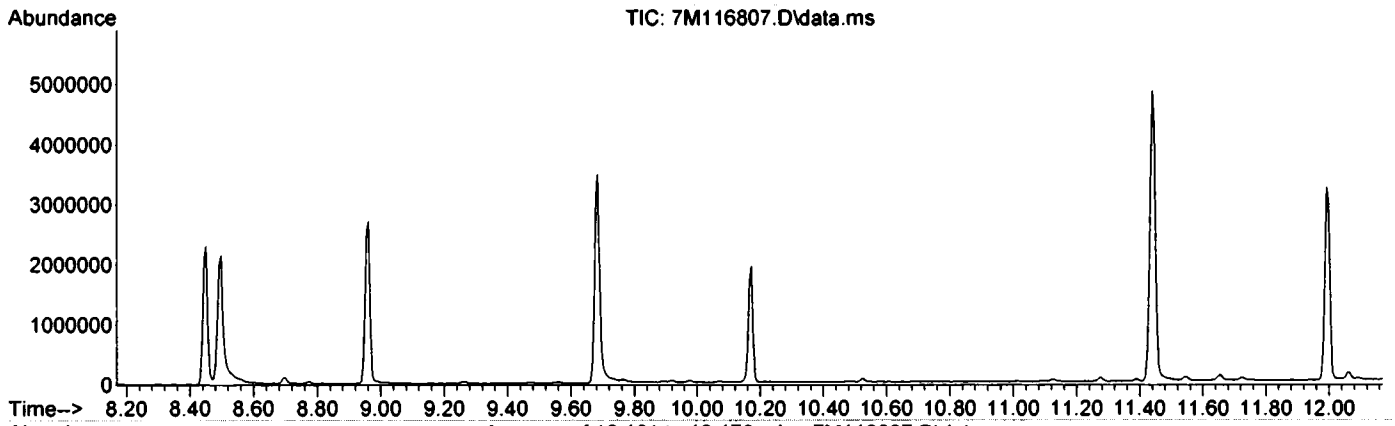
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	40.1	53470	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.4	59256	PASS
70	69	0.00	2	1.6	945	PASS
127	198	40	60	54.1	72128	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	133402	PASS
199	198	5	9	7.1	9409	PASS
275	198	10	30	27.2	36239	PASS
365	198	1	100	3.5	4706	PASS
441	443	0.01	100	73.9	16376	PASS
442	198	40	100	83.1	110866	PASS
443	442	17	23	20.0	22151	PASS

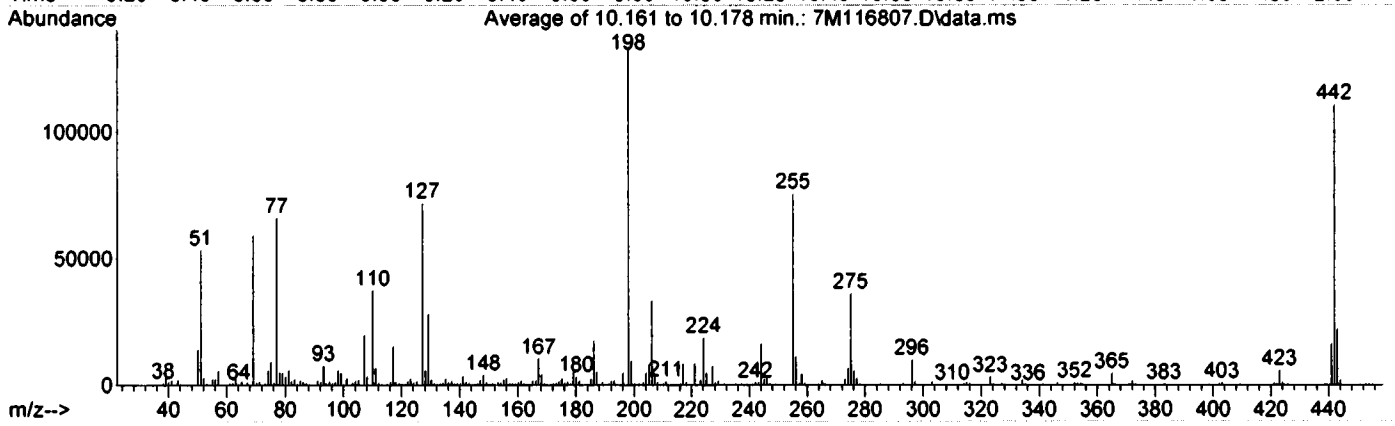
Data File	Sample Number	Analysis Date:
7M116808.D	CAL BNA@50PPM	09/30/21 08:24
7M116809.D	AD26217-018	09/30/21 08:48
7M116810.D	AD26206-002(3X)	09/30/21 09:12
7M116811.D	AD26094-005(5X)	09/30/21 09:35
7M116812.D	AD26217-016(10X)	09/30/21 09:59
7M116813.D	AD26249-001(5X)	09/30/21 10:22
7M116814.D	AD26034-011(10X)	09/30/21 10:46
7M116815.D	AD26034-010(20X)	09/30/21 11:09
7M116816.D	AD26251-004	09/30/21 11:32
7M116817.D	AD26206-002	09/30/21 11:56
7M116818.D	AD26217-016(5X)	09/30/21 12:19
7M116819.D	AD26034-010(5X)	09/30/21 12:43
7M116820.D	AD26034-011(5X)	09/30/21 13:06

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-30-21\
Data File : 7M116807.D
Acq On : 30 Sep 2021 8:00
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_7\METHODQT\7M_0920.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Sep 20 13:06:38 2021





Spectrum Information: Average of 10.161 to 10.178 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.1	53470	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.4	59256	PASS
70	69	0.00	2	1.6	945	PASS
127	198	40	60	54.1	72128	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	133402	PASS
199	198	5	9	7.1	9409	PASS
275	198	10	30	27.2	36239	PASS
365	198	1	100	3.5	4706	PASS
441	443	0.01	100	73.9	16376	PASS
442	198	40	100	83.1	110866	PASS
443	442	17	23	20.0	22151	PASS

Form 5

Tune Name: CAL DFTPP **Data File:** 9M108576.D
Instrument: GCMS 9 **Analysis Date:** 09/30/21 09:04
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.172 to 10.172 min

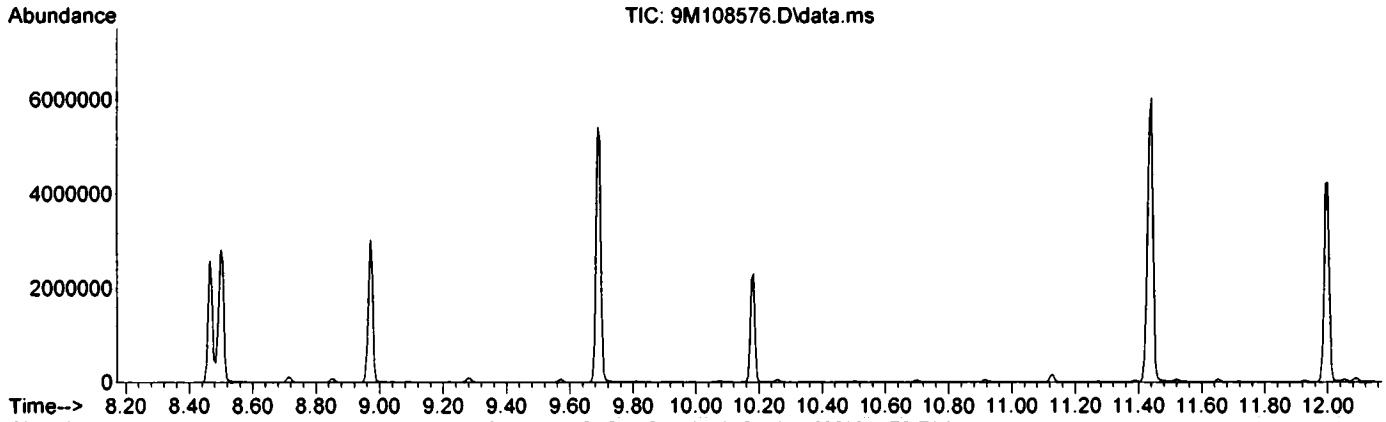
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	47.3	41944	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	49.0	43496	PASS
70	69	0.00	2	1.1	478	PASS
127	198	40	60	57.5	51008	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	88760	PASS
199	198	5	9	7.2	6404	PASS
275	198	10	30	24.4	21648	PASS
365	198	1	100	2.8	2528	PASS
441	443	0.01	100	70.9	8767	PASS
442	198	40	100	69.3	61488	PASS
443	442	17	23	20.1	12366	PASS

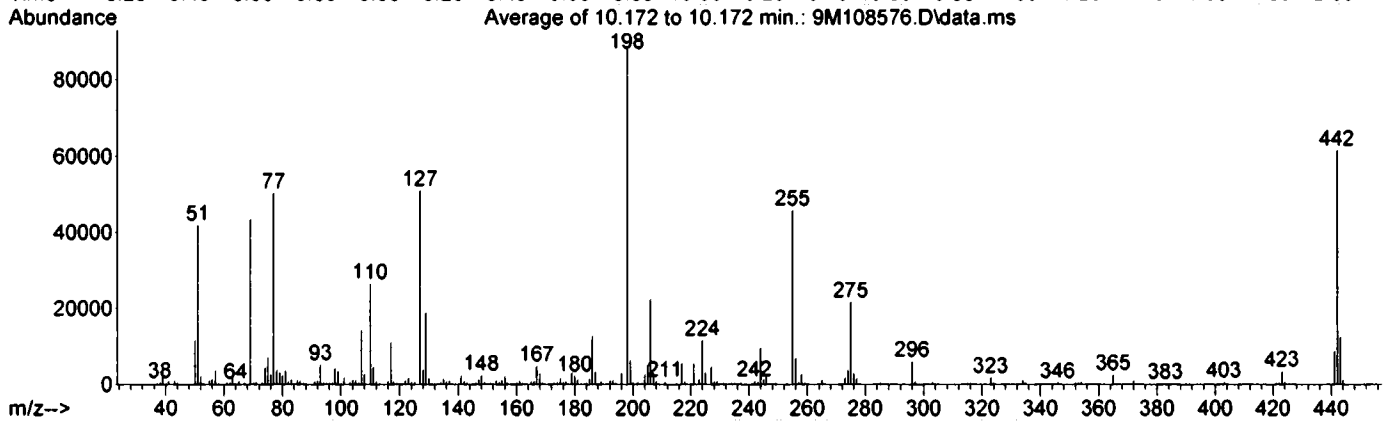
Data File	Sample Number	Analysis Date:
9M108577.D	CAL BNA@50PPM	09/30/21 09:35
9M108578.D	WMB95071(MS)	09/30/21 09:58
9M108579.D	WMB95078	09/30/21 10:21
9M108580.D	AD26205-001	09/30/21 10:44
9M108581.D	AD26205-002	09/30/21 11:07
9M108582.D	AD26205-003	09/30/21 11:30
9M108583.D	AD26205-004	09/30/21 11:52
9M108584.D	AD26200-013	09/30/21 12:15
9M108585.D	AD26200-015	09/30/21 12:38
9M108586.D	AD26200-017	09/30/21 13:01
9M108587.D	AD26217-004(R)	09/30/21 14:38
9M108588.D	95088	09/30/21 16:01
9M108589.D	WMB95088	09/30/21 16:23
9M108590.D	AD26283-001	09/30/21 16:46
9M108591.D	AD26227-001	09/30/21 17:09
9M108592.D	AD26283-002	09/30/21 17:32
9M108593.D	AD26283-003	09/30/21 17:55
9M108594.D	AD26283-004	09/30/21 18:18
9M108595.D	AD26227-001(MS)	09/30/21 18:41
9M108596.D	AD26227-001(MSD	09/30/21 19:04

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-30-21\
Data File : 9M108576.D
Acq On : 30 Sep 2021 9:04
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_9\METHODQT\9M_0929.M
Title : @GCMS_9,mg,625,8270
Last Update : Wed Sep 29 13:15:33 2021





Spectrum Information: Average of 10.172 to 10.172 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.3	41944	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	49.0	43496	PASS
70	69	0.00	2	1.1	478	PASS
127	198	40	60	57.5	51008	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	88760	PASS
199	198	5	9	7.2	6404	PASS
275	198	10	30	24.4	21648	PASS
365	198	1	100	2.8	2528	PASS
441	443	0.01	100	70.9	8767	PASS
442	198	40	100	69.3	61488	PASS
443	442	17	23	20.1	12366	PASS

Form 5

Tune Name: CAL DFTPP **Data File:** 9M108597.D
Instrument: GCMS 9 **Analysis Date:** 10/01/21 08:06
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.172 to 10.172 min

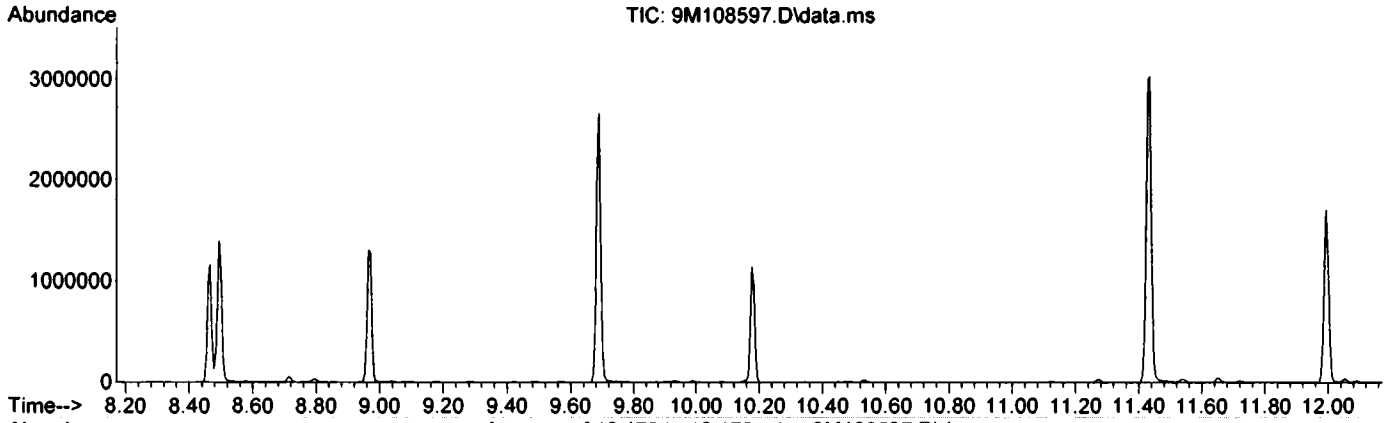
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	45.9	22912	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.1	23512	PASS
70	69	0.00	2	1.0	237	PASS
127	198	40	60	56.3	28096	PASS
197	198	0.00	1	0.8	399	PASS
198	198	100	100	100.0	49928	PASS
199	198	5	9	7.3	3669	PASS
275	198	10	30	28.5	14235	PASS
365	198	1	100	3.8	1877	PASS
441	443	0.01	100	76.8	6197	PASS
442	198	40	100	83.5	41688	PASS
443	442	17	23	19.3	8064	PASS

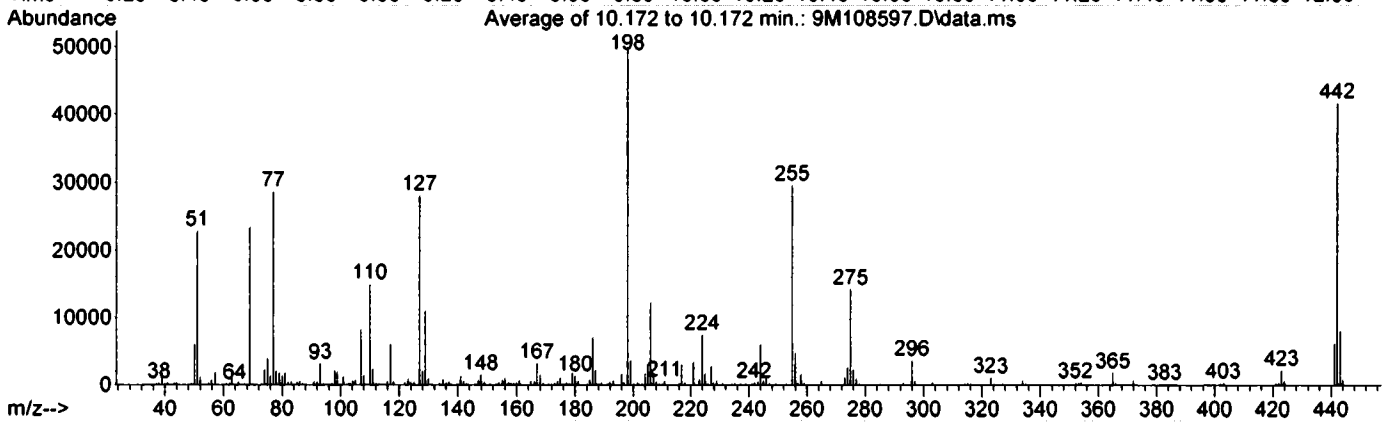
Data File	Sample Number	Analysis Date:
9M108598.D	CAL BNA@50PPM	10/01/21 08:29
9M108599.D	SMB95086(MS)	10/01/21 08:52
9M108600.D	SMB95086	10/01/21 09:14
9M108601.D	WMB95092	10/01/21 09:37
9M108602.D	AD26247-007	10/01/21 10:00
9M108603.D	AD26247-008	10/01/21 10:23
9M108604.D	AD26247-010	10/01/21 10:45
9M108605.D	AD26247-011	10/01/21 11:08
9M108606.D	AD26247-013	10/01/21 11:31
9M108607.D	AD26241-014	10/01/21 12:00
9M108608.D	AD26241-015	10/01/21 12:23
9M108609.D	AD26241-016	10/01/21 12:45
9M108610.D	AD26241-017	10/01/21 13:08
9M108611.D	AD26241-018	10/01/21 13:31

Data Path : G:\GcMsData\2021\GCMS_9\Data\10-01-21\
Data File : 9M108597.D
Acq On : 1 Oct 2021 8:06
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_9\METHODQT\9M_0929.M
Title : @GCMS_9,mg,625,8270
Last Update : Wed Sep 29 13:15:33 2021





Spectrum Information: Average of 10.172 to 10.172 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	45.9	22912	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.1	23512	PASS
70	69	0.00	2	1.0	237	PASS
127	198	40	60	56.3	28096	PASS
197	198	0.00	1	0.8	399	PASS
198	198	100	100	100.0	49928	PASS
199	198	5	9	7.3	3669	PASS
275	198	10	30	28.5	14235	PASS
365	198	1	100	3.8	1877	PASS
441	443	0.01	100	76.8	6197	PASS
442	198	40	100	83.5	41688	PASS
443	442	17	23	19.3	8064	PASS

1092401 0177

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M87373.D	CAL BNA@50PPM	09/20/21 12:26	2	10M87366.D	CAL BNA@2PPM	09/20/21 09:51
3	10M87365.D	CAL BNA@10PPM	09/20/21 09:29	4	10M87371.D	CAL BNA@20PPM	09/20/21 11:42
5	10M87370.D	CAL BNA@80PPM	09/20/21 11:19	6	10M87369.D	CAL BNA@120PPM	09/20/21 10:57
7	10M87368.D	CAL BNA@160PPM	09/20/21 10:35	8	10M87367.D	CAL BNA@196PPM	09/20/21 10:13
9	10M87372.D	CAL BNA@0.5PPM	09/20/21 12:04				

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	Avg	0.9191	1.0877	0.8806	0.9796	0.8844	0.8891	0.9089	1.0130	0.8491	0.935	2.78	0.993	0.998	8.2		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Qua	1.9243	0.9166	1.4646	1.9322	1.8929	1.9664	1.9970	2.2087	----	1.79	3.25	0.994	0.998	23		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Avg	1.4129	1.1113	1.1794	1.4513	1.4209	1.4365	1.4601	1.6296	----	1.39	3.19	0.993	0.998	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.1960	1.9512	1.8943	2.2361	2.2132	2.2292	2.2661	2.4775	----	2.18	4.72	0.997	0.999	8.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	1.9506	1.8732	1.7109	2.0288	1.9278	1.9076	1.9524	2.0902	----	1.93	5.53	0.997	0.999	5.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Avg	3.4386	3.1433	3.1480	3.6312	3.4347	3.4393	3.5438	3.8081	3.4762	3.45	5.62	0.998	0.999	6.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	0.8007	0.7776	0.7387	0.8401	0.8005	0.7982	0.8138	0.8721	----	0.805	5.67	0.997	0.999	4.9	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	2.2879	2.4673	2.2294	2.5467	2.3473	2.2707	2.3365	2.4790	2.6192	2.40	5.68	0.998	0.999	5.6	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	2.6682	2.3348	2.3845	2.8502	2.7029	2.7025	2.6967	2.8989	----	2.65	5.59	0.997	0.999	7.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	3.2169	2.9459	2.8764	3.3481	3.1689	3.1647	3.2018	3.4097	----	3.17	5.60	0.998	0.999	5.7	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.4886	2.2207	2.2565	2.5864	2.4676	2.4801	2.5132	2.6684	----	2.46	5.72	0.998	0.999	6.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	2.8031	2.9321	2.6793	2.9571	2.7540	2.7539	2.7398	2.8794	----	2.81	5.76	0.999	0.999	3.5	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	2.7474	2.8423	2.6003	2.9119	2.7177	2.6890	2.6901	2.8503	----	2.76	5.85	0.998	0.999	3.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.4294	1.4029	1.3431	1.4770	1.4155	1.4020	1.3837	1.4496	----	1.41	5.92	0.999	0.999	2.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.3395	1.4052	1.2705	1.4004	1.3267	1.3187	1.3189	1.3639	----	1.34	6.04	0.999	1.00	3.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.8270	0.5813	0.6993	0.8398	0.8179	0.8100	0.8310	0.8708	----	0.785	6.01	0.999	0.999	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	1.9476	2.0511	1.8786	2.0732	1.9319	1.9269	1.9317	2.0112	----	1.97	6.12	0.999	1.00	3.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Avg	1.1536	1.0377	1.0511	1.2036	1.1403	1.1582	1.1611	1.2142	1.1191	1.14	6.10	0.999	1.00	5.3	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	1.6543	1.5996	1.5699	1.7780	1.6150	1.5266	1.4606	1.4693	----	1.58	6.23	0.998	0.999	6.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5027	0.4969	0.4814	0.5305	0.5053	0.5124	0.5063	0.5304	----	0.508	6.31	0.999	0.999	3.2	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	0.8352	0.7441	0.7419	0.8760	0.8120	0.7686	0.7327	0.7519	0.7660	0.781	6.23	0.998	0.999	6.3	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	1.1940	1.0842	1.0584	1.2711	1.1676	1.1028	1.0448	1.0487	1.0156	1.11	6.23	0.997	0.999	7.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1390	0.1135	0.1210	0.1437	0.1408	0.1432	0.1453	0.1543	----	0.138	6.35	0.998	0.999	9.8		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.2838	0.2699	0.2662	0.3053	0.2896	0.2886	0.2927	0.3046	----	0.288	6.37	0.999	1.00	5.0	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.5412	0.4810	0.4750	0.5645	0.5411	0.5439	0.5427	0.5696	----	0.532	6.55	0.999	0.999	6.6	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Avg	0.1662	0.1202	0.1404	0.1684	0.1687	0.1701	0.1730	0.1796	----	0.161	6.61	0.999	1.00	12	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Avg	0.2779	0.2456	0.2465	0.2871	0.2772	0.2776	0.2737	0.2863	0.2387	0.268	6.63	0.999	0.999	7.0	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	0.1608	----	0.0624	0.1345	0.1926	0.2037	0.2142	0.2170	----	0.169	6.70	0.998	0.999	33		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.3394	0.3298	0.3198	0.3559	0.3345	0.3368	0.3340	0.3483	----	0.337	6.71	0.999	1.00	3.3	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Qua	0.2432	0.1940	0.2154	0.2480	0.2452	0.2467	0.2451	0.2526	0.1645	0.228	6.79	1.00	1.00	13	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	0.2514	0.2558	0.2341	0.2642	0.2502	0.2492	0.2449	0.2565	----	0.251	6.86	0.999	0.999	3.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Avg	0.9304	0.9179	0.8741	0.9733	0.9131	0.9084	0.8906	0.9166	1.0663	0.932	6.92	1.00	1.00	6.1	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	0.3613	0.3307	0.3217	0.3739	0.3582	0.3532	0.3466	0.3533	0.3323	0.348	6.95	1.00	1.00	4.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.1176	0.1237	0.1105	0.1243	0.1180	0.1196	0.1159	0.1204	----	0.119	7.01	0.999	0.999	3.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Qua	0.0988	0.0532	0.0733	0.0996	0.1011	0.1015	0.1014	0.1163	----	0.0932	7.24	0.991	0.996	21	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	0.2490	0.2018	0.2213	0.2591	0.2484	0.2489	0.2513	0.2610	----	0.243	7.32	0.999	1.00	8.4	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.6279	0.6209	0.5965	0.6689	0.6240	0.6110	0.5904	0.6074	----	0.618	7.46	0.999	0.999	3.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.5994	0.5875	0.5627	0.6261	0.5924	0.5764	0.5673	0.5810	----	0.587	7.54	1.00	1.00	3.4	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (T	1	0	Avg	0.6127	0.6042	0.5785	0.6441	0.6033	0.5908	0.5763	0.5917	----	0.600	7.46	0.999	0.999	3.6		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	0.7157	0.6897	0.6747	0.7511	0.7053	0.6882	0.6688	0.6885	----	0.698	7.83	0.999	0.999	3.8	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	0.4664	0.4493	0.4391	0.4997	0.4700	0.4583	0.4486	0.4516	----	0.460	7.59	0.999	1.00	4.1	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: 8.165
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. - 275

1092401 0178

Form 6
Initial Calibration

Method: EPA 8270E

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M87373.D	CAL BNA@50PPM	09/20/21 12:26	2	10M87366.D	CAL BNA@2PPM	09/20/21 09:51
3	10M87365.D	CAL BNA@10PPM	09/20/21 09:29	4	10M87371.D	CAL BNA@20PPM	09/20/21 11:42
5	10M87370.D	CAL BNA@80PPM	09/20/21 11:19	6	10M87369.D	CAL BNA@120PPM	09/20/21 10:57
7	10M87368.D	CAL BNA@160PPM	09/20/21 10:35	8	10M87367.D	CAL BNA@196PPM	09/20/21 10:13
9	10M87372.D	CAL BNA@0.5PPM	09/20/21 12:04				

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	0.1953	0.0824	0.1364	0.1862	0.2128	0.2196	0.2180	0.2278	----	0.185	7.58	0.998	0.999	27	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	0.3193	0.2305	0.2654	0.3350	0.3252	0.3340	0.3325	0.3360	----	0.310	7.68	1.00	1.00	13	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	0.3436	0.2395	0.3009	0.3565	0.3513	0.3538	0.3549	0.3653	----	0.333	7.71	0.999	1.00	13	0.20		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.2522	1.2649	1.1763	1.3484	1.2507	1.2623	1.2671	1.3153	----	1.27	7.75	0.999	1.00	4.0			25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1111	1.0882	1.0425	1.1797	1.1099	1.1089	1.0810	1.1100	----	1.10	7.86	1.00	1.00	3.5	0.80		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	0.9157	0.8972	0.8440	0.9707	0.9021	0.8432	0.7992	0.7715	----	0.868	8.14	0.995	1.00	7.6			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	0.9157	0.8972	0.8440	0.9707	0.9021	0.8432	0.7992	0.7715	----	0.868	8.14	0.995	1.00	7.6			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.7923	0.7759	0.7449	0.8462	0.7787	0.7758	0.7613	0.7774	----	0.782	7.92	1.00	1.00	3.8			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3773	0.2818	0.3232	0.3909	0.3728	0.3686	0.3698	0.3861	----	0.359	7.93	0.999	0.999	10	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.4464	0.3669	0.4100	0.4740	0.4486	0.4367	0.4153	0.4039	----	0.425	8.12	0.997	1.00	7.8			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.7304	1.5398	1.6119	1.8350	1.7299	1.7163	1.6826	1.7214	----	1.70	8.22	1.00	1.00	5.2	0.90		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.2093	1.1292	1.1230	1.2846	1.2031	1.1990	1.2028	1.2366	----	1.20	8.08	0.999	1.00	4.4	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.2860	0.2184	0.2528	0.3038	0.2825	0.2695	0.2527	0.2486	----	0.264	8.14	0.996	1.00	10	0.20		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1171	1.1225	1.0783	1.1969	1.1285	1.1090	1.0755	1.0913	----	1.11	8.37	1.00	1.00	3.5	0.90		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Avg	0.3461	0.2553	0.2983	0.3598	0.3457	0.3431	0.3488	0.3586	----	0.332	8.29	0.999	1.00	11	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1285	----	0.0671	0.1049	0.1497	0.1614	0.1715	0.1802	----	0.138	8.38	0.996	1.00	29	0.20	a	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Avg	1.5735	1.6040	1.4999	1.6823	1.5687	1.5598	1.5287	1.5449	1.8105	1.60	8.52	1.00	1.00	6.0	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	0.3725	0.2497	0.3250	0.3837	0.3839	0.3835	0.3914	0.4107	----	0.363	8.49	0.998	1.00	14	0.20		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Qua	0.2047	0.1230	0.1514	0.1976	0.2129	0.2163	0.2345	0.2305	----	0.196	8.42	0.998	0.999	20	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	0.2595	0.1797	0.2188	0.2713	0.2636	0.2719	0.2724	0.2760	----	0.252	8.63	0.999	1.00	14	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.2762	1.2107	1.2139	1.3699	1.2841	1.2608	1.2177	1.2366	----	1.26	8.84	0.999	1.00	4.2	0.90		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.5381	0.5335	0.5156	0.5813	0.5445	0.5433	0.5356	0.5440	----	0.542	8.83	1.00	1.00	3.4	0.40		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.1986	1.0800	1.0924	1.2728	1.2046	1.2077	1.1959	1.2267	----	1.18	8.70	1.00	1.00	5.5	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Qua	0.3667	0.2361	0.2990	0.3765	0.3729	0.3780	0.3815	0.4001	----	0.351	8.85	0.999	1.00	16	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.3187	0.2376	0.2777	0.3329	0.3220	0.3257	0.3246	0.3320	----	0.309	9.47	1.00	1.00	11	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	0.1045	----	0.0688	0.0980	0.1145	0.1208	0.1251	0.1328	----	0.109	8.88	0.997	1.00	20	0.01		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.6199	0.5517	0.5732	0.6584	0.6146	0.6173	0.6042	0.6211	----	0.608	8.94	1.00	1.00	5.3	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	0.0770	0.0466	0.0589	0.0755	0.0768	0.0803	0.0815	0.0876	----	0.0731	9.08	0.997	0.999	18			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.6920	0.6063	0.6242	0.7272	0.6794	0.7507	0.7403	0.7674	----	0.698	8.99	0.998	0.999	8.5			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.1631	0.1461	0.1421	0.1692	0.1619	0.1632	0.1611	0.1685	----	0.159	9.32	0.999	0.999	6.2	0.10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.1686	0.1627	0.1520	0.1765	0.1671	0.1691	0.1697	0.1745	----	0.168	9.39	0.998	0.998	4.5	0.10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.5054	0.4197	0.4444	0.5260	0.5024	0.4939	0.4763	0.4799	----	0.481	9.64	0.999	1.00	7.2	0.05		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.0966	----	0.0568	0.0826	0.1025	0.1078	0.1125	0.1177	----	0.0967	9.59	0.998	1.00	22	0.05		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	1.0112	1.0113	0.9477	1.0850	0.9856	0.9869	0.9607	0.9900	----	0.997	9.83	0.999	0.999	4.2	0.70		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	1.0467	0.9523	0.9371	1.0994	1.0234	1.0250	0.9967	1.0312	----	1.01	9.88	0.999	0.999	5.1	0.70		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	0.9929	0.8833	0.8994	1.0527	0.9791	0.9766	0.9667	0.9997	----	0.969	10.05	0.999	1.00	5.6	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Qua	1.1647	0.8945	0.9677	1.2077	1.1706	1.1623	1.1653	1.1918	0.9402	1.10	10.42	1.00	1.00	11	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.0114	0.9021	0.9109	1.0582	0.9899	0.9932	0.9715	1.0008	----	0.980	11.15	1.00	1.00	5.3	0.60		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.3665	1.2536	1.2617	1.4206	1.3462	1.3286	1.3486	1.3909	----	1.34	11.42	0.999	1.00	4.3	0.60		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Avg	0.8680	0.5346	0.6937	0.8698	0.8720	0.8551	0.8645	0.8973	----	0.807	11.31	0.999	0.999	16			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6167	0.5294	0.5525	0.6505	0.6336	0.6377	0.6565	0.7079	----	0.623	11.60	0.997	0.999	9.2			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: 8.165
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. - 276

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M87373.D	CAL BNA@50PPM	09/20/21 12:26	2	10M87366.D	CAL BNA@2PPM	09/20/21 09:51
3	10M87365.D	CAL BNA@10PPM	09/20/21 09:29	4	10M87371.D	CAL BNA@20PPM	09/20/21 11:42
5	10M87370.D	CAL BNA@80PPM	09/20/21 11:19	6	10M87369.D	CAL BNA@120PPM	09/20/21 10:57
7	10M87368.D	CAL BNA@160PPM	09/20/21 10:35	8	10M87367.D	CAL BNA@196PPM	09/20/21 10:13
9	10M87372.D	CAL BNA@0.5PPM	09/20/21 12:04				

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	0.2653	0.2443	0.2393	0.2739	0.2626	0.2637	0.2676	0.2783	----	0.262	11.53	0.999	1.00	5.2		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4671	0.3718	0.4055	0.4825	0.4699	0.4627	0.4651	0.4824	----	0.451	11.93	0.999	1.00	8.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Qua	0.6535	0.4364	0.5218	0.6566	0.6594	0.6576	0.6734	0.7049	----	0.621	12.18	0.998	1.00	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.4056	0.3252	0.3593	0.4087	0.4040	0.3992	0.4015	0.4053	----	0.389	12.29	1.00	1.00	7.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Qua	0.4314	0.3143	0.3661	0.4471	0.4408	0.4438	0.4280	0.4430	----	0.414	12.81	0.999	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1246	1.0976	1.0428	1.1531	1.1036	1.1209	1.1351	1.1802	----	1.12	12.84	0.999	1.00	3.6	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.1295	1.0935	1.0476	1.1862	1.1086	1.1011	1.1282	1.1816	----	1.12	12.88	0.998	0.999	4.1	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	0.9167	0.6458	0.7524	0.9283	0.9221	0.9201	0.9345	0.9696	----	0.874	12.86	0.999	1.00	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Qua	1.4461	0.9507	1.1690	1.4603	1.4832	1.4834	1.4609	1.5213	----	1.37	13.61	0.999	0.999	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	1.0310	0.9147	0.9196	1.0425	0.9989	1.0236	0.9672	1.0764	----	0.997	14.05	0.998	0.998	5.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	0.9712	0.9013	0.9240	1.0707	1.0113	0.9683	0.9953	1.0133	----	0.982	14.07	0.999	1.00	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	0.9449	0.7857	0.8295	0.9651	0.9452	0.9445	0.9328	0.9978	----	0.918	14.41	0.998	0.999	7.8	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	1.0382	0.9015	0.9115	1.0684	1.0581	1.0498	1.0287	1.1152	----	1.02	15.82	0.999	0.999	7.4	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	0.8925	0.7623	0.7825	0.9097	0.9140	0.9001	0.8867	0.9564	----	0.876	15.84	0.998	0.998	7.7	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	0.8770	0.7604	0.7903	0.9012	0.8770	0.8886	0.8744	0.9484	----	0.865	16.21	0.997	0.998	7.0	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Haz. - 277

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 8.165
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.

1092401 0180

Form 6
Initial Calibration

Method: EPA 8270E

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M116599.D	CAL BNA@50PPM	09/20/21 12:43	2	7M116591.D	CAL BNA@2PPM	09/20/21 09:33
3	7M116592.D	CAL BNA@10PPM	09/20/21 09:56	4	7M116597.D	CAL BNA@20PPM	09/20/21 11:55
5	7M116596.D	CAL BNA@80PPM	09/20/21 11:32	6	7M116595.D	CAL BNA@120PPM	09/20/21 11:08
7	7M116594.D	CAL BNA@160PPM	09/20/21 10:45	8	7M116593.D	CAL BNA@196PPM	09/20/21 10:19
9	7M116598.D	CAL BNA@0.5PPM	09/20/21 12:19				

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	Avg	0.8933	0.9717	0.8868	0.9329	0.8611	0.8703	0.8849	0.9371	1.0761	0.924	2.76	0.998	0.999	7.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Avg	1.8138	1.9045	1.7076	2.0134	1.8776	1.8718	1.9100	1.9411	----	1.88	3.24	0.999	1.00	4.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Avg	1.4234	1.4599	1.3012	1.4682	1.4332	1.4027	1.4210	1.4867	----	1.42	3.19	0.999	0.999	4.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.0710	2.1949	1.9602	2.2690	2.1210	2.0909	2.1040	2.1195	----	2.12	4.74	0.998	0.998	4.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	1.8082	2.0741	1.7975	2.0551	1.8203	1.7456	1.7334	1.7103	----	1.84	5.55	0.999	0.999	7.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Qua	2.9357	3.4486	2.9959	3.4420	2.9964	2.8630	2.8143	2.7949	4.1913	3.16	5.64	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	0.7095	0.8098	0.7171	0.7975	0.7027	0.6817	0.6722	0.6670	----	0.720	5.68	0.999	1.00	7.6	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	1.9851	2.4107	2.0313	2.3498	1.9618	1.8976	1.8236	1.7815	2.8216	2.12	5.70	0.998	1.00	16	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	2.3515	2.6534	2.3384	2.6846	2.3864	2.3056	2.2778	2.2511	----	2.41	5.61	0.999	1.00	7.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	2.7430	3.2305	2.7878	3.1786	2.7672	2.6340	2.5387	2.4603	----	2.79	5.62	0.997	1.00	10	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.1230	2.4578	2.1101	2.4597	2.1679	2.1050	2.0851	2.0723	----	2.20	5.74	0.999	0.999	7.4	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Qua	1.7826	2.3126	1.9483	2.1237	1.6893	1.6091	1.5304	1.4751	----	1.81	5.78	0.996	1.00	16	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	2.2346	2.6296	2.2645	2.6254	2.2683	2.1632	2.1385	2.1014	----	2.30	5.87	0.999	1.00	9.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.3678	1.4788	1.3053	1.4415	1.3112	1.2577	1.2303	1.2637	----	1.33	5.94	0.999	0.999	6.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.3089	1.3867	1.2853	1.4182	1.2470	1.2116	1.1657	1.1916	----	1.28	6.06	0.999	0.999	7.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.7917	0.5888	0.6663	0.8099	0.7834	0.7502	0.7412	0.7754	----	0.738	6.04	0.999	0.999	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	1.3148	1.5158	1.3549	1.4567	1.2089	1.1365	1.0892	1.0948	----	1.27	6.14	0.997	0.999	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Avg	1.1667	1.2783	1.1413	1.2512	1.1183	1.0708	1.0427	1.0802	1.5094	1.18	6.12	0.999	0.999	12	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	1.5671	1.9025	1.6723	1.8052	1.4028	1.2839	1.1999	1.2008	----	1.50	6.25	0.993	0.998	18	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5322	0.5475	0.5041	0.5596	0.5037	0.4877	0.4834	0.4985	----	0.515	6.34	0.999	0.999	5.5	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	0.7569	0.9165	0.8167	0.8720	0.6785	0.6321	0.6080	0.6339	1.0228	0.771	6.25	0.992	0.997	19	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	1.0994	1.3011	1.1098	1.2173	0.9818	0.8994	0.8373	0.8349	1.3857	1.07	6.25	0.988	0.998	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1540	0.1477	0.1358	0.1594	0.1505	0.1470	0.1483	0.1531	----	0.150	6.38	0.999	0.999	4.6		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.3073	0.3438	0.3024	0.3301	0.2904	0.2736	0.2693	0.2758	----	0.299	6.39	0.999	0.999	9.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.5727	0.6105	0.5652	0.6236	0.5418	0.5183	0.5177	0.5459	----	0.562	6.58	0.998	0.998	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	0.1851	0.1656	0.1661	0.1929	0.1809	0.1739	0.1711	0.1754	----	0.176	6.64	0.999	0.999	5.4	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Avg	0.2878	0.2964	0.2800	0.3169	0.2749	0.2597	0.2552	0.2604	0.3208	0.284	6.66	0.999	0.999	8.5	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	0.1972	----	0.0358	0.1670	0.2219	0.2291	0.2306	0.2173	----	0.186	6.74	0.998	0.999	38		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.3552	0.3986	0.3504	0.3887	0.3265	0.3107	0.3035	0.3081	----	0.343	6.74	0.998	0.999	11	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Avg	0.2540	0.2318	0.2288	0.2651	0.2444	0.2361	0.2311	0.2363	0.2334	0.240	6.83	0.999	0.999	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	0.2695	0.2870	0.2536	0.2919	0.2581	0.2503	0.2415	0.2426	----	0.262	6.89	0.999	1.00	7.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Avg	0.8957	0.9871	0.8840	0.9831	0.8342	0.7603	0.7312	0.7450	1.1934	0.890	6.96	0.996	0.998	17	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	0.3710	0.3637	0.3504	0.3976	0.3582	0.3333	0.3212	0.3185	0.6226	0.382	6.99	0.996	0.999	25	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.1425	0.1443	0.1338	0.1525	0.1398	0.1355	0.1330	0.1352	----	0.140	7.04	0.999	1.00	4.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Avg	0.1098	0.0990	0.0954	0.1139	0.1096	0.1074	0.1146	0.1193	----	0.109	7.29	0.997	0.999	7.4	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	0.2722	0.2707	0.2545	0.2889	0.2641	0.2533	0.2484	0.2546	----	0.263	7.36	0.999	0.999	5.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.6302	0.6885	0.6131	0.6774	0.5886	0.5479	0.5252	0.5182	----	0.599	7.51	0.996	0.999	11	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.5842	0.6596	0.5840	0.6378	0.5499	0.5177	0.4898	0.4849	----	0.564	7.59	0.996	0.999	12	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (T	1	0	Avg	0.6070	0.6669	0.5937	0.6601	0.5694	0.5336	0.5075	0.5018	----	0.580	7.51	0.996	0.999	11		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	0.7245	0.7690	0.6998	0.7822	0.6818	0.6409	0.6092	0.5995	----	0.688	7.89	0.996	0.999	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	0.5260	0.5278	0.5073	0.5639	0.5060	0.4821	0.4693	0.4744	----	0.507	7.64	0.999	0.999	6.3	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: 9.892
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. - 278

1092401 0181

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M116599.D	CAL BNA@50PPM	09/20/21 12:43	2	7M116591.D	CAL BNA@2PPM	09/20/21 09:33
3	7M116592.D	CAL BNA@10PPM	09/20/21 09:56	4	7M116597.D	CAL BNA@20PPM	09/20/21 11:55
5	7M116596.D	CAL BNA@80PPM	09/20/21 11:32	6	7M116595.D	CAL BNA@120PPM	09/20/21 11:08
7	7M116594.D	CAL BNA@160PPM	09/20/21 10:45	8	7M116593.D	CAL BNA@196PPM	09/20/21 10:19
9	7M116598.D	CAL BNA@0.5PPM	09/20/21 12:19				

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	0.1948	0.0466	0.1015	0.1610	0.2142	0.2179	0.2282	0.2406	----	0.176	7.62	0.994	0.999	39	0.05 a	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Trichlorophenol	1	0	Avg	0.3607	0.3152	0.3252	0.3730	0.3565	0.3427	0.3438	0.3460	----	0.345	7.73	1.00	1.00	5.4	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,5-Trichlorophenol	1	0	Avg	0.3833	0.3709	0.3412	0.4081	0.3821	0.3764	0.3736	0.3932	----	0.379	7.77	0.999	0.999	5.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.3044	1.3536	1.2296	1.3993	1.2452	1.2089	1.1949	1.2340	----	1.27	7.80	0.999	0.999	5.8		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1111	1.2086	1.1125	1.2343	1.0401	0.9964	0.9541	0.9589	----	1.08	7.91	0.998	0.999	10	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	0.8477	0.9889	0.8909	0.9749	0.7547	0.6878	0.6282	0.6167	----	0.799	8.20	0.989	0.998	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	0.8477	0.9889	0.8909	0.9749	0.7547	0.6878	0.6282	0.6167	----	0.799	8.20	0.984	0.998	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.7865	0.8287	0.7730	0.8502	0.7527	0.7137	0.6905	0.7009	----	0.762	7.98	0.999	0.999	7.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3678	0.3905	0.3706	0.4070	0.3488	0.3319	0.3278	0.3371	----	0.360	7.99	0.999	0.999	8.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.4425	0.4799	0.4448	0.4985	0.3952	0.3616	0.3220	0.3118	----	0.407	8.19	0.985	0.998	17		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.6814	1.7891	1.6991	1.8670	1.5617	1.4745	1.4025	1.3993	----	1.61	8.28	0.994	0.999	11	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.2713	1.3429	1.2596	1.3997	1.2071	1.1596	1.1314	1.1643	----	1.24	8.14	0.999	0.999	7.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.2828	0.2944	0.2893	0.3240	0.2599	0.2434	0.2291	0.2358	----	0.270	8.20	0.996	0.998	12	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1039	1.1952	1.1016	1.2037	1.0288	0.9677	0.9261	0.9353	----	1.06	8.43	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	Avg	0.3616	0.3520	0.3555	0.3947	0.3470	0.3347	0.3272	0.3367	----	0.351	8.36	0.999	0.999	6.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1509	----	0.0498	0.1184	0.1729	0.1746	0.1800	0.1912	----	0.148	8.45	0.998	0.999	33	0.20 a	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Avg	1.5652	1.7288	1.5758	1.7284	1.4659	1.3856	1.3160	1.3084	2.0551	1.57	8.59	0.997	0.999	15	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	0.4276	0.3567	0.3740	0.4475	0.4137	0.4054	0.3949	0.4031	----	0.403	8.57	0.999	0.999	7.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Avg	0.2087	0.1557	0.2012	0.1964	0.2138	0.2090	0.2126	0.2228	----	0.203	8.49	0.999	1.00	10	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	0.3332	0.2608	0.2963	0.3428	0.3403	0.3262	0.3305	0.3373	----	0.321	8.70	1.00	1.00	8.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.2737	1.3586	1.2835	1.4067	1.1821	1.1066	1.0496	1.0389	----	1.21	8.93	0.996	0.999	12	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.6091	0.5979	0.5667	0.6572	0.5838	0.5528	0.5334	0.5351	----	0.580	8.91	0.998	0.999	7.2	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.2834	1.3171	1.2489	1.4064	1.2258	1.1604	1.1161	1.1290	----	1.24	8.79	0.998	0.999	8.1	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Avg	0.3771	0.3661	0.3703	0.4182	0.3680	0.3568	0.3568	0.3682	----	0.373	8.94	0.999	0.999	5.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.3773	0.3303	0.3440	0.3992	0.3680	0.3566	0.3529	0.3658	----	0.362	9.57	0.999	0.999	5.8	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	0.1178	0.0319	0.0717	0.1145	0.1251	0.1212	0.1235	0.1275	----	0.104	8.96	0.999	0.999	33	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.5814	0.6278	0.5893	0.6539	0.5546	0.5222	0.5046	0.5085	----	0.568	9.03	0.996	0.999	9.7	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	0.1035	0.0742	0.0842	0.1037	0.1081	0.1068	0.1092	0.1135	----	0.100	9.16	0.999	1.00	14		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.6781	0.7844	0.7387	0.7108	0.6294	0.5911	0.5662	0.5715	----	0.659	9.07	0.996	0.999	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2015	0.1938	0.1813	0.2133	0.2019	0.1943	0.1925	0.1977	----	0.197	9.41	0.999	0.999	4.7	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2197	0.2129	0.2038	0.2319	0.2229	0.2149	0.2143	0.2160	----	0.217	9.48	0.998	0.999	3.8	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.3558	0.4046	0.3914	0.4204	0.3221	0.2931	0.2737	0.2728	----	0.342	9.74	0.993	0.998	17	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.1274	0.0506	0.0804	0.1152	0.1394	0.1359	0.1397	0.1446	----	0.117	9.68	0.997	0.999	29	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	0.9393	1.0378	0.9630	1.0624	0.8964	0.8442	0.8150	0.8109	----	0.921	9.93	0.996	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	0.9765	1.0475	1.0014	1.1087	0.9229	0.8648	0.8368	0.8317	----	0.949	9.98	0.998	0.999	11	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	0.9251	0.9834	0.9432	1.0445	0.8885	0.8408	0.8079	0.8093	----	0.905	10.16	0.998	0.999	9.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Avg	1.1456	1.1419	1.1467	1.2795	1.0751	1.0068	0.9579	0.9529	1.3160	1.11	10.53	0.994	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.0484	1.0480	1.0372	1.1648	1.0076	0.9400	0.9032	0.9050	----	1.01	11.27	0.998	0.999	8.8	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.2037	1.2091	1.1509	1.2989	1.1442	1.1024	1.0968	1.1472	----	1.17	11.54	0.999	0.999	5.7	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Avg	0.7957	0.6392	0.7035	0.8479	0.7764	0.7385	0.7215	0.7451	----	0.746	11.43	0.999	0.999	8.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6739	0.5606	0.5762	0.6849	0.6788	0.6782	0.6889	0.7638	----	0.663	11.72	0.994	0.998	9.9		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: 9.892
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 8270E

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M116599.D	CAL BNA@50PPM	09/20/21 12:43	2	7M116591.D	CAL BNA@2PPM	09/20/21 09:33
3	7M116592.D	CAL BNA@10PPM	09/20/21 09:56	4	7M116597.D	CAL BNA@20PPM	09/20/21 11:55
5	7M116596.D	CAL BNA@80PPM	09/20/21 11:32	6	7M116595.D	CAL BNA@120PPM	09/20/21 11:08
7	7M116594.D	CAL BNA@160PPM	09/20/21 10:45	8	7M116593.D	CAL BNA@196PPM	09/20/21 10:19
9	7M116598.D	CAL BNA@0.5PPM	09/20/21 12:19				

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	0.2817	0.2614	0.2514	0.2959	0.2790	0.2790	0.2811	0.2963	----	0.278	11.65	0.998	0.999	5.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.5015	0.4457	0.4347	0.5266	0.4875	0.4734	0.4713	0.4926	----	0.479	12.06	0.999	0.999	6.2		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Avg	0.5863	0.5091	0.5284	0.6204	0.5727	0.5527	0.5501	0.5811	----	0.563	12.31	0.998	0.999	6.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.4131	0.3507	0.3757	0.4319	0.4014	0.3854	0.3820	0.3957	----	0.392	12.42	0.999	0.999	6.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Avg	0.4912	0.4035	0.4183	0.5115	0.4928	0.4733	0.4641	0.4793	----	0.467	12.95	0.999	0.999	8.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1273	1.1366	1.0585	1.2215	1.1039	1.0691	1.0643	1.1124	----	1.11	12.98	0.999	0.999	4.8	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.0534	1.1060	1.0800	1.1930	1.0456	1.0093	0.9980	1.0406	----	1.07	13.02	0.999	0.999	5.8	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	0.7624	0.7402	0.7373	0.8434	0.7215	0.7017	0.6824	0.7110	----	0.738	13.00	0.999	0.999	6.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Avg	1.1844	1.0330	1.0943	1.2638	1.0999	1.0500	1.0037	1.0211	----	1.09	13.77	0.996	0.999	8.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	0.9850	0.8720	0.9289	1.0780	0.9467	0.9653	0.9290	0.9985	----	0.963	14.22	0.999	0.999	6.3	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	1.0059	0.9535	0.9747	1.0674	0.9496	0.8718	0.8774	0.8880	----	0.949	14.25	0.998	0.998	7.2	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	0.9577	0.8554	0.9190	1.0401	0.9216	0.9020	0.8922	0.9271	----	0.927	14.60	0.999	0.999	5.9	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	1.0513	0.9260	0.9423	1.0867	1.0435	1.0191	1.0113	1.0869	----	1.02	16.12	0.999	0.999	5.9	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	0.8876	0.7680	0.8025	0.9207	0.8736	0.8535	0.8336	0.8841	----	0.853	16.15	0.998	0.999	5.8	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	0.8821	0.7879	0.7814	0.8860	0.8671	0.8644	0.8449	0.9117	----	0.853	16.54	0.998	0.998	5.5	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Haz. - 280

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 9.892
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.

1092401 0183

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_9

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M108554.D	CAL BNA@50PPM	09/29/21 12:05	2	9M108549.D	CAL BNA@2PPM	09/29/21 10:10
3	9M108548.D	CAL BNA@10PPM	09/29/21 09:47	4	9M108555.D	CAL BNA@20PPM	09/29/21 12:28
5	9M108553.D	CAL BNA@80PPM	09/29/21 11:42	6	9M108552.D	CAL BNA@120PPM	09/29/21 11:19
7	9M108551.D	CAL BNA@160PPM	09/29/21 10:56	8	9M108550.D	CAL BNA@196PPM	09/29/21 10:33
9	9M108556.D	CAL BNA@0.5PPM	09/29/21 12:51				

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	Avg	0.8843	1.1256	0.8803	0.9284	0.8656	0.8611	0.8715	0.9448	0.8426	0.912	2.84	0.998	0.999	9.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Avg	1.7898	1.9884	1.5420	1.8437	1.8402	1.8526	1.8954	2.0297	----	1.85	3.30	0.997	0.999	8.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Avg	1.3623	1.4162	1.2534	1.4141	1.362[illegible]	1.3810	1.3883	1.4958	----	1.38	3.25	0.998	0.999	4.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.2217	2.3103	2.0660	2.3141	2.2473	2.2669	2.2913	2.4559	----	2.27	4.78	0.997	0.999	4.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	1.8828	2.1392	1.8627	2.0198	1.8490	1.7492	1.6133	1.5197	----	1.83	5.60	0.991	1.00	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Avg	3.3095	3.5708	3.1537	3.5625	3.2847	3.2724	3.2178	3.3845	3.6660	3.38	5.69	0.999	0.999	5.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	0.7852	0.8042	0.7383	0.8251	0.7833	0.8027	0.7890	0.8394	----	0.796	5.74	0.998	0.999	3.8	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	2.2068	2.3821	2.2261	2.4660	2.2302	2.2174	2.1748	2.3322	2.6558	2.32	5.75	0.998	0.999	6.8	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	2.6885	2.7564	2.5116	2.8336	2.6775	2.6943	2.7155	2.8464	----	2.72	5.64	0.999	1.00	3.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	3.1850	3.1416	2.9769	3.3654	3.1628	3.1616	3.1338	3.3114	----	3.18	5.65	0.999	0.999	3.7	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.5145	2.6854	2.4320	2.6681	2.5172	2.5002	2.4879	2.6315	----	2.55	5.79	0.998	0.999	3.7	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	2.0673	2.4131	2.0258	2.2162	2.0660	2.0132	2.0023	2.0911	----	2.11	5.82	0.999	0.999	6.6	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	2.6834	2.9482	2.5370	2.8580	2.6614	2.6651	2.6560	2.8153	----	2.73	5.92	0.998	0.999	4.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.3947	1.4259	1.2651	1.4293	1.3776	1.3581	1.3662	1.4623	----	1.38	5.98	0.997	0.999	4.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.3150	1.3711	1.2054	1.3520	1.3010	1.2767	1.2841	1.3819	----	1.31	6.11	0.997	0.999	4.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.7904	0.7904	0.7378	0.8154	0.7986	0.7845	0.7924	0.8520	----	0.795	6.08	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	1.3425	1.3725	1.2468	1.3620	1.3048	1.2799	1.2889	1.3646	----	1.32	6.19	0.998	0.999	3.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Avg	1.1100	1.1096	1.0116	1.1511	1.0967	1.0799	1.0922	1.1646	1.2386	1.12	6.17	0.998	0.999	5.6	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	1.6790	1.7201	1.5717	1.7358	1.6183	1.5639	1.5205	1.5729	----	1.62	6.30	0.999	0.999	4.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5060	0.4805	0.4436	0.5139	0.4973	0.4970	0.5046	0.5375	----	0.498	6.38	0.999	0.999	5.5	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	0.7723	0.8084	0.7317	0.7949	0.7525	0.7274	0.7172	0.7546	0.8560	0.768	6.29	0.999	0.999	5.8	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	1.1544	1.1537	1.0699	1.1871	1.1288	1.0944	1.0753	1.1134	1.2192	1.13	6.28	0.999	0.999	4.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1388	0.1221	0.1218	0.1423	0.1394	0.1392	0.1425	0.1518	----	0.137	6.42	0.997	0.999	7.5		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.2804	0.2604	0.2560	0.2931	0.2804	0.2793	0.2858	0.2992	----	0.279	6.44	0.998	1.00	5.3	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.5349	0.5199	0.4936	0.5577	0.5315	0.5266	0.5314	0.5567	----	0.532	6.62	0.999	0.999	3.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Avg	0.1627	0.1333	0.1364	0.1602	0.1643	0.1664	0.1715	0.1805	----	0.159	6.68	0.998	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	Avg	0.2757	0.2594	0.2584	0.2869	0.2745	0.2687	0.2748	0.2907	0.2887	0.275	6.70	0.998	0.999	4.3	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	0.1544	----	0.0517	0.1165	0.1879	0.2076	0.2246	0.2349	----	0.168	6.75	0.995	1.00	39		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.3339	0.3276	0.3116	0.3502	0.3265	0.3236	0.3255	0.3411	----	0.330	6.78	0.999	0.999	3.5	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Avg	0.2511	0.2217	0.2210	0.2554	0.2497	0.2525	0.2541	0.2685	0.2503	0.247	6.86	0.998	0.999	6.3	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	0.2777	0.2636	0.2551	0.2866	0.2775	0.2764	0.2789	0.2950	----	0.276	6.93	0.998	0.999	4.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Avg	0.9245	0.9036	0.8807	0.9753	0.9029	0.8904	0.8866	0.9112	1.0989	0.931	7.00	1.00	1.00	7.4	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	0.3576	0.3549	0.4522	0.3841	0.3510	0.3402	0.3266	0.3364	0.3803	0.365	7.03	0.999	0.999	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.1587	0.1510	0.1470	0.1638	0.1571	0.1588	0.1637	0.1728	----	0.159	7.08	0.997	1.00	5.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Avg	0.0972	0.0758	0.0808	0.1002	0.0985	0.0996	0.1002	0.1041	----	0.0946	7.30	0.999	1.00	11	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	0.2453	0.2155	0.2207	0.2502	0.2463	0.2446	0.2490	0.2638	----	0.242	7.39	0.998	0.999	6.6	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.6264	0.6126	0.5886	0.6456	0.6113	0.6022	0.6047	0.6276	----	0.615	7.54	0.999	0.999	2.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.5804	0.5688	0.5551	0.6184	0.5725	0.5639	0.5591	0.5880	----	0.576	7.62	0.999	0.999	3.5	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (T	1	0	Avg	0.6034	0.5907	0.5697	0.6285	0.5896	0.5831	0.5814	0.6050	----	0.594	7.54	0.999	0.999	3.1		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	0.7228	0.7162	0.6700	0.7553	0.7056	0.6966	0.6903	0.7185	----	0.709	7.91	0.999	0.999	3.6	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	0.5942	0.5800	0.5396	0.6064	0.5908	0.5971	0.5993	0.6341	----	0.593	7.67	0.998	0.999	4.5	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: 7.19
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. - 281

1092401 0184

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_9

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M108554.D	CAL BNA@50PPM	09/29/21 12:05	2	9M108549.D	CAL BNA@2PPM	09/29/21 10:10
3	9M108548.D	CAL BNA@10PPM	09/29/21 09:47	4	9M108555.D	CAL BNA@20PPM	09/29/21 12:28
5	9M108553.D	CAL BNA@80PPM	09/29/21 11:42	6	9M108552.D	CAL BNA@120PPM	09/29/21 11:19
7	9M108551.D	CAL BNA@160PPM	09/29/21 10:56	8	9M108550.D	CAL BNA@196PPM	09/29/21 10:33
9	9M108556.D	CAL BNA@0.5PPM	09/29/21 12:51				

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	Avg	0.2899	0.2033	0.2312	0.2799	0.3056	0.3096	0.3021	0.3100	----	0.279	7.65	1.00	1.00	14	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	0.3679	0.3035	0.3298	0.3772	0.3730	0.3715	0.3743	0.4361	----	0.367	7.75	0.988	0.995	11	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	0.3624	0.3239	0.3260	0.3881	0.3869	0.3909	0.3968	0.4183	----	0.374	7.79	0.998	1.00	9.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.2852	1.2821	1.1746	1.3561	1.2922	1.2922	1.2939	1.3845	----	1.30	7.82	0.999	0.999	4.8		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1127	1.0630	1.0238	1.1825	1.1072	1.1034	1.0885	1.1408	----	1.10	7.94	0.999	0.999	4.3	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	0.9083	0.8689	0.8272	0.9493	0.8855	0.8639	0.8409	0.8642	----	0.876	8.22	0.999	0.999	4.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	0.9083	0.8689	0.8272	0.9493	0.8855	0.8639	0.8409	0.8642	----	0.876	8.22	0.999	0.999	4.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.8035	0.7900	0.7521	0.8378	0.7997	0.7963	0.7955	0.8356	----	0.801	8.00	0.999	0.999	3.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3369	0.2777	0.2936	0.3423	0.3372	0.3429	0.3397	0.3593	----	0.329	8.02	0.998	0.999	8.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.4379	0.4137	0.4070	0.4578	0.4348	0.4327	0.4285	0.4430	----	0.432	8.21	0.999	1.00	3.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.6616	1.5516	1.5350	1.7556	1.6357	1.6355	1.6142	1.6834	----	1.63	8.31	0.999	0.999	4.3	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.2370	1.2088	1.1402	1.2891	1.2242	1.2142	1.2104	1.2702	----	1.22	8.16	0.999	0.999	3.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.2904	0.2167	0.2496	0.2951	0.2864	0.2847	0.2790	0.2833	----	0.273	8.22	1.00	1.00	9.7	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1199	1.1371	1.0343	1.1900	1.0982	1.0945	1.0749	1.1229	----	1.11	8.46	0.999	0.999	4.1	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Avg	0.3281	0.2593	0.2790	0.3330	0.3282	0.3221	0.3200	0.3328	----	0.313	8.38	0.999	0.999	8.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1339	----	0.0460	0.0855	0.1510	0.1645	0.1717	0.1827	----	0.134	8.47	0.997	1.00	38	0.20	a 50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Avg	1.5849	1.5798	1.4538	1.6652	1.5521	1.5501	1.5361	1.6078	1.8901	1.60	8.62	0.999	0.999	7.6	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	0.3687	0.2435	0.2908	0.3611	0.3798	0.3830	0.3881	0.4116	----	0.353	8.58	0.998	0.999	16	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Avg	0.2099	0.1412	0.1636	0.2078	0.2189	0.2210	0.2188	0.2345	----	0.202	8.50	0.998	0.999	16	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	0.3484	0.2447	0.2906	0.3415	0.3558	0.3583	0.3659	0.3907	----	0.337	8.72	0.997	0.999	14	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.2912	1.2457	1.1903	1.3713	1.2755	1.2559	1.2562	1.3039	----	1.27	8.94	0.999	0.999	4.1	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.6425	0.6133	0.5803	0.6508	0.6448	0.6529	0.6598	0.6955	----	0.643	8.93	0.999	1.00	5.3	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.2019	1.1346	1.0940	1.2422	1.2003	1.1935	1.2053	1.2617	----	1.19	8.80	0.999	0.999	4.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Avg	0.3561	0.2645	0.2981	0.3605	0.3514	0.3573	0.3545	0.3757	----	0.340	8.95	0.998	0.999	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.3718	0.3009	0.3132	0.3694	0.3702	0.3756	0.3813	0.4071	----	0.361	9.58	0.997	0.999	9.9	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	0.1042	----	0.0637	0.0881	0.1137	0.1167	0.1223	0.1309	----	0.106	8.97	0.996	1.00	22	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.5717	0.5445	0.5327	0.6106	0.5707	0.5570	0.5662	0.5908	----	0.568	9.04	0.999	0.999	4.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Tribromophenol	1	0	Avg	0.1342	0.1055	0.1079	0.1327	0.1394	0.1402	0.1467	0.1590	----	0.133	9.18	0.995	0.999	14		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.5889	0.5478	0.5506	0.6103	0.5785	0.5688	0.6285	0.6609	----	0.592	9.09	0.996	0.999	6.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2121	0.1877	0.1844	0.2159	0.2140	0.2162	0.2268	0.2438	----	0.213	9.42	0.995	0.999	9.1	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2529	0.2458	0.2306	0.2583	0.2581	0.2584	0.2684	0.2876	----	0.258	9.49	0.996	0.999	6.4	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.3350	0.3503	0.3038	0.3433	0.3298	0.3216	0.3190	0.3372	----	0.330	9.75	0.998	0.999	4.5	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Avg	0.1466	----	0.1027	0.1335	0.1584	0.1619	0.1698	0.1818	----	0.151	9.69	0.997	1.00	17	0.05	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	0.9636	0.9655	0.9069	1.0181	0.9595	0.9404	0.9439	0.9890	----	0.961	9.94	0.999	0.999	3.5	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	0.9948	0.9167	0.9059	1.0304	0.9892	0.9676	0.9752	1.0139	----	0.974	10.00	0.999	0.999	4.5	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	0.9065	0.8680	0.8268	0.9557	0.9072	0.8894	0.8917	0.9389	----	0.898	10.16	0.999	0.999	4.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Avg	1.0713	0.8861	0.9235	1.0843	1.0806	1.0574	1.0645	1.0952	0.9614	1.02	10.54	1.00	1.00	7.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.0909	0.9704	0.9579	1.1201	1.1041	1.0967	1.1062	1.1642	----	1.08	11.28	0.999	0.999	6.8	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.0804	0.9622	0.9898	1.1210	1.0708	1.0505	1.0534	1.1120	----	1.06	11.54	0.998	0.999	5.2	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Qua	0.6373	0.4708	0.5701	0.6553	0.6261	0.5628	0.5063	0.4697	----	0.562	11.43	0.984	0.999	13		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6048	0.5155	0.5297	0.6030	0.6186	0.6066	0.6237	0.6805	----	0.598	11.72	0.995	0.998	8.8		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: 7.19
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. - 282

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_9

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M108554.D	CAL BNA@50PPM	09/29/21 12:05	2	9M108549.D	CAL BNA@2PPM	09/29/21 10:10
3	9M108548.D	CAL BNA@10PPM	09/29/21 09:47	4	9M108555.D	CAL BNA@20PPM	09/29/21 12:28
5	9M108553.D	CAL BNA@80PPM	09/29/21 11:42	6	9M108552.D	CAL BNA@120PPM	09/29/21 11:19
7	9M108551.D	CAL BNA@160PPM	09/29/21 10:56	8	9M108550.D	CAL BNA@196PPM	09/29/21 10:33
9	9M108556.D	CAL BNA@0.5PPM	09/29/21 12:51				

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	0.2577	0.2258	0.2243	0.2565	0.2636	0.2700	0.2769	0.2989	----	0.259	11.65	0.996	0.999	9.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4421	0.3500	0.3680	0.4337	0.4477	0.4543	0.4565	0.4868	----	0.430	12.05	0.998	0.999	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Avg	0.4483	0.3574	0.3845	0.4380	0.4550	0.4559	0.4593	0.4849	----	0.435	12.31	0.998	0.999	9.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.3805	0.2488	0.3028	0.3578	0.3936	0.3946	0.3997	0.4201	----	0.362	12.41	0.999	1.00	16		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Avg	0.4338	0.3724	0.3992	0.4348	0.4361	0.4306	0.4321	0.4449	----	0.423	12.94	1.00	1.00	5.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.0812	1.0592	0.9875	1.1086	1.0853	1.0649	1.0684	1.1277	----	1.07	12.97	0.998	0.999	3.9	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.0563	1.0007	0.9641	1.0990	1.0374	1.0204	0.9990	1.0534	----	1.03	13.01	0.999	0.999	4.1	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	0.6448	0.5507	0.5733	0.6396	0.6426	0.6352	0.6311	0.6531	----	0.621	13.00	0.999	1.00	6.1	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Avg	0.9194	0.8134	0.8279	0.8932	0.9328	0.9364	0.9319	1.0031	----	0.907	13.77	0.997	0.999	6.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	0.9786	0.8760	0.8783	0.9802	0.9793	1.0381	1.0251	1.1085	----	0.983	14.21	0.997	0.999	8.0	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	0.9725	0.8773	0.8504	0.9902	0.9674	0.9091	0.9135	1.0013	----	0.935	14.25	0.995	0.997	5.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	0.9140	0.8266	0.8008	0.9156	0.9206	0.9223	0.9293	1.0115	----	0.905	14.59	0.996	0.999	7.2	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	1.1307	1.0167	1.0136	1.1434	1.1591	1.1681	1.1760	1.2862	----	1.14	16.07	0.996	0.999	7.8	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	0.9606	0.8589	0.8549	0.9627	0.9804	0.9864	0.9865	1.0747	----	0.958	16.09	0.996	0.999	7.5	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	0.9250	0.8383	0.8461	0.9402	0.9429	0.9478	0.9521	1.0422	----	0.929	16.48	0.996	0.998	6.9	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Haz. - 283

Flags
a - failed the min rf criteria
c - failed the minimum correlation coeff criteria(if applicable)

Note: Avg Rsd: 7.19
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.

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M116778.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/29/2021 8:08:00 A **Method:** EPA 8270E

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	2.73	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.76	48.43	50	**		0.924	0.895	3.14	
Pyridine	1	0		3.25	48.36	50	**		1.880	1.818	3.29	
N-Nitrosodimethylamine	1	0		3.19	53.97	50	**		1.425	1.538	7.93	
2-Fluorophenol	1	0	S	4.74	52.25	50	**		2.116	2.212	4.50	
Benzaldehyde	1	0		5.55	52.25	50	20	0.01	1.843	1.926	4.50	
Aniline	1	0		5.65	53.76	50	**		3.165	3.208	7.52	
Pentachloroethane	1	0		5.69	51.56	50	**	0.05	0.720	0.742	3.13	
bis(2-Chloroethyl)ether	1	0		5.70	54.69	50	20	0.7	2.118	2.191	9.39	
Phenol-d5	1	0	S	5.62	53.95	50	**		2.406	2.596	7.90	
Phenol	1	0		5.63	55.11	50	20	0.8	2.793	3.078	10.22	
2-Chlorophenol	1	0		5.75	52.82	50	20	0.8	2.198	2.322	5.64	
N-Decane	1	0		5.78	58.45	50	**	0.05	1.809	2.040	16.90	
1,3-Dichlorobenzene	1	0		5.88	52.15	50	**		2.303	2.402	4.31	
1,4-Dichlorobenzene-d4	1	0	I	5.92	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.94	51.72	50	20		1.332	1.378	3.44	
1,2-Dichlorobenzene	1	0		6.06	51.54	50	**		1.277	1.316	3.07	
Benzyl alcohol	1	0		6.04	56.80	50	**		0.738	0.839	13.61	
bis(2-chloroisopropyl)ether	1	0		6.15	58.57	50	20	0.01	1.271	1.489	17.13	
2-Methylphenol	1	0		6.13	50.17	50	20	0.7	1.184	1.188	0.34	
Acetophenone	1	0		6.25	54.65	50	20	0.01	1.504	1.644	9.29	
Hexachloroethane	1	0		6.34	51.17	50	20	0.3	0.515	0.527	2.33	
N-Nitroso-di-n-propylamine	1	0		6.25	53.60	50	20	0.5	0.771	0.826	7.19	
3&4-Methylphenol	1	0		6.25	53.73	50	20		1.074	1.154	7.46	
Naphthalene-d8	1	0	I	6.94	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.38	25.76	25	**		0.150	0.154	3.05	
Nitrobenzene	1	0		6.39	52.60	50	20	0.2	0.299	0.315	5.21	
Isophorone	1	0		6.58	52.42	50	20	0.4	0.562	0.589	4.84	
2-Nitrophenol	1	0		6.64	52.21	50	20	0.1	0.176	0.184	4.42	
2,4-Dimethylphenol	1	0		6.66	51.42	50	20	0.2	0.284	0.292	2.84	
Benzoic Acid	1	0		6.74	47.72	50	**		0.186	0.187	4.56	
bis(2-Chloroethoxy)methane	1	0		6.74	52.92	50	20	0.3	0.343	0.363	5.85	
2,4-Dichlorophenol	1	0		6.82	53.11	50	20	0.2	0.240	0.255	6.22	
1,2,4-Trichlorobenzene	1	0		6.89	51.47	50	**		0.262	0.270	2.95	
Naphthalene	1	0		6.95	50.28	50	20	0.7	0.890	0.895	0.55	
4-Chloroaniline	1	0		6.99	50.08	50	20	0.01	0.382	0.367	0.16	
Hexachlorobutadiene	1	0		7.04	50.39	50	20	0.01	0.140	0.141	0.77	
Caprolactam	1	0		7.29	51.73	50	20	0.01	0.109	0.112	3.47	
4-Chloro-3-methylphenol	1	0		7.36	51.78	50	20	0.2	0.263	0.273	3.56	
2-Methylnaphthalene	1	0		7.50	52.74	50	**	0.4	0.599	0.632	5.48	
1-Methylnaphthalene	1	0		7.58	52.23	50	**	0.4	0.564	0.589	4.46	
Methylnaphthalenes	1	0		7.50	54.44	50	**			0.632	8.87	
1,1'-Biphenyl	1	0		7.88	52.26	50	20	0.01	0.688	0.719	4.52	
Acenaphthene-d10	1	0	I	8.40	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.63	51.58	50	20	0.01	0.507	0.523	3.15	
Hexachlorocyclopentadiene	1	0		7.62	29.93	50	20	0.05	0.176	0.115	40.13	C1
2,4,6-Trichlorophenol	1	0		7.72	51.90	50	20	0.2	0.345	0.359	3.81	
2,4,5-Trichlorophenol	1	0		7.76	50.42	50	20	0.2	0.379	0.382	0.84	
2-Fluorobiphenyl	1	0	S	7.79	24.88	25	**		1.271	1.265	0.48	
2-Chloronaphthalene	1	0		7.90	50.79	50	20	0.8	1.077	1.094	1.59	
1,4-Dimethylnaphthalene	1	0		8.19	54.40	50	**		0.799	0.869	8.80	
Dimethylnaphthalenes	1	0		8.19	54.40	50	20			0.869	8.80	

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:** 7M116778.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/29/2021 8:08:00 A Method: EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.96	51.38	50	**		0.762	0.783	2.75	
2-Nitroaniline	1	0		7.99	53.99	50	20	0.01	0.360	0.389	7.98	
Coumarin	1	0		8.18	55.47		**		0.407			
Acenaphthylene	1	0		8.27	51.34	50	20	0.9	1.609	1.653	2.69	
Dimethylphthalate	1	0		8.13	50.97	50	20	0.01	1.242	1.266	1.95	
2,6-Dinitrotoluene	1	0		8.20	54.57	50	20	0.2	0.270	0.295	9.14	
Acenaphthene	1	0		8.43	52.22	50	20	0.9	1.058	1.105	4.44	
3-Nitroaniline	1	0		8.35	50.99	50	20	0.01	0.351	0.358	1.99	
2,4-Dinitrophenol	1	0		8.45	52.14	50	20	0.2	0.148	0.164	4.27	
Dibenzofuran	1	0		8.59	49.59	50	20	0.8	1.570	1.557	0.82	
2,4-Dinitrotoluene	1	0		8.57	51.53	50	20	0.2	0.403	0.415	3.05	
4-Nitrophenol	1	0		8.50	46.95	50	20	0.01	0.203	0.190	6.09	
2,3,4,6-Tetrachlorophenol	1	0		8.70	49.87	50	20	0.01	0.321	0.320	0.26	
Fluorene	1	0		8.92	52.13	50	20	0.9	1.213	1.264	4.27	
4-Chlorophenyl-phenylether	1	0		8.90	53.26	50	20	0.4	0.580	0.617	6.51	
Diethylphthalate	1	0		8.77	52.21	50	20	0.01	1.236	1.291	4.42	
4-Nitroaniline	1	0		8.93	49.93	50	20	0.01	0.373	0.372	0.15	
Atrazine	1	0		9.57	50.94	50	20	0.01	0.362	0.369	1.87	
Phenanthrene-d10	1	0	I	9.90	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.96	49.91	50	20	0.01	0.104	0.118	0.18	
n-Nitrosodiphenylamine	1	0		9.02	51.87	50	20	0.01	0.568	0.589	3.74	
2,4,6-Tribromophenol	1	0	S	9.16	53.05	50	**		0.100	0.110	6.10	
1,2-Diphenylhydrazine	1	0		9.07	54.48	50	**		0.659	0.718	8.96	
4-Bromophenyl-phenylether	1	0		9.41	50.83	50	20	0.1	0.197	0.200	1.67	
Hexachlorobenzene	1	0		9.47	52.20	50	20	0.1	0.217	0.227	4.39	
N-Octadecane	1	0		9.74	56.47	50	**	0.05	0.342	0.386	12.93	
Pentachlorophenol	1	0		9.68	47.06	50	20	0.05	0.117	0.117	5.89	
Phenanthrene	1	0		9.93	51.16	50	20	0.7	0.921	0.942	2.31	
Anthracene	1	0		9.98	51.45	50	20	0.7	0.949	0.976	2.90	
Carbazole	1	0		10.15	52.18	50	20	0.01	0.905	0.945	4.36	
Di-n-butylphthalate	1	0		10.53	52.54	50	20	0.01	1.114	1.170	5.07	
Fluoranthene	1	0		11.28	51.68	50	20	0.6	1.007	1.041	3.36	
Chrysene-d12	1	0	I	13.00	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.55	51.51	50	20	0.6	1.169	1.205	3.02	
Benzidine	1	0		11.44	45.45	50	**		0.746	0.678	9.10	
Terphenyl-d14	1	0	S	11.73	25.27	25	**		0.663	0.670	1.08	
4,4'-DDE	1	0		11.66	50.85		**		0.278			
4,4'-DDD	1	0		12.06	52.36		**		0.479			
Butylbenzylphthalate	1	0		12.32	53.26	50	20	0.01	0.563	0.599	6.51	
4,4'-DDT	1	0		12.42	53.97		**		0.392			
3,3'-Dichlorobenzidine	1	0		12.96	53.98	50	20	0.01	0.467	0.504	7.95	
Benzo[a]anthracene	1	0		12.99	50.55	50	20	0.8	1.112	1.124	1.10	
Chrysene	1	0		13.03	50.42	50	20	0.7	1.066	1.075	0.83	
bis(2-Ethylhexyl)phthalate	1	0		13.01	52.99	50	20	0.01	0.738	0.782	5.99	
Perylene-d12	1	0	I	14.68	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.77	55.42	50	20	0.01	1.094	1.212	10.84	
Benzo[b]fluoranthene	1	0		14.23	50.82	50	20	0.7	0.963	0.979	1.63	
Benzo[k]fluoranthene	1	0		14.26	52.47	50	20	0.7	0.949	0.996	4.95	
Benzo[a]pyrene	1	0		14.61	49.97	50	20	0.7	0.927	0.926	0.06	
Indeno[1,2,3-cd]pyrene	1	0		16.14	51.36	50	20	0.5	1.021	1.049	2.71	
Dibenzo[a,h]anthracene	1	0		16.16	52.28	50	20	0.4	0.853	0.892	4.56	
Benzo[g,h,i]perylene	1	0		16.57	49.85	50	20	0.5	0.853	0.851	0.31	

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. 524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M116778.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/29/2021 8:08:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.580	0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**			0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.799	0.000	100.00	
Toluene Diisocyanate	1	100		0.00	0.00	50	**			0.000	100.00	
Heptachlor epoxide	1	100		0.00	0.00	10	**			0.000	100.00	
4-Methylphenol	1	100		0.00	0.00	50	**	0.6		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	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	
gamma-BHC	1	100		0.00	0.00	10	**			0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	

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:** 10M87540.D **Instrument:** GCMS 10

Cont Calibration Date/Time 9/29/2021 8:26:00 A **Method:** EPA 8270E

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	2.75	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.79	49.75	50	**		0.935	0.930	0.50	
Pyridine	1	0		3.26	48.79	50	**		1.788	1.744	2.42	
N-Nitrosodimethylamine	1	0		3.19	53.55	50	**		1.388	1.486	7.09	
2-Fluorophenol	1	0	S	4.72	51.48	50	**		2.183	2.248	2.96	
Benzaldehyde	1	0		5.53	51.16	50	20	0.01	1.930	1.975	2.32	
Aniline	1	0		5.62	50.32	50	**		3.452	3.473	0.64	
Pentachloroethane	1	0		5.66	50.78	50	**	0.05	0.805	0.818	1.56	
bis(2-Chloroethyl)ether	1	0		5.68	50.58	50	20	0.7	2.398	2.426	1.15	
Phenol-d5	1	0	S	5.59	51.35	50	**		2.655	2.727	2.71	
Phenol	1	0		5.60	50.98	50	20	0.8	3.167	3.229	1.96	
2-Chlorophenol	1	0		5.72	51.20	50	20	0.8	2.460	2.519	2.39	
N-Decane	1	0		5.76	51.59	50	**	0.05	2.812	2.902	3.18	
1,3-Dichlorobenzene	1	0		5.85	50.46	50	**		2.756	2.782	0.93	
1,4-Dichlorobenzene-d4	1	0	I	5.90	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.91	51.50	50	20		1.413	1.455	3.01	
1,2-Dichlorobenzene	1	0		6.03	50.51	50	**		1.343	1.357	1.03	
Benzyl alcohol	1	0		6.01	51.84	50	**		0.785	0.814	3.68	
bis(2-chloroisopropyl)ether	1	0		6.12	53.92	50	20	0.01	1.969	2.123	7.83	
2-Methylphenol	1	0		6.10	52.18	50	20	0.7	1.138	1.187	4.37	
Acetophenone	1	0		6.23	53.67	50	20	0.01	1.584	1.700	7.33	
Hexachloroethane	1	0		6.31	51.90	50	20	0.3	0.508	0.528	3.80	
N-Nitroso-di-n-propylamine	1	0		6.22	54.90	50	20	0.5	0.781	0.858	9.81	
3&4-Methylphenol	1	0		6.22	54.20	50	20		1.110	1.203	8.39	
Naphthalene-d8	1	0	I	6.90	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.34	26.29	25	**		0.138	0.145	5.16	
Nitrobenzene	1	0		6.36	52.59	50	20	0.2	0.288	0.303	5.17	
Isophorone	1	0		6.54	52.83	50	20	0.4	0.532	0.563	5.67	
2-Nitrophenol	1	0		6.61	53.14	50	20	0.1	0.161	0.171	6.27	
2,4-Dimethylphenol	1	0		6.63	53.46	50	20	0.2	0.268	0.286	6.91	
Benzoic Acid	1	0		6.69	31.76	50	**		0.169	0.100	36.47	
bis(2-Chloroethoxy)methane	1	0		6.70	51.53	50	20	0.3	0.337	0.348	3.06	
2,4-Dichlorophenol	1	0		6.79	50.90	50	20	0.2	0.228	0.245	1.80	
1,2,4-Trichlorobenzene	1	0		6.85	50.41	50	**		0.251	0.253	0.82	
Naphthalene	1	0		6.92	50.27	50	20	0.7	0.932	0.937	0.53	
4-Chloroaniline	1	0		6.95	51.67	50	20	0.01	0.348	0.360	3.34	
Hexachlorobutadiene	1	0		7.00	51.16	50	20	0.01	0.119	0.122	2.33	
Caprolactam	1	0		7.23	55.31	50	20	0.01	0.093	0.103	10.63	
4-Chloro-3-methylphenol	1	0		7.32	52.34	50	20	0.2	0.243	0.254	4.68	
2-Methylnaphthalene	1	0		7.45	51.77	50	**	0.4	0.618	0.640	3.54	
1-Methylnaphthalene	1	0		7.53	51.40	50	**	0.4	0.587	0.603	2.79	
Methylnaphthalenes	1	0		7.45	102.87	50	**			1.235	105.74	
1,1'-Biphenyl	1	0		7.83	51.42	50	20	0.01	0.698	0.718	2.84	
Acenaphthene-d10	1	0	I	8.33	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.59	49.72	50	20	0.01	0.460	0.458	0.56	
Hexachlorocyclopentadiene	1	0		7.57	43.83	50	20	0.05	0.185	0.170	12.33	
2,4,6-Trichlorophenol	1	0		7.68	51.08	50	20	0.2	0.310	0.317	2.17	
2,4,5-Trichlorophenol	1	0		7.71	51.29	50	20	0.2	0.333	0.342	2.58	
2-Fluorobiphenyl	1	0	S	7.74	24.93	25	**		1.267	1.264	0.28	
2-Chloronaphthalene	1	0		7.85	49.64	50	20	0.8	1.104	1.096	0.72	
1,4-Dimethylnaphthalene	1	0		8.13	52.34	50	**		0.868	0.909	4.68	
Dimethylnaphthalenes	1	0		8.13	52.34	50	20			0.909	4.68	

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:** 10M87540.D **Instrument:** GCMS 10

Cont Calibration Date/Time 9/29/2021 8:26:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.91	49.90	50	**		0.782	0.780	0.21	
2-Nitroaniline	1	0		7.93	53.82	50	20	0.01	0.359	0.386	7.64	
Coumarin	1	0		8.12	52.66		**		0.425			
Acenaphthylene	1	0		8.21	50.83	50	20	0.9	1.696	1.724	1.67	
Dimethylphthalate	1	0		8.07	51.06	50	20	0.01	1.198	1.224	2.13	
2,6-Dinitrotoluene	1	0		8.13	53.84	50	20	0.2	0.264	0.285	7.69	
Acenaphthene	1	0		8.36	50.43	50	20	0.9	1.115	1.125	0.87	
3-Nitroaniline	1	0		8.28	52.42	50	20	0.01	0.332	0.348	4.84	
2,4-Dinitrophenol	1	0		8.38	45.78	50	20	0.2	0.138	0.125	8.45	
Dibenzofuran	1	0		8.52	49.16	50	20	0.8	1.597	1.570	1.67	
2,4-Dinitrotoluene	1	0		8.49	52.64	50	20	0.2	0.363	0.388	5.27	
4-Nitrophenol	1	0		8.42	49.13	50	20	0.01	0.196	0.204	1.74	
2,3,4,6-Tetrachlorophenol	1	0		8.62	50.88	50	20	0.01	0.252	0.256	1.76	
Fluorene	1	0		8.84	50.52	50	20	0.9	1.259	1.272	1.04	
4-Chlorophenyl-phenylether	1	0		8.83	50.62	50	20	0.4	0.542	0.549	1.25	
Diethylphthalate	1	0		8.70	52.27	50	20	0.01	1.185	1.239	4.54	
4-Nitroaniline	1	0		8.85	51.47	50	20	0.01	0.351	0.372	2.94	
Atrazine	1	0		9.47	51.38	50	20	0.01	0.309	0.317	2.77	
Phenanthrene-d10	1	0	I	9.79	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.87	49.66	50	20	0.01	0.109	0.107	0.68	
n-Nitrosodiphenylamine	1	0		8.94	51.17	50	20	0.01	0.608	0.622	2.34	
2,4,6-Tribromophenol	1	0	S	9.07	50.31	50	**		0.073	0.074	0.61	
1,2-Diphenylhydrazine	1	0		8.98	49.87	50	**		0.698	0.697	0.25	
4-Bromophenyl-phenylether	1	0		9.31	50.40	50	20	0.1	0.159	0.161	0.80	
Hexachlorobenzene	1	0		9.39	49.18	50	20	0.1	0.168	0.165	1.63	
N-Octadecane	1	0		9.64	53.35	50	**	0.05	0.481	0.513	6.70	
Pentachlorophenol	1	0		9.59	47.46	50	20	0.05	0.097	0.092	5.09	
Phenanthrene	1	0		9.82	50.40	50	20	0.7	0.997	1.005	0.81	
Anthracene	1	0		9.87	51.22	50	20	0.7	1.014	1.039	2.44	
Carbazole	1	0		10.05	51.35	50	20	0.01	0.969	0.995	2.70	
Di-n-butylphthalate	1	0		10.41	51.59	50	20	0.01	1.096	1.187	3.18	
Fluoranthene	1	0		11.15	51.49	50	20	0.6	0.980	1.009	2.98	
Chrysene-d12	1	0	I	12.84	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.42	50.39	50	20	0.6	1.340	1.350	0.79	
Benzidine	1	0		11.30	46.31	50	**		0.807	0.747	7.38	
Terphenyl-d14	1	0	S	11.59	25.20	25	**		0.623	0.628	0.80	
4,4'-DDE	1	0		11.53	50.09		**		0.262			
4,4'-DDD	1	0		11.92	53.62		**		0.451			
Butylbenzylphthalate	1	0		12.17	52.61	50	20	0.01	0.621	0.668	5.23	
4,4'-DDT	1	0		12.28	51.42		**		0.389			
3,3'-Dichlorobenzidine	1	0		12.80	50.89	50	20	0.01	0.414	0.443	1.79	
Benzo[a]anthracene	1	0		12.83	49.60	50	20	0.8	1.120	1.111	0.81	
Chrysene	1	0		12.88	50.07	50	20	0.7	1.122	1.124	0.14	
bis(2-Ethylhexyl)phthalate	1	0		12.86	53.70	50	20	0.01	0.874	0.938	7.40	
Perylene-d12	1	0	I	14.47	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.61	53.15	50	20	0.01	1.372	1.535	6.30	
Benzo[b]fluoranthene	1	0		14.04	50.07	50	20	0.7	0.997	0.998	0.13	
Benzo[k]fluoranthene	1	0		14.07	52.55	50	20	0.7	0.982	1.032	5.10	
Benzo[a]pyrene	1	0		14.40	50.96	50	20	0.7	0.918	0.936	1.93	
Indeno[1,2,3-cd]pyrene	1	0		15.82	50.41	50	20	0.5	1.021	1.030	0.81	
Dibenzo[a,h]anthracene	1	0		15.83	50.29	50	20	0.4	0.876	0.881	0.57	
Benzo[g,h,i]perylene	1	0		16.20	50.12	50	20	0.5	0.865	0.867	0.23	

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:** 10M87540.D **Instrument:** GCMS 10

Cont Calibration Date/Time 9/29/2021 8:26:00 A **Method:** EPA 8270E

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	
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.600	0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			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	
Endrin	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	
Diaminotoluene Dihydrochloride	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	
4-Methylphenol	1	100		0.00	0.00	50	**	0.6		0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.868	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:** 7M116808.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/30/2021 8:24:00 A **Method:** EPA 8270E

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	2.72	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.76	48.19	50	**		0.924	0.890	3.62	
Pyridine	1	0		3.24	47.56	50	**		1.880	1.788	4.88	
N-Nitrosodimethylamine	1	0		3.19	53.22	50	**		1.425	1.516	6.44	
2-Fluorophenol	1	0	S	4.74	51.12	50	**		2.116	2.164	2.25	
Benzaldehyde	1	0		5.55	51.79	50	20	0.01	1.843	1.909	3.58	
Aniline	1	0		5.64	52.38	50	**		3.165	3.128	4.77	
Pentachloroethane	1	0		5.68	50.64	50	**	0.05	0.720	0.729	1.27	
bis(2-Chloroethyl)ether	1	0		5.70	53.33	50	20	0.7	2.118	2.139	6.65	
Phenol-d5	1	0	S	5.61	53.29	50	**		2.406	2.564	6.57	
Phenol	1	0		5.63	54.28	50	20	0.8	2.793	3.032	8.56	
2-Chlorophenol	1	0		5.75	51.10	50	20	0.8	2.198	2.246	2.19	
N-Decane	1	0		5.77	56.88	50	**	0.05	1.809	1.989	13.77	
1,3-Dichlorobenzene	1	0		5.87	50.70	50	**		2.303	2.336	1.40	
1,4-Dichlorobenzene-d4	1	0	I	5.92	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.94	51.57	50	20		1.332	1.374	3.14	
1,2-Dichlorobenzene	1	0		6.06	51.67	50	**		1.277	1.320	3.34	
Benzyl alcohol	1	0		6.04	58.34	50	**		0.738	0.862	16.68	
bis(2-chloroisopropyl)ether	1	0		6.14	60.45	50	20	0.01	1.271	1.537	20.90	C1
2-Methylphenol	1	0		6.13	50.51	50	20	0.7	1.184	1.197	1.03	
Acetophenone	1	0		6.25	56.87	50	20	0.01	1.504	1.711	13.73	
Hexachloroethane	1	0		6.33	51.59	50	20	0.3	0.515	0.531	3.18	
N-Nitroso-di-n-propylamine	1	0		6.25	56.01	50	20	0.5	0.771	0.864	12.02	
3&4-Methylphenol	1	0		6.25	55.35	50	20		1.074	1.189	10.69	
Naphthalene-d8	1	0	I	6.94	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.38	25.40	25	**		0.150	0.152	1.59	
Nitrobenzene	1	0		6.39	53.48	50	20	0.2	0.299	0.320	6.95	
Isophorone	1	0		6.58	53.87	50	20	0.4	0.562	0.606	7.74	
2-Nitrophenol	1	0		6.64	52.34	50	20	0.1	0.176	0.185	4.69	
2,4-Dimethylphenol	1	0		6.66	51.60	50	20	0.2	0.284	0.293	3.19	
Benzoic Acid	1	0		6.74	47.16	50	**		0.186	0.185	5.68	
bis(2-Chloroethoxy)methane	1	0		6.74	54.01	50	20	0.3	0.343	0.370	8.01	
2,4-Dichlorophenol	1	0		6.82	53.14	50	20	0.2	0.240	0.255	6.28	
1,2,4-Trichlorobenzene	1	0		6.89	51.38	50	**		0.262	0.269	2.75	
Naphthalene	1	0		6.95	50.85	50	20	0.7	0.890	0.906	1.69	
4-Chloroaniline	1	0		6.99	50.12	50	20	0.01	0.382	0.367	0.23	
Hexachlorobutadiene	1	0		7.04	50.37	50	20	0.01	0.140	0.141	0.74	
Caprolactam	1	0		7.29	50.91	50	20	0.01	0.109	0.111	1.82	
4-Chloro-3-methylphenol	1	0		7.36	51.88	50	20	0.2	0.263	0.273	3.76	
2-Methylnaphthalene	1	0		7.50	53.35	50	**	0.4	0.599	0.639	6.69	
1-Methylnaphthalene	1	0		7.58	52.66	50	**	0.4	0.564	0.594	5.32	
Methylnaphthalenes	1	0		7.50	106.22	50	**			1.232	112.44	
1,1'-Biphenyl	1	0		7.88	52.24	50	20	0.01	0.688	0.719	4.48	
Acenaphthene-d10	1	0	I	8.40	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.63	50.90	50	20	0.01	0.507	0.516	1.80	
Hexachlorocyclopentadiene	1	0		7.62	26.41	50	20	0.05	0.176	0.101	47.19	C1
2,4,6-Trichlorophenol	1	0		7.73	51.22	50	20	0.2	0.345	0.354	2.45	
2,4,5-Trichlorophenol	1	0		7.76	49.25	50	20	0.2	0.379	0.373	1.50	
2-Fluorobiphenyl	1	0	S	7.79	24.52	25	**		1.271	1.247	1.93	
2-Chloronaphthalene	1	0		7.90	50.60	50	20	0.8	1.077	1.090	1.20	
1,4-Dimethylnaphthalene	1	0		8.19	54.91	50	**		0.799	0.877	9.83	
Dimethylnaphthalenes	1	0		8.19	54.91	50	20			0.877	9.83	

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:** 7M116808.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/30/2021 8:24:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.96	51.36	50	**		0.762	0.783	2.72	
2-Nitroaniline	1	0		7.99	55.92	50	20	0.01	0.360	0.403	11.83	
Coumarin	1	0		8.18	56.28		**		0.407			
Acenaphthylene	1	0		8.27	50.82	50	20	0.9	1.609	1.636	1.63	
Dimethylphthalate	1	0		8.13	50.85	50	20	0.01	1.242	1.263	1.69	
2,6-Dinitrotoluene	1	0		8.20	56.13	50	20	0.2	0.270	0.303	12.27	
Acenaphthene	1	0		8.43	51.76	50	20	0.9	1.058	1.095	3.52	
3-Nitroaniline	1	0		8.35	50.14	50	20	0.01	0.351	0.352	0.27	
2,4-Dinitrophenol	1	0		8.45	49.06	50	20	0.2	0.148	0.154	1.89	
Dibenzofuran	1	0		8.59	48.84	50	20	0.8	1.570	1.534	2.32	
2,4-Dinitrotoluene	1	0		8.57	50.29	50	20	0.2	0.403	0.405	0.59	
4-Nitrophenol	1	0		8.50	47.84	50	20	0.01	0.203	0.194	4.32	
2,3,4,6-Tetrachlorophenol	1	0		8.70	47.95	50	20	0.01	0.321	0.308	4.10	
Fluorene	1	0		8.92	52.78	50	20	0.9	1.213	1.280	5.56	
4-Chlorophenyl-phenylether	1	0		8.90	52.10	50	20	0.4	0.580	0.604	4.21	
Diethylphthalate	1	0		8.77	52.27	50	20	0.01	1.236	1.292	4.55	
4-Nitroaniline	1	0		8.94	50.34	50	20	0.01	0.373	0.375	0.68	
Atrazine	1	0		9.57	49.53	50	20	0.01	0.362	0.358	0.95	
Phenanthrene-d10	1	0	I	9.90	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.96	47.99	50	20	0.01	0.104	0.113	4.03	
n-Nitrosodiphenylamine	1	0		9.02	51.84	50	20	0.01	0.568	0.589	3.68	
2,4,6-Tribromophenol	1	0	S	9.16	52.34	50	**		0.100	0.108	4.68	
1,2-Diphenylhydrazine	1	0		9.07	56.26	50	**		0.659	0.741	12.53	
4-Bromophenyl-phenylether	1	0		9.40	50.58	50	20	0.1	0.197	0.199	1.15	
Hexachlorobenzene	1	0		9.47	51.53	50	20	0.1	0.217	0.224	3.07	
N-Octadecane	1	0		9.73	58.29	50	**	0.05	0.342	0.398	16.58	
Pentachlorophenol	1	0		9.69	46.28	50	20	0.05	0.117	0.115	7.45	
Phenanthrene	1	0		9.93	50.58	50	20	0.7	0.921	0.932	1.15	
Anthracene	1	0		9.98	51.93	50	20	0.7	0.949	0.985	3.86	
Carbazole	1	0		10.16	52.19	50	20	0.01	0.905	0.945	4.37	
Di-n-butylphthalate	1	0		10.53	53.25	50	20	0.01	1.114	1.186	6.49	
Fluoranthene	1	0		11.28	51.79	50	20	0.6	1.007	1.043	3.58	
Chrysene-d12	1	0	I	13.00	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.55	50.72	50	20	0.6	1.169	1.186	1.44	
Benzidine	1	0		11.44	41.39	50	**		0.746	0.617	17.23	
Terphenyl-d14	1	0	S	11.72	23.98	25	**		0.663	0.636	4.06	
4,4'-DDE	1	0		11.65	50.44		**		0.278			
4,4'-DDD	1	0		12.06	52.17		**		0.479			
Butylbenzylphthalate	1	0		12.32	52.56	50	20	0.01	0.563	0.591	5.12	
4,4'-DDT	1	0		12.42	51.42		**		0.392			
3,3'-Dichlorobenzidine	1	0		12.96	51.81	50	20	0.01	0.467	0.484	3.62	
Benzo[a]anthracene	1	0		12.99	50.44	50	20	0.8	1.112	1.121	0.87	
Chrysene	1	0		13.03	48.92	50	20	0.7	1.066	1.043	2.16	
bis(2-Ethylhexyl)phthalate	1	0		13.01	53.30	50	20	0.01	0.738	0.786	6.59	
Perylene-d12	1	0	I	14.69	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.77	58.33	50	20	0.01	1.094	1.276	16.66	
Benzo[b]fluoranthene	1	0		14.23	52.70	50	20	0.7	0.963	1.015	5.39	
Benzo[k]fluoranthene	1	0		14.26	52.36	50	20	0.7	0.949	0.993	4.72	
Benzo[a]pyrene	1	0		14.62	50.81	50	20	0.7	0.927	0.942	1.62	
Indeno[1,2,3-cd]pyrene	1	0		16.15	50.46	50	20	0.5	1.021	1.030	0.92	
Dibenzo[a,h]anthracene	1	0		16.17	51.73	50	20	0.4	0.853	0.882	3.46	
Benzo[g,h,i]perylene	1	0		16.57	48.57	50	20	0.5	0.853	0.829	2.85	

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:** 7M116808.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/30/2021 8:24:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Toluene Diisocyanate	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	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	
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.580	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	**		0.799	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:** 9M108577.D **Instrument:** GCMS 9

Cont Calibration Date/Time 9/30/2021 9:35:00 A Method: EPA 8270E

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	2.79	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.83	48.86	50	**		0.912	0.891	2.28	
Pyridine	1	0		3.29	44.82	50	**		1.848	1.656	10.36	
N-Nitrosodimethylamine	1	0		3.24	50.45	50	**		1.384	1.397	0.90	
2-Fluorophenol	1	0	S	4.77	50.24	50	**		2.272	2.283	0.49	
Benzaldehyde	1	0		5.60	52.57	50	20	0.01	1.829	1.923	5.13	
Aniline	1	0		5.69	49.94	50	**		3.380	3.376	0.12	
Pentachloroethane	1	0		5.73	50.59	50	**	0.05	0.796	0.805	1.17	
bis(2-Chloroethyl)ether	1	0		5.74	49.14	50	20	0.7	2.321	2.282	1.71	
Phenol-d5	1	0	S	5.64	51.94	50	**		2.716	2.821	3.88	
Phenol	1	0		5.65	51.72	50	20	0.8	3.180	3.289	3.44	
2-Chlorophenol	1	0		5.78	51.25	50	20	0.8	2.555	2.619	2.51	
N-Decane	1	0		5.82	47.38	50	**	0.05	2.112	2.001	5.24	
1,3-Dichlorobenzene	1	0		5.92	51.49	50	**		2.728	2.810	2.98	
1,4-Dichlorobenzene-d4	1	0	I	5.97	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.98	50.26	50	20		1.385	1.392	0.51	
1,2-Dichlorobenzene	1	0		6.11	50.21	50	**		1.311	1.316	0.42	
Benzyl alcohol	1	0		6.08	50.97	50	**		0.795	0.811	1.93	
bis(2-chloroisopropyl)ether	1	0		6.19	48.32	50	20	0.01	1.320	1.276	3.35	
2-Methylphenol	1	0		6.16	49.78	50	20	0.7	1.117	1.112	0.45	
Acetophenone	1	0		6.30	51.73	50	20	0.01	1.623	1.679	3.47	
Hexachloroethane	1	0		6.38	48.98	50	20	0.3	0.498	0.487	2.04	
N-Nitroso-di-n-propylamine	1	0		6.29	49.31	50	20	0.5	0.768	0.758	1.37	
3&4-Methylphenol	1	0		6.28	51.26	50	20		1.133	1.161	2.51	
Naphthalene-d8	1	0	I	6.98	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.42	25.41	25	**		0.137	0.140	1.63	
Nitrobenzene	1	0		6.43	50.86	50	20	0.2	0.279	0.284	1.72	
Isophorone	1	0		6.62	50.90	50	20	0.4	0.532	0.541	1.79	
2-Nitrophenol	1	0		6.68	52.96	50	20	0.1	0.159	0.169	5.92	
2,4-Dimethylphenol	1	0		6.70	50.68	50	20	0.2	0.275	0.279	1.35	
Benzoic Acid	1	0		6.75	47.38	50	**		0.168	0.161	5.23	
bis(2-Chloroethoxy)methane	1	0		6.78	50.21	50	20	0.3	0.330	0.331	0.42	
2,4-Dichlorophenol	1	0		6.86	52.07	50	20	0.2	0.247	0.257	4.13	
1,2,4-Trichlorobenzene	1	0		6.93	51.46	50	**		0.276	0.284	2.92	
Naphthalene	1	0		7.00	49.51	50	20	0.7	0.931	0.921	0.99	
4-Chloroaniline	1	0		7.02	49.37	50	20	0.01	0.365	0.360	1.26	
Hexachlorobutadiene	1	0		7.08	51.47	50	20	0.01	0.159	0.164	2.94	
Caprolactam	1	0		7.30	53.00	50	20	0.01	0.095	0.100	5.99	
4-Chloro-3-methylphenol	1	0		7.39	51.79	50	20	0.2	0.242	0.251	3.58	
2-Methylnaphthalene	1	0		7.54	51.95	50	**	0.4	0.615	0.639	3.89	
1-Methylnaphthalene	1	0		7.62	51.95	50	**	0.4	0.576	0.598	3.90	
Methylnaphthalenes	1	0		7.54	104.48	50	**			1.241	108.96	
1,1'-Biphenyl	1	0		7.91	52.18	50	20	0.01	0.709	0.740	4.35	
Acenaphthene-d10	1	0	I	8.43	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.67	49.90	50	20	0.01	0.593	0.592	0.20	
Hexachlorocyclopentadiene	1	0		7.65	51.35	50	20	0.05	0.279	0.287	2.69	
2,4,6-Trichlorophenol	1	0		7.75	54.32	50	20	0.2	0.367	0.398	8.65	
2,4,5-Trichlorophenol	1	0		7.79	48.76	50	20	0.2	0.374	0.365	2.49	
2-Fluorobiphenyl	1	0	S	7.82	25.17	25	**		1.295	1.304	0.67	
2-Chloronaphthalene	1	0		7.94	50.09	50	20	0.8	1.103	1.105	0.18	
1,4-Dimethylnaphthalene	1	0		8.22	50.77	50	**		0.876	0.890	1.55	
Dimethylnaphthalenes	1	0		8.22	50.77	50	20			0.890	1.55	

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:** 9M108577.D **Instrument:** GCMS 9

Cont Calibration Date/Time 9/30/2021 9:35:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		8.00	49.62	50	**		0.801	0.795	0.77	
2-Nitroaniline	1	0		8.02	50.70	50	20	0.01	0.329	0.333	1.41	
Coumarin	1	0		8.21	51.66		**		0.432			
Acenaphthylene	1	0		8.31	50.50	50	20	0.9	1.634	1.651	1.01	
Dimethylphthalate	1	0		8.16	51.15	50	20	0.01	1.224	1.252	2.30	
2,6-Dinitrotoluene	1	0		8.22	53.00	50	20	0.2	0.273	0.290	6.01	
Acenaphthene	1	0		8.46	50.06	50	20	0.9	1.109	1.110	0.12	
3-Nitroaniline	1	0		8.38	52.99	50	20	0.01	0.313	0.332	5.99	
2,4-Dinitrophenol	1	0		8.47	56.33	50	20	0.2	0.134	0.159	12.66	
Dibenzofuran	1	0		8.62	49.16	50	20	0.8	1.602	1.575	1.69	
2,4-Dinitrotoluene	1	0		8.58	53.51	50	20	0.2	0.353	0.388	7.02	
4-Nitrophenol	1	0		8.50	53.12	50	20	0.01	0.202	0.215	6.24	
2,3,4,6-Tetrachlorophenol	1	0		8.72	54.16	50	20	0.01	0.337	0.365	8.31	
Fluorene	1	0		8.94	50.82	50	20	0.9	1.274	1.295	1.64	
4-Chlorophenyl-phenylether	1	0		8.93	50.85	50	20	0.4	0.643	0.653	1.70	
Diethylphthalate	1	0		8.80	51.35	50	20	0.01	1.192	1.224	2.70	
4-Nitroaniline	1	0		8.95	53.05	50	20	0.01	0.340	0.361	6.10	
Atrazine	1	0		9.58	53.66	50	20	0.01	0.361	0.388	7.32	
Phenanthrene-d10	1	0	I	9.91	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.97	54.88	50	20	0.01	0.106	0.116	9.75	
n-Nitrosodiphenylamine	1	0		9.04	49.81	50	20	0.01	0.568	0.566	0.39	
2,4,6-Tribromophenol	1	0	S	9.18	52.84	50	**		0.133	0.141	5.69	
1,2-Diphenylhydrazine	1	0		9.09	46.47	50	**		0.592	0.550	7.05	
4-Bromophenyl-phenylether	1	0		9.42	50.90	50	20	0.1	0.213	0.216	1.79	
Hexachlorobenzene	1	0		9.49	50.95	50	20	0.1	0.258	0.262	1.91	
N-Octadecane	1	0		9.75	46.41	50	**	0.05	0.330	0.306	7.19	
Pentachlorophenol	1	0		9.69	54.07	50	20	0.05	0.151	0.157	8.14	
Phenanthrene	1	0		9.94	50.05	50	20	0.7	0.961	0.962	0.10	
Anthracene	1	0		10.00	50.49	50	20	0.7	0.974	0.984	0.97	
Carbazole	1	0		10.16	50.55	50	20	0.01	0.898	0.908	1.09	
Di-n-butylphthalate	1	0		10.54	50.92	50	20	0.01	1.025	1.044	1.85	
Fluoranthene	1	0		11.28	51.78	50	20	0.6	1.076	1.115	3.56	
Chrysene-d12	1	0	I	12.98	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.54	50.04	50	20	0.6	1.055	1.056	0.08	
Benzidine	1	0		11.43	44.42	50	**		0.562	0.567	11.15	
Terphenyl-d14	1	0	S	11.72	25.36	25	**		0.598	0.606	1.44	
4,4'-DDE	1	0		11.65	49.92		**		0.259			
4,4'-DDD	1	0		12.05	51.04		**		0.430			
Butylbenzylphthalate	1	0		12.31	49.86	50	20	0.01	0.435	0.434	0.28	
4,4'-DDT	1	0		12.41	54.16		**		0.362			
3,3'-Dichlorobenzidine	1	0		12.94	52.83	50	20	0.01	0.423	0.447	5.67	
Benzo[a]anthracene	1	0		12.97	50.47	50	20	0.8	1.073	1.083	0.95	
Chrysene	1	0		13.01	50.17	50	20	0.7	1.029	1.032	0.34	
bis(2-Ethylhexyl)phthalate	1	0		13.00	48.74	50	20	0.01	0.621	0.606	2.52	
Perylene-d12	1	0	I	14.63	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.75	47.41	50	20	0.01	0.907	0.860	5.17	
Benzo[b]fluoranthene	1	0		14.19	51.34	50	20	0.7	0.983	1.009	2.68	
Benzo[k]fluoranthene	1	0		14.22	49.04	50	20	0.7	0.935	0.917	1.92	
Benzo[a]pyrene	1	0		14.57	49.87	50	20	0.7	0.905	0.903	0.27	
Indeno[1,2,3-cd]pyrene	1	0		16.04	49.59	50	20	0.5	1.137	1.127	0.82	
Dibenzo[a,h]anthracene	1	0		16.06	49.55	50	20	0.4	0.958	0.950	0.89	
Benzo[g,h,i]perylene	1	0		16.44	49.79	50	20	0.5	0.929	0.925	0.42	

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:** 9M108577.D **Instrument:** GCMS 9

Cont Calibration Date/Time 9/30/2021 9:35:00 A Method: EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
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	
Endrin	1	100		0.00	0.00	50	**			0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.594	0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**			0.000	100.00	
Heptachlor epoxide	1	100		0.00	0.00	10	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	
Toluene Diisocyanate	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	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.876	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:** 9M108598.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/1/2021 8:29:00 A Method: EPA 8270E

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	2.80	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.84	47.91	50	**		0.912	0.874	4.17	
Pyridine	1	0		3.29	45.11	50	**		1.848	1.667	9.79	
N-Nitrosodimethylamine	1	0		3.24	46.52	50	**		1.384	1.288	6.96	
2-Fluorophenol	1	0	S	4.77	48.57	50	**		2.272	2.207	2.87	
Benzaldehyde	1	0		5.60	48.90	50	20	0.01	1.829	1.789	2.20	
Aniline	1	0		5.68	46.55	50	**		3.380	3.147	6.90	
Pentachloroethane	1	0		5.73	48.99	50	**	0.05	0.796	0.780	2.02	
bis(2-Chloroethyl)ether	1	0		5.74	47.04	50	20	0.7	2.321	2.184	5.91	
Phenol-d5	1	0	S	5.64	47.60	50	**		2.716	2.585	4.79	
Phenol	1	0		5.65	48.07	50	20	0.8	3.180	3.057	3.85	
2-Chlorophenol	1	0		5.78	49.54	50	20	0.8	2.555	2.531	0.92	
N-Decane	1	0		5.82	43.83	50	**	0.05	2.112	1.851	12.35	
1,3-Dichlorobenzene	1	0		5.92	49.95	50	**		2.728	2.725	0.10	
1,4-Dichlorobenzene-d4	1	0	I	5.97	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.98	49.48	50	20		1.385	1.371	1.04	
1,2-Dichlorobenzene	1	0		6.11	49.23	50	**		1.311	1.291	1.54	
Benzyl alcohol	1	0		6.07	47.26	50	**		0.795	0.752	5.49	
bis(2-chloroisopropyl)ether	1	0		6.18	43.05	50	20	0.01	1.320	1.137	13.89	
2-Methylphenol	1	0		6.16	46.81	50	20	0.7	1.117	1.046	6.38	
Acetophenone	1	0		6.29	48.59	50	20	0.01	1.623	1.577	2.82	
Hexachloroethane	1	0		6.38	48.96	50	20	0.3	0.498	0.487	2.08	
N-Nitroso-di-n-propylamine	1	0		6.29	44.74	50	20	0.5	0.768	0.688	10.51	
3&4-Methylphenol	1	0		6.28	48.07	50	20		1.133	1.089	3.86	
Naphthalene-d8	1	0	I	6.98	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.41	24.84	25	**		0.137	0.136	0.62	
Nitrobenzene	1	0		6.43	48.73	50	20	0.2	0.279	0.272	2.54	
Isophorone	1	0		6.61	48.09	50	20	0.4	0.532	0.511	3.82	
2-Nitrophenol	1	0		6.68	52.94	50	20	0.1	0.159	0.169	5.89	
2,4-Dimethylphenol	1	0		6.70	49.31	50	20	0.2	0.275	0.272	1.39	
Benzoic Acid	1	0		6.75	53.35	50	**		0.168	0.184	6.71	
bis(2-Chloroethoxy)methane	1	0		6.77	47.80	50	20	0.3	0.330	0.316	4.40	
2,4-Dichlorophenol	1	0		6.85	52.02	50	20	0.2	0.247	0.257	4.03	
1,2,4-Trichlorobenzene	1	0		6.92	53.21	50	**		0.276	0.294	6.42	
Naphthalene	1	0		6.99	49.05	50	20	0.7	0.931	0.913	1.89	
4-Chloroaniline	1	0		7.02	48.32	50	20	0.01	0.365	0.353	3.36	
Hexachlorobutadiene	1	0		7.08	54.19	50	20	0.01	0.159	0.173	8.38	
Caprolactam	1	0		7.30	50.18	50	20	0.01	0.095	0.095	0.37	
4-Chloro-3-methylphenol	1	0		7.39	49.52	50	20	0.2	0.242	0.240	0.96	
2-Methylnaphthalene	1	0		7.53	50.69	50	**	0.4	0.615	0.623	1.37	
1-Methylnaphthalene	1	0		7.61	51.24	50	**	0.4	0.576	0.590	2.48	
Methylnaphthalenes	1	0		7.53	102.01	50	**			1.212	104.02	
1,1'-Biphenyl	1	0		7.91	51.73	50	20	0.01	0.709	0.734	3.45	
Acenaphthene-d10	1	0	I	8.42	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.67	52.70	50	20	0.01	0.593	0.625	5.40	
Hexachlorocyclopentadiene	1	0		7.65	58.90	50	20	0.05	0.279	0.329	17.80	
2,4,6-Trichlorophenol	1	0		7.75	52.79	50	20	0.2	0.367	0.387	5.57	
2,4,5-Trichlorophenol	1	0		7.78	52.54	50	20	0.2	0.374	0.393	5.08	
2-Fluorobiphenyl	1	0	S	7.82	25.44	25	**		1.295	1.318	1.76	
2-Chloronaphthalene	1	0		7.94	50.27	50	20	0.8	1.103	1.109	0.54	
1,4-Dimethylnaphthalene	1	0		8.22	50.23	50	**		0.876	0.880	0.45	
Dimethylnaphthalenes	1	0		8.22	50.23	50	20			0.880	0.45	

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:** 9M108598.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/1/2021 8:29:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		8.00	50.75	50	**		0.801	0.813	1.50	
2-Nitroaniline	1	0		8.01	48.07	50	20	0.01	0.329	0.316	3.86	
Coumarin	1	0		8.20	50.21		**		0.432			
Acenaphthylene	1	0		8.30	50.37	50	20	0.9	1.634	1.646	0.74	
Dimethylphthalate	1	0		8.15	51.25	50	20	0.01	1.224	1.255	2.50	
2,6-Dinitrotoluene	1	0		8.22	52.48	50	20	0.2	0.273	0.287	4.96	
Acenaphthene	1	0		8.45	49.93	50	20	0.9	1.109	1.107	0.14	
3-Nitroaniline	1	0		8.37	51.16	50	20	0.01	0.313	0.320	2.33	
2,4-Dinitrophenol	1	0		8.46	56.25	50	20	0.2	0.134	0.158	12.49	
Dibenzofuran	1	0		8.61	49.56	50	20	0.8	1.602	1.588	0.88	
2,4-Dinitrotoluene	1	0		8.58	52.51	50	20	0.2	0.353	0.381	5.03	
4-Nitrophenol	1	0		8.49	48.22	50	20	0.01	0.202	0.195	3.56	
2,3,4,6-Tetrachlorophenol	1	0		8.71	56.26	50	20	0.01	0.337	0.379	12.51	
Fluorene	1	0		8.94	50.27	50	20	0.9	1.274	1.281	0.55	
4-Chlorophenyl-phenylether	1	0		8.92	52.65	50	20	0.4	0.643	0.677	5.31	
Diethylphthalate	1	0		8.80	50.03	50	20	0.01	1.192	1.192	0.06	
4-Nitroaniline	1	0		8.94	49.94	50	20	0.01	0.340	0.339	0.12	
Atrazine	1	0		9.57	53.53	50	20	0.01	0.361	0.387	7.05	
Phenanthrene-d10	1	0	I	9.91	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.97	54.81	50	20	0.01	0.106	0.115	9.61	
n-Nitrosodiphenylamine	1	0		9.04	48.85	50	20	0.01	0.568	0.555	2.30	
2,4,6-Tribromophenol	1	0	S	9.17	56.76	50	**		0.133	0.151	13.53	
1,2-Diphenylhydrazine	1	0		9.08	44.08	50	**		0.592	0.522	11.84	
4-Bromophenyl-phenylether	1	0		9.42	52.32	50	20	0.1	0.213	0.223	4.65	
Hexachlorobenzene	1	0		9.48	54.04	50	20	0.1	0.258	0.278	8.08	
N-Octadecane	1	0		9.75	41.98	50	**	0.05	0.330	0.277	16.03	
Pentachlorophenol	1	0		9.69	53.09	50	20	0.05	0.151	0.160	6.18	
Phenanthrene	1	0		9.93	49.37	50	20	0.7	0.961	0.949	1.25	
Anthracene	1	0		9.99	49.82	50	20	0.7	0.974	0.971	0.35	
Carbazole	1	0		10.15	49.03	50	20	0.01	0.898	0.881	1.93	
Di-n-butylphthalate	1	0		10.53	48.80	50	20	0.01	1.025	1.000	2.41	
Fluoranthene	1	0		11.27	51.26	50	20	0.6	1.076	1.104	2.53	
Chrysene-d12	1	0	I	12.98	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.54	48.77	50	20	0.6	1.055	1.029	2.46	
Benzidine	1	0		11.42	46.93	50	**		0.562	0.597	6.13	
Terphenyl-d14	1	0	S	11.72	25.08	25	**		0.598	0.600	0.30	
4,4'-DDE	1	0		11.65	49.22		**		0.259			
4,4'-DDD	1	0		12.05	50.23		**		0.430			
Butylbenzylphthalate	1	0		12.31	46.62	50	20	0.01	0.435	0.406	6.75	
4,4'-DDT	1	0		12.41	53.14		**		0.362			
3,3'-Dichlorobenzidine	1	0		12.94	51.40	50	20	0.01	0.423	0.435	2.80	
Benzo[a]anthracene	1	0		12.97	49.69	50	20	0.8	1.073	1.066	0.62	
Chrysene	1	0		13.01	49.97	50	20	0.7	1.029	1.028	0.06	
bis(2-Ethylhexyl)phthalate	1	0		13.00	45.52	50	20	0.01	0.621	0.566	8.96	
Perylene-d12	1	0	I	14.62	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.75	42.88	50	20	0.01	0.907	0.778	14.23	
Benzo[b]fluoranthene	1	0		14.18	50.18	50	20	0.7	0.983	0.987	0.37	
Benzo[k]fluoranthene	1	0		14.21	48.89	50	20	0.7	0.935	0.914	2.22	
Benzo[a]pyrene	1	0		14.56	49.19	50	20	0.7	0.905	0.890	1.62	
Indeno[1,2,3-cd]pyrene	1	0		16.02	49.58	50	20	0.5	1.137	1.127	0.85	
Dibenzo[a,h]anthracene	1	0		16.05	49.65	50	20	0.4	0.958	0.952	0.70	
Benzo[g,h,i]perylene	1	0		16.43	49.84	50	20	0.5	0.929	0.926	0.32	

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:** 9M108598.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/1/2021 8:29:00 A Method: EPA 8270E

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	
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.594	0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			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	
Endrin	1	100		0.00	0.00	50	**			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	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.876	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

1092401 0201

FORM8

Internal Standard Areas

Evaluation Std Data File: 10M87373.D Method: EPA 8270E

Analysis Date/Time: 09/20/21 12:26

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:	30033	2.74	59625	5.90	240432	6.91	117797	8.34	206573	9.80	157056	12.85	166354	14.47
Eval File Area Limit:	15016-60066		29812-119250		120216-480864		58898-235594		103286-413146		78528-314112		83177-332708	
Eval File Rt Limit:	2.24-3.24		5.4-6.4		6.41-7.41		7.84-8.84		9.3-10.3		12.35-13.35		13.97-14.97	

Data File	Sample#														
10M87365.D	CAL BNA@10PPM	25850	2.74	51290	5.90	207693	6.90	101517	8.33	181565	9.79	137268	12.84	144481	14.47
10M87366.D	CAL BNA@2PPM	30503	2.74	60688	5.90	251923	6.90	125158	8.33	222724	9.79	168784	12.84	179111	14.47
10M87367.D	CAL BNA@196PPM	26976	2.74	53985	5.90	221465	6.91	110731	8.34	194880	9.80	143694	12.85	156246	14.47
10M87368.D	CAL BNA@160PPM	29565	2.74	58009	5.90	237413	6.91	117125	8.34	207055	9.80	154432	12.85	169218	14.47
10M87369.D	CAL BNA@120PPM	29811	2.74	58442	5.90	237090	6.91	116313	8.34	205309	9.80	157085	12.85	165294	14.47
10M87370.D	CAL BNA@80PPM	30250	2.74	59217	5.90	240858	6.91	117382	8.34	208685	9.80	156978	12.85	165609	14.47
10M87371.D	CAL BNA@20PPM	28268	2.75	56475	5.90	232209	6.91	112392	8.33	198015	9.80	152298	12.84	158615	14.47
10M87372.D	CAL BNA@0.5PPM	30055	2.74	60258	5.90	248930	6.91	121026	8.33	214671	9.79	164640	12.84	171953	14.47
10M87373.D	CAL BNA@50PPM	30033	2.74	59625	5.90	240432	6.91	117797	8.34	206573	9.80	157056	12.85	166354	14.47
10M87374.D	ICV BNA@50PPM	30034	2.75	59310	5.90	240935	6.91	116829	8.34	207249	9.80	157200	12.85	162649	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.

1092401 0202

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M116599.D Method: EPA 8270E

Analysis Date/Time: 09/20/21 12:43

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:	167652	2.73	270896	5.92	1086050	6.94	557846	8.40	1091800	9.90	947569	12.99	1129101	14.67
Eval File Area Limit:	83826-335304		135448-541792		543025-2172100		278923-1115692		545900-2183600		473784-1895138		564550-2258202	
Eval File Rt Limit:	2.23-3.23		5.42-6.42		6.44-7.44		7.9-8.9		9.4-10.4		12.49-13.49		14.17-15.17	

Data File	Sample#														
7M116591.D	CAL BNA@2PPM	152234	2.72	270105	5.92	1087196	6.94	547810	8.39	1031030	9.89	942048	12.98	1078504	14.67
7M116592.D	CAL BNA@10PPM	132089	2.72	228383	5.92	914683	6.93	453083	8.39	846722	9.89	785231	12.98	903439	14.66
7M116593.D	CAL BNA@196PPM	134590	2.72	220145	5.92	930028	6.94	481326	8.40	936996	9.90	740317	13.00	944174	14.67
7M116594.D	CAL BNA@160PPM	138512	2.72	238172	5.92	983210	6.94	511279	8.40	987758	9.90	811371	13.00	1017539	14.68
7M116595.D	CAL BNA@120PPM	141565	2.72	242052	5.92	993369	6.94	516888	8.40	1003240	9.90	847787	12.99	1044691	14.67
7M116596.D	CAL BNA@80PPM	165066	2.72	282385	5.92	1154092	6.94	600681	8.40	1159076	9.90	1009683	12.99	1241399	14.68
7M116597.D	CAL BNA@20PPM	141618	2.72	252651	5.92	1003165	6.93	505530	8.40	956946	9.89	866183	12.99	1009547	14.67
7M116598.D	CAL BNA@0.5PPM	154546	2.72	279936	5.92	1119636	6.94	563416	8.40	1057865	9.90	953446	12.99	1075052	14.67
7M116599.D	CAL BNA@50PPM	167652	2.73	270896	5.92	1086050	6.94	557846	8.40	1091800	9.90	947569	12.99	1129101	14.67
7M116600.D	ICV BNA@50PPM	147927	2.72	255054	5.92	1016666	6.94	521666	8.40	1009561	9.90	881570	12.99	1032913	14.67

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.

Haz. - 300

1092401 0203

FORM8

Internal Standard Areas

Evaluation Std Data File: 10M87540.D Method: EPA 8270E

Analysis Date/Time: 09/29/21 08:26

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:	27469	2.75	54301	5.90	224026	6.90	112067	8.33	198798	9.79	149685	12.84	154188	14.47
Eval File Area Limit:	13734-54938		27150-108602		112013-448052		56034-224134		99399-397596		74842-299370		77094-308376	
Eval File Rt Limit:	2.25-3.25		5.4-6.4		6.4-7.4		7.83-8.83		9.29-10.29		12.34-13.34		13.97-14.97	

Data File	Sample#																
10M87541.D	SMB95060(MS)	22930	2.72	44641	5.90	180347	6.90	87019	8.33	155322	9.79	114539	12.84	119674	14.47
10M87542.D	SMB95061(MS)	21533	2.72	41348	5.90	167092	6.90	79726	8.33	142165	9.79	107056	12.84	109017	14.47
10M87543.D	SMB95061	19603	2.73	37947	5.90	154546	6.90	74104	8.33	133916	9.79	98007	12.84	100671	14.47
10M87544.D	SMB95060	23602	2.73	46087	5.90	188233	6.90	90488	8.33	160134	9.79	119329	12.84	120493	14.47
10M87545.D	AD26166-005	24289	2.72	45957	5.90	189211	6.90	91360	8.33	159213	9.79	119560	12.84	120437	14.47
10M87546.D	AD26166-006	22367	2.73	44053	5.90	175920	6.90	84917	8.33	151616	9.79	109223	12.84	112451	14.47
10M87547.D	AD26166-011	24220	2.73	45669	5.90	187357	6.90	89453	8.33	157166	9.79	114784	12.84	116081	14.47
10M87548.D	AD26166-012	23621	2.72	46473	5.90	187573	6.90	88885	8.33	157420	9.79	115293	12.84	116934	14.47
10M87549.D	AD26166-015	22793	2.74	44871	5.90	182473	6.90	87488	8.33	153757	9.79	113640	12.84	114137	14.47
10M87550.D	AD26166-016	25960	2.73	51423	5.90	203255	6.90	96298	8.33	169900	9.79	123661	12.84	126094	14.47
10M87551.D	AD26166-017	21067	2.73	42344	5.90	169338	6.90	79841	8.33	138210	9.79	99469	12.84	97452	14.47
10M87552.D	AD26166-005(MS)	25920	2.73	51263	5.90	211366	6.90	100590	8.33	176327	9.79	126476	12.84	127495	14.47
10M87553.D	AD26166-005(MSD)	21103	2.73	41277	5.90	165043	6.90	79314	8.33	139728	9.79	103009	12.84	102326	14.47
10M87554.D	AD26194-001	21790	2.76	43394	5.90	173761	6.90	82890	8.33	139376	9.79	104104	12.84	104591	14.47
10M87555.D	AD26178-006	24012	2.73	44849	5.90	179207	6.90	84748	8.33	148740	9.79	110698	12.84	111340	14.47
10M87556.D	OMB95073	25325	2.75	48816	5.90	198472	6.90	95020	8.33	168226	9.79	121935	12.84	124614	14.47
10M87557.D	OMB95073(MS)	25142	2.75	49400	5.90	199833	6.90	94242	8.33	167168	9.79	124202	12.84	125558	14.47
10M87558.D	SMB95075(MS)	23231	2.74	41597	5.90	167489	6.90	80545	8.33	139736	9.79	104329	12.84	105475	14.47
10M87559.D	SMB95075	22302	2.73	40624	5.90	166531	6.90	79237	8.33	138279	9.79	101377	12.84	101071	14.47
10M87560.D	AD26185-001	21816	2.74	41637	5.90	167179	6.90	77809	8.33	138377	9.79	99703	12.84	100066	14.47

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.

Haz. - 301

1092401 0204

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M116778.D Method: EPA 8270E

Analysis Date/Time: 09/29/21 08:08

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:	164234	2.73	285898	5.92	1177397	6.94	604203	8.40	1159581	9.90	996748	13.00	1154362	14.68
Eval File Area Limit:	82117-328468		142949-571796		588698-2354794		302102-1208406		579790-2319162		498374-1993496		577181-2308724	
Eval File Rt Limit:	2.23-3.23		5.42-6.42		6.44-7.44		7.9-8.9		9.4-10.4		12.5-13.5		14.18-15.18	

Data File	Sample#														
7M116779.D	SMB95060	143056	2.72	262085	5.92	1043180	6.94	514893	8.40	944998	9.90	782365	12.99	833173	14.68
7M116780.D	AD26140-003	166297	2.72	306848	5.92	1103681	6.94	594959	8.40	1072269	9.90	887265	13.00	1023257	14.70
7M116781.D	AD26250-001	176085	2.71	305673	5.92	1092776	6.95	528651	8.41	1018891	9.90	848070	13.00	944487	14.70
7M116782.D	AD26250-002	160748	2.71	275148	5.92	1046889	6.94	495447	8.40	963650	9.90	796949	13.00	868810	14.69
7M116783.D	AD26250-003	152718	2.72	284356	5.92	1118606	6.94	538757	8.40	966816	9.90	788908	13.00	885427	14.69
7M116784.D	AD26250-004	157979	2.71	279339	5.92	1050383	6.94	499587	8.40	949759	9.90	772189	13.00	875517	14.71
7M116785.D	AD26250-015(3X)	147859	2.72	195023	5.93	156020A	6.96	380697	8.45	933495	9.91	778267	13.01	880312	14.73
7M116786.D	AD26166-008	142448	2.72	261990	5.92	1027591	6.94	489813	8.41	872371	9.90	725157	13.00	819765	14.74
7M116787.D	AD26166-010	152357	2.72	275262	5.92	1067399	6.94	513090	8.40	918797	9.90	756600	13.00	847542	14.72
7M116788.D	AD26166-013	155794	2.72	279198	5.92	1097342	6.95	524093	8.42	932515	9.91	762214	13.00	852545	14.73
7M116789.D	AD26166-014	169142	2.72	292642	5.92	1300747	6.95	556092	8.42	971092	9.91	794661	13.01	869671	14.74
7M116790.D	AD26166-004	157008	2.72	285638	5.92	1125197	6.95	542325	8.41	965447	9.91	797619	13.01	877840	14.74
7M116791.D	AD26166-007	158011	2.72	286122	5.92	1129918	6.95	541162	8.41	942087	9.91	759075	13.00	832994	14.71
7M116792.D	AD26166-009	144378	2.72	264574	5.92	1054986	6.95	511032	8.42	900359	9.91	707570	13.00	788023	14.71
7M116793.D	AD26250-015(20X)	155141	2.73	246547	5.92	825181	6.95	509064	8.42	985875	9.91	811005	13.00	884068	14.72
7M116794.D	AD26274-001(3X)	163829	2.72	292133	5.92	1123837	6.94	498885	8.40	791400	9.91	806645	13.00	893127	14.69
7M116795.D	AD26178-002	163146	2.71	291869	5.92	1150836	6.94	559053	8.41	1019911	9.90	804324	13.00	892728	14.69
7M116796.D	AD26178-004	168120	2.72	294425	5.92	1151303	6.94	548283	8.40	957245	9.90	748490	13.00	831168	14.68
7M116797.D	AD25993-001(5X)	156218	2.73	256816	5.92	847694	6.94	432123	8.42	820306	9.91	793253	13.00	861359	14.69
7M116798.D	AD26274-001(3X)(MS)	159521	2.73	278345	5.92	1060967	6.94	486119	8.40	752985	9.91	779362	13.01	860758	14.68
7M116799.D	AD26274-001(3X)(MS	160022	2.72	282551	5.92	1084052	6.94	499801	8.40	784265	9.91	794665	13.00	870384	14.68
7M116800.D	SMB95075	129925	2.72	233433	5.92	918984	6.94	447071	8.40	800635	9.90	614745	12.99	653038	14.67
7M116801.D	AD26094-009	138710	2.72	243341	5.92	968784	6.93	458530	8.40	818154	9.90	666367	13.00	728397	14.68
7M116802.D	AD26217-008	148669	2.73	272151	5.92	1080446	6.93	525200	8.40	937039	9.90	739821	12.99	809078	14.68
7M116803.D	AD26217-010	151034	2.72	265873	5.92	1061146	6.94	514886	8.40	912177	9.90	718600	13.00	790009	14.68
7M116804.D	AD26217-012	174192	2.71	308115	5.92	1218216	6.93	579336	8.39	1036709	9.90	817556	12.99	879093	14.68
7M116805.D	AD26217-014	147968	2.71	259863	5.92	1037271	6.94	500079	8.40	887848	9.90	697448	12.99	752263	14.69
7M116806.D	AD26206-004	121610	2.72	211615	5.92	844435	6.94	413672	8.40	742010	9.90	566927	12.99	614561	14.67

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.

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FORM8

Internal Standard Areas

Evaluation Std Data File: 9M108554.D Method: EPA 8270E

Analysis Date/Time: 09/29/21 12:05

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:	72843	2.80	142739	5.97	575073	6.98	289869	8.43	562129	9.91	580560	12.98	674565	14.66
Eval File Area Limit:	36422-145686		71370-285478		287536-1150146		144934-579738		281064-1124258		290280-1161120		337282-1349130	
Eval File Rt Limit:	2.3-3.3		5.47-6.47		6.48-7.48		7.93-8.93		9.41-10.41		12.48-13.48		14.16-15.16	

Data File	Sample#														
9M108548.D	CAL BNA@10PPM	62207	2.80	126714	5.97	509526	6.98	258791	8.43	498141	9.91	510267	12.98	591889	14.63
9M108549.D	CAL BNA@2PPM	75495	2.80	156449	5.97	653411	6.98	333432	8.43	644228	9.91	660465	12.98	768399	14.65
9M108550.D	CAL BNA@196PPM	66897	2.81	129954	5.97	522951	6.98	264184	8.43	511406	9.91	536167	12.99	609251	14.65
9M108551.D	CAL BNA@160PPM	71309	2.80	139967	5.97	558358	6.98	283584	8.43	549661	9.91	576401	12.99	674314	14.64
9M108552.D	CAL BNA@120PPM	71280	2.80	142257	5.97	569254	6.98	285080	8.43	559440	9.91	582863	12.98	681516	14.64
9M108553.D	CAL BNA@80PPM	75237	2.80	148719	5.97	598906	6.98	300552	8.43	581865	9.91	606994	12.98	711064	14.64
9M108554.D	CAL BNA@50PPM	72843	2.80	142739	5.97	575073	6.98	289869	8.43	562129	9.91	580560	12.98	674565	14.66
9M108555.D	CAL BNA@20PPM	70387	2.80	142830	5.97	568080	6.98	284087	8.43	551238	9.91	572043	12.98	657881	14.64
9M108556.D	CAL BNA@0.5PPM	80698	2.81	161208	5.97	657769	6.98	329798	8.42	632379	9.91	640937	12.98	755166	14.64
9M108557.D	ICV BNA@50PPM	70518	2.81	145183	5.97	581696	6.98	290619	8.44	565917	9.91	592578	12.98	675634	14.64
9M108558.D	AD26228-001	59606	2.80	114539	5.97	462472	6.98	229605	8.42	437418	9.91	428970	12.98	495862	14.63
9M108559.D	AD26228-002	54370	2.80	105236	5.97	422058	6.98	207988	8.42	394367	9.91	391239	12.98	449386	14.64
9M108560.D	AD26228-003	60263	2.81	116989	5.97	460291	6.98	229583	8.42	436890	9.91	430559	12.98	494415	14.64
9M108561.D	AD26228-004	55366	2.80	108115	5.97	427538	6.98	211691	8.42	404988	9.91	397150	12.98	459163	14.63
9M108562.D	AD26228-005	60153	2.80	118537	5.97	474147	6.98	235143	8.42	450795	9.91	448581	12.98	515064	14.62
9M108563.D	WMB95071	69019	2.80	132016	5.97	526304	6.98	260566	8.42	495463	9.91	482456	12.98	562165	14.63
9M108564.D	95071	56886	2.81	111856	5.97	440303	6.98	220345	8.43	423296	9.91	440483	12.98	500021	14.63
9M108565.D	MBS-1	64930	2.78	116714	5.97	464592	6.98	232405	8.42	448240	9.91	462189	12.98	529917	14.63
9M108566.D	MBS-2	65841	2.78	120728	5.97	480725	6.98	240780	8.42	460564	9.91	473903	12.98	542696	14.63
9M108567.D	MBS-3	67520	2.78	122451	5.97	492754	6.98	246847	8.43	470970	9.91	486625	12.98	556846	14.63
9M108568.D	MBS-4	67289	2.78	123817	5.97	491510	6.98	246289	8.43	473535	9.91	491142	12.98	566576	14.63
9M108569.D	SMB95075	57171	2.78	108935	5.97	437431	6.98	220354	8.42	426223	9.91	417030	12.98	473373	14.63
9M108570.D	AD26217-002	76383	2.78	147478	5.97	587639	6.98	299152	8.42	572661	9.91	574519	12.98	663987	14.63
9M108571.D	AD26217-002(MS)	62355	2.78	120583	5.97	483855	6.98	240861	8.42	465380	9.91	486344	12.98	558366	14.63
9M108572.D	AD26217-002(MSD)	57869	2.81	116982	5.97	463156	6.98	232695	8.42	453935	9.91	467774	12.98	536628	14.62
9M108573.D	AD26217-004	68195	2.78	135533	5.97	545977	6.98	274358	8.42	533393	9.91	527483	12.98	614213	14.62
9M108574.D	AD26217-006	71827	2.79	143119	5.97	573975	6.98	291213	8.42	566689	9.91	564229	12.98	655606	14.62

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.

Haz. - 303

1092401 0206

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M116808.D Method: EPA 8270E

Analysis Date/Time: 09/30/21 08:24

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:	167232	2.72	280949	5.92	1161361	6.94	599387	8.40	1138773	9.90	1001959	13.00	1094533	14.69
Eval File Area Limit:	83616-334464		140474-561898		580680-2322722		299694-1198774		569386-2277546		500980-2003918		547266-2189066	
Eval File Rt Limit:	2.22-3.22		5.42-6.42		6.44-7.44		7.9-8.9		9.4-10.4		12.5-13.5		14.19-15.19	

Data File	Sample#														
7M116809.D	AD26217-018	182320	2.71	314101	5.92	1251307	6.93	596228	8.39	1064891	9.90	862848	13.00	956987	14.68
7M116810.D	AD26206-002(3X)	162623	2.72	275344	5.92	1097843	6.94	535575	8.40	964083	9.90	763449	12.99	834275	14.69
7M116811.D	AD26094-005(5X)	155502	2.72	269108	5.92	1063154	6.94	516391	8.40	897127	9.90	735755	12.99	808367	14.68
7M116812.D	AD26217-016(10X)	159191	2.72	277261	5.92	1080297	6.94	520771	8.39	932680	9.90	733672	12.99	797668	14.69
7M116813.D	AD26249-001(5X)	171224	2.72	296151	5.92	1162682	6.93	555653	8.39	978432	9.90	796910	13.00	867816	14.69
7M116814.D	AD26034-011(10X)	154350	2.72	268282	5.92	1062698	6.94	512823	8.40	919652	9.90	723100	12.99	787763	14.69
7M116815.D	AD26034-010(20X)	146925	2.73	255761	5.92	985196	6.94	478964	8.40	859308	9.90	666627	12.99	731226	14.69
7M116816.D	AD26251-004	163974	2.71	281972	5.92	1110915	6.94	530321	8.40	930011	9.90	746060	13.00	813569	14.73
7M116817.D	AD26206-002	164656	2.72	291722	5.92	1145846	6.94	550942	8.40	978139	9.90	765135	12.99	817674	14.69
7M116818.D	AD26217-016(5X)	162715	2.72	284492	5.92	1097319	6.93	531908	8.40	928392	9.90	730040	12.99	772064	14.68
7M116819.D	AD26034-010(5X)	168343	2.72	289938	5.92	1118162	6.94	536607	8.40	943139	9.90	733121	12.99	743482	14.68
7M116820.D	AD26034-011(5X)	165799	2.73	287782	5.92	1122712	6.94	540283	8.40	942817	9.90	728817	12.99	728165	14.69

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: 9M108577.D Method: EPA 8270E

Analysis Date/Time: 09/30/21 09:35

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:	76504	2.79	157533	5.97	639797	6.98	337092	8.43	675883	9.91	731495	12.98	877145	14.63
Eval File Area Limit:	38252-153008		78766-315066		319898-1279594		168546-674184		337942-1351766		365748-1462990		438572-1754290	
Eval File Rt Limit:	2.29-3.29		5.47-6.47		6.48-7.48		7.93-8.93		9.41-10.41		12.48-13.48		14.13-15.13	

Data File	Sample#														
9M108578.D	WMB95071(MS)	56943	2.79	117896	5.97	473136	6.98	241851	8.42	478715	9.91	513121	12.98	592663	14.63
9M108579.D	WMB95078	60154	2.78	124561	5.97	496249	6.97	261013	8.42	517531	9.91	543037	12.98	633261	14.62
9M108580.D	AD26205-001	57585	2.78	115640	5.97	459259	6.97	234475	8.42	458460	9.91	494482	12.97	577639	14.62
9M108581.D	AD26205-002	60511	2.78	120953	5.97	492091	6.97	252019	8.42	505287	9.91	529889	12.97	613774	14.62
9M108582.D	AD26205-003	58891	2.79	115642	5.97	470034	6.97	240048	8.42	478181	9.91	502825	12.98	587977	14.62
9M108583.D	AD26205-004	61152	2.78	122514	5.97	497527	6.97	256347	8.42	506952	9.91	521294	12.97	604618	14.62
9M108584.D	AD26200-013	58311	2.78	114915	5.97	467158	6.97	241234	8.42	476809	9.91	501165	12.97	569657	14.62
9M108585.D	AD26200-015	61024	2.78	120106	5.97	487881	6.97	250617	8.42	504242	9.91	526313	12.97	604127	14.62
9M108586.D	AD26200-017	61965	2.79	120392	5.97	489827	6.97	252490	8.42	503863	9.91	527193	12.98	604868	14.62
9M108587.D	AD26217-004(R)	71377	2.77	138681	5.97	567267	6.98	311039	8.43	617905	9.91	640912	12.98	738367	14.64
9M108588.D	95088	58172	2.79	120790	5.97	471274	6.98	240404	8.43	483834	9.91	512915	12.98	605882	14.63
9M108589.D	WMB95088	50381	2.78	105727	5.97	423755	6.97	221184	8.42	432684	9.91	456664	12.97	527670	14.62
9M108590.D	AD26283-001	56881	2.79	115125	5.97	448290	6.97	234163	8.42	457766	9.91	481311	12.98	569966	14.62
9M108591.D	AD26227-001	61118	2.78	124246	5.97	496495	6.97	259255	8.42	514507	9.91	538094	12.97	630144	14.62
9M108592.D	AD26283-002	57733	2.79	117051	5.97	465936	6.97	242051	8.42	474925	9.91	502838	12.98	599085	14.62
9M108593.D	AD26283-003	56733	2.79	116536	5.97	450270	6.97	240164	8.42	474937	9.91	493324	12.97	584698	14.62
9M108594.D	AD26283-004	61363	2.78	124577	5.97	498367	6.97	262725	8.42	520225	9.91	547999	12.97	639796	14.62
9M108595.D	AD26227-001(MS)	61304	2.79	122466	5.97	473121	6.98	244623	8.42	492752	9.91	530420	12.98	617651	14.63
9M108596.D	AD26227-001(MSD)	59507	2.78	122210	5.97	477654	6.98	247222	8.42	492140	9.91	534648	12.98	623673	14.63

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.

FORM8

Internal Standard Areas

Evaluation Std Data File: 9M108598.D Method: EPA 8270E

Analysis Date/Time: 10/01/21 08:29

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:	64644	2.80	130504	5.97	511743	6.98	265398	8.42	535698	9.91	587264	12.98	700546	14.62
Eval File Area Limit:	32322-129288		65252-261008		255872-1023486		132699-530796		267849-1071396		293632-1174528		350273-1401092	
Eval File Rt Limit:	2.3-3.3		5.47-6.47		6.48-7.48		7.92-8.92		9.41-10.41		12.48-13.48		14.12-15.12	
Data File Sample#														
9M108599.D SMB95086(MS)	54702	2.78	108956	5.97	417599	6.97	220060	8.42	434860	9.91	476092	12.98	563743	14.62
9M108600.D SMB95086	61013	2.78	122476	5.97	483600	6.97	250806	8.42	495184	9.91	522670	12.97	612219	14.62
9M108601.D WMB95092	57045	2.79	117328	5.97	451578	6.97	232274	8.42	462267	9.91	480568	12.97	565223	14.62
9M108602.D AD26247-007	52264	2.80	106261	5.97	418478	6.97	211736	8.42	423331	9.91	438007	12.97	511160	14.62
9M108603.D AD26247-008	46834	2.80	97732	5.97	375594	6.97	183837	8.42	358590	9.91	396605	12.97	475230	14.62
9M108604.D AD26247-010	50082	2.80	105313	5.97	410202	6.97	209819	8.42	416675	9.91	428507	12.97	505733	14.62
9M108605.D AD26247-011	54778	2.80	111640	5.97	434283	6.97	223906	8.42	443160	9.91	462337	12.97	547071	14.62
9M108606.D AD26247-013	50458	2.79	101385	5.97	393426	6.97	199008	8.42	400557	9.91	408674	12.97	485667	14.62
9M108607.D AD26241-014	54425	2.80	110011	5.97	422403	6.98	215301	8.42	423424	9.91	452636	12.98	541420	14.63
9M108608.D AD26241-015	62791	2.80	125463	5.97	440054	6.98	226054	8.43	426986	9.91	490272	12.98	611537	14.64
9M108609.D AD26241-016	45393	2.80	102056	5.97	399544	6.97	210647	8.42	411989	9.91	428970	12.97	521353	14.62
9M108610.D AD26241-017	43407	2.80	98163	5.97	382604	6.97	202465	8.42	400013	9.91	408147	12.97	486503	14.62
9M108611.D AD26241-018	49097	2.80	107050	5.97	417066	6.97	219751	8.42	435360	9.91	454787	12.97	534532	14.62

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.

PCB Data

Form1

ORGANICS PCB REPORT

Sample Number: AD26217-002
Client Id: SB09 COMP
Data File: 2G158513.D
Analysis Date: 09/30/21 10:47
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
Matrix: Soil
Initial Vol: 20g
Final Vol: 10ml
Dilution: 1
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.029	U	11097-69-1	Aroclor-1254	0.029	U
11104-28-2	Aroclor-1221	0.029	U	11096-82-5	Aroclor-1260	0.029	U
11141-16-5	Aroclor-1232	0.029	U	37324-23-5	Aroclor-1262	0.029	U
53469-21-9	Aroclor-1242	0.029	U	11100-14-4	Aroclor-1268	0.029	U
12672-29-6	Aroclor-1248	0.029	U	1336-36-3	Aroclor (Total)	0.029	U

Worksheet #: 610843

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\2021\GC_2\Data\09-30-21\
Data File : 2G158513.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:47
Operator : MS/MLC/MC/PR
Sample : AD26217-002
Misc : S,PCB
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:13:15 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

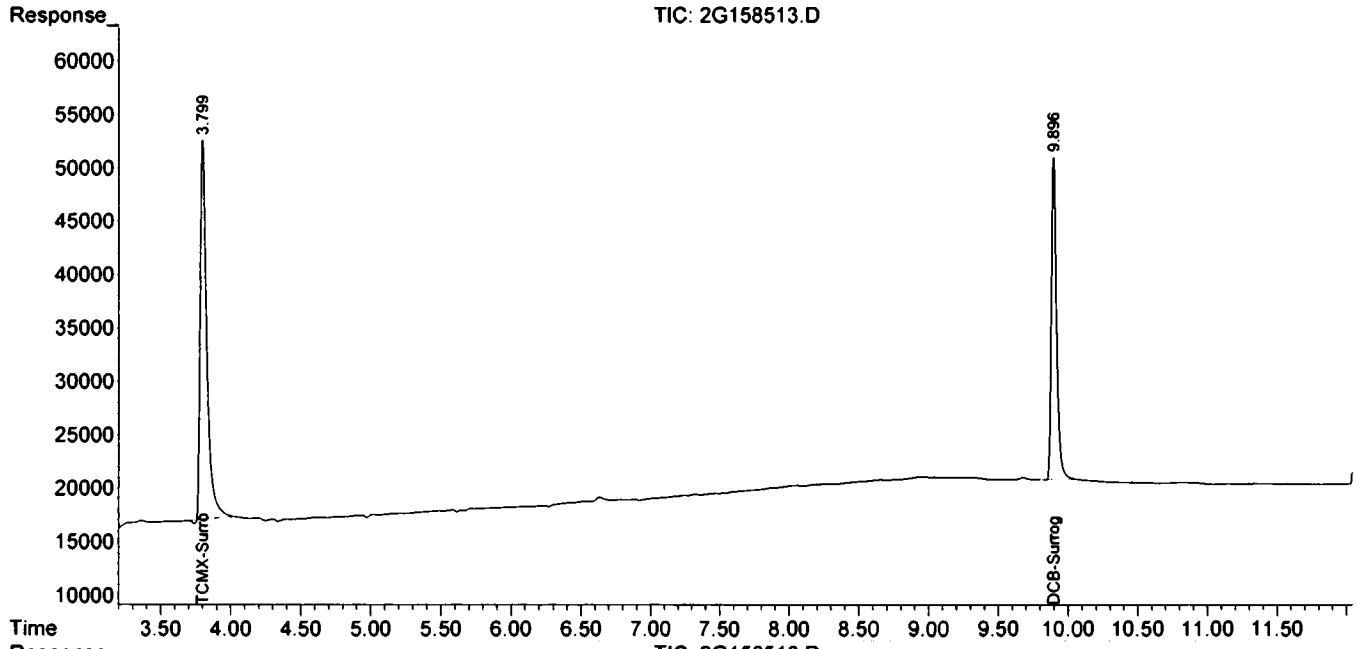
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.800	3.816	1163232	619716	90.796	95.238
45)DCB-Surrogate	9.897	10.640	775127	521046	83.131	82.741

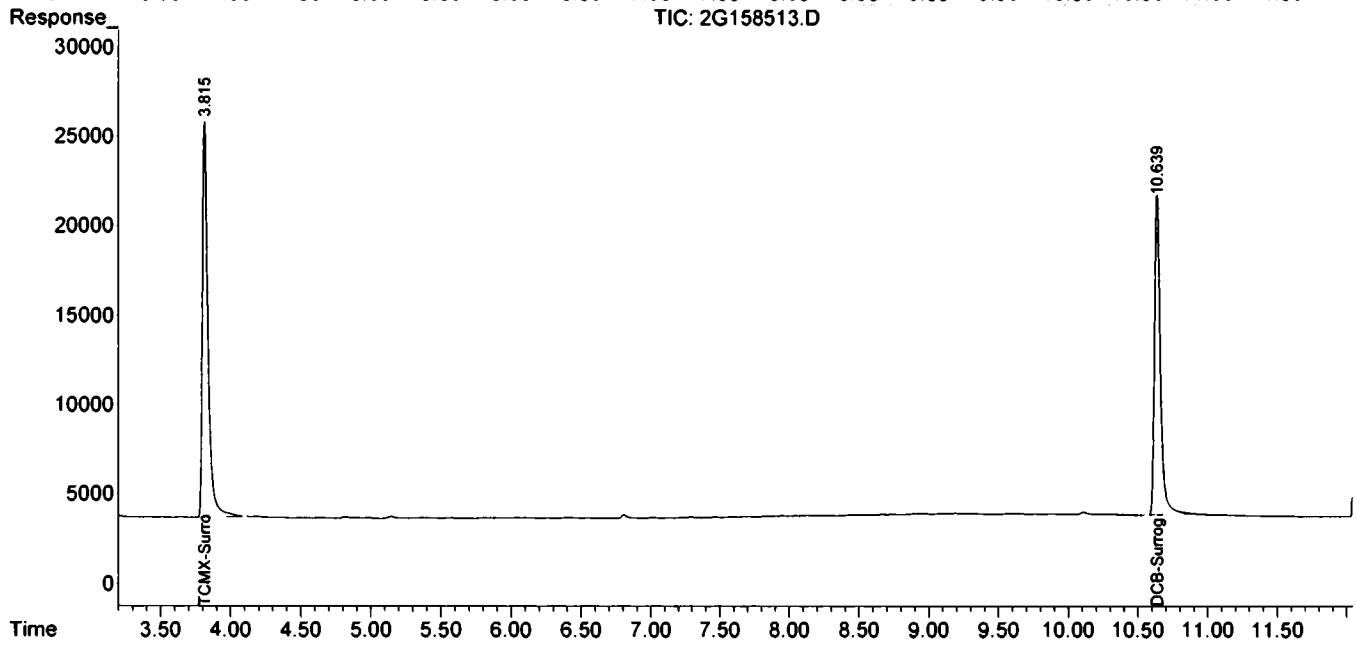
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158513.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:47
Operator : MS/MLC/MC/PR
Sample : AD26217-002
Misc : S,PCB
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:13:15 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-004
Client Id: SB08 COMP
Data File: 2G158512.D
Analysis Date: 09/30/21 10:32
Date Rec/Extracted: 09/23/21-09/29/21
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: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.030	U	11097-69-1	Aroclor-1254	0.030	U
11104-28-2	Aroclor-1221	0.030	U	11096-82-5	Aroclor-1260	0.030	U
11141-16-5	Aroclor-1232	0.030	U	37324-23-5	Aroclor-1262	0.030	U
53469-21-9	Aroclor-1242	0.030	U	11100-14-4	Aroclor-1268	0.030	U
12672-29-6	Aroclor-1248	0.030	U	1336-36-3	Aroclor (Total)	0.030	U

Worksheet #: 610843

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\2021\GC_2\Data\09-30-21\
Data File : 2G158512.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:32
Operator : MS/MLC/MC/PR
Sample : AD26217-004
Misc : S,PCB
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:13:10 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

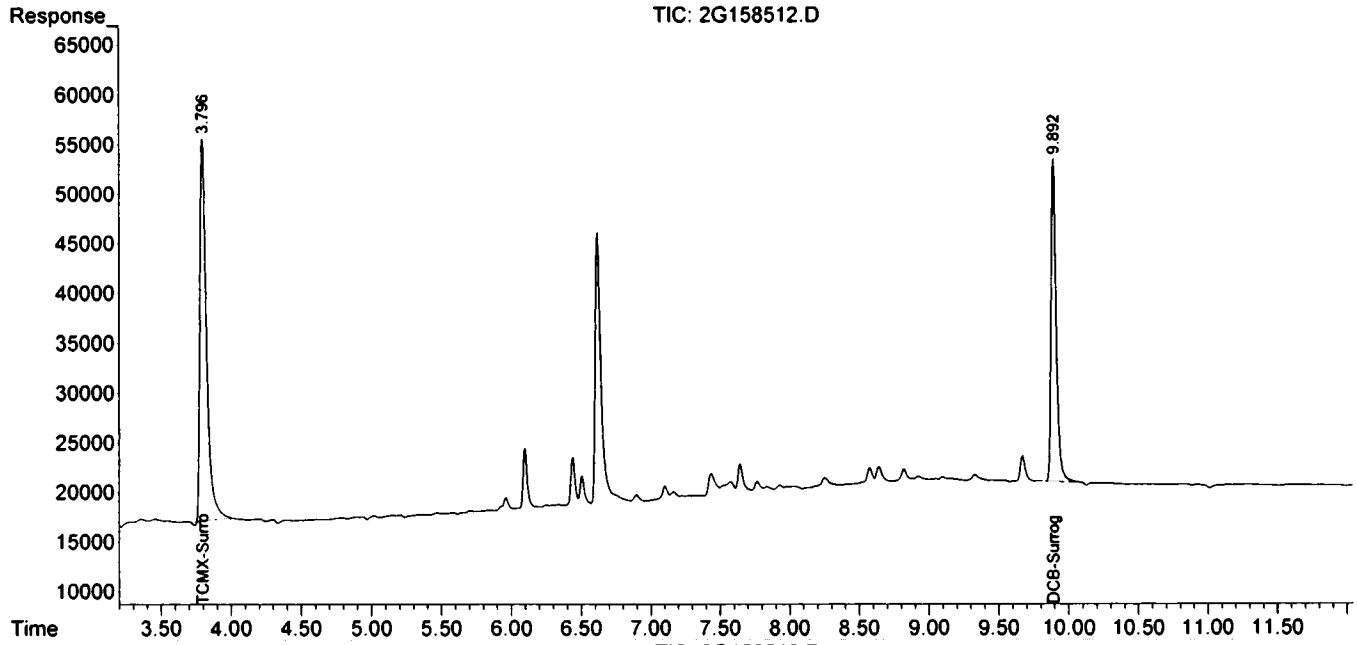
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.797	3.814	1252457	673300	97.760	103.473
45)DCB-Surrogate	9.893	10.636	821890	547828	88.146	86.994

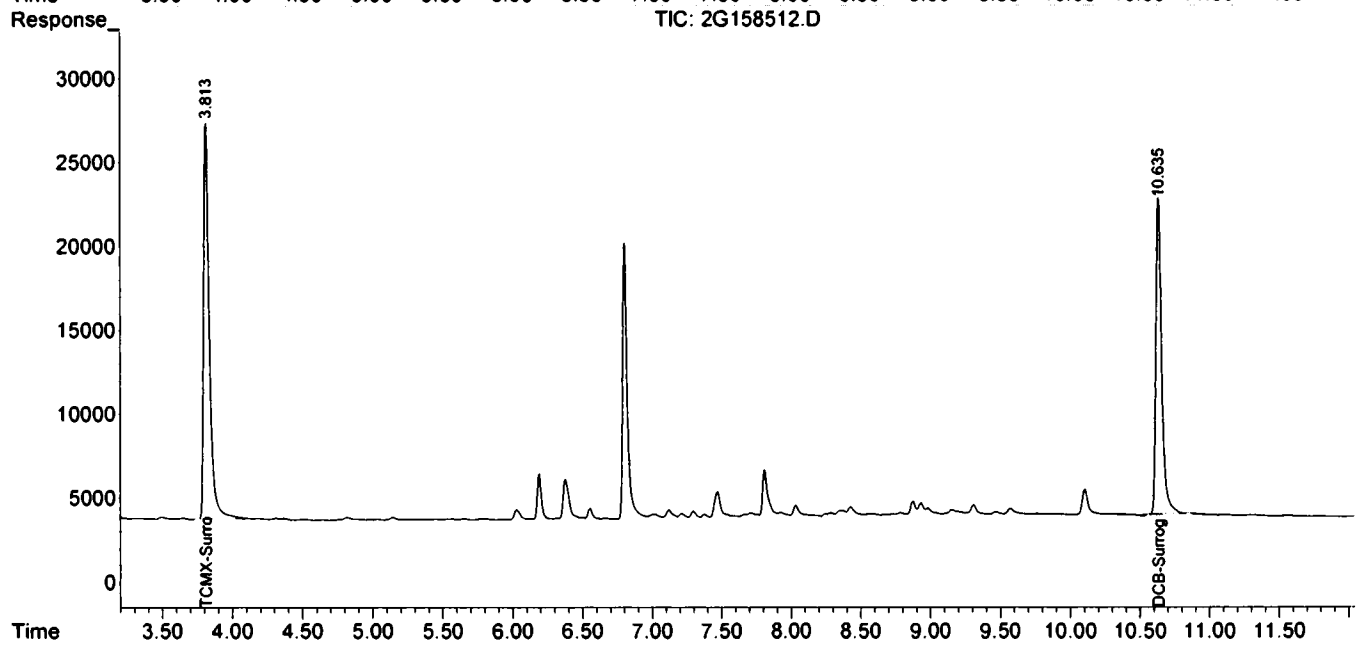
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158512.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:32
Operator : MS/MLC/MC/PR
Sample : AD26217-004
Misc : S,PCB
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:13:10 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-006
Client Id: SB07 COMP
Data File: 3G130794.D
Analysis Date: 09/30/21 09:14
Date Rec/Extracted: 09/23/21-09/29/21
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: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.030	U	11097-69-1	Aroclor-1254	0.030	U
11104-28-2	Aroclor-1221	0.030	U	11096-82-5	Aroclor-1260	0.030	U
11141-16-5	Aroclor-1232	0.030	U	37324-23-5	Aroclor-1262	0.030	U
53469-21-9	Aroclor-1242	0.030	U	11100-14-4	Aroclor-1268	0.030	U
12672-29-6	Aroclor-1248	0.030	U	1336-36-3	Aroclor (Total)	0.030	U

Worksheet #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130794.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:14
Operator : MS/MLC/MC/PR
Sample : AD26217-006
Misc : S,PCB
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:51 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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

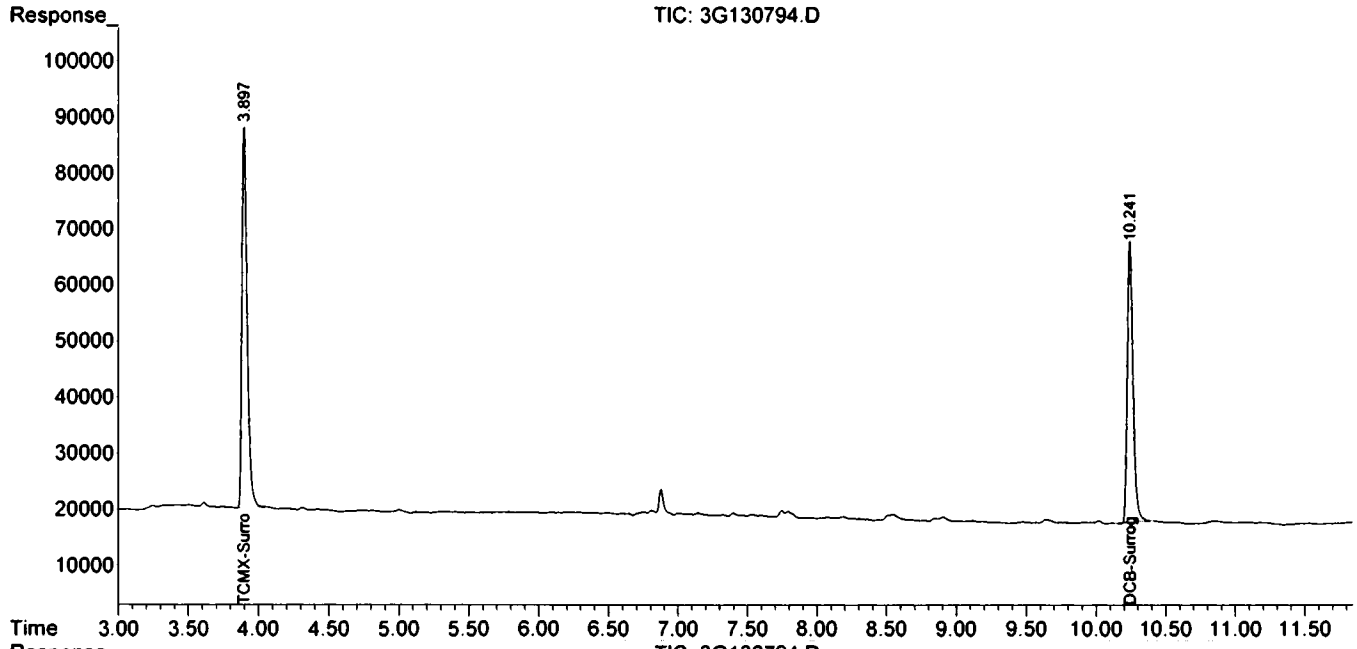
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.898	3.931	1742017	1821386	95.067	88.585
45)DCB-Surrogate	10.242	10.885	1432659	1704814	88.143	87.345

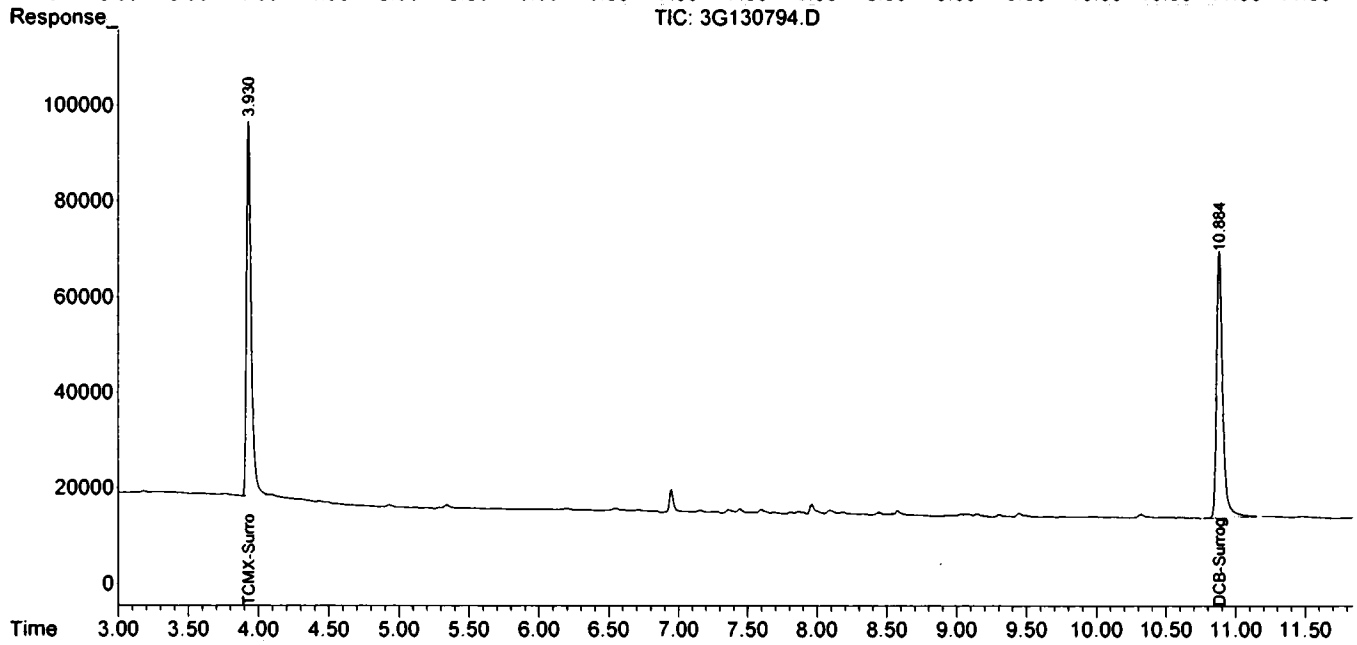
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130794.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:14
Operator : MS/MLC/MC/PR
Sample : AD26217-006
Misc : S,PCB
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:51 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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: AD26217-008
Client Id: SB06 COMP
Data File: 2G158511.D
Analysis Date: 09/30/21 10:17
Date Rec/Extracted: 09/23/21-09/29/21
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**	**0.052**
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**	**0.052**

Worksheet #: 610843

Total Target Concentration 0.052

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\2021\GC_2\Data\09-30-21\
Data File : 2G158511.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:17
Operator : MS/MLC/MC/PR
Sample : AD26217-008
Misc : S,PCB
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:58 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

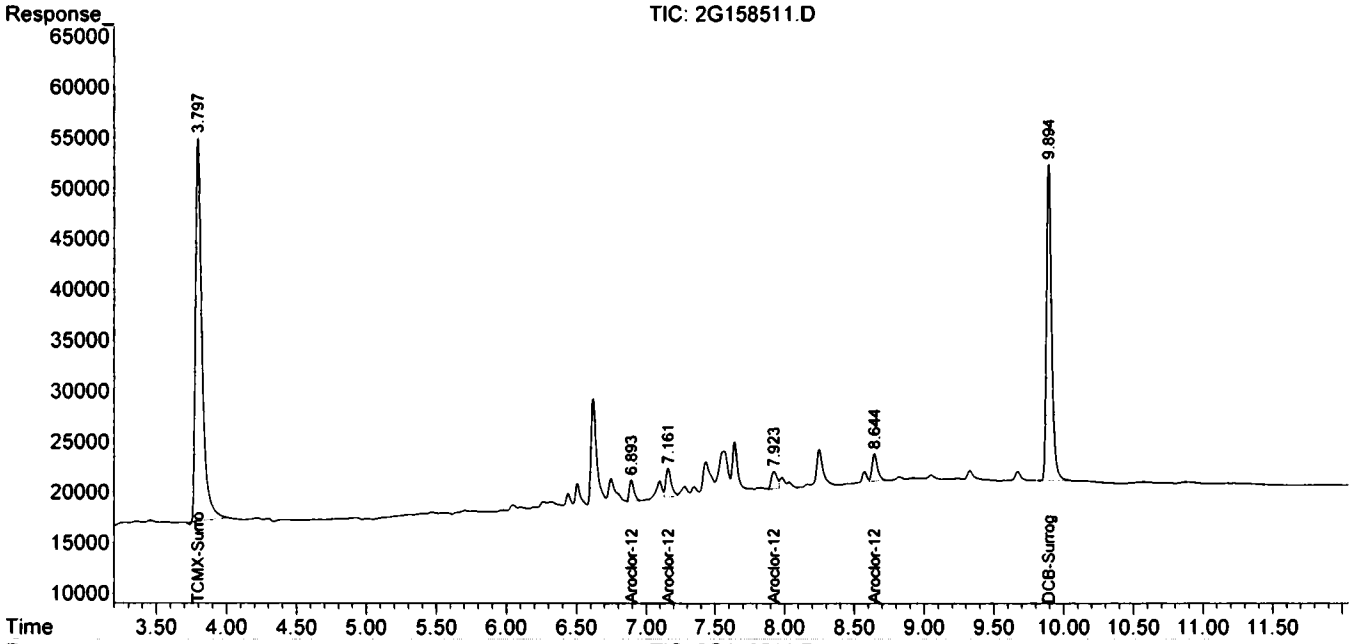
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.797	3.814	1216735	659101	94.972	101.291
7)Aroclor-1260 {1}	6.894	7.210	48954	38861	81.850	96.766
8)Aroclor-1260 {2}	7.162	7.298	79993	43152	100.580	100.221
10)Aroclor-1260 {4}	7.923	8.282	49863	30359	106.905m	94.864m
11)Aroclor-1260 {5}	8.645	8.984	71714	27640	89.515	89.312m
45)DCB-Surrogate	9.894	10.637	791421	552622	84.878	87.756

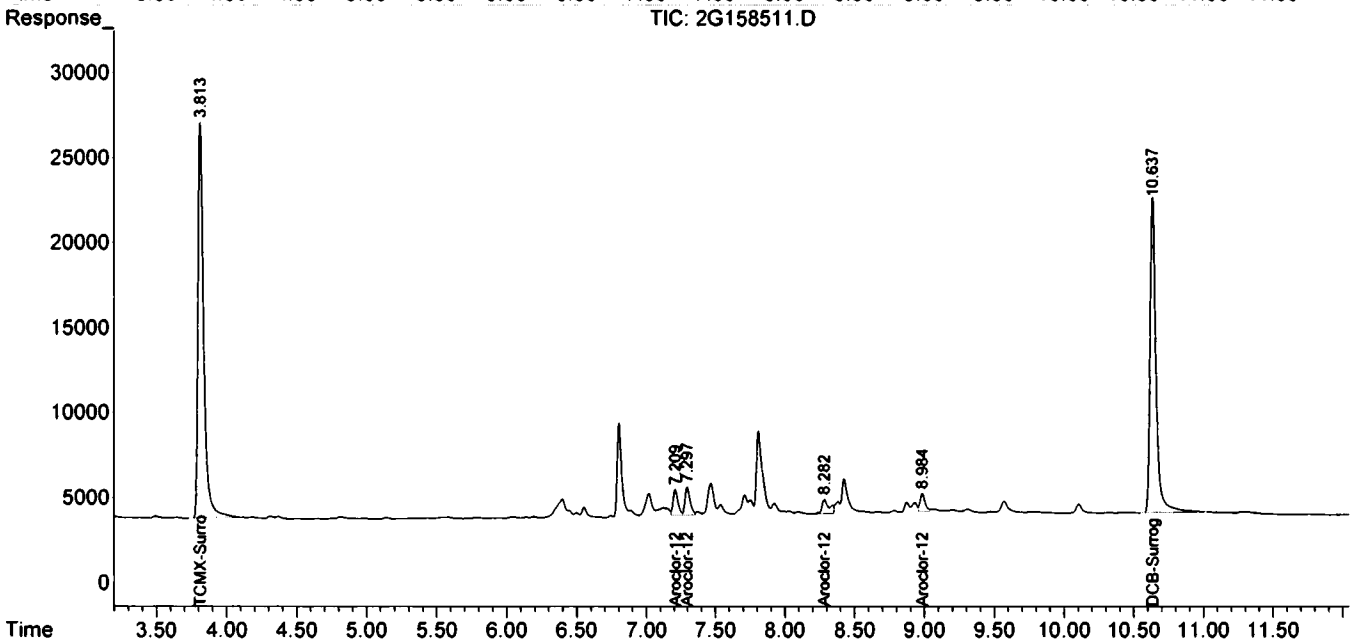
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158511.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:17
Operator : MS/MLC/MC/PR
Sample : AD26217-008
Misc : S,PCB
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:58 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-010
Client Id: SB05 COMP
Data File: 3G130795.D
Analysis Date: 09/30/21 09:28
Date Rec/Extracted: 09/23/21-09/29/21
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: 88

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 #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130795.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:28
Operator : MS/MLC/MC/PR
Sample : AD26217-010
Misc : S,PCB
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:58 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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

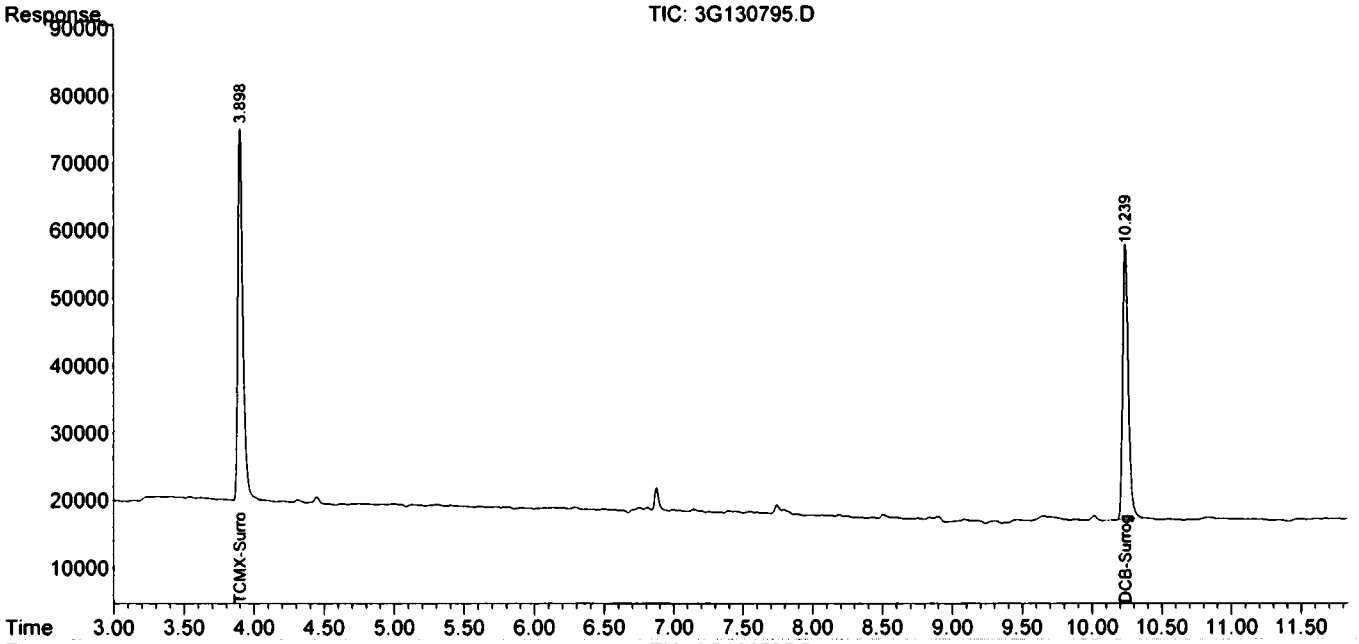
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.899	3.933	1394284	1483323	76.090	72.143
45)DCB-Surrogate	10.240	10.884	1136541	1393374	69.925	71.389

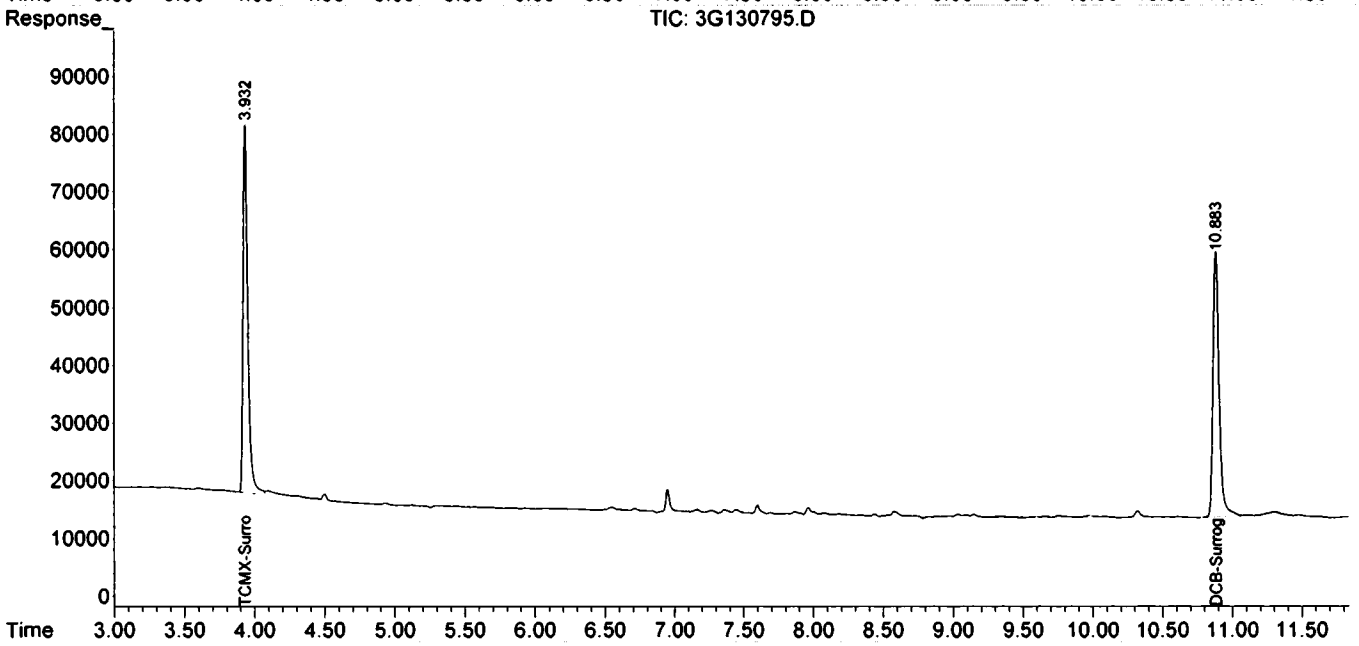
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130795.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:28
Operator : MS/MLC/MC/PR
Sample : AD26217-010
Misc : S,PCB
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:58 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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: AD26217-012
Client Id: SB04 COMP
Data File: 3G130796.D
Analysis Date: 09/30/21 09:43
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
Matrix: Soil
Initial Vol: 20g
Final Vol: 10ml
Dilution: 1
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.029	U	11097-69-1	Aroclor-1254	0.029	U
11104-28-2	Aroclor-1221	0.029	U	11096-82-5	Aroclor-1260	0.029	U
11141-16-5	Aroclor-1232	0.029	U	37324-23-5	Aroclor-1262	0.029	U
53469-21-9	Aroclor-1242	0.029	U	11100-14-4	Aroclor-1268	0.029	U
12672-29-6	Aroclor-1248	0.029	U	1336-36-3	Aroclor (Total)	0.029	U

Worksheet #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130796.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:43
Operator : MS/MLC/MC/PR
Sample : AD26217-012
Misc : S,PCB
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:19:18 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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

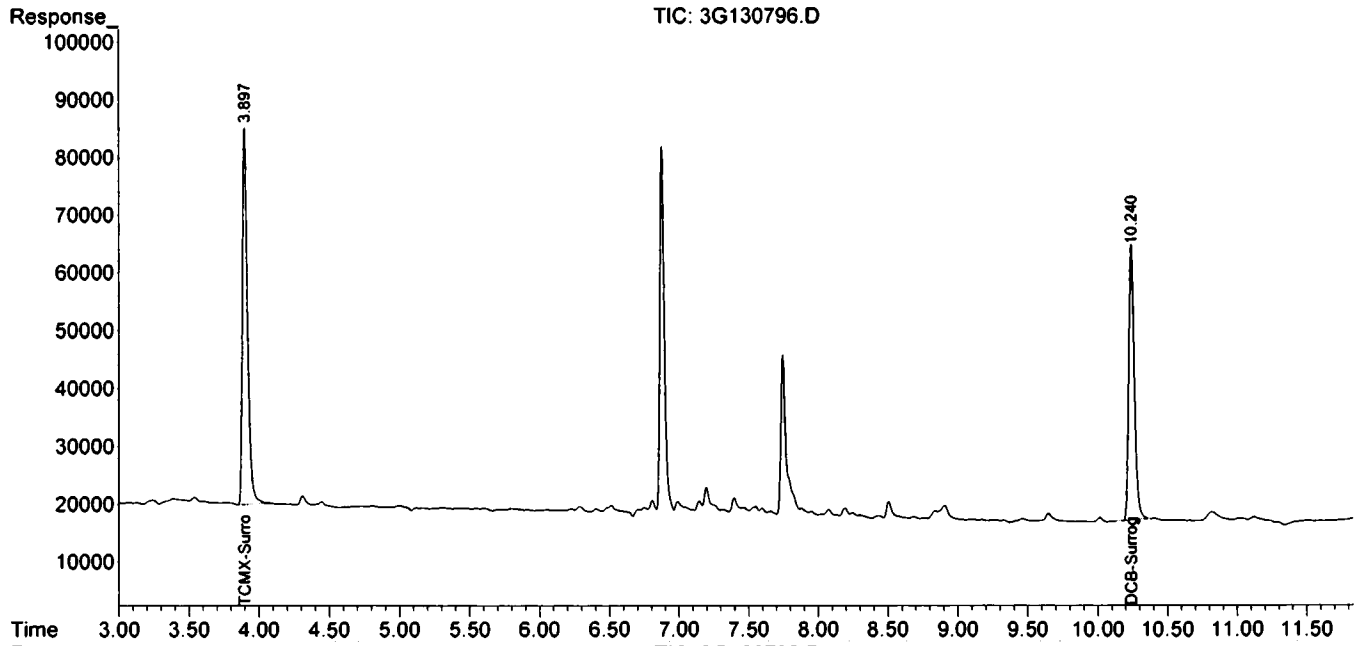
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.898	3.931	1666519	1814702	90.947	88.260
45)DCB-Surrogate	10.240	10.885	1325231	1752453	81.534	89.786

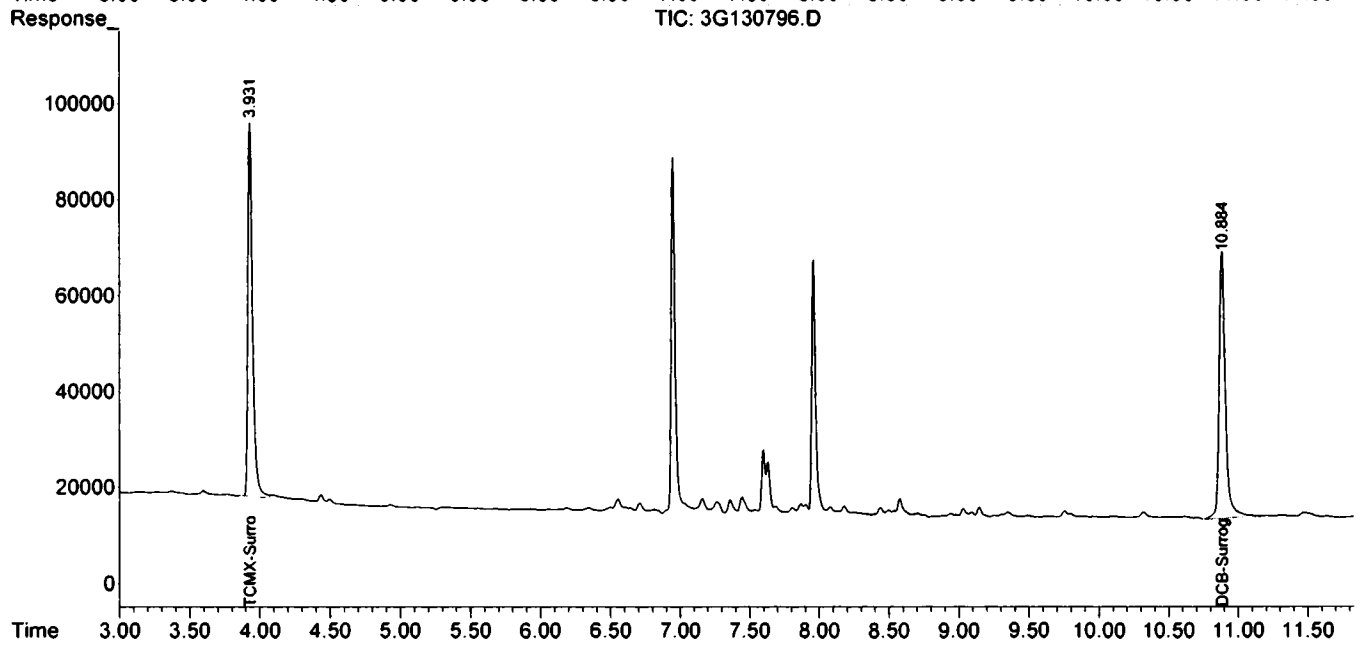
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130796.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:43
Operator : MS/MLC/MC/PR
Sample : AD26217-012
Misc : S,PCB
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:19:18 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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: AD26217-014
Client Id: SB03 COMP
Data File: 2G158510.D
Analysis Date: 09/30/21 10:02
Date Rec/Extracted: 09/23/21-09/29/21
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 #: 610843

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\2021\GC_2\Data\09-30-21\
Data File : 2G158510.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:02
Operator : MS/MLC/MC/PR
Sample : AD26217-014
Misc : S,PCB
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:27 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

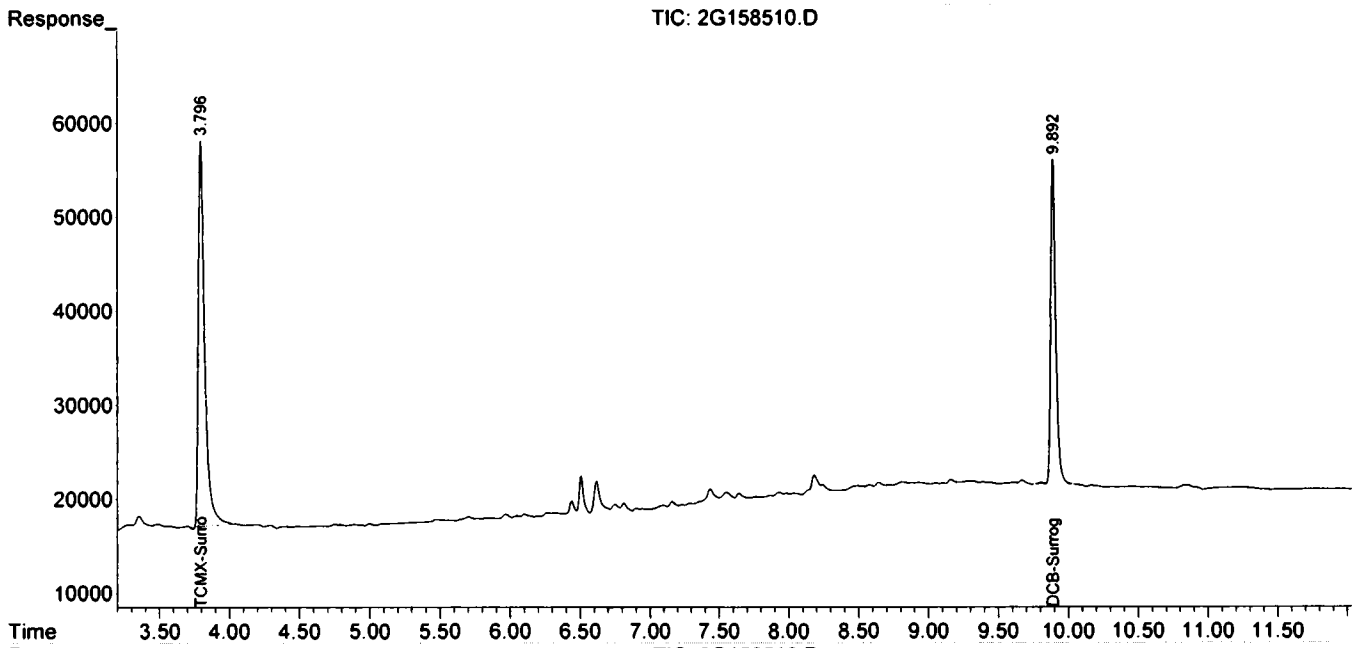
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.797	3.814	1292362	709430	100.875	109.025
45)DCB-Surrogate	9.893	10.636	861147	593871	92.356	94.306

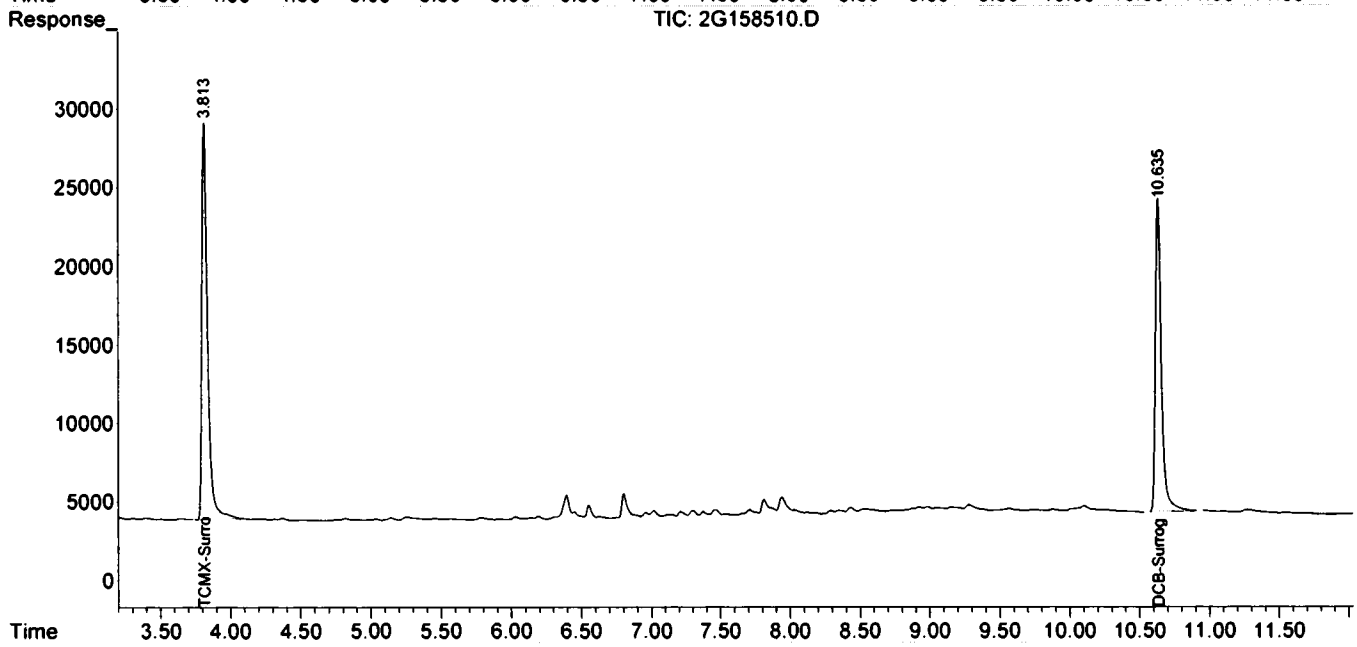
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158510.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:02
Operator : MS/MLC/MC/PR
Sample : AD26217-014
Misc : S,PCB
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:27 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-016
Client Id: SB02 COMP
Data File: 2G158509.D
Analysis Date: 09/30/21 09:47
Date Rec/Extracted: 09/23/21-09/29/21
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: 78

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.032	U	11097-69-1	Aroclor-1254	0.032	U
11104-28-2	Aroclor-1221	0.032	U	11096-82-5	Aroclor-1260	0.032	U
11141-16-5	Aroclor-1232	0.032	U	37324-23-5	Aroclor-1262	0.032	U
53469-21-9	Aroclor-1242	0.032	U	11100-14-4	Aroclor-1268	0.032	U
12672-29-6	Aroclor-1248	0.032	U	1336-36-3	Aroclor (Total)	0.032	U

Worksheet #: 610843

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\2021\GC_2\Data\09-30-21\
Data File : 2G158509.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:47
Operator : MS/MLC/MC/PR
Sample : AD26217-016
Misc : S,PCB
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:23 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

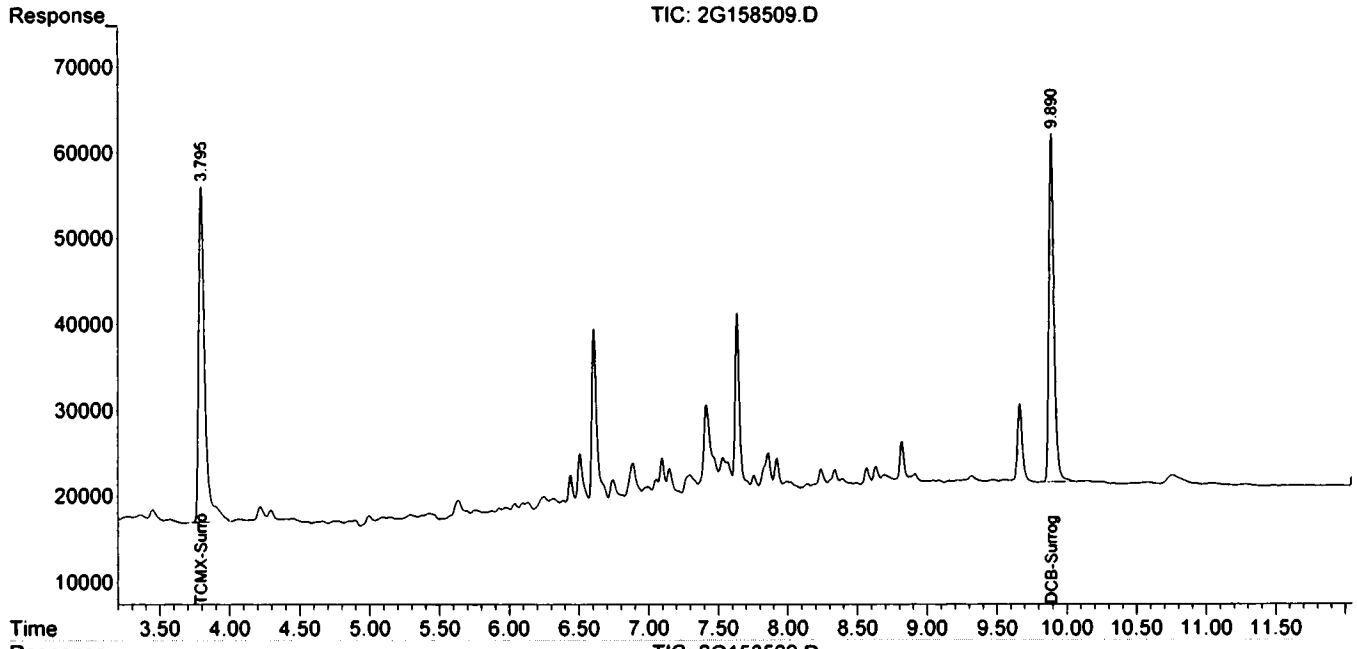
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.796	3.815	1194133	624264	93.208	95.937
45)DCB-Surrogate	9.891	10.636	1004306	700495	107.709	111.238

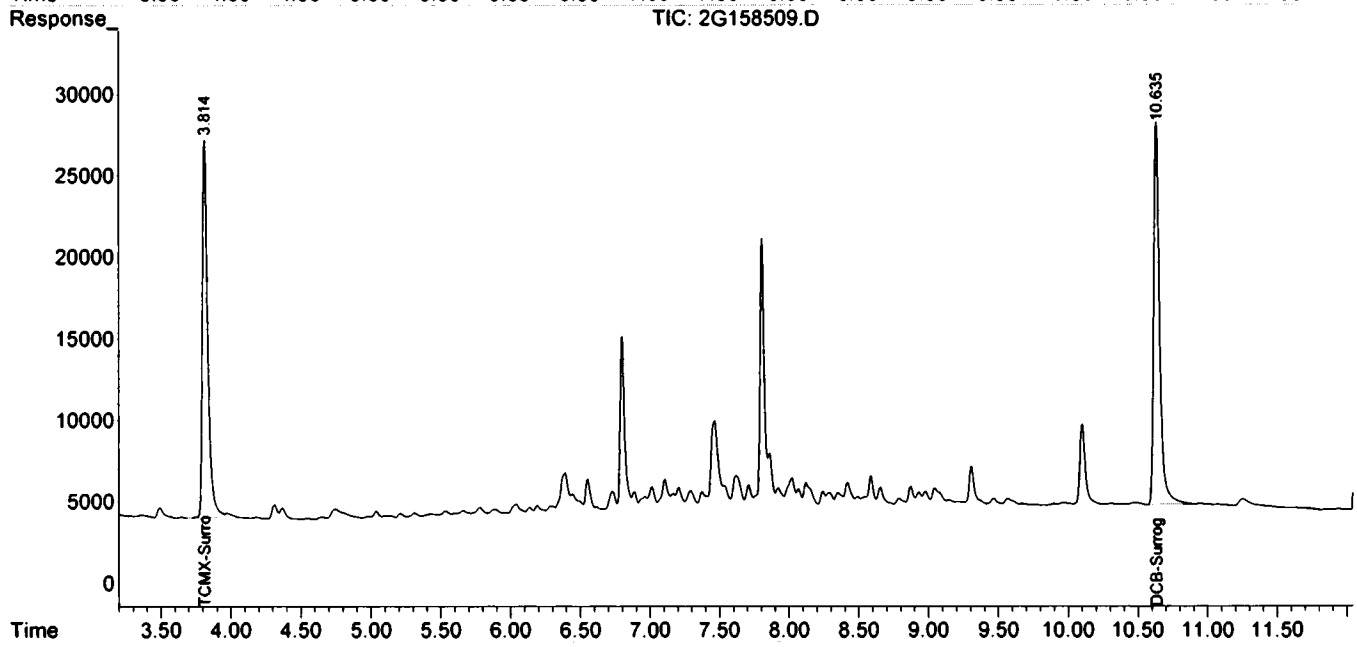
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158509.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:47
Operator : MS/MLC/MC/PR
Sample : AD26217-016
Misc : S,PCB
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:23 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-018
Client Id: SB01 COMP
Data File: 3G130797.D
Analysis Date: 09/30/21 09:58
Date Rec/Extracted: 09/23/21-09/29/21
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: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.030	U	11097-69-1	Aroclor-1254	0.030	U
11104-28-2	Aroclor-1221	0.030	U	11096-82-5	Aroclor-1260	0.030	U
11141-16-5	Aroclor-1232	0.030	U	37324-23-5	Aroclor-1262	0.030	U
53469-21-9	Aroclor-1242	0.030	U	11100-14-4	Aroclor-1268	0.030	U
12672-29-6	Aroclor-1248	0.030	U	1336-36-3	Aroclor (Total)	0.030	U

Worksheet #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130797.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:58
Operator : MS/MLC/MC/PR
Sample : AD26217-018
Misc : S,PCB
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:19:30 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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

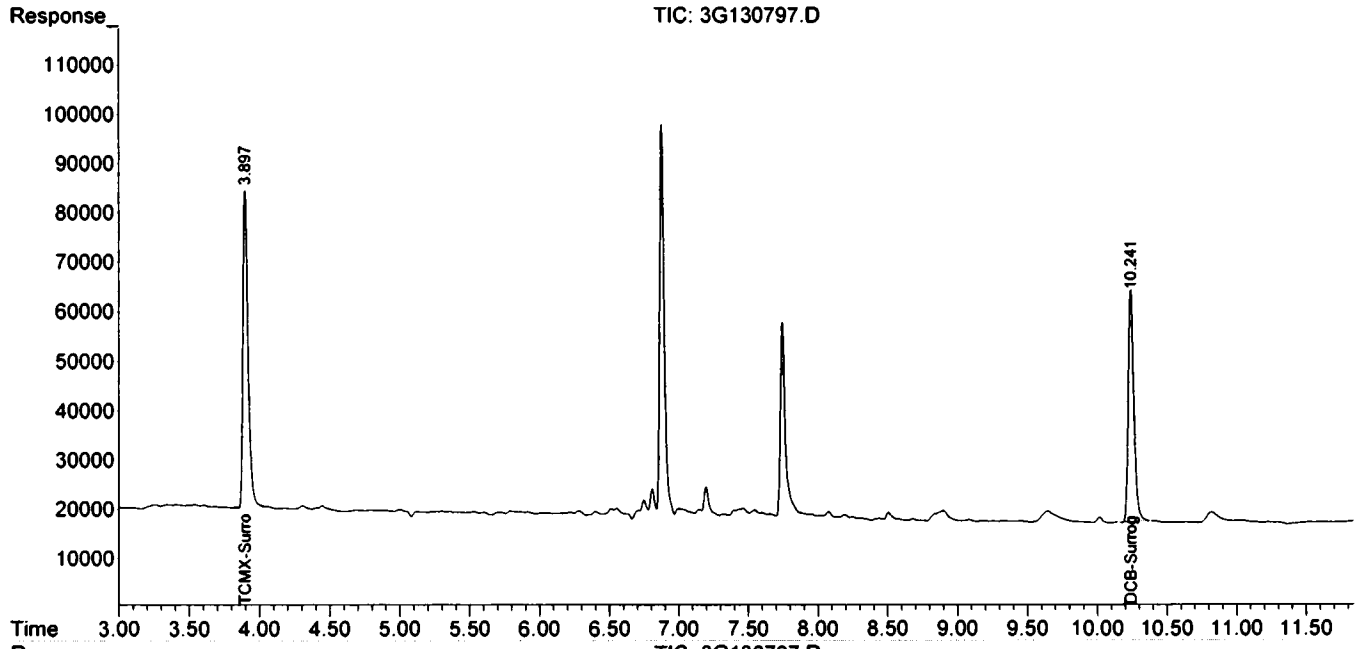
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.898	3.931	1597253	1794263	87.167	87.266
45)DCB-Surrogate	10.242	10.885	1326801	1713867	81.630	87.809

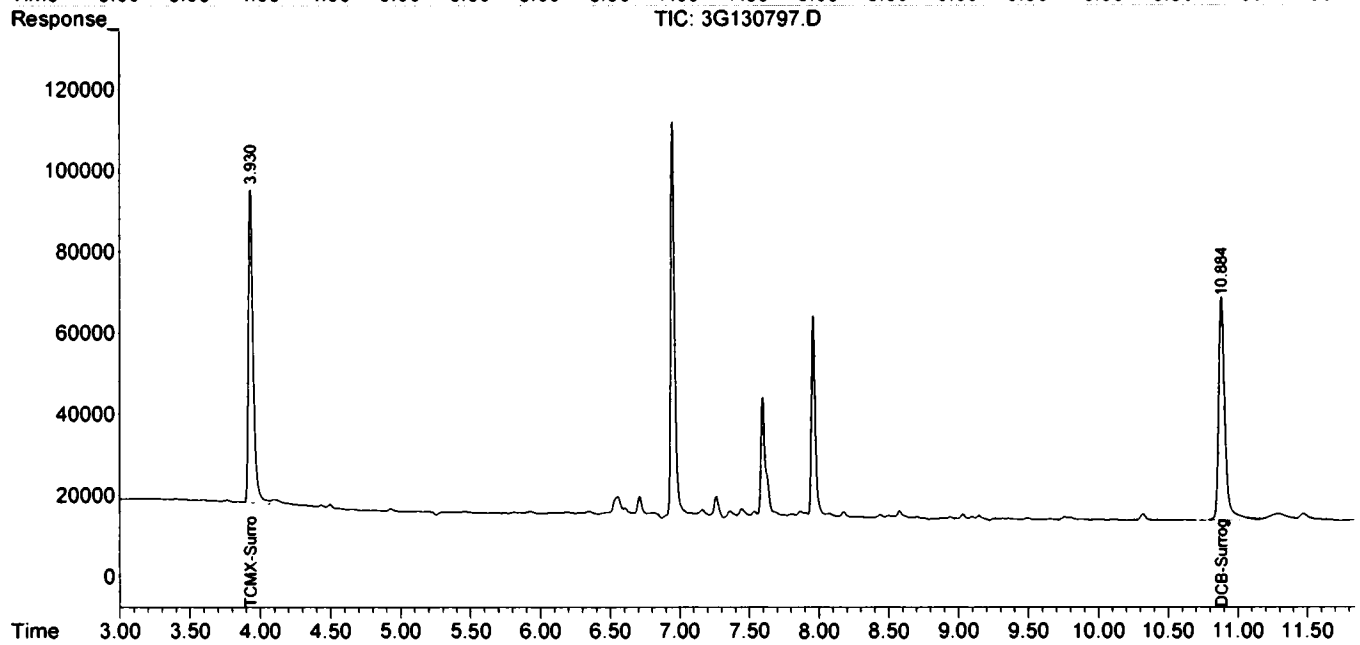
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130797.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:58
Operator : MS/MLC/MC/PR
Sample : AD26217-018
Misc : S,PCB
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:19:30 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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: SMB95083
Client Id:
Data File: 3G130792.D
Analysis Date: 09/30/21 08:44
Date Rec/Extracted: NA-09/29/21
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 #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130792.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 8:44
Operator : MS/MLC/MC/PR
Sample : SMB95083
Misc : S,PCB
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:35 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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

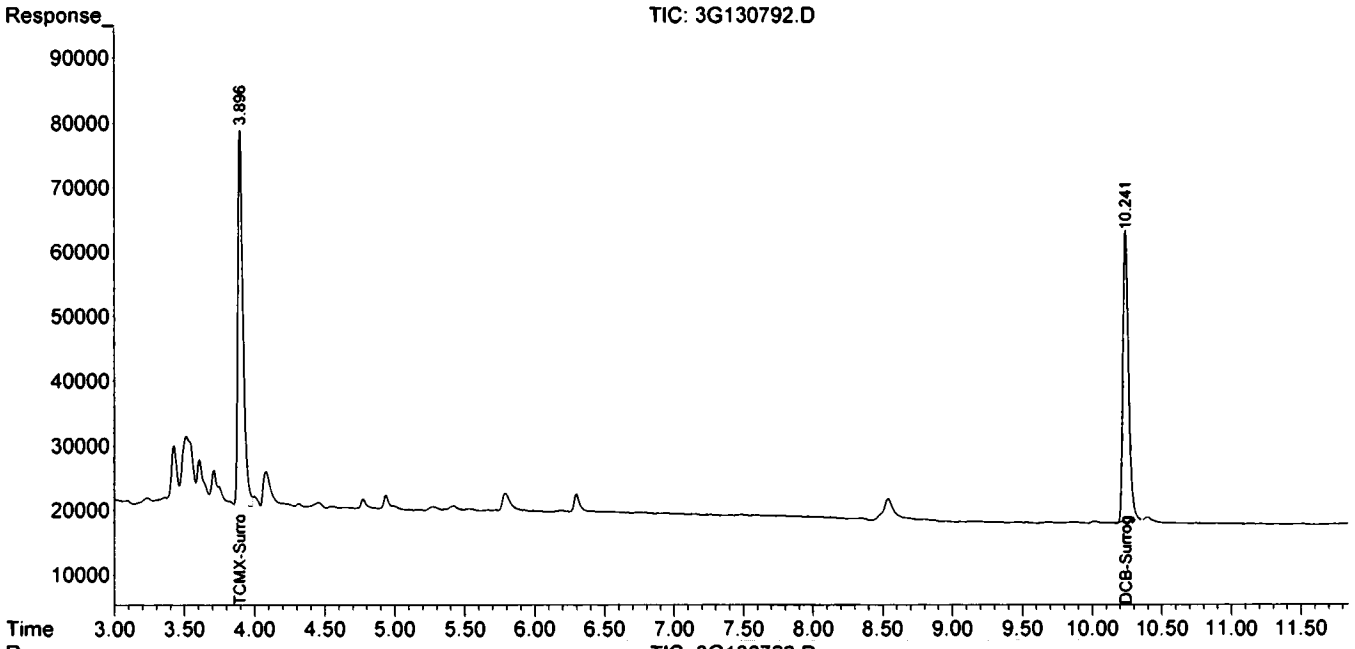
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.896	3.930	1492233	1584768	81.435	77.077
45)DCB-Surrogate	10.242	10.884	1265291	1523980	77.846	78.080

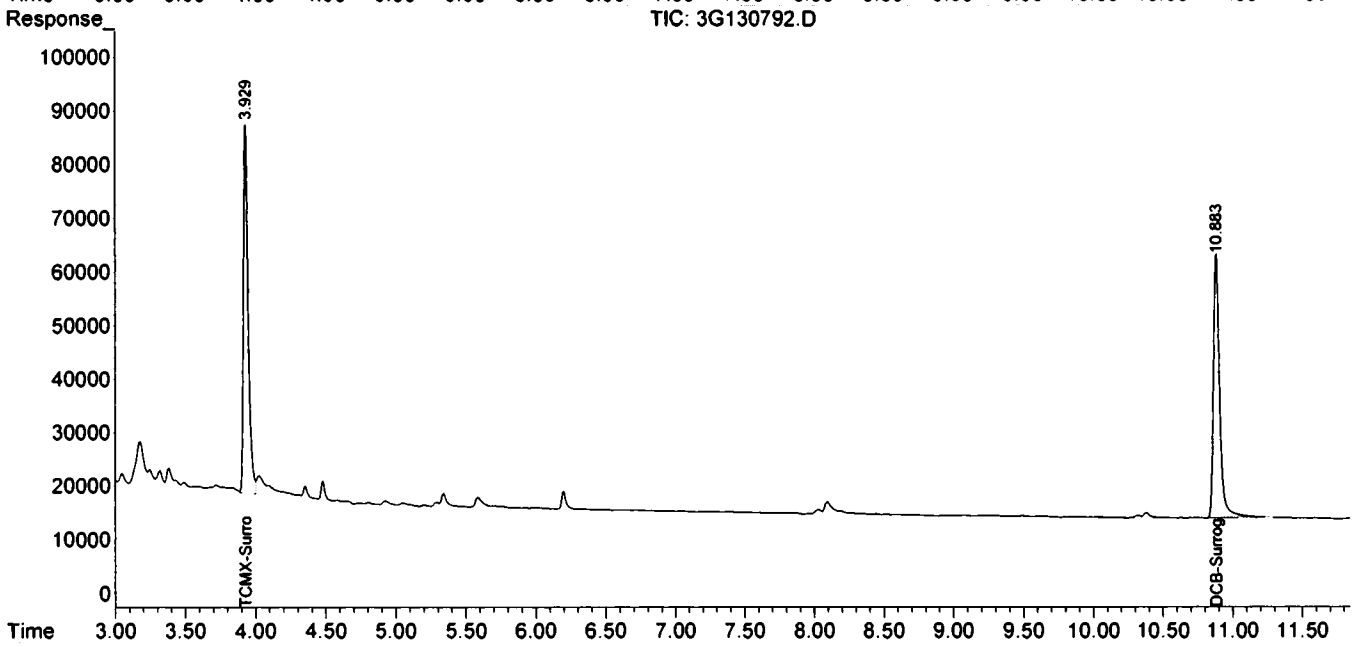
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130792.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 8:44
Operator : MS/MLC/MC/PR
Sample : SMB95083
Misc : S,PCB
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:35 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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
3G130792.D	SMB95083	S	09/30/21 08:44	1		81	77	78	78		
2G158513.D	AD26217-002	S	09/30/21 10:47	1		91	95	83	83		
2G158512.D	AD26217-004	S	09/30/21 10:32	1		98	103	88	87		
3G130794.D	AD26217-006	S	09/30/21 09:14	1		95	89	88	87		
2G158511.D	AD26217-008	S	09/30/21 10:17	1		95	101	85	88		
3G130795.D	AD26217-010	S	09/30/21 09:28	1		76	72	70	71		
3G130796.D	AD26217-012	S	09/30/21 09:43	1		91	88	82	90		
2G158510.D	AD26217-014	S	09/30/21 10:02	1		101	109	92	94		
2G158509.D	AD26217-016	S	09/30/21 09:47	1		93	96	108	111		
3G130797.D	AD26217-018	S	09/30/21 09:58	1		87	87	82	88		
2G158504.D	AD26206-002(MS)	S	09/30/21 08:32	1		99	110	92	96		
2G158505.D	AD26206-002(MSD)	S	09/30/21 08:47	1		94	102	86	92		
2G158506.D	AD26206-002	S	09/30/21 09:02	1		135	149*	118	122		
3G130793.D	SMB95083(MS)	S	09/30/21 08:59	1		84	80	83	82		

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: SMB95083

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G130793.D	SMB95083(MS)	9/30/2021 8:59:00 AM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	924.716	0	1000	92	30	163
Aroclor-1260 -Total	2	940.288	0	1000	94	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95083

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G158504.D	AD26206-002(MS)	9/30/2021 8:32:00 AM
Non Spike(If applicable):	2G158506.D	AD26206-002	9/30/2021 9:02:00 AM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	1170.536	0	1000	117	30	163
Aroclor-1260 -Total	2	1017.61	0	1000	102	25	166

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G158505.D	AD26206-002(MSD)	9/30/2021 8:47:00 AM
Non Spike(If applicable):	2G158506.D	AD26206-002	9/30/2021 9:02:00 AM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	1086.666	0	1000	109	30	163
Aroclor-1260 -Total	2	963.982	0	1000	96	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: SMB95083

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G158505.D	AD26206-002(MSD)	9/30/2021 8:47:00 AM
Duplicate(If applicable):	2G158504.D	AD26206-002(MS)	9/30/2021 8:32:00 AM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Aroclor-1016 -Total	2	1086.666	1170.536	7.4	40
Aroclor-1260 -Total	2	963.982	1017.61	5.4	37

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

FORM 4
Blank Summary

Blank Number: SMB95083
Blank Data File: 3G130792.D
Matrix: Soil

Blank Analysis Date: 09/30/21 08:44
Blank Extraction Date: 09/29/21
(If Applicable)
Method: EPA 8082A

Sample Number	Data File	Analysis Date
AD26217-002	2G158513.D	09/30/21 10:47
AD26217-004	2G158512.D	09/30/21 10:32
AD26217-006	3G130794.D	09/30/21 09:14
AD26217-008	2G158511.D	09/30/21 10:17
AD26217-010	3G130795.D	09/30/21 09:28
AD26217-012	3G130796.D	09/30/21 09:43
AD26217-014	2G158510.D	09/30/21 10:02
AD26217-016	2G158509.D	09/30/21 09:47
AD26217-018	3G130797.D	09/30/21 09:58
SMB95083(MS)	3G130793.D	09/30/21 08:59
AD26206-002	2G158506.D	09/30/21 09:02
AD26206-002(MSD	2G158505.D	09/30/21 08:47
AD26206-002(MS)	2G158504.D	09/30/21 08:32

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
2G158193 D	1000PPB	09/19/21 15:42	Aqueous					
2G158194 D	2000PPB	09/19/21 15:57	Aqueous					
2G158202 D	CAL 2154@500PPB	09/19/21 18:54	Soil	2G15820	9.8990	0.0303	10.6342	0.0075
2G158203 D	CAL 3268@500PPB	09/19/21 19:09	Soil	2G15820	9.8955	0.0657	10.6330	0.0038
2G158204 D	CAL 1242@500PPB	09/19/21 19:24	Soil	2G15820	9.8994	0.0263	10.6331	0.0028
2G158205 D	CAL 1248@500PPB	09/19/21 19:40	Soil	2G15820	9.8987	0.0333	10.6323	0.0103
2G158206 D	CAL 1262@500PPB	09/19/21 19:55	Soil	2G15820	9.8993	0.0273	10.6332	0.0019
2G158207 D	CAL 1660@50PPB	09/19/21 20:10	Soil	2G15820	9.9020	0	10.6334	0
2G158208 D	CAL 1660@200PPB	09/19/21 20:25	Soil	2G15820	9.9008	0.0121	10.6329	0.0047
2G158209 D	CAL 1660@500PPB	09/19/21 20:41	Soil	2G15820	9.8988	0.0323	10.6325	0.0085
2G158210 D	CAL 1660@1000PPB	09/19/21 20:57	Soil	2G15820	9.8996	0.0242	10.6343	0.0085
2G158211 D	CAL 1660@2000PPB	09/19/21 21:12	Soil	2G15820	9.8968	0.0525	10.6324	0.0094
2G158212 D	CAL 1660@4000PPB	09/19/21 21:27	Soil	2G15820	9.8963	0.0576	10.6327	0.0066
2G158213 D	ICV	09/19/21 21:43	Soil	2G15820	9.8986	0.0344	10.6315	0.0179
2G158214 D	TEST	09/19/21 21:59	Soil	2G15820	9.9010	0.0101	10.6342	0.0075
2G158215 D	PEST WS	09/19/21 22:14	Soil	2G15820	0.0000	200*	0.0000	200*
2G158216 D	AD25835-001	09/19/21 22:29	Soil	2G15820	9.8904	0.1172	10.6325	0.0085
2G158217 D	AD25933-001	09/19/21 22:45	Soil	2G15820	9.8939	0.0818	10.6313	0.0198
2G158218 D	AD25976-002	09/19/21 23:01	Soil	2G15820	9.8918	0.1031	10.6312	0.0207
2G158219 D	AD25976-004	09/19/21 23:17	Soil	2G15820	9.8931	0.0899	10.6310	0.0226
2G158220 D	AD25934-001	09/19/21 23:32	Soil	2G15820	9.8943	0.0778	10.6321	0.0122
2G158221 D	AD25934-003	09/19/21 23:47	Soil	2G15820	9.8938	0.0829	10.6317	0.016
2G158222 D	AD25934-006	09/20/21 00:03	Soil	2G15820	9.8958	0.0626	10.6343	0.0085
2G158223 D	AD25934-008	09/20/21 00:18	Soil	2G15820	9.8950	0.0707	10.6330	0.0038
2G158224 D	AD25934-005	09/20/21 00:33	Soil	2G15820	9.8952	0.0687	10.6316	0.0169
2G158225 D	AD25934-004	09/20/21 00:48	Soil	2G15820	9.8941	0.0798	10.6321	0.0122
2G158226 D	AD25934-002	09/20/21 01:03	Soil	2G15820	9.8952	0.0687	10.6336	0.0019
2G158227 D	AD25934-007	09/20/21 01:18	Soil	2G15820	9.8986	0.0344	10.6339	0.0047
2G158228 D	AD25934-001(MS)	09/20/21 01:33	Soil	2G15820	9.8976	0.0444	10.6335	0.0009
2G158229 D	AD25934-001(MSD)	09/20/21 01:49	Soil	2G15820	9.8935	0.0859	10.6312	0.0207
2G158230 D	AD25893-003(MS)	09/20/21 02:04	Soil	2G15820	9.8994	0.0263	10.6341	0.0066
2G158231 D	AD25893-003(MSD)	09/20/21 02:20	Soil	2G15820	9.8979	0.0414	10.6351	0.016
2G158232 D	AD25929-002(MS)	09/20/21 02:35	Soil	2G15820	9.8968	0.0525	10.6329	0.0047
2G158233 D	AD25929-002(MSD)	09/20/21 02:50	Soil	2G15820	9.8955	0.0657	10.6334	0
2G158234 D	25962-002(MS)	09/20/21 03:05	Soil	2G15820	9.8985	0.0354	10.6350	0.015
2G158235 D	25962-002(MSD)	09/20/21 03:20	Soil	2G15820	9.8985	0.0354	10.6334	0
2G158236 D	1000PPB	09/20/21 03:35	Soil	2G15820	9.8989	0.0313	10.6332	0.0019
2G158237 D	CAL 1660@2000PPB	09/20/21 03:50	Soil	2G15820	9.8983	0.0374	10.6324	0.0094

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
3G130611 D	CAL 2154@500PPB	09/22/21 10:45	Soil	3G13061	10.2441	0.0019	10.8845	0.0018
3G130612 D	CAL 3268@500PPB	09/22/21 11:32	Soil	3G13061	10.2562	0.12	10.8913	0.0643
3G130613 D	CAL 1242@500PPB	09/22/21 11:47	Soil	3G13061	10.2463	0.0234	10.8855	0.011
3G130614 D	CAL 1248@500PPB	09/22/21 12:01	Soil	3G13061	10.2451	0.0117	10.8849	0.0055
3G130615 D	CAL 1262@500PPB	09/22/21 12:16	Soil	3G13061	10.2442	0.0029	10.8851	0.0074
3G130616 D	CAL 1660@50PPB	09/22/21 12:31	Soil	3G13061	10.2439	0	10.8843	0
3G130617 D	CAL 1660@200PPB	09/22/21 12:46	Soil	3G13061	10.2452	0.0127	10.8850	0.0064
3G130618 D	CAL 1660@500PPB	09/22/21 13:01	Soil	3G13061	10.2450	0.0107	10.8848	0.0046
3G130619 D	CAL 1660@1000PPB	09/22/21 13:16	Soil	3G13061	10.2440	0.001	10.8858	0.0138
3G130620 D	CAL 1660@2000PPB	09/22/21 13:31	Soil	3G13061	10.2445	0.0059	10.8851	0.0074
3G130621 D	CAL 1660@4000PPB	09/22/21 13:45	Soil	3G13061	10.2436	0.0029	10.8852	0.0083
3G130622 D	ICV	09/22/21 14:00	Soil	3G13061	10.2443	0.0039	10.8862	0.0175
3G130623 D	PEST WS	09/22/21 14:15	Soil	3G13061	0.0000	200*	0.0000	200*

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
2G158499 D	1000PPB	09/30/21 07:02	Soil					
2G158500 D	CAL 1660@1000PPB	09/30/21 07:25	Soil	2G15850	9.8986	0	10.6386	0
2G158501 D	AD26227-002	09/30/21 07:46	Aqueous	2G15850	9.8957	0.0293	10.6363	0.0216
2G158502 D	AD26227-001	09/30/21 08:01	Aqueous	2G15850	9.8907	0.0798	10.6345	0.0386
2G158503 D	AD26184-002(R)	09/30/21 08:17	Aqueous	2G15850	9.9264	0.2805	10.6666	0.2628
2G158504 D	AD26206-002(MS)	09/30/21 08:32	Soil	2G15850	9.8897	0.0899	10.6349	0.0348
2G158505 D	AD26206-002(MSD)	09/30/21 08:47	Soil	2G15850	9.8928	0.0586	10.6351	0.0329
2G158506 D	AD26206-002	09/30/21 09:02	Soil	2G15850	9.8917	0.0697	10.6373	0.0122
2G158507 D	AD26206-004	09/30/21 09:17	Soil	2G15850	9.8942	0.0445	10.6368	0.0169
2G158508 D	AD26196-001	09/30/21 09:32	Soil	2G15850	9.8922	0.0647	10.6384	0.0019
2G158509 D	AD26217-016	09/30/21 09:47	Soil	2G15850	9.8912	0.0748	10.6363	0.0216
2G158510 D	AD26217-014	09/30/21 10:02	Soil	2G15850	9.8926	0.0606	10.6355	0.0291
2G158511 D	AD26217-008	09/30/21 10:17	Soil	2G15850	9.8944	0.0424	10.6375	0.0103
2G158512 D	AD26217-004	09/30/21 10:32	Soil	2G15850	9.8933	0.0536	10.6365	0.0197
2G158513 D	AD26217-002	09/30/21 10:47	Soil	2G15850	9.8971	0.0151	10.6396	0.0094
2G158514 D	CAL 1660@1000PPB	09/30/21 12:48	Soil	2G15850	9.9037	0.0515	10.6417	0.0291
2G158515 D	AD26300-001	09/30/21 17:31	OIL/OTHER	2G15851	9.9084	0.0474	10.6501	0.0789
2G158516 D	AD26302-001	09/30/21 17:46	OIL/OTHER	2G15851	9.8996	0.0414	10.6457	0.0376
2G158517 D	26302-001(100X)	09/30/21 18:17	OIL/OTHER	2G15851	0.0000	200*	10.6418	0.0009
2G158518 D	AD26302-001(100X)	09/30/21 19:04	OIL/OTHER	2G15851	9.8939	0.099	10.6358	0.0555
2G158521 D	CAL 1660@1000PPB	09/30/21 19:49	OIL/OTHER	2G15851	9.8946	0.0919	10.6369	0.0451

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
3G130787 D	CAL 1660@1000PPB	09/30/21 07:10	Soil	3G13078	10.2402	0	10.8838	0
3G130788 D	AD26200-013	09/30/21 07:44	Aqueous	3G13078	10.2530	0.1249	10.8896	0.0533
3G130789 D	AD26200-015	09/30/21 07:59	Aqueous	3G13078	10.2434	0.0312	10.8854	0.0147
3G130790 D	AD26200-017	09/30/21 08:14	Aqueous	3G13078	10.2422	0.0195	10.8842	0.0037
3G130791 D	AD26173-001	09/30/21 08:29	Aqueous	3G13078	10.2424	0.0215	10.8846	0.0074
3G130792 D	SMB95083	09/30/21 08:44	Soil	3G13078	10.2420	0.0176	10.8841	0.0028
3G130793 D	SMB95083(MS)	09/30/21 08:59	Soil	3G13078	10.2420	0.0176	10.8854	0.0147
3G130794 D	AD26217-006	09/30/21 09:14	Soil	3G13078	10.2420	0.0176	10.8847	0.0083
3G130795 D	AD26217-010	09/30/21 09:28	Soil	3G13078	10.2396	0.0059	10.8842	0.0037
3G130796 D	AD26217-012	09/30/21 09:43	Soil	3G13078	10.2404	0.002	10.8849	0.0101
3G130797 D	AD26217-018	09/30/21 09:58	Soil	3G13078	10.2415	0.0127	10.8851	0.012
3G130798 D	CAL 1660@1000PPB	09/30/21 13:01	Soil	3G13078	10.2561	0.1551	10.8920	0.0753
3G130799 D	OMB95093	09/30/21 17:31	OIL/OTHER	3G13079	10.2565	0.0039	10.8930	0.0092
3G130800 D	OMB95093(MS)	09/30/21 17:45	OIL/OTHER	3G13079	10.2465	0.0936	10.8871	0.045
3G130801 D	CAL 1660@1000PPB	09/30/21 18:08	OIL/OTHER	3G13079	10.2534	0.0263	10.8898	0.0202

Drift Compound: DCB-Surrogate Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

1092401 0249

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	2G158207.D	CAL 1660@50PPB	09/19/21 20:10	2	2G158208.D	CAL 1660@200PPB	09/19/21 20:25
3	2G158209.D	CAL 1660@500PPB	09/19/21 20:41	4	2G158210.D	CAL 1660@1000PPB	09/19/21 20:57
5	2G158211.D	CAL 1660@2000PPB	09/19/21 21:12	6	2G158212.D	CAL 1660@4000PPB	09/19/21 21:27
7	2G158203.D	CAL 3268@500PPB	09/19/21 19:09	8	2G158204.D	CAL 1242@500PPB	09/19/21 19:24
9	2G158205.D	CAL 1248@500PPB	09/19/21 19:40	10	2G158202.D	CAL 2154@500PPB	09/19/21 18:54
11	2G158206.D	CAL 1262@500PPB	09/19/21 19:55				

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-Surrooate	1	0	Avg	1.4326	1.3341	1.3796	1.3027	1.1787	1.0590	----	----	1.28	3.80	0.995	1.00	11	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	1	1	Avg	0.0224	0.0190	0.0238	0.0247	0.0233	0.0210	----	----	0.0224	4.27	0.996	1.00	9.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	2	Avg	0.0503	0.0451	0.0490	0.0465	0.0423	0.0371	----	----	0.0451	4.60	0.993	1.00	11	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	3	Avg	0.0710	0.0810	0.0864	0.0865	0.0823	0.0751	----	----	0.0804	5.13	0.997	1.00	7.7	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	4	Avg	0.0539	0.0558	0.0580	0.0546	0.0500	0.0333	----	----	0.0510	5.23	0.936	0.999	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	5	Avg	0.0964	0.1041	0.1122	0.1093	0.1002	0.0687	----	----	0.0985	5.42	0.945	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	1	Avg	0.0590	0.0597	0.0629	0.0642	0.0603	0.0525	----	----	0.0598	6.90	0.993	1.00	6.8	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	2	Avg	0.0771	0.0776	0.0828	0.0856	0.0811	0.0728	----	----	0.0795	7.17	0.996	1.00	5.8	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	3	Avg	0.0343	0.0412	0.0433	0.0451	0.0442	0.0396	----	----	0.0413	7.36	0.996	1.00	9.6	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	4	Avg	0.0466	0.0456	0.0475	0.0495	0.0476	0.0428	----	----	0.0466	7.93	0.996	1.00	4.9	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	5	Avg	0.0751	0.0810	0.0792	0.0852	0.0842	0.0756	----	----	0.0801	8.66	0.996	1.00	5.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	1	1	Avg	----	----	----	----	----	----	----	----	0.0154	4.06	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	2	Avg	----	----	----	----	----	----	----	----	0.00788	4.19	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	3	Avg	----	----	----	----	----	----	----	----	0.0402	4.26	-1	-1	Lvl=10	500.0							
Aroclor-1232	1	1	Avg	----	----	----	----	----	----	----	----	0.0243	4.26	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	2	Avg	----	----	----	----	----	----	----	----	0.0192	4.60	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	3	Avg	----	----	----	----	----	----	----	----	0.0358	5.12	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	4	Avg	----	----	----	----	----	----	----	----	0.0222	5.23	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	5	Avg	----	----	----	----	----	----	----	----	0.0170	5.65	-1	-1	Lvl=7	500.0							
Aroclor-1242	1	1	Avg	----	----	----	----	----	----	----	----	0.0207	4.26	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	2	Avg	----	----	----	----	----	----	----	----	0.0376	4.60	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	3	Avg	----	----	----	----	----	----	----	----	0.0703	5.12	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	4	Avg	----	----	----	----	----	----	----	----	0.0821	5.42	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	5	Avg	----	----	----	----	----	----	----	----	0.0322	5.65	-1	-1	Lvl=8	500.0							
Aroclor-1248	1	1	Avg	----	----	----	----	----	----	----	----	0.0187	4.60	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	2	Avg	----	----	----	----	----	----	----	----	0.0476	5.13	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	3	Avg	----	----	----	----	----	----	----	----	0.104	5.42	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	4	Avg	----	----	----	----	----	----	----	----	0.0518	5.77	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	5	Avg	----	----	----	----	----	----	----	----	0.0493	6.40	-1	-1	Lvl=9	500.0							
Aroclor-1254	1	1	Avg	----	----	----	----	----	----	----	----	0.0225	6.55	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	2	Avg	----	----	----	----	----	----	----	----	0.0923	6.76	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	3	Avg	----	----	----	----	----	----	----	----	0.0425	6.90	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	4	Avg	----	----	----	----	----	----	----	----	0.0623	7.09	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	5	Avg	----	----	----	----	----	----	----	----	0.0223	7.48	-1	-1	Lvl=10	500.0							
Aroclor-1262	1	1	Avg	----	----	----	----	----	----	----	----	0.133	7.58	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	2	Avg	----	----	----	----	----	----	----	----	0.0619	8.58	-1	-1	Lvl=11	500.0							

Avg Rsd Col 1: 9.39 Avg Rsd Col 2: 10.35

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. - 347

1092401 0250

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	2G158207.D	CAL 1660@50PPB	09/19/21 20:10	2	2G158208.D	CAL 1660@200PPB	09/19/21 20:25
3	2G158209.D	CAL 1660@500PPB	09/19/21 20:41	4	2G158210.D	CAL 1660@1000PPB	09/19/21 20:57
5	2G158211.D	CAL 1660@2000PPB	09/19/21 21:12	6	2G158212.D	CAL 1660@4000PPB	09/19/21 21:27
7	2G158203.D	CAL 3268@500PPB	09/19/21 19:09	8	2G158204.D	CAL 1242@500PPB	09/19/21 19:24
9	2G158205.D	CAL 1248@500PPB	09/19/21 19:40	10	2G158202.D	CAL 2154@500PPB	09/19/21 18:54
11	2G158206.D	CAL 1262@500PPB	09/19/21 19:55				

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	----	----	----	----	----	----	----	----	0.114	8.65	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	4	Avg	----	----	----	----	----	----	----	----	0.0489	9.34	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	5	Avg	----	----	----	----	----	----	----	----	0.0165	9.68	-1	-1	Lvl=11	500.0							
Aroclor-1268	1	1	Avg	----	----	----	----	----	----	----	----	0.0181	7.93	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	2	Avg	----	----	----	----	----	----	----	----	0.0254	8.27	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	3	Avg	----	----	----	----	----	----	----	----	0.133	8.82	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	4	Avg	----	----	----	----	----	----	----	----	0.0399	8.92	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	5	Avg	----	----	----	----	----	----	----	----	0.368	9.67	-1	-1	Lvl=7	500.0							
DCB-Surrogate	1	0	Avg	1.0455	0.9258	0.9565	0.9477	0.9084	0.8103	----	----	0.932	9.90	0.996	1.00	8.2	5.00	20.00	50.00	100.0	200.0	400.0		
TCMX-Surrogate	2	0	Avg	0.6521	0.6133	0.6547	0.6801	0.6712	0.6325	----	----	0.651	3.81	0.999	1.00	3.8	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	2	1	Avg	0.0191	0.0167	0.0182	0.0176	0.0168	0.0150	----	----	0.0173	4.42	0.996	1.00	8.2	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	2	Avg	0.0369	0.0353	0.0341	0.0317	0.0291	0.0255	----	----	0.0321	4.82	0.994	1.00	13	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	3	Avg	0.0600	0.0630	0.0630	0.0604	0.0568	0.0513	----	----	0.0591	5.22	0.996	1.00	7.5	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	4	Avg	0.0173	0.0251	0.0248	0.0234	0.0215	0.0192	----	----	0.0220	5.54	0.995	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	5	Avg	0.0111	0.0181	0.0181	0.0171	0.0159	0.0142	----	----	0.0158	5.90	0.995	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	1	Avg	0.0515	0.0409	0.0420	0.0394	0.0356	0.0313	----	----	0.0402	7.21	0.994	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	2	Avg	0.0503	0.0411	0.0462	0.0440	0.0404	0.0362	----	----	0.0431	7.30	0.995	1.00	11	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	3	Avg	0.0244	0.0226	0.0230	0.0224	0.0211	0.0195	----	----	0.0222	7.92	0.998	1.00	7.7	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	4	Avg	0.0360	0.0320	0.0327	0.0325	0.0306	0.0280	----	----	0.0320	8.28	0.997	1.00	8.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	5	Avg	0.0318	0.0319	0.0319	0.0314	0.0302	0.0282	----	----	0.0310	8.98	0.999	1.00	4.7	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	2	1	Avg	----	----	----	----	----	----	----	----	0.0107	4.19	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	2	Avg	----	----	----	----	----	----	----	----	0.00579	4.34	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	3	Avg	----	----	----	----	----	----	----	----	0.0291	4.41	-1	-1	Lvl=10	500.0							
Aroclor-1232	2	1	Avg	----	----	----	----	----	----	----	----	0.0191	4.41	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	2	Avg	----	----	----	----	----	----	----	----	0.0165	4.82	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	3	Avg	----	----	----	----	----	----	----	----	0.0284	5.22	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	4	Avg	----	----	----	----	----	----	----	----	0.0120	5.54	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	5	Avg	----	----	----	----	----	----	----	----	0.00886	6.05	-1	-1	Lvl=7	500.0							
Aroclor-1242	2	1	Avg	----	----	----	----	----	----	----	----	0.0163	4.41	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	2	Avg	----	----	----	----	----	----	----	----	0.0291	4.82	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	3	Avg	----	----	----	----	----	----	----	----	0.0544	5.22	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	4	Avg	----	----	----	----	----	----	----	----	0.0215	5.54	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	5	Avg	----	----	----	----	----	----	----	----	0.0160	5.90	-1	-1	Lvl=8	500.0							
Aroclor-1248	2	1	Avg	----	----	----	----	----	----	----	----	0.0146	4.82	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	2	Avg	----	----	----	----	----	----	----	----	0.0339	5.22	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	3	Avg	----	----	----	----	----	----	----	----	0.0260	5.53	-1	-1	Lvl=9	500.0							

Avg Rsd Col 1: 9.39 Avg Rsd Col 2: 10.35

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 whether Avg RF, Linear, or Quadratic Curve was used for compound
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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. - 348

1092401 0251

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	2G158207.D	CAL 1660@50PPB	09/19/21 20:10	2	2G158208.D	CAL 1660@200PPB	09/19/21 20:25
3	2G158209.D	CAL 1660@500PPB	09/19/21 20:41	4	2G158210.D	CAL 1660@1000PPB	09/19/21 20:57
5	2G158211.D	CAL 1660@2000PPB	09/19/21 21:12	6	2G158212.D	CAL 1660@4000PPB	09/19/21 21:27
7	2G158203.D	CAL 3268@500PPB	09/19/21 19:09	8	2G158204.D	CAL 1242@500PPB	09/19/21 19:24
9	2G158205.D	CAL 1248@500PPB	09/19/21 19:40	10	2G158202.D	CAL 2154@500PPB	09/19/21 18:54
11	2G158206.D	CAL 1262@500PPB	09/19/21 19:55				

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	----	----	----	----	----	----	----	----	0.0255	6.05	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	5	Avg	----	----	----	----	----	----	----	----	0.0297	6.20	-1	-1	Lvl=9	500.0							
Aroclor-1254	2	1	Avg	----	----	----	----	----	----	----	----	0.0434	6.40	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	2	Avg	----	----	----	----	----	----	----	----	0.0130	6.74	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	3	Avg	----	----	----	----	----	----	----	----	0.0224	7.16	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	4	Avg	----	----	----	----	----	----	----	----	0.00726	7.69	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	5	Avg	----	----	----	----	----	----	----	----	0.0134	8.35	-1	-1	Lvl=10	500.0							
Aroclor-1262	2	1	Avg	----	----	----	----	----	----	----	----	0.0372	7.71	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	2	Avg	----	----	----	----	----	----	----	----	0.0292	8.87	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	3	Avg	----	----	----	----	----	----	----	----	0.0362	8.98	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	4	Avg	----	----	----	----	----	----	----	----	0.0368	9.57	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	5	Avg	----	----	----	----	----	----	----	----	0.0101	10.10	-1	-1	Lvl=11	500.0							
Aroclor-1268	2	1	Avg	----	----	----	----	----	----	----	----	0.00667	8.37	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	2	Avg	----	----	----	----	----	----	----	----	0.0107	8.42	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	3	Avg	----	----	----	----	----	----	----	----	0.0746	9.30	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	4	Avg	----	----	----	----	----	----	----	----	0.0195	9.46	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	5	Avg	----	----	----	----	----	----	----	----	0.240	10.10	-1	-1	Lvl=7	500.0							
DCB-Surrogate	2	0	Avg	0.7506	0.6307	0.6356	0.6305	0.5903	0.5405	----	----	0.630	10.63	0.997	1.00	11	5.00	20.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 9.39 Avg Rsd Col 2: 10.35

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 whether Avg RF, Linear, or Quadratic Curve was used for compound
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

1092401 0252

Form 6

Method: EPA 8082A

Initial Calibration

Instrument: GC_3

Level #	Data File	Cal Identifier	Analysis Date/Time	Level #	Data File	Cal Identifier	Analysis Date/Time
1	3G130616.D	CAL 1660@50PPB	09/22/21 12:31	2	3G130617.D	CAL 1660@200PPB	09/22/21 12:46
3	3G130618.D	CAL 1660@500PPB	09/22/21 13:01	4	3G130619.D	CAL 1660@1000PPB	09/22/21 13:16
5	3G130620.D	CAL 1660@2000PPB	09/22/21 13:31	6	3G130621.D	CAL 1660@4000PPB	09/22/21 13:45
7	3G130612.D	CAL 3268@500PPB	09/22/21 11:32	8	3G130613.D	CAL 1242@500PPB	09/22/21 11:47
9	3G130614.D	CAL 1248@500PPB	09/22/21 12:01	10	3G130611.D	CAL 2154@500PPB	09/22/21 10:45
11	3G130615.D	CAL 1262@500PPB	09/22/21 12:16				

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	2.3016	1.8451	1.9023	1.7681	1.6647	1.5123	----	----	1.83	3.90	0.997	1.00	15	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	1	1	Avg	0.0478	0.0432	0.0415	0.0379	0.0354	0.0316	----	----	0.0396	4.42	0.996	1.00	15	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	2	Lin	0.1058	0.0853	0.0819	0.0742	0.0661	0.0569	----	----	0.0784	4.79	0.992	1.00	22	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	3	Avg	0.1976	0.1672	0.1582	0.1438	0.1305	0.1152	----	----	0.152	5.26	0.995	1.00	19	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	4	Avg	0.0654	0.0535	0.0546	0.0506	0.0460	0.0413	----	----	0.0519	5.51	0.996	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	5	Avg	0.1457	0.1170	0.1142	0.1034	0.0935	0.0836	----	----	0.110	5.63	0.995	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	1	Avg	0.1304	0.1095	0.1025	0.0934	0.0855	0.0739	----	----	0.0993	7.15	0.993	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	2	Avg	0.1602	0.1424	0.1351	0.1236	0.1154	0.0998	----	----	0.129	7.40	0.993	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	3	Avg	0.0782	0.0707	0.0702	0.0662	0.0655	0.0591	----	----	0.0684	7.60	0.997	1.00	9.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	4	Avg	0.1041	0.0860	0.0852	0.0791	0.0738	0.0652	----	----	0.0823	8.19	0.995	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	5	Avg	0.1562	0.1317	0.1348	0.1327	0.1291	0.1179	----	----	0.134	8.92	0.998	1.00	9.4	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	1	1	Avg	----	----	----	----	----	----	----	----	0.0249	4.20	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	2	Avg	----	----	----	----	----	----	----	----	0.0149	4.35	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	3	Avg	----	----	----	----	----	----	----	----	0.0631	4.42	-1	-1	Lvl=10	500.0							
Aroclor-1232	1	1	Avg	----	----	----	----	----	----	----	----	0.0466	4.43	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	2	Avg	----	----	----	----	----	----	----	----	0.0431	4.80	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	3	Avg	----	----	----	----	----	----	----	----	0.0824	5.27	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	4	Avg	----	----	----	----	----	----	----	----	0.0359	5.41	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	5	Avg	----	----	----	----	----	----	----	----	0.0383	5.88	-1	-1	Lvl=7	500.0							
Aroclor-1242	1	1	Avg	----	----	----	----	----	----	----	----	0.0379	4.42	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	2	Avg	----	----	----	----	----	----	----	----	0.0699	4.79	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	3	Avg	----	----	----	----	----	----	----	----	0.144	5.26	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	4	Avg	----	----	----	----	----	----	----	----	0.0971	5.63	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	5	Avg	----	----	----	----	----	----	----	----	0.0649	5.87	-1	-1	Lvl=8	500.0							
Aroclor-1248	1	1	Avg	----	----	----	----	----	----	----	----	0.0329	4.79	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	2	Avg	----	----	----	----	----	----	----	----	0.0897	5.26	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	3	Avg	----	----	----	----	----	----	----	----	0.151	5.61	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	4	Avg	----	----	----	----	----	----	----	----	0.0943	5.87	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	5	Avg	----	----	----	----	----	----	----	----	0.0995	6.58	-1	-1	Lvl=9	500.0							
Aroclor-1254	1	1	Avg	----	----	----	----	----	----	----	----	0.0415	6.78	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	2	Avg	----	----	----	----	----	----	----	----	0.135	6.99	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	3	Avg	----	----	----	----	----	----	----	----	0.0779	7.15	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	4	Avg	----	----	----	----	----	----	----	----	0.121	7.27	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	5	Avg	----	----	----	----	----	----	----	----	0.0491	7.66	-1	-1	Lvl=10	500.0							
Aroclor-1262	1	1	Avg	----	----	----	----	----	----	----	----	0.175	7.83	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	2	Avg	----	----	----	----	----	----	----	----	0.0979	8.84	-1	-1	Lvl=11	500.0							

Avg Rsd Col 1: 15.79 Avg Rsd Col 2: 14.19

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. - 350

1092401 0253

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	3G130616.D	CAL 1660@50PPB	09/22/21 12:31	2	3G130617.D	CAL 1660@200PPB	09/22/21 12:46
3	3G130618.D	CAL 1660@500PPB	09/22/21 13:01	4	3G130619.D	CAL 1660@1000PPB	09/22/21 13:16
5	3G130620.D	CAL 1660@2000PPB	09/22/21 13:31	6	3G130621.D	CAL 1660@4000PPB	09/22/21 13:45
7	3G130612.D	CAL 3268@500PPB	09/22/21 11:32	8	3G130613.D	CAL 1242@500PPB	09/22/21 11:47
9	3G130614.D	CAL 1248@500PPB	09/22/21 12:01	10	3G130611.D	CAL 2154@500PPB	09/22/21 10:45
11	3G130615.D	CAL 1262@500PPB	09/22/21 12:16				

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	----	----	----	----	----	----	----	----	0.179	8.91	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	4	Avg	----	----	----	----	----	----	----	----	0.0865	9.65	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	5	Avg	----	----	----	----	----	----	----	----	0.0292	10.02	-1	-1	Lvl=11	500.0							
Aroclor-1268	1	1	Avg	----	----	----	----	----	----	----	----	0.0249	8.19	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	2	Avg	----	----	----	----	----	----	----	----	0.0274	8.52	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	3	Avg	----	----	----	----	----	----	----	----	0.225	9.10	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	4	Avg	----	----	----	----	----	----	----	----	0.0626	9.20	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	5	Avg	----	----	----	----	----	----	----	----	0.609	10.03	-1	-1	Lvl=7	500.0							
DCB-Surrogate	1	0	Avg	1.9326	1.6966	1.6994	1.6095	1.4832	1.3309	----	----	1.63	10.24	0.996	1.00	13	5.00	20.00	50.00	100.0	200.0	400.0		
TCMX-Surrogate	2	0	Avg	2.3129	2.1173	2.0105	2.0406	1.9909	1.8640	----	----	2.06	3.93	0.999	1.00	7.3	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	2	1	Avg	0.0422	0.0435	0.0421	0.0401	0.0390	0.0348	----	----	0.0403	4.53	0.996	1.00	7.7	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	2	Avg	0.1088	0.0945	0.0898	0.0856	0.0776	0.0674	----	----	0.0873	4.96	0.993	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	3	Avg	0.2236	0.1844	0.1738	0.1635	0.1522	0.1364	----	----	0.172	5.34	0.996	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	4	Avg	0.0979	0.0840	0.0768	0.0715	0.0665	0.0591	----	----	0.0760	5.67	0.996	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	5	Avg	0.0690	0.0603	0.0566	0.0527	0.0486	0.0435	----	----	0.0551	6.05	0.996	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	1	Lin	0.1672	0.1346	0.1252	0.1155	0.1036	0.0915	----	----	0.123	7.36	0.994	1.00	22	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	2	Avg	0.1703	0.1420	0.1337	0.1263	0.1113	0.1041	----	----	0.131	7.44	0.997	0.999	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	3	Avg	0.0768	0.0719	0.0599	0.0641	0.0610	0.0573	----	----	0.0652	8.08	0.999	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	4	Avg	0.1408	0.1189	0.1140	0.1066	0.1011	0.0948	----	----	0.113	8.44	0.999	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	5	Avg	0.1112	0.0985	0.1009	0.0964	0.0932	0.0878	----	----	0.0980	9.15	0.999	1.00	8.1	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	2	1	Avg	----	----	----	----	----	----	----	----	0.0288	4.31	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	2	Avg	----	----	----	----	----	----	----	----	0.0166	4.46	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	3	Avg	----	----	----	----	----	----	----	----	0.0579	4.53	-1	-1	Lvl=10	500.0							
Aroclor-1232	2	1	Avg	----	----	----	----	----	----	----	----	0.0343	4.53	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	2	Avg	----	----	----	----	----	----	----	----	0.0395	4.96	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	3	Avg	----	----	----	----	----	----	----	----	0.0734	5.34	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	4	Avg	----	----	----	----	----	----	----	----	0.0243	6.19	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	5	Avg	----	----	----	----	----	----	----	----	0.0177	6.27	-1	-1	Lvl=7	500.0							
Aroclor-1242	2	1	Avg	----	----	----	----	----	----	----	----	0.0389	4.53	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	2	Avg	----	----	----	----	----	----	----	----	0.0733	4.96	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	3	Avg	----	----	----	----	----	----	----	----	0.146	5.34	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	4	Avg	----	----	----	----	----	----	----	----	0.0662	5.67	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	5	Avg	----	----	----	----	----	----	----	----	0.0546	6.05	-1	-1	Lvl=8	500.0							
Aroclor-1248	2	1	Avg	----	----	----	----	----	----	----	----	0.0371	4.96	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	2	Avg	----	----	----	----	----	----	----	----	0.0965	5.34	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	3	Avg	----	----	----	----	----	----	----	----	0.0764	5.67	-1	-1	Lvl=9	500.0							

Avg Rsd Col 1: 15.79 Avg Rsd Col 2: 14.19

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 whether Avg RF, Linear, or Quadratic Curve was used for compound
Corr 1 = Correlation Coefficient for linear Eq
Corr 2 = Correlation Coefficient for quad Eq

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. - 351

1092401 0254

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	3G130616.D	CAL 1660@50PPB	09/22/21 12:31	2	3G130617.D	CAL 1660@200PPB	09/22/21 12:46
3	3G130618.D	CAL 1660@500PPB	09/22/21 13:01	4	3G130619.D	CAL 1660@1000PPB	09/22/21 13:16
5	3G130620.D	CAL 1660@2000PPB	09/22/21 13:31	6	3G130621.D	CAL 1660@4000PPB	09/22/21 13:45
7	3G130612.D	CAL 3268@500PPB	09/22/21 11:32	8	3G130613.D	CAL 1242@500PPB	09/22/21 11:47
9	3G130614.D	CAL 1248@500PPB	09/22/21 12:01	10	3G130611.D	CAL 2154@500PPB	09/22/21 10:45
11	3G130615.D	CAL 1262@500PPB	09/22/21 12:16				

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	----	----	----	----	----	----	----	----	0.0746	6.19	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	5	Avg	----	----	----	----	----	----	----	----	0.0864	6.32	-1	-1	Lvl=9	500.0							
Aroclor-1254	2	1	Avg	----	----	----	----	----	----	----	----	0.128	6.55	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	2	Avg	----	----	----	----	----	----	----	----	0.0407	6.89	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	3	Avg	----	----	----	----	----	----	----	----	0.106	7.29	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	4	Avg	----	----	----	----	----	----	----	----	0.0521	7.80	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	5	Avg	----	----	----	----	----	----	----	----	0.0497	8.50	-1	-1	Lvl=10	500.0							
Aroclor-1262	2	1	Avg	----	----	----	----	----	----	----	----	0.117	7.87	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	2	Avg	----	----	----	----	----	----	----	----	0.0981	9.03	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	3	Avg	----	----	----	----	----	----	----	----	0.116	9.14	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	4	Avg	----	----	----	----	----	----	----	----	0.116	9.76	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	5	Avg	----	----	----	----	----	----	----	----	0.0335	10.32	-1	-1	Lvl=11	500.0							
Aroclor-1268	2	1	Avg	----	----	----	----	----	----	----	----	0.0198	8.54	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	2	Avg	----	----	----	----	----	----	----	----	0.0335	8.58	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	3	Avg	----	----	----	----	----	----	----	----	0.211	9.50	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	4	Avg	----	----	----	----	----	----	----	----	0.0577	9.66	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	5	Avg	----	----	----	----	----	----	----	----	0.641	10.33	-1	-1	Lvl=7	500.0							
DCB-Surrogate	2	0	Avg	2.4250	1.9955	1.9170	1.9209	1.7987	1.6535	----	----	1.95	10.88	0.998	1.00	13	5.00	20.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 15.79 Avg Rsd Col 2: 14.19

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. - 352

Form7
Continuing Calibration

Method: EPA 8082A

Data File:				2G158500.D			2G158514.D			3G130787.D			3G130798.D					
Method:				8082			8082			8082			8082					
Calibration Name:				CAL 1660@1000PP			CAL 1660@1000PP			CAL 1660@1000PP			CAL 1660@1000PP					
Calibration Date/Time				09/30/21 07:25			09/30/21 12:48			09/30/21 07:10			09/30/21 13:01					
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	102.1	100	2.1	106.2	100	6.2	103.1	100	3.1	109.9	100	9.9			
Aroclor-1016	20	1	1	913.4	1000	8.7	1050	1000	5.0	1066	1000	6.6	1169	1000	16.9			
Aroclor-1016	20	1	2	1020	1000	2.0	1119	1000	11.9	1233	1000	23.3*	1319	1000	31.9*			
Aroclor-1016	20	1	3	1128	1000	12.8	1296	1000	29.6*	1024	1000	2.4	1085	1000	8.5			
Aroclor-1016	20	1	4	971.4	1000	2.9	854.5	1000	14.5	1049	1000	4.9	1105	1000	10.5			
Aroclor-1016	20	1	5	1000	1000	0.0	887	1000	11.3	1022	1000	2.2	1061	1000	6.1			
Aroclor-1260	20	1	1	984.2	1000	1.6	1099	1000	9.9	1041	1000	4.1	1035	1000	3.5			
Aroclor-1260	20	1	2	1083	1000	8.3	1172	1000	17.2	1078	1000	7.8	1037	1000	3.7			
Aroclor-1260	20	1	3	1028	1000	2.8	1099	1000	9.9	1102	1000	10.2	1016	1000	1.6			
Aroclor-1260	20	1	4	1061	1000	6.1	1181	1000	18.1	1067	1000	6.7	1015	1000	1.5			
Aroclor-1260	20	1	5	996.7	1000	0.3	1055	1000	5.5	1020	1000	2.0	1007	1000	0.7			
DCB-Surrogate	20	1	0	89.11	100	10.9	91.39	100	8.6	94.01	100	6.0	94.43	100	5.6			
Average Difference	20	1	0			4.9			12.3			6.6			8.4			
TCMX-Surrogate	20	2	0	104.1	100	4.1	101.8	100	1.8	91.46	100	8.5	86.7	100	13.3			
Aroclor-1016	20	2	1	1031	1000	3.1	991.2	1000	0.9	905.6	1000	9.4	870.9	1000	12.9			
Aroclor-1016	20	2	2	990.3	1000	1.0	991.1	1000	0.9	887.9	1000	11.2	868.5	1000	13.2			
Aroclor-1016	20	2	3	1025	1000	2.5	1044	1000	4.4	844.5	1000	15.6	822.6	1000	17.7			
Aroclor-1016	20	2	4	1099	1000	9.9	1136	1000	13.6	884.8	1000	11.5	869.7	1000	13.0			
Aroclor-1016	20	2	5	1091	1000	9.1	1089	1000	8.9	930.6	1000	6.9	913.9	1000	8.6			
Aroclor-1260	20	2	1	972.4	1000	2.8	962.1	1000	3.8	1046	1000	4.6	1016	1000	1.6			
Aroclor-1260	20	2	2	997.4	1000	0.3	976.8	1000	2.3	877.5	1000	12.2	859.1	1000	14.1			
Aroclor-1260	20	2	3	985.6	1000	1.4	910.6	1000	8.9	813.6	1000	18.6	804.1	1000	19.6			
Aroclor-1260	20	2	4	985.7	1000	1.4	926.6	1000	7.3	942.7	1000	5.7	945.1	1000	5.5			
Aroclor-1260	20	2	5	967.6	1000	3.2	945.7	1000	5.4	929.9	1000	7.0	902.2	1000	9.8			
DCB-Surrogate	20	2	0	90.57	100	9.4	87.94	100	12.1	93.54	100	6.5	90.28	100	9.7			
Average Difference	20	2	0			4.0			5.9			9.8			11.6			

Flags/Notes: **** - Values outside of limits for this column/run***

Form7
RtWindow Summary

Method: EPA 8082A

			Data File:	2G158207.D		3G130616.D		2G158500.D		3G130787.D		
			Calibration Name:	CAL 1660@50PPB		CAL 1660@50PPB		CAL 1660@1000PPB		CAL 1660@1000PPB		
			Calibration Date/Time	9/19/2021 8:10:00 PM		9/22/2021 12:31:00 PM		9/30/2021 7:25:00 AM		9/30/2021 7:10:00 AM		
Compound	Col	Mr	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
TCMX-Surrogate	1	0	3.79	(3.73 - 3.85)	3.90	(3.84 - 3.96)	3.80	(3.74 - 3.86)	3.90	(3.84 - 3.96)		
Aroclor-1016	1	1	4.27	(4.23 - 4.31)	4.42	(4.38 - 4.46)	4.26	(4.22 - 4.30)	4.42	(4.38 - 4.46)		
Aroclor-1016	1	2	4.60	(4.56 - 4.64)	4.79	(4.75 - 4.83)	4.60	(4.56 - 4.64)	4.79	(4.75 - 4.83)		
Aroclor-1016	1	3	5.12	(5.08 - 5.16)	5.26	(5.22 - 5.30)	5.10	(5.06 - 5.14)	5.26	(5.22 - 5.30)		
Aroclor-1016	1	4	5.23	(5.19 - 5.27)	5.51	(5.47 - 5.55)	5.22	(5.18 - 5.26)	5.51	(5.47 - 5.55)		
Aroclor-1016	1	5	5.42	(5.38 - 5.46)	5.63	(5.59 - 5.67)	5.42	(5.38 - 5.46)	5.63	(5.59 - 5.67)		
Aroclor-1260	1	1	6.90	(6.86 - 6.94)	7.15	(7.11 - 7.19)	6.90	(6.86 - 6.94)	7.14	(7.10 - 7.18)		
Aroclor-1260	1	2	7.17	(7.13 - 7.21)	7.40	(7.36 - 7.44)	7.16	(7.12 - 7.20)	7.40	(7.36 - 7.44)		
Aroclor-1260	1	3	7.36	(7.32 - 7.40)	7.60	(7.56 - 7.64)	7.35	(7.31 - 7.39)	7.60	(7.56 - 7.64)		
Aroclor-1260	1	4	7.93	(7.89 - 7.97)	8.19	(8.15 - 8.23)	7.92	(7.88 - 7.96)	8.19	(8.15 - 8.23)		
Aroclor-1260	1	5	8.66	(8.62 - 8.70)	8.92	(8.88 - 8.96)	8.65	(8.61 - 8.69)	8.91	(8.87 - 8.95)		
Aroclor-1221	1	1	4.06	(4.02 - 4.10)	4.20	(4.16 - 4.24)						
Aroclor-1221	1	2	4.19	(4.15 - 4.23)	4.35	(4.31 - 4.39)						
Aroclor-1221	1	3	4.26	(4.22 - 4.30)	4.42	(4.38 - 4.46)						
Aroclor-1232	1	1	4.26	(4.22 - 4.30)	4.43	(4.39 - 4.47)						
Aroclor-1232	1	2	4.60	(4.56 - 4.64)	4.80	(4.76 - 4.84)						
Aroclor-1232	1	3	5.12	(5.08 - 5.16)	5.27	(5.23 - 5.31)						
Aroclor-1232	1	4	5.23	(5.19 - 5.27)	5.41	(5.37 - 5.45)						
Aroclor-1232	1	5	5.65	(5.61 - 5.69)	5.88	(5.84 - 5.92)						
Aroclor-1242	1	1	4.26	(4.22 - 4.30)	4.42	(4.38 - 4.46)						
Aroclor-1242	1	2	4.60	(4.56 - 4.64)	4.79	(4.75 - 4.83)						
Aroclor-1242	1	3	5.12	(5.08 - 5.16)	5.26	(5.22 - 5.30)						
Aroclor-1242	1	4	5.42	(5.38 - 5.46)	5.63	(5.59 - 5.67)						
Aroclor-1242	1	5	5.65	(5.61 - 5.69)	5.87	(5.83 - 5.91)						
Aroclor-1248	1	1	4.60	(4.56 - 4.64)	4.79	(4.75 - 4.83)						
Aroclor-1248	1	2	5.13	(5.09 - 5.17)	5.26	(5.22 - 5.30)						
Aroclor-1248	1	3	5.42	(5.38 - 5.46)	5.61	(5.57 - 5.65)						
Aroclor-1248	1	4	5.77	(5.73 - 5.81)	5.87	(5.83 - 5.91)						
Aroclor-1248	1	5	6.40	(6.36 - 6.44)	6.58	(6.54 - 6.62)						
Aroclor-1254	1	1	6.55	(6.51 - 6.59)	6.78	(6.74 - 6.82)						
Aroclor-1254	1	2	6.76	(6.72 - 6.80)	6.99	(6.95 - 7.03)						
Aroclor-1254	1	3	6.90	(6.86 - 6.94)	7.15	(7.11 - 7.19)						
Aroclor-1254	1	4	7.09	(7.05 - 7.13)	7.27	(7.23 - 7.31)						
Aroclor-1254	1	5	7.48	(7.44 - 7.52)	7.66	(7.62 - 7.70)						
Aroclor-1262	1	1	7.58	(7.54 - 7.62)	7.83	(7.79 - 7.87)						
Aroclor-1262	1	2	8.58	(8.54 - 8.62)	8.84	(8.80 - 8.88)						
Aroclor-1262	1	3	8.65	(8.61 - 8.69)	8.91	(8.87 - 8.95)						
Aroclor-1262	1	4	9.34	(9.30 - 9.38)	9.65	(9.61 - 9.69)						
Aroclor-1262	1	5	9.68	(9.64 - 9.72)	10.02	(9.98 - 10.06)						
Aroclor-1268	1	1	7.93	(7.89 - 7.97)	8.19	(8.15 - 8.23)						
Aroclor-1268	1	2	8.27	(8.23 - 8.31)	8.52	(8.48 - 8.56)						
Aroclor-1268	1	3	8.82	(8.78 - 8.86)	9.10	(9.06 - 9.14)						
Aroclor-1268	1	4	8.92	(8.88 - 8.96)	9.20	(9.16 - 9.24)						
Aroclor-1268	1	5	9.67	(9.63 - 9.71)	10.03	(9.99 - 10.07)						
DCB-Surrogate	1	0	9.90	(9.84 - 9.96)	10.25	(10.19 - 10.31)	9.90	(9.84 - 9.96)	10.24	(10.18 - 10.30)		
TCMX-Surrogate	2	0	3.81	(3.75 - 3.87)	3.93	(3.87 - 3.99)	3.81	(3.75 - 3.87)	3.93	(3.87 - 3.99)		
Aroclor-1016	2	1	4.42	(4.38 - 4.46)	4.53	(4.49 - 4.57)	4.42	(4.38 - 4.46)	4.53	(4.49 - 4.57)		
Aroclor-1016	2	2	4.82	(4.78 - 4.86)	4.96	(4.92 - 5.00)	4.83	(4.79 - 4.87)	4.96	(4.92 - 5.00)		
Aroclor-1016	2	3	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)		
Aroclor-1016	2	4	5.54	(5.50 - 5.58)	5.67	(5.63 - 5.71)	5.54	(5.50 - 5.58)	5.67	(5.63 - 5.71)		
Aroclor-1016	2	5	5.90	(5.86 - 5.94)	6.05	(6.01 - 6.09)	5.91	(5.87 - 5.95)	6.05	(6.01 - 6.09)		
Aroclor-1260	2	1	7.21	(7.17 - 7.25)	7.36	(7.32 - 7.40)	7.21	(7.17 - 7.25)	7.36	(7.32 - 7.40)		
Aroclor-1260	2	2	7.30	(7.26 - 7.34)	7.44	(7.40 - 7.48)	7.30	(7.26 - 7.34)	7.44	(7.40 - 7.48)		
Aroclor-1260	2	3	7.92	(7.88 - 7.96)	8.08	(8.04 - 8.12)	7.92	(7.88 - 7.96)	8.08	(8.04 - 8.12)		
Aroclor-1260	2	4	8.28	(8.24 - 8.32)	8.44	(8.40 - 8.48)	8.28	(8.24 - 8.32)	8.44	(8.40 - 8.48)		
Aroclor-1260	2	5	8.98	(8.94 - 9.02)	9.15	(9.11 - 9.19)	8.99	(8.95 - 9.03)	9.15	(9.11 - 9.19)		
Aroclor-1221	2	1	4.19	(4.15 - 4.23)	4.31	(4.27 - 4.35)						
Aroclor-1221	2	2	4.34	(4.30 - 4.38)	4.46	(4.42 - 4.50)						
Aroclor-1221	2	3	4.41	(4.37 - 4.45)	4.53	(4.49 - 4.57)						
Aroclor-1232	2	1	4.41	(4.37 - 4.45)	4.53	(4.49 - 4.57)						
Aroclor-1232	2	2	4.82	(4.78 - 4.86)	4.96	(4.92 - 5.00)						
Aroclor-1232	2	3	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)						
Aroclor-1232	2	4	5.54	(5.50 - 5.58)	6.19	(6.15 - 6.23)						
Aroclor-1232	2	5	6.05	(6.01 - 6.09)	6.27	(6.23 - 6.31)						
Aroclor-1242	2	1	4.41	(4.37 - 4.45)	4.53	(4.49 - 4.57)						
Aroclor-1242	2	2	4.82	(4.78 - 4.86)	4.96	(4.92 - 5.00)						
Aroclor-1242	2	3	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)						
Aroclor-1242	2	4	5.54	(5.50 - 5.58)	5.67	(5.63 - 5.71)						
Aroclor-1242	2	5	5.90	(5.86 - 5.94)	6.05	(6.01 - 6.09)						
Aroclor-1248	2	1	4.82	(4.78 - 4.86)	4.96	(4.92 - 5.00)						
Aroclor-1248	2	2	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)						
Aroclor-1248	2	3	5.53	(5.49 - 5.57)	5.67	(5.63 - 5.71)						
Aroclor-1248	2	4	6.05	(6.01 - 6.09)	6.19	(6.15 - 6.23)						
Aroclor-1248	2	5	6.20	(6.16 - 6.24)	6.32	(6.28 - 6.36)						
Aroclor-1254	2	1	6.40	(6.36 - 6.44)	6.55	(6.51 - 6.59)						
Aroclor-1254	2	2	6.74	(6.70 - 6.78)	6.89	(6.85 - 6.93)						
Aroclor-1254	2	3	7.16	(7.12 - 7.20)	7.29	(7.25 - 7.33)						
Aroclor-1254	2	4	7.68	(7.64 - 7.72)	7.80	(7.76 - 7.84)						
Aroclor-1254	2	5	8.35	(8.31 - 8.39)	8.50	(8.46 - 8.54)						
Aroclor-1262	2	1	7.71	(7.67 - 7.75)	7.87	(7.83 - 7.91)						
Aroclor-1262	2	2	8.87	(8.83 - 8.91)	9.03	(8.99 - 9.07)						
Aroclor-1262	2	3	8.98	(8.94 - 9.02)	9.14	(9.10 - 9.18)						
Aroclor-1262	2	4	9.57	(9.53 - 9.61)	9.76	(9.72 - 9.80)						
Aroclor-1262	2	5	10.10	(10.06 - 10.14)	10.32	(10.28 - 10.36)						
Aroclor-1268	2	1	8.37	(8.33 - 8.41)	8.54	(8.50 - 8.58)						
Aroclor-1268	2	2	8.42	(8.38 - 8.46)	8.58	(8.54 - 8.62)						
Aroclor-1268	2	3	9.31	(9.27 - 9.35)	9.50	(9.46 - 9.54)						
Aroclor-1268	2	4	9.46	(9.42 - 9.50)	9.66	(9.62 - 9.70)						
Aroclor-1268	2	5	10.10	(10.06 - 10.14)	10.33	(10.29 - 10.37)						
DCB-Surrogate	2	0	10.63	(10.57 - 10.69)	10.89	(10.83 - 10.95)	10.64	(10.58 - 10.70)	10.88	(10.82 - 10.94)		

TPH Data

Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-002
Client Id: SB09 COMP
Data File: 8G667120.D
Analysis Date: 09/29/21 13:18
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	71	U				

Worksheet #: 610827 *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\2021\GC_8\Data\09-29-21\
Data File : 8G667120.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 13:18:57
Operator : AH/RR/ABM
Sample : AD26217-002
Misc : S.TPH
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 13:38:05 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	19949	9.560	
22)	O-Terphenyl	7.206	48199	12.583	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.206f	1738345	550.556	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

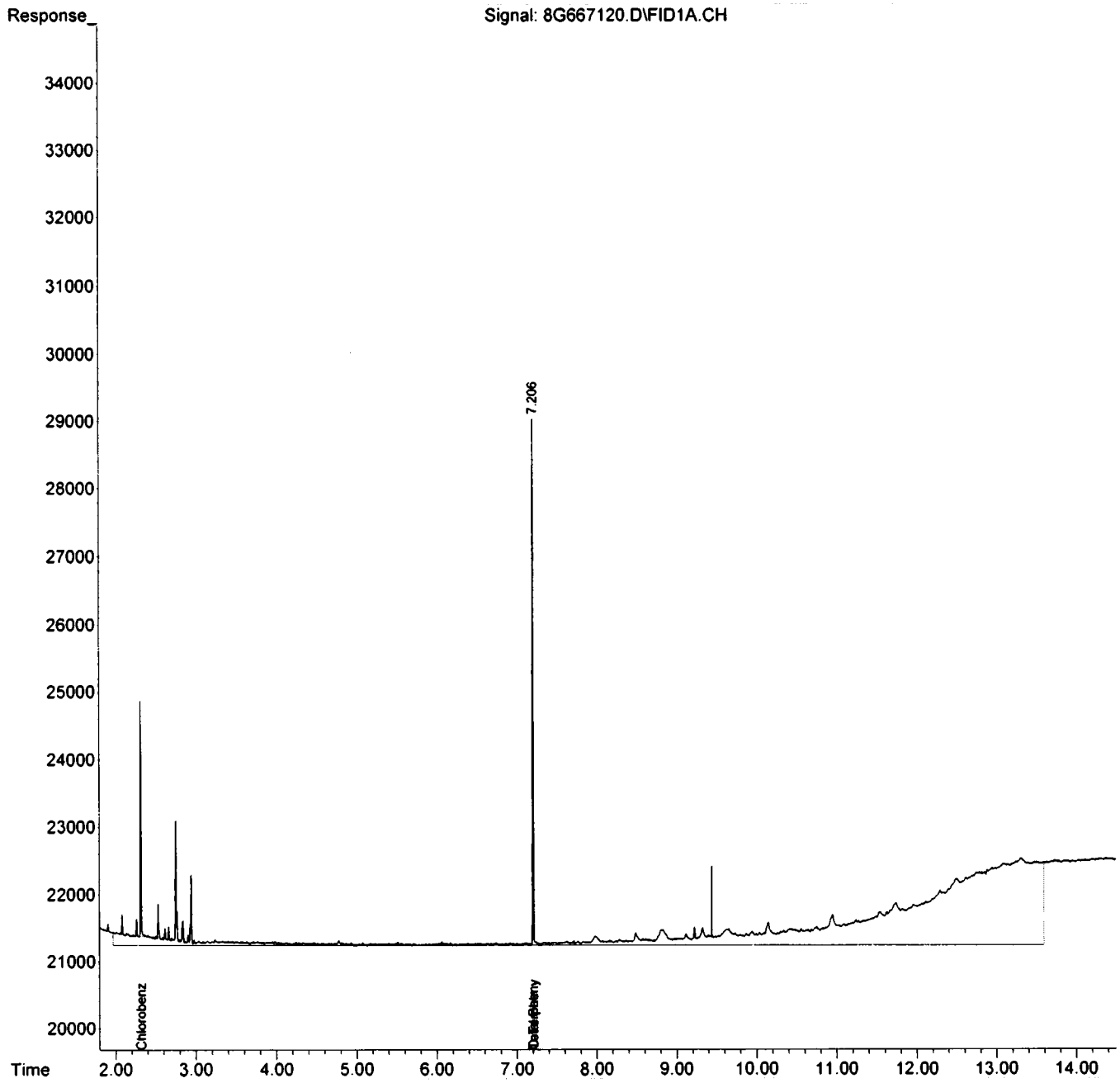
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667120.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 13:18:57
Operator : AH/RR/ABM
Sample : AD26217-002
Misc : S.TPH
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 13:38:05 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-004
Client Id: SB08 COMP
Data File: 8G667121.D
Analysis Date: 09/29/21 13:41
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	71	U				

Worksheet #: 610827 *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\2021\GC_8\Data\09-29-21\
Data File : 8G667121.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 13:41:56
Operator : AH/RR/ABM
Sample : AD26217-004
Misc : S.TPH
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 14:03:47 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	24401	11.694	
22)	O-Terphenyl	7.205	56789	14.826	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.205f	2058913	652.085	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

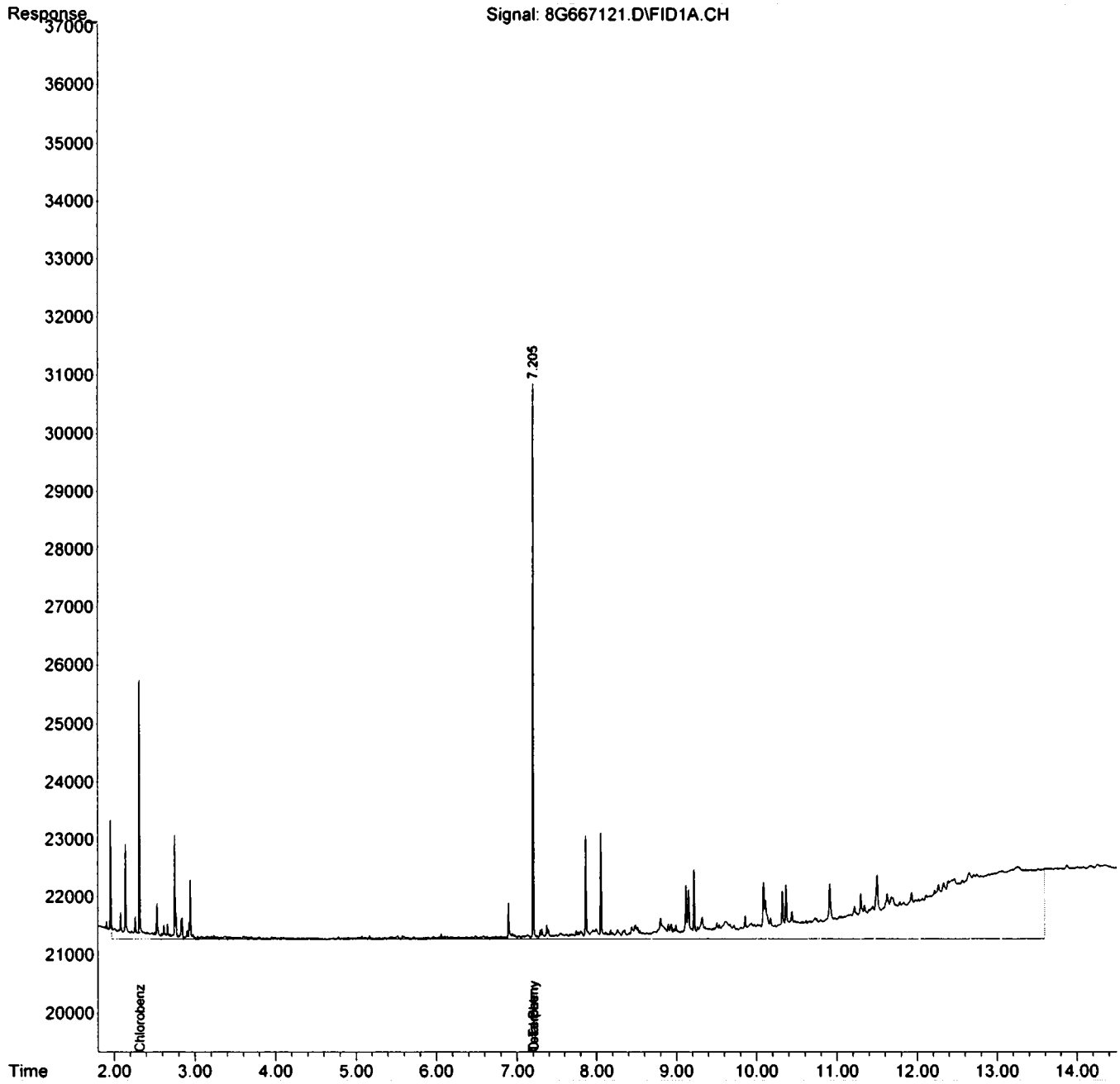
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667121.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 13:41:56
Operator : AH/RR/ABM
Sample : AD26217-004
Misc : S.TPH
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 14:03:47 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-006
Client Id: SB07 COMP
Data File: 8G667122.D
Analysis Date: 09/29/21 14:05
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	71	U				

Worksheet #: 610827 ***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\2021\GC_8\Data\09-29-21\
Data File : 8G667122.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 14:05:00
Operator : AH/RR/ABM
Sample : AD26217-006
Misc : S.TPH
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 14:28:21 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	18477	8.855	
22)	O-Terphenyl	7.209	55508	14.492	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.209f	1781489	564.221	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.

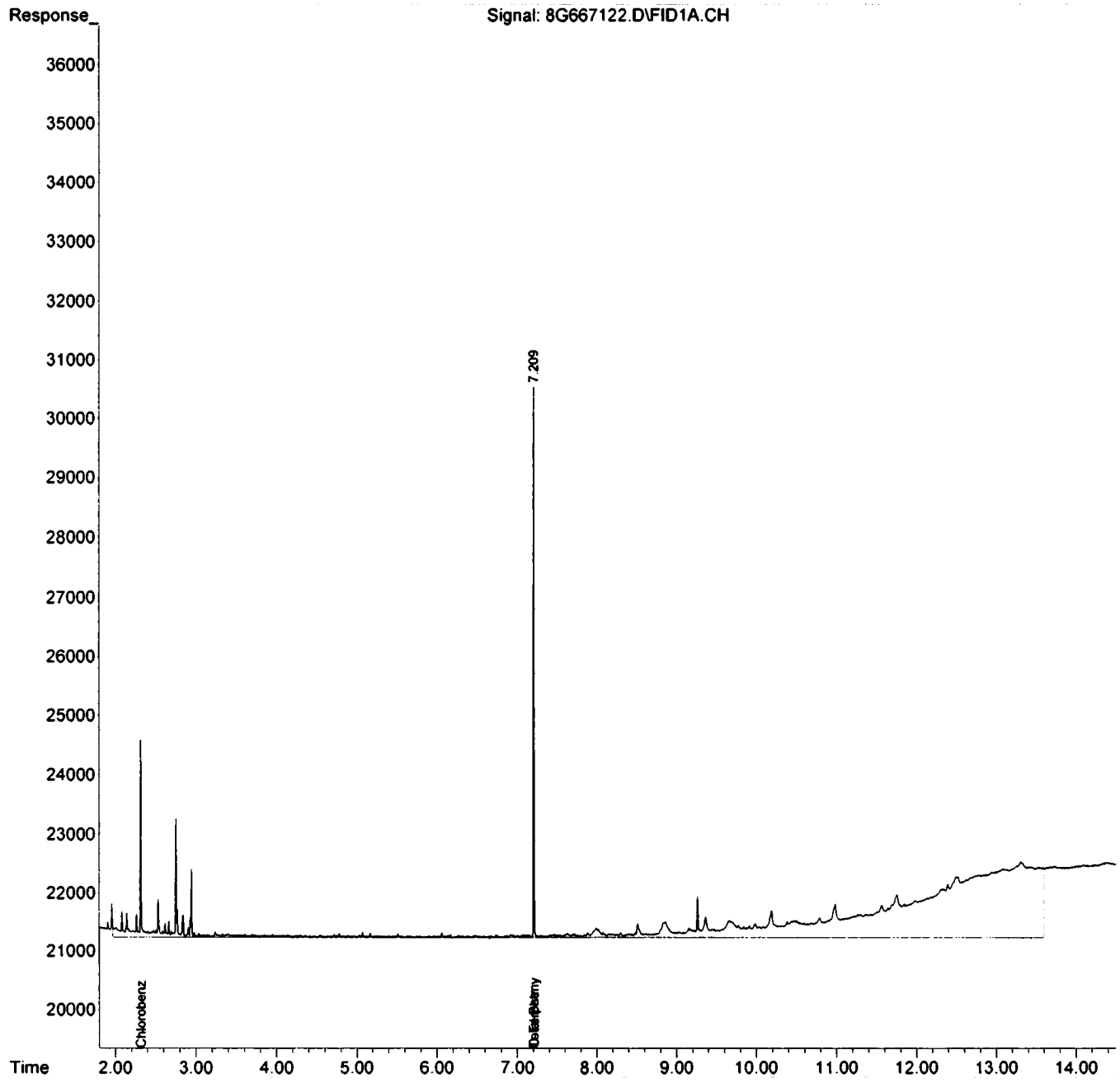
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667122.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 14:05:00
Operator : AH/RR/ABM
Sample : AD26217-006
Misc : S.TPH
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 14:28:21 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-008
Client Id: SB06 COMP
Data File: 8G667125.D
Analysis Date: 09/29/21 15:14
Date Rec/Extracted: 09/23/21-09/28/21
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 #: 610827 *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\2021\GC_8\Data\09-29-21\
Data File : 8G667125.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 15:14:36
Operator : AH/RR/ABM
Sample : AD26217-008
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 15:32:54 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	17764	8.513	
22)	O-Terphenyl	7.204	54054	14.112	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	2163965	685.356	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.

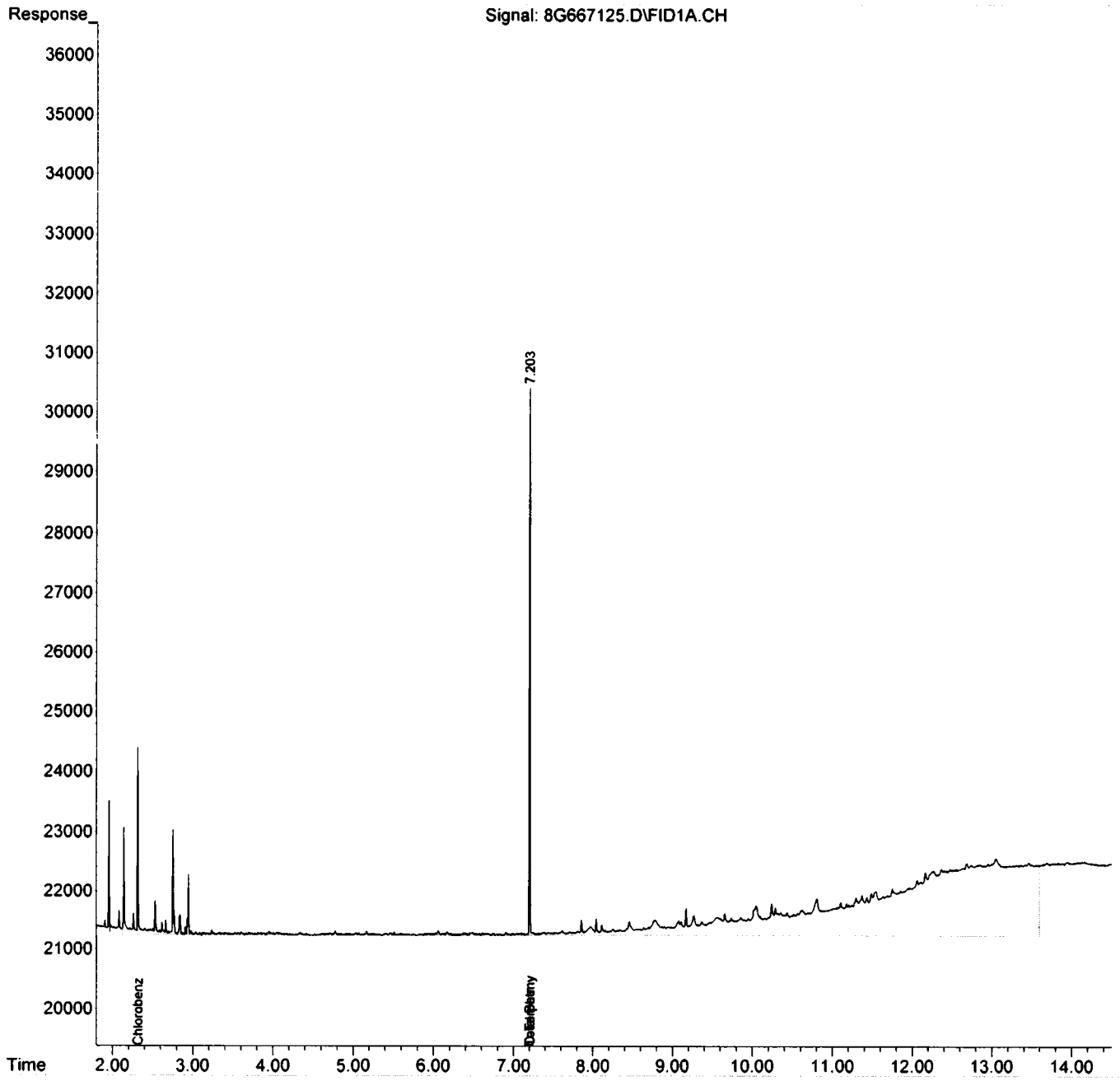
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667125.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 15:14:36
Operator : AH/RR/ABM
Sample : AD26217-008
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 15:32:54 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-010
Client Id: SB05 COMP
Data File: 8G667126.D
Analysis Date: 09/29/21 15:37
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 88

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	**68**	**85**				

Worksheet #: 610827 *Total Target Concentration* 85 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\2021\GC_8\Data\09-29-21\
Data File : 8G667126.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 15:37:41
Operator : AH/RR/ABM
Sample : AD26217-010
Misc : S.TPH
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 15:57:46 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	24350	11.670	
22)	O-Terphenyl	7.204	56764	14.819	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	2763361	875.192	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.

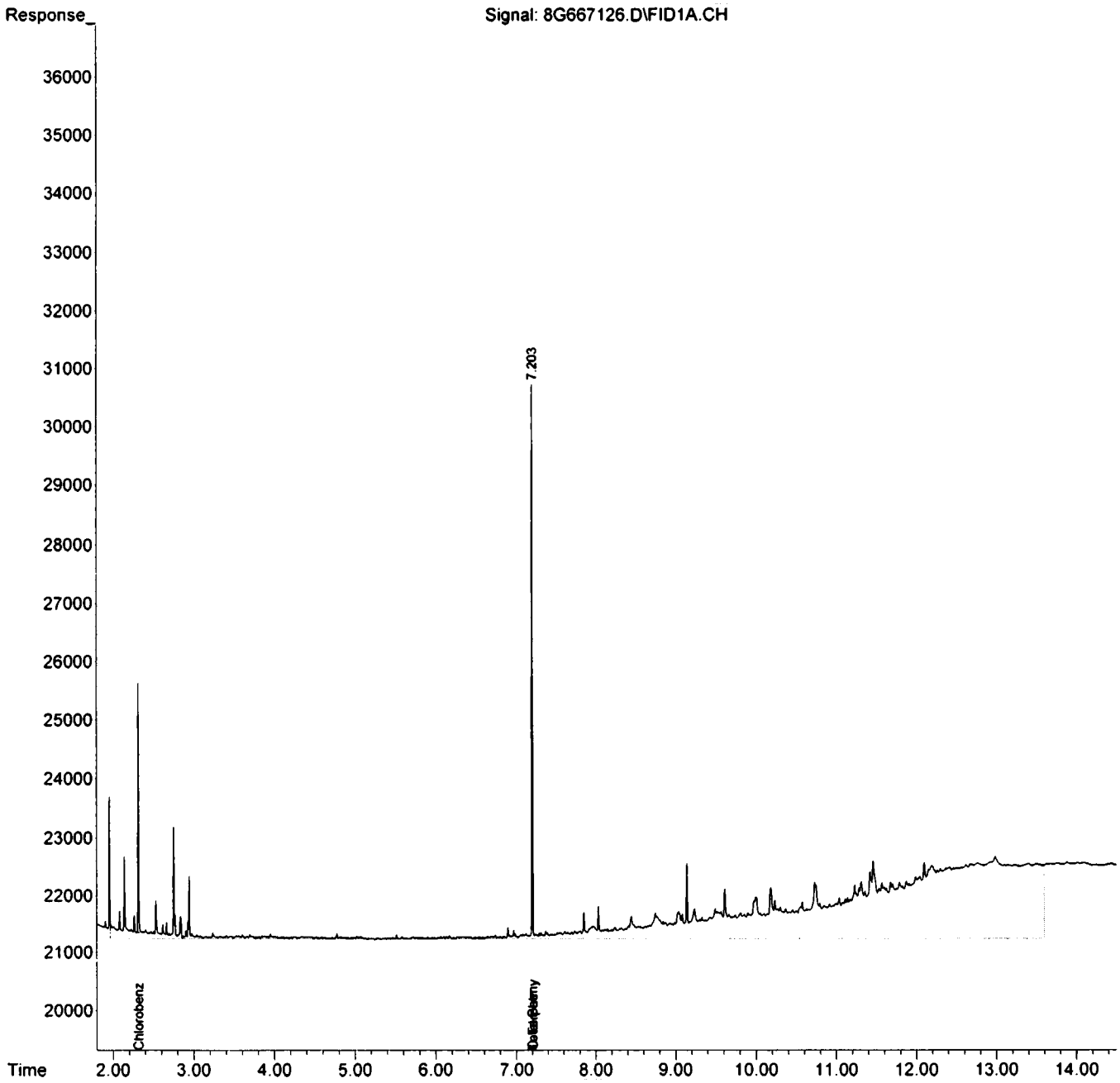
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667126.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 15:37:41
Operator : AH/RR/ABM
Sample : AD26217-010
Misc : S.TPH
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 15:57:46 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-012
Client Id: SB04 COMP
Data File: 8G667127.D
Analysis Date: 09/29/21 16:00
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	**71**	**85**				

Worksheet #: 610827 *Total Target Concentration* 85 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\2021\GC_8\Data\09-29-21\
Data File : 8G667127.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:00:46
Operator : AH/RR/ABM
Sample : AD26217-012
Misc : S.TPH
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 16:24:39 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	14981	7.180	
22)	O-Terphenyl	7.203	49803	13.002	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	2704317	856.492	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.

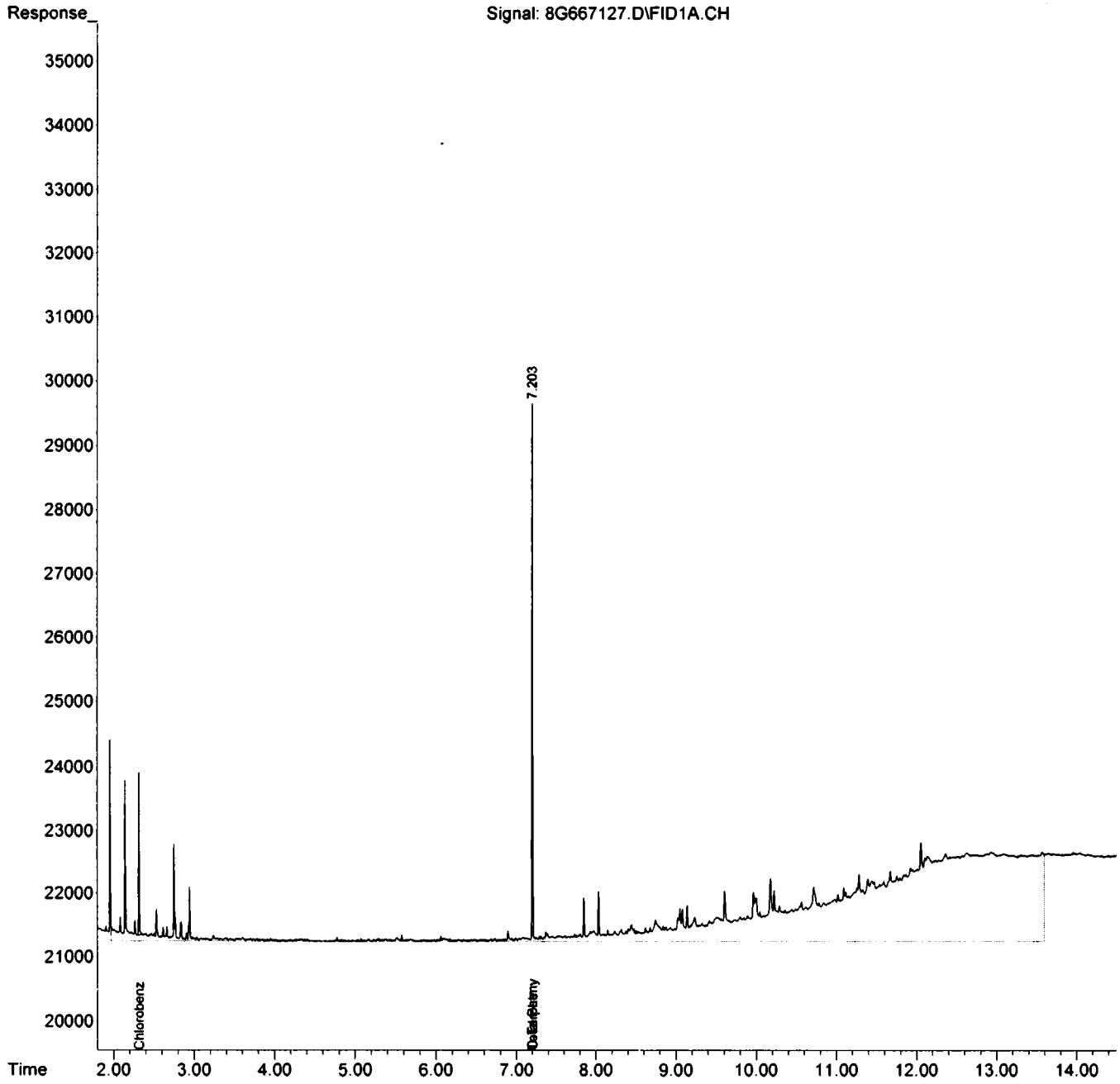
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667127.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:00:46
Operator : AH/RR/ABM
Sample : AD26217-012
Misc : S.TPH
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 16:24:39 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-014
Client Id: SB03 COMP
Data File: 8G667128.D
Analysis Date: 09/29/21 16:23
Date Rec/Extracted: 09/23/21-09/28/21
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**	**72**				

Worksheet #: 610827 ***Total Target Concentration*** 72 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.

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667128.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:23:57
Operator : AH/RR/ABM
Sample : AD26217-014
Misc : S.TPH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 16:46:36 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.143	18939	9.076	
22)	O-Terphenyl	7.204	53470	13.960	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.204f	2589575	820.152	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

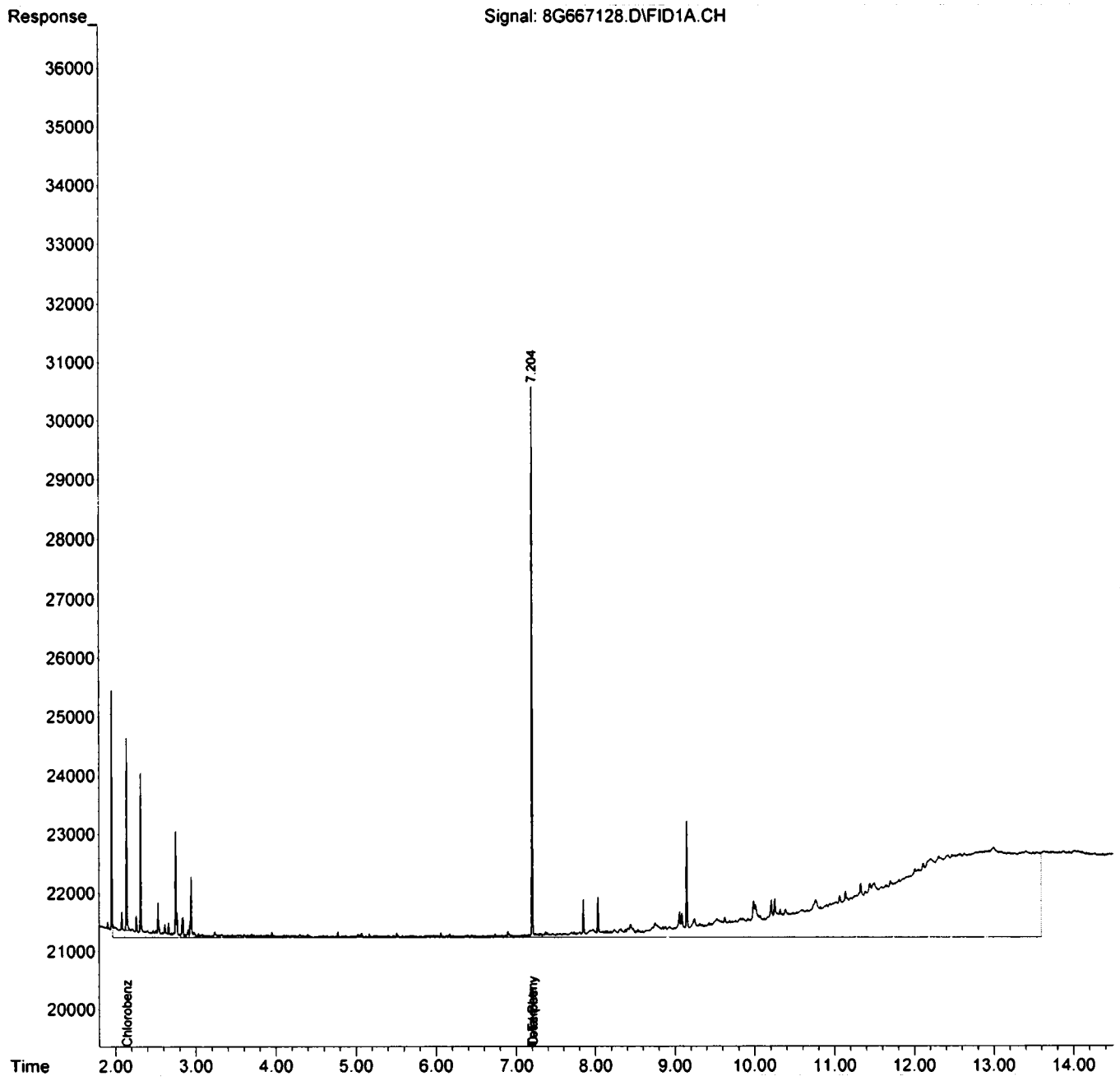
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667128.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:23:57
Operator : AH/RR/ABM
Sample : AD26217-014
Misc : S.TPH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 16:46:36 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-016
Client Id: SB02 COMP
Data File: 8G667130.D
Analysis Date: 09/29/21 17:10
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 78

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	**77**	**600**				

Worksheet #: 610827 ***Total Target Concentration*** 600 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\2021\GC_8\Data\09-29-21\
Data File : 8G667130.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 17:10:08
Operator : AH/RR/ABM
Sample : AD26217-016
Misc : S.TPH
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 08:40:36 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	16708	8.007	
22)	O-Terphenyl	7.203	52824	13.791	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	8904143	2820.058	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

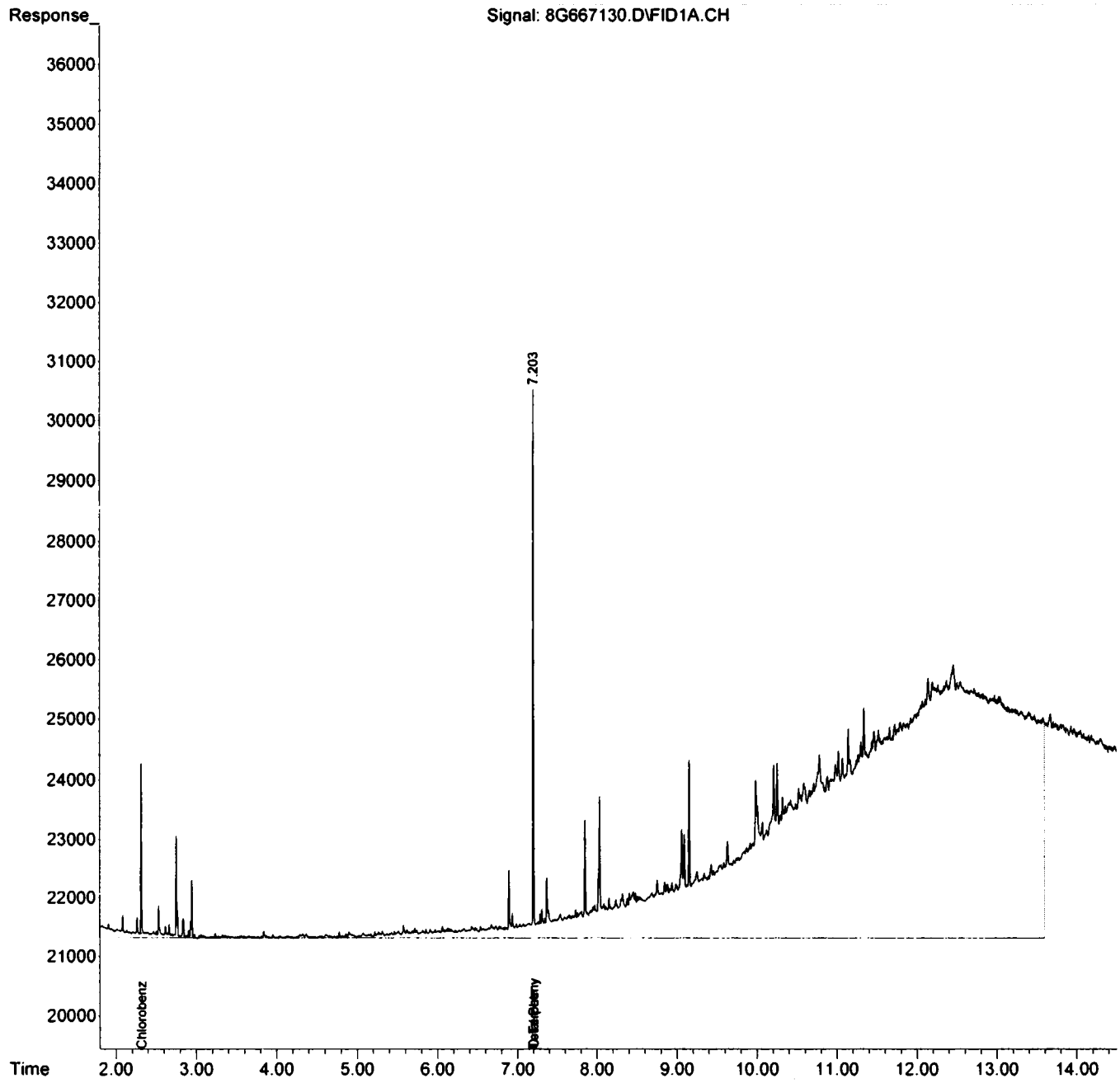
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667130.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 17:10:08
Operator : AH/RR/ABM
Sample : AD26217-016
Misc : S.TPH
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 08:40:36 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-018
Client Id: SB01 COMP
Data File: 8G667129.D
Analysis Date: 09/29/21 16:47
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	73	U				

Worksheet #: 610827

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\2021\GC_8\Data\09-29-21\
Data File : 8G667129.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:47:10
Operator : AH/RR/ABM
Sample : AD26217-018
Misc : S.TPH
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 08:39:54 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	19673	9.428	
22)	O-Terphenyl	7.204	53295	13.914	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	2404597	761.567	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

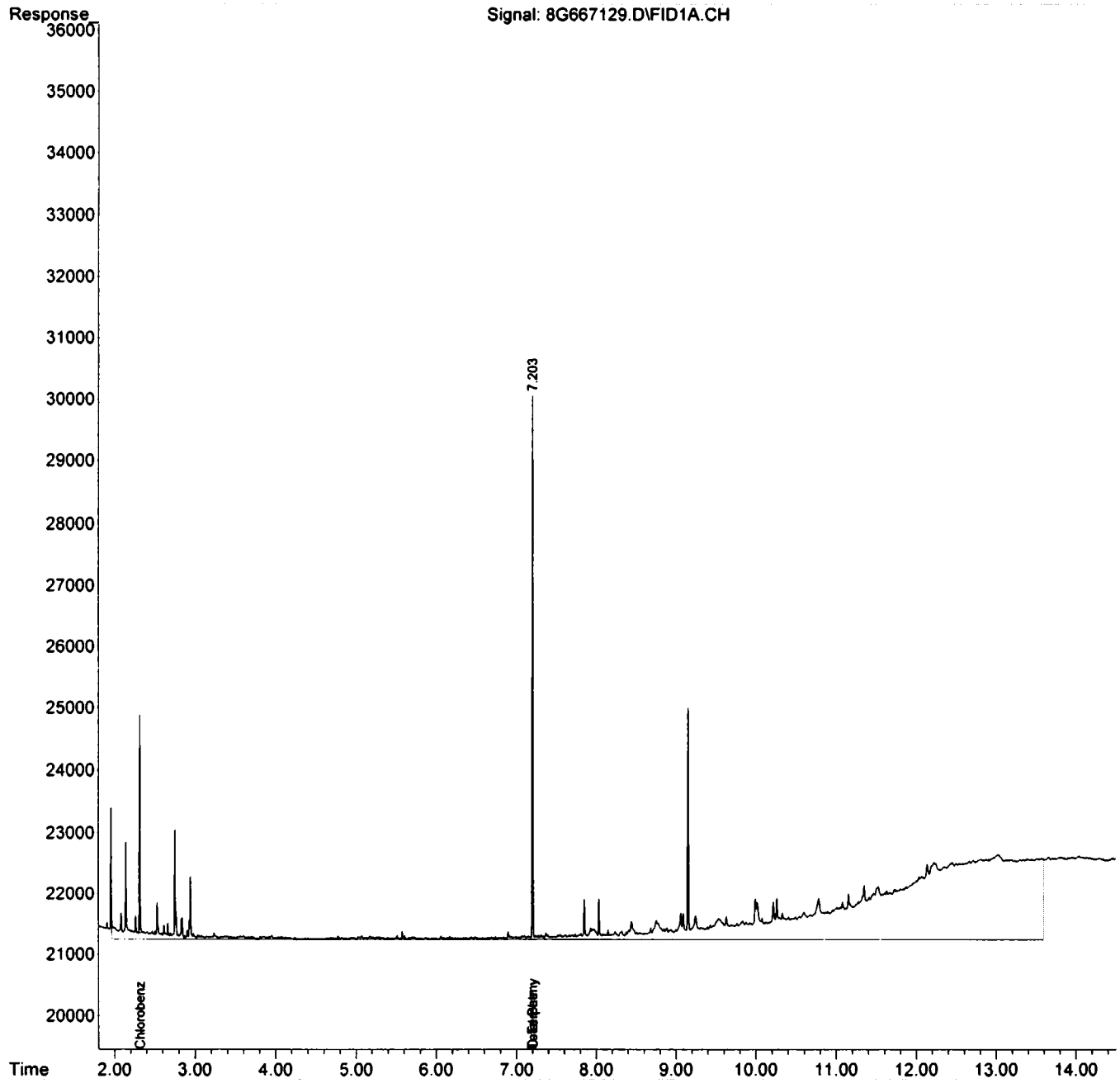
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667129.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:47:10
Operator : AH/RR/ABM
Sample : AD26217-018
Misc : S.TPH
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 08:39:54 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: SMB95065
Client Id:
Data File: 8G667112.D
Analysis Date: 09/29/21 10:13
Date Rec/Extracted: NA-09/28/21
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 #: 610827 *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\2021\GC_8\Data\09-29-21\
Data File : 8G667112.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 10:13:58
Operator : AH/RR/ABM
Sample : SMB95065
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 10:32:21 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.318	18916	9.065	
22)	O-Terphenyl	7.204	48419	12.641	
23)d	Diesel Range Organics(T	7.204f	223465	68.591	m
24)t	Total Petroleum Hydroca	7.204f	1638183	518.834	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

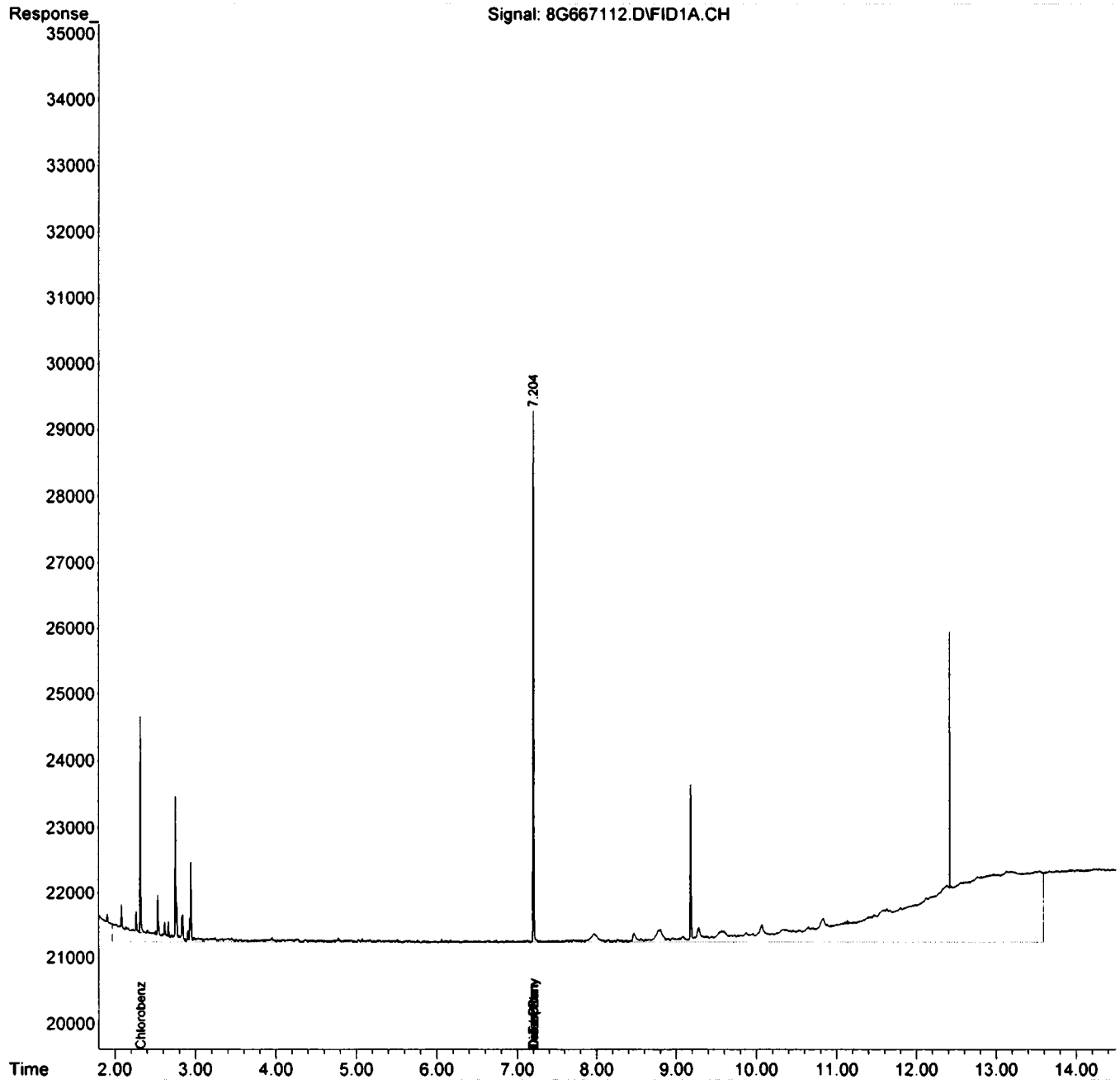
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667112.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 10:13:58
Operator : AH/RR/ABM
Sample : SMB95065
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 10:32:21 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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
8G667112.D	SMB95065	S	09/29/21 10:13	1		45	63				
8G667120.D	AD26217-002	S	09/29/21 13:18	1		48	63				
8G667121.D	AD26217-004	S	09/29/21 13:41	1		58	74				
8G667122.D	AD26217-006	S	09/29/21 14:05	1		44	72				
8G667125.D	AD26217-008	S	09/29/21 15:14	1		43	71				
8G667126.D	AD26217-010	S	09/29/21 15:37	1		58	74				
8G667127.D	AD26217-012	S	09/29/21 16:00	1		36	65				
8G667128.D	AD26217-014	S	09/29/21 16:23	1		45	70				
8G667130.D	AD26217-016	S	09/29/21 17:10	1		40	69				
8G667129.D	AD26217-018	S	09/29/21 16:47	1		47	70				
8G667113.D	SMB95065(MS)	S	09/29/21 10:37	1		48	82				
8G667116.D	AD26154-002(3X)	S	09/29/21 11:46	3		28	84				
8G667117.D	AD26154-002(5X)(MSD)	S	09/29/21 12:09	5		48	80				
8G667118.D	AD26154-002(5X)(MS)	S	09/29/21 12:32	5		41	62				

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: SMB95065

	Data File	Sample ID:	Analysis Date
Spike or Dup:	8G667113.D	SMB95065(MS)	9/29/2021 10:37:05 AM
Non Spike(If applicable):			
Inst Blank(If applicable):	8G667111.D	INST BLK(MECL2)	9/29/2021 9:50:39 AM

Method: 8015 Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	1760.42	0	3000	59	40	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95065

	Data File	Sample ID:	Analysis Date
Spike or Dup:	8G667117.D	AD26154-002(5X)(MSD)	9/29/2021 12:09:41 PM
Non Spike(If applicable):	8G667116.D	AD26154-002(3X)	9/29/2021 11:46:33 AM
Inst Blank(If applicable):	8G667111.D	INST BLK(MECL2)	9/29/2021 9:50:39 AM

Method: 8015 Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	22413	12003.81	3000	347*	40	130

	Data File	Sample ID:	Analysis Date
Spike or Dup:	8G667118.D	AD26154-002(5X)(MS)	9/29/2021 12:32:55 PM
Non Spike(If applicable):	8G667116.D	AD26154-002(3X)	9/29/2021 11:46:33 AM
Inst Blank(If applicable):	8G667111.D	INST BLK(MECL2)	9/29/2021 9:50:39 AM

Method: 8015 Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	19954.05	12003.81	3000	265*	40	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: SMB95065

	Data File	Sample ID:	Analysis Date
Spike or Dup:	8G667117.D	AD26154-002(5X)(MSD)	9/29/2021 12:09:41 PM
Duplicate(If applicable):	8G667118.D	AD26154-002(5X)(MS)	9/29/2021 12:32:55 PM
Inst Blank(If applicable):	8G667111.D	INST BLK(MECL2)	9/29/2021 9:50:39 AM

Method: 8015 Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Diesel Range Organics	1	22413	19954.05	12	40

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

FORM 4
Blank Summary

Blank Number: SMB95065
Blank Data File: 8G667112.D
Matrix: Soil

Blank Analysis Date: 09/29/21 10:13
Blank Extraction Date: 09/28/21
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD26217-002	8G667120.D	09/29/21 13:18
AD26217-004	8G667121.D	09/29/21 13:41
AD26217-006	8G667122.D	09/29/21 14:05
AD26217-008	8G667125.D	09/29/21 15:14
AD26217-010	8G667126.D	09/29/21 15:37
AD26217-012	8G667127.D	09/29/21 16:00
AD26217-014	8G667128.D	09/29/21 16:23
AD26217-016	8G667130.D	09/29/21 17:10
AD26217-018	8G667129.D	09/29/21 16:47
AD26154-002(5X)(	8G667118.D	09/29/21 12:32
AD26154-002(5X)(	8G667117.D	09/29/21 12:09
AD26154-002(3X)	8G667116.D	09/29/21 11:46
SMB95065(MS)	8G667113.D	09/29/21 10:37

Form 5

Method: EPA 8015D

Instrument: GC_8

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
8G667092.D	INST BLK(MECL2)	09/27/21 10:27	Soil					
8G667093.D	TPH@20PPM	09/27/21 10:49	Soil					
8G667094.D	CALTPH@500PPM	09/27/21 11:12	Soil	8G66709	7.2148	0.1401		
8G667095.D	CALTPH@100PPM	09/27/21 11:34	Soil	8G66709	7.2069	0.0305		
8G667096.D	CALTPH@40PPM	09/27/21 11:57	Soil	8G66709	7.2047	0		
8G667097.D	CALTPH@20PPM	09/27/21 12:20	Soil	8G66709	7.2050	0.0042		
8G667098.D	CALTPH@10PPM	09/27/21 12:42	Soil	8G66709	7.2043	0.0056		
8G667099.D	CALTPH@5PPM	09/27/21 13:05	Soil	8G66709	7.2047	0		
8G667100.D	ICVTPH@5PPM	09/27/21 13:28	Soil	8G66709	7.2052	0.0069		

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_8 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
8G667109.D	INST BLK(MECL2)	09/29/21 08:18	Soil					
8G667110.D	CALTPH@20PPM	09/29/21 09:27	Soil	8G66711	7.2058	0		
8G667111.D	INST BLK(MECL2)	09/29/21 09:50	Soil	8G66711	0.0000	200		
8G667112.D	SMB95065	09/29/21 10:13	Soil	8G66711	7.2041	0.0236		
8G667113.D	SMB95065(MS)	09/29/21 10:37	Soil	8G66711	7.2048	0.0139		
8G667114.D	AD26154-002	09/29/21 11:00	Soil	8G66711	7.2089	0.043		
8G667115.D	AD26154-002(MS)	09/29/21 11:23	Soil	8G66711	7.2073	0.0208		
8G667116.D	AD26154-002(3X)	09/29/21 11:46	Soil	8G66711	7.2047	0.0153		
8G667117.D	AD26154-002(5X)(MSD)	09/29/21 12:09	Soil	8G66711	7.2065	0.0097		
8G667118.D	AD26154-002(5X)(MS)	09/29/21 12:32	Soil	8G66711	7.2104	0.0638		
8G667119.D	AD26225-002	09/29/21 12:55	Soil	8G66711	7.2068	0.0139		
8G667120.D	AD26217-002	09/29/21 13:18	Soil	8G66711	7.2065	0.0097		
8G667121.D	AD26217-004	09/29/21 13:41	Soil	8G66711	7.2054	0.0056		
8G667122.D	AD26217-006	09/29/21 14:05	Soil	8G66711	7.2090	0.0444		
8G667123.D	CALTPH@20PPM	09/29/21 14:28	Soil	8G66711	7.2048	0.0139		
8G667124.D	INST BLK(MECL2)	09/29/21 14:51	Soil	8G66712	0.0000	200		
8G667125.D	AD26217-008	09/29/21 15:14	Soil	8G66712	7.2039	0.0125		
8G667126.D	AD26217-010	09/29/21 15:37	Soil	8G66712	7.2038	0.0139		
8G667127.D	AD26217-012	09/29/21 16:00	Soil	8G66712	7.2032	0.0222		
8G667128.D	AD26217-014	09/29/21 16:23	Soil	8G66712	7.2039	0.0125		
8G667129.D	AD26217-018	09/29/21 16:47	Soil	8G66712	7.2038	0.0139		
8G667130.D	AD26217-016	09/29/21 17:10	Soil	8G66712	7.2032	0.0222		
8G667131.D	CALTPH@20PPM	09/29/21 18:42	Soil	8G66712	7.2030	0.025		

Drift Compound: O-Terphenyl Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

1092401 0295

Form 6

Initial Calibration

Method: EPA 8015D

Instrument: GC_8

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	8G667099.D	CALTPH@5PPM	09/27/21 13:05	2	8G667098.D	CALTPH@10PPM	09/27/21 12:42
3	8G667097.D	CALTPH@20PPM	09/27/21 12:20	4	8G667096.D	CALTPH@40PPM	09/27/21 11:57
5	8G667095.D	CALTPH@100PPM	09/27/21 11:34	6	8G667094.D	CALTPH@500PPM	09/27/21 11:12

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	0.2957	0.2809	0.2915	0.2982	0.2904	0.3118	----	----	0.295	2.00	1.00	1.00	3.5	5.00	10.00	20.00	40.00	100.0	500.0		
C9	1	0	Avg	0.3123	0.2821	0.2982	0.3102	0.3004	0.3222	----	----	0.304	2.63	1.00	1.00	4.6	5.00	10.00	20.00	40.00	100.0	500.0		
C10	1	0	Avg	0.2797	0.2792	0.2986	0.3196	0.3110	0.3333	----	----	0.304	3.25	0.999	1.00	7.2	5.00	10.00	20.00	40.00	100.0	500.0		
C12	1	0	Avg	0.2580	0.2620	0.2977	0.3231	0.3175	0.3401	----	----	0.300	4.33	1.00	1.00	11	5.00	10.00	20.00	40.00	100.0	500.0		
C14	1	0	Avg	0.2554	0.2845	0.3244	0.3398	0.3325	0.3499	----	----	0.314	5.26	1.00	1.00	12	5.00	10.00	20.00	40.00	100.0	500.0		
C16	1	0	Avg	0.2895	0.2889	0.3353	0.3430	0.3290	0.3438	----	----	0.322	6.09	1.00	1.00	8.0	5.00	10.00	20.00	40.00	100.0	500.0		
C17	1	0	LinF	0.2184	0.2708	0.3199	0.3436	0.3321	0.3623	----	----	0.308	6.48	1.00	1.00	17	5.00	10.00	20.00	40.00	100.0	500.0		
Pristane	1	0	Avg	0.4523	0.3804	0.3561	0.3502	0.3285	0.3166	----	----	0.364	6.49	1.00	1.00	13	5.00	10.00	20.00	40.00	100.0	500.0		
C18	1	0	Avg	0.2850	0.2982	0.3252	0.3429	0.3335	0.3462	----	----	0.322	6.84	1.00	1.00	7.7	5.00	10.00	20.00	40.00	100.0	500.0		
Phytane	1	0	Avg	0.3820	0.3474	0.3388	0.3351	0.3153	0.3183	----	----	0.340	6.87	1.00	1.00	7.1	5.00	10.00	20.00	40.00	100.0	500.0		
C20	1	0	Avg	0.3427	0.3198	0.3383	0.3499	0.3340	0.3402	----	----	0.338	7.52	1.00	1.00	3.0	5.00	10.00	20.00	40.00	100.0	500.0		
C22	1	0	Avg	0.3256	0.3258	0.3389	0.3506	0.3343	0.3387	----	----	0.336	8.17	1.00	1.00	2.8	5.00	10.00	20.00	40.00	100.0	500.0		
C24	1	0	Avg	0.3590	0.3237	0.3417	0.3507	0.3344	0.3352	----	----	0.341	8.78	1.00	1.00	3.7	5.00	10.00	20.00	40.00	100.0	500.0		
C26	1	0	Avg	0.3280	0.3183	0.3300	0.3326	0.3200	0.3174	----	----	0.324	9.38	1.00	1.00	2.0	5.00	10.00	20.00	40.00	100.0	500.0		
C28	1	0	Avg	0.3397	0.3245	0.3208	0.3303	0.3169	0.3111	----	----	0.324	9.96	1.00	1.00	3.1	5.00	10.00	20.00	40.00	100.0	500.0		
C30	1	0	Avg	0.3453	0.3196	0.3206	0.3275	0.3146	0.3075	----	----	0.323	10.52	1.00	1.00	4.0	5.00	10.00	20.00	40.00	100.0	500.0		
C32	1	0	Avg	0.3200	0.3104	0.3166	0.3162	0.3057	0.3006	----	----	0.312	11.08	1.00	1.00	2.4	5.00	10.00	20.00	40.00	100.0	500.0		
C34	1	0	Avg	0.3141	0.2897	0.2971	0.3033	0.2909	0.2914	----	----	0.298	11.62	1.00	1.00	3.2	5.00	10.00	20.00	40.00	100.0	500.0		
C36	1	0	Avg	0.3007	0.2960	0.2867	0.2808	0.2801	0.2899	----	----	0.289	12.16	1.00	1.00	2.8	5.00	10.00	20.00	40.00	100.0	500.0		
C40	1	0	Avg	0.2438	0.2505	0.2502	0.2664	0.2654	0.2799	----	----	0.259	13.41	1.00	1.00	5.2	5.00	10.00	20.00	40.00	100.0	500.0		
Chlorobenzene	1	0	Avg	0.2073	0.1982	0.2040	0.2143	0.2062	0.2216	----	----	0.209	2.32	1.00	1.00	3.9	5.00	10.00	20.00	40.00	100.0	500.0		
O-Terphenyl	1	0	Avg	0.4081	0.3770	0.3803	0.3880	0.3671	0.3774	----	----	0.383	7.20	1.00	1.00	3.7	5.00	10.00	20.00	40.00	100.0	500.0		
Diesel Range Organics(TO	1	0	Avg	0.3166	0.3095	0.3281	0.3393	0.3261	0.3349	----	----	0.326	3.25	1.00	1.00	3.4	65.00	130.0	260.0	520.0	1300.	6500.		
Total Petroleum Hydrocarb	1	0	Avg	0.3124	0.3026	0.3163	0.3257	0.3143	0.3228	----	----	0.316	2.00	1.00	1.00	2.6	100.0	200.0	400.0	800.0	2000.	10000		
Ext. Petroleum Hydrocarbo	1	0	Avg	0.3171	0.3067	0.3214	0.3305	0.3184	0.3258	----	----	0.320	2.63	1.00	1.00	2.6	90.00	180.0	360.0	720.0	1800.	9000.		
Mineral Spirits(TOTAL)	1	0	Avg	0.2802	0.2777	0.3021	0.3182	0.3104	0.3315	----	----	0.303	2.33	1.00	1.00	7.0	25.00	50.00	100.0	200.0	500.0	2500.		
Stoddard Solvent(TOTAL)	1	0	Avg	0.2802	0.2777	0.3021	0.3182	0.3104	0.3315	----	----	0.303	2.33	1.00	1.00	7.0	25.00	50.00	100.0	200.0	500.0	2500.		

Avg Rsd Col 1: 5.98 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. - 393

Form7
Continuing Calibration

Method: EPA 8015D

Data File:				8G667110.D			8G667123.D			8G667131.D											
Method:				8015			8015			8015											
Calibration Name:				CALTPH@20PPM			CALTPH@20PPM			CALTPH@20PPM											
Calibration Date/Time				09/29/21 09:27			09/29/21 14:28			09/29/21 18:42											
Compound	Limit	Col	Mr	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff
C8	20	1	0	20.38	20	1.9	19.63	20	1.9	16.74	20	16.3						
C9	20	1	0	20.55	20	2.7	19.97	20	0.2	16.9	20	15.5						
C10	20	1	0	20.85	20	4.3	20.91	20	4.5	17.58	20	12.1						
C12	20	1	0	21.31	20	6.5	21.73	20	8.6	18.29	20	8.5						
C14	20	1	0	21.76	20	8.8	22.06	20	10.3	18	20	10.0						
C16	20	1	0	23.04	20	15.2	22.28	20	11.4	17.51	20	12.5						
C17	20	1	0	23.66	20	18.3	24.81	20	24.1*	19.23	20	3.9						
Pristane	20	1	0	22.73	20	13.7	19.73	20	1.4	14.91	20	25.5*						
C18	20	1	0	23.48	20	17.4	23.05	20	15.3	17.85	20	10.8						
Phytane	20	1	0	23.03	20	15.2	21.08	20	5.4	15.87	20	20.7*						
C20	20	1	0	23.64	20	18.2	22.44	20	12.2	16.82	20	15.9						
C22	20	1	0	24.28	20	21.4*	23.17	20	15.9	16.79	20	16.1						
C24	20	1	0	24.22	20	21.1*	23.2	20	16.0	16.65	20	16.8						
C26	20	1	0	24.48	20	22.4*	23.63	20	18.2	16.64	20	16.8						
C28	20	1	0	24.57	20	22.9*	24.02	20	20.1	16.55	20	17.3						
C30	20	1	0	24.73	20	23.7*	24.58	20	22.9*	16.39	20	18.1						
C32	20	1	0	25.39	20	27.0*	25.37	20	26.9*	16.92	20	15.4						
C34	20	1	0	24.96	20	24.8*	24.83	20	24.2*	16.79	20	16.1						
C36	20	1	0	25.24	20	26.2*	25.24	20	26.2*	17.06	20	14.7						
C40	20	1	0	23.98	20	19.9	26.42	20	32.1*	18.67	20	6.6						
Chlorobenzene	20	1	0	20.98	20	4.9	20.38	20	1.9	16.89	20	15.6						
O-Terphenyl	20	1	0	22.88	20	14.4	22.06	20	10.3	16.39	20	18.1						
Average Difference	20	1	0			15.9			14.1			14.7						

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	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)	7.20	(7.16 - 7.24)				
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: AD26217-002
Client Id: SB09 COMP
Data File: 13M22573.D
Analysis Date: 09/25/21 01:48
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.05g:10ml
Final Vol: NA
Dilution: 99.0
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	29	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22573.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:48
Operator : JM
Sample : AD26217-002
Misc : M,MEXT!3
ALS Vial : 23 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:59 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

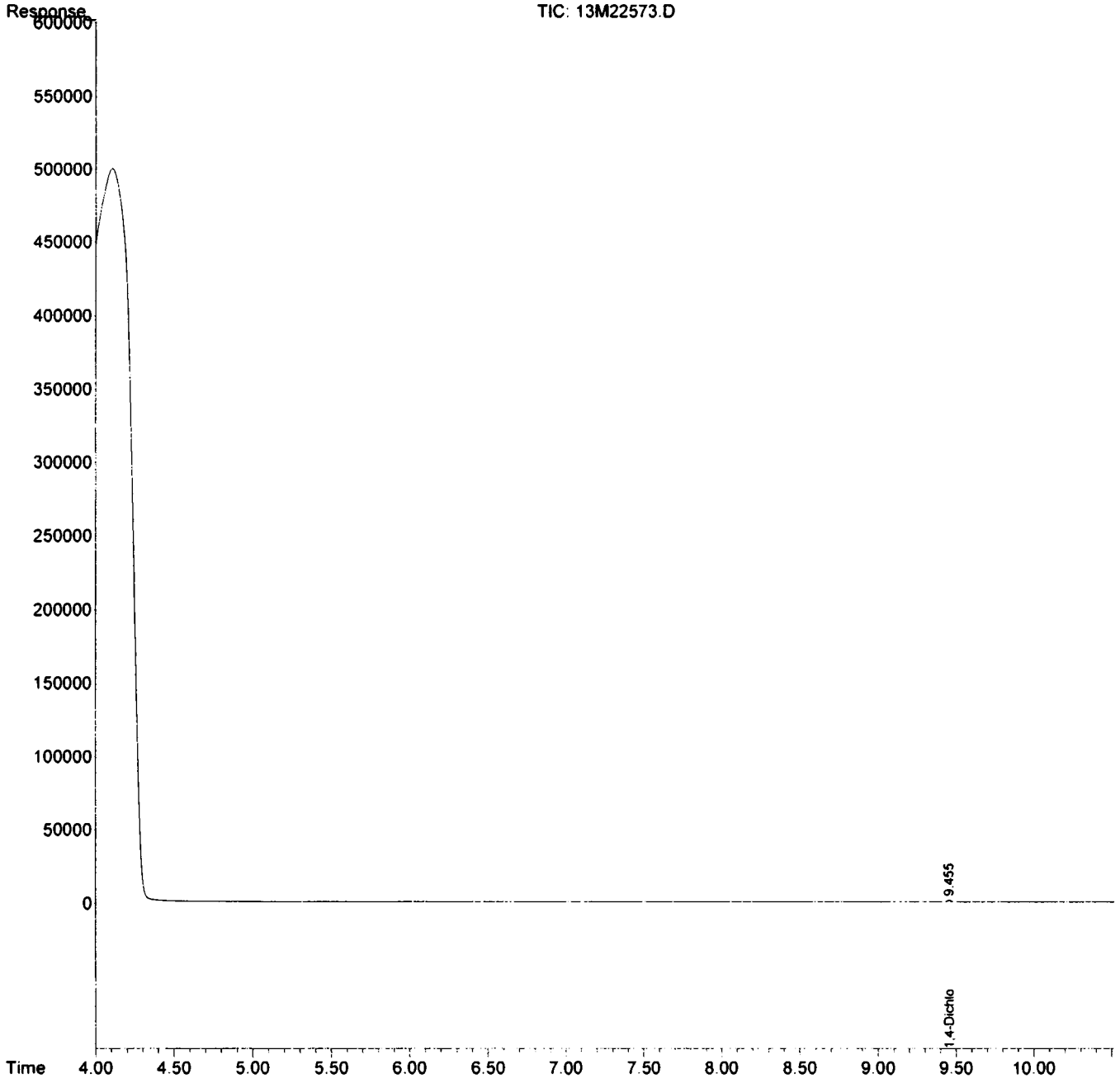
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.455	19391	23.758	
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22573.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:48
Operator : JM
Sample : AD26217-002
Misc : M,MEXT!3
ALS Vial : 23 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:59 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-004
Client Id: SB08 COMP
Data File: 13M22574.D
Analysis Date: 09/25/21 02:04
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.04g:10ml
Final Vol: NA
Dilution: 99.2
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	30	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22574.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 2:04
Operator : JM
Sample : AD26217-004
Misc : M,MEXT!3
ALS Vial : 24 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:46:04 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

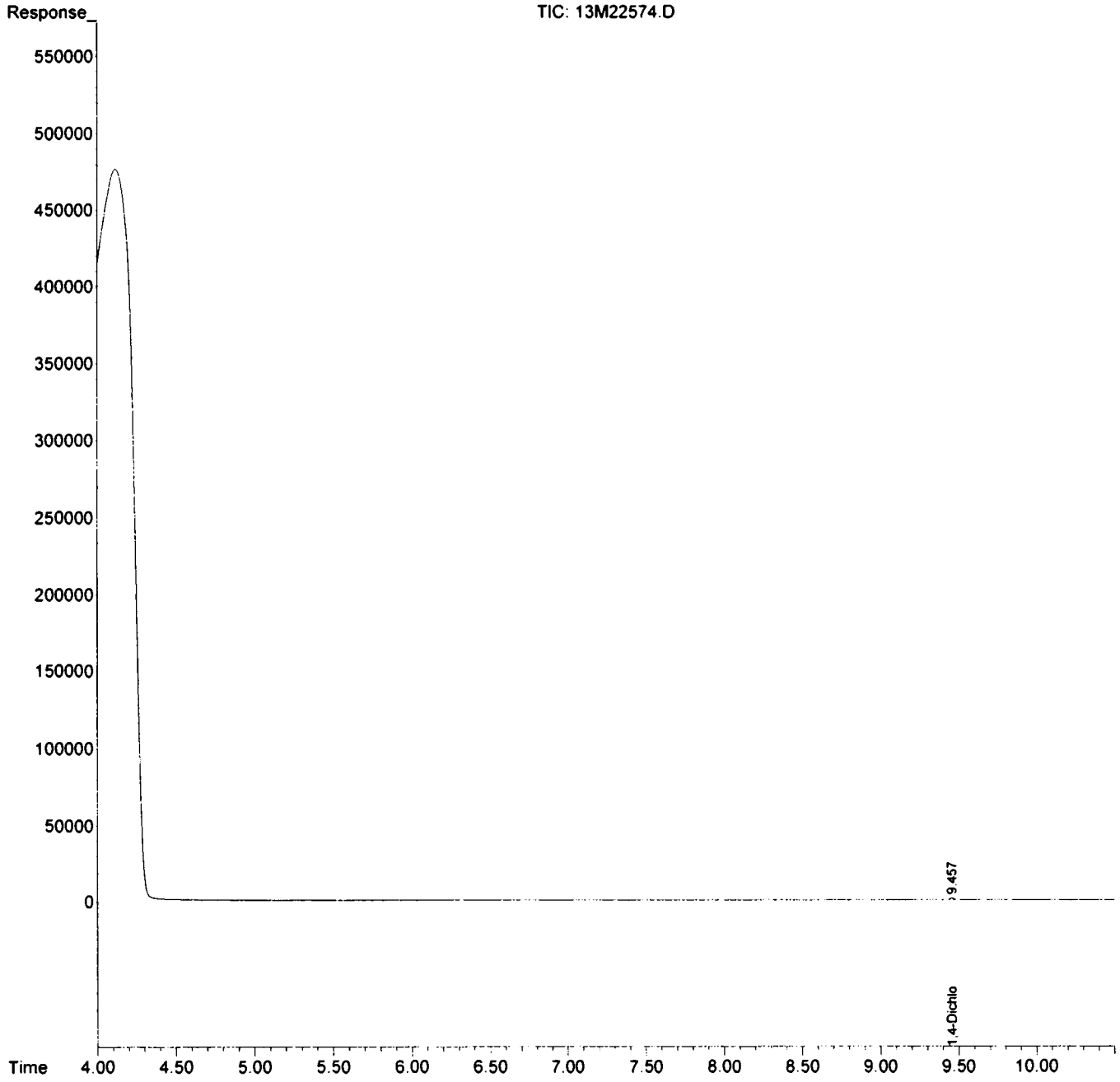
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.458	17581	21.541	
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22574.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 2:04
Operator : JM
Sample : AD26217-004
Misc : M,MEXT!3
ALS Vial : 24 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:46:04 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-006
Client Id: SB07 COMP
Data File: 13M22559.D
Analysis Date: 09/24/21 21:54
Date Rec/Extracted: 09/23/21-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: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	29	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22559.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 21:54
Operator : JM
Sample : AD26217-006
Misc : M,MEXT!3
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:15 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

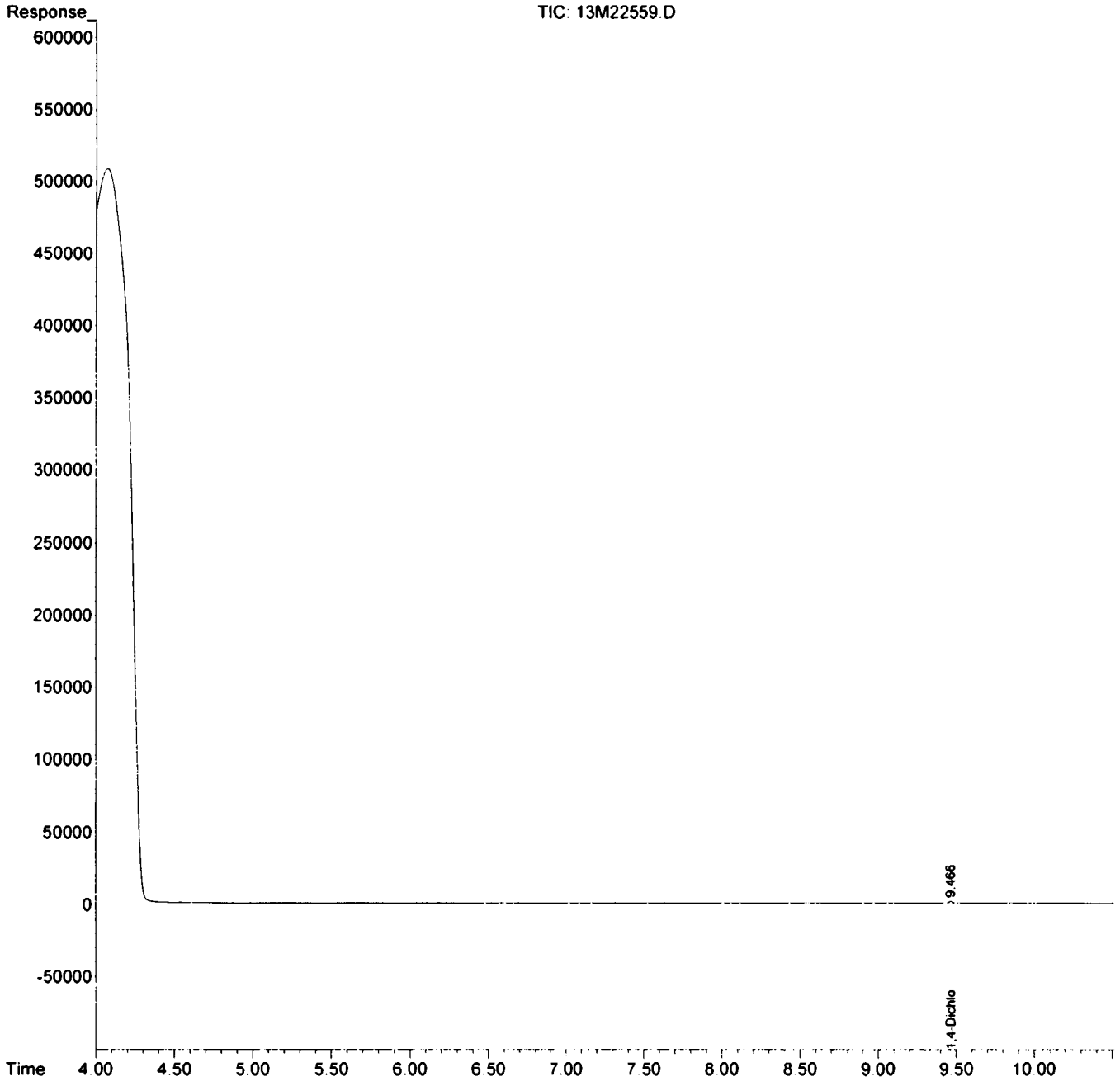
	Compound	R.T.	Response	Conc	Units
System Monitoring Compounds					
1)S	1,4-Dichlorobenzene-d4	9.466f	22282	27.301	m
Target Compounds					
2)	2-Methylpentane	0.000	0	N.D.	
3)	1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g	Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22559.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 21:54
Operator : JM
Sample : AD26217-006
Misc : M,MEXT!3
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:15 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-008
Client Id: SB06 COMP
Data File: 13M22560.D
Analysis Date: 09/24/21 22:11
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.02g:10ml
Final Vol: NA
Dilution: 99.6
Solids: 92

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	27	U				

Worksheet #: 610887

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

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22560.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 22:11
Operator : JM
Sample : AD26217-008
Misc : M,MEXT!3
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:33 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

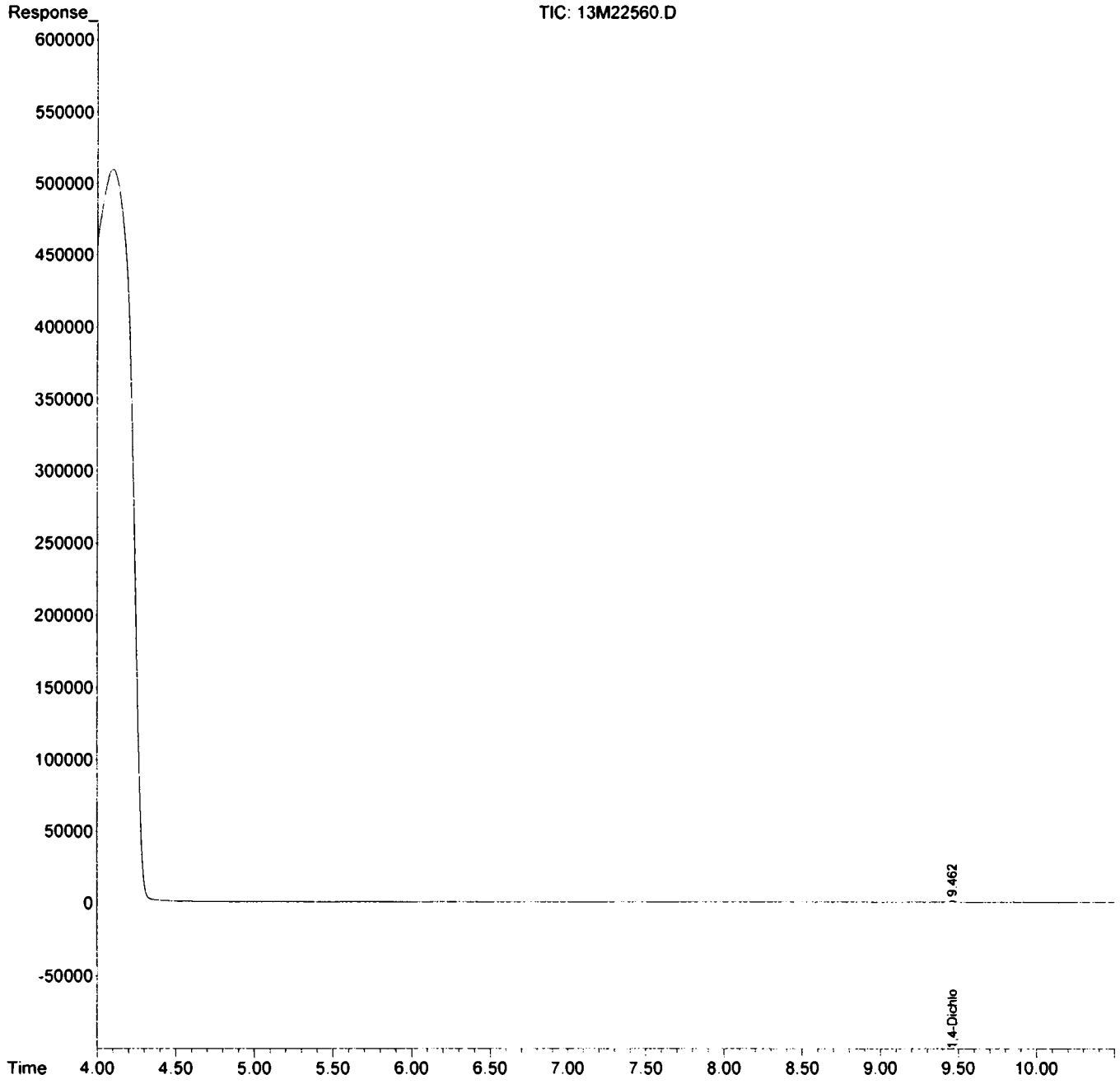
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.462f	19784	24.240	m
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22560.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 22:11
Operator : JM
Sample : AD26217-008
Misc : M,MEXT!3
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:33 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-010
Client Id: SB05 COMP
Data File: 13M22561.D
Analysis Date: 09/24/21 22:28
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.06g:10ml
Final Vol: NA
Dilution: 98.8
Solids: 88

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	28	U				

Worksheet #: 610887 *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

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22561.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 22:28
Operator : JM
Sample : AD26217-010
Misc : M,MEXT!3
ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:52 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

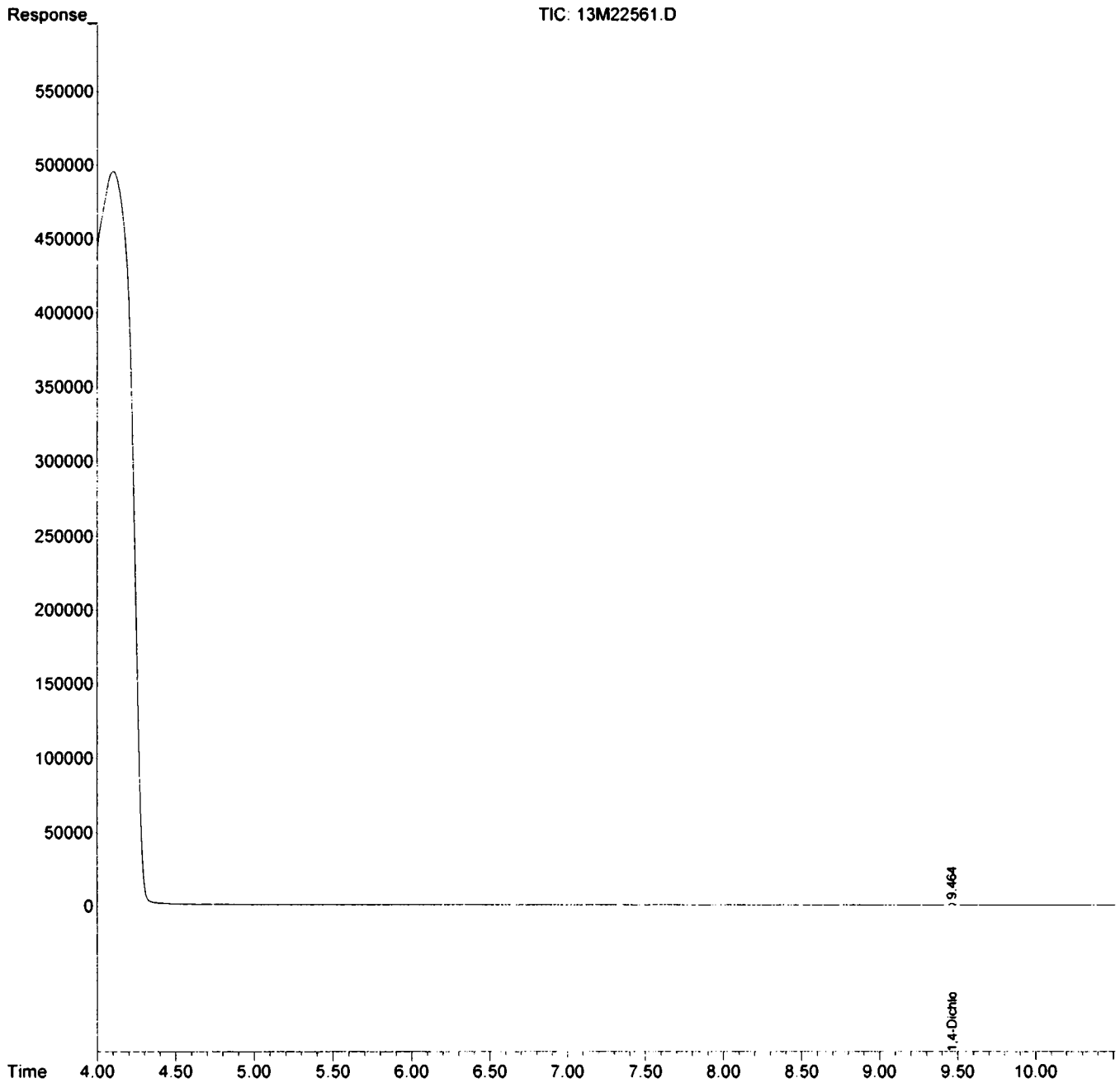
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.464f	19608	24.025	m
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22561.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 22:28
Operator : JM
Sample : AD26217-010
Misc : M,MEXT!3
ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:52 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-012
Client Id: SB04 COMP
Data File: 13M22569.D
Analysis Date: 09/25/21 00:40
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.04g:10ml
Final Vol: NA
Dilution: 99.2
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	29	U				

Worksheet #: 610887 *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)

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22569.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 00:40
Operator : JM
Sample : AD26217-012
Misc : M,MEXT!3
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 15:59:58 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

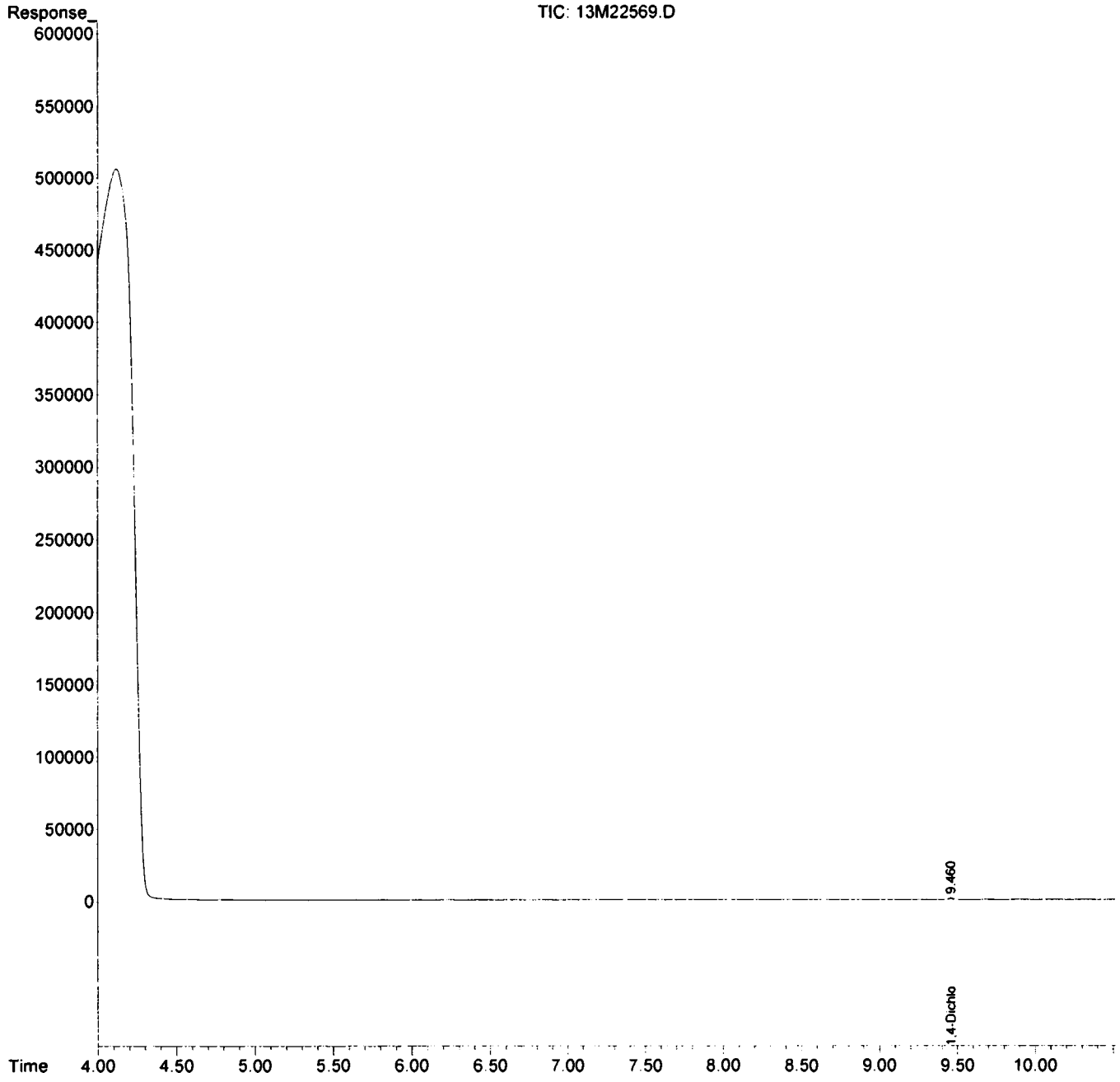
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1)S 1,4-Dichlorobenzene-d4	9.460f	18973	23.246		m
Target Compounds					
2) 2-Methylpentane	0.000	0	N.D.		d
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.		d
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22569.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 00:40
Operator : JM
Sample : AD26217-012
Misc : M,MEXT!3
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 15:59:58 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-014
Client Id: SB03 COMP
Data File: 13M22570.D
Analysis Date: 09/25/21 00:57
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.02g:10ml
Final Vol: NA
Dilution: 99.6
Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	28	U				

Worksheet #: 610887 *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)

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22570.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 00:57
Operator : JM
Sample : AD26217-014
Misc : M,MEXT!3
ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 16:00:16 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

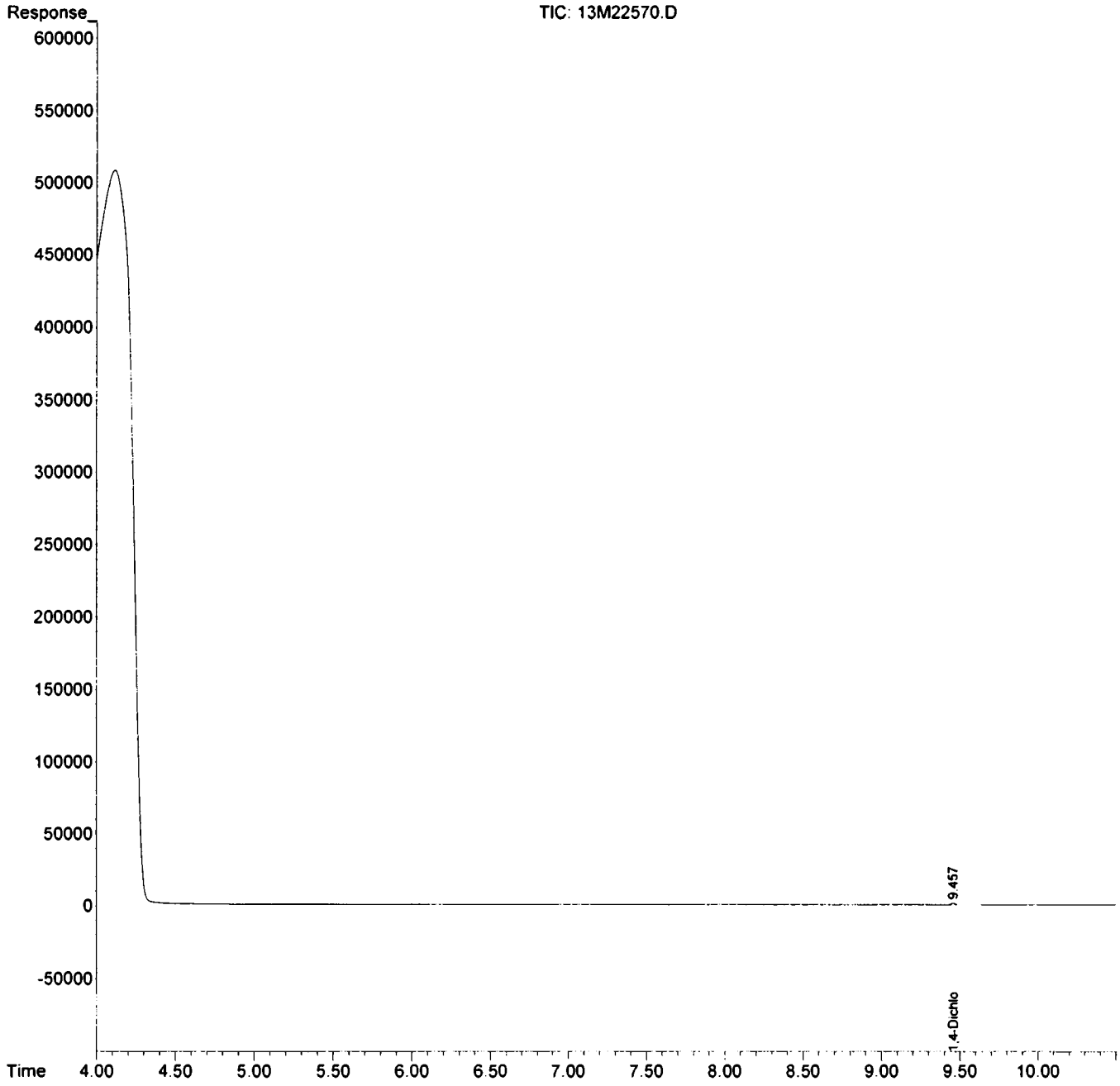
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1)S 1,4-Dichlorobenzene-d4	9.457f	24915	30.527		m
Target Compounds					
2) 2-Methylpentane	0.000	0	N.D.		d
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.		d
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22570.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 00:57
Operator : JM
Sample : AD26217-014
Misc : M,MEXT!3
ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 16:00:16 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-016
Client Id: SB02 COMP
Data File: 13M22571.D
Analysis Date: 09/25/21 01:14
Date Rec/Extracted: 09/23/21-NA
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: 78

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	32	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22571.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:14
Operator : JM
Sample : AD26217-016
Misc : M,MEXT!3
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:43 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

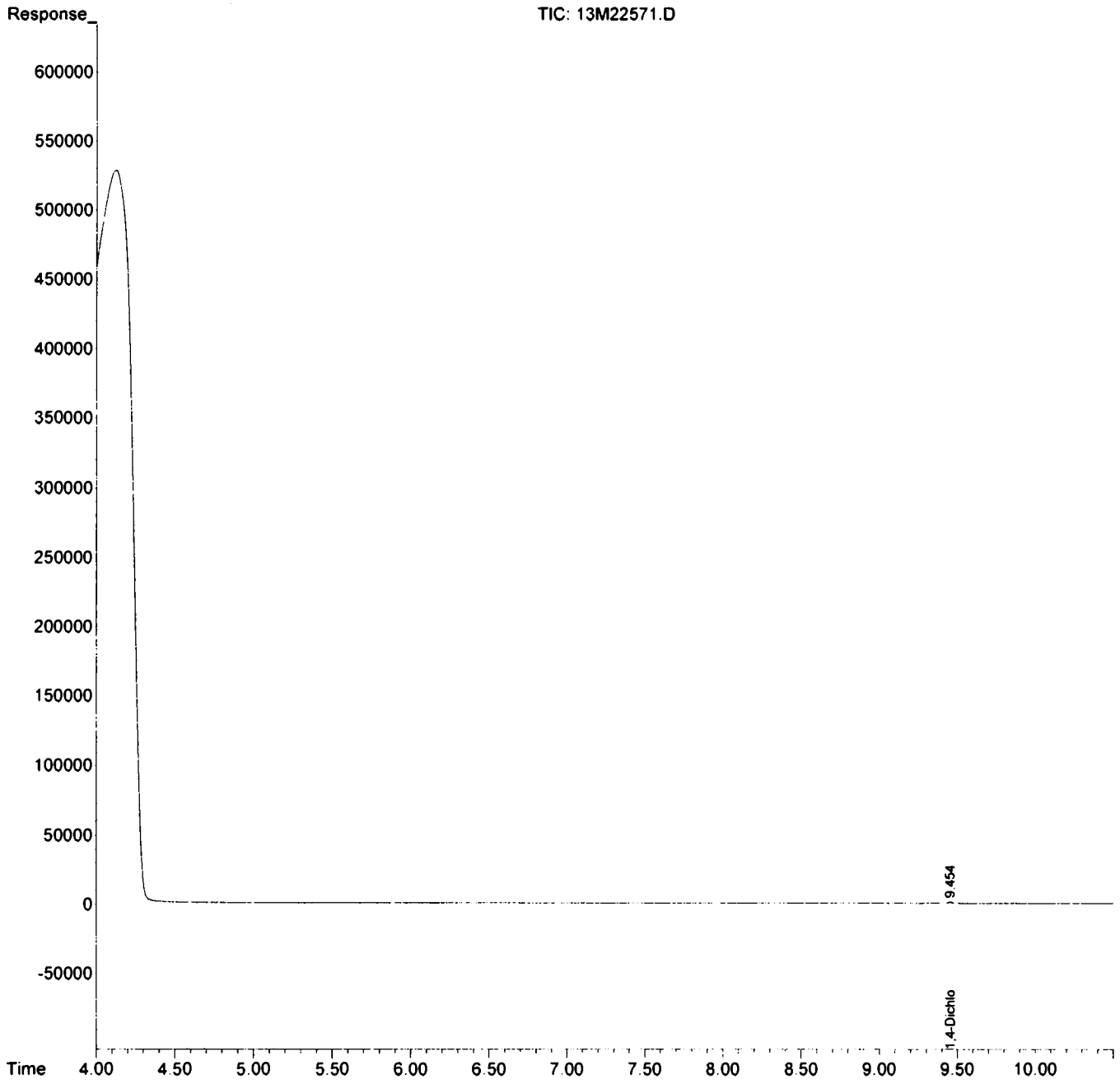
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.455	17486	21.425	
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22571.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:14
Operator : JM
Sample : AD26217-016
Misc : M,MEXT!3
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:43 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-018
Client Id: SB01 COMP
Data File: 13M22572.D
Analysis Date: 09/25/21 01:31
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.05g:10ml
Final Vol: NA
Dilution: 99.0
Solids: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	30	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22572.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:31
Operator : JM
Sample : AD26217-018
Misc : M,MEXT!3
ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:54 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

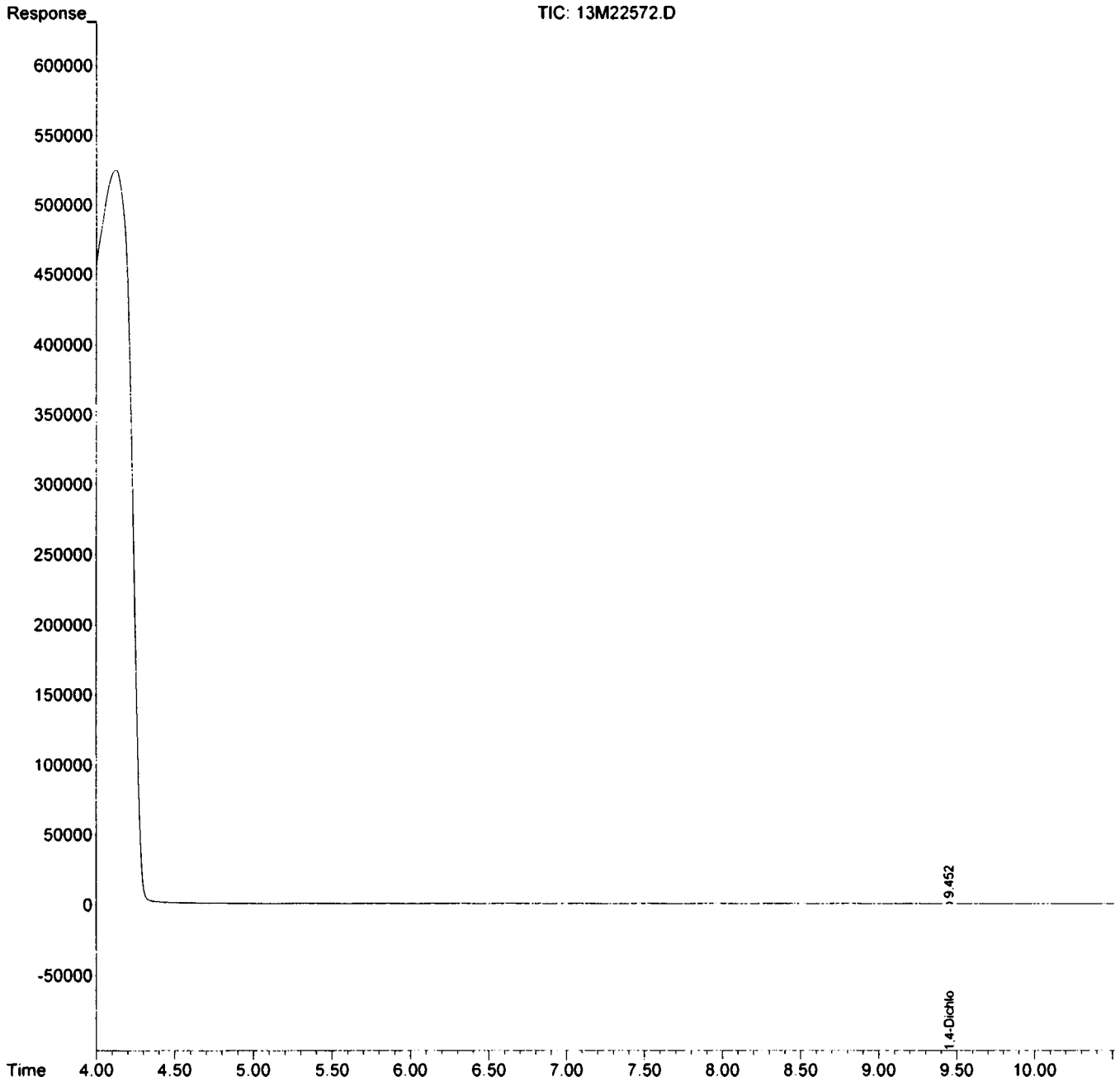
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.453	18624	22.818	
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22572.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:31
Operator : JM
Sample : AD26217-018
Misc : M,MEXT!3
ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:54 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 13M22549.D
Analysis Date: 09/24/21 19:08
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 #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22549.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 19:08
Operator : JM
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 28 12:53:13 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

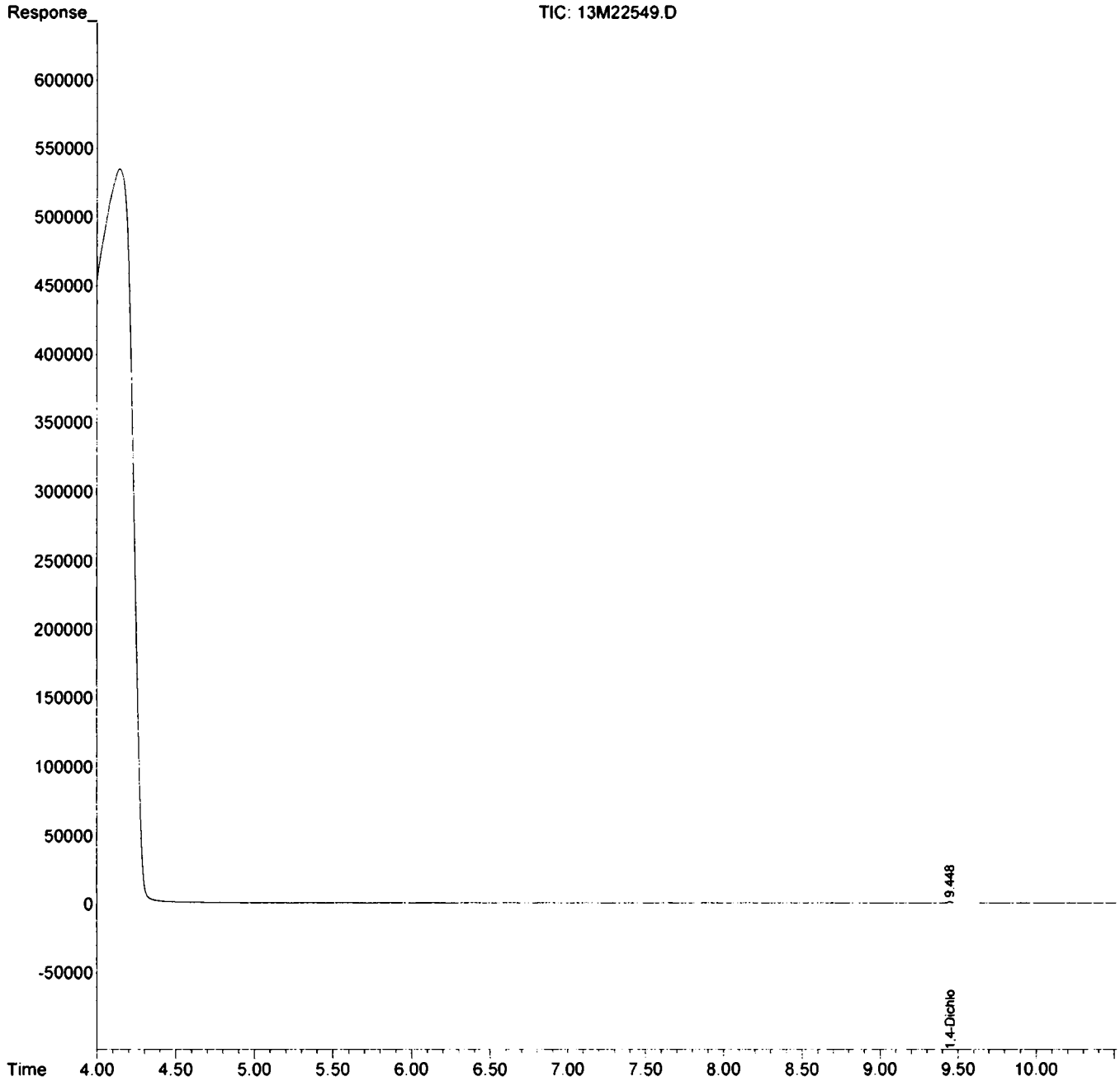
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1)S 1,4-Dichlorobenzene-d4	9.448f	16601	20.341		m
Target Compounds					
2) 2-Methylpentane	0.000	0	N.D.		d
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.		d
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22549.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 19:08
Operator : JM
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 28 12:53:13 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
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
13M22549.D	DAILY BLANK	M	09/24/21 19:08	1		68					
13M22573.D	AD26217-002	M	09/25/21 01:48	1		79					
13M22574.D	AD26217-004	M	09/25/21 02:04	1		72					
13M22559.D	AD26217-006	M	09/24/21 21:54	1		91					
13M22560.D	AD26217-008	M	09/24/21 22:11	1		81					
13M22561.D	AD26217-010	M	09/24/21 22:28	1		80					
13M22569.D	AD26217-012	M	09/25/21 00:40	1		78					
13M22570.D	AD26217-014	M	09/25/21 00:57	1		102					
13M22571.D	AD26217-016	M	09/25/21 01:14	1		71					
13M22572.D	AD26217-018	M	09/25/21 01:31	1		76					
13M22565.D	MBS96814	M	09/24/21 23:34	1		126					
13M22566.D	AD26217-008(MS)	M	09/24/21 23:50	1		96					
13M22567.D	AD26217-008(MSD)	M	09/25/21 00:07	1		102					

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: MBS96814

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M22565.D	MBS96814	9/24/2021 11:34:00 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	2004.72	0	2000	100	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS96814

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M22566.D	AD26217-008(MS)	9/24/2021 11:50:00 PM
Non Spike(If applicable):	13M22560.D	AD26217-008	9/24/2021 10:11:00 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	2614.36	0	2000	131	11	181

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M22567.D	AD26217-008(MSD)	9/25/2021 12:07:00 AM
Non Spike(If applicable):	13M22560.D	AD26217-008	9/24/2021 10:11:00 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	2555.31	0	2000	128	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD DATA
QC Batch: MBS96814

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M22567.D	AD26217-008(MSD)	9/25/2021 12:07:00 AM
Duplicate(If applicable):	13M22566.D	AD26217-008(MS)	9/24/2021 11:50:00 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	2555.31	2614.36	2.3	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: 13M22549.D
Matrix: Methanol

Blank Analysis Date: 09/24/21 19:08
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD26217-002	13M22573.D	09/25/21 01:48
AD26217-004	13M22574.D	09/25/21 02:04
AD26217-006	13M22559.D	09/24/21 21:54
AD26217-008	13M22560.D	09/24/21 22:11
AD26217-010	13M22561.D	09/24/21 22:28
AD26217-012	13M22569.D	09/25/21 00:40
AD26217-014	13M22570.D	09/25/21 00:57
AD26217-016	13M22571.D	09/25/21 01:14
AD26217-018	13M22572.D	09/25/21 01:31
AD26217-008(MSD	13M22567.D	09/25/21 00:07
AD26217-008(MS)	13M22566.D	09/24/21 23:50
MBS96814	13M22565.D	09/24/21 23:34

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
13M22394.D	CAL @ 250 PPB	08/23/21 21:30	Aqueous	13M2240	9.4713	0.0824		
13M22395.D	CAL @ 500 PPB	08/23/21 21:47	Aqueous	13M2240	9.4650	0.0159		
13M22396.D	CAL @ 750 PPB	08/23/21 22:04	Aqueous	13M2240	9.4705	0.0739		
13M22397.D	CAL @ 1000 PPB	08/23/21 22:20	Aqueous	13M2240	9.4663	0.0296		
13M22398.D	CAL @ 1500 PPB	08/23/21 22:37	Aqueous	13M2240	9.4612	0.0243		
13M22399.D	CAL @ 2000 PPB	08/23/21 22:54	Aqueous	13M2240	9.4603	0.0338		
13M22400.D	CAL @ 4000 PPB	08/23/21 23:10	Aqueous	13M2240	9.4635	0		
13M22403.D	STD	08/24/21 00:02	Aqueous	13M2240	9.4658	0.0243		
13M22404.D	STD	08/24/21 00:19	Aqueous	13M2240	9.4617	0.019		
13M22405.D	ICV@ 2000 PPB	08/24/21 00:37	Aqueous	13M2240	9.4638	0.0032		
13M22406.D	BLK	08/24/21 00:54	Aqueous	13M2240	9.4505	0.1375		
13M22407.D	BLK	08/24/21 14:11	Aqueous	13M2240	0.0000	200		

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
13M22544.D	BLK	09/24/21 17:44	Aqueous	13M2254	0.0000	200		
13M22546.D	CAL @ 2000PPB	09/24/21 18:17	Aqueous	13M2254	9.4558	0		
13M22547.D	2000PPB	09/24/21 18:34	Aqueous	13M2254	9.4546	0.0127		
13M22548.D	BLK	09/24/21 18:52	Aqueous	13M2254	0.0000	200		
13M22549.D	DAILY BLANK	09/24/21 19:08	Methanol	13M2254	9.4481	0.0815		
13M22550.D	DAILY BLANK	09/24/21 19:25	Aqueous	13M2254	9.4554	0.0042		
13M22551.D	AD26211-001	09/24/21 19:42	Methanol	13M2254	9.4499	0.0624		
13M22552.D	AD26211-003	09/24/21 19:58	Methanol	13M2254	9.4518	0.0423		
13M22553.D	AD25976-002	09/24/21 20:15	Methanol	13M2254	9.4465	0.0984		
13M22554.D	AD25976-002(MS)	09/24/21 20:31	Methanol	13M2254	9.4517	0.0434		
13M22555.D	AD25976-002(MSD)	09/24/21 20:48	Methanol	13M2254	9.4460	0.1037		
13M22556.D	MBS96813	09/24/21 21:04	Methanol	13M2254	9.4491	0.0709		
13M22557.D	BLK	09/24/21 21:21	Methanol	13M2254	0.0000	200		
13M22558.D	BLK	09/24/21 21:37	Aqueous	13M2254	0.0000	200		
13M22559.D	AD26217-006	09/24/21 21:54	Methanol	13M2254	9.4656	0.1036		
13M22560.D	AD26217-008	09/24/21 22:11	Methanol	13M2254	9.4618	0.0634		
13M22561.D	AD26217-010	09/24/21 22:28	Methanol	13M2254	9.4639	0.0856		

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
13M22562.D	CAL @ 2000 PPB	09/24/21 22:44	Aqueous	13M2256	9.4572	0		
13M22563.D	BLK	09/24/21 23:00	Aqueous	13M2256	0.0000	200		
13M22564.D	DAILY BLANK	09/24/21 23:17	Methanol	13M2256	9.4543	0.0307		
13M22565.D	MBS96814	09/24/21 23:34	Methanol	13M2256	9.4539	0.0349		
13M22566.D	AD26217-008(MS)	09/24/21 23:50	Methanol	13M2256	9.4512	0.0635		
13M22567.D	AD26217-008(MSD)	09/25/21 00:07	Methanol	13M2256	9.4589	0.018		
13M22568.D	BLK	09/25/21 00:24	Aqueous	13M2256	0.0000	200		
13M22569.D	AD26217-012	09/25/21 00:40	Methanol	13M2256	9.4596	0.0254		
13M22570.D	AD26217-014	09/25/21 00:57	Methanol	13M2256	9.4567	0.0053		
13M22571.D	AD26217-016	09/25/21 01:14	Methanol	13M2256	9.4546	0.0275		
13M22572.D	AD26217-018	09/25/21 01:31	Methanol	13M2256	9.4526	0.0487		
13M22573.D	AD26217-002	09/25/21 01:48	Methanol	13M2256	9.4552	0.0211		
13M22574.D	AD26217-004	09/25/21 02:04	Methanol	13M2256	9.4576	0.0042		
13M22575.D	AD26131-006	09/25/21 02:21	Methanol	13M2256	9.4569	0.0032		
13M22576.D	AD26131-003	09/25/21 02:38	Methanol	13M2256	9.4557	0.0159		
13M22577.D	AD26178-006	09/25/21 02:55	Methanol	13M2256	9.4540	0.0338		
13M22578.D	AD26178-002	09/25/21 03:11	Methanol	13M2256	9.4550	0.0233		
13M22579.D	AD26178-004	09/25/21 03:28	Methanol	13M2256	9.4579	0.0074		
13M22580.D	AD26130-004	09/25/21 03:44	Methanol	13M2256	9.4527	0.0476		
13M22581.D	AD26130-002	09/25/21 04:01	Methanol	13M2256	9.4541	0.0328		
13M22582.D	AD26112-005	09/25/21 04:17	Methanol	13M2256	9.4540	0.0338		
13M22583.D	AD26112-004	09/25/21 04:34	Methanol	13M2256	9.4552	0.0211		
13M22584.D	AD26112-003	09/25/21 04:51	Methanol	13M2256	9.4535	0.0391		
13M22585.D	AD26206-002	09/25/21 05:08	Methanol	13M2256	9.4531	0.0434		
13M22586.D	AD26206-004	09/25/21 05:24	Methanol	13M2256	9.4554	0.019		
13M22587.D	BLK	09/25/21 05:41	Aqueous	13M2256	0.0000	200		
13M22588.D	CAL @ 2000PPB	09/25/21 05:57	Aqueous	13M2256	9.4609	0.0391		
13M22589.D	2000PPB	09/25/21 06:14	Aqueous	13M2258	9.4608	0.0011		
13M22590.D	BLK	09/25/21 06:30	Aqueous	13M2258	9.5465	0.9007		
13M22591.D	BLK	09/25/21 06:47	Aqueous	13M2258	0.0000	200		
13M22592.D	BLK	09/25/21 07:03	Aqueous	13M2258	0.0000	200		

Drift Compound: 1,4-Dichloroben Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

1092401 0337

Form 6
Initial Calibration

Method: EPA 8015D

Instrument: GC_13

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	13M22400.	CAL @ 4000 PPB	08/23/21 23:10	2	13M22399.	CAL @ 2000 PPB	08/23/21 22:54
3	13M22398.	CAL @ 1500 PPB	08/23/21 22:37	4	13M22397.	CAL @ 1000 PPB	08/23/21 22:20
5	13M22396.	CAL @ 750 PPB	08/23/21 22:04	6	13M22395.	CAL @ 500 PPB	08/23/21 21:47
7	13M22394.	CAL @ 250 PPB	08/23/21 21:30				

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	0.1139	0.0882	0.0805	0.0759	0.0740	0.0701	0.0684	----	0.0816	9.47	-1	-1	19	30.00	30.00	30.00	30.00	30.00	30.00	30.00	
2-Methylpentane	1	0	Avg	0.0008	0.0008	0.0012	0.0011	0.0009	0.0008	0.0007	----	0.000940	5.46	0.963	0.972	19	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
1,2,4-Trimethylbenzene	1	0	Avg	0.0013	0.0012	0.0012	0.0012	0.0011	0.0011	0.0011	----	0.00122	9.27	1.00	1.00	4.2	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
Gasoline Range Organics	1	0	Avg	0.0626	0.0580	0.0606	0.0608	0.0615	0.0679	0.0799	----	0.0645	8.07	0.997	1.00	12	4000.	2000.	1500.	1000.	750.0	500.0	250.0	

Avg Rsd Col 1: 26.9 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. - 435

Form7
Continuing Calibration

Method: EPA 8015D

Data File:				13M22546.D			13M22562.D			13M22588.D								
Method:				8015			8015			8015								
Calibration Name:				CAL @ 2000PPB			CAL @ 2000 PPB			CAL @ 2000PPB								
Calibration Date/Time				09/24/21 18:17			09/24/21 22:44			09/25/21 05:57								
Compound	Limit	Col	Mr	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff
Gasoline Range Orga	20	1	0	1918	2000	4.1	2099	2000	4.9	2233	2000	11.6						

Flags/Notes: **** - Values outside of limits for this column/run***

TCLP Metal Data

Form1

Inorganic Analysis Data Sheet

Sample ID:	AD26217-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB09 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	MI	Instr
7440-38-2	Arsenic	0.10	ND	1	50	50	10/01/21	94441	T27682b5	18	P	PEICP5A
7440-39-3	Barium	0.25	0.26	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	15	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A

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:	AD26217-004	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB08 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	23	P	PEICP5A
7440-39-3	Barium	0.25	0.45	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	18	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A

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:	AD26217-006	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB07 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	24	P	PEICP5A
7440-39-3	Barium	0.25	0.38	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	19	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A

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:	AD26217-008	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB06 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	25	P	PEICP5A
7440-39-3	Barium	0.25	0.31	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7439-92-1	Lead	0.050	0.13	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	20	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A

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:	AD26217-010	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB05 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	28	P	PEICP5A
7440-39-3	Barium	0.25	0.83	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7439-92-1	Lead	0.050	0.17	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	23	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A

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:	AD26217-012	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB04 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	29	P	PEICP5A
7440-39-3	Barium	0.25	0.69	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	24	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A

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:	AD26217-014	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB03 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	30	P	PEICP5A
7440-39-3	Barium	0.25	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	25	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A

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:	AD26217-016	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB02 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	31	P	PEICP5A
7440-39-3	Barium	0.25	1.4	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7439-92-1	Lead	0.050	0.40	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	26	CV	HGCV4A
7440-02-0	Nickel	0.10	0.17	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A

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:	AD26217-018	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB01 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	32	P	PEICP5A
7440-39-3	Barium	0.25	0.28	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7439-92-1	Lead	0.050	0.058	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	27	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A

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 94441 (1) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 94441 (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
7440-36-0	Antimony	0.035	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-38-2	Arsenic	0.050	ND	1	50	50	10/01/21	94441	T27682b5	13	P	PEICP5A
7440-39-3	Barium	0.12	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-41-7	Beryllium	0.0060	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-43-9	Cadmium	0.025	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-47-3	Chromium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-50-8	Copper	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7439-92-1	Lead	0.025	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	12	CV	HGCV4A
7440-02-0	Nickel	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7782-49-2	Selenium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-22-4	Silver	0.025	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-28-0	Thallium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-66-6	Zinc	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A

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: 09/30/21
Data File: T27682A5
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

Analyte	ICV/CCV Amt	ICV V-352960-6	Rec	CCV V-352960-17	Rec	CCV V-352960-27	Rec	CCV V-352960-39	Rec	CCV V-352960-49	Rec	CCV V-352960-54	Rec		Rec		Rec
Barium	.5/.5	0.50205	100	0.46398	93	0.45634	91	0.50300	101	0.46758	94	0.45263	91				
Cadmium	.5/.5	0.49556	99	0.47052	94	0.47081	94	0.50159	100	0.47585	95	0.47732	95				
Chromium	.5/.5	0.49542	99	0.47471	95	0.46911	94	0.49801	100	0.47931	96	0.47335	95				
Copper	.5/.5	0.51064	102	0.49509	99	0.48245	96	0.50676	101	0.48826	98	0.49268	99				
Lead	.5/.5	0.50600	101	0.48018	96	0.48171	96	0.51739	103	0.49802	100	0.48468	97				
Nickel	.5/.5	0.50680	101	0.47771	96	0.48031	96	0.51433	103	0.49048	98	0.47972	96				
Selenium	.5/.5	0.51256	103	0.46665	93	0.46299	93	0.51848	104	0.48014	96	0.45695	91				
Silver	0.1/0.1	0.09723	97	0.09450	95	0.09213	92	0.09643	96	0.09290	93	0.09442	94				
Zinc	.5/.5	0.50361	101	0.46570	93	0.47348	95	0.51641	103	0.48575	97	0.46814	94				

Notes: a-indicates analyte failed the ICV limits for 6010D, 6020B
b-indicates analyte failed the ICV limits for 200.7 or 200.8
c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010C,6020B, Hg 7470A,7471B
d-indicates analyte failed the CCV limits Hg 7470A/7471B

Qc Limits: ICV - 200.7 (95-105) 6010D/6020B/200.8 (90-110)
CCV- 200.7/200.8/6010D/245.1, Hg 7470A/ 7471B (90-110)

FORM 2
LLQCS/LRS Summary)

Date Analyzed: 09/30/21
Data File: T27682A5
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
LLQCS/LRS SOURCE: SPEX

Analyte	LLQCS Spike Amount	LLICV V-352963	Recovery	Low Limit	High Limit	LRS Spike Amount	LRS V-352964	Recovery	Low Limit	High Limit
Magnesium	5.0	4.83739	97	80	120	500	531.278	106	90	110
Aluminum	1.0	1.00815	101	80	120	500	541.364	108	90	110
Arsenic	0.1	0.0984017	98	80	120	10	10.8628	109	90	110
Boron	0.2	0.191098	96	80	120	5	5.10305	102	90	110
Barium	0.25	0.256137	102	80	120	10	10.5850	106	90	110
Beryllium	0.012	0.0125078	104	80	120	5	5.11361	102	90	110
Calcium	5.0	4.85445	97	80	120	500	522.443	104	90	110
Cadmium	0.05	0.0517900	104	80	120	5	5.73444	115 a	90	110
Cerium	.2	0.208410	104	80	120	25	22.7580	91	90	110
Cobalt	0.1	0.100065	100	80	120	5	5.09269	102	90	110
Chromium	0.1	0.0987142	99	80	120	10	10.1545	102	90	110
Copper	0.1	0.105468	105	80	120	10	11.5339	115 a	90	110
Silver	0.05	0.0480113	96	80	120	1	1.05459	105	90	110
Potassium	NA	10.6992		80	120	200	2305.81	a 1150	90	110
Zinc	0.1	0.0967453	97	80	120	10	10.1420	101	90	110
Manganese	0.1	0.100035	100	80	120	10	10.1135	101	90	110
Molybdenum	0.1	0.100057	100	80	120	10	10.1645	102	90	110
Sodium	NA	16.6777		80	120	1000	1386.64	139 a	90	110
Nickel	0.1	0.0997146	100	80	120	10	10.0567	101	90	110
Lead	0.05	0.0482452	96	80	120	10	10.3357	103	90	110
Antimony	0.07	0.0682595	98	80	120	5	5.71089	114 a	90	110
Selenium	0.1	0.100626	101	80	120	5	5.70483	114 a	90	110
Silicon	.2	0.202818	101	80	120	25	25.2402	101	90	110
Tin	0.1	0.0989029	99	80	120	10	11.5528	116 a	90	110
Titanium	0.1	0.100510	101	80	120	10	10.5133	105	90	110
Thallium	0.1	0.103989	104	80	120	5	5.15569	103	90	110
Vanadium	0.1	0.0971622	97	80	120	10	9.71502	97	90	110
Iron	1.0	0.985011	99	80	120	200	198.475	99	90	110

Notes: a-indicates analyte is outsite the limits.

If linear range sample (LRS) exceeds criteria, high standard becomes upper limit criteria

FORM 2
(ICV/CCV Summary)

Date Analyzed: 10/01/21
Data File: T27682b5
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

Analyte	ICV/CCV Amt	ICV V-352960-5	Rec	CCV V-352960-16	Rec	CCV V-352960-26	Rec	CCV V-352960-38	Rec		Rec		Rec		Rec		Rec
Arsenic	.5/.5	0.48165	96	0.45890	92	0.44860	90	0.46638	93								

Notes: a-indicates analyte failed the ICV limits for 6010D, 6020B
b-indicates analyte failed the ICV limits for 200.7 or 200.8
c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010C,6020B, Hg 7470A,7471B
d-indicates analyte failed the CCV limits Hg 7470A/7471B

Qc Limits: ICV - 200.7 (95-105) 6010D/6020B/200.8 (90-110)
CCV- 200.7/200.8/6010D/245.1, Hg 7470A/ 7471B (90-110)

FORM 2
LLQCS/LRS Summary)

Date Analyzed: 10/01/21
Data File: T27682b5
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
LLQCS/LRS SOURCE: SPEX

Analyte	LLQCS Spike Amount	LLICV V-352963	Recovery	Low Limit	High Limit	LRS Spike Amount	LRS V-352964	Recovery	Low Limit	High Limit
Magnesium	5.0	4.95193	99	80	120	500	533.432	107	90	110
Aluminum	1.0	0.968687	97	80	120	500	548.195	110	90	110
Arsenic	0.1	0.0978919	98	80	120	10	10.7614	108	90	110
Boron	0.2	0.189084	95	80	120	5	5.15078	103	90	110
Barium	0.25	0.246213	98	80	120	10	10.6111	106	90	110
Beryllium	0.012	0.0127827	107	80	120	5	5.15143	103	90	110
Calcium	5.0	5.06414	101	80	120	500	520.737	104	90	110
Cadmium	0.05	0.0499781	100	80	120	5	5.79079	116 a	90	110
Cerium	.2	0.207283	104	80	120	25	23.1141	92	90	110
Cobalt	0.1	0.0989528	99	80	120	5	5.10657	102	90	110
Chromium	0.1	0.0978352	98	80	120	10	10.1701	102	90	110
Copper	0.1	0.102861	103	80	120	10	11.6919	117 a	90	110
Silver	0.05	0.0483360	97	80	120	1	1.13122	113 a	90	110
Potassium	NA	7.10381		80	120	200	2264.46	1130 a	90	110
Zinc	0.1	0.0982134	98	80	120	10	9.98208	100	90	110
Manganese	0.1	0.0975455	98	80	120	10	10.1381	101	90	110
Molybdenum	0.1	0.0983878	98	80	120	10	10.1405	101	90	110
Sodium	NA	15.8707		80	120	1000	1423.06	142 a	90	110
Nickel	0.1	0.100979	101	80	120	10	9.96915	100	90	110
Lead	0.05	0.0550402	110	80	120	10	10.1863	102	90	110
Antimony	0.07	0.0707009	101	80	120	5	5.71302	114 a	90	110
Selenium	0.1	0.102243	102	80	120	5	5.64910	113 a	90	110
Silicon	.2	0.218635	109	80	120	25	25.0308	100	90	110
Tin	0.1	0.0984325	98	80	120	10	11.1205	111 a	90	110
Titanium	0.1	0.0978875	98	80	120	10	10.6258	106	90	110
Thallium	0.1	0.104398	104	80	120	5	5.18358	104	90	110
Vanadium	0.1	0.0951101	95	80	120	10	9.77736	98	90	110
Iron	1.0	0.987880	99	80	120	200	198.731	99	90	110

Notes: a-indicates analyte is outsite the limits.

If linear range sample (LRS) exceeds criteria, high standard becomes upper limit criteria

FORM 2
(ICV/CCV Summary)

Date Analyzed: 10/01/21
Data File: H27682T
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: HGCV4A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

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	Rec	Rec
Mercury	20/10	21 76000	109	10.47000	105	10 02000	100						

Notes: a-indicates analyte failed the ICV limits for 6010D, 6020B
b-indicates analyte failed the ICV limits for 200.7 or 200.8
c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010C,6020B, Hg 7470A,7471B
d-indicates analyte failed the CCV limits Hg 7470A/7471B

Qc Limits: ICV - 200.7 (95-105) 6010D/6020B/200.8 (90-110)
CCV- 200.7/200.8/6010D/245.1, Hg 7470A/ 7471B (90-110)

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/30/21
Data File: T27682A5
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-352951-7	CCB V-352951-18	CCB V-352951-28	CCB V-352951-40	CCB V-352951-50	CCB V-352951-55	MB 94441 (1)-14	EF V-357869 9/28-38
Barium	.125 U	.25 U	.25 U	.25 U	.25 U	.25U	.13U	.25 U
Cadmium	.025 U	.05 U	.05 U	.05 U	.05 U	.05U	.025U	.05 U
Chromium	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U
Copper	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U
Lead	.025 U	.05 U	.05 U	.05 U	.05 U	.05U	.025U	.05 U
Nickel	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U
Selenium	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U
Silver	.025 U	.05 U	.05 U	.05 U	.05 U	.05U	.025U	.05 U
Zinc	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 10/01/21
Data File: T27682b5
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-352951-6	CCB V-352951-17	CCB V-352951-27	CCB V-352951-39	MB 94441 (1)-13	EF V-357869 9/28-37
Arsenic	.05 U	.1 U	.1 U	.1 U	.05 U	.1U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 10/01/21
Data File: H27682T
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: HGCV4A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB-10	CCB-22	CCB-34	MB 94441 (1)-12	EF V-357869 9/24-32			
Mercury	.5 U	.5 U	.5 U	.5 U	.5 U			

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 4
(ICSA/ICSAB Summary)

Date Analyzed: 09/30/21
Data File: T27682A5
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICSA/ICSAB: SOURCE: SCP Science

Analyte	Spk Amt	ICSA V-352957-12	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Aluminum	500	523.801	105							
Barium	0	U								
Cadmium	0	U								
Calcium	500	486.009	97							
Chromium	0	U								
Copper	0	U								
Iron	200	183.188	92							
Lead	0	U								
Magnesium	500	494.621	99							
Nickel	0	U								
Selenium	0	U								
Silver	0	U								
Zinc	0	U								

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

Qc Limits: 200.7, 6020B < 2 * Reporting Limit
6010D < Reporting Limit

FORM 4
(ICSA/ICSAB Summary)

Date Analyzed: 10/01/21
Data File: T27682b5
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICSA/ICSAB: SOURCE: SCP Science

Analyte	Spk Amt	ICSA V-352957-11	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Aluminum	500	506.222	101							
Arsenic	0	U								
Calcium	500	478.272	96							
Iron	200	178.759	89							
Magnesium	500	483.872	97							

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
c-indicates the recovery failed the Qc Criteria in the ICSAB
u-indicates the absolute value of the concentration was below the reporting limit

Qc Limits: 200.7, 6020B < 2 * Reporting Limit
6010D < Reporting Limit

FORM5/FORM7
SPIKE RECOVERY DATA
PREP BATCH: 94441

Instrument Type: ICP/HG
Analytical Method(s):6010D/200.7/7470A/7471B/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR Matrix: TCLP SampleID: LCS MR 94441

Analyte	BatchId	DF	Data File	Seq#:	Spk Conc:	Spk Added	Recov	Qual	Lo Lim	Hi Lim
Arsenic	94441	1	T27682b5	15	0.4669	0.50	93		80	120
Barium	94441	1	T27682A5	16	0.4763	0.50	95		80	120
Cadmium	94441	1	T27682A5	16	0.4841	0.50	97		80	120
Chromium	94441	1	T27682A5	16	0.4875	0.50	98		80	120
Lead	94441	1	T27682A5	16	0.4916	0.50	98		80	120
Mercury	94441	1	H27682T	14	10.8900	10	109		80	120
Nickel	94441	1	T27682A5	16	0.4990	0.50	100		80	120
Selenium	94441	1	T27682A5	16	0.4747	0.50	95		80	120
Silver	94441	1	T27682A5	16	0.0950	0.100	95		80	120

TxtQcType: LCS Matrix: TCLP SampleID: LCS 94441

Analyte	BatchId	DF	Data File	Seq#:	Spk Conc:	Spk Added	Recov	Qual	Lo Lim	Hi Lim
Arsenic	94441	1	T27682b5	14	0.4643	0.50	93		80	120
Barium	94441	1	T27682A5	15	0.4850	0.50	97		80	120
Cadmium	94441	1	T27682A5	15	0.4874	0.50	97		80	120
Chromium	94441	1	T27682A5	15	0.4934	0.50	99		80	120
Lead	94441	1	T27682A5	15	0.4971	0.50	99		80	120
Mercury	94441	1	H27682T	13	10.9800	10	110		80	120
Nickel	94441	1	T27682A5	15	0.5018	0.50	100		80	120
Selenium	94441	1	T27682A5	15	0.4872	0.50	97		80	120
Silver	94441	1	T27682A5	15	0.0968	0.100	97		80	120

TxtQcType: MS Matrix: TCLP SampleID: AD26217-002

Analyte	BatchId	DF	Data File	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Added	Recov	Qual	Lo Lim	Hi Lim
Arsenic	94441	1	T27682b5	20	T27682b5	18	0.5043	0.1U	0.50	101		50	
Barium	94441	1	T27682A5	21	T27682A5	19	0.7450	0.2595	0.50	97		50	
Cadmium	94441	1	T27682A5	21	T27682A5	19	0.5193	0.05U	0.50	104		50	
Chromium	94441	1	T27682A5	21	T27682A5	19	0.5046	0.1U	0.50	101		50	
Lead	94441	1	T27682A5	21	T27682A5	19	0.5145	0.05U	0.50	103		50	
Mercury	94441	1	H27682T	17	H27682T	15	11.7100	0.50U	10	117		50	
Nickel	94441	1	T27682A5	21	T27682A5	19	0.5115	0.1U	0.50	102		50	
Selenium	94441	1	T27682A5	21	T27682A5	19	0.5545	0.1U	0.50	111		50	
Silver	94441	1	T27682A5	21	T27682A5	19	0.1025	0.05U	0.100	103		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: 94441

Instrument Type: ICP/HG
Analytical Method(s):6010D/200.7/7470A/7471B/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: PS Matrix: TCLP SampleID: AD26217-002

Analyte	DF	Data File	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Added	Recov	Qual	Lo Lim	Hi Lim
Arsenic	1	T27682b5	21	T27682b5	18	0.5363	0.1U	0.5	107		75	125
Barium	1	T27682A5	22	T27682A5	19	0.7742	0.2595	0.5	103		75	125
Cadmium	1	T27682A5	22	T27682A5	19	0.5577	0.05U	0.5	112		75	125
Chromium	1	T27682A5	22	T27682A5	19	0.5368	0.1U	0.5	107		75	125
Lead	1	T27682A5	22	T27682A5	19	0.5520	0.05U	0.5	110		75	125
Nickel	1	T27682A5	22	T27682A5	19	0.5472	0.1U	0.5	109		75	125
Selenium	1	T27682A5	22	T27682A5	19	0.5812	0.1U	0.5	116		75	125
Silver	1	T27682A5	22	T27682A5	19	0.0498	0.05U	0.1	0	a	75	125

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: 94441

Instrument Type: ICP/HG

Analytical Method(s):6010D/200.7/7470A/7471B/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR Matrix: TCLP SampleID: LCS MR 94441

Analyte	BatchId	Data File	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	94441	T27682b5	15	T27682b5	14	0.4669	0.4643	.57	20
Barium	94441	T27682A5	16	T27682A5	15	0.4763	0.4850	1.8	20
Cadmium	94441	T27682A5	16	T27682A5	15	0.4841	0.4874	.69	20
Chromium	94441	T27682A5	16	T27682A5	15	0.4875	0.4934	1.2	20
Lead	94441	T27682A5	16	T27682A5	15	0.4916	0.4971	1.1	20
Mercury	94441	H27682T	14	H27682T	13	10.8900	10.9800	.82	20
Nickel	94441	T27682A5	16	T27682A5	15	0.4990	0.5018	.56	20
Selenium	94441	T27682A5	16	T27682A5	15	0.4747	0.4872	2.6	20
Silver	94441	T27682A5	16	T27682A5	15	0.0950	0.0968	1.9	20

TxtQcType: MR Matrix: TCLP SampleID: AD26217-002

Analyte	BatchId	Data File	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	94441	T27682b5	19	T27682b5	18	0.1U	0.1U	---	20
Barium	94441	T27682A5	20	T27682A5	19	0.2649	0.2595	2.1	20
Cadmium	94441	T27682A5	20	T27682A5	19	0.05U	0.05U	---	20
Chromium	94441	T27682A5	20	T27682A5	19	0.1U	0.1U	---	20
Lead	94441	T27682A5	20	T27682A5	19	0.05U	0.05U	---	20
Mercury	94441	H27682T	16	H27682T	15	0.50U	0.50U	---	20
Nickel	94441	T27682A5	20	T27682A5	19	0.1U	0.1U	---	20
Selenium	94441	T27682A5	20	T27682A5	19	0.1U	0.1U	---	20
Silver	94441	T27682A5	20	T27682A5	19	0.05U	0.05U	---	20

TxtQcType: SD Matrix: TCLP SampleID: AD26217-002

Analyte	BatchId	Data File	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff		Limit
Arsenic	94441	T27682b5	22	T27682b5	18	5	0.0063	0.0018	---		10
Barium	94441	T27682A5	23	T27682A5	19	5	0.0507	0.2595	2.3		10
Cadmium	94441	T27682A5	23	T27682A5	19	5	0.0025	0.0042	199	c	10
Chromium	94441	T27682A5	23	T27682A5	19	5	-0.0014	0.0001	---		10
Lead	94441	T27682A5	23	T27682A5	19	5	0.0010	0.0088	---		10
Nickel	94441	T27682A5	23	T27682A5	19	5	-0.0054	-0.0009	---		10
Selenium	94441	T27682A5	23	T27682A5	19	5	0.0132	0.0223	---		10
Silver	94441	T27682A5	23	T27682A5	19	5	0.0007	0.0011	---		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\PEICP5A\T27682A5.txt

Analysis Date: 09/30/21

Instrument: PEICP5A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-352951	1	CAL	13:47	1							V-352951(ICB/CCB)
CALBLK V-352951	1	CAL	13:51	2							V-352951(ICB/CCB)
CALST2 V-352963	1	CAL	13:54	3							V-352963(LLICV/CCV leachate)
CALST3 V-352955	1	CAL	13:58	4							V-352955(ICS3 - Middle Std)
CALST4 V-352956	1	CAL	14:03	5							V-352956(ICS4 High std)
ICV V-352960	1	ICV	14:07	6							V-352960(CCV)
ICB V-352951	1	ICB	14:12	7							V-352951(ICB/CCB)
LRS V-352964	1	LRS	14:16	8		TCLP	TCLP	SW846	94441		V-352964(LRS)
ICS3 V-352955	1	ICS	14:20	9							V-352955(ICS3 - Middle Std)
RINSE	1	SMP	14:25	10		TCLP	TCLP	SW846	94441		0
LLICV V-352963	1	LLICV	14:28	11		TCLP	TCLP	SW846	94441		V-352963(LLICV/CCV leachate)
ICSA V-352957	1	ICSA	14:32	12							V-352957(ICSA)
AD26235-001	1	SMP	14:37	13	METALS-TCLP	TCLP	TCLP	SW846	94441		0
MB 94441 (1)	1	MB	14:40	14		TCLP	TCLP	SW846	94441		0
LCS 94441	1	LCS	14:44	15		TCLP	TCLP	SW846	94441		0
LCS MR 94441	1	LCS	14:49	16		TCLP	TCLP	SW846	94441		0
CCV V-352960	1	CCV	14:53	17							V-352960(CCV)
CCB V-352951	1	CCB	14:58	18							V-352951(ICB/CCB)
AD26217-002	1	SMP	15:01	19	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MR	15:05	20	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MS	15:09	21	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	PS	15:13	22	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	5	SD	15:18	23	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-004	1	SMP	15:22	24	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-006	1	SMP	15:25	25	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-008	1	SMP	15:29	26	METALS-TCLP	TCLP	TCLP	SW846	94441		0
CCV V-352960	1	CCV	15:33	27							V-352960(CCV)
CCB V-352951	1	CCB	15:38	28							V-352951(ICB/CCB)
AD26217-010	1	SMP	15:41	29	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-012	1	SMP	15:45	30	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-014	1	SMP	15:49	31	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-016	1	SMP	15:53	32	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-018	1	SMP	15:57	33	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26225-002	1	SMP	16:00	34	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-001	1	SMP	16:04	35	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-003	1	SMP	16:08	36	METALS-TCLP	TCLP	TCLP	SW846	94441	Cr,Cu,As,Ag,Se,Pb,Tl NOT REPORTED (Ca>LR)	0
AD26251-004	1	SMP	16:12	37	METALS-TCLP	TCLP	TCLP	SW846	94441		0
EF V-357869 9/28	1	EF	16:16	38		TCLP	TCLP	SW846	94441		V-357869 9/28()
CCV V-352960	1	CCV	16:19	39							V-352960(CCV)
CCB V-352951	1	CCB	16:24	40							V-352951(ICB/CCB)
MB 94452 (1)	1	MB	16:28	41		TCLP	TCLP	SW846	94452		0
LCS 94452	1	LCS	16:31	42		TCLP	TCLP	SW846	94452		0
LCS MR 94452	1	LCS	16:36	43		TCLP	TCLP	SW846	94452		0
AD26266-007	1	SMP	16:41	44	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26266-007	1	MR	16:44	45	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26266-007	1	MS	16:48	46	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26266-007	1	PS	16:53	47	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26266-007	5	SD	16:57	48	METALS-TCLP	TCLP	TCLP	SW846	94452		0
CCV V-352960	1	CCV	17:01	49							V-352960(CCV)
CCB V-352951	1	CCB	17:05	50							V-352951(ICB/CCB)
AD26266-014	1	SMP	17:09	51	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26277-001	1	SMP	17:13	52	PB-TCLP	TCLP	TCLP	SW846	94452		0
EF V-357869 9/29	1	EF	17:17	53		TCLP	TCLP	SW846	94452		V-357869 9/29()
CCV V-352960	1	CCV	17:20	54							V-352960(CCV)
CCB V-352951	1	CCB	17:25	55							V-352951(ICB/CCB)

Comments/Reviewedby:

carmela
192.168.1.86 10/1/2021 11:05:14 AM

ok
all reported
As not reported

10/6/21

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\PEICP5A\T27682b5.txt

Analysis Date: 10/01/21

Instrument: PEICP5A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-352951	1	CAL	10:36	1							V-352951(ICB/CCB)
CALST2 V-352963	1	CAL	10:39	2							V-352963(LLICV/CCV leachate)
CALST3 V-352955	1	CAL	10:43	3							V-352955(ICS3 - Middle Std)
CALST4 V-352956	1	CAL	10:47	4							V-352956(ICS4 High std)
ICV V-352960	1	ICV	10:52	5							V-352960(CCV)
ICB V-352951	1	ICB	10:56	6							V-352951(ICB/CCB)
LRS V-352964	1	LRS	11:00	7		TCLP	TCLP	SW846	94441		V-352964(LRS)
ICS3 V-352955	1	ICS	11:05	8							V-352955(ICS3 - Middle Std)
RINSE	1	SMP	11:09	9		TCLP	TCLP	SW846	94441		()
LLICV V-352963	1	LLICV	11:13	10		TCLP	TCLP	SW846	94441		V-352963(LLICV/CCV leachate)
ICSA V-352957	1	ICSA	11:16	11							V-352957(ICSA)
AD26235-001	1	SMP	11:21	12	METALS-TCLP	TCLP	TCLP	SW846	94441		()
MB 94441 (1)	1	MB	11:24	13		TCLP	TCLP	SW846	94441		()
LCS 94441	1	LCS	11:28	14		TCLP	TCLP	SW846	94441		()
LCS MR 94441	1	LCS	11:33	15		TCLP	TCLP	SW846	94441		()
CCV V-352960	1	CCV	11:37	16							V-352960(CCV)
CCB V-352951	1	CCB	11:41	17							V-352951(ICB/CCB)
AD26217-002	1	SMP	11:45	18	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-002	1	MR	11:49	19	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-002	1	MS	11:52	20	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-002	1	PS	11:57	21	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-002	5	SD	12:02	22	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-004	1	SMP	12:05	23	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-006	1	SMP	12:09	24	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-008	1	SMP	12:13	25	METALS-TCLP	TCLP	TCLP	SW846	94441		()
CCV V-352960	1	CCV	12:17	26							V-352960(CCV)
CCB V-352951	1	CCB	12:21	27							V-352951(ICB/CCB)
AD26217-010	1	SMP	12:25	28	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-012	1	SMP	12:29	29	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-014	1	SMP	12:33	30	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-016	1	SMP	12:36	31	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26217-018	1	SMP	12:40	32	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26225-002	1	SMP	12:44	33	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26209-001	1	SMP	12:48	34	METALS-TCLP	TCLP	TCLP	SW846	94441		()
AD26209-003	1	SMP	12:52	35	METALS-TCLP	TCLP	TCLP	SW846	94441	As NOT REPORTED	()
AD26251-004	1	SMP	12:56	36	METALS-TCLP	TCLP	TCLP	SW846	94441		()
EF V-357869 9/28	1	EF	13:00	37		TCLP	TCLP	SW846	94441		V-357869 9/28()
CCV V-352960	1	CCV	13:03	38							V-352960(CCV)
CCB V-352951	1	CCB	13:08	39							V-352951(ICB/CCB)

Comments/Reviewedby:

carmela
192.168.1.86 10/1/2021 4:56:45 PM

As REPORTED

10/6/21

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\HGCV4A\H27682T.txt

Analysis Date: 10/01/21 **Instrument:** HGCV4A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
Calibration Blank	1	CAL	11:29	1							0
2 PPB	1	CAL	11:31	2							0
5 PPB	1	CAL	11:32	3							0
1 PPB	1	CAL	11:34	4							0
2 PPB	1	CAL	11:35	5							0
5 PPB	1	CAL	11:37	6							0
10 PPB	1	CAL	11:38	7							0
25 PPB	1	CAL	11:40	8							0
ICV (2)	1	ICV	11:41	9							0
ICB	1	ICB	11:43	10							0
AD26235-001	1	SMP	11:45	11	HG-TCLP	TCLP	TCLP	SW846	94441		0
MB 94441 (1)	1	MB	11:46	12		TCLP	TCLP	SW846	94441		0
LCS 94441	1	LCS	11:48	13		TCLP	TCLP	SW846	94441		0
LCS MR 94441	1	LCS	11:50	14		TCLP	TCLP	SW846	94441		0
AD26217-002	1	SMP	11:52	15	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MR	11:53	16	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MS	11:55	17	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-004	1	SMP	11:57	18	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-006	1	SMP	11:58	19	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-008	1	SMP	12:00	20	HG-TCLP	TCLP	TCLP	SW846	94441		0
CCV	1	CCV	12:01	21							0
CCB	1	CCB	12:03	22							0
AD26217-010	1	SMP	12:05	23	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-012	1	SMP	12:06	24	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-014	1	SMP	12:08	25	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-016	1	SMP	12:09	26	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-018	1	SMP	12:11	27	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26225-002	1	SMP	12:12	28	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-001	1	SMP	12:14	29	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-003	1	SMP	12:15	30	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26251-004	1	SMP	12:17	31	HG-TCLP	TCLP	TCLP	SW846	94441		0
EF V-357869 9/24	1	EF	12:19	32		TCLP	TCLP	SW846	94441		V-357869 9/24()
CCV	1	CCV	12:20	33							0
CCB	1	CCB	12:22	34							0

Comments/Reviewedby:

CARMELA
192.168.1.55 10/1/2021 1:29:21 PM

ok

10/7/21

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-358400

Hampton-Clarke

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: (3010A) 3005A 3050B 200.7/200.8 OTHER

Batch No.: 27682 Analyst: KS

QC Number: 94441 Prep Date: 9/29/21

Matrix: TCLP Reviewed By:

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	50mL	50mL				–	
LCS						–	
LCSD						–	
1. 26217-002					357869	26217-002	Samples are combined prior to analysis to provide extra sample volume for analysis
1. Analytical Duplicate 002							
MR 002							
MS 002							Balance used: N/A
MSD KS 9/29 ~~002~~		KS					Pipettes used: KB, 149
2. 26217-004						26217-002	
3. -006							Hot Block used: 9
4. -008							
5. -010							
6. -012							
7. -014							
8. -016							
9. -018							
10. 26235-001							
11. 26225-002							
12. 26209-001							
13. -003							
14. 26251-004							
15. EF1 357869							
16.							
17.							
18.							
19.							
20.							

Hot Plate Temperature: 94.6 C (90-95° C) Start Time: 10:00 AM End Time: 2:00 PM

	Volume mL	Lot #
LCS, LCSD	0.25mL	V- 13729, 13730, 358096
LLLCS, LLLCSD		V-
MS, MSD	0.25mL	V-13729, 13730, 358096
LLMS, LLMSD		V-

Acid	Vol mL	Lot#
HNO_3	3mL	V- 14103
HCl		V-
H_2O_2		V-

Acid	Vol mL	Lot#
1:1 HNO_3		V-
1:1 HCl	5mL	V- 353977

Relinquished By KS Date 9/29/21

Received By Date 10/5/21.

T:\QC\FORMS\LOGBOOK FORMS\METALS\ICP sample prep log 2018 DOD.DOC

Hampton-Clarke/Veritech

HG SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 245.1 (7470A) 7471B OTHER_____

Batch No.:* 27682

QC Number: 94441

Matrix: TCLP Aqueous

Analyst: KJ / DL

Prep Date: 9/29/21

Review By: CJ

LAB ID#	MERCURY INITIAL	MERCURY FINAL	COMMENTS	STANDARDS
Method blank	25mL	25mL		CAL CURVE BLK 0ppb V- 358723
LCS				
LCSD				STD 0.2 ppb V- 358724
1 26217-002				STD 0.5 ppb V- 358725
MR 26217-002				STD 1.0 ppb V- 358726
MS 26217-002				STD 2.0 ppb V- 358727
~~MSD~~	—	—		STD 5.0 ppb V- 358728
2 26217-004	25mL	25mL		STD 10.0 ppb V- 358729
3 006				STD 25.0 ppb V- 358730
4 008				ICV 10.0 ppb V- 358721
5 010				CCV 20.0 ppb V- 358722
6 012				
7 014				
8 016				Balance used: N/A
9 018				Pipettes used: 143, 159
10 26211-001				
11 -003				Hot Block used: 7
12 26235-001				
13 26225-002				
14 26209-001				
15 -003				
16 26251-004				
17 EFI 357869 (9/29)				
18				
19				
20				

Lot Numbers	Volume (mL)	Acid	Volume (mL)	Lot #
$KmnO_4$: V- 355568	3.75mL	HNO3	0.625 mL	V- 14102
$K_2S_2O_8$: V- 352789	2mL	HCl		V-
NH_2OH: V- 355937	1.5mL	H2SO4	1.25 mL	V- 14097
		Aqua Regia		V-

**Block Temp.: °C 93.2°C

Time In Block: 10:30 AM

Time Out of Block: 12:30PM

Spike Volume & Lot #

☐ LCS V- 358589 0.15 or 0.25 ml

MS V- 358589 0.250 ml

Standards/Control Batch B- 31686

Start Time: 10:00AM

End Time: 1:00PM

**Temperature
245.1 / 7470A: 90-95C
7471B : 92-98C

Relinquished By: KJ / DL

*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 2018

Wet Chemistry Data

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD26217-002
Matrix Soil
Client SampleID: SB09 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	6.9	pH			09/27/21
Temperature	PH-SOIL	1	23.6	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-004
Matrix Soil
Client SampleID: SB08 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.7	pH			09/27/21
Temperature	PH-SOIL	1	23.3	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-006
Matrix Soil
Client SampleID: SB07 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	6.2	pH			09/27/21
Temperature	PH-SOIL	1	23.5	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-008
Matrix Soil
Client SampleID: SB06 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	AN			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.8	pH			09/27/21
Temperature	PH-SOIL	1	23.0	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD26217-010
Matrix Soil
Client SampleID: SB05 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.5	pH			09/27/21
Temperature	PH-SOIL	1	23.3	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-012
Matrix Soil
Client SampleID: SB04 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	8.1	pH			09/27/21
Temperature	PH-SOIL	1	23.1	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-014
Matrix Soil
Client SampleID: SB03 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.8	pH			09/27/21
Temperature	PH-SOIL	1	23.3	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-016
Matrix Soil
Client SampleID: SB02 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
Temperature	PH-SOIL	1	23.2	C			09/27/21
pH	PH-SOIL	1	7.6	pH			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD26217-018
Matrix Soil
Client SampleID: SB01 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.3	pH			09/27/21
Temperature	PH-SOIL	1	23.1	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

VERITECH Wet Chem Form1 Analysis Summary
% Solids

TestGroupName: % Solids SM2540G **Project #: 1092401**

TestGroup: %SOLIDS

Lab#	Client SampleID	Matrix	Dilution:	Result	Units:	RL	Prep Date	Analysis Date	Received Date	Collect Date
AD26217-001	SB09 GRAB	Soil	1	85	Percent			09/27/21	09/23/21	09/23/21
AD26217-002	SB09 COMP	Soil	1	85	Percent			09/27/21	09/23/21	09/23/21
AD26217-003	SB08 GRAB	Soil	1	81	Percent			09/27/21	09/23/21	09/23/21
AD26217-004	SB08 COMP	Soil	1	84	Percent			09/27/21	09/23/21	09/23/21
AD26217-005	SB07 GRAB	Soil	1	82	Percent			09/27/21	09/23/21	09/23/21
AD26217-006	SB07 COMP	Soil	1	84	Percent			09/27/21	09/23/21	09/23/21
AD26217-007	SB06 GRAB	Soil	1	94	Percent			09/27/21	09/23/21	09/23/21
AD26217-008	SB06 COMP	Soil	1	92	Percent			09/27/21	09/23/21	09/23/21
AD26217-009	SB05 GRAB	Soil	1	85	Percent			09/27/21	09/23/21	09/23/21
AD26217-010	SB05 COMP	Soil	1	88	Percent			09/27/21	09/23/21	09/23/21
AD26217-011	SB04 GRAB	Soil	1	83	Percent			09/27/21	09/23/21	09/23/21
AD26217-012	SB04 COMP	Soil	1	85	Percent			09/27/21	09/23/21	09/23/21
AD26217-013	SB03 GRAB	Soil	1	83	Percent			09/27/21	09/23/21	09/23/21
AD26217-014	SB03 COMP	Soil	1	89	Percent			09/27/21	09/23/21	09/23/21
AD26217-015	SB02 GRAB	Soil	1	76	Percent			09/27/21	09/23/21	09/23/21
AD26217-016	SB02 COMP	Soil	1	78	Percent			09/27/21	09/23/21	09/23/21
AD26217-017	SB01 GRAB	Soil	1	81	Percent			09/27/21	09/23/21	09/23/21
AD26217-018	SB01 COMP	Soil	1	82	Percent			09/27/21	09/23/21	09/23/21

Analysis Type: RS

Batch Number: RS-1547

Units: mg/kg

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-09/28/21	16	90-110	NA	14.82775	93	NA	
LCS	LCS	400	75-125	NA	360.675	90	NA	
MS	AD26235-001	400	75-125	NA	360.675	90	NA	
MSD	AD26235-001	400	75-125	20	360.675	90	0	

Calibration Curve Information

Analytical Method(s)

SW846 7.3

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-01-09/28/21	CAL-01		15		100	14.828	6.3	10	1	250	250			09/28/21	KS
MB-1-09/27/21	MB	MB-1-09/27/21	ND	100	100	10.019	9.9	10	1	10	250	09/27/21	KS	09/28/21	KS
LCS	LCS	MB-1-09/27/21	360	100	100	360.68	6.4	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26235-001	MS	MB-1-09/27/21	360	100	62	360.68	6.4	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26235-001	MSD	MB-1-09/27/21	360	100	62	360.68	6.4	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26235-001	Sample	MB-1-09/27/21	ND	100	62	30.056	9.7	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26209-002	Sample	MB-1-09/27/21	ND	100	100	30.056	9.7	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26209-004	Sample	MB-1-09/27/21	ND	200	100	40.075	9.8	10	1	5	250	09/27/21	KS	09/28/21	KS
AD26217-002	Sample	MB-1-09/27/21	ND	100	85	30.056	9.7	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-004	Sample	MB-1-09/27/21	ND	100	84	20.038	9.8	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-006	Sample	MB-1-09/27/21	ND	100	84	30.056	9.7	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-008	Sample	MB-1-09/27/21	ND	100	92	20.038	9.8	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-010	Sample	MB-1-09/27/21	ND	100	88	10.019	9.9	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-012	Sample	MB-1-09/27/21	ND	100	85	10.019	9.9	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-014	Sample	MB-1-09/27/21	ND	100	89	20.038	9.8	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-016	Sample	MB-1-09/27/21	ND	100	78	40.075	9.6	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-018	Sample	MB-1-09/27/21	ND	100	82	20.038	9.8	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26251-004	Sample	MB-1-09/27/21	ND	100	91	40.075	9.6	10	1	10	250	09/27/21	KS	09/28/21	KS

KS 9/30/21

9/30/21

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

1092401 0374

Prep Batch: S-1547 Sample ID: AD26235-001
Method: SW846 7.3 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	0.3455	0	86		20210928152	13	09/28/21 15:54	20210928152	15	09/28/21 15:59

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	0.3918	0	98	12.6		20210928152	14	09/28/21 15:57	20210928152	15	09/28/21 15:59

LCS Recoveries

BatchRunID/RunID:====>			202109281526-12							
QcBatchID:====>			LCSS-1547							
Date/Time:====>			09/28/21 15:52							
Analytical Method:====>			SW846 7.3							
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			101									

Calibration Summary:

Instrument: DA1
Analysis Meth: SW846 7.3

Analyte	Batch ID	Run#	Qc Type	Recov	Spk Amt	Limit
Cyanide (Reactive)	20210928152	9	ICV	101	0.4	90-110
Cyanide (Reactive)	20210928152	21	CCV	99	0.4	90-110
Cyanide (Reactive)	20210928152	30	CCV	103	0.4	90-110

Blank Summary

Instrument: DA1

Qc Type: Method Blank Summary Prep Date: 9/27/21

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210928152	9/28/21 15:50	MBS-1547	11	Cyanide (	ND	0.50

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210928152	9/28/21 15:47	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
20210928152	9/28/21 16:15	CCB	22	Cyanide (	ND	0.020
20210928152	9/28/21 16:33	CCB	31	Cyanide (	ND	0.020

Analysis Type: PAINT FILT

Batch Number: PAINT FILT-1425

Units:

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26217-002	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
AD26217-002	DUP		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-002	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-004	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-006	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-008	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-010	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-012	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-014	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-016	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-018	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26278-003	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26278-004	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26235-001	Sample		POS		100	0	POS			09/29/21	BCT/S

9/30/21

9/30/21

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-2059

Units: pH

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26235-001	0	NA	20	9.37	NA	0.21	
LCS	LCS	4.4	75-125	NA	4.42	100	NA	

Calibration Curve Information

Analytical Method(s)

9040C/9045D

Sam #	Type	MB	Result	RL	Per Sol	Full Result	PH	TEMP	Prep Date	Prep By	Anal Date	Anal By
CS	LCS		4.4		100	4.42	4.42	24.3			09/27/21	LL
AD26235-001	DUP		9.4		100	9.37	9.37	23.1			09/27/21	LL
AD26235-001	Sample		9.4		100	9.39	9.39	23.0			09/27/21	LL
AD26217-002	Sample		6.9		100	6.94	6.94	23.6			09/27/21	LL
AD26217-004	Sample		7.7		100	7.68	7.68	23.3			09/27/21	LL
AD26217-006	Sample		6.2		100	6.25	6.25	23.5			09/27/21	LL
AD26217-008	Sample		7.8		100	7.85	7.85	23.0			09/27/21	LL
AD26217-010	Sample		7.5		100	7.48	7.48	23.3			09/27/21	LL
AD26217-012	Sample		8.1		100	8.07	8.07	23.1			09/27/21	LL
AD26217-014	Sample		7.8		100	7.75	7.75	23.3			09/27/21	LL
AD26217-016	Sample		7.6		100	7.56	7.56	23.2			09/27/21	LL
AD26217-018	Sample		7.3		100	7.32	7.32	23.1			09/27/21	LL
AD26199-006	Sample		6.9		100	6.94	6.94	23.1			09/27/21	LL
AD26199-007	Sample		6.7		100	6.68	6.68	23.2			09/27/21	LL
AD26199-008	Sample		7.1		100	7.1	7.10	23.0			09/27/21	LL
AD26199-009	Sample		7.1		100	7.08	7.08	23.4			09/27/21	LL
AD26199-010	Sample		7.0		100	7.03	7.03	23.2			09/27/21	LL
AD26209-004	Sample		11		100	11.23	11.23	22			09/27/21	LL

LL 9/27/21

9/27/21

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

% Solids Report

Analysis Type: SOLIDS-SS
BatchID: SOLIDS-SS-12308

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AD26217-006	86	85.96358	Percent	1.26	14.44	12.59	09/27/21	BEENA	1.9	5
Sample	AD26180-001	79	78.50220	Percent	1.27	12.62	10.18	09/27/21	BEENA		
Sample	AD26180-002	78	78.38940	Percent	1.27	11.08	8.96	09/27/21	BEENA		
Sample	AD26182-001	87	87.20508	Percent	1.26	12.28	10.87	09/27/21	BEENA		
Sample	AD26182-003	96	96.03073	Percent	1.27	9.08	8.76	09/27/21	BEENA		
Sample	AD26182-004	92	92.22738	Percent	1.28	9.90	9.23	09/27/21	BEENA		
Sample	AD26196-001	94	93.58372	Percent	1.28	7.67	7.26	09/27/21	BEENA		
Sample	AD26210-001	88	87.50000	Percent	1.28	12.96	11.50	09/27/21	BEENA		
Sample	AD26209-005	94	93.73104	Percent	1.27	11.16	10.54	09/27/21	BEENA		
Sample	AD26214-001	89	88.80866	Percent	1.27	9.58	8.65	09/27/21	BEENA		
Sample	AD26214-002	89	89.21283	Percent	1.28	8.14	7.39	09/27/21	BEENA		
Sample	AD26214-003	91	90.71618	Percent	1.28	12.59	11.53	09/27/21	BEENA		
Sample	AD26214-004	86	85.59919	Percent	1.28	11.21	9.78	09/27/21	BEENA		
Sample	AD26214-005	91	90.86420	Percent	1.28	9.38	8.64	09/27/21	BEENA		
Sample	AD26217-001	85	84.65046	Percent	1.27	7.85	6.84	09/27/21	BEENA		
Sample	AD26217-002	85	84.85523	Percent	1.27	10.25	8.88	09/27/21	BEENA		
Sample	AD26217-003	81	80.63725	Percent	1.26	9.42	7.84	09/27/21	BEENA		
Sample	AD26217-004	84	83.76691	Percent	1.28	10.89	9.33	09/27/21	BEENA		
Sample	AD26217-005	82	82.15827	Percent	1.27	8.22	6.97	09/27/21	BEENA		
Sample	AD26217-006	84	84.37500	Percent	1.28	15.68	13.43	09/27/21	BEENA		
Sample	AD26217-007	94	93.80252	Percent	1.27	10.79	10.20	09/27/21	BEENA		

* - Indicates Failed Rpd Criteria

% Solids Report

Analysis Type: SOLIDS-SS
BatchID: SOLIDS-SS-12309

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AD26217-014	89	88.56589	Percent	1.28	11.60	10.43	09/27/21	BEENA	0.32	5
Sample	AD26217-008	92	92.28824	Percent	1.27	9.18	8.57	09/27/21	BEENA		
Sample	AD26217-009	85	84.90566	Percent	1.28	10.29	8.93	09/27/21	BEENA		
Sample	AD26217-010	88	87.96389	Percent	1.27	11.24	10.04	09/27/21	BEENA		
Sample	AD26217-011	83	82.92683	Percent	1.28	6.20	5.36	09/27/21	BEENA		
Sample	AD26217-012	85	84.82446	Percent	1.27	10.10	8.76	09/27/21	BEENA		
Sample	AD26217-013	83	83.33333	Percent	1.27	13.75	11.67	09/27/21	BEENA		
Sample	AD26217-014	89	88.85390	Percent	1.28	17.16	15.39	09/27/21	BEENA		
Sample	AD26217-015	76	75.96068	Percent	1.27	12.46	9.77	09/27/21	BEENA		
Sample	AD26217-016	78	77.66990	Percent	1.27	8.48	6.87	09/27/21	BEENA		
Sample	AD26217-017	81	80.98415	Percent	1.27	13.26	10.98	09/27/21	BEENA		
Sample	AD26217-018	82	82.36842	Percent	1.27	12.67	10.65	09/27/21	BEENA		
Sample	AD26221-001	90	90.01086	Percent	1.26	10.47	9.55	09/27/21	BEENA		
Sample	AD26221-002	92	91.63842	Percent	1.26	10.11	9.37	09/27/21	BEENA		
Sample	AD26221-003	89	89.28105	Percent	1.25	8.90	8.08	09/27/21	BEENA		
Sample	AD26221-004	92	91.58513	Percent	1.26	11.48	10.62	09/27/21	BEENA		
Sample	AD26221-005	91	90.84451	Percent	1.25	13.92	12.76	09/27/21	BEENA		
Sample	AD26223-001	89	89.02672	Percent	1.24	11.72	10.57	09/27/21	BEENA		
Sample	AD26223-002	81	81.03448	Percent	1.26	16.34	13.48	09/27/21	BEENA		
Sample	AD26223-003	86	85.66243	Percent	1.27	12.29	10.71	09/27/21	BEENA		
Sample	AD26223-004	88	87.73389	Percent	1.25	10.87	9.68	09/27/21	BEENA		

* - Indicates Failed Rpd Criteria

Miscellaneous Data

1092401 0383

Hampton-Clarke, Inc.

LEACHATE PREPARATION LOG
(TCLP, SPLP)

Start Date: 9/27/21 TIME: 13:39 Finish Date: 9/28/21

**TCLP Ext. Fluid #1 pH: 4.94 (criteria: 4.93 ± 0.05)
**TCLP Ext. Fluid #2 pH: _____ (criteria: 2.88 ± 0.05)
**SPLP Ext. Fluid #3 pH: 4.25 (criteria: 4.20 ± 0.05)

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
26209-001	9.06	1.76	5.19	EFI357869	100g/2L	15:50	8:30	10:24	KJ	T	Balance ID: 037 MET
↓ -003	11.72	3.53	9.85	↓	50g/1L	↓	↓	10:45	↓	↓	pH Meter ID: B38168 ↓
26217-002	7.87	1.69	4.95	↓	100g/2L	↓	↓	↓	↓	↓	Pipette ID: 153 ↓
↓ 004	8.13	1.68	4.96	↓	↓	↓	↓	10:53	↓	↓	↓
006	7.45	1.71	4.92	↓	↓	↓	↓	↓	↓	↓	↓
008	8.09	1.67	4.98	↓	↓	↓	↓	11:13	↓	↓	↓
010	8.13	1.73	5.01	↓	↓	↓	↓	↓	↓	↓	↓
012	8.83	1.71	4.97	↓	↓	↓	↓	11:22	↓	↓	↓
014	8.06	1.69	4.96	↓	↓	↓	↓	↓	↓	↓	↓
016	8.09	1.72	5.09	↓	↓	↓	↓	11:43	↓	↓	↓
↓ 018	8.13	1.69	4.98	↓	↓	↓	↓	↓	↓	↓	↓
26225-002	6.84	1.71	4.96	↓	↓	↓	↓	11:53	↓	↓	↓
26235-001	9.20	1.69	5.01	↓	150g/3L	↓	↓	9:15	↓	↓	MET+ORG
26251-004	9.06	1.78	5.61	↓	↓	↓	↓	9:30	↓	↓	↓
EFI 357869	–	–	4.91	EFI 357869	3L	↓	↓	8:40	↓	↓	↓
25888-001	–	–	7.00	SPLP357468	100g/2L	↓	↓	12:30	↓	P	ORG
26081-003	–	–	7.27	↓	↓	↓	↓	↓	↓	↓	↓
↓ 008	–	–	9.97	↓	↓	↓	↓	12:42	↓	↓	↓
↓ 011	–	–	9.86	↓	↓	↓	↓	↓	↓	↓	↓
26080-002	–	–	9.64	↓	↓	↓	↓	13:07	↓	↓	↓
SPLP 357468	–	–	9.95	SPLP357468	3L	↓	↓	11:53	↓	↓	↓

*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

6000

Leachate prep log 2017)

Haz. - 481

Hampton-Clarke
Analytical & Field Services

Last Page of Report

Hampton-Clarke
Analytical & Field Services

175 US Highway 46, STE D · Fairfield, NJ 07004-2327
2 Madison Road, Fairfield, NJ 07004-2327
800-426-9992 · 973-244-9770
FAX: 973-244-9787
WWW.HCVLAB.COM

Project: South Ave.

Client PO: 31402661.100

Report To: WSP USA, Inc.
96 Morton St.
8th Floor
New York, NY 10014
Attn: Jon Ganz

Received Date: 9/24/2021

Report Date: 10/25/2021

Deliverables: NYDOH-CatA

Lab ID: AD26227

Lab Project No: 1092411

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.

Sean Berls - Quality Assurance Officer OR **Jean Revolus - Laboratory Director**

NJ (07071) NY (ELAP11408) CT (PH-0671)
PA (68-00463) KY (90124)

Hampton-Clarke
Analytical & Field Services

THIS CATEGORY "A" REPORT
IS NUMBERED FROM
1 to 56

(Subcontracted data is numbered as attached)

HC Case Narrative

Client: WSP USA, Inc.
Project: South Ave

HC Project: 1092411

Hampton-Clarke (HC) received the following samples on 09/24/21:

Client ID	HC Sample ID	Matrix	Analysis
TWP01	AD26227-001	Aqueous	Volatile Organics (624.1), Semivolatile Organics (625.1), PCB (608.3), Metals (245.1/200.8/200.7), CBOD (SM5210 B), Chloride (300.0), Cr (Hexavalent) (3500-Cr B), Flash Point (1010A), SGT-HEM (Non-Polar Material) (1664B), Nitrate (300.0), Nitrite (300.0), pH (SM4500-H+ B), Total Solids (SM2540B), Total Suspended Solids (SM2540D), *Total Kjeldahl Nitrogen (EPA 351)
LBG01	AD26227-002	Aqueous	Volatile Organics (624.1), Semivolatile Organics (625.1), PCB (608.3), Metals (245.1/200.8/200.7), CBOD (SM5210 B), Chloride (300.0), Cr (Hexavalent) (3500-Cr B), Flash Point (1010A), SGT-HEM (Non-Polar Material) (1664B), Nitrate (300.0), Nitrite (300.0), pH (SM4500-H+ B), Total Solids (SM2540B), Total Suspended Solids (SM2540D), *Total Kjeldahl Nitrogen (EPA 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 spiking compounds were diluted out for the Matrix Spike and/or Matrix Spike Duplicate for batch 96819. Please refer to the applicable Form 3 for the recoveries.

The Method Blank Spike for batch 96819 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries. Please refer to Form 4 to see which samples are associated with the Method Blank Spike.

Base Neutral/Acid Extractable Analysis:

The MS/MSD RPD, Matrix Spike Duplicate for batch 95088 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Sample WMB95088MS had one or more surrogates outside QC limits. Please refer to the applicable Form 2 for the recoveries.

PCB Analysis:

Data conforms to method requirements.

Metals Analysis:

Data conforms to method requirements.

Wet Chemistry Analysis:

Samples AD26227-001, -002 were received and analyzed outside the 15 minute hold time for pH.

Subcontracted Analysis:

Please refer to attached subcontracted laboratory report. Samples AD26227-001, -002 were submitted to SGS for Total Kjeldahl Nitrogen (EPA351) 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.

Sean Berls Quality Assurance Officer	Or	Jean Revolus Laboratory Director	10/25/2021 Date

1092411 0003

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
NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Hampton-Clarke
WBE/DBE/SBE 800-426-9992
A Women-Owned, Disadvantaged, Small Business Enterprise

CHAIN OF CUSTODY RECORD

Project# (Lab Use Only): 1092411

Page 1 of 1

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Data Deliv.
When Available:	Summary	NJ Hazsite
1 Business Day (100%) *	Results + QC (Waste)	Excel Reg. NJ / NY / PA
2 Business Days (75%) *	Reduced:	EnviroData
3 Business Days (50%) *	[ ] NJ [ ] NY	EQuIS:
4 Business Days (35%) *	[ ] PA [ ] Other___	[ ] 4-File [ ] EZ
5 Business Days (25%)	NJ Full / NY ASP CatB	[ ] NYDEC
8 Business Days (Stand.)	NY ASP CatA	[ ] Region 2 or 5
Other: _____		Other: _____

* Expedited TAT Not Always Available. Please Check with Lab.

Customer Information

1a) Customer: Lois Berger
Address: 96 Morton St, 8th Floor
New York, NY, 10014
1b) Email/Cell/Fax/Ph: Jon.Ganz@wsp.com
1c) Send Invoice to: Jon Ganz
1d) Send Report to: Jon Ganz

Project Information

2a) Project: ~~Stone~~ South Street
2b) Project Mgr: Jon Ganz
2c) Project Location (City/State): Statten Island, New York
2d) Quote/PO # (If Applicable): 31402661.100

FOR LAB USE ONLY ↓

Batch # A026227

===> 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	SB02	GW	9/24/21	745		X	X										10				5	1	1		
002	SB09	GW	9/24/21	1100		X	X										10				5	1	1		

10) Relinquished by:	Accepted by:	Date	Time
Harry August	Shantel B	9/24/21	12:25

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
- [ ] BN or BNA (8270E SIM)
- [ ] VOC (8260D SIM or 8011)
- [ ] SPLP (BN, BNA, Metals)
- [ ] 1,4 Dioxane

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): Harry August Date:

Additional Notes

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.

Internal use: sampling plan (check box) HC [ ] or client [ ] FSP#

Haz. - 487

PROJECT MODIFICATIONS

Client: BERGER-NYC
Project: South Ave.

HC Project #: 1092411

---

david192.168.1.68
9/27/2021 9:57:09 AM

Can we revise the sample IDs? Otherwise it looks good.
SB02 – To TWP01
SB09 – To TWP02
Jonathan Ganz, DTW

---

csmith192.168.1.137
9/29/2021 2:18:52 PM

Per Jonathan Ganz, The project name should be "South Ave".

CONDITION UPON RECEIPT

Batch Number AD26227

Entered By: ricardo
Date Entered 9/24/2021 1:04:00 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). 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	No	Is there enough sample sent for the analyses listed on the COC? If no, specify: ONLY TWO 1L AMBERS RECEIVED AMONG SB 09 SAMPLES. POSSIBLE LIMITED VOLUME ISSUE
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 (TB date, sample matrix, any missing info, etc.)
14	NA	Corrective actions (Specify item number and corrective action taken).
15	NA	Were any samples for ortho-phosphate or dissolved ferrous iron field filtered?

PRESERVATION DOCUMENT

Batch Number AD26227

Entered By: ricardo
Date Entered 9/24/2021 1:04:00 PM

Lab#	Container Size	Container/Vial Check	Parameter	Preservative	Preservative Lot#	PH	pH Lot#
AD26227-001	40ML	G	VO	HCL	253057	1	HC155968
AD26227-001	1L	G	O&G	HCL	267411	1	HC155968
AD26227-001	500ML	P	TKN	H2SO4	3120011	1	HC155968
AD26227-001	1L	P	METALS	HNO3	267725	1	HC155968
AD26227-002	40ML	G	VO	HCL	253057	1	HC155968
AD26227-002	1L	G	O&G	HCL	267411	1	HC155968
AD26227-002	500ML	P	TKN	H2SO4	3120011	1	HC155968
AD26227-002	1L	P	METALS	HNO3	267725	1	HC155968

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD26227-001	09/24/21 12:25	RICAR	0	M	Received
AD26227-001	09/24/21 13:04	RICAR	0	M	Login
AD26227-001	09/27/21 13:44	SG	2	A	VOA
AD26227-001	09/24/21 13:19	R12	5	A	NONE
AD26227-001	09/24/21 13:19	R12	6	A	NONE
AD26227-001	09/24/21 13:19	R12	7	A	NONE
AD26227-001	09/28/21 09:07	PC	7	A	TDWI-HG
AD26227-001	09/28/21 10:18	PC	7	A	R12
AD26227-001	09/24/21 13:19	R12	8	A	NONE
AD26227-001	09/30/21 10:08	LYND	8	A	BN/BNA
AD26227-001	09/24/21 13:19	R12	9	A	NONE
AD26227-001	09/30/21 10:08	LYND	9	A	BN/BNA
AD26227-001	09/30/21 14:17	R12	9	A	NONE
AD26227-001	09/24/21 13:19	R12	10	A	NONE
AD26227-001	09/24/21 14:19	JW	10	A	CBOD/CR6W/IC
AD26227-001	09/24/21 16:47	R12	10	A	NONE
AD26227-001	09/28/21 09:29	BCT	10	A	TSS
AD26227-001	09/28/21 09:29	BCT	10	A	TS
AD26227-001	09/28/21 12:02	R12	10	A	NONE
AD26227-001	09/24/21 13:19	R12	11	A	NONE
AD26227-001	09/28/21 11:21	KS	11	A	O&G/HEMNPM
AD26227-001	09/24/21 13:19	R12	12	A	NONE
AD26227-001	09/29/21 16:10	JN	12	A	P/P
AD26227-001	09/24/21 13:19	R12	13	A	NONE
AD26227-001	09/24/21 14:19	JW	13	A	CBOD/CR6W/IC
AD26227-001	09/24/21 16:47	R12	13	A	NONE
AD26227-001	09/24/21 13:19	R12	14	A	NONE
AD26227-001	09/29/21 09:34	SDL	14	A	FLASHPOINT/IGNIT MOD
AD26227-001	09/24/21 13:19	R12	15	A	NONE
AD26227-001	09/24/21 14:19	JW	15	A	CBOD/CR6W/IC
AD26227-001	09/24/21 16:47	R12	15	A	NONE
AD26227-001	09/28/21 09:29	BCT	15	A	PH
AD26227-001	09/28/21 12:02	R12	15	A	NONE
AD26227-001	09/24/21 13:19	R12	16	A	NONE
AD26227-001	09/24/21 16:47	R12	16	A	NONE
AD26227-001	09/24/21 13:19	R12	17	A	NONE
AD26227-002	09/24/21 12:25	RICAR	0	M	Received
AD26227-002	09/24/21 13:04	RICAR	0	M	Login
AD26227-002	09/27/21 13:44	SG	2	A	VOA
AD26227-002	09/24/21 13:19	R12	5	A	NONE
AD26227-002	09/24/21 13:19	R12	6	A	NONE
AD26227-002	09/24/21 13:19	R12	7	A	NONE
AD26227-002	09/28/21 09:07	PC	7	A	TDWI-HG
AD26227-002	09/28/21 10:18	PC	7	A	R12
AD26227-002	09/24/21 13:19	R12	8	A	NONE
AD26227-002	09/28/21 09:29	BCT	8	A	PH
AD26227-002	09/28/21 12:02	R12	8	A	NONE
AD26227-002	09/29/21 11:24	JW	8	A	IC
AD26227-002	09/29/21 14:39	R12	8	A	NONE
AD26227-002	09/24/21 13:19	R12	9	A	NONE
AD26227-002	09/24/21 13:19	R12	10	A	NONE
AD26227-002	09/24/21 13:25	BCT	10	A	CBOD/CR6WF/P
AD26227-002	09/24/21 16:47	R12	10	A	NONE
AD26227-002	09/24/21 13:19	R12	11	A	NONE
AD26227-002	09/24/21 14:19	JW	11	A	CBOD/CR6W/IC
AD26227-002	09/24/21 16:47	R12	11	A	NONE
AD26227-002	09/24/21 13:19	R12	12	A	NONE
AD26227-002	09/24/21 13:19	R12	13	A	NONE
AD26227-002	09/24/21 13:25	BCT	13	A	CBOD/CR6WF/P
AD26227-002	09/24/21 16:47	R12	13	A	NONE
AD26227-002	09/28/21 09:29	BCT	13	A	TS
AD26227-002	09/28/21 09:29	BCT	13	A	TSS
AD26227-002	09/28/21 12:02	R12	13	A	NONE
AD26227-002	09/24/21 13:19	R12	14	A	NONE
AD26227-002	09/28/21 11:21	KS	14	A	O&G/HEMNPM
AD26227-002	09/24/21 13:19	R12	15	A	NONE
AD26227-002	09/29/21 16:10	JN	15	A	P/P
AD26227-002	09/24/21 13:19	R12	16	A	NONE
AD26227-002	09/29/21 09:34	SDL	16	A	FLASHPOINT/IGNIT MOD
AD26227-002	09/30/21 11:41	LV	16	A	BNA

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: WSP USA, Inc.
Project: South Ave.

HC Project #: 1092411

Lab#: AD26227-001 **Sample ID: TWP01**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Carbonaceous BOD-5 Day (SM5210 B-11)		09/24/21 15:50	JW	SM5210 B-11	9/29/21 14:00	BCT
Chloride (Water) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:27	Janee
Cr (Hexavalent) 3500-Cr B11		09/28/21	JMP	SM3500-CrB11	9/28/21 14:23	JMP
Flash Point 1010A				EPA 1010A	9/29/21 00:00	SDL
Mercury (Water) 245.1	245.1 rev3.0	09/28/21 08:00	pcousineau	245.1 rev3.0	9/28/21 14:57	CJAG9/28
Metals-Three 200.7	EPA 200.2	09/28/21 08:00	pcousineau	200.7	9/29/21 15:59	DL
Metals-Two 200.8	EPA 200.2	09/28/21 08:00	pcousineau	EPA 200.8	9/29/21 11:00	PC
Nitrate-N (Water) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:27	Janee
Nitrite-N (Aqueous) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:27	Janee
PCB 608.3	EPA 608.3	09/29/21 16:10	Jnadler	EPA 608.3	9/30/21 08:01	MS/MLC/MC/P
pH (SM4500-H+ B-11)				SM4500-H+B11	9/28/21 12:15	BCT
Semivolatile Organics (no search) 625.1	EPA 625.1	09/30/21 10:08	lynda	EPA 625.1	9/30/21 17:09	AH/JB
SGT-HEM (Non-Polar Material) 1664B	EPA 1664B	09/28/21	kshields	EPA 1664B	9/29/21 12:57	kshields
Total Kjeldahl Nitrogen EPA 351				EPA 351	9/30/21 19:00	SGS
Total Solids (SM2540B-11)		09/27/21	BCT	SM2540B-11	9/28/21 12:00	BCT
Total Suspended Solids (SM2540D-11)		09/28/21	BCT	SM2540D-11	9/28/21 16:00	BCT
Volatile Organics (no search) 624.1	EPA 624.1			EPA 624.1	9/27/21 16:42	SG

Lab#: AD26227-002 **Sample ID: TWP02**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Carbonaceous BOD-5 Day (SM5210 B-11)		09/24/21 15:50	JW	SM5210 B-11	9/29/21 14:00	BCT
Chloride (Water) 300.0		09/29/21	Janee	300.0 rev2.1	9/29/21 19:10	Janee
Cr (Hexavalent) 3500-Cr B11		09/28/21	JMP	SM3500-CrB11	9/28/21 14:23	JMP
Flash Point 1010A				EPA 1010A	9/29/21 00:00	SDL
Mercury (Water) 245.1	245.1 rev3.0	09/28/21 08:00	pcousineau	245.1 rev3.0	9/28/21 14:59	CJAG9/28
Metals-Three 200.7	EPA 200.2	09/28/21 08:00	pcousineau	200.7	9/29/21 16:03	DL
Metals-Two 200.8	EPA 200.2	09/28/21 08:00	pcousineau	EPA 200.8	9/29/21 11:26	PC
Metals-Two 200.8	EPA 200.2	09/28/21 08:00	pcousineau	EPA 200.8	9/29/21 11:04	PC
Nitrate-N (Water) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:54	Janee
Nitrite-N (Aqueous) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:54	Janee
PCB 608.3	EPA 608.3	09/29/21 16:10	Jnadler	EPA 608.3	9/30/21 07:46	MS/MLC/MC/P
pH (SM4500-H+ B-11)				SM4500-H+B11	9/28/21 12:15	BCT
Semivolatile Organics (no search) 625.1	EPA 625.1	09/30/21 10:08	lynda	EPA 625.1	9/30/21 16:59	AH/JB
SGT-HEM (Non-Polar Material) 1664B	EPA 1664B	09/28/21	kshields	EPA 1664B	9/29/21 12:57	kshields
Total Kjeldahl Nitrogen EPA 351				EPA 351	9/30/21 19:00	SGS
Total Solids (SM2540B-11)		09/27/21	BCT	SM2540B-11	9/28/21 12:00	BCT
Total Suspended Solids (SM2540D-11)		09/28/21	BCT	SM2540D-11	9/28/21 16:00	BCT
Volatile Organics (no search) 624.1	EPA 624.1			EPA 624.1	9/27/21 17:01	SG

HC Reporting Limit Definitions/Data Qualifiers

REPORTING DEFINITIONS

DF = Dilution Factor

DUP = Duplicate

LCS = Laboratory Control Spike

MBS = Method Blank Spike

MDL = Method Detection Limit

MR = Matrix Replicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

NA = Not Applicable

ND = Not Detected

PS = Post Digestion Spike

RL* = Reporting Limit

RT = Retention Time

SD = Serial Dilution

**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: WSP USA, Inc.
Project: South Ave.

HC Project #: 1092411

Sample ID: TWP01
Lab#: AD26227-001
Matrix: Aqueous

Collection Date: 9/24/2021
Receipt Date: 9/24/2021

Carbonaceous BOD-5 Day (SM5210 B-11)

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	1	mg/l	2.0	29

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.020	ND

Flash Point 1010A

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	3.2

Metals-Three 200.7

Analyte	DF	Units	RL	Result
Copper	1	ug/l	25	390
Nickel	1	ug/l	10	61
Zinc	1	ug/l	25	1400

Metals-Two 200.8

Analyte	DF	Units	RL	Result
Cadmium	1	ug/l	1.0	1.7
Lead	1	ug/l	0.75	760

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 608.3

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.0500	ND
Aroclor-1016	1	ug/l	0.0500	ND
Aroclor-1221	1	ug/l	0.0500	ND
Aroclor-1232	1	ug/l	0.0500	ND
Aroclor-1242	1	ug/l	0.0500	ND
Aroclor-1248	1	ug/l	0.0500	ND
Aroclor-1254	1	ug/l	0.0500	ND
Aroclor-1260	1	ug/l	0.0500	ND
Aroclor-1262	1	ug/l	0.0500	ND
Aroclor-1268	1	ug/l	0.0500	ND

pH (SM4500-H+ B-11)

Analyte	DF	Units	RL	Result
pH	1	ph		8.1
Temperature	1	c		22.0

Sample ID: TWP01
Lab#: AD26227-001
Matrix: Aqueous

Collection Date: 9/24/2021
Receipt Date: 9/24/2021

Semivolatile Organics (no search) 625.1

Analyte	DF	Units	RL	Result
1,2,4-Trichlorobenzene	1	ug/l	2.00	ND
Naphthalene	1	ug/l	0.500	ND
Phenol	1	ug/l	2.00	ND

SGT-HEM (Non-Polar Material) 1664B

Analyte	DF	Units	RL	Result
SGT-HEM (Non-Polar Material)	1	mg/l	4.8	ND

Total Kjeldahl Nitrogen EPA 351

Analyte	DF	Units	MDL	RL	Result
Total Kjeldahl Nitrogen	1	mg/l		0.20	0.23

Total Solids (SM2540B-11)

Analyte	DF	Units	RL	Result
Total Solids @ 103-105 C	1	mg/l	40	780

Total Suspended Solids (SM2540D-11)

Analyte	DF	Units	RL	Result
Total Suspended Solids @ 103-105 C	1	mg/l	20	410

Volatile Organics (no search) 624.1

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.00	ND
1,4-Dichlorobenzene	1	ug/l	1.00	ND
Benzene	1	ug/l	0.500	ND
Carbon tetrachloride	1	ug/l	1.00	ND
Chloroform	1	ug/l	1.96	ND
Ethylbenzene	1	ug/l	1.00	ND
m&p-Xylenes	1	ug/l	1.00	ND
Methyl-t-butyl ether	1	ug/l	0.500	ND
o-Xylene	1	ug/l	1.00	ND
Tetrachloroethene	1	ug/l	1.00	ND
Toluene	1	ug/l	1.00	ND
Xylenes (Total)	1	ug/l	1.00	ND

Sample ID: TWP02
Lab#: AD26227-002
Matrix: Aqueous

Collection Date: 9/24/2021
Receipt Date: 9/24/2021

Carbonaceous BOD-5 Day (SM5210 B-11)

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	470

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.020	ND

Flash Point 1010A

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	2.1

Metals-Three 200.7

Analyte	DF	Units	RL	Result
Copper	1	ug/l	25	540
Nickel	1	ug/l	10	300
Zinc	1	ug/l	25	2500

Metals-Two 200.8

Analyte	DF	Units	RL	Result
Cadmium	1	ug/l	1.0	5.8
Lead	10	ug/l	7.5	1900

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 608.3

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.0500	ND
Aroclor-1016	1	ug/l	0.0500	ND
Aroclor-1221	1	ug/l	0.0500	ND
Aroclor-1232	1	ug/l	0.0500	ND
Aroclor-1242	1	ug/l	0.0500	ND
Aroclor-1248	1	ug/l	0.0500	ND
Aroclor-1254	1	ug/l	0.0500	ND
Aroclor-1260	1	ug/l	0.0500	ND
Aroclor-1262	1	ug/l	0.0500	ND
Aroclor-1268	1	ug/l	0.0500	ND

pH (SM4500-H+ B-11)

Analyte	DF	Units	RL	Result
pH	1	ph		7.9
Temperature	1	c		23.0

Semivolatile Organics (no search) 625.1

Analyte	DF	Units	RL	Result
1,2,4-Trichlorobenzene	1	ug/l	2.17	ND
Naphthalene	1	ug/l	0.543	ND
Phenol	1	ug/l	2.17	ND

Sample ID: TWP02
Lab#: AD26227-002
Matrix: Aqueous

Collection Date: 9/24/2021
Receipt Date: 9/24/2021

SGT-HEM (Non-Polar Material) 1664B

Analyte	DF	Units	RL	Result
SGT-HEM (Non-Polar Material)	1	mg/l	4.8	ND

Total Kjeldahl Nitrogen EPA 351

Analyte	DF	Units	MDL	RL	Result
Total Kjeldahl Nitrogen	1	mg/l		0.20	0.59

Total Solids (SM2540B-11)

Analyte	DF	Units	RL	Result
Total Solids @ 103-105 C	1	mg/l	40	4300

Total Suspended Solids (SM2540D-11)

Analyte	DF	Units	RL	Result
Total Suspended Solids @ 103-105 C	1	mg/l	67	3100

Volatile Organics (no search) 624.1

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.00	ND
1,4-Dichlorobenzene	1	ug/l	1.00	ND
Benzene	1	ug/l	0.500	ND
Carbon tetrachloride	1	ug/l	1.00	ND
Chloroform	1	ug/l	1.96	ND
Ethylbenzene	1	ug/l	1.00	ND
m&p-Xylenes	1	ug/l	1.00	ND
Methyl-t-butyl ether	1	ug/l	0.500	ND
o-Xylene	1	ug/l	1.00	ND
Tetrachloroethene	1	ug/l	1.00	ND
Toluene	1	ug/l	1.00	ND
Xylenes (Total)	1	ug/l	1.00	ND

Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 1M153065.D
Analysis Date: 09/27/21 11:22
Date Rec/Extracted:
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624.1
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	1.00	U	79601-23-1	m&p-Xylenes	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U	1634-04-4	Methyl-t-butyl ether	0.500	U
71-43-2	Benzene	0.500	U	95-47-6	o-Xylene	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U	127-18-4	Tetrachloroethene	1.00	U
67-66-3	Chloroform	1.96	U	108-88-3	Toluene	1.00	U
100-41-4	Ethylbenzene	1.00	U				

Worksheet #: 610994

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: AD26227-001
Client Id: TWP01
Data File: 1M153082.D
Analysis Date: 09/27/21 16:42
Date Rec/Extracted: 09/24/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624.1
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	1.00	U	79601-23-1	m&p-Xylenes	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U	1634-04-4	Methyl-t-butyl ether	0.500	U
71-43-2	Benzene	0.500	U	95-47-6	o-Xylene	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U	127-18-4	Tetrachloroethene	1.00	U
67-66-3	Chloroform	1.96	U	108-88-3	Toluene	1.00	U
100-41-4	Ethylbenzene	1.00	U	1330-20-7	Xylenes (Total)	1.00	U

Worksheet #: 610994

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: AD26227-002
Client Id: TWP02
Data File: 1M153083.D
Analysis Date: 09/27/21 17:01
Date Rec/Extracted: 09/24/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624.1
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	1.00	U	79601-23-1	m&p-Xylenes	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U	1634-04-4	Methyl-t-butyl ether	0.500	U
71-43-2	Benzene	0.500	U	95-47-6	o-Xylene	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U	127-18-4	Tetrachloroethene	1.00	U
67-66-3	Chloroform	1.96	U	108-88-3	Toluene	1.00	U
100-41-4	Ethylbenzene	1.00	U	1330-20-7	Xylenes (Total)	1.00	U

Worksheet #: 610994

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: MBS96819

	Data File	Sample ID:	Analysis Date
Spike or Dup:	1M153070.D	MBS96819	9/27/2021 12:56:00 PM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	30.4288	0	20	152	0	300
Dichlorodifluoromethane	1	36.5659	0	20	183	1	300
Chloromethane	1	28.8648	0	20	144	1	205
Bromomethane	1	19.1092	0	20	96	15	185
Vinyl Chloride	1	27.8157	0	20	139	5	195
Chloroethane	1	27.2693	0	20	136	40	160
Trichlorofluoromethane	1	26.1248	0	20	131	50	150
Ethyl ether	1	27.3145	0	20	137	10	160
Furan	1	29.6076	0	20	148	20	200
1,1,2-Trichloro-1,2,2-trifluoroethane	1	27.6147	0	20	138	20	200
Methylene Chloride	1	22.8555	0	20	114	60	140
Acrolein	1	143.4111	0	100	143*	60	140
Acrylonitrile	1	27.6449	0	20	138	60	140
Iodomethane	1	14.0846	0	20	70	1	200
Acetone	1	135.9926	0	100	136	10	200
Carbon Disulfide	1	28.1216	0	20	141	10	160
t-Butyl Alcohol	1	121.7525	0	100	122	1	200
n-Hexane	1	30.6349	0	20	153	0	300
Di-isopropyl-ether	1	27.9966	0	20	140	20	200
1,1-Dichloroethene	1	26.0927	0	20	130	50	150
Methyl Acetate	1	26.6645	0	20	133	20	150
Methyl-t-butyl ether	**1**	**22.5558**	**0**	**20**	**113**	**20**	**200**
1,1-Dichloroethane	1	25.0467	0	20	125	70	130
trans-1,2-Dichloroethene	1	23.6802	0	20	118	70	130
Ethyl-t-butyl ether	1	23.3658	0	20	117	20	160
cis-1,2-Dichloroethene	1	23.7075	0	20	119	30	160
Bromochloromethane	1	25.1176	0	20	126	30	160
2,2-Dichloropropane	1	23.7556	0	20	119	10	200
Ethyl acetate	1	21.5929	0	20	108	10	200
1,4-Dioxane	1	1109.957	0	1000	111	0	250
1,1-Dichloropropene	1	23.2129	0	20	116	40	150
Chloroform	**1**	**23.0795**	**0**	**20**	**115**	**70**	**135**
Cyclohexane	1	27.7877	0	20	139	20	200
1,2-Dichloroethane	1	23.5547	0	20	118	70	130
2-Butanone	1	22.8462	0	20	114	0	220
1,1,1-Trichloroethane	**1**	**24.026**	**0**	**20**	**120**	**70**	**130**
Carbon Tetrachloride	**1**	**22.8495**	**0**	**20**	**114**	**70**	**130**
Vinyl Acetate	1	26.2882	0	20	131	20	200
Bromodichloromethane	1	22.2939	0	20	111	65	135
Methylcyclohexane	1	23.6812	0	20	118	10	200
Dibromomethane	1	21.1101	0	20	106	20	160
1,2-Dichloropropane	1	24.3297	0	20	122	35	135
Trichloroethene	1	22.1076	0	20	111	65	135
Benzene	**1**	**22.7259**	**0**	**20**	**114**	**65**	**135**
tert-Amyl methyl ether	1	21.2584	0	20	106	20	150
Iso-propylacetate	1	21.7624	0	20	109	10	200
Methyl methacrylate	1	21.5285	0	20	108	10	200
Dibromochloromethane	1	17.5676	0	20	88	70	135
2-Chloroethylvinylether	1	19.4707	0	20	97	1	225
cis-1,3-Dichloropropene	1	20.0973	0	20	100	25	175
trans-1,3-Dichloropropene	1	19.5361	0	20	98	50	150
Ethyl methacrylate	1	21.3809	0	20	107	10	200
1,1,2-Trichloroethane	1	19.5012	0	20	98	70	130
1,2-Dibromoethane	1	19.6112	0	20	98	20	150
1,3-Dichloropropane	1	19.3122	0	20	97	20	200
4-Methyl-2-Pentanone	1	20.9699	0	20	105	10	200
2-Hexanone	1	21.1107	0	20	106	10	200
Tetrachloroethene	**1**	**19.2714**	**0**	**20**	**96**	**70**	**130**
Toluene	**1**	**19.8815**	**0**	**20**	**99**	**70**	**130**
1,1,1,2-Tetrachloroethane	1	18.0075	0	20	90	40	160
Chlorobenzene	1	19.4295	0	20	97	65	135

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	17.6652	0	20	88	10	200
n-Amyl acetate	1	19.3618	0	20	97	20	150
Bromoform	1	15.7059	0	20	79	70	130
Ethylbenzene	**1**	**18.6823**	**0**	**20**	**93**	**60**	**140**
1,1,2,2-Tetrachloroethane	1	18.2178	0	20	91	60	140
Styrene	1	18.4482	0	20	92	20	160
m&p-Xylenes	**1**	**37.4591**	**0**	**40**	**94**	**20**	**200**
o-Xylene	**1**	**18.5381**	**0**	**20**	**93**	**20**	**200**
trans-1,4-Dichloro-2-butene	1	20.0506	0	20	100	10	200
1,3-Dichlorobenzene	1	18.1395	0	20	91	70	130
1,4-Dichlorobenzene	**1**	**18.8979**	**0**	**20**	**94**	**65**	**135**
1,2-Dichlorobenzene	1	18.3514	0	20	92	65	135
Isopropylbenzene	1	18.6775	0	20	93	20	160
Cyclohexanone	1	112.2807	0	100	112	0	300
Camphene	1	20.3837	0	20	102	10	200
1,2,3-Trichloropropane	1	17.8756	0	20	89	30	150
2-Chlorotoluene	1	18.5808	0	20	93	30	160
p-Ethyltoluene	1	18.1451	0	20	91	10	250
4-Chlorotoluene	1	18.6651	0	20	93	30	150
n-Propylbenzene	1	18.9368	0	20	95	20	160
Bromobenzene	1	18.4199	0	20	92	30	150
1,3,5-Trimethylbenzene	1	18.2748	0	20	91	30	200
Butyl methacrylate	1	20.8039	0	20	104	10	200
t-Butylbenzene	1	18.3161	0	20	92	20	160
1,2,4-Trimethylbenzene	1	18.4861	0	20	92	30	200
sec-Butylbenzene	1	19.0288	0	20	95	20	160
4-Isopropyltoluene	1	18.2958	0	20	91	30	150
n-Butylbenzene	1	19.5429	0	20	98	20	200
p-Diethylbenzene	1	17.7082	0	20	89	10	250
1,2,4,5-Tetramethylbenzene	1	14.6411	0	20	73	10	200
1,2-Dibromo-3-Chloropropane	1	18.9368	0	20	95	0	200
Camphor	1	164.7757	0	200	82	0	200
Hexachlorobutadiene	1	21.3512	0	20	107	20	170
1,2,4-Trichlorobenzene	1	18.2298	0	20	91	5	200
1,2,3-Trichlorobenzene	1	19.4358	0	20	97	0	200
Naphthalene	1	17.1113	0	20	86	0	250

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

	Data File	Sample ID:	Analysis Date
Spike or Dup:	1M153072.D	AD26248-002(50X)(T:MS)	9/27/2021 1:34:00 PM
Non Spike(If applicable):	1M153066.D	AD26248-002(50X)(T)	9/27/2021 11:41:00 AM
Inst Blank(If applicable):			

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	0	0	20	0*	10	180
Dichlorodifluoromethane	1	0	0	20	0*	1	300
Chloromethane	1	0	0	20	0*	1	273
Bromomethane	1	0	0	20	0*	1	242
Vinyl Chloride	1	0	0	20	0*	1	251
Chloroethane	1	0	0	20	0*	14	230
Trichlorofluoromethane	1	0	0	20	0*	17	181
Ethyl ether	1	0	0	20	0*	30	150
Furan	1	0	0	20	0*	30	160
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0	0	20	0*	40	170
Methylene Chloride	1	91.945	0	20	460*	1	221
Acrolein	1	0	0	100	0*	40	160
Acrylonitrile	1	0	0	20	0*	40	160
Iodomethane	1	0	0	20	0*	1	200
Acetone	1	0	0	100	0*	20	160
Carbon Disulfide	1	64.155	0	20	321*	30	160
t-Butyl Alcohol	1	376.19	0	100	376*	1	200
n-Hexane	1	0	0	20	0*	5	210
Di-isopropyl-ether	1	0	0	20	0*	30	150
1,1-Dichloroethene	1	0	0	20	0*	1	234
Methyl Acetate	1	56.62	0	20	283*	20	150
Methyl-t-butyl ether	**1**	**0**	**0**	**20**	**0***	**30**	**150**
1,1-Dichloroethane	1	0	0	20	0*	59	155
trans-1,2-Dichloroethene	1	0	0	20	0*	54	156
Ethyl-t-butyl ether	1	0	0	20	0*	30	150
cis-1,2-Dichloroethene	1	61.13	0	20	306*	40	160
Bromochloromethane	1	75.995	0	20	380*	30	150
2,2-Dichloropropane	1	0	0	20	0*	10	200
Ethyl acetate	1	0	0	20	0*	20	170
1,4-Dioxane	1	0	0	1000	0*	1	200
1,1-Dichloropropene	1	0	0	20	0*	50	150
Chloroform	**1**	**73.64**	**0**	**20**	**368***	**51**	**138**
Cyclohexane	1	0	0	20	0*	40	160
1,2-Dichloroethane	1	50.915	0	20	255*	49	155
2-Butanone	1	68.295	0	20	341*	1	220
1,1,1-Trichloroethane	**1**	**0**	**0**	**20**	**0***	**52**	**162**
Carbon Tetrachloride	**1**	**0**	**0**	**20**	**0***	**70**	**140**
Vinyl Acetate	1	0	0	20	0*	20	170
Bromodichloromethane	1	0	0	20	0*	35	155
Methylcyclohexane	1	0	0	20	0*	30	170
Dibromomethane	1	0	0	20	0*	30	160
1,2-Dichloropropane	1	0	0	20	0*	1	210
Trichloroethene	1	0	0	20	0*	70	157
Benzene	**1**	**34.77**	**0**	**20**	**174***	**37**	**151**
tert-Amyl methyl ether	1	0	0	20	0*	30	150
Iso-propylacetate	1	0	0	20	0*	20	150
Methyl methacrylate	1	0	0	20	0*	10	170
Dibromochloromethane	1	0	0	20	0*	53	149
2-Chloroethylvinylether	1	0	0	20	0*	1	305
cis-1,3-Dichloropropene	1	0	0	20	0*	1	227
trans-1,3-Dichloropropene	1	0	0	20	0*	17	183
Ethyl methacrylate	1	91.305	0	20	457*	20	150
1,1,2-Trichloroethane	1	0	0	20	0*	52	150
1,2-Dibromoethane	1	0	0	20	0*	20	150
1,3-Dichloropropane	1	0	0	20	0*	50	130
4-Methyl-2-Pentanone	1	127.605	0	20	638*	30	150
2-Hexanone	1	114.74	0	20	574*	20	150
Tetrachloroethene	**1**	**0**	**0**	**20**	**0***	**64**	**148**
Toluene	**1**	**0**	**0**	**20**	**0***	**47**	**150**
1,1,1,2-Tetrachloroethane	1	0	0	20	0*	50	150
Chlorobenzene	1	58.17	0	20	291*	37	160

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	92.065	0	20	460*	10	140
n-Amyl acetate	1	103.07	0	20	515*	20	150
Bromoform	1	0	0	20	0*	45	169
Ethylbenzene	**1**	**76.41**	**0**	**20**	**382***	**37**	**162**
1,1,2,2-Tetrachloroethane	1	0	0	20	0*	46	157
Styrene	1	73.235	0	20	366*	40	150
m&p-Xylenes	**1**	**155.465**	**0**	**40**	**389***	**40**	**150**
o-Xylene	**1**	**73.675**	**0**	**20**	**368***	**40**	**150**
trans-1,4-Dichloro-2-butene	1	0	0	20	0*	10	150
1,3-Dichlorobenzene	1	77.26	0	20	386*	59	156
1,4-Dichlorobenzene	**1**	**76.25**	**0**	**20**	**381***	**18**	**190**
1,2-Dichlorobenzene	1	79.78	0	20	399*	18	190
Isopropylbenzene	1	80.8	0	20	404*	40	150
Cyclohexanone	1	0	0	100	0*	1	300
Camphene	1	89.52	0	20	448*	20	150
1,2,3-Trichloropropane	1	0	0	20	0*	40	130
2-Chlorotoluene	1	90.055	0	20	450*	40	150
p-Ethyltoluene	1	76.285	0	20	381*	10	200
4-Chlorotoluene	1	80.655	0	20	403*	40	150
n-Propylbenzene	1	83.88	0	20	419*	40	150
Bromobenzene	1	70.44	0	20	352*	40	130
1,3,5-Trimethylbenzene	1	75.335	0	20	377*	40	150
Butyl methacrylate	1	77.83	0	20	389*	20	150
t-Butylbenzene	1	60.98	0	20	305*	40	150
1,2,4-Trimethylbenzene	1	69.455	0	20	347*	40	150
sec-Butylbenzene	1	68.425	0	20	342*	40	150
4-Isopropyltoluene	1	67.54	0	20	338*	40	150
n-Butylbenzene	1	61.14	0	20	306*	30	160
p-Diethylbenzene	1	54.785	0	20	274*	10	200
1,2,4,5-Tetramethylbenzene	1	0	0	20	0*	10	170
1,2-Dibromo-3-Chloropropane	1	0	0	20	0*	10	150
Camphor	1	705.635	0	200	353*	1	160
Hexachlorobutadiene	1	76.08	0	20	380*	20	170
1,2,4-Trichlorobenzene	1	88.31	0	20	442*	20	160
1,2,3-Trichlorobenzene	1	134.775	0	20	674*	5	180
Naphthalene	1	121.475	0	20	607*	1	200

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

	Data File	Sample ID:	Analysis Date
Spike or Dup:	1M153073.D	AD26248-002(50X)(T:MSD)	9/27/2021 1:53:00 PM
Non Spike(If applicable):	1M153066.D	AD26248-002(50X)(T)	9/27/2021 11:41:00 AM
Inst Blank(If applicable):			

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	0	0	20	0*	10	180
Dichlorodifluoromethane	1	0	0	20	0*	1	300
Chloromethane	1	0	0	20	0*	1	273
Bromomethane	1	0	0	20	0*	1	242
Vinyl Chloride	1	0	0	20	0*	1	251
Chloroethane	1	0	0	20	0*	14	230
Trichlorofluoromethane	1	0	0	20	0*	17	181
Ethyl ether	1	0	0	20	0*	30	150
Furan	1	0	0	20	0*	30	160
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0	0	20	0*	40	170
Methylene Chloride	1	0	0	20	0*	1	221
Acrolein	1	0	0	100	0*	40	160
Acrylonitrile	1	0	0	20	0*	40	160
Iodomethane	1	0	0	20	0*	1	200
Acetone	1	0	0	100	0*	20	160
Carbon Disulfide	1	57.55	0	20	288*	30	160
t-Butyl Alcohol	1	0	0	100	0*	1	200
n-Hexane	1	0	0	20	0*	5	210
Di-isopropyl-ether	1	0	0	20	0*	30	150
1,1-Dichloroethene	1	0	0	20	0*	1	234
Methyl Acetate	1	64.735	0	20	324*	20	150
Methyl-t-butyl ether	**1**	**0**	**0**	**20**	**0***	**30**	**150**
1,1-Dichloroethane	1	0	0	20	0*	59	155
trans-1,2-Dichloroethene	1	0	0	20	0*	54	156
Ethyl-t-butyl ether	1	0	0	20	0*	30	150
cis-1,2-Dichloroethene	1	0	0	20	0*	40	160
Bromochloromethane	1	0	0	20	0*	30	150
2,2-Dichloropropane	1	0	0	20	0*	10	200
Ethyl acetate	1	0	0	20	0*	20	170
1,4-Dioxane	1	0	0	1000	0*	1	200
1,1-Dichloropropene	1	0	0	20	0*	50	150
Chloroform	**1**	**0**	**0**	**20**	**0***	**51**	**138**
Cyclohexane	1	0	0	20	0*	40	160
1,2-Dichloroethane	1	26.505	0	20	133	49	155
2-Butanone	1	55.975	0	20	280*	1	220
1,1,1-Trichloroethane	**1**	**0**	**0**	**20**	**0***	**52**	**162**
Carbon Tetrachloride	**1**	**0**	**0**	**20**	**0***	**70**	**140**
Vinyl Acetate	1	0	0	20	0*	20	170
Bromodichloromethane	1	0	0	20	0*	35	155
Methylcyclohexane	1	0	0	20	0*	30	170
Dibromomethane	1	0	0	20	0*	30	160
1,2-Dichloropropane	1	0	0	20	0*	1	210
Trichloroethene	1	0	0	20	0*	70	157
Benzene	**1**	**0**	**0**	**20**	**0***	**37**	**151**
tert-Amyl methyl ether	1	0	0	20	0*	30	150
Iso-propylacetate	1	0	0	20	0*	20	150
Methyl methacrylate	1	0	0	20	0*	10	170
Dibromochloromethane	1	0	0	20	0*	53	149
2-Chloroethylvinylether	1	0	0	20	0*	1	305
cis-1,3-Dichloropropene	1	0	0	20	0*	1	227
trans-1,3-Dichloropropene	1	0	0	20	0*	17	183
Ethyl methacrylate	1	0	0	20	0*	20	150
1,1,2-Trichloroethane	1	0	0	20	0*	52	150
1,2-Dibromoethane	1	0	0	20	0*	20	150
1,3-Dichloropropane	1	0	0	20	0*	50	130
4-Methyl-2-Pentanone	1	0	0	20	0*	30	150
2-Hexanone	1	50.125	0	20	251*	20	150
Tetrachloroethene	**1**	**0**	**0**	**20**	**0***	**64**	**148**
Toluene	**1**	**0**	**0**	**20**	**0***	**47**	**150**
1,1,1,2-Tetrachloroethane	1	0	0	20	0*	50	150
Chlorobenzene	1	0	0	20	0*	37	160

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	0	0	20	0*	10	140
n-Amyl acetate	1	0	0	20	0*	20	150
Bromoform	1	0	0	20	0*	45	169
Ethylbenzene	**1**	**0**	**0**	**20**	**0***	**37**	**162**
1,1,2,2-Tetrachloroethane	1	0	0	20	0*	46	157
Styrene	1	0	0	20	0*	40	150
m&p-Xylenes	**1**	**77.82**	**0**	**40**	**195***	**40**	**150**
o-Xylene	**1**	**0**	**0**	**20**	**0***	**40**	**150**
trans-1,4-Dichloro-2-butene	1	0	0	20	0*	10	150
1,3-Dichlorobenzene	1	0	0	20	0*	59	156
1,4-Dichlorobenzene	**1**	**0**	**0**	**20**	**0***	**18**	**190**
1,2-Dichlorobenzene	1	0	0	20	0*	18	190
Isopropylbenzene	1	0	0	20	0*	40	150
Cyclohexanone	1	0	0	100	0*	1	300
Camphene	1	0	0	20	0*	20	150
1,2,3-Trichloropropane	1	0	0	20	0*	40	130
2-Chlorotoluene	1	0	0	20	0*	40	150
p-Ethyltoluene	1	0	0	20	0*	10	200
4-Chlorotoluene	1	0	0	20	0*	40	150
n-Propylbenzene	1	0	0	20	0*	40	150
Bromobenzene	1	0	0	20	0*	40	130
1,3,5-Trimethylbenzene	1	0	0	20	0*	40	150
Butyl methacrylate	1	0	0	20	0*	20	150
t-Butylbenzene	1	0	0	20	0*	40	150
1,2,4-Trimethylbenzene	1	0	0	20	0*	40	150
sec-Butylbenzene	1	0	0	20	0*	40	150
4-Isopropyltoluene	1	0	0	20	0*	40	150
n-Butylbenzene	1	0	0	20	0*	30	160
p-Diethylbenzene	1	0	0	20	0*	10	200
1,2,4,5-Tetramethylbenzene	1	0	0	20	0*	10	170
1,2-Dibromo-3-Chloropropane	1	0	0	20	0*	10	150
Camphor	1	0	0	200	0*	1	160
Hexachlorobutadiene	1	0	0	20	0*	20	170
1,2,4-Trichlorobenzene	1	0	0	20	0*	20	160
1,2,3-Trichlorobenzene	1	0	0	20	0*	5	180
Naphthalene	1	0	0	20	0*	1	200

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: MBS96819

	Data File	Sample ID:	Analysis Date
Spike or Dup:	1M153073.D	AD26248-002(50X)(T:MSD)	9/27/2021 1:53:00 PM
Duplicate(If applicable):	1M153072.D	AD26248-002(50X)(T:MS)	9/27/2021 1:34:00 PM
Inst Blank(If applicable):			

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chlorodifluoromethane	1	0	0	NA	40
Dichlorodifluoromethane	1	0	0	NA	40
Chloromethane	1	0	0	NA	60
Bromomethane	1	0	0	NA	61
Vinyl Chloride	1	0	0	NA	66
Chloroethane	1	0	0	NA	78
Trichlorofluoromethane	1	0	0	NA	84
Ethyl ether	1	0	0	NA	40
Furan	1	0	0	NA	40
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0	0	NA	40
Methylene Chloride	1	0	91.945	200*	28
Acrolein	1	0	0	NA	60
Acrylonitrile	1	0	0	NA	60
Iodomethane	1	0	0	NA	40
Acetone	1	0	0	NA	40
Carbon Disulfide	1	57.55	64.155	11	40
t-Butyl Alcohol	1	0	376.19	200*	40
n-Hexane	1	0	0	NA	40
Di-isopropyl-ether	1	0	0	NA	40
1,1-Dichloroethene	1	0	0	NA	32
Methyl Acetate	1	64.735	56.62	13	40
Methyl-t-butyl ether	**1**	**0**	**0**	**NA**	**40**
1,1-Dichloroethane	1	0	0	NA	40
trans-1,2-Dichloroethene	1	0	0	NA	45
Ethyl-t-butyl ether	1	0	0	NA	40
cis-1,2-Dichloroethene	1	0	61.13	200*	40
Bromochloromethane	1	0	75.995	200*	40
2,2-Dichloropropane	1	0	0	NA	40
Ethyl acetate	1	0	0	NA	40
1,4-Dioxane	1	0	0	NA	40
1,1-Dichloropropene	1	0	0	NA	40
Chloroform	**1**	**0**	**73.64**	**200***	**54**
Cyclohexane	1	0	0	NA	40
1,2-Dichloroethane	1	26.505	50.915	63*	49
2-Butanone	1	55.975	68.295	20	40
1,1,1-Trichloroethane	**1**	**0**	**0**	**NA**	**36**
Carbon Tetrachloride	**1**	**0**	**0**	**NA**	**41**
Vinyl Acetate	1	0	0	NA	40
Bromodichloromethane	1	0	0	NA	56
Methylcyclohexane	1	0	0	NA	40
Dibromomethane	1	0	0	NA	40
1,2-Dichloropropane	1	0	0	NA	55
Trichloroethene	1	0	0	NA	48
Benzene	**1**	**0**	**34.77**	**200***	**61**
tert-Amyl methyl ether	1	0	0	NA	40
Iso-propylacetate	1	0	0	NA	40
Methyl methacrylate	1	0	0	NA	40
Dibromochloromethane	1	0	0	NA	50
2-Chloroethylvinylether	1	0	0	NA	71
cis-1,3-Dichloropropene	1	0	0	NA	58
trans-1,3-Dichloropropene	1	0	0	NA	56
Ethyl methacrylate	1	0	91.305	200*	40
1,1,2-Trichloroethane	1	0	0	NA	45
1,2-Dibromoethane	1	0	0	NA	40
1,3-Dichloropropane	1	0	0	NA	40
4-Methyl-2-Pentanone	1	0	127.605	200*	40
2-Hexanone	1	50.125	114.74	78*	40
Tetrachloroethene	**1**	**0**	**0**	**NA**	**39**
Toluene	**1**	**0**	**0**	**NA**	**41**
1,1,1,2-Tetrachloroethane	1	0	0	NA	40
Chlorobenzene	1	0	58.17	200*	53

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: MBS96819

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
n-Butyl acrylate	1	0	92.065	200*	40
n-Amyl acetate	1	0	103.07	200*	40
Bromoform	1	0	0	NA	42
Ethylbenzene	**1**	**0**	**76.41**	**200***	**63**
1,1,2,2-Tetrachloroethane	1	0	0	NA	61
Styrene	1	0	73.235	200*	40
m&p-Xylenes	**1**	**77.82**	**155.465**	**67***	**40**
o-Xylene	**1**	**0**	**73.675**	**200***	**40**
trans-1,4-Dichloro-2-butene	1	0	0	NA	40
1,3-Dichlorobenzene	1	0	77.26	200*	43
1,4-Dichlorobenzene	**1**	**0**	**76.25**	**200***	**57**
1,2-Dichlorobenzene	1	0	79.78	200*	57
Isopropylbenzene	1	0	80.8	200*	40
Cyclohexanone	1	0	0	NA	40
Camphene	1	0	89.52	200*	40
1,2,3-Trichloropropane	1	0	0	NA	40
2-Chlorotoluene	1	0	90.055	200*	40
p-Ethyltoluene	1	0	76.285	200*	40
4-Chlorotoluene	1	0	80.655	200*	40
n-Propylbenzene	1	0	83.88	200*	40
Bromobenzene	1	0	70.44	200*	40
1,3,5-Trimethylbenzene	1	0	75.335	200*	40
Butyl methacrylate	1	0	77.83	200*	40
t-Butylbenzene	1	0	60.98	200*	40
1,2,4-Trimethylbenzene	1	0	69.455	200*	40
sec-Butylbenzene	1	0	68.425	200*	40
4-Isopropyltoluene	1	0	67.54	200*	40
n-Butylbenzene	1	0	61.14	200*	40
p-Diethylbenzene	1	0	54.785	200*	40
1,2,4,5-Tetramethylbenzene	1	0	0	NA	40
1,2-Dibromo-3-Chloropropane	1	0	0	NA	40
Camphor	1	0	705.635	200*	40
Hexachlorobutadiene	1	0	76.08	200*	40
1,2,4-Trichlorobenzene	1	0	88.31	200*	40
1,2,3-Trichlorobenzene	1	0	134.775	200*	40
Naphthalene	1	0	121.475	200*	40

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: WMB95088
Client Id:
Data File: 10M87570.D
Analysis Date: 09/30/21 17:21
Date Rec/Extracted: NA-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625.1
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	2.00	U	108-95-2	Phenol	2.00	U
91-20-3	Naphthalene	0.500	U				

Worksheet #: 611136 *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: AD26227-001
Client Id: TWP01
Data File: 9M108591.D
Analysis Date: 09/30/21 17:09
Date Rec/Extracted: 09/24/21-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625.1
Matrix: Aqueous
Initial Vol: 500ml
Final Vol: 0.5ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
120-82-1	1,2,4-Trichlorobenzene	2.00	U	108-95-2	Phenol	2.00	U
91-20-3	Naphthalene	0.500	U				

Worksheet #: 611136 ***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 SEMIVOLATILE REPORT

Sample Number: AD26227-002
Client Id: TWP02
Data File: 10M87569.D
Analysis Date: 09/30/21 16:59
Date Rec/Extracted: 09/24/21-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625.1
Matrix: Aqueous
Initial Vol: 460ml
Final Vol: 0.5ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
120-82-1	1,2,4-Trichlorobenzene	2.17	U	108-95-2	Phenol	2.17	U
91-20-3	Naphthalene	0.543	U				

Worksheet #: 611136 ***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.

FORM2

Surrogate Recovery

Method: EPA 625.1

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
10M87570.D	WMB95088	A	09/30/21 17:21	1		68	49	110	111	103	129
9M108591.D	AD26227-001	A	09/30/21 17:09	1		71	61	91	90	109	106
10M87569.D	AD26227-002	A	09/30/21 16:59	1		52	50	81	76	75	96
10M87571.D	WMB95088(MS)	A	09/30/21 17:43	1		68	49	104	51 *	113	124
9M108595.D	AD26227-001(MS)	A	09/30/21 18:41	1		60	56	92	94	139	126
9M108596.D	AD26227-001(MSD)	A	09/30/21 19:04	1		75	66	101	97	141	127

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 625.1

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: WMB95088

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108596.D	AD26227-001(MSD)	9/30/2021 7:04:00 PM
Non Spike(If applicable):	9M108591.D	AD26227-001	9/30/2021 5:09:00 PM
Inst Blank(If applicable):			

Method: 625.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
1,4-Dioxane	1	73.484	0	100	73	20	160
Pyridine	1	53.8548	0	100	54	1	150
N-Nitrosodimethylamine	1	71.3042	0	100	71	20	150
Benzaldehyde	1	43.2103	0	100	43	20	234
Aniline	1	77.9944	0	100	78	20	150
Pentachloroethane	1	84.9182	0	100	85	5	140
bis(2-Chloroethyl)ether	1	82.2408	0	100	82	43	126
Phenol	**1**	**69.8022**	**0**	**100**	**70**	**17**	**120**
2-Chlorophenol	1	90.7962	0	100	91	36	120
N-Decane	1	69.8919	0	100	70	40	130
1,3-Dichlorobenzene	1	56.829	0	100	57	20	130
1,4-Dichlorobenzene	1	58.9768	0	100	59	25	130
1,2-Dichlorobenzene	1	60.9916	0	100	61	25	130
Benzyl alcohol	1	98.4423	0	100	98	35	130
bis(2-chloroisopropyl)ether	1	64.9158	0	100	65	63	139
2-Methylphenol	1	90.0237	0	100	90	35	130
Acetophenone	1	97.7187	0	100	98	50	130
Hexachloroethane	1	56.8152	0	100	57	55	120
N-Nitroso-di-n-propylamine	1	82.0452	0	100	82	14	198
3&4-Methylphenol	1	92.1074	0	100	92	30	130
Nitrobenzene	1	92.3809	0	100	92	54	158
Isophorone	1	90.1974	0	100	90	47	180
2-Nitrophenol	1	109.8034	0	100	110	45	167
2,4-Dimethylphenol	1	99.33	0	100	99	42	120
Benzoic Acid	1	125.8734	0	100	126	1	130
bis(2-Chloroethoxy)methane	1	94.482	0	100	94	49	165
2,4-Dichlorophenol	1	106.9298	0	100	107	53	122
1,2,4-Trichlorobenzene	**1**	**93.2563**	**0**	**100**	**93**	**57**	**130**
Naphthalene	**1**	**82.7951**	**0**	**100**	**83**	**36**	**120**
4-Chloroaniline	1	96.8265	0	100	97	30	170
Hexachlorobutadiene	1	87.7658	0	100	88	38	120
Caprolactam	1	88.9021	0	100	89	5	130
4-Chloro-3-methylphenol	1	112.5639	0	100	113	41	128
2-Methylnaphthalene	1	104.3407	0	100	104	40	130
1-Methylnaphthalene	1	118.9145	0	100	119	50	130
1,1'-Biphenyl	1	107.4631	0	100	107	50	130
1,2,4,5-Tetrachlorobenzene	1	115.1205	0	100	115	60	140
Hexachlorocyclopentadiene	1	116.7569	0	100	117	20	130
2,4,6-Trichlorophenol	1	119.3799	0	100	119	52	129
2,4,5-Trichlorophenol	1	123.9074	0	100	124	50	130
2-Chloronaphthalene	1	101.98	0	100	102	65	120
1,4-Dimethylnaphthalene	1	103.2956	0	100	103	50	130
Diphenyl Ether	1	113.4455	0	100	113	50	140
2-Nitroaniline	1	110.7424	0	100	111	40	150
Coumarin	1	109.3228	0	100	109	1	180
Acenaphthylene	1	102.285	0	100	102	54	126
Dimethylphthalate	1	106.6583	0	100	107	1	120
2,6-Dinitrotoluene	1	109.2505	0	100	109	68	137
Acenaphthene	1	100.68	0	100	101	60	132
3-Nitroaniline	1	111.8077	0	100	112	40	150
2,4-Dinitrophenol	1	122.0016	0	100	122	1	173
Dibenzofuran	1	110.8042	0	100	111	50	130
2,4-Dinitrotoluene	1	108.0036	0	100	108	48	127
4-Nitrophenol	1	84.7199	0	100	85	13	129
2,3,4,6-Tetrachlorophenol	1	121.6504	0	100	122	50	130
Fluorene	1	102.5117	0	100	103	70	120
4-Chlorophenyl-phenylether	1	113.587	0	100	114	38	145
Diethylphthalate	1	106.3845	0	100	106	1	120
4-Nitroaniline	1	115.237	0	100	115	40	150
Atrazine	1	116.1991	0	100	116	40	150
4,6-Dinitro-2-methylphenol	1	124.9918	0	100	125	53	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: WMB95088

Method: 625.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Nitrosodiphenylamine	1	87.5851	0	100	88	30	130
1,2-Diphenylhydrazine	1	94.0174	0	100	94	40	130
4-Bromophenyl-phenylether	1	119.5995	0	100	120	65	120
Hexachlorobenzene	1	116.4052	0	100	116	8	142
N-Octadecane	1	92.3969	0	100	92	50	130
Pentachlorophenol	1	160.1143	0	100	160*	38	152
Phenanthrene	1	105.522	0	100	106	65	120
Anthracene	1	104.4336	0	100	104	43	120
Carbazole	1	108.0183	0	100	108	40	130
Di-n-butylphthalate	1	108.4732	0	100	108	8	120
Fluoranthene	1	112.7411	0	100	113	43	121
Pyrene	1	103.7769	0	100	104	70	120
Benzidine	1	0	0	100	0	0	134
Butylbenzylphthalate	1	108.2403	0	100	108	1	140
3,3'-Dichlorobenzidine	1	83.4388	0	100	83	8	213
Benzo[a]anthracene	1	100.2522	0	100	100	42	133
Chrysene	1	111.4238	0	100	111	44	140
bis(2-Ethylhexyl)phthalate	1	103.3155	0	100	103	29	137
Di-n-octylphthalate	1	104.4894	0	100	104	19	132
Benzo[b]fluoranthene	1	119.6174	0	100	120	42	140
Benzo[k]fluoranthene	1	117.4298	0	100	117	25	146
Benzo[a]pyrene	1	109.3363	0	100	109	32	148
Indeno[1,2,3-cd]pyrene	1	111.851	0	100	112	1	151
Dibenzo[a,h]anthracene	1	110.0567	0	100	110	1	200
Benzo[g,h,i]perylene	1	108.7709	0	100	109	1	195

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: WMB95088

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108596.D	AD26227-001(MSD)	9/30/2021 7:04:00 PM
Duplicate(If applicable):	9M108595.D	AD26227-001(MS)	9/30/2021 6:41:00 PM
Inst Blank(If applicable):			

Method: 625.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
1,4-Dioxane	1	73.484	67.8185	8	20
Pyridine	1	53.8548	70.1678	26	40
N-Nitrosodimethylamine	1	71.3042	76.2622	6.7	20
Benzaldehyde	1	43.2103	50.8667	16	20
Aniline	1	77.9944	84.572	8.1	20
Pentachloroethane	1	84.9182	82.6987	2.6	20
bis(2-Chloroethyl)ether	1	82.2408	90.6749	9.8	108
Phenol	**1**	**69.8022**	**70.951**	**1.6**	**64**
2-Chlorophenol	1	90.7962	92.7217	2.1	61
N-Decane	1	69.8919	68.4145	2.1	20
1,3-Dichlorobenzene	1	56.829	69.6618	20	20
1,4-Dichlorobenzene	1	58.9768	74.0326	23	40
1,2-Dichlorobenzene	1	60.9916	75.483	21 *	20
Benzyl alcohol	1	98.4423	99.2284	0.8	20
bis(2-chloroisopropyl)ether	1	64.9158	74.128	13	76
2-Methylphenol	1	90.0237	92.0303	2.2	40
Acetophenone	1	97.7187	98.1752	0.47	20
Hexachloroethane	1	56.8152	72.1704	24	52
N-Nitroso-di-n-propylamine	1	82.0452	89.1056	8.3	87
3&4-Methylphenol	1	92.1074	95.0333	3.1	40
Nitrobenzene	1	92.3809	103.2459	11	62
Isophorone	1	90.1974	98.3515	8.6	93
2-Nitrophenol	1	109.8034	113.7785	3.6	55
2,4-Dimethylphenol	1	99.33	106.9707	7.4	58
Benzoic Acid	1	125.8734	128.3878	2	20
bis(2-Chloroethoxy)methane	1	94.482	102.3196	8	54
2,4-Dichlorophenol	1	106.9298	111.1316	3.9	50
1,2,4-Trichlorobenzene	**1**	**93.2563**	**105.3025**	**12**	**50**
Naphthalene	**1**	**82.7951**	**97.3862**	**16**	**65**
4-Chloroaniline	1	96.8265	99.713	2.9	20
Hexachlorobutadiene	1	87.7658	102.4159	15	62
Caprolactam	1	88.9021	86.0802	3.2	20
4-Chloro-3-methylphenol	1	112.5639	115.3234	2.4	73
2-Methylnaphthalene	1	104.3407	106.3455	1.9	20
1-Methylnaphthalene	1	118.9145	120.372	1.2	20
1,1'-Biphenyl	1	107.4631	108.7338	1.2	20
1,2,4,5-Tetrachlorobenzene	1	115.1205	116.3562	1.1	20
Hexachlorocyclopentadiene	1	116.7569	130.1937	11	20
2,4,6-Trichlorophenol	1	119.3799	121.7724	2	58
2,4,5-Trichlorophenol	1	123.9074	126.3341	1.9	40
2-Chloronaphthalene	1	101.98	110.9514	8.4	24
1,4-Dimethylnaphthalene	1	103.2956	103.9083	0.59	20
Diphenyl Ether	1	113.4455	113.8669	0.37	20
2-Nitroaniline	1	110.7424	111.3609	0.56	20
Coumarin	1	109.3228	110.2905	0.88	20
Acenaphthylene	1	102.285	110.7007	7.9	74
Dimethylphthalate	1	106.6583	114.3548	7	183
2,6-Dinitrotoluene	1	109.2505	116.2899	6.2	48
Acenaphthene	1	100.68	108.7705	7.7	48
3-Nitroaniline	1	111.8077	113.5402	1.5	20
2,4-Dinitrophenol	1	122.0016	125.3916	2.7	132
Dibenzofuran	1	110.8042	111.2475	0.4	20
2,4-Dinitrotoluene	1	108.0036	115.8262	7	42
4-Nitrophenol	1	84.7199	88.1026	3.9	131
2,3,4,6-Tetrachlorophenol	1	121.6504	124.0758	2	20
Fluorene	1	102.5117	109.0571	6.2	38
4-Chlorophenyl-phenylether	1	113.587	119.5612	5.1	61
Diethylphthalate	1	106.3845	113.6058	6.6	100
4-Nitroaniline	1	115.237	115.8709	0.55	20
Atrazine	1	116.1991	116.3482	0.13	20
4,6-Dinitro-2-methylphenol	1	124.9918	125.3515	0.29	203

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: WMB95088

Method: 625.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
n-Nitrosodiphenylamine	1	87.5851	92.4897	5.4	20
1,2-Diphenylhydrazine	1	94.0174	100.9755	7.1	20
4-Bromophenyl-phenylether	1	119.5995	125.9872	5.2	43
Hexachlorobenzene	1	116.4052	122.4087	5	55
N-Octadecane	1	92.3969	92.6257	0.25	20
Pentachlorophenol	1	160.1143	159.6559	0.29	86
Phenanthrene	1	105.522	112.2582	6.2	39
Anthracene	1	104.4336	109.593	4.8	66
Carbazole	1	108.0183	107.1512	0.81	20
Di-n-butylphthalate	1	108.4732	114.7131	5.6	47
Fluoranthene	1	112.7411	119.7157	6	66
Pyrene	1	103.7769	111.8949	7.5	49
Benzidine	1	0	8.2322	200*	20
Butylbenzylphthalate	1	108.2403	115.6567	6.6	60
3,3'-Dichlorobenzidine	1	83.4388	99.1188	17	108
Benzo[a]anthracene	1	100.2522	106.9867	6.5	53
Chrysene	1	111.4238	118.2085	5.9	87
bis(2-Ethylhexyl)phthalate	1	103.3155	109.4349	5.8	82
Di-n-octylphthalate	1	104.4894	112.7741	7.6	69
Benzo[b]fluoranthene	1	119.6174	125.8095	5	71
Benzo[k]fluoranthene	1	117.4298	117.1995	0.2	63
Benzo[a]pyrene	1	109.3363	116.9872	6.8	72
Indeno[1,2,3-cd]pyrene	1	111.851	119.717	6.8	99
Dibenzo[a,h]anthracene	1	110.0567	117.6973	6.7	126
Benzo[g,h,i]perylene	1	108.7709	116.59	6.9	97

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form1

ORGANICS PCB REPORT

Sample Number: WMB95074
Client Id:
Data File: 3G130775.D
Analysis Date: 09/29/21 14:21
Date Rec/Extracted: NA-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608.3
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	0.0500	U	11097-69-1	Aroclor-1254	0.0500	U
11104-28-2	Aroclor-1221	0.0500	U	11096-82-5	Aroclor-1260	0.0500	U
11141-16-5	Aroclor-1232	0.0500	U	37324-23-5	Aroclor-1262	0.0500	U
53469-21-9	Aroclor-1242	0.0500	U	11100-14-4	Aroclor-1268	0.0500	U
12672-29-6	Aroclor-1248	0.0500	U				

Worksheet #: 610946

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: AD26227-001
Client Id: TWP01
Data File: 2G158502.D
Analysis Date: 09/30/21 08:01
Date Rec/Extracted: 09/24/21-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608.3
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	0.0500	U	11097-69-1	Aroclor-1254	0.0500	U
11104-28-2	Aroclor-1221	0.0500	U	11096-82-5	Aroclor-1260	0.0500	U
11141-16-5	Aroclor-1232	0.0500	U	37324-23-5	Aroclor-1262	0.0500	U
53469-21-9	Aroclor-1242	0.0500	U	11100-14-4	Aroclor-1268	0.0500	U
12672-29-6	Aroclor-1248	0.0500	U	1336-36-3	Aroclor (Total)	0.0500	U

Worksheet #: 610946

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: AD26227-002
Client Id: TWP02
Data File: 2G158501.D
Analysis Date: 09/30/21 07:46
Date Rec/Extracted: 09/24/21-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608.3
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	0.0500	U	11097-69-1	Aroclor-1254	0.0500	U
11104-28-2	Aroclor-1221	0.0500	U	11096-82-5	Aroclor-1260	0.0500	U
11141-16-5	Aroclor-1232	0.0500	U	37324-23-5	Aroclor-1262	0.0500	U
53469-21-9	Aroclor-1242	0.0500	U	11100-14-4	Aroclor-1268	0.0500	U
12672-29-6	Aroclor-1248	0.0500	U	1336-36-3	Aroclor (Total)	0.0500	U

Worksheet #: 610946

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

Inorganic Analysis Data Sheet

Sample ID: MB 94434
Client Id: MB 94434
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
7429-90-5	Aluminum	30	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-36-0	Antimony	2.5	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-38-2	Arsenic	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-39-3	Barium	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-41-7	Beryllium	0.75	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-43-9	Cadmium	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-47-3	Chromium	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-48-4	Cobalt	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-50-8	Copper	10	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7439-92-1	Lead	0.75	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7439-96-5	Manganese	3.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7439-98-7	Molybdenum	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-02-0	Nickel	3.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7782-49-2	Selenium	5.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-22-4	Silver	0.75	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-28-0	Thallium	1.5	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-62-2	Vanadium	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-66-6	Zinc	25	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA

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 94434 (0.5) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 94434 (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
7440-39-3	Barium	25	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7440-47-3	Chromium	25	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7440-50-8	Copper	25	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7439-89-6	Iron	150	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7440-02-0	Nickel	10	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7440-66-6	Zinc	25	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A

Comments:

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1

Inorganic Analysis Data Sheet

Sample ID: MB 94434 (1) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 94434 (1) 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
7439-97-6	Mercury	0.20	ND	1	25	25	09/28/21	94434	H27676A	11	CV	HGCV4A

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:	AD26227-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	TWP01	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	9/24/2021	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	1.7	1	100	125	09/29/21	94434	09292021A	25	MS	MS4_7800AQA
7439-92-1	Lead	0.75	760	1	100	125	09/29/21	94434	09292021A	25	MS	MS4_7800AQA

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:	AD26227-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	TWP01	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	9/24/2021	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	390	1	100	50	09/29/21	94434	A27676B3	13	P	PEICP3A
7439-97-6	Mercury	0.20	3.2	1	25	25	09/28/21	94434	H27676A	19	CV	HGCV4A
7440-02-0	Nickel	10	61	1	100	50	09/29/21	94434	A27676B3	13	P	PEICP3A
7440-66-6	Zinc	25	1400	1	100	50	09/29/21	94434	A27676B3	13	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1

Inorganic Analysis Data Sheet

Sample ID:	AD26227-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	TWP02	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	9/24/2021	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	5.8	1	100	125	09/29/21	94434	09292021A	26	MS	MS4_7800AQA
7439-92-1	Lead	7.5	1900	10	100	125	09/29/21	94434	09292021A	32	MS	MS4_7800AQA

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:	AD26227-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	TWP02	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	9/24/2021	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	540	1	100	50	09/29/21	94434	A27676B3	14	P	PEICP3A
7439-97-6	Mercury	0.20	2.1	1	25	25	09/28/21	94434	H27676A	20	CV	HGCV4A
7440-02-0	Nickel	10	300	1	100	50	09/29/21	94434	A27676B3	14	P	PEICP3A
7440-66-6	Zinc	25	2500	1	100	50	09/29/21	94434	A27676B3	14	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/29/21
Data File: A27676A3
Prep Batch: 94434
Reporting Limits Used: 200.7/200.8/245.1
Instrument: PEICP3A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092411

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-352951-8	CCB V-352951-12	CCB V-352951-20	CCB V-352951-30	MB 94434 (0.5)-13
Barium	.05 U	.05 U	.05 U	.05 U	.025 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
Nickel	.02 U	.02 U	.02 U	.02 U	.01 U
Zinc	.05 U	.05 U	.05 U	.05 U	.025 U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/29/21
Data File: A27676B3
Prep Batch: 94434
Reporting Limits Used: 200.7/200.8/245.1
Instrument: PEICP3A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092411

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-352951-8	CCB V-352951-12	CCB V-352951-19
Copper	.05 U	.05 U	.05 U
Nickel	.02 U	.02 U	.02 U
Zinc	.05 U	.05 U	.05 U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/29/21
Data File: WW09292021A
Prep Batch: 94434
Reporting Limits Used: 200.7/200.8/245.1
Instrument: MS4_7800AQA
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092411

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-357467-12	CCB V-357467-24	CCB V-357467-31	CCB V-357467-35	MB 94434-13
Antimony	2 U	2 U	2 U	2 U	2.5 U
Arsenic	.8 U	.8 U	.8 U	.8 U	1 U
Beryllium	.6 U	.6 U	.6 U	.6 U	.75 U
Cadmium	.8 U	.8 U	.8 U	.8 U	1 U
Lead	.6 U	.6 U	.6 U	.6 U	.75 U
Selenium	4 U	4 U	4 U	4 U	5 U
Silver	.6 U	.6 U	.6 U	.6 U	.75 U
Thallium	1.2 U	1.2 U	1.2 U	1.2 U	1.5 U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/28/21
Data File: H27676A
Prep Batch: 94434
Reporting Limits Used: 200.7/200.8/245.1
Instrument: HGCV4A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092411

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB-10	CCB-22	MB 94434 (1)-11
Mercury	.2U	.2U	.2U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD26227-001
Matrix Aqueous
Client SampleID: TWP01

Project Number: 1092411
Received Date: 9/24/2021
Collect Date: 9/24/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Carbonaceous Bod, 5 Day	CBOD-5-MUR	1	ND	MG/L	2.0	09/24/21	09/29/21
Chloride	CHLORIDE-ICW	1	29	mg/L	2.0	09/24/21	09/24/21
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.020	09/28/21	09/28/21
Flash Point	FLASH POINT	1	>141	Deg. F			09/29/21
SGT-HEM (Non-Polar Material)	HEM-NPM	1	ND	mg/L	4.8	09/28/21	09/29/21
Nitrite	NO2-ICW	1	ND	mg/L	1.0	09/24/21	09/24/21
Nitrate	NO3-ICW	1	ND	mg/L	1.0	09/24/21	09/24/21
pH	PH-WATER-MUR	1	8.1	pH			09/28/21
Temperature	PH-WATER-MUR	1	22.0	C			09/28/21
Total Solids @ 103-105 C	TS-MUR	1	780	mg/l	40	09/27/21	09/28/21
Total Suspended Solids @ 103-105	TSS-MUR	1	410	mg/l	20	09/28/21	09/28/21

Lab#: AD26227-002
Matrix Aqueous
Client SampleID: TWP02

Project Number: 1092411
Received Date: 9/24/2021
Collect Date: 9/24/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Carbonaceous Bod, 5 Day	CBOD-5-MUR	1	ND	MG/L	2.0	09/24/21	09/29/21
Chloride	CHLORIDE-ICW	20	470	mg/L	40	09/29/21	09/29/21
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.020	09/28/21	09/28/21
Flash Point	FLASH POINT	1	>141	Deg. F			09/29/21
SGT-HEM (Non-Polar Material)	HEM-NPM	1	ND	mg/L	4.8	09/28/21	09/29/21
Nitrite	NO2-ICW	1	ND	mg/L	1.0	09/24/21	09/24/21
Nitrate	NO3-ICW	1	ND	mg/L	1.0	09/24/21	09/24/21
pH	PH-WATER-MUR	1	7.9	pH			09/28/21
Temperature	PH-WATER-MUR	1	23.0	C			09/28/21
Total Solids @ 103-105 C	TS-MUR	1	4300	mg/l	40	09/27/21	09/28/21
Total Suspended Solids @ 103-105	TSS-MUR	1	3100	mg/l	67	09/28/21	09/28/21

Analysis Type: FLASH-PT

Batch Number: FLASH-PT-734

Units: Deg. F

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-09/29/21	81	90-110	NA	82 3	102	NA	
DUP	AD26227-001	0	NA	20	#Error	NA	NA	Nc

Calibration Curve Information

Analytical Method(s)

EPA 1010A

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Obs FP	Press	p-Xylene	Prep Date	Prep By	Anal Date	Anal By
CAL-01-09/29/21	CAL-01		82		100	82 3	82 0	755	82.3			09/29/21	SDL
AD26227-001	DUP		>141		100	0	>141	755	82.3			09/29/21	SDL
AD26227-001	Sample		>141		100	0	>141	755	82.3			09/29/21	SDL
AD26227-002	Sample		>141		100	0	>141	755	82.3			09/29/21	SDL
AD26286-001	Sample		>141		100	0	>141	755	82.3			09/29/21	SDL
AD26279-002	Sample		>141		100	0	>141	755	82.3			09/29/21	SDL

BR
9/29/21

9/30/21

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)

Oil & Grease Water HEM 1664				Analyst	KS		
Batch	1091						
Date	9/29/2021						
				True value	Result	% REC	Limits	Flags
			LCS	40.00	34.5	86.2	78-114	
			LCSD	40.00	34.7	86.7	78-114	
					LCS RPD	0.6	18	
				Theoretical				
			MS	43.5	41.3	95.0	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	6.0160	6.0171	1.1	1.100	5.000	0.0330
LCS	1000	6.0186	6.0531	34.5	34.500	5.000	1.0350
AD26240-002 MS	920	6.0450	6.0830	38.0	41.304	5.435	1.2391
LCSD	1000	5.9964	6.0311	34.7	34.700	5.000	1.0410
AD26240-002	850	6.0670	6.0674	0.4	0.471	5.882	0.0141
AD26240-001	920	5.9967	6.0004	3.7	4.022	5.435	0.1207
AD26232-001	920	6.0291	6.0354	6.3	6.848	5.435	0.2054
AD26227-001	1050	6.0281	6.0287	0.6	0.571	4.762	0.0171
AD26227-002	1050	5.9882	5.9887	0.5	0.476	4.762	0.0143
AD26176-001	940	6.0321	6.0326	0.5	0.532	5.319	0.0160
AD26169-001	920	6.0787	6.0823	3.6	3.913	5.435	0.1174
AD26272-001	940	6.0113	6.0124	1.1	1.170	5.319	0.0351
AD26272-009	920	6.0379	6.0381	0.2	0.217	5.435	0.0065

KS 9/30/21

Analysis Type: TS

Batch Number: TS-599

Units: mg/l

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26176-001	0	NA	5	1672	NA	1.7	
LCS	LCS	300	80-120	NA	296	99	NA	
LCSD	LCSD	300	80-120	5	284	95	4.1	

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-1-09/27/21	MB	MB-1-09/27/21	ND	40	100	0	40.7148	40.7148	25	09/27/21	BCT	09/28/21	BCT
LCS	LCS	MB-1-09/27/21	300	40	100	296	34.8775	34.8849	25	09/27/21	BCT	09/28/21	BCT
LCSD	LCSD	MB-1-09/27/21	280	40	100	284	39.1445	39.1516	25	09/27/21	BCT	09/28/21	BCT
AD26176-001	DUP	MB-1-09/27/21	1700	40	100	1672	41.2504	41.2922	25	09/27/21	BCT	09/28/21	BCT
AD26176-001	Sample	MB-1-09/27/21	1700	40	100	1700	30.0981	30.1406	25	09/27/21	BCT	09/28/21	BCT
AD26227-001	Sample	MB-1-09/27/21	780	40	100	776	31.4957	31.5151	25	09/27/21	BCT	09/28/21	BCT
AD26227-002	Sample	MB-1-09/27/21	4300	40	100	4304	40.1801	40.2877	25	09/27/21	BCT	09/28/21	BCT

9/30/21

9/29/21

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

5-DAY CBOD MUR

Batch # 918
Analyst: BCT/JW
Date/Time Initial: 9/24/2021 15:50
Date/Time Final: 9/29/2021 14:00

* 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
† % Diff should be <= 30

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
217	Blank w/o seed	300	0		8.19	8.03	0.160		
218	Blank w/o seed	300	0		8.21	8.06	0.150	0.155	
219	Blank w/ seed	300	2	0.16	8.20	7.50	0.700		
220	Blank w/ seed	300	2	0.16	8.22	7.38	0.840		0.770
221	Seed Control	300	6	0.16	8.19	5.50	2.690		
222	Seed Control	300	8	0.16	8.16	4.33	3.830		
223	Seed Control	300	10	0.16	8.13	3.28	4.850		0.941

	result(mg/L)	%RPD	Flag
sample	#DIV/0!		
sample dup	#DIV/0!	#DIV/0!	

	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	† % Diff
224	Hach GGA	6	2	0.16	8.21	3.36	4.85	3.909	Y	195.431		
225	Hach GGA	6	2	0.16	8.20	3.51	4.69	3.749	Y	187.431		
226	Hach GGA	6	2	0.16	8.20	3.48	4.72	3.779	Y	188.931	190.597	4.18
227	AD26227-001	10	2	0.16	8.14	6.97	1.17	0.229	N	NV		
228	AD26227-001	50	2	0.16	7.89	7.03	0.86	-0.081	N	NV		
229	AD26227-001	100	2	0.16	7.56	6.28	1.28	0.339	N	NV		
230	AD26227-001	300	2	0.16	6.57	5.11	1.46	0.519	Y	NV	#DIV/0!	0
231	AD26227-002	10	2	0.16	8.09	7.03	1.06	0.119	N	NV		
232	AD26227-002	50	2	0.16	7.52	6.80	0.72	-0.221	N	NV		
233	AD26227-002	100	2	0.16	6.83	6.03	0.80	-0.141	N	NV		
234	AD26227-002	300	2	0.16	4.46	3.20	1.26	0.319	Y	NV	#DIV/0!	0
235	ad26227-002 DUP	10	2	0.16	8.03	7.03	1.00	0.059	N	NV		
236	ad26227-002 DUP	50	2	0.16	7.57	7.11	0.46	-0.481	N	NV		
237	ad26227-002 DUP	100	2	0.16	6.86	5.28	1.58	0.639	Y	NV		
238	ad26227-002 DUP	300	2	0.16	4.50	3.37	1.13	0.189	Y	NV	#DIV/0!	0

BD 9/30/21

Analysis Type: PH-W

Batch Number: PH-W-1227

Units: pH

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26227-001	0	NA	20	8.16	NA	1.2	
LCS	LCS	4.4	75-125	NA	4.46	101	NA	

Calibration Curve Information

Analytical Method(s)

SM4500-H+B11

Sam #	Type	MB	Result	RL	Per Sol	Full Result	PH	TEMP	Prep Date	Prep By	Anal Date	Anal By
LCS	LCS		4.5		100	4.46	4.46	24.0			09/28/21	BCT
AD26227-001	DUP		8.2		100	8.16	8.16	22.6			09/28/21	BCT
AD26227-001	Sample		8.1		100	8.06	8.06	22.0			09/28/21	BCT
AD26227-002	Sample		7.9		100	7.89	7.89	23.0			09/28/21	BCT
AD26240-001	Sample		7.4		100	7.38	7.38	22.9			09/28/21	BCT
AD26240-002	Sample		7.7		100	7.68	7.68	22.4			09/28/21	BCT

BT 9/30/21

9/30/21

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

Batch Number: TSS-1951

Units: mg/l

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26220-001	0	NA	5	1.2	NA	NA	Nc
LCS	LCS	600	80-120	NA	596.8	99	NA	
LCSD	LCSD	600	80-120	5	596.8	99	0	

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-1-09/28/21	MB	MB-1-09/28/21	ND	4.0	100	0	1.3425	1.3425	250	09/28/21	BCT	09/28/21	BCT
LCS	LCS	MB-1-09/28/21	600	4.0	100	596.8	1.3388	1.4880	250	09/28/21	BCT	09/28/21	BCT
LCSD	LCSD	MB-1-09/28/21	600	4.0	100	596.8	1.3613	1.5105	250	09/28/21	BCT	09/28/21	BCT
AD26220-001	DUP	MB-1-09/28/21	ND	4.0	100	1.2	1.3620	1.3623	250	09/28/21	BCT	09/28/21	BCT
AD26220-001	Sample	MB-1-09/28/21	ND	4.0	100	0.4	1.3471	1.3472	250	09/28/21	BCT	09/28/21	BCT
AD26216-001	Sample	MB-1-09/28/21	49	4.0	100	48.8	1.3416	1.3538	250	09/28/21	BCT	09/28/21	BCT
AD26219-001	Sample	MB-1-09/28/21	ND	4.0	100	2.8	1.3500	1.3507	250	09/28/21	BCT	09/28/21	BCT
AD26227-001	Sample	MB-1-09/28/21	410	20	100	412	1.3335	1.3541	50	09/28/21	BCT	09/28/21	BCT
AD26227-002	Sample	MB-1-09/28/21	3100	67	100	3126.7	1.3409	1.3878	15	09/28/21	BCT	09/28/21	BCT
AD26231-001	Sample	MB-1-09/28/21	460	40	100	464	1.3564	1.3680	25	09/28/21	BCT	09/28/21	BCT
AD26232-003	Sample	MB-1-09/28/21	46	4.0	100	46.4	1.3481	1.3597	250	09/28/21	BCT	09/28/21	BCT
AD26242-001	Sample	MB-1-09/28/21	4.8	4.0	100	4.8	1.3281	1.3293	250	09/28/21	BCT	09/28/21	BCT
AD26257-001	Sample	MB-1-09/28/21	ND	4.0	100	0.4	1.3472	1.3473	250	09/28/21	BCT	09/28/21	BCT

BM 9/30/21

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: HEX-CR-W

Batch Number: HEX-CR-W-923

Units: mg/l

Calibration Curve Information

Cal Curve Date: 09/28/21

Concentration:	Abs/Area
0	0
0.02	0.024
0.05	0.057
0.25	0.296
0.5	0.571
0.75	0.789
1	1.063

Slope: 1.059119
Intercept: 0.01115212
Rsquared: 0.9991
Date Performed: 09/28/21

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-09/28/21	0.02	50-150	NA	0.0102424	51	NA	
CCV	CCV-3	0.5	90-110	NA	0.5295419	106	NA	
CCV	CCV-2	0.5	90-110	NA	0.5295419	106	NA	
CCV	CCV-1	0.5	90-110	NA	0.5267093	105	NA	
DUP	AD26128-001	0	NA	20	-0.0076971	NA	NA	Nc
ICV	ICV-09/28/21	0.5	95-105	NA	0.5182117	104	NA	
LCS	LCS-4	0.5	75-125	NA	0.5304861	106	NA	
LCS	LCS-3	0.5	75-125	NA	0.5285977	106	NA	
LCS	LCS-2	0.5	75-125	NA	0.5314303	106	NA	
LCS	LCS	0.5	75-125	NA	0.5295419	106	NA	
MS	AD26128-001	0.5	75-125	NA	0.5097141	102	NA	
MSD	AD26128-001	0.5	75-125	20	0.5097141	102	0	

Analytical Method(s)

SM3500-CrB11

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-01-09/28/21	CAL-01		0.010		100	0.010242	0.022	0	1	1	1			09/28/21	JMP
MB-1-09/28/21	MB	MB-1-09/28/21	ND	0.020	100	-0.009585	0.001	0	1	10	10	09/28/21	JMP	09/28/21	JMP
LCS	LCS	MB-1-09/28/21	0.53	0.020	100	0.52954	0.572	0	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26128-001	Sample	MB-1-09/28/21	ND	0.020	100	-0.008641	-0.002	-0.004	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26128-001	DUP	MB-1-09/28/21	ND	0.020	100	-0.007697	-0.001	-0.004	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26128-001	MS	MB-1-09/28/21	0.51	0.020	100	0.50971	0.547	-0.004	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26128-001	MSD	MB-1-09/28/21	0.51	0.020	100	0.50971	0.547	-0.004	1	10	10	09/28/21	JMP	09/28/21	JMP
CCV-1	CCV	MB-1-09/28/21	0.53		100	0.52671	0.569	0	1	1	1	09/28/21	JMP	09/28/21	JMP
CCB-1	CCB	MB-1-09/28/21	ND	0.020	100	-0.008641	0.002	0	1	1	1	09/28/21	JMP	09/28/21	JMP
AD26174-001	Sample	MB-1-09/28/21	ND	0.020	100	-0.011474	0.001	0.002	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26176-001	Sample	MB-1-09/28/21	ND	0.020	100	-0.011474	0.001	0.002	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26227-001	Sample	MB-1-09/28/21	ND	0.020	100	-0.011474	0.001	0.002	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26227-002	Sample	MB-1-09/28/21	ND	0.020	100	-0.01053	0.012	0.012	1	10	10	09/28/21	JMP	09/28/21	JMP
CCV-2	CCV	MB-1-09/28/21	0.53		100	0.52954	0.572	0	1	1	1	09/28/21	JMP	09/28/21	JMP
CCB-2	CCB	MB-1-09/28/21	ND	0.020	100	-0.008641	0.002	0	1	1	1	09/28/21	JMP	09/28/21	JMP
LCS-2	LCS	MB-1-09/28/21	0.53	0.020	100	0.53143	0.574	0	1	10	10	09/28/21	JMP	09/28/21	JMP
LCS-3	LCS	MB-1-09/28/21	0.53	0.020	100	0.5286	0.571	0	1	10	10	09/28/21	JMP	09/28/21	JMP
LCS-4	LCS	MB-1-09/28/21	0.53	0.020	100	0.53049	0.573	0	1	10	10	09/28/21	JMP	09/28/21	JMP
CCV-3	CCV	MB-1-09/28/21	0.53		100	0.52954	0.572	0	1	1	1	09/28/21	JMP	09/28/21	JMP
CCB-3	CCB	MB-1-09/28/21	ND	0.020	100	-0.009585	0.001	0	1	1	1	09/28/21	JMP	09/28/21	JMP
ICV-09/28/21	ICV		0.52	0.020	100	0.51821	0.560	0	1	1	1		JMP	09/28/21	JMP

BT 9/30/21

JMP 9/28/21

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

Blank Summary

Instrument: IC2

Qc Type: Method Blank Summary Prep Date: 9/24/21

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210914123	9/24/21 15:22	MBW-2794	232	Chloride	ND	2.0
20210914123	9/24/21 15:22	MBW-2794	232	Nitrate	ND	1.0
20210914123	9/24/21 15:22	MBW-2794	232	Nitrite	ND	1.0
20210927121	9/29/21 10:17	MBW-2796	41	Chloride	ND	2.0
20210927121	9/29/21 10:17	MBW-2796	41	Nitrate	ND	1.0
20210927121	9/29/21 10:17	MBW-2796	41	Nitrite	ND	1.0

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210914123	9/14/21 17:20	ICB	8	Chloride	ND	2.0
20210914123	9/14/21 17:20	ICB	8	Nitrate	ND	1.0
20210914123	9/14/21 17:20	ICB	8	Nitrite	ND	1.0
20210927121	9/27/21 17:14	ICB	8	Chloride	ND	2.0
20210927121	9/27/21 17:14	ICB	8	Nitrate	ND	1.0
20210927121	9/27/21 17:14	ICB	8	Nitrite	ND	1.0

Qc Type: CCB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210914123	9/24/21 11:40	CCB	225	Chloride	ND	2.0
20210914123	9/24/21 18:05	CCB	238	Chloride	ND	2.0
20210914123	9/24/21 23:32	CCB	250	Chloride	ND	2.0
20210914123	9/24/21 11:40	CCB	225	Nitrate	ND	1.0
20210914123	9/24/21 18:05	CCB	238	Nitrate	ND	1.0
20210914123	9/24/21 23:32	CCB	250	Nitrate	ND	1.0
20210914123	9/24/21 11:40	CCB	225	Nitrite	ND	1.0
20210914123	9/24/21 18:05	CCB	238	Nitrite	ND	1.0
20210914123	9/24/21 23:32	CCB	250	Nitrite	ND	1.0
20210927121	9/29/21 09:49	CCB	40	Chloride	ND	2.0
20210927121	9/29/21 15:33	CCB	52	Chloride	ND	2.0
20210927121	9/29/21 20:59	CCB	64	Chloride	ND	2.0
20210927121	9/29/21 09:49	CCB	40	Nitrate	ND	1.0
20210927121	9/29/21 15:33	CCB	52	Nitrate	ND	1.0
20210927121	9/29/21 20:59	CCB	64	Nitrate	ND	1.0
20210927121	9/29/21 09:49	CCB	40	Nitrite	ND	1.0
20210927121	9/29/21 15:33	CCB	52	Nitrite	ND	1.0
20210927121	9/29/21 20:59	CCB	64	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.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Hampton Clarke-Veritech

Project # 1092411

COCID#7427

SGS Job Number: JD32269

Sampling Date: 09/24/21

Report to:

Hampton Clarke-Veritech
175 Route 46 West
Fairfield, NJ 07004
SubResults@HCVLab.com; MStone@HCVLab.com

ATTN: Maureen Stone

Total number of pages in report: 12

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.

Mike Earp
General Manager

Client Service contact: Shalini Williams 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 (ANAB L2248)

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Test results relate only to samples analyzed.

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Haz. - 541

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how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Summary of Hits **4**
Section 3: Sample Results **5**
3.1: JD32269-1: AD26227-001 SB 02 6
3.2: JD32269-2: AD26227-002 SB 09 7
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: Sample Tracking Chronicle 11
4.3: Internal Chain of Custody 12

SGS North America Inc.

Sample Summary

Hampton Clarke-Veritech

Job No: JD32269

Project # 1092411
Project No: COCID#7427

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD32269-1	09/24/21	07:45		09/27/21	AQ	Water	AD26227-001 SB 02
JD32269-2	09/24/21	11:00		09/27/21	AQ	Water	AD26227-002 SB 09

Summary of Hits

Job Number: JD32269
Account: Hampton Clarke-Veritech
Project: Project # 1092411
Collected: 09/24/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD32269-1	**AD26227-001 SB 02**					
Nitrogen, Total Kjeldahl		0.23	0.20		mg/l	EPA 351.2/LACHAT
JD32269-2	**AD26227-002 SB 09**					
Nitrogen, Total Kjeldahl		0.59	0.20		mg/l	EPA 351.2/LACHAT

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AD26227-001 SB 02		
Lab Sample ID:	JD32269-1	**Date Sampled:**	09/24/21
Matrix:	AQ - Water	**Date Received:**	09/27/21
		Percent Solids:	n/a
Project:	Project # 1092411		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Total Kjeldahl	0.23	0.20	mg/l	1	09/30/21 19:00	EB	EPA 351.2/LACHAT

RL = Reporting Limit

Report of Analysis

Client Sample ID:	AD26227-002 SB 09		
Lab Sample ID:	JD32269-2	**Date Sampled:**	09/24/21
Matrix:	AQ - Water	**Date Received:**	09/27/21
		Percent Solids:	n/a
Project:	Project # 1092411		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Total Kjeldahl	0.59	0.20	mg/l	1	09/30/21 19:00	EB	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

JD 32269

Pg 1 of 1

Hampton-Clarke, Inc
~~175 US Hwy 46 West~~
Fairfield, New Jersey, 07004
Ph 800-426-9992 Fax:973-439-1458

Report To:
Hampton-Clarke, Inc
Attn:Reporting
175 Route 46 West
Fairfield, New Jersey 07004

Invoice To:
~~Hamp~~ton-Clarke, Inc.:
Attn:Accounting
175 Route 46 West
Fairfield, New Jersey 07004

Project #: 1092411

CocID#: 7427

FINAL RESULTS TO: subresults@hcvlab.com
PRELIM/VERBAL RESULTS TO: subresults@hcvlab.com

TQ for CS 9/24/21

EDD: NEW JERSEY HAZRESULT OR EQUIS EZEDD REQUIRED FOR ALL DATA SUBMITTALS!

Turn Around Time: Standard **Preliminary Due Date:** 10/11/2021
Report Type: NYDOH-CatA (STAND **Hard Copy Due Date:** 10/19/2021

	Sample Number:	Client ID	Matrix:	Date Collected:	Time Collected:	Analysis Requested
1	AD26227-001	SB 02	Aqueous	9/24/2021	7:45:00 AM	TKN Method:EPA 351
2	AD26227-002	SB 09	Aqueous	9/24/2021	11:00:00 AM	TKN Method:EPA 351

631

Initial Assessment KG 3B
Label Verification_____

Relinquished By:	Accepted By:	Date:	Time:	Comments, Notes, Special Requirements, HAZARDS
John Burrell	[illegible]	9/27/21	12:00	

Cooler Temp: 2.9 CIP

HC Lab Use Only: **Subcontracted Lab Id and Contact:** ACCUTEST SGS, Sample Receiving, (732) 329-0200, LabID: H, Fresh Ponds Corporate Village, Bldg. B, 2235 Route 130, Dayt

SGS Sample Receipt Summary

Job Number: JD32269 **Client:** HAMPTON-CLARKE , INC. **Project:** 1092411

Date / Time Received: 9/27/2021 12:00:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.9);

Cooler Temps (Corrected) °C: Cooler 1: (2.0);

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:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

JD32269: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Hampton Clarke-Veritech

Job No: JD32269

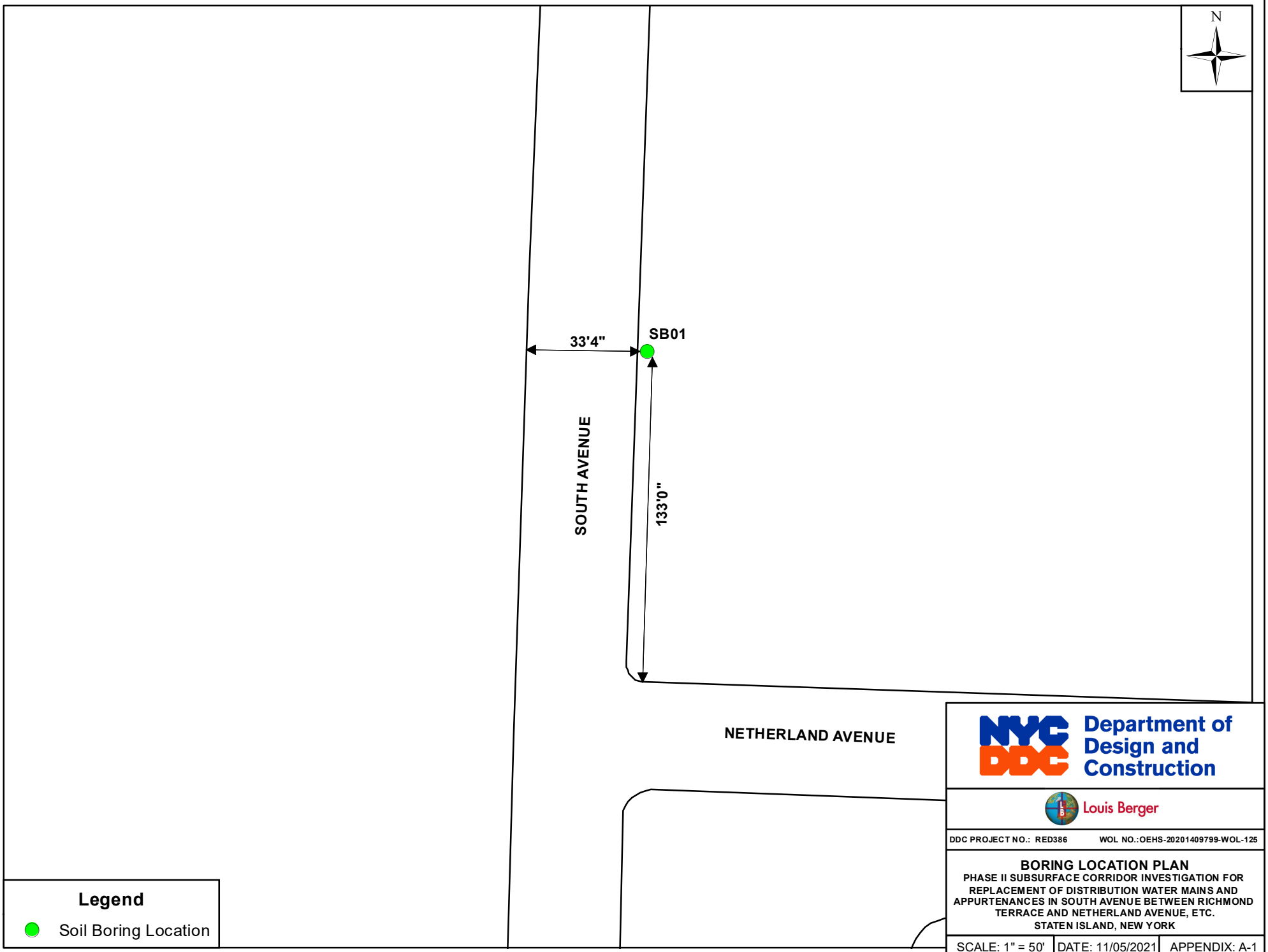
Project # 1092411
Project No: COCID#7427

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD32269-1	Collected: 24-SEP-21 07:45 By: AD26227-001 SB 02		Received: 27-SEP-21 By: TS			
JD32269-1	EPA 351.2/LACHAT	30-SEP-21 19:00	EB	29-SEP-21	MP	TKN
JD32269-2	Collected: 24-SEP-21 11:00 By: AD26227-002 SB 09		Received: 27-SEP-21 By: TS			
JD32269-2	EPA 351.2/LACHAT	30-SEP-21 19:00	EB	29-SEP-21	MP	TKN

SGS Internal Chain of Custody

Job Number: JD32269
Account: HCVNJF Hampton Clarke-Veritech
Project: Project # 1092411
Received: 09/27/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD32269-1.1	Tyler Strong	Secured Storage	09/27/21 17:23	Return to Storage
JD32269-1.1	Secured Storage	Todd Shoemaker	09/28/21 11:48	Retrieve from Storage
JD32269-1.1	Todd Shoemaker	Secured Staging Area	09/28/21 11:48	Return to Storage
JD32269-1.1	Secured Staging Area	Mahendra Patel	09/29/21 07:53	Retrieve from Storage
JD32269-1.1	Mahendra Patel	Secured Storage	09/29/21 18:26	Return to Storage
JD32269-2.1	Tyler Strong	Secured Storage	09/27/21 17:23	Return to Storage
JD32269-2.1	Secured Storage	Todd Shoemaker	09/28/21 11:48	Retrieve from Storage
JD32269-2.1	Todd Shoemaker	Secured Staging Area	09/28/21 11:48	Return to Storage
JD32269-2.1	Secured Staging Area	Mahendra Patel	09/29/21 07:53	Retrieve from Storage
JD32269-2.1	Mahendra Patel	Secured Storage	09/29/21 18:26	Return to Storage



Department of Design and Construction

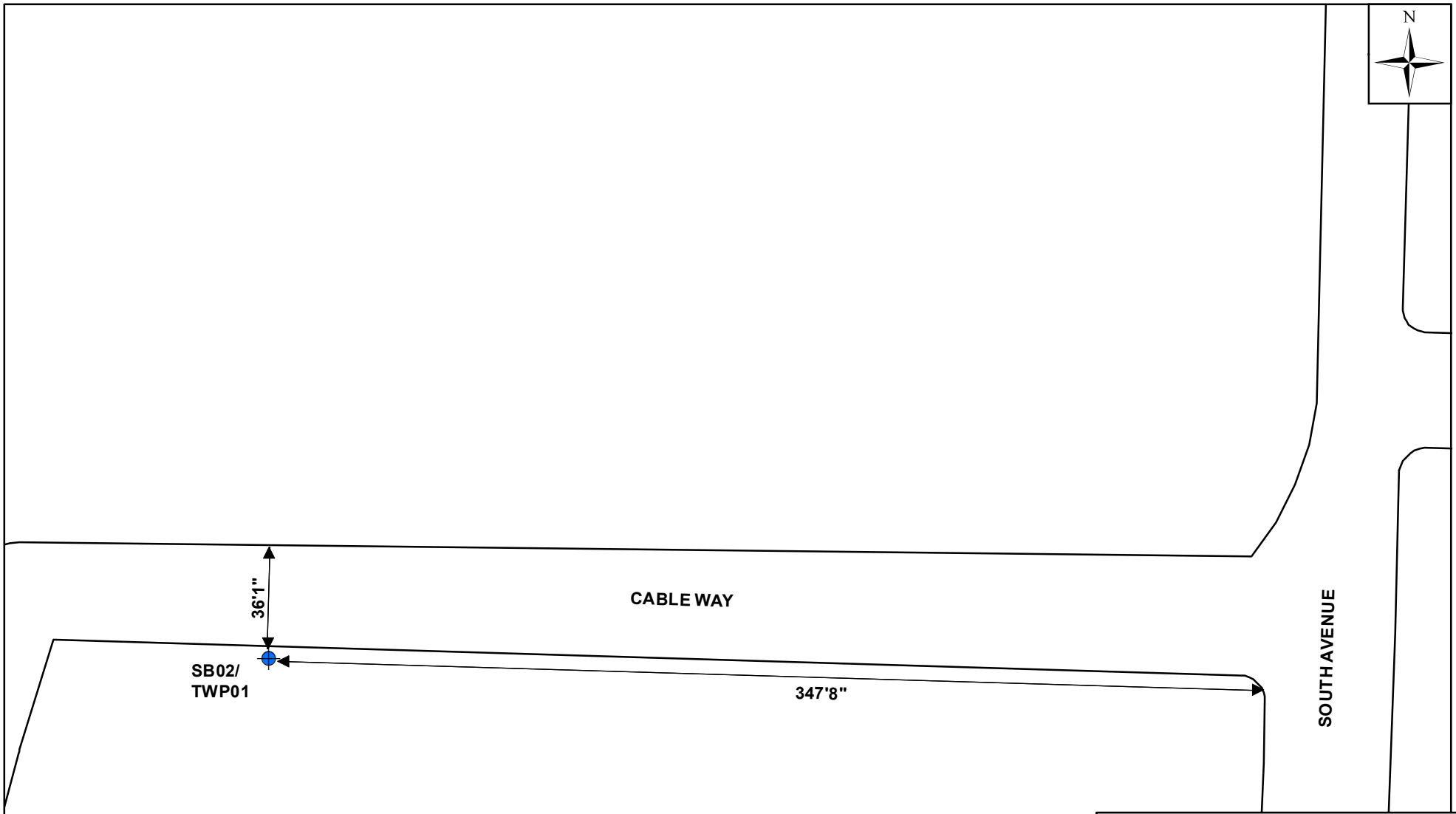
Louis Berger

DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-1



Legend

Soil Boring Location/Temporary Well Point

Department of Design and Construction

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BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-2

Department of Design and Construction

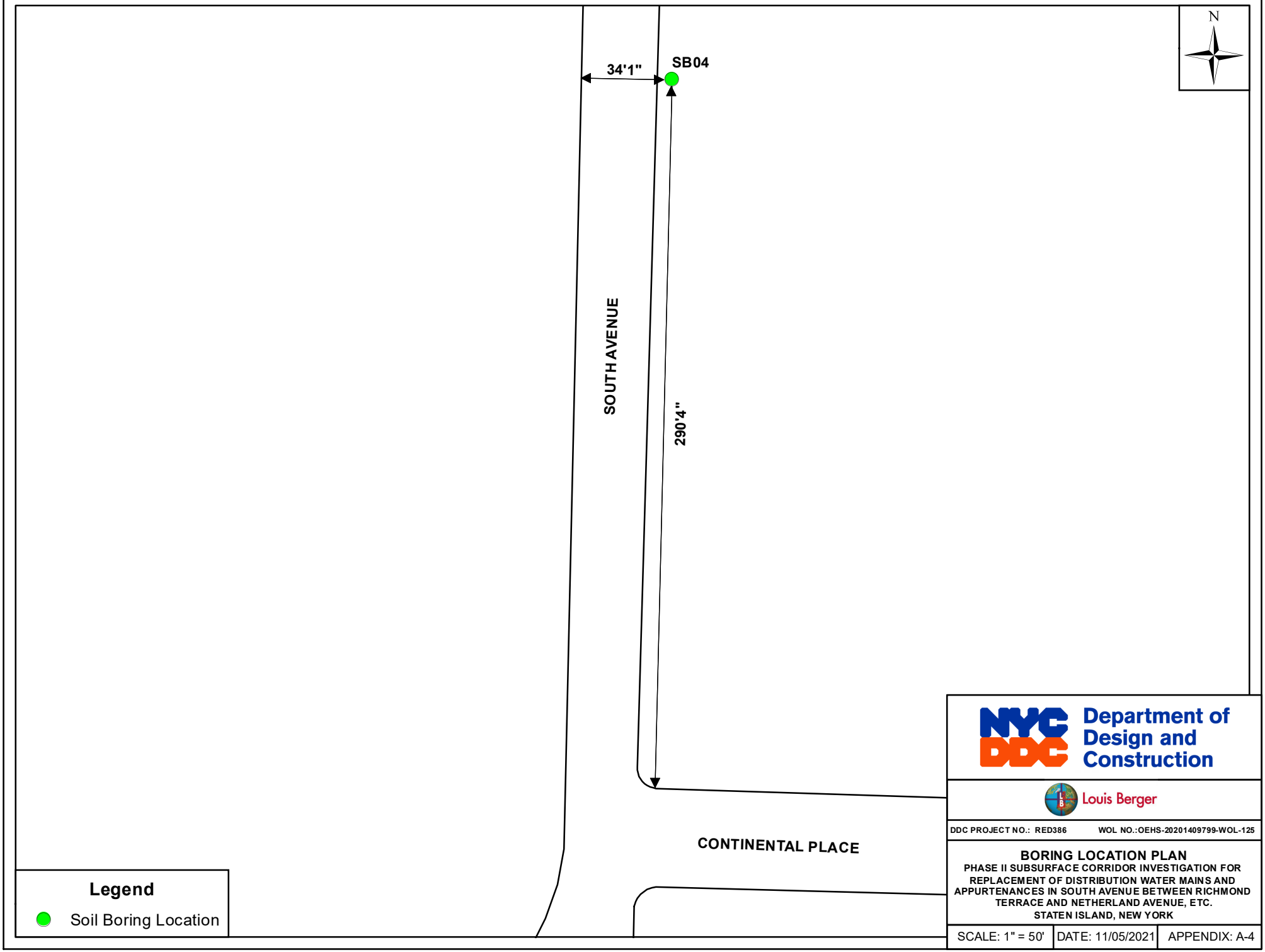
Louis Berger

DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-3



Department of Design and Construction

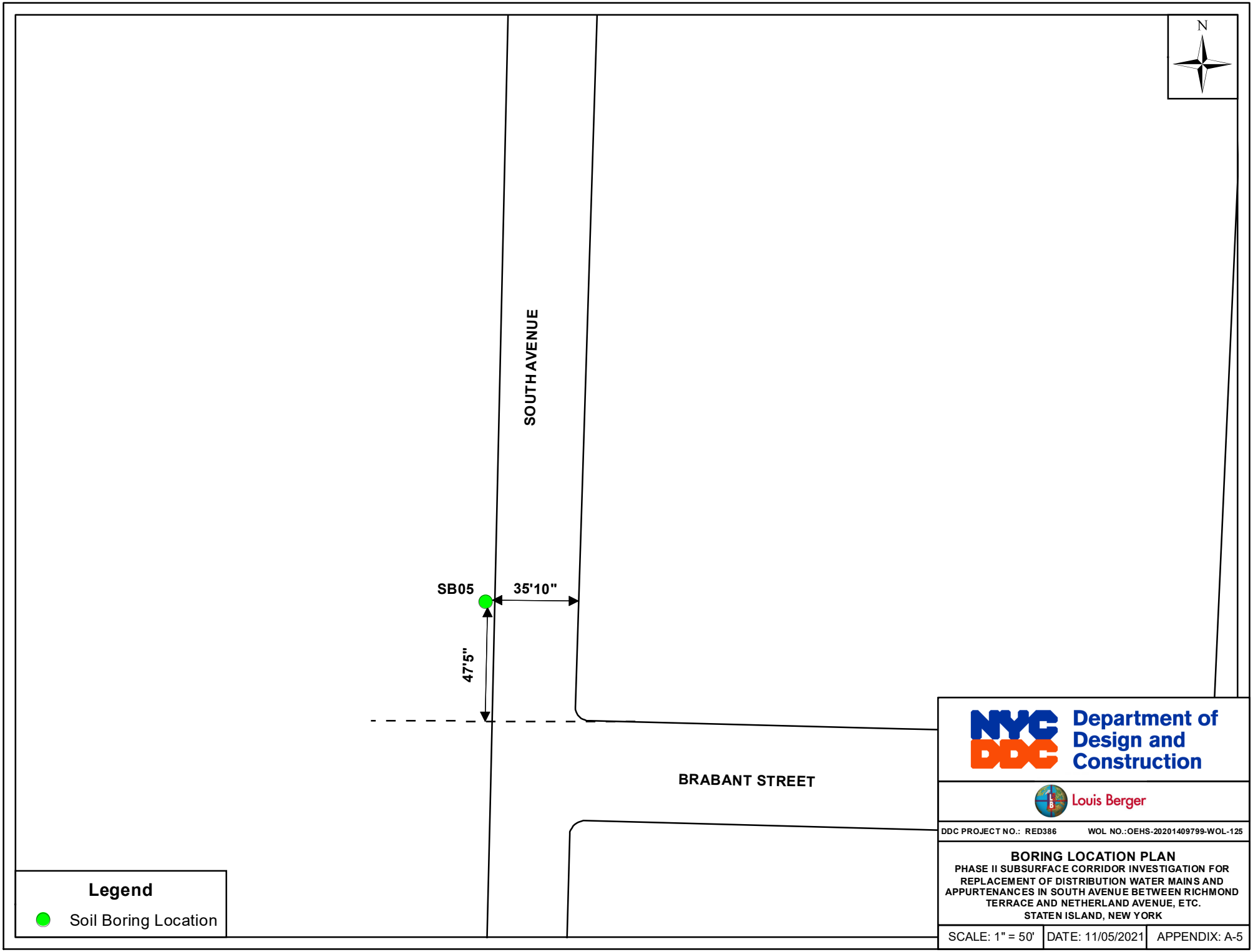
Louis Berger

DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-4



Department of Design and Construction

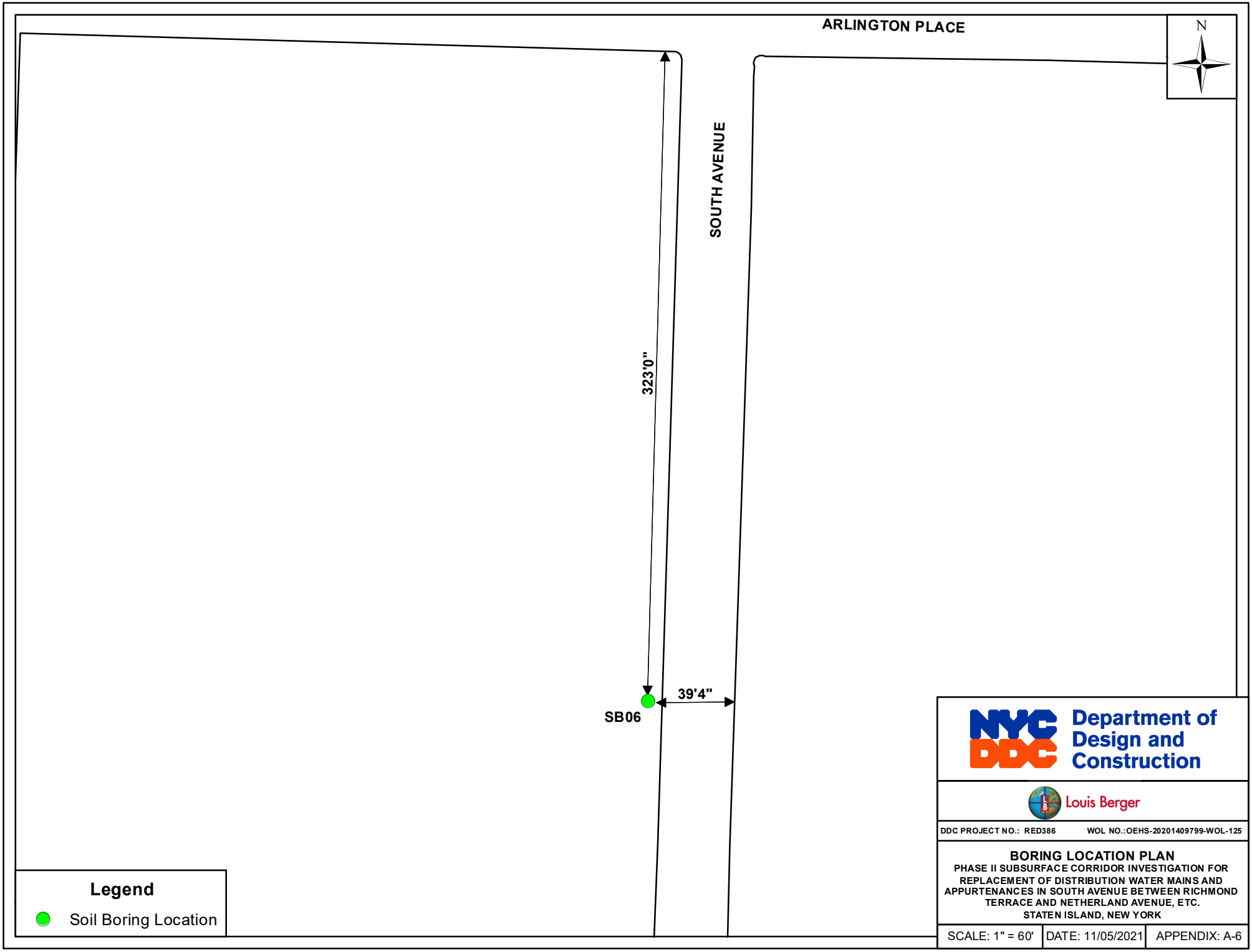
Louis Berger

DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-5



Department of Design and Construction

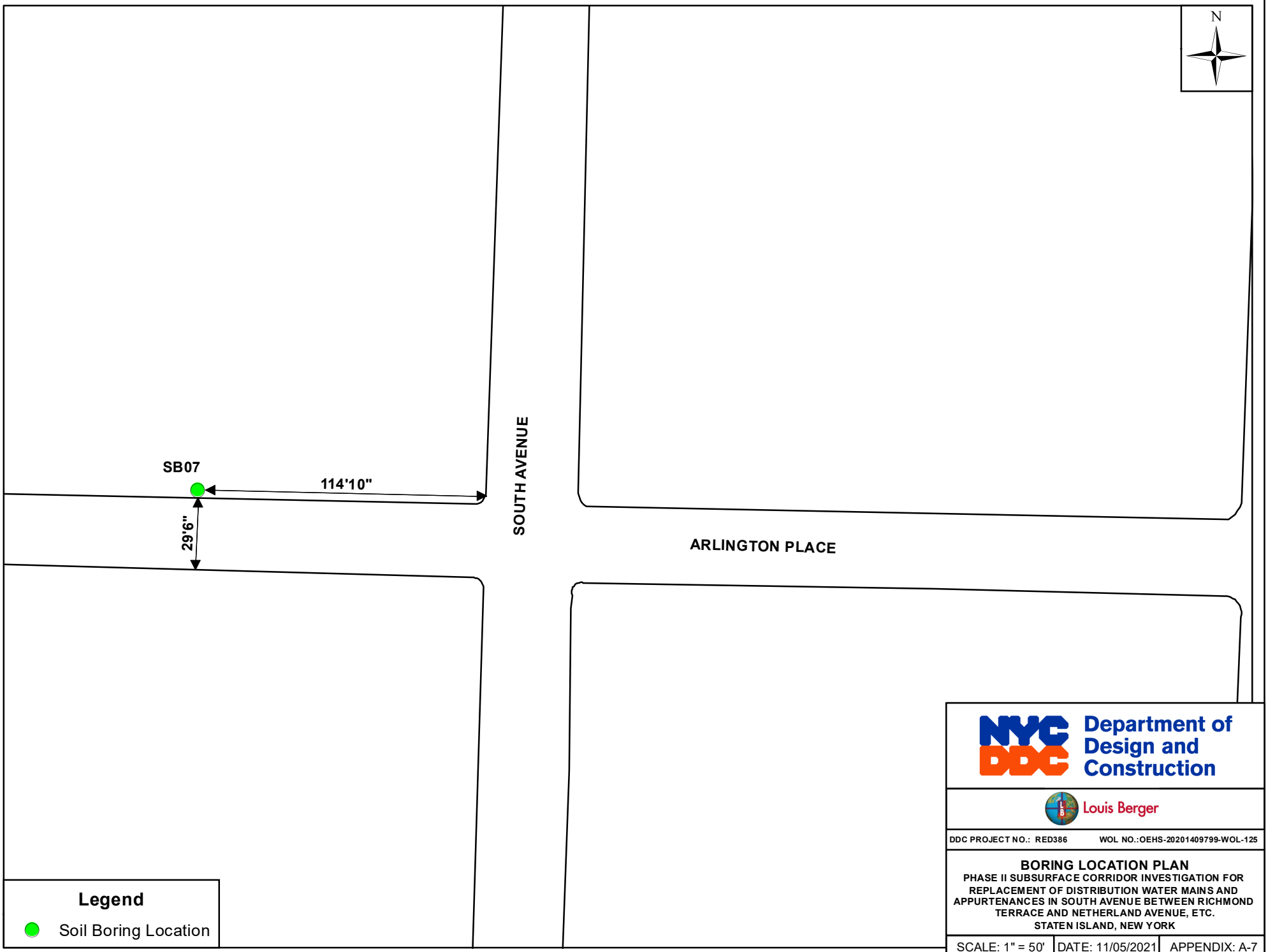
Louis Berger

DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 60'	DATE: 11/05/2021	APPENDIX: A-6



Department of Design and Construction

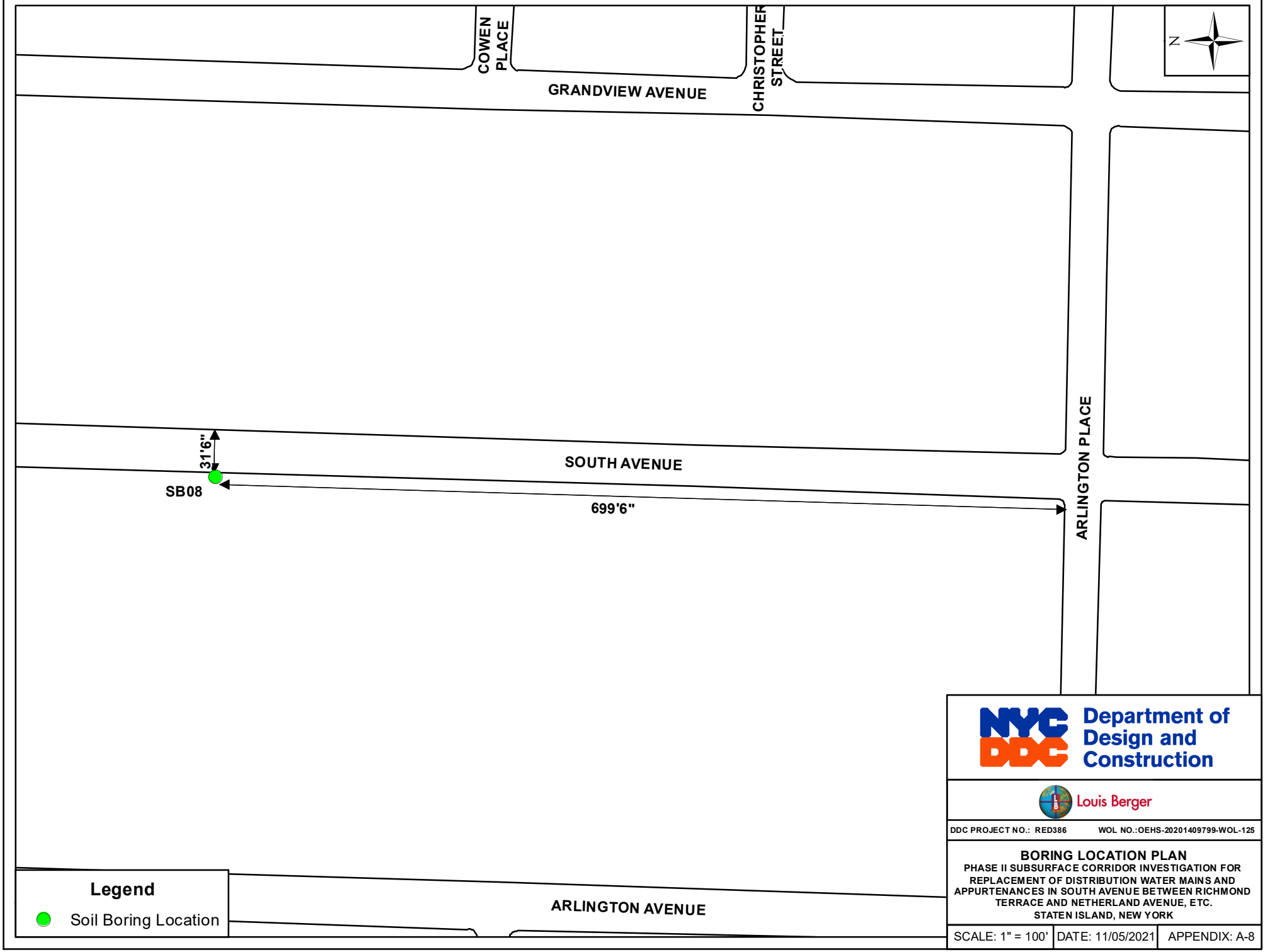
Louis Berger

DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-7



Department of Design and Construction

Louis Berger

DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 100'	DATE: 11/05/2021	APPENDIX: A-8

Department of Design and Construction

Louis Berger

DDC PROJECT NO.: RED386 WOL NO.:OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
STATEN ISLAND, NEW YORK

SCALE: 1" = 50'	DATE: 11/05/2021	APPENDIX: A-9

Drilling Log

Page 1 of 1

BORING NO.: SB01

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
DATE FINISHED:	9/23/2021		
DRIILER:	T. Portillo		
INSPECTOR:	H. August		
NORTHING (ft):	168662.604		
EASTING (ft):	938074.6116		
SURFACE ELEVATION (ft):	N/A		

BOREHOLE DATA		**WELL DATA**	
Diameter (in):	6	**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.):	5.0	**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.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Moderate brown (5YR 3/4), coarse to fine SAND, little Clay, little coarse to fine Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Moderate reddish brown (10R 4/6), coarse to fine SAND, little Silt, little coarse to fine Gravel, moist.	**Sand (Fill). Collected grab sample SB01 from 4.5 to 5.0 ftbg and composite sample SB01 from 0 to 5.0 ftbg.**
▽			FILL			<1	Moderate reddish brown (10R 4/6), coarse to fine SAND, some Clay, saturated.	**Clayey Sand (Fill)**
							Total Depth of Boring 6 feet.	

Depth (feet): 2, 4, 6

Drilling Log

Page 1 of 1

BORING NO.: SB02/TWP01

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
DATE FINISHED:	9/24/2021		

BOREHOLE DATA		WELL DATA			
Diameter (in):	6	**Well Diameter (in):**	N/A	**DRIILER:**	T. Portillo
Total Depth (ft.):	3.5	**Total Depth (ft.):**	N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft):	N/A	**Screen Length (ft):**	N/A	**NORTHING (ft):**	168864.5764
Depth to Water (ft.):	2.5	**Depth to Water (ft.):**	N/A	**EASTING (ft):**	937680.8899
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.
Groundwater sample TWP01 collected from a temporary well point.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Dusky yellowish brown (10YR 2/2) to moderate brown (5YR 4/4), coarse to fine SAND, some coarse to fine Gravel, moist.	**Gravelly Sand (Topsoil)**
▽	2		FILL			<1	Moderate brown (5YR 4/4), coarse to fine GRAVEL, some Silty Clay, saturated Total Depth of Boring 3.5 feet.	**Silty Clayey Gravel (Fill). Collected grab sample SB02 from 2.0 to 2.5 ftbg and composite sample SB02 from 0 to 2.5 ftbg.**
	4 6							

Drilling Log

Page 1 of 1

BORING NO.: SB03

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	168888.7355
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938333.9316
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
			TOPSOIL			<1	Moderate brown (5YR 4/4), coarse to fine SAND, trace coarse to fine Gravel, moist.	**Sand (Topsoil)**
	2		FILL			<1	Light brown (5YR 5/6), coarse to fine SAND, moist.	**Sand (Fill). Collected grab sample SB03 from 5.5 to 6.0 ftbg and composite sample SB03 from 0 to 6.0 ftbg.**
	4							
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB04

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
DATE FINISHED:	9/23/2021		
DRIILER:	T. Portillo		
INSPECTOR:	H. August		
NORTHING (ft):	169273.0528		
EASTING (ft):	938094.8586		
SURFACE ELEVATION (ft):	N/A		

BOREHOLE DATA		**WELL DATA**	
Diameter (in):	6	**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.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Dusky yellowish brown (10YR 2/2), coarse to fine SAND, moist.	**Sand (Topsoil)**
			FILL			<1	Moderate brown (5YR 3/4), CLAY, and coarse to fine Sand, moist.	**Sandy Clay (Fill)**
	2		FILL			<1	Dusky yellowish brown (10YR 2/2), CLAY, little coarse to fine Sand, moist.	**Clay (Fill)**
			FILL			<1	Moderate reddish brown (10R 4/6), CLAY, moist.	**Collected grab sample SB04 from 5.5 to 6.0 ftbg and composite sample SB04 from 0 to 6.0 ftbg.**
	4							
							Total Depth of Boring 6 feet.	
	6							

Drilling Log

Page 1 of 1

BORING NO.: SB05

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	169706.1358
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938063.5828
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
			TOPSOIL			<1	Dusky yellowish brown (10YR 2/2), coarse GRAVEL, and coarse to fine Sand, moist.	**Sandy Gravel (Fill)**
			FILL			<1	Dusky red (5R 3/4), CLAY, trace coarse to fine Sand, some coarse to fine Gravel, moist.	**Gravely Clay (Fill)**
	2		FILL			<1	Dusky red (5R 3/4), CLAY, moist.	**Clay (Fill). Collected grab sample SB05 from 5.5 to 6.0 ftbg and composite sample SB05 from 0 to 6.0 ftbg.**
	4							
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB06

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	170639.9711
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938088.5889
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
			TOPSOIL			<1	Moderate brown (5YR 3/4), coarse to fine SAND, trace coarse to medium Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Pale reddish brown (10R 5/4) to dark yellowish orange (10YR 6/6), Silty CLAY, and coarse to fine Sand, moist.	**Sandy Silty Clay (Fill)**
	2		FILL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, moist.	**Sand (Fill). Collected grab sample SB06 from 5.5 to 6.0 ftbg and composite sample SB06 from 0 to 6.0 ftbg.**
	4							
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB07

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
DATE FINISHED:	9/23/2021		
DRIILER:	T. Portillo		
INSPECTOR:	H. August		
NORTHING (ft):	171001.4348		
EASTING (ft):	937988.6634		
SURFACE ELEVATION (ft):	N/A		

BOREHOLE DATA		**WELL DATA**	
Diameter (in):	6	**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.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Grayish brown (5YR 3/2) to dark yellowish orange (10YR 6/6), coarse to fine SAND, little coarse to medium Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, moist.	**Sand (Fill)**
	2		FILL			<1	Moderate reddish brown (10R 4/6), coarse to fine SAND, moist.	
	4		FILL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, trace fine Sand, moist.	**Silty Clay (Fill). Collected grab sample SB07 from 5.5 to 6.0 ftbg and composite sample SB07 from 0 to 6.0 ftbg.**
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB08

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
BOREHOLE DATA	**WELL DATA**	**DATE FINISHED:**	9/23/2021
Diameter (in): 6	**Well Diameter (in):** N/A	**DRIILER:**	T. Portillo
Total Depth (ft.): 6	**Total Depth (ft.):** N/A	**INSPECTOR:**	H. August
Depth to Refusal (ft): N/A	**Screen Length (ft):** N/A	**NORTHING (ft):**	171697.3649
Depth to Water (ft.): N/A	**Depth to Water (ft.):** N/A	**EASTING (ft):**	938124.4583
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
			TOPSOIL			<1	Dusky yellowish brown (10YR 2/2) to moderate reddish brown (10R 4/6), coarse to fine SAND, little medium to fine Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Moderate reddish brown (10R 4/6), SILT, and fine Sand, little medium to fine Gravel, moist.	**Sandy Silt (Fill)**
	2							
	4							
			FILL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, little fine Sand, moist.	**Silty Clay. Collected grab sample SB08 from 5.5 to 6.0 ftbg and composite sample SB08 from 0 to 6.0 ftbg.**
	6						Total Depth of Boring 6 feet.	

Drilling Log

Page 1 of 1

BORING NO.: SB09/TWP02

LOCATION: Staten Island, NY

CLIENT:	NYC Department of Design and Construction	**PROJECT NO.:**	31402661.100
PROJECT:	Phase II SCI for Replacement Water Mains In South Avenue	**FMS ID#:**	RED386
DRILLING CONTRACTOR:	PAL Environmental Services	**WOL #:**	OEHS-20201409799-WOL-125
DRILLING METHOD:	Airknife and Vactron	**DATE STARTED:**	9/23/2021
DATE FINISHED:	9/24/2021		
DRIILER:	T. Portillo		
INSPECTOR:	H. August		
NORTHING (ft):	172500.7816		
EASTING (ft):	938148.9361		
SURFACE ELEVATION (ft):	N/A		

BOREHOLE DATA		**WELL DATA**	
Diameter (in):	6	**Well Diameter (in):**	N/A
Total Depth (ft.):	3.5	**Total Depth (ft.):**	N/A
Depth to Refusal (ft):	N/A	**Screen Length (ft):**	N/A
Depth to Water (ft.):	3.0	**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.
Groundwater sample TWP02 collected from a temporary well point.

Well Construction	Depth (feet)	Lithology	USCS	Sample Interval	Sample Recovery	PID Reading (ppm)	Description and Stratigraphy	Remarks
			TOPSOIL			<1	Dark yellowish orange (10YR 6/6), coarse to fine SAND, little Silt, trace coarse to fine Gravel, moist.	**Sand (Topsoil)**
			FILL			<1	Moderate reddish brown (10R 4/6), Clayey SILT, trace coarse to fine Sand, trace coarse Gravel, moist.	**Clayey Silt (Fill). Collected grab sample SB09 from 2.5 to 3.0 ftbg and composite sample SB09 from 0 to 3.0 ftbg.**
∇	2		FILL			<1	Moderate reddish brown (10R 4/6), Silty CLAY, trace coarse to fine Sand, trace coarse Gravel, saturated. Total Depth of Boring 3.5 feet.	**Silty Clay (Fill)**
	4							
	6							

Hampton-Clarke
Analytical & Field Services

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WWW.HCVLAB.COM

Project: South Ave

Client PO: 31402661.100

Report To: WSP USA, Inc.
96 Morton St.
8th Floor
New York, NY 10014
Attn: Jon Ganz

Received Date: 9/23/2021

Report Date: 10/22/2021

Deliverables: NYDOH-R

Lab ID: AD26217

Lab Project No: 1092401

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.

Sean Berls - Quality Assurance Officer OR **Jean Revolus - Laboratory Director**

NJ	(07071)	NY	(ELAP11408)	CT	(PH-0671)
PA	(68-00463)	KY	(90124)		

Table of Contents - 1092401

Sample Summary 1

Case Narrative 2

Executive Summary 3

Report of Analysis 8

Reporting Definitions / Data Qualifiers 44

Laboratory Chronicles 45

Chain of Custody Forms 51

- Chain of Custody
- Condition Upon Receipt Forms
- Preservation Documentation Forms (If Applicable)
- Internal Chain Of Custody Records

Volatile Data 57

- Form 1 Sample and Blank Results
- Form 2 Surrogate Recovery
- Form 3 Spike Recovery
- Form 4 Method Blank Summary
- Form 5 Tune Summary
- Form 6,7 Calibration & RT Summary
- Form 8 Internal Standard Area Summary

Base Neutral/Acid Extractable Data 114

- Form 1 Sample and Blank Results
- Form 2 Surrogate Recovery
- Form 3 Spike Recovery
- Form 4 Method Blank Summary
- Form 5 Tune Summary
- Form 6,7 Calibration & RT Summary
- Form 8 Internal Standard Area Summary

PCB Data 209

- Form 1 Sample and Blank Results
- 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

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TPH Data **257**

Form 1 Sample and Blank Results

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 **298**

Form 1 Sample and Blank Results

Form 2 Surrogate Recovery

Form 3 Spike Recovery

Form 4 Method Blank Summary

Form 5 Run Logs & BFB Spectra

Form 6, 7 Calibration Summary

TCLP Metal Data **339**

Form 1 Sample Results

Metals Form 2 Calibration Summary

Metals Form 3 Blank Summary

Metals Form 4 ICP Interference Check Sample Summary

Metals Form 5/7 Spike / LCS Recovery Data

Metals Form 6/9 Duplicate / Serial Dilution Sample Data

Wet Chemistry Data **368**

Form 1 Sample Results

Inorganic Spreadsheet / QC Summary

Miscellaneous Data **382**

Sample Summary

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#	SampleID	Matrix	Collection Date	Receipt Date
AD26217-001	SB09 GRAB	Soil	9/23/2021	9/23/2021
AD26217-002	SB09 COMP	Soil	9/23/2021	9/23/2021
AD26217-003	SB08 GRAB	Soil	9/23/2021	9/23/2021
AD26217-004	SB08 COMP	Soil	9/23/2021	9/23/2021
AD26217-005	SB07 GRAB	Soil	9/23/2021	9/23/2021
AD26217-006	SB07 COMP	Soil	9/23/2021	9/23/2021
AD26217-007	SB06 GRAB	Soil	9/23/2021	9/23/2021
AD26217-008	SB06 COMP	Soil	9/23/2021	9/23/2021
AD26217-009	SB05 GRAB	Soil	9/23/2021	9/23/2021
AD26217-010	SB05 COMP	Soil	9/23/2021	9/23/2021
AD26217-011	SB04 GRAB	Soil	9/23/2021	9/23/2021
AD26217-012	SB04 COMP	Soil	9/23/2021	9/23/2021
AD26217-013	SB03 GRAB	Soil	9/23/2021	9/23/2021
AD26217-014	SB03 COMP	Soil	9/23/2021	9/23/2021
AD26217-015	SB02 GRAB	Soil	9/23/2021	9/23/2021
AD26217-016	SB02 COMP	Soil	9/23/2021	9/23/2021
AD26217-017	SB01 GRAB	Soil	9/23/2021	9/23/2021
AD26217-018	SB01 COMP	Soil	9/23/2021	9/23/2021

HC Case Narrative

Client: WSP USA
Project: South Ave

HC Project: 1092401

This case narrative is in the form of an exception report. Method specific and/or QA/QC anomalies related to this report only are detailed below.

Volatile Organic Analysis:

The VO soil samples were not collected as encores. Any reported sample concentrations below 200 ug/kg may be biased low due to the samples not being collected according to 5035A low-level specifications.

Methylene chloride was recovered in samples AD26217-001, 003, 005, 007, 009, 011, 013, 015, 017 due to possible laboratory contamination.

The Method Blank Spike for batch 96807 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries. Please refer to Form 4 to see which samples are associated with the Method Blank Spike.

The MS/MSD RPD, Matrix Spike and/or Matrix Spike Duplicate for batch 96807 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Base Neutral Analysis:

The Method Blank Spike for batch 95086 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries. Please refer to Form 4 to see which samples are associated with the Method Blank Spike.

PCB Analysis:

Sample AD26206-002 has a surrogate recovery outside QC limits. Please refer to the applicable Form 2 for the recoveries.

Total Petroleum Hydrocarbon Analysis:

The Matrix Spike and/or Matrix Spike Duplicate for batch 95065 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Gasoline Range Organics Analysis:

Data conforms to method requirements.

TCLP Metals Analysis:

The Post Spike for batch 94441 had recoveries outside QC limits. Please refer to the applicable Form 5/7 for the recoveries.

Wet Chemistry Analysis:

Samples AD26217-002, 004, 006, 008, 010, 012, 014, 016, 018 were analyzed for Reactivity using SW-846 7.3. SW-846 7.3 is not a NELAP accredited parameter.

Sean Berls Quality Assurance Officer	Or	Jean Revolus Laboratory Director	10/25/21 Date

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-001 **Sample ID: SB09 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0023	0.0026	EPA 8260D

Lab#: AD26217-002 **Sample ID: SB09 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		6.9	9040C/9045D
Temperature	c		23.6	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.26	EPA 6010D
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-003 **Sample ID: SB08 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0025	0.0063	EPA 8260D

Lab#: AD26217-004 **Sample ID: SB08 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.7	9040C/9045D
Temperature	c		23.3	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.45	EPA 6010D
Benzo[a]anthracene	mg/kg	0.040	0.042	EPA 8270E
Benzo[a]pyrene	mg/kg	0.040	0.040	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.040	0.059	EPA 8270E
Chrysene	mg/kg	0.040	0.047	EPA 8270E
Fluoranthene	mg/kg	0.040	0.082	EPA 8270E
Pyrene	mg/kg	0.040	0.070	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-005 **Sample ID: SB07 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0024	0.0031	EPA 8260D

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-006 **Sample ID: SB07 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		6.2	9040C/9045D
Temperature	c		23.5	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.38	EPA 6010D
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-007 **Sample ID: SB06 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0021	0.0024	EPA 8260D

Lab#: AD26217-008 **Sample ID: SB06 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.8	9040C/9045D
Temperature	c		23.0	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			AN	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.31	EPA 6010D
Lead	mg/l	0.050	0.13	EPA 6010D
Aroclor (Total)	mg/kg	0.027	0.052	EPA 8082A
Aroclor-1260	mg/kg	0.027	0.052	EPA 8082A
Benzo[a]anthracene	mg/kg	0.036	0.13	EPA 8270E
Benzo[a]pyrene	mg/kg	0.036	0.13	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.036	0.22	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.036	0.086	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.036	0.077	EPA 8270E
Chrysene	mg/kg	0.036	0.16	EPA 8270E
Fluoranthene	mg/kg	0.036	0.27	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.036	0.075	EPA 8270E
Phenanthrene	mg/kg	0.036	0.10	EPA 8270E
Pyrene	mg/kg	0.036	0.23	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-009 **Sample ID: SB05 GRAB**

Analyte	Units	RL	Result	Analytical Method
2-Butanone	mg/kg	0.0023	0.016	EPA 8260D
Acetone	mg/kg	0.012	0.090	EPA 8260D
Methylene chloride	mg/kg	0.0023	0.0033	EPA 8260D

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-010 **Sample ID: SB05 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.5	9040C/9045D
Temperature	c		23.3	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.83	EPA 6010D
Lead	mg/l	0.050	0.17	EPA 6010D
Total Petroleum Hydrocarbons	mg/kg	68	85	EPA 8015D
Anthracene	mg/kg	0.038	0.038	EPA 8270E
Benzo[a]anthracene	mg/kg	0.038	0.16	EPA 8270E
Benzo[a]pyrene	mg/kg	0.038	0.16	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.038	0.34	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.038	0.089	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.038	0.081	EPA 8270E
Chrysene	mg/kg	0.038	0.23	EPA 8270E
Fluoranthene	mg/kg	0.038	0.23	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.038	0.087	EPA 8270E
Phenanthrene	mg/kg	0.038	0.055	EPA 8270E
Pyrene	mg/kg	0.038	0.26	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-011 **Sample ID: SB04 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0024	0.0035	EPA 8260D

Lab#: AD26217-012 **Sample ID: SB04 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		8.1	9040C/9045D
Temperature	c		23.1	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.69	EPA 6010D
Total Petroleum Hydrocarbons	mg/kg	71	85	EPA 8015D
Acenaphthylene	mg/kg	0.039	0.047	EPA 8270E
Benzo[a]anthracene	mg/kg	0.039	0.11	EPA 8270E
Benzo[a]pyrene	mg/kg	0.039	0.13	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.039	0.21	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.039	0.082	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.039	0.054	EPA 8270E
Chrysene	mg/kg	0.039	0.13	EPA 8270E
Fluoranthene	mg/kg	0.039	0.16	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.039	0.076	EPA 8270E
Phenanthrene	mg/kg	0.039	0.046	EPA 8270E
Pyrene	mg/kg	0.039	0.18	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-013 **Sample ID: SB03 GRAB**

Analyte	Units	RL	Result	Analytical Method
Methylene chloride	mg/kg	0.0024	0.014	EPA 8260D

Lab#: AD26217-014 **Sample ID: SB03 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.8	9040C/9045D
Temperature	c		23.3	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Total Petroleum Hydrocarbons	mg/kg	67	72	EPA 8015D
Benzo[a]anthracene	mg/kg	0.037	0.12	EPA 8270E
Benzo[a]pyrene	mg/kg	0.037	0.14	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.037	0.19	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.037	0.080	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.037	0.070	EPA 8270E
Chrysene	mg/kg	0.037	0.14	EPA 8270E
Fluoranthene	mg/kg	0.037	0.23	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.037	0.072	EPA 8270E
Phenanthrene	mg/kg	0.037	0.11	EPA 8270E
Pyrene	mg/kg	0.037	0.23	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-015 **Sample ID: SB02 GRAB**

Analyte	Units	RL	Result	Analytical Method
Acetone	mg/kg	0.013	0.033	EPA 8260D
Methylene chloride	mg/kg	0.0026	0.0030	EPA 8260D

HC Executive Summary

Client: WSP USA, Inc. **HC Project #:** 1092401

Project: South Ave

Lab#: AD26217-016 **Sample ID: SB02 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.6	9040C/9045D
Temperature	c		23.2	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	1.4	EPA 6010D
Lead	mg/l	0.050	0.40	EPA 6010D
Nickel	mg/l	0.10	0.17	EPA 6010D
Total Petroleum Hydrocarbons	mg/kg	77	600	EPA 8015D
Anthracene	mg/kg	0.21	0.23	EPA 8270E
Benzo[a]anthracene	mg/kg	0.21	0.87	EPA 8270E
Benzo[a]pyrene	mg/kg	0.21	0.84	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.21	1.3	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.21	0.52	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.21	0.32	EPA 8270E
Chrysene	mg/kg	0.21	0.90	EPA 8270E
Fluoranthene	mg/kg	0.21	1.3	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.21	0.45	EPA 8270E
Phenanthrene	mg/kg	0.21	0.89	EPA 8270E
Pyrene	mg/kg	0.21	1.4	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

Lab#: AD26217-018 **Sample ID: SB01 COMP**

Analyte	Units	RL	Result	Analytical Method
pH	ph		7.3	9040C/9045D
Temperature	c		23.1	9040C/9045D
Burning Rate (mm/sec)			NEG	EPA 1030
Flame Propagation (POS/NEG)			NA	EPA 1030
Ignitability (POS/NEG)			NEG	EPA 1030
Barium	mg/l	0.25	0.28	EPA 6010D
Lead	mg/l	0.050	0.058	EPA 6010D
Acenaphthylene	mg/kg	0.041	0.22	EPA 8270E
Anthracene	mg/kg	0.041	0.093	EPA 8270E
Benzo[a]anthracene	mg/kg	0.041	0.76	EPA 8270E
Benzo[a]pyrene	mg/kg	0.041	0.69	EPA 8270E
Benzo[b]fluoranthene	mg/kg	0.041	0.95	EPA 8270E
Benzo[g,h,i]perylene	mg/kg	0.041	0.42	EPA 8270E
Benzo[k]fluoranthene	mg/kg	0.041	0.35	EPA 8270E
Chrysene	mg/kg	0.041	0.70	EPA 8270E
Dibenzo[a,h]anthracene	mg/kg	0.041	0.13	EPA 8270E
Fluoranthene	mg/kg	0.041	1.0	EPA 8270E
Indeno[1,2,3-cd]pyrene	mg/kg	0.041	0.41	EPA 8270E
Phenanthrene	mg/kg	0.041	0.33	EPA 8270E
Pyrene	mg/kg	0.041	0.99	EPA 8270E
Paint Filter Test			NEG	EPA 9095B

HC Report of Analysis

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Sample ID: SB09 GRAB
Lab#: AD26217-001
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.982	mg/kg	0.0023	ND
1,1,2,2-Tetrachloroethane	0.982	mg/kg	0.0023	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.982	mg/kg	0.0023	ND
1,1,2-Trichloroethane	0.982	mg/kg	0.0023	ND
1,1-Dichloroethane	0.982	mg/kg	0.0023	ND
1,1-Dichloroethene	0.982	mg/kg	0.0023	ND
1,2,3-Trichlorobenzene	0.982	mg/kg	0.0023	ND
1,2,4-Trichlorobenzene	0.982	mg/kg	0.0023	ND
1,2-Dibromo-3-chloropropane	0.982	mg/kg	0.0023	ND
1,2-Dibromoethane	0.982	mg/kg	0.00058	ND
1,2-Dichlorobenzene	0.982	mg/kg	0.0023	ND
1,2-Dichloroethane	0.982	mg/kg	0.0023	ND
1,2-Dichloropropane	0.982	mg/kg	0.0023	ND
1,3-Dichlorobenzene	0.982	mg/kg	0.0023	ND
1,4-Dichlorobenzene	0.982	mg/kg	0.0023	ND
1,4-Dioxane	0.982	mg/kg	0.12	ND
2-Butanone	0.982	mg/kg	0.0023	ND
2-Hexanone	0.982	mg/kg	0.0023	ND
4-Methyl-2-pentanone	0.982	mg/kg	0.0023	ND
Acetone	0.982	mg/kg	0.012	ND
Benzene	0.982	mg/kg	0.0012	ND
Bromochloromethane	0.982	mg/kg	0.0023	ND
Bromodichloromethane	0.982	mg/kg	0.0023	ND
Bromoform	0.982	mg/kg	0.0023	ND
Bromomethane	0.982	mg/kg	0.0023	ND
Carbon disulfide	0.982	mg/kg	0.0039	ND
Carbon tetrachloride	0.982	mg/kg	0.0023	ND
Chlorobenzene	0.982	mg/kg	0.0023	ND
Chloroethane	0.982	mg/kg	0.0023	ND
Chloroform	0.982	mg/kg	0.0023	ND
Chloromethane	0.982	mg/kg	0.0023	ND
cis-1,2-Dichloroethene	0.982	mg/kg	0.0023	ND
cis-1,3-Dichloropropene	0.982	mg/kg	0.0023	ND
Cyclohexane	0.982	mg/kg	0.0023	ND
Dibromochloromethane	0.982	mg/kg	0.0023	ND
Dichlorodifluoromethane	0.982	mg/kg	0.0023	ND
Ethylbenzene	0.982	mg/kg	0.0012	ND
Isopropylbenzene	0.982	mg/kg	0.0012	ND
m&p-Xylenes	0.982	mg/kg	0.0014	ND
Methyl Acetate	0.982	mg/kg	0.0023	ND
Methylcyclohexane	0.982	mg/kg	0.0023	ND
Methylene chloride	**0.982**	**mg/kg**	**0.0023**	**0.0026**
Methyl-t-butyl ether	0.982	mg/kg	0.0012	ND
o-Xylene	0.982	mg/kg	0.0012	ND

Sample ID: SB09 GRAB
Lab#: AD26217-001
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Styrene	0.982	mg/kg	0.0023	ND
t-Butyl Alcohol	0.982	mg/kg	0.012	ND
Tetrachloroethene	0.982	mg/kg	0.0023	ND
Toluene	0.982	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.982	mg/kg	0.0023	ND
trans-1,3-Dichloropropene	0.982	mg/kg	0.0023	ND
Trichloroethene	0.982	mg/kg	0.0023	ND
Trichlorofluoromethane	0.982	mg/kg	0.0023	ND
Vinyl chloride	0.982	mg/kg	0.0023	ND
Xylenes (Total)	0.982	mg/kg	0.0012	ND

Sample ID: SB09 COMP
Lab#: AD26217-002
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99	mg/kg	29	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.011	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		6.9

Sample ID: SB09 COMP
Lab#: AD26217-002
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.6

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	**1**	**mg/l**	**0.25**	**0.26**
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	71	ND

Sample ID: SB08 GRAB
Lab#: AD26217-003
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		81

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.996	mg/kg	0.0025	ND
1,1,2,2-Tetrachloroethane	0.996	mg/kg	0.0025	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.996	mg/kg	0.0025	ND
1,1,2-Trichloroethane	0.996	mg/kg	0.0025	ND
1,1-Dichloroethane	0.996	mg/kg	0.0025	ND
1,1-Dichloroethene	0.996	mg/kg	0.0025	ND
1,2,3-Trichlorobenzene	0.996	mg/kg	0.0025	ND
1,2,4-Trichlorobenzene	0.996	mg/kg	0.0025	ND
1,2-Dibromo-3-chloropropane	0.996	mg/kg	0.0025	ND
1,2-Dibromoethane	0.996	mg/kg	0.00061	ND
1,2-Dichlorobenzene	0.996	mg/kg	0.0025	ND
1,2-Dichloroethane	0.996	mg/kg	0.0025	ND
1,2-Dichloropropane	0.996	mg/kg	0.0025	ND
1,3-Dichlorobenzene	0.996	mg/kg	0.0025	ND
1,4-Dichlorobenzene	0.996	mg/kg	0.0025	ND
1,4-Dioxane	0.996	mg/kg	0.12	ND
2-Butanone	0.996	mg/kg	0.0025	ND
2-Hexanone	0.996	mg/kg	0.0025	ND
4-Methyl-2-pentanone	0.996	mg/kg	0.0025	ND
Acetone	0.996	mg/kg	0.012	ND
Benzene	0.996	mg/kg	0.0012	ND
Bromochloromethane	0.996	mg/kg	0.0025	ND
Bromodichloromethane	0.996	mg/kg	0.0025	ND
Bromoform	0.996	mg/kg	0.0025	ND
Bromomethane	0.996	mg/kg	0.0025	ND
Carbon disulfide	0.996	mg/kg	0.0042	ND
Carbon tetrachloride	0.996	mg/kg	0.0025	ND
Chlorobenzene	0.996	mg/kg	0.0025	ND
Chloroethane	0.996	mg/kg	0.0025	ND
Chloroform	0.996	mg/kg	0.0025	ND
Chloromethane	0.996	mg/kg	0.0025	ND
cis-1,2-Dichloroethene	0.996	mg/kg	0.0025	ND
cis-1,3-Dichloropropene	0.996	mg/kg	0.0025	ND
Cyclohexane	0.996	mg/kg	0.0025	ND
Dibromochloromethane	0.996	mg/kg	0.0025	ND
Dichlorodifluoromethane	0.996	mg/kg	0.0025	ND
Ethylbenzene	0.996	mg/kg	0.0012	ND
Isopropylbenzene	0.996	mg/kg	0.0012	ND
m&p-Xylenes	0.996	mg/kg	0.0015	ND
Methyl Acetate	0.996	mg/kg	0.0025	ND
Methylcyclohexane	0.996	mg/kg	0.0025	ND
Methylene chloride	**0.996**	**mg/kg**	**0.0025**	**0.0063**
Methyl-t-butyl ether	0.996	mg/kg	0.0012	ND
o-Xylene	0.996	mg/kg	0.0012	ND
Styrene	0.996	mg/kg	0.0025	ND
t-Butyl Alcohol	0.996	mg/kg	0.012	ND
Tetrachloroethene	0.996	mg/kg	0.0025	ND
Toluene	0.996	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.996	mg/kg	0.0025	ND
trans-1,3-Dichloropropene	0.996	mg/kg	0.0025	ND

Sample ID: SB08 GRAB
Lab#: AD26217-003
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.996	mg/kg	0.0025	ND
Trichlorofluoromethane	0.996	mg/kg	0.0025	ND
Vinyl chloride	0.996	mg/kg	0.0025	ND
Xylenes (Total)	0.996	mg/kg	0.0012	ND

Sample ID: SB08 COMP
Lab#: AD26217-004
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		84

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99.2	mg/kg	30	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.040	ND
Acenaphthene	1	mg/kg	0.040	ND
Acenaphthylene	1	mg/kg	0.040	ND
Anthracene	1	mg/kg	0.040	ND
Benzo[a]anthracene	**1**	**mg/kg**	**0.040**	**0.042**
Benzo[a]pyrene	**1**	**mg/kg**	**0.040**	**0.040**
Benzo[b]fluoranthene	**1**	**mg/kg**	**0.040**	**0.059**
Benzo[g,h,i]perylene	1	mg/kg	0.040	ND
Benzo[k]fluoranthene	1	mg/kg	0.040	ND
Chrysene	**1**	**mg/kg**	**0.040**	**0.047**
Dibenzo[a,h]anthracene	1	mg/kg	0.040	ND
Fluoranthene	**1**	**mg/kg**	**0.040**	**0.082**
Fluorene	1	mg/kg	0.040	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.040	ND
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.040	ND
Pyrene	**1**	**mg/kg**	**0.040**	**0.070**

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	0.030	ND
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Aroclor-1268	1	mg/kg	0.030	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		7.7

Sample ID: SB08 COMP
Lab#: AD26217-004
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.3

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.45
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	71	ND

Sample ID: SB07 GRAB
Lab#: AD26217-005
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		82

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.996	mg/kg	0.0024	ND
1,1,2,2-Tetrachloroethane	0.996	mg/kg	0.0024	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.996	mg/kg	0.0024	ND
1,1,2-Trichloroethane	0.996	mg/kg	0.0024	ND
1,1-Dichloroethane	0.996	mg/kg	0.0024	ND
1,1-Dichloroethene	0.996	mg/kg	0.0024	ND
1,2,3-Trichlorobenzene	0.996	mg/kg	0.0024	ND
1,2,4-Trichlorobenzene	0.996	mg/kg	0.0024	ND
1,2-Dibromo-3-chloropropane	0.996	mg/kg	0.0024	ND
1,2-Dibromoethane	0.996	mg/kg	0.00061	ND
1,2-Dichlorobenzene	0.996	mg/kg	0.0024	ND
1,2-Dichloroethane	0.996	mg/kg	0.0024	ND
1,2-Dichloropropane	0.996	mg/kg	0.0024	ND
1,3-Dichlorobenzene	0.996	mg/kg	0.0024	ND
1,4-Dichlorobenzene	0.996	mg/kg	0.0024	ND
1,4-Dioxane	0.996	mg/kg	0.12	ND
2-Butanone	0.996	mg/kg	0.0024	ND
2-Hexanone	0.996	mg/kg	0.0024	ND
4-Methyl-2-pentanone	0.996	mg/kg	0.0024	ND
Acetone	0.996	mg/kg	0.012	ND
Benzene	0.996	mg/kg	0.0012	ND
Bromochloromethane	0.996	mg/kg	0.0024	ND
Bromodichloromethane	0.996	mg/kg	0.0024	ND
Bromoform	0.996	mg/kg	0.0024	ND
Bromomethane	0.996	mg/kg	0.0024	ND
Carbon disulfide	0.996	mg/kg	0.0041	ND
Carbon tetrachloride	0.996	mg/kg	0.0024	ND
Chlorobenzene	0.996	mg/kg	0.0024	ND
Chloroethane	0.996	mg/kg	0.0024	ND
Chloroform	0.996	mg/kg	0.0024	ND
Chloromethane	0.996	mg/kg	0.0024	ND
cis-1,2-Dichloroethene	0.996	mg/kg	0.0024	ND
cis-1,3-Dichloropropene	0.996	mg/kg	0.0024	ND
Cyclohexane	0.996	mg/kg	0.0024	ND
Dibromochloromethane	0.996	mg/kg	0.0024	ND
Dichlorodifluoromethane	0.996	mg/kg	0.0024	ND
Ethylbenzene	0.996	mg/kg	0.0012	ND
Isopropylbenzene	0.996	mg/kg	0.0012	ND
m&p-Xylenes	0.996	mg/kg	0.0015	ND
Methyl Acetate	0.996	mg/kg	0.0024	ND
Methylcyclohexane	0.996	mg/kg	0.0024	ND
Methylene chloride	**0.996**	**mg/kg**	**0.0024**	**0.0031**
Methyl-t-butyl ether	0.996	mg/kg	0.0012	ND
o-Xylene	0.996	mg/kg	0.0012	ND
Styrene	0.996	mg/kg	0.0024	ND
t-Butyl Alcohol	0.996	mg/kg	0.012	ND
Tetrachloroethene	0.996	mg/kg	0.0024	ND
Toluene	0.996	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.996	mg/kg	0.0024	ND
trans-1,3-Dichloropropene	0.996	mg/kg	0.0024	ND

Sample ID: SB07 GRAB
Lab#: AD26217-005
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.996	mg/kg	0.0024	ND
Trichlorofluoromethane	0.996	mg/kg	0.0024	ND
Vinyl chloride	0.996	mg/kg	0.0024	ND
Xylenes (Total)	0.996	mg/kg	0.0012	ND

Sample ID: SB07 COMP
Lab#: AD26217-006
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		84

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	98.6	mg/kg	29	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.040	ND
Acenaphthene	1	mg/kg	0.040	ND
Acenaphthylene	1	mg/kg	0.040	ND
Anthracene	1	mg/kg	0.040	ND
Benzo[a]anthracene	1	mg/kg	0.040	ND
Benzo[a]pyrene	1	mg/kg	0.040	ND
Benzo[b]fluoranthene	1	mg/kg	0.040	ND
Benzo[g,h,i]perylene	1	mg/kg	0.040	ND
Benzo[k]fluoranthene	1	mg/kg	0.040	ND
Chrysene	1	mg/kg	0.040	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.040	ND
Fluoranthene	1	mg/kg	0.040	ND
Fluorene	1	mg/kg	0.040	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.040	ND
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.040	ND
Pyrene	1	mg/kg	0.040	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	0.030	ND
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Aroclor-1268	1	mg/kg	0.030	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		6.2

Sample ID: SB07 COMP
Lab#: AD26217-006
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.5

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.38
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	71	ND

Sample ID: SB06 GRAB
Lab#: AD26217-007
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		94

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.978	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.978	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.978	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.978	mg/kg	0.0021	ND
1,1-Dichloroethane	0.978	mg/kg	0.0021	ND
1,1-Dichloroethene	0.978	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.978	mg/kg	0.0021	ND
1,2,4-Trichlorobenzene	0.978	mg/kg	0.0021	ND
1,2-Dibromo-3-chloropropane	0.978	mg/kg	0.0021	ND
1,2-Dibromoethane	0.978	mg/kg	0.00052	ND
1,2-Dichlorobenzene	0.978	mg/kg	0.0021	ND
1,2-Dichloroethane	0.978	mg/kg	0.0021	ND
1,2-Dichloropropane	0.978	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.978	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.978	mg/kg	0.0021	ND
1,4-Dioxane	0.978	mg/kg	0.10	ND
2-Butanone	0.978	mg/kg	0.0021	ND
2-Hexanone	0.978	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.978	mg/kg	0.0021	ND
Acetone	0.978	mg/kg	0.010	ND
Benzene	0.978	mg/kg	0.0010	ND
Bromochloromethane	0.978	mg/kg	0.0021	ND
Bromodichloromethane	0.978	mg/kg	0.0021	ND
Bromoform	0.978	mg/kg	0.0021	ND
Bromomethane	0.978	mg/kg	0.0021	ND
Carbon disulfide	0.978	mg/kg	0.0035	ND
Carbon tetrachloride	0.978	mg/kg	0.0021	ND
Chlorobenzene	0.978	mg/kg	0.0021	ND
Chloroethane	0.978	mg/kg	0.0021	ND
Chloroform	0.978	mg/kg	0.0021	ND
Chloromethane	0.978	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.978	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.978	mg/kg	0.0021	ND
Cyclohexane	0.978	mg/kg	0.0021	ND
Dibromochloromethane	0.978	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.978	mg/kg	0.0021	ND
Ethylbenzene	0.978	mg/kg	0.0010	ND
Isopropylbenzene	0.978	mg/kg	0.0010	ND
m&p-Xylenes	0.978	mg/kg	0.0012	ND
Methyl Acetate	0.978	mg/kg	0.0021	ND
Methylcyclohexane	0.978	mg/kg	0.0021	ND
Methylene chloride	**0.978**	**mg/kg**	**0.0021**	**0.0024**
Methyl-t-butyl ether	0.978	mg/kg	0.0010	ND
o-Xylene	0.978	mg/kg	0.0010	ND
Styrene	0.978	mg/kg	0.0021	ND
t-Butyl Alcohol	0.978	mg/kg	0.010	ND
Tetrachloroethene	0.978	mg/kg	0.0021	ND
Toluene	0.978	mg/kg	0.0010	ND
trans-1,2-Dichloroethene	0.978	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.978	mg/kg	0.0021	ND

Sample ID: SB06 GRAB
Lab#: AD26217-007
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.978	mg/kg	0.0021	ND
Trichlorofluoromethane	0.978	mg/kg	0.0021	ND
Vinyl chloride	0.978	mg/kg	0.0021	ND
Xylenes (Total)	0.978	mg/kg	0.0010	ND

Sample ID: SB06 COMP
Lab#: AD26217-008
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% 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	99.6	mg/kg	27	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			AN
Ignitability (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	0.13
Benzo[a]pyrene	1	mg/kg	0.036	0.13
Benzo[b]fluoranthene	1	mg/kg	0.036	0.22
Benzo[g,h,i]perylene	1	mg/kg	0.036	0.086
Benzo[k]fluoranthene	1	mg/kg	0.036	0.077
Chrysene	1	mg/kg	0.036	0.16
Dibenzo[a,h]anthracene	1	mg/kg	0.036	ND
Fluoranthene	1	mg/kg	0.036	0.27
Fluorene	1	mg/kg	0.036	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.036	0.075
Naphthalene	1	mg/kg	0.010	ND
Phenanthrene	1	mg/kg	0.036	0.10
Pyrene	1	mg/kg	0.036	0.23

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	0.052
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	0.052
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		7.8

Sample ID: SB06 COMP
Lab#: AD26217-008
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c		23.0

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	**1**	**mg/l**	**0.25**	**0.31**
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	**1**	**mg/l**	**0.050**	**0.13**
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	65	ND

Sample ID: SB05 GRAB
Lab#: AD26217-009
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.992	mg/kg	0.0023	ND
1,1,2,2-Tetrachloroethane	0.992	mg/kg	0.0023	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.992	mg/kg	0.0023	ND
1,1,2-Trichloroethane	0.992	mg/kg	0.0023	ND
1,1-Dichloroethane	0.992	mg/kg	0.0023	ND
1,1-Dichloroethene	0.992	mg/kg	0.0023	ND
1,2,3-Trichlorobenzene	0.992	mg/kg	0.0023	ND
1,2,4-Trichlorobenzene	0.992	mg/kg	0.0023	ND
1,2-Dibromo-3-chloropropane	0.992	mg/kg	0.0023	ND
1,2-Dibromoethane	0.992	mg/kg	0.00058	ND
1,2-Dichlorobenzene	0.992	mg/kg	0.0023	ND
1,2-Dichloroethane	0.992	mg/kg	0.0023	ND
1,2-Dichloropropane	0.992	mg/kg	0.0023	ND
1,3-Dichlorobenzene	0.992	mg/kg	0.0023	ND
1,4-Dichlorobenzene	0.992	mg/kg	0.0023	ND
1,4-Dioxane	0.992	mg/kg	0.12	ND
2-Butanone	**0.992**	**mg/kg**	**0.0023**	**0.016**
2-Hexanone	0.992	mg/kg	0.0023	ND
4-Methyl-2-pentanone	0.992	mg/kg	0.0023	ND
Acetone	**0.992**	**mg/kg**	**0.012**	**0.090**
Benzene	0.992	mg/kg	0.0012	ND
Bromochloromethane	0.992	mg/kg	0.0023	ND
Bromodichloromethane	0.992	mg/kg	0.0023	ND
Bromoform	0.992	mg/kg	0.0023	ND
Bromomethane	0.992	mg/kg	0.0023	ND
Carbon disulfide	0.992	mg/kg	0.0040	ND
Carbon tetrachloride	0.992	mg/kg	0.0023	ND
Chlorobenzene	0.992	mg/kg	0.0023	ND
Chloroethane	0.992	mg/kg	0.0023	ND
Chloroform	0.992	mg/kg	0.0023	ND
Chloromethane	0.992	mg/kg	0.0023	ND
cis-1,2-Dichloroethene	0.992	mg/kg	0.0023	ND
cis-1,3-Dichloropropene	0.992	mg/kg	0.0023	ND
Cyclohexane	0.992	mg/kg	0.0023	ND
Dibromochloromethane	0.992	mg/kg	0.0023	ND
Dichlorodifluoromethane	0.992	mg/kg	0.0023	ND
Ethylbenzene	0.992	mg/kg	0.0012	ND
Isopropylbenzene	0.992	mg/kg	0.0012	ND
m&p-Xylenes	0.992	mg/kg	0.0014	ND
Methyl Acetate	0.992	mg/kg	0.0023	ND
Methylcyclohexane	0.992	mg/kg	0.0023	ND
Methylene chloride	**0.992**	**mg/kg**	**0.0023**	**0.0033**
Methyl-t-butyl ether	0.992	mg/kg	0.0012	ND
o-Xylene	0.992	mg/kg	0.0012	ND
Styrene	0.992	mg/kg	0.0023	ND
t-Butyl Alcohol	0.992	mg/kg	0.012	ND
Tetrachloroethene	0.992	mg/kg	0.0023	ND
Toluene	0.992	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.992	mg/kg	0.0023	ND
trans-1,3-Dichloropropene	0.992	mg/kg	0.0023	ND

Sample ID: SB05 GRAB
Lab#: AD26217-009
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.992	mg/kg	0.0023	ND
Trichlorofluoromethane	0.992	mg/kg	0.0023	ND
Vinyl chloride	0.992	mg/kg	0.0023	ND
Xylenes (Total)	0.992	mg/kg	0.0012	ND

Sample ID: SB05 COMP
Lab#: AD26217-010
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		88

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	98.8	mg/kg	28	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.038
Benzo[a]anthracene	1	mg/kg	0.038	0.16
Benzo[a]pyrene	1	mg/kg	0.038	0.16
Benzo[b]fluoranthene	1	mg/kg	0.038	0.34
Benzo[g,h,i]perylene	1	mg/kg	0.038	0.089
Benzo[k]fluoranthene	1	mg/kg	0.038	0.061
Chrysene	1	mg/kg	0.038	0.23
Dibenzo[a,h]anthracene	1	mg/kg	0.038	ND
Fluoranthene	1	mg/kg	0.038	0.23
Fluorene	1	mg/kg	0.038	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.038	0.087
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.038	0.055
Pyrene	1	mg/kg	0.038	0.26

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

Sample ID: SB05 COMP
Lab#: AD26217-010
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.3

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.83
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.17
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	68	85

Sample ID: SB04 GRAB
Lab#: AD26217-011
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		83

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.986	mg/kg	0.0024	ND
1,1,2,2-Tetrachloroethane	0.986	mg/kg	0.0024	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.986	mg/kg	0.0024	ND
1,1,2-Trichloroethane	0.986	mg/kg	0.0024	ND
1,1-Dichloroethane	0.986	mg/kg	0.0024	ND
1,1-Dichloroethene	0.986	mg/kg	0.0024	ND
1,2,3-Trichlorobenzene	0.986	mg/kg	0.0024	ND
1,2,4-Trichlorobenzene	0.986	mg/kg	0.0024	ND
1,2-Dibromo-3-chloropropane	0.986	mg/kg	0.0024	ND
1,2-Dibromoethane	0.986	mg/kg	0.00059	ND
1,2-Dichlorobenzene	0.986	mg/kg	0.0024	ND
1,2-Dichloroethane	0.986	mg/kg	0.0024	ND
1,2-Dichloropropane	0.986	mg/kg	0.0024	ND
1,3-Dichlorobenzene	0.986	mg/kg	0.0024	ND
1,4-Dichlorobenzene	0.986	mg/kg	0.0024	ND
1,4-Dioxane	0.986	mg/kg	0.12	ND
2-Butanone	0.986	mg/kg	0.0024	ND
2-Hexanone	0.986	mg/kg	0.0024	ND
4-Methyl-2-pentanone	0.986	mg/kg	0.0024	ND
Acetone	0.986	mg/kg	0.012	ND
Benzene	0.986	mg/kg	0.0012	ND
Bromochloromethane	0.986	mg/kg	0.0024	ND
Bromodichloromethane	0.986	mg/kg	0.0024	ND
Bromoform	0.986	mg/kg	0.0024	ND
Bromomethane	0.986	mg/kg	0.0024	ND
Carbon disulfide	0.986	mg/kg	0.0040	ND
Carbon tetrachloride	0.986	mg/kg	0.0024	ND
Chlorobenzene	0.986	mg/kg	0.0024	ND
Chloroethane	0.986	mg/kg	0.0024	ND
Chloroform	0.986	mg/kg	0.0024	ND
Chloromethane	0.986	mg/kg	0.0024	ND
cis-1,2-Dichloroethene	0.986	mg/kg	0.0024	ND
cis-1,3-Dichloropropene	0.986	mg/kg	0.0024	ND
Cyclohexane	0.986	mg/kg	0.0024	ND
Dibromochloromethane	0.986	mg/kg	0.0024	ND
Dichlorodifluoromethane	0.986	mg/kg	0.0024	ND
Ethylbenzene	0.986	mg/kg	0.0012	ND
Isopropylbenzene	0.986	mg/kg	0.0012	ND
m&p-Xylenes	0.986	mg/kg	0.0014	ND
Methyl Acetate	0.986	mg/kg	0.0024	ND
Methylcyclohexane	0.986	mg/kg	0.0024	ND
Methylene chloride	**0.986**	**mg/kg**	**0.0024**	**0.0035**
Methyl-t-butyl ether	0.986	mg/kg	0.0012	ND
o-Xylene	0.986	mg/kg	0.0012	ND
Styrene	0.986	mg/kg	0.0024	ND
t-Butyl Alcohol	0.986	mg/kg	0.012	ND
Tetrachloroethene	0.986	mg/kg	0.0024	ND
Toluene	0.986	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.986	mg/kg	0.0024	ND
trans-1,3-Dichloropropene	0.986	mg/kg	0.0024	ND

Sample ID: SB04 GRAB
Lab#: AD26217-011
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.986	mg/kg	0.0024	ND
Trichlorofluoromethane	0.986	mg/kg	0.0024	ND
Vinyl chloride	0.986	mg/kg	0.0024	ND
Xylenes (Total)	0.986	mg/kg	0.0012	ND

Sample ID: SB04 COMP
Lab#: AD26217-012
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		85

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99.2	mg/kg	29	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.047
Anthracene	1	mg/kg	0.039	ND
Benzo[a]anthracene	1	mg/kg	0.039	0.11
Benzo[a]pyrene	1	mg/kg	0.039	0.13
Benzo[b]fluoranthene	1	mg/kg	0.039	0.21
Benzo[g,h,i]perylene	1	mg/kg	0.039	0.082
Benzo[k]fluoranthene	1	mg/kg	0.039	0.054
Chrysene	1	mg/kg	0.039	0.13
Dibenzo[a,h]anthracene	1	mg/kg	0.039	ND
Fluoranthene	1	mg/kg	0.039	0.16
Fluorene	1	mg/kg	0.039	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.039	0.076
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.039	0.046
Pyrene	1	mg/kg	0.039	0.18

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		8.1

Sample ID: SB04 COMP
Lab#: AD26217-012
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.1

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	**1**	**mg/l**	**0.25**	**0.69**
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	71	85

Sample ID: SB03 GRAB
Lab#: AD26217-013
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		83

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.992	mg/kg	0.0024	ND
1,1,2,2-Tetrachloroethane	0.992	mg/kg	0.0024	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.992	mg/kg	0.0024	ND
1,1,2-Trichloroethane	0.992	mg/kg	0.0024	ND
1,1-Dichloroethane	0.992	mg/kg	0.0024	ND
1,1-Dichloroethene	0.992	mg/kg	0.0024	ND
1,2,3-Trichlorobenzene	0.992	mg/kg	0.0024	ND
1,2,4-Trichlorobenzene	0.992	mg/kg	0.0024	ND
1,2-Dibromo-3-chloropropane	0.992	mg/kg	0.0024	ND
1,2-Dibromoethane	0.992	mg/kg	0.00060	ND
1,2-Dichlorobenzene	0.992	mg/kg	0.0024	ND
1,2-Dichloroethane	0.992	mg/kg	0.0024	ND
1,2-Dichloropropane	0.992	mg/kg	0.0024	ND
1,3-Dichlorobenzene	0.992	mg/kg	0.0024	ND
1,4-Dichlorobenzene	0.992	mg/kg	0.0024	ND
1,4-Dioxane	0.992	mg/kg	0.12	ND
2-Butanone	0.992	mg/kg	0.0024	ND
2-Hexanone	0.992	mg/kg	0.0024	ND
4-Methyl-2-pentanone	0.992	mg/kg	0.0024	ND
Acetone	0.992	mg/kg	0.012	ND
Benzene	0.992	mg/kg	0.0012	ND
Bromochloromethane	0.992	mg/kg	0.0024	ND
Bromodichloromethane	0.992	mg/kg	0.0024	ND
Bromoform	0.992	mg/kg	0.0024	ND
Bromomethane	0.992	mg/kg	0.0024	ND
Carbon disulfide	0.992	mg/kg	0.0041	ND
Carbon tetrachloride	0.992	mg/kg	0.0024	ND
Chlorobenzene	0.992	mg/kg	0.0024	ND
Chloroethane	0.992	mg/kg	0.0024	ND
Chloroform	0.992	mg/kg	0.0024	ND
Chloromethane	0.992	mg/kg	0.0024	ND
cis-1,2-Dichloroethene	0.992	mg/kg	0.0024	ND
cis-1,3-Dichloropropene	0.992	mg/kg	0.0024	ND
Cyclohexane	0.992	mg/kg	0.0024	ND
Dibromochloromethane	0.992	mg/kg	0.0024	ND
Dichlorodifluoromethane	0.992	mg/kg	0.0024	ND
Ethylbenzene	0.992	mg/kg	0.0012	ND
Isopropylbenzene	0.992	mg/kg	0.0012	ND
m&p-Xylenes	0.992	mg/kg	0.0014	ND
Methyl Acetate	0.992	mg/kg	0.0024	ND
Methylcyclohexane	0.992	mg/kg	0.0024	ND
Methylene chloride	**0.992**	**mg/kg**	**0.0024**	**0.014**
Methyl-t-butyl ether	0.992	mg/kg	0.0012	ND
o-Xylene	0.992	mg/kg	0.0012	ND
Styrene	0.992	mg/kg	0.0024	ND
t-Butyl Alcohol	0.992	mg/kg	0.012	ND
Tetrachloroethene	0.992	mg/kg	0.0024	ND
Toluene	0.992	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.992	mg/kg	0.0024	ND
trans-1,3-Dichloropropene	0.992	mg/kg	0.0024	ND

Sample ID: SB03 GRAB
Lab#: AD26217-013
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	0.992	mg/kg	0.0024	ND
Trichlorofluoromethane	0.992	mg/kg	0.0024	ND
Vinyl chloride	0.992	mg/kg	0.0024	ND
Xylenes (Total)	0.992	mg/kg	0.0012	ND

Sample ID: SB03 COMP
Lab#: AD26217-014
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% 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	99.6	mg/kg	28	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.12
Benzo[a]pyrene	1	mg/kg	0.037	0.14
Benzo[b]fluoranthene	1	mg/kg	0.037	0.19
Benzo[g,h,i]perylene	1	mg/kg	0.037	0.080
Benzo[k]fluoranthene	1	mg/kg	0.037	0.070
Chrysene	1	mg/kg	0.037	0.14
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	0.23
Fluorene	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	0.072
Naphthalene	1	mg/kg	0.011	ND
Phenanthrene	1	mg/kg	0.037	0.11
Pyrene	1	mg/kg	0.037	0.23

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		7.8

Sample ID: SB03 COMP
Lab#: AD26217-014
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.3

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	ND
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	ND
Nickel	1	mg/l	0.10	ND
Selenium	1	mg/l	0.10	ND
Silver	1	mg/l	0.050	ND

Total PetroleumHydrocarbons8015D(C8-C40)

Analyte	DF	Units	RL	Result
Total Petroleum Hydrocarbons	1	mg/kg	67	72

Sample ID: SB02 GRAB
Lab#: AD26217-015
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		76

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	mg/kg	0.0026	ND
1,1,2,2-Tetrachloroethane	1	mg/kg	0.0026	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	mg/kg	0.0026	ND
1,1,2-Trichloroethane	1	mg/kg	0.0026	ND
1,1-Dichloroethane	1	mg/kg	0.0026	ND
1,1-Dichloroethene	1	mg/kg	0.0026	ND
1,2,3-Trichlorobenzene	1	mg/kg	0.0026	ND
1,2,4-Trichlorobenzene	1	mg/kg	0.0026	ND
1,2-Dibromo-3-chloropropane	1	mg/kg	0.0026	ND
1,2-Dibromoethane	1	mg/kg	0.00066	ND
1,2-Dichlorobenzene	1	mg/kg	0.0026	ND
1,2-Dichloroethane	1	mg/kg	0.0026	ND
1,2-Dichloropropane	1	mg/kg	0.0026	ND
1,3-Dichlorobenzene	1	mg/kg	0.0026	ND
1,4-Dichlorobenzene	1	mg/kg	0.0026	ND
1,4-Dioxane	1	mg/kg	0.13	ND
2-Butanone	1	mg/kg	0.0026	ND
2-Hexanone	1	mg/kg	0.0026	ND
4-Methyl-2-pentanone	1	mg/kg	0.0026	ND
Acetone	**1**	**mg/kg**	**0.013**	**0.033**
Benzene	1	mg/kg	0.0013	ND
Bromochloromethane	1	mg/kg	0.0026	ND
Bromodichloromethane	1	mg/kg	0.0026	ND
Bromoform	1	mg/kg	0.0026	ND
Bromomethane	1	mg/kg	0.0026	ND
Carbon disulfide	1	mg/kg	0.0045	ND
Carbon tetrachloride	1	mg/kg	0.0026	ND
Chlorobenzene	1	mg/kg	0.0026	ND
Chloroethane	1	mg/kg	0.0026	ND
Chloroform	1	mg/kg	0.0026	ND
Chloromethane	1	mg/kg	0.0026	ND
cis-1,2-Dichloroethene	1	mg/kg	0.0026	ND
cis-1,3-Dichloropropene	1	mg/kg	0.0026	ND
Cyclohexane	1	mg/kg	0.0026	ND
Dibromochloromethane	1	mg/kg	0.0026	ND
Dichlorodifluoromethane	1	mg/kg	0.0026	ND
Ethylbenzene	1	mg/kg	0.0013	ND
Isopropylbenzene	1	mg/kg	0.0013	ND
m&p-Xylenes	1	mg/kg	0.0016	ND
Methyl Acetate	1	mg/kg	0.0026	ND
Methylcyclohexane	1	mg/kg	0.0026	ND
Methylene chloride	**1**	**mg/kg**	**0.0026**	**0.0030**
Methyl-t-butyl ether	1	mg/kg	0.0013	ND
o-Xylene	1	mg/kg	0.0013	ND
Styrene	1	mg/kg	0.0026	ND
t-Butyl Alcohol	1	mg/kg	0.013	ND
Tetrachloroethene	1	mg/kg	0.0026	ND
Toluene	1	mg/kg	0.0013	ND
trans-1,2-Dichloroethene	1	mg/kg	0.0026	ND
trans-1,3-Dichloropropene	1	mg/kg	0.0026	ND

Sample ID: SB02 GRAB
Lab#: AD26217-015
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	1	mg/kg	0.0026	ND
Trichlorofluoromethane	1	mg/kg	0.0026	ND
Vinyl chloride	1	mg/kg	0.0026	ND
Xylenes (Total)	1	mg/kg	0.0013	ND

Sample ID: SB02 COMP
Lab#: AD26217-016
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		78

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	100	mg/kg	32	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	5	mg/kg	0.21	ND
Acenaphthene	5	mg/kg	0.21	ND
Acenaphthylene	5	mg/kg	0.21	ND
Anthracene	5	mg/kg	0.21	0.23
Benzo[a]anthracene	5	mg/kg	0.21	0.87
Benzo[a]pyrene	5	mg/kg	0.21	0.84
Benzo[b]fluoranthene	5	mg/kg	0.21	1.3
Benzo[g,h,i]perylene	5	mg/kg	0.21	0.52
Benzo[k]fluoranthene	5	mg/kg	0.21	0.32
Chrysene	5	mg/kg	0.21	0.90
Dibenzo[a,h]anthracene	5	mg/kg	0.21	ND
Fluoranthene	5	mg/kg	0.21	1.3
Fluorene	5	mg/kg	0.21	ND
Indeno[1,2,3-cd]pyrene	5	mg/kg	0.21	0.45
Naphthalene	5	mg/kg	0.062	ND
Phenanthrene	5	mg/kg	0.21	0.89
Pyrene	5	mg/kg	0.21	1.4

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	0.032	ND
Aroclor-1016	1	mg/kg	0.032	ND
Aroclor-1221	1	mg/kg	0.032	ND
Aroclor-1232	1	mg/kg	0.032	ND
Aroclor-1242	1	mg/kg	0.032	ND
Aroclor-1248	1	mg/kg	0.032	ND
Aroclor-1254	1	mg/kg	0.032	ND
Aroclor-1260	1	mg/kg	0.032	ND
Aroclor-1262	1	mg/kg	0.032	ND
Aroclor-1268	1	mg/kg	0.032	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		7.6

Sample ID: SB02 COMP
Lab#: AD26217-016
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.2

Reactive Cyanide

Analyte	DF	Units	RL	Result
Cyanide (Reactive)	1	mg/kg	0.50	ND

Reactive Sulfide

Analyte	DF	Units	RL	Result
Sulfide (Reactive)	1	mg/kg	100	ND

TCLP Metals 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	1.4
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.40
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	77	600

Sample ID: SB01 GRAB
Lab#: AD26217-017
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		81

Volatile Organics (no search) 8260

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	mg/kg	0.0025	ND
1,1,2,2-Tetrachloroethane	1	mg/kg	0.0025	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	1	mg/kg	0.0025	ND
1,1,2-Trichloroethane	1	mg/kg	0.0025	ND
1,1-Dichloroethane	1	mg/kg	0.0025	ND
1,1-Dichloroethene	1	mg/kg	0.0025	ND
1,2,3-Trichlorobenzene	1	mg/kg	0.0025	ND
1,2,4-Trichlorobenzene	1	mg/kg	0.0025	ND
1,2-Dibromo-3-chloropropane	1	mg/kg	0.0025	ND
1,2-Dibromoethane	1	mg/kg	0.00062	ND
1,2-Dichlorobenzene	1	mg/kg	0.0025	ND
1,2-Dichloroethane	1	mg/kg	0.0025	ND
1,2-Dichloropropane	1	mg/kg	0.0025	ND
1,3-Dichlorobenzene	1	mg/kg	0.0025	ND
1,4-Dichlorobenzene	1	mg/kg	0.0025	ND
1,4-Dioxane	1	mg/kg	0.12	ND
2-Butanone	1	mg/kg	0.0025	ND
2-Hexanone	1	mg/kg	0.0025	ND
4-Methyl-2-pentanone	1	mg/kg	0.0025	ND
Acetone	1	mg/kg	0.012	ND
Benzene	1	mg/kg	0.0012	ND
Bromochloromethane	1	mg/kg	0.0025	ND
Bromodichloromethane	1	mg/kg	0.0025	ND
Bromoform	1	mg/kg	0.0025	ND
Bromomethane	1	mg/kg	0.0025	ND
Carbon disulfide	1	mg/kg	0.0042	ND
Carbon tetrachloride	1	mg/kg	0.0025	ND
Chlorobenzene	1	mg/kg	0.0025	ND
Chloroethane	1	mg/kg	0.0025	ND
Chloroform	1	mg/kg	0.0025	ND
Chloromethane	1	mg/kg	0.0025	ND
cis-1,2-Dichloroethene	1	mg/kg	0.0025	ND
cis-1,3-Dichloropropene	1	mg/kg	0.0025	ND
Cyclohexane	1	mg/kg	0.0025	ND
Dibromochloromethane	1	mg/kg	0.0025	ND
Dichlorodifluoromethane	1	mg/kg	0.0025	ND
Ethylbenzene	1	mg/kg	0.0012	ND
Isopropylbenzene	1	mg/kg	0.0012	ND
m&p-Xylenes	1	mg/kg	0.0015	ND
Methyl Acetate	1	mg/kg	0.0025	ND
Methylcyclohexane	1	mg/kg	0.0025	ND
Methylene chloride	1	mg/kg	0.0025	ND
Methyl-t-butyl ether	1	mg/kg	0.0012	ND
o-Xylene	1	mg/kg	0.0012	ND
Styrene	1	mg/kg	0.0025	ND
t-Butyl Alcohol	1	mg/kg	0.012	ND
Tetrachloroethene	1	mg/kg	0.0025	ND
Toluene	1	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	1	mg/kg	0.0025	ND
trans-1,3-Dichloropropene	1	mg/kg	0.0025	ND

Sample ID: SB01 GRAB
Lab#: AD26217-017
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Trichloroethene	1	mg/kg	0.0025	ND
Trichlorofluoromethane	1	mg/kg	0.0025	ND
Vinyl chloride	1	mg/kg	0.0025	ND
Xylenes (Total)	1	mg/kg	0.0012	ND

Sample ID: SB01 COMP | **Collection Date: 9/23/2021**
Lab#: AD26217-018 | **Receipt Date: 9/23/2021**
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		82

Gasoline range organics 8015D(C6-C10)

Analyte	DF	Units	RL	Result
Gasoline Range Organics	99	mg/kg	30	ND

Ignitability (EPA 1030)

Analyte	DF	Units	RL	Result
Burning Rate (mm/sec)	1			NEG
Flame Propagation (POS/NEG)	1			NA
Ignitability (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	0.041	ND
Acenaphthene	1	mg/kg	0.041	ND
Acenaphthylene	1	mg/kg	0.041	0.22
Anthracene	1	mg/kg	0.041	0.093
Benzo[a]anthracene	1	mg/kg	0.041	0.76
Benzo[a]pyrene	1	mg/kg	0.041	0.69
Benzo[b]fluoranthene	1	mg/kg	0.041	0.95
Benzo[g,h,i]perylene	1	mg/kg	0.041	0.42
Benzo[k]fluoranthene	1	mg/kg	0.041	0.35
Chrysene	1	mg/kg	0.041	0.70
Dibenzo[a,h]anthracene	1	mg/kg	0.041	0.13
Fluoranthene	1	mg/kg	0.041	1.0
Fluorene	1	mg/kg	0.041	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.041	0.41
Naphthalene	1	mg/kg	0.012	ND
Phenanthrene	1	mg/kg	0.041	0.33
Pyrene	1	mg/kg	0.041	0.99

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	0.030	ND
Aroclor-1016	1	mg/kg	0.030	ND
Aroclor-1221	1	mg/kg	0.030	ND
Aroclor-1232	1	mg/kg	0.030	ND
Aroclor-1242	1	mg/kg	0.030	ND
Aroclor-1248	1	mg/kg	0.030	ND
Aroclor-1254	1	mg/kg	0.030	ND
Aroclor-1260	1	mg/kg	0.030	ND
Aroclor-1262	1	mg/kg	0.030	ND
Aroclor-1268	1	mg/kg	0.030	ND

pH 9040C/9045D

Analyte	DF	Units	RL	Result
pH	1	ph		7.3

Sample ID: SB01 COMP
Lab#: AD26217-018
Matrix: Soil

Collection Date: 9/23/2021
Receipt Date: 9/23/2021

Temperature	1	c	23.1

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 6010D

Analyte	DF	Units	RL	Result
Arsenic	1	mg/l	0.10	ND
Barium	1	mg/l	0.25	0.28
Cadmium	1	mg/l	0.050	ND
Chromium	1	mg/l	0.10	ND
Lead	1	mg/l	0.050	0.058
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	73	ND

HC Reporting Limit Definitions/Data Qualifiers

REPORTING DEFINITIONS

DF = Dilution Factor

DUP = Duplicate

LCS = Laboratory Control Spike

MBS = Method Blank Spike

MDL = Method Detection Limit

MR = Matrix Replicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

NA = Not Applicable

ND = Not Detected

PS = Post Digestion Spike

RL* = Reporting Limit

RT = Retention Time

SD = Serial Dilution

**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: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-001 **Sample ID: SB09 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 10:28	WP

Lab#: AD26217-002 **Sample ID: SB09 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 01:48	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 11:52	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 18:14	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 10:47	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:06	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:01	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 11:45	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 10:45	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 13:18	AH/RR/ABM

Lab#: AD26217-003 **Sample ID: SB08 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 10:49	WP

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-004 **Sample ID: SB08 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 02:04	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 11:57	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/30/21	lynda	EPA 8270E	9/30/21 14:38	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 10:32	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:08	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:05	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:22	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 10:53	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 13:41	AH/RR/ABM

Lab#: AD26217-005 **Sample ID: SB07 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 11:10	WP

Lab#: AD26217-006 **Sample ID: SB07 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/24/21 21:54	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 11:58	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 19:47	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:14	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:11	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:09	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:25	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 10:53	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 14:05	AH/RR/ABM

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-007 **Sample ID: SB06 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 11:30	WP

Lab#: AD26217-008 **Sample ID: SB06 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/24/21 22:11	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:00	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 17:39	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 10:17	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:18	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:29	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:13	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:13	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 15:14	AH/RR/ABM

Lab#: AD26217-009 **Sample ID: SB05 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 11:51	WP

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-010 **Sample ID: SB05 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/24/21 22:28	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:05	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 18:03	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:28	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:20	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:41	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:25	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:13	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 15:37	AH/RR/ABM

Lab#: AD26217-011 **Sample ID: SB04 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 12:11	WP

Lab#: AD26217-012 **Sample ID: SB04 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 00:40	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:06	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 18:26	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:43	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:22	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:29	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:45	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:22	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 16:00	AH/RR/ABM

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-013 **Sample ID: SB03 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 12:32	WP

Lab#: AD26217-014 **Sample ID: SB03 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 00:57	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:08	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/29/21 18:50	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 10:02	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:24	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:49	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:33	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:22	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 16:23	AH/RR/ABM

Lab#: AD26217-015 **Sample ID: SB02 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 12:52	WP

Laboratory Chronicle

Client: WSP USA, Inc.
Project: South Ave

HC Project #: 1092401

Lab#: AD26217-016 **Sample ID: SB02 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 01:14	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:09	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/30/21 12:19	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:47	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:26	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:53	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:36	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:43	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 17:10	AH/RR/ABM

Lab#: AD26217-017 **Sample ID: SB01 GRAB**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Volatile Organics (no search) 8260	EPA5030/5035			EPA 8260D	9/25/21 13:13	WP

Lab#: AD26217-018 **Sample ID: SB01 COMP**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
% Solids SM2540G				SM 2540G	9/27/21 00:00	BEENA
Gasoline range organics 8015D(C6-C10)	EPA5030/5035			EPA 8015D	9/25/21 01:31	JM
Ignitability (EPA 1030)		09/27/21	simon	EPA 1030	9/27/21 11:00	simon
Mercury (TCLP) 7470A	EPA 7470A	09/29/21 14:00	Carmela	EPA 7470A	10/1/21 12:11	CJAG10/1
PAH Compounds 8270	3510C/3550C	09/29/21 09:37	lynda	EPA 8270E	9/30/21 08:48	AH/JB
Paint Filter Test 9095B				EPA 9095B	9/29/21 00:00	BCT/SDL
PCB 8082	3510C/3550C	09/29/21 16:19	marie	EPA 8082A	9/30/21 09:58	MS/MLC/MC/P
pH 9040C/9045D				9040C/9045D	9/27/21 12:30	LL
Reactive Cyanide	SW846 7.3	09/27/21	kshields	SW846 7.3	9/28/21 16:28	JMP
Reactive Sulfide	SW846 7.3	09/27/21	KS	SW846 7.3	9/28/21 00:00	KS
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	10/1/21 12:40	CJAG10/1
TCLP Metals 6010D	3005&10/3050	09/29/21 14:00	Carmela	EPA 6010D	9/30/21 15:57	CJAG10/1
TCLP Metals Extraction 1311	EPA 1311	09/27/21 13:39	ksaez		9/28/21 11:43	ksaez
Total PetroleumHydrocarbons8015D(C8-C40)	Mod. Shaker	09/28/21 16:05	marie	EPA 8015D	9/29/21 16:47	AH/RR/ABM

Chain of Custody

1092401 0052

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
NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Hampton-Clarke
WBE/DBE/SBE 800-426-9992
A Women-Owned, Disadvantaged, Small Business Enterprise

CHAIN OF CUSTODY RECORD

Project# (Lab Use Only): 1092401

Page 1 of 2

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Data Deliv.
When Available:	Summary	NJ Hazsite
1 Business Day (100%) *	Results + QC (Waste)	Excel Reg. NJ / NY / PA
2 Business Days (75%) *	Reduced:	EnviroData
3 Business Days (50%) *	[ ] NJ [ ] NY	EQuIS:
4 Business Days (35%) *	[ ] PA [ ] Other___	[ ] 4-File [ ] EZ
5 Business Days (25%) *	NJ Full / NY ASP CatB	[ ] NYDEC
8 Business Days (Stand.)	NY ASP CatA	[ ] Region 2 or 5
Other: _____		Other: _____

* Expedited TAT Not Always Available. Please Check with Lab.

Customer Information

1a) Customer: Louis Berger
Address: 96 Morton St. 8th Floor New York, NY, 10014
1b) Email/Cell/Fax/Ph: Jon.ganz@wsp.com
1c) Send Invoice to: Jon.Ganz@wsp.com
1d) Send Report to: Jonathan Ganz

Project Information

2a) Project: South Ave
2b) Project Mgr: Jonathan Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 31402661.100

FOR LAB USE ONLY ↓

Batch # A026217

===> 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)	TCL VOCs	TCL SVOCs	PCBs (8082)	PAHs (8270C)	TPH DRO/GRO (SW8)	PCBs (8082A/608)	TCLP Metals (RCRA8) (BW/6010B)	RCRA Characteristics (9034/9040/9045)	Paint Filter Test (9095B)			8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
001	SB09	S	9/23/21	7:50		X	X											1								
002	SB09			750	X					X	X	X	X	X	X			1								
003	SB08			920		X	X											1								
004	SB08			920	X					X	X	X	X	X	X			1								
005	SB07			1030		X	X											1								
006	SB07			1030	X					X	X	X	X	X	X			1								
007	SB06			1110		X	X											1								
008	SB06			1110	X					X	X	X	X	X	X			1								
009	SB05			1155		X	X											1								
010	SB05			1155	X					X	X	X	X	X	X			1								

10) Relinquished by:	Accepted by:	Date	Time
Harry August	[signature]	9/23/21	17:25

11) Sampler (print name): Harry August Date: 9/23/21

Additional Notes

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
- [ ] BN or BNA (8270E SIM)
- [ ] VOC (8260D SIM or 8011)
- [ ] SPLP (BN, BNA, Metals)
- [ ] 1,4 Dioxane

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: 3.0

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.

Internal use: sampling plan (check box) HC [ ] or client [ ] FSP#

1092401 0053

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

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): 1092401

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Data Deliv.
When Available:	Summary	NJ Hazsite
1 Business Day (100%) *	Results + QC (Waste)	Excel Reg. NJ / NY / PA
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3 Business Days (50%) *	[ ] NJ [ ] NY	EQuIS:
4 Business Days (35%) *	[ ] PA [ ] Other___	[ ] 4-File [ ] EZ
5 Business Days (25%)	NJ Full / NY ASP CatB	[ ] NYDEC
8 Business Days (Stand.)	NY ASP CatA	[ ] Region 2 or 5
Other: _____		Other: _____

* Expedited TAT Not Always Available. Please Check with Lab.

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1a) Customer: Louis Berger
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1d) Send Report to: Jonathan Ganz

Project Information

2a) Project: South Ave
2b) Project Mgr: Jonathan Ganz
2c) Project Location (City/State): Staten Island, NY
2d) Quote/PO # (If Applicable): 31402661.100

FOR LAB USE ONLY ↓

Batch # AD26217

===> 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)	TCL VOCs	PAHs (8270C)	TPH DRO/GRG (8015B)	PCBs (8082A/608)	TCLP metals (RCRA8) (B11/6018)	RCRA Character (9012B/9014/9034/1010)	Paint filter Test (9095B)					8) # of Bottles None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
011	SB04	S	9/23/21	~~1330~~		X	X											1								1400 sample time
012	SB04			~~1330~~	X			X	X	X	X	X	X					1								1400 sample time
013	SB03			1500		X	X											1								
014	SB03			1500	X			X	X	X	X	X	X					1								
015	SB02			1330		X	X											1								
016	SB02			1330	X			X	X	X	X	X	X					1								
017	SB01			1430		X	X											1								
018	SB01			1430	X			X	X	X	X	X	X					1								

10) Relinquished by:	Accepted by:	Date	Time
Harry August	[signature]	9/23/21	17:20

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
- [ ] BN or BNA (8270E SIM)
- [ ] VOC (8260D SIM or 8011)
- [ ] SPLP (BN, BNA, Metals)
- [ ] 1,4 Dioxane

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Check if applicable:
- [ ] Project-Specific Reporting Limits
- [ ] High Contaminant Concentrations
- [ ] NJ LSRP Project (also check boxes above/right)

Cooler Temperature: 3.0

11) Sampler (print name): Harry August Date: 9/23/21

Additional Notes

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.

Internal use: sampling plan (check box) HC [ ] or client [ ] FSP#

CONDITION UPON RECEIPT

Batch Number AD26217

Entered By: maxwell
Date Entered 9/24/2021 9:19:00 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). 3.0
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	No	Are samples preserved correctly? Samples for VOA not collected as Encore/Terracore.
12	Yes	Was temperature blank present (Place comment below if not)? If not was temperature of samples verified?
13	NA	Other comments ...Specify (TB date, sample matrix, any missing info, etc.)
14	NA	Corrective actions (Specify item number and corrective action taken).
15	NA	Were any samples for ortho-phosphate or dissolved ferrous iron field filtered?

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD26217-001	09/23/21 17:25	MAXW	0	M	Received
AD26217-001	09/24/21 09:19	MAXW	0	M	Login
AD26217-001	09/24/21 10:31	R30	1	A	NONE
AD26217-001	09/24/21 14:05	JM	1	A	VOA
AD26217-001	09/24/21 14:07	R30	1	A	NONE
AD26217-001	09/24/21 15:03	R12	2	A	NONE
AD26217-001	09/24/21 21:30	PA	2	A	mx
AD26217-001	09/24/21 21:31	R12	2	A	NONE
AD26217-001	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-001	09/27/21 09:37	R12	2	A	NONE
AD26217-002	09/23/21 17:25	MAXW	0	M	Received
AD26217-002	09/24/21 09:19	MAXW	0	M	Login
AD26217-002	09/24/21 15:03	R12	1	A	NONE
AD26217-002	09/24/21 21:30	PA	1	A	mx
AD26217-002	09/24/21 21:31	R12	1	A	NONE
AD26217-002	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-002	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-002	09/27/21 11:26	R12	1	A	NONE
AD26217-002	09/27/21 12:21	KS	1	A	RS
AD26217-002	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-002	09/27/21 13:39	R12	1	A	NONE
AD26217-002	09/28/21 16:05	MSL	1	A	TPH
AD26217-002	09/28/21 16:06	R12	1	A	NONE
AD26217-002	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-002	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-002	09/29/21 12:06	R12	1	A	NONE
AD26217-002	09/29/21 16:19	MSL	1	A	P/P
AD26217-002	09/29/21 16:21	R12	1	A	NONE
AD26217-002	09/24/21 16:36	JM	2	A	GRO
AD26217-002	09/24/21 17:33	R30	2	A	NONE
AD26217-002	09/24/21 18:58	JM	3	A	GRO
AD26217-003	09/23/21 17:25	MAXW	0	M	Received
AD26217-003	09/24/21 09:19	MAXW	0	M	Login
AD26217-003	09/24/21 10:31	R30	1	A	NONE
AD26217-003	09/24/21 14:05	JM	1	A	VOA
AD26217-003	09/24/21 14:07	R30	1	A	NONE
AD26217-003	09/24/21 15:03	R12	2	A	NONE
AD26217-003	09/24/21 21:30	PA	2	A	mx
AD26217-003	09/24/21 21:31	R12	2	A	NONE
AD26217-003	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-003	09/27/21 09:37	R12	2	A	NONE
AD26217-004	09/23/21 17:25	MAXW	0	M	Received
AD26217-004	09/24/21 09:19	MAXW	0	M	Login
AD26217-004	09/24/21 15:03	R12	1	A	NONE
AD26217-004	09/24/21 21:30	PA	1	A	mx
AD26217-004	09/24/21 21:31	R12	1	A	NONE
AD26217-004	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-004	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-004	09/27/21 11:26	R12	1	A	NONE
AD26217-004	09/27/21 12:21	KS	1	A	RS
AD26217-004	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-004	09/27/21 13:39	R12	1	A	NONE
AD26217-004	09/28/21 16:05	MSL	1	A	TPH
AD26217-004	09/28/21 16:06	R12	1	A	NONE
AD26217-004	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-004	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-004	09/29/21 12:06	R12	1	A	NONE
AD26217-004	09/29/21 16:19	MSL	1	A	P/P
AD26217-004	09/29/21 16:21	R12	1	A	NONE
AD26217-004	09/30/21 10:06	AMAN	1	A	BN/BNA
AD26217-004	09/30/21 14:17	R12	1	A	NONE
AD26217-004	09/24/21 16:36	JM	2	A	GRO
AD26217-004	09/24/21 17:33	R30	2	A	NONE
AD26217-004	09/24/21 18:58	JM	3	A	GRO
AD26217-005	09/23/21 17:25	MAXW	0	M	Received
AD26217-005	09/24/21 09:19	MAXW	0	M	Login
AD26217-005	09/24/21 10:31	R30	1	A	NONE
AD26217-005	09/24/21 14:05	JM	1	A	VOA
AD26217-005	09/24/21 14:07	R30	1	A	NONE
AD26217-005	09/24/21 15:03	R12	2	A	NONE
AD26217-005	09/24/21 21:30	PA	2	A	mx
AD26217-005	09/24/21 21:31	R12	2	A	NONE
AD26217-005	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-005	09/27/21 09:37	R12	2	A	NONE
AD26217-006	09/23/21 17:25	MAXW	0	M	Received

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD26217-006	09/24/21 09:19	MAXW	0	M	Login
AD26217-006	09/24/21 15:03	R12	1	A	NONE
AD26217-006	09/24/21 21:30	PA	1	A	mx
AD26217-006	09/24/21 21:31	R12	1	A	NONE
AD26217-006	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-006	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-006	09/27/21 11:26	R12	1	A	NONE
AD26217-006	09/27/21 12:21	KS	1	A	RS
AD26217-006	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-006	09/27/21 13:39	R12	1	A	NONE
AD26217-006	09/28/21 16:05	MSL	1	A	TPH
AD26217-006	09/28/21 16:06	R12	1	A	NONE
AD26217-006	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-006	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-006	09/29/21 12:06	R12	1	A	NONE
AD26217-006	09/29/21 16:19	MSL	1	A	P/P
AD26217-006	09/29/21 16:21	R12	1	A	NONE
AD26217-006	09/24/21 16:36	JM	2	A	GRO
AD26217-006	09/24/21 17:33	R30	2	A	NONE
AD26217-006	09/24/21 18:58	JM	3	A	GRO
AD26217-007	09/23/21 17:25	MAXW	0	M	Received
AD26217-007	09/24/21 09:19	MAXW	0	M	Login
AD26217-007	09/24/21 10:31	R30	1	A	NONE
AD26217-007	09/24/21 14:05	JM	1	A	VOA
AD26217-007	09/24/21 14:07	R30	1	A	NONE
AD26217-007	09/24/21 15:03	R12	2	A	NONE
AD26217-007	09/24/21 21:30	PA	2	A	mx
AD26217-007	09/24/21 21:31	R12	2	A	NONE
AD26217-007	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-007	09/27/21 09:37	R12	2	A	NONE
AD26217-008	09/23/21 17:25	MAXW	0	M	Received
AD26217-008	09/24/21 09:19	MAXW	0	M	Login
AD26217-008	09/24/21 15:03	R12	1	A	NONE
AD26217-008	09/24/21 21:30	PA	1	A	mx
AD26217-008	09/24/21 21:31	R12	1	A	NONE
AD26217-008	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-008	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-008	09/27/21 11:26	R12	1	A	NONE
AD26217-008	09/27/21 12:21	KS	1	A	RS
AD26217-008	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-008	09/27/21 13:39	R12	1	A	NONE
AD26217-008	09/28/21 16:05	MSL	1	A	TPH
AD26217-008	09/28/21 16:06	R12	1	A	NONE
AD26217-008	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-008	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-008	09/29/21 12:06	R12	1	A	NONE
AD26217-008	09/29/21 16:19	MSL	1	A	P/P
AD26217-008	09/29/21 16:21	R12	1	A	NONE
AD26217-008	09/24/21 16:36	JM	2	A	GRO
AD26217-008	09/24/21 17:33	R30	2	A	NONE
AD26217-008	09/24/21 18:58	JM	3	A	GRO
AD26217-009	09/23/21 17:25	MAXW	0	M	Received
AD26217-009	09/24/21 09:19	MAXW	0	M	Login
AD26217-009	09/24/21 10:31	R30	1	A	NONE
AD26217-009	09/24/21 14:05	JM	1	A	VOA
AD26217-009	09/24/21 14:07	R30	1	A	NONE
AD26217-009	09/24/21 15:03	R12	2	A	NONE
AD26217-009	09/24/21 21:30	PA	2	A	mx
AD26217-009	09/24/21 21:31	R12	2	A	NONE
AD26217-009	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-009	09/27/21 09:37	R12	2	A	NONE
AD26217-010	09/23/21 17:25	MAXW	0	M	Received
AD26217-010	09/24/21 09:19	MAXW	0	M	Login
AD26217-010	09/24/21 15:03	R12	1	A	NONE
AD26217-010	09/24/21 21:30	PA	1	A	mx
AD26217-010	09/24/21 21:31	R12	1	A	NONE
AD26217-010	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-010	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-010	09/27/21 11:26	R12	1	A	NONE
AD26217-010	09/27/21 12:21	KS	1	A	RS
AD26217-010	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-010	09/27/21 13:39	R12	1	A	NONE
AD26217-010	09/28/21 16:05	MSL	1	A	TPH
AD26217-010	09/28/21 16:06	R12	1	A	NONE
AD26217-010	09/29/21 09:37	AMAN	1	A	BN/BNA

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
AD26217-010	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-010	09/29/21 12:06	R12	1	A	NONE
AD26217-010	09/29/21 16:19	MSL	1	A	P/P
AD26217-010	09/29/21 16:21	R12	1	A	NONE
AD26217-010	09/24/21 16:36	JM	2	A	GRO
AD26217-010	09/24/21 17:33	R30	2	A	NONE
AD26217-010	09/24/21 18:58	JM	3	A	GRO
AD26217-011	09/23/21 17:25	MAXW	0	M	Received
AD26217-011	09/24/21 09:19	MAXW	0	M	Login
AD26217-011	09/24/21 10:31	R30	1	A	NONE
AD26217-011	09/24/21 14:05	JM	1	A	VOA
AD26217-011	09/24/21 14:07	R30	1	A	NONE
AD26217-011	09/24/21 15:03	R12	2	A	NONE
AD26217-011	09/24/21 21:30	PA	2	A	mx
AD26217-011	09/24/21 21:31	R12	2	A	NONE
AD26217-011	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-011	09/27/21 09:37	R12	2	A	NONE
AD26217-012	09/23/21 17:25	MAXW	0	M	Received
AD26217-012	09/24/21 09:19	MAXW	0	M	Login
AD26217-012	09/24/21 15:03	R12	1	A	NONE
AD26217-012	09/24/21 21:30	PA	1	A	mx
AD26217-012	09/24/21 21:31	R12	1	A	NONE
AD26217-012	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-012	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-012	09/27/21 11:26	R12	1	A	NONE
AD26217-012	09/27/21 12:21	KS	1	A	RS
AD26217-012	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-012	09/27/21 13:39	R12	1	A	NONE
AD26217-012	09/28/21 16:05	MSL	1	A	TPH
AD26217-012	09/28/21 16:06	R12	1	A	NONE
AD26217-012	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-012	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-012	09/29/21 12:06	R12	1	A	NONE
AD26217-012	09/29/21 16:19	MSL	1	A	P/P
AD26217-012	09/29/21 16:21	R12	1	A	NONE
AD26217-012	09/24/21 16:36	JM	2	A	GRO
AD26217-012	09/24/21 17:33	R30	2	A	NONE
AD26217-012	09/24/21 18:58	JM	3	A	GRO
AD26217-013	09/23/21 17:25	MAXW	0	M	Received
AD26217-013	09/24/21 09:19	MAXW	0	M	Login
AD26217-013	09/24/21 10:31	R30	1	A	NONE
AD26217-013	09/24/21 14:05	JM	1	A	VOA
AD26217-013	09/24/21 15:03	R12	2	A	NONE
AD26217-013	09/24/21 21:30	PA	2	A	mx
AD26217-013	09/24/21 21:31	R12	2	A	NONE
AD26217-013	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-013	09/27/21 09:37	R12	2	A	NONE
AD26217-014	09/23/21 17:25	MAXW	0	M	Received
AD26217-014	09/24/21 09:19	MAXW	0	M	Login
AD26217-014	09/24/21 15:03	R12	1	A	NONE
AD26217-014	09/24/21 21:30	PA	1	A	mx
AD26217-014	09/24/21 21:31	R12	1	A	NONE
AD26217-014	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-014	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-014	09/27/21 11:26	R12	1	A	NONE
AD26217-014	09/27/21 12:21	KS	1	A	RS
AD26217-014	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-014	09/27/21 13:39	R12	1	A	NONE
AD26217-014	09/28/21 16:05	MSL	1	A	TPH
AD26217-014	09/28/21 16:06	R12	1	A	NONE
AD26217-014	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-014	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-014	09/29/21 12:06	R12	1	A	NONE
AD26217-014	09/29/21 16:19	MSL	1	A	P/P
AD26217-014	09/29/21 16:21	R12	1	A	NONE
AD26217-014	09/24/21 16:36	JM	2	A	GRO
AD26217-014	09/24/21 17:33	R30	2	A	NONE
AD26217-014	09/24/21 18:58	JM	3	A	GRO
AD26217-015	09/23/21 17:25	MAXW	0	M	Received
AD26217-015	09/24/21 09:19	MAXW	0	M	Login
AD26217-015	09/24/21 10:31	R30	1	A	NONE
AD26217-015	09/24/21 14:05	JM	1	A	VOA
AD26217-015	09/24/21 14:07	R30	1	A	NONE
AD26217-015	09/24/21 15:03	R12	2	A	NONE
AD26217-015	09/24/21 21:30	PA	2	A	mx
AD26217-015	09/24/21 21:31	R12	2	A	NONE
AD26217-015	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-015	09/27/21 09:37	R12	2	A	NONE
AD26217-016	09/23/21 17:25	MAXW	0	M	Received
AD26217-016	09/24/21 09:19	MAXW	0	M	Login
AD26217-016	09/24/21 15:03	R12	1	A	NONE
AD26217-016	09/24/21 21:30	PA	1	A	mx
AD26217-016	09/24/21 21:31	R12	1	A	NONE
AD26217-016	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-016	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-016	09/27/21 11:26	R12	1	A	NONE
AD26217-016	09/27/21 12:21	KS	1	A	RS
AD26217-016	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-016	09/27/21 13:39	R12	1	A	NONE
AD26217-016	09/28/21 16:05	MSL	1	A	TPH
AD26217-016	09/28/21 16:06	R12	1	A	NONE
AD26217-016	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-016	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-016	09/29/21 12:06	R12	1	A	NONE
AD26217-016	09/29/21 16:19	MSL	1	A	P/P
AD26217-016	09/29/21 16:21	R12	1	A	NONE
AD26217-016	09/24/21 16:36	JM	2	A	GRO
AD26217-016	09/24/21 17:33	R30	2	A	NONE
AD26217-016	09/24/21 18:58	JM	3	A	GRO
AD26217-017	09/23/21 17:25	MAXW	0	M	Received
AD26217-017	09/24/21 09:19	MAXW	0	M	Login
AD26217-017	09/24/21 10:31	R30	1	A	NONE
AD26217-017	09/24/21 14:05	JM	1	A	VOA
AD26217-017	09/24/21 14:07	R30	1	A	NONE
AD26217-017	09/24/21 15:03	R12	2	A	NONE
AD26217-017	09/24/21 21:30	PA	2	A	mx
AD26217-017	09/24/21 21:31	R12	2	A	NONE
AD26217-017	09/27/21 08:30	BCT	2	A	SOLIDS
AD26217-017	09/27/21 09:37	R12	2	A	NONE
AD26217-018	09/23/21 17:25	MAXW	0	M	Received
AD26217-018	09/24/21 09:19	MAXW	0	M	Login
AD26217-018	09/24/21 15:03	R12	1	A	NONE
AD26217-018	09/24/21 23:51	PA	1	A	mx
AD26217-018	09/24/21 23:52	R12	1	A	NONE
AD26217-018	09/27/21 08:30	BCT	1	A	SOLIDS
AD26217-018	09/27/21 10:37	SDL	1	A	IGNIT
AD26217-018	09/27/21 11:26	R12	1	A	NONE
AD26217-018	09/27/21 12:21	KS	1	A	RS
AD26217-018	09/27/21 13:38	KEVS	1	A	TCLP
AD26217-018	09/27/21 13:39	R12	1	A	NONE
AD26217-018	09/28/21 16:05	MSL	1	A	TPH
AD26217-018	09/28/21 16:06	R12	1	A	NONE
AD26217-018	09/29/21 09:37	AMAN	1	A	BN/BNA
AD26217-018	09/29/21 12:00	BCT	1	A	PAINTFILTER
AD26217-018	09/29/21 12:06	R12	1	A	NONE
AD26217-018	09/29/21 16:19	MSL	1	A	P/P
AD26217-018	09/29/21 16:21	R12	1	A	NONE
AD26217-018	09/24/21 16:36	JM	2	A	GRO
AD26217-018	09/24/21 17:33	R30	2	A	NONE
AD26217-018	09/24/21 18:58	JM	3	A	GRO

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: AD26217-001
Client Id: SB09 GRAB
Data File: 6M145232.D
Analysis Date: 09/25/21 10:28
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.09g
Final Vol: NA
Dilution: 0.982
Solids: 85

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	0.0023	U	110-82-7	Cyclohexane	0.0023	U
120-82-1	1,2,4-Trichlorobenzene	0.0023	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	0.00058	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0023	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0023	U	79601-23-1	m&p-Xylenes	0.0014	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**	**0.0026**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0023	U	95-47-6	o-Xylene	0.0012	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	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0023	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	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	0.0039	U	75-01-4	Vinyl Chloride	0.0023	U
56-23-5	Carbon Tetrachloride	0.0023	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840

Total Target Concentration 0.0026

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.

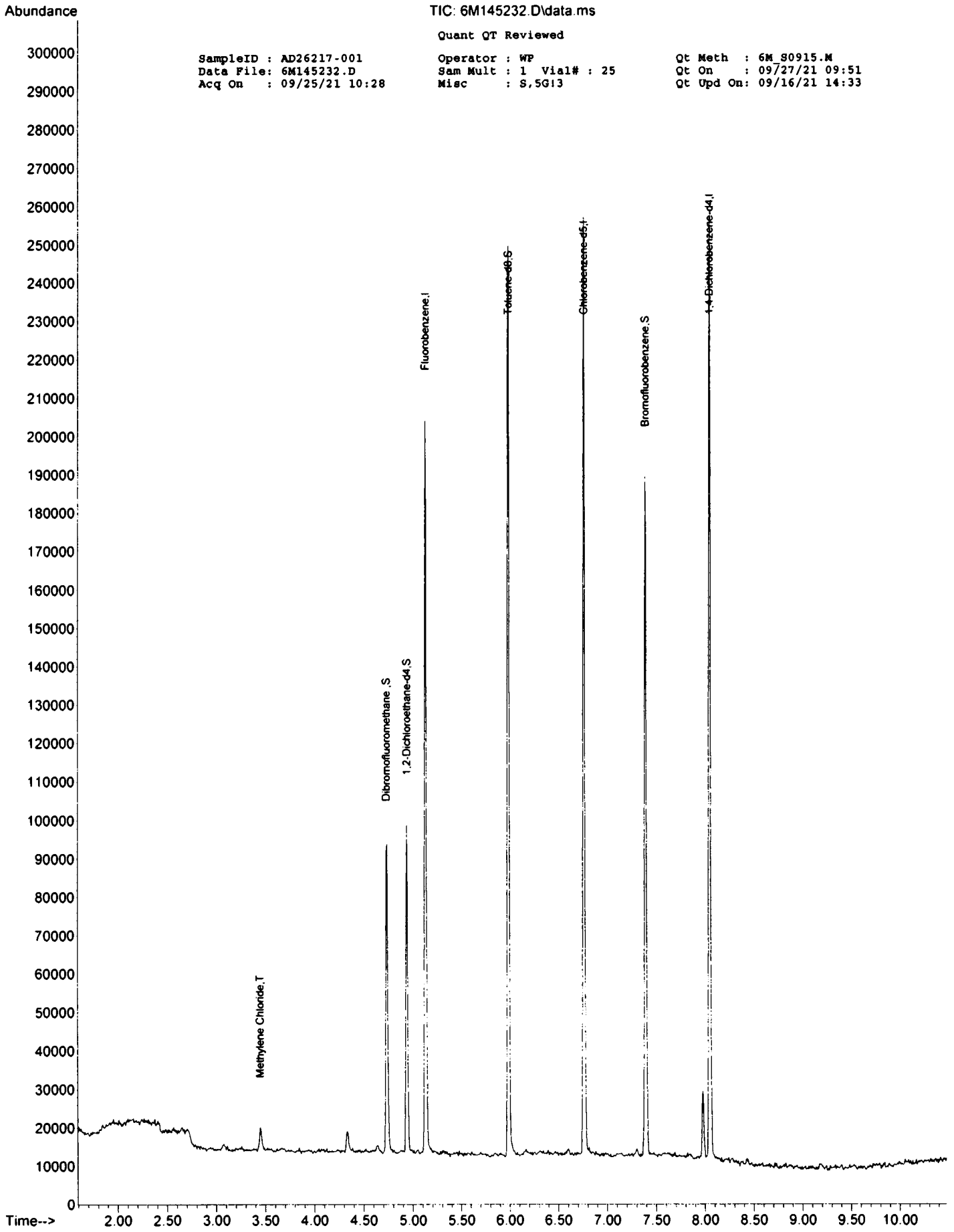
Quantitation Report (QT Reviewed)

SampleID : AD26217-001 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145232.D Sam Mult : 1 Vial# : 25 Qt On : 09/27/21 09:51
Acq On : 09/25/21 10:28 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	107710	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	91774	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	44760	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.733	111	32246	31.93	ug/l	0.00
Spiked Amount 30.000			Recovery = 106.43%			
39) 1,2-Dichloroethane-d4	4.940	67	17089	28.49	ug/l	0.00
Spiked Amount 30.000			Recovery = 94.97%			
66) Toluene-d8	5.989	98	105554	28.59	ug/l	0.00
Spiked Amount 30.000			Recovery = 95.30%			
76) Bromofluorobenzene	7.391	174	33915	30.72	ug/l	0.00
Spiked Amount 30.000			Recovery = 102.40%			
Target Compounds						Qvalue
15) Methylene Chloride	3.446	84	2089	2.2871	ug/l	88

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


Abundance
TIC: 6M145232.D\data.ms
Quant QT Reviewed
SampleID : AD26217-001
Data File: 6M145232.D
Acq On : 09/25/21 10:28
Operator : WP
Sam Mult : 1 Vial# : 25
Misc : S,5G13
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:51
Qt Upd On: 09/16/21 14:33
Methylene Chloride,T
Dibromofluoromethane,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->
0
10000
20000
30000
40000
50000
60000
70000
80000
90000
100000
110000
120000
130000
140000
150000
160000
170000
180000
190000
200000
210000
220000
230000
240000
250000
260000
270000
280000
290000
300000
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
7.00
7.50
8.00
8.50
9.00
9.50
10.00

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-003
Client Id: SB08 GRAB
Data File: 6M145233.D
Analysis Date: 09/25/21 10:49
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.02g
Final Vol: NA
Dilution: 0.996
Solids: 81

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0025	U	108-90-7	Chlorobenzene	0.0025	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0025	U	75-00-3	Chloroethane	0.0025	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0025	U	67-66-3	Chloroform	0.0025	U
79-00-5	1,1,2-Trichloroethane	0.0025	U	74-87-3	Chloromethane	0.0025	U
75-34-3	1,1-Dichloroethane	0.0025	U	156-59-2	cis-1,2-Dichloroethene	0.0025	U
75-35-4	1,1-Dichloroethene	0.0025	U	10061-01-5	cis-1,3-Dichloropropene	0.0025	U
87-61-6	1,2,3-Trichlorobenzene	0.0025	U	110-82-7	Cyclohexane	0.0025	U
120-82-1	1,2,4-Trichlorobenzene	0.0025	U	124-48-1	Dibromochloromethane	0.0025	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0025	U	75-71-8	Dichlorodifluoromethane	0.0025	U
106-93-4	1,2-Dibromoethane	0.00061	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0025	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0025	U	79601-23-1	m&p-Xylenes	0.0015	U
78-87-5	1,2-Dichloropropane	0.0025	U	79-20-9	Methyl Acetate	0.0025	U
541-73-1	1,3-Dichlorobenzene	0.0025	U	108-87-2	Methylcyclohexane	0.0025	U
106-46-7	1,4-Dichlorobenzene	0.0025	U	**75-09-2**	**Methylene Chloride**	**0.0025**	**0.0063**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0025	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0025	U	100-42-5	Styrene	0.0025	U
108-10-1	4-Methyl-2-Pentanone	0.0025	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0025	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0025	U	156-60-5	trans-1,2-Dichloroethene	0.0025	U
75-27-4	Bromodichloromethane	0.0025	U	10061-02-6	trans-1,3-Dichloropropene	0.0025	U
75-25-2	Bromoform	0.0025	U	79-01-6	Trichloroethene	0.0025	U
74-83-9	Bromomethane	0.0025	U	75-69-4	Trichlorofluoromethane	0.0025	U
75-15-0	Carbon Disulfide	0.0042	U	75-01-4	Vinyl Chloride	0.0025	U
56-23-5	Carbon Tetrachloride	0.0025	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *Total Target Concentration* 0.0063 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.

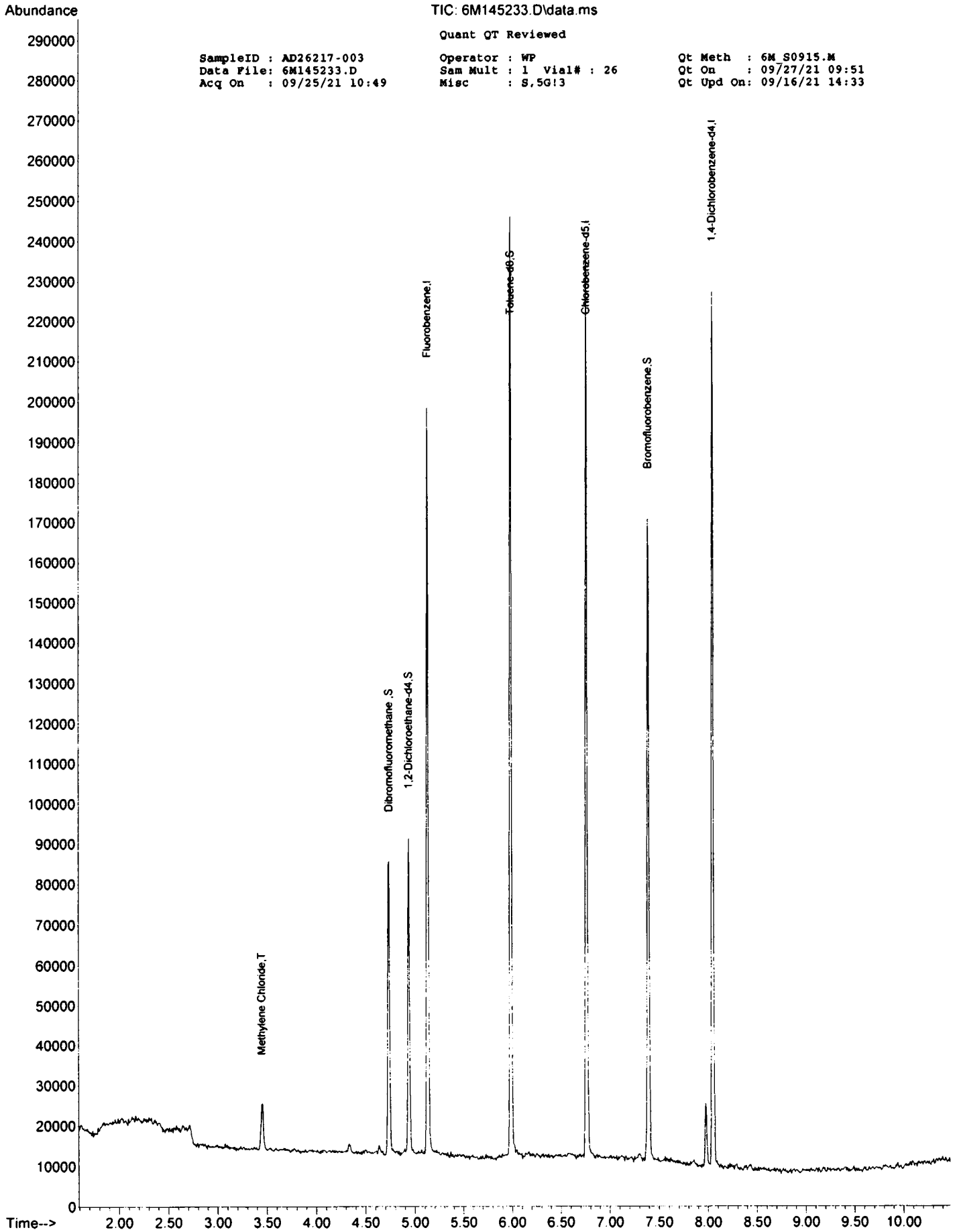
Quantitation Report (QT Reviewed)

SampleID : AD26217-003 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145233.D Sam Mult : 1 Vial# : 26 Qt On : 09/27/21 09:51
Acq On : 09/25/21 10:49 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	101854	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	82978	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	42101	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	30097	31.52	ug/l	0.00
Spiked Amount 30.000			Recovery = 105.07%			
39) 1,2-Dichloroethane-d4	4.940	67	15197	26.79	ug/l	0.00
Spiked Amount 30.000			Recovery = 89.30%			
66) Toluene-d8	5.989	98	102130	30.59	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.97%			
76) Bromofluorobenzene	7.391	174	31490	30.33	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.10%			
Target Compounds						Qvalue
15) Methylene Chloride	3.447	84	4444	5.1451	ug/l	84

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


Abundance
TIC: 6M145233.D\data.ms
Quant QT Reviewed
SampleID : AD26217-003
Data File: 6M145233.D
Acq On : 09/25/21 10:49
Operator : WP
Sam Mult : 1 Vial# : 26
Misc : S,5G!3
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:51
Qt Upd On: 09/16/21 14:33
Methylene Chloride,T
Dibromofluoromethane ,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-005
Client Id: SB07 GRAB
Data File: 6M145234.D
Analysis Date: 09/25/21 11:10
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.02g
Final Vol: NA
Dilution: 0.996
Solids: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0024	U	108-90-7	Chlorobenzene	0.0024	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0024	U	75-00-3	Chloroethane	0.0024	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0024	U	67-66-3	Chloroform	0.0024	U
79-00-5	1,1,2-Trichloroethane	0.0024	U	74-87-3	Chloromethane	0.0024	U
75-34-3	1,1-Dichloroethane	0.0024	U	156-59-2	cis-1,2-Dichloroethene	0.0024	U
75-35-4	1,1-Dichloroethene	0.0024	U	10061-01-5	cis-1,3-Dichloropropene	0.0024	U
87-61-6	1,2,3-Trichlorobenzene	0.0024	U	110-82-7	Cyclohexane	0.0024	U
120-82-1	1,2,4-Trichlorobenzene	0.0024	U	124-48-1	Dibromochloromethane	0.0024	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0024	U	75-71-8	Dichlorodifluoromethane	0.0024	U
106-93-4	1,2-Dibromoethane	0.00061	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0024	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0024	U	79601-23-1	m&p-Xylenes	0.0015	U
78-87-5	1,2-Dichloropropane	0.0024	U	79-20-9	Methyl Acetate	0.0024	U
541-73-1	1,3-Dichlorobenzene	0.0024	U	108-87-2	Methylcyclohexane	0.0024	U
106-46-7	1,4-Dichlorobenzene	0.0024	U	**75-09-2**	**Methylene Chloride**	**0.0024**	**0.0031**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0024	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0024	U	100-42-5	Styrene	0.0024	U
108-10-1	4-Methyl-2-Pentanone	0.0024	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0024	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0024	U	156-60-5	trans-1,2-Dichloroethene	0.0024	U
75-27-4	Bromodichloromethane	0.0024	U	10061-02-6	trans-1,3-Dichloropropene	0.0024	U
75-25-2	Bromoform	0.0024	U	79-01-6	Trichloroethene	0.0024	U
74-83-9	Bromomethane	0.0024	U	75-69-4	Trichlorofluoromethane	0.0024	U
75-15-0	Carbon Disulfide	0.0041	U	75-01-4	Vinyl Chloride	0.0024	U
56-23-5	Carbon Tetrachloride	0.0024	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *Total Target Concentration* 0.0031 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.

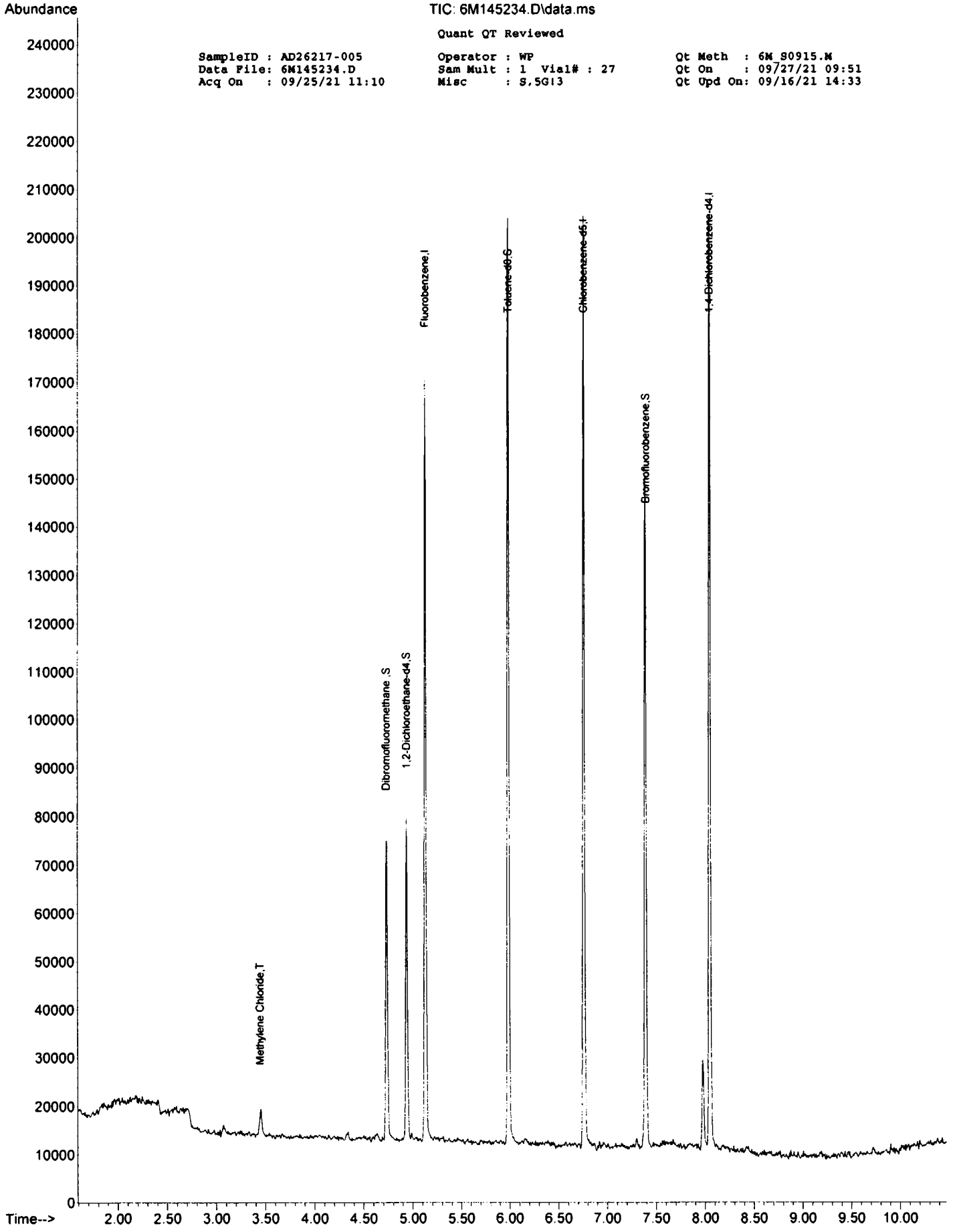
Quantitation Report (QT Reviewed)

SampleID : AD26217-005 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145234.D Sam Mult : 1 Vial# : 27 Qt On : 09/27/21 09:51
Acq On : 09/25/21 11:10 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	85085	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	70623	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	36820	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.733	111	25199	31.59	ug/l	0.00
Spiked Amount 30.000			Recovery = 105.30%			
39) 1,2-Dichloroethane-d4	4.940	67	14297	30.17	ug/l	0.00
Spiked Amount 30.000			Recovery = 100.57%			
66) Toluene-d8	5.989	98	85426	30.06	ug/l	0.00
Spiked Amount 30.000			Recovery = 100.20%			
76) Bromofluorobenzene	7.397	174	27028	29.76	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.20%			
Target Compounds						Qvalue
15) Methylene Chloride	3.446	84	1832	2.5390	ug/l	86

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


Abundance
TIC: 6M145234.D\data.ms
Quant QT Reviewed
SampleID : AD26217-005
Data File: 6M145234.D
Acq On : 09/25/21 11:10
Operator : WP
Sam Mult : 1 Vial# : 27
Misc : S,5G13
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:51
Qt Upd On: 09/16/21 14:33
Methylene Chloride,T
Dibromofluoromethane,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-007
Client Id: SB06 GRAB
Data File: 6M145235.D
Analysis Date: 09/25/21 11:30
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.11g
Final Vol: NA
Dilution: 0.978
Solids: 94

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0021	U	108-90-7	Chlorobenzene	0.0021	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0021	U	75-00-3	Chloroethane	0.0021	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0021	U	67-66-3	Chloroform	0.0021	U
79-00-5	1,1,2-Trichloroethane	0.0021	U	74-87-3	Chloromethane	0.0021	U
75-34-3	1,1-Dichloroethane	0.0021	U	156-59-2	cis-1,2-Dichloroethene	0.0021	U
75-35-4	1,1-Dichloroethene	0.0021	U	10061-01-5	cis-1,3-Dichloropropene	0.0021	U
87-61-6	1,2,3-Trichlorobenzene	0.0021	U	110-82-7	Cyclohexane	0.0021	U
120-82-1	1,2,4-Trichlorobenzene	0.0021	U	124-48-1	Dibromochloromethane	0.0021	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0021	U	75-71-8	Dichlorodifluoromethane	0.0021	U
106-93-4	1,2-Dibromoethane	0.00052	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	0.0012	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**	**0.0024**
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	0.0035	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 #: 610840

Total Target Concentration 0.0024

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.

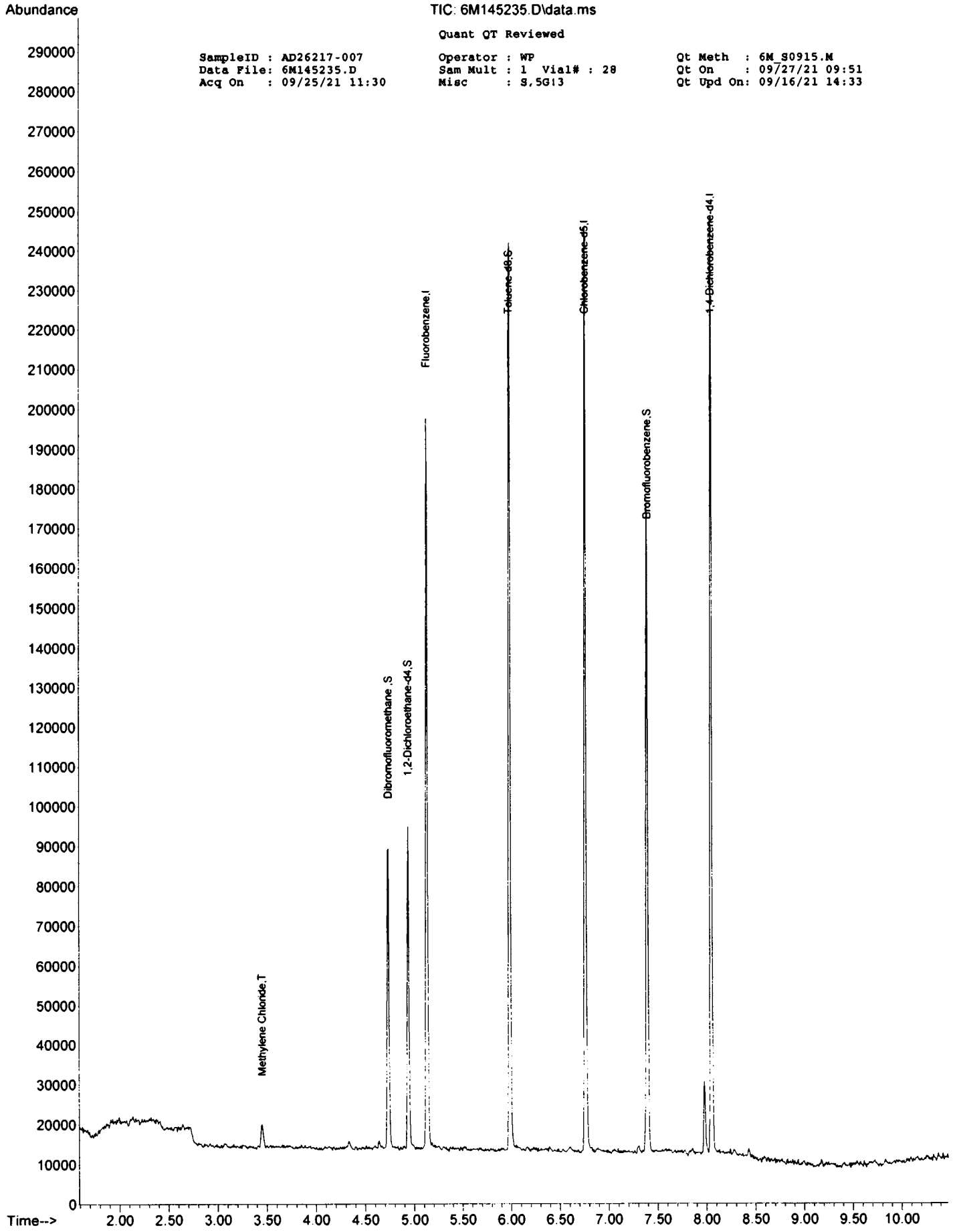
Quantitation Report (QT Reviewed)

SampleID : AD26217-007 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145235.D Sam Mult : 1 Vial# : 28 Qt On : 09/27/21 09:51
Acq On : 09/25/21 11:30 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	103709	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	85925	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	43679	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	30388	31.25	ug/l	0.00
Spiked Amount 30.000			Recovery = 104.17%			
39) 1,2-Dichloroethane-d4	4.940	67	15385	26.64	ug/l	0.00
Spiked Amount 30.000			Recovery = 88.80%			
66) Toluene-d8	5.983	98	103263	29.87	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.57%			
76) Bromofluorobenzene	7.397	174	32239	29.93	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.77%			
Target Compounds						Qvalue
15) Methylene Chloride	3.453	84	2004	2.2786	ug/l	94

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


Abundance
TIC: 6M145235.D\data.ms
Quant QT Reviewed
SampleID : AD26217-007
Data File: 6M145235.D
Acq On : 09/25/21 11:30
Operator : WP
Sam Mult : 1 Vial# : 28
Misc : S,5G13
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:51
Qt Upd On: 09/16/21 14:33
Methylene Chloride,T
Dibromofluoromethane,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-009
Client Id: SB05 GRAB
Data File: 6M145236.D
Analysis Date: 09/25/21 11:51
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.04g
Final Vol: NA
Dilution: 0.992
Solids: 85

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	0.0023	U	110-82-7	Cyclohexane	0.0023	U
120-82-1	1,2,4-Trichlorobenzene	0.0023	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	0.00058	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0023	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0023	U	79601-23-1	m&p-Xylenes	0.0014	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**	**0.0033**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	**2-Butanone**	**0.0023**	**0.016**	95-47-6	o-Xylene	0.0012	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	0.012	U
67-64-1	**Acetone**	**0.012**	**0.090**	127-18-4	Tetrachloroethene	0.0023	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	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	0.0040	U	75-01-4	Vinyl Chloride	0.0023	U
56-23-5	Carbon Tetrachloride	0.0023	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 ***Total Target Concentration*** 0.11 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.

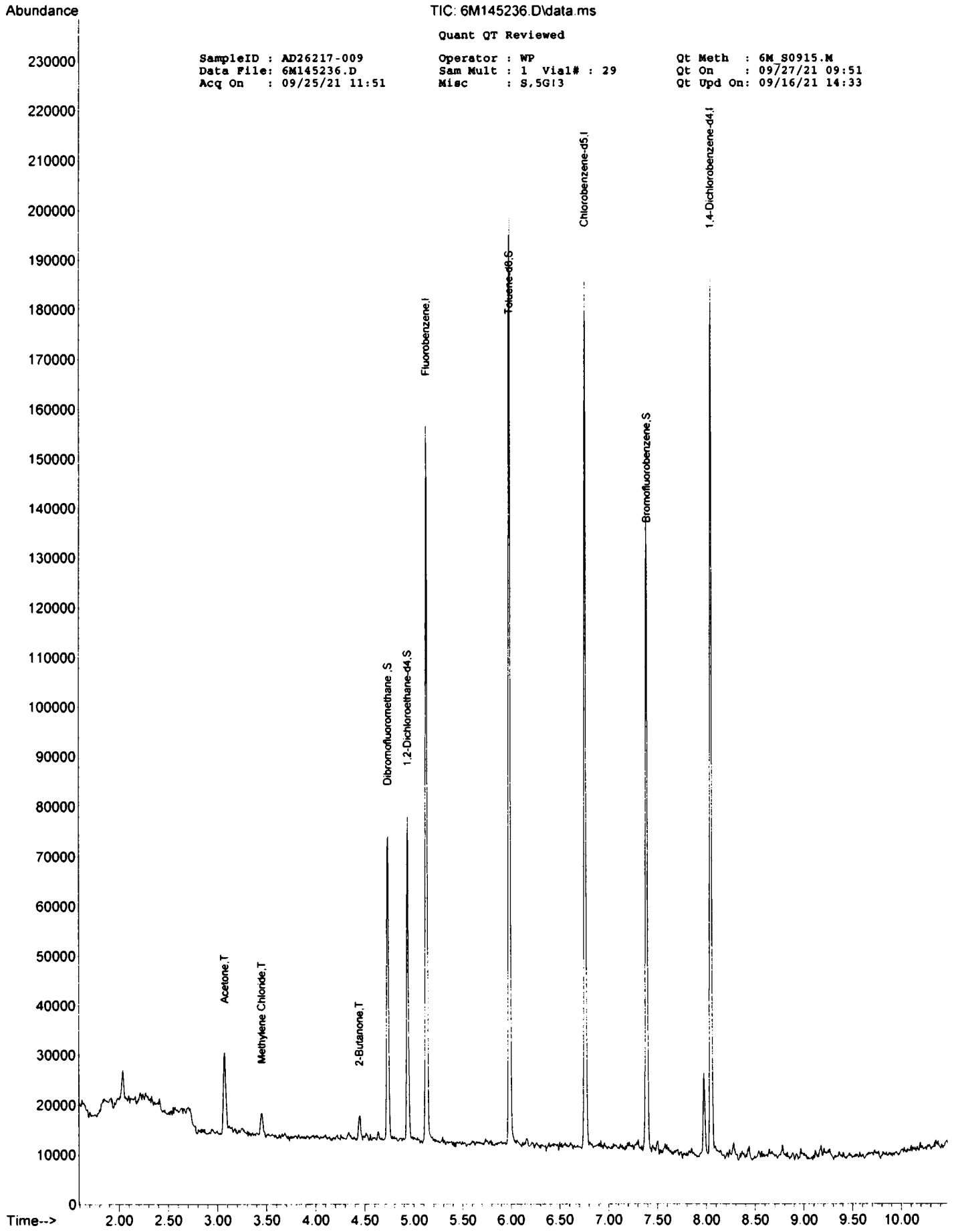
Quantitation Report (QT Reviewed)

SampleID : AD26217-009 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145236.D Sam Mult : 1 Vial# : 29 Qt On : 09/27/21 09:51
Acq On : 09/25/21 11:51 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	80526	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	65845	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	32595	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	24625	32.62	ug/l	0.00
Spiked Amount 30.000			Recovery = 108.73%			
39) 1,2-Dichloroethane-d4	4.940	67	13182	29.39	ug/l	0.00
Spiked Amount 30.000			Recovery = 97.97%			
66) Toluene-d8	5.989	98	80621	30.43	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.43%			
76) Bromofluorobenzene	7.397	174	24025	29.89	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.63%			
Target Compounds						Qvalue
15) Methylene Chloride	3.453	84	1934	2.8321	ug/l	91
19) Acetone	3.075	43	19738	76.8862	ug/l	90
41) 2-Butanone	4.446	43	5257	13.5341	ug/l	89

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


Abundance
TIC: 6M145236.D\data.ms
Quant QT Reviewed
SampleID : AD26217-009
Data File: 6M145236.D
Acq On : 09/25/21 11:51
Operator : WP
Sam Mult : 1 Vial# : 29
Misc : S,5G13
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:51
Qt Upd On: 09/16/21 14:33
Acetone,T
Methylene Chloride,T
2-Butanone,T
Dibromofluoromethane ,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-011
Client Id: SB04 GRAB
Data File: 6M145237.D
Analysis Date: 09/25/21 12:11
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.07g
Final Vol: NA
Dilution: 0.986
Solids: 83

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0024	U	108-90-7	Chlorobenzene	0.0024	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0024	U	75-00-3	Chloroethane	0.0024	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0024	U	67-66-3	Chloroform	0.0024	U
79-00-5	1,1,2-Trichloroethane	0.0024	U	74-87-3	Chloromethane	0.0024	U
75-34-3	1,1-Dichloroethane	0.0024	U	156-59-2	cis-1,2-Dichloroethene	0.0024	U
75-35-4	1,1-Dichloroethene	0.0024	U	10061-01-5	cis-1,3-Dichloropropene	0.0024	U
87-61-6	1,2,3-Trichlorobenzene	0.0024	U	110-82-7	Cyclohexane	0.0024	U
120-82-1	1,2,4-Trichlorobenzene	0.0024	U	124-48-1	Dibromochloromethane	0.0024	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0024	U	75-71-8	Dichlorodifluoromethane	0.0024	U
106-93-4	1,2-Dibromoethane	0.00059	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0024	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0024	U	79601-23-1	m&p-Xylenes	0.0014	U
78-87-5	1,2-Dichloropropane	0.0024	U	79-20-9	Methyl Acetate	0.0024	U
541-73-1	1,3-Dichlorobenzene	0.0024	U	108-87-2	Methylcyclohexane	0.0024	U
106-46-7	1,4-Dichlorobenzene	0.0024	U	**75-09-2**	**Methylene Chloride**	**0.0024**	**0.0035**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0024	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0024	U	100-42-5	Styrene	0.0024	U
108-10-1	4-Methyl-2-Pentanone	0.0024	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0024	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0024	U	156-60-5	trans-1,2-Dichloroethene	0.0024	U
75-27-4	Bromodichloromethane	0.0024	U	10061-02-6	trans-1,3-Dichloropropene	0.0024	U
75-25-2	Bromoform	0.0024	U	79-01-6	Trichloroethene	0.0024	U
74-83-9	Bromomethane	0.0024	U	75-69-4	Trichlorofluoromethane	0.0024	U
75-15-0	Carbon Disulfide	0.0040	U	75-01-4	Vinyl Chloride	0.0024	U
56-23-5	Carbon Tetrachloride	0.0024	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *Total Target Concentration* 0.0035 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.

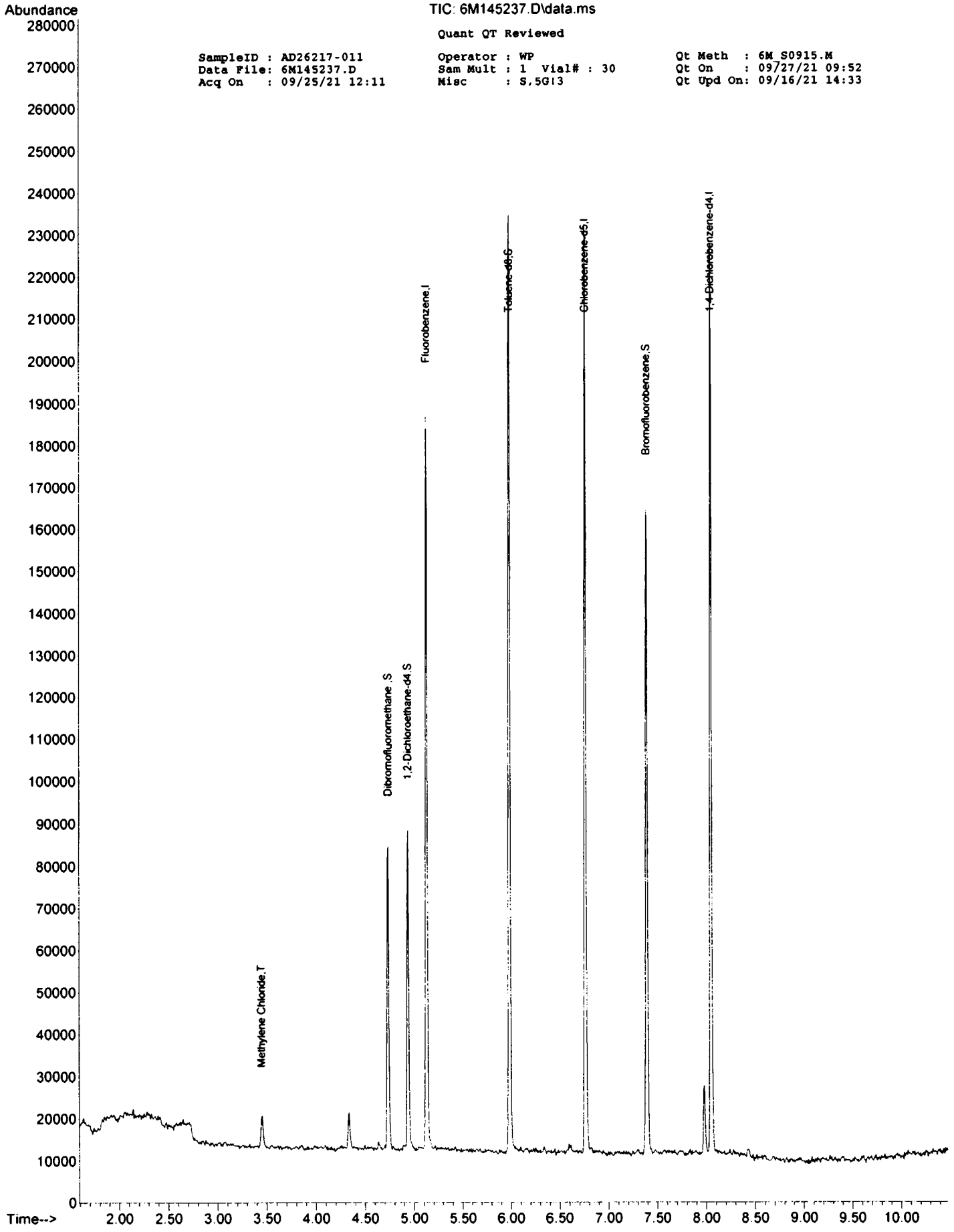
Quantitation Report (QT Reviewed)

SampleID : AD26217-011 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145237.D Sam Mult : 1 Vial# : 30 Qt On : 09/27/21 09:52
Acq On : 09/25/21 12:11 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	99848	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	81141	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.050	152	40615	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	29209	31.20	ug/l	0.00
Spiked Amount 30.000			Recovery = 104.00%			
39) 1,2-Dichloroethane-d4	4.940	67	15252	27.43	ug/l	0.00
Spiked Amount 30.000			Recovery = 91.43%			
66) Toluene-d8	5.989	98	97588	29.89	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.63%			
76) Bromofluorobenzene	7.391	174	29933	29.88	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.60%			
Target Compounds						Qvalue
15) Methylene Chloride	3.447	84	2490	2.9407	ug/l	94

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


Abundance
TIC: 6M145237.D\data.ms
Quant QT Reviewed
SampleID : AD26217-011
Data File: 6M145237.D
Acq On : 09/25/21 12:11
Operator : WP
Sam Mult : 1 Vial# : 30
Misc : S,5G13
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:52
Qt Upd On: 09/16/21 14:33
Methylene Chloride,T
Dibromofluoromethane,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-013
Client Id: SB03 GRAB
Data File: 6M145238.D
Analysis Date: 09/25/21 12:32
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5.04g
Final Vol: NA
Dilution: 0.992
Solids: 83

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0024	U	108-90-7	Chlorobenzene	0.0024	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0024	U	75-00-3	Chloroethane	0.0024	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0024	U	67-66-3	Chloroform	0.0024	U
79-00-5	1,1,2-Trichloroethane	0.0024	U	74-87-3	Chloromethane	0.0024	U
75-34-3	1,1-Dichloroethane	0.0024	U	156-59-2	cis-1,2-Dichloroethene	0.0024	U
75-35-4	1,1-Dichloroethene	0.0024	U	10061-01-5	cis-1,3-Dichloropropene	0.0024	U
87-61-6	1,2,3-Trichlorobenzene	0.0024	U	110-82-7	Cyclohexane	0.0024	U
120-82-1	1,2,4-Trichlorobenzene	0.0024	U	124-48-1	Dibromochloromethane	0.0024	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0024	U	75-71-8	Dichlorodifluoromethane	0.0024	U
106-93-4	1,2-Dibromoethane	0.00060	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0024	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0024	U	79601-23-1	m&p-Xylenes	0.0014	U
78-87-5	1,2-Dichloropropane	0.0024	U	79-20-9	Methyl Acetate	0.0024	U
541-73-1	1,3-Dichlorobenzene	0.0024	U	108-87-2	Methylcyclohexane	0.0024	U
106-46-7	1,4-Dichlorobenzene	0.0024	U	**75-09-2**	**Methylene Chloride**	**0.0024**	**0.014**
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0024	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0024	U	100-42-5	Styrene	0.0024	U
108-10-1	4-Methyl-2-Pentanone	0.0024	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0024	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0024	U	156-60-5	trans-1,2-Dichloroethene	0.0024	U
75-27-4	Bromodichloromethane	0.0024	U	10061-02-6	trans-1,3-Dichloropropene	0.0024	U
75-25-2	Bromoform	0.0024	U	79-01-6	Trichloroethene	0.0024	U
74-83-9	Bromomethane	0.0024	U	75-69-4	Trichlorofluoromethane	0.0024	U
75-15-0	Carbon Disulfide	0.0041	U	75-01-4	Vinyl Chloride	0.0024	U
56-23-5	Carbon Tetrachloride	0.0024	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *Total Target Concentration* 0.014 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.

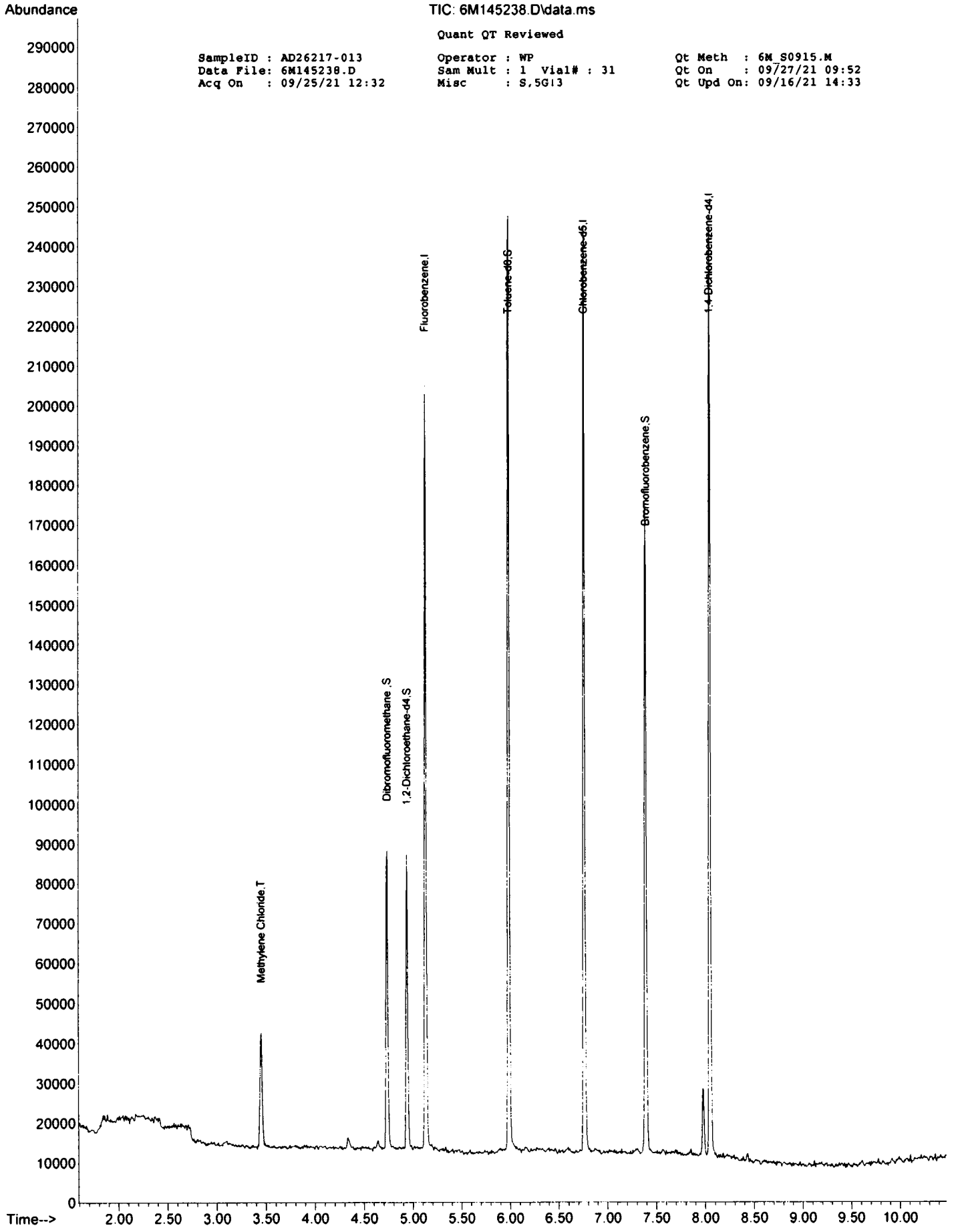
Quantitation Report (QT Reviewed)

SampleID : AD26217-013 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145238.D Sam Mult : 1 Vial# : 31 Qt On : 09/27/21 09:52
Acq On : 09/25/21 12:32 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	102435	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	85319	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	43429	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	29672	30.90	ug/l	0.00
Spiked Amount 30.000			Recovery = 103.00%			
39) 1,2-Dichloroethane-d4	4.940	67	15995	28.04	ug/l	0.00
Spiked Amount 30.000			Recovery = 93.47%			
66) Toluene-d8	5.989	98	102849	29.96	ug/l	0.00
Spiked Amount 30.000			Recovery = 99.87%			
76) Bromofluorobenzene	7.397	174	32533	30.37	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.23%			
Target Compounds						Qvalue
15) Methylene Chloride	3.453	84	10307	11.8653	ug/l	96

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


Abundance
TIC: 6M145238.D\data.ms
Quant QT Reviewed
SampleID : AD26217-013
Data File: 6M145238.D
Acq On : 09/25/21 12:32
Operator : WP
Sam Mult : 1 Vial# : 31
Misc : S,5G13
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:52
Qt Upd On: 09/16/21 14:33
Methylene Chloride,T
Dibromofluoromethane ,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->

Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-015
Client Id: SB02 GRAB
Data File: 6M145239.D
Analysis Date: 09/25/21 12:52
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 4.98g
Final Vol: NA
Dilution: 1.00
Solids: 76

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	0.0026	U	110-82-7	Cyclohexane	0.0026	U
120-82-1	1,2,4-Trichlorobenzene	0.0026	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	0.00066	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	0.0016	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**	**0.0030**
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	U	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**	**0.033**	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	0.0045	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 #: 610840 *Total Target Concentration* 0.036 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)

SampleID : AD26217-015 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145239.D Sam Mult : 1 Vial# : 32 Qt On : 09/27/21 09:52
Acq On : 09/25/21 12:52 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	96581	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	73017	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	29389	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.733	111	29225	32.28	ug/l	0.00
Spiked Amount 30.000			Recovery = 107.60%			
39) 1,2-Dichloroethane-d4	4.940	67	15204	28.27	ug/l	0.00
Spiked Amount 30.000			Recovery = 94.23%			
66) Toluene-d8	5.989	98	95689	32.57	ug/l	0.00
Spiked Amount 30.000			Recovery = 108.57%			
76) Bromofluorobenzene	7.397	174	25422	35.07	ug/l	0.00
Spiked Amount 30.000			Recovery = 116.90%			
Target Compounds						Qvalue
15) Methylene Chloride	3.453	84	1858	2.2686	ug/l	94
19) Acetone	3.069	43	7624	24.7613	ug/l	70

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

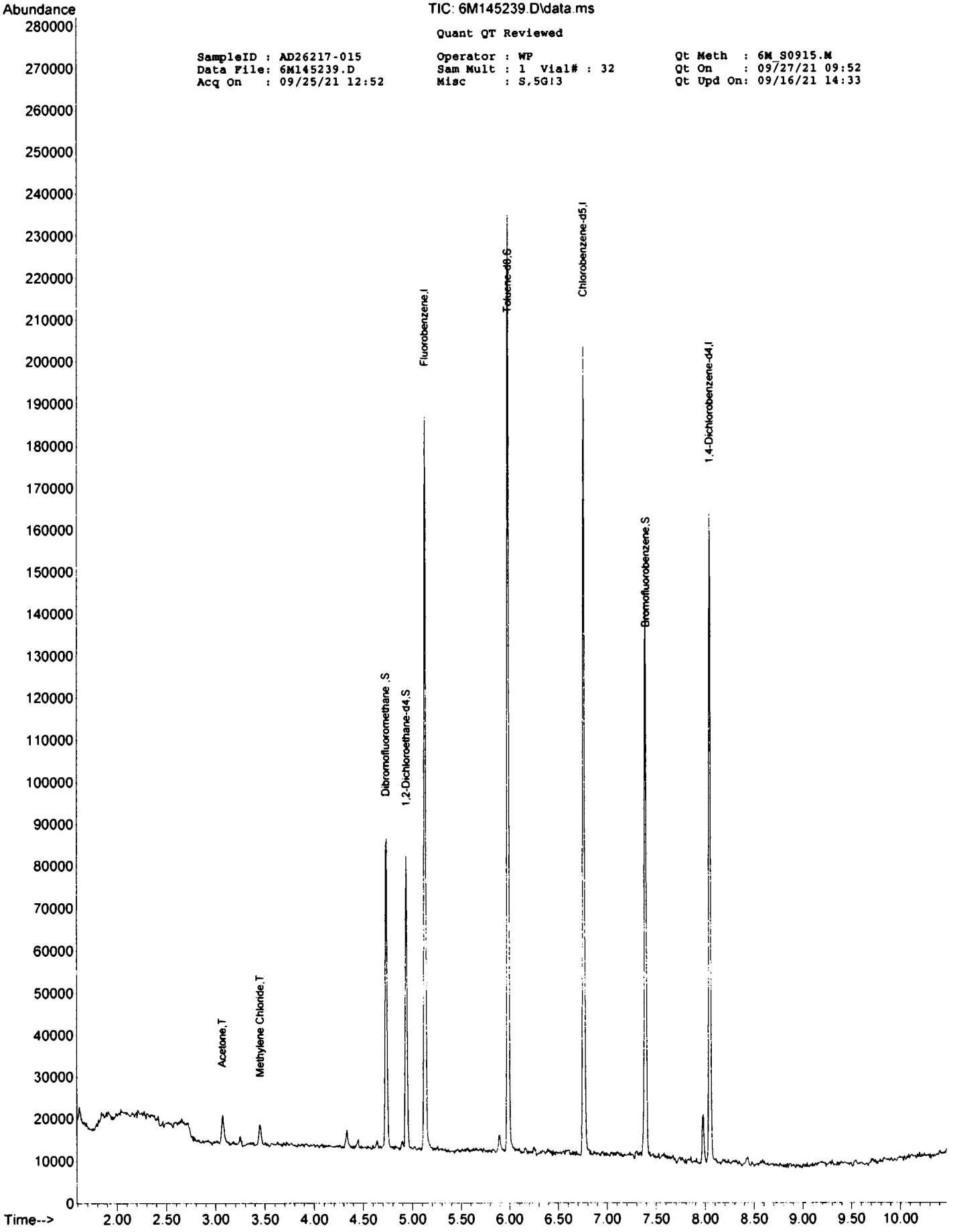
TIC: 6M145239.D\data.ms

Quant QT Reviewed

SampleID : AD26217-015
Data File: 6M145239.D
Acq On : 09/25/21 12:52

Operator : WP
Sam Mult : 1 Vial# : 32
Misc : S,5G13

Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:52
Qt Upd On: 09/16/21 14:33



Form1

ORGANICS VOLATILE REPORT

Sample Number: AD26217-017
Client Id: SB01 GRAB
Data File: 6M145240.D
Analysis Date: 09/25/21 13:13
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 4.99g
Final Vol: NA
Dilution: 1.00
Solids: 81

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0025	U	108-90-7	Chlorobenzene	0.0025	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0025	U	75-00-3	Chloroethane	0.0025	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0025	U	67-66-3	Chloroform	0.0025	U
79-00-5	1,1,2-Trichloroethane	0.0025	U	74-87-3	Chloromethane	0.0025	U
75-34-3	1,1-Dichloroethane	0.0025	U	156-59-2	cis-1,2-Dichloroethene	0.0025	U
75-35-4	1,1-Dichloroethene	0.0025	U	10061-01-5	cis-1,3-Dichloropropene	0.0025	U
87-61-6	1,2,3-Trichlorobenzene	0.0025	U	110-82-7	Cyclohexane	0.0025	U
120-82-1	1,2,4-Trichlorobenzene	0.0025	U	124-48-1	Dibromochloromethane	0.0025	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0025	U	75-71-8	Dichlorodifluoromethane	0.0025	U
106-93-4	1,2-Dibromoethane	0.00062	U	100-41-4	Ethylbenzene	0.0012	U
95-50-1	1,2-Dichlorobenzene	0.0025	U	98-82-8	Isopropylbenzene	0.0012	U
107-06-2	1,2-Dichloroethane	0.0025	U	79601-23-1	m&p-Xylenes	0.0015	U
78-87-5	1,2-Dichloropropane	0.0025	U	79-20-9	Methyl Acetate	0.0025	U
541-73-1	1,3-Dichlorobenzene	0.0025	U	108-87-2	Methylcyclohexane	0.0025	U
106-46-7	1,4-Dichlorobenzene	0.0025	U	75-09-2	Methylene Chloride	0.0025	U
123-91-1	1,4-Dioxane	0.12	U	1634-04-4	Methyl-t-butyl ether	0.0012	U
78-93-3	2-Butanone	0.0025	U	95-47-6	o-Xylene	0.0012	U
591-78-6	2-Hexanone	0.0025	U	100-42-5	Styrene	0.0025	U
108-10-1	4-Methyl-2-Pentanone	0.0025	U	75-65-0	t-Butyl Alcohol	0.012	U
67-64-1	Acetone	0.012	U	127-18-4	Tetrachloroethene	0.0025	U
71-43-2	Benzene	0.0012	U	108-88-3	Toluene	0.0012	U
74-97-5	Bromochloromethane	0.0025	U	156-60-5	trans-1,2-Dichloroethene	0.0025	U
75-27-4	Bromodichloromethane	0.0025	U	10061-02-6	trans-1,3-Dichloropropene	0.0025	U
75-25-2	Bromoform	0.0025	U	79-01-6	Trichloroethene	0.0025	U
74-83-9	Bromomethane	0.0025	U	75-69-4	Trichlorofluoromethane	0.0025	U
75-15-0	Carbon Disulfide	0.0042	U	75-01-4	Vinyl Chloride	0.0025	U
56-23-5	Carbon Tetrachloride	0.0025	U	1330-20-7	Xylenes (Total)	0.0012	U

Worksheet #: 610840 *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)

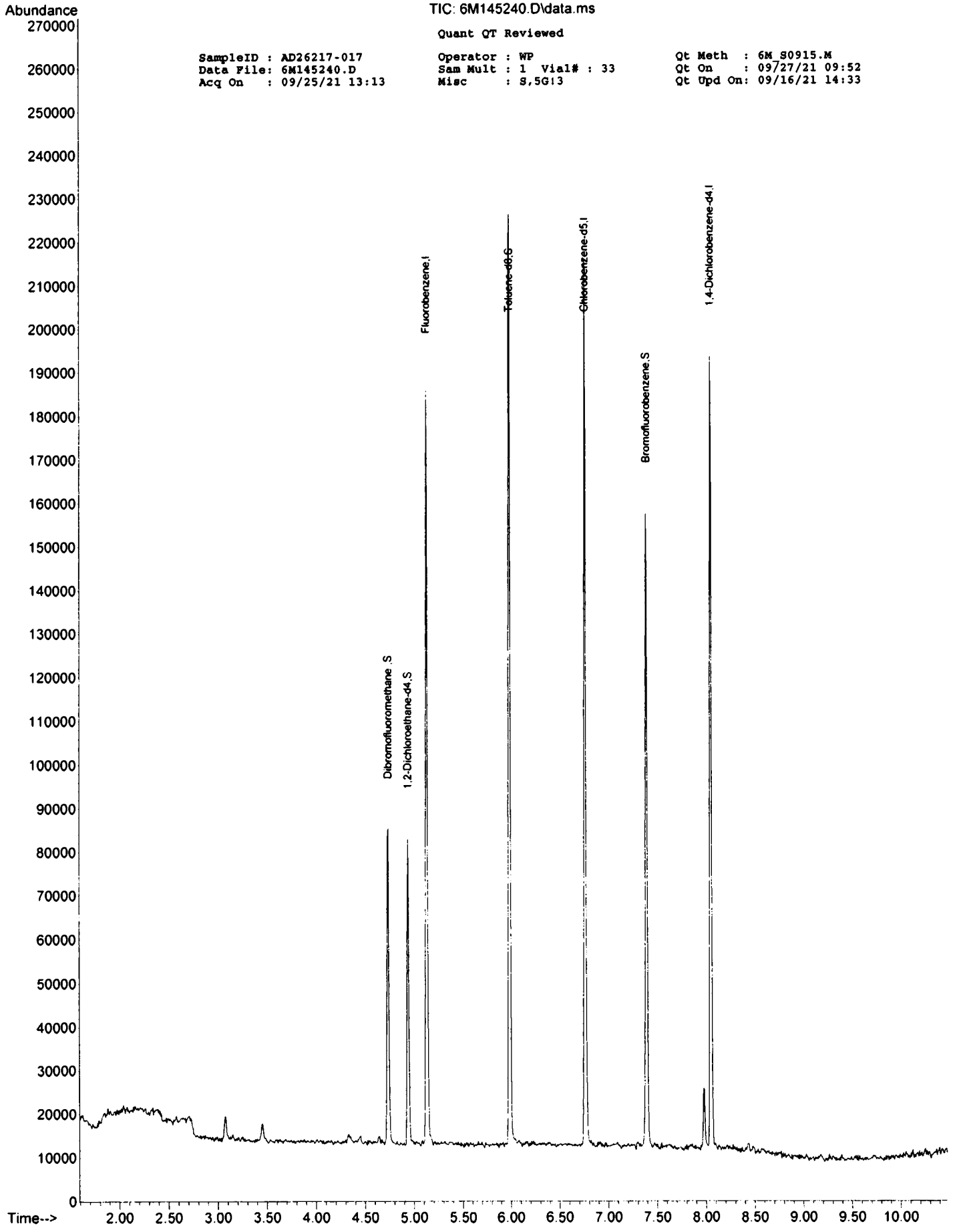
SampleID : AD26217-017 Operator : WP Qt Meth : 6M_S0915.M
Data File: 6M145240.D Sam Mult : 1 Vial# : 33 Qt On : 09/27/21 09:52
Acq On : 09/25/21 13:13 Misc : S,5G!3 Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	95167	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	76497	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	33578	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	28954	32.45	ug/l	0.00
Spiked Amount 30.000			Recovery = 108.17%			
39) 1,2-Dichloroethane-d4	4.940	67	15250	28.77	ug/l	0.00
Spiked Amount 30.000			Recovery = 95.90%			
66) Toluene-d8	5.989	98	96747	31.43	ug/l	0.00
Spiked Amount 30.000			Recovery = 104.77%			
76) Bromofluorobenzene	7.391	174	28253	34.12	ug/l	0.00
Spiked Amount 30.000			Recovery = 113.73%			

Target Compounds Qvalue

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


Abundance
TIC: 6M145240.D\data.ms
Quant QT Reviewed
SampleID : AD26217-017
Data File: 6M145240.D
Acq On : 09/25/21 13:13
Operator : WP
Sam Mult : 1 Vial# : 33
Misc : S,5G13
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:52
Qt Upd On: 09/16/21 14:33
Dibromofluoromethane,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->

Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 6M145218.D
Analysis Date: 09/25/21 05:41
Date Rec/Extracted:
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8260D
Matrix: Soil
Initial Vol: 5g
Final Vol: NA
Dilution: 1.00
Solids: 100

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
71-55-6	1,1,1-Trichloroethane	0.0020	U	108-90-7	Chlorobenzene	0.0020	U
79-34-5	1,1,2,2-Tetrachloroethane	0.0020	U	75-00-3	Chloroethane	0.0020	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluor	0.0020	U	67-66-3	Chloroform	0.0020	U
79-00-5	1,1,2-Trichloroethane	0.0020	U	74-87-3	Chloromethane	0.0020	U
75-34-3	1,1-Dichloroethane	0.0020	U	156-59-2	cis-1,2-Dichloroethene	0.0020	U
75-35-4	1,1-Dichloroethene	0.0020	U	10061-01-5	cis-1,3-Dichloropropene	0.0020	U
87-61-6	1,2,3-Trichlorobenzene	0.0020	U	110-82-7	Cyclohexane	0.0020	U
120-82-1	1,2,4-Trichlorobenzene	0.0020	U	124-48-1	Dibromochloromethane	0.0020	U
96-12-8	1,2-Dibromo-3-Chloropropa	0.0020	U	75-71-8	Dichlorodifluoromethane	0.0020	U
106-93-4	1,2-Dibromoethane	0.00050	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	0.0012	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	0.0034	U	75-01-4	Vinyl Chloride	0.0020	U
56-23-5	Carbon Tetrachloride	0.0020	U				

Worksheet #: 610840 *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)

SampleID : DAILY BLANK
Data File: 6M145218.D
Acq On : 09/25/21 05:41

Operator : WP
Sam Mult : 1 Vial# : 11
Misc : S,5G

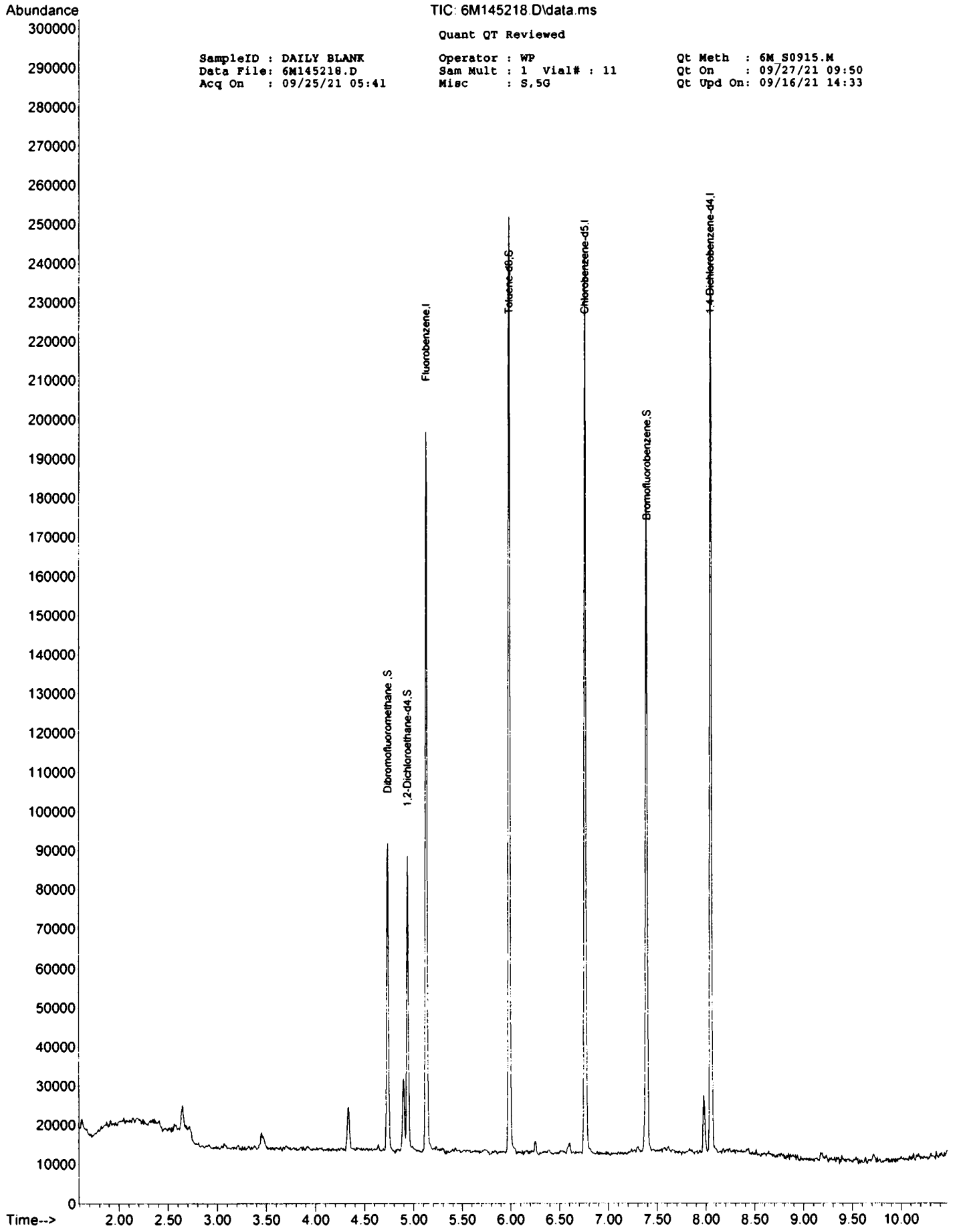
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:50
Qt Upd On: 09/16/21 14:33

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Qt Path : G:\GcMsData\2021\GCMS_6\MethodQt\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
4) Fluorobenzene	5.129	96	107889	30.00	ug/l	0.00
52) Chlorobenzene-d5	6.763	117	86007	30.00	ug/l	0.00
70) 1,4-Dichlorobenzene-d4	8.049	152	42952	30.00	ug/l	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	4.739	111	29865	29.52	ug/l	0.00
Spiked Amount 30.000			Recovery = 98.40%			
39) 1,2-Dichloroethane-d4	4.940	67	15591	25.95	ug/l	0.00
Spiked Amount 30.000			Recovery = 86.50%			
66) Toluene-d8	5.989	98	105222	30.41	ug/l	0.00
Spiked Amount 30.000			Recovery = 101.37%			
76) Bromofluorobenzene	7.397	174	32980	31.13	ug/l	0.00
Spiked Amount 30.000			Recovery = 103.77%			

Target Compounds Qvalue

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


Abundance
TIC: 6M145218.D\data.ms
Quant QT Reviewed
SampleID : DAILY BLANK
Data File: 6M145218.D
Acq On : 09/25/21 05:41
Operator : WP
Sam Mult : 1 Vial# : 11
Misc : S,5G
Qt Meth : 6M_S0915.M
Qt On : 09/27/21 09:50
Qt Upd On: 09/16/21 14:33
Dibromofluoromethane,S
1,2-Dichloroethane-d4,S
Fluorobenzene,I
Toluene-d8,S
Chlorobenzene-d5,I
Bromofluorobenzene,S
1,4-Dichlorobenzene-d4,I
Time-->

FORM2

Surrogate Recovery

Method: EPA 8260D

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
6M145218.D	DAILY BLANK	S	09/25/21 05:41	1		98	86	101	104		
6M145232.D	AD26217-001	S	09/25/21 10:28	1		106	95	95	102		
6M145233.D	AD26217-003	S	09/25/21 10:49	1		105	89	102	101		
6M145234.D	AD26217-005	S	09/25/21 11:10	1		105	101	100	99		
6M145235.D	AD26217-007	S	09/25/21 11:30	1		104	89	100	100		
6M145236.D	AD26217-009	S	09/25/21 11:51	1		109	98	101	100		
6M145237.D	AD26217-011	S	09/25/21 12:11	1		104	91	100	100		
6M145238.D	AD26217-013	S	09/25/21 12:32	1		103	93	100	101		
6M145239.D	AD26217-015	S	09/25/21 12:52	1		108	94	109	117		
6M145240.D	AD26217-017	S	09/25/21 13:13	1		108	96	105	114		
6M145219.D	MBS96807	S	09/25/21 06:02	1		100	89	103	104		
6M145221.D	AD26074-005	S	09/25/21 06:43	1		105	95	104	111		
6M145222.D	AD26074-005(MS)	S	09/25/21 07:03	1		100	88	106	107		
6M145223.D	AD26074-005(MSD)	S	09/25/21 07:24	1		101	88	104	101		

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8260D

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: MBS96807

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M145219.D	MBS96807	9/25/2021 6:02:00 AM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	40.9701	0	50	82	20	130
Dichlorodifluoromethane	1	113.8408	0	50	228*	20	130
Chloromethane	1	48.4936	0	50	97	20	130
Bromomethane	1	53.6712	0	50	107	20	130
Vinyl Chloride	1	53.483	0	50	107	20	130
Chloroethane	1	50.3585	0	50	101	20	130
Trichlorofluoromethane	1	53.7763	0	50	108	20	130
Ethyl ether	1	40.8978	0	50	82	50	130
Furan	1	37.5392	0	50	75	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	46.0484	0	50	92	50	130
Methylene Chloride	1	43.4688	0	50	87	50	130
Acrolein	1	192.29	0	200	96	20	130
Acrylonitrile	1	35.1948	0	50	70	20	130
Iodomethane	1	45.771	0	50	92	50	130
Acetone	1	174.3952	0	200	87	20	130
Carbon Disulfide	1	45.1362	0	50	90	50	130
t-Butyl Alcohol	1	184.8276	0	200	92	20	130
n-Hexane	1	38.8129	0	50	78	50	130
Di-isopropyl-ether	1	37.9146	0	50	76	50	130
1,1-Dichloroethene	1	39.3419	0	50	79	50	130
Methyl Acetate	1	37.4646	0	50	75	50	130
Methyl-t-butyl ether	1	44.0891	0	50	88	50	130
1,1-Dichloroethane	1	42.0076	0	50	84	50	130
trans-1,2-Dichloroethene	1	45.0144	0	50	90	50	130
Ethyl-t-butyl ether	1	41.4068	0	50	83	50	130
cis-1,2-Dichloroethene	1	41.0223	0	50	82	50	130
Bromochloromethane	1	37.6575	0	50	75	50	130
2,2-Dichloropropane	1	33.9949	0	50	68	50	130
Ethyl acetate	1	34.6131	0	50	69	50	130
1,4-Dioxane	1	2324.638	0	2500	93	50	130
1,1-Dichloropropene	1	43.7891	0	50	88	50	130
Chloroform	1	43.3076	0	50	87	50	130
Cyclohexane	1	38.8253	0	50	78	50	130
1,2-Dichloroethane	1	39.7732	0	50	80	50	130
2-Butanone	1	30.8498	0	50	62	20	130
1,1,1-Trichloroethane	1	45.0596	0	50	90	50	130
Carbon Tetrachloride	1	45.9269	0	50	92	50	130
Vinyl Acetate	1	35.1153	0	50	70	50	130
Bromodichloromethane	1	43.6839	0	50	87	50	130
Methylcyclohexane	1	45.4334	0	50	91	50	130
Dibromomethane	1	47.4967	0	50	95	50	130
1,2-Dichloropropane	1	40.9185	0	50	82	50	130
Trichloroethene	1	46.4605	0	50	93	50	130
Benzene	1	46.0096	0	50	92	50	130
tert-Amyl methyl ether	1	45.4508	0	50	91	50	130
Iso-propylacetate	1	36.6737	0	50	73	50	130
Methyl methacrylate	1	37.5223	0	50	75	50	130
Dibromochloromethane	1	47.5664	0	50	95	50	130
2-Chloroethylvinylether	1	57.632	0	50	115	50	130
cis-1,3-Dichloropropene	1	44.6	0	50	89	50	130
trans-1,3-Dichloropropene	1	44.9405	0	50	90	50	130
Ethyl methacrylate	1	36.3616	0	50	73	50	130
1,1,2-Trichloroethane	1	45.4121	0	50	91	50	130
1,2-Dibromoethane	1	46.1065	0	50	92	50	130
1,3-Dichloropropane	1	43.9998	0	50	88	50	130
4-Methyl-2-Pentanone	1	37.2365	0	50	74	20	130
2-Hexanone	1	36.894	0	50	74	20	130
Tetrachloroethene	1	43.4627	0	50	87	50	130
Toluene	1	46.0194	0	50	92	50	130
1,1,1,2-Tetrachloroethane	1	46.4481	0	50	93	50	130
Chlorobenzene	1	45.4029	0	50	91	50	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	40.1408	0	50	80	50	130
n-Amyl acetate	1	39.8878	0	50	80	50	130
Bromoform	**1**	**49.8548**	**0**	**50**	**100**	**20**	**130**
Ethylbenzene	**1**	**49.94**	**0**	**50**	**100**	**50**	**130**
1,1,2,2-Tetrachloroethane	**1**	**46.9736**	**0**	**50**	**94**	**50**	**130**
Styrene	**1**	**48.4563**	**0**	**50**	**97**	**50**	**130**
m&p-Xylenes	**1**	**101.6396**	**0**	**100**	**102**	**50**	**130**
o-Xylene	**1**	**49.3139**	**0**	**50**	**99**	**50**	**130**
trans-1,4-Dichloro-2-butene	1	39.6971	0	50	79	20	130
1,3-Dichlorobenzene	**1**	**44.9443**	**0**	**50**	**90**	**50**	**130**
1,4-Dichlorobenzene	**1**	**44.1387**	**0**	**50**	**88**	**50**	**130**
1,2-Dichlorobenzene	**1**	**46.0417**	**0**	**50**	**92**	**50**	**130**
Isopropylbenzene	**1**	**47.7623**	**0**	**50**	**96**	**50**	**130**
Cyclohexanone	1	178.3555	0	250	71	50	130
Camphene	1	47.1291	0	50	94	50	130
1,2,3-Trichloropropane	1	44.898	0	50	90	50	130
2-Chlorotoluene	1	45.513	0	50	91	50	130
p-Ethyltoluene	1	44.5022	0	50	89	50	130
4-Chlorotoluene	1	45.4867	0	50	91	50	130
n-Propylbenzene	1	47.0935	0	50	94	50	130
Bromobenzene	1	44.4902	0	50	89	50	130
1,3,5-Trimethylbenzene	1	47.2819	0	50	95	50	130
Butyl methacrylate	1	38.4118	0	50	77	50	130
t-Butylbenzene	1	47.743	0	50	95	50	130
1,2,4-Trimethylbenzene	1	47.1351	0	50	94	50	130
sec-Butylbenzene	1	48.1052	0	50	96	50	130
4-Isopropyltoluene	1	45.5025	0	50	91	50	130
n-Butylbenzene	1	45.0811	0	50	90	50	130
p-Diethylbenzene	1	42.9132	0	50	86	50	130
1,2,4,5-Tetramethylbenzene	1	40.2773	0	50	81	50	130
1,2-Dibromo-3-Chloropropane	**1**	**46.1656**	**0**	**50**	**92**	**50**	**130**
Camphor	1	396.8035	0	500	79	50	130
Hexachlorobutadiene	1	44.0547	0	50	88	50	130
1,2,4-Trichlorobenzene	**1**	**40.2505**	**0**	**50**	**81**	**50**	**130**
1,2,3-Trichlorobenzene	**1**	**40.2083**	**0**	**50**	**80**	**50**	**130**
Naphthalene	1	38.4118	0	50	77	50	130

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Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M145222.D	AD26074-005(MS)	9/25/2021 7:03:00 AM
Non Spike(If applicable):	6M145221.D	AD26074-005	9/25/2021 6:43:00 AM
Inst Blank(If applicable):			

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	36.5466	0	50	73	20	130
Dichlorodifluoromethane	1	113.5979	0	50	227*	20	130
Chloromethane	1	47.0729	0	50	94	20	130
Bromomethane	1	44.6237	0	50	89	20	130
Vinyl Chloride	1	52.637	0	50	105	20	130
Chloroethane	1	48.321	0	50	97	20	130
Trichlorofluoromethane	1	52.6269	0	50	105	20	130
Ethyl ether	1	39.1606	0	50	78	50	130
Furan	1	35.4154	0	50	71	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	1	46.1849	0	50	92	50	130
Methylene Chloride	1	39.7931	0	50	80	50	130
Acrolein	1	10.0886	0	200	5*	20	130
Acrylonitrile	1	24.0474	0	50	48	20	130
Iodomethane	1	32.8149	0	50	66	50	130
Acetone	1	159.3897	0	200	80	20	130
Carbon Disulfide	1	39.1485	0	50	78	50	130
t-Butyl Alcohol	1	168.7036	0	200	84	20	130
n-Hexane	1	30.1341	0	50	60	50	130
Di-isopropyl-ether	1	35.5747	0	50	71	50	130
1,1-Dichloroethene	1	36.4974	0	50	73	50	130
Methyl Acetate	1	32.8332	0	50	66	50	130
Methyl-t-butyl ether	1	41.4936	0	50	83	50	130
1,1-Dichloroethane	1	40.3712	0	50	81	50	130
trans-1,2-Dichloroethene	1	40.8174	0	50	82	50	130
Ethyl-t-butyl ether	1	39.5344	0	50	79	50	130
cis-1,2-Dichloroethene	1	34.3477	0	50	69	50	130
Bromochloromethane	1	34.707	0	50	69	50	130
2,2-Dichloropropane	1	29.6286	0	50	59	50	130
Ethyl acetate	1	2.9291	0	50	5.9*	50	130
1,4-Dioxane	1	1995.264	0	2500	80	50	130
1,1-Dichloropropene	1	39.2727	0	50	79	50	130
Chloroform	1	41.5113	0	50	83	50	130
Cyclohexane	1	34.5843	0	50	69	50	130
1,2-Dichloroethane	1	36.9359	0	50	74	50	130
2-Butanone	1	28.1889	0	50	56	20	130
1,1,1-Trichloroethane	1	41.5389	0	50	83	50	130
Carbon Tetrachloride	1	43.0844	0	50	86	50	130
Vinyl Acetate	1	21.2062	0	50	42*	50	130
Bromodichloromethane	1	39.8498	0	50	80	50	130
Methylcyclohexane	1	35.4372	0	50	71	50	130
Dibromomethane	1	43.4055	0	50	87	50	130
1,2-Dichloropropane	1	39.2251	0	50	78	50	130
Trichloroethene	1	41.0174	0	50	82	50	130
Benzene	1	42.1759	0	50	84	50	130
tert-Amyl methyl ether	1	43.4899	0	50	87	50	130
Iso-propylacetate	1	5.2275	0	50	10*	50	130
Methyl methacrylate	1	38.8614	0	50	78	50	130
Dibromochloromethane	1	42.6443	0	50	85	50	130
2-Chloroethylvinylether	1	62.2297	15.1041	50	94	50	130
cis-1,3-Dichloropropene	1	37.7882	0	50	76	50	130
trans-1,3-Dichloropropene	1	36.8659	0	50	74	50	130
Ethyl methacrylate	1	5.1913	0	50	10*	50	130
1,1,2-Trichloroethane	1	42.3425	0	50	85	50	130
1,2-Dibromoethane	1	40.146	0	50	80	50	130
1,3-Dichloropropane	1	40.5628	0	50	81	50	130
4-Methyl-2-Pentanone	1	24.7687	0	50	50	20	130
2-Hexanone	1	16.3348	0	50	33	20	130
Tetrachloroethene	1	38.8564	0	50	78	50	130
Toluene	1	41.9706	0	50	84	50	130
1,1,1,2-Tetrachloroethane	1	40.6237	0	50	81	50	130
Chlorobenzene	1	38.3803	0	50	77	50	130

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Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	0	0	50	0*	50	130
n-Amyl acetate	1	0	0	50	0*	50	130
Bromoform	**1**	**42.3458**	**0**	**50**	**85**	**20**	**130**
Ethylbenzene	**1**	**42.7257**	**0**	**50**	**85**	**50**	**130**
1,1,2,2-Tetrachloroethane	**1**	**41.1088**	**0**	**50**	**82**	**50**	**130**
Styrene	**1**	**39.7464**	**0**	**50**	**79**	**50**	**130**
m&p-Xylenes	**1**	**87.6912**	**0**	**100**	**88**	**50**	**130**
o-Xylene	**1**	**43.1962**	**0**	**50**	**86**	**50**	**130**
trans-1,4-Dichloro-2-butene	1	25.6628	0	50	51	20	130
1,3-Dichlorobenzene	**1**	**34.035**	**0**	**50**	**68**	**50**	**130**
1,4-Dichlorobenzene	**1**	**33.7845**	**0**	**50**	**68**	**50**	**130**
1,2-Dichlorobenzene	**1**	**34.7492**	**0**	**50**	**69**	**50**	**130**
Isopropylbenzene	**1**	**40.5823**	**0**	**50**	**81**	**50**	**130**
Cyclohexanone	1	163.4312	0	250	65	50	130
Camphene	1	32.4764	0	50	65	50	130
1,2,3-Trichloropropane	1	37.2539	0	50	75	50	130
2-Chlorotoluene	1	37.0804	0	50	74	50	130
p-Ethyltoluene	1	33.0069	0	50	66	50	130
4-Chlorotoluene	1	36.5968	0	50	73	50	130
n-Propylbenzene	1	38.0911	0	50	76	50	130
Bromobenzene	1	36.2696	0	50	73	50	130
1,3,5-Trimethylbenzene	1	37.1645	0	50	74	50	130
Butyl methacrylate	1	5.0459	0	50	10*	50	130
t-Butylbenzene	1	37.5025	0	50	75	50	130
1,2,4-Trimethylbenzene	1	35.281	0	50	71	50	130
sec-Butylbenzene	1	34.9844	0	50	70	50	130
4-Isopropyltoluene	1	27.3863	0	50	55	50	130
n-Butylbenzene	1	29.162	0	50	58	50	130
p-Diethylbenzene	1	30.0689	0	50	60	50	130
1,2,4,5-Tetramethylbenzene	1	25.3308	0	50	51	50	130
1,2-Dibromo-3-Chloropropane	**1**	**38.4781**	**0**	**50**	**77**	**50**	**130**
Camphor	1	342.0806	0	500	68	50	130
Hexachlorobutadiene	1	18.4085	0	50	37*	50	130
1,2,4-Trichlorobenzene	**1**	**23.2547**	**0**	**50**	**47***	**50**	**130**
1,2,3-Trichlorobenzene	**1**	**20.9275**	**0**	**50**	**42***	**50**	**130**
Naphthalene	1	20.7373	0	50	41*	50	130

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Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M145223.D	AD26074-005(MSD)	9/25/2021 7:24:00 AM
Non Spike(If applicable):	6M145221.D	AD26074-005	9/25/2021 6:43:00 AM
Inst Blank(If applicable):			

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	31.5122	0	50	63	20	130
Dichlorodifluoromethane	**1**	**88.8191**	**0**	**50**	**178***	**20**	**130**
Chloromethane	**1**	**37.6363**	**0**	**50**	**75**	**20**	**130**
Bromomethane	**1**	**36.1327**	**0**	**50**	**72**	**20**	**130**
Vinyl Chloride	**1**	**40.0632**	**0**	**50**	**80**	**20**	**130**
Chloroethane	**1**	**38.5917**	**0**	**50**	**77**	**20**	**130**
Trichlorofluoromethane	**1**	**40.2053**	**0**	**50**	**80**	**20**	**130**
Ethyl ether	1	30.6068	0	50	61	50	130
Furan	1	28.6202	0	50	57	50	130
1,1,2-Trichloro-1,2,2-trifluoroethane	**1**	**34.0714**	**0**	**50**	**68**	**50**	**130**
Methylene Chloride	**1**	**32.1355**	**0**	**50**	**64**	**50**	**130**
Acrolein	1	0	0	200	0*	20	130
Acrylonitrile	1	18.9428	0	50	38	20	130
Iodomethane	1	25.4827	0	50	51	50	130
Acetone	**1**	**122.6929**	**0**	**200**	**61**	**20**	**130**
Carbon Disulfide	**1**	**30.7871**	**0**	**50**	**62**	**50**	**130**
t-Butyl Alcohol	**1**	**141.6134**	**0**	**200**	**71**	**20**	**130**
n-Hexane	1	23.6483	0	50	47*	50	130
Di-isopropyl-ether	1	27.3696	0	50	55	50	130
1,1-Dichloroethene	**1**	**28.3871**	**0**	**50**	**57**	**50**	**130**
Methyl Acetate	**1**	**23.5804**	**0**	**50**	**47***	**50**	**130**
Methyl-t-butyl ether	**1**	**32.6013**	**0**	**50**	**65**	**50**	**130**
1,1-Dichloroethane	**1**	**31.3202**	**0**	**50**	**63**	**50**	**130**
trans-1,2-Dichloroethene	**1**	**32.3078**	**0**	**50**	**65**	**50**	**130**
Ethyl-t-butyl ether	1	30.3232	0	50	61	50	130
cis-1,2-Dichloroethene	**1**	**26.4901**	**0**	**50**	**53**	**50**	**130**
Bromochloromethane	**1**	**26.5612**	**0**	**50**	**53**	**50**	**130**
2,2-Dichloropropane	1	21.9644	0	50	44*	50	130
Ethyl acetate	1	10.6292	0	50	21*	50	130
1,4-Dioxane	**1**	**1765.84**	**0**	**2500**	**71**	**50**	**130**
1,1-Dichloropropene	1	29.669	0	50	59	50	130
Chloroform	**1**	**33.0778**	**0**	**50**	**66**	**50**	**130**
Cyclohexane	**1**	**26.6172**	**0**	**50**	**53**	**50**	**130**
1,2-Dichloroethane	**1**	**29.5197**	**0**	**50**	**59**	**50**	**130**
2-Butanone	**1**	**23.652**	**0**	**50**	**47**	**20**	**130**
1,1,1-Trichloroethane	**1**	**31.749**	**0**	**50**	**63**	**50**	**130**
Carbon Tetrachloride	**1**	**32.1423**	**0**	**50**	**64**	**50**	**130**
Vinyl Acetate	1	16.3194	0	50	33*	50	130
Bromodichloromethane	**1**	**31.769**	**0**	**50**	**64**	**50**	**130**
Methylcyclohexane	**1**	**27.5366**	**0**	**50**	**55**	**50**	**130**
Dibromomethane	1	35.6969	0	50	71	50	130
1,2-Dichloropropane	**1**	**30.9725**	**0**	**50**	**62**	**50**	**130**
Trichloroethene	**1**	**32.7485**	**0**	**50**	**65**	**50**	**130**
Benzene	**1**	**32.5371**	**0**	**50**	**65**	**50**	**130**
tert-Amyl methyl ether	1	32.0033	0	50	64	50	130
Iso-propylacetate	1	3.4079	0	50	6.8*	50	130
Methyl methacrylate	1	28.6715	0	50	57	50	130
Dibromochloromethane	**1**	**33.7419**	**0**	**50**	**67**	**50**	**130**
2-Chloroethylvinylether	1	75.7482	15.1041	50	121	50	130
cis-1,3-Dichloropropene	**1**	**28.3113**	**0**	**50**	**57**	**50**	**130**
trans-1,3-Dichloropropene	**1**	**28.4332**	**0**	**50**	**57**	**50**	**130**
Ethyl methacrylate	1	2.9073	0	50	5.8*	50	130
1,1,2-Trichloroethane	**1**	**32.0398**	**0**	**50**	**64**	**50**	**130**
1,2-Dibromoethane	**1**	**30.1426**	**0**	**50**	**60**	**50**	**130**
1,3-Dichloropropane	1	31.8286	0	50	64	50	130
4-Methyl-2-Pentanone	**1**	**17.4339**	**0**	**50**	**35**	**20**	**130**
2-Hexanone	**1**	**10.648**	**0**	**50**	**21**	**20**	**130**
Tetrachloroethene	**1**	**30.6716**	**0**	**50**	**61**	**50**	**130**
Toluene	**1**	**32.077**	**0**	**50**	**64**	**50**	**130**
1,1,1,2-Tetrachloroethane	1	32.4971	0	50	65	50	130
Chlorobenzene	**1**	**30.749**	**0**	**50**	**61**	**50**	**130**

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Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96807

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	0	0	50	0*	50	130
n-Amyl acetate	1	0	0	50	0*	50	130
Bromoform	**1**	**33.698**	**0**	**50**	**67**	**20**	**130**
Ethylbenzene	**1**	**30.863**	**0**	**50**	**62**	**50**	**130**
1,1,2,2-Tetrachloroethane	**1**	**32.362**	**0**	**50**	**65**	**50**	**130**
Styrene	**1**	**29.1881**	**0**	**50**	**58**	**50**	**130**
m&p-Xylenes	**1**	**64.4869**	**0**	**100**	**64**	**50**	**130**
o-Xylene	**1**	**33.4924**	**0**	**50**	**67**	**50**	**130**
trans-1,4-Dichloro-2-butene	1	19.26	0	50	39	20	130
1,3-Dichlorobenzene	**1**	**27.0882**	**0**	**50**	**54**	**50**	**130**
1,4-Dichlorobenzene	**1**	**25.5207**	**0**	**50**	**51**	**50**	**130**
1,2-Dichlorobenzene	**1**	**27.392**	**0**	**50**	**55**	**50**	**130**
Isopropylbenzene	**1**	**31.666**	**0**	**50**	**63**	**50**	**130**
Cyclohexanone	1	134.4696	0	250	54	50	130
Camphene	1	24.808	0	50	50	50	130
1,2,3-Trichloropropane	1	29.4329	0	50	59	50	130
2-Chlorotoluene	1	28.115	0	50	56	50	130
p-Ethyltoluene	1	24.0185	0	50	48*	50	130
4-Chlorotoluene	1	26.3379	0	50	53	50	130
n-Propylbenzene	1	29.0793	0	50	58	50	130
Bromobenzene	1	27.9108	0	50	56	50	130
1,3,5-Trimethylbenzene	1	29.1574	0	50	58	50	130
Butyl methacrylate	1	2.9461	0	50	5.9*	50	130
t-Butylbenzene	1	28.3868	0	50	57	50	130
1,2,4-Trimethylbenzene	1	26.2393	0	50	52	50	130
sec-Butylbenzene	1	27.1507	0	50	54	50	130
4-Isopropyltoluene	1	18.7529	0	50	38*	50	130
n-Butylbenzene	1	22.0811	0	50	44*	50	130
p-Diethylbenzene	1	23.0265	0	50	46*	50	130
1,2,4,5-Tetramethylbenzene	1	19.088	0	50	38*	50	130
1,2-Dibromo-3-Chloropropane	**1**	**32.0858**	**0**	**50**	**64**	**50**	**130**
Camphor	1	301.6844	0	500	60	50	130
Hexachlorobutadiene	1	14.1614	0	50	28*	50	130
1,2,4-Trichlorobenzene	**1**	**18.1451**	**0**	**50**	**36***	**50**	**130**
1,2,3-Trichlorobenzene	**1**	**16.6826**	**0**	**50**	**33***	**50**	**130**
Naphthalene	1	16.526	0	50	33*	50	130

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Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: MBS96807

	Data File	Sample ID:	Analysis Date
Spike or Dup:	6M145223.D	AD26074-005(MSD)	9/25/2021 7:24:00 AM
Duplicate(If applicable):	6M145222.D	AD26074-005(MS)	9/25/2021 7:03:00 AM
Inst Blank(If applicable):			

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chlorodifluoromethane	1	31.5122	36.5466	15	30
Dichlorodifluoromethane	1	88.8191	113.5979	24	30
Chloromethane	1	37.6363	47.0729	22	30
Bromomethane	1	36.1327	44.6237	21	30
Vinyl Chloride	1	40.0632	52.637	27	40
Chloroethane	1	38.5917	48.321	22	30
Trichlorofluoromethane	1	40.2053	52.6269	27	30
Ethyl ether	1	30.6068	39.1606	25	30
Furan	1	28.6202	35.4154	21	30
1,1,2-Trichloro-1,2,2-trifluoroethane	1	34.0714	46.1849	30	30
Methylene Chloride	1	32.1355	39.7931	21	30
Acrolein	1	0	10.0886	200*	30
Acrylonitrile	1	18.9428	24.0474	24	30
Iodomethane	1	25.4827	32.8149	25	30
Acetone	1	122.6929	159.3897	26	30
Carbon Disulfide	1	30.7871	39.1485	24	30
t-Butyl Alcohol	1	141.6134	168.7036	17	30
n-Hexane	1	23.6483	30.1341	24	30
Di-isopropyl-ether	1	27.3696	35.5747	26	30
1,1-Dichloroethene	1	28.3871	36.4974	25	40
Methyl Acetate	1	23.5804	32.8332	33*	30
Methyl-t-butyl ether	1	32.6013	41.4936	24	30
1,1-Dichloroethane	1	31.3202	40.3712	25	40
trans-1,2-Dichloroethene	1	32.3078	40.8174	23	30
Ethyl-t-butyl ether	1	30.3232	39.5344	26	30
cis-1,2-Dichloroethene	1	26.4901	34.3477	26	30
Bromochloromethane	1	26.5612	34.707	27	30
2,2-Dichloropropane	1	21.9644	29.6286	30	30
Ethyl acetate	1	10.6292	2.9291	114*	30
1,4-Dioxane	1	1765.84	1995.264	12	30
1,1-Dichloropropene	1	29.669	39.2727	28	30
Chloroform	1	33.0778	41.5113	23	40
Cyclohexane	1	26.6172	34.5843	26	30
1,2-Dichloroethane	1	29.5197	36.9359	22	40
2-Butanone	1	23.652	28.1889	18	40
1,1,1-Trichloroethane	1	31.749	41.5389	27	30
Carbon Tetrachloride	1	32.1423	43.0844	29	40
Vinyl Acetate	1	16.3194	21.2062	26	30
Bromodichloromethane	1	31.769	39.8498	23	30
Methylcyclohexane	1	27.5366	35.4372	25	30
Dibromomethane	1	35.6969	43.4055	19	30
1,2-Dichloropropane	1	30.9725	39.2251	24	30
Trichloroethene	1	32.7485	41.0174	22	40
Benzene	1	32.5371	42.1759	26	40
tert-Amyl methyl ether	1	32.0033	43.4899	30	30
Iso-propylacetate	1	3.4079	5.2275	42*	30
Methyl methacrylate	1	28.6715	38.8614	30	30
Dibromochloromethane	1	33.7419	42.6443	23	30
2-Chloroethylvinylether	1	75.7482	62.2297	20	30
cis-1,3-Dichloropropene	1	28.3113	37.7882	29	30
trans-1,3-Dichloropropene	1	28.4332	36.8659	26	30
Ethyl methacrylate	1	2.9073	5.1913	56*	30
1,1,2-Trichloroethane	1	32.0398	42.3425	28	30
1,2-Dibromoethane	1	30.1426	40.146	28	30
1,3-Dichloropropane	1	31.8286	40.5628	24	30
4-Methyl-2-Pentanone	1	17.4339	24.7687	35*	30
2-Hexanone	1	10.648	16.3348	42*	30
Tetrachloroethene	1	30.6716	38.8564	24	40
Toluene	1	32.077	41.9706	27	40
1,1,1,2-Tetrachloroethane	1	32.4971	40.6237	22	30
Chlorobenzene	1	30.749	38.3803	22	40

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: MBS96807

Method: 8260D Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
n-Butyl acrylate	1	0	0	NA	30
n-Amyl acetate	1	0	0	NA	30
Bromoform	**1**	**33.698**	**42.3458**	**23**	**30**
Ethylbenzene	**1**	**30.863**	**42.7257**	**32 ***	**30**
1,1,2,2-Tetrachloroethane	**1**	**32.362**	**41.1088**	**24**	**30**
Styrene	**1**	**29.1881**	**39.7464**	**31 ***	**30**
m&p-Xylenes	**1**	**64.4869**	**87.6912**	**30**	**30**
o-Xylene	**1**	**33.4924**	**43.1962**	**25**	**30**
trans-1,4-Dichloro-2-butene	1	19.26	25.6628	29	30
1,3-Dichlorobenzene	**1**	**27.0882**	**34.035**	**23**	**30**
1,4-Dichlorobenzene	**1**	**25.5207**	**33.7845**	**28**	**40**
1,2-Dichlorobenzene	**1**	**27.392**	**34.7492**	**24**	**40**
Isopropylbenzene	**1**	**31.666**	**40.5823**	**25**	**30**
Cyclohexanone	1	134.4696	163.4312	19	30
Camphene	1	24.808	32.4764	27	30
1,2,3-Trichloropropane	1	29.4329	37.2539	23	30
2-Chlorotoluene	1	28.115	37.0804	28	30
p-Ethyltoluene	1	24.0185	33.0069	32 *	30
4-Chlorotoluene	1	26.3379	36.5968	33 *	30
n-Propylbenzene	1	29.0793	38.0911	27	40
Bromobenzene	1	27.9108	36.2696	26	30
1,3,5-Trimethylbenzene	1	29.1574	37.1645	24	30
Butyl methacrylate	1	2.9461	5.0459	53 *	30
t-Butylbenzene	1	28.3868	37.5025	28	30
1,2,4-Trimethylbenzene	1	26.2393	35.281	29	30
sec-Butylbenzene	1	27.1507	34.9844	25	40
4-Isopropyltoluene	1	18.7529	27.3863	37 *	30
n-Butylbenzene	1	22.0811	29.162	28	30
p-Diethylbenzene	1	23.0265	30.0689	27	30
1,2,4,5-Tetramethylbenzene	1	19.088	25.3308	28	30
1,2-Dibromo-3-Chloropropane	**1**	**32.0858**	**38.4781**	**18**	**30**
Camphor	1	301.6844	342.0806	13	30
Hexachlorobutadiene	1	14.1614	18.4085	26	30
1,2,4-Trichlorobenzene	**1**	**18.1451**	**23.2547**	**25**	**30**
1,2,3-Trichlorobenzene	**1**	**16.6826**	**20.9275**	**23**	**30**
Naphthalene	1	16.526	20.7373	23	30

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

FORM 4
Blank Summary

Blank Number: DAILY BLANK
Blank Data File: 6M145218.D
Matrix: Soil

Blank Analysis Date: 09/25/21 05:41
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8260D

Sample Number	Data File	Analysis Date
AD26217-001	6M145232.D	09/25/21 10:28
AD26217-003	6M145233.D	09/25/21 10:49
AD26217-005	6M145234.D	09/25/21 11:10
AD26217-007	6M145235.D	09/25/21 11:30
AD26217-009	6M145236.D	09/25/21 11:51
AD26217-011	6M145237.D	09/25/21 12:11
AD26217-013	6M145238.D	09/25/21 12:32
AD26217-015	6M145239.D	09/25/21 12:52
AD26217-017	6M145240.D	09/25/21 13:13
AD26074-005(MSD	6M145223.D	09/25/21 07:24
AD26074-005(MS)	6M145222.D	09/25/21 07:03
AD26074-005	6M145221.D	09/25/21 06:43
MBS96807	6M145219.D	09/25/21 06:02

Form 5

Tune Name: BFB TUNE **Data File:** 6M144906.D
Instrument: GCMS 6 **Analysis Date:** 09/15/21 19:07
Method: EPA 8260D
Tune Scan/Time Range: Average of 7.367 to 7.409 min

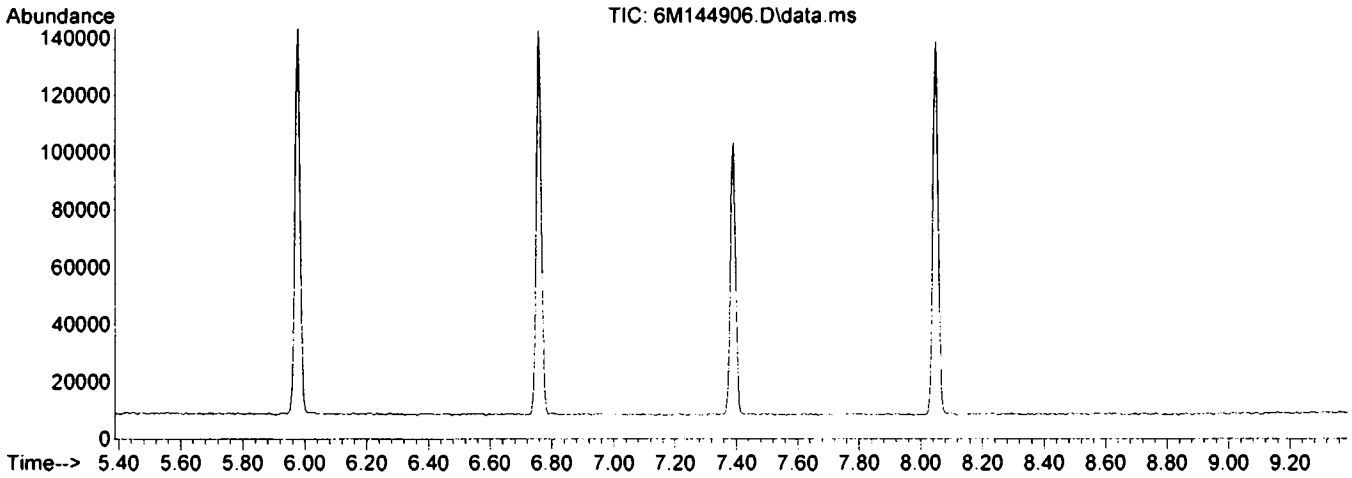
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	26.2	1981	PASS
75	95	30	60	51.2	3874	PASS
95	95	100	100	100.0	7571	PASS
96	95	5	9	6.8	513	PASS
173	174	0.00	2	0.6	36	PASS
174	95	50	100	80.7	6111	PASS
175	174	5	9	7.7	472	PASS
176	174	95	101	95.8	5854	PASS
177	176	5	9	6.7	395	PASS

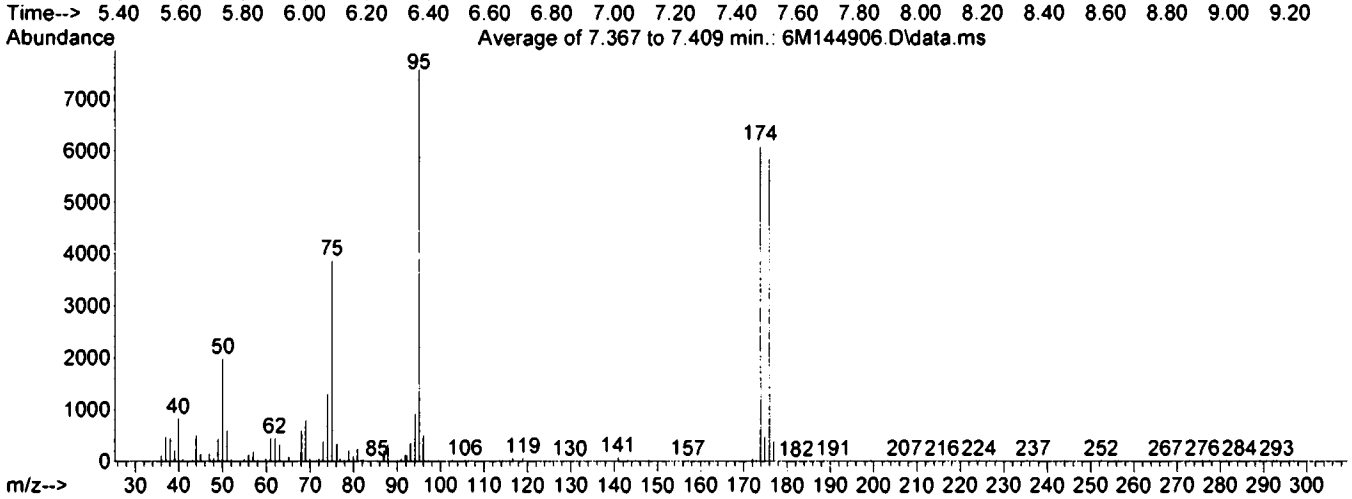
Data File	Sample Number	Analysis Date:
6M144909.D	CAL @ 0.5 PPB	09/15/21 20:13
6M144910.D	CAL @ 1 PPB	09/15/21 20:34
6M144911.D	CAL @ 2 PPB	09/15/21 20:55
6M144912.D	CAL @ 5 PPB	09/15/21 21:16
6M144913.D	CAL @ 20 PPB	09/15/21 21:36
6M144914.D	CAL @ 50 PPB	09/15/21 21:57
6M144915.D	CAL @ 500 PPB	09/15/21 22:18
6M144917.D	CAL @ 250 PPB	09/15/21 22:59
6M144919.D	CAL @ 100 PPB	09/15/21 23:40
6M144922.D	ICV	09/16/21 00:42

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-15-21\
Data File : 6M144906.D
Acq On : 15 Sep 2021 19:07
Operator : WP
Sample : BFB TUNE
Misc : S,5G
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2021\GCMS_6\MethodQt\6M_S0915.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 16 14:20:25 2021





Spectrum Information: Average of 7.367 to 7.409 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.2	1981	PASS
75	95	30	60	51.2	3874	PASS
95	95	100	100	100.0	7571	PASS
96	95	5	9	6.8	513	PASS
173	174	0.00	2	0.6	36	PASS
174	95	50	100	80.7	6111	PASS
175	174	5	9	7.7	472	PASS
176	174	95	101	95.8	5854	PASS
177	176	5	9	6.7	395	PASS

Form 5

Tune Name: BFB TUNE **Data File:** 6M145053.D
Instrument: GCMS 6 **Analysis Date:** 09/21/21 05:52
Method: EPA 8260D
Tune Scan/Time Range: Average of 7.397 to 7.403 min

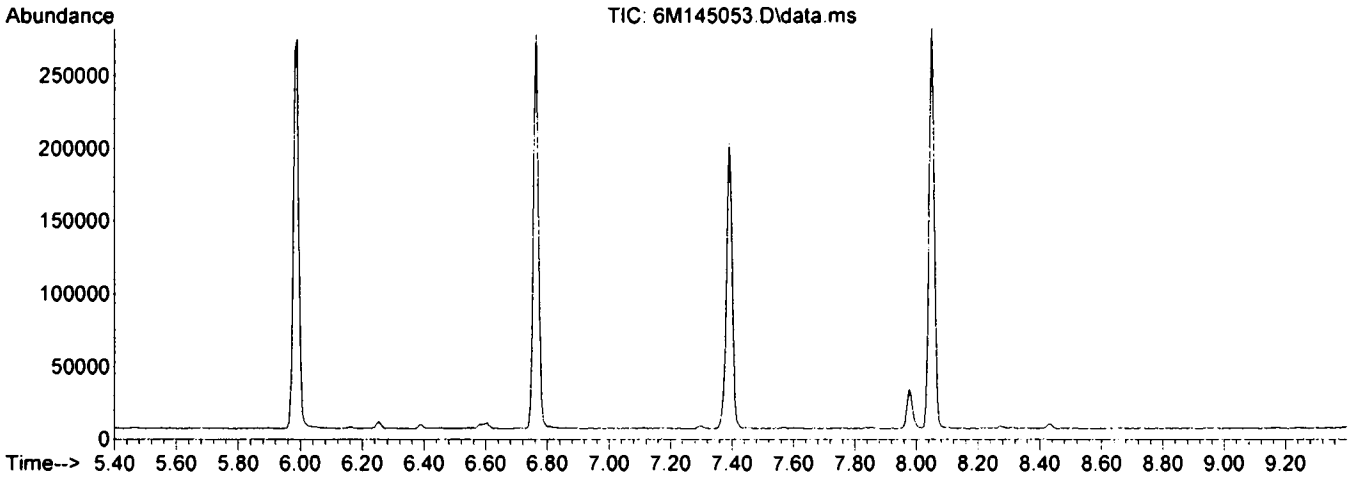
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	27.1	5864	PASS
75	95	30	60	55.3	11976	PASS
95	95	100	100	100.0	21652	PASS
96	95	5	9	5.7	1226	PASS
173	174	0.00	2	1.5	299	PASS
174	95	50	100	93.5	20252	PASS
175	174	5	9	7.9	1608	PASS
176	174	95	101	96.7	19574	PASS
177	176	5	9	6.6	1299	PASS

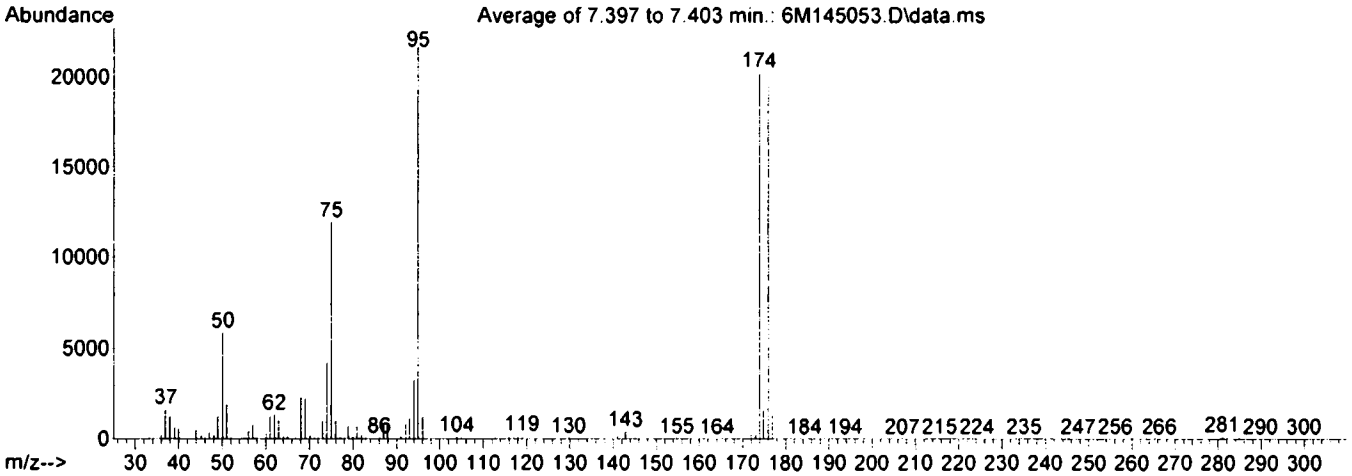
Data File	Sample Number	Analysis Date:
6M145054.D	50 PPB	09/21/21 06:12
6M145055.D	CAL @ 50 PPB	09/21/21 06:33
6M145056.D	BLK	09/21/21 06:54
6M145057.D	BLK	09/21/21 07:14
6M145058.D	BLK	09/21/21 07:35
6M145059.D	DAILY BLANK	09/21/21 07:56
6M145060.D	AD26072-001	09/21/21 08:16
6M145061.D	MBS96776	09/21/21 08:37
6M145062.D	AD26073-001	09/21/21 08:57
6M145063.D	AD26072-001(MS)	09/21/21 09:18
6M145064.D	AD26072-001(MSD	09/21/21 09:39
6M145065.D	MBS96777	09/21/21 09:59
6M145066.D	BLK	09/21/21 10:20
6M145067.D	BLK	09/21/21 10:40
6M145068.D	AD26072-005	09/21/21 11:01
6M145069.D	AD26072-003	09/21/21 11:22
6M145070.D	AD26074-001	09/21/21 11:42
6M145071.D	AD26074-005	09/21/21 12:03
6M145072.D	AD26074-003	09/21/21 12:24
6M145073.D	AD26075-001	09/21/21 12:44
6M145074.D	AD26075-005	09/21/21 13:05
6M145075.D	AD26075-003	09/21/21 13:26
6M145076.D	AD26076-001	09/21/21 13:46
6M145077.D	AD26076-005	09/21/21 14:07
6M145078.D	AD26076-003	09/21/21 14:28
6M145079.D	AD26084-001	09/21/21 14:48
6M145080.D	AD26084-002	09/21/21 15:09
6M145081.D	AD26088-001	09/21/21 15:30
6M145082.D	AD26088-003	09/21/21 15:51
6M145083.D	AD26089-001	09/21/21 16:11
6M145084.D	26009-002	09/21/21 16:32
6M145085.D	AD26069-002(5X)	09/21/21 16:53
6M145086.D	26079-001(5X)	09/21/21 17:14
6M145087.D	BLK	09/21/21 17:34

Data Path : G:\GcMsData\2021\GCMS_6\Data\0921-21\
Data File : 6M145053.D
Acq On : 21 Sep 2021 05:52
Operator : WP
Sample : BFB TUNE
Misc : S,5G
ALS Vial : 5 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2021\GCMS_6\MethodQt\6M_S0915.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 16 14:20:25 2021





Spectrum Information: Average of 7.397 to 7.403 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.1	5864	PASS
75	95	30	60	55.3	11976	PASS
95	95	100	100	100.0	21652	PASS
96	95	5	9	5.7	1226	PASS
173	174	0.00	2	1.5	299	PASS
174	95	50	100	93.5	20252	PASS
175	174	5	9	7.9	1608	PASS
176	174	95	101	96.7	19574	PASS
177	176	5	9	6.6	1299	PASS

Form 5

Tune Name: BFB TUNE **Data File:** 6M145213.D
Instrument: GCMS 6 **Analysis Date:** 09/25/21 03:58
Method: EPA 8260D
Tune Scan/Time Range: Average of 7.379 to 7.391 min

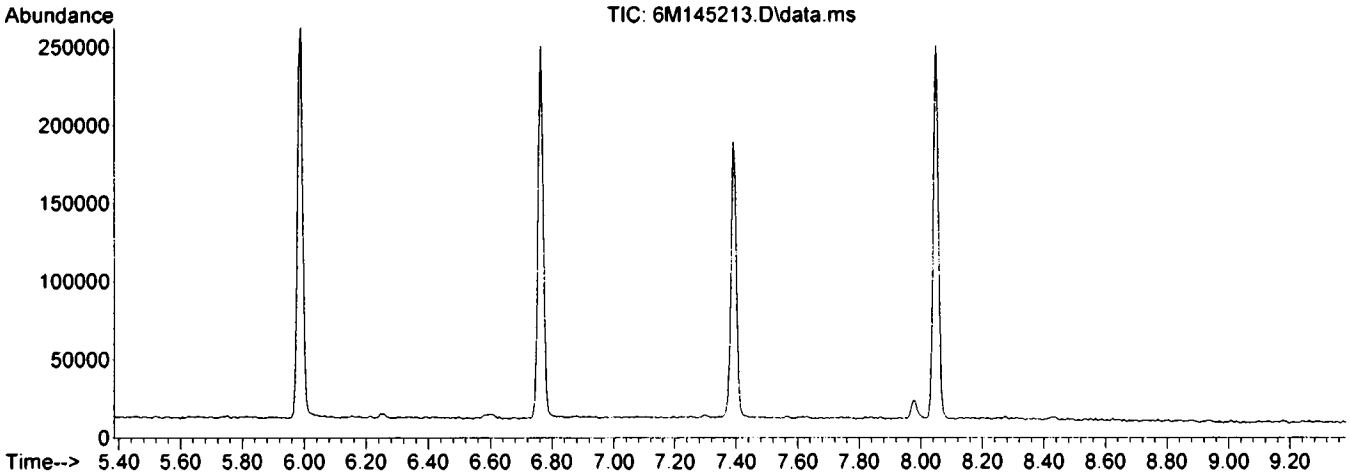
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
50	95	15	40	26.0	5477	PASS
75	95	30	60	52.5	11081	PASS
95	95	100	100	100.0	21090	PASS
96	95	5	9	7.5	1572	PASS
173	174	0.00	2	1.6	235	PASS
174	95	50	100	70.1	14776	PASS
175	174	5	9	7.0	1034	PASS
176	174	95	101	95.5	14107	PASS
177	176	5	9	7.1	1006	PASS

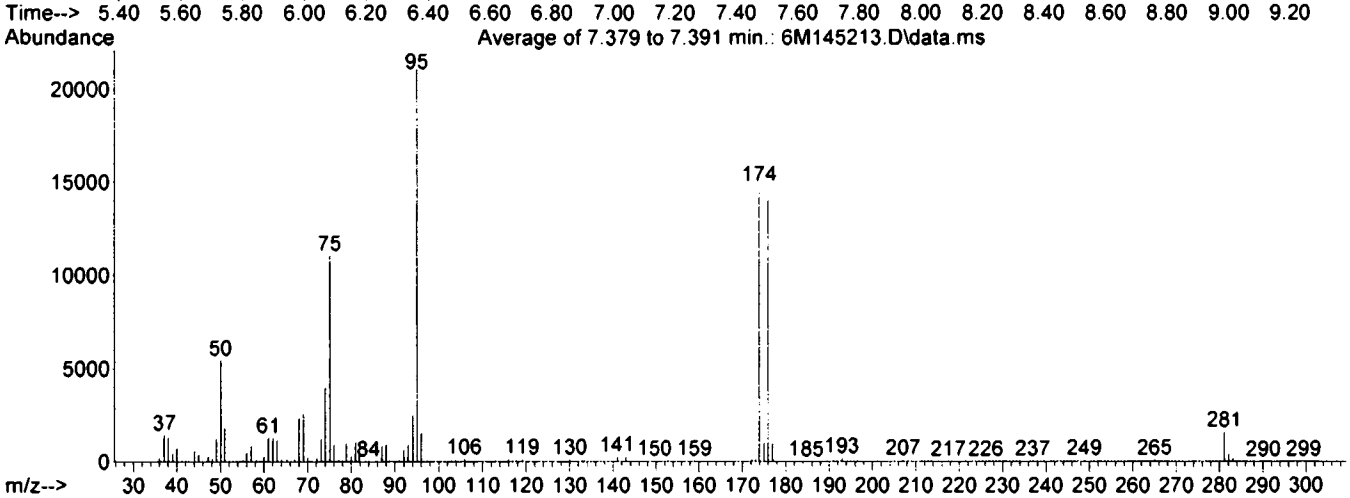
Data File	Sample Number	Analysis Date:
6M145214.D	CAL @ 50 PPB	09/25/21 04:19
6M145216.D	BLK	09/25/21 05:00
6M145217.D	BLK	09/25/21 05:20
6M145218.D	DAILY BLANK	09/25/21 05:41
6M145219.D	MBS96807	09/25/21 06:02
6M145220.D	BLK	09/25/21 06:22
6M145221.D	AD26074-005	09/25/21 06:43
6M145222.D	AD26074-005(MS)	09/25/21 07:03
6M145223.D	AD26074-005(MSD	09/25/21 07:24
6M145224.D	MBS96808	09/25/21 07:44
6M145225.D	BLK	09/25/21 08:05
6M145226.D	AD26206-001	09/25/21 08:25
6M145227.D	AD26206-003	09/25/21 08:46
6M145228.D	AD26178-003	09/25/21 09:06
6M145229.D	AD26178-005	09/25/21 09:27
6M145230.D	AD26178-001	09/25/21 09:47
6M145231.D	AD26177-011	09/25/21 10:08
6M145232.D	AD26217-001	09/25/21 10:28
6M145233.D	AD26217-003	09/25/21 10:49
6M145234.D	AD26217-005	09/25/21 11:10
6M145235.D	AD26217-007	09/25/21 11:30
6M145236.D	AD26217-009	09/25/21 11:51
6M145237.D	AD26217-011	09/25/21 12:11
6M145238.D	AD26217-013	09/25/21 12:32
6M145239.D	AD26217-015	09/25/21 12:52
6M145240.D	AD26217-017	09/25/21 13:13
6M145241.D	AD26203-001	09/25/21 13:34
6M145242.D	AD26203-002	09/25/21 13:54
6M145243.D	AD26203-003	09/25/21 14:15
6M145244.D	AD26203-004	09/25/21 14:35
6M145245.D	AD26203-005	09/25/21 14:56
6M145246.D	BLK	09/25/21 15:17

Data Path : G:\GcMsData\2021\GCMS_6\Data\09-25-21\
Data File : 6M145213.D
Acq On : 25 Sep 2021 03:58
Operator : WP
Sample : BFB TUNE
Misc : S,5G
ALS Vial : 6 Sample Multiplier: 1

Integration File: RTEINT.P

Method : G:\GcMsData\2021\GCMS_6\MethodQt\6M_S0915.M
Title : @GCMS_6,ug,624,8260
Last Update : Thu Sep 16 14:20:25 2021





Spectrum Information: Average of 7.379 to 7.391 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.0	5477	PASS
75	95	30	60	52.5	11081	PASS
95	95	100	100	100.0	21090	PASS
96	95	5	9	7.5	1572	PASS
173	174	0.00	2	1.6	235	PASS
174	95	50	100	70.1	14776	PASS
175	174	5	9	7.0	1034	PASS
176	174	95	101	95.5	14107	PASS
177	176	5	9	7.1	1006	PASS

1092401 0104

Method: EPA 8260D

Form 6
Initial Calibration

Instrument: GCMS_6

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M144913.D	CAL @ 20 PPB	09/15/21 21:36	2	6M144912.D	CAL @ 5 PPB	09/15/21 21:16
3	6M144911.D	CAL @ 2 PPB	09/15/21 20:55	4	6M144914.D	CAL @ 50 PPB	09/15/21 21:57
5	6M144919.D	CAL @ 100 PPB	09/15/21 23:40	6	6M144917.D	CAL @ 250 PPB	09/15/21 22:59
7	6M144915.D	CAL @ 500 PPB	09/15/21 22:18	8	6M144910.D	CAL @ 1 PPB	09/15/21 20:34
9	6M144909.D	CAL @ 0.5 PPB	09/15/21 20:13				

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	0.4689	0.4853	0.5001	0.4773	0.4658	0.5026	0.4881	-----	-----	0.484	1.67	1.00	1.00	3.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dichlorodifluorometha	1	0	Avg	0.1149	0.1275	0.1407	0.1145	0.1110	0.1211	0.1165	-----	-----	0.121	1.65	0.999	1.00	8.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloromethane	1	0	Avg	0.3057	0.3420	0.3819	0.3117	0.2980	0.3229	0.3072	-----	-----	0.324	1.84	0.999	1.00	9.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromomethane	1	0	Qua	0.1597	0.2189	0.2457	0.1393	0.1595	0.1604	0.1501	-----	-----	0.176	2.25	0.999	1.00	23	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Chloride	1	0	Avg	0.2861	0.3029	0.3269	0.2791	0.2738	0.2923	0.2820	-----	-----	0.292	1.93	1.00	1.00	6.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroethane	1	0	Avg	0.1619	0.1757	0.1879	0.1694	0.1673	0.1782	0.1719	-----	-----	0.173	2.34	1.00	1.00	4.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichlorofluoromethan	1	0	Avg	0.3543	0.3905	0.3898	0.3360	0.3396	0.3670	0.3510	-----	-----	0.361	2.57	0.999	1.00	6.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl ether	1	0	Avg	0.1976	0.2057	0.1981	0.1871	0.1903	0.2040	0.2028	-----	-----	0.198	2.82	1.00	1.00	3.5	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Furan	1	0	Avg	0.3823	0.4017	0.4209	0.3861	0.3843	0.4125	0.3962	-----	-----	0.398	2.86	1.00	1.00	3.7	0.50 a	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	0.1924	0.1906	0.2110	0.1836	0.1930	0.2069	0.1978	-----	-----	0.197	3.04	0.999	1.00	4.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methylene Chloride	1	0	Avg	0.2478	0.2869	0.3097	0.2300	0.2294	0.2423	0.2344	-----	-----	0.254	3.45	1.00	1.00	12	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acrolein	1	0	Avg	0.0426	0.0418	0.0416	0.0462	0.0449	0.0483	0.0456	-----	-----	0.0445	2.94	0.999	1.00	5.7		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Acrylonitrile	1	0	Avg	0.1193	0.1196	0.1485	0.1198	0.1148	0.1227	0.1192	-----	-----	0.123	3.65	1.00	1.00	9.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iodomethane	1	0	Qua	0.1423	0.0855	0.0694	0.1958	0.1995	0.2448	0.2486	-----	-----	0.169	3.18	0.999	0.999	43		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Acetone	1	0	Avg	0.0948	0.1135	0.1228	0.0894	0.0837	0.0826	0.0824	-----	-----	0.0956	3.07	1.00	1.00	17	0.10 a	100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Carbon Disulfide	1	0	Avg	0.6510	0.7181	0.8081	0.6412	0.6494	0.7060	0.6746	-----	-----	0.693	3.25	0.999	1.00	8.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
t-Butyl Alcohol	1	0	Avg	0.0283	0.0312	0.0382	0.0291	0.0310	0.0330	0.0334	-----	-----	0.0321	3.52	1.00	1.00	10		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
n-Hexane	1	0	Avg	0.3337	0.3367	0.3690	0.3467	0.3614	0.4025	0.3901	-----	-----	0.363	3.92	0.999	0.999	7.2		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Di-isopropyl-ether	1	0	Avg	0.9349	0.9566	0.9962	0.9669	0.9784	1.0551	1.0527	-----	-----	0.992	4.07	1.00	1.00	4.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1-Dichloroethene	1	0	Avg	0.3837	0.4204	0.4187	0.3763	0.3860	0.4126	0.3958	-----	-----	0.399	3.04	0.999	1.00	4.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl Acetate	1	0	Avg	0.2559	0.2728	0.3233	0.2549	0.2576	0.2669	0.2577	-----	-----	0.270	3.36	1.00	1.00	9.1	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl-t-butyl ether	1	0	Avg	0.5456	0.5274	0.6120	0.5418	0.5599	0.6151	0.6258	0.6162	-----	0.581	3.69	1.00	1.00	7.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,1-Dichloroethane	1	0	Avg	0.4693	0.5206	0.5255	0.4612	0.4637	0.5012	0.4775	-----	-----	0.488	4.04	0.999	1.00	5.6	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,2-Dichloroethe	1	0	Avg	0.2255	0.2429	0.2643	0.2239	0.2242	0.2411	0.2366	-----	-----	0.237	3.70	1.00	1.00	6.1	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl-t-butyl ether	1	0	Avg	0.7009	0.6750	0.7129	0.7114	0.7244	0.7759	0.7743	-----	-----	0.725	4.34	1.00	1.00	5.2	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,2-Dichloroethene	1	0	Avg	0.4607	0.4689	0.5286	0.4773	0.4810	0.5285	0.5161	-----	-----	0.494	4.45	1.00	1.00	5.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromochloromethane	1	0	Avg	0.2867	0.3202	0.3794	0.2728	0.2652	0.2727	0.2631	-----	-----	0.294	4.60	1.00	1.00	14		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2,2-Dichloropropane	1	0	Qua	0.1953	0.1677	0.1746	0.2483	0.2976	0.3456	0.3288	-----	-----	0.251	4.45	0.998	0.999	30		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl acetate	1	0	Avg	0.2966	0.3135	0.3579	0.3163	0.3198	0.3335	0.3330	-----	-----	0.324	4.47	1.00	1.00	6.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dioxane	1	0	Avg	0.0029	0.0030	0.0026	0.0029	0.0029	0.0030	0.0030	-----	-----	0.00296	5.53	1.00	1.00	5.7		1000.	250.0	100.0	2500.	5000.	1250	2500		
1,1-Dichloropropene	1	0	Avg	0.3067	0.3210	0.3354	0.3118	0.3211	0.3496	0.3382	-----	-----	0.326	4.86	1.00	1.00	4.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chloroform	1	0	Avg	0.4480	0.5060	0.5693	0.4334	0.4361	0.4593	0.4439	-----	-----	0.471	4.64	1.00	1.00	11	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromofluoromethan	1	0	Avg	0.2742	0.2824	0.2903	0.2751	0.2720	0.2746	0.2713	0.2962	0.2949	0.281	4.74	-1	-1	3.6		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Cyclohexane	1	0	Avg	0.4199	0.4317	0.4514	0.4252	0.4538	0.5050	0.4902	-----	-----	0.454	4.81	0.999	0.999	7.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloroethane-d4	1	0	Avg	0.1680	0.1707	0.1707	0.1635	0.1595	0.1593	0.1601	0.1791	0.1724	0.167	4.94	-1	-1	4.1		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
1,2-Dichloroethane	1	0	Avg	0.4112	0.4380	0.4904	0.4001	0.3816	0.4069	0.4029	-----	-----	0.419	4.98	1.00	1.00	8.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Butanone	1	0	Avg	0.1485	0.1518	0.1656	0.1236	0.1344	0.1425	0.1463	-----	-----	0.145	4.45	0.999	1.00	9.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,1-Trichloroethane	1	0	Avg	0.3775	0.3897	0.4483	0.3674	0.3822	0.4128	0.3932	-----	-----	0.396	4.77	0.999	1.00	6.9	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Carbon Tetrachloride	1	0	Avg	0.3247	0.3072	0.2908	0.3168	0.3227	0.3537	0.3463	-----	-----	0.323	4.87	1.00	1.00	6.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Vinyl Acetate	1	0	Avg	0.7638	0.7933	0.8132	0.8026	0.8398	0.9827	0.9819	-----	-----	0.854	4.07	0.999	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromodichloromethan	1	0	Avg	0.3508	0.3737	0.4286	0.3464	0.3431	0.3664	0.3659	-----	-----	0.368	5.60	1.00	1.00	7.9	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: 9.00
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.

1092401 0105

Method: EPA 8260D

Form 6
Initial Calibration

Instrument: GCMS_6

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M144913.D	CAL @ 20 PPB	09/15/21 21:36	2	6M144912.D	CAL @ 5 PPB	09/15/21 21:16
3	6M144911.D	CAL @ 2 PPB	09/15/21 20:55	4	6M144914.D	CAL @ 50 PPB	09/15/21 21:57
5	6M144919.D	CAL @ 100 PPB	09/15/21 23:40	6	6M144917.D	CAL @ 250 PPB	09/15/21 22:59
7	6M144915.D	CAL @ 500 PPB	09/15/21 22:18	8	6M144910.D	CAL @ 1 PPB	09/15/21 20:34
9	6M144909.D	CAL @ 0.5 PPB	09/15/21 20:13				

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	0.3416	0.3401	0.3324	0.3446	0.3790	0.4176	0.4103	-----	-----	0.367	5.45	1.00	1.00	9.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromomethane	1	0	Avg	0.1584	0.1637	0.1652	0.1481	0.1456	0.1575	0.1565	-----	-----	0.156	5.53	1.00	1.00	4.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichloropropane	1	0	Avg	0.2875	0.2976	0.3288	0.2784	0.2806	0.3017	0.3024	-----	-----	0.297	5.46	1.00	1.00	5.8	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Trichloroethene	1	0	Avg	0.2421	0.2445	0.2805	0.2372	0.2436	0.2613	0.2583	-----	-----	0.253	5.34	1.00	1.00	6.0	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Benzene	1	0	Avg	0.8984	0.9266	0.9617	0.8925	0.8976	0.9696	0.9515	0.9276	-----	0.928	4.98	1.00	1.00	3.3	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	0.5523	0.5358	0.5309	0.5557	0.5672	0.6042	0.6095	-----	-----	0.565	5.03	1.00	1.00	5.5		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Iso-propylacetate	1	0	Avg	0.6595	0.6525	0.6895	0.6828	0.7005	0.7445	0.7433	-----	-----	0.696	4.98	1.00	1.00	5.3	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Methyl methacrylate	1	0	Avg	0.3310	0.3260	0.2521	0.3344	0.3411	0.3627	0.3501	-----	-----	0.328	5.48	1.00	1.00	11	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Dibromochloromethan	1	0	Avg	0.3138	0.3021	0.3276	0.3228	0.3211	0.3388	0.3322	-----	-----	0.323	6.45	1.00	1.00	3.8	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chloroethylvinylethe	1	0	Qua	0.0069	0.0117	0.0135	0.0045	0.0018	0.0027	0.0032	-----	-----	0.00636	5.78	0.979	0.992	73		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
cis-1,3-Dichloropropen	1	0	Avg	0.4260	0.4214	0.4133	0.4399	0.4497	0.4970	0.4909	-----	-----	0.448	5.84	1.00	1.00	7.5	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
trans-1,3-Dichloroprop	1	0	Avg	0.3684	0.3574	0.3437	0.3902	0.3952	0.4367	0.4424	-----	-----	0.391	6.12	1.00	1.00	9.7	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethyl methacrylate	1	0	Avg	0.3300	0.3154	0.3286	0.3501	0.3598	0.3837	0.3762	-----	-----	0.349	6.14	1.00	1.00	7.4	0.50 a	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,1,2-Trichloroethane	1	0	Avg	0.2705	0.2893	0.3254	0.2650	0.2570	0.2698	0.2632	-----	-----	0.277	6.23	1.00	1.00	8.5	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromoethane	1	0	Avg	0.2642	0.2851	0.3122	0.2665	0.2688	0.2819	0.2714	0.2540	0.3404	0.283	6.53	1.00	1.00	9.6	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	0.4637	0.4906	0.4996	0.4715	0.4595	0.4829	0.4729	-----	-----	0.477	6.32	1.00	1.00	3.0		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Methyl-2-Pentanone	1	0	Avg	0.3615	0.3737	0.3751	0.3840	0.3808	0.3998	0.3888	-----	-----	0.381	5.90	1.00	1.00	3.2	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Hexanone	1	0	Avg	0.2464	0.2330	0.2663	0.2696	0.2750	0.2878	0.2815	-----	-----	0.266	6.33	1.00	1.00	7.3	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Tetrachloroethene	1	0	Avg	0.2391	0.2437	0.2777	0.2331	0.2431	0.2574	0.2484	-----	-----	0.249	6.32	1.00	1.00	5.9	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Toluene-d8	1	0	Avg	1.2359	1.1884	1.1857	1.2546	1.2654	1.2267	1.2073	1.1462	1.1525	1.21	5.99	-1	-1	3.5		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Toluene	1	0	Avg	0.7206	0.7024	0.7701	0.7181	0.7341	0.7842	0.7518	0.7149	-----	0.737	6.03	0.999	1.00	3.9	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	0.2774	0.2782	0.3112	0.2775	0.2838	0.3032	0.2946	-----	-----	0.289	6.81	1.00	1.00	4.8		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Chlorobenzene	1	0	Avg	0.8013	0.8428	0.9459	0.7830	0.7999	0.8453	0.8171	-----	-----	0.834	6.78	1.00	1.00	6.5	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Butyl acrylate	1	0	Avg	0.9974	0.9239	0.9893	1.1105	1.2179	1.3496	1.3020	-----	-----	1.13	7.02	0.999	0.999	15	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Amyl acetate	1	0	Avg	0.9358	0.8311	0.8583	1.0130	1.0900	1.1905	1.1377	-----	-----	1.01	7.13	0.999	0.999	14	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromoform	1	0	Avg	0.3568	0.3806	0.3827	0.3690	0.3845	0.4169	0.3945	-----	-----	0.384	7.23	0.999	0.999	5.0	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Ethylbenzene	1	0	Avg	0.5951	0.6120	0.6556	0.6175	0.6576	0.7465	0.6785	0.5179	-----	0.635	6.82	0.998	0.999	11	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	0.6487	0.6800	0.7157	0.6421	0.6350	0.6706	0.6323	-----	-----	0.661	7.45	0.999	1.00	4.6	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Bromofluorobenzene	1	0	Avg	0.7265	0.7607	0.7367	0.7415	0.7584	0.7397	0.7389	0.7400	0.7163	0.740	7.40	-1	-1	1.9		30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Styrene	1	0	Avg	1.4708	1.4405	1.3325	1.5174	1.6477	1.8133	1.6893	-----	-----	1.56	7.10	0.998	0.999	11	0.30	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
m&p-Xylenes	1	0	Avg	0.8843	0.8700	0.8168	0.9186	0.9773	1.0635	0.9789	0.8399	0.6579	0.890	6.88	0.998	0.999	13	0.10	40.00	10.00	4.00	100.0	200.0	500.0	1000.	2.00	1.00
o-Xylene	1	0	Avg	0.8810	0.8483	0.8867	0.8885	0.9550	1.0544	0.9889	0.6845	-----	0.898	7.10	0.999	0.999	12	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	0.3396	0.3661	0.4154	0.3659	0.3814	0.4308	0.4096	-----	-----	0.387	7.47	0.999	0.999	8.4		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3-Dichlorobenzene	1	0	Avg	1.1133	1.1701	1.1280	1.0772	1.1353	1.2214	1.1629	-----	-----	1.14	8.02	0.999	1.00	4.0	0.60	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,4-Dichlorobenzene	1	0	Avg	1.0959	1.1408	1.2978	1.0698	1.1146	1.2139	1.1487	-----	-----	1.15	8.07	0.999	0.999	6.8	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dichlorobenzene	1	0	Avg	1.0603	1.0714	1.1623	1.0034	1.0579	1.1530	1.1046	-----	-----	1.09	8.29	0.999	0.999	5.2	0.40	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Isopropylbenzene	1	0	Avg	2.2835	2.3015	2.2309	2.3150	2.5273	2.7495	2.4795	2.0130	-----	2.36	7.29	0.997	0.999	9.4	0.10	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Cyclohexanone	1	0	Avg	0.0236	0.0299	0.0319	0.0271	0.0339	0.0261	0.0323	-----	-----	0.0293	7.37	0.990	0.996	13		100.0	25.00	10.00	250.0	500.0	1250.	2500.		
Camphene	1	0	Avg	0.7971	0.7838	0.7637	0.8008	0.8903	0.9775	0.9008	-----	-----	0.845	7.47	0.998	0.999	9.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,3-Trichloropropane	1	0	Avg	0.7590	0.8715	0.8697	0.7742	0.7992	0.8672	0.8309	-----	-----	0.825	7.48	0.999	1.00	5.8		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
2-Chlorotoluene	1	0	Avg	1.5451	1.6020	1.6424	1.5177	1.5897	1.7124	1.5945	-----	-----	1.60	7.59	0.999	0.999	4.0		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: 9.00
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.

1092401 0106

Method: EPA 8260D

Form 6
Initial Calibration

Instrument: GCMS_6

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	6M144913.D	CAL @ 20 PPB	09/15/21 21:36	2	6M144912.D	CAL @ 5 PPB	09/15/21 21:16
3	6M144911.D	CAL @ 2 PPB	09/15/21 20:55	4	6M144914.D	CAL @ 50 PPB	09/15/21 21:57
5	6M144919.D	CAL @ 100 PPB	09/15/21 23:40	6	6M144917.D	CAL @ 250 PPB	09/15/21 22:59
7	6M144915.D	CAL @ 500 PPB	09/15/21 22:18	8	6M144910.D	CAL @ 1 PPB	09/15/21 20:34
9	6M144909.D	CAL @ 0.5 PPB	09/15/21 20:13				

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	2.3782	2.3685	2.3716	2.3795	2.5061	2.7661	2.5352	-----	-----	2.47	7.58	0.998	0.999	5.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
4-Chlorotoluene	1	0	Avg	1.5321	1.5595	1.5126	1.4977	1.5859	1.7125	1.5288	-----	-----	1.56	7.65	0.997	0.999	4.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
n-Propylbenzene	1	0	Avg	2.8104	2.8693	2.8504	2.8416	3.0102	3.2459	2.9490	2.5002	-----	2.88	7.52	0.998	0.999	7.3		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Bromobenzene	1	0	Avg	1.4774	1.5929	1.6483	1.4765	1.5648	1.6786	1.5540	-----	-----	1.57	7.49	0.998	0.999	4.9		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,3,5-Trimethylbenzen	1	0	Avg	1.9807	1.9260	1.8133	1.9102	2.0718	2.2129	2.0649	1.4820	-----	1.93	7.60	0.999	0.999	11		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
Butyl methacrylate	1	0	Avg	0.9183	0.8802	0.8393	0.9082	0.9864	1.0595	0.9942	0.6686	-----	0.907	7.61	0.999	0.999	13	0.50	20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
t-Butylbenzene	1	0	Avg	1.8580	1.9463	1.7530	1.8732	2.0350	2.2199	2.0774	1.5770	-----	1.92	7.81	0.999	0.999	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
1,2,4-Trimethylbenzen	1	0	Avg	1.9624	1.9225	1.8346	1.9454	2.0788	2.2782	2.1103	1.7743	-----	1.99	7.83	0.998	0.999	8.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
sec-Butylbenzene	1	0	Avg	2.4687	2.4340	2.3929	2.4953	2.6842	2.9235	2.7281	1.9376	-----	2.51	7.93	0.999	0.999	12		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
4-Isopropyltoluene	1	0	Avg	2.0026	2.0466	2.1116	2.0105	2.1749	2.4028	2.2512	2.2163	-----	2.15	8.00	0.999	0.999	6.4		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
n-Butylbenzene	1	0	Avg	2.4243	2.3653	2.2672	2.3986	2.5394	2.8098	2.6237	2.1982	-----	2.45	8.24	0.999	0.999	8.1		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	
p-Diethylbenzene	1	0	Avg	1.1492	1.1418	1.0018	1.1953	1.2998	1.4670	1.4126	-----	-----	1.24	8.22	0.999	0.999	13		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4,5-Tetramethylbe	1	0	Avg	1.3265	1.2603	1.1915	1.4305	1.6556	1.9103	1.8745	-----	-----	1.52	8.68	0.999	0.999	19		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2-Dibromo-3-Chloro	1	0	Avg	0.1307	0.1313	0.1174	0.1373	0.1410	0.1558	0.1535	-----	-----	0.138	8.74	1.00	1.00	9.7	0.05	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Camphor	1	0	Qua	0.0400	0.0407	0.0463	0.0513	0.0608	0.0672	0.0671	-----	-----	0.0534	9.18	0.999	0.999	22		200.0	50.00	20.00	500.0	1000.	2500.	5000.		
Hexachlorobutadiene	1	0	Avg	0.3878	0.4140	0.4035	0.3736	0.4066	0.4509	0.4429	-----	-----	0.411	9.32	0.999	0.999	6.7		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,4-Trichlorobenzen	1	0	Avg	0.6265	0.6613	0.6771	0.6484	0.7048	0.7981	0.7964	-----	-----	0.702	9.23	0.999	0.999	9.9	0.20	20.00	5.00	2.00	50.00	100.0	250.0	500.0		
1,2,3-Trichlorobenzen	1	0	Avg	0.5852	0.6426	0.6282	0.5915	0.6555	0.7432	0.7516	-----	-----	0.657	9.54	0.999	0.999	10		20.00	5.00	2.00	50.00	100.0	250.0	500.0		
Naphthalene	1	0	Qua	1.4178	1.2518	1.1737	1.5910	1.7724	2.0143	1.9819	1.0591	-----	1.53	9.40	0.999	0.999	24		20.00	5.00	2.00	50.00	100.0	250.0	500.0	1.00	

Flags	*Note:* Avg Rsd: 9.00
a - failed the min rf criteria	*Corr 1 = Correlation Coefficient for linear Eq.*
	Corr 2 = Correlation Coefficient for quad Eq.
c - failed the minimum correlation coeff criteria(if applicable)	*Fit = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.*

Form7

Continuing Calibration

Calibration Name: CAL @ 50 PPB **Data File:** 6M145055.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/21/2021 6:33:00 A Method: EPA 8260D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	5.13	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.67	43.14	50	20	0.1	0.484	0.418	13.72	
Dichlorodifluoromethane	1	0		1.65	15.73	50	20	0.1	0.121	0.038	68.53	C1
Chloromethane	1	0		1.84	29.02	50	20	0.1	0.324	0.188	41.95	C1
Bromomethane	1	0		2.25	41.70	50	20	0.1	0.176	0.137	16.60	
Vinyl Chloride	1	0		1.93	34.41	50	20	0.1	0.292	0.201	31.18	C1
Chloroethane	1	0		2.34	42.85	50	20	0.1	0.173	0.148	14.29	
Trichlorofluoromethane	1	0		2.57	45.18	50	20	0.1	0.361	0.326	9.63	
Ethyl ether	1	0		2.82	46.53	50	20	0.5	0.198	0.184	6.94	
Furan	1	0		2.86	47.98	50	20	0.5	0.398	0.382	4.04	
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		3.03	45.78	50	20	0.1	0.197	0.180	8.44	
Methylene Chloride	1	0		3.45	45.69	50	20	0.1	0.254	0.232	8.61	
Acrolein	1	0		2.94	234.56	250	20		0.044	0.042	6.18	
Acrylonitrile	1	0		3.65	47.30	50	20		0.123	0.117	5.39	
Iodomethane	1	0		3.18	40.23	50	20		0.169	0.179	19.55	
Acetone	1	0		3.07	235.43	250	20	0.1	0.096	0.090	5.83	
Carbon Disulfide	1	0		3.25	38.32	50	20	0.1	0.693	0.531	23.36	C1
t-Butyl Alcohol	1	0		3.52	250.02	250	20		0.032	0.032	0.01	
n-Hexane	1	0		3.92	43.96	50	20		0.363	0.319	12.08	
Di-isopropyl-ether	1	0		4.07	49.71	50	20		0.992	0.986	0.57	
1,1-Dichloroethene	1	0		3.04	44.57	50	20	0.1	0.399	0.356	10.86	
Methyl Acetate	1	0		3.36	46.89	50	20	0.1	0.270	0.253	6.21	
Methyl-t-butyl ether	1	0		3.68	48.12	50	20	0.1	0.581	0.559	3.77	
1,1-Dichloroethane	1	0		4.04	48.80	50	20	0.2	0.488	0.477	2.40	
trans-1,2-Dichloroethene	1	0		3.70	45.73	50	20	0.1	0.237	0.217	8.54	
Ethyl-t-butyl ether	1	0		4.33	51.53	50	20	0.5	0.725	0.747	3.06	
cis-1,2-Dichloroethene	1	0		4.45	49.20	50	20	0.1	0.494	0.487	1.61	
Bromochloromethane	1	0		4.60	49.17	50	20		0.294	0.289	1.66	
2,2-Dichloropropane	1	0		4.45	40.76	50	20		0.251	0.269	18.47	
Ethyl acetate	1	0		4.47	49.81	50	20		0.324	0.323	0.39	
1,4-Dioxane	1	0		5.52	2473.69	2500	20		0.003	0.003	1.05	
1,1-Dichloropropene	1	0		4.86	47.98	50	20		0.326	0.313	4.05	
Chloroform	1	0		4.64	49.68	50	20	0.2	0.471	0.468	0.65	
Dibromofluoromethane	1	0	S	4.73	29.87	75	**		0.281	0.280	0.43	
Cyclohexane	1	0		4.81	44.70	50	20	0.1	0.454	0.406	10.60	
1,2-Dichloroethane-d4	1	0	S	4.94	30.15	75	**		0.167	0.168	0.49	
1,2-Dichloroethane	1	0		4.98	51.25	50	20	0.1	0.419	0.429	2.49	
2-Butanone	1	0		4.45	44.36	50	20	0.1	0.145	0.128	11.27	
1,1,1-Trichloroethane	1	0		4.77	48.76	50	20	0.1	0.396	0.386	2.47	
Carbon Tetrachloride	1	0		4.87	52.12	50	20	0.1	0.323	0.337	4.23	
Vinyl Acetate	1	0		4.07	49.09	50	20		0.854	0.838	1.82	
Bromodichloromethane	1	0		5.60	50.94	50	20	0.2	0.368	0.375	1.87	
Methylcyclohexane	1	0		5.45	46.69	50	20	0.1	0.367	0.342	6.63	
Dibromomethane	1	0		5.53	48.79	50	20		0.156	0.153	2.42	
1,2-Dichloropropane	1	0		5.46	47.67	50	20	0.1	0.297	0.283	4.66	
Trichloroethene	1	0		5.34	47.56	50	20	0.2	0.253	0.240	4.88	
Benzene	1	0		4.98	48.51	50	20	0.5	0.928	0.901	2.98	
tert-Amyl methyl ether	1	0		5.03	51.12	50	20		0.565	0.578	2.24	
Chlorobenzene-d5	1	0	I	6.76	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.98	52.41	50	20	0.5	0.696	0.730	4.82	
Methyl methacrylate	1	0		5.48	54.07	50	20	0.5	0.328	0.355	8.14	
Dibromochloromethane	1	0		6.45	51.95	50	20	0.1	0.323	0.335	3.89	

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 @ 50 PPB **Data File:** 6M145055.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/21/2021 6:33:00 A Method: EPA 8260D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.78	70.83	50	20		0.006	0.004	41.66	C1
cis-1,3-Dichloropropene	1	0		5.83	51.91	50	20	0.2	0.448	0.465	3.81	
trans-1,3-Dichloropropene	1	0		6.12	53.64	50	20	0.1	0.391	0.419	7.28	
Ethyl methacrylate	1	0		6.14	54.45	50	20	0.5	0.349	0.380	8.91	
1,1,2-Trichloroethane	1	0		6.22	50.78	50	20	0.1	0.277	0.282	1.55	
1,2-Dibromoethane	1	0		6.53	47.61	50	20	0.1	0.283	0.269	4.78	
1,3-Dichloropropane	1	0		6.32	50.16	50	20		0.477	0.479	0.32	
4-Methyl-2-Pentanone	1	0		5.90	53.72	50	20	0.1	0.381	0.409	7.44	
2-Hexanone	1	0		6.33	54.21	50	20	0.1	0.266	0.288	8.42	
Tetrachloroethene	1	0		6.32	46.26	50	20	0.2	0.249	0.230	7.48	
Toluene-d8	1	0	S	5.99	31.39	75	**		1.207	1.263	4.62	
Toluene	1	0		6.03	49.57	50	20	0.4	0.737	0.731	0.87	
1,1,1,2-Tetrachloroethane	1	0		6.81	50.92	50	20		0.289	0.295	1.84	
Chlorobenzene	1	0		6.78	47.26	50	20	0.5	0.834	0.788	5.47	
1,4-Dichlorobenzene-d4	1	0	I	8.05	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		7.02	54.60	50	20	0.5	1.127	1.231	9.20	
n-Amyl acetate	1	0		7.14	55.62	50	20	0.5	1.008	1.121	11.23	
Bromoform	1	0		7.23	51.93	50	20	0.1	0.384	0.398	3.87	
Ethylbenzene	1	0		6.82	52.27	50	20	0.1	0.635	0.664	4.54	
1,1,2,2-Tetrachloroethane	1	0		7.44	52.40	50	20	0.1	0.661	0.692	4.80	
Bromofluorobenzene	1	0	S	7.39	31.78	75	**		0.740	0.784	5.92	
Styrene	1	0		7.10	51.57	50	20	0.3	1.559	1.608	3.15	
m&p-Xylenes	1	0		6.88	107.42	100	20	0.1	0.890	0.956	7.42	
o-Xylene	1	0		7.10	51.91	50	20	0.3	0.898	0.933	3.82	
trans-1,4-Dichloro-2-butene	1	0		7.47	54.72	50	20		0.387	0.424	9.43	
1,3-Dichlorobenzene	1	0		8.02	47.94	50	20	0.6	1.144	1.097	4.11	
1,4-Dichlorobenzene	1	0		8.06	46.54	50	20	0.5	1.155	1.075	6.91	
1,2-Dichlorobenzene	1	0		8.29	48.59	50	20	0.4	1.088	1.057	2.82	
Isopropylbenzene	1	0		7.29	51.87	50	20	0.1	2.363	2.451	3.73	
Cyclohexanone	1	0		7.37	186.43	250	20		0.029	0.022	25.43	C1
Camphene	1	0		7.47	51.54	50	20		0.845	0.871	3.08	
1,2,3-Trichloropropane	1	0		7.48	52.25	50	20		0.825	0.862	4.50	
2-Chlorotoluene	1	0		7.59	49.34	50	20		1.601	1.580	1.31	
p-Ethyltoluene	1	0		7.58	50.43	50	20		2.472	2.493	0.85	
4-Chlorotoluene	1	0		7.65	50.80	50	20		1.561	1.586	1.60	
n-Propylbenzene	1	0		7.52	51.42	50	20		2.885	2.967	2.85	
Bromobenzene	1	0		7.49	51.14	50	20		1.570	1.606	2.28	
1,3,5-Trimethylbenzene	1	0		7.60	51.20	50	20		1.933	1.979	2.39	
Butyl methacrylate	1	0		7.61	56.86	50	20	0.5	0.907	1.031	13.72	
t-Butylbenzene	1	0		7.81	51.45	50	20		1.918	1.973	2.90	
1,2,4-Trimethylbenzene	1	0		7.82	51.86	50	20		1.988	2.062	3.71	
sec-Butylbenzene	1	0		7.93	51.66	50	20		2.508	2.591	3.32	
4-Isopropyltoluene	1	0		8.00	48.55	50	20		2.152	2.090	2.91	
n-Butylbenzene	1	0		8.24	51.23	50	20		2.453	2.514	2.46	
p-Diethylbenzene	1	0		8.22	49.40	50	20		1.238	1.223	1.21	
1,2,4,5-Tetramethylbenzene	1	0		8.68	48.01	50	20		1.521	1.461	3.98	
1,2-Dibromo-3-Chloropropane	1	0		8.74	51.29	50	20	0.05	0.138	0.142	2.59	
Camphor	1	0		9.18	457.42	500	20		0.053	0.058	8.52	
Hexachlorobutadiene	1	0		9.32	46.89	50	20		0.411	0.386	6.21	
1,2,4-Trichlorobenzene	1	0		9.23	46.52	50	20	0.2	0.702	0.653	6.95	
1,2,3-Trichlorobenzene	1	0		9.54	46.23	50	20		0.657	0.607	7.53	
Naphthalene	1	0		9.39	42.65	50	20		1.533	1.630	14.71	

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 @ 50 PPB **Data File:** 6M145214.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/25/2021 4:19:00 A Method: EPA 8260D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Fluorobenzene	1	0	I	5.13	30.00	30	**			0.000	0.00	
Chlorodifluoromethane	1	0		1.67	40.83	50	20	0.1	0.484	0.395	18.35	
Dichlorodifluoromethane	1	0		1.65	94.95	50	20	0.1	0.121	0.230	89.90	C1
Chloromethane	1	0		1.84	45.94	50	20	0.1	0.324	0.298	8.12	
Bromomethane	1	0		2.25	50.21	50	20	0.1	0.176	0.165	0.41	
Vinyl Chloride	1	0		1.93	50.39	50	20	0.1	0.292	0.294	0.77	
Chloroethane	1	0		2.34	49.95	50	20	0.1	0.173	0.173	0.11	
Trichlorofluoromethane	1	0		2.57	53.93	50	20	0.1	0.361	0.390	7.86	
Ethyl ether	1	0		2.82	46.11	50	20	0.5	0.198	0.183	7.78	
Furan	1	0		2.86	45.38	50	20	0.5	0.398	0.361	9.23	
1,1,2-Trichloro-1,2,2-trifluoroetha	1	0		3.03	50.44	50	20	0.1	0.197	0.198	0.88	
Methylene Chloride	1	0		3.45	48.71	50	20	0.1	0.254	0.248	2.58	
Acrolein	1	0		2.94	207.90	250	20		0.044	0.037	16.84	
Acrylonitrile	1	0		3.65	38.57	50	20		0.123	0.095	22.85	C1
Iodomethane	1	0		3.18	43.39	50	20		0.169	0.193	13.23	
Acetone	1	0		3.07	176.34	250	20	0.1	0.096	0.067	29.47	C1
Carbon Disulfide	1	0		3.25	44.72	50	20	0.1	0.693	0.620	10.55	
t-Butyl Alcohol	1	0		3.51	187.29	250	20		0.032	0.024	25.09	C1
n-Hexane	1	0		3.92	46.87	50	20		0.363	0.340	6.26	
Di-isopropyl-ether	1	0		4.07	38.75	50	20		0.992	0.768	22.51	C1
1,1-Dichloroethene	1	0		3.04	47.22	50	20	0.1	0.399	0.377	5.55	
Methyl Acetate	1	0		3.36	37.28	50	20	0.1	0.270	0.201	25.44	C1
Methyl-t-butyl ether	1	0		3.68	45.10	50	20	0.1	0.581	0.524	9.80	
1,1-Dichloroethane	1	0		4.04	45.92	50	20	0.2	0.488	0.449	8.16	
trans-1,2-Dichloroethene	1	0		3.69	50.94	50	20	0.1	0.237	0.241	1.89	
Ethyl-t-butyl ether	1	0		4.33	43.91	50	20	0.5	0.725	0.637	12.19	
cis-1,2-Dichloroethene	1	0		4.45	43.74	50	20	0.1	0.494	0.433	12.52	
Bromochloromethane	1	0		4.60	39.19	50	20		0.294	0.231	21.62	C1
2,2-Dichloropropane	1	0		4.45	37.55	50	20		0.251	0.247	24.90	C1
Ethyl acetate	1	0		4.47	36.32	50	20		0.324	0.236	27.36	C1
1,4-Dioxane	1	0		5.52	2337.09	2500	20		0.003	0.003	6.52	
1,1-Dichloropropene	1	0		4.86	48.28	50	20		0.326	0.315	3.44	
Chloroform	1	0		4.64	46.57	50	20	0.2	0.471	0.439	6.86	
Dibromofluoromethane	1	0	S	4.74	30.59	75	**		0.281	0.287	1.96	
Cyclohexane	1	0		4.81	44.22	50	20	0.1	0.454	0.401	11.55	
1,2-Dichloroethane-d4	1	0	S	4.94	26.01	75	**		0.167	0.145	13.29	
1,2-Dichloroethane	1	0		4.98	42.23	50	20	0.1	0.419	0.354	15.54	
2-Butanone	1	0		4.45	31.85	50	20	0.1	0.145	0.092	36.31	C1
1,1,1-Trichloroethane	1	0		4.77	48.43	50	20	0.1	0.396	0.383	3.14	
Carbon Tetrachloride	1	0		4.87	53.43	50	20	0.1	0.323	0.345	6.86	
Vinyl Acetate	1	0		4.07	36.95	50	20		0.854	0.631	26.11	C1
Bromodichloromethane	1	0		5.60	45.58	50	20	0.2	0.368	0.335	8.84	
Methylcyclohexane	1	0		5.45	52.50	50	20	0.1	0.367	0.385	5.00	
Dibromomethane	1	0		5.53	49.41	50	20		0.156	0.155	1.17	
1,2-Dichloropropane	1	0		5.46	43.90	50	20	0.1	0.297	0.261	12.21	
Trichloroethene	1	0		5.34	49.86	50	20	0.2	0.253	0.252	0.27	
Benzene	1	0		4.98	49.09	50	20	0.5	0.928	0.911	1.82	
tert-Amyl methyl ether	1	0		5.03	46.38	50	20		0.565	0.524	7.24	
Chlorobenzene-d5	1	0	I	6.76	30.00	30	**			0.000	0.00	
Iso-propylacetate	1	0		4.98	37.92	50	20	0.5	0.696	0.528	24.15	C1
Methyl methacrylate	1	0		5.48	38.60	50	20	0.5	0.328	0.253	22.80	C1
Dibromochloromethane	1	0		6.45	47.68	50	20	0.1	0.323	0.308	4.63	

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 @ 50 PPB **Data File:** 6M145214.D **Instrument:** GCMS 6

Cont Calibration Date/Time 9/25/2021 4:19:00 A Method: EPA 8260D

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2-Chloroethylvinylether	1	0		5.78	67.99	50	20		0.006	0.003	35.98	C1
cis-1,3-Dichloropropene	1	0		5.83	46.54	50	20	0.2	0.448	0.417	6.92	
trans-1,3-Dichloropropene	1	0		6.12	46.24	50	20	0.1	0.391	0.361	7.52	
Ethyl methacrylate	1	0		6.14	36.74	50	20	0.5	0.349	0.257	26.53	C1
1,1,2-Trichloroethane	1	0		6.22	46.64	50	20	0.1	0.277	0.259	6.71	
1,2-Dibromoethane	1	0		6.53	46.02	50	20	0.1	0.283	0.260	7.97	
1,3-Dichloropropane	1	0		6.32	45.71	50	20		0.477	0.436	8.58	
4-Methyl-2-Pentanone	1	0		5.90	37.42	50	20	0.1	0.381	0.285	25.16	C1
2-Hexanone	1	0		6.33	36.27	50	20	0.1	0.266	0.193	27.47	C1
Tetrachloroethene	1	0		6.32	48.48	50	20	0.2	0.249	0.241	3.03	
Toluene-d8	1	0	S	5.99	30.77	75	**		1.207	1.238	2.56	
Toluene	1	0		6.03	48.51	50	20	0.4	0.737	0.715	2.98	
1,1,1,2-Tetrachloroethane	1	0		6.81	49.13	50	20		0.289	0.284	1.73	
Chlorobenzene	1	0		6.78	46.86	50	20	0.5	0.834	0.781	6.29	
1,4-Dichlorobenzene-d4	1	0	I	8.05	30.00	30	**			0.000	0.00	
n-Butyl acrylate	1	0		7.02	42.18	50	20	0.5	1.127	0.951	15.64	
n-Amyl acetate	1	0		7.14	41.14	50	20	0.5	1.008	0.829	17.73	
Bromoform	1	0		7.23	50.56	50	20	0.1	0.384	0.388	1.12	
Ethylbenzene	1	0		6.82	53.65	50	20	0.1	0.635	0.681	7.29	
1,1,2,2-Tetrachloroethane	1	0		7.45	48.76	50	20	0.1	0.661	0.644	2.49	
Bromofluorobenzene	1	0	S	7.40	31.29	75	**		0.740	0.772	4.29	
Styrene	1	0		7.10	51.35	50	20	0.3	1.559	1.601	2.70	
m&p-Xylenes	1	0		6.88	109.57	100	20	0.1	0.890	0.975	9.57	
o-Xylene	1	0		7.10	54.42	50	20	0.3	0.898	0.978	8.83	
trans-1,4-Dichloro-2-butene	1	0		7.47	41.23	50	20		0.387	0.319	17.54	
1,3-Dichlorobenzene	1	0		8.02	50.29	50	20	0.6	1.144	1.151	0.59	
1,4-Dichlorobenzene	1	0		8.07	49.56	50	20	0.5	1.155	1.144	0.89	
1,2-Dichlorobenzene	1	0		8.29	49.22	50	20	0.4	1.088	1.071	1.56	
Isopropylbenzene	1	0		7.29	54.60	50	20	0.1	2.363	2.580	9.20	
Cyclohexanone	1	0		7.37	161.39	250	20		0.029	0.019	35.45	C1
Camphene	1	0		7.47	53.11	50	20		0.845	0.897	6.22	
1,2,3-Trichloropropane	1	0		7.48	47.10	50	20		0.825	0.777	5.80	
2-Chlorotoluene	1	0		7.59	48.50	50	20		1.601	1.553	3.00	
p-Ethyltoluene	1	0		7.58	50.02	50	20		2.472	2.473	0.03	
4-Chlorotoluene	1	0		7.65	48.54	50	20		1.561	1.516	2.92	
n-Propylbenzene	1	0		7.52	53.53	50	20		2.885	3.088	7.05	
Bromobenzene	1	0		7.49	48.62	50	20		1.570	1.527	2.77	
1,3,5-Trimethylbenzene	1	0		7.60	54.19	50	20		1.933	2.095	8.37	
Butyl methacrylate	1	0		7.61	40.50	50	20	0.5	0.907	0.734	19.01	
t-Butylbenzene	1	0		7.81	54.04	50	20		1.918	2.073	8.08	
1,2,4-Trimethylbenzene	1	0		7.83	52.34	50	20		1.988	2.081	4.68	
sec-Butylbenzene	1	0		7.93	55.92	50	20		2.508	2.805	11.84	
4-Isopropyltoluene	1	0		8.00	51.94	50	20		2.152	2.236	3.88	
n-Butylbenzene	1	0		8.24	52.45	50	20		2.453	2.574	4.91	
p-Diethylbenzene	1	0		8.22	49.94	50	20		1.238	1.237	0.12	
1,2,4,5-Tetramethylbenzene	1	0		8.68	44.67	50	20		1.521	1.359	10.67	
1,2-Dibromo-3-Chloropropane	1	0		8.74	48.59	50	20	0.05	0.138	0.134	2.83	
Camphor	1	0		9.18	401.97	500	20		0.053	0.051	19.61	
Hexachlorobutadiene	1	0		9.32	50.29	50	20		0.411	0.414	0.58	
1,2,4-Trichlorobenzene	1	0		9.23	47.72	50	20	0.2	0.702	0.670	4.55	
1,2,3-Trichlorobenzene	1	0		9.54	48.14	50	20		0.657	0.632	3.72	
Naphthalene	1	0		9.39	42.60	50	20		1.533	1.628	14.80	

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

1092401 0111

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M144913.D Method: EPA 8260D

Analysis Date/Time: 09/15/21 21:36

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:	155180	5.13	124317	6.76	71473	8.05								
Eval File Area Limit:	77590-310360		62158-248634		35736-142946									
Eval File Rt Limit:	4.63-5.63		6.26-7.26		7.55-8.55									

Data File	Sample															
6M144909.D	CAL @ 0.5 PPB	146738	5.13	122143	6.76	65206	8.05									
6M144910.D	CAL @ 1 PPB	142879	5.13	122100	6.76	64470	8.05									
6M144911.D	CAL @ 2 PPB	146695	5.13	121578	6.76	65637	8.05									
6M144912.D	CAL @ 5 PPB	148614	5.13	120215	6.76	65898	8.05									
6M144913.D	CAL @ 20 PPB	155180	5.13	124317	6.76	71473	8.05									
6M144914.D	CAL @ 50 PPB	161330	5.13	126806	6.76	72834	8.05									
6M144915.D	CAL @ 500 PPB	162352	5.13	135190	6.76	76396	8.05									
6M144917.D	CAL @ 250 PPB	164184	5.13	132714	6.76	71260	8.05									
6M144919.D	CAL @ 100 PPB	171847	5.13	136855	6.76	74816	8.05									
6M144922.D	ICV	170763	5.13	135559	6.76	73961	8.05									

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.

1092401 0112

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M145055.D Method: EPA 8260D

Analysis Date/Time: 09/21/21 06:33

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:	134398	5.13	104810	6.76	56626	8.05								
Eval File Area Limit:	67199-268796		52405-209620		28313-113252									
Eval File Rt Limit:	4.63-5.63		6.26-7.26		7.55-8.55									
Data File Sample														
6M145054.D 50 PPB	128497	5.13	98681	6.76	55606	8.05								
6M145056.D BLK	122564	5.13	101762	6.76	50532	8.05								
6M145057.D BLK	116839	5.13	95829	6.76	48185	8.05								
6M145058.D BLK	122878	5.13	101684	6.76	50851	8.05								
6M145059.D DAILY BLANK	120054	5.13	96336	6.76	49390	8.05								
6M145060.D AD26072-001	118994	5.13	94750	6.76	43665	8.05								
6M145061.D MBS96776	129446	5.13	99417	6.76	55508	8.05								
6M145062.D AD26073-001	119247	5.13	97257	6.76	73048	8.05								
6M145063.D AD26072-001(MS)	160195	5.13	127641	6.76	69503	8.05								
6M145064.D AD26072-001(MSD)	162398	5.13	125260	6.76	68203	8.05								
6M145065.D MBS96777	150360	5.13	117088	6.76	63172	8.05								
6M145066.D BLK	142965	5.13	115134	6.76	60365	8.05								
6M145067.D BLK	139313	5.13	114105	6.76	57588	8.05								
6M145068.D AD26072-005	132943	5.13	107781	6.76	49560	8.05								
6M145069.D AD26072-003	131937	5.13	105275	6.76	47313	8.05								
6M145070.D AD26074-001	131308	5.13	104833	6.76	46049	8.05								
6M145071.D AD26074-005	126182	5.13	102236	6.76	45893	8.05								
6M145072.D AD26074-003	132481	5.13	105176	6.76	46104	8.05								
6M145073.D AD26075-001	128699	5.13	99769	6.76	45807	8.05								
6M145074.D AD26075-005	126669	5.13	99669	6.76	44726	8.05								
6M145075.D AD26075-003	123033	5.13	98647	6.76	46074	8.05								
6M145076.D AD26076-001	118779	5.13	91144	6.76	41982	8.05								
6M145077.D AD26076-005	116565	5.13	95194	6.76	42998	8.05								
6M145078.D AD26076-003	117502	5.13	95321	6.76	43122	8.05								
6M145079.D AD26084-001	114509	5.13	95087	6.76	43275	8.05								
6M145080.D AD26084-002	98529	5.13	79633	6.76	40400	8.05								
6M145081.D AD26088-001	114079	5.13	88471	6.76	36007	8.05								
6M145082.D AD26088-003	115105	5.13	88071	6.76	38261	8.05								
6M145083.D AD26089-001	98548	5.13	76913	6.76	37919	8.05								
6M145084.D 26009-002	132771	5.13	108099	6.76	57485	8.05								
6M145085.D AD26069-002(5X)	115733	5.13	82593	6.76	30064	8.05								
6M145086.D 26079-001(5X)	130776	5.13	105770	6.76	54859	8.05								

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.

1092401 0113

FORM8

Internal Standard Areas

Evaluation Std Data File: 6M145214.D Method: EPA 8260D

Analysis Date/Time: 09/25/21 04:19

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:	115642	5.13	92421	6.76	49491	8.05								
Eval File Area Limit:	57821-231284		46210-184842		24746-98982									
Eval File Rt Limit:	4.63-5.63		6.26-7.26		7.55-8.55									

Data File	Sample						
6M145216.D	BLK	111200	5.13	88641	6.76	45662	8.05
6M145217.D	BLK	109722	5.13	89518	6.76	46037	8.05
6M145218.D	DAILY BLANK	107889	5.13	86007	6.76	42952	8.05
6M145219.D	MBS96807	117353	5.13	92638	6.76	49411	8.05
6M145220.D	BLK	108212	5.13	87673	6.76	45435	8.05
6M145221.D	AD26074-005	108603	5.13	86979	6.76	38987	8.05
6M145222.D	AD26074-005(MS)	113714	5.13	87668	6.76	45517	8.05
6M145223.D	AD26074-005(MSD)	112930	5.13	88245	6.76	46047	8.05
6M145224.D	MBS96808	119280	5.13	93814	6.76	51338	8.05
6M145225.D	BLK	109823	5.13	89505	6.76	46820	8.05
6M145226.D	AD26206-001	109445	5.13	86603	6.76	43958	8.05
6M145227.D	AD26206-003	108140	5.13	90079	6.76	45257	8.05
6M145228.D	AD26178-003	95330	5.13	76031	6.76	38256	8.05
6M145229.D	AD26178-005	96484	5.13	79239	6.76	41174	8.05
6M145230.D	AD26178-001	107964	5.13	85985	6.76	39968	8.05
6M145231.D	AD26177-011	87240	5.13	67036	6.76	30640	8.05
6M145232.D	AD26217-001	107710	5.13	91774	6.76	44760	8.05
6M145233.D	AD26217-003	101854	5.13	82978	6.76	42101	8.05
6M145234.D	AD26217-005	85085	5.13	70623	6.76	36820	8.05
6M145235.D	AD26217-007	103709	5.13	85925	6.76	43679	8.05
6M145236.D	AD26217-009	80526	5.13	65845	6.76	32595	8.05
6M145237.D	AD26217-011	99848	5.13	81141	6.76	40615	8.05
6M145238.D	AD26217-013	102435	5.13	85319	6.76	43429	8.05
6M145239.D	AD26217-015	96581	5.13	73017	6.76	29389	8.05
6M145240.D	AD26217-017	95167	5.13	76497	6.76	33578	8.05
6M145241.D	AD26203-001	81826	5.13	63777	6.76	31511	8.05
6M145242.D	AD26203-002	84313	5.13	66396	6.76	30550	8.05
6M145243.D	AD26203-003	80943	5.13	66902	6.76	33030	8.05
6M145244.D	AD26203-004	84920	5.13	67259	6.76	30944	8.05
6M145245.D	AD26203-005	95267	5.13	70271	6.76	27662	8.05
6M145246.D	BLK	102203	5.13	83797	6.76	41796	8.05

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: AD26217-002
Client Id: SB09 COMP
Data File: 9M108570.D
Analysis Date: 09/29/21 18:14
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 85

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	0.011	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 #: 610828

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)

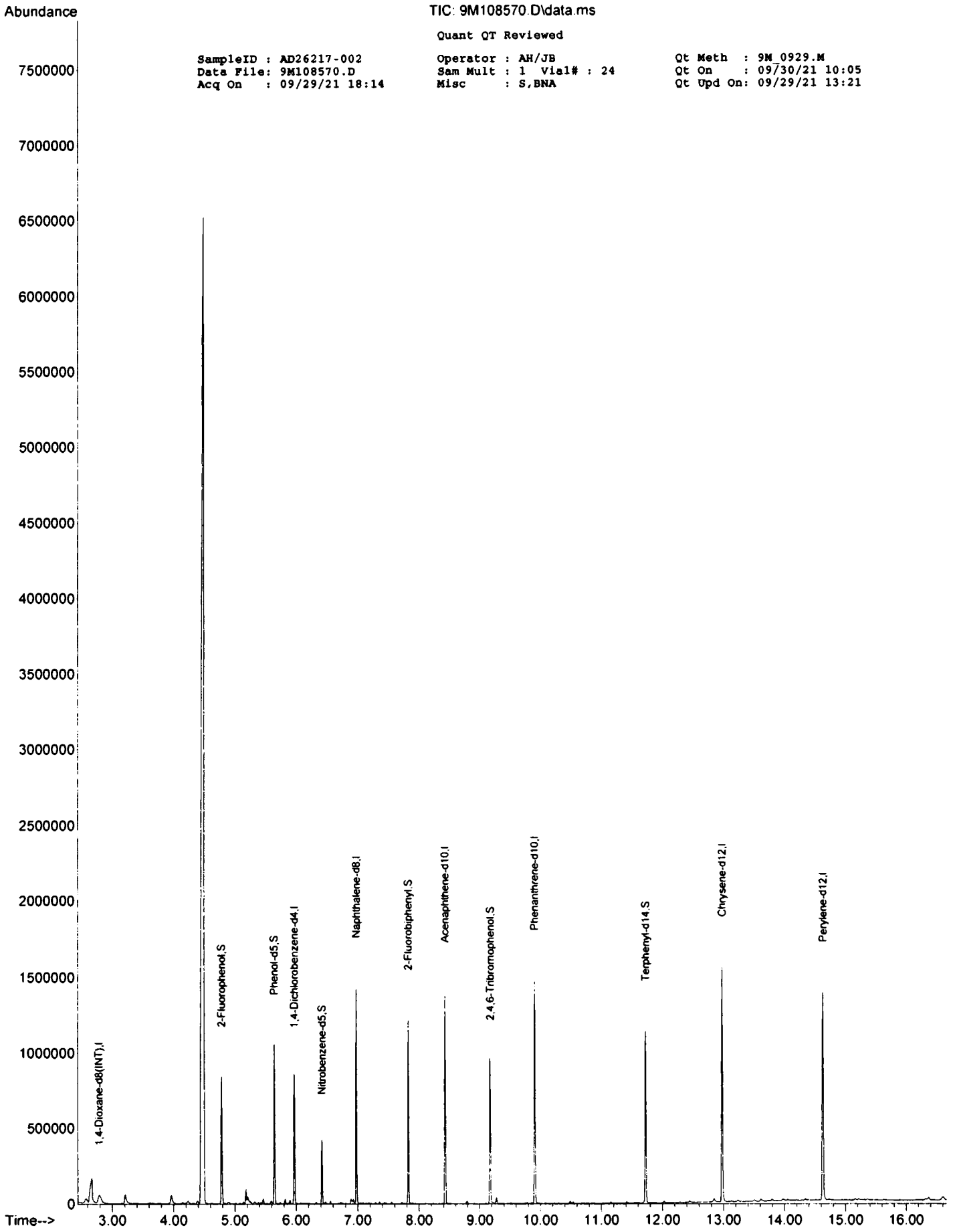
SampleID : AD26217-002 Operator : AH/JB Qt Meth : 9M_0929.M
Data File: 9M108570.D Sam Mult : 1 Vial# : 24 Qt On : 09/30/21 10:05
Acq On : 09/29/21 18:14 Misc : S,BNA Qt Upd On: 09/29/21 13:21

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\GCMS_9\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
7) 1,4-Dioxane-d8(INT)	2.784	96	76383	40.00 ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.972	152	147478	40.00 ng	0.00
31) Naphthalene-d8	6.978	136	587639	40.00 ng	0.00
50) Acenaphthene-d10	8.425	164	299152	40.00 ng	0.00
77) Phenanthrene-d10	9.907	188	572661	40.00 ng	0.00
91) Chrysene-d12	12.977	240	574519	40.00 ng	0.00
103) Perylene-d12	14.630	264	663987	40.00 ng	-0.03
System Monitoring Compounds					
11) 2-Fluorophenol	4.784	112	282446	65.11 ng	0.00
Spiked Amount 100.000			Recovery = 65.11%		
16) Phenol-d5	5.643	99	355868	68.63 ng	0.00
Spiked Amount 100.000			Recovery = 68.63%		
32) Nitrobenzene-d5	6.419	128	68847	34.14 ng	0.00
Spiked Amount 50.000			Recovery = 68.28%		
55) 2-Fluorobiphenyl	7.825	172	347245	35.85 ng	0.00
Spiked Amount 50.000			Recovery = 71.70%		
80) 2,4,6-Tribromophenol	9.178	330	157484	82.55 ng	0.00
Spiked Amount 100.000			Recovery = 82.55%		
94) Terphenyl-d14	11.725	244	390244	45.45 ng	0.00
Spiked Amount 50.000			Recovery = 90.90%		

Target Compounds Qvalue

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


Abundance
TIC: 9M108570.D\data.ms
Quant QT Reviewed
SampleID : AD26217-002
Data File: 9M108570.D
Acq On : 09/29/21 18:14
Operator : AH/JB
Sam Mult : 1 Vial# : 24
Misc : S,BNA
Qt Meth : 9M_0929.M
Qt On : 09/30/21 10:05
Qt Upd On: 09/29/21 13:21
7500000
7000000
6500000
6000000
5500000
5000000
4500000
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
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-->
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-004(R)
Client Id: SB08 COMP
Data File: 9M108587.D
Analysis Date: 09/30/21 14:38
Date Rec/Extracted: 09/23/21-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.040	U	**218-01-9**	**Chrysene**	**0.040**	**0.047**
83-32-9	Acenaphthene	0.040	U	53-70-3	Dibenzo[a,h]anthracene	0.040	U
208-96-8	Acenaphthylene	0.040	U	**206-44-0**	**Fluoranthene**	**0.040**	**0.082**
120-12-7	Anthracene	0.040	U	86-73-7	Fluorene	0.040	U
56-55-3	**Benzo[a]anthracene**	**0.040**	**0.042**	193-39-5	Indeno[1,2,3-cd]pyrene	0.040	U
50-32-8	**Benzo[a]pyrene**	**0.040**	**0.040**	91-20-3	Naphthalene	0.011	U
205-99-2	**Benzo[b]fluoranthene**	**0.040**	**0.059**	85-01-8	Phenanthrene	0.040	U
191-24-2	Benzo[g,h,i]perylene	0.040	U	**129-00-0**	**Pyrene**	**0.040**	**0.070**
207-08-9	Benzo[k]fluoranthene	0.040	U				

Worksheet #: 610878 *Total Target Concentration* 0.34 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)

SampleID : AD26217-004(R) Operator : AH/JB Qt Meth : 9M_0929.M
Data File: 9M108587.D Sam Mult : 1 Vial# : 12 Qt On : 09/30/21 14:55
Acq On : 09/30/21 14:38 Misc : S,BNA Qt Upd On: 09/29/21 13:21

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-30-21\
Qt Path : G:\GCMSDATA\2021\GCMS_9\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dioxane-d8(INT)	2.772	96	71377	40.00	ng	-0.03
21) 1,4-Dichlorobenzene-d4	5.966	152	138681	40.00	ng	0.00
31) Naphthalene-d8	6.978	136	567267	40.00	ng	0.00
50) Acenaphthene-d10	8.431	164	311039	40.00	ng	0.00
77) Phenanthrene-d10	9.913	188	617905	40.00	ng	0.00
91) Chrysene-d12	12.977	240	640912	40.00	ng	0.00
103) Perylene-d12	14.636	264	738367	40.00	ng	-0.02
System Monitoring Compounds						
11) 2-Fluorophenol	4.778	112	303502	74.87	ng	0.00
Spiked Amount 100.000			Recovery = 74.87%			
16) Phenol-d5	5.643	99	362793	74.87	ng	0.00
Spiked Amount 100.000			Recovery = 74.87%			
32) Nitrobenzene-d5	6.413	128	75610	38.84	ng	0.00
Spiked Amount 50.000			Recovery = 77.68%			
55) 2-Fluorobiphenyl	7.831	172	390393	38.76	ng	0.00
Spiked Amount 50.000			Recovery = 77.52%			
80) 2,4,6-Tribromophenol	9.178	330	183268	89.03	ng	0.00
Spiked Amount 100.000			Recovery = 89.03%			
94) Terphenyl-d14	11.725	244	424599	44.33	ng	0.00
Spiked Amount 50.000			Recovery = 88.66%			
Target Compounds						Qvalue
90) Fluoranthene	11.278	202	68439	4.1161	ng	88
92) Pyrene	11.542	202	59388	3.5131	ng	86
100) Benzo[a]anthracene	12.966	228	36364m	2.1153	ng	
101) Chrysene	13.007	228	39203	2.3781	ng	96
105) Benzo[b]fluoranthene	14.195	252	54183m	2.9859	ng	
107) Benzo[a]pyrene	14.571	252	34085	2.0400	ng	89

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

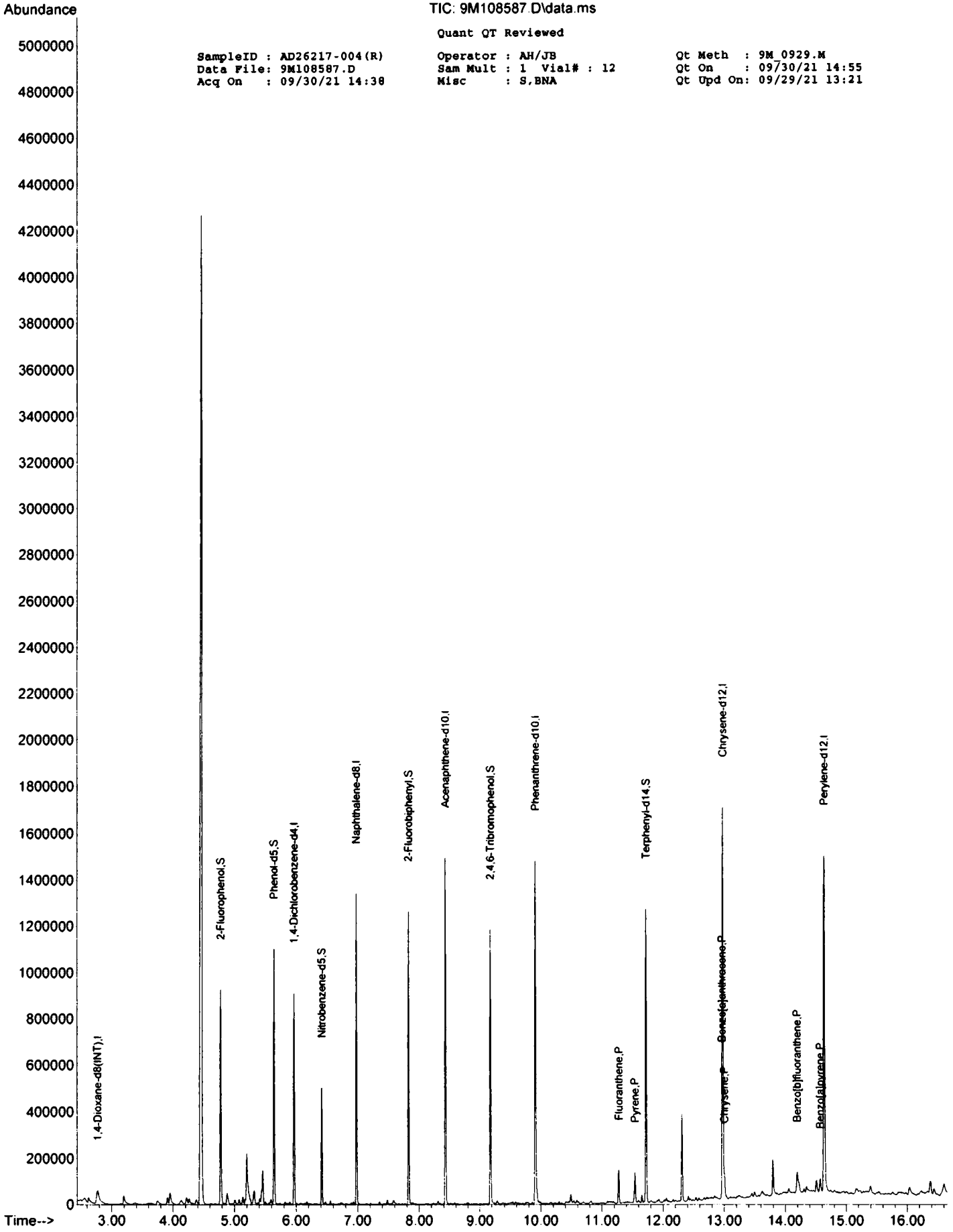
TIC: 9M108587.D\data.ms

Quant QT Reviewed

SampleID : AD26217-004(R)
Data File: 9M108587.D
Acq On : 09/30/21 14:38

Operator : AH/JB
Sam Mult : 1 Vial# : 12
Misc : S,BNA

Qt Meth : 9M_0929.M
Qt On : 09/30/21 14:55
Qt Upd On: 09/29/21 13:21



Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-006
Client Id: SB07 COMP
Data File: 9M108574.D
Analysis Date: 09/29/21 19:47
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.040	U	218-01-9	Chrysene	0.040	U
83-32-9	Acenaphthene	0.040	U	53-70-3	Dibenzo[a,h]anthracene	0.040	U
208-96-8	Acenaphthylene	0.040	U	206-44-0	Fluoranthene	0.040	U
120-12-7	Anthracene	0.040	U	86-73-7	Fluorene	0.040	U
56-55-3	Benzo[a]anthracene	0.040	U	193-39-5	Indeno[1,2,3-cd]pyrene	0.040	U
50-32-8	Benzo[a]pyrene	0.040	U	91-20-3	Naphthalene	0.011	U
205-99-2	Benzo[b]fluoranthene	0.040	U	85-01-8	Phenanthrene	0.040	U
191-24-2	Benzo[g,h,i]perylene	0.040	U	129-00-0	Pyrene	0.040	U
207-08-9	Benzo[k]fluoranthene	0.040	U				

Worksheet #: 610828

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 (Not Reviewed)

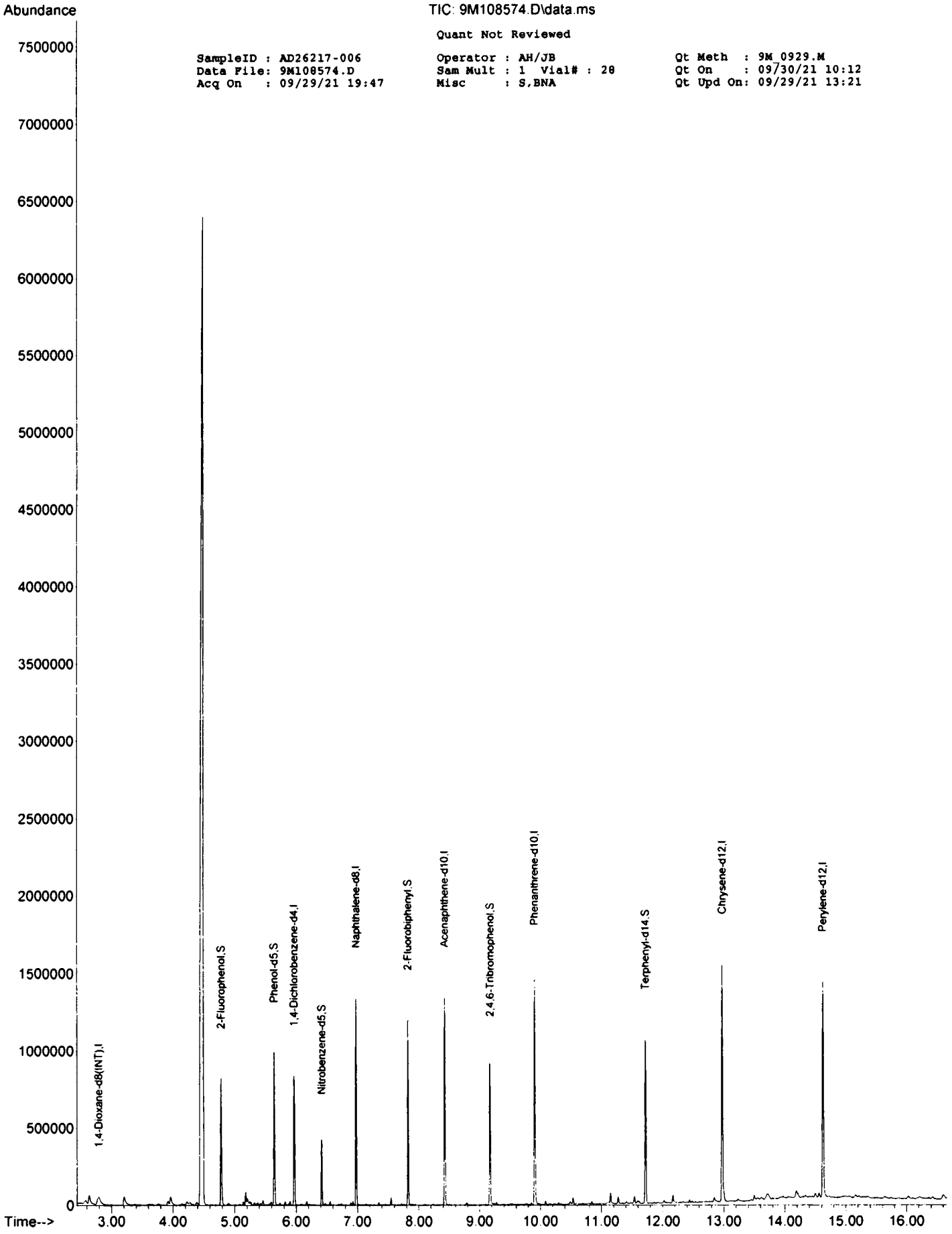
SampleID : AD26217-006 Operator : AH/JB Qt Meth : 9M_0929.M
Data File: 9M108574.D Sam Mult : 1 Vial# : 28 Qt On : 09/30/21 10:12
Acq On : 09/29/21 19:47 Misc : S,BNA Qt Upd On: 09/29/21 13:21

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\GCMS_9\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dioxane-d8(INT)	2.790	96	71827	40.00	ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.966	152	143119	40.00	ng	0.00
31) Naphthalene-d8	6.978	136	573975	40.00	ng	0.00
50) Acenaphthene-d10	8.425	164	291213	40.00	ng	0.00
77) Phenanthrene-d10	9.907	188	566689	40.00	ng	0.00
91) Chrysene-d12	12.977	240	564229	40.00	ng	0.00
103) Perylene-d12	14.624	264	655606	40.00	ng	-0.04
System Monitoring Compounds						
11) 2-Fluorophenol	4.784	112	272441	66.79	ng	0.00
Spiked Amount 100.000			Recovery = 66.79%			
16) Phenol-d5	5.643	99	337115	69.13	ng	0.00
Spiked Amount 100.000			Recovery = 69.13%			
32) Nitrobenzene-d5	6.419	128	68641	34.85	ng	0.00
Spiked Amount 50.000			Recovery = 69.70%			
55) 2-Fluorobiphenyl	7.825	172	343650	36.45	ng	0.00
Spiked Amount 50.000			Recovery = 72.90%			
80) 2,4,6-Tribromophenol	9.178	330	152664	80.87	ng	0.00
Spiked Amount 100.000			Recovery = 80.87%			
94) Terphenyl-d14	11.719	244	368320	43.68	ng	0.00
Spiked Amount 50.000			Recovery = 87.36%			

Target Compounds Qvalue

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


Abundance
TIC: 9M108574.D\data.ms
Quant Not Reviewed
SampleID : AD26217-006
Data File: 9M108574.D
Acq On : 09/29/21 19:47
Operator : AH/JB
Sam Mult : 1 Vial# : 28
Misc : S,BNA
Qt Meth : 9M_0929.M
Qt On : 09/30/21 10:12
Qt Upd On: 09/29/21 13:21
7500000
7000000
6500000
6000000
5500000
5000000
4500000
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
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-->
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-008
Client Id: SB06 COMP
Data File: 7M116802.D
Analysis Date: 09/29/21 17:39
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
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**	**0.16**
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**	**0.27**
120-12-7	Anthracene	0.036	U	86-73-7	Fluorene	0.036	U
56-55-3	**Benzo[a]anthracene**	**0.036**	**0.13**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.036**	**0.075**
50-32-8	**Benzo[a]pyrene**	**0.036**	**0.13**	91-20-3	Naphthalene	0.010	U
205-99-2	**Benzo[b]fluoranthene**	**0.036**	**0.22**	**85-01-8**	**Phenanthrene**	**0.036**	**0.10**
191-24-2	**Benzo[g,h,i]perylene**	**0.036**	**0.086**	**129-00-0**	**Pyrene**	**0.036**	**0.23**
207-08-9	**Benzo[k]fluoranthene**	**0.036**	**0.077**				

Worksheet #: 610828 *Total Target Concentration* 1.5 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.

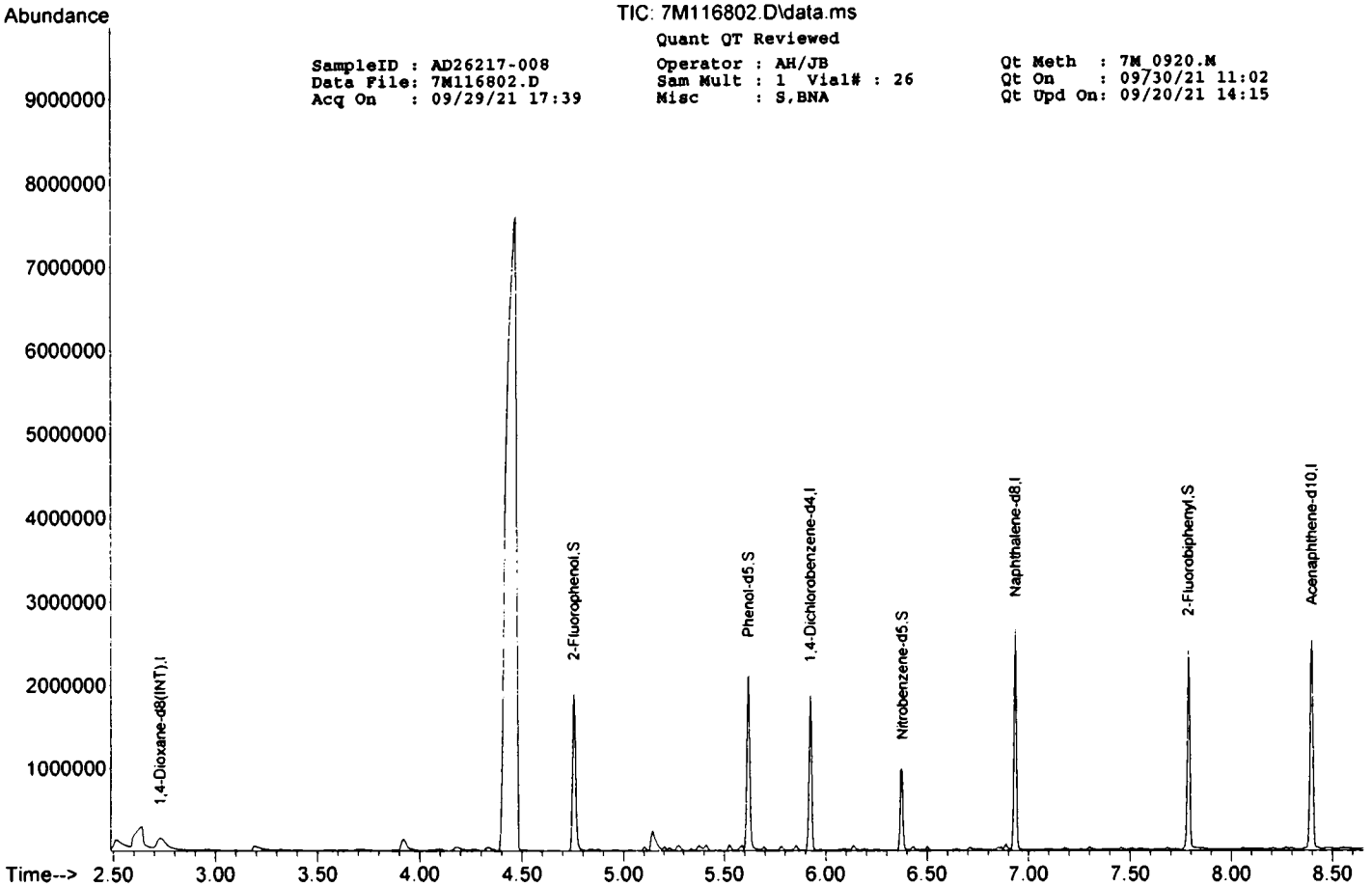
Quantitation Report (QT Reviewed)

SampleID : AD26217-008 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116802.D Sam Mult : 1 Vial# : 26 Qt On : 09/30/21 11:02
Acq On : 09/29/21 17:39 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.728	96	148669	40.00	ng	0.00
21) 1,4-Dichlorobenzene-d4	5.924	152	272151	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1080446	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	525200	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	937039	40.00	ng	0.00
91) Chrysene-d12	12.993	240	739821	40.00	ng	0.00
103) Perylene-d12	14.679	264	809078	40.00	ng	0.00
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	584354	74.29	ng	0.02
Spiked Amount 100.000			Recovery = 74.29%			
16) Phenol-d5	5.619	99	738410	82.57	ng	0.01
Spiked Amount 100.000			Recovery = 82.57%			
32) Nitrobenzene-d5	6.377	128	155315	38.46	ng	0.00
Spiked Amount 50.000			Recovery = 76.92%			
55) 2-Fluorobiphenyl	7.787	172	674233	40.39	ng	-0.01
Spiked Amount 50.000			Recovery = 80.78%			
80) 2,4,6-Tribromophenol	9.156	330	213429	86.26	ng	0.00
Spiked Amount 100.000			Recovery = 86.26%			
94) Terphenyl-d14	11.724	244	557992	45.49	ng	0.00
Spiked Amount 50.000			Recovery = 90.98%			
Target Compounds						Qvalue
86) Phenanthrene	9.920	178	122533	5.6782	ng	99
90) Fluoranthene	11.277	202	348387	14.7711	ng	96
92) Pyrene	11.547	202	280143	12.9548	ng	91
100) Benzo[a]anthracene	12.981	228	148777m	7.2354	ng	
101) Chrysene	13.028	228	176109m	8.9341	ng	
105) Benzo[b]fluoranthene	14.221	252	231451m	11.8826	ng	
106) Benzo[k]fluoranthene	14.250	252	81615m	4.2537	ng	
107) Benzo[a]pyrene	14.608	252	134475	7.1723	ng	93
108) Indeno[1,2,3-cd]pyrene	16.130	276	85330m	4.1321	ng	
110) Benzo[g,h,i]perylene	16.553	276	81770	4.7380	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed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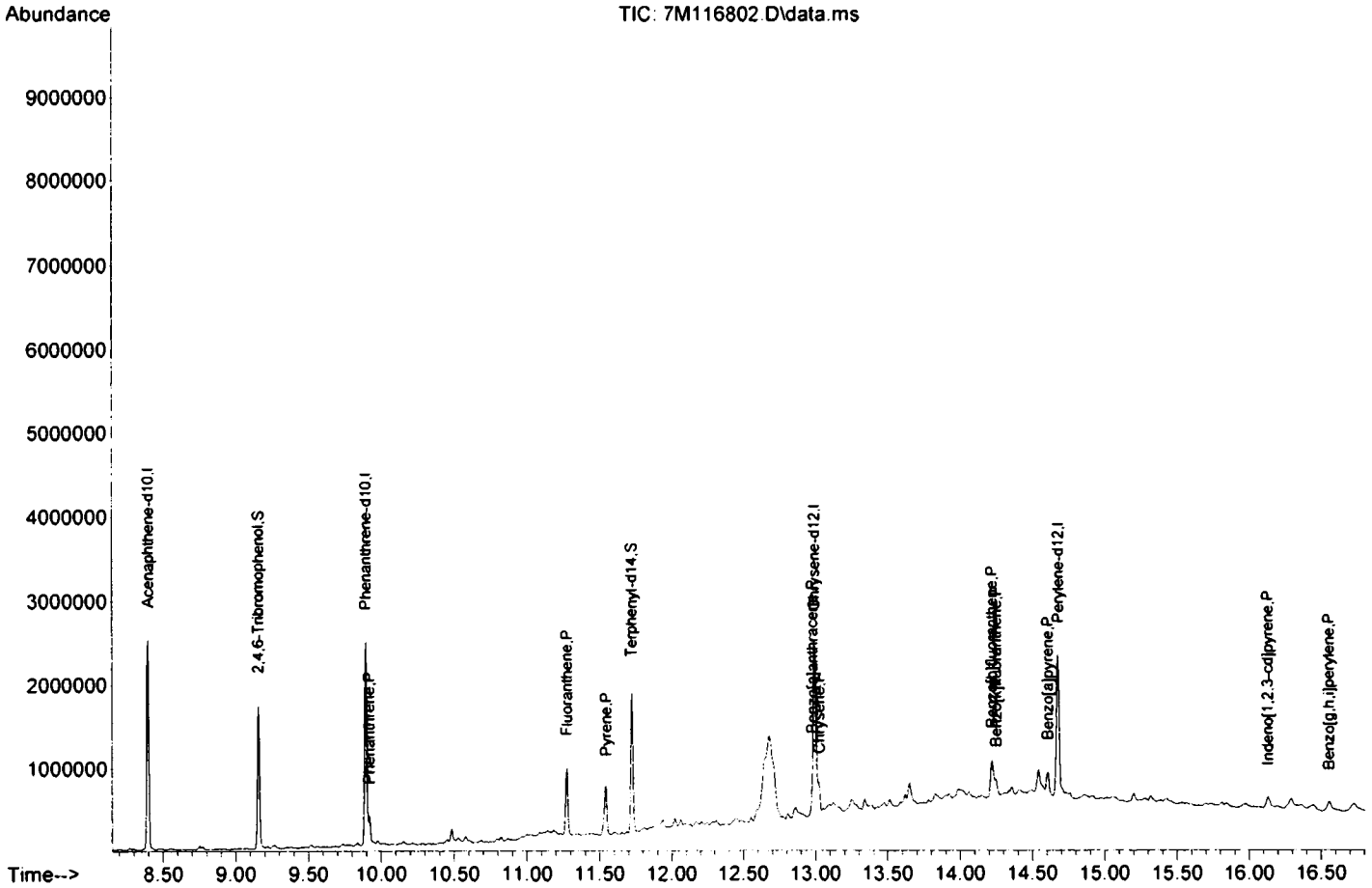
Quant QT Reviewed
SampleID : AD26217-008
Data File: 7M116802.D
Acq On : 09/29/21 17:39
Operator : AH/JB
Sam Mult : 1 Vial# : 26
Misc : S,BNA
Qt Meth : 7M_0920.M
Qt On : 09/30/21 11:02
Qt Upd On: 09/20/21 14:15
9000000
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthene-d10,I
Time--> 2.50 3.00 3.50 4.00 4.50 5.00 5.50 6.00 6.50 7.00 7.50 8.00 8.50


Abundance
TIC: 7M116802.D\data.ms
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8000000
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5000000
4000000
3000000
2000000
1000000
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene-d12,I
Perylene-d12,I
Benzo[a]pyrene,P
Indeno[1,2,3-cd]pyrene,P
Benzo[g,h,i]perylene,P
Time--> 8.50 9.00 9.50 10.00 10.50 11.00 11.50 12.00 12.50 13.00 13.50 14.00 14.50 15.00 15.50 16.00 16.50

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-010
Client Id: SB05 COMP
Data File: 7M116803.D
Analysis Date: 09/29/21 18:03
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 88

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**	**0.23**
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**	**0.23**
120-12-7	**Anthracene**	**0.038**	**0.038**	86-73-7	Fluorene	0.038	U
56-55-3	**Benzo[a]anthracene**	**0.038**	**0.16**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.038**	**0.087**
50-32-8	**Benzo[a]pyrene**	**0.038**	**0.16**	91-20-3	Naphthalene	0.011	U
205-99-2	**Benzo[b]fluoranthene**	**0.038**	**0.34**	**85-01-8**	**Phenanthrene**	**0.038**	**0.055**
191-24-2	**Benzo[g,h,i]perylene**	**0.038**	**0.089**	**129-00-0**	**Pyrene**	**0.038**	**0.26**
207-08-9	**Benzo[k]fluoranthene**	**0.038**	**0.081**				

Worksheet #: 610828 *Total Target Concentration* 1.7 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
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.

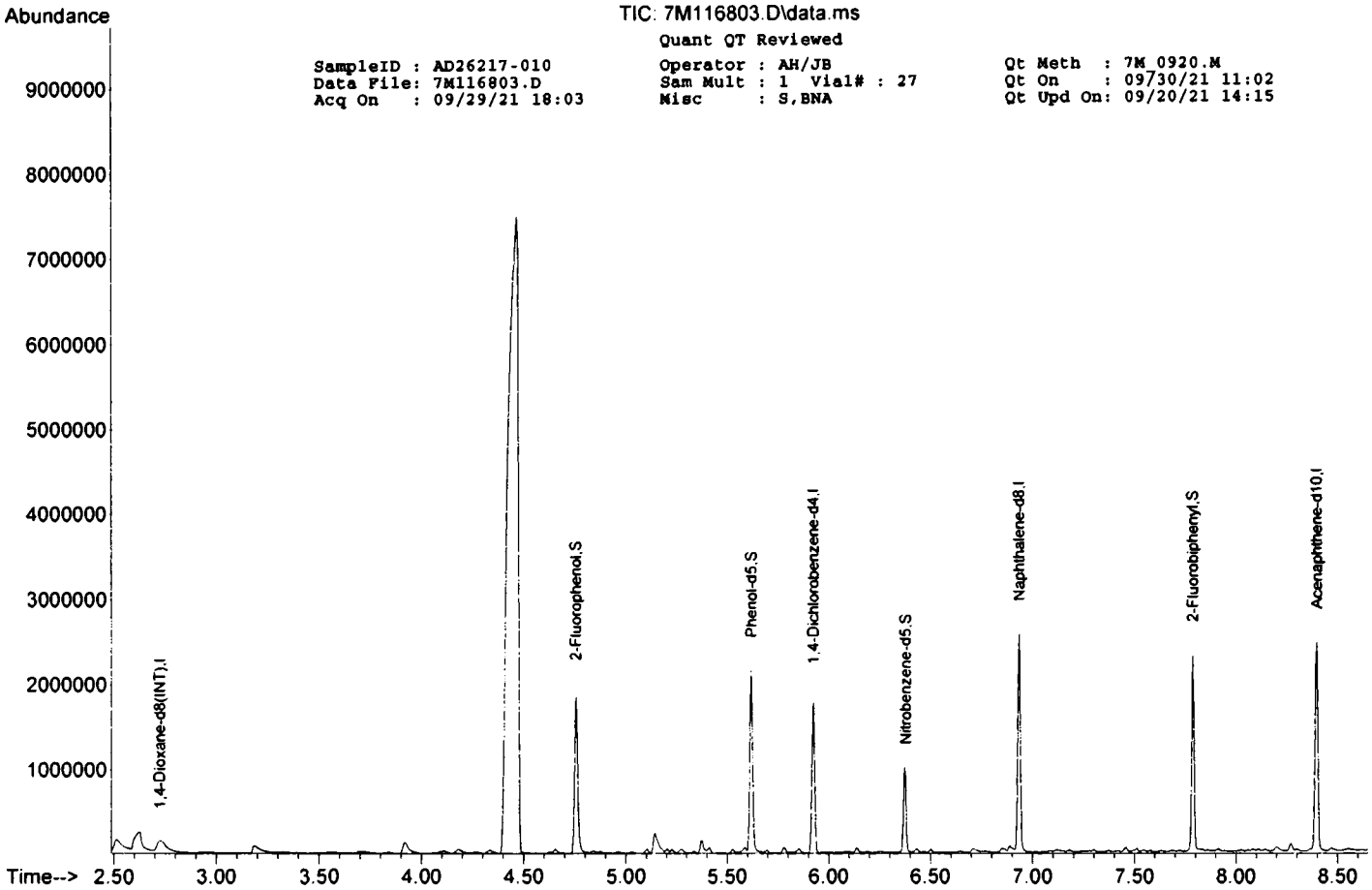
Quantitation Report (QT Reviewed)

SampleID : AD26217-010 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116803.D Sam Mult : 1 Vial# : 27 Qt On : 09/30/21 11:02
Acq On : 09/29/21 18:03 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.722	96	151034	40.00	ng	0.00
21) 1,4-Dichlorobenzene-d4	5.925	152	265873	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1061146	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	514886	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	912177	40.00	ng	0.00
91) Chrysene-d12	12.999	240	718600	40.00	ng	0.01
103) Perylene-d12	14.679	264	790009	40.00	ng	0.00
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	579005	72.46	ng	0.02
Spiked Amount 100.000			Recovery = 72.46%			
16) Phenol-d5	5.619	99	737390	81.16	ng	0.01
Spiked Amount 100.000			Recovery = 81.16%			
32) Nitrobenzene-d5	6.377	128	151569	38.21	ng	0.00
Spiked Amount 50.000			Recovery = 76.42%			
55) 2-Fluorobiphenyl	7.787	172	656671	40.13	ng	-0.01
Spiked Amount 50.000			Recovery = 80.26%			
80) 2,4,6-Tribromophenol	9.162	330	213290	88.44	ng	0.00
Spiked Amount 100.000			Recovery = 88.44%			
94) Terphenyl-d14	11.724	244	541716	45.47	ng	0.00
Spiked Amount 50.000			Recovery = 90.94%			
Target Compounds						Qvalue
86) Phenanthrene	9.920	178	60548	2.8823	ng	99
87) Anthracene	9.979	178	43892m	2.0285	ng	
90) Fluoranthene	11.277	202	273205	11.8992	ng	100
92) Pyrene	11.542	202	284923	13.5650	ng	96
100) Benzo[a]anthracene	12.981	228	169077	8.4654	ng	91
101) Chrysene	13.028	228	235254	12.2870	ng	98
105) Benzo[b]fluoranthene	14.221	252	342724m	18.0200	ng	
106) Benzo[k]fluoranthene	14.250	252	79858m	4.2626	ng	
107) Benzo[a]pyrene	14.609	252	149909	8.1885	ng	92
108) Indeno[1,2,3-cd]pyrene	16.130	276	92967	4.6106	ng	85
110) Benzo[g,h,i]perylene	16.553	276	78858	4.6795	ng	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed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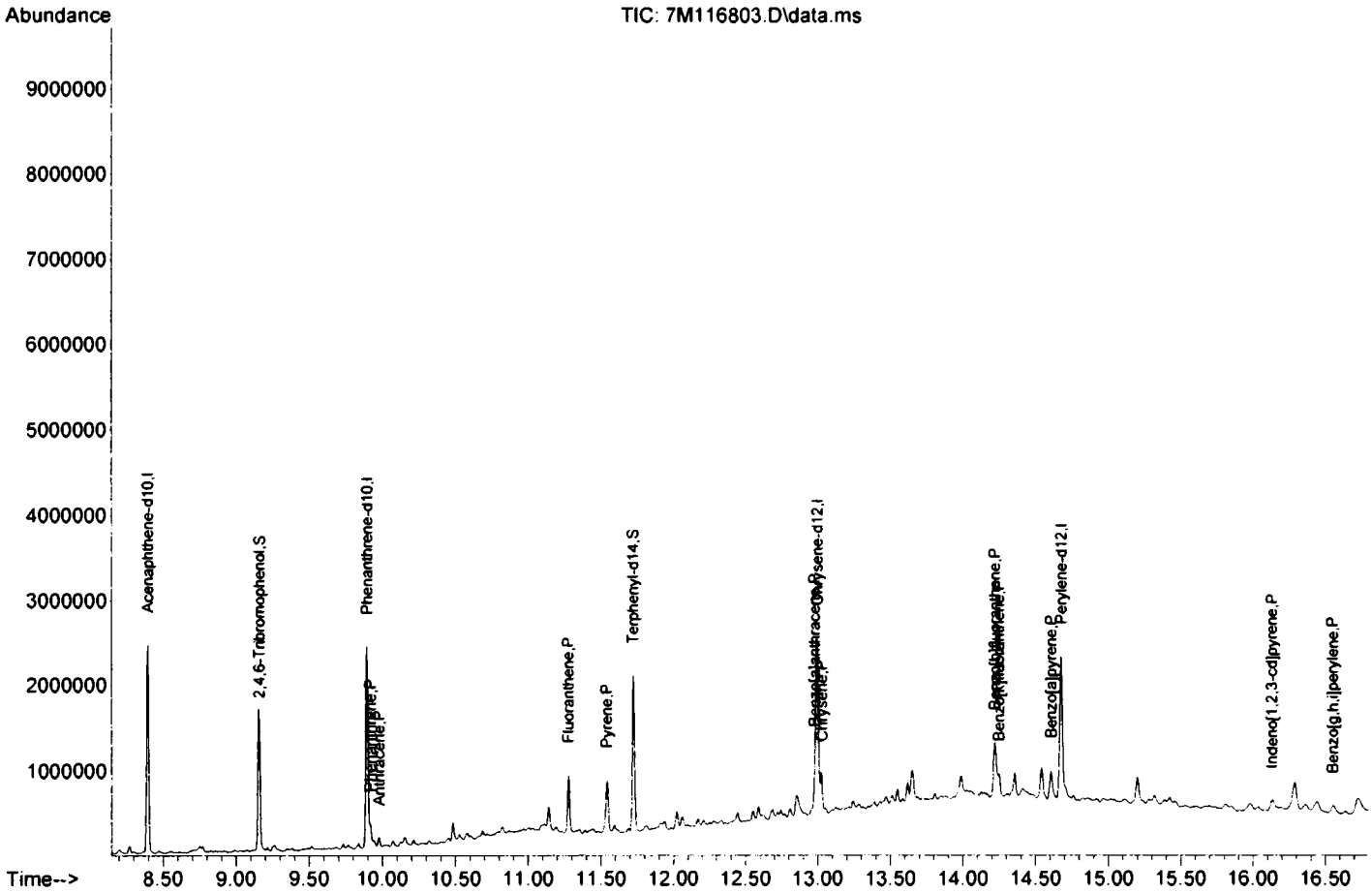
Quant QT Reviewed
SampleID : AD26217-010
Data File: 7M116803.D
Acq On : 09/29/21 18:03
Operator : AH/JB
Sam Mult : 1 Vial# : 27
Misc : S,BNA
Qt Meth : 7M_0920.M
Qt On : 09/30/21 11:02
Qt Upd On: 09/20/21 14:15
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthene-d10,I
Time-->


Abundance
TIC: 7M116803.D\data.ms
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene-d12,I
Perylene-d12,I
Indeno[1,2,3-cd]pyrene,P
Benzo[g,h,i]perylene,P
Time-->

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-012
Client Id: SB04 COMP
Data File: 7M116804.D
Analysis Date: 09/29/21 18:26
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 85

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**	**0.13**
83-32-9	Acenaphthene	0.039	U	53-70-3	Dibenzo[a,h]anthracene	0.039	U
208-96-8	**Acenaphthylene**	**0.039**	**0.047**	**206-44-0**	**Fluoranthene**	**0.039**	**0.16**
120-12-7	Anthracene	0.039	U	86-73-7	Fluorene	0.039	U
56-55-3	**Benzo[a]anthracene**	**0.039**	**0.11**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.039**	**0.076**
50-32-8	**Benzo[a]pyrene**	**0.039**	**0.13**	91-20-3	Naphthalene	0.011	U
205-99-2	**Benzo[b]fluoranthene**	**0.039**	**0.21**	**85-01-8**	**Phenanthrene**	**0.039**	**0.046**
191-24-2	**Benzo[g,h,i]perylene**	**0.039**	**0.082**	**129-00-0**	**Pyrene**	**0.039**	**0.18**
207-08-9	**Benzo[k]fluoranthene**	**0.039**	**0.054**				

Worksheet #: 610828 *Total Target Concentration* 1.2 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.

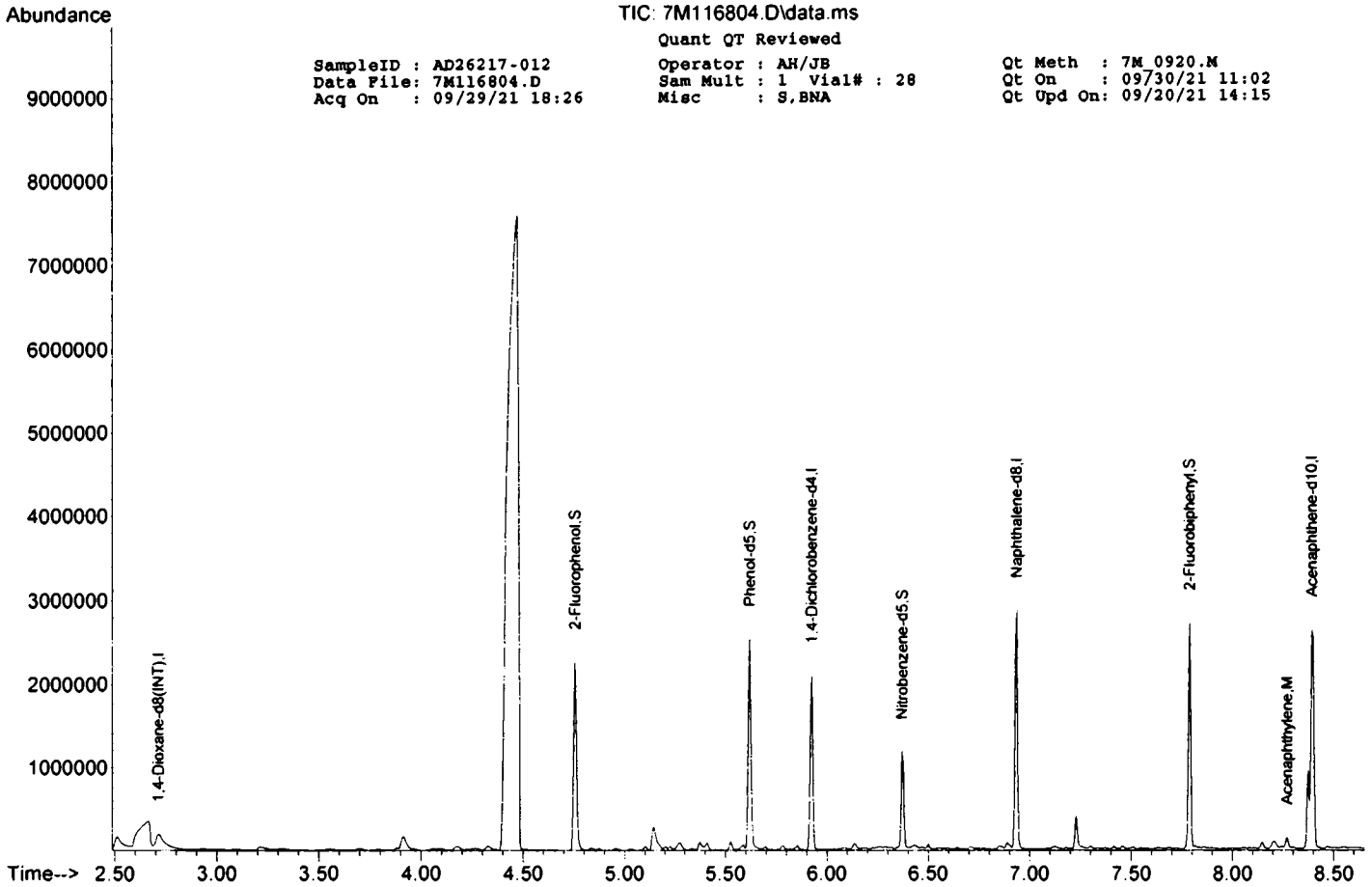
Quantitation Report (QT Reviewed)

SampleID : AD26217-012 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116804.D Sam Mult : 1 Vial# : 28 Qt On : 09/30/21 11:02
Acq On : 09/29/21 18:26 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.710	96	174192	40.00	ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.924	152	308115	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1218216	40.00	ng	0.00
50) Acenaphthene-d10	8.392	164	579336	40.00	ng	-0.01
77) Phenanthrene-d10	9.896	188	1036709	40.00	ng	0.00
91) Chrysene-d12	12.993	240	817556	40.00	ng	0.00
103) Perylene-d12	14.685	264	879093	40.00	ng	0.01
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	662918	71.93	ng	0.02
Spiked Amount 100.000			Recovery = 71.93%			
16) Phenol-d5	5.619	99	830358	79.25	ng	0.01
Spiked Amount 100.000			Recovery = 79.25%			
32) Nitrobenzene-d5	6.371	128	177020	38.87	ng	0.00
Spiked Amount 50.000			Recovery = 77.74%			
55) 2-Fluorobiphenyl	7.787	172	721375	39.18	ng	-0.01
Spiked Amount 50.000			Recovery = 78.36%			
80) 2,4,6-Tribromophenol	9.156	330	216272	79.35	ng	0.00
Spiked Amount 100.000			Recovery = 79.35%			
94) Terphenyl-d14	11.724	244	559469	41.27	ng	0.00
Spiked Amount 50.000			Recovery = 82.54%			
Target Compounds						Qvalue
62) Acenaphthylene	8.269	152	56286	2.4147	ng	99
86) Phenanthrene	9.920	178	55853	2.3394	ng	99
90) Fluoranthene	11.271	202	209256	8.0192	ng	100
92) Pyrene	11.541	202	215571	9.0209	ng	96
100) Benzo[a]anthracene	12.981	228	130049m	5.7232	ng	
101) Chrysene	13.022	228	141431m	6.4927	ng	
105) Benzo[b]fluoranthene	14.227	252	222761m	10.5256	ng	
106) Benzo[k]fluoranthene	14.256	252	57620m	2.7639	ng	
107) Benzo[a]pyrene	14.614	252	137132	6.7315	ng	93
108) Indeno[1,2,3-cd]pyrene	16.142	276	87352	3.8932	ng	84
110) Benzo[g,h,i]perylene	16.565	276	78048	4.1621	ng	93

(#) = qualifier out of range (m) = manual integration (+) = signals summed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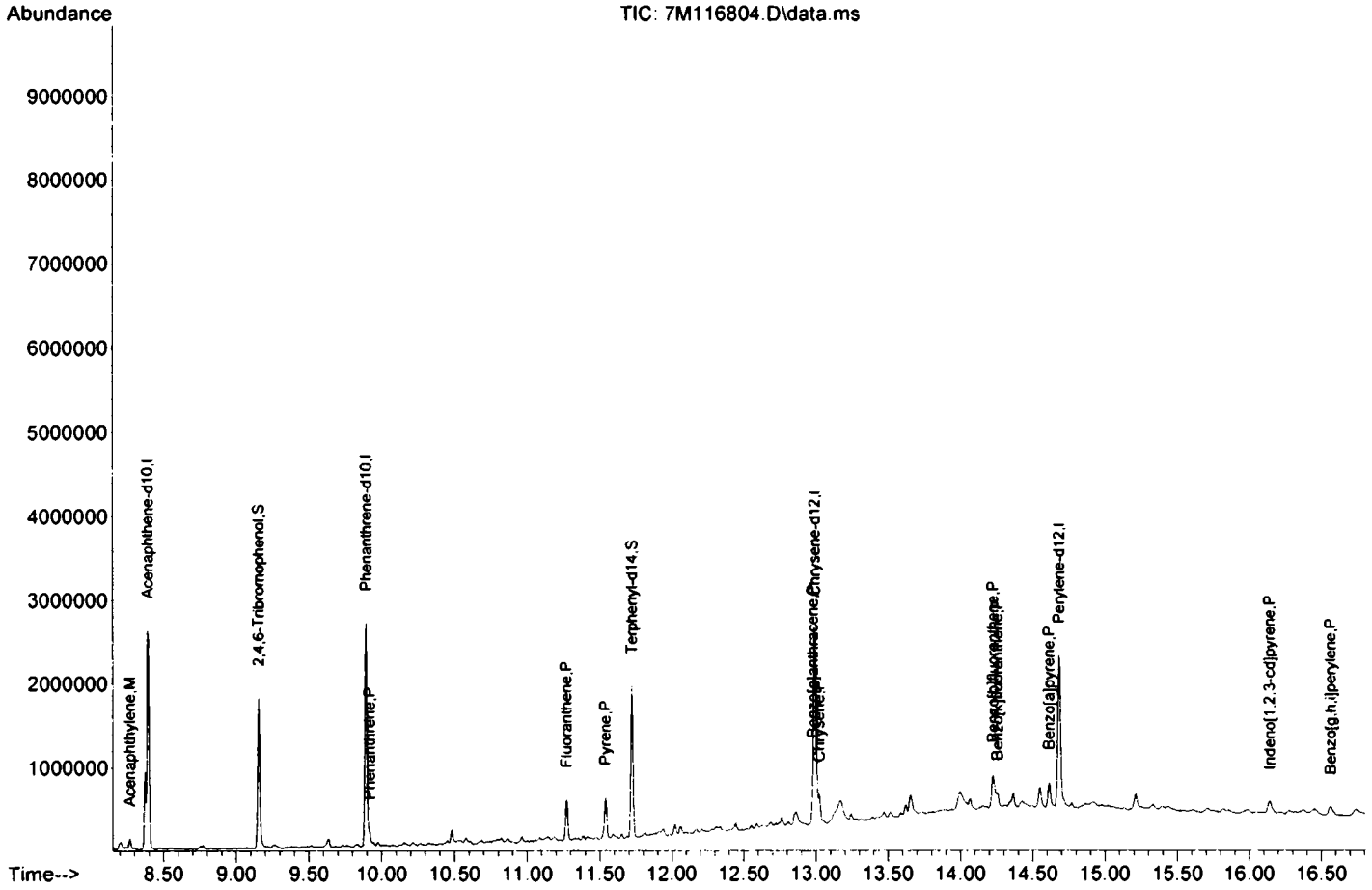
Quant QT Reviewed
SampleID : AD26217-012
Data File: 7M116804.D
Acq On : 09/29/21 18:26
Operator : AH/JB
Sam Mult : 1 Vial# : 28
Misc : S,BNA
Qt Meth : 7M_0920.M
Qt On : 09/30/21 11:02
Qt Upd On: 09/20/21 14:15
9000000
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthylene,M
Acenaphthene-d10,I
Time--> 2.50 3.00 3.50 4.00 4.50 5.00 5.50 6.00 6.50 7.00 7.50 8.00 8.50


Abundance
TIC: 7M116804.D\data.ms
9000000
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
Acenaphthylene,M
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene-d12,I
Benzo(a)pyrene,P
Perylene-d12,I
Indeno(1,2,3-cd)pyrene,P
Benzo(g,h,i)perylene,P
Time--> 8.50 9.00 9.50 10.00 10.50 11.00 11.50 12.00 12.50 13.00 13.50 14.00 14.50 15.00 15.50 16.00 16.50

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-014
Client Id: SB03 COMP
Data File: 7M116805.D
Analysis Date: 09/29/21 18:50
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
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**	**0.14**
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**	**0.23**
120-12-7	Anthracene	0.037	U	86-73-7	Fluorene	0.037	U
56-55-3	**Benzo[a]anthracene**	**0.037**	**0.12**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.037**	**0.072**
50-32-8	**Benzo[a]pyrene**	**0.037**	**0.14**	91-20-3	Naphthalene	0.011	U
205-99-2	**Benzo[b]fluoranthene**	**0.037**	**0.19**	**85-01-8**	**Phenanthrene**	**0.037**	**0.11**
191-24-2	**Benzo[g,h,i]perylene**	**0.037**	**0.080**	**129-00-0**	**Pyrene**	**0.037**	**0.23**
207-08-9	**Benzo[k]fluoranthene**	**0.037**	**0.070**				

Worksheet #: 610828 *Total Target Concentration* 1.4 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.

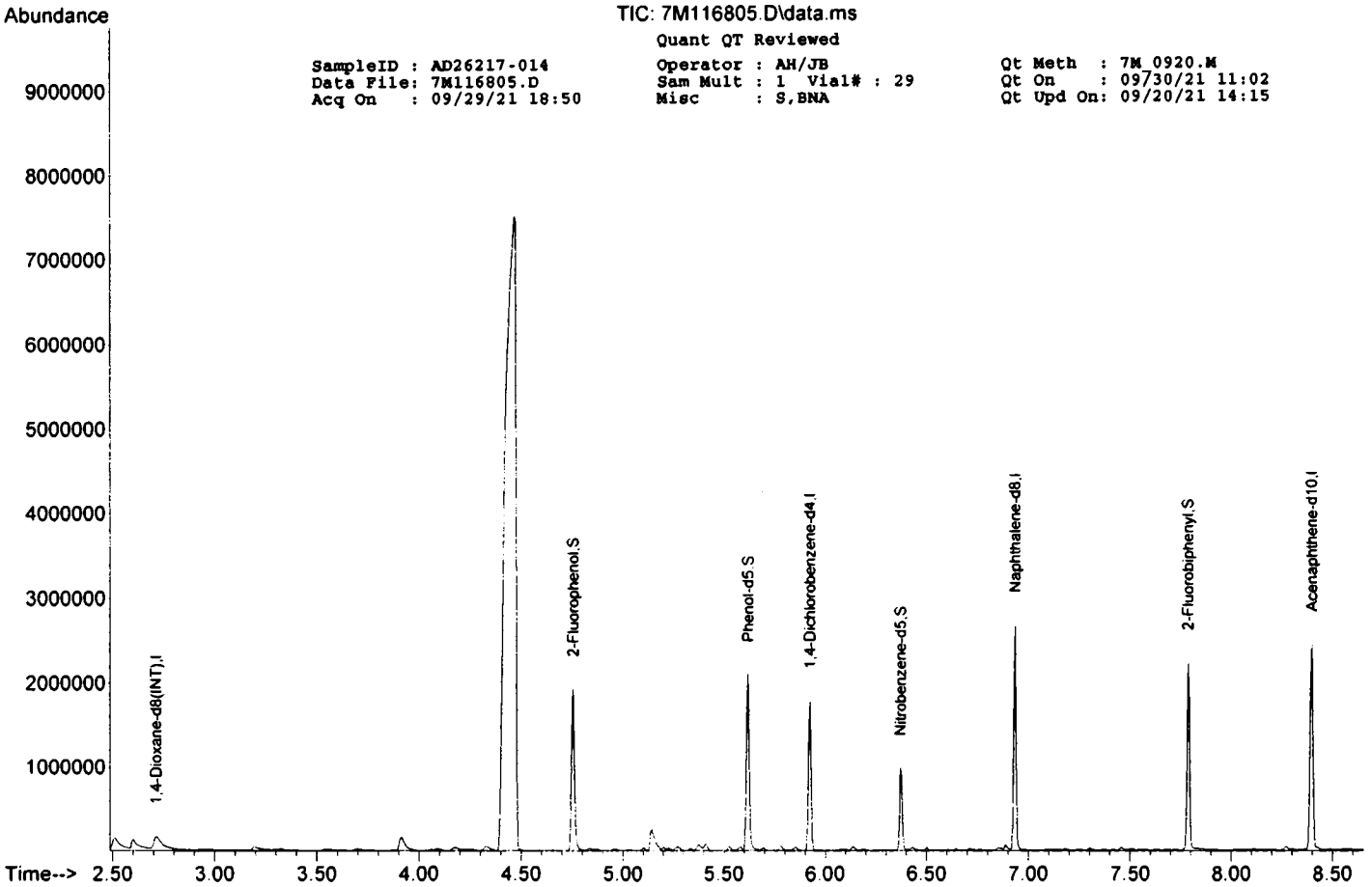
Quantitation Report (QT Reviewed)

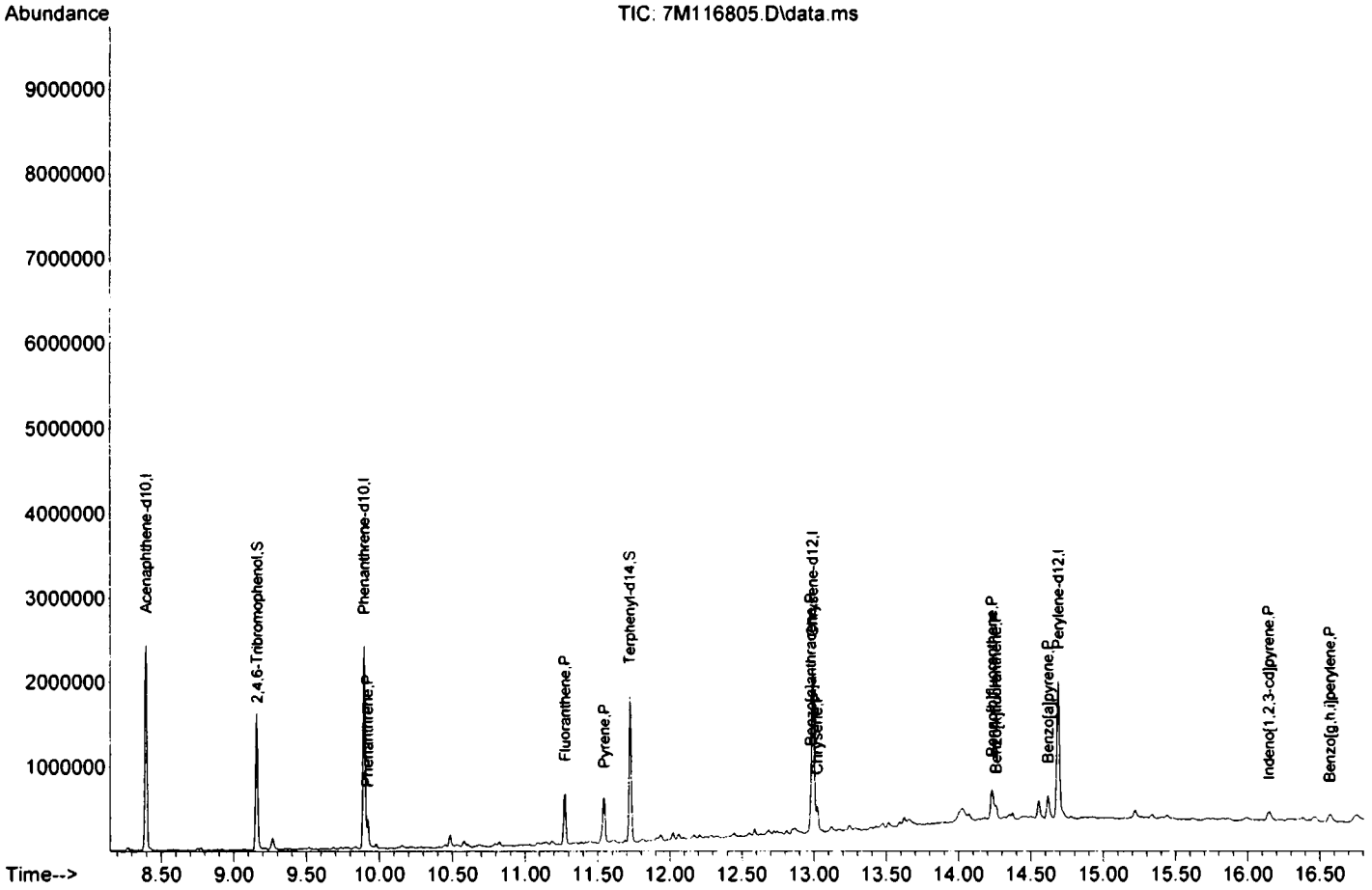
SampleID : AD26217-014 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116805.D Sam Mult : 1 Vial# : 29 Qt On : 09/30/21 11:02
Acq On : 09/29/21 18:50 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.711	96	147968	40.00	ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.925	152	259863	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1037271	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	500079	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	887848	40.00	ng	0.00
91) Chrysene-d12	12.993	240	697448	40.00	ng	0.00
103) Perylene-d12	14.691	264	752263	40.00	ng	0.02
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	567785	72.52	ng	0.02
Spiked Amount 100.000			Recovery = 72.52%			
16) Phenol-d5	5.619	99	709577	79.72	ng	0.01
Spiked Amount 100.000			Recovery = 79.72%			
32) Nitrobenzene-d5	6.371	128	147670	38.08	ng	0.00
Spiked Amount 50.000			Recovery = 76.16%			
55) 2-Fluorobiphenyl	7.787	172	647907	40.77	ng	-0.01
Spiked Amount 50.000			Recovery = 81.54%			
80) 2,4,6-Tribromophenol	9.162	330	203586	86.82	ng	0.00
Spiked Amount 100.000			Recovery = 86.82%			
94) Terphenyl-d14	11.724	244	537929	46.52	ng	0.00
Spiked Amount 50.000			Recovery = 93.04%			
Target Compounds						Qvalue
86) Phenanthrene	9.920	178	123562	6.0431	ng	99
90) Fluoranthene	11.277	202	273257	12.2276	ng	95
92) Pyrene	11.547	202	247616	12.1463	ng	91
100) Benzo[a]anthracene	12.981	228	122999m	6.3451	ng	
101) Chrysene	13.022	228	135358m	7.2840	ng	
105) Benzo[b]fluoranthene	14.233	252	183899m	10.1544	ng	
106) Benzo[k]fluoranthene	14.262	252	66840m	3.7468	ng	
107) Benzo[a]pyrene	14.620	252	126969	7.2834	ng	94
108) Indeno[1,2,3-cd]pyrene	16.148	276	73430	3.8244	ng	86
110) Benzo[g,h,i]perylene	16.571	276	68580	4.2738	ng	95

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


Abundance
TIC: 7M116805.D\data.ms
Quant QT Reviewed
SampleID : AD26217-014
Data File: 7M116805.D
Acq On : 09/29/21 18:50
Operator : AH/JB
Sam Mult : 1 Vial# : 29
Misc : S,BNA
Qt Meth : 7M_0920.M
Qt On : 09/30/21 11:02
Qt Upd On: 09/20/21 14:15
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
Time-->


Abundance
TIC: 7M116805.D\data.ms
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene,P
Perylene-d12,I
Benzo[a]pyrene,P
Indeno[1,2,3-cd]pyrene,P
Benzo[g,h,i]perylene,P
Time-->

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-016(5X)
Client Id: SB02 COMP
Data File: 7M116818.D
Analysis Date: 09/30/21 12:19
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 5
Solids: 78

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.21	U	**218-01-9**	**Chrysene**	**0.21**	**0.90**
83-32-9	Acenaphthene	0.21	U	53-70-3	Dibenzo[a,h]anthracene	0.21	U
208-96-8	Acenaphthylene	0.21	U	**206-44-0**	**Fluoranthene**	**0.21**	**1.3**
120-12-7	**Anthracene**	**0.21**	**0.23**	86-73-7	Fluorene	0.21	U
56-55-3	**Benzo[a]anthracene**	**0.21**	**0.87**	**193-39-5**	**Indeno[1,2,3-cd]pyrene**	**0.21**	**0.45**
50-32-8	**Benzo[a]pyrene**	**0.21**	**0.84**	91-20-3	Naphthalene	0.062	U
205-99-2	**Benzo[b]fluoranthene**	**0.21**	**1.3**	**85-01-8**	**Phenanthrene**	**0.21**	**0.89**
191-24-2	**Benzo[g,h,i]perylene**	**0.21**	**0.52**	**129-00-0**	**Pyrene**	**0.21**	**1.4**
207-08-9	**Benzo[k]fluoranthene**	**0.21**	**0.32**				

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)

SampleID : AD26217-016(5X) Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116818.D Sam Mult : 1 Vial# : 12 Qt On : 09/30/21 12:48
Acq On : 09/30/21 12:19 Misc : S,BNA:5 Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-30-21\
Qt Path : G:\GCMSDATA\2021\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)	2.716	96	162715	40.00	ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.924	152	284492	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	1097319	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	531908	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	928392	40.00	ng	0.00
91) Chrysene-d12	12.993	240	730040	40.00	ng	0.00
103) Perylene-d12	14.685	264	772064	40.00	ng	0.01
System Monitoring Compounds						
11) 2-Fluorophenol	4.749	112	103109	11.98	ng	0.01
Spiked Amount 100.000			Recovery = 11.98%			
16) Phenol-d5	5.613	99	124292	12.70	ng	0.00
Spiked Amount 100.000			Recovery = 12.70%			
32) Nitrobenzene-d5	6.371	128	24564	5.99	ng	0.00
Spiked Amount 50.000			Recovery = 11.98%			
55) 2-Fluorobiphenyl	7.787	172	107772	6.38	ng	-0.01
Spiked Amount 50.000			Recovery = 12.76%			
80) 2,4,6-Tribromophenol	9.162	330	29931	12.80	ng	0.00
Spiked Amount 100.000			Recovery = 12.80%			
94) Terphenyl-d14	11.724	244	81403	6.73	ng	0.00
Spiked Amount 50.000			Recovery = 13.46%			
Target Compounds						Qvalue
86) Phenanthrene	9.920	178	178881	8.3666	ng	99
87) Anthracene	9.979	178	46723m	2.1216	ng	
90) Fluoranthene	11.277	202	283476	12.1309	ng	95
92) Pyrene	11.547	202	286868	13.4436	ng	89
100) Benzo[a]anthracene	12.981	228	165285m	8.1459	ng	
101) Chrysene	13.028	228	163622m	8.4118	ng	
105) Benzo[b]fluoranthene	14.227	252	221449m	11.9141	ng	
106) Benzo[k]fluoranthene	14.256	252	54372m	2.9697	ng	
107) Benzo[a]pyrene	14.614	252	140753	7.8670	ng	94
108) Indeno[1,2,3-cd]pyrene	16.142	276	82694	4.1965	ng	83
110) Benzo[g,h,i]perylene	16.571	276	80496	4.8878	ng	94

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

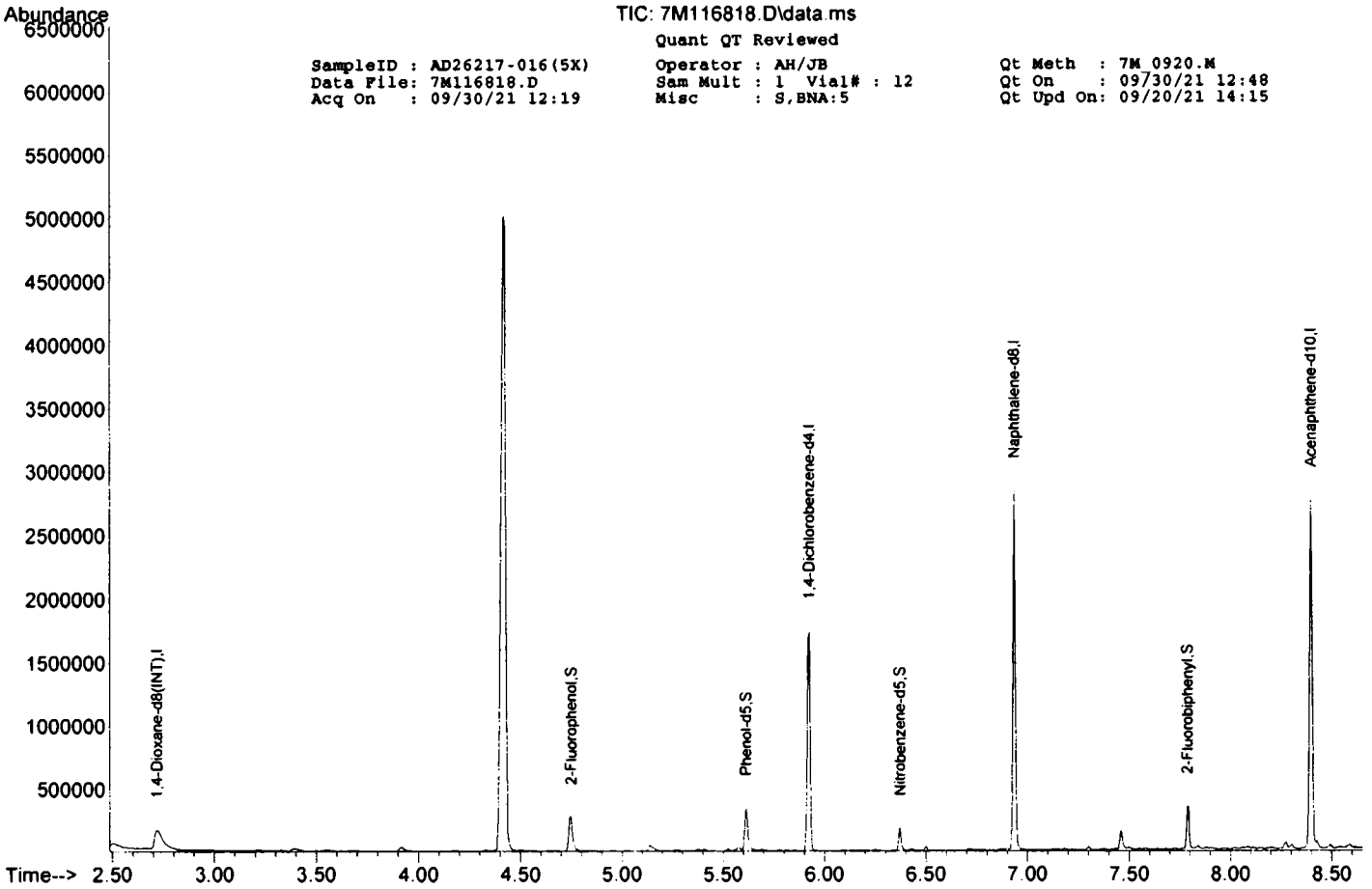
TIC: 7M116818.D\data.ms

Quant QT Reviewed

SampleID : AD26217-016(5X)
Data File: 7M116818.D
Acq On : 09/30/21 12:19

Operator : AH/JB
Sam Mult : 1 Vial# : 12
Misc : S,BNA:5

Qt Meth : 7M_0920.M
Qt On : 09/30/21 12:48
Qt Upd On: 09/20/21 14:15



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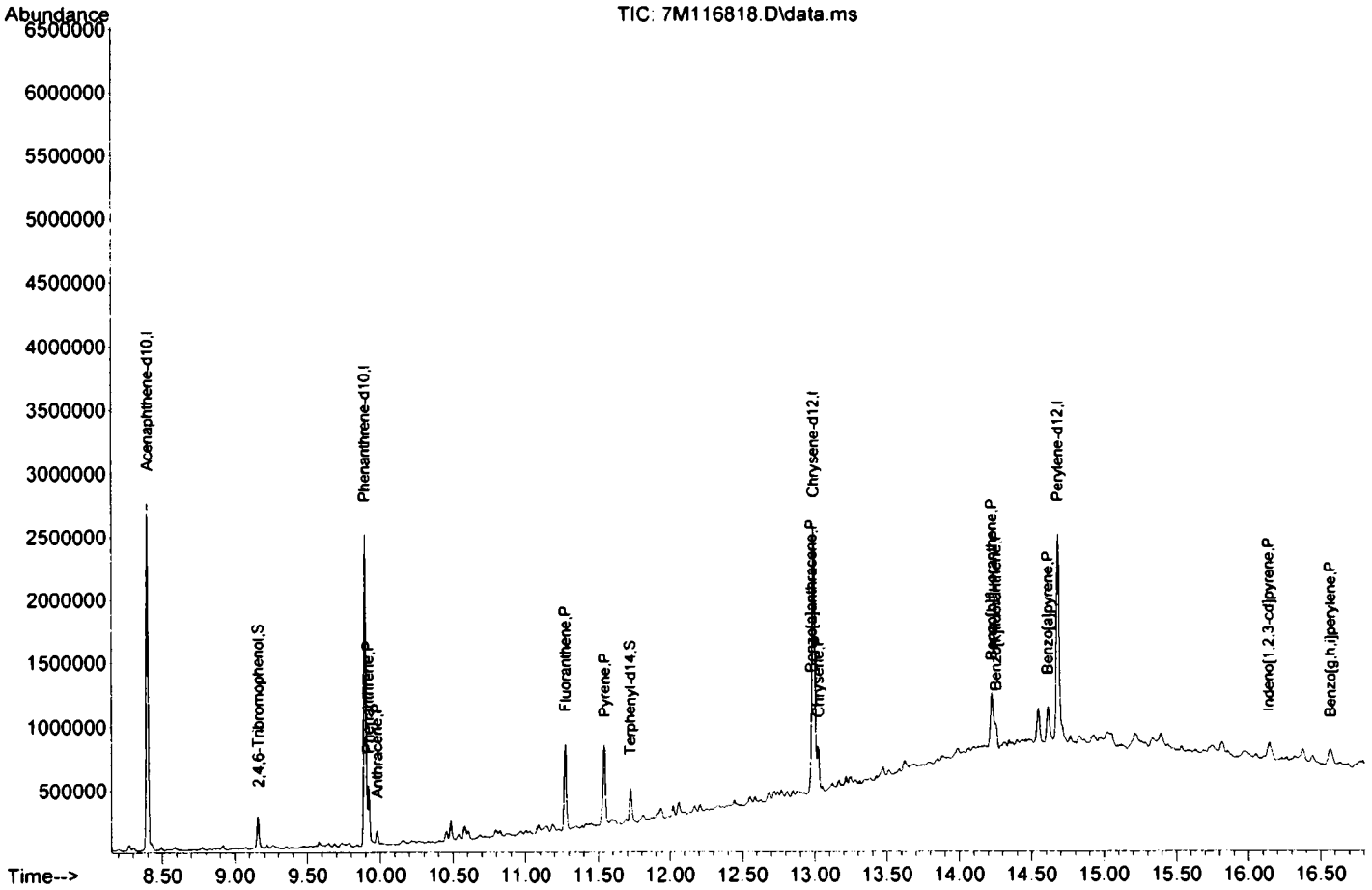


Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: AD26217-018
Client Id: SB01 COMP
Data File: 7M116809.D
Analysis Date: 09/30/21 08:48
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
Matrix: Soil
Initial Vol: 30g
Final Vol: 0.5ml
Dilution: 1
Solids: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
91-57-6	2-Methylnaphthalene	0.041	U	218-01-9	Chrysene	0.041	0.70
83-32-9	Acenaphthene	0.041	U	53-70-3	Dibenzo[a,h]anthracene	0.041	0.13
208-96-8	Acenaphthylene	0.041	0.22	206-44-0	Fluoranthene	0.041	1.0
120-12-7	Anthracene	0.041	0.093	86-73-7	Fluorene	0.041	U
56-55-3	Benzo[a]anthracene	0.041	0.76	193-39-5	Indeno[1,2,3-cd]pyrene	0.041	0.41
50-32-8	Benzo[a]pyrene	0.041	0.69	91-20-3	Naphthalene	0.012	U
205-99-2	Benzo[b]fluoranthene	0.041	0.95	85-01-8	Phenanthrene	0.041	0.33
191-24-2	Benzo[g,h,i]perylene	0.041	0.42	129-00-0	Pyrene	0.041	0.99
207-08-9	Benzo[k]fluoranthene	0.041	0.35				

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.

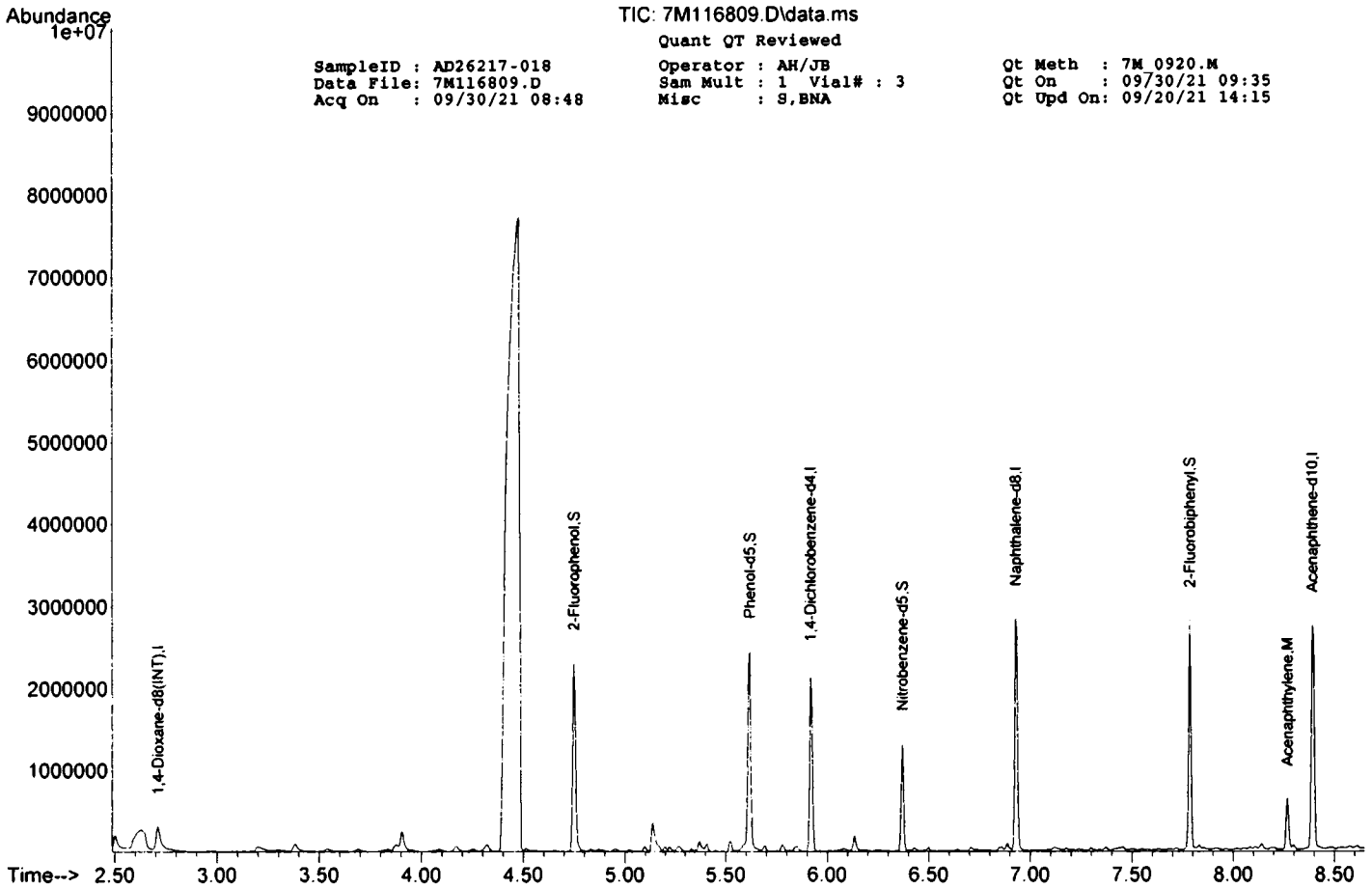
Quantitation Report (QT Reviewed)

SampleID : AD26217-018 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116809.D Sam Mult : 1 Vial# : 3 Qt On : 09/30/21 09:35
Acq On : 09/30/21 08:48 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-30-21\
Qt Path : G:\GCMSDATA\2021\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)	2.710	96	182320	40.00	ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.919	152	314101	40.00	ng	0.00
31) Naphthalene-d8	6.929	136	1251307	40.00	ng	-0.01
50) Acenaphthene-d10	8.392	164	596228	40.00	ng	-0.01
77) Phenanthrene-d10	9.896	188	1064891	40.00	ng	0.00
91) Chrysene-d12	12.999	240	862848	40.00	ng	0.01
103) Perylene-d12	14.685	264	956987	40.00	ng	0.01
System Monitoring Compounds						
11) 2-Fluorophenol	4.749	112	676402	70.12	ng	0.01
Spiked Amount 100.000			Recovery = 70.12%			
16) Phenol-d5	5.619	99	862013	78.60	ng	0.01
Spiked Amount 100.000			Recovery = 78.60%			
32) Nitrobenzene-d5	6.371	128	178804	38.23	ng	0.00
Spiked Amount 50.000			Recovery = 76.46%			
55) 2-Fluorobiphenyl	7.787	172	768476	40.55	ng	-0.01
Spiked Amount 50.000			Recovery = 81.10%			
80) 2,4,6-Tribromophenol	9.156	330	233841	83.32	ng	0.00
Spiked Amount 100.000			Recovery = 83.32%			
94) Terphenyl-d14	11.724	244	616870	43.12	ng	0.00
Spiked Amount 50.000			Recovery = 86.24%			
Target Compounds						Qvalue
62) Acenaphthylene	8.269	152	260986	10.8794	ng	99
86) Phenanthrene	9.920	178	401367	16.3664	ng	100
87) Anthracene	9.973	178	115526m	4.5735	ng	
90) Fluoranthene	11.277	202	1324007	49.3962	ng	97
92) Pyrene	11.547	202	1222314	48.4649	ng	93
100) Benzo[a]anthracene	12.987	228	900052m	37.5305	ng	
101) Chrysene	13.028	228	793018m	34.4941	ng	
105) Benzo[b]fluoranthene	14.227	252	1077922m	46.7869	ng	
106) Benzo[k]fluoranthene	14.256	252	387374m	17.0693	ng	
107) Benzo[a]pyrene	14.614	252	753933	33.9964	ng	93
108) Indeno[1,2,3-cd]pyrene	16.136	276	492653	20.1697	ng	85
109) Dibenzo[a,h]anthracene	16.154	278	127967m	6.2707	ng	
110) Benzo[g,h,i]perylene	16.559	276	421563	20.6513	ng	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed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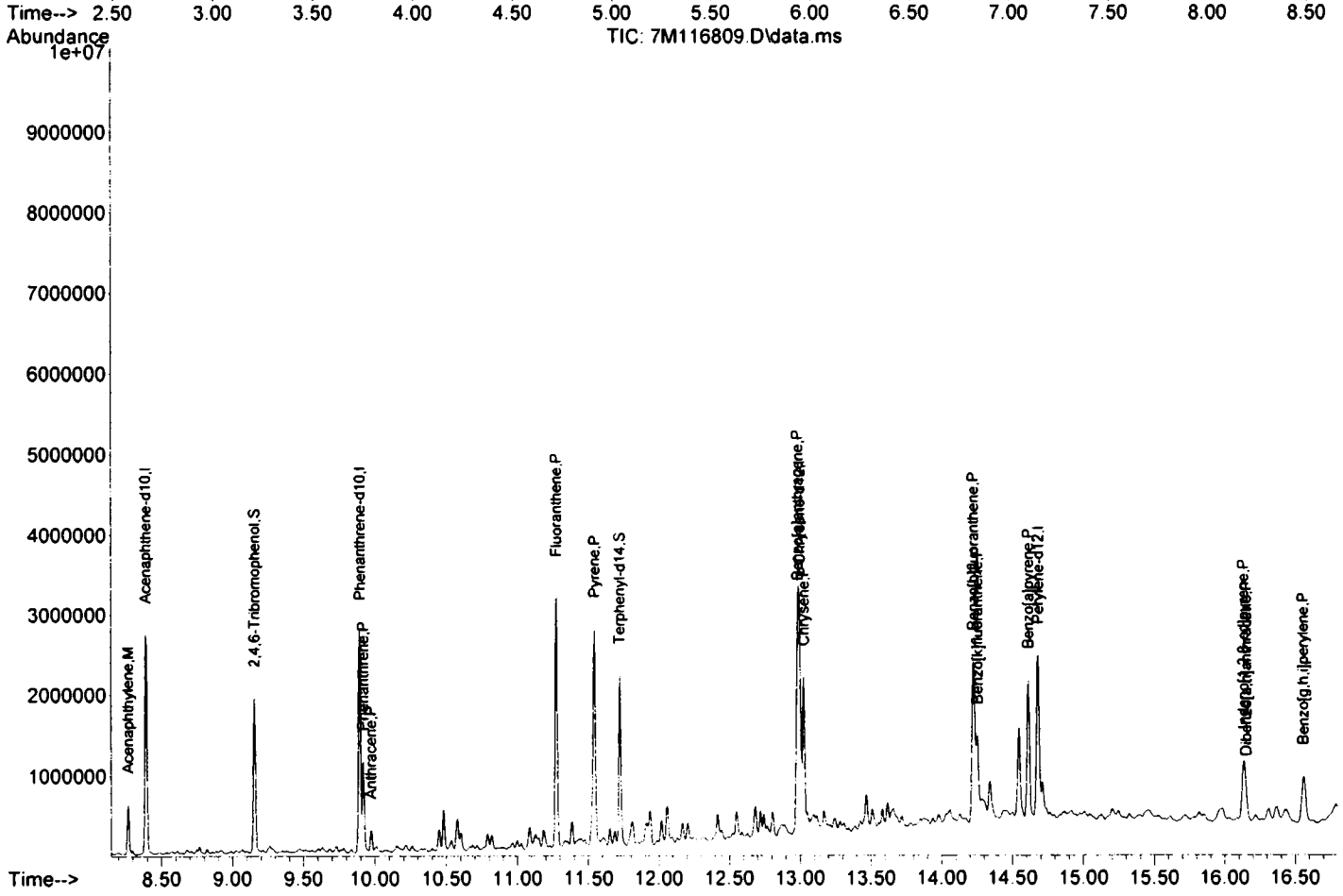
Quant QT Reviewed
SampleID : AD26217-018
Data File: 7M116809.D
Acq On : 09/30/21 08:48
Operator : AH/JB
Sam Mult : 1 Vial# : 3
Misc : S,BNA
Qt Meth : 7M_0920.M
Qt On : 09/30/21 09:35
Qt Upd On: 09/20/21 14:15
Abundance
1e+07
9000000
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
1,4-Dioxane-d8(INT),I
2-Fluorophenol,S
Phenol-d5,S
1,4-Dichlorobenzene-d4,I
Nitrobenzene-d5,S
Naphthalene-d8,I
2-Fluorobiphenyl,S
Acenaphthylene,M
Acenaphthene-d10,I
Time-->
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00
6.50
7.00
7.50
8.00
8.50


TIC: 7M116809.D\data.ms
Abundance
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8000000
7000000
6000000
5000000
4000000
3000000
2000000
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Acenaphthylene,M
Acenaphthene-d10,I
2,4,6-Tribromophenol,S
Phenanthrene-d10,I
Anthracene,P
Fluoranthene,P
Pyrene,P
Terphenyl-d14,S
Chrysene,P
Benzo[a]pyrene,P
Perylene-d12,I
Dibenz[a,h]anthracene,P
Benzo[g,h,i]perylene,P
Time-->
8.50
9.00
9.50
10.00
10.50
11.00
11.50
12.00
12.50
13.00
13.50
14.00
14.50
15.00
15.50
16.00
16.50

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: SMB95075
Client Id:
Data File: 7M116800.D
Analysis Date: 09/29/21 16:52
Date Rec/Extracted: NA-09/29/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
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	0.0096	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 #: 610828 *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)

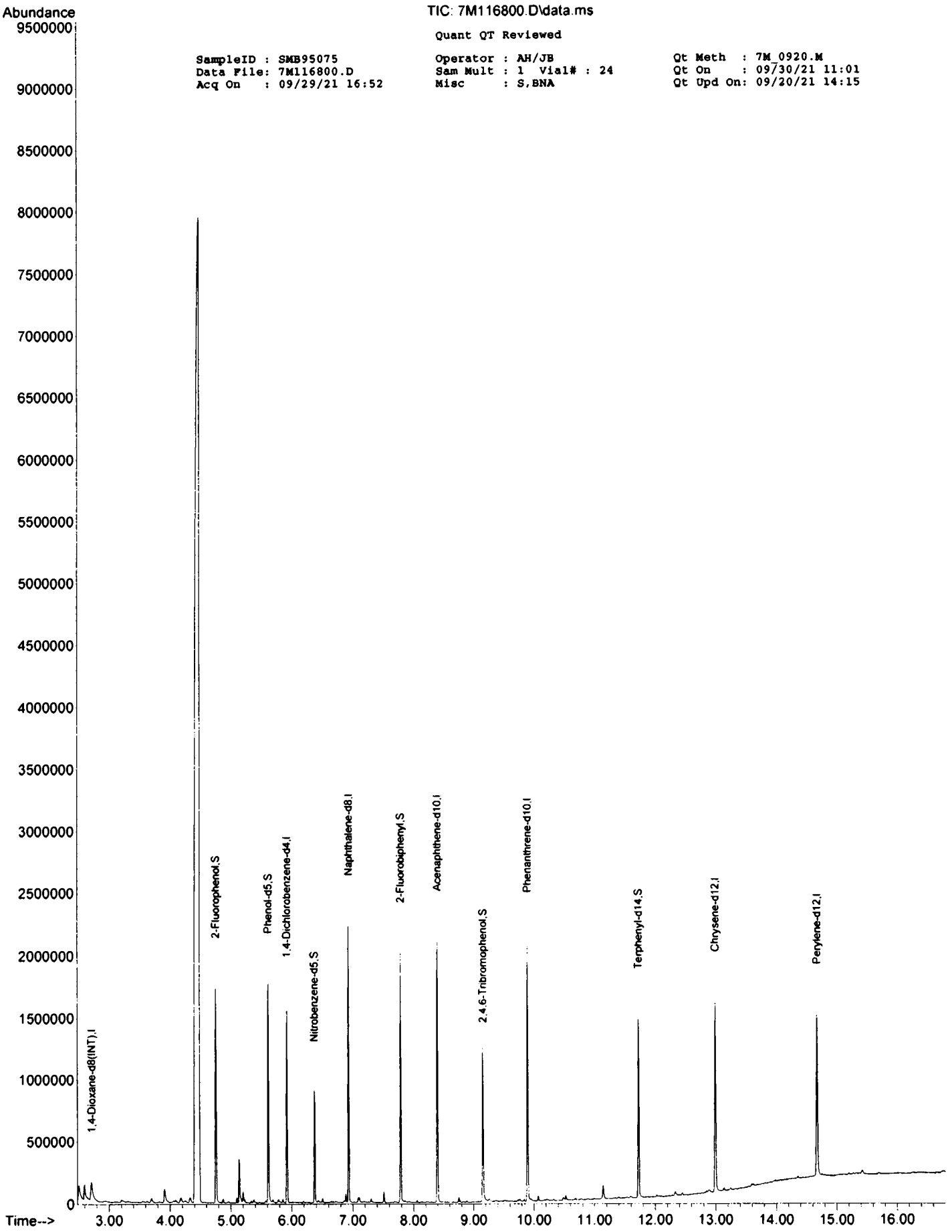
SampleID : SMB95075 Operator : AH/JB Qt Meth : 7M_0920.M
Data File: 7M116800.D Sam Mult : 1 Vial# : 24 Qt On : 09/30/21 11:01
Acq On : 09/29/21 16:52 Misc : S,BNA Qt Upd On: 09/20/21 14:15

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Qt Path : G:\GCMSDATA\2021\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)	2.716	96	129925	40.00	ng	-0.01
21) 1,4-Dichlorobenzene-d4	5.925	152	233433	40.00	ng	0.00
31) Naphthalene-d8	6.935	136	918984	40.00	ng	0.00
50) Acenaphthene-d10	8.398	164	447071	40.00	ng	0.00
77) Phenanthrene-d10	9.896	188	800635	40.00	ng	0.00
91) Chrysene-d12	12.993	240	614745	40.00	ng	0.00
103) Perylene-d12	14.673	264	653038	40.00	ng	0.00
System Monitoring Compounds						
11) 2-Fluorophenol	4.755	112	526988	76.66	ng	0.02
Spiked Amount 100.000			Recovery = 76.66%			
16) Phenol-d5	5.619	99	650446	83.23	ng	0.01
Spiked Amount 100.000			Recovery = 83.23%			
32) Nitrobenzene-d5	6.371	128	136008	39.59	ng	0.00
Spiked Amount 50.000			Recovery = 79.18%			
55) 2-Fluorobiphenyl	7.787	172	568079	39.98	ng	-0.01
Spiked Amount 50.000			Recovery = 79.96%			
80) 2,4,6-Tribromophenol	9.162	330	169460	80.45	ng	0.00
Spiked Amount 100.000			Recovery = 80.45%			
94) Terphenyl-d14	11.724	244	483137	47.40	ng	0.00
Spiked Amount 50.000			Recovery = 94.80%			

Target Compounds Qvalue

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


Abundance
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Quant QT Reviewed
SampleID : SMB95075
Data File: 7M116800.D
Acq On : 09/29/21 16:52
Operator : AH/JB
Sam Mult : 1 Vial# : 24
Misc : S,BNA
Qt Meth : 7M_0920.M
Qt On : 09/30/21 11:01
Qt Upd On: 09/20/21 14:15
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: SMB95086
Client Id:
Data File: 9M108600.D
Analysis Date: 10/01/21 09:14
Date Rec/Extracted: NA-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8270E
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	0.0096	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 #: 612067

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) 1092401 0146

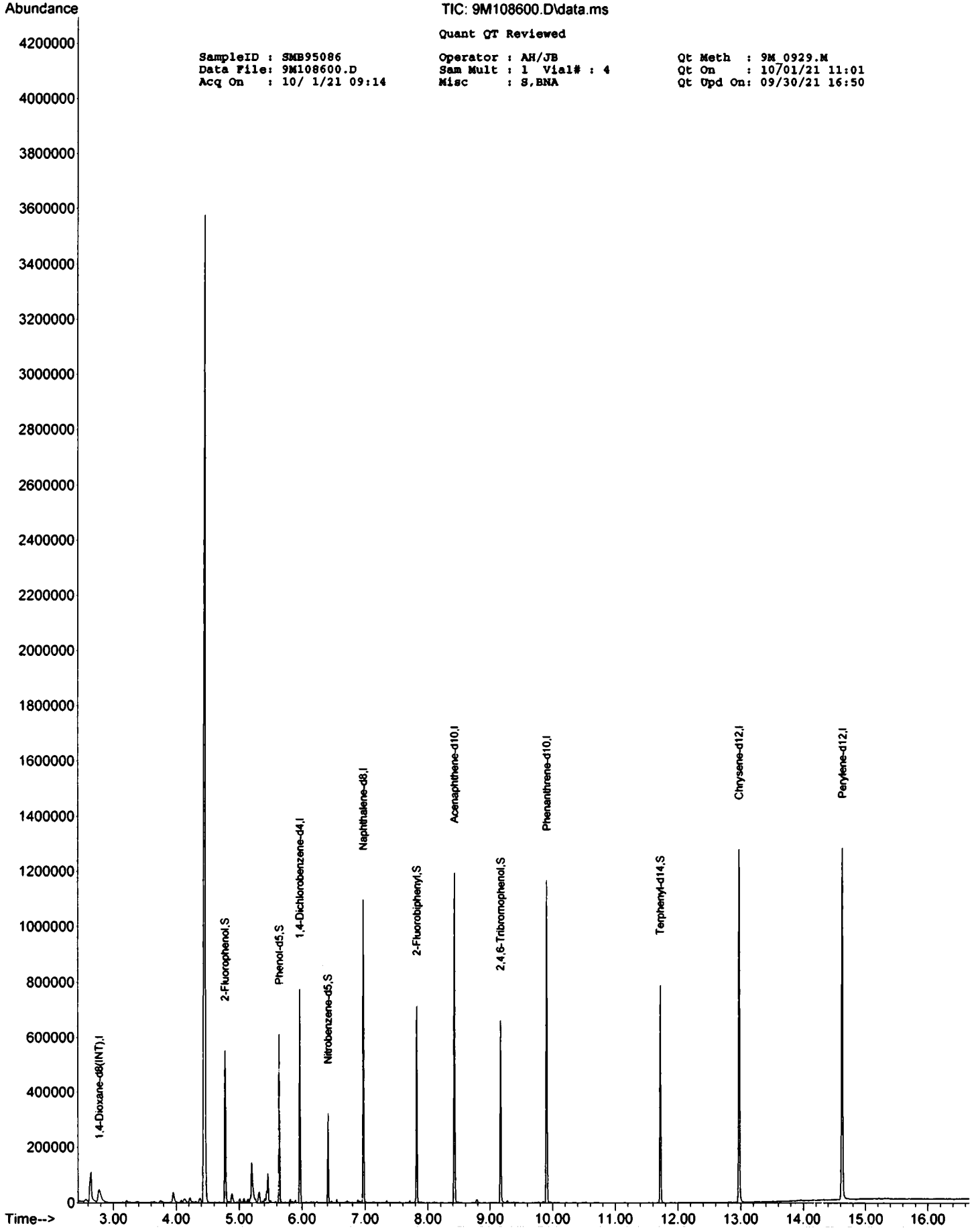
SampleID : SMB95086 Operator : AH/JB Qt Meth : 9M_0929.M
Data File: 9M108600.D Sam Mult : 1 Vial# : 4 Qt On : 10/01/21 11:01
Acq On : 10/ 1/21 09:14 Misc : S,BNA Qt Upd On: 09/30/21 16:50

Data Path : G:\GcMsData\2021\GCMS_9\Data\10-01-21\
Qt Path : G:\GCMSDATA\2021\GCMS_9\METHODQT\
Qt Resp Via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
7) 1,4-Dioxane-d8(INT)	2.778	96	61013	40.00	ng	-0.02
21) 1,4-Dichlorobenzene-d4	5.966	152	122476	40.00	ng	0.00
31) Naphthalene-d8	6.972	136	483600	40.00	ng	0.00
50) Acenaphthene-d10	8.425	164	250806	40.00	ng	0.00
77) Phenanthrene-d10	9.907	188	495184	40.00	ng	0.00
91) Chrysene-d12	12.972	240	522670	40.00	ng	-0.01
103) Perylene-d12	14.624	264	612219	40.00	ng	-0.04
System Monitoring Compounds						
11) 2-Fluorophenol	4.778	112	185668	53.58	ng	0.00
Spiked Amount 100.000			Recovery = 53.58%			
16) Phenol-d5	5.643	99	219263	52.94	ng	0.00
Spiked Amount 100.000			Recovery = 52.94%			
32) Nitrobenzene-d5	6.413	128	47101	28.38	ng	0.00
Spiked Amount 50.000			Recovery = 56.76%			
55) 2-Fluorobiphenyl	7.825	172	236107	29.07	ng	0.00
Spiked Amount 50.000			Recovery = 58.14%			
80) 2,4,6-Tribromophenol	9.172	330	106954	64.84	ng	0.00
Spiked Amount 100.000			Recovery = 64.84%			
94) Terphenyl-d14	11.719	244	259198	33.18	ng	0.00
Spiked Amount 50.000			Recovery = 66.36%			

Target Compounds Qvalue

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


Abundance
TIC: 9M108600.D\data.ms
Quant QT Reviewed
SampleID : SMB95086
Data File: 9M108600.D
Acq On : 10/ 1/21 09:14
Operator : AH/JB
Sam Mult : 1 Vial# : 4
Misc : S,BNA
Qt Meth : 9M_0929.M
Qt On : 10/01/21 11:01
Qt Upd On: 09/30/21 16:50
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-->

FORM2

Surrogate Recovery

Method: EPA 8270E

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
7M116800.D	SMB95075	S	09/29/21 16:52	1		NA	NA	79	80	NA	95
9M108600.D	SMB95086	S	10/01/21 09:14	1		NA	NA	57	58	NA	66
9M108570.D	AD26217-002	S	09/29/21 18:14	1		NA	NA	68	72	NA	91
9M108587.D	AD26217-004(R)	S	09/30/21 14:38	1		NA	NA	78	78	NA	89
9M108574.D	AD26217-006	S	09/29/21 19:47	1		NA	NA	70	73	NA	87
7M116802.D	AD26217-008	S	09/29/21 17:39	1		NA	NA	77	81	NA	91
7M116803.D	AD26217-010	S	09/29/21 18:03	1		NA	NA	76	80	NA	91
7M116804.D	AD26217-012	S	09/29/21 18:26	1		NA	NA	78	78	NA	83
7M116805.D	AD26217-014	S	09/29/21 18:50	1		NA	NA	76	82	NA	93
7M116818.D	AD26217-016(5X)	S	09/30/21 12:19	5		NA	NA	60	64	NA	67
7M116809.D	AD26217-018	S	09/30/21 08:48	1		NA	NA	76	81	NA	86
10M87558.D	SMB95075(MS)	S	09/29/21 15:09	1		NA	NA	80	82	NA	94
9M108571.D	AD26217-002(MS)	S	09/29/21 18:37	1		NA	NA	77	81	NA	92
9M108572.D	AD26217-002(MSD)	S	09/29/21 19:00	1		NA	NA	84	87	NA	96
9M108599.D	SMB95086(MS)	S	10/01/21 08:52	1		NA	NA	74	80	NA	90

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 8270E

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: SMB95075

	Data File	Sample ID:	Analysis Date
Spike or Dup:	10M87558.D	SMB95075(MS)	9/29/2021 3:09:00 PM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	28.7602	0	50	58	1	150
N-Nitrosodimethylamine	1	32.0087	0	50	64	50	130
Benzaldehyde	1	19.7434	0	50	39	20	220
Aniline	1	19.8543	0	50	40	20	150
Pentachloroethane	1	32.4401	0	50	65	50	130
bis(2-Chloroethyl)ether	1	32.3272	0	50	65	50	130
N-Decane	1	25.949	0	50	52	20	130
1,3-Dichlorobenzene	1	30.7134	0	50	61	60	130
1,4-Dichlorobenzene	1	35.2858	0	50	71	60	130
1,2-Dichlorobenzene	1	35.0839	0	50	70	50	130
Benzyl alcohol	1	43.0749	0	50	86	20	130
bis(2-chloroisopropyl)ether	1	33.7913	0	50	68	40	130
Acetophenone	1	41.3408	0	50	83	50	130
Hexachloroethane	1	34.0698	0	50	68	50	130
N-Nitroso-di-n-propylamine	1	39.0344	0	50	78	40	130
Nitrobenzene	1	39.7243	0	50	79	70	130
Isophorone	1	37.1613	0	50	74	60	130
Benzoic Acid	1	98.3589	0	100	98	20	130
bis(2-Chloroethoxy)methane	1	40.1657	0	50	80	60	130
1,2,4-Trichlorobenzene	1	38.301	0	50	77	50	130
Naphthalene	**1**	**35.9961**	**0**	**50**	**72**	**50**	**130**
4-Chloroaniline	1	21.5991	0	50	43	10	150
Hexachlorobutadiene	1	36.5097	0	50	73	60	130
Caprolactam	1	50.2751	0	50	101	50	130
2-Methylnaphthalene	**1**	**40.7605**	**0**	**50**	**82**	**70**	**130**
1-Methylnaphthalene	1	46.4865	0	50	93	70	130
1,1'-Biphenyl	1	40.9517	0	50	82	60	130
1,2,4,5-Tetrachlorobenzene	1	41.8615	0	50	84	70	130
Hexachlorocyclopentadiene	1	26.6845	0	50	53	20	160
2-Chloronaphthalene	1	40.4284	0	50	81	70	130
1,4-Dimethylnaphthalene	1	42.3853	0	50	85	70	130
Diphenyl Ether	1	43.6967	0	50	87	70	130
2-Nitroaniline	1	46.8477	0	50	94	50	130
Coumarin	1	45.5644	0	50	91	70	130
Acenaphthylene	**1**	**41.3447**	**0**	**50**	**83**	**70**	**130**
Dimethylphthalate	1	43.6123	0	50	87	70	130
2,6-Dinitrotoluene	1	43.8171	0	50	88	70	130
Acenaphthene	**1**	**41.0082**	**0**	**50**	**82**	**50**	**130**
3-Nitroaniline	1	35.4795	0	50	71	10	130
Dibenzofuran	1	42.4496	0	50	85	70	130
2,4-Dinitrotoluene	1	44.1446	0	50	88	40	130
Fluorene	**1**	**41.3396**	**0**	**50**	**83**	**50**	**130**
4-Chlorophenyl-phenylether	1	42.5343	0	50	85	70	130
Diethylphthalate	1	44.2036	0	50	88	70	130
4-Nitroaniline	1	43.6704	0	50	87	50	130
Atrazine	1	48.0589	0	50	96	50	130
n-Nitrosodiphenylamine	1	37.0647	0	50	74	50	130
1,2-Diphenylhydrazine	1	42.8104	0	50	86	70	130
4-Bromophenyl-phenylether	1	44.5826	0	50	89	70	130
Hexachlorobenzene	1	41.9703	0	50	84	70	130
N-Octadecane	1	48.7615	0	50	98	70	130
Phenanthrene	**1**	**44.8235**	**0**	**50**	**90**	**70**	**130**
Anthracene	**1**	**44.1137**	**0**	**50**	**88**	**70**	**130**
Carbazole	1	45.0855	0	50	90	70	130
Di-n-butylphthalate	1	47.648	0	50	95	70	130
Fluoranthene	**1**	**45.7319**	**0**	**50**	**91**	**70**	**130**
Pyrene	**1**	**44.8309**	**0**	**50**	**90**	**50**	**130**
Benzidine	1	4.5761	0	50	9.2	0	130
Butylbenzylphthalate	1	48.4124	0	50	97	50	130
3,3'-Dichlorobenzidine	1	33.5653	0	50	67	10	130
Benzo[a]anthracene	**1**	**41.835**	**0**	**50**	**84**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chrysene	**1**	**46.3698**	**0**	**50**	**93**	**60**	**130**
bis(2-Ethylhexyl)phthalate	1	50.7678	0	50	102	70	130
Di-n-octylphthalate	1	50.5374	0	50	101	70	130
Benzo[b]fluoranthene	**1**	**47.2128**	**0**	**50**	**94**	**70**	**130**
Benzo[k]fluoranthene	**1**	**47.6587**	**0**	**50**	**95**	**70**	**130**
Benzo[a]pyrene	**1**	**46.2443**	**0**	**50**	**92**	**70**	**130**
Indeno[1,2,3-cd]pyrene	**1**	**45.2965**	**0**	**50**	**91**	**70**	**130**
Dibenzo[a,h]anthracene	**1**	**45.8616**	**0**	**50**	**92**	**60**	**130**
Benzo[g,h,i]perylene	**1**	**44.768**	**0**	**50**	**90**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95086

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108599.D	SMB95086(MS)	10/1/2021 8:52:00 AM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	21.1737	0	50	42	1	150
N-Nitrosodimethylamine	1	25.6424	0	50	51	50	130
Benzaldehyde	1	17.0677	0	50	34	20	220
Aniline	1	15.7481	0	50	31	20	150
Pentachloroethane	1	27.0041	0	50	54	50	130
bis(2-Chloroethyl)ether	1	28.4699	0	50	57	50	130
N-Decane	1	18.7095	0	50	37	20	130
1,3-Dichlorobenzene	1	28.5815	0	50	57*	60	130
1,4-Dichlorobenzene	1	29.8008	0	50	60	60	130
1,2-Dichlorobenzene	1	29.4785	0	50	59	50	130
Benzyl alcohol	1	34.5503	0	50	69	20	130
bis(2-chloroisopropyl)ether	1	23.8512	0	50	48	40	130
Acetophenone	1	32.7531	0	50	66	50	130
Hexachloroethane	1	28.4639	0	50	57	50	130
N-Nitroso-di-n-propylamine	1	29.2129	0	50	58	40	130
Nitrobenzene	1	33.7757	0	50	68*	70	130
Isophorone	1	32.0701	0	50	64	60	130
Benzoic Acid	1	107.6267	0	100	108	20	130
bis(2-Chloroethoxy)methane	1	34.3242	0	50	69	60	130
1,2,4-Trichlorobenzene	1	35.7692	0	50	72	50	130
Naphthalene	**1**	**34.7034**	**0**	**50**	**69**	**50**	**130**
4-Chloroaniline	1	22.3851	0	50	45	10	150
Hexachlorobutadiene	1	34.9167	0	50	70	60	130
Caprolactam	1	42.285	0	50	85	50	130
2-Methylnaphthalene	**1**	**37.9355**	**0**	**50**	**76**	**70**	**130**
1-Methylnaphthalene	1	40.5635	0	50	81	70	130
1,1'-Biphenyl	1	37.6342	0	50	75	60	130
1,2,4,5-Tetrachlorobenzene	1	37.2705	0	50	75	70	130
Hexachlorocyclopentadiene	1	41.462	0	50	83	20	160
2-Chloronaphthalene	1	37.7375	0	50	75	70	130
1,4-Dimethylnaphthalene	1	36.2687	0	50	73	70	130
Diphenyl Ether	1	38.375	0	50	77	70	130
2-Nitroaniline	1	38.7336	0	50	77	50	130
Coumarin	1	37.4571	0	50	75	70	130
Acenaphthylene	**1**	**39.0813**	**0**	**50**	**78**	**70**	**130**
Dimethylphthalate	1	39.9215	0	50	80	70	130
2,6-Dinitrotoluene	1	39.7967	0	50	80	70	130
Acenaphthene	**1**	**37.9703**	**0**	**50**	**76**	**50**	**130**
3-Nitroaniline	1	32.3479	0	50	65	10	130
Dibenzofuran	1	40.4341	0	50	81	70	130
2,4-Dinitrotoluene	1	41.4001	0	50	83	40	130
Fluorene	**1**	**38.6756**	**0**	**50**	**77**	**50**	**130**
4-Chlorophenyl-phenylether	1	40.9617	0	50	82	70	130
Diethylphthalate	1	39.624	0	50	79	70	130
4-Nitroaniline	1	39.3181	0	50	79	50	130
Atrazine	1	44.3926	0	50	89	50	130
n-Nitrosodiphenylamine	1	32.6363	0	50	65	50	130
1,2-Diphenylhydrazine	1	35.1719	0	50	70	70	130
4-Bromophenyl-phenylether	1	42.578	0	50	85	70	130
Hexachlorobenzene	1	41.7064	0	50	83	70	130
N-Octadecane	1	32.0983	0	50	64*	70	130
Phenanthrene	**1**	**40.5949**	**0**	**50**	**81**	**70**	**130**
Anthracene	**1**	**39.3676**	**0**	**50**	**79**	**70**	**130**
Carbazole	1	37.7249	0	50	75	70	130
Di-n-butylphthalate	1	41.1014	0	50	82	70	130
Fluoranthene	**1**	**41.9812**	**0**	**50**	**84**	**70**	**130**
Pyrene	**1**	**38.9692**	**0**	**50**	**78**	**50**	**130**
Benzidine	1	0	0	50	0	0	130
Butylbenzylphthalate	1	38.1118	0	50	76	50	130
3,3'-Dichlorobenzidine	1	24.4775	0	50	49	10	130
Benzo[a]anthracene	**1**	**38.0637**	**0**	**50**	**76**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95086

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chrysene	1	42.5913	0	50	85	60	130
bis(2-Ethylhexyl)phthalate	1	38.3477	0	50	77	70	130
Di-n-octylphthalate	1	35.3815	0	50	71	70	130
Benzo[b]fluoranthene	1	42.4265	0	50	85	70	130
Benzo[k]fluoranthene	1	40.558	0	50	81	70	130
Benzo[a]pyrene	1	39.0988	0	50	78	70	130
Indeno[1,2,3-cd]pyrene	1	40.4865	0	50	81	70	130
Dibenzo[a,h]anthracene	1	40.0986	0	50	80	60	130
Benzo[g,h,i]perylene	1	40.2364	0	50	80	70	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108571.D	AD26217-002(MS)	9/29/2021 6:37:00 PM
Non Spike(If applicable):	9M108570.D	AD26217-002	9/29/2021 6:14:00 PM
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	25.9381	0	50	52	1	150
N-Nitrosodimethylamine	1	33.8054	0	50	68	50	130
Benzaldehyde	1	20.0607	0	50	40	20	220
Aniline	1	29.109	0	50	58	20	150
Pentachloroethane	1	31.3736	0	50	63	50	130
bis(2-Chloroethyl)ether	1	37.0733	0	50	74	50	130
N-Decane	1	24.5707	0	50	49	20	130
1,3-Dichlorobenzene	1	34.9636	0	50	70	60	130
1,4-Dichlorobenzene	1	38.1595	0	50	76	60	130
1,2-Dichlorobenzene	1	37.3162	0	50	75	50	130
Benzyl alcohol	1	43.3483	0	50	87	20	130
bis(2-chloroisopropyl)ether	1	33.4383	0	50	67	40	130
Acetophenone	1	37.5181	0	50	75	50	130
Hexachloroethane	1	35.8857	0	50	72	50	130
N-Nitroso-di-n-propylamine	1	38.3309	0	50	77	40	130
Nitrobenzene	1	41.3476	0	50	83	70	130
Isophorone	1	38.3023	0	50	77	60	130
Benzoic Acid	1	106.5374	0	100	107	20	130
bis(2-Chloroethoxy)methane	1	41.6388	0	50	83	60	130
1,2,4-Trichlorobenzene	1	42.0768	0	50	84	50	130
Naphthalene	**1**	**38.8981**	**0**	**50**	**78**	**50**	**130**
4-Chloroaniline	1	33.2565	0	50	67	10	150
Hexachlorobutadiene	1	39.5084	0	50	79	60	130
Caprolactam	1	43.79	0	50	88	50	130
2-Methylnaphthalene	**1**	**43.4587**	**0**	**50**	**87**	**70**	**130**
1-Methylnaphthalene	1	44.2855	0	50	89	70	130
1,1'-Biphenyl	1	39.1978	0	50	78	60	130
1,2,4,5-Tetrachlorobenzene	1	39.8107	0	50	80	70	130
Hexachlorocyclopentadiene	1	44.4771	0	50	89	20	160
2-Chloronaphthalene	1	43.9714	0	50	88	70	130
1,4-Dimethylnaphthalene	1	39.8744	0	50	80	70	130
Diphenyl Ether	1	41.3235	0	50	83	70	130
2-Nitroaniline	1	46.6757	0	50	93	50	130
Coumarin	1	41.5277	0	50	83	70	130
Acenaphthylene	**1**	**45.4722**	**0**	**50**	**91**	**70**	**130**
Dimethylphthalate	1	45.7228	0	50	91	70	130
2,6-Dinitrotoluene	1	45.1356	0	50	90	70	130
Acenaphthene	**1**	**44.5714**	**0**	**50**	**89**	**50**	**130**
3-Nitroaniline	1	41.4785	0	50	83	70	130
Dibenzofuran	1	45.9212	0	50	92	70	130
2,4-Dinitrotoluene	1	45.6127	0	50	91	40	130
Fluorene	**1**	**44.643**	**0**	**50**	**89**	**50**	**130**
4-Chlorophenyl-phenylether	1	45.7788	0	50	92	70	130
Diethylphthalate	1	45.9025	0	50	92	70	130
4-Nitroaniline	1	47.8575	0	50	96	50	130
Atrazine	1	45.489	0	50	91	50	130
n-Nitrosodiphenylamine	1	38.4085	0	50	77	50	130
1,2-Diphenylhydrazine	1	43.9071	0	50	88	70	130
4-Bromophenyl-phenylether	1	46.976	0	50	94	70	130
Hexachlorobenzene	1	44.6369	0	50	89	70	130
N-Octadecane	1	40.1542	0	50	80	70	130
Phenanthrene	**1**	**47.2699**	**0**	**50**	**95**	**70**	**130**
Anthracene	**1**	**45.8325**	**0**	**50**	**92**	**70**	**130**
Carbazole	1	42.0537	0	50	84	70	130
Di-n-butylphthalate	1	49.0612	0	50	98	70	130
Fluoranthene	**1**	**48.8333**	**0**	**50**	**98**	**70**	**130**
Pyrene	**1**	**46.8544**	**0**	**50**	**94**	**50**	**130**
Benzidine	1	0	0	50	0	0	130
Butylbenzylphthalate	1	49.1597	0	50	98	50	130
3,3'-Dichlorobenzidine	1	37.5907	0	50	75	10	130
Benzo[a]anthracene	**1**	**43.514**	**0**	**50**	**87**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chrysene	**1**	**50.1285**	**0**	**50**	**100**	**60**	**130**
bis(2-Ethylhexyl)phthalate	1	48.7865	0	50	98	70	130
Di-n-octylphthalate	1	48.71	0	50	97	70	130
Benzo[b]fluoranthene	**1**	**47.7513**	**0**	**50**	**96**	**70**	**130**
Benzo[k]fluoranthene	**1**	**50.599**	**0**	**50**	**101**	**70**	**130**
Benzo[a]pyrene	**1**	**46.2462**	**0**	**50**	**92**	**70**	**130**
Indeno[1,2,3-cd]pyrene	**1**	**47.2822**	**0**	**50**	**95**	**70**	**130**
Dibenzo[a,h]anthracene	**1**	**47.0082**	**0**	**50**	**94**	**60**	**130**
Benzo[g,h,i]perylene	**1**	**46.5984**	**0**	**50**	**93**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108572.D	AD26217-002(MSD)	9/29/2021 7:00:00 PM
Non Spike(If applicable):	9M108570.D	AD26217-002	9/29/2021 6:14:00 PM
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Pyridine	1	33.012	0	50	66	1	150
N-Nitrosodimethylamine	1	37.5097	0	50	75	50	130
Benzaldehyde	1	22.9238	0	50	46	20	220
Aniline	1	30.8946	0	50	62	20	150
Pentachloroethane	1	36.2355	0	50	72	50	130
bis(2-Chloroethyl)ether	1	40.9817	0	50	82	50	130
N-Decane	1	29.0914	0	50	58	20	130
1,3-Dichlorobenzene	1	39.1942	0	50	78	60	130
1,4-Dichlorobenzene	1	40.7046	0	50	81	60	130
1,2-Dichlorobenzene	1	40.105	0	50	80	50	130
Benzyl alcohol	1	46.4237	0	50	93	20	130
bis(2-chloroisopropyl)ether	1	35.8135	0	50	72	40	130
Acetophenone	1	41.5656	0	50	83	50	130
Hexachloroethane	1	38.9069	0	50	78	50	130
N-Nitroso-di-n-propylamine	1	40.6549	0	50	81	40	130
Nitrobenzene	1	44.3561	0	50	89	70	130
Isophorone	1	41.4651	0	50	83	60	130
Benzoic Acid	1	98.6414	0	100	99	20	130
bis(2-Chloroethoxy)methane	1	45.2069	0	50	90	60	130
1,2,4-Trichlorobenzene	1	45.5014	0	50	91	50	130
Naphthalene	**1**	**44.342**	**0**	**50**	**89**	**50**	**130**
4-Chloroaniline	1	33.9506	0	50	68	10	150
Hexachlorobutadiene	1	42.7895	0	50	86	60	130
Caprolactam	1	47.3148	0	50	95	50	130
2-Methylnaphthalene	**1**	**47.0765**	**0**	**50**	**94**	**70**	**130**
1-Methylnaphthalene	1	48.9302	0	50	98	70	130
1,1'-Biphenyl	1	43.6861	0	50	87	60	130
1,2,4,5-Tetrachlorobenzene	1	44.109	0	50	88	70	130
Hexachlorocyclopentadiene	1	47.1266	0	50	94	20	160
2-Chloronaphthalene	1	47.7548	0	50	96	70	130
1,4-Dimethylnaphthalene	1	43.6172	0	50	87	70	130
Diphenyl Ether	1	45.9235	0	50	92	70	130
2-Nitroaniline	1	49.085	0	50	98	50	130
Coumarin	1	43.7972	0	50	88	70	130
Acenaphthylene	**1**	**48.5635**	**0**	**50**	**97**	**70**	**130**
Dimethylphthalate	1	48.5478	0	50	97	70	130
2,6-Dinitrotoluene	1	47.4035	0	50	95	70	130
Acenaphthene	**1**	**47.9022**	**0**	**50**	**96**	**50**	**130**
3-Nitroaniline	1	42.5391	0	50	85	70	130
Dibenzofuran	1	49.0153	0	50	98	70	130
2,4-Dinitrotoluene	1	47.8122	0	50	96	40	130
Fluorene	**1**	**48.21**	**0**	**50**	**96**	**50**	**130**
4-Chlorophenyl-phenylether	1	48.8988	0	50	98	70	130
Diethylphthalate	1	48.3938	0	50	97	70	130
4-Nitroaniline	1	49.1459	0	50	98	50	130
Atrazine	1	48.7833	0	50	98	50	130
n-Nitrosodiphenylamine	1	39.9907	0	50	80	50	130
1,2-Diphenylhydrazine	1	46.3324	0	50	93	70	130
4-Bromophenyl-phenylether	1	49.6621	0	50	99	70	130
Hexachlorobenzene	1	48.3253	0	50	97	70	130
N-Octadecane	1	43.3858	0	50	87	70	130
Phenanthrene	**1**	**49.2646**	**0**	**50**	**99**	**70**	**130**
Anthracene	**1**	**47.3591**	**0**	**50**	**95**	**70**	**130**
Carbazole	1	44.4022	0	50	89	70	130
Di-n-butylphthalate	1	51.8826	0	50	104	70	130
Fluoranthene	**1**	**50.4397**	**0**	**50**	**101**	**70**	**130**
Pyrene	**1**	**48.7983**	**0**	**50**	**98**	**50**	**130**
Benzidine	1	0	0	50	0	0	130
Butylbenzylphthalate	1	51.6743	0	50	103	50	130
3,3'-Dichlorobenzidine	1	39.0329	0	50	78	10	130
Benzo[a]anthracene	**1**	**45.8428**	**0**	**50**	**92**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95075

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chrysene	**1**	**51.6912**	**0**	**50**	**103**	**60**	**130**
bis(2-Ethylhexyl)phthalate	1	51.1284	0	50	102	70	130
Di-n-octylphthalate	1	50.9201	0	50	102	70	130
Benzo[b]fluoranthene	**1**	**50.959**	**0**	**50**	**102**	**70**	**130**
Benzo[k]fluoranthene	**1**	**51.8476**	**0**	**50**	**104**	**70**	**130**
Benzo[a]pyrene	**1**	**48.6023**	**0**	**50**	**97**	**70**	**130**
Indeno[1,2,3-cd]pyrene	**1**	**49.6111**	**0**	**50**	**99**	**70**	**130**
Dibenzo[a,h]anthracene	**1**	**49.3619**	**0**	**50**	**99**	**60**	**130**
Benzo[g,h,i]perylene	**1**	**48.822**	**0**	**50**	**98**	**70**	**130**

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: SMB95075

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108572.D	AD26217-002(MSD)	9/29/2021 7:00:00 PM
Duplicate(If applicable):	9M108571.D	AD26217-002(MS)	9/29/2021 6:37:00 PM
Inst Blank(If applicable):			

Method: 8270E Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Pyridine	1	33.012	25.9381	24	30
N-Nitrosodimethylamine	1	37.5097	33.8054	10	30
Benzaldehyde	1	22.9238	20.0607	13	30
Aniline	1	30.8946	29.109	6	30
Pentachloroethane	1	36.2355	31.3736	14	30
bis(2-Chloroethyl)ether	1	40.9817	37.0733	10	30
N-Decane	1	29.0914	24.5707	17	30
1,3-Dichlorobenzene	1	39.1942	34.9636	11	30
1,4-Dichlorobenzene	1	40.7046	38.1595	6.5	40
1,2-Dichlorobenzene	1	40.105	37.3162	7.2	30
Benzyl alcohol	1	46.4237	43.3483	6.9	30
bis(2-chloroisopropyl)ether	1	35.8135	33.4383	6.9	30
Acetophenone	1	41.5656	37.5181	10	30
Hexachloroethane	1	38.9069	35.8857	8.1	30
N-Nitroso-di-n-propylamine	1	40.6549	38.3309	5.9	40
Nitrobenzene	1	44.3561	41.3476	7	30
Isophorone	1	41.4651	38.3023	7.9	30
Benzoic Acid	1	98.6414	106.5374	7.7	30
bis(2-Chloroethoxy)methane	1	45.2069	41.6388	8.2	30
1,2,4-Trichlorobenzene	1	45.5014	42.0768	7.8	40
Naphthalene	**1**	**44.342**	**38.8981**	**13**	**40**
4-Chloroaniline	1	33.9506	33.2565	2.1	30
Hexachlorobutadiene	1	42.7895	39.5084	8	30
Caprolactam	1	47.3148	43.79	7.7	30
2-Methylnaphthalene	**1**	**47.0765**	**43.4587**	**8**	**30**
1-Methylnaphthalene	1	48.9302	44.2855	10	30
1,1'-Biphenyl	1	43.6861	39.1978	11	30
1,2,4,5-Tetrachlorobenzene	1	44.109	39.8107	10	30
Hexachlorocyclopentadiene	1	47.1266	44.4771	5.8	30
2-Chloronaphthalene	1	47.7548	43.9714	8.2	30
1,4-Dimethylnaphthalene	1	43.6172	39.8744	9	30
Diphenyl Ether	1	45.9235	41.3235	11	30
2-Nitroaniline	1	49.085	46.6757	5	30
Coumarin	1	43.7972	41.5277	5.3	30
Acenaphthylene	**1**	**48.5635**	**45.4722**	**6.6**	**30**
Dimethylphthalate	1	48.5478	45.7228	6	30
2,6-Dinitrotoluene	1	47.4035	45.1356	4.9	30
Acenaphthene	**1**	**47.9022**	**44.5714**	**7.2**	**40**
3-Nitroaniline	1	42.5391	41.4785	2.5	30
Dibenzofuran	1	49.0153	45.9212	6.5	30
2,4-Dinitrotoluene	1	47.8122	45.6127	4.7	40
Fluorene	**1**	**48.21**	**44.643**	**7.7**	**40**
4-Chlorophenyl-phenylether	1	48.8988	45.7788	6.6	30
Diethylphthalate	1	48.3938	45.9025	5.3	30
4-Nitroaniline	1	49.1459	47.8575	2.7	30
Atrazine	1	48.7833	45.489	7	30
n-Nitrosodiphenylamine	1	39.9907	38.4085	4	30
1,2-Diphenylhydrazine	1	46.3324	43.9071	5.4	30
4-Bromophenyl-phenylether	1	49.6621	46.976	5.6	30
Hexachlorobenzene	1	48.3253	44.6369	7.9	30
N-Octadecane	1	43.3858	40.1542	7.7	30
Phenanthrene	**1**	**49.2646**	**47.2699**	**4.1**	**30**
Anthracene	**1**	**47.3591**	**45.8325**	**3.3**	**30**
Carbazole	1	44.4022	42.0537	5.4	30
Di-n-butylphthalate	1	51.8826	49.0612	5.6	30
Fluoranthene	**1**	**50.4397**	**48.8333**	**3.2**	**30**
Pyrene	**1**	**48.7983**	**46.8544**	**4.1**	**40**
Benzidine	1	0	0	NA	30
Butylbenzylphthalate	1	51.6743	49.1597	5	40
3,3'-Dichlorobenzidine	1	39.0329	37.5907	3.8	30
Benzo[a]anthracene	**1**	**45.8428**	**43.514**	**5.2**	**30**

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: SMB95075

Method: 8270E | Matrix: Soil | Units: mg/Kg | QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chrysene	**1**	**51.6912**	**50.1285**	**3.1**	**30**
bis(2-Ethylhexyl)phthalate	1	51.1284	48.7865	4.7	30
Di-n-octylphthalate	1	50.9201	48.71	4.4	30
Benzo[b]fluoranthene	**1**	**50.959**	**47.7513**	**6.5**	**30**
Benzo[k]fluoranthene	**1**	**51.8476**	**50.599**	**2.4**	**30**
Benzo[a]pyrene	**1**	**48.6023**	**46.2462**	**5**	**30**
Indeno[1,2,3-cd]pyrene	**1**	**49.6111**	**47.2822**	**4.8**	**30**
Dibenzo[a,h]anthracene	**1**	**49.3619**	**47.0082**	**4.9**	**30**
Benzo[g,h,i]perylene	**1**	**48.822**	**46.5984**	**4.7**	**30**

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

FORM 4
Blank Summary

Blank Number: SMB95075
Blank Data File: 7M116800.D
Matrix: Soil

Blank Analysis Date: 09/29/21 16:52
Blank Extraction Date: 09/29/21
(If Applicable)
Method: EPA 8270E

Sample Number	Data File	Analysis Date
AD26217-002	9M108570.D	09/29/21 18:14
AD26217-006	9M108574.D	09/29/21 19:47
AD26217-008	7M116802.D	09/29/21 17:39
AD26217-010	7M116803.D	09/29/21 18:03
AD26217-012	7M116804.D	09/29/21 18:26
AD26217-014	7M116805.D	09/29/21 18:50
AD26217-016(5X)	7M116818.D	09/30/21 12:19
AD26217-018	7M116809.D	09/30/21 08:48
AD26217-002(MSD	9M108572.D	09/29/21 19:00
AD26217-002(MS)	9M108571.D	09/29/21 18:37
SMB95075(MS)	10M87558.D	09/29/21 15:09

FORM 4
Blank Summary

Blank Number: SMB95086
Blank Data File: 9M108600.D
Matrix: Soil

Blank Analysis Date: 10/01/21 09:14
Blank Extraction Date: 09/30/21
(If Applicable)
Method: EPA 8270E

Sample Number	Data File	Analysis Date
AD26217-004(R)	9M108587.D	09/30/21 14:38
SMB95086(MS)	9M108599.D	10/01/21 08:52

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10

Data File: 10M87364.D
Analysis Date: 09/20/21 09:05
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.067 to 10.078 min

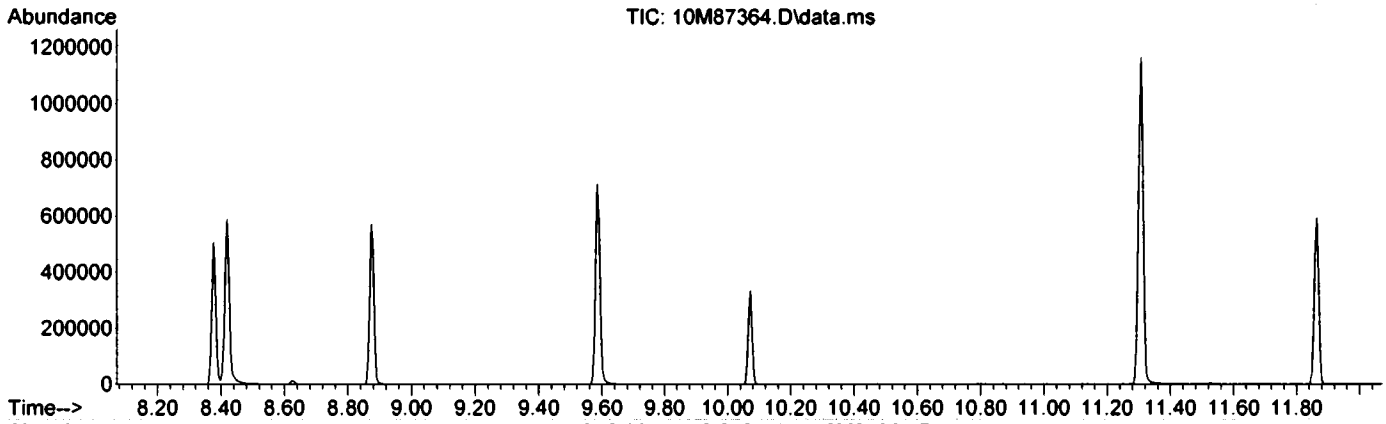
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	42.8	13738	PASS
68	69	0.00	2	2.0	257	PASS
69	198	0.00	100	40.0	12846	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	52.1	16750	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	32120	PASS
199	198	5	9	6.6	2128	PASS
275	198	10	30	20.8	6688	PASS
365	198	1	100	2.2	716	PASS
441	443	0.01	100	78.2	3305	PASS
442	198	40	100	72.3	23209	PASS
443	442	17	23	18.2	4227	PASS

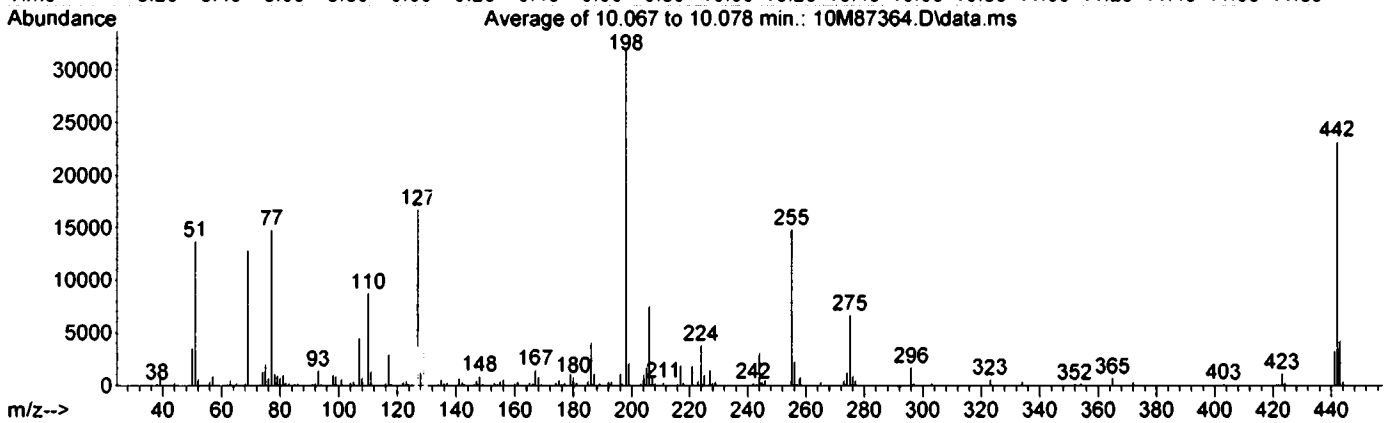
Data File	Sample Number	Analysis Date:
10M87365.D	CAL BNA@10PPM	09/20/21 09:29
10M87366.D	CAL BNA@2PPM	09/20/21 09:51
10M87367.D	CAL BNA@196PP	09/20/21 10:13
10M87368.D	CAL BNA@160PP	09/20/21 10:35
10M87369.D	CAL BNA@120PP	09/20/21 10:57
10M87370.D	CAL BNA@80PPM	09/20/21 11:19
10M87371.D	CAL BNA@20PPM	09/20/21 11:42
10M87372.D	CAL BNA@0.5PP	09/20/21 12:04
10M87373.D	CAL BNA@50PPM	09/20/21 12:26
10M87374.D	ICV BNA@50PPM	09/20/21 13:25

Data Path : G:\GcMsData\2021\GCMS_10\Data\09-20-21\
Data File : 10M87364.D
Acq On : 20 Sep 2021 9:05
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_10\METHODQT\10M_0823.M
Title : @GCMS_10,mg,625,8270
Last Update : Mon Aug 23 13:30:22 2021





Spectrum Information: Average of 10.067 to 10.078 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.8	13738	PASS
68	69	0.00	2	2.0	257	PASS
69	198	0.00	100	40.0	12846	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	52.1	16750	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	32120	PASS
199	198	5	9	6.6	2128	PASS
275	198	10	30	20.8	6688	PASS
365	198	1	100	2.2	716	PASS
441	443	0.01	100	78.2	3305	PASS
442	198	40	100	72.3	23209	PASS
443	442	17	23	18.2	4227	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M116590.D
Analysis Date: 09/20/21 09:09
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.161 to 10.173 min

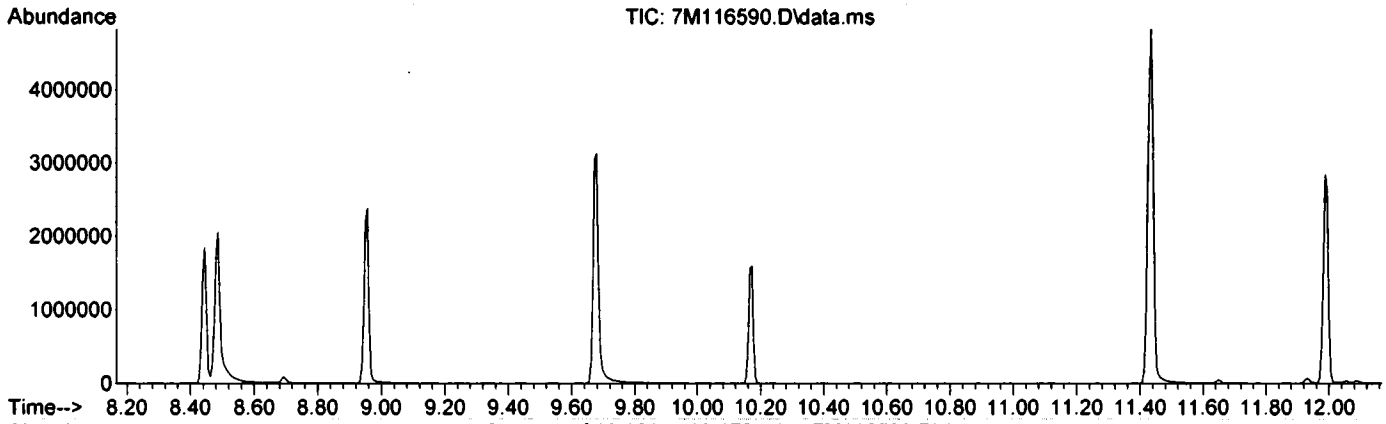
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	37.7	54664	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.3	62781	PASS
70	69	0.00	2	0.7	440	PASS
127	198	40	60	54.4	79021	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	145139	PASS
199	198	5	9	6.8	9914	PASS
275	198	10	30	25.7	37281	PASS
365	198	1	100	2.9	4192	PASS
441	443	0.01	100	78.2	15349	PASS
442	198	40	100	69.8	101355	PASS
443	442	17	23	19.4	19633	PASS

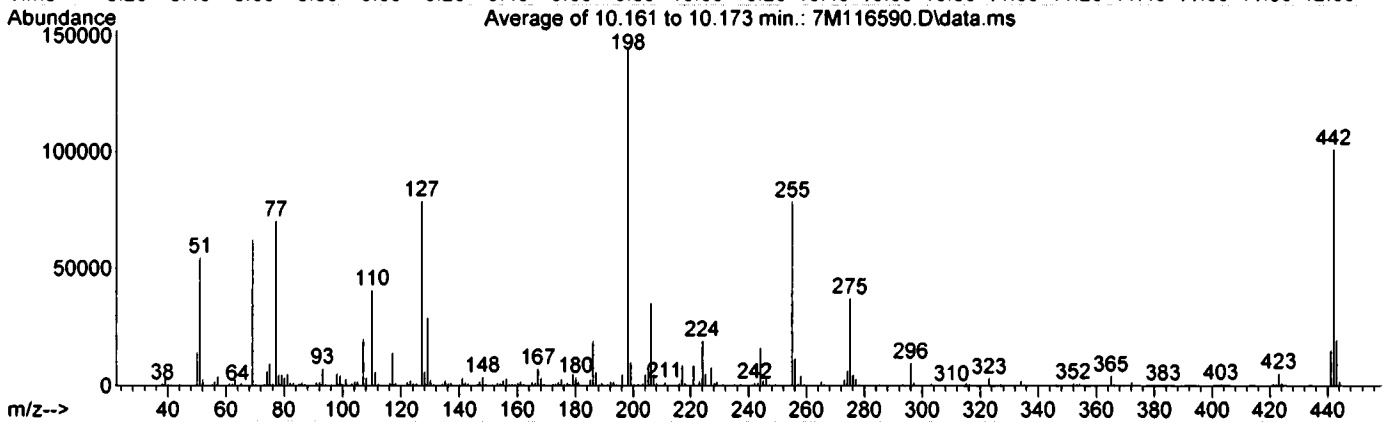
Data File	Sample Number	Analysis Date:
7M116591.D	CAL BNA@2PPM	09/20/21 09:33
7M116592.D	CAL BNA@10PPM	09/20/21 09:56
7M116593.D	CAL BNA@196PP	09/20/21 10:19
7M116594.D	CAL BNA@160PP	09/20/21 10:45
7M116595.D	CAL BNA@120PP	09/20/21 11:08
7M116596.D	CAL BNA@80PPM	09/20/21 11:32
7M116597.D	CAL BNA@20PPM	09/20/21 11:55
7M116598.D	CAL BNA@0.5PP	09/20/21 12:19
7M116599.D	CAL BNA@50PPM	09/20/21 12:43
7M116600.D	ICV BNA@50PPM	09/20/21 13:30

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-20-21\
Data File : 7M116590.D
Acq On : 20 Sep 2021 9:09
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_7\METHODQT\7M_0823.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Aug 23 12:58:25 2021





Spectrum Information: Average of 10.161 to 10.173 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.7	54664	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.3	62781	PASS
70	69	0.00	2	0.7	440	PASS
127	198	40	60	54.4	79021	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	145139	PASS
199	198	5	9	6.8	9914	PASS
275	198	10	30	25.7	37281	PASS
365	198	1	100	2.9	4192	PASS
441	443	0.01	100	78.2	15349	PASS
442	198	40	100	69.8	101355	PASS
443	442	17	23	19.4	19633	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M116777.D
Analysis Date: 09/29/21 07:45
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.167 to 10.173 min

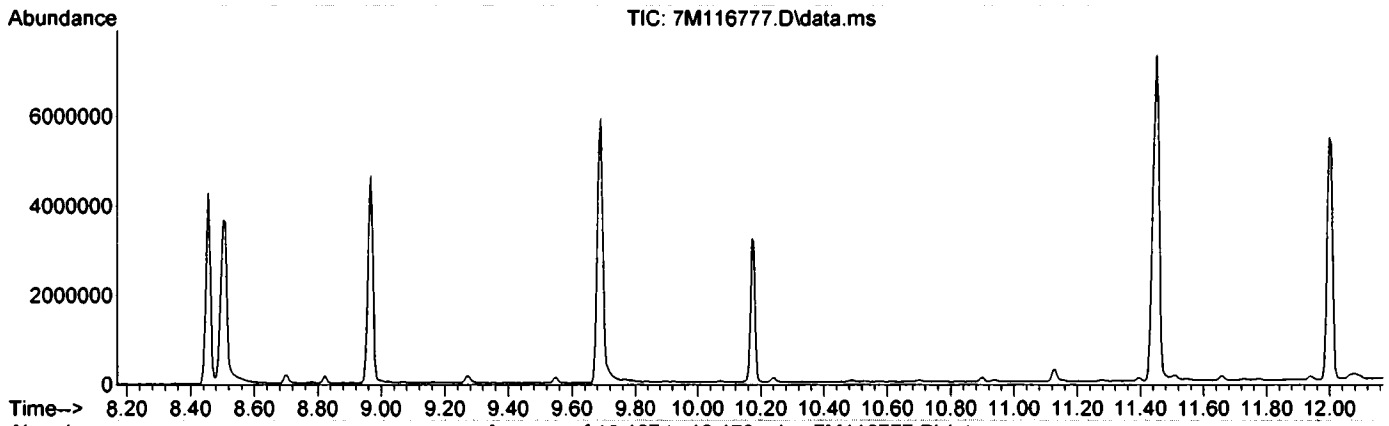
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	39.5	106400	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.9	121120	PASS
70	69	0.00	2	1.0	1230	PASS
127	198	40	60	53.8	145080	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	269632	PASS
199	198	5	9	6.9	18691	PASS
275	198	10	30	25.3	68288	PASS
365	198	1	100	2.5	6810	PASS
441	443	0.01	100	73.9	24647	PASS
442	198	40	100	61.6	165960	PASS
443	442	17	23	20.1	33366	PASS

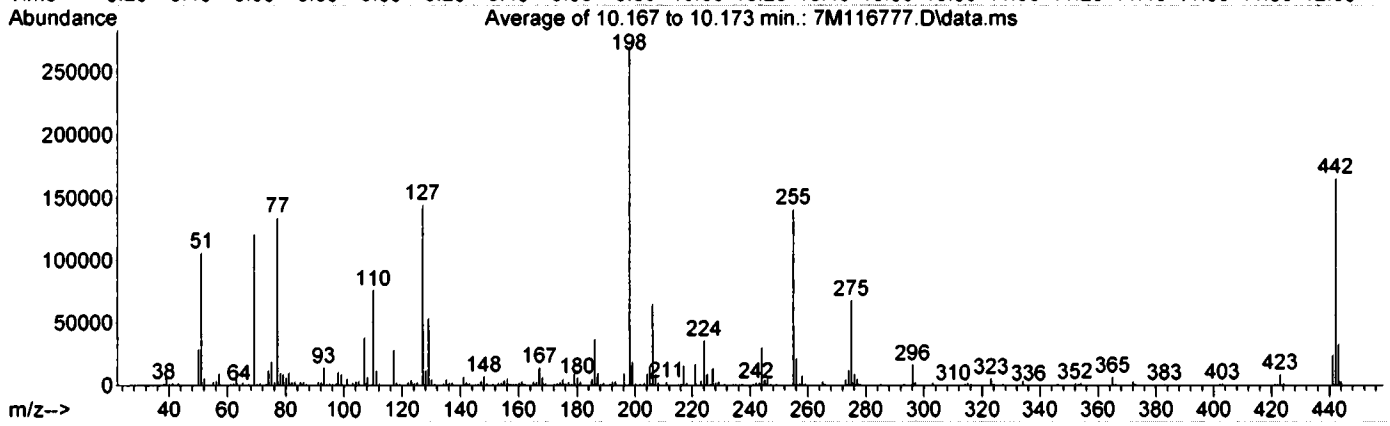
Data File	Sample Number	Analysis Date:
7M116778.D	CAL BNA@50PPM	09/29/21 08:08
7M116779.D	SMB95060	09/29/21 08:32
7M116780.D	AD26140-003	09/29/21 08:56
7M116781.D	AD26250-001	09/29/21 09:19
7M116782.D	AD26250-002	09/29/21 09:43
7M116783.D	AD26250-003	09/29/21 10:07
7M116784.D	AD26250-004	09/29/21 10:31
7M116785.D	AD26250-015(3X)	09/29/21 10:55
7M116786.D	AD26166-008	09/29/21 11:19
7M116787.D	AD26166-010	09/29/21 11:43
7M116788.D	AD26166-013	09/29/21 12:07
7M116789.D	AD26166-014	09/29/21 12:30
7M116790.D	AD26166-004	09/29/21 12:54
7M116791.D	AD26166-007	09/29/21 13:18
7M116792.D	AD26166-009	09/29/21 13:42
7M116793.D	AD26250-015(20X)	09/29/21 14:05
7M116794.D	AD26274-001(3X)	09/29/21 14:29
7M116795.D	AD26178-002	09/29/21 14:53
7M116796.D	AD26178-004	09/29/21 15:17
7M116797.D	AD25993-001(5X)	09/29/21 15:41
7M116798.D	AD26274-001(3X)(	09/29/21 16:04
7M116799.D	AD26274-001(3X)(	09/29/21 16:28
7M116800.D	SMB95075	09/29/21 16:52
7M116801.D	AD26094-009	09/29/21 17:15
7M116802.D	AD26217-008	09/29/21 17:39
7M116803.D	AD26217-010	09/29/21 18:03
7M116804.D	AD26217-012	09/29/21 18:26
7M116805.D	AD26217-014	09/29/21 18:50
7M116806.D	AD26206-004	09/29/21 19:13

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-29-21\
Data File : 7M116777.D
Acq On : 29 Sep 2021 7:45
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_7\METHODQT\7M_0920.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Sep 20 13:06:38 2021





Spectrum Information: Average of 10.167 to 10.173 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	39.5	106400	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.9	121120	PASS
70	69	0.00	2	1.0	1230	PASS
127	198	40	60	53.8	145080	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	269632	PASS
199	198	5	9	6.9	18691	PASS
275	198	10	30	25.3	68288	PASS
365	198	1	100	2.5	6810	PASS
441	443	0.01	100	73.9	24647	PASS
442	198	40	100	61.6	165960	PASS
443	442	17	23	20.1	33366	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 10

Data File: 10M87539.D
Analysis Date: 09/29/21 08:04
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.062 to 10.073 min

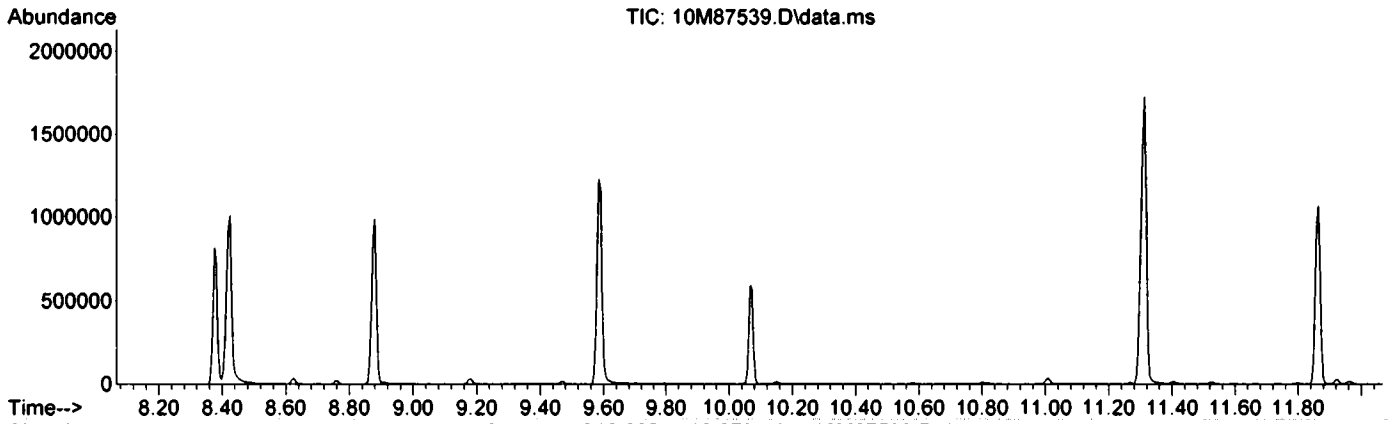
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	47.6	27419	PASS
68	69	0.00	2	1.7	435	PASS
69	198	0.00	100	45.3	26125	PASS
70	69	0.00	2	0.9	247	PASS
127	198	40	60	54.7	31552	PASS
197	198	0.00	1	0.3	169	PASS
198	198	100	100	100.0	57635	PASS
199	198	5	9	6.7	3871	PASS
275	198	10	30	19.7	11352	PASS
365	198	1	100	2.1	1195	PASS
441	443	0.01	100	73.2	5038	PASS
442	198	40	100	59.9	34512	PASS
443	442	17	23	19.9	6882	PASS

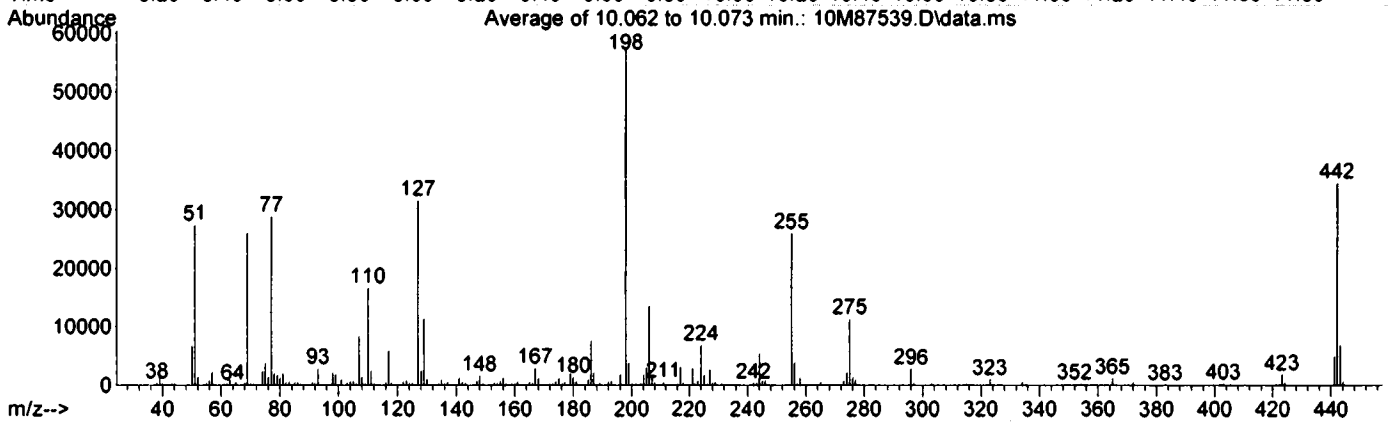
Data File	Sample Number	Analysis Date:
10M87540.D	CAL BNA@50PPM	09/29/21 08:26
10M87541.D	SMB95060(MS)	09/29/21 08:51
10M87542.D	SMB95061(MS)	09/29/21 09:13
10M87543.D	SMB95061	09/29/21 09:35
10M87544.D	SMB95060	09/29/21 09:58
10M87545.D	AD26166-005	09/29/21 10:20
10M87546.D	AD26166-006	09/29/21 10:42
10M87547.D	AD26166-011	09/29/21 11:05
10M87548.D	AD26166-012	09/29/21 11:27
10M87549.D	AD26166-015	09/29/21 11:49
10M87550.D	AD26166-016	09/29/21 12:11
10M87551.D	AD26166-017	09/29/21 12:34
10M87552.D	AD26166-005(MS)	09/29/21 12:56
10M87553.D	AD26166-005(MSD	09/29/21 13:18
10M87554.D	AD26194-001	09/29/21 13:40
10M87555.D	AD26178-006	09/29/21 14:02
10M87556.D	OMB95073	09/29/21 14:25
10M87557.D	OMB95073(MS)	09/29/21 14:47
10M87558.D	SMB95075(MS)	09/29/21 15:09
10M87559.D	SMB95075	09/29/21 15:32
10M87560.D	AD26185-001	09/29/21 16:28

Data Path : G:\GcMsData\2021\GCMS_10\Data\09-29-21\
Data File : 10M87539.D
Acq On : 29 Sep 2021 8:04
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_10\METHODQT\10M_0920.M
Title : @GCMS_10,mg,625,8270
Last Update : Mon Sep 20 12:52:28 2021





Spectrum Information: Average of 10.062 to 10.073 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.6	27419	PASS
68	69	0.00	2	1.7	435	PASS
69	198	0.00	100	45.3	26125	PASS
70	69	0.00	2	0.9	247	PASS
127	198	40	60	54.7	31552	PASS
197	198	0.00	1	0.3	169	PASS
198	198	100	100	100.0	57635	PASS
199	198	5	9	6.7	3871	PASS
275	198	10	30	19.7	11352	PASS
365	198	1	100	2.1	1195	PASS
441	443	0.01	100	73.2	5038	PASS
442	198	40	100	59.9	34512	PASS
443	442	17	23	19.9	6882	PASS

Form 5

Tune Name: CAL DFTPP **Data File:** 9M108547.D
Instrument: GCMS 9 **Analysis Date:** 09/29/21 09:24
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.172 to 10.177 min

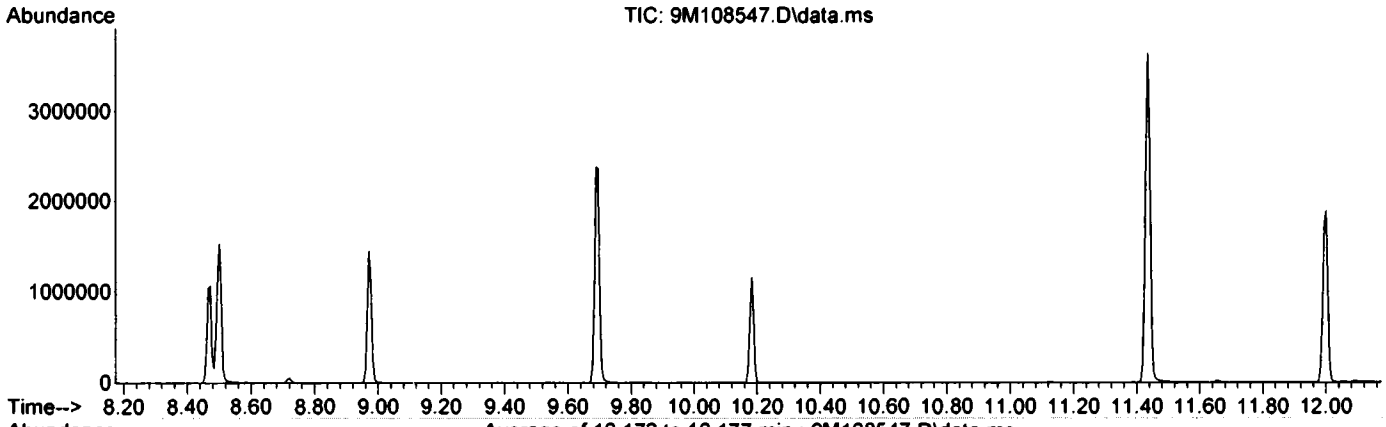
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	49.8	21505	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.8	21921	PASS
70	69	0.00	2	0.4	98	PASS
127	198	40	60	57.6	24886	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	43171	PASS
199	198	5	9	7.1	3065	PASS
275	198	10	30	25.7	11109	PASS
365	198	1	100	3.2	1360	PASS
441	443	0.01	100	70.0	4643	PASS
442	198	40	100	70.9	30597	PASS
443	442	17	23	21.7	6630	PASS

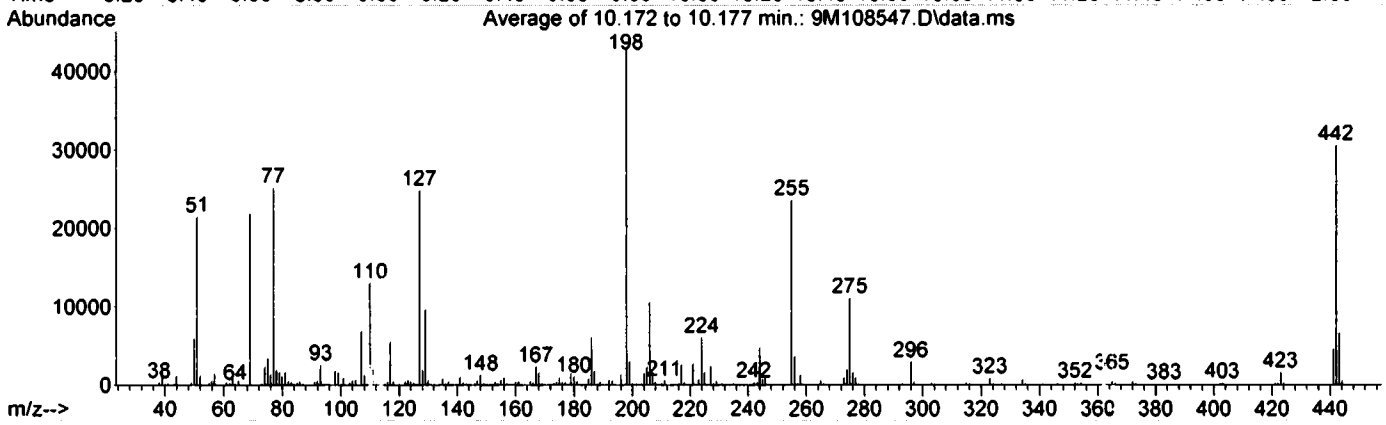
Data File	Sample Number	Analysis Date:
9M108548.D	CAL BNA@10PPM	09/29/21 09:47
9M108549.D	CAL BNA@2PPM	09/29/21 10:10
9M108550.D	CAL BNA@196PP	09/29/21 10:33
9M108551.D	CAL BNA@160PP	09/29/21 10:56
9M108552.D	CAL BNA@120PP	09/29/21 11:19
9M108553.D	CAL BNA@80PPM	09/29/21 11:42
9M108554.D	CAL BNA@50PPM	09/29/21 12:05
9M108555.D	CAL BNA@20PPM	09/29/21 12:28
9M108556.D	CAL BNA@0.5PP	09/29/21 12:51
9M108557.D	ICV BNA@50PPM	09/29/21 13:15
9M108558.D	AD26228-001	09/29/21 13:38
9M108559.D	AD26228-002	09/29/21 14:01
9M108560.D	AD26228-003	09/29/21 14:24
9M108561.D	AD26228-004	09/29/21 14:47
9M108562.D	AD26228-005	09/29/21 15:10
9M108563.D	WMB95071	09/29/21 15:33
9M108564.D	95071	09/29/21 15:56
9M108565.D	MBS-1	09/29/21 16:19
9M108566.D	MBS-2	09/29/21 16:42
9M108567.D	MBS-3	09/29/21 17:05
9M108568.D	MBS-4	09/29/21 17:28
9M108569.D	SMB95075	09/29/21 17:51
9M108570.D	AD26217-002	09/29/21 18:14
9M108571.D	AD26217-002(MS)	09/29/21 18:37
9M108572.D	AD26217-002(MSD	09/29/21 19:00
9M108573.D	AD26217-004	09/29/21 19:24
9M108574.D	AD26217-006	09/29/21 19:47

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-29-21\
Data File : 9M108547.D
Acq On : 29 Sep 2021 9:24
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_9\METHODQT\9M_0924.M
Title : @GCMS_9,mg,625,8270
Last Update : Fri Sep 24 13:06:09 2021





Spectrum Information: Average of 10.172 to 10.177 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.8	21505	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	50.8	21921	PASS
70	69	0.00	2	0.4	98	PASS
127	198	40	60	57.6	24886	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	43171	PASS
199	198	5	9	7.1	3065	PASS
275	198	10	30	25.7	11109	PASS
365	198	1	100	3.2	1360	PASS
441	443	0.01	100	70.0	4643	PASS
442	198	40	100	70.9	30597	PASS
443	442	17	23	21.7	6630	PASS

Form 5

Tune Name: CAL DFTPP
Instrument: GCMS 7

Data File: 7M116807.D
Analysis Date: 09/30/21 08:00
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.161 to 10.178 min

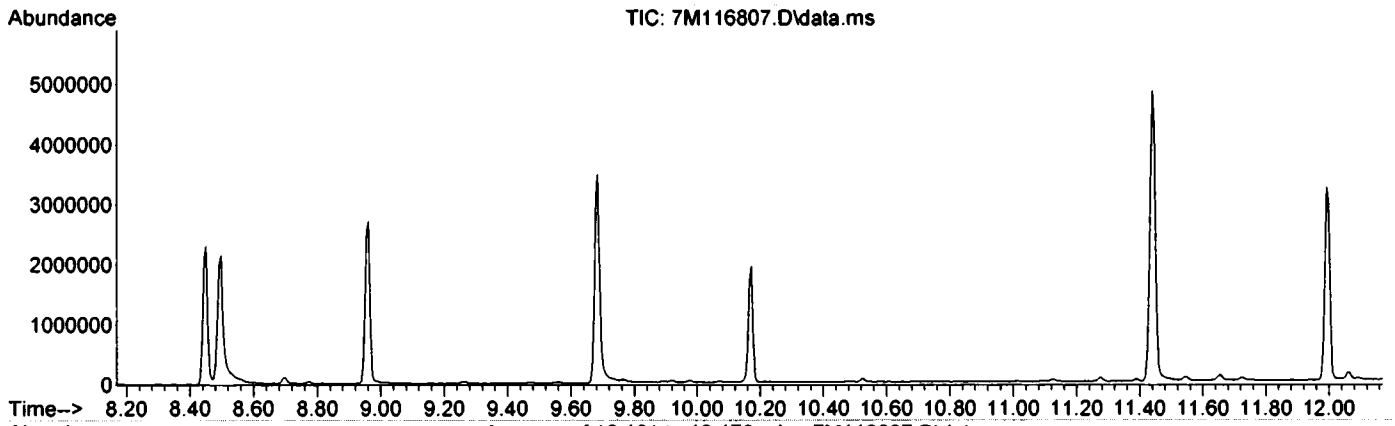
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	40.1	53470	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.4	59256	PASS
70	69	0.00	2	1.6	945	PASS
127	198	40	60	54.1	72128	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	133402	PASS
199	198	5	9	7.1	9409	PASS
275	198	10	30	27.2	36239	PASS
365	198	1	100	3.5	4706	PASS
441	443	0.01	100	73.9	16376	PASS
442	198	40	100	83.1	110866	PASS
443	442	17	23	20.0	22151	PASS

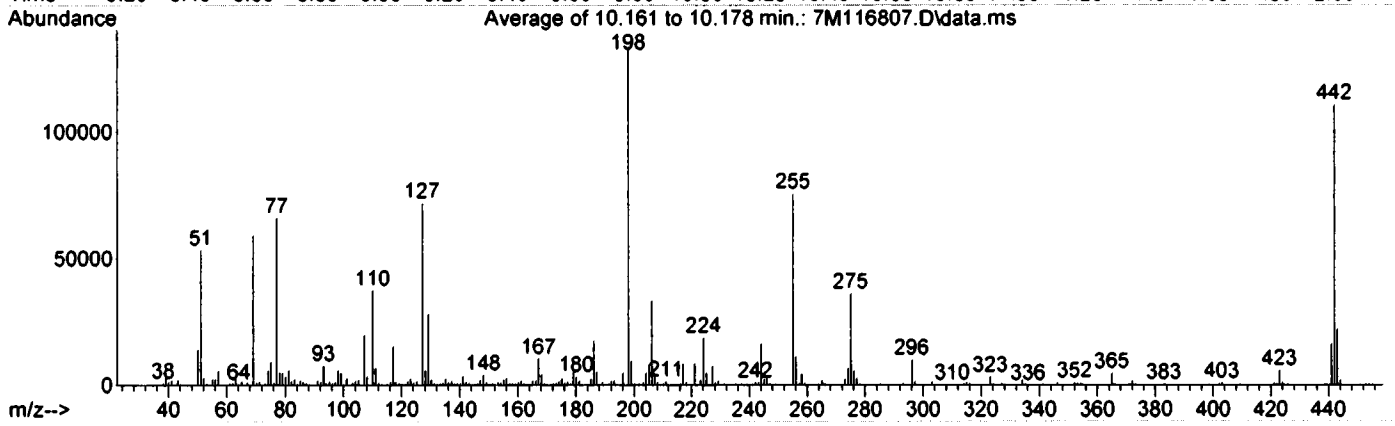
Data File	Sample Number	Analysis Date:
7M116808.D	CAL BNA@50PPM	09/30/21 08:24
7M116809.D	AD26217-018	09/30/21 08:48
7M116810.D	AD26206-002(3X)	09/30/21 09:12
7M116811.D	AD26094-005(5X)	09/30/21 09:35
7M116812.D	AD26217-016(10X)	09/30/21 09:59
7M116813.D	AD26249-001(5X)	09/30/21 10:22
7M116814.D	AD26034-011(10X)	09/30/21 10:46
7M116815.D	AD26034-010(20X)	09/30/21 11:09
7M116816.D	AD26251-004	09/30/21 11:32
7M116817.D	AD26206-002	09/30/21 11:56
7M116818.D	AD26217-016(5X)	09/30/21 12:19
7M116819.D	AD26034-010(5X)	09/30/21 12:43
7M116820.D	AD26034-011(5X)	09/30/21 13:06

Data Path : G:\GcMsData\2021\GCMS_7\Data\09-30-21\
Data File : 7M116807.D
Acq On : 30 Sep 2021 8:00
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_7\METHODQT\7M_0920.M
Title : @GCMS_7,mg,625,8270
Last Update : Mon Sep 20 13:06:38 2021





Spectrum Information: Average of 10.161 to 10.178 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.1	53470	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	44.4	59256	PASS
70	69	0.00	2	1.6	945	PASS
127	198	40	60	54.1	72128	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	133402	PASS
199	198	5	9	7.1	9409	PASS
275	198	10	30	27.2	36239	PASS
365	198	1	100	3.5	4706	PASS
441	443	0.01	100	73.9	16376	PASS
442	198	40	100	83.1	110866	PASS
443	442	17	23	20.0	22151	PASS

Form 5

Tune Name: CAL DFTPP **Data File:** 9M108576.D
Instrument: GCMS 9 **Analysis Date:** 09/30/21 09:04
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.172 to 10.172 min

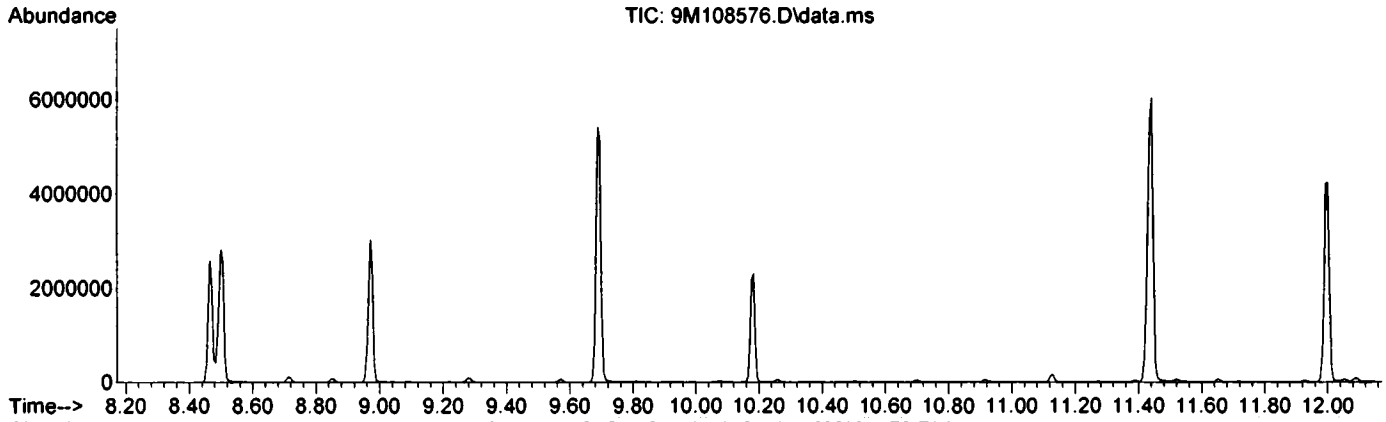
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	47.3	41944	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	49.0	43496	PASS
70	69	0.00	2	1.1	478	PASS
127	198	40	60	57.5	51008	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	88760	PASS
199	198	5	9	7.2	6404	PASS
275	198	10	30	24.4	21648	PASS
365	198	1	100	2.8	2528	PASS
441	443	0.01	100	70.9	8767	PASS
442	198	40	100	69.3	61488	PASS
443	442	17	23	20.1	12366	PASS

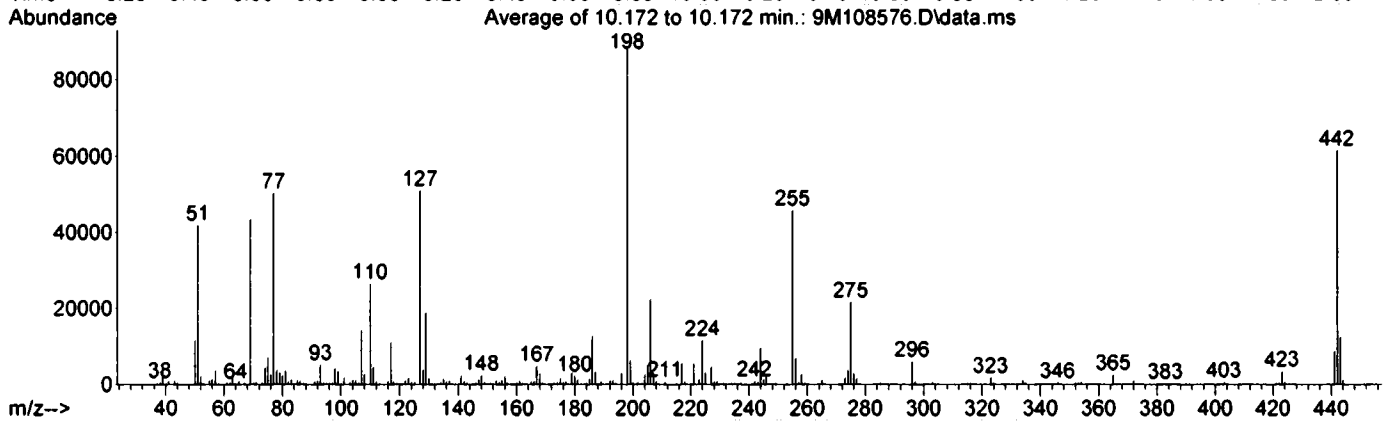
Data File	Sample Number	Analysis Date:
9M108577.D	CAL BNA@50PPM	09/30/21 09:35
9M108578.D	WMB95071(MS)	09/30/21 09:58
9M108579.D	WMB95078	09/30/21 10:21
9M108580.D	AD26205-001	09/30/21 10:44
9M108581.D	AD26205-002	09/30/21 11:07
9M108582.D	AD26205-003	09/30/21 11:30
9M108583.D	AD26205-004	09/30/21 11:52
9M108584.D	AD26200-013	09/30/21 12:15
9M108585.D	AD26200-015	09/30/21 12:38
9M108586.D	AD26200-017	09/30/21 13:01
9M108587.D	AD26217-004(R)	09/30/21 14:38
9M108588.D	95088	09/30/21 16:01
9M108589.D	WMB95088	09/30/21 16:23
9M108590.D	AD26283-001	09/30/21 16:46
9M108591.D	AD26227-001	09/30/21 17:09
9M108592.D	AD26283-002	09/30/21 17:32
9M108593.D	AD26283-003	09/30/21 17:55
9M108594.D	AD26283-004	09/30/21 18:18
9M108595.D	AD26227-001(MS)	09/30/21 18:41
9M108596.D	AD26227-001(MSD	09/30/21 19:04

Data Path : G:\GcMsData\2021\GCMS_9\Data\09-30-21\
Data File : 9M108576.D
Acq On : 30 Sep 2021 9:04
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_9\METHODQT\9M_0929.M
Title : @GCMS_9,mg,625,8270
Last Update : Wed Sep 29 13:15:33 2021





Spectrum Information: Average of 10.172 to 10.172 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.3	41944	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	49.0	43496	PASS
70	69	0.00	2	1.1	478	PASS
127	198	40	60	57.5	51008	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	88760	PASS
199	198	5	9	7.2	6404	PASS
275	198	10	30	24.4	21648	PASS
365	198	1	100	2.8	2528	PASS
441	443	0.01	100	70.9	8767	PASS
442	198	40	100	69.3	61488	PASS
443	442	17	23	20.1	12366	PASS

Form 5

Tune Name: CAL DFTPP **Data File:** 9M108597.D
Instrument: GCMS 9 **Analysis Date:** 10/01/21 08:06
Method: EPA 8270E

Tune Scan/Time Range: Average of 10.172 to 10.172 min

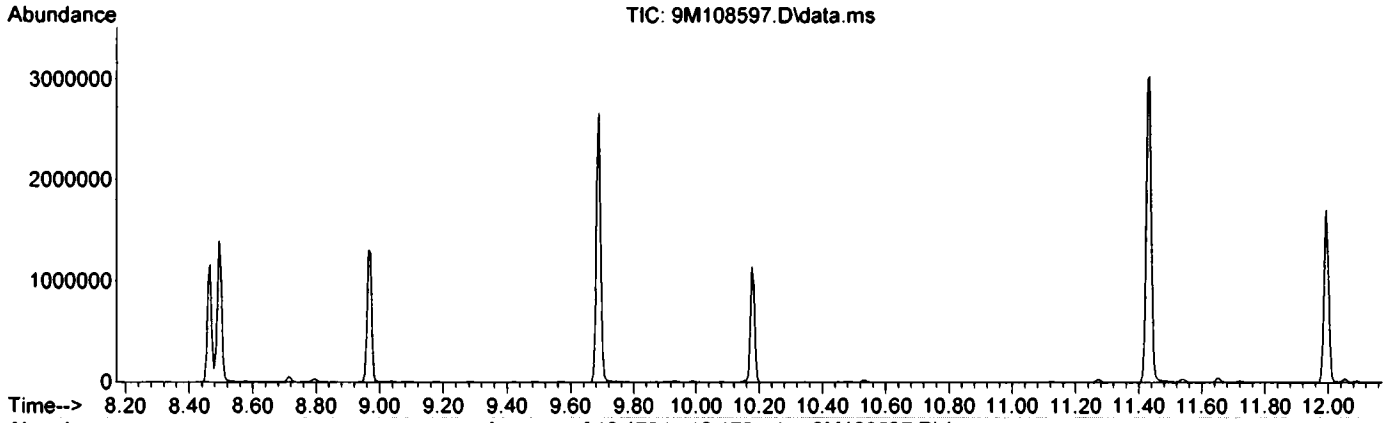
Tgt Mass	Rel Mass	Lo Lim	Hi Lim	Rel Abund	Raw Abund	Pass/ Fail
51	198	30	60	45.9	22912	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.1	23512	PASS
70	69	0.00	2	1.0	237	PASS
127	198	40	60	56.3	28096	PASS
197	198	0.00	1	0.8	399	PASS
198	198	100	100	100.0	49928	PASS
199	198	5	9	7.3	3669	PASS
275	198	10	30	28.5	14235	PASS
365	198	1	100	3.8	1877	PASS
441	443	0.01	100	76.8	6197	PASS
442	198	40	100	83.5	41688	PASS
443	442	17	23	19.3	8064	PASS

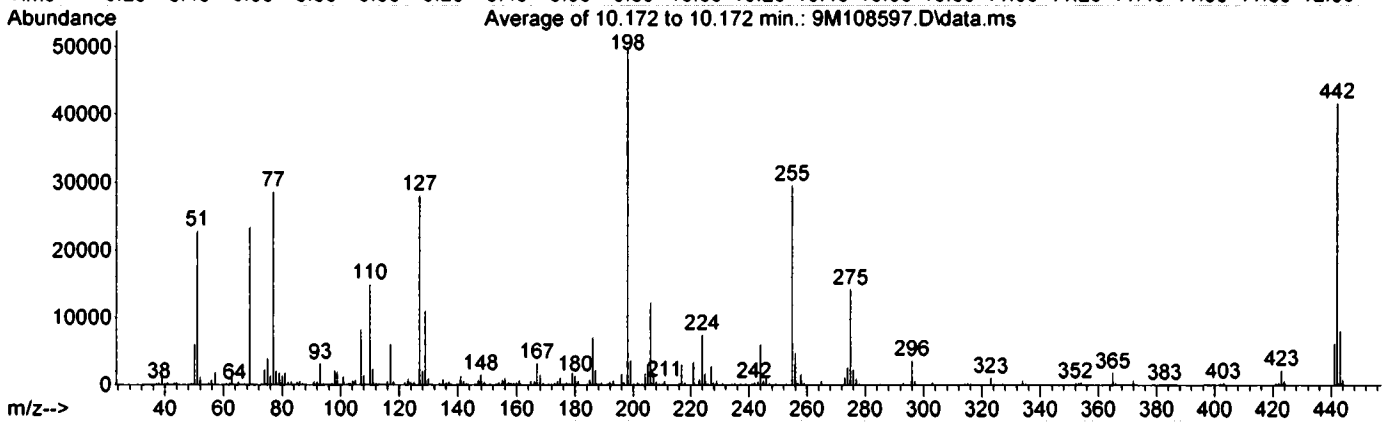
Data File	Sample Number	Analysis Date:
9M108598.D	CAL BNA@50PPM	10/01/21 08:29
9M108599.D	SMB95086(MS)	10/01/21 08:52
9M108600.D	SMB95086	10/01/21 09:14
9M108601.D	WMB95092	10/01/21 09:37
9M108602.D	AD26247-007	10/01/21 10:00
9M108603.D	AD26247-008	10/01/21 10:23
9M108604.D	AD26247-010	10/01/21 10:45
9M108605.D	AD26247-011	10/01/21 11:08
9M108606.D	AD26247-013	10/01/21 11:31
9M108607.D	AD26241-014	10/01/21 12:00
9M108608.D	AD26241-015	10/01/21 12:23
9M108609.D	AD26241-016	10/01/21 12:45
9M108610.D	AD26241-017	10/01/21 13:08
9M108611.D	AD26241-018	10/01/21 13:31

Data Path : G:\GcMsData\2021\GCMS_9\Data\10-01-21\
Data File : 9M108597.D
Acq On : 1 Oct 2021 8:06
Operator : AH/JB
Sample : CAL DFTPP
Misc : A,BNA
ALS Vial : 1 Sample Multiplier: 1

Integration File: LSCINT.P

Method : G:\GCMSDATA\2021\GCMS_9\METHODQT\9M_0929.M
Title : @GCMS_9,mg,625,8270
Last Update : Wed Sep 29 13:15:33 2021





Spectrum Information: Average of 10.172 to 10.172 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	45.9	22912	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	47.1	23512	PASS
70	69	0.00	2	1.0	237	PASS
127	198	40	60	56.3	28096	PASS
197	198	0.00	1	0.8	399	PASS
198	198	100	100	100.0	49928	PASS
199	198	5	9	7.3	3669	PASS
275	198	10	30	28.5	14235	PASS
365	198	1	100	3.8	1877	PASS
441	443	0.01	100	76.8	6197	PASS
442	198	40	100	83.5	41688	PASS
443	442	17	23	19.3	8064	PASS

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Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M87373.D	CAL BNA@50PPM	09/20/21 12:26	2	10M87366.D	CAL BNA@2PPM	09/20/21 09:51
3	10M87365.D	CAL BNA@10PPM	09/20/21 09:29	4	10M87371.D	CAL BNA@20PPM	09/20/21 11:42
5	10M87370.D	CAL BNA@80PPM	09/20/21 11:19	6	10M87369.D	CAL BNA@120PPM	09/20/21 10:57
7	10M87368.D	CAL BNA@160PPM	09/20/21 10:35	8	10M87367.D	CAL BNA@196PPM	09/20/21 10:13
9	10M87372.D	CAL BNA@0.5PPM	09/20/21 12:04				

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	Avg	0.9191	1.0877	0.8806	0.9796	0.8844	0.8891	0.9089	1.0130	0.8491	0.935	2.78	0.993	0.998	8.2		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Qua	1.9243	0.9166	1.4646	1.9322	1.8929	1.9664	1.9970	2.2087	----	1.79	3.25	0.994	0.998	23		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Avg	1.4129	1.1113	1.1794	1.4513	1.4209	1.4365	1.4601	1.6296	----	1.39	3.19	0.993	0.998	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.1960	1.9512	1.8943	2.2361	2.2132	2.2292	2.2661	2.4775	----	2.18	4.72	0.997	0.999	8.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	1.9506	1.8732	1.7109	2.0288	1.9278	1.9076	1.9524	2.0902	----	1.93	5.53	0.997	0.999	5.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Avg	3.4386	3.1433	3.1480	3.6312	3.4347	3.4393	3.5438	3.8081	3.4762	3.45	5.62	0.998	0.999	6.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	0.8007	0.7776	0.7387	0.8401	0.8005	0.7982	0.8138	0.8721	----	0.805	5.67	0.997	0.999	4.9	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	2.2879	2.4673	2.2294	2.5467	2.3473	2.2707	2.3365	2.4790	2.6192	2.40	5.68	0.998	0.999	5.6	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	2.6682	2.3348	2.3845	2.8502	2.7029	2.7025	2.6967	2.8989	----	2.65	5.59	0.997	0.999	7.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	3.2169	2.9459	2.8764	3.3481	3.1689	3.1647	3.2018	3.4097	----	3.17	5.60	0.998	0.999	5.7	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.4886	2.2207	2.2565	2.5864	2.4676	2.4801	2.5132	2.6684	----	2.46	5.72	0.998	0.999	6.2	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	2.8031	2.9321	2.6793	2.9571	2.7540	2.7539	2.7398	2.8794	----	2.81	5.76	0.999	0.999	3.5	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	2.7474	2.8423	2.6003	2.9119	2.7177	2.6890	2.6901	2.8503	----	2.76	5.85	0.998	0.999	3.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.4294	1.4029	1.3431	1.4770	1.4155	1.4020	1.3837	1.4496	----	1.41	5.92	0.999	0.999	2.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.3395	1.4052	1.2705	1.4004	1.3267	1.3187	1.3189	1.3639	----	1.34	6.04	0.999	1.00	3.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.8270	0.5813	0.6993	0.8398	0.8179	0.8100	0.8310	0.8708	----	0.785	6.01	0.999	0.999	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	1.9476	2.0511	1.8786	2.0732	1.9319	1.9269	1.9317	2.0112	----	1.97	6.12	0.999	1.00	3.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Avg	1.1536	1.0377	1.0511	1.2036	1.1403	1.1582	1.1611	1.2142	1.1191	1.14	6.10	0.999	1.00	5.3	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	1.6543	1.5996	1.5699	1.7780	1.6150	1.5266	1.4606	1.4693	----	1.58	6.23	0.998	0.999	6.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5027	0.4969	0.4814	0.5305	0.5053	0.5124	0.5063	0.5304	----	0.508	6.31	0.999	0.999	3.2	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	0.8352	0.7441	0.7419	0.8760	0.8120	0.7686	0.7327	0.7519	0.7660	0.781	6.23	0.998	0.999	6.3	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	1.1940	1.0842	1.0584	1.2711	1.1676	1.1028	1.0448	1.0487	1.0156	1.11	6.23	0.997	0.999	7.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1390	0.1135	0.1210	0.1437	0.1408	0.1432	0.1453	0.1543	----	0.138	6.35	0.998	0.999	9.8		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.2838	0.2699	0.2662	0.3053	0.2896	0.2886	0.2927	0.3046	----	0.288	6.37	0.999	1.00	5.0	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.5412	0.4810	0.4750	0.5645	0.5411	0.5439	0.5427	0.5696	----	0.532	6.55	0.999	0.999	6.6	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Avg	0.1662	0.1202	0.1404	0.1684	0.1687	0.1701	0.1730	0.1796	----	0.161	6.61	0.999	1.00	12	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Avg	0.2779	0.2456	0.2465	0.2871	0.2772	0.2776	0.2737	0.2863	0.2387	0.268	6.63	0.999	0.999	7.0	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	0.1608	----	0.0624	0.1345	0.1926	0.2037	0.2142	0.2170	----	0.169	6.70	0.998	0.999	33		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.3394	0.3298	0.3198	0.3559	0.3345	0.3368	0.3340	0.3483	----	0.337	6.71	0.999	1.00	3.3	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Qua	0.2432	0.1940	0.2154	0.2480	0.2452	0.2467	0.2451	0.2526	0.1645	0.228	6.79	1.00	1.00	13	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	0.2514	0.2558	0.2341	0.2642	0.2502	0.2492	0.2449	0.2565	----	0.251	6.86	0.999	0.999	3.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Avg	0.9304	0.9179	0.8741	0.9733	0.9131	0.9084	0.8906	0.9166	1.0663	0.932	6.92	1.00	1.00	6.1	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	0.3613	0.3307	0.3217	0.3739	0.3582	0.3532	0.3466	0.3533	0.3323	0.348	6.95	1.00	1.00	4.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.1176	0.1237	0.1105	0.1243	0.1180	0.1196	0.1159	0.1204	----	0.119	7.01	0.999	0.999	3.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Qua	0.0988	0.0532	0.0733	0.0996	0.1011	0.1015	0.1014	0.1163	----	0.0932	7.24	0.991	0.996	21	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	0.2490	0.2018	0.2213	0.2591	0.2484	0.2489	0.2513	0.2610	----	0.243	7.32	0.999	1.00	8.4	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.6279	0.6209	0.5965	0.6689	0.6240	0.6110	0.5904	0.6074	----	0.618	7.46	0.999	0.999	3.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.5994	0.5875	0.5627	0.6261	0.5924	0.5764	0.5673	0.5810	----	0.587	7.54	1.00	1.00	3.4	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (T	1	0	Avg	0.6127	0.6042	0.5785	0.6441	0.6033	0.5908	0.5763	0.5917	----	0.600	7.46	0.999	0.999	3.6		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	0.7157	0.6897	0.6747	0.7511	0.7053	0.6882	0.6688	0.6885	----	0.698	7.83	0.999	0.999	3.8	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	0.4664	0.4493	0.4391	0.4997	0.4700	0.4583	0.4486	0.4516	----	0.460	7.59	0.999	1.00	4.1	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: 8.165
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.

1092401 0178

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M87373.D	CAL BNA@50PPM	09/20/21 12:26	2	10M87366.D	CAL BNA@2PPM	09/20/21 09:51
3	10M87365.D	CAL BNA@10PPM	09/20/21 09:29	4	10M87371.D	CAL BNA@20PPM	09/20/21 11:42
5	10M87370.D	CAL BNA@80PPM	09/20/21 11:19	6	10M87369.D	CAL BNA@120PPM	09/20/21 10:57
7	10M87368.D	CAL BNA@160PPM	09/20/21 10:35	8	10M87367.D	CAL BNA@196PPM	09/20/21 10:13
9	10M87372.D	CAL BNA@0.5PPM	09/20/21 12:04				

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	0.1953	0.0824	0.1364	0.1862	0.2128	0.2196	0.2180	0.2278	----	0.185	7.58	0.998	0.999	27	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	0.3193	0.2305	0.2654	0.3350	0.3252	0.3340	0.3325	0.3360	----	0.310	7.68	1.00	1.00	13	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	0.3436	0.2395	0.3009	0.3565	0.3513	0.3538	0.3549	0.3653	----	0.333	7.71	0.999	1.00	13	0.20		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.2522	1.2649	1.1763	1.3484	1.2507	1.2623	1.2671	1.3153	----	1.27	7.75	0.999	1.00	4.0			25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1111	1.0882	1.0425	1.1797	1.1099	1.1089	1.0810	1.1100	----	1.10	7.86	1.00	1.00	3.5	0.80		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	0.9157	0.8972	0.8440	0.9707	0.9021	0.8432	0.7992	0.7715	----	0.868	8.14	0.995	1.00	7.6			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	0.9157	0.8972	0.8440	0.9707	0.9021	0.8432	0.7992	0.7715	----	0.868	8.14	0.995	1.00	7.6			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.7923	0.7759	0.7449	0.8462	0.7787	0.7758	0.7613	0.7774	----	0.782	7.92	1.00	1.00	3.8			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3773	0.2818	0.3232	0.3909	0.3728	0.3686	0.3698	0.3861	----	0.359	7.93	0.999	0.999	10	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.4464	0.3669	0.4100	0.4740	0.4486	0.4367	0.4153	0.4039	----	0.425	8.12	0.997	1.00	7.8			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.7304	1.5398	1.6119	1.8350	1.7299	1.7163	1.6826	1.7214	----	1.70	8.22	1.00	1.00	5.2	0.90		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.2093	1.1292	1.1230	1.2846	1.2031	1.1990	1.2028	1.2366	----	1.20	8.08	0.999	1.00	4.4	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.2860	0.2184	0.2528	0.3038	0.2825	0.2695	0.2527	0.2486	----	0.264	8.14	0.996	1.00	10	0.20		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1171	1.1225	1.0783	1.1969	1.1285	1.1090	1.0755	1.0913	----	1.11	8.37	1.00	1.00	3.5	0.90		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Avg	0.3461	0.2553	0.2983	0.3598	0.3457	0.3431	0.3488	0.3586	----	0.332	8.29	0.999	1.00	11	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1285	----	0.0671	0.1049	0.1497	0.1614	0.1715	0.1802	----	0.138	8.38	0.996	1.00	29	0.20	a	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Avg	1.5735	1.6040	1.4999	1.6823	1.5687	1.5598	1.5287	1.5449	1.8105	1.60	8.52	1.00	1.00	6.0	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	0.3725	0.2497	0.3250	0.3837	0.3839	0.3835	0.3914	0.4107	----	0.363	8.49	0.998	1.00	14	0.20		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Qua	0.2047	0.1230	0.1514	0.1976	0.2129	0.2163	0.2345	0.2305	----	0.196	8.42	0.998	0.999	20	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	0.2595	0.1797	0.2188	0.2713	0.2636	0.2719	0.2724	0.2760	----	0.252	8.63	0.999	1.00	14	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.2762	1.2107	1.2139	1.3699	1.2841	1.2608	1.2177	1.2366	----	1.26	8.84	0.999	1.00	4.2	0.90		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.5381	0.5335	0.5156	0.5813	0.5445	0.5433	0.5356	0.5440	----	0.542	8.83	1.00	1.00	3.4	0.40		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.1986	1.0800	1.0924	1.2728	1.2046	1.2077	1.1959	1.2267	----	1.18	8.70	1.00	1.00	5.5	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Qua	0.3667	0.2361	0.2990	0.3765	0.3729	0.3780	0.3815	0.4001	----	0.351	8.85	0.999	1.00	16	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.3187	0.2376	0.2777	0.3329	0.3220	0.3257	0.3246	0.3320	----	0.309	9.47	1.00	1.00	11	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	0.1045	----	0.0688	0.0980	0.1145	0.1208	0.1251	0.1328	----	0.109	8.88	0.997	1.00	20	0.01		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.6199	0.5517	0.5732	0.6584	0.6146	0.6173	0.6042	0.6211	----	0.608	8.94	1.00	1.00	5.3	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	0.0770	0.0466	0.0589	0.0755	0.0768	0.0803	0.0815	0.0876	----	0.0731	9.08	0.997	0.999	18			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.6920	0.6063	0.6242	0.7272	0.6794	0.7507	0.7403	0.7674	----	0.698	8.99	0.998	0.999	8.5			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.1631	0.1461	0.1421	0.1692	0.1619	0.1632	0.1611	0.1685	----	0.159	9.32	0.999	0.999	6.2	0.10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.1686	0.1627	0.1520	0.1765	0.1671	0.1691	0.1697	0.1745	----	0.168	9.39	0.998	0.998	4.5	0.10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.5054	0.4197	0.4444	0.5260	0.5024	0.4939	0.4763	0.4799	----	0.481	9.64	0.999	1.00	7.2	0.05		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.0966	----	0.0568	0.0826	0.1025	0.1078	0.1125	0.1177	----	0.0967	9.59	0.998	1.00	22	0.05		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	1.0112	1.0113	0.9477	1.0850	0.9856	0.9869	0.9607	0.9900	----	0.997	9.83	0.999	0.999	4.2	0.70		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	1.0467	0.9523	0.9371	1.0994	1.0234	1.0250	0.9967	1.0312	----	1.01	9.88	0.999	0.999	5.1	0.70		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	0.9929	0.8833	0.8994	1.0527	0.9791	0.9766	0.9667	0.9997	----	0.969	10.05	0.999	1.00	5.6	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Qua	1.1647	0.8945	0.9677	1.2077	1.1706	1.1623	1.1653	1.1918	0.9402	1.10	10.42	1.00	1.00	11	0.01		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.0114	0.9021	0.9109	1.0582	0.9899	0.9932	0.9715	1.0008	----	0.980	11.15	1.00	1.00	5.3	0.60		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.3665	1.2536	1.2617	1.4206	1.3462	1.3286	1.3486	1.3909	----	1.34	11.42	0.999	1.00	4.3	0.60		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Avg	0.8680	0.5346	0.6937	0.8698	0.8720	0.8551	0.8645	0.8973	----	0.807	11.31	0.999	0.999	16			50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6167	0.5294	0.5525	0.6505	0.6336	0.6377	0.6565	0.7079	----	0.623	11.60	0.997	0.999	9.2			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: 8.165
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.

1092401 0179

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_10

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	10M87373.D	CAL BNA@50PPM	09/20/21 12:26	2	10M87366.D	CAL BNA@2PPM	09/20/21 09:51
3	10M87365.D	CAL BNA@10PPM	09/20/21 09:29	4	10M87371.D	CAL BNA@20PPM	09/20/21 11:42
5	10M87370.D	CAL BNA@80PPM	09/20/21 11:19	6	10M87369.D	CAL BNA@120PPM	09/20/21 10:57
7	10M87368.D	CAL BNA@160PPM	09/20/21 10:35	8	10M87367.D	CAL BNA@196PPM	09/20/21 10:13
9	10M87372.D	CAL BNA@0.5PPM	09/20/21 12:04				

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	0.2653	0.2443	0.2393	0.2739	0.2626	0.2637	0.2676	0.2783	----	0.262	11.53	0.999	1.00	5.2		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4671	0.3718	0.4055	0.4825	0.4699	0.4627	0.4651	0.4824	----	0.451	11.93	0.999	1.00	8.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Qua	0.6535	0.4364	0.5218	0.6566	0.6594	0.6576	0.6734	0.7049	----	0.621	12.18	0.998	1.00	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.4056	0.3252	0.3593	0.4087	0.4040	0.3992	0.4015	0.4053	----	0.389	12.29	1.00	1.00	7.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Qua	0.4314	0.3143	0.3661	0.4471	0.4408	0.4438	0.4280	0.4430	----	0.414	12.81	0.999	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1246	1.0976	1.0428	1.1531	1.1036	1.1209	1.1351	1.1802	----	1.12	12.84	0.999	1.00	3.6	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.1295	1.0935	1.0476	1.1862	1.1086	1.1011	1.1282	1.1816	----	1.12	12.88	0.998	0.999	4.1	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	0.9167	0.6458	0.7524	0.9283	0.9221	0.9201	0.9345	0.9696	----	0.874	12.86	0.999	1.00	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Qua	1.4461	0.9507	1.1690	1.4603	1.4832	1.4834	1.4609	1.5213	----	1.37	13.61	0.999	0.999	15	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	1.0310	0.9147	0.9196	1.0425	0.9989	1.0236	0.9672	1.0764	----	0.997	14.05	0.998	0.998	5.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	0.9712	0.9013	0.9240	1.0707	1.0113	0.9683	0.9953	1.0133	----	0.982	14.07	0.999	1.00	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	0.9449	0.7857	0.8295	0.9651	0.9452	0.9445	0.9328	0.9978	----	0.918	14.41	0.998	0.999	7.8	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	1.0382	0.9015	0.9115	1.0684	1.0581	1.0498	1.0287	1.1152	----	1.02	15.82	0.999	0.999	7.4	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	0.8925	0.7623	0.7825	0.9097	0.9140	0.9001	0.8867	0.9564	----	0.876	15.84	0.998	0.998	7.7	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	0.8770	0.7604	0.7903	0.9012	0.8770	0.8886	0.8744	0.9484	----	0.865	16.21	0.997	0.998	7.0	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: 8.165
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.

1092401 0180

Form 6
Initial Calibration

Method: EPA 8270E

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M116599.D	CAL BNA@50PPM	09/20/21 12:43	2	7M116591.D	CAL BNA@2PPM	09/20/21 09:33
3	7M116592.D	CAL BNA@10PPM	09/20/21 09:56	4	7M116597.D	CAL BNA@20PPM	09/20/21 11:55
5	7M116596.D	CAL BNA@80PPM	09/20/21 11:32	6	7M116595.D	CAL BNA@120PPM	09/20/21 11:08
7	7M116594.D	CAL BNA@160PPM	09/20/21 10:45	8	7M116593.D	CAL BNA@196PPM	09/20/21 10:19
9	7M116598.D	CAL BNA@0.5PPM	09/20/21 12:19				

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	Avg	0.8933	0.9717	0.8868	0.9329	0.8611	0.8703	0.8849	0.9371	1.0761	0.924	2.76	0.998	0.999	7.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Avg	1.8138	1.9045	1.7076	2.0134	1.8776	1.8718	1.9100	1.9411	----	1.88	3.24	0.999	1.00	4.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Avg	1.4234	1.4599	1.3012	1.4682	1.4332	1.4027	1.4210	1.4867	----	1.42	3.19	0.999	0.999	4.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.0710	2.1949	1.9602	2.2690	2.1210	2.0909	2.1040	2.1195	----	2.12	4.74	0.998	0.998	4.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	1.8082	2.0741	1.7975	2.0551	1.8203	1.7456	1.7334	1.7103	----	1.84	5.55	0.999	0.999	7.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Qua	2.9357	3.4486	2.9959	3.4420	2.9964	2.8630	2.8143	2.7949	4.1913	3.16	5.64	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	0.7095	0.8098	0.7171	0.7975	0.7027	0.6817	0.6722	0.6670	----	0.720	5.68	0.999	1.00	7.6	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	1.9851	2.4107	2.0313	2.3498	1.9618	1.8976	1.8236	1.7815	2.8216	2.12	5.70	0.998	1.00	16	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	2.3515	2.6534	2.3384	2.6846	2.3864	2.3056	2.2778	2.2511	----	2.41	5.61	0.999	1.00	7.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	2.7430	3.2305	2.7878	3.1786	2.7672	2.6340	2.5387	2.4603	----	2.79	5.62	0.997	1.00	10	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.1230	2.4578	2.1101	2.4597	2.1679	2.1050	2.0851	2.0723	----	2.20	5.74	0.999	0.999	7.4	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Qua	1.7826	2.3126	1.9483	2.1237	1.6893	1.6091	1.5304	1.4751	----	1.81	5.78	0.996	1.00	16	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	2.2346	2.6296	2.2645	2.6254	2.2683	2.1632	2.1385	2.1014	----	2.30	5.87	0.999	1.00	9.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.3678	1.4788	1.3053	1.4415	1.3112	1.2577	1.2303	1.2637	----	1.33	5.94	0.999	0.999	6.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.3089	1.3867	1.2853	1.4182	1.2470	1.2116	1.1657	1.1916	----	1.28	6.06	0.999	0.999	7.1		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.7917	0.5888	0.6663	0.8099	0.7834	0.7502	0.7412	0.7754	----	0.738	6.04	0.999	0.999	10		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-chloroisopropyl)e	1	0	Avg	1.3148	1.5158	1.3549	1.4567	1.2089	1.1365	1.0892	1.0948	----	1.27	6.14	0.997	0.999	13	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Avg	1.1667	1.2783	1.1413	1.2512	1.1183	1.0708	1.0427	1.0802	1.5094	1.18	6.12	0.999	0.999	12	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	1.5671	1.9025	1.6723	1.8052	1.4028	1.2839	1.1999	1.2008	----	1.50	6.25	0.993	0.998	18	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5322	0.5475	0.5041	0.5596	0.5037	0.4877	0.4834	0.4985	----	0.515	6.34	0.999	0.999	5.5	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	0.7569	0.9165	0.8167	0.8720	0.6785	0.6321	0.6080	0.6339	1.0228	0.771	6.25	0.992	0.997	19	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	1.0994	1.3011	1.1098	1.2173	0.9818	0.8994	0.8373	0.8349	1.3857	1.07	6.25	0.988	0.998	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1540	0.1477	0.1358	0.1594	0.1505	0.1470	0.1483	0.1531	----	0.150	6.38	0.999	0.999	4.6		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.3073	0.3438	0.3024	0.3301	0.2904	0.2736	0.2693	0.2758	----	0.299	6.39	0.999	0.999	9.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.5727	0.6105	0.5652	0.6236	0.5418	0.5183	0.5177	0.5459	----	0.562	6.58	0.998	0.998	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	0.1851	0.1656	0.1661	0.1929	0.1809	0.1739	0.1711	0.1754	----	0.176	6.64	0.999	0.999	5.4	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dimethylphenol	1	0	Avg	0.2878	0.2964	0.2800	0.3169	0.2749	0.2597	0.2552	0.2604	0.3208	0.284	6.66	0.999	0.999	8.5	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	0.1972	----	0.0358	0.1670	0.2219	0.2291	0.2306	0.2173	----	0.186	6.74	0.998	0.999	38		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.3552	0.3986	0.3504	0.3887	0.3265	0.3107	0.3035	0.3081	----	0.343	6.74	0.998	0.999	11	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Avg	0.2540	0.2318	0.2288	0.2651	0.2444	0.2361	0.2311	0.2363	0.2334	0.240	6.83	0.999	0.999	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	0.2695	0.2870	0.2536	0.2919	0.2581	0.2503	0.2415	0.2426	----	0.262	6.89	0.999	1.00	7.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Avg	0.8957	0.9871	0.8840	0.9831	0.8342	0.7603	0.7312	0.7450	1.1934	0.890	6.96	0.996	0.998	17	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	0.3710	0.3637	0.3504	0.3976	0.3582	0.3333	0.3212	0.3185	0.6226	0.382	6.99	0.996	0.999	25	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.1425	0.1443	0.1338	0.1525	0.1398	0.1355	0.1330	0.1352	----	0.140	7.04	0.999	1.00	4.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Avg	0.1098	0.0990	0.0954	0.1139	0.1096	0.1074	0.1146	0.1193	----	0.109	7.29	0.997	0.999	7.4	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	0.2722	0.2707	0.2545	0.2889	0.2641	0.2533	0.2484	0.2546	----	0.263	7.36	0.999	0.999	5.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.6302	0.6885	0.6131	0.6774	0.5886	0.5479	0.5252	0.5182	----	0.599	7.51	0.996	0.999	11	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.5842	0.6596	0.5840	0.6378	0.5499	0.5177	0.4898	0.4849	----	0.564	7.59	0.996	0.999	12	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (T	1	0	Avg	0.6070	0.6669	0.5937	0.6601	0.5694	0.5336	0.5075	0.5018	----	0.580	7.51	0.996	0.999	11		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	0.7245	0.7690	0.6998	0.7822	0.6818	0.6409	0.6092	0.5995	----	0.688	7.89	0.996	0.999	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	0.5260	0.5278	0.5073	0.5639	0.5060	0.4821	0.4693	0.4744	----	0.507	7.64	0.999	0.999	6.3	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: 9.892
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.

1092401 0181

Method: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M116599.D	CAL BNA@50PPM	09/20/21 12:43	2	7M116591.D	CAL BNA@2PPM	09/20/21 09:33
3	7M116592.D	CAL BNA@10PPM	09/20/21 09:56	4	7M116597.D	CAL BNA@20PPM	09/20/21 11:55
5	7M116596.D	CAL BNA@80PPM	09/20/21 11:32	6	7M116595.D	CAL BNA@120PPM	09/20/21 11:08
7	7M116594.D	CAL BNA@160PPM	09/20/21 10:45	8	7M116593.D	CAL BNA@196PPM	09/20/21 10:19
9	7M116598.D	CAL BNA@0.5PPM	09/20/21 12:19				

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	0.1948	0.0466	0.1015	0.1610	0.2142	0.2179	0.2282	0.2406	----	0.176	7.62	0.994	0.999	39	0.05 a	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Trichlorophenol	1	0	Avg	0.3607	0.3152	0.3252	0.3730	0.3565	0.3427	0.3438	0.3460	----	0.345	7.73	1.00	1.00	5.4	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,5-Trichlorophenol	1	0	Avg	0.3833	0.3709	0.3412	0.4081	0.3821	0.3764	0.3736	0.3932	----	0.379	7.77	0.999	0.999	5.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.3044	1.3536	1.2296	1.3993	1.2452	1.2089	1.1949	1.2340	----	1.27	7.80	0.999	0.999	5.8		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1111	1.2086	1.1125	1.2343	1.0401	0.9964	0.9541	0.9589	----	1.08	7.91	0.998	0.999	10	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	0.8477	0.9889	0.8909	0.9749	0.7547	0.6878	0.6282	0.6167	----	0.799	8.20	0.989	0.998	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	0.8477	0.9889	0.8909	0.9749	0.7547	0.6878	0.6282	0.6167	----	0.799	8.20	0.984	0.998	19		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.7865	0.8287	0.7730	0.8502	0.7527	0.7137	0.6905	0.7009	----	0.762	7.98	0.999	0.999	7.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3678	0.3905	0.3706	0.4070	0.3488	0.3319	0.3278	0.3371	----	0.360	7.99	0.999	0.999	8.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.4425	0.4799	0.4448	0.4985	0.3952	0.3616	0.3220	0.3118	----	0.407	8.19	0.985	0.998	17		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.6814	1.7891	1.6991	1.8670	1.5617	1.4745	1.4025	1.3993	----	1.61	8.28	0.994	0.999	11	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.2713	1.3429	1.2596	1.3997	1.2071	1.1596	1.1314	1.1643	----	1.24	8.14	0.999	0.999	7.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.2828	0.2944	0.2893	0.3240	0.2599	0.2434	0.2291	0.2358	----	0.270	8.20	0.996	0.998	12	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1039	1.1952	1.1016	1.2037	1.0288	0.9677	0.9261	0.9353	----	1.06	8.43	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	Avg	0.3616	0.3520	0.3555	0.3947	0.3470	0.3347	0.3272	0.3367	----	0.351	8.36	0.999	0.999	6.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1509	----	0.0498	0.1184	0.1729	0.1746	0.1800	0.1912	----	0.148	8.45	0.998	0.999	33	0.20 a	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Avg	1.5652	1.7288	1.5758	1.7284	1.4659	1.3856	1.3160	1.3084	2.0551	1.57	8.59	0.997	0.999	15	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	0.4276	0.3567	0.3740	0.4475	0.4137	0.4054	0.3949	0.4031	----	0.403	8.57	0.999	0.999	7.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Avg	0.2087	0.1557	0.2012	0.1964	0.2138	0.2090	0.2126	0.2228	----	0.203	8.49	0.999	1.00	10	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	0.3332	0.2608	0.2963	0.3428	0.3403	0.3262	0.3305	0.3373	----	0.321	8.70	1.00	1.00	8.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.2737	1.3586	1.2835	1.4067	1.1821	1.1066	1.0496	1.0389	----	1.21	8.93	0.996	0.999	12	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.6091	0.5979	0.5667	0.6572	0.5838	0.5528	0.5334	0.5351	----	0.580	8.91	0.998	0.999	7.2	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.2834	1.3171	1.2489	1.4064	1.2258	1.1604	1.1161	1.1290	----	1.24	8.79	0.998	0.999	8.1	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Avg	0.3771	0.3661	0.3703	0.4182	0.3680	0.3568	0.3568	0.3682	----	0.373	8.94	0.999	0.999	5.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.3773	0.3303	0.3440	0.3992	0.3680	0.3566	0.3529	0.3658	----	0.362	9.57	0.999	0.999	5.8	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	0.1178	0.0319	0.0717	0.1145	0.1251	0.1212	0.1235	0.1275	----	0.104	8.96	0.999	0.999	33	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.5814	0.6278	0.5893	0.6539	0.5546	0.5222	0.5046	0.5085	----	0.568	9.03	0.996	0.999	9.7	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	0.1035	0.0742	0.0842	0.1037	0.1081	0.1068	0.1092	0.1135	----	0.100	9.16	0.999	1.00	14		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.6781	0.7844	0.7387	0.7108	0.6294	0.5911	0.5662	0.5715	----	0.659	9.07	0.996	0.999	12		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2015	0.1938	0.1813	0.2133	0.2019	0.1943	0.1925	0.1977	----	0.197	9.41	0.999	0.999	4.7	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2197	0.2129	0.2038	0.2319	0.2229	0.2149	0.2143	0.2160	----	0.217	9.48	0.998	0.999	3.8	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.3558	0.4046	0.3914	0.4204	0.3221	0.2931	0.2737	0.2728	----	0.342	9.74	0.993	0.998	17	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Qua	0.1274	0.0506	0.0804	0.1152	0.1394	0.1359	0.1397	0.1446	----	0.117	9.68	0.997	0.999	29	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	0.9393	1.0378	0.9630	1.0624	0.8964	0.8442	0.8150	0.8109	----	0.921	9.93	0.996	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	0.9765	1.0475	1.0014	1.1087	0.9229	0.8648	0.8368	0.8317	----	0.949	9.98	0.998	0.999	11	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	0.9251	0.9834	0.9432	1.0445	0.8885	0.8408	0.8079	0.8093	----	0.905	10.16	0.998	0.999	9.4	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Avg	1.1456	1.1419	1.1467	1.2795	1.0751	1.0068	0.9579	0.9529	1.3160	1.11	10.53	0.994	0.999	12	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.0484	1.0480	1.0372	1.1648	1.0076	0.9400	0.9032	0.9050	----	1.01	11.27	0.998	0.999	8.8	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.2037	1.2091	1.1509	1.2989	1.1442	1.1024	1.0968	1.1472	----	1.17	11.54	0.999	0.999	5.7	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Avg	0.7957	0.6392	0.7035	0.8479	0.7764	0.7385	0.7215	0.7451	----	0.746	11.43	0.999	0.999	8.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6739	0.5606	0.5762	0.6849	0.6788	0.6782	0.6889	0.7638	----	0.663	11.72	0.994	0.998	9.9		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: 9.892
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: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_7

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	7M116599.D	CAL BNA@50PPM	09/20/21 12:43	2	7M116591.D	CAL BNA@2PPM	09/20/21 09:33
3	7M116592.D	CAL BNA@10PPM	09/20/21 09:56	4	7M116597.D	CAL BNA@20PPM	09/20/21 11:55
5	7M116596.D	CAL BNA@80PPM	09/20/21 11:32	6	7M116595.D	CAL BNA@120PPM	09/20/21 11:08
7	7M116594.D	CAL BNA@160PPM	09/20/21 10:45	8	7M116593.D	CAL BNA@196PPM	09/20/21 10:19
9	7M116598.D	CAL BNA@0.5PPM	09/20/21 12:19				

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	0.2817	0.2614	0.2514	0.2959	0.2790	0.2790	0.2811	0.2963	----	0.278	11.65	0.998	0.999	5.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.5015	0.4457	0.4347	0.5266	0.4875	0.4734	0.4713	0.4926	----	0.479	12.06	0.999	0.999	6.2		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Avg	0.5863	0.5091	0.5284	0.6204	0.5727	0.5527	0.5501	0.5811	----	0.563	12.31	0.998	0.999	6.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.4131	0.3507	0.3757	0.4319	0.4014	0.3854	0.3820	0.3957	----	0.392	12.42	0.999	0.999	6.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Avg	0.4912	0.4035	0.4183	0.5115	0.4928	0.4733	0.4641	0.4793	----	0.467	12.95	0.999	0.999	8.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.1273	1.1366	1.0585	1.2215	1.1039	1.0691	1.0643	1.1124	----	1.11	12.98	0.999	0.999	4.8	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.0534	1.1060	1.0800	1.1930	1.0456	1.0093	0.9980	1.0406	----	1.07	13.02	0.999	0.999	5.8	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	0.7624	0.7402	0.7373	0.8434	0.7215	0.7017	0.6824	0.7110	----	0.738	13.00	0.999	0.999	6.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Avg	1.1844	1.0330	1.0943	1.2638	1.0999	1.0500	1.0037	1.0211	----	1.09	13.77	0.996	0.999	8.2	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	0.9850	0.8720	0.9289	1.0780	0.9467	0.9653	0.9290	0.9985	----	0.963	14.22	0.999	0.999	6.3	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	1.0059	0.9535	0.9747	1.0674	0.9496	0.8718	0.8774	0.8880	----	0.949	14.25	0.998	0.998	7.2	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	0.9577	0.8554	0.9190	1.0401	0.9216	0.9020	0.8922	0.9271	----	0.927	14.60	0.999	0.999	5.9	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	1.0513	0.9260	0.9423	1.0867	1.0435	1.0191	1.0113	1.0869	----	1.02	16.12	0.999	0.999	5.9	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	0.8876	0.7680	0.8025	0.9207	0.8736	0.8535	0.8336	0.8841	----	0.853	16.15	0.998	0.999	5.8	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	0.8821	0.7879	0.7814	0.8860	0.8671	0.8644	0.8449	0.9117	----	0.853	16.54	0.998	0.998	5.5	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: 9.892
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: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_9

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M108554.D	CAL BNA@50PPM	09/29/21 12:05	2	9M108549.D	CAL BNA@2PPM	09/29/21 10:10
3	9M108548.D	CAL BNA@10PPM	09/29/21 09:47	4	9M108555.D	CAL BNA@20PPM	09/29/21 12:28
5	9M108553.D	CAL BNA@80PPM	09/29/21 11:42	6	9M108552.D	CAL BNA@120PPM	09/29/21 11:19
7	9M108551.D	CAL BNA@160PPM	09/29/21 10:56	8	9M108550.D	CAL BNA@196PPM	09/29/21 10:33
9	9M108556.D	CAL BNA@0.5PPM	09/29/21 12:51				

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	Avg	0.8843	1.1256	0.8803	0.9284	0.8656	0.8611	0.8715	0.9448	0.8426	0.912	2.84	0.998	0.999	9.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pyridine	1	0	Avg	1.7898	1.9884	1.5420	1.8437	1.8402	1.8526	1.8954	2.0297	----	1.85	3.30	0.997	0.999	8.0		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Nitrosodimethylamin	1	0	Avg	1.3623	1.4162	1.2534	1.4141	1.362[illegible]	1.3810	1.3883	1.4958	----	1.38	3.25	0.998	0.999	4.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorophenol	1	0	Avg	2.2217	2.3103	2.0660	2.3141	2.2473	2.2669	2.2913	2.4559	----	2.27	4.78	0.997	0.999	4.8		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzaldehyde	1	0	Avg	1.8828	2.1392	1.8627	2.0198	1.8490	1.7492	1.6133	1.5197	----	1.83	5.60	0.991	1.00	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Aniline	1	0	Avg	3.3095	3.5708	3.1537	3.5625	3.2847	3.2724	3.2178	3.3845	3.6660	3.38	5.69	0.999	0.999	5.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Pentachloroethane	1	0	Avg	0.7852	0.8042	0.7383	0.8251	0.7833	0.8027	0.7890	0.8394	----	0.796	5.74	0.998	0.999	3.8	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	2.2068	2.3821	2.2261	2.4660	2.2302	2.2174	2.1748	2.3322	2.6558	2.32	5.75	0.998	0.999	6.8	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	2.6885	2.7564	2.5116	2.8336	2.6775	2.6943	2.7155	2.8464	----	2.72	5.64	0.999	1.00	3.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Phenol	1	0	Avg	3.1850	3.1416	2.9769	3.3654	3.1628	3.1616	3.1338	3.3114	----	3.18	5.65	0.999	0.999	3.7	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Chlorophenol	1	0	Avg	2.5145	2.6854	2.4320	2.6681	2.5172	2.5002	2.4879	2.6315	----	2.55	5.79	0.998	0.999	3.7	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Decane	1	0	Avg	2.0673	2.4131	2.0258	2.2162	2.0660	2.0132	2.0023	2.0911	----	2.11	5.82	0.999	0.999	6.6	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,3-Dichlorobenzene	1	0	Avg	2.6834	2.9482	2.5370	2.8580	2.6614	2.6651	2.6560	2.8153	----	2.73	5.92	0.998	0.999	4.9		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dichlorobenzene	1	0	Avg	1.3947	1.4259	1.2651	1.4293	1.3776	1.3581	1.3662	1.4623	----	1.38	5.98	0.997	0.999	4.3		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Dichlorobenzene	1	0	Avg	1.3150	1.3711	1.2054	1.3520	1.3010	1.2767	1.2841	1.3819	----	1.31	6.11	0.997	0.999	4.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzyl alcohol	1	0	Avg	0.7904	0.7904	0.7378	0.8154	0.7986	0.7845	0.7924	0.8520	----	0.795	6.08	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	1.3425	1.3725	1.2468	1.3620	1.3048	1.2799	1.2889	1.3646	----	1.32	6.19	0.998	0.999	3.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylphenol	1	0	Avg	1.1100	1.1096	1.0116	1.1511	1.0967	1.0799	1.0922	1.1646	1.2386	1.12	6.17	0.998	0.999	5.6	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Acetophenone	1	0	Avg	1.6790	1.7201	1.5717	1.7358	1.6183	1.5639	1.5205	1.5729	----	1.62	6.30	0.999	0.999	4.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachloroethane	1	0	Avg	0.5060	0.4805	0.4436	0.5139	0.4973	0.4970	0.5046	0.5375	----	0.498	6.38	0.999	0.999	5.5	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	0.7723	0.8084	0.7317	0.7949	0.7525	0.7274	0.7172	0.7546	0.8560	0.768	6.29	0.999	0.999	5.8	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	1.1544	1.1537	1.0699	1.1871	1.1288	1.0944	1.0753	1.1134	1.2192	1.13	6.28	0.999	0.999	4.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Nitrobenzene-d5	1	0	Avg	0.1388	0.1221	0.1218	0.1423	0.1394	0.1392	0.1425	0.1518	----	0.137	6.42	0.997	0.999	7.5		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
Nitrobenzene	1	0	Avg	0.2804	0.2604	0.2560	0.2931	0.2804	0.2793	0.2858	0.2992	----	0.279	6.44	0.998	1.00	5.3	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Isophorone	1	0	Avg	0.5349	0.5199	0.4936	0.5577	0.5315	0.5266	0.5314	0.5567	----	0.532	6.62	0.999	0.999	3.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitrophenol	1	0	Avg	0.1627	0.1333	0.1364	0.1602	0.1643	0.1664	0.1715	0.1805	----	0.159	6.68	0.998	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	Avg	0.2757	0.2594	0.2584	0.2869	0.2745	0.2687	0.2748	0.2907	0.2887	0.275	6.70	0.998	0.999	4.3	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	0.1544	----	0.0517	0.1165	0.1879	0.2076	0.2246	0.2349	----	0.168	6.75	0.995	1.00	39		50.00		10.00	20.00	80.00	120.0	160.0	196.0	
bis(2-Chloroethoxy)me	1	0	Avg	0.3339	0.3276	0.3116	0.3502	0.3265	0.3236	0.3255	0.3411	----	0.330	6.78	0.999	0.999	3.5	0.30	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dichlorophenol	1	0	Avg	0.2511	0.2217	0.2210	0.2554	0.2497	0.2525	0.2541	0.2685	0.2503	0.247	6.86	0.998	0.999	6.3	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	0.2777	0.2636	0.2551	0.2866	0.2775	0.2764	0.2789	0.2950	----	0.276	6.93	0.998	0.999	4.5		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Naphthalene	1	0	Avg	0.9245	0.9036	0.8807	0.9753	0.9029	0.8904	0.8866	0.9112	1.0989	0.931	7.00	1.00	1.00	7.4	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	0.3576	0.3549	0.4522	0.3841	0.3510	0.3402	0.3266	0.3364	0.3803	0.365	7.03	0.999	0.999	10	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Hexachlorobutadiene	1	0	Avg	0.1587	0.1510	0.1470	0.1638	0.1571	0.1588	0.1637	0.1728	----	0.159	7.08	0.997	1.00	5.0	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Caprolactam	1	0	Avg	0.0972	0.0758	0.0808	0.1002	0.0985	0.0996	0.1002	0.1041	----	0.0946	7.30	0.999	1.00	11	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	0.2453	0.2155	0.2207	0.2502	0.2463	0.2446	0.2490	0.2638	----	0.242	7.39	0.998	0.999	6.6	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Methylnaphthalene	1	0	Avg	0.6264	0.6126	0.5886	0.6456	0.6113	0.6022	0.6047	0.6276	----	0.615	7.54	0.999	0.999	2.9	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1-Methylnaphthalene	1	0	Avg	0.5804	0.5688	0.5551	0.6184	0.5725	0.5639	0.5591	0.5880	----	0.576	7.62	0.999	0.999	3.5	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Methylnaphthalenes (T	1	0	Avg	0.6034	0.5907	0.5697	0.6285	0.5896	0.5831	0.5814	0.6050	----	0.594	7.54	0.999	0.999	3.1		100.0	4.00	20.00	40.00	160.0	240.0	320.0	392.0	
1,1'-Biphenyl	1	0	Avg	0.7228	0.7162	0.6700	0.7553	0.7056	0.6966	0.6903	0.7185	----	0.709	7.91	0.999	0.999	3.6	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	0.5942	0.5800	0.5396	0.6064	0.5908	0.5971	0.5993	0.6341	----	0.593	7.67	0.998	0.999	4.5	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: 7.19
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: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_9

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M108554.D	CAL BNA@50PPM	09/29/21 12:05	2	9M108549.D	CAL BNA@2PPM	09/29/21 10:10
3	9M108548.D	CAL BNA@10PPM	09/29/21 09:47	4	9M108555.D	CAL BNA@20PPM	09/29/21 12:28
5	9M108553.D	CAL BNA@80PPM	09/29/21 11:42	6	9M108552.D	CAL BNA@120PPM	09/29/21 11:19
7	9M108551.D	CAL BNA@160PPM	09/29/21 10:56	8	9M108550.D	CAL BNA@196PPM	09/29/21 10:33
9	9M108556.D	CAL BNA@0.5PPM	09/29/21 12:51				

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	Avg	0.2899	0.2033	0.2312	0.2799	0.3056	0.3096	0.3021	0.3100	----	0.279	7.65	1.00	1.00	14	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	0.3679	0.3035	0.3298	0.3772	0.3730	0.3715	0.3743	0.4361	----	0.367	7.75	0.988	0.995	11	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	0.3624	0.3239	0.3260	0.3881	0.3869	0.3909	0.3968	0.4183	----	0.374	7.79	0.998	1.00	9.1	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Fluorobiphenyl	1	0	Avg	1.2852	1.2821	1.1746	1.3561	1.2922	1.2922	1.2939	1.3845	----	1.30	7.82	0.999	0.999	4.8		25.00	1.00	5.00	10.00	40.00	60.00	80.00	98.00	
2-Chloronaphthalene	1	0	Avg	1.1127	1.0630	1.0238	1.1825	1.1072	1.1034	1.0885	1.1408	----	1.10	7.94	0.999	0.999	4.3	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,4-Dimethylnaphthale	1	0	Avg	0.9083	0.8689	0.8272	0.9493	0.8855	0.8639	0.8409	0.8642	----	0.876	8.22	0.999	0.999	4.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylnaphthalenes	1	0	Avg	0.9083	0.8689	0.8272	0.9493	0.8855	0.8639	0.8409	0.8642	----	0.876	8.22	0.999	0.999	4.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diphenyl Ether	1	0	Avg	0.8035	0.7900	0.7521	0.8378	0.7997	0.7963	0.7955	0.8356	----	0.801	8.00	0.999	0.999	3.4		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2-Nitroaniline	1	0	Avg	0.3369	0.2777	0.2936	0.3423	0.3372	0.3429	0.3397	0.3593	----	0.329	8.02	0.998	0.999	8.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Coumarin	1	0	Avg	0.4379	0.4137	0.4070	0.4578	0.4348	0.4327	0.4285	0.4430	----	0.432	8.21	0.999	1.00	3.7		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthylene	1	0	Avg	1.6616	1.5516	1.5350	1.7556	1.6357	1.6355	1.6142	1.6834	----	1.63	8.31	0.999	0.999	4.3	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Dimethylphthalate	1	0	Avg	1.2370	1.2088	1.1402	1.2891	1.2242	1.2142	1.2104	1.2702	----	1.22	8.16	0.999	0.999	3.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,6-Dinitrotoluene	1	0	Avg	0.2904	0.2167	0.2496	0.2951	0.2864	0.2847	0.2790	0.2833	----	0.273	8.22	1.00	1.00	9.7	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Acenaphthene	1	0	Avg	1.1199	1.1371	1.0343	1.1900	1.0982	1.0945	1.0749	1.1229	----	1.11	8.46	0.999	0.999	4.1	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3-Nitroaniline	1	0	Avg	0.3281	0.2593	0.2790	0.3330	0.3282	0.3221	0.3200	0.3328	----	0.313	8.38	0.999	0.999	8.9	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4-Dinitrophenol	1	0	Qua	0.1339	----	0.0460	0.0855	0.1510	0.1645	0.1717	0.1827	----	0.134	8.47	0.997	1.00	38	0.20 a	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Dibenzofuran	1	0	Avg	1.5849	1.5798	1.4538	1.6652	1.5521	1.5501	1.5361	1.6078	1.8901	1.60	8.62	0.999	0.999	7.6	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	0.3687	0.2435	0.2908	0.3611	0.3798	0.3830	0.3881	0.4116	----	0.353	8.58	0.998	0.999	16	0.20	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitrophenol	1	0	Avg	0.2099	0.1412	0.1636	0.2078	0.2189	0.2210	0.2188	0.2345	----	0.202	8.50	0.998	0.999	16	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	0.3484	0.2447	0.2906	0.3415	0.3558	0.3583	0.3659	0.3907	----	0.337	8.72	0.997	0.999	14	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Fluorene	1	0	Avg	1.2912	1.2457	1.1903	1.3713	1.2755	1.2559	1.2562	1.3039	----	1.27	8.94	0.999	0.999	4.1	0.90	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Chlorophenyl-phenyl	1	0	Avg	0.6425	0.6133	0.5803	0.6508	0.6448	0.6529	0.6598	0.6955	----	0.643	8.93	0.999	1.00	5.3	0.40	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Diethylphthalate	1	0	Avg	1.2019	1.1346	1.0940	1.2422	1.2003	1.1935	1.2053	1.2617	----	1.19	8.80	0.999	0.999	4.6	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Nitroaniline	1	0	Avg	0.3561	0.2645	0.2981	0.3605	0.3514	0.3573	0.3545	0.3757	----	0.340	8.95	0.998	0.999	11	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Atrazine	1	0	Avg	0.3718	0.3009	0.3132	0.3694	0.3702	0.3756	0.3813	0.4071	----	0.361	9.58	0.997	0.999	9.9	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	0.1042	----	0.0637	0.0881	0.1137	0.1167	0.1223	0.1309	----	0.106	8.97	0.996	1.00	22	0.01	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
n-Nitrosodiphenylamin	1	0	Avg	0.5717	0.5445	0.5327	0.6106	0.5707	0.5570	0.5662	0.5908	----	0.568	9.04	0.999	0.999	4.3	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
2,4,6-Tribromophenol	1	0	Avg	0.1342	0.1055	0.1079	0.1327	0.1394	0.1402	0.1467	0.1590	----	0.133	9.18	0.995	0.999	14		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
1,2-Diphenylhydrazine	1	0	Avg	0.5889	0.5478	0.5506	0.6103	0.5785	0.5688	0.6285	0.6609	----	0.592	9.09	0.996	0.999	6.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4-Bromophenyl-phenyl	1	0	Avg	0.2121	0.1877	0.1844	0.2159	0.2140	0.2162	0.2268	0.2438	----	0.213	9.42	0.995	0.999	9.1	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Hexachlorobenzene	1	0	Avg	0.2529	0.2458	0.2306	0.2583	0.2581	0.2584	0.2684	0.2876	----	0.258	9.49	0.996	0.999	6.4	0.10	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
N-Octadecane	1	0	Avg	0.3350	0.3503	0.3038	0.3433	0.3298	0.3216	0.3190	0.3372	----	0.330	9.75	0.998	0.999	4.5	0.05	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pentachlorophenol	1	0	Avg	0.1466	----	0.1027	0.1335	0.1584	0.1619	0.1698	0.1818	----	0.151	9.69	0.997	1.00	17	0.05	50.00		10.00	20.00	80.00	120.0	160.0	196.0	
Phenanthrene	1	0	Avg	0.9636	0.9655	0.9069	1.0181	0.9595	0.9404	0.9439	0.9890	----	0.961	9.94	0.999	0.999	3.5	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Anthracene	1	0	Avg	0.9948	0.9167	0.9059	1.0304	0.9892	0.9676	0.9752	1.0139	----	0.974	10.00	0.999	0.999	4.5	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Carbazole	1	0	Avg	0.9065	0.8680	0.8268	0.9557	0.9072	0.8894	0.8917	0.9389	----	0.898	10.16	0.999	0.999	4.5	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-butylphthalate	1	0	Avg	1.0713	0.8861	0.9235	1.0843	1.0806	1.0574	1.0645	1.0952	0.9614	1.02	10.54	1.00	1.00	7.7	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	0.50
Fluoranthene	1	0	Avg	1.0909	0.9704	0.9579	1.1201	1.1041	1.0967	1.1062	1.1642	----	1.08	11.28	0.999	0.999	6.8	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Pyrene	1	0	Avg	1.0804	0.9622	0.9898	1.1210	1.0708	1.0505	1.0534	1.1120	----	1.06	11.54	0.998	0.999	5.2	0.60	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzidine	1	0	Qua	0.6373	0.4708	0.5701	0.6553	0.6261	0.5628	0.5063	0.4697	----	0.562	11.43	0.984	0.999	13		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Terphenyl-d14	1	0	Avg	0.6048	0.5155	0.5297	0.6030	0.6186	0.6066	0.6237	0.6805	----	0.598	11.72	0.995	0.998	8.8		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: 7.19
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: EPA 8270E

Form 6
Initial Calibration

Instrument: GCMS_9

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	9M108554.D	CAL BNA@50PPM	09/29/21 12:05	2	9M108549.D	CAL BNA@2PPM	09/29/21 10:10
3	9M108548.D	CAL BNA@10PPM	09/29/21 09:47	4	9M108555.D	CAL BNA@20PPM	09/29/21 12:28
5	9M108553.D	CAL BNA@80PPM	09/29/21 11:42	6	9M108552.D	CAL BNA@120PPM	09/29/21 11:19
7	9M108551.D	CAL BNA@160PPM	09/29/21 10:56	8	9M108550.D	CAL BNA@196PPM	09/29/21 10:33
9	9M108556.D	CAL BNA@0.5PPM	09/29/21 12:51				

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	0.2577	0.2258	0.2243	0.2565	0.2636	0.2700	0.2769	0.2989	----	0.259	11.65	0.996	0.999	9.6		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDD	1	0	Avg	0.4421	0.3500	0.3680	0.4337	0.4477	0.4543	0.4565	0.4868	----	0.430	12.05	0.998	0.999	11		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Butylbenzylphthalate	1	0	Avg	0.4483	0.3574	0.3845	0.4380	0.4550	0.4559	0.4593	0.4849	----	0.435	12.31	0.998	0.999	9.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
4,4'-DDT	1	0	Avg	0.3805	0.2488	0.3028	0.3578	0.3936	0.3946	0.3997	0.4201	----	0.362	12.41	0.999	1.00	16		50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
3,3'-Dichlorobenzidine	1	0	Avg	0.4338	0.3724	0.3992	0.4348	0.4361	0.4306	0.4321	0.4449	----	0.423	12.94	1.00	1.00	5.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]anthracene	1	0	Avg	1.0812	1.0592	0.9875	1.1086	1.0853	1.0649	1.0684	1.1277	----	1.07	12.97	0.998	0.999	3.9	0.80	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Chrysene	1	0	Avg	1.0563	1.0007	0.9641	1.0990	1.0374	1.0204	0.9990	1.0534	----	1.03	13.01	0.999	0.999	4.1	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	0.6448	0.5507	0.5733	0.6396	0.6426	0.6352	0.6311	0.6531	----	0.621	13.00	0.999	1.00	6.1	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Di-n-octylphthalate	1	0	Avg	0.9194	0.8134	0.8279	0.8932	0.9328	0.9364	0.9319	1.0031	----	0.907	13.77	0.997	0.999	6.8	0.01	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[b]fluoranthene	1	0	Avg	0.9786	0.8760	0.8783	0.9802	0.9793	1.0381	1.0251	1.1085	----	0.983	14.21	0.997	0.999	8.0	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[k]fluoranthene	1	0	Avg	0.9725	0.8773	0.8504	0.9902	0.9674	0.9091	0.9135	1.0013	----	0.935	14.25	0.995	0.997	5.9	0.70	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	
Benzo[a]pyrene	1	0	Avg	0.9140	0.8266	0.8008	0.9156	0.9206	0.9223	0.9293	1.0115	----	0.905	14.59	0.996	0.999	7.2	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	1.1307	1.0167	1.0136	1.1434	1.1591	1.1681	1.1760	1.2862	----	1.14	16.07	0.996	0.999	7.8	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	0.9606	0.8589	0.8549	0.9627	0.9804	0.9864	0.9865	1.0747	----	0.958	16.09	0.996	0.999	7.5	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	0.9250	0.8383	0.8461	0.9402	0.9429	0.9478	0.9521	1.0422	----	0.929	16.48	0.996	0.998	6.9	0.50	50.00	2.00	10.00	20.00	80.00	120.0	160.0	196.0	

Flags	*Note:* Avg Rsd: 7.19
a - failed the min rf criteria	*Corr 1 = Correlation Coefficient for linear Eq.*
c - failed the minimum correlation coeff criteria(if applicable)	*Corr 2 = Correlation Coefficient for quad Eq.*
	Fit = Indicates whether Avg RF, Linear, or Quadratic Curve was used for compound.

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M116778.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/29/2021 8:08:00 A **Method:** EPA 8270E

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	2.73	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.76	48.43	50	**		0.924	0.895	3.14	
Pyridine	1	0		3.25	48.36	50	**		1.880	1.818	3.29	
N-Nitrosodimethylamine	1	0		3.19	53.97	50	**		1.425	1.538	7.93	
2-Fluorophenol	1	0	S	4.74	52.25	50	**		2.116	2.212	4.50	
Benzaldehyde	1	0		5.55	52.25	50	20	0.01	1.843	1.926	4.50	
Aniline	1	0		5.65	53.76	50	**		3.165	3.208	7.52	
Pentachloroethane	1	0		5.69	51.56	50	**	0.05	0.720	0.742	3.13	
bis(2-Chloroethyl)ether	1	0		5.70	54.69	50	20	0.7	2.118	2.191	9.39	
Phenol-d5	1	0	S	5.62	53.95	50	**		2.406	2.596	7.90	
Phenol	1	0		5.63	55.11	50	20	0.8	2.793	3.078	10.22	
2-Chlorophenol	1	0		5.75	52.82	50	20	0.8	2.198	2.322	5.64	
N-Decane	1	0		5.78	58.45	50	**	0.05	1.809	2.040	16.90	
1,3-Dichlorobenzene	1	0		5.88	52.15	50	**		2.303	2.402	4.31	
1,4-Dichlorobenzene-d4	1	0	I	5.92	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.94	51.72	50	20		1.332	1.378	3.44	
1,2-Dichlorobenzene	1	0		6.06	51.54	50	**		1.277	1.316	3.07	
Benzyl alcohol	1	0		6.04	56.80	50	**		0.738	0.839	13.61	
bis(2-chloroisopropyl)ether	1	0		6.15	58.57	50	20	0.01	1.271	1.489	17.13	
2-Methylphenol	1	0		6.13	50.17	50	20	0.7	1.184	1.188	0.34	
Acetophenone	1	0		6.25	54.65	50	20	0.01	1.504	1.644	9.29	
Hexachloroethane	1	0		6.34	51.17	50	20	0.3	0.515	0.527	2.33	
N-Nitroso-di-n-propylamine	1	0		6.25	53.60	50	20	0.5	0.771	0.826	7.19	
3&4-Methylphenol	1	0		6.25	53.73	50	20		1.074	1.154	7.46	
Naphthalene-d8	1	0	I	6.94	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.38	25.76	25	**		0.150	0.154	3.05	
Nitrobenzene	1	0		6.39	52.60	50	20	0.2	0.299	0.315	5.21	
Isophorone	1	0		6.58	52.42	50	20	0.4	0.562	0.589	4.84	
2-Nitrophenol	1	0		6.64	52.21	50	20	0.1	0.176	0.184	4.42	
2,4-Dimethylphenol	1	0		6.66	51.42	50	20	0.2	0.284	0.292	2.84	
Benzoic Acid	1	0		6.74	47.72	50	**		0.186	0.187	4.56	
bis(2-Chloroethoxy)methane	1	0		6.74	52.92	50	20	0.3	0.343	0.363	5.85	
2,4-Dichlorophenol	1	0		6.82	53.11	50	20	0.2	0.240	0.255	6.22	
1,2,4-Trichlorobenzene	1	0		6.89	51.47	50	**		0.262	0.270	2.95	
Naphthalene	1	0		6.95	50.28	50	20	0.7	0.890	0.895	0.55	
4-Chloroaniline	1	0		6.99	50.08	50	20	0.01	0.382	0.367	0.16	
Hexachlorobutadiene	1	0		7.04	50.39	50	20	0.01	0.140	0.141	0.77	
Caprolactam	1	0		7.29	51.73	50	20	0.01	0.109	0.112	3.47	
4-Chloro-3-methylphenol	1	0		7.36	51.78	50	20	0.2	0.263	0.273	3.56	
2-Methylnaphthalene	1	0		7.50	52.74	50	**	0.4	0.599	0.632	5.48	
1-Methylnaphthalene	1	0		7.58	52.23	50	**	0.4	0.564	0.589	4.46	
Methylnaphthalenes	1	0		7.50	54.44	50	**			0.632	8.87	
1,1'-Biphenyl	1	0		7.88	52.26	50	20	0.01	0.688	0.719	4.52	
Acenaphthene-d10	1	0	I	8.40	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.63	51.58	50	20	0.01	0.507	0.523	3.15	
Hexachlorocyclopentadiene	1	0		7.62	29.93	50	20	0.05	0.176	0.115	40.13	C1
2,4,6-Trichlorophenol	1	0		7.72	51.90	50	20	0.2	0.345	0.359	3.81	
2,4,5-Trichlorophenol	1	0		7.76	50.42	50	20	0.2	0.379	0.382	0.84	
2-Fluorobiphenyl	1	0	S	7.79	24.88	25	**		1.271	1.265	0.48	
2-Chloronaphthalene	1	0		7.90	50.79	50	20	0.8	1.077	1.094	1.59	
1,4-Dimethylnaphthalene	1	0		8.19	54.40	50	**		0.799	0.869	8.80	
Dimethylnaphthalenes	1	0		8.19	54.40	50	20			0.869	8.80	

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:** 7M116778.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/29/2021 8:08:00 A Method: EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.96	51.38	50	**		0.762	0.783	2.75	
2-Nitroaniline	1	0		7.99	53.99	50	20	0.01	0.360	0.389	7.98	
Coumarin	1	0		8.18	55.47		**		0.407			
Acenaphthylene	1	0		8.27	51.34	50	20	0.9	1.609	1.653	2.69	
Dimethylphthalate	1	0		8.13	50.97	50	20	0.01	1.242	1.266	1.95	
2,6-Dinitrotoluene	1	0		8.20	54.57	50	20	0.2	0.270	0.295	9.14	
Acenaphthene	1	0		8.43	52.22	50	20	0.9	1.058	1.105	4.44	
3-Nitroaniline	1	0		8.35	50.99	50	20	0.01	0.351	0.358	1.99	
2,4-Dinitrophenol	1	0		8.45	52.14	50	20	0.2	0.148	0.164	4.27	
Dibenzofuran	1	0		8.59	49.59	50	20	0.8	1.570	1.557	0.82	
2,4-Dinitrotoluene	1	0		8.57	51.53	50	20	0.2	0.403	0.415	3.05	
4-Nitrophenol	1	0		8.50	46.95	50	20	0.01	0.203	0.190	6.09	
2,3,4,6-Tetrachlorophenol	1	0		8.70	49.87	50	20	0.01	0.321	0.320	0.26	
Fluorene	1	0		8.92	52.13	50	20	0.9	1.213	1.264	4.27	
4-Chlorophenyl-phenylether	1	0		8.90	53.26	50	20	0.4	0.580	0.617	6.51	
Diethylphthalate	1	0		8.77	52.21	50	20	0.01	1.236	1.291	4.42	
4-Nitroaniline	1	0		8.93	49.93	50	20	0.01	0.373	0.372	0.15	
Atrazine	1	0		9.57	50.94	50	20	0.01	0.362	0.369	1.87	
Phenanthrene-d10	1	0	I	9.90	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.96	49.91	50	20	0.01	0.104	0.118	0.18	
n-Nitrosodiphenylamine	1	0		9.02	51.87	50	20	0.01	0.568	0.589	3.74	
2,4,6-Tribromophenol	1	0	S	9.16	53.05	50	**		0.100	0.110	6.10	
1,2-Diphenylhydrazine	1	0		9.07	54.48	50	**		0.659	0.718	8.96	
4-Bromophenyl-phenylether	1	0		9.41	50.83	50	20	0.1	0.197	0.200	1.67	
Hexachlorobenzene	1	0		9.47	52.20	50	20	0.1	0.217	0.227	4.39	
N-Octadecane	1	0		9.74	56.47	50	**	0.05	0.342	0.386	12.93	
Pentachlorophenol	1	0		9.68	47.06	50	20	0.05	0.117	0.117	5.89	
Phenanthrene	1	0		9.93	51.16	50	20	0.7	0.921	0.942	2.31	
Anthracene	1	0		9.98	51.45	50	20	0.7	0.949	0.976	2.90	
Carbazole	1	0		10.15	52.18	50	20	0.01	0.905	0.945	4.36	
Di-n-butylphthalate	1	0		10.53	52.54	50	20	0.01	1.114	1.170	5.07	
Fluoranthene	1	0		11.28	51.68	50	20	0.6	1.007	1.041	3.36	
Chrysene-d12	1	0	I	13.00	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.55	51.51	50	20	0.6	1.169	1.205	3.02	
Benzidine	1	0		11.44	45.45	50	**		0.746	0.678	9.10	
Terphenyl-d14	1	0	S	11.73	25.27	25	**		0.663	0.670	1.08	
4,4'-DDE	1	0		11.66	50.85		**		0.278			
4,4'-DDD	1	0		12.06	52.36		**		0.479			
Butylbenzylphthalate	1	0		12.32	53.26	50	20	0.01	0.563	0.599	6.51	
4,4'-DDT	1	0		12.42	53.97		**		0.392			
3,3'-Dichlorobenzidine	1	0		12.96	53.98	50	20	0.01	0.467	0.504	7.95	
Benzo[a]anthracene	1	0		12.99	50.55	50	20	0.8	1.112	1.124	1.10	
Chrysene	1	0		13.03	50.42	50	20	0.7	1.066	1.075	0.83	
bis(2-Ethylhexyl)phthalate	1	0		13.01	52.99	50	20	0.01	0.738	0.782	5.99	
Perylene-d12	1	0	I	14.68	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.77	55.42	50	20	0.01	1.094	1.212	10.84	
Benzo[b]fluoranthene	1	0		14.23	50.82	50	20	0.7	0.963	0.979	1.63	
Benzo[k]fluoranthene	1	0		14.26	52.47	50	20	0.7	0.949	0.996	4.95	
Benzo[a]pyrene	1	0		14.61	49.97	50	20	0.7	0.927	0.926	0.06	
Indeno[1,2,3-cd]pyrene	1	0		16.14	51.36	50	20	0.5	1.021	1.049	2.71	
Dibenzo[a,h]anthracene	1	0		16.16	52.28	50	20	0.4	0.853	0.892	4.56	
Benzo[g,h,i]perylene	1	0		16.57	49.85	50	20	0.5	0.853	0.851	0.31	

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. 524.2 limits are compared against the %DIFF

Form7

Continuing Calibration

Calibration Name: CAL BNA@50PPM **Data File:** 7M116778.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/29/2021 8:08:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.580	0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**			0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.799	0.000	100.00	
Toluene Diisocyanate	1	100		0.00	0.00	50	**			0.000	100.00	
Heptachlor epoxide	1	100		0.00	0.00	10	**			0.000	100.00	
4-Methylphenol	1	100		0.00	0.00	50	**	0.6		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	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	
gamma-BHC	1	100		0.00	0.00	10	**			0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	

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:** 10M87540.D **Instrument:** GCMS 10

Cont Calibration Date/Time 9/29/2021 8:26:00 A **Method:** EPA 8270E

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	2.75	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.79	49.75	50	**		0.935	0.930	0.50	
Pyridine	1	0		3.26	48.79	50	**		1.788	1.744	2.42	
N-Nitrosodimethylamine	1	0		3.19	53.55	50	**		1.388	1.486	7.09	
2-Fluorophenol	1	0	S	4.72	51.48	50	**		2.183	2.248	2.96	
Benzaldehyde	1	0		5.53	51.16	50	20	0.01	1.930	1.975	2.32	
Aniline	1	0		5.62	50.32	50	**		3.452	3.473	0.64	
Pentachloroethane	1	0		5.66	50.78	50	**	0.05	0.805	0.818	1.56	
bis(2-Chloroethyl)ether	1	0		5.68	50.58	50	20	0.7	2.398	2.426	1.15	
Phenol-d5	1	0	S	5.59	51.35	50	**		2.655	2.727	2.71	
Phenol	1	0		5.60	50.98	50	20	0.8	3.167	3.229	1.96	
2-Chlorophenol	1	0		5.72	51.20	50	20	0.8	2.460	2.519	2.39	
N-Decane	1	0		5.76	51.59	50	**	0.05	2.812	2.902	3.18	
1,3-Dichlorobenzene	1	0		5.85	50.46	50	**		2.756	2.782	0.93	
1,4-Dichlorobenzene-d4	1	0	I	5.90	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.91	51.50	50	20		1.413	1.455	3.01	
1,2-Dichlorobenzene	1	0		6.03	50.51	50	**		1.343	1.357	1.03	
Benzyl alcohol	1	0		6.01	51.84	50	**		0.785	0.814	3.68	
bis(2-chloroisopropyl)ether	1	0		6.12	53.92	50	20	0.01	1.969	2.123	7.83	
2-Methylphenol	1	0		6.10	52.18	50	20	0.7	1.138	1.187	4.37	
Acetophenone	1	0		6.23	53.67	50	20	0.01	1.584	1.700	7.33	
Hexachloroethane	1	0		6.31	51.90	50	20	0.3	0.508	0.528	3.80	
N-Nitroso-di-n-propylamine	1	0		6.22	54.90	50	20	0.5	0.781	0.858	9.81	
3&4-Methylphenol	1	0		6.22	54.20	50	20		1.110	1.203	8.39	
Naphthalene-d8	1	0	I	6.90	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.34	26.29	25	**		0.138	0.145	5.16	
Nitrobenzene	1	0		6.36	52.59	50	20	0.2	0.288	0.303	5.17	
Isophorone	1	0		6.54	52.83	50	20	0.4	0.532	0.563	5.67	
2-Nitrophenol	1	0		6.61	53.14	50	20	0.1	0.161	0.171	6.27	
2,4-Dimethylphenol	1	0		6.63	53.46	50	20	0.2	0.268	0.286	6.91	
Benzoic Acid	1	0		6.69	31.76	50	**		0.169	0.100	36.47	
bis(2-Chloroethoxy)methane	1	0		6.70	51.53	50	20	0.3	0.337	0.348	3.06	
2,4-Dichlorophenol	1	0		6.79	50.90	50	20	0.2	0.228	0.245	1.80	
1,2,4-Trichlorobenzene	1	0		6.85	50.41	50	**		0.251	0.253	0.82	
Naphthalene	1	0		6.92	50.27	50	20	0.7	0.932	0.937	0.53	
4-Chloroaniline	1	0		6.95	51.67	50	20	0.01	0.348	0.360	3.34	
Hexachlorobutadiene	1	0		7.00	51.16	50	20	0.01	0.119	0.122	2.33	
Caprolactam	1	0		7.23	55.31	50	20	0.01	0.093	0.103	10.63	
4-Chloro-3-methylphenol	1	0		7.32	52.34	50	20	0.2	0.243	0.254	4.68	
2-Methylnaphthalene	1	0		7.45	51.77	50	**	0.4	0.618	0.640	3.54	
1-Methylnaphthalene	1	0		7.53	51.40	50	**	0.4	0.587	0.603	2.79	
Methylnaphthalenes	1	0		7.45	102.87	50	**			1.235	105.74	
1,1'-Biphenyl	1	0		7.83	51.42	50	20	0.01	0.698	0.718	2.84	
Acenaphthene-d10	1	0	I	8.33	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.59	49.72	50	20	0.01	0.460	0.458	0.56	
Hexachlorocyclopentadiene	1	0		7.57	43.83	50	20	0.05	0.185	0.170	12.33	
2,4,6-Trichlorophenol	1	0		7.68	51.08	50	20	0.2	0.310	0.317	2.17	
2,4,5-Trichlorophenol	1	0		7.71	51.29	50	20	0.2	0.333	0.342	2.58	
2-Fluorobiphenyl	1	0	S	7.74	24.93	25	**		1.267	1.264	0.28	
2-Chloronaphthalene	1	0		7.85	49.64	50	20	0.8	1.104	1.096	0.72	
1,4-Dimethylnaphthalene	1	0		8.13	52.34	50	**		0.868	0.909	4.68	
Dimethylnaphthalenes	1	0		8.13	52.34	50	20			0.909	4.68	

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:** 10M87540.D **Instrument:** GCMS 10

Cont Calibration Date/Time 9/29/2021 8:26:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.91	49.90	50	**		0.782	0.780	0.21	
2-Nitroaniline	1	0		7.93	53.82	50	20	0.01	0.359	0.386	7.64	
Coumarin	1	0		8.12	52.66		**		0.425			
Acenaphthylene	1	0		8.21	50.83	50	20	0.9	1.696	1.724	1.67	
Dimethylphthalate	1	0		8.07	51.06	50	20	0.01	1.198	1.224	2.13	
2,6-Dinitrotoluene	1	0		8.13	53.84	50	20	0.2	0.264	0.285	7.69	
Acenaphthene	1	0		8.36	50.43	50	20	0.9	1.115	1.125	0.87	
3-Nitroaniline	1	0		8.28	52.42	50	20	0.01	0.332	0.348	4.84	
2,4-Dinitrophenol	1	0		8.38	45.78	50	20	0.2	0.138	0.125	8.45	
Dibenzofuran	1	0		8.52	49.16	50	20	0.8	1.597	1.570	1.67	
2,4-Dinitrotoluene	1	0		8.49	52.64	50	20	0.2	0.363	0.388	5.27	
4-Nitrophenol	1	0		8.42	49.13	50	20	0.01	0.196	0.204	1.74	
2,3,4,6-Tetrachlorophenol	1	0		8.62	50.88	50	20	0.01	0.252	0.256	1.76	
Fluorene	1	0		8.84	50.52	50	20	0.9	1.259	1.272	1.04	
4-Chlorophenyl-phenylether	1	0		8.83	50.62	50	20	0.4	0.542	0.549	1.25	
Diethylphthalate	1	0		8.70	52.27	50	20	0.01	1.185	1.239	4.54	
4-Nitroaniline	1	0		8.85	51.47	50	20	0.01	0.351	0.372	2.94	
Atrazine	1	0		9.47	51.38	50	20	0.01	0.309	0.317	2.77	
Phenanthrene-d10	1	0	I	9.79	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.87	49.66	50	20	0.01	0.109	0.107	0.68	
n-Nitrosodiphenylamine	1	0		8.94	51.17	50	20	0.01	0.608	0.622	2.34	
2,4,6-Tribromophenol	1	0	S	9.07	50.31	50	**		0.073	0.074	0.61	
1,2-Diphenylhydrazine	1	0		8.98	49.87	50	**		0.698	0.697	0.25	
4-Bromophenyl-phenylether	1	0		9.31	50.40	50	20	0.1	0.159	0.161	0.80	
Hexachlorobenzene	1	0		9.39	49.18	50	20	0.1	0.168	0.165	1.63	
N-Octadecane	1	0		9.64	53.35	50	**	0.05	0.481	0.513	6.70	
Pentachlorophenol	1	0		9.59	47.46	50	20	0.05	0.097	0.092	5.09	
Phenanthrene	1	0		9.82	50.40	50	20	0.7	0.997	1.005	0.81	
Anthracene	1	0		9.87	51.22	50	20	0.7	1.014	1.039	2.44	
Carbazole	1	0		10.05	51.35	50	20	0.01	0.969	0.995	2.70	
Di-n-butylphthalate	1	0		10.41	51.59	50	20	0.01	1.096	1.187	3.18	
Fluoranthene	1	0		11.15	51.49	50	20	0.6	0.980	1.009	2.98	
Chrysene-d12	1	0	I	12.84	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.42	50.39	50	20	0.6	1.340	1.350	0.79	
Benzidine	1	0		11.30	46.31	50	**		0.807	0.747	7.38	
Terphenyl-d14	1	0	S	11.59	25.20	25	**		0.623	0.628	0.80	
4,4'-DDE	1	0		11.53	50.09		**		0.262			
4,4'-DDD	1	0		11.92	53.62		**		0.451			
Butylbenzylphthalate	1	0		12.17	52.61	50	20	0.01	0.621	0.668	5.23	
4,4'-DDT	1	0		12.28	51.42		**		0.389			
3,3'-Dichlorobenzidine	1	0		12.80	50.89	50	20	0.01	0.414	0.443	1.79	
Benzo[a]anthracene	1	0		12.83	49.60	50	20	0.8	1.120	1.111	0.81	
Chrysene	1	0		12.88	50.07	50	20	0.7	1.122	1.124	0.14	
bis(2-Ethylhexyl)phthalate	1	0		12.86	53.70	50	20	0.01	0.874	0.938	7.40	
Perylene-d12	1	0	I	14.47	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.61	53.15	50	20	0.01	1.372	1.535	6.30	
Benzo[b]fluoranthene	1	0		14.04	50.07	50	20	0.7	0.997	0.998	0.13	
Benzo[k]fluoranthene	1	0		14.07	52.55	50	20	0.7	0.982	1.032	5.10	
Benzo[a]pyrene	1	0		14.40	50.96	50	20	0.7	0.918	0.936	1.93	
Indeno[1,2,3-cd]pyrene	1	0		15.82	50.41	50	20	0.5	1.021	1.030	0.81	
Dibenzo[a,h]anthracene	1	0		15.83	50.29	50	20	0.4	0.876	0.881	0.57	
Benzo[g,h,i]perylene	1	0		16.20	50.12	50	20	0.5	0.865	0.867	0.23	

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:** 10M87540.D **Instrument:** GCMS 10

Cont Calibration Date/Time 9/29/2021 8:26:00 A **Method:** EPA 8270E

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	
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.600	0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			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	
Endrin	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	
Diaminotoluene Dihydrochloride	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	
4-Methylphenol	1	100		0.00	0.00	50	**	0.6		0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.868	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:** 7M116808.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/30/2021 8:24:00 A **Method:** EPA 8270E

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	2.72	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.76	48.19	50	**		0.924	0.890	3.62	
Pyridine	1	0		3.24	47.56	50	**		1.880	1.788	4.88	
N-Nitrosodimethylamine	1	0		3.19	53.22	50	**		1.425	1.516	6.44	
2-Fluorophenol	1	0	S	4.74	51.12	50	**		2.116	2.164	2.25	
Benzaldehyde	1	0		5.55	51.79	50	20	0.01	1.843	1.909	3.58	
Aniline	1	0		5.64	52.38	50	**		3.165	3.128	4.77	
Pentachloroethane	1	0		5.68	50.64	50	**	0.05	0.720	0.729	1.27	
bis(2-Chloroethyl)ether	1	0		5.70	53.33	50	20	0.7	2.118	2.139	6.65	
Phenol-d5	1	0	S	5.61	53.29	50	**		2.406	2.564	6.57	
Phenol	1	0		5.63	54.28	50	20	0.8	2.793	3.032	8.56	
2-Chlorophenol	1	0		5.75	51.10	50	20	0.8	2.198	2.246	2.19	
N-Decane	1	0		5.77	56.88	50	**	0.05	1.809	1.989	13.77	
1,3-Dichlorobenzene	1	0		5.87	50.70	50	**		2.303	2.336	1.40	
1,4-Dichlorobenzene-d4	1	0	I	5.92	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.94	51.57	50	20		1.332	1.374	3.14	
1,2-Dichlorobenzene	1	0		6.06	51.67	50	**		1.277	1.320	3.34	
Benzyl alcohol	1	0		6.04	58.34	50	**		0.738	0.862	16.68	
bis(2-chloroisopropyl)ether	1	0		6.14	60.45	50	20	0.01	1.271	1.537	20.90	C1
2-Methylphenol	1	0		6.13	50.51	50	20	0.7	1.184	1.197	1.03	
Acetophenone	1	0		6.25	56.87	50	20	0.01	1.504	1.711	13.73	
Hexachloroethane	1	0		6.33	51.59	50	20	0.3	0.515	0.531	3.18	
N-Nitroso-di-n-propylamine	1	0		6.25	56.01	50	20	0.5	0.771	0.864	12.02	
3&4-Methylphenol	1	0		6.25	55.35	50	20		1.074	1.189	10.69	
Naphthalene-d8	1	0	I	6.94	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.38	25.40	25	**		0.150	0.152	1.59	
Nitrobenzene	1	0		6.39	53.48	50	20	0.2	0.299	0.320	6.95	
Isophorone	1	0		6.58	53.87	50	20	0.4	0.562	0.606	7.74	
2-Nitrophenol	1	0		6.64	52.34	50	20	0.1	0.176	0.185	4.69	
2,4-Dimethylphenol	1	0		6.66	51.60	50	20	0.2	0.284	0.293	3.19	
Benzoic Acid	1	0		6.74	47.16	50	**		0.186	0.185	5.68	
bis(2-Chloroethoxy)methane	1	0		6.74	54.01	50	20	0.3	0.343	0.370	8.01	
2,4-Dichlorophenol	1	0		6.82	53.14	50	20	0.2	0.240	0.255	6.28	
1,2,4-Trichlorobenzene	1	0		6.89	51.38	50	**		0.262	0.269	2.75	
Naphthalene	1	0		6.95	50.85	50	20	0.7	0.890	0.906	1.69	
4-Chloroaniline	1	0		6.99	50.12	50	20	0.01	0.382	0.367	0.23	
Hexachlorobutadiene	1	0		7.04	50.37	50	20	0.01	0.140	0.141	0.74	
Caprolactam	1	0		7.29	50.91	50	20	0.01	0.109	0.111	1.82	
4-Chloro-3-methylphenol	1	0		7.36	51.88	50	20	0.2	0.263	0.273	3.76	
2-Methylnaphthalene	1	0		7.50	53.35	50	**	0.4	0.599	0.639	6.69	
1-Methylnaphthalene	1	0		7.58	52.66	50	**	0.4	0.564	0.594	5.32	
Methylnaphthalenes	1	0		7.50	106.22	50	**			1.232	112.44	
1,1'-Biphenyl	1	0		7.88	52.24	50	20	0.01	0.688	0.719	4.48	
Acenaphthene-d10	1	0	I	8.40	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.63	50.90	50	20	0.01	0.507	0.516	1.80	
Hexachlorocyclopentadiene	1	0		7.62	26.41	50	20	0.05	0.176	0.101	47.19	C1
2,4,6-Trichlorophenol	1	0		7.73	51.22	50	20	0.2	0.345	0.354	2.45	
2,4,5-Trichlorophenol	1	0		7.76	49.25	50	20	0.2	0.379	0.373	1.50	
2-Fluorobiphenyl	1	0	S	7.79	24.52	25	**		1.271	1.247	1.93	
2-Chloronaphthalene	1	0		7.90	50.60	50	20	0.8	1.077	1.090	1.20	
1,4-Dimethylnaphthalene	1	0		8.19	54.91	50	**		0.799	0.877	9.83	
Dimethylnaphthalenes	1	0		8.19	54.91	50	20			0.877	9.83	

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:** 7M116808.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/30/2021 8:24:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		7.96	51.36	50	**		0.762	0.783	2.72	
2-Nitroaniline	1	0		7.99	55.92	50	20	0.01	0.360	0.403	11.83	
Coumarin	1	0		8.18	56.28		**		0.407			
Acenaphthylene	1	0		8.27	50.82	50	20	0.9	1.609	1.636	1.63	
Dimethylphthalate	1	0		8.13	50.85	50	20	0.01	1.242	1.263	1.69	
2,6-Dinitrotoluene	1	0		8.20	56.13	50	20	0.2	0.270	0.303	12.27	
Acenaphthene	1	0		8.43	51.76	50	20	0.9	1.058	1.095	3.52	
3-Nitroaniline	1	0		8.35	50.14	50	20	0.01	0.351	0.352	0.27	
2,4-Dinitrophenol	1	0		8.45	49.06	50	20	0.2	0.148	0.154	1.89	
Dibenzofuran	1	0		8.59	48.84	50	20	0.8	1.570	1.534	2.32	
2,4-Dinitrotoluene	1	0		8.57	50.29	50	20	0.2	0.403	0.405	0.59	
4-Nitrophenol	1	0		8.50	47.84	50	20	0.01	0.203	0.194	4.32	
2,3,4,6-Tetrachlorophenol	1	0		8.70	47.95	50	20	0.01	0.321	0.308	4.10	
Fluorene	1	0		8.92	52.78	50	20	0.9	1.213	1.280	5.56	
4-Chlorophenyl-phenylether	1	0		8.90	52.10	50	20	0.4	0.580	0.604	4.21	
Diethylphthalate	1	0		8.77	52.27	50	20	0.01	1.236	1.292	4.55	
4-Nitroaniline	1	0		8.94	50.34	50	20	0.01	0.373	0.375	0.68	
Atrazine	1	0		9.57	49.53	50	20	0.01	0.362	0.358	0.95	
Phenanthrene-d10	1	0	I	9.90	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.96	47.99	50	20	0.01	0.104	0.113	4.03	
n-Nitrosodiphenylamine	1	0		9.02	51.84	50	20	0.01	0.568	0.589	3.68	
2,4,6-Tribromophenol	1	0	S	9.16	52.34	50	**		0.100	0.108	4.68	
1,2-Diphenylhydrazine	1	0		9.07	56.26	50	**		0.659	0.741	12.53	
4-Bromophenyl-phenylether	1	0		9.40	50.58	50	20	0.1	0.197	0.199	1.15	
Hexachlorobenzene	1	0		9.47	51.53	50	20	0.1	0.217	0.224	3.07	
N-Octadecane	1	0		9.73	58.29	50	**	0.05	0.342	0.398	16.58	
Pentachlorophenol	1	0		9.69	46.28	50	20	0.05	0.117	0.115	7.45	
Phenanthrene	1	0		9.93	50.58	50	20	0.7	0.921	0.932	1.15	
Anthracene	1	0		9.98	51.93	50	20	0.7	0.949	0.985	3.86	
Carbazole	1	0		10.16	52.19	50	20	0.01	0.905	0.945	4.37	
Di-n-butylphthalate	1	0		10.53	53.25	50	20	0.01	1.114	1.186	6.49	
Fluoranthene	1	0		11.28	51.79	50	20	0.6	1.007	1.043	3.58	
Chrysene-d12	1	0	I	13.00	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.55	50.72	50	20	0.6	1.169	1.186	1.44	
Benzidine	1	0		11.44	41.39	50	**		0.746	0.617	17.23	
Terphenyl-d14	1	0	S	11.72	23.98	25	**		0.663	0.636	4.06	
4,4'-DDE	1	0		11.65	50.44		**		0.278			
4,4'-DDD	1	0		12.06	52.17		**		0.479			
Butylbenzylphthalate	1	0		12.32	52.56	50	20	0.01	0.563	0.591	5.12	
4,4'-DDT	1	0		12.42	51.42		**		0.392			
3,3'-Dichlorobenzidine	1	0		12.96	51.81	50	20	0.01	0.467	0.484	3.62	
Benzo[a]anthracene	1	0		12.99	50.44	50	20	0.8	1.112	1.121	0.87	
Chrysene	1	0		13.03	48.92	50	20	0.7	1.066	1.043	2.16	
bis(2-Ethylhexyl)phthalate	1	0		13.01	53.30	50	20	0.01	0.738	0.786	6.59	
Perylene-d12	1	0	I	14.69	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.77	58.33	50	20	0.01	1.094	1.276	16.66	
Benzo[b]fluoranthene	1	0		14.23	52.70	50	20	0.7	0.963	1.015	5.39	
Benzo[k]fluoranthene	1	0		14.26	52.36	50	20	0.7	0.949	0.993	4.72	
Benzo[a]pyrene	1	0		14.62	50.81	50	20	0.7	0.927	0.942	1.62	
Indeno[1,2,3-cd]pyrene	1	0		16.15	50.46	50	20	0.5	1.021	1.030	0.92	
Dibenzo[a,h]anthracene	1	0		16.17	51.73	50	20	0.4	0.853	0.882	3.46	
Benzo[g,h,i]perylene	1	0		16.57	48.57	50	20	0.5	0.853	0.829	2.85	

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:** 7M116808.D **Instrument:** GCMS 7

Cont Calibration Date/Time 9/30/2021 8:24:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Toluene Diisocyanate	1	100		0.00	0.00	50	**			0.000	100.00	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	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	
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.580	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	**		0.799	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:** 9M108577.D **Instrument:** GCMS 9

Cont Calibration Date/Time 9/30/2021 9:35:00 A Method: EPA 8270E

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	2.79	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.83	48.86	50	**		0.912	0.891	2.28	
Pyridine	1	0		3.29	44.82	50	**		1.848	1.656	10.36	
N-Nitrosodimethylamine	1	0		3.24	50.45	50	**		1.384	1.397	0.90	
2-Fluorophenol	1	0	S	4.77	50.24	50	**		2.272	2.283	0.49	
Benzaldehyde	1	0		5.60	52.57	50	20	0.01	1.829	1.923	5.13	
Aniline	1	0		5.69	49.94	50	**		3.380	3.376	0.12	
Pentachloroethane	1	0		5.73	50.59	50	**	0.05	0.796	0.805	1.17	
bis(2-Chloroethyl)ether	1	0		5.74	49.14	50	20	0.7	2.321	2.282	1.71	
Phenol-d5	1	0	S	5.64	51.94	50	**		2.716	2.821	3.88	
Phenol	1	0		5.65	51.72	50	20	0.8	3.180	3.289	3.44	
2-Chlorophenol	1	0		5.78	51.25	50	20	0.8	2.555	2.619	2.51	
N-Decane	1	0		5.82	47.38	50	**	0.05	2.112	2.001	5.24	
1,3-Dichlorobenzene	1	0		5.92	51.49	50	**		2.728	2.810	2.98	
1,4-Dichlorobenzene-d4	1	0	I	5.97	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.98	50.26	50	20		1.385	1.392	0.51	
1,2-Dichlorobenzene	1	0		6.11	50.21	50	**		1.311	1.316	0.42	
Benzyl alcohol	1	0		6.08	50.97	50	**		0.795	0.811	1.93	
bis(2-chloroisopropyl)ether	1	0		6.19	48.32	50	20	0.01	1.320	1.276	3.35	
2-Methylphenol	1	0		6.16	49.78	50	20	0.7	1.117	1.112	0.45	
Acetophenone	1	0		6.30	51.73	50	20	0.01	1.623	1.679	3.47	
Hexachloroethane	1	0		6.38	48.98	50	20	0.3	0.498	0.487	2.04	
N-Nitroso-di-n-propylamine	1	0		6.29	49.31	50	20	0.5	0.768	0.758	1.37	
3&4-Methylphenol	1	0		6.28	51.26	50	20		1.133	1.161	2.51	
Naphthalene-d8	1	0	I	6.98	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.42	25.41	25	**		0.137	0.140	1.63	
Nitrobenzene	1	0		6.43	50.86	50	20	0.2	0.279	0.284	1.72	
Isophorone	1	0		6.62	50.90	50	20	0.4	0.532	0.541	1.79	
2-Nitrophenol	1	0		6.68	52.96	50	20	0.1	0.159	0.169	5.92	
2,4-Dimethylphenol	1	0		6.70	50.68	50	20	0.2	0.275	0.279	1.35	
Benzoic Acid	1	0		6.75	47.38	50	**		0.168	0.161	5.23	
bis(2-Chloroethoxy)methane	1	0		6.78	50.21	50	20	0.3	0.330	0.331	0.42	
2,4-Dichlorophenol	1	0		6.86	52.07	50	20	0.2	0.247	0.257	4.13	
1,2,4-Trichlorobenzene	1	0		6.93	51.46	50	**		0.276	0.284	2.92	
Naphthalene	1	0		7.00	49.51	50	20	0.7	0.931	0.921	0.99	
4-Chloroaniline	1	0		7.02	49.37	50	20	0.01	0.365	0.360	1.26	
Hexachlorobutadiene	1	0		7.08	51.47	50	20	0.01	0.159	0.164	2.94	
Caprolactam	1	0		7.30	53.00	50	20	0.01	0.095	0.100	5.99	
4-Chloro-3-methylphenol	1	0		7.39	51.79	50	20	0.2	0.242	0.251	3.58	
2-Methylnaphthalene	1	0		7.54	51.95	50	**	0.4	0.615	0.639	3.89	
1-Methylnaphthalene	1	0		7.62	51.95	50	**	0.4	0.576	0.598	3.90	
Methylnaphthalenes	1	0		7.54	104.48	50	**			1.241	108.96	
1,1'-Biphenyl	1	0		7.91	52.18	50	20	0.01	0.709	0.740	4.35	
Acenaphthene-d10	1	0	I	8.43	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.67	49.90	50	20	0.01	0.593	0.592	0.20	
Hexachlorocyclopentadiene	1	0		7.65	51.35	50	20	0.05	0.279	0.287	2.69	
2,4,6-Trichlorophenol	1	0		7.75	54.32	50	20	0.2	0.367	0.398	8.65	
2,4,5-Trichlorophenol	1	0		7.79	48.76	50	20	0.2	0.374	0.365	2.49	
2-Fluorobiphenyl	1	0	S	7.82	25.17	25	**		1.295	1.304	0.67	
2-Chloronaphthalene	1	0		7.94	50.09	50	20	0.8	1.103	1.105	0.18	
1,4-Dimethylnaphthalene	1	0		8.22	50.77	50	**		0.876	0.890	1.55	
Dimethylnaphthalenes	1	0		8.22	50.77	50	20			0.890	1.55	

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:** 9M108577.D **Instrument:** GCMS 9

Cont Calibration Date/Time 9/30/2021 9:35:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		8.00	49.62	50	**		0.801	0.795	0.77	
2-Nitroaniline	1	0		8.02	50.70	50	20	0.01	0.329	0.333	1.41	
Coumarin	1	0		8.21	51.66		**		0.432			
Acenaphthylene	1	0		8.31	50.50	50	20	0.9	1.634	1.651	1.01	
Dimethylphthalate	1	0		8.16	51.15	50	20	0.01	1.224	1.252	2.30	
2,6-Dinitrotoluene	1	0		8.22	53.00	50	20	0.2	0.273	0.290	6.01	
Acenaphthene	1	0		8.46	50.06	50	20	0.9	1.109	1.110	0.12	
3-Nitroaniline	1	0		8.38	52.99	50	20	0.01	0.313	0.332	5.99	
2,4-Dinitrophenol	1	0		8.47	56.33	50	20	0.2	0.134	0.159	12.66	
Dibenzofuran	1	0		8.62	49.16	50	20	0.8	1.602	1.575	1.69	
2,4-Dinitrotoluene	1	0		8.58	53.51	50	20	0.2	0.353	0.388	7.02	
4-Nitrophenol	1	0		8.50	53.12	50	20	0.01	0.202	0.215	6.24	
2,3,4,6-Tetrachlorophenol	1	0		8.72	54.16	50	20	0.01	0.337	0.365	8.31	
Fluorene	1	0		8.94	50.82	50	20	0.9	1.274	1.295	1.64	
4-Chlorophenyl-phenylether	1	0		8.93	50.85	50	20	0.4	0.643	0.653	1.70	
Diethylphthalate	1	0		8.80	51.35	50	20	0.01	1.192	1.224	2.70	
4-Nitroaniline	1	0		8.95	53.05	50	20	0.01	0.340	0.361	6.10	
Atrazine	1	0		9.58	53.66	50	20	0.01	0.361	0.388	7.32	
Phenanthrene-d10	1	0	I	9.91	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.97	54.88	50	20	0.01	0.106	0.116	9.75	
n-Nitrosodiphenylamine	1	0		9.04	49.81	50	20	0.01	0.568	0.566	0.39	
2,4,6-Tribromophenol	1	0	S	9.18	52.84	50	**		0.133	0.141	5.69	
1,2-Diphenylhydrazine	1	0		9.09	46.47	50	**		0.592	0.550	7.05	
4-Bromophenyl-phenylether	1	0		9.42	50.90	50	20	0.1	0.213	0.216	1.79	
Hexachlorobenzene	1	0		9.49	50.95	50	20	0.1	0.258	0.262	1.91	
N-Octadecane	1	0		9.75	46.41	50	**	0.05	0.330	0.306	7.19	
Pentachlorophenol	1	0		9.69	54.07	50	20	0.05	0.151	0.157	8.14	
Phenanthrene	1	0		9.94	50.05	50	20	0.7	0.961	0.962	0.10	
Anthracene	1	0		10.00	50.49	50	20	0.7	0.974	0.984	0.97	
Carbazole	1	0		10.16	50.55	50	20	0.01	0.898	0.908	1.09	
Di-n-butylphthalate	1	0		10.54	50.92	50	20	0.01	1.025	1.044	1.85	
Fluoranthene	1	0		11.28	51.78	50	20	0.6	1.076	1.115	3.56	
Chrysene-d12	1	0	I	12.98	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.54	50.04	50	20	0.6	1.055	1.056	0.08	
Benzidine	1	0		11.43	44.42	50	**		0.562	0.567	11.15	
Terphenyl-d14	1	0	S	11.72	25.36	25	**		0.598	0.606	1.44	
4,4'-DDE	1	0		11.65	49.92		**		0.259			
4,4'-DDD	1	0		12.05	51.04		**		0.430			
Butylbenzylphthalate	1	0		12.31	49.86	50	20	0.01	0.435	0.434	0.28	
4,4'-DDT	1	0		12.41	54.16		**		0.362			
3,3'-Dichlorobenzidine	1	0		12.94	52.83	50	20	0.01	0.423	0.447	5.67	
Benzo[a]anthracene	1	0		12.97	50.47	50	20	0.8	1.073	1.083	0.95	
Chrysene	1	0		13.01	50.17	50	20	0.7	1.029	1.032	0.34	
bis(2-Ethylhexyl)phthalate	1	0		13.00	48.74	50	20	0.01	0.621	0.606	2.52	
Perylene-d12	1	0	I	14.63	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.75	47.41	50	20	0.01	0.907	0.860	5.17	
Benzo[b]fluoranthene	1	0		14.19	51.34	50	20	0.7	0.983	1.009	2.68	
Benzo[k]fluoranthene	1	0		14.22	49.04	50	20	0.7	0.935	0.917	1.92	
Benzo[a]pyrene	1	0		14.57	49.87	50	20	0.7	0.905	0.903	0.27	
Indeno[1,2,3-cd]pyrene	1	0		16.04	49.59	50	20	0.5	1.137	1.127	0.82	
Dibenzo[a,h]anthracene	1	0		16.06	49.55	50	20	0.4	0.958	0.950	0.89	
Benzo[g,h,i]perylene	1	0		16.44	49.79	50	20	0.5	0.929	0.925	0.42	

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:** 9M108577.D **Instrument:** GCMS 9

Cont Calibration Date/Time 9/30/2021 9:35:00 A Method: EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
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	
Endrin	1	100		0.00	0.00	50	**			0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.594	0.000	100.00	
2,2'-oxybis-(1-Chloropropane)	1	100		0.00	0.00	50	**			0.000	100.00	
Heptachlor epoxide	1	100		0.00	0.00	10	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			0.000	100.00	
Diaminotoluene Dihydrochloride	1	100		0.00	0.00	50	**			0.000	100.00	
Toluene Diisocyanate	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	
1,4-Dioxane-d8-Surro	1	100		0.00	0.00	40	**			0.000	100.00	
1,4-Dioxane-d8	1	100		0.00	0.00	40	**			0.000	100.00	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.876	0.000	100.00	

S-Surrogate Compound I-Internal Standard Compound

N/O or N/Q - Not applicable for this run CI-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:** 9M108598.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/1/2021 8:29:00 A Method: EPA 8270E

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	2.80	40.00	40	**			0.000	0.00	
1,4-Dioxane	1	0		2.84	47.91	50	**		0.912	0.874	4.17	
Pyridine	1	0		3.29	45.11	50	**		1.848	1.667	9.79	
N-Nitrosodimethylamine	1	0		3.24	46.52	50	**		1.384	1.288	6.96	
2-Fluorophenol	1	0	S	4.77	48.57	50	**		2.272	2.207	2.87	
Benzaldehyde	1	0		5.60	48.90	50	20	0.01	1.829	1.789	2.20	
Aniline	1	0		5.68	46.55	50	**		3.380	3.147	6.90	
Pentachloroethane	1	0		5.73	48.99	50	**	0.05	0.796	0.780	2.02	
bis(2-Chloroethyl)ether	1	0		5.74	47.04	50	20	0.7	2.321	2.184	5.91	
Phenol-d5	1	0	S	5.64	47.60	50	**		2.716	2.585	4.79	
Phenol	1	0		5.65	48.07	50	20	0.8	3.180	3.057	3.85	
2-Chlorophenol	1	0		5.78	49.54	50	20	0.8	2.555	2.531	0.92	
N-Decane	1	0		5.82	43.83	50	**	0.05	2.112	1.851	12.35	
1,3-Dichlorobenzene	1	0		5.92	49.95	50	**		2.728	2.725	0.10	
1,4-Dichlorobenzene-d4	1	0	I	5.97	40.00	40	**			0.000	0.00	
1,4-Dichlorobenzene	1	0		5.98	49.48	50	20		1.385	1.371	1.04	
1,2-Dichlorobenzene	1	0		6.11	49.23	50	**		1.311	1.291	1.54	
Benzyl alcohol	1	0		6.07	47.26	50	**		0.795	0.752	5.49	
bis(2-chloroisopropyl)ether	1	0		6.18	43.05	50	20	0.01	1.320	1.137	13.89	
2-Methylphenol	1	0		6.16	46.81	50	20	0.7	1.117	1.046	6.38	
Acetophenone	1	0		6.29	48.59	50	20	0.01	1.623	1.577	2.82	
Hexachloroethane	1	0		6.38	48.96	50	20	0.3	0.498	0.487	2.08	
N-Nitroso-di-n-propylamine	1	0		6.29	44.74	50	20	0.5	0.768	0.688	10.51	
3&4-Methylphenol	1	0		6.28	48.07	50	20		1.133	1.089	3.86	
Naphthalene-d8	1	0	I	6.98	40.00	40	**			0.000	0.00	
Nitrobenzene-d5	1	0	S	6.41	24.84	25	**		0.137	0.136	0.62	
Nitrobenzene	1	0		6.43	48.73	50	20	0.2	0.279	0.272	2.54	
Isophorone	1	0		6.61	48.09	50	20	0.4	0.532	0.511	3.82	
2-Nitrophenol	1	0		6.68	52.94	50	20	0.1	0.159	0.169	5.89	
2,4-Dimethylphenol	1	0		6.70	49.31	50	20	0.2	0.275	0.272	1.39	
Benzoic Acid	1	0		6.75	53.35	50	**		0.168	0.184	6.71	
bis(2-Chloroethoxy)methane	1	0		6.77	47.80	50	20	0.3	0.330	0.316	4.40	
2,4-Dichlorophenol	1	0		6.85	52.02	50	20	0.2	0.247	0.257	4.03	
1,2,4-Trichlorobenzene	1	0		6.92	53.21	50	**		0.276	0.294	6.42	
Naphthalene	1	0		6.99	49.05	50	20	0.7	0.931	0.913	1.89	
4-Chloroaniline	1	0		7.02	48.32	50	20	0.01	0.365	0.353	3.36	
Hexachlorobutadiene	1	0		7.08	54.19	50	20	0.01	0.159	0.173	8.38	
Caprolactam	1	0		7.30	50.18	50	20	0.01	0.095	0.095	0.37	
4-Chloro-3-methylphenol	1	0		7.39	49.52	50	20	0.2	0.242	0.240	0.96	
2-Methylnaphthalene	1	0		7.53	50.69	50	**	0.4	0.615	0.623	1.37	
1-Methylnaphthalene	1	0		7.61	51.24	50	**	0.4	0.576	0.590	2.48	
Methylnaphthalenes	1	0		7.53	102.01	50	**			1.212	104.02	
1,1'-Biphenyl	1	0		7.91	51.73	50	20	0.01	0.709	0.734	3.45	
Acenaphthene-d10	1	0	I	8.42	40.00	40	**			0.000	0.00	
1,2,4,5-Tetrachlorobenzene	1	0		7.67	52.70	50	20	0.01	0.593	0.625	5.40	
Hexachlorocyclopentadiene	1	0		7.65	58.90	50	20	0.05	0.279	0.329	17.80	
2,4,6-Trichlorophenol	1	0		7.75	52.79	50	20	0.2	0.367	0.387	5.57	
2,4,5-Trichlorophenol	1	0		7.78	52.54	50	20	0.2	0.374	0.393	5.08	
2-Fluorobiphenyl	1	0	S	7.82	25.44	25	**		1.295	1.318	1.76	
2-Chloronaphthalene	1	0		7.94	50.27	50	20	0.8	1.103	1.109	0.54	
1,4-Dimethylnaphthalene	1	0		8.22	50.23	50	**		0.876	0.880	0.45	
Dimethylnaphthalenes	1	0		8.22	50.23	50	20			0.880	0.45	

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:** 9M108598.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/1/2021 8:29:00 A **Method:** EPA 8270E

TxtCompd:	Col#	Multi Num	Type	RT	Conc	Conc Exp	Lo Lim	MIN RF	Initial RF	RF	%Diff	Flag
Diphenyl Ether	1	0		8.00	50.75	50	**		0.801	0.813	1.50	
2-Nitroaniline	1	0		8.01	48.07	50	20	0.01	0.329	0.316	3.86	
Coumarin	1	0		8.20	50.21		**		0.432			
Acenaphthylene	1	0		8.30	50.37	50	20	0.9	1.634	1.646	0.74	
Dimethylphthalate	1	0		8.15	51.25	50	20	0.01	1.224	1.255	2.50	
2,6-Dinitrotoluene	1	0		8.22	52.48	50	20	0.2	0.273	0.287	4.96	
Acenaphthene	1	0		8.45	49.93	50	20	0.9	1.109	1.107	0.14	
3-Nitroaniline	1	0		8.37	51.16	50	20	0.01	0.313	0.320	2.33	
2,4-Dinitrophenol	1	0		8.46	56.25	50	20	0.2	0.134	0.158	12.49	
Dibenzofuran	1	0		8.61	49.56	50	20	0.8	1.602	1.588	0.88	
2,4-Dinitrotoluene	1	0		8.58	52.51	50	20	0.2	0.353	0.381	5.03	
4-Nitrophenol	1	0		8.49	48.22	50	20	0.01	0.202	0.195	3.56	
2,3,4,6-Tetrachlorophenol	1	0		8.71	56.26	50	20	0.01	0.337	0.379	12.51	
Fluorene	1	0		8.94	50.27	50	20	0.9	1.274	1.281	0.55	
4-Chlorophenyl-phenylether	1	0		8.92	52.65	50	20	0.4	0.643	0.677	5.31	
Diethylphthalate	1	0		8.80	50.03	50	20	0.01	1.192	1.192	0.06	
4-Nitroaniline	1	0		8.94	49.94	50	20	0.01	0.340	0.339	0.12	
Atrazine	1	0		9.57	53.53	50	20	0.01	0.361	0.387	7.05	
Phenanthrene-d10	1	0	I	9.91	40.00	40	**			0.000	0.00	
4,6-Dinitro-2-methylphenol	1	0		8.97	54.81	50	20	0.01	0.106	0.115	9.61	
n-Nitrosodiphenylamine	1	0		9.04	48.85	50	20	0.01	0.568	0.555	2.30	
2,4,6-Tribromophenol	1	0	S	9.17	56.76	50	**		0.133	0.151	13.53	
1,2-Diphenylhydrazine	1	0		9.08	44.08	50	**		0.592	0.522	11.84	
4-Bromophenyl-phenylether	1	0		9.42	52.32	50	20	0.1	0.213	0.223	4.65	
Hexachlorobenzene	1	0		9.48	54.04	50	20	0.1	0.258	0.278	8.08	
N-Octadecane	1	0		9.75	41.98	50	**	0.05	0.330	0.277	16.03	
Pentachlorophenol	1	0		9.69	53.09	50	20	0.05	0.151	0.160	6.18	
Phenanthrene	1	0		9.93	49.37	50	20	0.7	0.961	0.949	1.25	
Anthracene	1	0		9.99	49.82	50	20	0.7	0.974	0.971	0.35	
Carbazole	1	0		10.15	49.03	50	20	0.01	0.898	0.881	1.93	
Di-n-butylphthalate	1	0		10.53	48.80	50	20	0.01	1.025	1.000	2.41	
Fluoranthene	1	0		11.27	51.26	50	20	0.6	1.076	1.104	2.53	
Chrysene-d12	1	0	I	12.98	40.00	40	**			0.000	0.00	
Pyrene	1	0		11.54	48.77	50	20	0.6	1.055	1.029	2.46	
Benzidine	1	0		11.42	46.93	50	**		0.562	0.597	6.13	
Terphenyl-d14	1	0	S	11.72	25.08	25	**		0.598	0.600	0.30	
4,4'-DDE	1	0		11.65	49.22		**		0.259			
4,4'-DDD	1	0		12.05	50.23		**		0.430			
Butylbenzylphthalate	1	0		12.31	46.62	50	20	0.01	0.435	0.406	6.75	
4,4'-DDT	1	0		12.41	53.14		**		0.362			
3,3'-Dichlorobenzidine	1	0		12.94	51.40	50	20	0.01	0.423	0.435	2.80	
Benzo[a]anthracene	1	0		12.97	49.69	50	20	0.8	1.073	1.066	0.62	
Chrysene	1	0		13.01	49.97	50	20	0.7	1.029	1.028	0.06	
bis(2-Ethylhexyl)phthalate	1	0		13.00	45.52	50	20	0.01	0.621	0.566	8.96	
Perylene-d12	1	0	I	14.62	40.00	40	**			0.000	0.00	
Di-n-octylphthalate	1	0		13.75	42.88	50	20	0.01	0.907	0.778	14.23	
Benzo[b]fluoranthene	1	0		14.18	50.18	50	20	0.7	0.983	0.987	0.37	
Benzo[k]fluoranthene	1	0		14.21	48.89	50	20	0.7	0.935	0.914	2.22	
Benzo[a]pyrene	1	0		14.56	49.19	50	20	0.7	0.905	0.890	1.62	
Indeno[1,2,3-cd]pyrene	1	0		16.02	49.58	50	20	0.5	1.137	1.127	0.85	
Dibenzo[a,h]anthracene	1	0		16.05	49.65	50	20	0.4	0.958	0.952	0.70	
Benzo[g,h,i]perylene	1	0		16.43	49.84	50	20	0.5	0.929	0.926	0.32	

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:** 9M108598.D **Instrument:** GCMS 9

Cont Calibration Date/Time 10/1/2021 8:29:00 A Method: EPA 8270E

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	
Methylnaphthalenes (Total)	1	100		0.00	0.00	100	**		0.594	0.000	100.00	
Methoxychlor	1	100		0.00	0.00	10	**			0.000	100.00	
2,4 Diaminotoluene	1	100		0.00	0.00	50	**			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	
Endrin	1	100		0.00	0.00	50	**			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	
Dimethylnaphthalenes (Total)	1	100		0.00	0.00	50	**		0.876	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

1092401 0201

FORM8

Internal Standard Areas

Evaluation Std Data File: 10M87373.D Method: EPA 8270E

Analysis Date/Time: 09/20/21 12:26

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:	30033	2.74	59625	5.90	240432	6.91	117797	8.34	206573	9.80	157056	12.85	166354	14.47
Eval File Area Limit:	15016-60066		29812-119250		120216-480864		58898-235594		103286-413146		78528-314112		83177-332708	
Eval File Rt Limit:	2.24-3.24		5.4-6.4		6.41-7.41		7.84-8.84		9.3-10.3		12.35-13.35		13.97-14.97	

Data File	Sample#															
10M87365.D	CAL BNA@10PPM	25850	2.74	51290	5.90	207693	6.90	101517	8.33	181565	9.79	137268	12.84	144481	14.47
10M87366.D	CAL BNA@2PPM	30503	2.74	60688	5.90	251923	6.90	125158	8.33	222724	9.79	168784	12.84	179111	14.47
10M87367.D	CAL BNA@196PPM	26976	2.74	53985	5.90	221465	6.91	110731	8.34	194880	9.80	143694	12.85	156246	14.47
10M87368.D	CAL BNA@160PPM	29565	2.74	58009	5.90	237413	6.91	117125	8.34	207055	9.80	154432	12.85	169218	14.47
10M87369.D	CAL BNA@120PPM	29811	2.74	58442	5.90	237090	6.91	116313	8.34	205309	9.80	157085	12.85	165294	14.47
10M87370.D	CAL BNA@80PPM	30250	2.74	59217	5.90	240858	6.91	117382	8.34	208685	9.80	156978	12.85	165609	14.47
10M87371.D	CAL BNA@20PPM	28268	2.75	56475	5.90	232209	6.91	112392	8.33	198015	9.80	152298	12.84	158615	14.47
10M87372.D	CAL BNA@0.5PPM	30055	2.74	60258	5.90	248930	6.91	121026	8.33	214671	9.79	164640	12.84	171953	14.47
10M87373.D	CAL BNA@50PPM	30033	2.74	59625	5.90	240432	6.91	117797	8.34	206573	9.80	157056	12.85	166354	14.47
10M87374.D	ICV BNA@50PPM	30034	2.75	59310	5.90	240935	6.91	116829	8.34	207249	9.80	157200	12.85	162649	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.

1092401 0202

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M116599.D Method: EPA 8270E

Analysis Date/Time: 09/20/21 12:43

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:	167652	2.73	270896	5.92	1086050	6.94	557846	8.40	1091800	9.90	947569	12.99	1129101	14.67
Eval File Area Limit:	83826-335304		135448-541792		543025-2172100		278923-1115692		545900-2183600		473784-1895138		564550-2258202	
Eval File Rt Limit:	2.23-3.23		5.42-6.42		6.44-7.44		7.9-8.9		9.4-10.4		12.49-13.49		14.17-15.17	

Data File	Sample#														
7M116591.D	CAL BNA@2PPM	152234	2.72	270105	5.92	1087196	6.94	547810	8.39	1031030	9.89	942048	12.98	1078504	14.67
7M116592.D	CAL BNA@10PPM	132089	2.72	228383	5.92	914683	6.93	453083	8.39	846722	9.89	785231	12.98	903439	14.66
7M116593.D	CAL BNA@196PPM	134590	2.72	220145	5.92	930028	6.94	481326	8.40	936996	9.90	740317	13.00	944174	14.67
7M116594.D	CAL BNA@160PPM	138512	2.72	238172	5.92	983210	6.94	511279	8.40	987758	9.90	811371	13.00	1017539	14.68
7M116595.D	CAL BNA@120PPM	141565	2.72	242052	5.92	993369	6.94	516888	8.40	1003240	9.90	847787	12.99	1044691	14.67
7M116596.D	CAL BNA@80PPM	165066	2.72	282385	5.92	1154092	6.94	600681	8.40	1159076	9.90	1009683	12.99	1241399	14.68
7M116597.D	CAL BNA@20PPM	141618	2.72	252651	5.92	1003165	6.93	505530	8.40	956946	9.89	866183	12.99	1009547	14.67
7M116598.D	CAL BNA@0.5PPM	154546	2.72	279936	5.92	1119636	6.94	563416	8.40	1057865	9.90	953446	12.99	1075052	14.67
7M116599.D	CAL BNA@50PPM	167652	2.73	270896	5.92	1086050	6.94	557846	8.40	1091800	9.90	947569	12.99	1129101	14.67
7M116600.D	ICV BNA@50PPM	147927	2.72	255054	5.92	1016666	6.94	521666	8.40	1009561	9.90	881570	12.99	1032913	14.67

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.

1092401 0203

FORM8

Internal Standard Areas

Evaluation Std Data File: 10M87540.D Method: EPA 8270E

Analysis Date/Time: 09/29/21 08:26

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:	27469	2.75	54301	5.90	224026	6.90	112067	8.33	198798	9.79	149685	12.84	154188	14.47
Eval File Area Limit:	13734-54938		27150-108602		112013-448052		56034-224134		99399-397596		74842-299370		77094-308376	
Eval File Rt Limit:	2.25-3.25		5.4-6.4		6.4-7.4		7.83-8.83		9.29-10.29		12.34-13.34		13.97-14.97	

Data File	Sample#														
10M87541.D	SMB95060(MS)	22930	2.72	44641	5.90	180347	6.90	87019	8.33	155322	9.79	114539	12.84	119674	14.47
10M87542.D	SMB95061(MS)	21533	2.72	41348	5.90	167092	6.90	79726	8.33	142165	9.79	107056	12.84	109017	14.47
10M87543.D	SMB95061	19603	2.73	37947	5.90	154546	6.90	74104	8.33	133916	9.79	98007	12.84	100671	14.47
10M87544.D	SMB95060	23602	2.73	46087	5.90	188233	6.90	90488	8.33	160134	9.79	119329	12.84	120493	14.47
10M87545.D	AD26166-005	24289	2.72	45957	5.90	189211	6.90	91360	8.33	159213	9.79	119560	12.84	120437	14.47
10M87546.D	AD26166-006	22367	2.73	44053	5.90	175920	6.90	84917	8.33	151616	9.79	109223	12.84	112451	14.47
10M87547.D	AD26166-011	24220	2.73	45669	5.90	187357	6.90	89453	8.33	157166	9.79	114784	12.84	116081	14.47
10M87548.D	AD26166-012	23621	2.72	46473	5.90	187573	6.90	88885	8.33	157420	9.79	115293	12.84	116934	14.47
10M87549.D	AD26166-015	22793	2.74	44871	5.90	182473	6.90	87488	8.33	153757	9.79	113640	12.84	114137	14.47
10M87550.D	AD26166-016	25960	2.73	51423	5.90	203255	6.90	96298	8.33	169900	9.79	123661	12.84	126094	14.47
10M87551.D	AD26166-017	21067	2.73	42344	5.90	169338	6.90	79841	8.33	138210	9.79	99469	12.84	97452	14.47
10M87552.D	AD26166-005(MS)	25920	2.73	51263	5.90	211366	6.90	100590	8.33	176327	9.79	126476	12.84	127495	14.47
10M87553.D	AD26166-005(MSD)	21103	2.73	41277	5.90	165043	6.90	79314	8.33	139728	9.79	103009	12.84	102326	14.47
10M87554.D	AD26194-001	21790	2.76	43394	5.90	173761	6.90	82890	8.33	139376	9.79	104104	12.84	104591	14.47
10M87555.D	AD26178-006	24012	2.73	44849	5.90	179207	6.90	84748	8.33	148740	9.79	110698	12.84	111340	14.47
10M87556.D	OMB95073	25325	2.75	48816	5.90	198472	6.90	95020	8.33	168226	9.79	121935	12.84	124614	14.47
10M87557.D	OMB95073(MS)	25142	2.75	49400	5.90	199833	6.90	94242	8.33	167168	9.79	124202	12.84	125558	14.47
10M87558.D	SMB95075(MS)	23231	2.74	41597	5.90	167489	6.90	80545	8.33	139736	9.79	104329	12.84	105475	14.47
10M87559.D	SMB95075	22302	2.73	40624	5.90	166531	6.90	79237	8.33	138279	9.79	101377	12.84	101071	14.47
10M87560.D	AD26185-001	21816	2.74	41637	5.90	167179	6.90	77809	8.33	138377	9.79	99703	12.84	100066	14.47

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.

1092401 0204

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M116778.D Method: EPA 8270E

Analysis Date/Time: 09/29/21 08:08

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:	164234	2.73	285898	5.92	1177397	6.94	604203	8.40	1159581	9.90	996748	13.00	1154362	14.68
Eval File Area Limit:	82117-328468		142949-571796		588698-2354794		302102-1208406		579790-2319162		498374-1993496		577181-2308724	
Eval File Rt Limit:	2.23-3.23		5.42-6.42		6.44-7.44		7.9-8.9		9.4-10.4		12.5-13.5		14.18-15.18	

Data File	Sample#														
7M116779.D	SMB95060	143056	2.72	262085	5.92	1043180	6.94	514893	8.40	944998	9.90	782365	12.99	833173	14.68
7M116780.D	AD26140-003	166297	2.72	306848	5.92	1103681	6.94	594959	8.40	1072269	9.90	887265	13.00	1023257	14.70
7M116781.D	AD26250-001	176085	2.71	305673	5.92	1092776	6.95	528651	8.41	1018891	9.90	848070	13.00	944487	14.70
7M116782.D	AD26250-002	160748	2.71	275148	5.92	1046889	6.94	495447	8.40	963650	9.90	796949	13.00	868810	14.69
7M116783.D	AD26250-003	152718	2.72	284356	5.92	1118606	6.94	538757	8.40	966816	9.90	788908	13.00	885427	14.69
7M116784.D	AD26250-004	157979	2.71	279339	5.92	1050383	6.94	499587	8.40	949759	9.90	772189	13.00	875517	14.71
7M116785.D	AD26250-015(3X)	147859	2.72	195023	5.93	156020A	6.96	380697	8.45	933495	9.91	778267	13.01	880312	14.73
7M116786.D	AD26166-008	142448	2.72	261990	5.92	1027591	6.94	489813	8.41	872371	9.90	725157	13.00	819765	14.74
7M116787.D	AD26166-010	152357	2.72	275262	5.92	1067399	6.94	513090	8.40	918797	9.90	756600	13.00	847542	14.72
7M116788.D	AD26166-013	155794	2.72	279198	5.92	1097342	6.95	524093	8.42	932515	9.91	762214	13.00	852545	14.73
7M116789.D	AD26166-014	169142	2.72	292642	5.92	1300747	6.95	556092	8.42	971092	9.91	794661	13.01	869671	14.74
7M116790.D	AD26166-004	157008	2.72	285638	5.92	1125197	6.95	542325	8.41	965447	9.91	797619	13.01	877840	14.74
7M116791.D	AD26166-007	158011	2.72	286122	5.92	1129918	6.95	541162	8.41	942087	9.91	759075	13.00	832994	14.71
7M116792.D	AD26166-009	144378	2.72	264574	5.92	1054986	6.95	511032	8.42	900359	9.91	707570	13.00	788023	14.71
7M116793.D	AD26250-015(20X)	155141	2.73	246547	5.92	825181	6.95	509064	8.42	985875	9.91	811005	13.00	884068	14.72
7M116794.D	AD26274-001(3X)	163829	2.72	292133	5.92	1123837	6.94	498885	8.40	791400	9.91	806645	13.00	893127	14.69
7M116795.D	AD26178-002	163146	2.71	291869	5.92	1150836	6.94	559053	8.41	1019911	9.90	804324	13.00	892728	14.69
7M116796.D	AD26178-004	168120	2.72	294425	5.92	1151303	6.94	548283	8.40	957245	9.90	748490	13.00	831168	14.68
7M116797.D	AD25993-001(5X)	156218	2.73	256816	5.92	847694	6.94	432123	8.42	820306	9.91	793253	13.00	861359	14.69
7M116798.D	AD26274-001(3X)(MS)	159521	2.73	278345	5.92	1060967	6.94	486119	8.40	752985	9.91	779362	13.01	860758	14.68
7M116799.D	AD26274-001(3X)(MS	160022	2.72	282551	5.92	1084052	6.94	499801	8.40	784265	9.91	794665	13.00	870384	14.68
7M116800.D	SMB95075	129925	2.72	233433	5.92	918984	6.94	447071	8.40	800635	9.90	614745	12.99	653038	14.67
7M116801.D	AD26094-009	138710	2.72	243341	5.92	968784	6.93	458530	8.40	818154	9.90	666367	13.00	728397	14.68
7M116802.D	AD26217-008	148669	2.73	272151	5.92	1080446	6.93	525200	8.40	937039	9.90	739821	12.99	809078	14.68
7M116803.D	AD26217-010	151034	2.72	265873	5.92	1061146	6.94	514886	8.40	912177	9.90	718600	13.00	790009	14.68
7M116804.D	AD26217-012	174192	2.71	308115	5.92	1218216	6.93	579336	8.39	1036709	9.90	817556	12.99	879093	14.68
7M116805.D	AD26217-014	147968	2.71	259863	5.92	1037271	6.94	500079	8.40	887848	9.90	697448	12.99	752263	14.69
7M116806.D	AD26206-004	121610	2.72	211615	5.92	844435	6.94	413672	8.40	742010	9.90	566927	12.99	614561	14.67

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.

1092401 0205

FORM8

Internal Standard Areas

Evaluation Std Data File: 9M108554.D Method: EPA 8270E

Analysis Date/Time: 09/29/21 12:05

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:	72843	2.80	142739	5.97	575073	6.98	289869	8.43	562129	9.91	580560	12.98	674565	14.66
Eval File Area Limit:	36422-145686		71370-285478		287536-1150146		144934-579738		281064-1124258		290280-1161120		337282-1349130	
Eval File Rt Limit:	2.3-3.3		5.47-6.47		6.48-7.48		7.93-8.93		9.41-10.41		12.48-13.48		14.16-15.16	

Data File	Sample#														
9M108548.D	CAL BNA@10PPM	62207	2.80	126714	5.97	509526	6.98	258791	8.43	498141	9.91	510267	12.98	591889	14.63
9M108549.D	CAL BNA@2PPM	75495	2.80	156449	5.97	653411	6.98	333432	8.43	644228	9.91	660465	12.98	768399	14.65
9M108550.D	CAL BNA@196PPM	66897	2.81	129954	5.97	522951	6.98	264184	8.43	511406	9.91	536167	12.99	609251	14.65
9M108551.D	CAL BNA@160PPM	71309	2.80	139967	5.97	558358	6.98	283584	8.43	549661	9.91	576401	12.99	674314	14.64
9M108552.D	CAL BNA@120PPM	71280	2.80	142257	5.97	569254	6.98	285080	8.43	559440	9.91	582863	12.98	681516	14.64
9M108553.D	CAL BNA@80PPM	75237	2.80	148719	5.97	598906	6.98	300552	8.43	581865	9.91	606994	12.98	711064	14.64
9M108554.D	CAL BNA@50PPM	72843	2.80	142739	5.97	575073	6.98	289869	8.43	562129	9.91	580560	12.98	674565	14.66
9M108555.D	CAL BNA@20PPM	70387	2.80	142830	5.97	568080	6.98	284087	8.43	551238	9.91	572043	12.98	657881	14.64
9M108556.D	CAL BNA@0.5PPM	80698	2.81	161208	5.97	657769	6.98	329798	8.42	632379	9.91	640937	12.98	755166	14.64
9M108557.D	ICV BNA@50PPM	70518	2.81	145183	5.97	581696	6.98	290619	8.44	565917	9.91	592578	12.98	675634	14.64
9M108558.D	AD26228-001	59606	2.80	114539	5.97	462472	6.98	229605	8.42	437418	9.91	428970	12.98	495862	14.63
9M108559.D	AD26228-002	54370	2.80	105236	5.97	422058	6.98	207988	8.42	394367	9.91	391239	12.98	449386	14.64
9M108560.D	AD26228-003	60263	2.81	116989	5.97	460291	6.98	229583	8.42	436890	9.91	430559	12.98	494415	14.64
9M108561.D	AD26228-004	55366	2.80	108115	5.97	427538	6.98	211691	8.42	404988	9.91	397150	12.98	459163	14.63
9M108562.D	AD26228-005	60153	2.80	118537	5.97	474147	6.98	235143	8.42	450795	9.91	448581	12.98	515064	14.62
9M108563.D	WMB95071	69019	2.80	132016	5.97	526304	6.98	260566	8.42	495463	9.91	482456	12.98	562165	14.63
9M108564.D	95071	56886	2.81	111856	5.97	440303	6.98	220345	8.43	423296	9.91	440483	12.98	500021	14.63
9M108565.D	MBS-1	64930	2.78	116714	5.97	464592	6.98	232405	8.42	448240	9.91	462189	12.98	529917	14.63
9M108566.D	MBS-2	65841	2.78	120728	5.97	480725	6.98	240780	8.42	460564	9.91	473903	12.98	542696	14.63
9M108567.D	MBS-3	67520	2.78	122451	5.97	492754	6.98	246847	8.43	470970	9.91	486625	12.98	556846	14.63
9M108568.D	MBS-4	67289	2.78	123817	5.97	491510	6.98	246289	8.43	473535	9.91	491142	12.98	566576	14.63
9M108569.D	SMB95075	57171	2.78	108935	5.97	437431	6.98	220354	8.42	426223	9.91	417030	12.98	473373	14.63
9M108570.D	AD26217-002	76383	2.78	147478	5.97	587639	6.98	299152	8.42	572661	9.91	574519	12.98	663987	14.63
9M108571.D	AD26217-002(MS)	62355	2.78	120583	5.97	483855	6.98	240861	8.42	465380	9.91	486344	12.98	558366	14.63
9M108572.D	AD26217-002(MSD)	57869	2.81	116982	5.97	463156	6.98	232695	8.42	453935	9.91	467774	12.98	536628	14.62
9M108573.D	AD26217-004	68195	2.78	135533	5.97	545977	6.98	274358	8.42	533393	9.91	527483	12.98	614213	14.62
9M108574.D	AD26217-006	71827	2.79	143119	5.97	573975	6.98	291213	8.42	566689	9.91	564229	12.98	655606	14.62

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.

1092401 0206

FORM8

Internal Standard Areas

Evaluation Std Data File: 7M116808.D Method: EPA 8270E

Analysis Date/Time: 09/30/21 08:24

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:	167232	2.72	280949	5.92	1161361	6.94	599387	8.40	1138773	9.90	1001959	13.00	1094533	14.69
Eval File Area Limit:	83616-334464		140474-561898		580680-2322722		299694-1198774		569386-2277546		500980-2003918		547266-2189066	
Eval File Rt Limit:	2.22-3.22		5.42-6.42		6.44-7.44		7.9-8.9		9.4-10.4		12.5-13.5		14.19-15.19	

Data File	Sample#														
7M116809.D	AD26217-018	182320	2.71	314101	5.92	1251307	6.93	596228	8.39	1064891	9.90	862848	13.00	956987	14.68
7M116810.D	AD26206-002(3X)	162623	2.72	275344	5.92	1097843	6.94	535575	8.40	964083	9.90	763449	12.99	834275	14.69
7M116811.D	AD26094-005(5X)	155502	2.72	269108	5.92	1063154	6.94	516391	8.40	897127	9.90	735755	12.99	808367	14.68
7M116812.D	AD26217-016(10X)	159191	2.72	277261	5.92	1080297	6.94	520771	8.39	932680	9.90	733672	12.99	797668	14.69
7M116813.D	AD26249-001(5X)	171224	2.72	296151	5.92	1162682	6.93	555653	8.39	978432	9.90	796910	13.00	867816	14.69
7M116814.D	AD26034-011(10X)	154350	2.72	268282	5.92	1062698	6.94	512823	8.40	919652	9.90	723100	12.99	787763	14.69
7M116815.D	AD26034-010(20X)	146925	2.73	255761	5.92	985196	6.94	478964	8.40	859308	9.90	666627	12.99	731226	14.69
7M116816.D	AD26251-004	163974	2.71	281972	5.92	1110915	6.94	530321	8.40	930011	9.90	746060	13.00	813569	14.73
7M116817.D	AD26206-002	164656	2.72	291722	5.92	1145846	6.94	550942	8.40	978139	9.90	765135	12.99	817674	14.69
7M116818.D	AD26217-016(5X)	162715	2.72	284492	5.92	1097319	6.93	531908	8.40	928392	9.90	730040	12.99	772064	14.68
7M116819.D	AD26034-010(5X)	168343	2.72	289938	5.92	1118162	6.94	536607	8.40	943139	9.90	733121	12.99	743482	14.68
7M116820.D	AD26034-011(5X)	165799	2.73	287782	5.92	1122712	6.94	540283	8.40	942817	9.90	728817	12.99	728165	14.69

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.

1092401 0207

FORM8

Internal Standard Areas

Evaluation Std Data File: 9M108577.D Method: EPA 8270E

Analysis Date/Time: 09/30/21 09:35

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:	76504	2.79	157533	5.97	639797	6.98	337092	8.43	675883	9.91	731495	12.98	877145	14.63
Eval File Area Limit:	38252-153008		78766-315066		319898-1279594		168546-674184		337942-1351766		365748-1462990		438572-1754290	
Eval File Rt Limit:	2.29-3.29		5.47-6.47		6.48-7.48		7.93-8.93		9.41-10.41		12.48-13.48		14.13-15.13	
Data File	Sample#													
9M108578.D	WMB95071(MS)	56943	2.79	117896	5.97	473136	6.98	241851	8.42	478715	9.91	513121	12.98	592663	14.63
9M108579.D	WMB95078	60154	2.78	124561	5.97	496249	6.97	261013	8.42	517531	9.91	543037	12.98	633261	14.62
9M108580.D	AD26205-001	57585	2.78	115640	5.97	459259	6.97	234475	8.42	458460	9.91	494482	12.97	577639	14.62
9M108581.D	AD26205-002	60511	2.78	120953	5.97	492091	6.97	252019	8.42	505287	9.91	529889	12.97	613774	14.62
9M108582.D	AD26205-003	58891	2.79	115642	5.97	470034	6.97	240048	8.42	478181	9.91	502825	12.98	587977	14.62
9M108583.D	AD26205-004	61152	2.78	122514	5.97	497527	6.97	256347	8.42	506952	9.91	521294	12.97	604618	14.62
9M108584.D	AD26200-013	58311	2.78	114915	5.97	467158	6.97	241234	8.42	476809	9.91	501165	12.97	569657	14.62
9M108585.D	AD26200-015	61024	2.78	120106	5.97	487881	6.97	250617	8.42	504242	9.91	526313	12.97	604127	14.62
9M108586.D	AD26200-017	61965	2.79	120392	5.97	489827	6.97	252490	8.42	503863	9.91	527193	12.98	604868	14.62
9M108587.D	AD26217-004(R)	71377	2.77	138681	5.97	567267	6.98	311039	8.43	617905	9.91	640912	12.98	738367	14.64
9M108588.D	95088	58172	2.79	120790	5.97	471274	6.98	240404	8.43	483834	9.91	512915	12.98	605882	14.63
9M108589.D	WMB95088	50381	2.78	105727	5.97	423755	6.97	221184	8.42	432684	9.91	456664	12.97	527670	14.62
9M108590.D	AD26283-001	56881	2.79	115125	5.97	448290	6.97	234163	8.42	457766	9.91	481311	12.98	569966	14.62
9M108591.D	AD26227-001	61118	2.78	124246	5.97	496495	6.97	259255	8.42	514507	9.91	538094	12.97	630144	14.62
9M108592.D	AD26283-002	57733	2.79	117051	5.97	465936	6.97	242051	8.42	474925	9.91	502838	12.98	599085	14.62
9M108593.D	AD26283-003	56733	2.79	116536	5.97	450270	6.97	240164	8.42	474937	9.91	493324	12.97	584698	14.62
9M108594.D	AD26283-004	61363	2.78	124577	5.97	498367	6.97	262725	8.42	520225	9.91	547999	12.97	639796	14.62
9M108595.D	AD26227-001(MS)	61304	2.79	122466	5.97	473121	6.98	244623	8.42	492752	9.91	530420	12.98	617651	14.63
9M108596.D	AD26227-001(MSD)	59507	2.78	122210	5.97	477654	6.98	247222	8.42	492140	9.91	534648	12.98	623673	14.63

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.

1092401 0208

FORM8

Internal Standard Areas

Evaluation Std Data File: 9M108598.D Method: EPA 8270E

Analysis Date/Time: 10/01/21 08:29

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:	64644	2.80	130504	5.97	511743	6.98	265398	8.42	535698	9.91	587264	12.98	700546	14.62
Eval File Area Limit:	32322-129288		65252-261008		255872-1023486		132699-530796		267849-1071396		293632-1174528		350273-1401092	
Eval File Rt Limit:	2.3-3.3		5.47-6.47		6.48-7.48		7.92-8.92		9.41-10.41		12.48-13.48		14.12-15.12	
Data File Sample#														
9M108599.D SMB95086(MS)	54702	2.78	108956	5.97	417599	6.97	220060	8.42	434860	9.91	476092	12.98	563743	14.62
9M108600.D SMB95086	61013	2.78	122476	5.97	483600	6.97	250806	8.42	495184	9.91	522670	12.97	612219	14.62
9M108601.D WMB95092	57045	2.79	117328	5.97	451578	6.97	232274	8.42	462267	9.91	480568	12.97	565223	14.62
9M108602.D AD26247-007	52264	2.80	106261	5.97	418478	6.97	211736	8.42	423331	9.91	438007	12.97	511160	14.62
9M108603.D AD26247-008	46834	2.80	97732	5.97	375594	6.97	183837	8.42	358590	9.91	396605	12.97	475230	14.62
9M108604.D AD26247-010	50082	2.80	105313	5.97	410202	6.97	209819	8.42	416675	9.91	428507	12.97	505733	14.62
9M108605.D AD26247-011	54778	2.80	111640	5.97	434283	6.97	223906	8.42	443160	9.91	462337	12.97	547071	14.62
9M108606.D AD26247-013	50458	2.79	101385	5.97	393426	6.97	199008	8.42	400557	9.91	408674	12.97	485667	14.62
9M108607.D AD26241-014	54425	2.80	110011	5.97	422403	6.98	215301	8.42	423424	9.91	452636	12.98	541420	14.63
9M108608.D AD26241-015	62791	2.80	125463	5.97	440054	6.98	226054	8.43	426986	9.91	490272	12.98	611537	14.64
9M108609.D AD26241-016	45393	2.80	102056	5.97	399544	6.97	210647	8.42	411989	9.91	428970	12.97	521353	14.62
9M108610.D AD26241-017	43407	2.80	98163	5.97	382604	6.97	202465	8.42	400013	9.91	408147	12.97	486503	14.62
9M108611.D AD26241-018	49097	2.80	107050	5.97	417066	6.97	219751	8.42	435360	9.91	454787	12.97	534532	14.62

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.

PCB Data

Form1

ORGANICS PCB REPORT

Sample Number: AD26217-002
Client Id: SB09 COMP
Data File: 2G158513.D
Analysis Date: 09/30/21 10:47
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
Matrix: Soil
Initial Vol: 20g
Final Vol: 10ml
Dilution: 1
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.029	U	11097-69-1	Aroclor-1254	0.029	U
11104-28-2	Aroclor-1221	0.029	U	11096-82-5	Aroclor-1260	0.029	U
11141-16-5	Aroclor-1232	0.029	U	37324-23-5	Aroclor-1262	0.029	U
53469-21-9	Aroclor-1242	0.029	U	11100-14-4	Aroclor-1268	0.029	U
12672-29-6	Aroclor-1248	0.029	U	1336-36-3	Aroclor (Total)	0.029	U

Worksheet #: 610843

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\2021\GC_2\Data\09-30-21\
Data File : 2G158513.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:47
Operator : MS/MLC/MC/PR
Sample : AD26217-002
Misc : S,PCB
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:13:15 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

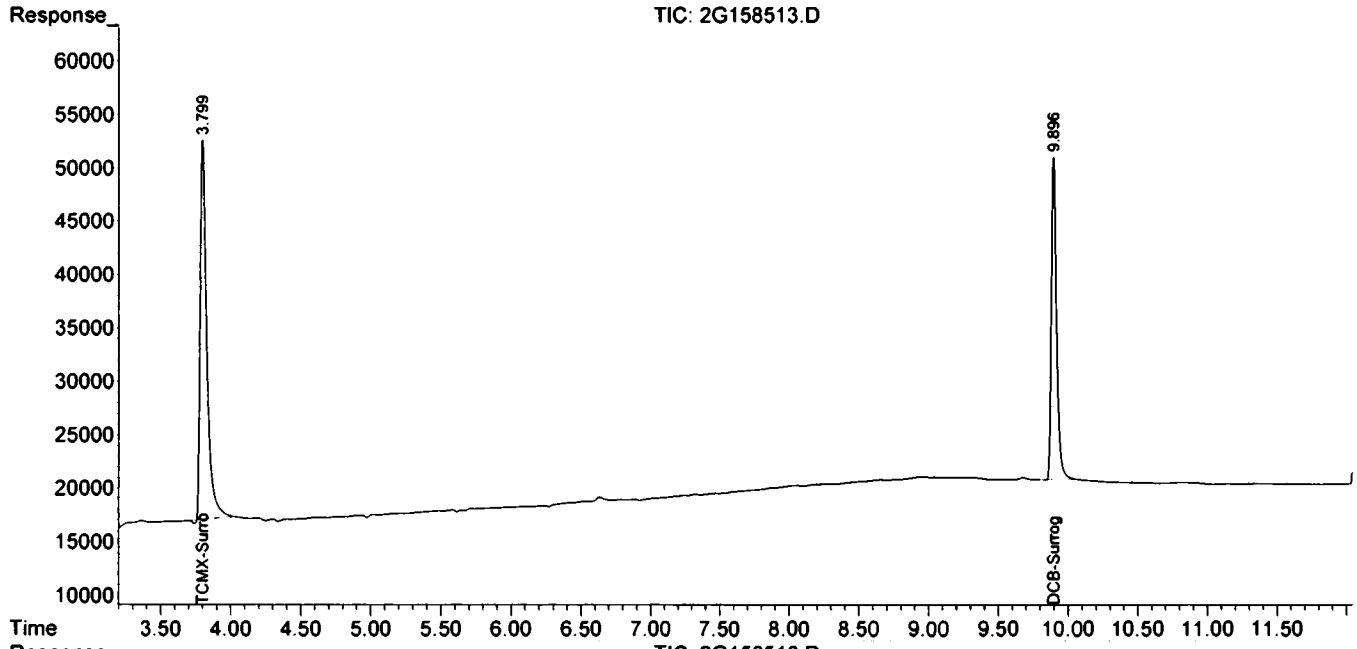
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.800	3.816	1163232	619716	90.796	95.238
45)DCB-Surrogate	9.897	10.640	775127	521046	83.131	82.741

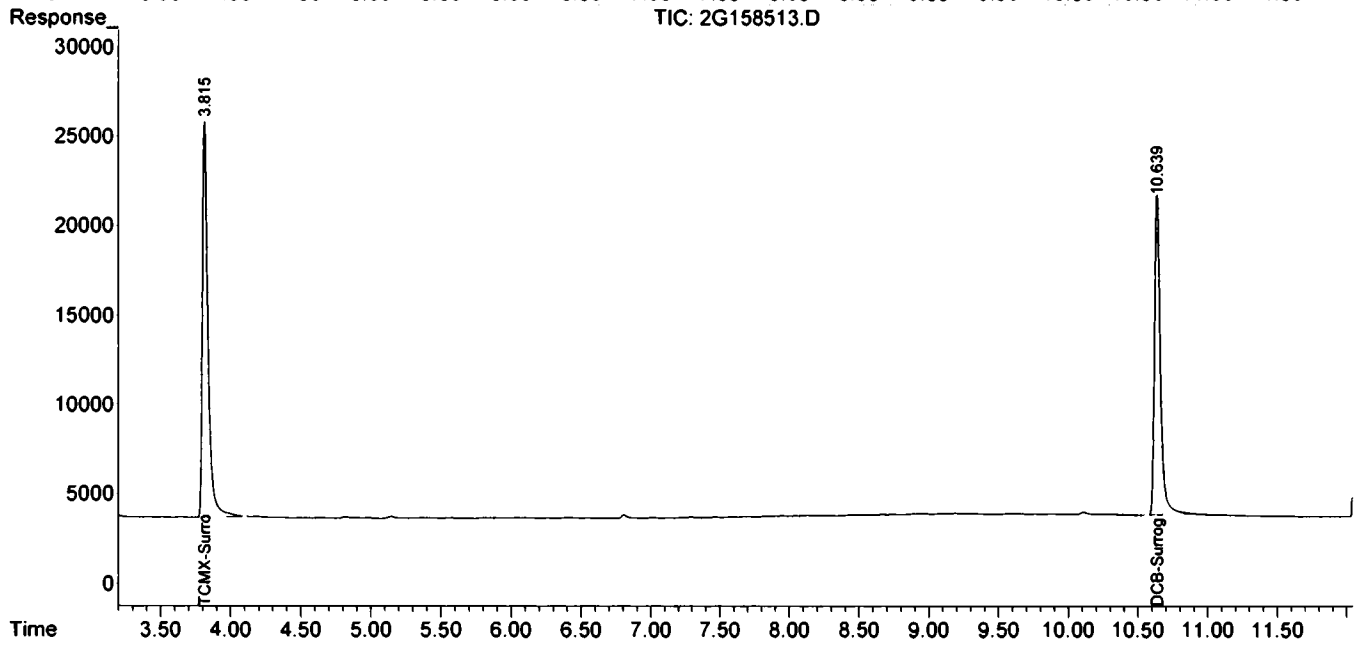
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158513.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:47
Operator : MS/MLC/MC/PR
Sample : AD26217-002
Misc : S,PCB
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:13:15 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-004
Client Id: SB08 COMP
Data File: 2G158512.D
Analysis Date: 09/30/21 10:32
Date Rec/Extracted: 09/23/21-09/29/21
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: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.030	U	11097-69-1	Aroclor-1254	0.030	U
11104-28-2	Aroclor-1221	0.030	U	11096-82-5	Aroclor-1260	0.030	U
11141-16-5	Aroclor-1232	0.030	U	37324-23-5	Aroclor-1262	0.030	U
53469-21-9	Aroclor-1242	0.030	U	11100-14-4	Aroclor-1268	0.030	U
12672-29-6	Aroclor-1248	0.030	U	1336-36-3	Aroclor (Total)	0.030	U

Worksheet #: 610843

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\2021\GC_2\Data\09-30-21\
Data File : 2G158512.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:32
Operator : MS/MLC/MC/PR
Sample : AD26217-004
Misc : S,PCB
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:13:10 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

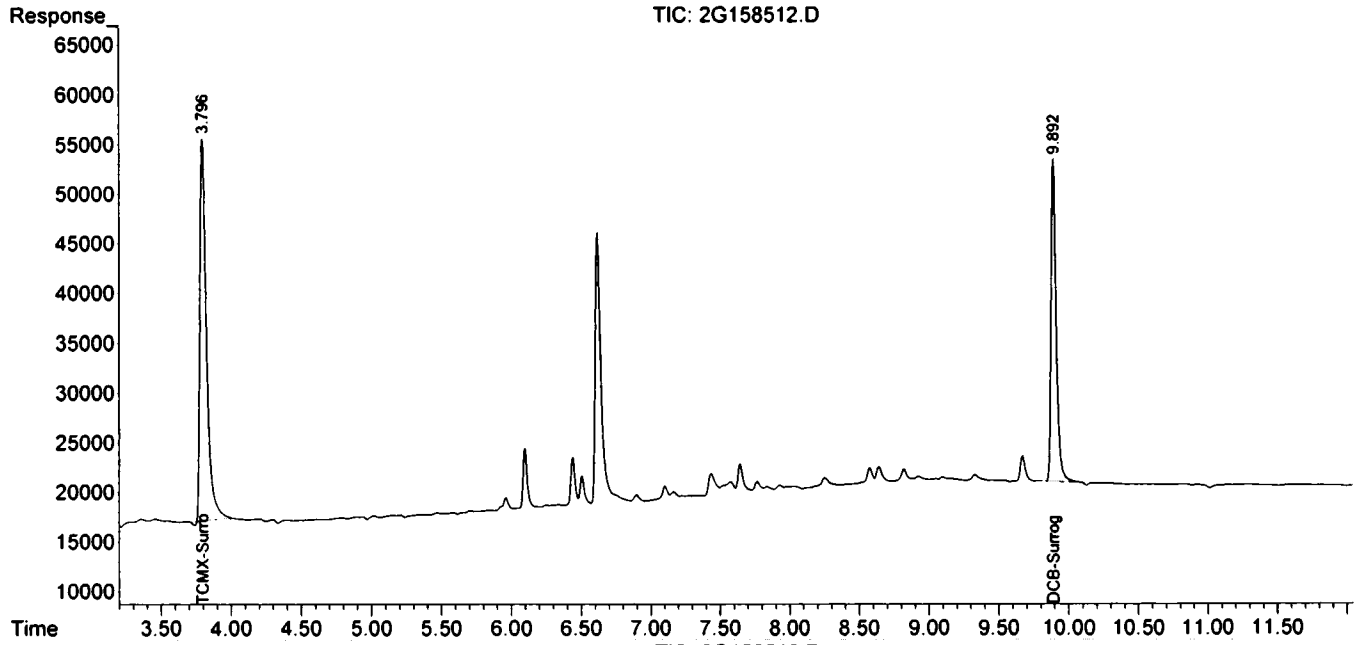
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.797	3.814	1252457	673300	97.760	103.473
45)DCB-Surrogate	9.893	10.636	821890	547828	88.146	86.994

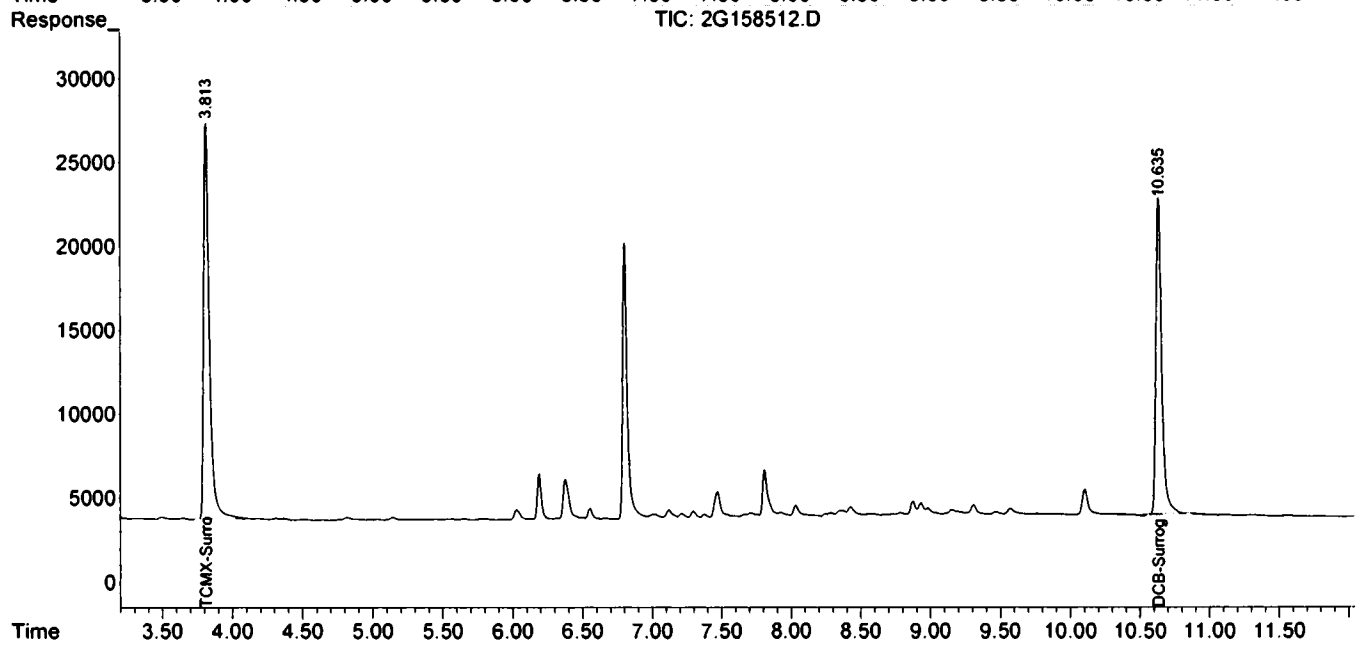
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158512.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:32
Operator : MS/MLC/MC/PR
Sample : AD26217-004
Misc : S,PCB
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:13:10 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-006
Client Id: SB07 COMP
Data File: 3G130794.D
Analysis Date: 09/30/21 09:14
Date Rec/Extracted: 09/23/21-09/29/21
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: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.030	U	11097-69-1	Aroclor-1254	0.030	U
11104-28-2	Aroclor-1221	0.030	U	11096-82-5	Aroclor-1260	0.030	U
11141-16-5	Aroclor-1232	0.030	U	37324-23-5	Aroclor-1262	0.030	U
53469-21-9	Aroclor-1242	0.030	U	11100-14-4	Aroclor-1268	0.030	U
12672-29-6	Aroclor-1248	0.030	U	1336-36-3	Aroclor (Total)	0.030	U

Worksheet #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130794.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:14
Operator : MS/MLC/MC/PR
Sample : AD26217-006
Misc : S,PCB
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:51 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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

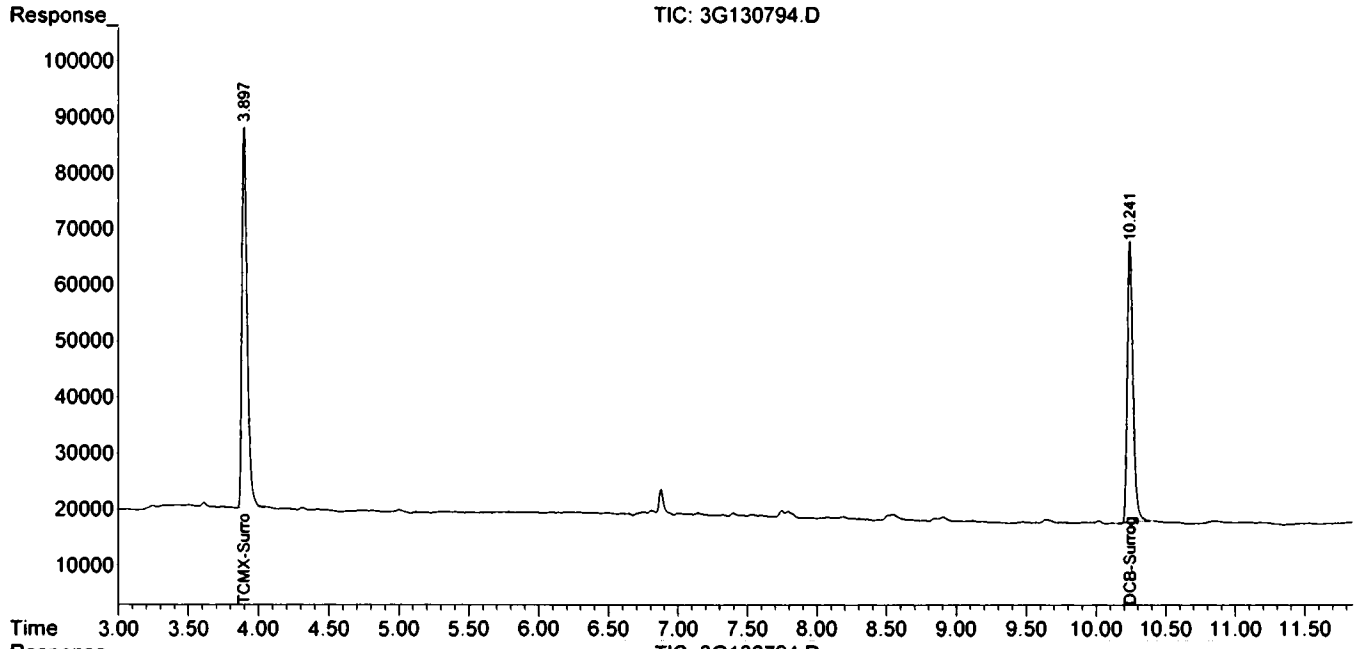
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.898	3.931	1742017	1821386	95.067	88.585
45)DCB-Surrogate	10.242	10.885	1432659	1704814	88.143	87.345

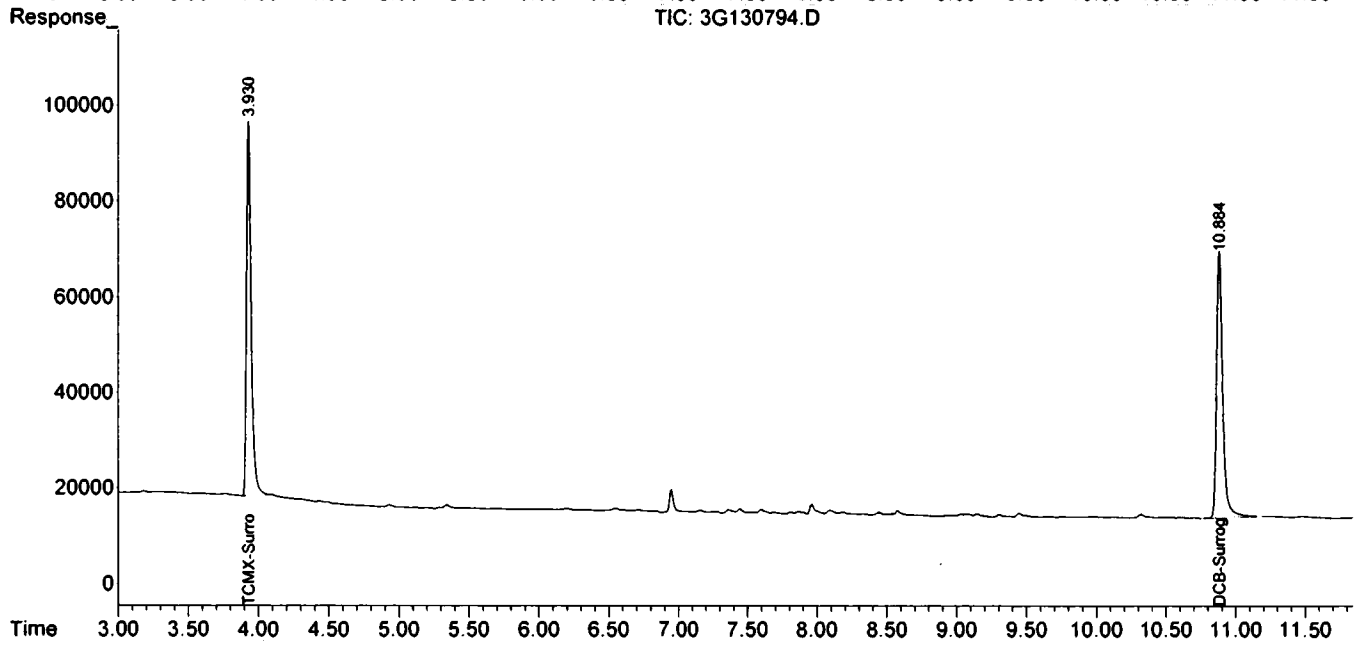
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130794.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:14
Operator : MS/MLC/MC/PR
Sample : AD26217-006
Misc : S,PCB
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:51 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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: AD26217-008
Client Id: SB06 COMP
Data File: 2G158511.D
Analysis Date: 09/30/21 10:17
Date Rec/Extracted: 09/23/21-09/29/21
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**	**0.052**
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**	**0.052**

Worksheet #: 610843

Total Target Concentration 0.052

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\2021\GC_2\Data\09-30-21\
Data File : 2G158511.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:17
Operator : MS/MLC/MC/PR
Sample : AD26217-008
Misc : S,PCB
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:58 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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	3.797	3.814	1216735	659101	94.972	101.291
7)Aroclor-1260 {1}	6.894	7.210	48954	38861	81.850	96.766
8)Aroclor-1260 {2}	7.162	7.298	79993	43152	100.580	100.221
10)Aroclor-1260 {4}	7.923	8.282	49863	30359	106.905m	94.864m
11)Aroclor-1260 {5}	8.645	8.984	71714	27640	89.515	89.312m
45)DCB-Surrogate	9.894	10.637	791421	552622	84.878	87.756

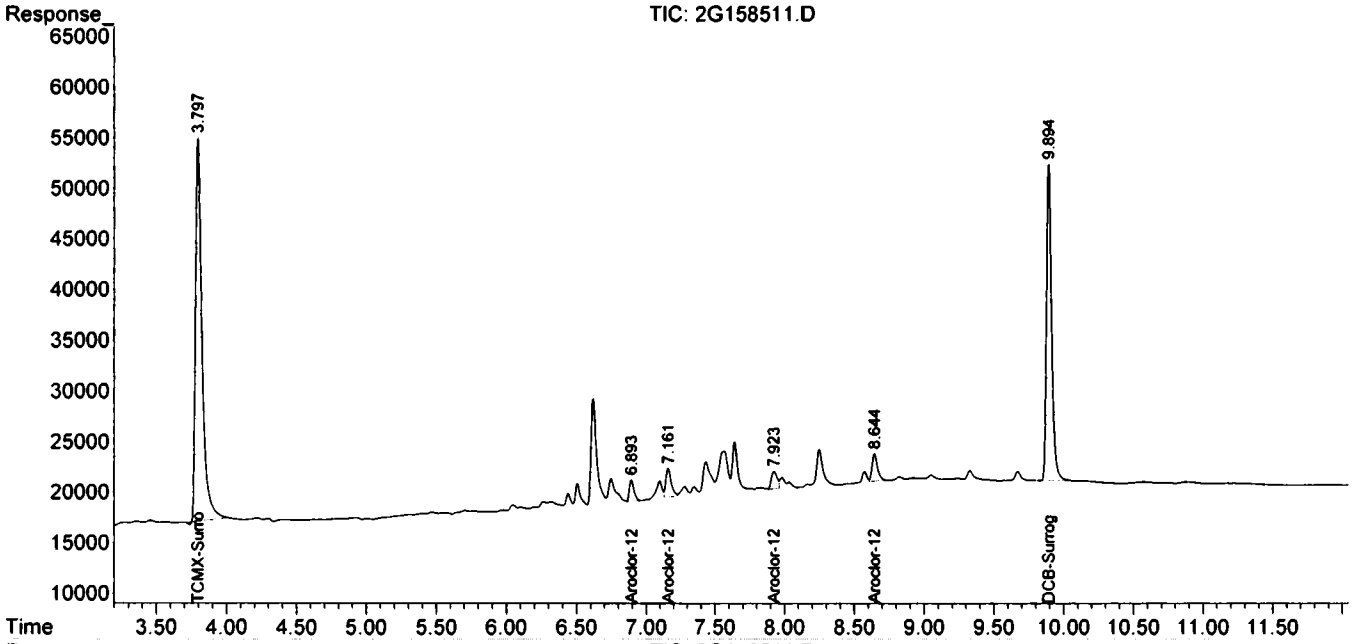
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

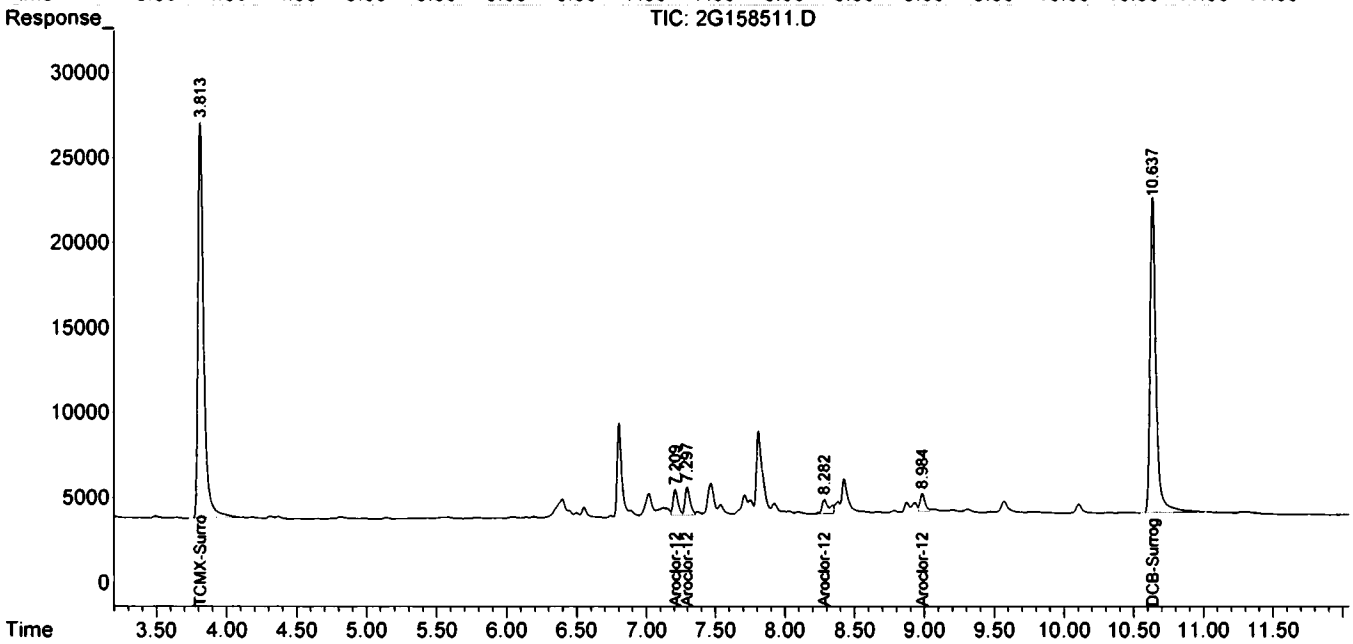
Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158511.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:17
Operator : MS/MLC/MC/PR
Sample : AD26217-008
Misc : S,PCB
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:58 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-010
Client Id: SB05 COMP
Data File: 3G130795.D
Analysis Date: 09/30/21 09:28
Date Rec/Extracted: 09/23/21-09/29/21
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: 88

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 #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130795.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:28
Operator : MS/MLC/MC/PR
Sample : AD26217-010
Misc : S,PCB
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:58 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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	3.899	3.933	1394284	1483323	76.090	72.143
45)DCB-Surrogate	10.240	10.884	1136541	1393374	69.925	71.389

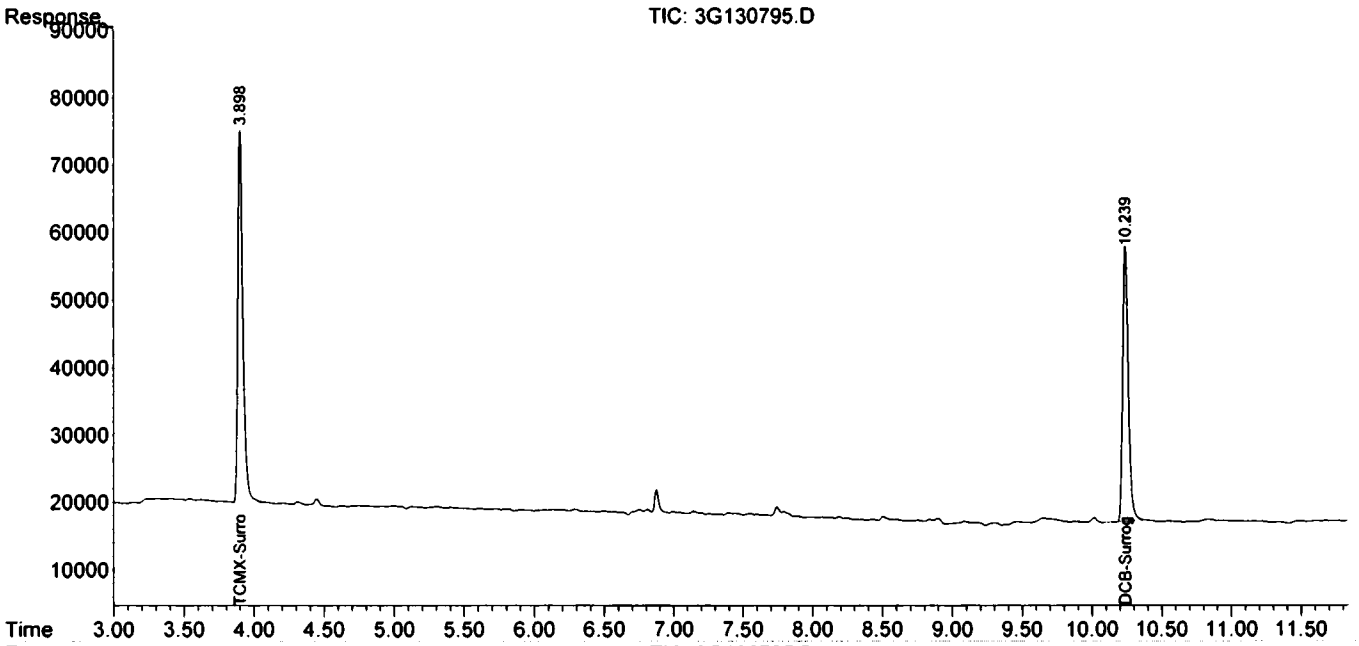
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

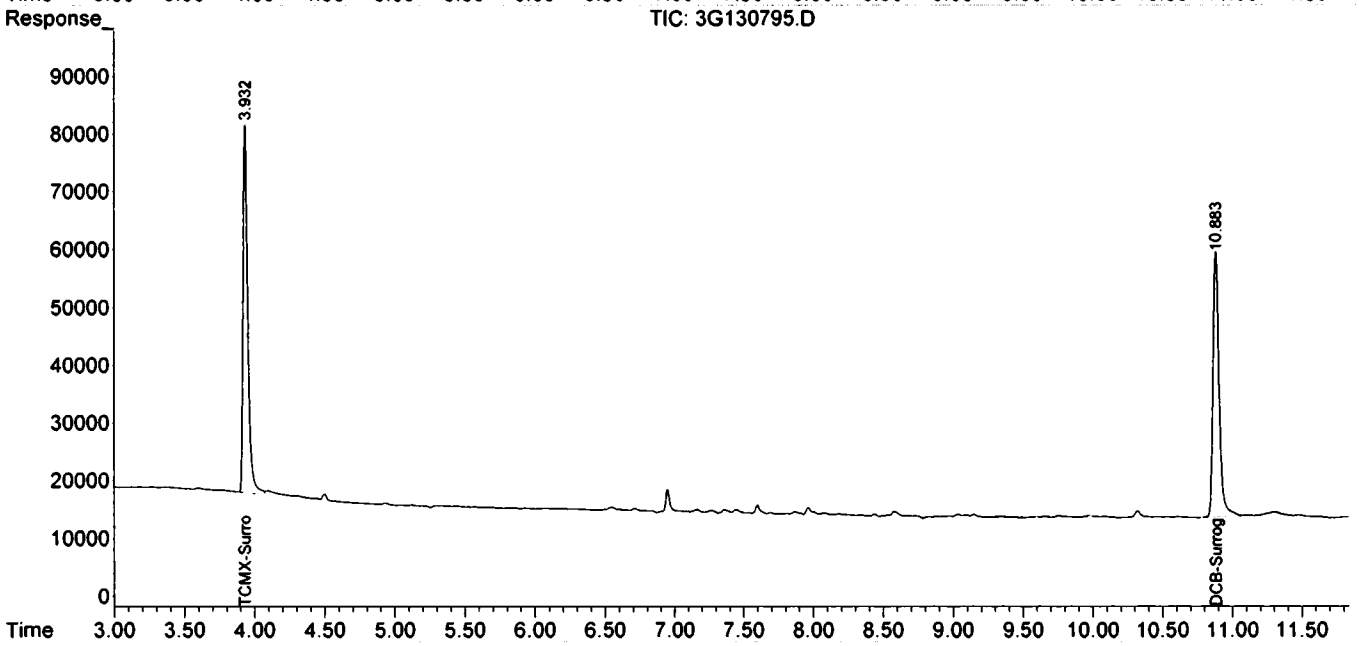
Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130795.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:28
Operator : MS/MLC/MC/PR
Sample : AD26217-010
Misc : S,PCB
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:58 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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: AD26217-012
Client Id: SB04 COMP
Data File: 3G130796.D
Analysis Date: 09/30/21 09:43
Date Rec/Extracted: 09/23/21-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 8082A
Matrix: Soil
Initial Vol: 20g
Final Vol: 10ml
Dilution: 1
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.029	U	11097-69-1	Aroclor-1254	0.029	U
11104-28-2	Aroclor-1221	0.029	U	11096-82-5	Aroclor-1260	0.029	U
11141-16-5	Aroclor-1232	0.029	U	37324-23-5	Aroclor-1262	0.029	U
53469-21-9	Aroclor-1242	0.029	U	11100-14-4	Aroclor-1268	0.029	U
12672-29-6	Aroclor-1248	0.029	U	1336-36-3	Aroclor (Total)	0.029	U

Worksheet #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130796.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:43
Operator : MS/MLC/MC/PR
Sample : AD26217-012
Misc : S,PCB
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:19:18 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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

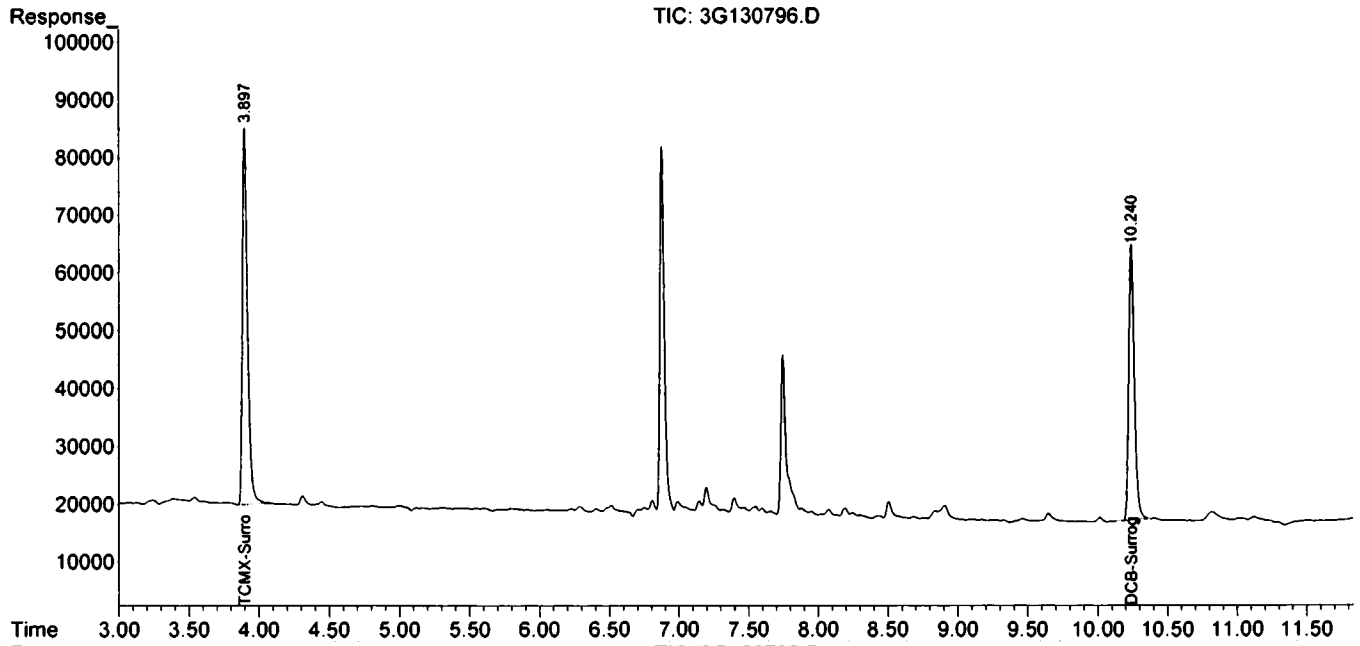
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.898	3.931	1666519	1814702	90.947	88.260
45)DCB-Surrogate	10.240	10.885	1325231	1752453	81.534	89.786

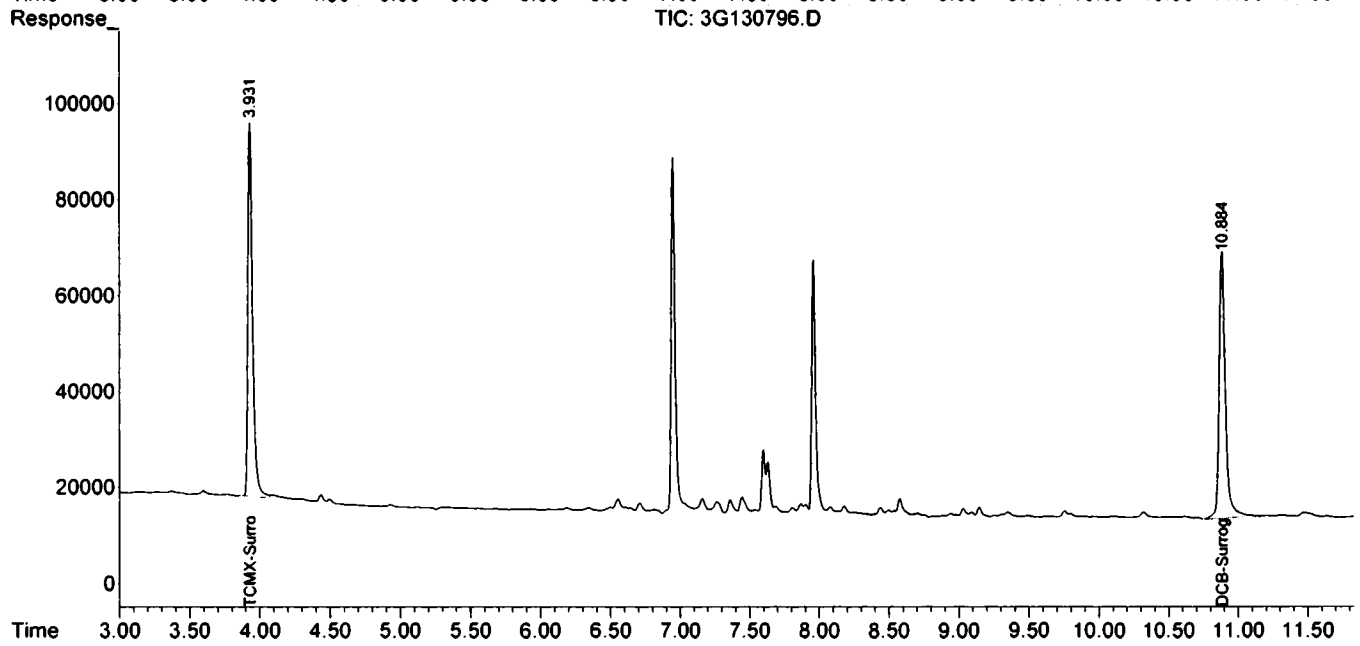
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130796.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:43
Operator : MS/MLC/MC/PR
Sample : AD26217-012
Misc : S,PCB
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:19:18 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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: AD26217-014
Client Id: SB03 COMP
Data File: 2G158510.D
Analysis Date: 09/30/21 10:02
Date Rec/Extracted: 09/23/21-09/29/21
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 #: 610843

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\2021\GC_2\Data\09-30-21\
Data File : 2G158510.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:02
Operator : MS/MLC/MC/PR
Sample : AD26217-014
Misc : S,PCB
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:27 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

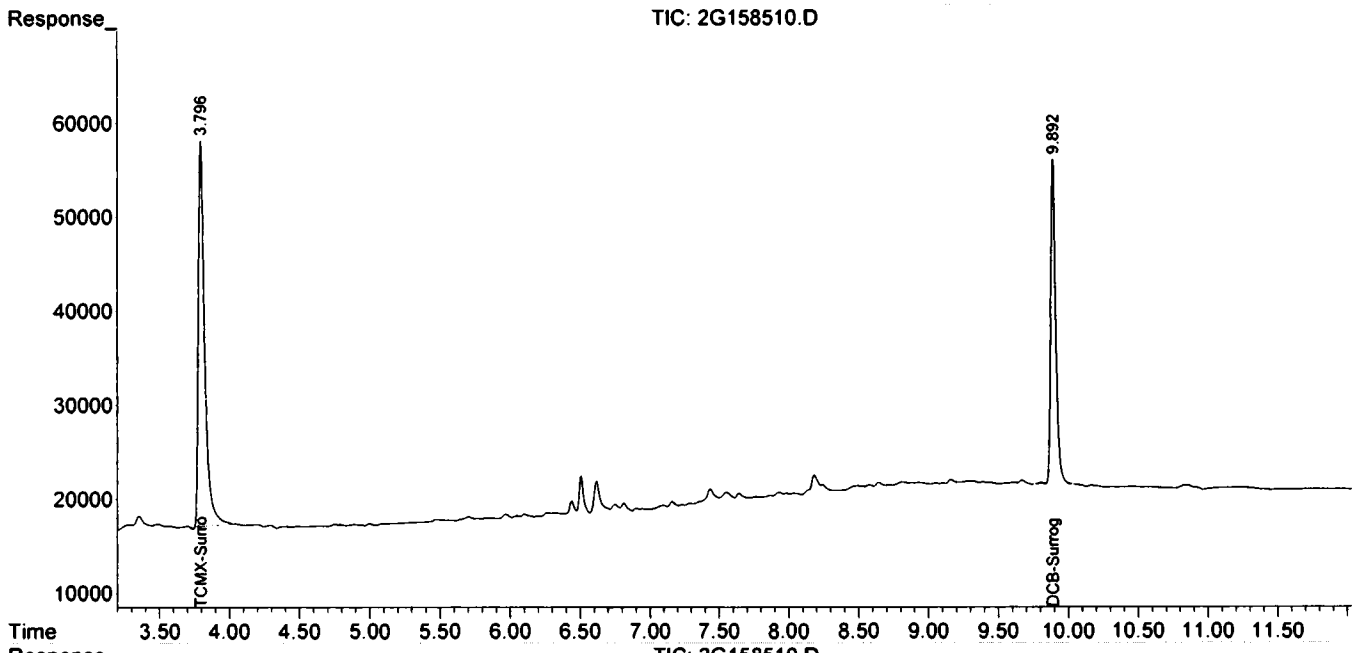
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.797	3.814	1292362	709430	100.875	109.025
45)DCB-Surrogate	9.893	10.636	861147	593871	92.356	94.306

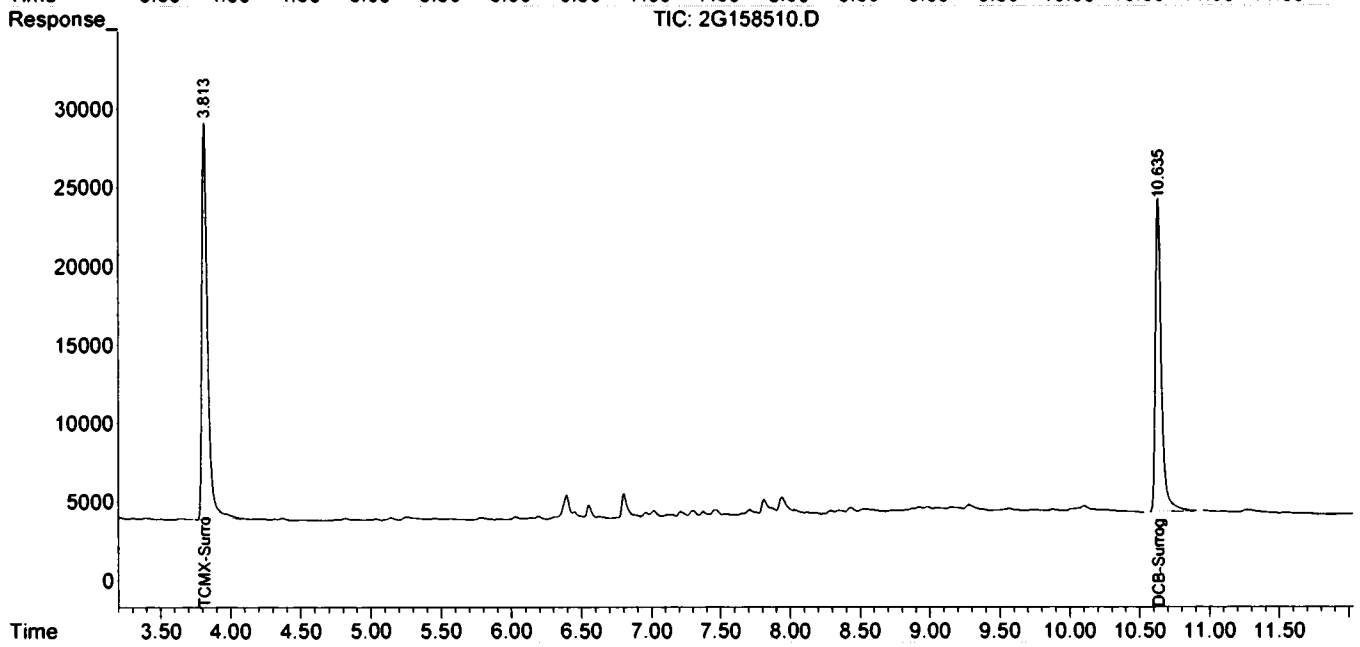
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158510.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 10:02
Operator : MS/MLC/MC/PR
Sample : AD26217-014
Misc : S,PCB
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:27 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-016
Client Id: SB02 COMP
Data File: 2G158509.D
Analysis Date: 09/30/21 09:47
Date Rec/Extracted: 09/23/21-09/29/21
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: 78

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.032	U	11097-69-1	Aroclor-1254	0.032	U
11104-28-2	Aroclor-1221	0.032	U	11096-82-5	Aroclor-1260	0.032	U
11141-16-5	Aroclor-1232	0.032	U	37324-23-5	Aroclor-1262	0.032	U
53469-21-9	Aroclor-1242	0.032	U	11100-14-4	Aroclor-1268	0.032	U
12672-29-6	Aroclor-1248	0.032	U	1336-36-3	Aroclor (Total)	0.032	U

Worksheet #: 610843

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\2021\GC_2\Data\09-30-21\
Data File : 2G158509.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:47
Operator : MS/MLC/MC/PR
Sample : AD26217-016
Misc : S,PCB
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:23 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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

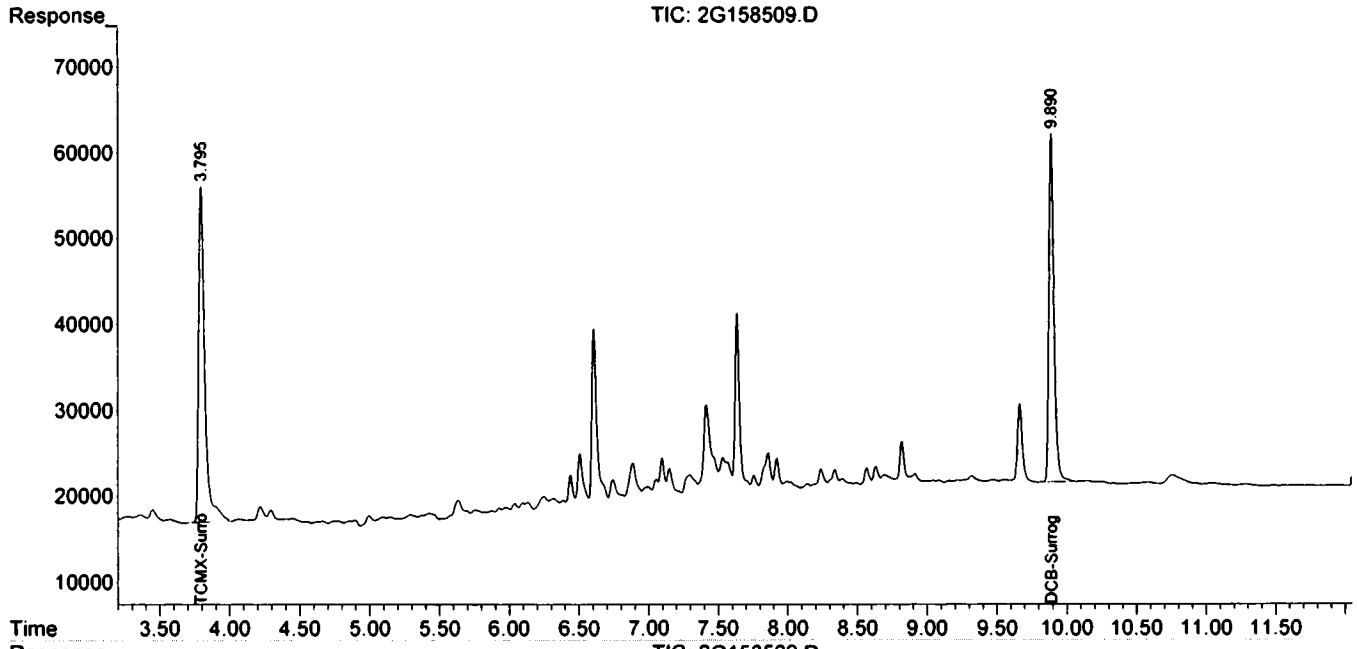
Compound	RT#1	RT#2	Resp#1	Resp#2	pg#1	pg#2
Target Compounds						
1)TCMX-Surrogate	3.796	3.815	1194133	624264	93.208	95.937
45)DCB-Surrogate	9.891	10.636	1004306	700495	107.709	111.238

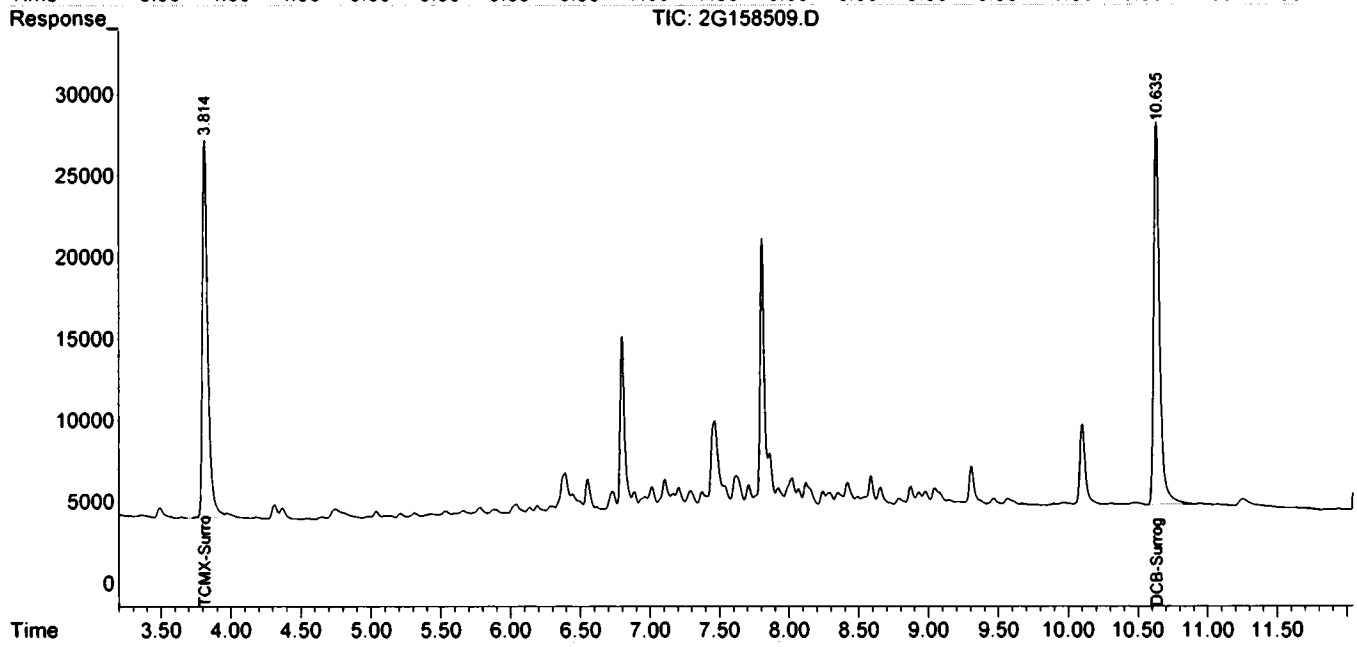
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : G:\Gcdata\2021\GC_2\Data\09-30-21\
Data File : 2G158509.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:47
Operator : MS/MLC/MC/PR
Sample : AD26217-016
Misc : S,PCB
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: AUTOINT1.E
Integration File signal 2: AUTOINT2.E
Quant Time: Sep 30 12:12:23 2021
Quant Method : G:\Gcdata\2021\GC_2\MethodQt\2G_C0919.M
Quant Title : @GC_2,ug,608,8082
QLast Update : Mon Sep 20 10:26:18 2021
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: AD26217-018
Client Id: SB01 COMP
Data File: 3G130797.D
Analysis Date: 09/30/21 09:58
Date Rec/Extracted: 09/23/21-09/29/21
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: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
12674-11-2	Aroclor-1016	0.030	U	11097-69-1	Aroclor-1254	0.030	U
11104-28-2	Aroclor-1221	0.030	U	11096-82-5	Aroclor-1260	0.030	U
11141-16-5	Aroclor-1232	0.030	U	37324-23-5	Aroclor-1262	0.030	U
53469-21-9	Aroclor-1242	0.030	U	11100-14-4	Aroclor-1268	0.030	U
12672-29-6	Aroclor-1248	0.030	U	1336-36-3	Aroclor (Total)	0.030	U

Worksheet #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130797.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:58
Operator : MS/MLC/MC/PR
Sample : AD26217-018
Misc : S,PCB
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:19:30 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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	3.898	3.931	1597253	1794263	87.167	87.266
45)DCB-Surrogate	10.242	10.885	1326801	1713867	81.630	87.809

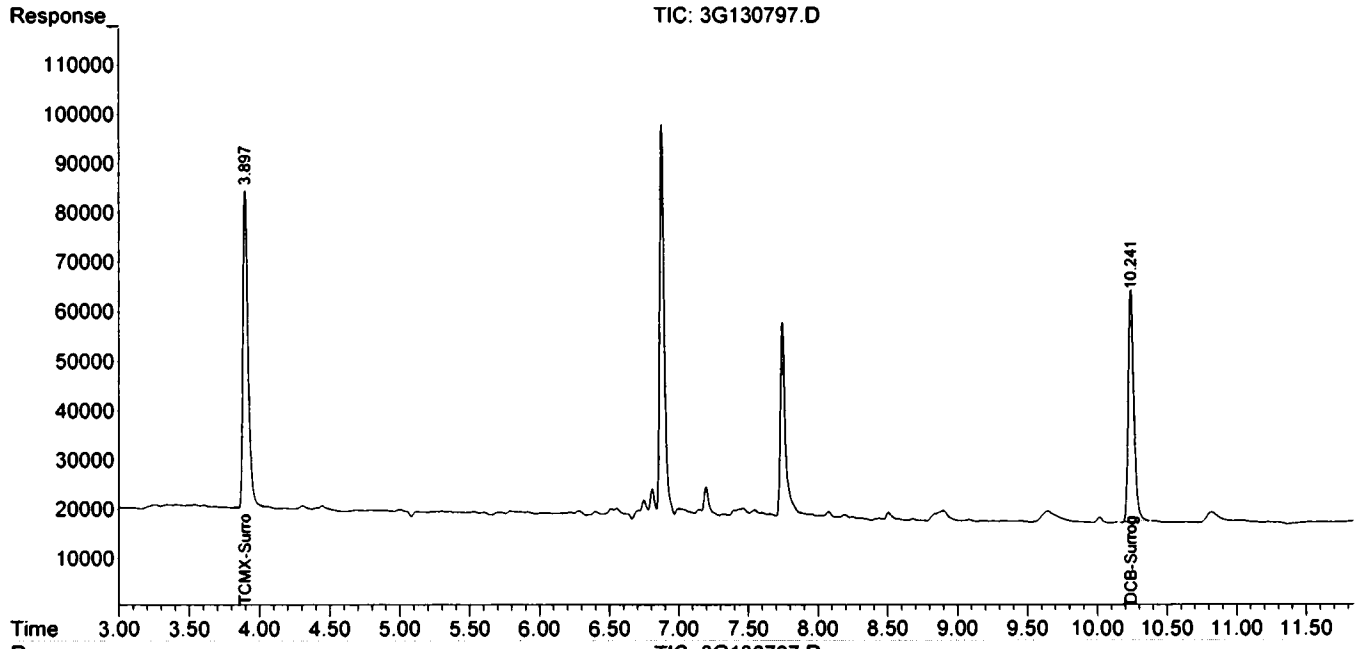
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

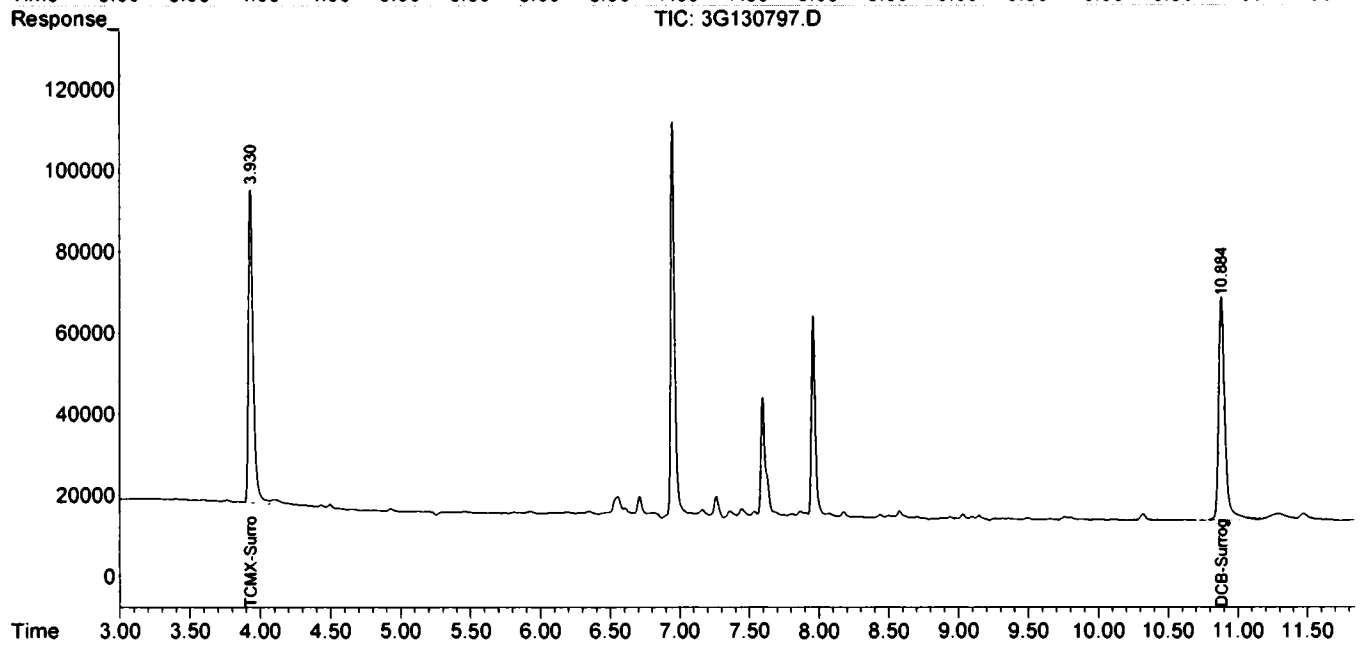
Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130797.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 9:58
Operator : MS/MLC/MC/PR
Sample : AD26217-018
Misc : S,PCB
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:19:30 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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: SMB95083
Client Id:
Data File: 3G130792.D
Analysis Date: 09/30/21 08:44
Date Rec/Extracted: NA-09/29/21
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 #: 610843

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\2021\GC_3\Data\09-30-21\
Data File : 3G130792.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 8:44
Operator : MS/MLC/MC/PR
Sample : SMB95083
Misc : S,PCB
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:35 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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	3.896	3.930	1492233	1584768	81.435	77.077
45)DCB-Surrogate	10.242	10.884	1265291	1523980	77.846	78.080

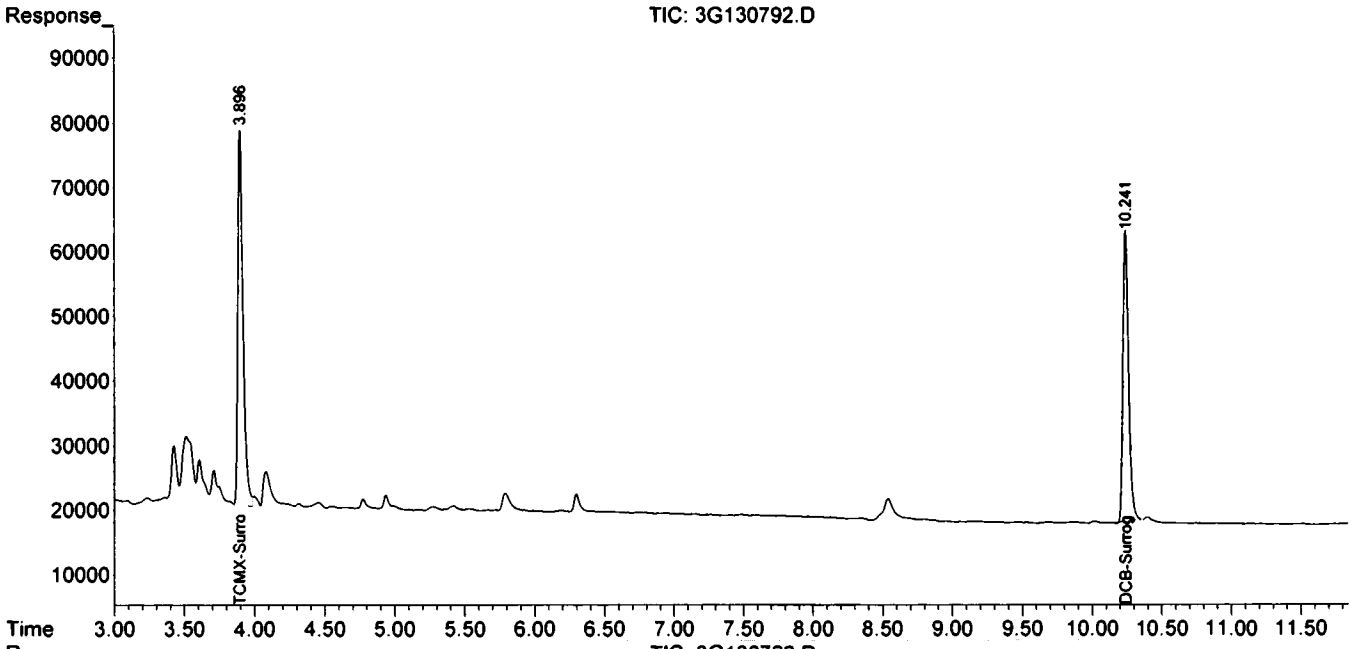
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

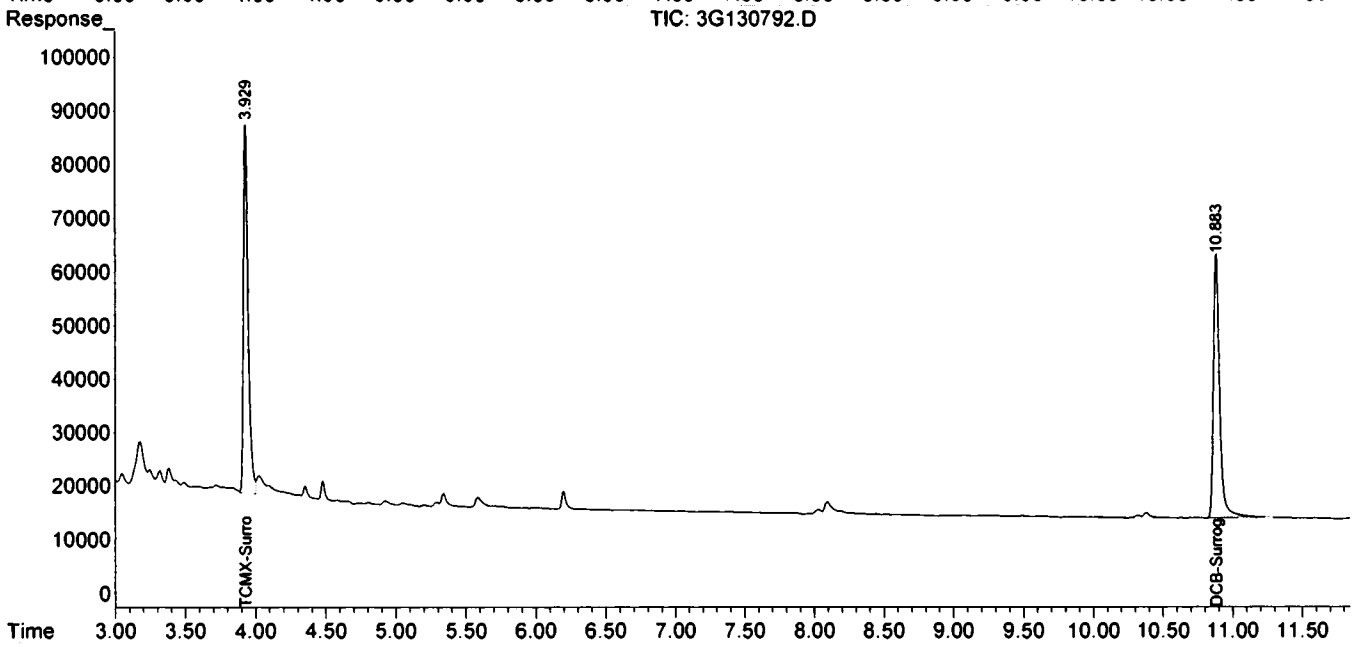
Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_3\Data\09-30-21\
Data File : 3G130792.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 30 Sep 2021 8:44
Operator : MS/MLC/MC/PR
Sample : SMB95083
Misc : S,PCB
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: autoint1.e
Integration File signal 2: autoint2.e
Quant Time: Sep 30 12:18:35 2021
Quant Method : G:\GCDATA\2021\GC_3\METHODQT\3G_C0922M.M
Quant Title : @GC_3,ug,608,8082
QLast Update : Wed Sep 22 15:09:47 2021
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
3G130792.D	SMB95083	S	09/30/21 08:44	1		81	77	78	78		
2G158513.D	AD26217-002	S	09/30/21 10:47	1		91	95	83	83		
2G158512.D	AD26217-004	S	09/30/21 10:32	1		98	103	88	87		
3G130794.D	AD26217-006	S	09/30/21 09:14	1		95	89	88	87		
2G158511.D	AD26217-008	S	09/30/21 10:17	1		95	101	85	88		
3G130795.D	AD26217-010	S	09/30/21 09:28	1		76	72	70	71		
3G130796.D	AD26217-012	S	09/30/21 09:43	1		91	88	82	90		
2G158510.D	AD26217-014	S	09/30/21 10:02	1		101	109	92	94		
2G158509.D	AD26217-016	S	09/30/21 09:47	1		93	96	108	111		
3G130797.D	AD26217-018	S	09/30/21 09:58	1		87	87	82	88		
2G158504.D	AD26206-002(MS)	S	09/30/21 08:32	1		99	110	92	96		
2G158505.D	AD26206-002(MSD)	S	09/30/21 08:47	1		94	102	86	92		
2G158506.D	AD26206-002	S	09/30/21 09:02	1		135	149*	118	122		
3G130793.D	SMB95083(MS)	S	09/30/21 08:59	1		84	80	83	82		

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: SMB95083

	Data File	Sample ID:	Analysis Date
Spike or Dup:	3G130793.D	SMB95083(MS)	9/30/2021 8:59:00 AM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	924.716	0	1000	92	30	163
Aroclor-1260 -Total	2	940.288	0	1000	94	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95083

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G158504.D	AD26206-002(MS)	9/30/2021 8:32:00 AM
Non Spike(If applicable):	2G158506.D	AD26206-002	9/30/2021 9:02:00 AM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	1170.536	0	1000	117	30	163
Aroclor-1260 -Total	2	1017.61	0	1000	102	25	166

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G158505.D	AD26206-002(MSD)	9/30/2021 8:47:00 AM
Non Spike(If applicable):	2G158506.D	AD26206-002	9/30/2021 9:02:00 AM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Aroclor-1016 -Total	2	1086.666	0	1000	109	30	163
Aroclor-1260 -Total	2	963.982	0	1000	96	25	166

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: SMB95083

	Data File	Sample ID:	Analysis Date
Spike or Dup:	2G158505.D	AD26206-002(MSD)	9/30/2021 8:47:00 AM
Duplicate(If applicable):	2G158504.D	AD26206-002(MS)	9/30/2021 8:32:00 AM
Inst Blank(If applicable):			

Method: 8082 Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Aroclor-1016 -Total	2	1086.666	1170.536	7.4	40
Aroclor-1260 -Total	2	963.982	1017.61	5.4	37

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

FORM 4
Blank Summary

Blank Number: SMB95083
Blank Data File: 3G130792.D
Matrix: Soil

Blank Analysis Date: 09/30/21 08:44
Blank Extraction Date: 09/29/21
(If Applicable)
Method: EPA 8082A

Sample Number	Data File	Analysis Date
AD26217-002	2G158513.D	09/30/21 10:47
AD26217-004	2G158512.D	09/30/21 10:32
AD26217-006	3G130794.D	09/30/21 09:14
AD26217-008	2G158511.D	09/30/21 10:17
AD26217-010	3G130795.D	09/30/21 09:28
AD26217-012	3G130796.D	09/30/21 09:43
AD26217-014	2G158510.D	09/30/21 10:02
AD26217-016	2G158509.D	09/30/21 09:47
AD26217-018	3G130797.D	09/30/21 09:58
SMB95083(MS)	3G130793.D	09/30/21 08:59
AD26206-002	2G158506.D	09/30/21 09:02
AD26206-002(MSD	2G158505.D	09/30/21 08:47
AD26206-002(MS)	2G158504.D	09/30/21 08:32

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
2G158193 D	1000PPB	09/19/21 15:42	Aqueous					
2G158194 D	2000PPB	09/19/21 15:57	Aqueous					
2G158202 D	CAL 2154@500PPB	09/19/21 18:54	Soil	2G15820	9.8990	0.0303	10.6342	0.0075
2G158203 D	CAL 3268@500PPB	09/19/21 19:09	Soil	2G15820	9.8955	0.0657	10.6330	0.0038
2G158204 D	CAL 1242@500PPB	09/19/21 19:24	Soil	2G15820	9.8994	0.0263	10.6331	0.0028
2G158205 D	CAL 1248@500PPB	09/19/21 19:40	Soil	2G15820	9.8987	0.0333	10.6323	0.0103
2G158206 D	CAL 1262@500PPB	09/19/21 19:55	Soil	2G15820	9.8993	0.0273	10.6332	0.0019
2G158207 D	CAL 1660@50PPB	09/19/21 20:10	Soil	2G15820	9.9020	0	10.6334	0
2G158208 D	CAL 1660@200PPB	09/19/21 20:25	Soil	2G15820	9.9008	0.0121	10.6329	0.0047
2G158209 D	CAL 1660@500PPB	09/19/21 20:41	Soil	2G15820	9.8988	0.0323	10.6325	0.0085
2G158210 D	CAL 1660@1000PPB	09/19/21 20:57	Soil	2G15820	9.8996	0.0242	10.6343	0.0085
2G158211 D	CAL 1660@2000PPB	09/19/21 21:12	Soil	2G15820	9.8968	0.0525	10.6324	0.0094
2G158212 D	CAL 1660@4000PPB	09/19/21 21:27	Soil	2G15820	9.8963	0.0576	10.6327	0.0066
2G158213 D	ICV	09/19/21 21:43	Soil	2G15820	9.8986	0.0344	10.6315	0.0179
2G158214 D	TEST	09/19/21 21:59	Soil	2G15820	9.9010	0.0101	10.6342	0.0075
2G158215 D	PEST WS	09/19/21 22:14	Soil	2G15820	0.0000	200*	0.0000	200*
2G158216 D	AD25835-001	09/19/21 22:29	Soil	2G15820	9.8904	0.1172	10.6325	0.0085
2G158217 D	AD25933-001	09/19/21 22:45	Soil	2G15820	9.8939	0.0818	10.6313	0.0198
2G158218 D	AD25976-002	09/19/21 23:01	Soil	2G15820	9.8918	0.1031	10.6312	0.0207
2G158219 D	AD25976-004	09/19/21 23:17	Soil	2G15820	9.8931	0.0899	10.6310	0.0226
2G158220 D	AD25934-001	09/19/21 23:32	Soil	2G15820	9.8943	0.0778	10.6321	0.0122
2G158221 D	AD25934-003	09/19/21 23:47	Soil	2G15820	9.8938	0.0829	10.6317	0.016
2G158222 D	AD25934-006	09/20/21 00:03	Soil	2G15820	9.8958	0.0626	10.6343	0.0085
2G158223 D	AD25934-008	09/20/21 00:18	Soil	2G15820	9.8950	0.0707	10.6330	0.0038
2G158224 D	AD25934-005	09/20/21 00:33	Soil	2G15820	9.8952	0.0687	10.6316	0.0169
2G158225 D	AD25934-004	09/20/21 00:48	Soil	2G15820	9.8941	0.0798	10.6321	0.0122
2G158226 D	AD25934-002	09/20/21 01:03	Soil	2G15820	9.8952	0.0687	10.6336	0.0019
2G158227 D	AD25934-007	09/20/21 01:18	Soil	2G15820	9.8986	0.0344	10.6339	0.0047
2G158228 D	AD25934-001(MS)	09/20/21 01:33	Soil	2G15820	9.8976	0.0444	10.6335	0.0009
2G158229 D	AD25934-001(MSD)	09/20/21 01:49	Soil	2G15820	9.8935	0.0859	10.6312	0.0207
2G158230 D	AD25893-003(MS)	09/20/21 02:04	Soil	2G15820	9.8994	0.0263	10.6341	0.0066
2G158231 D	AD25893-003(MSD)	09/20/21 02:20	Soil	2G15820	9.8979	0.0414	10.6351	0.016
2G158232 D	AD25929-002(MS)	09/20/21 02:35	Soil	2G15820	9.8968	0.0525	10.6329	0.0047
2G158233 D	AD25929-002(MSD)	09/20/21 02:50	Soil	2G15820	9.8955	0.0657	10.6334	0
2G158234 D	25962-002(MS)	09/20/21 03:05	Soil	2G15820	9.8985	0.0354	10.6350	0.015
2G158235 D	25962-002(MSD)	09/20/21 03:20	Soil	2G15820	9.8985	0.0354	10.6334	0
2G158236 D	1000PPB	09/20/21 03:35	Soil	2G15820	9.8989	0.0313	10.6332	0.0019
2G158237 D	CAL 1660@2000PPB	09/20/21 03:50	Soil	2G15820	9.8983	0.0374	10.6324	0.0094

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
3G130611 D	CAL 2154@500PPB	09/22/21 10:45	Soil	3G13061	10.2441	0.0019	10.8845	0.0018
3G130612 D	CAL 3268@500PPB	09/22/21 11:32	Soil	3G13061	10.2562	0.12	10.8913	0.0643
3G130613 D	CAL 1242@500PPB	09/22/21 11:47	Soil	3G13061	10.2463	0.0234	10.8855	0.011
3G130614 D	CAL 1248@500PPB	09/22/21 12:01	Soil	3G13061	10.2451	0.0117	10.8849	0.0055
3G130615 D	CAL 1262@500PPB	09/22/21 12:16	Soil	3G13061	10.2442	0.0029	10.8851	0.0074
3G130616 D	CAL 1660@50PPB	09/22/21 12:31	Soil	3G13061	10.2439	0	10.8843	0
3G130617 D	CAL 1660@200PPB	09/22/21 12:46	Soil	3G13061	10.2452	0.0127	10.8850	0.0064
3G130618 D	CAL 1660@500PPB	09/22/21 13:01	Soil	3G13061	10.2450	0.0107	10.8848	0.0046
3G130619 D	CAL 1660@1000PPB	09/22/21 13:16	Soil	3G13061	10.2440	0.001	10.8858	0.0138
3G130620 D	CAL 1660@2000PPB	09/22/21 13:31	Soil	3G13061	10.2445	0.0059	10.8851	0.0074
3G130621 D	CAL 1660@4000PPB	09/22/21 13:45	Soil	3G13061	10.2436	0.0029	10.8852	0.0083
3G130622 D	ICV	09/22/21 14:00	Soil	3G13061	10.2443	0.0039	10.8862	0.0175
3G130623 D	PEST WS	09/22/21 14:15	Soil	3G13061	0.0000	200*	0.0000	200*

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
2G158499 D	1000PPB	09/30/21 07:02	Soil					
2G158500 D	CAL 1660@1000PPB	09/30/21 07:25	Soil	2G15850	9.8986	0	10.6386	0
2G158501 D	AD26227-002	09/30/21 07:46	Aqueous	2G15850	9.8957	0.0293	10.6363	0.0216
2G158502 D	AD26227-001	09/30/21 08:01	Aqueous	2G15850	9.8907	0.0798	10.6345	0.0386
2G158503 D	AD26184-002(R)	09/30/21 08:17	Aqueous	2G15850	9.9264	0.2805	10.6666	0.2628
2G158504 D	AD26206-002(MS)	09/30/21 08:32	Soil	2G15850	9.8897	0.0899	10.6349	0.0348
2G158505 D	AD26206-002(MSD)	09/30/21 08:47	Soil	2G15850	9.8928	0.0586	10.6351	0.0329
2G158506 D	AD26206-002	09/30/21 09:02	Soil	2G15850	9.8917	0.0697	10.6373	0.0122
2G158507 D	AD26206-004	09/30/21 09:17	Soil	2G15850	9.8942	0.0445	10.6368	0.0169
2G158508 D	AD26196-001	09/30/21 09:32	Soil	2G15850	9.8922	0.0647	10.6384	0.0019
2G158509 D	AD26217-016	09/30/21 09:47	Soil	2G15850	9.8912	0.0748	10.6363	0.0216
2G158510 D	AD26217-014	09/30/21 10:02	Soil	2G15850	9.8926	0.0606	10.6355	0.0291
2G158511 D	AD26217-008	09/30/21 10:17	Soil	2G15850	9.8944	0.0424	10.6375	0.0103
2G158512 D	AD26217-004	09/30/21 10:32	Soil	2G15850	9.8933	0.0536	10.6365	0.0197
2G158513 D	AD26217-002	09/30/21 10:47	Soil	2G15850	9.8971	0.0151	10.6396	0.0094
2G158514 D	CAL 1660@1000PPB	09/30/21 12:48	Soil	2G15850	9.9037	0.0515	10.6417	0.0291
2G158515 D	AD26300-001	09/30/21 17:31	OIL/OTHER	2G15851	9.9084	0.0474	10.6501	0.0789
2G158516 D	AD26302-001	09/30/21 17:46	OIL/OTHER	2G15851	9.8996	0.0414	10.6457	0.0376
2G158517 D	26302-001(100X)	09/30/21 18:17	OIL/OTHER	2G15851	0.0000	200*	10.6418	0.0009
2G158518 D	AD26302-001(100X)	09/30/21 19:04	OIL/OTHER	2G15851	9.8939	0.099	10.6358	0.0555
2G158521 D	CAL 1660@1000PPB	09/30/21 19:49	OIL/OTHER	2G15851	9.8946	0.0919	10.6369	0.0451

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
3G130787 D	CAL 1660@1000PPB	09/30/21 07:10	Soil	3G13078	10.2402	0	10.8838	0
3G130788 D	AD26200-013	09/30/21 07:44	Aqueous	3G13078	10.2530	0.1249	10.8896	0.0533
3G130789 D	AD26200-015	09/30/21 07:59	Aqueous	3G13078	10.2434	0.0312	10.8854	0.0147
3G130790 D	AD26200-017	09/30/21 08:14	Aqueous	3G13078	10.2422	0.0195	10.8842	0.0037
3G130791 D	AD26173-001	09/30/21 08:29	Aqueous	3G13078	10.2424	0.0215	10.8846	0.0074
3G130792 D	SMB95083	09/30/21 08:44	Soil	3G13078	10.2420	0.0176	10.8841	0.0028
3G130793 D	SMB95083(MS)	09/30/21 08:59	Soil	3G13078	10.2420	0.0176	10.8854	0.0147
3G130794 D	AD26217-006	09/30/21 09:14	Soil	3G13078	10.2420	0.0176	10.8847	0.0083
3G130795 D	AD26217-010	09/30/21 09:28	Soil	3G13078	10.2396	0.0059	10.8842	0.0037
3G130796 D	AD26217-012	09/30/21 09:43	Soil	3G13078	10.2404	0.002	10.8849	0.0101
3G130797 D	AD26217-018	09/30/21 09:58	Soil	3G13078	10.2415	0.0127	10.8851	0.012
3G130798 D	CAL 1660@1000PPB	09/30/21 13:01	Soil	3G13078	10.2561	0.1551	10.8920	0.0753
3G130799 D	OMB95093	09/30/21 17:31	OIL/OTHER	3G13079	10.2565	0.0039	10.8930	0.0092
3G130800 D	OMB95093(MS)	09/30/21 17:45	OIL/OTHER	3G13079	10.2465	0.0936	10.8871	0.045
3G130801 D	CAL 1660@1000PPB	09/30/21 18:08	OIL/OTHER	3G13079	10.2534	0.0263	10.8898	0.0202

Drift Compound: DCB-Surrogate Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

1092401 0249

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	2G158207.D	CAL 1660@50PPB	09/19/21 20:10	2	2G158208.D	CAL 1660@200PPB	09/19/21 20:25
3	2G158209.D	CAL 1660@500PPB	09/19/21 20:41	4	2G158210.D	CAL 1660@1000PPB	09/19/21 20:57
5	2G158211.D	CAL 1660@2000PPB	09/19/21 21:12	6	2G158212.D	CAL 1660@4000PPB	09/19/21 21:27
7	2G158203.D	CAL 3268@500PPB	09/19/21 19:09	8	2G158204.D	CAL 1242@500PPB	09/19/21 19:24
9	2G158205.D	CAL 1248@500PPB	09/19/21 19:40	10	2G158202.D	CAL 2154@500PPB	09/19/21 18:54
11	2G158206.D	CAL 1262@500PPB	09/19/21 19:55				

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-Surrooate	1	0	Avg	1.4326	1.3341	1.3796	1.3027	1.1787	1.0590	----	----	1.28	3.80	0.995	1.00	11	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	1	1	Avg	0.0224	0.0190	0.0238	0.0247	0.0233	0.0210	----	----	0.0224	4.27	0.996	1.00	9.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	2	Avg	0.0503	0.0451	0.0490	0.0465	0.0423	0.0371	----	----	0.0451	4.60	0.993	1.00	11	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	3	Avg	0.0710	0.0810	0.0864	0.0865	0.0823	0.0751	----	----	0.0804	5.13	0.997	1.00	7.7	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	4	Avg	0.0539	0.0558	0.0580	0.0546	0.0500	0.0333	----	----	0.0510	5.23	0.936	0.999	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	5	Avg	0.0964	0.1041	0.1122	0.1093	0.1002	0.0687	----	----	0.0985	5.42	0.945	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	1	Avg	0.0590	0.0597	0.0629	0.0642	0.0603	0.0525	----	----	0.0598	6.90	0.993	1.00	6.8	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	2	Avg	0.0771	0.0776	0.0828	0.0856	0.0811	0.0728	----	----	0.0795	7.17	0.996	1.00	5.8	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	3	Avg	0.0343	0.0412	0.0433	0.0451	0.0442	0.0396	----	----	0.0413	7.36	0.996	1.00	9.6	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	4	Avg	0.0466	0.0456	0.0475	0.0495	0.0476	0.0428	----	----	0.0466	7.93	0.996	1.00	4.9	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	5	Avg	0.0751	0.0810	0.0792	0.0852	0.0842	0.0756	----	----	0.0801	8.66	0.996	1.00	5.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	1	1	Avg	----	----	----	----	----	----	----	----	0.0154	4.06	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	2	Avg	----	----	----	----	----	----	----	----	0.00788	4.19	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	3	Avg	----	----	----	----	----	----	----	----	0.0402	4.26	-1	-1	Lvl=10	500.0							
Aroclor-1232	1	1	Avg	----	----	----	----	----	----	----	----	0.0243	4.26	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	2	Avg	----	----	----	----	----	----	----	----	0.0192	4.60	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	3	Avg	----	----	----	----	----	----	----	----	0.0358	5.12	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	4	Avg	----	----	----	----	----	----	----	----	0.0222	5.23	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	5	Avg	----	----	----	----	----	----	----	----	0.0170	5.65	-1	-1	Lvl=7	500.0							
Aroclor-1242	1	1	Avg	----	----	----	----	----	----	----	----	0.0207	4.26	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	2	Avg	----	----	----	----	----	----	----	----	0.0376	4.60	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	3	Avg	----	----	----	----	----	----	----	----	0.0703	5.12	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	4	Avg	----	----	----	----	----	----	----	----	0.0821	5.42	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	5	Avg	----	----	----	----	----	----	----	----	0.0322	5.65	-1	-1	Lvl=8	500.0							
Aroclor-1248	1	1	Avg	----	----	----	----	----	----	----	----	0.0187	4.60	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	2	Avg	----	----	----	----	----	----	----	----	0.0476	5.13	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	3	Avg	----	----	----	----	----	----	----	----	0.104	5.42	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	4	Avg	----	----	----	----	----	----	----	----	0.0518	5.77	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	5	Avg	----	----	----	----	----	----	----	----	0.0493	6.40	-1	-1	Lvl=9	500.0							
Aroclor-1254	1	1	Avg	----	----	----	----	----	----	----	----	0.0225	6.55	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	2	Avg	----	----	----	----	----	----	----	----	0.0923	6.76	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	3	Avg	----	----	----	----	----	----	----	----	0.0425	6.90	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	4	Avg	----	----	----	----	----	----	----	----	0.0623	7.09	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	5	Avg	----	----	----	----	----	----	----	----	0.0223	7.48	-1	-1	Lvl=10	500.0							
Aroclor-1262	1	1	Avg	----	----	----	----	----	----	----	----	0.133	7.58	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	2	Avg	----	----	----	----	----	----	----	----	0.0619	8.58	-1	-1	Lvl=11	500.0							

Avg Rsd Col 1: 9.39 Avg Rsd Col 2: 10.35

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 #

1092401 0250

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	2G158207.D	CAL 1660@50PPB	09/19/21 20:10	2	2G158208.D	CAL 1660@200PPB	09/19/21 20:25
3	2G158209.D	CAL 1660@500PPB	09/19/21 20:41	4	2G158210.D	CAL 1660@1000PPB	09/19/21 20:57
5	2G158211.D	CAL 1660@2000PPB	09/19/21 21:12	6	2G158212.D	CAL 1660@4000PPB	09/19/21 21:27
7	2G158203.D	CAL 3268@500PPB	09/19/21 19:09	8	2G158204.D	CAL 1242@500PPB	09/19/21 19:24
9	2G158205.D	CAL 1248@500PPB	09/19/21 19:40	10	2G158202.D	CAL 2154@500PPB	09/19/21 18:54
11	2G158206.D	CAL 1262@500PPB	09/19/21 19:55				

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	----	----	----	----	----	----	----	----	0.114	8.65	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	4	Avg	----	----	----	----	----	----	----	----	0.0489	9.34	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	5	Avg	----	----	----	----	----	----	----	----	0.0165	9.68	-1	-1	Lvl=11	500.0							
Aroclor-1268	1	1	Avg	----	----	----	----	----	----	----	----	0.0181	7.93	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	2	Avg	----	----	----	----	----	----	----	----	0.0254	8.27	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	3	Avg	----	----	----	----	----	----	----	----	0.133	8.82	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	4	Avg	----	----	----	----	----	----	----	----	0.0399	8.92	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	5	Avg	----	----	----	----	----	----	----	----	0.368	9.67	-1	-1	Lvl=7	500.0							
DCB-Surrogate	1	0	Avg	1.0455	0.9258	0.9565	0.9477	0.9084	0.8103	----	----	0.932	9.90	0.996	1.00	8.2	5.00	20.00	50.00	100.0	200.0	400.0		
TCMX-Surrogate	2	0	Avg	0.6521	0.6133	0.6547	0.6801	0.6712	0.6325	----	----	0.651	3.81	0.999	1.00	3.8	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	2	1	Avg	0.0191	0.0167	0.0182	0.0176	0.0168	0.0150	----	----	0.0173	4.42	0.996	1.00	8.2	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	2	Avg	0.0369	0.0353	0.0341	0.0317	0.0291	0.0255	----	----	0.0321	4.82	0.994	1.00	13	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	3	Avg	0.0600	0.0630	0.0630	0.0604	0.0568	0.0513	----	----	0.0591	5.22	0.996	1.00	7.5	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	4	Avg	0.0173	0.0251	0.0248	0.0234	0.0215	0.0192	----	----	0.0220	5.54	0.995	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	5	Avg	0.0111	0.0181	0.0181	0.0171	0.0159	0.0142	----	----	0.0158	5.90	0.995	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	1	Avg	0.0515	0.0409	0.0420	0.0394	0.0356	0.0313	----	----	0.0402	7.21	0.994	1.00	17	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	2	Avg	0.0503	0.0411	0.0462	0.0440	0.0404	0.0362	----	----	0.0431	7.30	0.995	1.00	11	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	3	Avg	0.0244	0.0226	0.0230	0.0224	0.0211	0.0195	----	----	0.0222	7.92	0.998	1.00	7.7	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	4	Avg	0.0360	0.0320	0.0327	0.0325	0.0306	0.0280	----	----	0.0320	8.28	0.997	1.00	8.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	5	Avg	0.0318	0.0319	0.0319	0.0314	0.0302	0.0282	----	----	0.0310	8.98	0.999	1.00	4.7	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	2	1	Avg	----	----	----	----	----	----	----	----	0.0107	4.19	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	2	Avg	----	----	----	----	----	----	----	----	0.00579	4.34	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	3	Avg	----	----	----	----	----	----	----	----	0.0291	4.41	-1	-1	Lvl=10	500.0							
Aroclor-1232	2	1	Avg	----	----	----	----	----	----	----	----	0.0191	4.41	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	2	Avg	----	----	----	----	----	----	----	----	0.0165	4.82	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	3	Avg	----	----	----	----	----	----	----	----	0.0284	5.22	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	4	Avg	----	----	----	----	----	----	----	----	0.0120	5.54	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	5	Avg	----	----	----	----	----	----	----	----	0.00886	6.05	-1	-1	Lvl=7	500.0							
Aroclor-1242	2	1	Avg	----	----	----	----	----	----	----	----	0.0163	4.41	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	2	Avg	----	----	----	----	----	----	----	----	0.0291	4.82	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	3	Avg	----	----	----	----	----	----	----	----	0.0544	5.22	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	4	Avg	----	----	----	----	----	----	----	----	0.0215	5.54	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	5	Avg	----	----	----	----	----	----	----	----	0.0160	5.90	-1	-1	Lvl=8	500.0							
Aroclor-1248	2	1	Avg	----	----	----	----	----	----	----	----	0.0146	4.82	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	2	Avg	----	----	----	----	----	----	----	----	0.0339	5.22	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	3	Avg	----	----	----	----	----	----	----	----	0.0260	5.53	-1	-1	Lvl=9	500.0							

Avg Rsd Col 1: 9.39 Avg Rsd Col 2: 10.35

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 #

1092401 0251

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	2G158207.D	CAL 1660@50PPB	09/19/21 20:10	2	2G158208.D	CAL 1660@200PPB	09/19/21 20:25
3	2G158209.D	CAL 1660@500PPB	09/19/21 20:41	4	2G158210.D	CAL 1660@1000PPB	09/19/21 20:57
5	2G158211.D	CAL 1660@2000PPB	09/19/21 21:12	6	2G158212.D	CAL 1660@4000PPB	09/19/21 21:27
7	2G158203.D	CAL 3268@500PPB	09/19/21 19:09	8	2G158204.D	CAL 1242@500PPB	09/19/21 19:24
9	2G158205.D	CAL 1248@500PPB	09/19/21 19:40	10	2G158202.D	CAL 2154@500PPB	09/19/21 18:54
11	2G158206.D	CAL 1262@500PPB	09/19/21 19:55				

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	----	----	----	----	----	----	----	----	0.0255	6.05	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	5	Avg	----	----	----	----	----	----	----	----	0.0297	6.20	-1	-1	Lvl=9	500.0							
Aroclor-1254	2	1	Avg	----	----	----	----	----	----	----	----	0.0434	6.40	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	2	Avg	----	----	----	----	----	----	----	----	0.0130	6.74	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	3	Avg	----	----	----	----	----	----	----	----	0.0224	7.16	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	4	Avg	----	----	----	----	----	----	----	----	0.00726	7.69	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	5	Avg	----	----	----	----	----	----	----	----	0.0134	8.35	-1	-1	Lvl=10	500.0							
Aroclor-1262	2	1	Avg	----	----	----	----	----	----	----	----	0.0372	7.71	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	2	Avg	----	----	----	----	----	----	----	----	0.0292	8.87	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	3	Avg	----	----	----	----	----	----	----	----	0.0362	8.98	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	4	Avg	----	----	----	----	----	----	----	----	0.0368	9.57	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	5	Avg	----	----	----	----	----	----	----	----	0.0101	10.10	-1	-1	Lvl=11	500.0							
Aroclor-1268	2	1	Avg	----	----	----	----	----	----	----	----	0.00667	8.37	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	2	Avg	----	----	----	----	----	----	----	----	0.0107	8.42	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	3	Avg	----	----	----	----	----	----	----	----	0.0746	9.30	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	4	Avg	----	----	----	----	----	----	----	----	0.0195	9.46	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	5	Avg	----	----	----	----	----	----	----	----	0.240	10.10	-1	-1	Lvl=7	500.0							
DCB-Surrogate	2	0	Avg	0.7506	0.6307	0.6356	0.6305	0.5903	0.5405	----	----	0.630	10.63	0.997	1.00	11	5.00	20.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 9.39 Avg Rsd Col 2: 10.35

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 whether Avg RF, Linear, or Quadratic Curve was used for compound
Corr 1 = Correlation Coefficient for linear Eq.
Corr 2 = Correlation Coefficient for quad Eq.

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 #

1092401 0252

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	3G130616.D	CAL 1660@50PPB	09/22/21 12:31	2	3G130617.D	CAL 1660@200PPB	09/22/21 12:46
3	3G130618.D	CAL 1660@500PPB	09/22/21 13:01	4	3G130619.D	CAL 1660@1000PPB	09/22/21 13:16
5	3G130620.D	CAL 1660@2000PPB	09/22/21 13:31	6	3G130621.D	CAL 1660@4000PPB	09/22/21 13:45
7	3G130612.D	CAL 3268@500PPB	09/22/21 11:32	8	3G130613.D	CAL 1242@500PPB	09/22/21 11:47
9	3G130614.D	CAL 1248@500PPB	09/22/21 12:01	10	3G130611.D	CAL 2154@500PPB	09/22/21 10:45
11	3G130615.D	CAL 1262@500PPB	09/22/21 12:16				

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	2.3016	1.8451	1.9023	1.7681	1.6647	1.5123	----	----	1.83	3.90	0.997	1.00	15	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	1	1	Avg	0.0478	0.0432	0.0415	0.0379	0.0354	0.0316	----	----	0.0396	4.42	0.996	1.00	15	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	2	Lin	0.1058	0.0853	0.0819	0.0742	0.0661	0.0569	----	----	0.0784	4.79	0.992	1.00	22	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	3	Avg	0.1976	0.1672	0.1582	0.1438	0.1305	0.1152	----	----	0.152	5.26	0.995	1.00	19	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	4	Avg	0.0654	0.0535	0.0546	0.0506	0.0460	0.0413	----	----	0.0519	5.51	0.996	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	1	5	Avg	0.1457	0.1170	0.1142	0.1034	0.0935	0.0836	----	----	0.110	5.63	0.995	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	1	Avg	0.1304	0.1095	0.1025	0.0934	0.0855	0.0739	----	----	0.0993	7.15	0.993	1.00	20	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	2	Avg	0.1602	0.1424	0.1351	0.1236	0.1154	0.0998	----	----	0.129	7.40	0.993	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	3	Avg	0.0782	0.0707	0.0702	0.0662	0.0655	0.0591	----	----	0.0684	7.60	0.997	1.00	9.3	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	4	Avg	0.1041	0.0860	0.0852	0.0791	0.0738	0.0652	----	----	0.0823	8.19	0.995	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	1	5	Avg	0.1562	0.1317	0.1348	0.1327	0.1291	0.1179	----	----	0.134	8.92	0.998	1.00	9.4	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	1	1	Avg	----	----	----	----	----	----	----	----	0.0249	4.20	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	2	Avg	----	----	----	----	----	----	----	----	0.0149	4.35	-1	-1	Lvl=10	500.0							
Aroclor-1221	1	3	Avg	----	----	----	----	----	----	----	----	0.0631	4.42	-1	-1	Lvl=10	500.0							
Aroclor-1232	1	1	Avg	----	----	----	----	----	----	----	----	0.0466	4.43	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	2	Avg	----	----	----	----	----	----	----	----	0.0431	4.80	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	3	Avg	----	----	----	----	----	----	----	----	0.0824	5.27	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	4	Avg	----	----	----	----	----	----	----	----	0.0359	5.41	-1	-1	Lvl=7	500.0							
Aroclor-1232	1	5	Avg	----	----	----	----	----	----	----	----	0.0383	5.88	-1	-1	Lvl=7	500.0							
Aroclor-1242	1	1	Avg	----	----	----	----	----	----	----	----	0.0379	4.42	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	2	Avg	----	----	----	----	----	----	----	----	0.0699	4.79	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	3	Avg	----	----	----	----	----	----	----	----	0.144	5.26	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	4	Avg	----	----	----	----	----	----	----	----	0.0971	5.63	-1	-1	Lvl=8	500.0							
Aroclor-1242	1	5	Avg	----	----	----	----	----	----	----	----	0.0649	5.87	-1	-1	Lvl=8	500.0							
Aroclor-1248	1	1	Avg	----	----	----	----	----	----	----	----	0.0329	4.79	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	2	Avg	----	----	----	----	----	----	----	----	0.0897	5.26	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	3	Avg	----	----	----	----	----	----	----	----	0.151	5.61	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	4	Avg	----	----	----	----	----	----	----	----	0.0943	5.87	-1	-1	Lvl=9	500.0							
Aroclor-1248	1	5	Avg	----	----	----	----	----	----	----	----	0.0995	6.58	-1	-1	Lvl=9	500.0							
Aroclor-1254	1	1	Avg	----	----	----	----	----	----	----	----	0.0415	6.78	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	2	Avg	----	----	----	----	----	----	----	----	0.135	6.99	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	3	Avg	----	----	----	----	----	----	----	----	0.0779	7.15	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	4	Avg	----	----	----	----	----	----	----	----	0.121	7.27	-1	-1	Lvl=10	500.0							
Aroclor-1254	1	5	Avg	----	----	----	----	----	----	----	----	0.0491	7.66	-1	-1	Lvl=10	500.0							
Aroclor-1262	1	1	Avg	----	----	----	----	----	----	----	----	0.175	7.83	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	2	Avg	----	----	----	----	----	----	----	----	0.0979	8.84	-1	-1	Lvl=11	500.0							

Avg Rsd Col 1: 15.79 Avg Rsd Col 2: 14.19

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 #

1092401 0253

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	3G130616.D	CAL 1660@50PPB	09/22/21 12:31	2	3G130617.D	CAL 1660@200PPB	09/22/21 12:46
3	3G130618.D	CAL 1660@500PPB	09/22/21 13:01	4	3G130619.D	CAL 1660@1000PPB	09/22/21 13:16
5	3G130620.D	CAL 1660@2000PPB	09/22/21 13:31	6	3G130621.D	CAL 1660@4000PPB	09/22/21 13:45
7	3G130612.D	CAL 3268@500PPB	09/22/21 11:32	8	3G130613.D	CAL 1242@500PPB	09/22/21 11:47
9	3G130614.D	CAL 1248@500PPB	09/22/21 12:01	10	3G130611.D	CAL 2154@500PPB	09/22/21 10:45
11	3G130615.D	CAL 1262@500PPB	09/22/21 12:16				

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	----	----	----	----	----	----	----	----	0.179	8.91	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	4	Avg	----	----	----	----	----	----	----	----	0.0865	9.65	-1	-1	Lvl=11	500.0							
Aroclor-1262	1	5	Avg	----	----	----	----	----	----	----	----	0.0292	10.02	-1	-1	Lvl=11	500.0							
Aroclor-1268	1	1	Avg	----	----	----	----	----	----	----	----	0.0249	8.19	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	2	Avg	----	----	----	----	----	----	----	----	0.0274	8.52	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	3	Avg	----	----	----	----	----	----	----	----	0.225	9.10	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	4	Avg	----	----	----	----	----	----	----	----	0.0626	9.20	-1	-1	Lvl=7	500.0							
Aroclor-1268	1	5	Avg	----	----	----	----	----	----	----	----	0.609	10.03	-1	-1	Lvl=7	500.0							
DCB-Surrogate	1	0	Avg	1.9326	1.6966	1.6994	1.6095	1.4832	1.3309	----	----	1.63	10.24	0.996	1.00	13	5.00	20.00	50.00	100.0	200.0	400.0		
TCMX-Surrogate	2	0	Avg	2.3129	2.1173	2.0105	2.0406	1.9909	1.8640	----	----	2.06	3.93	0.999	1.00	7.3	5.00	20.00	50.00	100.0	200.0	400.0		
Aroclor-1016	2	1	Avg	0.0422	0.0435	0.0421	0.0401	0.0390	0.0348	----	----	0.0403	4.53	0.996	1.00	7.7	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	2	Avg	0.1088	0.0945	0.0898	0.0856	0.0776	0.0674	----	----	0.0873	4.96	0.993	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	3	Avg	0.2236	0.1844	0.1738	0.1635	0.1522	0.1364	----	----	0.172	5.34	0.996	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	4	Avg	0.0979	0.0840	0.0768	0.0715	0.0665	0.0591	----	----	0.0760	5.67	0.996	1.00	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1016	2	5	Avg	0.0690	0.0603	0.0566	0.0527	0.0486	0.0435	----	----	0.0551	6.05	0.996	1.00	16	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	1	Lin	0.1672	0.1346	0.1252	0.1155	0.1036	0.0915	----	----	0.123	7.36	0.994	1.00	22	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	2	Avg	0.1703	0.1420	0.1337	0.1263	0.1113	0.1041	----	----	0.131	7.44	0.997	0.999	18	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	3	Avg	0.0768	0.0719	0.0599	0.0641	0.0610	0.0573	----	----	0.0652	8.08	0.999	1.00	12	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	4	Avg	0.1408	0.1189	0.1140	0.1066	0.1011	0.0948	----	----	0.113	8.44	0.999	1.00	14	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1260	2	5	Avg	0.1112	0.0985	0.1009	0.0964	0.0932	0.0878	----	----	0.0980	9.15	0.999	1.00	8.1	50.00	200.0	500.0	1000.	2000.	4000.		
Aroclor-1221	2	1	Avg	----	----	----	----	----	----	----	----	0.0288	4.31	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	2	Avg	----	----	----	----	----	----	----	----	0.0166	4.46	-1	-1	Lvl=10	500.0							
Aroclor-1221	2	3	Avg	----	----	----	----	----	----	----	----	0.0579	4.53	-1	-1	Lvl=10	500.0							
Aroclor-1232	2	1	Avg	----	----	----	----	----	----	----	----	0.0343	4.53	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	2	Avg	----	----	----	----	----	----	----	----	0.0395	4.96	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	3	Avg	----	----	----	----	----	----	----	----	0.0734	5.34	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	4	Avg	----	----	----	----	----	----	----	----	0.0243	6.19	-1	-1	Lvl=7	500.0							
Aroclor-1232	2	5	Avg	----	----	----	----	----	----	----	----	0.0177	6.27	-1	-1	Lvl=7	500.0							
Aroclor-1242	2	1	Avg	----	----	----	----	----	----	----	----	0.0389	4.53	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	2	Avg	----	----	----	----	----	----	----	----	0.0733	4.96	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	3	Avg	----	----	----	----	----	----	----	----	0.146	5.34	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	4	Avg	----	----	----	----	----	----	----	----	0.0662	5.67	-1	-1	Lvl=8	500.0							
Aroclor-1242	2	5	Avg	----	----	----	----	----	----	----	----	0.0546	6.05	-1	-1	Lvl=8	500.0							
Aroclor-1248	2	1	Avg	----	----	----	----	----	----	----	----	0.0371	4.96	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	2	Avg	----	----	----	----	----	----	----	----	0.0965	5.34	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	3	Avg	----	----	----	----	----	----	----	----	0.0764	5.67	-1	-1	Lvl=9	500.0							

Avg Rsd Col 1: 15.79 Avg Rsd Col 2: 14.19

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 whether Avg RF, Linear, or Quadratic Curve was used for compound
Corr 1 = Correlation Coefficient for linear Eq
Corr 2 = Correlation Coefficient for quad Eq

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 #

1092401 0254

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	3G130616.D	CAL 1660@50PPB	09/22/21 12:31	2	3G130617.D	CAL 1660@200PPB	09/22/21 12:46
3	3G130618.D	CAL 1660@500PPB	09/22/21 13:01	4	3G130619.D	CAL 1660@1000PPB	09/22/21 13:16
5	3G130620.D	CAL 1660@2000PPB	09/22/21 13:31	6	3G130621.D	CAL 1660@4000PPB	09/22/21 13:45
7	3G130612.D	CAL 3268@500PPB	09/22/21 11:32	8	3G130613.D	CAL 1242@500PPB	09/22/21 11:47
9	3G130614.D	CAL 1248@500PPB	09/22/21 12:01	10	3G130611.D	CAL 2154@500PPB	09/22/21 10:45
11	3G130615.D	CAL 1262@500PPB	09/22/21 12:16				

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	----	----	----	----	----	----	----	----	0.0746	6.19	-1	-1	Lvl=9	500.0							
Aroclor-1248	2	5	Avg	----	----	----	----	----	----	----	----	0.0864	6.32	-1	-1	Lvl=9	500.0							
Aroclor-1254	2	1	Avg	----	----	----	----	----	----	----	----	0.128	6.55	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	2	Avg	----	----	----	----	----	----	----	----	0.0407	6.89	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	3	Avg	----	----	----	----	----	----	----	----	0.106	7.29	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	4	Avg	----	----	----	----	----	----	----	----	0.0521	7.80	-1	-1	Lvl=10	500.0							
Aroclor-1254	2	5	Avg	----	----	----	----	----	----	----	----	0.0497	8.50	-1	-1	Lvl=10	500.0							
Aroclor-1262	2	1	Avg	----	----	----	----	----	----	----	----	0.117	7.87	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	2	Avg	----	----	----	----	----	----	----	----	0.0981	9.03	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	3	Avg	----	----	----	----	----	----	----	----	0.116	9.14	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	4	Avg	----	----	----	----	----	----	----	----	0.116	9.76	-1	-1	Lvl=11	500.0							
Aroclor-1262	2	5	Avg	----	----	----	----	----	----	----	----	0.0335	10.32	-1	-1	Lvl=11	500.0							
Aroclor-1268	2	1	Avg	----	----	----	----	----	----	----	----	0.0198	8.54	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	2	Avg	----	----	----	----	----	----	----	----	0.0335	8.58	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	3	Avg	----	----	----	----	----	----	----	----	0.211	9.50	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	4	Avg	----	----	----	----	----	----	----	----	0.0577	9.66	-1	-1	Lvl=7	500.0							
Aroclor-1268	2	5	Avg	----	----	----	----	----	----	----	----	0.641	10.33	-1	-1	Lvl=7	500.0							
DCB-Surrogate	2	0	Avg	2.4250	1.9955	1.9170	1.9209	1.7987	1.6535	----	----	1.95	10.88	0.998	1.00	13	5.00	20.00	50.00	100.0	200.0	400.0		

Avg Rsd Col 1: 15.79 Avg Rsd Col 2: 14.19

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 #

Form7
Continuing Calibration

Method: EPA 8082A

Data File:				2G158500.D			2G158514.D			3G130787.D			3G130798.D					
Method:				8082			8082			8082			8082					
Calibration Name:				CAL 1660@1000PP			CAL 1660@1000PP			CAL 1660@1000PP			CAL 1660@1000PP					
Calibration Date/Time				09/30/21 07:25			09/30/21 12:48			09/30/21 07:10			09/30/21 13:01					
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	102.1	100	2.1	106.2	100	6.2	103.1	100	3.1	109.9	100	9.9			
Aroclor-1016	20	1	1	913.4	1000	8.7	1050	1000	5.0	1066	1000	6.6	1169	1000	16.9			
Aroclor-1016	20	1	2	1020	1000	2.0	1119	1000	11.9	1233	1000	23.3*	1319	1000	31.9*			
Aroclor-1016	20	1	3	1128	1000	12.8	1296	1000	29.6*	1024	1000	2.4	1085	1000	8.5			
Aroclor-1016	20	1	4	971.4	1000	2.9	854.5	1000	14.5	1049	1000	4.9	1105	1000	10.5			
Aroclor-1016	20	1	5	1000	1000	0.0	887	1000	11.3	1022	1000	2.2	1061	1000	6.1			
Aroclor-1260	20	1	1	984.2	1000	1.6	1099	1000	9.9	1041	1000	4.1	1035	1000	3.5			
Aroclor-1260	20	1	2	1083	1000	8.3	1172	1000	17.2	1078	1000	7.8	1037	1000	3.7			
Aroclor-1260	20	1	3	1028	1000	2.8	1099	1000	9.9	1102	1000	10.2	1016	1000	1.6			
Aroclor-1260	20	1	4	1061	1000	6.1	1181	1000	18.1	1067	1000	6.7	1015	1000	1.5			
Aroclor-1260	20	1	5	996.7	1000	0.3	1055	1000	5.5	1020	1000	2.0	1007	1000	0.7			
DCB-Surrogate	20	1	0	89.11	100	10.9	91.39	100	8.6	94.01	100	6.0	94.43	100	5.6			
Average Difference	20	1	0			4.9			12.3			6.6			8.4			
TCMX-Surrogate	20	2	0	104.1	100	4.1	101.8	100	1.8	91.46	100	8.5	86.7	100	13.3			
Aroclor-1016	20	2	1	1031	1000	3.1	991.2	1000	0.9	905.6	1000	9.4	870.9	1000	12.9			
Aroclor-1016	20	2	2	990.3	1000	1.0	991.1	1000	0.9	887.9	1000	11.2	868.5	1000	13.2			
Aroclor-1016	20	2	3	1025	1000	2.5	1044	1000	4.4	844.5	1000	15.6	822.6	1000	17.7			
Aroclor-1016	20	2	4	1099	1000	9.9	1136	1000	13.6	884.8	1000	11.5	869.7	1000	13.0			
Aroclor-1016	20	2	5	1091	1000	9.1	1089	1000	8.9	930.6	1000	6.9	913.9	1000	8.6			
Aroclor-1260	20	2	1	972.4	1000	2.8	962.1	1000	3.8	1046	1000	4.6	1016	1000	1.6			
Aroclor-1260	20	2	2	997.4	1000	0.3	976.8	1000	2.3	877.5	1000	12.2	859.1	1000	14.1			
Aroclor-1260	20	2	3	985.6	1000	1.4	910.6	1000	8.9	813.6	1000	18.6	804.1	1000	19.6			
Aroclor-1260	20	2	4	985.7	1000	1.4	926.6	1000	7.3	942.7	1000	5.7	945.1	1000	5.5			
Aroclor-1260	20	2	5	967.6	1000	3.2	945.7	1000	5.4	929.9	1000	7.0	902.2	1000	9.8			
DCB-Surrogate	20	2	0	90.57	100	9.4	87.94	100	12.1	93.54	100	6.5	90.28	100	9.7			
Average Difference	20	2	0			4.0			5.9			9.8			11.6			

Flags/Notes: **** - Values outside of limits for this column/run***

Form7
RtWindow Summary

Method: EPA 8082A

			Data File:	2G158207.D		3G130616.D		2G158500.D		3G130787.D		
			Calibration Name:	CAL 1660@50PPB		CAL 1660@50PPB		CAL 1660@1000PPB		CAL 1660@1000PPB		
			Calibration Date/Time	9/19/2021 8:10:00 PM		9/22/2021 12:31:00 PM		9/30/2021 7:25:00 AM		9/30/2021 7:10:00 AM		
Compound	Col	Mr	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit	Cal RT	Limit
TCMX-Surrogate	1	0	3.79	(3.73 - 3.85)	3.90	(3.84 - 3.96)	3.80	(3.74 - 3.86)	3.90	(3.84 - 3.96)		
Aroclor-1016	1	1	4.27	(4.23 - 4.31)	4.42	(4.38 - 4.46)	4.26	(4.22 - 4.30)	4.42	(4.38 - 4.46)		
Aroclor-1016	1	2	4.60	(4.56 - 4.64)	4.79	(4.75 - 4.83)	4.60	(4.56 - 4.64)	4.79	(4.75 - 4.83)		
Aroclor-1016	1	3	5.12	(5.08 - 5.16)	5.26	(5.22 - 5.30)	5.10	(5.06 - 5.14)	5.26	(5.22 - 5.30)		
Aroclor-1016	1	4	5.23	(5.19 - 5.27)	5.51	(5.47 - 5.55)	5.22	(5.18 - 5.26)	5.51	(5.47 - 5.55)		
Aroclor-1016	1	5	5.42	(5.38 - 5.46)	5.63	(5.59 - 5.67)	5.42	(5.38 - 5.46)	5.63	(5.59 - 5.67)		
Aroclor-1260	1	1	6.90	(6.86 - 6.94)	7.15	(7.11 - 7.19)	6.90	(6.86 - 6.94)	7.14	(7.10 - 7.18)		
Aroclor-1260	1	2	7.17	(7.13 - 7.21)	7.40	(7.36 - 7.44)	7.16	(7.12 - 7.20)	7.40	(7.36 - 7.44)		
Aroclor-1260	1	3	7.36	(7.32 - 7.40)	7.60	(7.56 - 7.64)	7.35	(7.31 - 7.39)	7.60	(7.56 - 7.64)		
Aroclor-1260	1	4	7.93	(7.89 - 7.97)	8.19	(8.15 - 8.23)	7.92	(7.88 - 7.96)	8.19	(8.15 - 8.23)		
Aroclor-1260	1	5	8.66	(8.62 - 8.70)	8.92	(8.88 - 8.96)	8.65	(8.61 - 8.69)	8.91	(8.87 - 8.95)		
Aroclor-1221	1	1	4.06	(4.02 - 4.10)	4.20	(4.16 - 4.24)						
Aroclor-1221	1	2	4.19	(4.15 - 4.23)	4.35	(4.31 - 4.39)						
Aroclor-1221	1	3	4.26	(4.22 - 4.30)	4.42	(4.38 - 4.46)						
Aroclor-1232	1	1	4.26	(4.22 - 4.30)	4.43	(4.39 - 4.47)						
Aroclor-1232	1	2	4.60	(4.56 - 4.64)	4.80	(4.76 - 4.84)						
Aroclor-1232	1	3	5.12	(5.08 - 5.16)	5.27	(5.23 - 5.31)						
Aroclor-1232	1	4	5.23	(5.19 - 5.27)	5.41	(5.37 - 5.45)						
Aroclor-1232	1	5	5.65	(5.61 - 5.69)	5.88	(5.84 - 5.92)						
Aroclor-1242	1	1	4.26	(4.22 - 4.30)	4.42	(4.38 - 4.46)						
Aroclor-1242	1	2	4.60	(4.56 - 4.64)	4.79	(4.75 - 4.83)						
Aroclor-1242	1	3	5.12	(5.08 - 5.16)	5.26	(5.22 - 5.30)						
Aroclor-1242	1	4	5.42	(5.38 - 5.46)	5.63	(5.59 - 5.67)						
Aroclor-1242	1	5	5.65	(5.61 - 5.69)	5.87	(5.83 - 5.91)						
Aroclor-1248	1	1	4.60	(4.56 - 4.64)	4.79	(4.75 - 4.83)						
Aroclor-1248	1	2	5.13	(5.09 - 5.17)	5.26	(5.22 - 5.30)						
Aroclor-1248	1	3	5.42	(5.38 - 5.46)	5.61	(5.57 - 5.65)						
Aroclor-1248	1	4	5.77	(5.73 - 5.81)	5.87	(5.83 - 5.91)						
Aroclor-1248	1	5	6.40	(6.36 - 6.44)	6.58	(6.54 - 6.62)						
Aroclor-1254	1	1	6.55	(6.51 - 6.59)	6.78	(6.74 - 6.82)						
Aroclor-1254	1	2	6.76	(6.72 - 6.80)	6.99	(6.95 - 7.03)						
Aroclor-1254	1	3	6.90	(6.86 - 6.94)	7.15	(7.11 - 7.19)						
Aroclor-1254	1	4	7.09	(7.05 - 7.13)	7.27	(7.23 - 7.31)						
Aroclor-1254	1	5	7.48	(7.44 - 7.52)	7.66	(7.62 - 7.70)						
Aroclor-1262	1	1	7.58	(7.54 - 7.62)	7.83	(7.79 - 7.87)						
Aroclor-1262	1	2	8.58	(8.54 - 8.62)	8.84	(8.80 - 8.88)						
Aroclor-1262	1	3	8.65	(8.61 - 8.69)	8.91	(8.87 - 8.95)						
Aroclor-1262	1	4	9.34	(9.30 - 9.38)	9.65	(9.61 - 9.69)						
Aroclor-1262	1	5	9.68	(9.64 - 9.72)	10.02	(9.98 - 10.06)						
Aroclor-1268	1	1	7.93	(7.89 - 7.97)	8.19	(8.15 - 8.23)						
Aroclor-1268	1	2	8.27	(8.23 - 8.31)	8.52	(8.48 - 8.56)						
Aroclor-1268	1	3	8.82	(8.78 - 8.86)	9.10	(9.06 - 9.14)						
Aroclor-1268	1	4	8.92	(8.88 - 8.96)	9.20	(9.16 - 9.24)						
Aroclor-1268	1	5	9.67	(9.63 - 9.71)	10.03	(9.99 - 10.07)						
DCB-Surrogate	1	0	9.90	(9.84 - 9.96)	10.25	(10.19 - 10.31)	9.90	(9.84 - 9.96)	10.24	(10.18 - 10.30)		
TCMX-Surrogate	2	0	3.81	(3.75 - 3.87)	3.93	(3.87 - 3.99)	3.81	(3.75 - 3.87)	3.93	(3.87 - 3.99)		
Aroclor-1016	2	1	4.42	(4.38 - 4.46)	4.53	(4.49 - 4.57)	4.42	(4.38 - 4.46)	4.53	(4.49 - 4.57)		
Aroclor-1016	2	2	4.82	(4.78 - 4.86)	4.96	(4.92 - 5.00)	4.83	(4.79 - 4.87)	4.96	(4.92 - 5.00)		
Aroclor-1016	2	3	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)		
Aroclor-1016	2	4	5.54	(5.50 - 5.58)	5.67	(5.63 - 5.71)	5.54	(5.50 - 5.58)	5.67	(5.63 - 5.71)		
Aroclor-1016	2	5	5.90	(5.86 - 5.94)	6.05	(6.01 - 6.09)	5.91	(5.87 - 5.95)	6.05	(6.01 - 6.09)		
Aroclor-1260	2	1	7.21	(7.17 - 7.25)	7.36	(7.32 - 7.40)	7.21	(7.17 - 7.25)	7.36	(7.32 - 7.40)		
Aroclor-1260	2	2	7.30	(7.26 - 7.34)	7.44	(7.40 - 7.48)	7.30	(7.26 - 7.34)	7.44	(7.40 - 7.48)		
Aroclor-1260	2	3	7.92	(7.88 - 7.96)	8.08	(8.04 - 8.12)	7.92	(7.88 - 7.96)	8.08	(8.04 - 8.12)		
Aroclor-1260	2	4	8.28	(8.24 - 8.32)	8.44	(8.40 - 8.48)	8.28	(8.24 - 8.32)	8.44	(8.40 - 8.48)		
Aroclor-1260	2	5	8.98	(8.94 - 9.02)	9.15	(9.11 - 9.19)	8.99	(8.95 - 9.03)	9.15	(9.11 - 9.19)		
Aroclor-1221	2	1	4.19	(4.15 - 4.23)	4.31	(4.27 - 4.35)						
Aroclor-1221	2	2	4.34	(4.30 - 4.38)	4.46	(4.42 - 4.50)						
Aroclor-1221	2	3	4.41	(4.37 - 4.45)	4.53	(4.49 - 4.57)						
Aroclor-1232	2	1	4.41	(4.37 - 4.45)	4.53	(4.49 - 4.57)						
Aroclor-1232	2	2	4.82	(4.78 - 4.86)	4.96	(4.92 - 5.00)						
Aroclor-1232	2	3	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)						
Aroclor-1232	2	4	5.54	(5.50 - 5.58)	6.19	(6.15 - 6.23)						
Aroclor-1232	2	5	6.05	(6.01 - 6.09)	6.27	(6.23 - 6.31)						
Aroclor-1242	2	1	4.41	(4.37 - 4.45)	4.53	(4.49 - 4.57)						
Aroclor-1242	2	2	4.82	(4.78 - 4.86)	4.96	(4.92 - 5.00)						
Aroclor-1242	2	3	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)						
Aroclor-1242	2	4	5.54	(5.50 - 5.58)	5.67	(5.63 - 5.71)						
Aroclor-1242	2	5	5.90	(5.86 - 5.94)	6.05	(6.01 - 6.09)						
Aroclor-1248	2	1	4.82	(4.78 - 4.86)	4.96	(4.92 - 5.00)						
Aroclor-1248	2	2	5.22	(5.18 - 5.26)	5.34	(5.30 - 5.38)						
Aroclor-1248	2	3	5.53	(5.49 - 5.57)	5.67	(5.63 - 5.71)						
Aroclor-1248	2	4	6.05	(6.01 - 6.09)	6.19	(6.15 - 6.23)						
Aroclor-1248	2	5	6.20	(6.16 - 6.24)	6.32	(6.28 - 6.36)						
Aroclor-1254	2	1	6.40	(6.36 - 6.44)	6.55	(6.51 - 6.59)						
Aroclor-1254	2	2	6.74	(6.70 - 6.78)	6.89	(6.85 - 6.93)						
Aroclor-1254	2	3	7.16	(7.12 - 7.20)	7.29	(7.25 - 7.33)						
Aroclor-1254	2	4	7.68	(7.64 - 7.72)	7.80	(7.76 - 7.84)						
Aroclor-1254	2	5	8.35	(8.31 - 8.39)	8.50	(8.46 - 8.54)						
Aroclor-1262	2	1	7.71	(7.67 - 7.75)	7.87	(7.83 - 7.91)						
Aroclor-1262	2	2	8.87	(8.83 - 8.91)	9.03	(8.99 - 9.07)						
Aroclor-1262	2	3	8.98	(8.94 - 9.02)	9.14	(9.10 - 9.18)						
Aroclor-1262	2	4	9.57	(9.53 - 9.61)	9.76	(9.72 - 9.80)						
Aroclor-1262	2	5	10.10	(10.06 - 10.14)	10.32	(10.28 - 10.36)						
Aroclor-1268	2	1	8.37	(8.33 - 8.41)	8.54	(8.50 - 8.58)						
Aroclor-1268	2	2	8.42	(8.38 - 8.46)	8.58	(8.54 - 8.62)						
Aroclor-1268	2	3	9.31	(9.27 - 9.35)	9.50	(9.46 - 9.54)						
Aroclor-1268	2	4	9.46	(9.42 - 9.50)	9.66	(9.62 - 9.70)						
Aroclor-1268	2	5	10.10	(10.06 - 10.14)	10.33	(10.29 - 10.37)						
DCB-Surrogate	2	0	10.63	(10.57 - 10.69)	10.89	(10.83 - 10.95)	10.64	(10.58 - 10.70)	10.88	(10.82 - 10.94)		

TPH Data

Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-002
Client Id: SB09 COMP
Data File: 8G667120.D
Analysis Date: 09/29/21 13:18
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	71	U				

Worksheet #: 610827 *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\2021\GC_8\Data\09-29-21\
Data File : 8G667120.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 13:18:57
Operator : AH/RR/ABM
Sample : AD26217-002
Misc : S.TPH
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 13:38:05 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	19949	9.560	
22)	O-Terphenyl	7.206	48199	12.583	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.206f	1738345	550.556	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

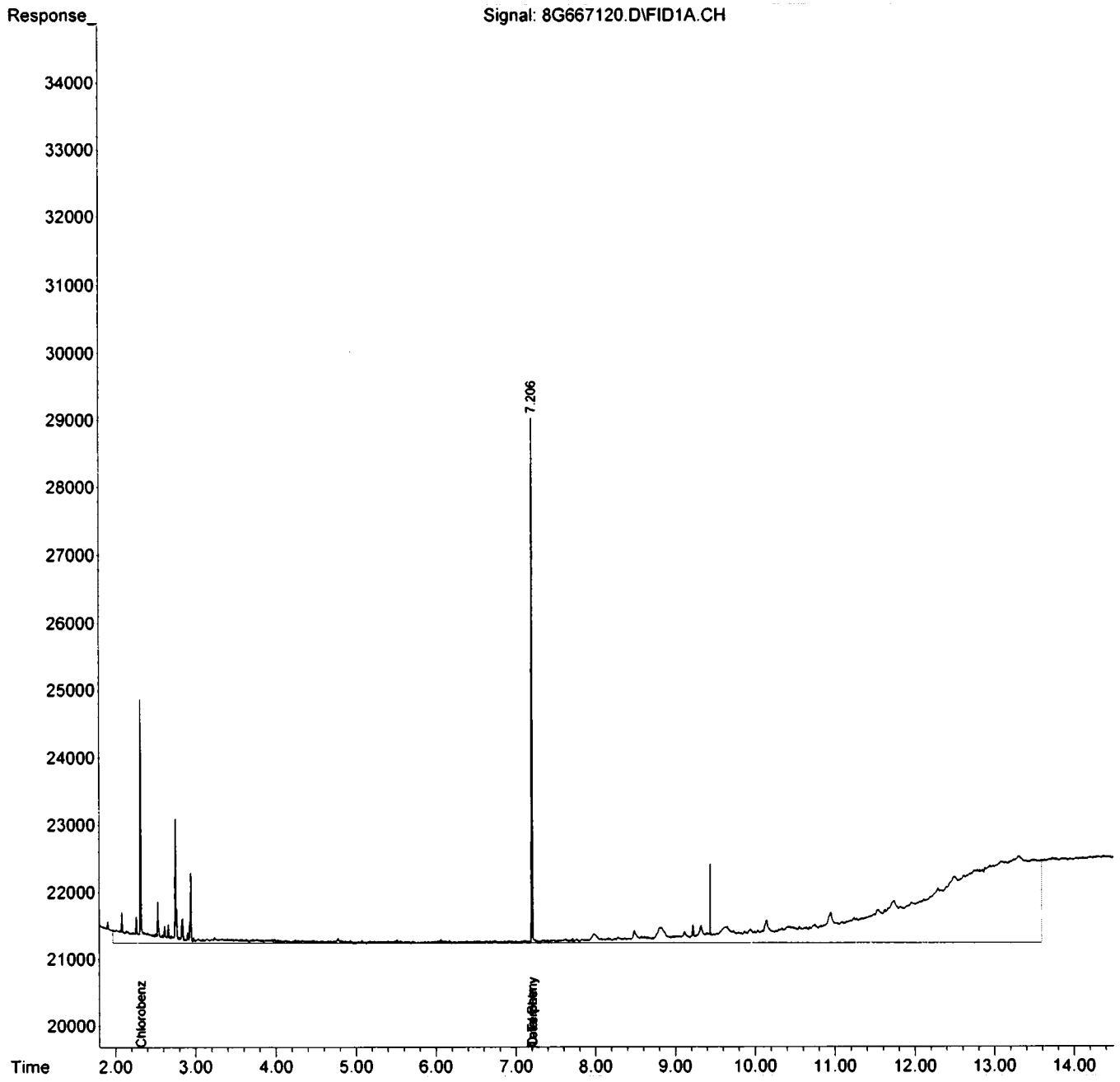
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667120.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 13:18:57
Operator : AH/RR/ABM
Sample : AD26217-002
Misc : S.TPH
ALS Vial : 9 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 13:38:05 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-004
Client Id: SB08 COMP
Data File: 8G667121.D
Analysis Date: 09/29/21 13:41
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	71	U				

Worksheet #: 610827 *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\2021\GC_8\Data\09-29-21\
Data File : 8G667121.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 13:41:56
Operator : AH/RR/ABM
Sample : AD26217-004
Misc : S.TPH
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 14:03:47 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	24401	11.694	
22)	O-Terphenyl	7.205	56789	14.826	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.205f	2058913	652.085	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

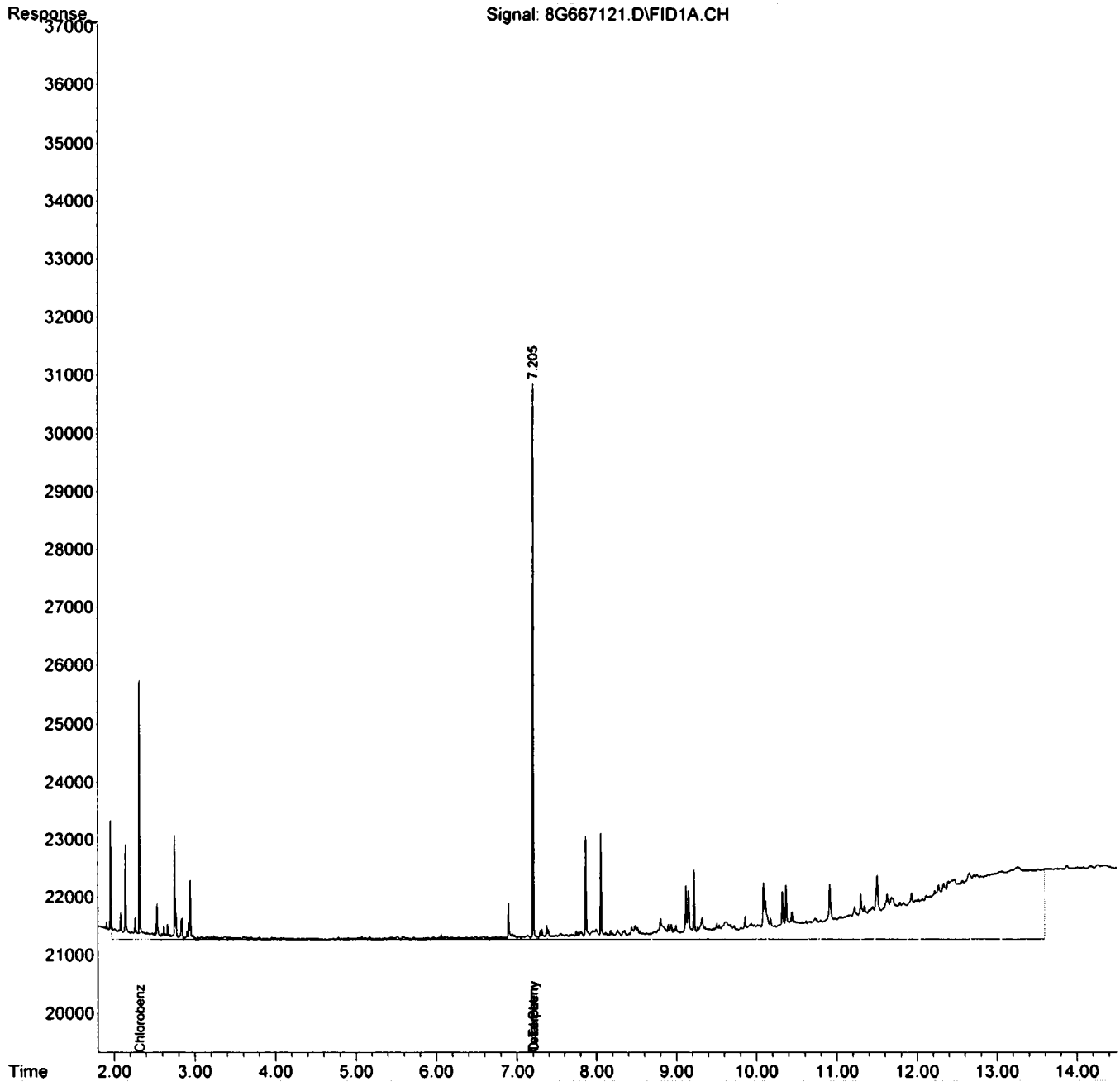
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667121.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 13:41:56
Operator : AH/RR/ABM
Sample : AD26217-004
Misc : S.TPH
ALS Vial : 10 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 14:03:47 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-006
Client Id: SB07 COMP
Data File: 8G667122.D
Analysis Date: 09/29/21 14:05
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	71	U				

Worksheet #: 610827

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\2021\GC_8\Data\09-29-21\
Data File : 8G667122.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 14:05:00
Operator : AH/RR/ABM
Sample : AD26217-006
Misc : S.TPH
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 14:28:21 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	18477	8.855	
22)	O-Terphenyl	7.209	55508	14.492	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.209f	1781489	564.221	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.

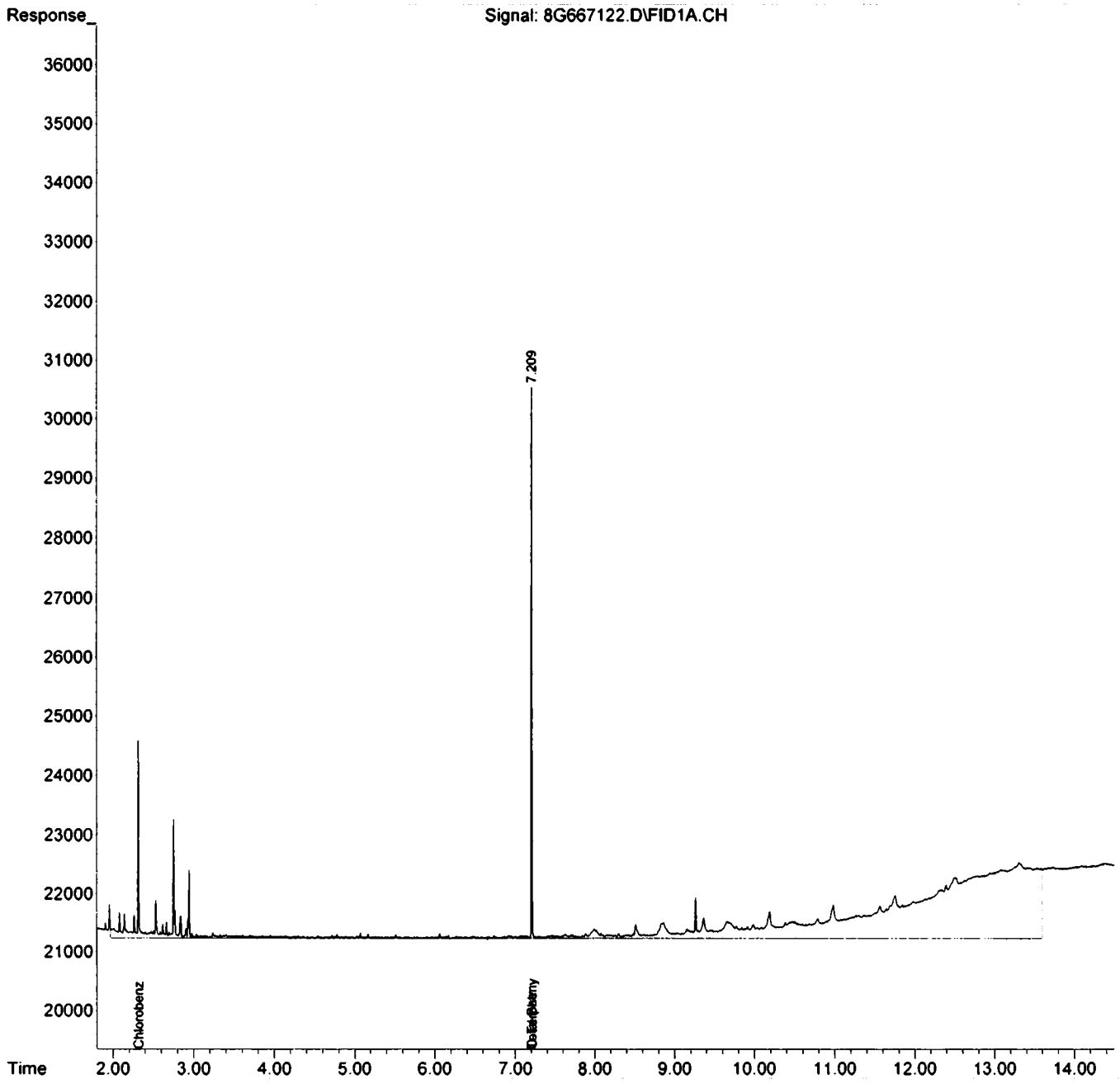
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667122.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 14:05:00
Operator : AH/RR/ABM
Sample : AD26217-006
Misc : S.TPH
ALS Vial : 11 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 14:28:21 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-008
Client Id: SB06 COMP
Data File: 8G667125.D
Analysis Date: 09/29/21 15:14
Date Rec/Extracted: 09/23/21-09/28/21
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 #: 610827 *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\2021\GC_8\Data\09-29-21\
Data File : 8G667125.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 15:14:36
Operator : AH/RR/ABM
Sample : AD26217-008
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 15:32:54 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	17764	8.513	
22)	O-Terphenyl	7.204	54054	14.112	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	2163965	685.356	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.

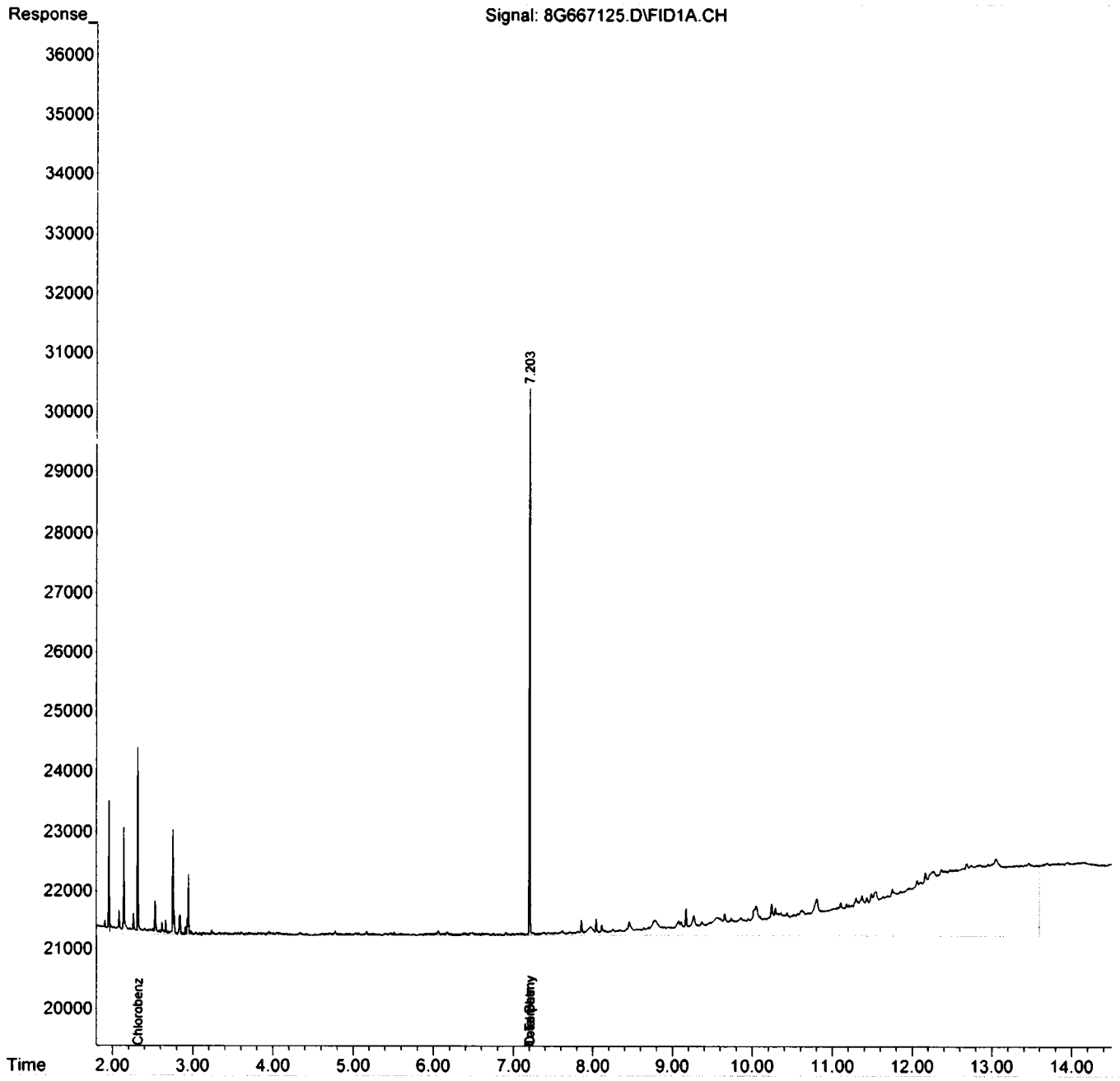
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667125.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 15:14:36
Operator : AH/RR/ABM
Sample : AD26217-008
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 15:32:54 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-010
Client Id: SB05 COMP
Data File: 8G667126.D
Analysis Date: 09/29/21 15:37
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 88

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	**68**	**85**				

Worksheet #: 610827 *Total Target Concentration* 85 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\2021\GC_8\Data\09-29-21\
Data File : 8G667126.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 15:37:41
Operator : AH/RR/ABM
Sample : AD26217-010
Misc : S.TPH
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 15:57:46 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	24350	11.670	
22)	O-Terphenyl	7.204	56764	14.819	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	2763361	875.192	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.

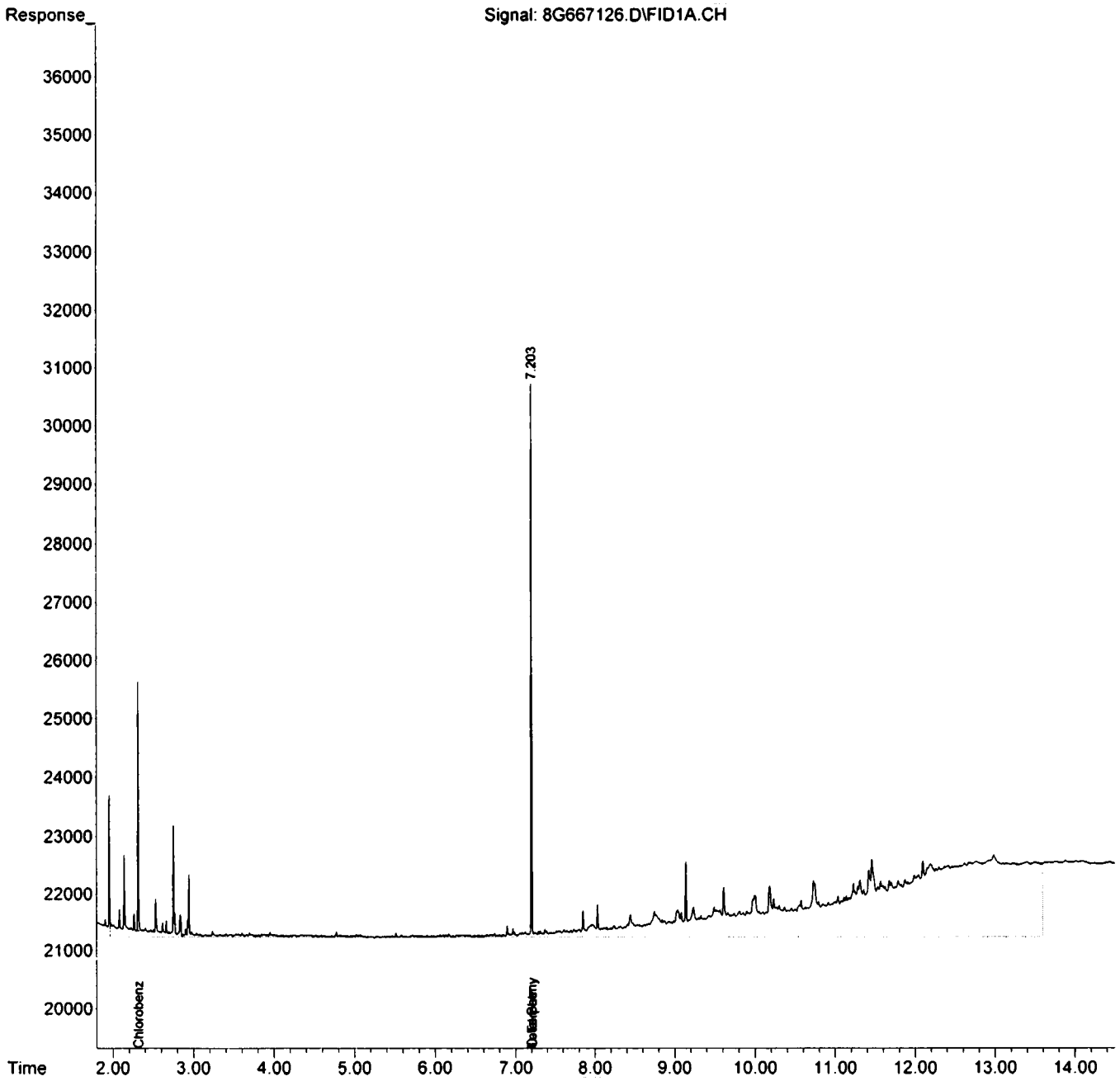
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667126.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 15:37:41
Operator : AH/RR/ABM
Sample : AD26217-010
Misc : S.TPH
ALS Vial : 4 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 15:57:46 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-012
Client Id: SB04 COMP
Data File: 8G667127.D
Analysis Date: 09/29/21 16:00
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	**71**	**85**				

Worksheet #: 610827 *Total Target Concentration* 85 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\2021\GC_8\Data\09-29-21\
Data File : 8G667127.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:00:46
Operator : AH/RR/ABM
Sample : AD26217-012
Misc : S.TPH
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 16:24:39 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	14981	7.180	
22)	O-Terphenyl	7.203	49803	13.002	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	2704317	856.492	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.

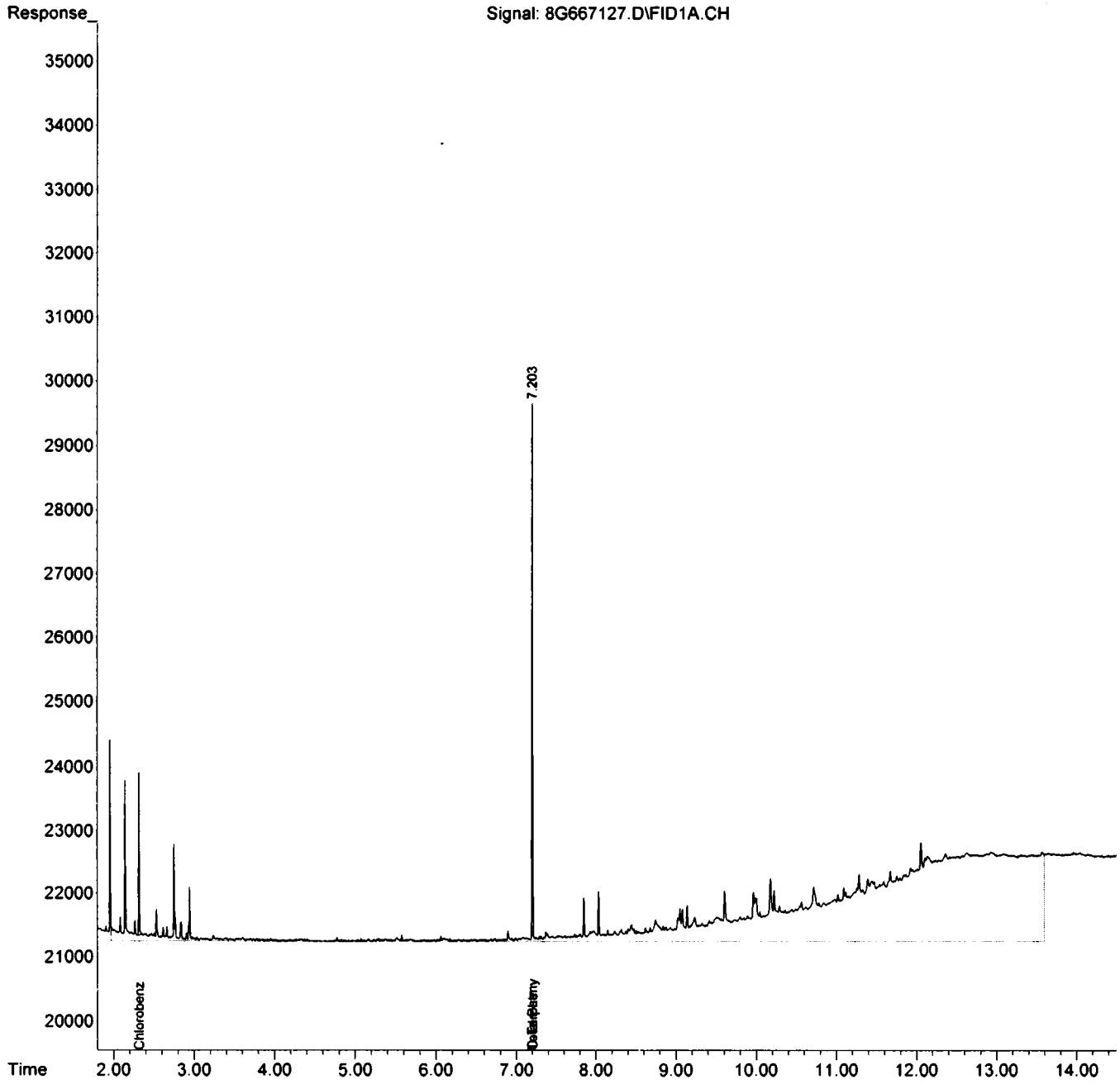
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667127.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:00:46
Operator : AH/RR/ABM
Sample : AD26217-012
Misc : S.TPH
ALS Vial : 5 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 16:24:39 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-014
Client Id: SB03 COMP
Data File: 8G667128.D
Analysis Date: 09/29/21 16:23
Date Rec/Extracted: 09/23/21-09/28/21
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**	**72**				

Worksheet #: 610827 *Total Target Concentration* 72 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\2021\GC_8\Data\09-29-21\
Data File : 8G667128.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:23:57
Operator : AH/RR/ABM
Sample : AD26217-014
Misc : S.TPH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 16:46:36 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.143	18939	9.076	
22)	O-Terphenyl	7.204	53470	13.960	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.204f	2589575	820.152	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

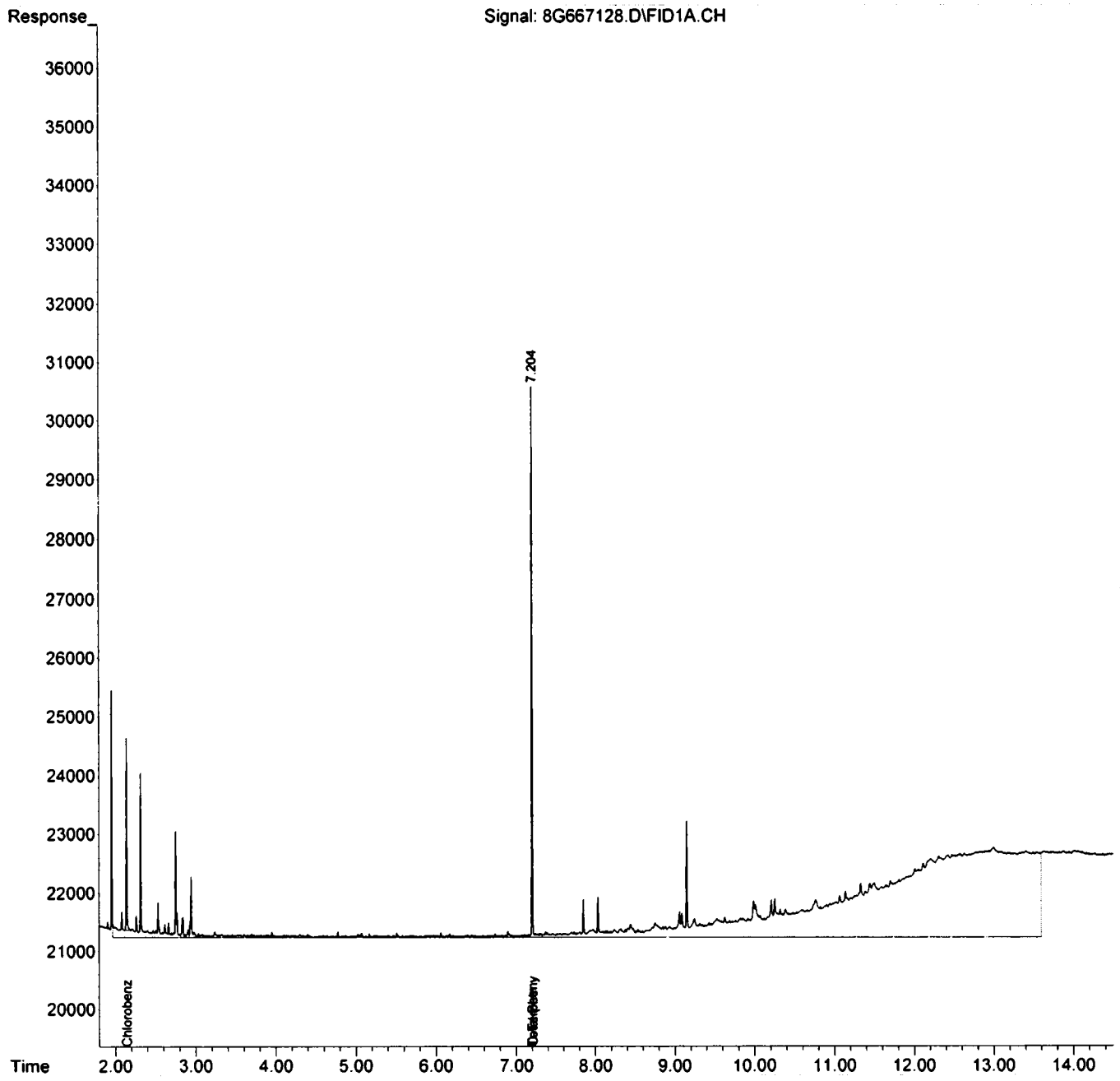
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667128.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:23:57
Operator : AH/RR/ABM
Sample : AD26217-014
Misc : S.TPH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 16:46:36 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-016
Client Id: SB02 COMP
Data File: 8G667130.D
Analysis Date: 09/29/21 17:10
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 78

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocar	**77**	**600**				

Worksheet #: 610827 ***Total Target Concentration*** 600 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\2021\GC_8\Data\09-29-21\
Data File : 8G667130.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 17:10:08
Operator : AH/RR/ABM
Sample : AD26217-016
Misc : S.TPH
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 08:40:36 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	16708	8.007	
22)	O-Terphenyl	7.203	52824	13.791	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	8904143	2820.058	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.

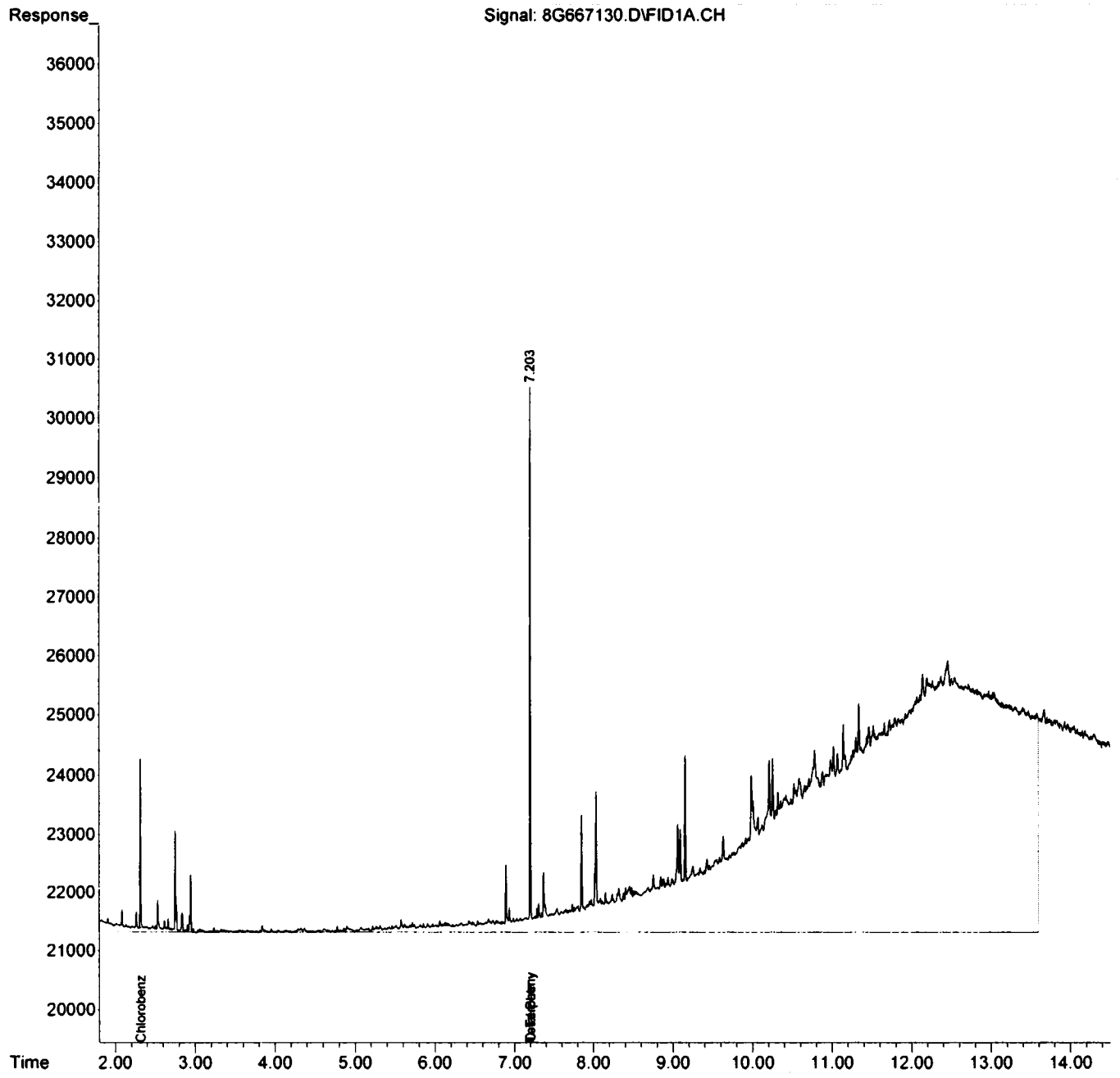
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667130.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 17:10:08
Operator : AH/RR/ABM
Sample : AD26217-016
Misc : S.TPH
ALS Vial : 8 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 08:40:36 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: AD26217-018
Client Id: SB01 COMP
Data File: 8G667129.D
Analysis Date: 09/29/21 16:47
Date Rec/Extracted: 09/23/21-09/28/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 8015D
Matrix: Soil
Initial Vol: 5g
Final Vol: 1ml
Dilution: 1
Solids: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
	Total Petroleum Hydrocarbo	73	U				

Worksheet #: 610827

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\2021\GC_8\Data\09-29-21\
Data File : 8G667129.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:47:10
Operator : AH/RR/ABM
Sample : AD26217-018
Misc : S.TPH
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 08:39:54 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.317	19673	9.428	
22)	O-Terphenyl	7.204	53295	13.914	
23)d	Diesel Range Organics(T	0.000	0	N.D.	d
24)t	Total Petroleum Hydroca	7.203f	2404597	761.567	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.

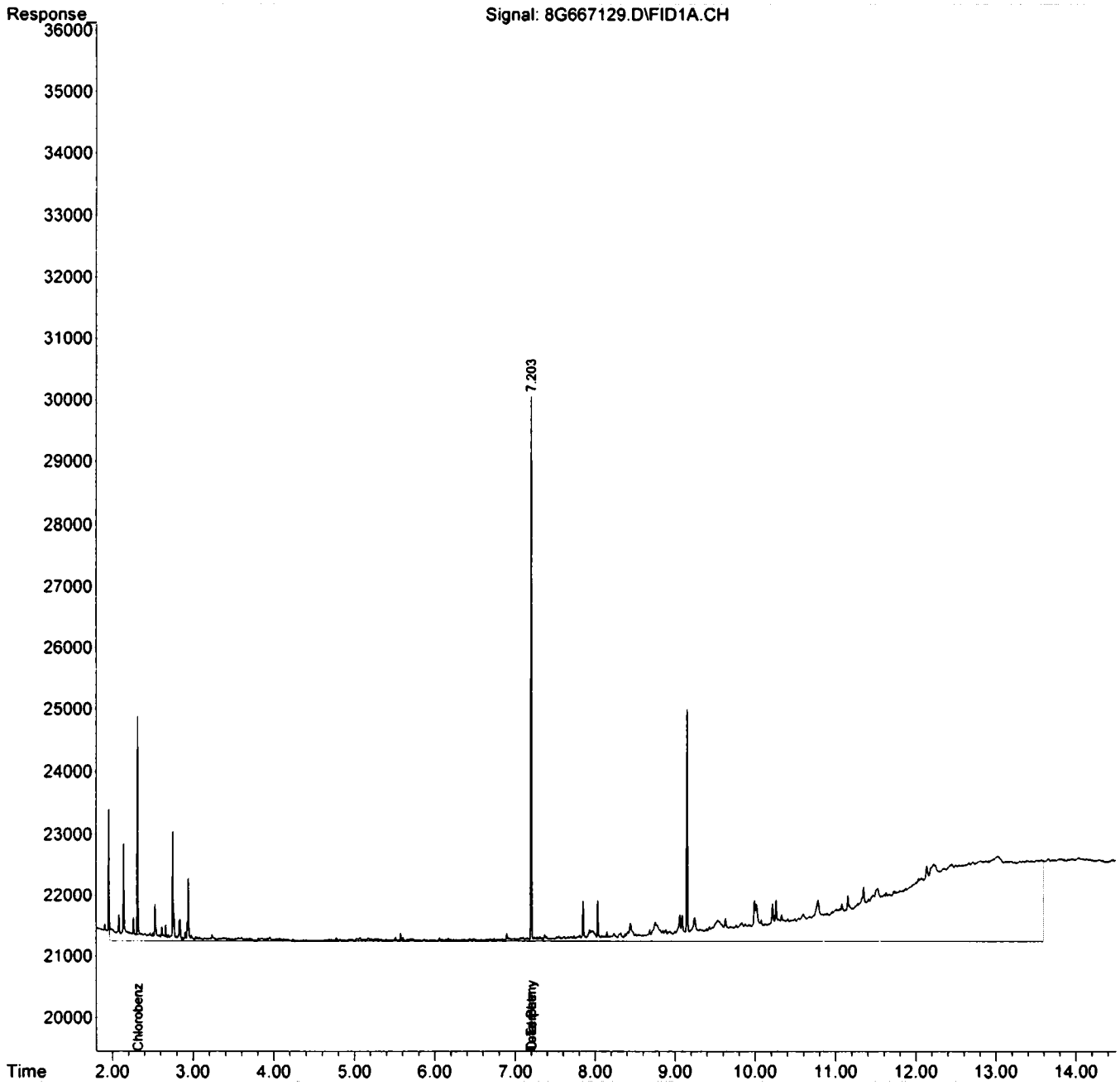
RR

Quantitation Report (QT Reviewed)

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667129.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 16:47:10
Operator : AH/RR/ABM
Sample : AD26217-018
Misc : S.TPH
ALS Vial : 7 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 08:39:54 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS PETROLEUM HYDROCARBON REPORT

Sample Number: SMB95065
Client Id:
Data File: 8G667112.D
Analysis Date: 09/29/21 10:13
Date Rec/Extracted: NA-09/28/21
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 #: 610827 *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\2021\GC_8\Data\09-29-21\
Data File : 8G667112.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 10:13:58
Operator : AH/RR/ABM
Sample : SMB95065
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 10:32:21 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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	2.318	18916	9.065		
22)	O-Terphenyl	7.204	48419	12.641		
23)d	Diesel Range Organics(T	7.204f	223465	68.591		m
24)t	Total Petroleum Hydroca	7.204f	1638183	518.834		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

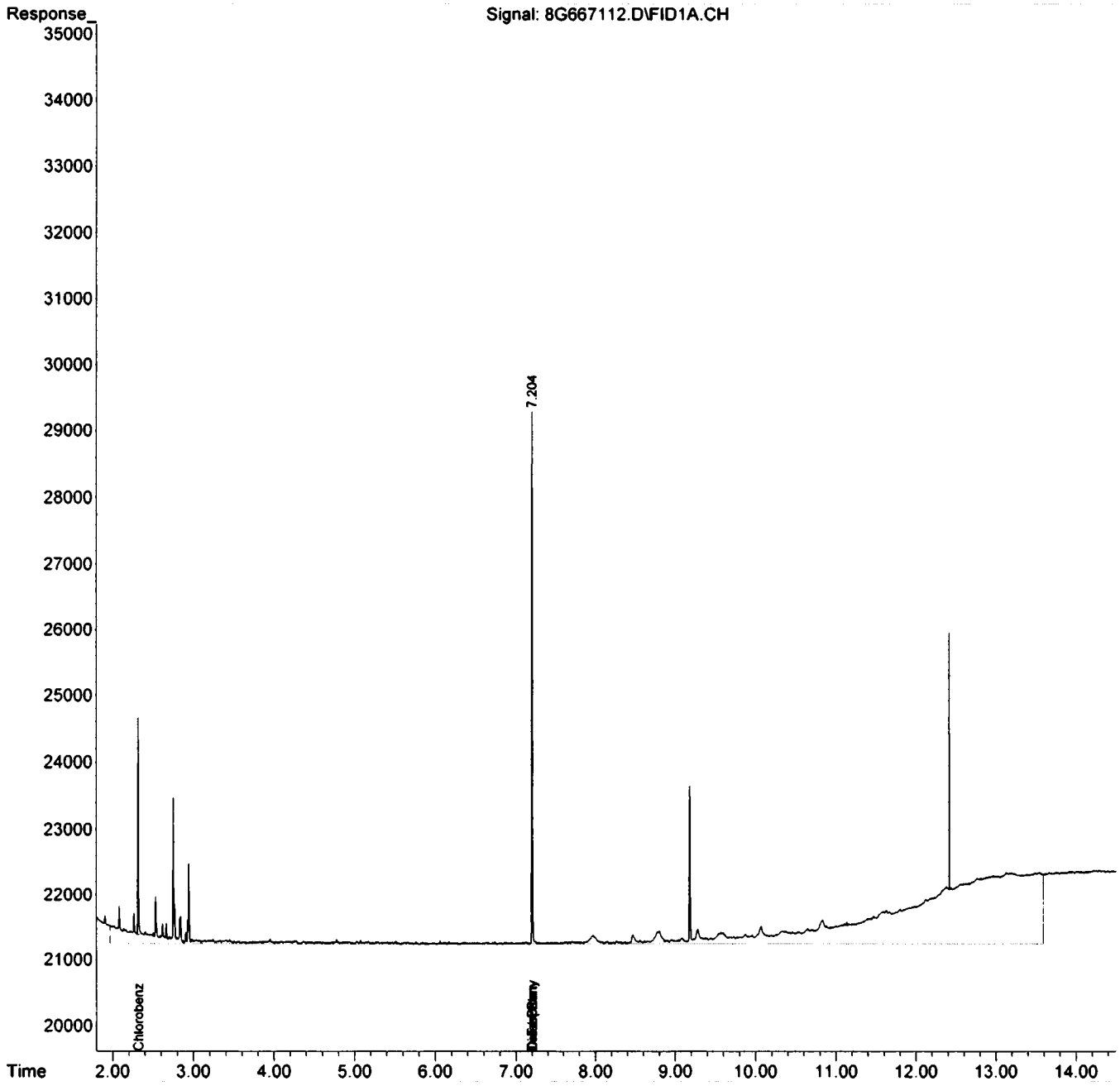
(f)=RT Delta > 1/2 Window (m)=manual int.

RR

Data Path : G:\Gcdata\2021\GC_8\Data\09-29-21\
Data File : 8G667112.D
Signal(s) : FID1A.CH
Acq On : 29-Sep-21, 10:13:58
Operator : AH/RR/ABM
Sample : SMB95065
Misc : S.TPH
ALS Vial : 3 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 29 10:32:21 2021
Quant Method : G:\Gcdata\2021\GC_8\MethodQt\8G_T(C8-C40)0927.M
Quant Title : @GC_8,mg,8015
QLast Update : Mon Sep 27 13:57:44 2021
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

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
8G667112.D	SMB95065	S	09/29/21 10:13	1		45	63				
8G667120.D	AD26217-002	S	09/29/21 13:18	1		48	63				
8G667121.D	AD26217-004	S	09/29/21 13:41	1		58	74				
8G667122.D	AD26217-006	S	09/29/21 14:05	1		44	72				
8G667125.D	AD26217-008	S	09/29/21 15:14	1		43	71				
8G667126.D	AD26217-010	S	09/29/21 15:37	1		58	74				
8G667127.D	AD26217-012	S	09/29/21 16:00	1		36	65				
8G667128.D	AD26217-014	S	09/29/21 16:23	1		45	70				
8G667130.D	AD26217-016	S	09/29/21 17:10	1		40	69				
8G667129.D	AD26217-018	S	09/29/21 16:47	1		47	70				
8G667113.D	SMB95065(MS)	S	09/29/21 10:37	1		48	82				
8G667116.D	AD26154-002(3X)	S	09/29/21 11:46	3		28	84				
8G667117.D	AD26154-002(5X)(MSD)	S	09/29/21 12:09	5		48	80				
8G667118.D	AD26154-002(5X)(MS)	S	09/29/21 12:32	5		41	62				

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: SMB95065

	Data File	Sample ID:	Analysis Date
Spike or Dup:	8G667113.D	SMB95065(MS)	9/29/2021 10:37:05 AM
Non Spike(If applicable):			
Inst Blank(If applicable):	8G667111.D	INST BLK(MECL2)	9/29/2021 9:50:39 AM

Method: 8015 Matrix: Soil Units: mg/Kg QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	1760.42	0	3000	59	40	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: SMB95065

	Data File	Sample ID:	Analysis Date
Spike or Dup:	8G667117.D	AD26154-002(5X)(MSD)	9/29/2021 12:09:41 PM
Non Spike(If applicable):	8G667116.D	AD26154-002(3X)	9/29/2021 11:46:33 AM
Inst Blank(If applicable):	8G667111.D	INST BLK(MECL2)	9/29/2021 9:50:39 AM

Method: 8015 Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	22413	12003.81	3000	347*	40	130

	Data File	Sample ID:	Analysis Date
Spike or Dup:	8G667118.D	AD26154-002(5X)(MS)	9/29/2021 12:32:55 PM
Non Spike(If applicable):	8G667116.D	AD26154-002(3X)	9/29/2021 11:46:33 AM
Inst Blank(If applicable):	8G667111.D	INST BLK(MECL2)	9/29/2021 9:50:39 AM

Method: 8015 Matrix: Soil Units: mg/Kg QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Diesel Range Organics	1	19954.05	12003.81	3000	265*	40	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: SMB95065

	Data File	Sample ID:	Analysis Date
Spike or Dup:	8G667117.D	AD26154-002(5X)(MSD)	9/29/2021 12:09:41 PM
Duplicate(If applicable):	8G667118.D	AD26154-002(5X)(MS)	9/29/2021 12:32:55 PM
Inst Blank(If applicable):	8G667111.D	INST BLK(MECL2)	9/29/2021 9:50:39 AM

Method: 8015 Matrix: Soil Units: mg/Kg QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Diesel Range Organics	1	22413	19954.05	12	40

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

FORM 4
Blank Summary

Blank Number: SMB95065
Blank Data File: 8G667112.D
Matrix: Soil

Blank Analysis Date: 09/29/21 10:13
Blank Extraction Date: 09/28/21
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD26217-002	8G667120.D	09/29/21 13:18
AD26217-004	8G667121.D	09/29/21 13:41
AD26217-006	8G667122.D	09/29/21 14:05
AD26217-008	8G667125.D	09/29/21 15:14
AD26217-010	8G667126.D	09/29/21 15:37
AD26217-012	8G667127.D	09/29/21 16:00
AD26217-014	8G667128.D	09/29/21 16:23
AD26217-016	8G667130.D	09/29/21 17:10
AD26217-018	8G667129.D	09/29/21 16:47
AD26154-002(5X)(	8G667118.D	09/29/21 12:32
AD26154-002(5X)(	8G667117.D	09/29/21 12:09
AD26154-002(3X)	8G667116.D	09/29/21 11:46
SMB95065(MS)	8G667113.D	09/29/21 10:37

Form 5

Method: EPA 8015D

Instrument: GC_8

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
8G667092.D	INST BLK(MECL2)	09/27/21 10:27	Soil					
8G667093.D	TPH@20PPM	09/27/21 10:49	Soil					
8G667094.D	CALTPH@500PPM	09/27/21 11:12	Soil	8G66709	7.2148	0.1401		
8G667095.D	CALTPH@100PPM	09/27/21 11:34	Soil	8G66709	7.2069	0.0305		
8G667096.D	CALTPH@40PPM	09/27/21 11:57	Soil	8G66709	7.2047	0		
8G667097.D	CALTPH@20PPM	09/27/21 12:20	Soil	8G66709	7.2050	0.0042		
8G667098.D	CALTPH@10PPM	09/27/21 12:42	Soil	8G66709	7.2043	0.0056		
8G667099.D	CALTPH@5PPM	09/27/21 13:05	Soil	8G66709	7.2047	0		
8G667100.D	ICVTPH@5PPM	09/27/21 13:28	Soil	8G66709	7.2052	0.0069		

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_8 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
8G667109.D	INST BLK(MECL2)	09/29/21 08:18	Soil					
8G667110.D	CALTPH@20PPM	09/29/21 09:27	Soil	8G66711	7.2058	0		
8G667111.D	INST BLK(MECL2)	09/29/21 09:50	Soil	8G66711	0.0000	200		
8G667112.D	SMB95065	09/29/21 10:13	Soil	8G66711	7.2041	0.0236		
8G667113.D	SMB95065(MS)	09/29/21 10:37	Soil	8G66711	7.2048	0.0139		
8G667114.D	AD26154-002	09/29/21 11:00	Soil	8G66711	7.2089	0.043		
8G667115.D	AD26154-002(MS)	09/29/21 11:23	Soil	8G66711	7.2073	0.0208		
8G667116.D	AD26154-002(3X)	09/29/21 11:46	Soil	8G66711	7.2047	0.0153		
8G667117.D	AD26154-002(5X)(MSD)	09/29/21 12:09	Soil	8G66711	7.2065	0.0097		
8G667118.D	AD26154-002(5X)(MS)	09/29/21 12:32	Soil	8G66711	7.2104	0.0638		
8G667119.D	AD26225-002	09/29/21 12:55	Soil	8G66711	7.2068	0.0139		
8G667120.D	AD26217-002	09/29/21 13:18	Soil	8G66711	7.2065	0.0097		
8G667121.D	AD26217-004	09/29/21 13:41	Soil	8G66711	7.2054	0.0056		
8G667122.D	AD26217-006	09/29/21 14:05	Soil	8G66711	7.2090	0.0444		
8G667123.D	CALTPH@20PPM	09/29/21 14:28	Soil	8G66711	7.2048	0.0139		
8G667124.D	INST BLK(MECL2)	09/29/21 14:51	Soil	8G66712	0.0000	200		
8G667125.D	AD26217-008	09/29/21 15:14	Soil	8G66712	7.2039	0.0125		
8G667126.D	AD26217-010	09/29/21 15:37	Soil	8G66712	7.2038	0.0139		
8G667127.D	AD26217-012	09/29/21 16:00	Soil	8G66712	7.2032	0.0222		
8G667128.D	AD26217-014	09/29/21 16:23	Soil	8G66712	7.2039	0.0125		
8G667129.D	AD26217-018	09/29/21 16:47	Soil	8G66712	7.2038	0.0139		
8G667130.D	AD26217-016	09/29/21 17:10	Soil	8G66712	7.2032	0.0222		
8G667131.D	CALTPH@20PPM	09/29/21 18:42	Soil	8G66712	7.2030	0.025		

Drift Compound: O-Terphenyl Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

1092401 0295

Form 6

Initial Calibration

Method: EPA 8015D

Instrument: GC_8

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	8G667099.D	CALTPH@5PPM	09/27/21 13:05	2	8G667098.D	CALTPH@10PPM	09/27/21 12:42
3	8G667097.D	CALTPH@20PPM	09/27/21 12:20	4	8G667096.D	CALTPH@40PPM	09/27/21 11:57
5	8G667095.D	CALTPH@100PPM	09/27/21 11:34	6	8G667094.D	CALTPH@500PPM	09/27/21 11:12

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	0.2957	0.2809	0.2915	0.2982	0.2904	0.3118	----	----	0.295	2.00	1.00	1.00	3.5	5.00	10.00	20.00	40.00	100.0	500.0		
C9	1	0	Avg	0.3123	0.2821	0.2982	0.3102	0.3004	0.3222	----	----	0.304	2.63	1.00	1.00	4.6	5.00	10.00	20.00	40.00	100.0	500.0		
C10	1	0	Avg	0.2797	0.2792	0.2986	0.3196	0.3110	0.3333	----	----	0.304	3.25	0.999	1.00	7.2	5.00	10.00	20.00	40.00	100.0	500.0		
C12	1	0	Avg	0.2580	0.2620	0.2977	0.3231	0.3175	0.3401	----	----	0.300	4.33	1.00	1.00	11	5.00	10.00	20.00	40.00	100.0	500.0		
C14	1	0	Avg	0.2554	0.2845	0.3244	0.3398	0.3325	0.3499	----	----	0.314	5.26	1.00	1.00	12	5.00	10.00	20.00	40.00	100.0	500.0		
C16	1	0	Avg	0.2895	0.2889	0.3353	0.3430	0.3290	0.3438	----	----	0.322	6.09	1.00	1.00	8.0	5.00	10.00	20.00	40.00	100.0	500.0		
C17	1	0	LinF	0.2184	0.2708	0.3199	0.3436	0.3321	0.3623	----	----	0.308	6.48	1.00	1.00	17	5.00	10.00	20.00	40.00	100.0	500.0		
Pristane	1	0	Avg	0.4523	0.3804	0.3561	0.3502	0.3285	0.3166	----	----	0.364	6.49	1.00	1.00	13	5.00	10.00	20.00	40.00	100.0	500.0		
C18	1	0	Avg	0.2850	0.2982	0.3252	0.3429	0.3335	0.3462	----	----	0.322	6.84	1.00	1.00	7.7	5.00	10.00	20.00	40.00	100.0	500.0		
Phytane	1	0	Avg	0.3820	0.3474	0.3388	0.3351	0.3153	0.3183	----	----	0.340	6.87	1.00	1.00	7.1	5.00	10.00	20.00	40.00	100.0	500.0		
C20	1	0	Avg	0.3427	0.3198	0.3383	0.3499	0.3340	0.3402	----	----	0.338	7.52	1.00	1.00	3.0	5.00	10.00	20.00	40.00	100.0	500.0		
C22	1	0	Avg	0.3256	0.3258	0.3389	0.3506	0.3343	0.3387	----	----	0.336	8.17	1.00	1.00	2.8	5.00	10.00	20.00	40.00	100.0	500.0		
C24	1	0	Avg	0.3590	0.3237	0.3417	0.3507	0.3344	0.3352	----	----	0.341	8.78	1.00	1.00	3.7	5.00	10.00	20.00	40.00	100.0	500.0		
C26	1	0	Avg	0.3280	0.3183	0.3300	0.3326	0.3200	0.3174	----	----	0.324	9.38	1.00	1.00	2.0	5.00	10.00	20.00	40.00	100.0	500.0		
C28	1	0	Avg	0.3397	0.3245	0.3208	0.3303	0.3169	0.3111	----	----	0.324	9.96	1.00	1.00	3.1	5.00	10.00	20.00	40.00	100.0	500.0		
C30	1	0	Avg	0.3453	0.3196	0.3206	0.3275	0.3146	0.3075	----	----	0.323	10.52	1.00	1.00	4.0	5.00	10.00	20.00	40.00	100.0	500.0		
C32	1	0	Avg	0.3200	0.3104	0.3166	0.3162	0.3057	0.3006	----	----	0.312	11.08	1.00	1.00	2.4	5.00	10.00	20.00	40.00	100.0	500.0		
C34	1	0	Avg	0.3141	0.2897	0.2971	0.3033	0.2909	0.2914	----	----	0.298	11.62	1.00	1.00	3.2	5.00	10.00	20.00	40.00	100.0	500.0		
C36	1	0	Avg	0.3007	0.2960	0.2867	0.2808	0.2801	0.2899	----	----	0.289	12.16	1.00	1.00	2.8	5.00	10.00	20.00	40.00	100.0	500.0		
C40	1	0	Avg	0.2438	0.2505	0.2502	0.2664	0.2654	0.2799	----	----	0.259	13.41	1.00	1.00	5.2	5.00	10.00	20.00	40.00	100.0	500.0		
Chlorobenzene	1	0	Avg	0.2073	0.1982	0.2040	0.2143	0.2062	0.2216	----	----	0.209	2.32	1.00	1.00	3.9	5.00	10.00	20.00	40.00	100.0	500.0		
O-Terphenyl	1	0	Avg	0.4081	0.3770	0.3803	0.3880	0.3671	0.3774	----	----	0.383	7.20	1.00	1.00	3.7	5.00	10.00	20.00	40.00	100.0	500.0		
Diesel Range Organics(TO	1	0	Avg	0.3166	0.3095	0.3281	0.3393	0.3261	0.3349	----	----	0.326	3.25	1.00	1.00	3.4	65.00	130.0	260.0	520.0	1300.	6500.		
Total Petroleum Hydrocarb	1	0	Avg	0.3124	0.3026	0.3163	0.3257	0.3143	0.3228	----	----	0.316	2.00	1.00	1.00	2.6	100.0	200.0	400.0	800.0	2000.	10000		
Ext. Petroleum Hydrocarbo	1	0	Avg	0.3171	0.3067	0.3214	0.3305	0.3184	0.3258	----	----	0.320	2.63	1.00	1.00	2.6	90.00	180.0	360.0	720.0	1800.	9000.		
Mineral Spirits(TOTAL)	1	0	Avg	0.2802	0.2777	0.3021	0.3182	0.3104	0.3315	----	----	0.303	2.33	1.00	1.00	7.0	25.00	50.00	100.0	200.0	500.0	2500.		
Stoddard Solvent(TOTAL)	1	0	Avg	0.2802	0.2777	0.3021	0.3182	0.3104	0.3315	----	----	0.303	2.33	1.00	1.00	7.0	25.00	50.00	100.0	200.0	500.0	2500.		

Avg Rsd Col 1: 5.98 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 #

Form7
Continuing Calibration

Method: EPA 8015D

Data File:				8G667110.D			8G667123.D			8G667131.D									
Method:				8015			8015			8015									
Calibration Name:				CALTPH@20PPM			CALTPH@20PPM			CALTPH@20PPM									
Calibration Date/Time				09/29/21 09:27			09/29/21 14:28			09/29/21 18:42									
Compound	Limit	Col	Mr	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff
C8	20	1	0	20.38	20	1.9	19.63	20	1.9	16.74	20	16.3						
C9	20	1	0	20.55	20	2.7	19.97	20	0.2	16.9	20	15.5						
C10	20	1	0	20.85	20	4.3	20.91	20	4.5	17.58	20	12.1						
C12	20	1	0	21.31	20	6.5	21.73	20	8.6	18.29	20	8.5						
C14	20	1	0	21.76	20	8.8	22.06	20	10.3	18	20	10.0						
C16	20	1	0	23.04	20	15.2	22.28	20	11.4	17.51	20	12.5						
C17	20	1	0	23.66	20	18.3	24.81	20	24.1*	19.23	20	3.9						
Pristane	20	1	0	22.73	20	13.7	19.73	20	1.4	14.91	20	25.5*						
C18	20	1	0	23.48	20	17.4	23.05	20	15.3	17.85	20	10.8						
Phytane	20	1	0	23.03	20	15.2	21.08	20	5.4	15.87	20	20.7*						
C20	20	1	0	23.64	20	18.2	22.44	20	12.2	16.82	20	15.9						
C22	20	1	0	24.28	20	21.4*	23.17	20	15.9	16.79	20	16.1						
C24	20	1	0	24.22	20	21.1*	23.2	20	16.0	16.65	20	16.8						
C26	20	1	0	24.48	20	22.4*	23.63	20	18.2	16.64	20	16.8						
C28	20	1	0	24.57	20	22.9*	24.02	20	20.1	16.55	20	17.3						
C30	20	1	0	24.73	20	23.7*	24.58	20	22.9*	16.39	20	18.1						
C32	20	1	0	25.39	20	27.0*	25.37	20	26.9*	16.92	20	15.4						
C34	20	1	0	24.96	20	24.8*	24.83	20	24.2*	16.79	20	16.1						
C36	20	1	0	25.24	20	26.2*	25.24	20	26.2*	17.06	20	14.7						
C40	20	1	0	23.98	20	19.9	26.42	20	32.1*	18.67	20	6.6						
Chlorobenzene	20	1	0	20.98	20	4.9	20.38	20	1.9	16.89	20	15.6						
O-Terphenyl	20	1	0	22.88	20	14.4	22.06	20	10.3	16.39	20	18.1						
Average Difference	20	1	0			15.9			14.1			14.7						

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	7.21	(7.17 - 7.25)	7.21	(7.17 - 7.25)	7.20	(7.16 - 7.24)				
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: AD26217-002
Client Id: SB09 COMP
Data File: 13M22573.D
Analysis Date: 09/25/21 01:48
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.05g:10ml
Final Vol: NA
Dilution: 99.0
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	29	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22573.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:48
Operator : JM
Sample : AD26217-002
Misc : M,MEXT!3
ALS Vial : 23 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:59 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

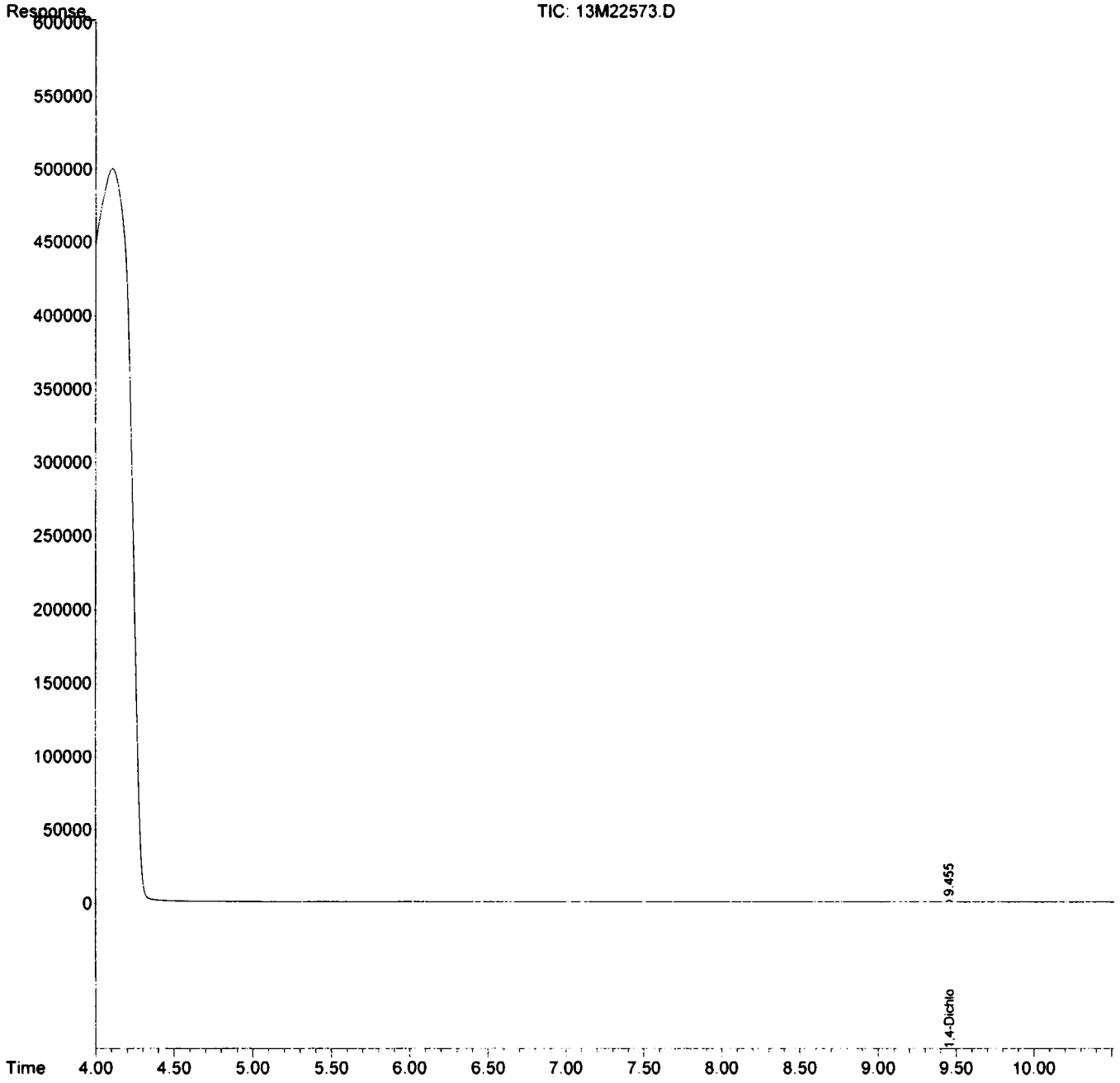
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.455	19391	23.758	
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22573.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:48
Operator : JM
Sample : AD26217-002
Misc : M,MEXT!3
ALS Vial : 23 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:59 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-004
Client Id: SB08 COMP
Data File: 13M22574.D
Analysis Date: 09/25/21 02:04
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.04g:10ml
Final Vol: NA
Dilution: 99.2
Solids: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	30	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22574.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 2:04
Operator : JM
Sample : AD26217-004
Misc : M,MEXT!3
ALS Vial : 24 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:46:04 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

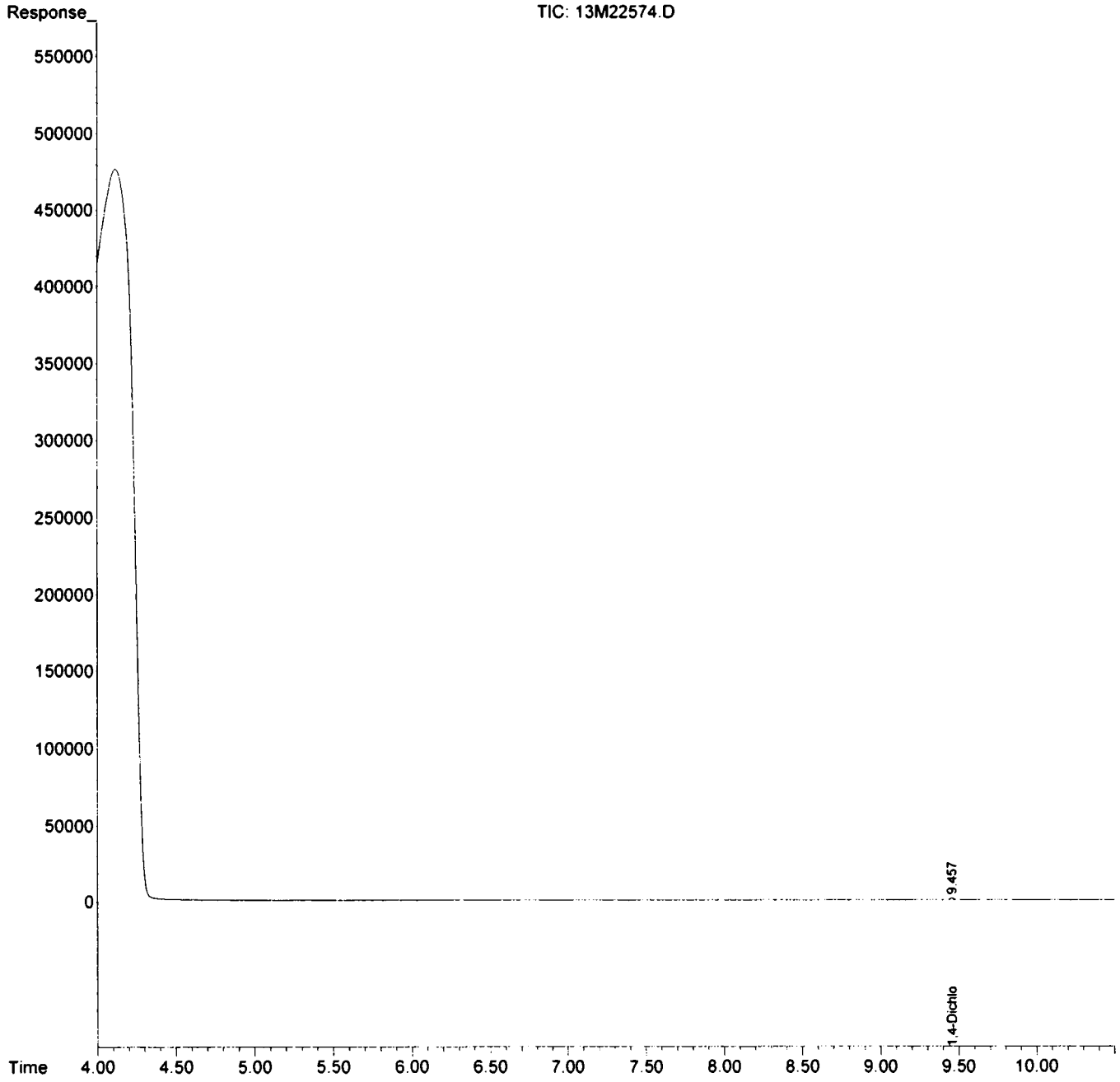
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.458	17581	21.541	
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22574.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 2:04
Operator : JM
Sample : AD26217-004
Misc : M,MEXT!3
ALS Vial : 24 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:46:04 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-006
Client Id: SB07 COMP
Data File: 13M22559.D
Analysis Date: 09/24/21 21:54
Date Rec/Extracted: 09/23/21-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: 84

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	29	U				

Worksheet #: 610887 *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)

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22559.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 21:54
Operator : JM
Sample : AD26217-006
Misc : M,MEXT!3
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:15 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

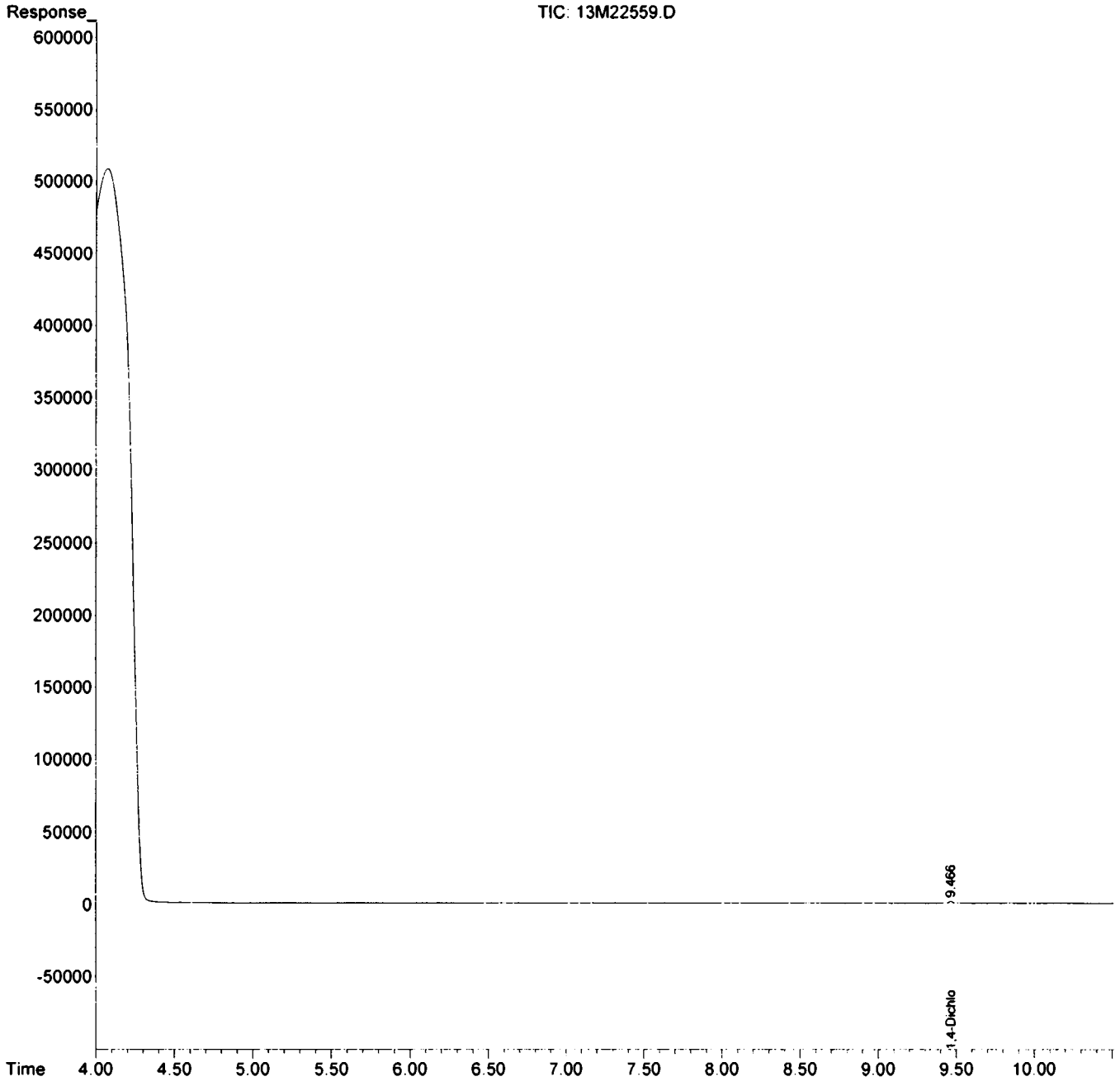
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.466f	22282	27.301	m
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22559.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 21:54
Operator : JM
Sample : AD26217-006
Misc : M,MEXT!3
ALS Vial : 16 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:15 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-008
Client Id: SB06 COMP
Data File: 13M22560.D
Analysis Date: 09/24/21 22:11
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.02g:10ml
Final Vol: NA
Dilution: 99.6
Solids: 92

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	27	U				

Worksheet #: 610887 *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

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22560.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 22:11
Operator : JM
Sample : AD26217-008
Misc : M,MEXT!3
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:33 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

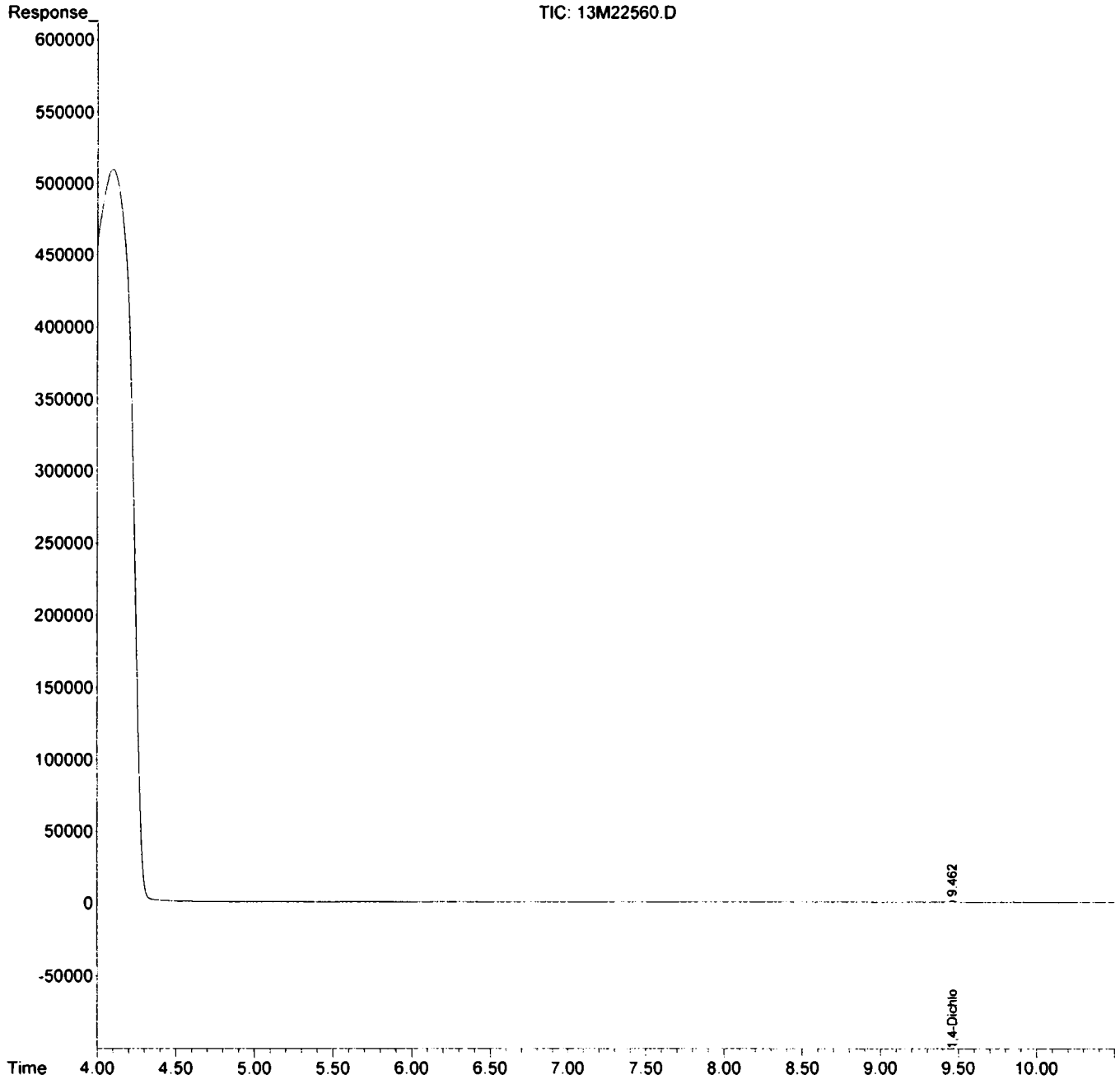
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.462f	19784	24.240	m
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22560.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 22:11
Operator : JM
Sample : AD26217-008
Misc : M,MEXT!3
ALS Vial : 17 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:33 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-010
Client Id: SB05 COMP
Data File: 13M22561.D
Analysis Date: 09/24/21 22:28
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.06g:10ml
Final Vol: NA
Dilution: 98.8
Solids: 88

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	28	U				

Worksheet #: 610887 *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

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22561.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 22:28
Operator : JM
Sample : AD26217-010
Misc : M,MEXT!3
ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:52 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

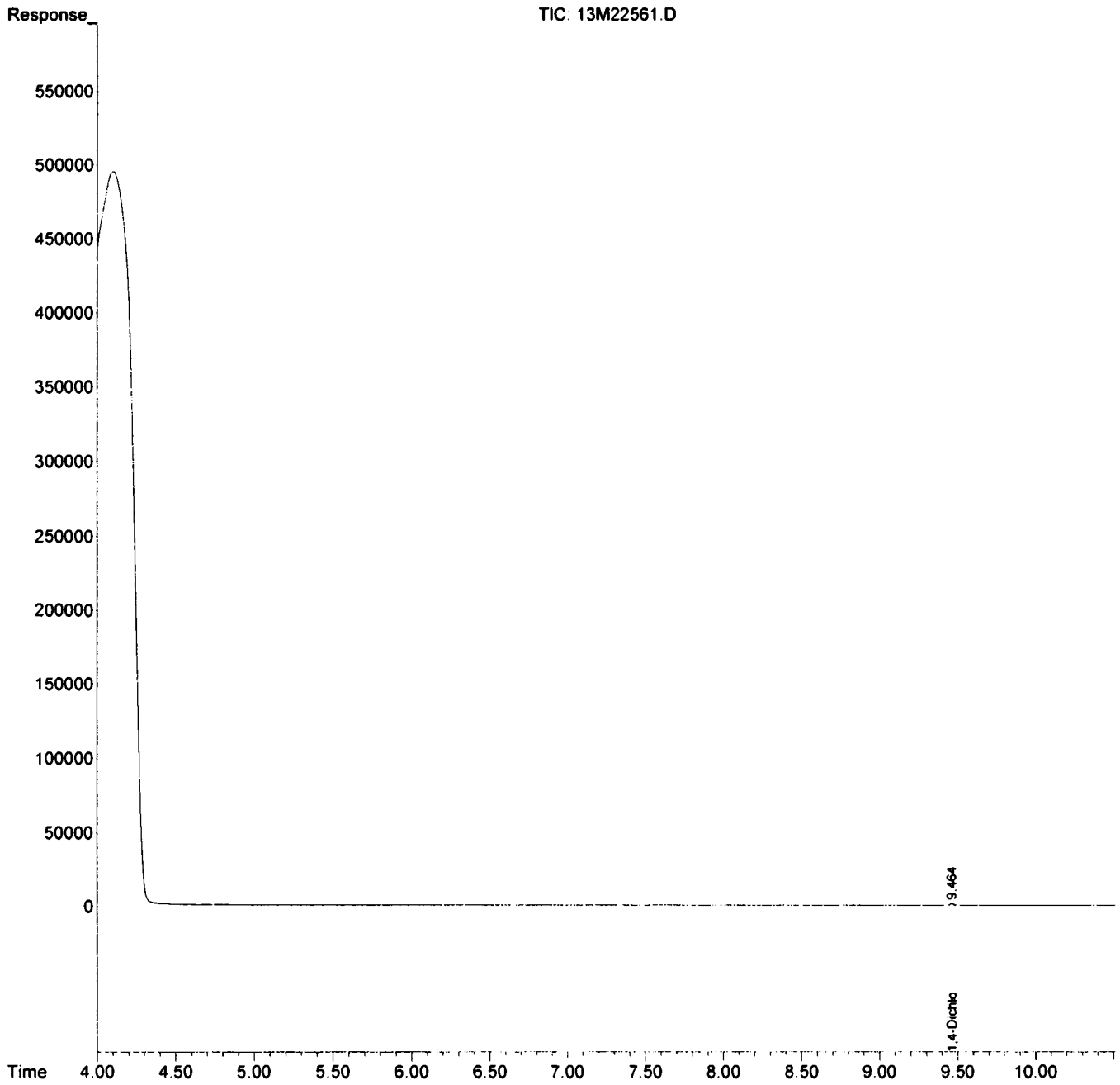
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.464f	19608	24.025	m
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22561.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 22:28
Operator : JM
Sample : AD26217-010
Misc : M,MEXT!3
ALS Vial : 18 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:39:52 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-012
Client Id: SB04 COMP
Data File: 13M22569.D
Analysis Date: 09/25/21 00:40
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.04g:10ml
Final Vol: NA
Dilution: 99.2
Solids: 85

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	29	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22569.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 00:40
Operator : JM
Sample : AD26217-012
Misc : M,MEXT!3
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 15:59:58 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

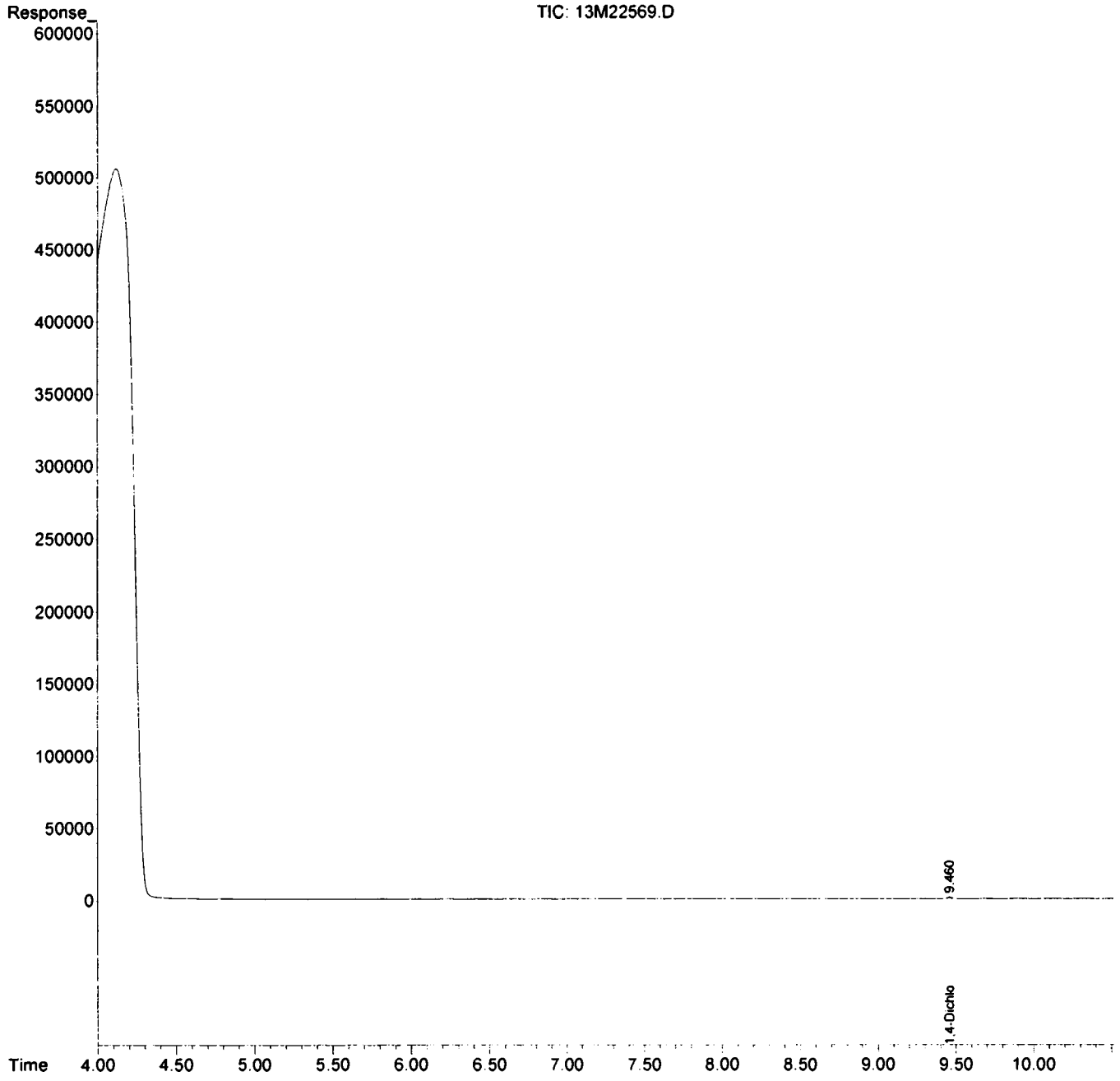
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1)S 1,4-Dichlorobenzene-d4	9.460f	18973	23.246		m
Target Compounds					
2) 2-Methylpentane	0.000	0	N.D.		d
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.		d
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22569.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 00:40
Operator : JM
Sample : AD26217-012
Misc : M,MEXT!3
ALS Vial : 19 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 15:59:58 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-014
Client Id: SB03 COMP
Data File: 13M22570.D
Analysis Date: 09/25/21 00:57
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.02g:10ml
Final Vol: NA
Dilution: 99.6
Solids: 89

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	28	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22570.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 00:57
Operator : JM
Sample : AD26217-014
Misc : M,MEXT!3
ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 16:00:16 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

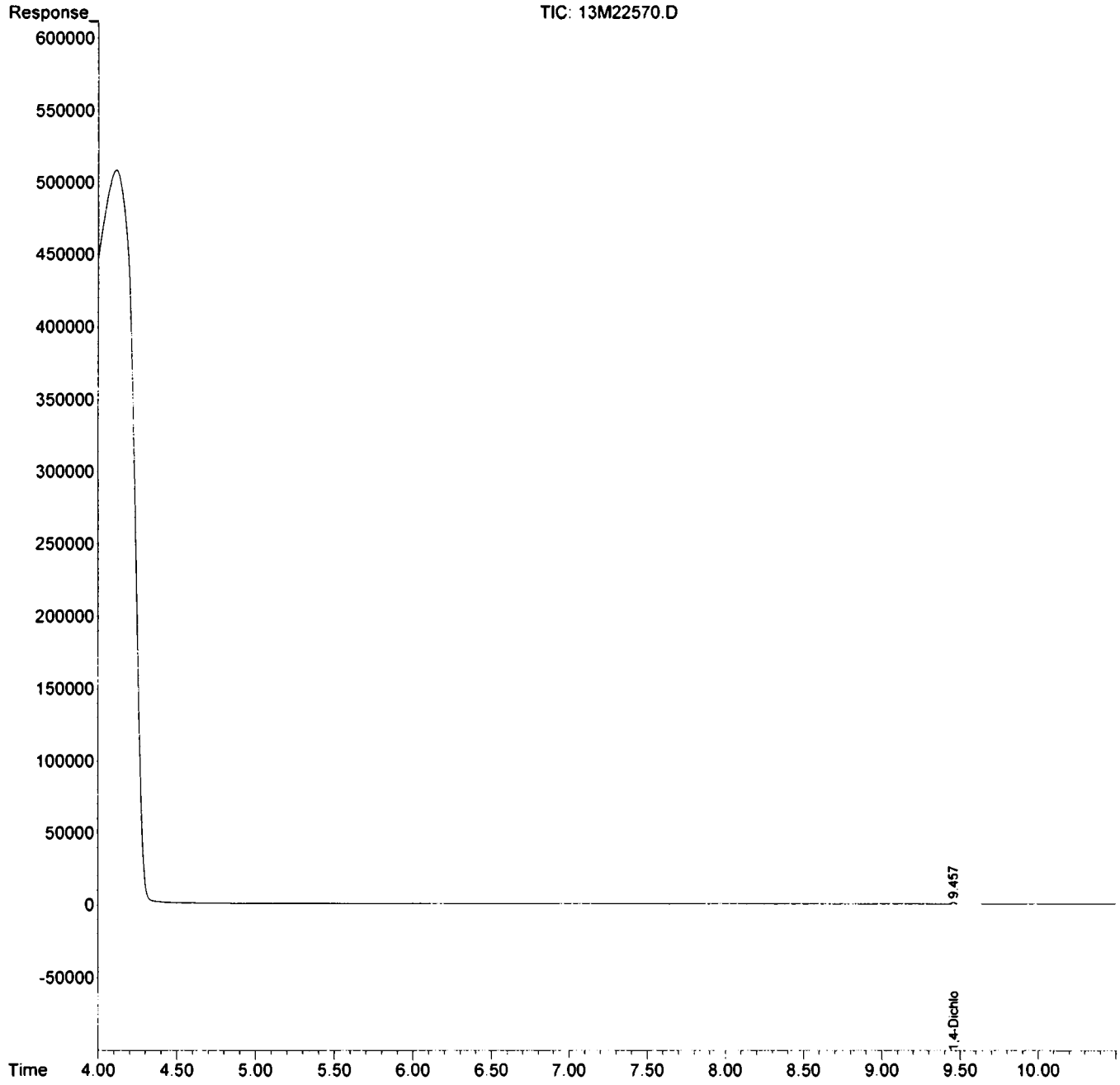
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1)S 1,4-Dichlorobenzene-d4	9.457f	24915	30.527		m
Target Compounds					
2) 2-Methylpentane	0.000	0	N.D.		d
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.		d
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22570.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 00:57
Operator : JM
Sample : AD26217-014
Misc : M,MEXT!3
ALS Vial : 20 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 30 16:00:16 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-016
Client Id: SB02 COMP
Data File: 13M22571.D
Analysis Date: 09/25/21 01:14
Date Rec/Extracted: 09/23/21-NA
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: 78

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	32	U				

Worksheet #: 610887 *Total Target Concentration* 0 ColumnID: (^) Indicates results from 2nd column

U - Indicates the compound was analyzed but not detected.
B - Indicates the analyte was found in the blank as well as in the sample.
E - Indicates the analyte concentration exceeds the calibration range of the instrument.
R - Retention Time Out
J - Indicates an estimated value when a compound is detected at less than the specified detection limit.
d - Pesticide %Diff>40% between columns due to coelution. Lower concentration used

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22571.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:14
Operator : JM
Sample : AD26217-016
Misc : M,MEXT!3
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:43 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

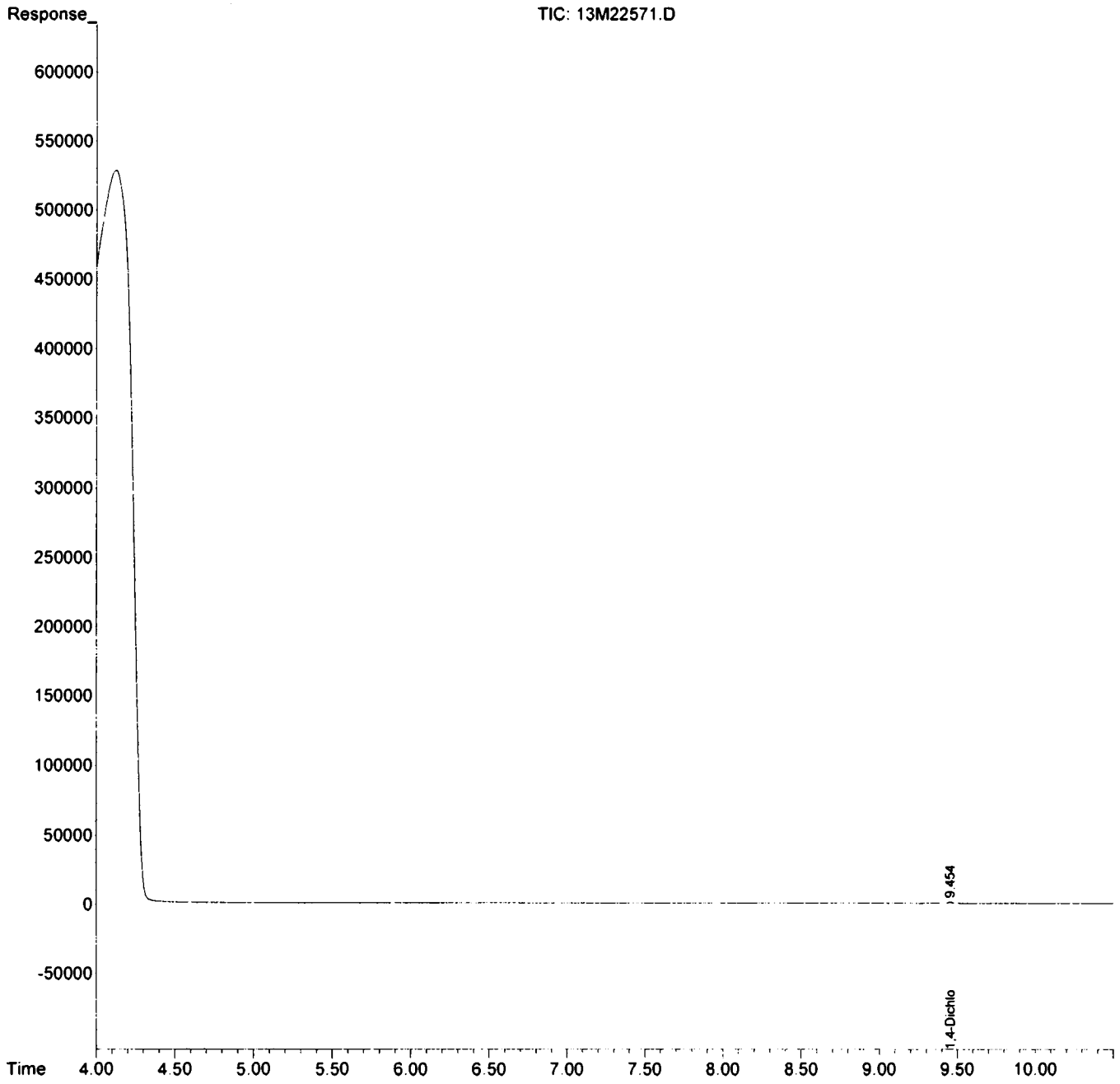
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.455	17486	21.425	
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22571.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:14
Operator : JM
Sample : AD26217-016
Misc : M,MEXT!3
ALS Vial : 21 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:43 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: AD26217-018
Client Id: SB01 COMP
Data File: 13M22572.D
Analysis Date: 09/25/21 01:31
Date Rec/Extracted: 09/23/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 8015D
Matrix: Methanol
Initial Vol: 5.05g:10ml
Final Vol: NA
Dilution: 99.0
Solids: 82

Units: mg/Kg

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
phcg	Gasoline Range Organics	30	U				

Worksheet #: 610887 *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

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22572.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:31
Operator : JM
Sample : AD26217-018
Misc : M,MEXT!3
ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:54 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

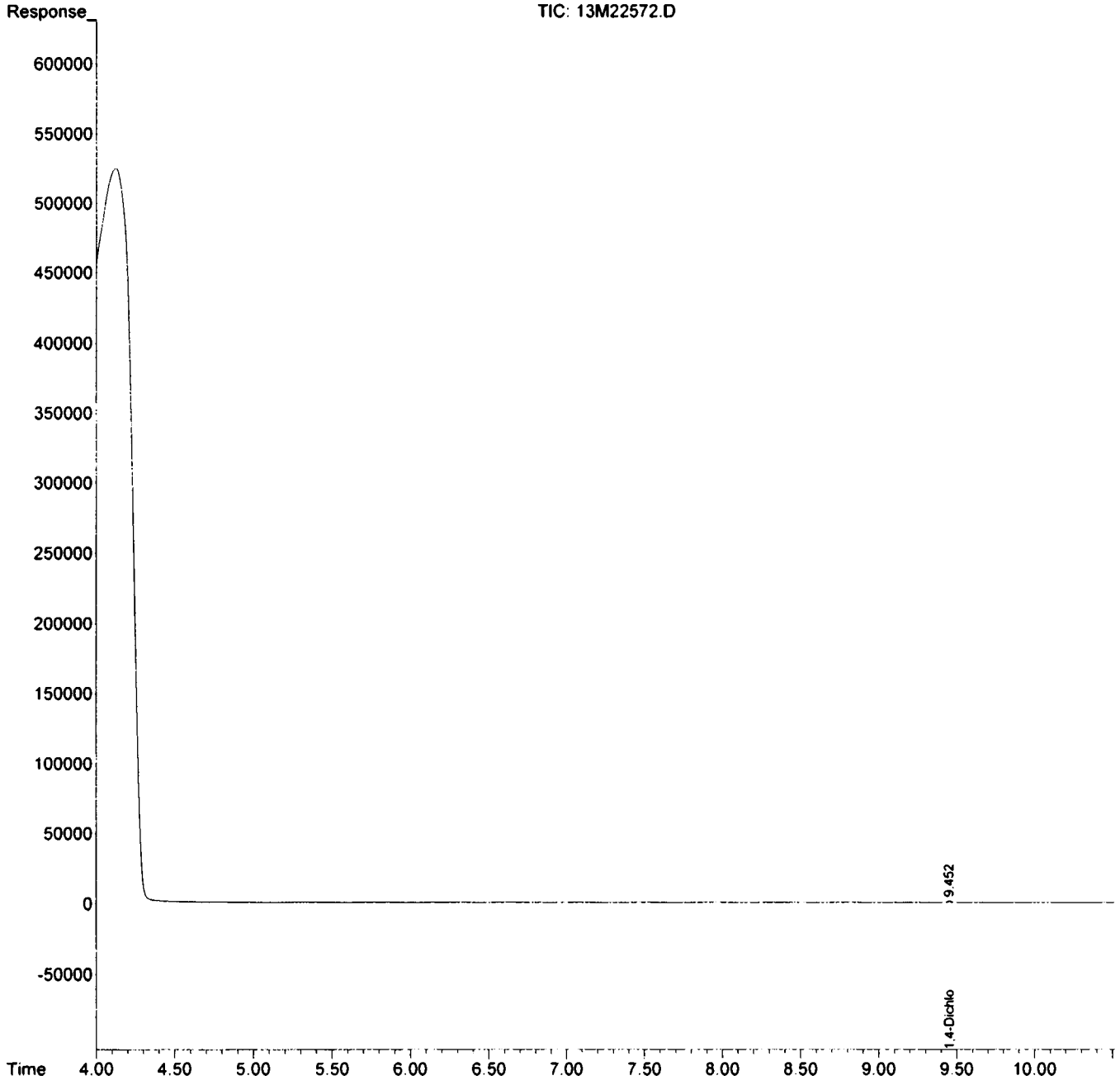
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
1)S 1,4-Dichlorobenzene-d4	9.453	18624	22.818	
Target Compounds				
2) 2-Methylpentane	0.000	0	N.D.	
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.	
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-2421\
Data File : 13M22572.D
Signal(s) : FID1A.CH
Acq On : 25 Sep 2021 1:31
Operator : JM
Sample : AD26217-018
Misc : M,MEXT!3
ALS Vial : 22 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 27 18:45:54 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Sep 27 18:43:40 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Form1

ORGANICS REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 13M22549.D
Analysis Date: 09/24/21 19:08
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 #: 610887 *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

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22549.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 19:08
Operator : JM
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 28 12:53:13 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

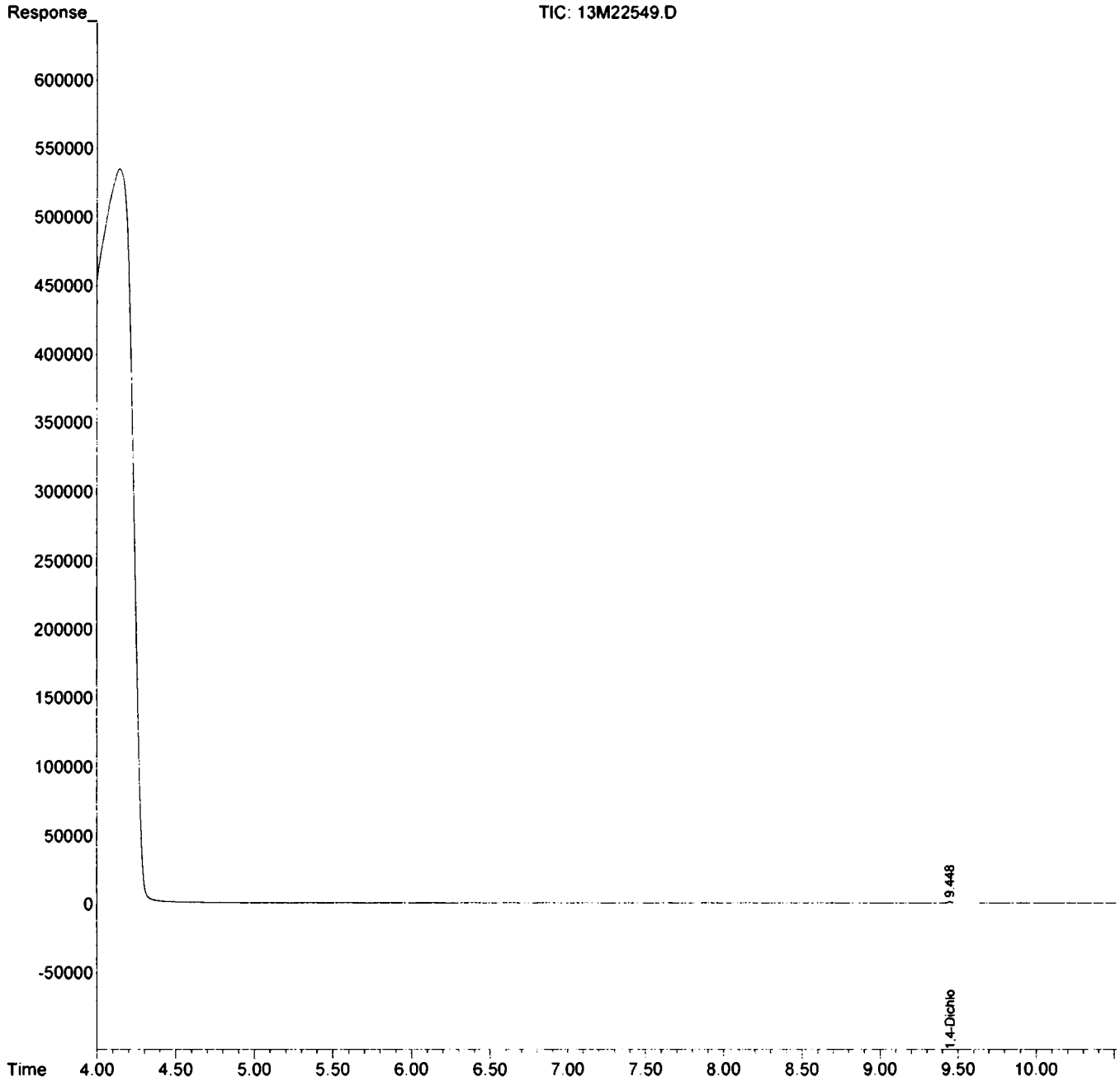
Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1)S 1,4-Dichlorobenzene-d4	9.448f	16601	20.341		m
Target Compounds					
2) 2-Methylpentane	0.000	0	N.D.		d
3) 1,2,4-Trimethylbenzene	0.000	0	N.D.		d
4)g Gasoline Range Organics	0.000	0	N.D.	ug/L	d

(f)=RT Delta > 1/2 Window (m)=manual int.

Data Path : G:\GcMsData\2021\GC_13\Data\09-24-21\
Data File : 13M22549.D
Signal(s) : FID1A.CH
Acq On : 24 Sep 2021 19:08
Operator : JM
Sample : DAILY BLANK
Misc : M,MEOH
ALS Vial : 6 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Sep 28 12:53:13 2021
Quant Method : G:\GcMsData\2020\GC_13\MethodQt\13M_G0823.M
Quant Title : @GC_13,ug,8015
QLast Update : Mon Aug 30 16:25:21 2021
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
13M22549.D	DAILY BLANK	M	09/24/21 19:08	1		68					
13M22573.D	AD26217-002	M	09/25/21 01:48	1		79					
13M22574.D	AD26217-004	M	09/25/21 02:04	1		72					
13M22559.D	AD26217-006	M	09/24/21 21:54	1		91					
13M22560.D	AD26217-008	M	09/24/21 22:11	1		81					
13M22561.D	AD26217-010	M	09/24/21 22:28	1		80					
13M22569.D	AD26217-012	M	09/25/21 00:40	1		78					
13M22570.D	AD26217-014	M	09/25/21 00:57	1		102					
13M22571.D	AD26217-016	M	09/25/21 01:14	1		71					
13M22572.D	AD26217-018	M	09/25/21 01:31	1		76					
13M22565.D	MBS96814	M	09/24/21 23:34	1		126					
13M22566.D	AD26217-008(MS)	M	09/24/21 23:50	1		96					
13M22567.D	AD26217-008(MSD)	M	09/25/21 00:07	1		102					

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: MBS96814

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M22565.D	MBS96814	9/24/2021 11:34:00 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	2004.72	0	2000	100	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
Recovery Data
QC Batch: MBS96814

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M22566.D	AD26217-008(MS)	9/24/2021 11:50:00 PM
Non Spike(If applicable):	13M22560.D	AD26217-008	9/24/2021 10:11:00 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	2614.36	0	2000	131	11	181

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M22567.D	AD26217-008(MSD)	9/25/2021 12:07:00 AM
Non Spike(If applicable):	13M22560.D	AD26217-008	9/24/2021 10:11:00 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	2555.31	0	2000	128	11	181

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Form3
RPD DATA
QC Batch: MBS96814

	Data File	Sample ID:	Analysis Date
Spike or Dup:	13M22567.D	AD26217-008(MSD)	9/25/2021 12:07:00 AM
Duplicate(If applicable):	13M22566.D	AD26217-008(MS)	9/24/2021 11:50:00 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	2555.31	2614.36	2.3	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: 13M22549.D
Matrix: Methanol

Blank Analysis Date: 09/24/21 19:08
Blank Extraction Date: NA
(If Applicable)
Method: EPA 8015D

Sample Number	Data File	Analysis Date
AD26217-002	13M22573.D	09/25/21 01:48
AD26217-004	13M22574.D	09/25/21 02:04
AD26217-006	13M22559.D	09/24/21 21:54
AD26217-008	13M22560.D	09/24/21 22:11
AD26217-010	13M22561.D	09/24/21 22:28
AD26217-012	13M22569.D	09/25/21 00:40
AD26217-014	13M22570.D	09/25/21 00:57
AD26217-016	13M22571.D	09/25/21 01:14
AD26217-018	13M22572.D	09/25/21 01:31
AD26217-008(MSD	13M22567.D	09/25/21 00:07
AD26217-008(MS)	13M22566.D	09/24/21 23:50
MBS96814	13M22565.D	09/24/21 23:34

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
13M22394.D	CAL @ 250 PPB	08/23/21 21:30	Aqueous	13M2240	9.4713	0.0824		
13M22395.D	CAL @ 500 PPB	08/23/21 21:47	Aqueous	13M2240	9.4650	0.0159		
13M22396.D	CAL @ 750 PPB	08/23/21 22:04	Aqueous	13M2240	9.4705	0.0739		
13M22397.D	CAL @ 1000 PPB	08/23/21 22:20	Aqueous	13M2240	9.4663	0.0296		
13M22398.D	CAL @ 1500 PPB	08/23/21 22:37	Aqueous	13M2240	9.4612	0.0243		
13M22399.D	CAL @ 2000 PPB	08/23/21 22:54	Aqueous	13M2240	9.4603	0.0338		
13M22400.D	CAL @ 4000 PPB	08/23/21 23:10	Aqueous	13M2240	9.4635	0		
13M22403.D	STD	08/24/21 00:02	Aqueous	13M2240	9.4658	0.0243		
13M22404.D	STD	08/24/21 00:19	Aqueous	13M2240	9.4617	0.019		
13M22405.D	ICV@ 2000 PPB	08/24/21 00:37	Aqueous	13M2240	9.4638	0.0032		
13M22406.D	BLK	08/24/21 00:54	Aqueous	13M2240	9.4505	0.1375		
13M22407.D	BLK	08/24/21 14:11	Aqueous	13M2240	0.0000	200		

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
13M22544.D	BLK	09/24/21 17:44	Aqueous	13M2254	0.0000	200		
13M22546.D	CAL @ 2000PPB	09/24/21 18:17	Aqueous	13M2254	9.4558	0		
13M22547.D	2000PPB	09/24/21 18:34	Aqueous	13M2254	9.4546	0.0127		
13M22548.D	BLK	09/24/21 18:52	Aqueous	13M2254	0.0000	200		
13M22549.D	DAILY BLANK	09/24/21 19:08	Methanol	13M2254	9.4481	0.0815		
13M22550.D	DAILY BLANK	09/24/21 19:25	Aqueous	13M2254	9.4554	0.0042		
13M22551.D	AD26211-001	09/24/21 19:42	Methanol	13M2254	9.4499	0.0624		
13M22552.D	AD26211-003	09/24/21 19:58	Methanol	13M2254	9.4518	0.0423		
13M22553.D	AD25976-002	09/24/21 20:15	Methanol	13M2254	9.4465	0.0984		
13M22554.D	AD25976-002(MS)	09/24/21 20:31	Methanol	13M2254	9.4517	0.0434		
13M22555.D	AD25976-002(MSD)	09/24/21 20:48	Methanol	13M2254	9.4460	0.1037		
13M22556.D	MBS96813	09/24/21 21:04	Methanol	13M2254	9.4491	0.0709		
13M22557.D	BLK	09/24/21 21:21	Methanol	13M2254	0.0000	200		
13M22558.D	BLK	09/24/21 21:37	Aqueous	13M2254	0.0000	200		
13M22559.D	AD26217-006	09/24/21 21:54	Methanol	13M2254	9.4656	0.1036		
13M22560.D	AD26217-008	09/24/21 22:11	Methanol	13M2254	9.4618	0.0634		
13M22561.D	AD26217-010	09/24/21 22:28	Methanol	13M2254	9.4639	0.0856		

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
13M22562.D	CAL @ 2000 PPB	09/24/21 22:44	Aqueous	13M2256	9.4572	0		
13M22563.D	BLK	09/24/21 23:00	Aqueous	13M2256	0.0000	200		
13M22564.D	DAILY BLANK	09/24/21 23:17	Methanol	13M2256	9.4543	0.0307		
13M22565.D	MBS96814	09/24/21 23:34	Methanol	13M2256	9.4539	0.0349		
13M22566.D	AD26217-008(MS)	09/24/21 23:50	Methanol	13M2256	9.4512	0.0635		
13M22567.D	AD26217-008(MSD)	09/25/21 00:07	Methanol	13M2256	9.4589	0.018		
13M22568.D	BLK	09/25/21 00:24	Aqueous	13M2256	0.0000	200		
13M22569.D	AD26217-012	09/25/21 00:40	Methanol	13M2256	9.4596	0.0254		
13M22570.D	AD26217-014	09/25/21 00:57	Methanol	13M2256	9.4567	0.0053		
13M22571.D	AD26217-016	09/25/21 01:14	Methanol	13M2256	9.4546	0.0275		
13M22572.D	AD26217-018	09/25/21 01:31	Methanol	13M2256	9.4526	0.0487		
13M22573.D	AD26217-002	09/25/21 01:48	Methanol	13M2256	9.4552	0.0211		
13M22574.D	AD26217-004	09/25/21 02:04	Methanol	13M2256	9.4576	0.0042		
13M22575.D	AD26131-006	09/25/21 02:21	Methanol	13M2256	9.4569	0.0032		
13M22576.D	AD26131-003	09/25/21 02:38	Methanol	13M2256	9.4557	0.0159		
13M22577.D	AD26178-006	09/25/21 02:55	Methanol	13M2256	9.4540	0.0338		
13M22578.D	AD26178-002	09/25/21 03:11	Methanol	13M2256	9.4550	0.0233		
13M22579.D	AD26178-004	09/25/21 03:28	Methanol	13M2256	9.4579	0.0074		
13M22580.D	AD26130-004	09/25/21 03:44	Methanol	13M2256	9.4527	0.0476		
13M22581.D	AD26130-002	09/25/21 04:01	Methanol	13M2256	9.4541	0.0328		
13M22582.D	AD26112-005	09/25/21 04:17	Methanol	13M2256	9.4540	0.0338		
13M22583.D	AD26112-004	09/25/21 04:34	Methanol	13M2256	9.4552	0.0211		
13M22584.D	AD26112-003	09/25/21 04:51	Methanol	13M2256	9.4535	0.0391		
13M22585.D	AD26206-002	09/25/21 05:08	Methanol	13M2256	9.4531	0.0434		
13M22586.D	AD26206-004	09/25/21 05:24	Methanol	13M2256	9.4554	0.019		
13M22587.D	BLK	09/25/21 05:41	Aqueous	13M2256	0.0000	200		
13M22588.D	CAL @ 2000PPB	09/25/21 05:57	Aqueous	13M2256	9.4609	0.0391		
13M22589.D	2000PPB	09/25/21 06:14	Aqueous	13M2258	9.4608	0.0011		
13M22590.D	BLK	09/25/21 06:30	Aqueous	13M2258	9.5465	0.9007		
13M22591.D	BLK	09/25/21 06:47	Aqueous	13M2258	0.0000	200		
13M22592.D	BLK	09/25/21 07:03	Aqueous	13M2258	0.0000	200		

Drift Compound: 1,4-Dichloroben Drift Limit(s): 0.5 (Pest/Pcb) 1.5(Herb/Tph) * - Values outside of limits for this column/run

1092401 0337

Form 6
Initial Calibration

Method: EPA 8015D

Instrument: GC_13

Level #:	Data File:	Cal Identifier:	Analysis Date/Time	Level #:	Data File:	Cal Identifier:	Analysis Date/Time
1	13M22400.	CAL @ 4000 PPB	08/23/21 23:10	2	13M22399.	CAL @ 2000 PPB	08/23/21 22:54
3	13M22398.	CAL @ 1500 PPB	08/23/21 22:37	4	13M22397.	CAL @ 1000 PPB	08/23/21 22:20
5	13M22396.	CAL @ 750 PPB	08/23/21 22:04	6	13M22395.	CAL @ 500 PPB	08/23/21 21:47
7	13M22394.	CAL @ 250 PPB	08/23/21 21:30				

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	0.1139	0.0882	0.0805	0.0759	0.0740	0.0701	0.0684	----	0.0816	9.47	-1	-1	19	30.00	30.00	30.00	30.00	30.00	30.00	30.00	
2-Methylpentane	1	0	Avg	0.0008	0.0008	0.0012	0.0011	0.0009	0.0008	0.0007	----	0.000940	5.46	0.963	0.972	19	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
1,2,4-Trimethylbenzene	1	0	Avg	0.0013	0.0012	0.0012	0.0012	0.0011	0.0011	0.0011	----	0.00122	9.27	1.00	1.00	4.2	4000.	2000.	1500.	1000.	750.0	500.0	250.0	
Gasoline Range Organics	1	0	Avg	0.0626	0.0580	0.0606	0.0608	0.0615	0.0679	0.0799	----	0.0645	8.07	0.997	1.00	12	4000.	2000.	1500.	1000.	750.0	500.0	250.0	

Avg Rsd Col 1: 26.9 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 #

Form7
Continuing Calibration

Method: EPA 8015D

Data File:				13M22546.D			13M22562.D			13M22588.D								
Method:				8015			8015			8015								
Calibration Name:				CAL @ 2000PPB			CAL @ 2000 PPB			CAL @ 2000PPB								
Calibration Date/Time				09/24/21 18:17			09/24/21 22:44			09/25/21 05:57								
Compound	Limit	Col	Mr	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff	Conc	Conc Exp	%Diff
Gasoline Range Orga	20	1	0	1918	2000	4.1	2099	2000	4.9	2233	2000	11.6						

Flags/Notes: **** - Values outside of limits for this column/run***

TCLP Metal Data

Form1

Inorganic Analysis Data Sheet

Sample ID:	AD26217-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB09 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	MI	Instr
7440-38-2	Arsenic	0.10	ND	1	50	50	10/01/21	94441	T27682b5	18	P	PEICP5A
7440-39-3	Barium	0.25	0.26	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	15	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	19	P	PEICP5A

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:	AD26217-004	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB08 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	23	P	PEICP5A
7440-39-3	Barium	0.25	0.45	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	18	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	24	P	PEICP5A

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:	AD26217-006	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB07 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	24	P	PEICP5A
7440-39-3	Barium	0.25	0.38	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	19	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	25	P	PEICP5A

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:	AD26217-008	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB06 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	25	P	PEICP5A
7440-39-3	Barium	0.25	0.31	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7439-92-1	Lead	0.050	0.13	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	20	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	26	P	PEICP5A

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:	AD26217-010	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB05 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	28	P	PEICP5A
7440-39-3	Barium	0.25	0.83	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7439-92-1	Lead	0.050	0.17	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	23	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	29	P	PEICP5A

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:	AD26217-012	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB04 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	29	P	PEICP5A
7440-39-3	Barium	0.25	0.69	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	24	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	30	P	PEICP5A

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:	AD26217-014	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB03 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	30	P	PEICP5A
7440-39-3	Barium	0.25	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7439-92-1	Lead	0.050	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	25	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	31	P	PEICP5A

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:	AD26217-016	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB02 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	31	P	PEICP5A
7440-39-3	Barium	0.25	1.4	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7439-92-1	Lead	0.050	0.40	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	26	CV	HGCV4A
7440-02-0	Nickel	0.10	0.17	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	32	P	PEICP5A

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:	AD26217-018	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	SB01 COMP	Units:	MG/L	Lab Code:		Sdg No:	
Matrix:	TCLP	Date Rec:	9/24/2021	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	10/01/21	94441	T27682b5	32	P	PEICP5A
7440-39-3	Barium	0.25	0.28	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7440-43-9	Cadmium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7440-47-3	Chromium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7439-92-1	Lead	0.050	0.058	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	27	CV	HGCV4A
7440-02-0	Nickel	0.10	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7782-49-2	Selenium	0.10	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A
7440-22-4	Silver	0.050	ND	1	50	50	09/30/21	94441	T27682A5	33	P	PEICP5A

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 94441 (1) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 94441 (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
7440-36-0	Antimony	0.035	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-38-2	Arsenic	0.050	ND	1	50	50	10/01/21	94441	T27682b5	13	P	PEICP5A
7440-39-3	Barium	0.12	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-41-7	Beryllium	0.0060	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-43-9	Cadmium	0.025	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-47-3	Chromium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-50-8	Copper	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7439-92-1	Lead	0.025	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7439-97-6	Mercury	0.00050	ND	1	25	25	10/01/21	94441	H27682T	12	CV	HGCV4A
7440-02-0	Nickel	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7782-49-2	Selenium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-22-4	Silver	0.025	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-28-0	Thallium	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A
7440-66-6	Zinc	0.050	ND	1	50	50	09/30/21	94441	T27682A5	14	P	PEICP5A

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: 09/30/21
Data File: T27682A5
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

Analyte	ICV/CCV Amt	ICV V-352960-6	Rec	CCV V-352960-17	Rec	CCV V-352960-27	Rec	CCV V-352960-39	Rec	CCV V-352960-49	Rec	CCV V-352960-54	Rec		Rec		Rec
Barium	.5/.5	0.50205	100	0.46398	93	0.45634	91	0.50300	101	0.46758	94	0.45263	91				
Cadmium	.5/.5	0.49556	99	0.47052	94	0.47081	94	0.50159	100	0.47585	95	0.47732	95				
Chromium	.5/.5	0.49542	99	0.47471	95	0.46911	94	0.49801	100	0.47931	96	0.47335	95				
Copper	.5/.5	0.51064	102	0.49509	99	0.48245	96	0.50676	101	0.48826	98	0.49268	99				
Lead	.5/.5	0.50600	101	0.48018	96	0.48171	96	0.51739	103	0.49802	100	0.48468	97				
Nickel	.5/.5	0.50680	101	0.47771	96	0.48031	96	0.51433	103	0.49048	98	0.47972	96				
Selenium	.5/.5	0.51256	103	0.46665	93	0.46299	93	0.51848	104	0.48014	96	0.45695	91				
Silver	0.1/0.1	0.09723	97	0.09450	95	0.09213	92	0.09643	96	0.09290	93	0.09442	94				
Zinc	.5/.5	0.50361	101	0.46570	93	0.47348	95	0.51641	103	0.48575	97	0.46814	94				

Notes: a-indicates analyte failed the ICV limits for 6010D, 6020B
b-indicates analyte failed the ICV limits for 200.7 or 200.8
c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010C,6020B, Hg 7470A,7471B
d-indicates analyte failed the CCV limits Hg 7470A/7471B

Qc Limits: ICV - 200.7 (95-105) 6010D/6020B/200.8 (90-110)
CCV- 200.7/200.8/6010D/245.1, Hg 7470A/ 7471B (90-110)

FORM 2
LLQCS/LRS Summary)

Date Analyzed: 09/30/21
Data File: T27682A5
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
LLQCS/LRS SOURCE: SPEX

Analyte	LLQCS Spike Amount	LLICV V-352963	Recovery	Low Limit	High Limit	LRS Spike Amount	LRS V-352964	Recovery	Low Limit	High Limit
Magnesium	5.0	4.83739	97	80	120	500	531.278	106	90	110
Aluminum	1.0	1.00815	101	80	120	500	541.364	108	90	110
Arsenic	0.1	0.0984017	98	80	120	10	10.8628	109	90	110
Boron	0.2	0.191098	96	80	120	5	5.10305	102	90	110
Barium	0.25	0.256137	102	80	120	10	10.5850	106	90	110
Beryllium	0.012	0.0125078	104	80	120	5	5.11361	102	90	110
Calcium	5.0	4.85445	97	80	120	500	522.443	104	90	110
Cadmium	0.05	0.0517900	104	80	120	5	5.73444	115 a	90	110
Cerium	.2	0.208410	104	80	120	25	22.7580	91	90	110
Cobalt	0.1	0.100065	100	80	120	5	5.09269	102	90	110
Chromium	0.1	0.0987142	99	80	120	10	10.1545	102	90	110
Copper	0.1	0.105468	105	80	120	10	11.5339	115 a	90	110
Silver	0.05	0.0480113	96	80	120	1	1.05459	105	90	110
Potassium	NA	10.6992		80	120	200	2305.81	a 1150	90	110
Zinc	0.1	0.0967453	97	80	120	10	10.1420	101	90	110
Manganese	0.1	0.100035	100	80	120	10	10.1135	101	90	110
Molybdenum	0.1	0.100057	100	80	120	10	10.1645	102	90	110
Sodium	NA	16.6777		80	120	1000	1386.64	139 a	90	110
Nickel	0.1	0.0997146	100	80	120	10	10.0567	101	90	110
Lead	0.05	0.0482452	96	80	120	10	10.3357	103	90	110
Antimony	0.07	0.0682595	98	80	120	5	5.71089	114 a	90	110
Selenium	0.1	0.100626	101	80	120	5	5.70483	114 a	90	110
Silicon	.2	0.202818	101	80	120	25	25.2402	101	90	110
Tin	0.1	0.0989029	99	80	120	10	11.5528	116 a	90	110
Titanium	0.1	0.100510	101	80	120	10	10.5133	105	90	110
Thallium	0.1	0.103989	104	80	120	5	5.15569	103	90	110
Vanadium	0.1	0.0971622	97	80	120	10	9.71502	97	90	110
Iron	1.0	0.985011	99	80	120	200	198.475	99	90	110

Notes: a-indicates analyte is outsite the limits.

If linear range sample (LRS) exceeds criteria, high standard becomes upper limit criteria

FORM 2
(ICV/CCV Summary)

Date Analyzed: 10/01/21
Data File: T27682b5
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

Analyte	ICV/CCV Amt	ICV V-352960-5	Rec	CCV V-352960-16	Rec	CCV V-352960-26	Rec	CCV V-352960-38	Rec		Rec		Rec		Rec		Rec
Arsenic	.5/.5	0.48165	96	0.45890	92	0.44860	90	0.46638	93								

Notes: a-indicates analyte failed the ICV limits for 6010D, 6020B
b-indicates analyte failed the ICV limits for 200.7 or 200.8
c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010C,6020B, Hg 7470A,7471B
d-indicates analyte failed the CCV limits Hg 7470A/7471B

Qc Limits: ICV - 200.7 (95-105) 6010D/6020B/200.8 (90-110)
CCV- 200.7/200.8/6010D/245.1, Hg 7470A/ 7471B (90-110)

FORM 2
LLQCS/LRS Summary)

Date Analyzed: 10/01/21
Data File: T27682b5
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
LLQCS/LRS SOURCE: SPEX

Analyte	LLQCS Spike Amount	LLICV V-352963	Recovery	Low Limit	High Limit	LRS Spike Amount	LRS V-352964	Recovery	Low Limit	High Limit
Magnesium	5.0	4.95193	99	80	120	500	533.432	107	90	110
Aluminum	1.0	0.968687	97	80	120	500	548.195	110	90	110
Arsenic	0.1	0.0978919	98	80	120	10	10.7614	108	90	110
Boron	0.2	0.189084	95	80	120	5	5.15078	103	90	110
Barium	0.25	0.246213	98	80	120	10	10.6111	106	90	110
Beryllium	0.012	0.0127827	107	80	120	5	5.15143	103	90	110
Calcium	5.0	5.06414	101	80	120	500	520.737	104	90	110
Cadmium	0.05	0.0499781	100	80	120	5	5.79079	116 a	90	110
Cerium	.2	0.207283	104	80	120	25	23.1141	92	90	110
Cobalt	0.1	0.0989528	99	80	120	5	5.10657	102	90	110
Chromium	0.1	0.0978352	98	80	120	10	10.1701	102	90	110
Copper	0.1	0.102861	103	80	120	10	11.6919	117 a	90	110
Silver	0.05	0.0483360	97	80	120	1	1.13122	113 a	90	110
Potassium	NA	7.10381		80	120	200	2264.46	1130 a	90	110
Zinc	0.1	0.0982134	98	80	120	10	9.98208	100	90	110
Manganese	0.1	0.0975455	98	80	120	10	10.1381	101	90	110
Molybdenum	0.1	0.0983878	98	80	120	10	10.1405	101	90	110
Sodium	NA	15.8707		80	120	1000	1423.06	142 a	90	110
Nickel	0.1	0.100979	101	80	120	10	9.96915	100	90	110
Lead	0.05	0.0550402	110	80	120	10	10.1863	102	90	110
Antimony	0.07	0.0707009	101	80	120	5	5.71302	114 a	90	110
Selenium	0.1	0.102243	102	80	120	5	5.64910	113 a	90	110
Silicon	.2	0.218635	109	80	120	25	25.0308	100	90	110
Tin	0.1	0.0984325	98	80	120	10	11.1205	111 a	90	110
Titanium	0.1	0.0978875	98	80	120	10	10.6258	106	90	110
Thallium	0.1	0.104398	104	80	120	5	5.18358	104	90	110
Vanadium	0.1	0.0951101	95	80	120	10	9.77736	98	90	110
Iron	1.0	0.987880	99	80	120	200	198.731	99	90	110

Notes: a-indicates analyte is outsite the limits.

If linear range sample (LRS) exceeds criteria, high standard becomes upper limit criteria

FORM 2
(ICV/CCV Summary)

Date Analyzed: 10/01/21
Data File: H27682T
Prep Batch: 94441
Analytical Method: 6010D, 6020B, 7470A, 7471B
Instrument: HGCV4A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

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-33	Rec	Rec	Rec	Rec	Rec	Rec
Mercury	20/10	21 76000	109	10.47000	105	10 02000	100					

Notes:
a-indicates analyte failed the ICV limits for 6010D, 6020B
b-indicates analyte failed the ICV limits for 200.7 or 200.8
c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010C,6020B, Hg 7470A,7471B
d-indicates analyte failed the CCV limits Hg 7470A/7471B

Qc Limits:
ICV - 200.7 (95-105) 6010D/6020B/200.8 (90-110)
CCV- 200.7/200.8/6010D/245.1, Hg 7470A/ 7471B (90-110)

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/30/21
Data File: T27682A5
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-352951-7	CCB V-352951-18	CCB V-352951-28	CCB V-352951-40	CCB V-352951-50	CCB V-352951-55	MB 94441 (1)-14	EF V-357869 9/28-38
Barium	.125 U	.25 U	.25 U	.25 U	.25 U	.25U	.13U	.25 U
Cadmium	.025 U	.05 U	.05 U	.05 U	.05 U	.05U	.025U	.05 U
Chromium	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U
Copper	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U
Lead	.025 U	.05 U	.05 U	.05 U	.05 U	.05U	.025U	.05 U
Nickel	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U
Selenium	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U
Silver	.025 U	.05 U	.05 U	.05 U	.05 U	.05U	.025U	.05 U
Zinc	.05 U	.1 U	.1 U	.1 U	.1 U	.1U	.05U	.1 U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 10/01/21
Data File: T27682b5
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-352951-6	CCB V-352951-17	CCB V-352951-27	CCB V-352951-39	MB 94441 (1)-13	EF V-357869 9/28-37
Arsenic	.05 U	.1 U	.1 U	.1 U	.05 U	.1U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 10/01/21
Data File: H27682T
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: HGCV4A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB-10	CCB-22	CCB-34	MB 94441 (1)-12	EF V-357869 9/24-32			
Mercury	.5 U	.5 U	.5 U	.5 U	.5 U			

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 4
(ICSA/ICSAB Summary)

Date Analyzed: 09/30/21
Data File: T27682A5
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICSA/ICSAB: SOURCE: SCP Science

Analyte	Spk Amt	ICSA V-352957-12	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Aluminum	500	523.801	105							
Barium	0	U								
Cadmium	0	U								
Calcium	500	486.009	97							
Chromium	0	U								
Copper	0	U								
Iron	200	183.188	92							
Lead	0	U								
Magnesium	500	494.621	99							
Nickel	0	U								
Selenium	0	U								
Silver	0	U								
Zinc	0	U								

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

Qc Limits: 200.7, 6020B < 2 * Reporting Limit
6010D < Reporting Limit

FORM 4
(ICSA/ICSAB Summary)

Date Analyzed: 10/01/21
Data File: T27682b5
Prep Batch: 94441
Reporting Limits Used: 6010D, 6020B, 7470A, 7471B
Instrument: PEICP5A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092401

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICSA/ICSAB: SOURCE: SCP Science

Analyte	Spk Amt	ICSA V-352957-11	Rec	Rec	Rec	Rec	Rec	Rec	Rec	Rec
Aluminum	500	506.222	101							
Arsenic	0	U								
Calcium	500	478.272	96							
Iron	200	178.759	89							
Magnesium	500	483.872	97							

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
c-indicates the recovery failed the Qc Criteria in the ICSAB
u-indicates the absolute value of the concentration was below the reporting limit

Qc Limits: 200.7, 6020B < 2 * Reporting Limit
6010D < Reporting Limit

FORM5/FORM7
SPIKE RECOVERY DATA
PREP BATCH: 94441

Instrument Type: ICP/HG
Analytical Method(s):6010D/200.7/7470A/7471B/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR Matrix: TCLP SampleID: LCS MR 94441

Analyte	BatchId	DF	Data File	Seq#:	Spk Conc:	Spk Added	Recov	Qual	Lo Lim	Hi Lim
Arsenic	94441	1	T27682b5	15	0.4669	0.50	93		80	120
Barium	94441	1	T27682A5	16	0.4763	0.50	95		80	120
Cadmium	94441	1	T27682A5	16	0.4841	0.50	97		80	120
Chromium	94441	1	T27682A5	16	0.4875	0.50	98		80	120
Lead	94441	1	T27682A5	16	0.4916	0.50	98		80	120
Mercury	94441	1	H27682T	14	10.8900	10	109		80	120
Nickel	94441	1	T27682A5	16	0.4990	0.50	100		80	120
Selenium	94441	1	T27682A5	16	0.4747	0.50	95		80	120
Silver	94441	1	T27682A5	16	0.0950	0.100	95		80	120

TxtQcType: LCS Matrix: TCLP SampleID: LCS 94441

Analyte	BatchId	DF	Data File	Seq#:	Spk Conc:	Spk Added	Recov	Qual	Lo Lim	Hi Lim
Arsenic	94441	1	T27682b5	14	0.4643	0.50	93		80	120
Barium	94441	1	T27682A5	15	0.4850	0.50	97		80	120
Cadmium	94441	1	T27682A5	15	0.4874	0.50	97		80	120
Chromium	94441	1	T27682A5	15	0.4934	0.50	99		80	120
Lead	94441	1	T27682A5	15	0.4971	0.50	99		80	120
Mercury	94441	1	H27682T	13	10.9800	10	110		80	120
Nickel	94441	1	T27682A5	15	0.5018	0.50	100		80	120
Selenium	94441	1	T27682A5	15	0.4872	0.50	97		80	120
Silver	94441	1	T27682A5	15	0.0968	0.100	97		80	120

TxtQcType: MS Matrix: TCLP SampleID: AD26217-002

Analyte	BatchId	DF	Data File	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Added	Recov	Qual	Lo Lim	Hi Lim
Arsenic	94441	1	T27682b5	20	T27682b5	18	0.5043	0.1U	0.50	101		50	
Barium	94441	1	T27682A5	21	T27682A5	19	0.7450	0.2595	0.50	97		50	
Cadmium	94441	1	T27682A5	21	T27682A5	19	0.5193	0.05U	0.50	104		50	
Chromium	94441	1	T27682A5	21	T27682A5	19	0.5046	0.1U	0.50	101		50	
Lead	94441	1	T27682A5	21	T27682A5	19	0.5145	0.05U	0.50	103		50	
Mercury	94441	1	H27682T	17	H27682T	15	11.7100	0.50U	10	117		50	
Nickel	94441	1	T27682A5	21	T27682A5	19	0.5115	0.1U	0.50	102		50	
Selenium	94441	1	T27682A5	21	T27682A5	19	0.5545	0.1U	0.50	111		50	
Silver	94441	1	T27682A5	21	T27682A5	19	0.1025	0.05U	0.100	103		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: 94441

Instrument Type: ICP/HG
Analytical Method(s):6010D/200.7/7470A/7471B/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: PS Matrix: TCLP SampleID: AD26217-002

Analyte	DF	Data File	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Added	Recov	Qual	Lo Lim	Hi Lim
Arsenic	1	T27682b5	21	T27682b5	18	0.5363	0.1U	0.5	107		75	125
Barium	1	T27682A5	22	T27682A5	19	0.7742	0.2595	0.5	103		75	125
Cadmium	1	T27682A5	22	T27682A5	19	0.5577	0.05U	0.5	112		75	125
Chromium	1	T27682A5	22	T27682A5	19	0.5368	0.1U	0.5	107		75	125
Lead	1	T27682A5	22	T27682A5	19	0.5520	0.05U	0.5	110		75	125
Nickel	1	T27682A5	22	T27682A5	19	0.5472	0.1U	0.5	109		75	125
Selenium	1	T27682A5	22	T27682A5	19	0.5812	0.1U	0.5	116		75	125
Silver	1	T27682A5	22	T27682A5	19	0.0498	0.05U	0.1	0	a	75	125

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: 94441

Instrument Type: ICP/HG

Analytical Method(s):6010D/200.7/7470A/7471B/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR Matrix: TCLP SampleID: LCS MR 94441

Analyte	BatchId	Data File	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	94441	T27682b5	15	T27682b5	14	0.4669	0.4643	.57	20
Barium	94441	T27682A5	16	T27682A5	15	0.4763	0.4850	1.8	20
Cadmium	94441	T27682A5	16	T27682A5	15	0.4841	0.4874	.69	20
Chromium	94441	T27682A5	16	T27682A5	15	0.4875	0.4934	1.2	20
Lead	94441	T27682A5	16	T27682A5	15	0.4916	0.4971	1.1	20
Mercury	94441	H27682T	14	H27682T	13	10.8900	10.9800	.82	20
Nickel	94441	T27682A5	16	T27682A5	15	0.4990	0.5018	.56	20
Selenium	94441	T27682A5	16	T27682A5	15	0.4747	0.4872	2.6	20
Silver	94441	T27682A5	16	T27682A5	15	0.0950	0.0968	1.9	20

TxtQcType: MR Matrix: TCLP SampleID: AD26217-002

Analyte	BatchId	Data File	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Arsenic	94441	T27682b5	19	T27682b5	18	0.1U	0.1U	---	20
Barium	94441	T27682A5	20	T27682A5	19	0.2649	0.2595	2.1	20
Cadmium	94441	T27682A5	20	T27682A5	19	0.05U	0.05U	---	20
Chromium	94441	T27682A5	20	T27682A5	19	0.1U	0.1U	---	20
Lead	94441	T27682A5	20	T27682A5	19	0.05U	0.05U	---	20
Mercury	94441	H27682T	16	H27682T	15	0.50U	0.50U	---	20
Nickel	94441	T27682A5	20	T27682A5	19	0.1U	0.1U	---	20
Selenium	94441	T27682A5	20	T27682A5	19	0.1U	0.1U	---	20
Silver	94441	T27682A5	20	T27682A5	19	0.05U	0.05U	---	20

TxtQcType: SD Matrix: TCLP SampleID: AD26217-002

Analyte	BatchId	Data File	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff		Limit
Arsenic	94441	T27682b5	22	T27682b5	18	5	0.0063	0.0018	---		10
Barium	94441	T27682A5	23	T27682A5	19	5	0.0507	0.2595	2.3		10
Cadmium	94441	T27682A5	23	T27682A5	19	5	0.0025	0.0042	199	c	10
Chromium	94441	T27682A5	23	T27682A5	19	5	-0.0014	0.0001	---		10
Lead	94441	T27682A5	23	T27682A5	19	5	0.0010	0.0088	---		10
Nickel	94441	T27682A5	23	T27682A5	19	5	-0.0054	-0.0009	---		10
Selenium	94441	T27682A5	23	T27682A5	19	5	0.0132	0.0223	---		10
Silver	94441	T27682A5	23	T27682A5	19	5	0.0007	0.0011	---		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\PEICP5A\T27682A5.txt

Analysis Date: 09/30/21

Instrument: PEICP5A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-352951	1	CAL	13:47	1							V-352951(ICB/CCB)
CALBLK V-352951	1	CAL	13:51	2							V-352951(ICB/CCB)
CALST2 V-352963	1	CAL	13:54	3							V-352963(LLICV/CCV leachate)
CALST3 V-352955	1	CAL	13:58	4							V-352955(ICS3 - Middle Std)
CALST4 V-352956	1	CAL	14:03	5							V-352956(ICS4 High std)
ICV V-352960	1	ICV	14:07	6							V-352960(CCV)
ICB V-352951	1	ICB	14:12	7							V-352951(ICB/CCB)
LRS V-352964	1	LRS	14:16	8		TCLP	TCLP	SW846	94441		V-352964(LRS)
ICS3 V-352955	1	ICS	14:20	9							V-352955(ICS3 - Middle Std)
RINSE	1	SMP	14:25	10		TCLP	TCLP	SW846	94441		0
LLICV V-352963	1	LLICV	14:28	11		TCLP	TCLP	SW846	94441		V-352963(LLICV/CCV leachate)
ICSA V-352957	1	ICSA	14:32	12							V-352957(ICSA)
AD26235-001	1	SMP	14:37	13	METALS-TCLP	TCLP	TCLP	SW846	94441		0
MB 94441 (1)	1	MB	14:40	14		TCLP	TCLP	SW846	94441		0
LCS 94441	1	LCS	14:44	15		TCLP	TCLP	SW846	94441		0
LCS MR 94441	1	LCS	14:49	16		TCLP	TCLP	SW846	94441		0
CCV V-352960	1	CCV	14:53	17							V-352960(CCV)
CCB V-352951	1	CCB	14:58	18							V-352951(ICB/CCB)
AD26217-002	1	SMP	15:01	19	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MR	15:05	20	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MS	15:09	21	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	PS	15:13	22	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	5	SD	15:18	23	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-004	1	SMP	15:22	24	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-006	1	SMP	15:25	25	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-008	1	SMP	15:29	26	METALS-TCLP	TCLP	TCLP	SW846	94441		0
CCV V-352960	1	CCV	15:33	27							V-352960(CCV)
CCB V-352951	1	CCB	15:38	28							V-352951(ICB/CCB)
AD26217-010	1	SMP	15:41	29	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-012	1	SMP	15:45	30	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-014	1	SMP	15:49	31	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-016	1	SMP	15:53	32	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-018	1	SMP	15:57	33	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26225-002	1	SMP	16:00	34	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-001	1	SMP	16:04	35	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-003	1	SMP	16:08	36	METALS-TCLP	TCLP	TCLP	SW846	94441	Cr,Cu,As,Ag,Se,Pb,Tl NOT REPORTED (Ca>LR)	0
AD26251-004	1	SMP	16:12	37	METALS-TCLP	TCLP	TCLP	SW846	94441		0
EF V-357869 9/28	1	EF	16:16	38		TCLP	TCLP	SW846	94441		V-357869 9/28()
CCV V-352960	1	CCV	16:19	39							V-352960(CCV)
CCB V-352951	1	CCB	16:24	40							V-352951(ICB/CCB)
MB 94452 (1)	1	MB	16:28	41		TCLP	TCLP	SW846	94452		0
LCS 94452	1	LCS	16:31	42		TCLP	TCLP	SW846	94452		0
LCS MR 94452	1	LCS	16:36	43		TCLP	TCLP	SW846	94452		0
AD26266-007	1	SMP	16:41	44	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26266-007	1	MR	16:44	45	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26266-007	1	MS	16:48	46	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26266-007	1	PS	16:53	47	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26266-007	5	SD	16:57	48	METALS-TCLP	TCLP	TCLP	SW846	94452		0
CCV V-352960	1	CCV	17:01	49							V-352960(CCV)
CCB V-352951	1	CCB	17:05	50							V-352951(ICB/CCB)
AD26266-014	1	SMP	17:09	51	METALS-TCLP	TCLP	TCLP	SW846	94452		0
AD26277-001	1	SMP	17:13	52	PB-TCLP	TCLP	TCLP	SW846	94452		0
EF V-357869 9/29	1	EF	17:17	53		TCLP	TCLP	SW846	94452		V-357869 9/29()
CCV V-352960	1	CCV	17:20	54							V-352960(CCV)
CCB V-352951	1	CCB	17:25	55							V-352951(ICB/CCB)

Comments/Reviewedby:

carmela
192.168.1.86 10/1/2021 11:05:14 AM

ok
all reported
As not reported

10/6/21

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\PEICP5A\T27682b5.txt

Analysis Date: 10/01/21

Instrument: PEICP5A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-352951	1	CAL	10:36	1							V-352951(ICB/CCB)
CALST2 V-352963	1	CAL	10:39	2							V-352963(LLICV/CCV leachate)
CALST3 V-352955	1	CAL	10:43	3							V-352955(ICS3 - Middle Std)
CALST4 V-352956	1	CAL	10:47	4							V-352956(ICS4 High std)
ICV V-352960	1	ICV	10:52	5							V-352960(CCV)
ICB V-352951	1	ICB	10:56	6							V-352951(ICB/CCB)
LRS V-352964	1	LRS	11:00	7		TCLP	TCLP	SW846	94441		V-352964(LRS)
ICS3 V-352955	1	ICS	11:05	8							V-352955(ICS3 - Middle Std)
RINSE	1	SMP	11:09	9		TCLP	TCLP	SW846	94441		0
LLICV V-352963	1	LLICV	11:13	10		TCLP	TCLP	SW846	94441		V-352963(LLICV/CCV leachate)
ICSA V-352957	1	ICSA	11:16	11							V-352957(ICSA)
AD26235-001	1	SMP	11:21	12	METALS-TCLP	TCLP	TCLP	SW846	94441		0
MB 94441 (1)	1	MB	11:24	13		TCLP	TCLP	SW846	94441		0
LCS 94441	1	LCS	11:28	14		TCLP	TCLP	SW846	94441		0
LCS MR 94441	1	LCS	11:33	15		TCLP	TCLP	SW846	94441		0
CCV V-352960	1	CCV	11:37	16							V-352960(CCV)
CCB V-352951	1	CCB	11:41	17							V-352951(ICB/CCB)
AD26217-002	1	SMP	11:45	18	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MR	11:49	19	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MS	11:52	20	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	PS	11:57	21	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	5	SD	12:02	22	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-004	1	SMP	12:05	23	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-006	1	SMP	12:09	24	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-008	1	SMP	12:13	25	METALS-TCLP	TCLP	TCLP	SW846	94441		0
CCV V-352960	1	CCV	12:17	26							V-352960(CCV)
CCB V-352951	1	CCB	12:21	27							V-352951(ICB/CCB)
AD26217-010	1	SMP	12:25	28	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-012	1	SMP	12:29	29	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-014	1	SMP	12:33	30	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-016	1	SMP	12:36	31	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-018	1	SMP	12:40	32	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26225-002	1	SMP	12:44	33	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-001	1	SMP	12:48	34	METALS-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-003	1	SMP	12:52	35	METALS-TCLP	TCLP	TCLP	SW846	94441	As NOT REPORTED	0
AD26251-004	1	SMP	12:56	36	METALS-TCLP	TCLP	TCLP	SW846	94441		0
EF V-357869 9/28	1	EF	13:00	37		TCLP	TCLP	SW846	94441		V-357869 9/28()
CCV V-352960	1	CCV	13:03	38							V-352960(CCV)
CCB V-352951	1	CCB	13:08	39							V-352951(ICB/CCB)

Comments/Reviewedby:

carmela
192.168.1.86 10/1/2021 4:56:45 PM

As REPORTED

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor:_____

Standard/Batch/SnCl2 Lot #:

10/6/21

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\HGCV4A\H27682T.txt

Analysis Date: 10/01/21 **Instrument:** HGCV4A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
Calibration Blank	1	CAL	11:29	1							0
2 PPB	1	CAL	11:31	2							0
5 PPB	1	CAL	11:32	3							0
1 PPB	1	CAL	11:34	4							0
2 PPB	1	CAL	11:35	5							0
5 PPB	1	CAL	11:37	6							0
10 PPB	1	CAL	11:38	7							0
25 PPB	1	CAL	11:40	8							0
ICV (2)	1	ICV	11:41	9							0
ICB	1	ICB	11:43	10							0
AD26235-001	1	SMP	11:45	11	HG-TCLP	TCLP	TCLP	SW846	94441		0
MB 94441 (1)	1	MB	11:46	12		TCLP	TCLP	SW846	94441		0
LCS 94441	1	LCS	11:48	13		TCLP	TCLP	SW846	94441		0
LCS MR 94441	1	LCS	11:50	14		TCLP	TCLP	SW846	94441		0
AD26217-002	1	SMP	11:52	15	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MR	11:53	16	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-002	1	MS	11:55	17	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-004	1	SMP	11:57	18	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-006	1	SMP	11:58	19	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-008	1	SMP	12:00	20	HG-TCLP	TCLP	TCLP	SW846	94441		0
CCV	1	CCV	12:01	21							0
CCB	1	CCB	12:03	22							0
AD26217-010	1	SMP	12:05	23	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-012	1	SMP	12:06	24	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-014	1	SMP	12:08	25	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-016	1	SMP	12:09	26	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26217-018	1	SMP	12:11	27	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26225-002	1	SMP	12:12	28	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-001	1	SMP	12:14	29	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26209-003	1	SMP	12:15	30	HG-TCLP	TCLP	TCLP	SW846	94441		0
AD26251-004	1	SMP	12:17	31	HG-TCLP	TCLP	TCLP	SW846	94441		0
EF V-357869 9/24	1	EF	12:19	32		TCLP	TCLP	SW846	94441		V-357869 9/24()
CCV	1	CCV	12:20	33							0
CCB	1	CCB	12:22	34							0

Comments/Reviewedby:

CARMELA
192.168.1.55 10/1/2021 1:29:21 PM

ok

10/7/21

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-358400

Hampton-Clarke

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: (3010A) 3005A 3050B 200.7/200.8 OTHER

Batch No.: 27682 Analyst: KS /

QC Number: 94441 Prep Date: 9/29/21

Matrix: TCLP Reviewed By: [illegible]

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	50mL	50mL				–	
LCS						–	
LCSD						–	
1. 26217-002					357869	26217-002	Samples are combined prior to analysis to provide extra sample volume for analysis
1. Analytical Duplicate 002							
MR 002							
MS 002							Balance used: N/A
MSD KS 9/29 ~~002~~		KS					Pipettes used: KB, 149
2. 26217-004						26217-002	
3. -006							Hot Block used: 9
4. -008							
5. -010							
6. -012							
7. -014							
8. -016							
9. -018							
10. 26235-001							
11. 26225-002							
12. 26209-001							
13. -003							
14. 26251-004							
15. EF1 357869							
16.							
17.							
18.							
19.							
20.							

Hot Plate Temperature: 94.6 C (90-95° C) Start Time: 10:00 AM End Time: 2:00 PM

	Volume mL	Lot #
LCS, LCSD	0.25mL	V- 13729, 13730, 358096
LLLCS, LLLCSD		V-
MS, MSD	0.25mL	V-13729, 13730, 358096
LLMS, LLMSD		V-

Acid	Vol mL	Lot#
HNO_3	3mL	V- 14103
HCl		V-
H_2O_2		V-

Acid	Vol mL	Lot#
1:1 HNO_3		V-
1:1 HCl	5mL	V- 353977

Relinquished By KS / [illegible] Date 9/29/21

Received By [illegible] Date 10/5/21.

T:\QC\FORMS\LOGBOOK FORMS\METALS\ICP sample prep log 2018 DOD.DOC

Hampton-Clarke/Veritech

HG SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 245.1 (7470A) 7471B OTHER_____

Batch No.:* 27682

QC Number: 94441

Matrix: TCLP Aqueous

Analyst: KJ / DL

Prep Date: 9/29/21

Review By: CJW

LAB ID#	MERCURY INITIAL	MERCURY FINAL	COMMENTS	STANDARDS
Method blank	25 mL	25 mL		CAL CURVE BLK 0ppb V- 358723
LCS				
LCSD				STD 0.2 ppb V- 358724
1 26217-002				STD 0.5 ppb V- 358725
MR 26217-002				STD 1.0 ppb V- 358726
MS 26217-002				STD 2.0 ppb V- 358727
~~MSD~~	—	—		STD 5.0 ppb V- 358728
2 26217-004	25 mL	25 mL		STD 10.0 ppb V- 358729
3 006				STD 25.0 ppb V- 358730
4 008				ICV 10.0 ppb V- 358721
5 010				CCV 20.0 ppb V- 358722
6 012				
7 014				
8 016				Balance used: N/A
9 018				Pipettes used: 143, 159
10 26211-001				
11 -003				Hot Block used: 7
12 26235-001				
13 26225-002				
14 26209-001				
15 -003				
16 26251-004				
17 EFI 357869 (9/29)				
18				
19				
20				

Lot Numbers	Volume (mL)	Acid	Volume (mL)	Lot #
$KmnO_4$: V- 355568	3.75 mL	HNO3	0.625 mL	V- 14102
$K_2S_2O_8$: V- 352789	2 mL	HCl		V-
NH_2OH: V- 355937	1.5 mL	H2SO4	1.25 mL	V- 14097
		Aqua Regia		V-

**Block Temp.: °C 93.2°C

Time In Block: 10:30 AM

Time Out of Block: 12:30 PM

Spike Volume & Lot #

☐ LCS V- 358589 0.15 or 0.25 ml

MS V- 358589 0.250 ml

Standards/Control Batch B- 31686

StartTime: 10:00 AM

EndTime: 1:00 PM

**Temperature
245.1 / 7470A: 90-95C
7471B : 92-98C

Relinquished By: KJ / DL

*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 2018

Wet Chemistry Data

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD26217-002
Matrix Soil
Client SampleID: SB09 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	6.9	pH			09/27/21
Temperature	PH-SOIL	1	23.6	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-004
Matrix Soil
Client SampleID: SB08 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.7	pH			09/27/21
Temperature	PH-SOIL	1	23.3	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-006
Matrix Soil
Client SampleID: SB07 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	6.2	pH			09/27/21
Temperature	PH-SOIL	1	23.5	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-008
Matrix Soil
Client SampleID: SB06 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	AN			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.8	pH			09/27/21
Temperature	PH-SOIL	1	23.0	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD26217-010
Matrix Soil
Client SampleID: SB05 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.5	pH			09/27/21
Temperature	PH-SOIL	1	23.3	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-012
Matrix Soil
Client SampleID: SB04 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	8.1	pH			09/27/21
Temperature	PH-SOIL	1	23.1	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-014
Matrix Soil
Client SampleID: SB03 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.8	pH			09/27/21
Temperature	PH-SOIL	1	23.3	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

Lab#: AD26217-016
Matrix Soil
Client SampleID: SB02 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
Temperature	PH-SOIL	1	23.2	C			09/27/21
pH	PH-SOIL	1	7.6	pH			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD26217-018
Matrix Soil
Client SampleID: SB01 COMP

Project Number: 1092401
Received Date: 9/23/2021
Collect Date: 9/23/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cyanide (Reactive)	CN-REACTIVE	1	ND	mg/Kg	0.50	09/27/21	09/28/21
Flame Propagation (POS/NEG)	IGNIT-1030	1	NA			09/27/21	09/27/21
Burning Rate (mm/sec)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Ignitability (POS/NEG)	IGNIT-1030	1	NEG			09/27/21	09/27/21
Paint Filter Test	PAINT FILTER	1	NEG				09/29/21
pH	PH-SOIL	1	7.3	pH			09/27/21
Temperature	PH-SOIL	1	23.1	C			09/27/21
Sulfide (Reactive)	S-REACTIVE	1	ND	mg/kg	100	09/27/21	09/28/21

VERITECH Wet Chem Form1 Analysis Summary
% Solids

TestGroupName: % Solids SM2540G **Project #: 1092401**

TestGroup: %SOLIDS

Lab#	Client SampleID	Matrix	Dilution:	Result	Units:	RL	Prep Date	Analysis Date	Received Date	Collect Date
AD26217-001	SB09 GRAB	Soil	1	85	Percent			09/27/21	09/23/21	09/23/21
AD26217-002	SB09 COMP	Soil	1	85	Percent			09/27/21	09/23/21	09/23/21
AD26217-003	SB08 GRAB	Soil	1	81	Percent			09/27/21	09/23/21	09/23/21
AD26217-004	SB08 COMP	Soil	1	84	Percent			09/27/21	09/23/21	09/23/21
AD26217-005	SB07 GRAB	Soil	1	82	Percent			09/27/21	09/23/21	09/23/21
AD26217-006	SB07 COMP	Soil	1	84	Percent			09/27/21	09/23/21	09/23/21
AD26217-007	SB06 GRAB	Soil	1	94	Percent			09/27/21	09/23/21	09/23/21
AD26217-008	SB06 COMP	Soil	1	92	Percent			09/27/21	09/23/21	09/23/21
AD26217-009	SB05 GRAB	Soil	1	85	Percent			09/27/21	09/23/21	09/23/21
AD26217-010	SB05 COMP	Soil	1	88	Percent			09/27/21	09/23/21	09/23/21
AD26217-011	SB04 GRAB	Soil	1	83	Percent			09/27/21	09/23/21	09/23/21
AD26217-012	SB04 COMP	Soil	1	85	Percent			09/27/21	09/23/21	09/23/21
AD26217-013	SB03 GRAB	Soil	1	83	Percent			09/27/21	09/23/21	09/23/21
AD26217-014	SB03 COMP	Soil	1	89	Percent			09/27/21	09/23/21	09/23/21
AD26217-015	SB02 GRAB	Soil	1	76	Percent			09/27/21	09/23/21	09/23/21
AD26217-016	SB02 COMP	Soil	1	78	Percent			09/27/21	09/23/21	09/23/21
AD26217-017	SB01 GRAB	Soil	1	81	Percent			09/27/21	09/23/21	09/23/21
AD26217-018	SB01 COMP	Soil	1	82	Percent			09/27/21	09/23/21	09/23/21

Analysis Type: RS

Batch Number: RS-1547

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-01-09/28/21	16	90-110	NA	14.82775	93	NA	
LCS	LCS	400	75-125	NA	360.675	90	NA	
MS	AD26235-001	400	75-125	NA	360.675	90	NA	
MSD	AD26235-001	400	75-125	20	360.675	90	0	

Analytical Method(s)

SW846 7.3

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-01-09/28/21	CAL-01		15		100	14.828	6.3	10	1	250	250			09/28/21	KS
MB-1-09/27/21	MB	MB-1-09/27/21	ND	100	100	10.019	9.9	10	1	10	250	09/27/21	KS	09/28/21	KS
LCS	LCS	MB-1-09/27/21	360	100	100	360.68	6.4	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26235-001	MS	MB-1-09/27/21	360	100	62	360.68	6.4	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26235-001	MSD	MB-1-09/27/21	360	100	62	360.68	6.4	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26235-001	Sample	MB-1-09/27/21	ND	100	62	30.056	9.7	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26209-002	Sample	MB-1-09/27/21	ND	100	100	30.056	9.7	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26209-004	Sample	MB-1-09/27/21	ND	200	100	40.075	9.8	10	1	5	250	09/27/21	KS	09/28/21	KS
AD26217-002	Sample	MB-1-09/27/21	ND	100	85	30.056	9.7	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-004	Sample	MB-1-09/27/21	ND	100	84	20.038	9.8	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-006	Sample	MB-1-09/27/21	ND	100	84	30.056	9.7	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-008	Sample	MB-1-09/27/21	ND	100	92	20.038	9.8	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-010	Sample	MB-1-09/27/21	ND	100	88	10.019	9.9	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-012	Sample	MB-1-09/27/21	ND	100	85	10.019	9.9	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-014	Sample	MB-1-09/27/21	ND	100	89	20.038	9.8	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-016	Sample	MB-1-09/27/21	ND	100	78	40.075	9.6	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26217-018	Sample	MB-1-09/27/21	ND	100	82	20.038	9.8	10	1	10	250	09/27/21	KS	09/28/21	KS
AD26251-004	Sample	MB-1-09/27/21	ND	100	91	40.075	9.6	10	1	10	250	09/27/21	KS	09/28/21	KS

KS 9/30/21

9/30/21

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

1092401 0374

Prep Batch: S-1547 Sample ID: AD26235-001
Method: SW846 7.3 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	0.3455	0	86		20210928152	13	09/28/21 15:54	20210928152	15	09/28/21 15:59

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	0.3918	0	98	12.6		20210928152	14	09/28/21 15:57	20210928152	15	09/28/21 15:59

LCS Recoveries

BatchRunID/RunID:====>			202109281526-12									
QcBatchID:====>			LCSS-1547									
Date/Time:====>			09/28/21 15:52									
Analytical Method:====>			SW846 7.3									
Matrix:====>			Soil		Soil		Soil		Soil		Soil	
Analyte	SW846 7.3 Amt	Limits	Amt	Limits	% Rec	Flags	% Rec	Flags	% Rec	Flags	% Rec	Flags
Cyanide (Rea	0.4	75-125			101							

Calibration Summary:

Instrument: DA1
Analysis Meth: SW846 7.3

Analyte	Batch ID	Run#	Qc Type	Recov	Spk Amt	Limit
Cyanide (Reactive)	20210928152	9	ICV	101	0.4	90-110
Cyanide (Reactive)	20210928152	21	CCV	99	0.4	90-110
Cyanide (Reactive)	20210928152	30	CCV	103	0.4	90-110

Blank Summary

Instrument: DA1

Qc Type: Method Blank Summary Prep Date: 9/27/21

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210928152	9/28/21 15:50	MBS-1547	11	Cyanide (	ND	0.50

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210928152	9/28/21 15:47	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
20210928152	9/28/21 16:15	CCB	22	Cyanide (	ND	0.020
20210928152	9/28/21 16:33	CCB	31	Cyanide (	ND	0.020

Analysis Type: PAINT FILT

Batch Number: PAINT FILT-1425

Units:

Calibration Curve Information

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26217-002	0	NA	NA	#Error	NA	NA	

Analytical Method(s)

EPA 9095B

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Pos/Neg	Prep Date	Prep By	Anal Date	Anal By
AD26217-002	DUP		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-002	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-004	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-006	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-008	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-010	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-012	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-014	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-016	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26217-018	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26278-003	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26278-004	Sample		NEG		100	0	NEG			09/29/21	BCT/S
AD26235-001	Sample		POS		100	0	POS			09/29/21	BCT/S

9/30/21

9/30/21

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-2059

Units: pH

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26235-001	0	NA	20	9.37	NA	0.21	
LCS	LCS	4.4	75-125	NA	4.42	100	NA	

Calibration Curve Information

Analytical Method(s)

9040C/9045D

Sam #	Type	MB	Result	RL	Per Sol	Full Result	PH	TEMP	Prep Date	Prep By	Anal Date	Anal By
CS	LCS		4.4		100	4.42	4.42	24.3			09/27/21	LL
AD26235-001	DUP		9.4		100	9.37	9.37	23.1			09/27/21	LL
AD26235-001	Sample		9.4		100	9.39	9.39	23.0			09/27/21	LL
AD26217-002	Sample		6.9		100	6.94	6.94	23.6			09/27/21	LL
AD26217-004	Sample		7.7		100	7.68	7.68	23.3			09/27/21	LL
AD26217-006	Sample		6.2		100	6.25	6.25	23.5			09/27/21	LL
AD26217-008	Sample		7.8		100	7.85	7.85	23.0			09/27/21	LL
AD26217-010	Sample		7.5		100	7.48	7.48	23.3			09/27/21	LL
AD26217-012	Sample		8.1		100	8.07	8.07	23.1			09/27/21	LL
AD26217-014	Sample		7.8		100	7.75	7.75	23.3			09/27/21	LL
AD26217-016	Sample		7.6		100	7.56	7.56	23.2			09/27/21	LL
AD26217-018	Sample		7.3		100	7.32	7.32	23.1			09/27/21	LL
AD26199-006	Sample		6.9		100	6.94	6.94	23.1			09/27/21	LL
AD26199-007	Sample		6.7		100	6.68	6.68	23.2			09/27/21	LL
AD26199-008	Sample		7.1		100	7.1	7.10	23.0			09/27/21	LL
AD26199-009	Sample		7.1		100	7.08	7.08	23.4			09/27/21	LL
AD26199-010	Sample		7.0		100	7.03	7.03	23.2			09/27/21	LL
AD26209-004	Sample		11		100	11.23	11.23	22			09/27/21	LL

LL 9/27/21

9/27/21

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

% Solids Report

Analysis Type: SOLIDS-SS
BatchID: SOLIDS-SS-12308

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AD26217-006	86	85.96358	Percent	1.26	14.44	12.59	09/27/21	BEENA	1.9	5
Sample	AD26180-001	79	78.50220	Percent	1.27	12.62	10.18	09/27/21	BEENA		
Sample	AD26180-002	78	78.38940	Percent	1.27	11.08	8.96	09/27/21	BEENA		
Sample	AD26182-001	87	87.20508	Percent	1.26	12.28	10.87	09/27/21	BEENA		
Sample	AD26182-003	96	96.03073	Percent	1.27	9.08	8.76	09/27/21	BEENA		
Sample	AD26182-004	92	92.22738	Percent	1.28	9.90	9.23	09/27/21	BEENA		
Sample	AD26196-001	94	93.58372	Percent	1.28	7.67	7.26	09/27/21	BEENA		
Sample	AD26210-001	88	87.50000	Percent	1.28	12.96	11.50	09/27/21	BEENA		
Sample	AD26209-005	94	93.73104	Percent	1.27	11.16	10.54	09/27/21	BEENA		
Sample	AD26214-001	89	88.80866	Percent	1.27	9.58	8.65	09/27/21	BEENA		
Sample	AD26214-002	89	89.21283	Percent	1.28	8.14	7.39	09/27/21	BEENA		
Sample	AD26214-003	91	90.71618	Percent	1.28	12.59	11.53	09/27/21	BEENA		
Sample	AD26214-004	86	85.59919	Percent	1.28	11.21	9.78	09/27/21	BEENA		
Sample	AD26214-005	91	90.86420	Percent	1.28	9.38	8.64	09/27/21	BEENA		
Sample	AD26217-001	85	84.65046	Percent	1.27	7.85	6.84	09/27/21	BEENA		
Sample	AD26217-002	85	84.85523	Percent	1.27	10.25	8.88	09/27/21	BEENA		
Sample	AD26217-003	81	80.63725	Percent	1.26	9.42	7.84	09/27/21	BEENA		
Sample	AD26217-004	84	83.76691	Percent	1.28	10.89	9.33	09/27/21	BEENA		
Sample	AD26217-005	82	82.15827	Percent	1.27	8.22	6.97	09/27/21	BEENA		
Sample	AD26217-006	84	84.37500	Percent	1.28	15.68	13.43	09/27/21	BEENA		
Sample	AD26217-007	94	93.80252	Percent	1.27	10.79	10.20	09/27/21	BEENA		

* - Indicates Failed Rpd Criteria

% Solids Report

Analysis Type: SOLIDS-SS
BatchID: SOLIDS-SS-12309

QcType	SampleID:	Rounded Result	Raw Result	Units	Tare Weight	Wet Weight	Dry Weight	Analysis Date	Analyzed By	QC RPD	Rpd Limit
DUP	AD26217-014	89	88.56589	Percent	1.28	11.60	10.43	09/27/21	BEENA	0.32	5
Sample	AD26217-008	92	92.28824	Percent	1.27	9.18	8.57	09/27/21	BEENA		
Sample	AD26217-009	85	84.90566	Percent	1.28	10.29	8.93	09/27/21	BEENA		
Sample	AD26217-010	88	87.96389	Percent	1.27	11.24	10.04	09/27/21	BEENA		
Sample	AD26217-011	83	82.92683	Percent	1.28	6.20	5.36	09/27/21	BEENA		
Sample	AD26217-012	85	84.82446	Percent	1.27	10.10	8.76	09/27/21	BEENA		
Sample	AD26217-013	83	83.33333	Percent	1.27	13.75	11.67	09/27/21	BEENA		
Sample	AD26217-014	89	88.85390	Percent	1.28	17.16	15.39	09/27/21	BEENA		
Sample	AD26217-015	76	75.96068	Percent	1.27	12.46	9.77	09/27/21	BEENA		
Sample	AD26217-016	78	77.66990	Percent	1.27	8.48	6.87	09/27/21	BEENA		
Sample	AD26217-017	81	80.98415	Percent	1.27	13.26	10.98	09/27/21	BEENA		
Sample	AD26217-018	82	82.36842	Percent	1.27	12.67	10.65	09/27/21	BEENA		
Sample	AD26221-001	90	90.01086	Percent	1.26	10.47	9.55	09/27/21	BEENA		
Sample	AD26221-002	92	91.63842	Percent	1.26	10.11	9.37	09/27/21	BEENA		
Sample	AD26221-003	89	89.28105	Percent	1.25	8.90	8.08	09/27/21	BEENA		
Sample	AD26221-004	92	91.58513	Percent	1.26	11.48	10.62	09/27/21	BEENA		
Sample	AD26221-005	91	90.84451	Percent	1.25	13.92	12.76	09/27/21	BEENA		
Sample	AD26223-001	89	89.02672	Percent	1.24	11.72	10.57	09/27/21	BEENA		
Sample	AD26223-002	81	81.03448	Percent	1.26	16.34	13.48	09/27/21	BEENA		
Sample	AD26223-003	86	85.66243	Percent	1.27	12.29	10.71	09/27/21	BEENA		
Sample	AD26223-004	88	87.73389	Percent	1.25	10.87	9.68	09/27/21	BEENA		

* - Indicates Failed Rpd Criteria

Miscellaneous Data

1092401 0383

Hampton-Clarke, Inc.

LEACHATE PREPARATION LOG
(TCLP, SPLP)

Start Date: 9/27/21 TIME: 13:39 Finish Date: 9/28/21

**TCLP Ext. Fluid #1 pH: 4.94 (criteria: 4.93 ± 0.05)
**TCLP Ext. Fluid #2 pH: _____ (criteria: 2.88 ± 0.05)
**SPLP Ext. Fluid #3 pH: 4.25 (criteria: 4.20 ± 0.05)

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
26209-001	9.06	1.76	5.19	EFI357869	100g/2L	15:50	8:30	10:24	KJ	T	Balance ID: 037 MET
↓ -003	11.72	3.53	9.85	↓	50g/1L	↓	↓	10:45	↓	↓	pH Meter ID: B38168 ↓
26217-002	7.87	1.69	4.95	↓	100g/2L	↓	↓	↓	↓	↓	Pipette ID: 153 ↓
↓ 004	8.13	1.68	4.96	↓	↓	↓	↓	10:53	↓	↓	↓
006	7.45	1.71	4.92	↓	↓	↓	↓	↓	↓	↓	↓
008	8.09	1.67	4.98	↓	↓	↓	↓	11:13	↓	↓	↓
010	8.13	1.73	5.01	↓	↓	↓	↓	↓	↓	↓	↓
012	8.83	1.71	4.97	↓	↓	↓	↓	11:22	↓	↓	↓
014	8.06	1.69	4.96	↓	↓	↓	↓	↓	↓	↓	↓
016	8.09	1.72	5.09	↓	↓	↓	↓	11:43	↓	↓	↓
↓ 018	8.13	1.69	4.98	↓	↓	↓	↓	↓	↓	↓	↓
26225-002	6.84	1.71	4.96	↓	↓	↓	↓	11:53	↓	↓	↓
26235-001	9.20	1.69	5.01	↓	150g/3L	↓	↓	9:15	↓	↓	MET+ORG
26251-004	9.06	1.78	5.61	↓	↓	↓	↓	9:30	↓	↓	↓
EFI 357869	–	–	4.91	EFI 357869	3L	↓	↓	8:40	↓	↓	↓
25888-001	–	–	7.00	SPLP357468	100g/2L	↓	↓	12:30	↓	P	ORG
26081-003	–	–	7.27	↓	↓	↓	↓	↓	↓	↓	↓
↓ 008	–	–	9.97	↓	↓	↓	↓	12:42	↓	↓	↓
↓ 011	–	–	9.86	↓	↓	↓	↓	↓	↓	↓	↓
26080-002	–	–	9.64	↓	↓	↓	↓	13:07	↓	↓	↓
SPLP 357468	–	–	9.95	SPLP357468	3L	↓	↓	11:53			

*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

6000

Leachate prep log 2017)

Hampton-Clarke
Analytical & Field Services

Last Page of Report

Hampton-Clarke
Analytical & Field Services

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Project: South Ave.

Client PO: 31402661.100

Report To: WSP USA, Inc.
96 Morton St.
8th Floor
New York, NY 10014
Attn: Jon Ganz

Received Date: 9/24/2021

Report Date: 10/25/2021

Deliverables: NYDOH-CatA

Lab ID: AD26227

Lab Project No: 1092411

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.

Sean Berls - Quality Assurance Officer OR **Jean Revolus - Laboratory Director**

NJ (07071) NY (ELAP11408) CT (PH-0671)
PA (68-00463) KY (90124)

Hampton-Clarke
Analytical & Field Services

THIS CATEGORY "A" REPORT
IS NUMBERED FROM
1 to 56

(Subcontracted data is numbered as attached)

HC Case Narrative

Client: WSP USA, Inc.
Project: South Ave

HC Project: 1092411

Hampton-Clarke (HC) received the following samples on 09/24/21:

Client ID	HC Sample ID	Matrix	Analysis
TWP01	AD26227-001	Aqueous	Volatile Organics (624.1), Semivolatile Organics (625.1), PCB (608.3), Metals (245.1/200.8/200.7), CBOD (SM5210 B), Chloride (300.0), Cr (Hexavalent) (3500-Cr B), Flash Point (1010A), SGT-HEM (Non-Polar Material) (1664B), Nitrate (300.0), Nitrite (300.0), pH (SM4500-H+ B), Total Solids (SM2540B), Total Suspended Solids (SM2540D), *Total Kjeldahl Nitrogen (EPA 351)
LBG01	AD26227-002	Aqueous	Volatile Organics (624.1), Semivolatile Organics (625.1), PCB (608.3), Metals (245.1/200.8/200.7), CBOD (SM5210 B), Chloride (300.0), Cr (Hexavalent) (3500-Cr B), Flash Point (1010A), SGT-HEM (Non-Polar Material) (1664B), Nitrate (300.0), Nitrite (300.0), pH (SM4500-H+ B), Total Solids (SM2540B), Total Suspended Solids (SM2540D), *Total Kjeldahl Nitrogen (EPA 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 spiking compounds were diluted out for the Matrix Spike and/or Matrix Spike Duplicate for batch 96819. Please refer to the applicable Form 3 for the recoveries.

The Method Blank Spike for batch 96819 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries. Please refer to Form 4 to see which samples are associated with the Method Blank Spike.

Base Neutral/Acid Extractable Analysis:

The MS/MSD RPD, Matrix Spike Duplicate for batch 95088 had recoveries outside QC limits. Please refer to the applicable Form 3 for the recoveries.

Sample WMB95088MS had one or more surrogates outside QC limits. Please refer to the applicable Form 2 for the recoveries.

PCB Analysis:

Data conforms to method requirements.

Metals Analysis:

Data conforms to method requirements.

Wet Chemistry Analysis:

Samples AD26227-001, -002 were received and analyzed outside the 15 minute hold time for pH.

Subcontracted Analysis:

Please refer to attached subcontracted laboratory report. Samples AD26227-001, -002 were submitted to SGS for Total Kjeldahl Nitrogen (EPA351) 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.

Sean Berls Quality Assurance Officer	Or	Jean Revolus Laboratory Director	10/25/2021 Date

1092411 0003

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
NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

Hampton-Clarke
WBE/DBE/SBE 800-426-9992
A Women-Owned, Disadvantaged, Small Business Enterprise

CHAIN OF CUSTODY RECORD

Project# (Lab Use Only): 1092411

Page 1 of 1

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Data Deliv.
When Available:	Summary	NJ Hazsite
1 Business Day (100%) *	Results + QC (Waste)	Excel Reg. NJ / NY / PA
2 Business Days (75%) *	Reduced:	EnviroData
3 Business Days (50%) *	[ ] NJ [ ] NY	EQuIS:
4 Business Days (35%) *	[ ] PA [ ] Other___	[ ] 4-File [ ] EZ
5 Business Days (25%)	NJ Full / NY ASP CatB	[ ] NYDEC
8 Business Days (Stand.)	NY ASP CatA	[ ] Region 2 or 5
Other: _____		Other: _____

* Expedited TAT Not Always Available. Please Check with Lab.

Customer Information

1a) Customer: Lois Berger
Address: 96 Morton St, 8th Floor
New York, NY, 10014
1b) Email/Cell/Fax/Ph: Jon.Ganz@wsp.com
1c) Send Invoice to: Jon Ganz
1d) Send Report to: Jon Ganz

Project Information

2a) Project: ~~Stone~~ South Street
2b) Project Mgr: Jon Ganz
2c) Project Location (City/State): Staten Island, New York
2d) Quote/PO # (If Applicable): 31402661.100

FOR LAB USE ONLY ↓

Batch # A026227

===> 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	SB 02	GW	9/24/21	745		X	X										10				5	1	1		
002	SB 09	GW	9/24/21	1100		X	X										10				5	1	1		

10) Relinquished by:	Accepted by:	Date	Time
Harry August	Shantel B	9/24/21	12:25

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
- [ ] BN or BNA (8270E SIM)
- [ ] VOC (8260D SIM or 8011)
- [ ] SPLP (BN, BNA, Metals)
- [ ] 1,4 Dioxane

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Check if applicable:
- [ ] Project-Specific Reporting Limits
- [ ] High Contaminant Concentrations
- [ ] NJ LSRP Project (also check boxes above/right)

Cooler Temperature: 3.2

11) Sampler (print name): Harry August Date:

Additional Notes

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.

Internal use: sampling plan (check box) HC [ ] or client [ ] FSP#

PROJECT MODIFICATIONS

Client: BERGER-NYC

Project: South Ave.

HC Project #: 1092411

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david192.168.1.68
9/27/2021 9:57:09 AM

Can we revise the sample IDs? Otherwise it looks good.
SB02 – To TWP01
SB09 – To TWP02
Jonathan Ganz, DTW

---

csmith192.168.1.137
9/29/2021 2:18:52 PM

Per Jonathan Ganz, The project name should be "South Ave".

CONDITION UPON RECEIPT

Batch Number AD26227

Entered By: ricardo
Date Entered 9/24/2021 1:04:00 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). 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	No	Is there enough sample sent for the analyses listed on the COC? If no, specify: ONLY TWO 1L AMBERS RECEIVED AMONG SB 09 SAMPLES. POSSIBLE LIMITED VOLUME ISSUE
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 (TB date, sample matrix, any missing info, etc.)
14	NA	Corrective actions (Specify item number and corrective action taken).
15	NA	Were any samples for ortho-phosphate or dissolved ferrous iron field filtered?

PRESERVATION DOCUMENT

Batch Number AD26227

Entered By: ricardo
Date Entered 9/24/2021 1:04:00 PM

Lab#	Container Size	Container/Vial Check	Parameter	Preservative	Preservative Lot#	PH	pH Lot#
AD26227-001	40ML	G	VO	HCL	253057	1	HC155968
AD26227-001	1L	G	O&G	HCL	267411	1	HC155968
AD26227-001	500ML	P	TKN	H2SO4	3120011	1	HC155968
AD26227-001	1L	P	METALS	HNO3	267725	1	HC155968
AD26227-002	40ML	G	VO	HCL	253057	1	HC155968
AD26227-002	1L	G	O&G	HCL	267411	1	HC155968
AD26227-002	500ML	P	TKN	H2SO4	3120011	1	HC155968
AD26227-002	1L	P	METALS	HNO3	267725	1	HC155968

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD26227-001	09/24/21 12:25	RICAR	0	M	Received
AD26227-001	09/24/21 13:04	RICAR	0	M	Login
AD26227-001	09/27/21 13:44	SG	2	A	VOA
AD26227-001	09/24/21 13:19	R12	5	A	NONE
AD26227-001	09/24/21 13:19	R12	6	A	NONE
AD26227-001	09/24/21 13:19	R12	7	A	NONE
AD26227-001	09/28/21 09:07	PC	7	A	TDWI-HG
AD26227-001	09/28/21 10:18	PC	7	A	R12
AD26227-001	09/24/21 13:19	R12	8	A	NONE
AD26227-001	09/30/21 10:08	LYND	8	A	BN/BNA
AD26227-001	09/24/21 13:19	R12	9	A	NONE
AD26227-001	09/30/21 10:08	LYND	9	A	BN/BNA
AD26227-001	09/30/21 14:17	R12	9	A	NONE
AD26227-001	09/24/21 13:19	R12	10	A	NONE
AD26227-001	09/24/21 14:19	JW	10	A	CBOD/CR6W/IC
AD26227-001	09/24/21 16:47	R12	10	A	NONE
AD26227-001	09/28/21 09:29	BCT	10	A	TSS
AD26227-001	09/28/21 09:29	BCT	10	A	TS
AD26227-001	09/28/21 12:02	R12	10	A	NONE
AD26227-001	09/24/21 13:19	R12	11	A	NONE
AD26227-001	09/28/21 11:21	KS	11	A	O&G/HEMNPM
AD26227-001	09/24/21 13:19	R12	12	A	NONE
AD26227-001	09/29/21 16:10	JN	12	A	P/P
AD26227-001	09/24/21 13:19	R12	13	A	NONE
AD26227-001	09/24/21 14:19	JW	13	A	CBOD/CR6W/IC
AD26227-001	09/24/21 16:47	R12	13	A	NONE
AD26227-001	09/24/21 13:19	R12	14	A	NONE
AD26227-001	09/29/21 09:34	SDL	14	A	FLASHPOINT/IGNIT MOD
AD26227-001	09/24/21 13:19	R12	15	A	NONE
AD26227-001	09/24/21 14:19	JW	15	A	CBOD/CR6W/IC
AD26227-001	09/24/21 16:47	R12	15	A	NONE
AD26227-001	09/28/21 09:29	BCT	15	A	PH
AD26227-001	09/28/21 12:02	R12	15	A	NONE
AD26227-001	09/24/21 13:19	R12	16	A	NONE
AD26227-001	09/24/21 16:47	R12	16	A	NONE
AD26227-001	09/24/21 13:19	R12	17	A	NONE
AD26227-002	09/24/21 12:25	RICAR	0	M	Received
AD26227-002	09/24/21 13:04	RICAR	0	M	Login
AD26227-002	09/27/21 13:44	SG	2	A	VOA
AD26227-002	09/24/21 13:19	R12	5	A	NONE
AD26227-002	09/24/21 13:19	R12	6	A	NONE
AD26227-002	09/24/21 13:19	R12	7	A	NONE
AD26227-002	09/28/21 09:07	PC	7	A	TDWI-HG
AD26227-002	09/28/21 10:18	PC	7	A	R12
AD26227-002	09/24/21 13:19	R12	8	A	NONE
AD26227-002	09/28/21 09:29	BCT	8	A	PH
AD26227-002	09/28/21 12:02	R12	8	A	NONE
AD26227-002	09/29/21 11:24	JW	8	A	IC
AD26227-002	09/29/21 14:39	R12	8	A	NONE
AD26227-002	09/24/21 13:19	R12	9	A	NONE
AD26227-002	09/24/21 13:19	R12	10	A	NONE
AD26227-002	09/24/21 13:25	BCT	10	A	CBOD/CR6WF/P
AD26227-002	09/24/21 16:47	R12	10	A	NONE
AD26227-002	09/24/21 13:19	R12	11	A	NONE
AD26227-002	09/24/21 14:19	JW	11	A	CBOD/CR6W/IC
AD26227-002	09/24/21 16:47	R12	11	A	NONE
AD26227-002	09/24/21 13:19	R12	12	A	NONE
AD26227-002	09/24/21 13:19	R12	13	A	NONE
AD26227-002	09/24/21 13:25	BCT	13	A	CBOD/CR6WF/P
AD26227-002	09/24/21 16:47	R12	13	A	NONE
AD26227-002	09/28/21 09:29	BCT	13	A	TS
AD26227-002	09/28/21 09:29	BCT	13	A	TSS
AD26227-002	09/28/21 12:02	R12	13	A	NONE
AD26227-002	09/24/21 13:19	R12	14	A	NONE
AD26227-002	09/28/21 11:21	KS	14	A	O&G/HEMNPM
AD26227-002	09/24/21 13:19	R12	15	A	NONE
AD26227-002	09/29/21 16:10	JN	15	A	P/P
AD26227-002	09/24/21 13:19	R12	16	A	NONE
AD26227-002	09/29/21 09:34	SDL	16	A	FLASHPOINT/IGNIT MOD
AD26227-002	09/30/21 11:41	LV	16	A	BNA

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: WSP USA, Inc.
Project: South Ave.

HC Project #: 1092411

Lab#: AD26227-001 **Sample ID: TWP01**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Carbonaceous BOD-5 Day (SM5210 B-11)		09/24/21 15:50	JW	SM5210 B-11	9/29/21 14:00	BCT
Chloride (Water) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:27	Janee
Cr (Hexavalent) 3500-Cr B11		09/28/21	JMP	SM3500-CrB11	9/28/21 14:23	JMP
Flash Point 1010A				EPA 1010A	9/29/21 00:00	SDL
Mercury (Water) 245.1	245.1 rev3.0	09/28/21 08:00	pcousineau	245.1 rev3.0	9/28/21 14:57	CJAG9/28
Metals-Three 200.7	EPA 200.2	09/28/21 08:00	pcousineau	200.7	9/29/21 15:59	DL
Metals-Two 200.8	EPA 200.2	09/28/21 08:00	pcousineau	EPA 200.8	9/29/21 11:00	PC
Nitrate-N (Water) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:27	Janee
Nitrite-N (Aqueous) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:27	Janee
PCB 608.3	EPA 608.3	09/29/21 16:10	Jnadler	EPA 608.3	9/30/21 08:01	MS/MLC/MC/P
pH (SM4500-H+ B-11)				SM4500-H+B11	9/28/21 12:15	BCT
Semivolatile Organics (no search) 625.1	EPA 625.1	09/30/21 10:08	lynda	EPA 625.1	9/30/21 17:09	AH/JB
SGT-HEM (Non-Polar Material) 1664B	EPA 1664B	09/28/21	kshields	EPA 1664B	9/29/21 12:57	kshields
Total Kjeldahl Nitrogen EPA 351				EPA 351	9/30/21 19:00	SGS
Total Solids (SM2540B-11)		09/27/21	BCT	SM2540B-11	9/28/21 12:00	BCT
Total Suspended Solids (SM2540D-11)		09/28/21	BCT	SM2540D-11	9/28/21 16:00	BCT
Volatile Organics (no search) 624.1	EPA 624.1			EPA 624.1	9/27/21 16:42	SG

Lab#: AD26227-002 **Sample ID: TWP02**

Test Code	Prep Method	Prep Date	By	Analytical Method	Analysis Date	By
Carbonaceous BOD-5 Day (SM5210 B-11)		09/24/21 15:50	JW	SM5210 B-11	9/29/21 14:00	BCT
Chloride (Water) 300.0		09/29/21	Janee	300.0 rev2.1	9/29/21 19:10	Janee
Cr (Hexavalent) 3500-Cr B11		09/28/21	JMP	SM3500-CrB11	9/28/21 14:23	JMP
Flash Point 1010A				EPA 1010A	9/29/21 00:00	SDL
Mercury (Water) 245.1	245.1 rev3.0	09/28/21 08:00	pcousineau	245.1 rev3.0	9/28/21 14:59	CJAG9/28
Metals-Three 200.7	EPA 200.2	09/28/21 08:00	pcousineau	200.7	9/29/21 16:03	DL
Metals-Two 200.8	EPA 200.2	09/28/21 08:00	pcousineau	EPA 200.8	9/29/21 11:26	PC
Metals-Two 200.8	EPA 200.2	09/28/21 08:00	pcousineau	EPA 200.8	9/29/21 11:04	PC
Nitrate-N (Water) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:54	Janee
Nitrite-N (Aqueous) 300.0		09/24/21	Janee	300.0 rev2.1	9/24/21 19:54	Janee
PCB 608.3	EPA 608.3	09/29/21 16:10	Jnadler	EPA 608.3	9/30/21 07:46	MS/MLC/MC/P
pH (SM4500-H+ B-11)				SM4500-H+B11	9/28/21 12:15	BCT
Semivolatile Organics (no search) 625.1	EPA 625.1	09/30/21 10:08	lynda	EPA 625.1	9/30/21 16:59	AH/JB
SGT-HEM (Non-Polar Material) 1664B	EPA 1664B	09/28/21	kshields	EPA 1664B	9/29/21 12:57	kshields
Total Kjeldahl Nitrogen EPA 351				EPA 351	9/30/21 19:00	SGS
Total Solids (SM2540B-11)		09/27/21	BCT	SM2540B-11	9/28/21 12:00	BCT
Total Suspended Solids (SM2540D-11)		09/28/21	BCT	SM2540D-11	9/28/21 16:00	BCT
Volatile Organics (no search) 624.1	EPA 624.1			EPA 624.1	9/27/21 17:01	SG

HC Reporting Limit Definitions/Data Qualifiers

REPORTING DEFINITIONS

DF = Dilution Factor

DUP = Duplicate

LCS = Laboratory Control Spike

MBS = Method Blank Spike

MDL = Method Detection Limit

MR = Matrix Replicate

MS = Matrix Spike

MSD = Matrix Spike Duplicate

NA = Not Applicable

ND = Not Detected

PS = Post Digestion Spike

RL* = Reporting Limit

RT = Retention Time

SD = Serial Dilution

**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: WSP USA, Inc.
Project: South Ave.

HC Project #: 1092411

Sample ID: TWP01
Lab#: AD26227-001
Matrix: Aqueous

Collection Date: 9/24/2021
Receipt Date: 9/24/2021

Carbonaceous BOD-5 Day (SM5210 B-11)

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	1	mg/l	2.0	29

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.020	ND

Flash Point 1010A

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	3.2

Metals-Three 200.7

Analyte	DF	Units	RL	Result
Copper	1	ug/l	25	390
Nickel	1	ug/l	10	61
Zinc	1	ug/l	25	1400

Metals-Two 200.8

Analyte	DF	Units	RL	Result
Cadmium	1	ug/l	1.0	1.7
Lead	1	ug/l	0.75	760

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 608.3

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.0500	ND
Aroclor-1016	1	ug/l	0.0500	ND
Aroclor-1221	1	ug/l	0.0500	ND
Aroclor-1232	1	ug/l	0.0500	ND
Aroclor-1242	1	ug/l	0.0500	ND
Aroclor-1248	1	ug/l	0.0500	ND
Aroclor-1254	1	ug/l	0.0500	ND
Aroclor-1260	1	ug/l	0.0500	ND
Aroclor-1262	1	ug/l	0.0500	ND
Aroclor-1268	1	ug/l	0.0500	ND

pH (SM4500-H+ B-11)

Analyte	DF	Units	RL	Result
pH	1	ph		8.1
Temperature	1	c		22.0

Sample ID: TWP01
Lab#: AD26227-001
Matrix: Aqueous

Collection Date: 9/24/2021
Receipt Date: 9/24/2021

Semivolatile Organics (no search) 625.1

Analyte	DF	Units	RL	Result
1,2,4-Trichlorobenzene	1	ug/l	2.00	ND
Naphthalene	1	ug/l	0.500	ND
Phenol	1	ug/l	2.00	ND

SGT-HEM (Non-Polar Material) 1664B

Analyte	DF	Units	RL	Result
SGT-HEM (Non-Polar Material)	1	mg/l	4.8	ND

Total Kjeldahl Nitrogen EPA 351

Analyte	DF	Units	MDL	RL	Result
Total Kjeldahl Nitrogen	1	mg/l		0.20	0.23

Total Solids (SM2540B-11)

Analyte	DF	Units	RL	Result
Total Solids @ 103-105 C	1	mg/l	40	780

Total Suspended Solids (SM2540D-11)

Analyte	DF	Units	RL	Result
Total Suspended Solids @ 103-105 C	1	mg/l	20	410

Volatile Organics (no search) 624.1

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.00	ND
1,4-Dichlorobenzene	1	ug/l	1.00	ND
Benzene	1	ug/l	0.500	ND
Carbon tetrachloride	1	ug/l	1.00	ND
Chloroform	1	ug/l	1.96	ND
Ethylbenzene	1	ug/l	1.00	ND
m&p-Xylenes	1	ug/l	1.00	ND
Methyl-t-butyl ether	1	ug/l	0.500	ND
o-Xylene	1	ug/l	1.00	ND
Tetrachloroethene	1	ug/l	1.00	ND
Toluene	1	ug/l	1.00	ND
Xylenes (Total)	1	ug/l	1.00	ND

Sample ID: TWP02
Lab#: AD26227-002
Matrix: Aqueous

Collection Date: 9/24/2021
Receipt Date: 9/24/2021

Carbonaceous BOD-5 Day (SM5210 B-11)

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	470

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.020	ND

Flash Point 1010A

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	2.1

Metals-Three 200.7

Analyte	DF	Units	RL	Result
Copper	1	ug/l	25	540
Nickel	1	ug/l	10	300
Zinc	1	ug/l	25	2500

Metals-Two 200.8

Analyte	DF	Units	RL	Result
Cadmium	1	ug/l	1.0	5.8
Lead	10	ug/l	7.5	1900

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 608.3

Analyte	DF	Units	RL	Result
Aroclor (Total)	1	ug/l	0.0500	ND
Aroclor-1016	1	ug/l	0.0500	ND
Aroclor-1221	1	ug/l	0.0500	ND
Aroclor-1232	1	ug/l	0.0500	ND
Aroclor-1242	1	ug/l	0.0500	ND
Aroclor-1248	1	ug/l	0.0500	ND
Aroclor-1254	1	ug/l	0.0500	ND
Aroclor-1260	1	ug/l	0.0500	ND
Aroclor-1262	1	ug/l	0.0500	ND
Aroclor-1268	1	ug/l	0.0500	ND

pH (SM4500-H+ B-11)

Analyte	DF	Units	RL	Result
pH	1	ph		7.9
Temperature	1	c		23.0

Semivolatile Organics (no search) 625.1

Analyte	DF	Units	RL	Result
1,2,4-Trichlorobenzene	1	ug/l	2.17	ND
Naphthalene	1	ug/l	0.543	ND
Phenol	1	ug/l	2.17	ND

Sample ID: TWP02
Lab#: AD26227-002
Matrix: Aqueous

Collection Date: 9/24/2021
Receipt Date: 9/24/2021

SGT-HEM (Non-Polar Material) 1664B

Analyte	DF	Units	RL	Result
SGT-HEM (Non-Polar Material)	1	mg/l	4.8	ND

Total Kjeldahl Nitrogen EPA 351

Analyte	DF	Units	MDL	RL	Result
Total Kjeldahl Nitrogen	1	mg/l		0.20	0.59

Total Solids (SM2540B-11)

Analyte	DF	Units	RL	Result
Total Solids @ 103-105 C	1	mg/l	40	4300

Total Suspended Solids (SM2540D-11)

Analyte	DF	Units	RL	Result
Total Suspended Solids @ 103-105 C	1	mg/l	67	3100

Volatile Organics (no search) 624.1

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	1	ug/l	1.00	ND
1,4-Dichlorobenzene	1	ug/l	1.00	ND
Benzene	1	ug/l	0.500	ND
Carbon tetrachloride	1	ug/l	1.00	ND
Chloroform	1	ug/l	1.96	ND
Ethylbenzene	1	ug/l	1.00	ND
m&p-Xylenes	1	ug/l	1.00	ND
Methyl-t-butyl ether	1	ug/l	0.500	ND
o-Xylene	1	ug/l	1.00	ND
Tetrachloroethene	1	ug/l	1.00	ND
Toluene	1	ug/l	1.00	ND
Xylenes (Total)	1	ug/l	1.00	ND

Form1

ORGANICS VOLATILE REPORT

Sample Number: DAILY BLANK
Client Id:
Data File: 1M153065.D
Analysis Date: 09/27/21 11:22
Date Rec/Extracted:
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624.1
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	1.00	U	79601-23-1	m&p-Xylenes	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U	1634-04-4	Methyl-t-butyl ether	0.500	U
71-43-2	Benzene	0.500	U	95-47-6	o-Xylene	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U	127-18-4	Tetrachloroethene	1.00	U
67-66-3	Chloroform	1.96	U	108-88-3	Toluene	1.00	U
100-41-4	Ethylbenzene	1.00	U				

Worksheet #: 610994 *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: AD26227-001
Client Id: TWP01
Data File: 1M153082.D
Analysis Date: 09/27/21 16:42
Date Rec/Extracted: 09/24/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624.1
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	1.00	U	79601-23-1	m&p-Xylenes	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U	1634-04-4	Methyl-t-butyl ether	0.500	U
71-43-2	Benzene	0.500	U	95-47-6	o-Xylene	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U	127-18-4	Tetrachloroethene	1.00	U
67-66-3	Chloroform	1.96	U	108-88-3	Toluene	1.00	U
100-41-4	Ethylbenzene	1.00	U	1330-20-7	Xylenes (Total)	1.00	U

Worksheet #: 610994

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: AD26227-002
Client Id: TWP02
Data File: 1M153083.D
Analysis Date: 09/27/21 17:01
Date Rec/Extracted: 09/24/21-NA
Column: DB-624 25M 0.200mm ID 1.12um film

Method: EPA 624.1
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	1.00	U	79601-23-1	m&p-Xylenes	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	U	1634-04-4	Methyl-t-butyl ether	0.500	U
71-43-2	Benzene	0.500	U	95-47-6	o-Xylene	1.00	U
56-23-5	Carbon Tetrachloride	1.00	U	127-18-4	Tetrachloroethene	1.00	U
67-66-3	Chloroform	1.96	U	108-88-3	Toluene	1.00	U
100-41-4	Ethylbenzene	1.00	U	1330-20-7	Xylenes (Total)	1.00	U

Worksheet #: 610994 ***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: MBS96819

	Data File	Sample ID:	Analysis Date
Spike or Dup:	1M153070.D	MBS96819	9/27/2021 12:56:00 PM
Non Spike(If applicable):			
Inst Blank(If applicable):			

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	30.4288	0	20	152	0	300
Dichlorodifluoromethane	1	36.5659	0	20	183	1	300
Chloromethane	1	28.8648	0	20	144	1	205
Bromomethane	1	19.1092	0	20	96	15	185
Vinyl Chloride	1	27.8157	0	20	139	5	195
Chloroethane	1	27.2693	0	20	136	40	160
Trichlorofluoromethane	1	26.1248	0	20	131	50	150
Ethyl ether	1	27.3145	0	20	137	10	160
Furan	1	29.6076	0	20	148	20	200
1,1,2-Trichloro-1,2,2-trifluoroethane	1	27.6147	0	20	138	20	200
Methylene Chloride	1	22.8555	0	20	114	60	140
Acrolein	1	143.4111	0	100	143*	60	140
Acrylonitrile	1	27.6449	0	20	138	60	140
Iodomethane	1	14.0846	0	20	70	1	200
Acetone	1	135.9926	0	100	136	10	200
Carbon Disulfide	1	28.1216	0	20	141	10	160
t-Butyl Alcohol	1	121.7525	0	100	122	1	200
n-Hexane	1	30.6349	0	20	153	0	300
Di-isopropyl-ether	1	27.9966	0	20	140	20	200
1,1-Dichloroethene	1	26.0927	0	20	130	50	150
Methyl Acetate	1	26.6645	0	20	133	20	150
Methyl-t-butyl ether	**1**	**22.5558**	**0**	**20**	**113**	**20**	**200**
1,1-Dichloroethane	1	25.0467	0	20	125	70	130
trans-1,2-Dichloroethene	1	23.6802	0	20	118	70	130
Ethyl-t-butyl ether	1	23.3658	0	20	117	20	160
cis-1,2-Dichloroethene	1	23.7075	0	20	119	30	160
Bromochloromethane	1	25.1176	0	20	126	30	160
2,2-Dichloropropane	1	23.7556	0	20	119	10	200
Ethyl acetate	1	21.5929	0	20	108	10	200
1,4-Dioxane	1	1109.957	0	1000	111	0	250
1,1-Dichloropropene	1	23.2129	0	20	116	40	150
Chloroform	**1**	**23.0795**	**0**	**20**	**115**	**70**	**135**
Cyclohexane	1	27.7877	0	20	139	20	200
1,2-Dichloroethane	1	23.5547	0	20	118	70	130
2-Butanone	1	22.8462	0	20	114	0	220
1,1,1-Trichloroethane	**1**	**24.026**	**0**	**20**	**120**	**70**	**130**
Carbon Tetrachloride	**1**	**22.8495**	**0**	**20**	**114**	**70**	**130**
Vinyl Acetate	1	26.2882	0	20	131	20	200
Bromodichloromethane	1	22.2939	0	20	111	65	135
Methylcyclohexane	1	23.6812	0	20	118	10	200
Dibromomethane	1	21.1101	0	20	106	20	160
1,2-Dichloropropane	1	24.3297	0	20	122	35	135
Trichloroethene	1	22.1076	0	20	111	65	135
Benzene	**1**	**22.7259**	**0**	**20**	**114**	**65**	**135**
tert-Amyl methyl ether	1	21.2584	0	20	106	20	150
Iso-propylacetate	1	21.7624	0	20	109	10	200
Methyl methacrylate	1	21.5285	0	20	108	10	200
Dibromochloromethane	1	17.5676	0	20	88	70	135
2-Chloroethylvinylether	1	19.4707	0	20	97	1	225
cis-1,3-Dichloropropene	1	20.0973	0	20	100	25	175
trans-1,3-Dichloropropene	1	19.5361	0	20	98	50	150
Ethyl methacrylate	1	21.3809	0	20	107	10	200
1,1,2-Trichloroethane	1	19.5012	0	20	98	70	130
1,2-Dibromoethane	1	19.6112	0	20	98	20	150
1,3-Dichloropropane	1	19.3122	0	20	97	20	200
4-Methyl-2-Pentanone	1	20.9699	0	20	105	10	200
2-Hexanone	1	21.1107	0	20	106	10	200
Tetrachloroethene	**1**	**19.2714**	**0**	**20**	**96**	**70**	**130**
Toluene	**1**	**19.8815**	**0**	**20**	**99**	**70**	**130**
1,1,1,2-Tetrachloroethane	1	18.0075	0	20	90	40	160
Chlorobenzene	1	19.4295	0	20	97	65	135

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MBS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	17.6652	0	20	88	10	200
n-Amyl acetate	1	19.3618	0	20	97	20	150
Bromoform	1	15.7059	0	20	79	70	130
Ethylbenzene	**1**	**18.6823**	**0**	**20**	**93**	**60**	**140**
1,1,2,2-Tetrachloroethane	1	18.2178	0	20	91	60	140
Styrene	1	18.4482	0	20	92	20	160
m&p-Xylenes	**1**	**37.4591**	**0**	**40**	**94**	**20**	**200**
o-Xylene	**1**	**18.5381**	**0**	**20**	**93**	**20**	**200**
trans-1,4-Dichloro-2-butene	1	20.0506	0	20	100	10	200
1,3-Dichlorobenzene	1	18.1395	0	20	91	70	130
1,4-Dichlorobenzene	**1**	**18.8979**	**0**	**20**	**94**	**65**	**135**
1,2-Dichlorobenzene	1	18.3514	0	20	92	65	135
Isopropylbenzene	1	18.6775	0	20	93	20	160
Cyclohexanone	1	112.2807	0	100	112	0	300
Camphene	1	20.3837	0	20	102	10	200
1,2,3-Trichloropropane	1	17.8756	0	20	89	30	150
2-Chlorotoluene	1	18.5808	0	20	93	30	160
p-Ethyltoluene	1	18.1451	0	20	91	10	250
4-Chlorotoluene	1	18.6651	0	20	93	30	150
n-Propylbenzene	1	18.9368	0	20	95	20	160
Bromobenzene	1	18.4199	0	20	92	30	150
1,3,5-Trimethylbenzene	1	18.2748	0	20	91	30	200
Butyl methacrylate	1	20.8039	0	20	104	10	200
t-Butylbenzene	1	18.3161	0	20	92	20	160
1,2,4-Trimethylbenzene	1	18.4861	0	20	92	30	200
sec-Butylbenzene	1	19.0288	0	20	95	20	160
4-Isopropyltoluene	1	18.2958	0	20	91	30	150
n-Butylbenzene	1	19.5429	0	20	98	20	200
p-Diethylbenzene	1	17.7082	0	20	89	10	250
1,2,4,5-Tetramethylbenzene	1	14.6411	0	20	73	10	200
1,2-Dibromo-3-Chloropropane	1	18.9368	0	20	95	0	200
Camphor	1	164.7757	0	200	82	0	200
Hexachlorobutadiene	1	21.3512	0	20	107	20	170
1,2,4-Trichlorobenzene	1	18.2298	0	20	91	5	200
1,2,3-Trichlorobenzene	1	19.4358	0	20	97	0	200
Naphthalene	1	17.1113	0	20	86	0	250

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

	Data File	Sample ID:	Analysis Date
Spike or Dup:	1M153072.D	AD26248-002(50X)(T:MS)	9/27/2021 1:34:00 PM
Non Spike(If applicable):	1M153066.D	AD26248-002(50X)(T)	9/27/2021 11:41:00 AM
Inst Blank(If applicable):			

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	0	0	20	0*	10	180
Dichlorodifluoromethane	1	0	0	20	0*	1	300
Chloromethane	1	0	0	20	0*	1	273
Bromomethane	1	0	0	20	0*	1	242
Vinyl Chloride	1	0	0	20	0*	1	251
Chloroethane	1	0	0	20	0*	14	230
Trichlorofluoromethane	1	0	0	20	0*	17	181
Ethyl ether	1	0	0	20	0*	30	150
Furan	1	0	0	20	0*	30	160
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0	0	20	0*	40	170
Methylene Chloride	1	91.945	0	20	460*	1	221
Acrolein	1	0	0	100	0*	40	160
Acrylonitrile	1	0	0	20	0*	40	160
Iodomethane	1	0	0	20	0*	1	200
Acetone	1	0	0	100	0*	20	160
Carbon Disulfide	1	64.155	0	20	321*	30	160
t-Butyl Alcohol	1	376.19	0	100	376*	1	200
n-Hexane	1	0	0	20	0*	5	210
Di-isopropyl-ether	1	0	0	20	0*	30	150
1,1-Dichloroethene	1	0	0	20	0*	1	234
Methyl Acetate	1	56.62	0	20	283*	20	150
Methyl-t-butyl ether	**1**	**0**	**0**	**20**	**0***	**30**	**150**
1,1-Dichloroethane	1	0	0	20	0*	59	155
trans-1,2-Dichloroethene	1	0	0	20	0*	54	156
Ethyl-t-butyl ether	1	0	0	20	0*	30	150
cis-1,2-Dichloroethene	1	61.13	0	20	306*	40	160
Bromochloromethane	1	75.995	0	20	380*	30	150
2,2-Dichloropropane	1	0	0	20	0*	10	200
Ethyl acetate	1	0	0	20	0*	20	170
1,4-Dioxane	1	0	0	1000	0*	1	200
1,1-Dichloropropene	1	0	0	20	0*	50	150
Chloroform	**1**	**73.64**	**0**	**20**	**368***	**51**	**138**
Cyclohexane	1	0	0	20	0*	40	160
1,2-Dichloroethane	1	50.915	0	20	255*	49	155
2-Butanone	1	68.295	0	20	341*	1	220
1,1,1-Trichloroethane	**1**	**0**	**0**	**20**	**0***	**52**	**162**
Carbon Tetrachloride	**1**	**0**	**0**	**20**	**0***	**70**	**140**
Vinyl Acetate	1	0	0	20	0*	20	170
Bromodichloromethane	1	0	0	20	0*	35	155
Methylcyclohexane	1	0	0	20	0*	30	170
Dibromomethane	1	0	0	20	0*	30	160
1,2-Dichloropropane	1	0	0	20	0*	1	210
Trichloroethene	1	0	0	20	0*	70	157
Benzene	**1**	**34.77**	**0**	**20**	**174***	**37**	**151**
tert-Amyl methyl ether	1	0	0	20	0*	30	150
Iso-propylacetate	1	0	0	20	0*	20	150
Methyl methacrylate	1	0	0	20	0*	10	170
Dibromochloromethane	1	0	0	20	0*	53	149
2-Chloroethylvinylether	1	0	0	20	0*	1	305
cis-1,3-Dichloropropene	1	0	0	20	0*	1	227
trans-1,3-Dichloropropene	1	0	0	20	0*	17	183
Ethyl methacrylate	1	91.305	0	20	457*	20	150
1,1,2-Trichloroethane	1	0	0	20	0*	52	150
1,2-Dibromoethane	1	0	0	20	0*	20	150
1,3-Dichloropropane	1	0	0	20	0*	50	130
4-Methyl-2-Pentanone	1	127.605	0	20	638*	30	150
2-Hexanone	1	114.74	0	20	574*	20	150
Tetrachloroethene	**1**	**0**	**0**	**20**	**0***	**64**	**148**
Toluene	**1**	**0**	**0**	**20**	**0***	**47**	**150**
1,1,1,2-Tetrachloroethane	1	0	0	20	0*	50	150
Chlorobenzene	1	58.17	0	20	291*	37	160

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MS

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	92.065	0	20	460*	10	140
n-Amyl acetate	1	103.07	0	20	515*	20	150
Bromoform	1	0	0	20	0*	45	169
Ethylbenzene	**1**	**76.41**	**0**	**20**	**382***	**37**	**162**
1,1,2,2-Tetrachloroethane	1	0	0	20	0*	46	157
Styrene	1	73.235	0	20	366*	40	150
m&p-Xylenes	**1**	**155.465**	**0**	**40**	**389***	**40**	**150**
o-Xylene	**1**	**73.675**	**0**	**20**	**368***	**40**	**150**
trans-1,4-Dichloro-2-butene	1	0	0	20	0*	10	150
1,3-Dichlorobenzene	1	77.26	0	20	386*	59	156
1,4-Dichlorobenzene	**1**	**76.25**	**0**	**20**	**381***	**18**	**190**
1,2-Dichlorobenzene	1	79.78	0	20	399*	18	190
Isopropylbenzene	1	80.8	0	20	404*	40	150
Cyclohexanone	1	0	0	100	0*	1	300
Camphene	1	89.52	0	20	448*	20	150
1,2,3-Trichloropropane	1	0	0	20	0*	40	130
2-Chlorotoluene	1	90.055	0	20	450*	40	150
p-Ethyltoluene	1	76.285	0	20	381*	10	200
4-Chlorotoluene	1	80.655	0	20	403*	40	150
n-Propylbenzene	1	83.88	0	20	419*	40	150
Bromobenzene	1	70.44	0	20	352*	40	130
1,3,5-Trimethylbenzene	1	75.335	0	20	377*	40	150
Butyl methacrylate	1	77.83	0	20	389*	20	150
t-Butylbenzene	1	60.98	0	20	305*	40	150
1,2,4-Trimethylbenzene	1	69.455	0	20	347*	40	150
sec-Butylbenzene	1	68.425	0	20	342*	40	150
4-Isopropyltoluene	1	67.54	0	20	338*	40	150
n-Butylbenzene	1	61.14	0	20	306*	30	160
p-Diethylbenzene	1	54.785	0	20	274*	10	200
1,2,4,5-Tetramethylbenzene	1	0	0	20	0*	10	170
1,2-Dibromo-3-Chloropropane	1	0	0	20	0*	10	150
Camphor	1	705.635	0	200	353*	1	160
Hexachlorobutadiene	1	76.08	0	20	380*	20	170
1,2,4-Trichlorobenzene	1	88.31	0	20	442*	20	160
1,2,3-Trichlorobenzene	1	134.775	0	20	674*	5	180
Naphthalene	1	121.475	0	20	607*	1	200

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

	Data File	Sample ID:	Analysis Date
Spike or Dup:	1M153073.D	AD26248-002(50X)(T:MSD)	9/27/2021 1:53:00 PM
Non Spike(If applicable):	1M153066.D	AD26248-002(50X)(T)	9/27/2021 11:41:00 AM
Inst Blank(If applicable):			

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
Chlorodifluoromethane	1	0	0	20	0*	10	180
Dichlorodifluoromethane	1	0	0	20	0*	1	300
Chloromethane	1	0	0	20	0*	1	273
Bromomethane	1	0	0	20	0*	1	242
Vinyl Chloride	1	0	0	20	0*	1	251
Chloroethane	1	0	0	20	0*	14	230
Trichlorofluoromethane	1	0	0	20	0*	17	181
Ethyl ether	1	0	0	20	0*	30	150
Furan	1	0	0	20	0*	30	160
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0	0	20	0*	40	170
Methylene Chloride	1	0	0	20	0*	1	221
Acrolein	1	0	0	100	0*	40	160
Acrylonitrile	1	0	0	20	0*	40	160
Iodomethane	1	0	0	20	0*	1	200
Acetone	1	0	0	100	0*	20	160
Carbon Disulfide	1	57.55	0	20	288*	30	160
t-Butyl Alcohol	1	0	0	100	0*	1	200
n-Hexane	1	0	0	20	0*	5	210
Di-isopropyl-ether	1	0	0	20	0*	30	150
1,1-Dichloroethene	1	0	0	20	0*	1	234
Methyl Acetate	1	64.735	0	20	324*	20	150
Methyl-t-butyl ether	**1**	**0**	**0**	**20**	**0***	**30**	**150**
1,1-Dichloroethane	1	0	0	20	0*	59	155
trans-1,2-Dichloroethene	1	0	0	20	0*	54	156
Ethyl-t-butyl ether	1	0	0	20	0*	30	150
cis-1,2-Dichloroethene	1	0	0	20	0*	40	160
Bromochloromethane	1	0	0	20	0*	30	150
2,2-Dichloropropane	1	0	0	20	0*	10	200
Ethyl acetate	1	0	0	20	0*	20	170
1,4-Dioxane	1	0	0	1000	0*	1	200
1,1-Dichloropropene	1	0	0	20	0*	50	150
Chloroform	**1**	**0**	**0**	**20**	**0***	**51**	**138**
Cyclohexane	1	0	0	20	0*	40	160
1,2-Dichloroethane	1	26.505	0	20	133	49	155
2-Butanone	1	55.975	0	20	280*	1	220
1,1,1-Trichloroethane	**1**	**0**	**0**	**20**	**0***	**52**	**162**
Carbon Tetrachloride	**1**	**0**	**0**	**20**	**0***	**70**	**140**
Vinyl Acetate	1	0	0	20	0*	20	170
Bromodichloromethane	1	0	0	20	0*	35	155
Methylcyclohexane	1	0	0	20	0*	30	170
Dibromomethane	1	0	0	20	0*	30	160
1,2-Dichloropropane	1	0	0	20	0*	1	210
Trichloroethene	1	0	0	20	0*	70	157
Benzene	**1**	**0**	**0**	**20**	**0***	**37**	**151**
tert-Amyl methyl ether	1	0	0	20	0*	30	150
Iso-propylacetate	1	0	0	20	0*	20	150
Methyl methacrylate	1	0	0	20	0*	10	170
Dibromochloromethane	1	0	0	20	0*	53	149
2-Chloroethylvinylether	1	0	0	20	0*	1	305
cis-1,3-Dichloropropene	1	0	0	20	0*	1	227
trans-1,3-Dichloropropene	1	0	0	20	0*	17	183
Ethyl methacrylate	1	0	0	20	0*	20	150
1,1,2-Trichloroethane	1	0	0	20	0*	52	150
1,2-Dibromoethane	1	0	0	20	0*	20	150
1,3-Dichloropropane	1	0	0	20	0*	50	130
4-Methyl-2-Pentanone	1	0	0	20	0*	30	150
2-Hexanone	1	50.125	0	20	251*	20	150
Tetrachloroethene	**1**	**0**	**0**	**20**	**0***	**64**	**148**
Toluene	**1**	**0**	**0**	**20**	**0***	**47**	**150**
1,1,1,2-Tetrachloroethane	1	0	0	20	0*	50	150
Chlorobenzene	1	0	0	20	0*	37	160

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: MBS96819

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Butyl acrylate	1	0	0	20	0*	10	140
n-Amyl acetate	1	0	0	20	0*	20	150
Bromoform	1	0	0	20	0*	45	169
Ethylbenzene	**1**	**0**	**0**	**20**	**0***	**37**	**162**
1,1,2,2-Tetrachloroethane	1	0	0	20	0*	46	157
Styrene	1	0	0	20	0*	40	150
m&p-Xylenes	**1**	**77.82**	**0**	**40**	**195***	**40**	**150**
o-Xylene	**1**	**0**	**0**	**20**	**0***	**40**	**150**
trans-1,4-Dichloro-2-butene	1	0	0	20	0*	10	150
1,3-Dichlorobenzene	1	0	0	20	0*	59	156
1,4-Dichlorobenzene	**1**	**0**	**0**	**20**	**0***	**18**	**190**
1,2-Dichlorobenzene	1	0	0	20	0*	18	190
Isopropylbenzene	1	0	0	20	0*	40	150
Cyclohexanone	1	0	0	100	0*	1	300
Camphene	1	0	0	20	0*	20	150
1,2,3-Trichloropropane	1	0	0	20	0*	40	130
2-Chlorotoluene	1	0	0	20	0*	40	150
p-Ethyltoluene	1	0	0	20	0*	10	200
4-Chlorotoluene	1	0	0	20	0*	40	150
n-Propylbenzene	1	0	0	20	0*	40	150
Bromobenzene	1	0	0	20	0*	40	130
1,3,5-Trimethylbenzene	1	0	0	20	0*	40	150
Butyl methacrylate	1	0	0	20	0*	20	150
t-Butylbenzene	1	0	0	20	0*	40	150
1,2,4-Trimethylbenzene	1	0	0	20	0*	40	150
sec-Butylbenzene	1	0	0	20	0*	40	150
4-Isopropyltoluene	1	0	0	20	0*	40	150
n-Butylbenzene	1	0	0	20	0*	30	160
p-Diethylbenzene	1	0	0	20	0*	10	200
1,2,4,5-Tetramethylbenzene	1	0	0	20	0*	10	170
1,2-Dibromo-3-Chloropropane	1	0	0	20	0*	10	150
Camphor	1	0	0	200	0*	1	160
Hexachlorobutadiene	1	0	0	20	0*	20	170
1,2,4-Trichlorobenzene	1	0	0	20	0*	20	160
1,2,3-Trichlorobenzene	1	0	0	20	0*	5	180
Naphthalene	1	0	0	20	0*	1	200

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: MBS96819

	Data File	Sample ID:	Analysis Date
Spike or Dup:	1M153073.D	AD26248-002(50X)(T:MSD)	9/27/2021 1:53:00 PM
Duplicate(If applicable):	1M153072.D	AD26248-002(50X)(T:MS)	9/27/2021 1:34:00 PM
Inst Blank(If applicable):			

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
Chlorodifluoromethane	1	0	0	NA	40
Dichlorodifluoromethane	1	0	0	NA	40
Chloromethane	1	0	0	NA	60
Bromomethane	1	0	0	NA	61
Vinyl Chloride	1	0	0	NA	66
Chloroethane	1	0	0	NA	78
Trichlorofluoromethane	1	0	0	NA	84
Ethyl ether	1	0	0	NA	40
Furan	1	0	0	NA	40
1,1,2-Trichloro-1,2,2-trifluoroethane	1	0	0	NA	40
Methylene Chloride	1	0	91.945	200*	28
Acrolein	1	0	0	NA	60
Acrylonitrile	1	0	0	NA	60
Iodomethane	1	0	0	NA	40
Acetone	1	0	0	NA	40
Carbon Disulfide	1	57.55	64.155	11	40
t-Butyl Alcohol	1	0	376.19	200*	40
n-Hexane	1	0	0	NA	40
Di-isopropyl-ether	1	0	0	NA	40
1,1-Dichloroethene	1	0	0	NA	32
Methyl Acetate	1	64.735	56.62	13	40
Methyl-t-butyl ether	**1**	**0**	**0**	**NA**	**40**
1,1-Dichloroethane	1	0	0	NA	40
trans-1,2-Dichloroethene	1	0	0	NA	45
Ethyl-t-butyl ether	1	0	0	NA	40
cis-1,2-Dichloroethene	1	0	61.13	200*	40
Bromochloromethane	1	0	75.995	200*	40
2,2-Dichloropropane	1	0	0	NA	40
Ethyl acetate	1	0	0	NA	40
1,4-Dioxane	1	0	0	NA	40
1,1-Dichloropropene	1	0	0	NA	40
Chloroform	**1**	**0**	**73.64**	**200***	**54**
Cyclohexane	1	0	0	NA	40
1,2-Dichloroethane	1	26.505	50.915	63*	49
2-Butanone	1	55.975	68.295	20	40
1,1,1-Trichloroethane	**1**	**0**	**0**	**NA**	**36**
Carbon Tetrachloride	**1**	**0**	**0**	**NA**	**41**
Vinyl Acetate	1	0	0	NA	40
Bromodichloromethane	1	0	0	NA	56
Methylcyclohexane	1	0	0	NA	40
Dibromomethane	1	0	0	NA	40
1,2-Dichloropropane	1	0	0	NA	55
Trichloroethene	1	0	0	NA	48
Benzene	**1**	**0**	**34.77**	**200***	**61**
tert-Amyl methyl ether	1	0	0	NA	40
Iso-propylacetate	1	0	0	NA	40
Methyl methacrylate	1	0	0	NA	40
Dibromochloromethane	1	0	0	NA	50
2-Chloroethylvinylether	1	0	0	NA	71
cis-1,3-Dichloropropene	1	0	0	NA	58
trans-1,3-Dichloropropene	1	0	0	NA	56
Ethyl methacrylate	1	0	91.305	200*	40
1,1,2-Trichloroethane	1	0	0	NA	45
1,2-Dibromoethane	1	0	0	NA	40
1,3-Dichloropropane	1	0	0	NA	40
4-Methyl-2-Pentanone	1	0	127.605	200*	40
2-Hexanone	1	50.125	114.74	78*	40
Tetrachloroethene	**1**	**0**	**0**	**NA**	**39**
Toluene	**1**	**0**	**0**	**NA**	**41**
1,1,1,2-Tetrachloroethane	1	0	0	NA	40
Chlorobenzene	1	0	58.17	200*	53

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: MBS96819

Method: 624.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
n-Butyl acrylate	1	0	92.065	200*	40
n-Amyl acetate	1	0	103.07	200*	40
Bromoform	1	0	0	NA	42
Ethylbenzene	**1**	**0**	**76.41**	**200***	**63**
1,1,2,2-Tetrachloroethane	1	0	0	NA	61
Styrene	1	0	73.235	200*	40
m&p-Xylenes	**1**	**77.82**	**155.465**	**67***	**40**
o-Xylene	**1**	**0**	**73.675**	**200***	**40**
trans-1,4-Dichloro-2-butene	1	0	0	NA	40
1,3-Dichlorobenzene	1	0	77.26	200*	43
1,4-Dichlorobenzene	**1**	**0**	**76.25**	**200***	**57**
1,2-Dichlorobenzene	1	0	79.78	200*	57
Isopropylbenzene	1	0	80.8	200*	40
Cyclohexanone	1	0	0	NA	40
Camphene	1	0	89.52	200*	40
1,2,3-Trichloropropane	1	0	0	NA	40
2-Chlorotoluene	1	0	90.055	200*	40
p-Ethyltoluene	1	0	76.285	200*	40
4-Chlorotoluene	1	0	80.655	200*	40
n-Propylbenzene	1	0	83.88	200*	40
Bromobenzene	1	0	70.44	200*	40
1,3,5-Trimethylbenzene	1	0	75.335	200*	40
Butyl methacrylate	1	0	77.83	200*	40
t-Butylbenzene	1	0	60.98	200*	40
1,2,4-Trimethylbenzene	1	0	69.455	200*	40
sec-Butylbenzene	1	0	68.425	200*	40
4-Isopropyltoluene	1	0	67.54	200*	40
n-Butylbenzene	1	0	61.14	200*	40
p-Diethylbenzene	1	0	54.785	200*	40
1,2,4,5-Tetramethylbenzene	1	0	0	NA	40
1,2-Dibromo-3-Chloropropane	1	0	0	NA	40
Camphor	1	0	705.635	200*	40
Hexachlorobutadiene	1	0	76.08	200*	40
1,2,4-Trichlorobenzene	1	0	88.31	200*	40
1,2,3-Trichlorobenzene	1	0	134.775	200*	40
Naphthalene	1	0	121.475	200*	40

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form1

ORGANICS SEMIVOLATILE REPORT

Sample Number: WMB95088
Client Id:
Data File: 10M87570.D
Analysis Date: 09/30/21 17:21
Date Rec/Extracted: NA-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625.1
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	2.00	U	108-95-2	Phenol	2.00	U
91-20-3	Naphthalene	0.500	U				

Worksheet #: 611136 *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: AD26227-001
Client Id: TWP01
Data File: 9M108591.D
Analysis Date: 09/30/21 17:09
Date Rec/Extracted: 09/24/21-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625.1
Matrix: Aqueous
Initial Vol: 500ml
Final Vol: 0.5ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
120-82-1	1,2,4-Trichlorobenzene	2.00	U	108-95-2	Phenol	2.00	U
91-20-3	Naphthalene	0.500	U				

Worksheet #: 611136 *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 SEMIVOLATILE REPORT

Sample Number: AD26227-002
Client Id: TWP02
Data File: 10M87569.D
Analysis Date: 09/30/21 16:59
Date Rec/Extracted: 09/24/21-09/30/21
Column: DB-5MS 30M 0.250mm ID 0.25um film

Method: EPA 625.1
Matrix: Aqueous
Initial Vol: 460ml
Final Vol: 0.5ml
Dilution: 1
Solids: 0

Units: ug/L

Cas #	Compound	RL	Conc	Cas #	Compound	RL	Conc
120-82-1	1,2,4-Trichlorobenzene	2.17	U	108-95-2	Phenol	2.17	U
91-20-3	Naphthalene	0.543	U				

Worksheet #: 611136 ***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.

FORM2

Surrogate Recovery

Method: EPA 625.1

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
10M87570.D	WMB95088	A	09/30/21 17:21	1		68	49	110	111	103	129
9M108591.D	AD26227-001	A	09/30/21 17:09	1		71	61	91	90	109	106
10M87569.D	AD26227-002	A	09/30/21 16:59	1		52	50	81	76	75	96
10M87571.D	WMB95088(MS)	A	09/30/21 17:43	1		68	49	104	51 *	113	124
9M108595.D	AD26227-001(MS)	A	09/30/21 18:41	1		60	56	92	94	139	126
9M108596.D	AD26227-001(MSD)	A	09/30/21 19:04	1		75	66	101	97	141	127

Flags: SD=Surrogate diluted out
*=Surrogate out

Method: EPA 625.1

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: WMB95088

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108596.D	AD26227-001(MSD)	9/30/2021 7:04:00 PM
Non Spike(If applicable):	9M108591.D	AD26227-001	9/30/2021 5:09:00 PM
Inst Blank(If applicable):			

Method: 625.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
1,4-Dioxane	1	73.484	0	100	73	20	160
Pyridine	1	53.8548	0	100	54	1	150
N-Nitrosodimethylamine	1	71.3042	0	100	71	20	150
Benzaldehyde	1	43.2103	0	100	43	20	234
Aniline	1	77.9944	0	100	78	20	150
Pentachloroethane	1	84.9182	0	100	85	5	140
bis(2-Chloroethyl)ether	1	82.2408	0	100	82	43	126
Phenol	**1**	**69.8022**	**0**	**100**	**70**	**17**	**120**
2-Chlorophenol	1	90.7962	0	100	91	36	120
N-Decane	1	69.8919	0	100	70	40	130
1,3-Dichlorobenzene	1	56.829	0	100	57	20	130
1,4-Dichlorobenzene	1	58.9768	0	100	59	25	130
1,2-Dichlorobenzene	1	60.9916	0	100	61	25	130
Benzyl alcohol	1	98.4423	0	100	98	35	130
bis(2-chloroisopropyl)ether	1	64.9158	0	100	65	63	139
2-Methylphenol	1	90.0237	0	100	90	35	130
Acetophenone	1	97.7187	0	100	98	50	130
Hexachloroethane	1	56.8152	0	100	57	55	120
N-Nitroso-di-n-propylamine	1	82.0452	0	100	82	14	198
3&4-Methylphenol	1	92.1074	0	100	92	30	130
Nitrobenzene	1	92.3809	0	100	92	54	158
Isophorone	1	90.1974	0	100	90	47	180
2-Nitrophenol	1	109.8034	0	100	110	45	167
2,4-Dimethylphenol	1	99.33	0	100	99	42	120
Benzoic Acid	1	125.8734	0	100	126	1	130
bis(2-Chloroethoxy)methane	1	94.482	0	100	94	49	165
2,4-Dichlorophenol	1	106.9298	0	100	107	53	122
1,2,4-Trichlorobenzene	**1**	**93.2563**	**0**	**100**	**93**	**57**	**130**
Naphthalene	**1**	**82.7951**	**0**	**100**	**83**	**36**	**120**
4-Chloroaniline	1	96.8265	0	100	97	30	170
Hexachlorobutadiene	1	87.7658	0	100	88	38	120
Caprolactam	1	88.9021	0	100	89	5	130
4-Chloro-3-methylphenol	1	112.5639	0	100	113	41	128
2-Methylnaphthalene	1	104.3407	0	100	104	40	130
1-Methylnaphthalene	1	118.9145	0	100	119	50	130
1,1'-Biphenyl	1	107.4631	0	100	107	50	130
1,2,4,5-Tetrachlorobenzene	1	115.1205	0	100	115	60	140
Hexachlorocyclopentadiene	1	116.7569	0	100	117	20	130
2,4,6-Trichlorophenol	1	119.3799	0	100	119	52	129
2,4,5-Trichlorophenol	1	123.9074	0	100	124	50	130
2-Chloronaphthalene	1	101.98	0	100	102	65	120
1,4-Dimethylnaphthalene	1	103.2956	0	100	103	50	130
Diphenyl Ether	1	113.4455	0	100	113	50	140
2-Nitroaniline	1	110.7424	0	100	111	40	150
Coumarin	1	109.3228	0	100	109	1	180
Acenaphthylene	1	102.285	0	100	102	54	126
Dimethylphthalate	1	106.6583	0	100	107	1	120
2,6-Dinitrotoluene	1	109.2505	0	100	109	68	137
Acenaphthene	1	100.68	0	100	101	60	132
3-Nitroaniline	1	111.8077	0	100	112	40	150
2,4-Dinitrophenol	1	122.0016	0	100	122	1	173
Dibenzofuran	1	110.8042	0	100	111	50	130
2,4-Dinitrotoluene	1	108.0036	0	100	108	48	127
4-Nitrophenol	1	84.7199	0	100	85	13	129
2,3,4,6-Tetrachlorophenol	1	121.6504	0	100	122	50	130
Fluorene	1	102.5117	0	100	103	70	120
4-Chlorophenyl-phenylether	1	113.587	0	100	114	38	145
Diethylphthalate	1	106.3845	0	100	106	1	120
4-Nitroaniline	1	115.237	0	100	115	40	150
Atrazine	1	116.1991	0	100	116	40	150
4,6-Dinitro-2-methylphenol	1	124.9918	0	100	125	53	130

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits

Bold and underline - Indicates the compounds reported on form1

Form3
Recovery Data Laboratory Limits
QC Batch: WMB95088

Method: 625.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Col	Spike Conc	Sample Conc	Expected Conc	Recovery	Lower Limit	Upper Limit
n-Nitrosodiphenylamine	1	87.5851	0	100	88	30	130
1,2-Diphenylhydrazine	1	94.0174	0	100	94	40	130
4-Bromophenyl-phenylether	1	119.5995	0	100	120	65	120
Hexachlorobenzene	1	116.4052	0	100	116	8	142
N-Octadecane	1	92.3969	0	100	92	50	130
Pentachlorophenol	1	160.1143	0	100	160*	38	152
Phenanthrene	1	105.522	0	100	106	65	120
Anthracene	1	104.4336	0	100	104	43	120
Carbazole	1	108.0183	0	100	108	40	130
Di-n-butylphthalate	1	108.4732	0	100	108	8	120
Fluoranthene	1	112.7411	0	100	113	43	121
Pyrene	1	103.7769	0	100	104	70	120
Benzidine	1	0	0	100	0	0	134
Butylbenzylphthalate	1	108.2403	0	100	108	1	140
3,3'-Dichlorobenzidine	1	83.4388	0	100	83	8	213
Benzo[a]anthracene	1	100.2522	0	100	100	42	133
Chrysene	1	111.4238	0	100	111	44	140
bis(2-Ethylhexyl)phthalate	1	103.3155	0	100	103	29	137
Di-n-octylphthalate	1	104.4894	0	100	104	19	132
Benzo[b]fluoranthene	1	119.6174	0	100	120	42	140
Benzo[k]fluoranthene	1	117.4298	0	100	117	25	146
Benzo[a]pyrene	1	109.3363	0	100	109	32	148
Indeno[1,2,3-cd]pyrene	1	111.851	0	100	112	1	151
Dibenzo[a,h]anthracene	1	110.0567	0	100	110	1	200
Benzo[g,h,i]perylene	1	108.7709	0	100	109	1	195

* - Indicates outside of limits # - Indicates outside of standard limits but within method exceedance limits
Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: WMB95088

	Data File	Sample ID:	Analysis Date
Spike or Dup:	9M108596.D	AD26227-001(MSD)	9/30/2021 7:04:00 PM
Duplicate(If applicable):	9M108595.D	AD26227-001(MS)	9/30/2021 6:41:00 PM
Inst Blank(If applicable):			

Method: 625.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
1,4-Dioxane	1	73.484	67.8185	8	20
Pyridine	1	53.8548	70.1678	26	40
N-Nitrosodimethylamine	1	71.3042	76.2622	6.7	20
Benzaldehyde	1	43.2103	50.8667	16	20
Aniline	1	77.9944	84.572	8.1	20
Pentachloroethane	1	84.9182	82.6987	2.6	20
bis(2-Chloroethyl)ether	1	82.2408	90.6749	9.8	108
Phenol	**1**	**69.8022**	**70.951**	**1.6**	**64**
2-Chlorophenol	1	90.7962	92.7217	2.1	61
N-Decane	1	69.8919	68.4145	2.1	20
1,3-Dichlorobenzene	1	56.829	69.6618	20	20
1,4-Dichlorobenzene	1	58.9768	74.0326	23	40
1,2-Dichlorobenzene	1	60.9916	75.483	21 *	20
Benzyl alcohol	1	98.4423	99.2284	0.8	20
bis(2-chloroisopropyl)ether	1	64.9158	74.128	13	76
2-Methylphenol	1	90.0237	92.0303	2.2	40
Acetophenone	1	97.7187	98.1752	0.47	20
Hexachloroethane	1	56.8152	72.1704	24	52
N-Nitroso-di-n-propylamine	1	82.0452	89.1056	8.3	87
3&4-Methylphenol	1	92.1074	95.0333	3.1	40
Nitrobenzene	1	92.3809	103.2459	11	62
Isophorone	1	90.1974	98.3515	8.6	93
2-Nitrophenol	1	109.8034	113.7785	3.6	55
2,4-Dimethylphenol	1	99.33	106.9707	7.4	58
Benzoic Acid	1	125.8734	128.3878	2	20
bis(2-Chloroethoxy)methane	1	94.482	102.3196	8	54
2,4-Dichlorophenol	1	106.9298	111.1316	3.9	50
1,2,4-Trichlorobenzene	**1**	**93.2563**	**105.3025**	**12**	**50**
Naphthalene	**1**	**82.7951**	**97.3862**	**16**	**65**
4-Chloroaniline	1	96.8265	99.713	2.9	20
Hexachlorobutadiene	1	87.7658	102.4159	15	62
Caprolactam	1	88.9021	86.0802	3.2	20
4-Chloro-3-methylphenol	1	112.5639	115.3234	2.4	73
2-Methylnaphthalene	1	104.3407	106.3455	1.9	20
1-Methylnaphthalene	1	118.9145	120.372	1.2	20
1,1'-Biphenyl	1	107.4631	108.7338	1.2	20
1,2,4,5-Tetrachlorobenzene	1	115.1205	116.3562	1.1	20
Hexachlorocyclopentadiene	1	116.7569	130.1937	11	20
2,4,6-Trichlorophenol	1	119.3799	121.7724	2	58
2,4,5-Trichlorophenol	1	123.9074	126.3341	1.9	40
2-Chloronaphthalene	1	101.98	110.9514	8.4	24
1,4-Dimethylnaphthalene	1	103.2956	103.9083	0.59	20
Diphenyl Ether	1	113.4455	113.8669	0.37	20
2-Nitroaniline	1	110.7424	111.3609	0.56	20
Coumarin	1	109.3228	110.2905	0.88	20
Acenaphthylene	1	102.285	110.7007	7.9	74
Dimethylphthalate	1	106.6583	114.3548	7	183
2,6-Dinitrotoluene	1	109.2505	116.2899	6.2	48
Acenaphthene	1	100.68	108.7705	7.7	48
3-Nitroaniline	1	111.8077	113.5402	1.5	20
2,4-Dinitrophenol	1	122.0016	125.3916	2.7	132
Dibenzofuran	1	110.8042	111.2475	0.4	20
2,4-Dinitrotoluene	1	108.0036	115.8262	7	42
4-Nitrophenol	1	84.7199	88.1026	3.9	131
2,3,4,6-Tetrachlorophenol	1	121.6504	124.0758	2	20
Fluorene	1	102.5117	109.0571	6.2	38
4-Chlorophenyl-phenylether	1	113.587	119.5612	5.1	61
Diethylphthalate	1	106.3845	113.6058	6.6	100
4-Nitroaniline	1	115.237	115.8709	0.55	20
Atrazine	1	116.1991	116.3482	0.13	20
4,6-Dinitro-2-methylphenol	1	124.9918	125.3515	0.29	203

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form3
RPD Data Laboratory Limits
QC Batch: WMB95088

Method: 625.1 Matrix: Aqueous Units: ug/L QC Type: MSD

Analyte:	Column	Dup/MSD/MBSD Conc	Sample/MS/MBS Conc	RPD	Limit
n-Nitrosodiphenylamine	1	87.5851	92.4897	5.4	20
1,2-Diphenylhydrazine	1	94.0174	100.9755	7.1	20
4-Bromophenyl-phenylether	1	119.5995	125.9872	5.2	43
Hexachlorobenzene	1	116.4052	122.4087	5	55
N-Octadecane	1	92.3969	92.6257	0.25	20
Pentachlorophenol	1	160.1143	159.6559	0.29	86
Phenanthrene	1	105.522	112.2582	6.2	39
Anthracene	1	104.4336	109.593	4.8	66
Carbazole	1	108.0183	107.1512	0.81	20
Di-n-butylphthalate	1	108.4732	114.7131	5.6	47
Fluoranthene	1	112.7411	119.7157	6	66
Pyrene	1	103.7769	111.8949	7.5	49
Benzidine	1	0	8.2322	200*	20
Butylbenzylphthalate	1	108.2403	115.6567	6.6	60
3,3'-Dichlorobenzidine	1	83.4388	99.1188	17	108
Benzo[a]anthracene	1	100.2522	106.9867	6.5	53
Chrysene	1	111.4238	118.2085	5.9	87
bis(2-Ethylhexyl)phthalate	1	103.3155	109.4349	5.8	82
Di-n-octylphthalate	1	104.4894	112.7741	7.6	69
Benzo[b]fluoranthene	1	119.6174	125.8095	5	71
Benzo[k]fluoranthene	1	117.4298	117.1995	0.2	63
Benzo[a]pyrene	1	109.3363	116.9872	6.8	72
Indeno[1,2,3-cd]pyrene	1	111.851	119.717	6.8	99
Dibenzo[a,h]anthracene	1	110.0567	117.6973	6.7	126
Benzo[g,h,i]perylene	1	108.7709	116.59	6.9	97

* - Indicates outside of limits NA - Both concentrations=0... no result can be calculated

Bold and underline - Indicates the compounds reported on form1

Form1

ORGANICS PCB REPORT

Sample Number: WMB95074
Client Id:
Data File: 3G130775.D
Analysis Date: 09/29/21 14:21
Date Rec/Extracted: NA-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608.3
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	0.0500	U	11097-69-1	Aroclor-1254	0.0500	U
11104-28-2	Aroclor-1221	0.0500	U	11096-82-5	Aroclor-1260	0.0500	U
11141-16-5	Aroclor-1232	0.0500	U	37324-23-5	Aroclor-1262	0.0500	U
53469-21-9	Aroclor-1242	0.0500	U	11100-14-4	Aroclor-1268	0.0500	U
12672-29-6	Aroclor-1248	0.0500	U				

Worksheet #: 610946

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: AD26227-001
Client Id: TWP01
Data File: 2G158502.D
Analysis Date: 09/30/21 08:01
Date Rec/Extracted: 09/24/21-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608.3
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	0.0500	U	11097-69-1	Aroclor-1254	0.0500	U
11104-28-2	Aroclor-1221	0.0500	U	11096-82-5	Aroclor-1260	0.0500	U
11141-16-5	Aroclor-1232	0.0500	U	37324-23-5	Aroclor-1262	0.0500	U
53469-21-9	Aroclor-1242	0.0500	U	11100-14-4	Aroclor-1268	0.0500	U
12672-29-6	Aroclor-1248	0.0500	U	1336-36-3	Aroclor (Total)	0.0500	U

Worksheet #: 610946

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: AD26227-002
Client Id: TWP02
Data File: 2G158501.D
Analysis Date: 09/30/21 07:46
Date Rec/Extracted: 09/24/21-09/29/21
Column: DB-17/1701P 30M 0.32mm ID 0.25um film

Method: EPA 608.3
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	0.0500	U	11097-69-1	Aroclor-1254	0.0500	U
11104-28-2	Aroclor-1221	0.0500	U	11096-82-5	Aroclor-1260	0.0500	U
11141-16-5	Aroclor-1232	0.0500	U	37324-23-5	Aroclor-1262	0.0500	U
53469-21-9	Aroclor-1242	0.0500	U	11100-14-4	Aroclor-1268	0.0500	U
12672-29-6	Aroclor-1248	0.0500	U	1336-36-3	Aroclor (Total)	0.0500	U

Worksheet #: 610946

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

Inorganic Analysis Data Sheet

Sample ID: MB 94434
Client Id: MB 94434
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
7429-90-5	Aluminum	30	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-36-0	Antimony	2.5	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-38-2	Arsenic	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-39-3	Barium	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-41-7	Beryllium	0.75	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-43-9	Cadmium	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-47-3	Chromium	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-48-4	Cobalt	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-50-8	Copper	10	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7439-92-1	Lead	0.75	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7439-96-5	Manganese	3.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7439-98-7	Molybdenum	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-02-0	Nickel	3.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7782-49-2	Selenium	5.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-22-4	Silver	0.75	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-28-0	Thallium	1.5	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-62-2	Vanadium	1.0	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA
7440-66-6	Zinc	25	ND	1	100	125	09/29/21	94434	V09292021A	13	MS	MS4_7800AQA

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 94434 (0.5) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 94434 (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
7440-39-3	Barium	25	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7440-47-3	Chromium	25	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7440-50-8	Copper	25	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7439-89-6	Iron	150	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7440-02-0	Nickel	10	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A
7440-66-6	Zinc	25	ND	1	100	50	09/29/21	94434	A27676A3	13	P	PEICP3A

Comments:

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1

Inorganic Analysis Data Sheet

Sample ID: MB 94434 (1)
Client Id: MB 94434 (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	09/28/21	94434	H27676A	11	CV	HGCV4A

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:	AD26227-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	TWP01	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	9/24/2021	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	1.7	1	100	125	09/29/21	94434	09292021A	25	MS	MS4_7800AQA
7439-92-1	Lead	0.75	760	1	100	125	09/29/21	94434	09292021A	25	MS	MS4_7800AQA

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:	AD26227-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	TWP01	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	9/24/2021	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	390	1	100	50	09/29/21	94434	A27676B3	13	P	PEICP3A
7439-97-6	Mercury	0.20	3.2	1	25	25	09/28/21	94434	H27676A	19	CV	HGCV4A
7440-02-0	Nickel	10	61	1	100	50	09/29/21	94434	A27676B3	13	P	PEICP3A
7440-66-6	Zinc	25	1400	1	100	50	09/29/21	94434	A27676B3	13	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1

Inorganic Analysis Data Sheet

Sample ID:	AD26227-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	TWP02	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	9/24/2021	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	5.8	1	100	125	09/29/21	94434	09292021A	26	MS	MS4_7800AQA
7439-92-1	Lead	7.5	1900	10	100	125	09/29/21	94434	09292021A	32	MS	MS4_7800AQA

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:	AD26227-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	TWP02	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	9/24/2021	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	540	1	100	50	09/29/21	94434	A27676B3	14	P	PEICP3A
7439-97-6	Mercury	0.20	2.1	1	25	25	09/28/21	94434	H27676A	20	CV	HGCV4A
7440-02-0	Nickel	10	300	1	100	50	09/29/21	94434	A27676B3	14	P	PEICP3A
7440-66-6	Zinc	25	2500	1	100	50	09/29/21	94434	A27676B3	14	P	PEICP3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/29/21
Data File: A27676A3
Prep Batch: 94434
Reporting Limits Used: 200.7/200.8/245.1
Instrument: PEICP3A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092411

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-352951-8	CCB V-352951-12	CCB V-352951-20	CCB V-352951-30	MB 94434 (0.5)-13		
Barium	.05 U	.05 U	.05 U	.05 U	.025 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		
Nickel	.02 U	.02 U	.02 U	.02 U	.01 U		
Zinc	.05 U	.05 U	.05 U	.05 U	.025 U		

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/29/21
Data File: A27676B3
Prep Batch: 94434
Reporting Limits Used: 200.7/200.8/245.1
Instrument: PEICP3A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092411

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-352951-8	CCB V-352951-12	CCB V-352951-19
Copper	.05 U	.05 U	.05 U
Nickel	.02 U	.02 U	.02 U
Zinc	.05 U	.05 U	.05 U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/29/21
Data File: WW09292021A
Prep Batch: 94434
Reporting Limits Used: 200.7/200.8/245.1
Instrument: MS4_7800AQA
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092411

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-357467-12	CCB V-357467-24	CCB V-357467-31	CCB V-357467-35	MB 94434-13
Antimony	2 U	2 U	2 U	2 U	2.5 U
Arsenic	.8 U	.8 U	.8 U	.8 U	1 U
Beryllium	.6 U	.6 U	.6 U	.6 U	.75 U
Cadmium	.8 U	.8 U	.8 U	.8 U	1 U
Lead	.6 U	.6 U	.6 U	.6 U	.75 U
Selenium	4 U	4 U	4 U	4 U	5 U
Silver	.6 U	.6 U	.6 U	.6 U	.75 U
Thallium	1.2 U	1.2 U	1.2 U	1.2 U	1.5 U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 09/28/21
Data File: H27676A
Prep Batch: 94434
Reporting Limits Used: 200.7/200.8/245.1
Instrument: HGCV4A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 1092411

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB-10	CCB-22	MB 94434 (1)-11
Mercury	.2U	.2U	.2U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD26227-001
Matrix Aqueous
Client SampleID: TWP01

Project Number: 1092411
Received Date: 9/24/2021
Collect Date: 9/24/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Carbonaceous Bod, 5 Day	CBOD-5-MUR	1	ND	MG/L	2.0	09/24/21	09/29/21
Chloride	CHLORIDE-ICW	1	29	mg/L	2.0	09/24/21	09/24/21
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.020	09/28/21	09/28/21
Flash Point	FLASH POINT	1	>141	Deg. F			09/29/21
SGT-HEM (Non-Polar Material)	HEM-NPM	1	ND	mg/L	4.8	09/28/21	09/29/21
Nitrite	NO2-ICW	1	ND	mg/L	1.0	09/24/21	09/24/21
Nitrate	NO3-ICW	1	ND	mg/L	1.0	09/24/21	09/24/21
pH	PH-WATER-MUR	1	8.1	pH			09/28/21
Temperature	PH-WATER-MUR	1	22.0	C			09/28/21
Total Solids @ 103-105 C	TS-MUR	1	780	mg/l	40	09/27/21	09/28/21
Total Suspended Solids @ 103-105	TSS-MUR	1	410	mg/l	20	09/28/21	09/28/21

Lab#: AD26227-002
Matrix Aqueous
Client SampleID: TWP02

Project Number: 1092411
Received Date: 9/24/2021
Collect Date: 9/24/2021

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Carbonaceous Bod, 5 Day	CBOD-5-MUR	1	ND	MG/L	2.0	09/24/21	09/29/21
Chloride	CHLORIDE-ICW	20	470	mg/L	40	09/29/21	09/29/21
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.020	09/28/21	09/28/21
Flash Point	FLASH POINT	1	>141	Deg. F			09/29/21
SGT-HEM (Non-Polar Material)	HEM-NPM	1	ND	mg/L	4.8	09/28/21	09/29/21
Nitrite	NO2-ICW	1	ND	mg/L	1.0	09/24/21	09/24/21
Nitrate	NO3-ICW	1	ND	mg/L	1.0	09/24/21	09/24/21
pH	PH-WATER-MUR	1	7.9	pH			09/28/21
Temperature	PH-WATER-MUR	1	23.0	C			09/28/21
Total Solids @ 103-105 C	TS-MUR	1	4300	mg/l	40	09/27/21	09/28/21
Total Suspended Solids @ 103-105	TSS-MUR	1	3100	mg/l	67	09/28/21	09/28/21

Analysis Type: FLASH-PT

Batch Number: FLASH-PT-734

Units: Deg. F

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-09/29/21	81	90-110	NA	82 3	102	NA	
DUP	AD26227-001	0	NA	20	#Error	NA	NA	Nc

Calibration Curve Information

Analytical Method(s)

EPA 1010A

Sam #	Type	MB	Result	RL	Per Sol	Full Result	Obs FP	Press	p-Xylene	Prep Date	Prep By	Anal Date	Anal By
CAL-01-09/29/21	CAL-01		82		100	82 3	82 0	755	82.3			09/29/21	SDL
AD26227-001	DUP		>141		100	0	>141	755	82.3			09/29/21	SDL
AD26227-001	Sample		>141		100	0	>141	755	82.3			09/29/21	SDL
AD26227-002	Sample		>141		100	0	>141	755	82.3			09/29/21	SDL
AD26286-001	Sample		>141		100	0	>141	755	82.3			09/29/21	SDL
AD26279-002	Sample		>141		100	0	>141	755	82.3			09/29/21	SDL

BM
9/29/21

9/30/21

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)

Oil & Grease Water HEM 1664				Analyst	KS		
Batch	1091						
Date	9/29/2021						
				True value	Result	% REC	Limits	Flags
			LCS	40.00	34.5	86.2	78-114	
			LCSD	40.00	34.7	86.7	78-114	
					LCS RPD	0.6	18	
				Theoretical				
			MS	43.5	41.3	95.0	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	6.0160	6.0171	1.1	1.100	5.000	0.0330
LCS	1000	6.0186	6.0531	34.5	34.500	5.000	1.0350
AD26240-002 MS	920	6.0450	6.0830	38.0	41.304	5.435	1.2391
LCSD	1000	5.9964	6.0311	34.7	34.700	5.000	1.0410
AD26240-002	850	6.0670	6.0674	0.4	0.471	5.882	0.0141
AD26240-001	920	5.9967	6.0004	3.7	4.022	5.435	0.1207
AD26232-001	920	6.0291	6.0354	6.3	6.848	5.435	0.2054
AD26227-001	1050	6.0281	6.0287	0.6	0.571	4.762	0.0171
AD26227-002	1050	5.9882	5.9887	0.5	0.476	4.762	0.0143
AD26176-001	940	6.0321	6.0326	0.5	0.532	5.319	0.0160
AD26169-001	920	6.0787	6.0823	3.6	3.913	5.435	0.1174
AD26272-001	940	6.0113	6.0124	1.1	1.170	5.319	0.0351
AD26272-009	920	6.0379	6.0381	0.2	0.217	5.435	0.0065

KS 9/30/21

Analysis Type: TS

Batch Number: TS-599

Units: mg/l

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26176-001	0	NA	5	1672	NA	1.7	
LCS	LCS	300	80-120	NA	296	99	NA	
LCSD	LCSD	300	80-120	5	284	95	4.1	

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-1-09/27/21	MB	MB-1-09/27/21	ND	40	100	0	40.7148	40.7148	25	09/27/21	BCT	09/28/21	BCT
LCS	LCS	MB-1-09/27/21	300	40	100	296	34.8775	34.8849	25	09/27/21	BCT	09/28/21	BCT
LCSD	LCSD	MB-1-09/27/21	280	40	100	284	39.1445	39.1516	25	09/27/21	BCT	09/28/21	BCT
AD26176-001	DUP	MB-1-09/27/21	1700	40	100	1672	41.2504	41.2922	25	09/27/21	BCT	09/28/21	BCT
AD26176-001	Sample	MB-1-09/27/21	1700	40	100	1700	30.0981	30.1406	25	09/27/21	BCT	09/28/21	BCT
AD26227-001	Sample	MB-1-09/27/21	780	40	100	776	31.4957	31.5151	25	09/27/21	BCT	09/28/21	BCT
AD26227-002	Sample	MB-1-09/27/21	4300	40	100	4304	40.1801	40.2877	25	09/27/21	BCT	09/28/21	BCT

9/30/21

9/29/21

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

5-DAY CBOD MUR

Batch # 918
Analyst: BCT/JW
Date/Time Initial: 9/24/2021 15:50
Date/Time Final: 9/29/2021 14:00

* 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
† % Diff should be <= 30

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
217	Blank w/o seed	300	0		8.19	8.03	0.160		
218	Blank w/o seed	300	0		8.21	8.06	0.150	0.155	
219	Blank w/ seed	300	2	0.16	8.20	7.50	0.700		
220	Blank w/ seed	300	2	0.16	8.22	7.38	0.840		0.770
221	Seed Control	300	6	0.16	8.19	5.50	2.690		
222	Seed Control	300	8	0.16	8.16	4.33	3.830		
223	Seed Control	300	10	0.16	8.13	3.28	4.850		0.941

	result(mg/L)	%RPD	Flag
sample	#DIV/0!		
sample dup	#DIV/0!	#DIV/0!	

	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	† % Diff
224	Hach GGA	6	2	0.16	8.21	3.36	4.85	3.909	Y	195.431		
225	Hach GGA	6	2	0.16	8.20	3.51	4.69	3.749	Y	187.431		
226	Hach GGA	6	2	0.16	8.20	3.48	4.72	3.779	Y	188.931	190.597	4.18
227	AD26227-001	10	2	0.16	8.14	6.97	1.17	0.229	N	NV		
228	AD26227-001	50	2	0.16	7.89	7.03	0.86	-0.081	N	NV		
229	AD26227-001	100	2	0.16	7.56	6.28	1.28	0.339	N	NV		
230	AD26227-001	300	2	0.16	6.57	5.11	1.46	0.519	Y	NV	#DIV/0!	0
231	AD26227-002	10	2	0.16	8.09	7.03	1.06	0.119	N	NV		
232	AD26227-002	50	2	0.16	7.52	6.80	0.72	-0.221	N	NV		
233	AD26227-002	100	2	0.16	6.83	6.03	0.80	-0.141	N	NV		
234	AD26227-002	300	2	0.16	4.46	3.20	1.26	0.319	Y	NV	#DIV/0!	0
235	ad26227-002 DUP	10	2	0.16	8.03	7.03	1.00	0.059	N	NV		
236	ad26227-002 DUP	50	2	0.16	7.57	7.11	0.46	-0.481	N	NV		
237	ad26227-002 DUP	100	2	0.16	6.86	5.28	1.58	0.639	Y	NV		
238	ad26227-002 DUP	300	2	0.16	4.50	3.37	1.13	0.189	Y	NV	#DIV/0!	0

JW 9/30/21

Analysis Type: PH-W

Batch Number: PH-W-1227

Units: pH

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26227-001	0	NA	20	8.16	NA	1.2	
LCS	LCS	4.4	75-125	NA	4.46	101	NA	

Calibration Curve Information

Analytical Method(s)

SM4500-H+B11

Sam #	Type	MB	Result	RL	Per Sol	Full Result	PH	TEMP	Prep Date	Prep By	Anal Date	Anal By
LCS	LCS		4.5		100	4.46	4.46	24.0			09/28/21	BCT
AD26227-001	DUP		8.2		100	8.16	8.16	22.6			09/28/21	BCT
AD26227-001	Sample		8.1		100	8.06	8.06	22.0			09/28/21	BCT
AD26227-002	Sample		7.9		100	7.89	7.89	23.0			09/28/21	BCT
AD26240-001	Sample		7.4		100	7.38	7.38	22.9			09/28/21	BCT
AD26240-002	Sample		7.7		100	7.68	7.68	22.4			09/28/21	BCT

BT 9/30/21

9/30/21

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

Batch Number: TSS-1951

Units: mg/l

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
DUP	AD26220-001	0	NA	5	1.2	NA	NA	Nc
LCS	LCS	600	80-120	NA	596.8	99	NA	
LCSD	LCSD	600	80-120	5	596.8	99	0	

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-1-09/28/21	MB	MB-1-09/28/21	ND	4.0	100	0	1.3425	1.3425	250	09/28/21	BCT	09/28/21	BCT
LCS	LCS	MB-1-09/28/21	600	4.0	100	596.8	1.3388	1.4880	250	09/28/21	BCT	09/28/21	BCT
LCSD	LCSD	MB-1-09/28/21	600	4.0	100	596.8	1.3613	1.5105	250	09/28/21	BCT	09/28/21	BCT
AD26220-001	DUP	MB-1-09/28/21	ND	4.0	100	1.2	1.3620	1.3623	250	09/28/21	BCT	09/28/21	BCT
AD26220-001	Sample	MB-1-09/28/21	ND	4.0	100	0.4	1.3471	1.3472	250	09/28/21	BCT	09/28/21	BCT
AD26216-001	Sample	MB-1-09/28/21	49	4.0	100	48.8	1.3416	1.3538	250	09/28/21	BCT	09/28/21	BCT
AD26219-001	Sample	MB-1-09/28/21	ND	4.0	100	2.8	1.3500	1.3507	250	09/28/21	BCT	09/28/21	BCT
AD26227-001	Sample	MB-1-09/28/21	410	20	100	412	1.3335	1.3541	50	09/28/21	BCT	09/28/21	BCT
AD26227-002	Sample	MB-1-09/28/21	3100	67	100	3126.7	1.3409	1.3878	15	09/28/21	BCT	09/28/21	BCT
AD26231-001	Sample	MB-1-09/28/21	460	40	100	464	1.3564	1.3680	25	09/28/21	BCT	09/28/21	BCT
AD26232-003	Sample	MB-1-09/28/21	46	4.0	100	46.4	1.3481	1.3597	250	09/28/21	BCT	09/28/21	BCT
AD26242-001	Sample	MB-1-09/28/21	4.8	4.0	100	4.8	1.3281	1.3293	250	09/28/21	BCT	09/28/21	BCT
AD26257-001	Sample	MB-1-09/28/21	ND	4.0	100	0.4	1.3472	1.3473	250	09/28/21	BCT	09/28/21	BCT

BM 9/30/21

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: HEX-CR-W

Batch Number: HEX-CR-W-923

Units: mg/l

Calibration Curve Information

Cal Curve Date: 09/28/21

Concentration:	Abs/Area
0	0
0.02	0.024
0.05	0.057
0.25	0.296
0.5	0.571
0.75	0.789
1	1.063

Slope: 1.059119
Intercept: 0.01115212
Rsquared: 0.9991
Date Performed: 09/28/21

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-09/28/21	0.02	50-150	NA	0.0102424	51	NA	
CCV	CCV-3	0.5	90-110	NA	0.5295419	106	NA	
CCV	CCV-2	0.5	90-110	NA	0.5295419	106	NA	
CCV	CCV-1	0.5	90-110	NA	0.5267093	105	NA	
DUP	AD26128-001	0	NA	20	-0.0076971	NA	NA	Nc
ICV	ICV-09/28/21	0.5	95-105	NA	0.5182117	104	NA	
LCS	LCS-4	0.5	75-125	NA	0.5304861	106	NA	
LCS	LCS-3	0.5	75-125	NA	0.5285977	106	NA	
LCS	LCS-2	0.5	75-125	NA	0.5314303	106	NA	
LCS	LCS	0.5	75-125	NA	0.5295419	106	NA	
MS	AD26128-001	0.5	75-125	NA	0.5097141	102	NA	
MSD	AD26128-001	0.5	75-125	20	0.5097141	102	0	

Analytical Method(s)

SM3500-CrB11

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-01-09/28/21	CAL-01		0.010		100	0.010242	0.022	0	1	1	1			09/28/21	JMP
MB-1-09/28/21	MB	MB-1-09/28/21	ND	0.020	100	-0.009585	0.001	0	1	10	10	09/28/21	JMP	09/28/21	JMP
LCS	LCS	MB-1-09/28/21	0.53	0.020	100	0.52954	0.572	0	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26128-001	Sample	MB-1-09/28/21	ND	0.020	100	-0.008641	-0.002	-0.004	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26128-001	DUP	MB-1-09/28/21	ND	0.020	100	-0.007697	-0.001	-0.004	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26128-001	MS	MB-1-09/28/21	0.51	0.020	100	0.50971	0.547	-0.004	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26128-001	MSD	MB-1-09/28/21	0.51	0.020	100	0.50971	0.547	-0.004	1	10	10	09/28/21	JMP	09/28/21	JMP
CCV-1	CCV	MB-1-09/28/21	0.53		100	0.52671	0.569	0	1	1	1	09/28/21	JMP	09/28/21	JMP
CCB-1	CCB	MB-1-09/28/21	ND	0.020	100	-0.008641	0.002	0	1	1	1	09/28/21	JMP	09/28/21	JMP
AD26174-001	Sample	MB-1-09/28/21	ND	0.020	100	-0.011474	0.001	0.002	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26176-001	Sample	MB-1-09/28/21	ND	0.020	100	-0.011474	0.001	0.002	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26227-001	Sample	MB-1-09/28/21	ND	0.020	100	-0.011474	0.001	0.002	1	10	10	09/28/21	JMP	09/28/21	JMP
AD26227-002	Sample	MB-1-09/28/21	ND	0.020	100	-0.01053	0.012	0.012	1	10	10	09/28/21	JMP	09/28/21	JMP
CCV-2	CCV	MB-1-09/28/21	0.53		100	0.52954	0.572	0	1	1	1	09/28/21	JMP	09/28/21	JMP
CCB-2	CCB	MB-1-09/28/21	ND	0.020	100	-0.008641	0.002	0	1	1	1	09/28/21	JMP	09/28/21	JMP
LCS-2	LCS	MB-1-09/28/21	0.53	0.020	100	0.53143	0.574	0	1	10	10	09/28/21	JMP	09/28/21	JMP
LCS-3	LCS	MB-1-09/28/21	0.53	0.020	100	0.5286	0.571	0	1	10	10	09/28/21	JMP	09/28/21	JMP
LCS-4	LCS	MB-1-09/28/21	0.53	0.020	100	0.53049	0.573	0	1	10	10	09/28/21	JMP	09/28/21	JMP
CCV-3	CCV	MB-1-09/28/21	0.53		100	0.52954	0.572	0	1	1	1	09/28/21	JMP	09/28/21	JMP
CCB-3	CCB	MB-1-09/28/21	ND	0.020	100	-0.009585	0.001	0	1	1	1	09/28/21	JMP	09/28/21	JMP
ICV-09/28/21	ICV		0.52	0.020	100	0.51821	0.560	0	1	1	1		JMP	09/28/21	JMP

BT 9/30/21

JMP 9/28/21

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

Blank Summary

Instrument: IC2

Qc Type: Method Blank Summary Prep Date: 9/24/21

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210914123	9/24/21 15:22	MBW-2794	232	Chloride	ND	2.0
20210914123	9/24/21 15:22	MBW-2794	232	Nitrate	ND	1.0
20210914123	9/24/21 15:22	MBW-2794	232	Nitrite	ND	1.0
20210927121	9/29/21 10:17	MBW-2796	41	Chloride	ND	2.0
20210927121	9/29/21 10:17	MBW-2796	41	Nitrate	ND	1.0
20210927121	9/29/21 10:17	MBW-2796	41	Nitrite	ND	1.0

Qc Type: ICB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210914123	9/14/21 17:20	ICB	8	Chloride	ND	2.0
20210914123	9/14/21 17:20	ICB	8	Nitrate	ND	1.0
20210914123	9/14/21 17:20	ICB	8	Nitrite	ND	1.0
20210927121	9/27/21 17:14	ICB	8	Chloride	ND	2.0
20210927121	9/27/21 17:14	ICB	8	Nitrate	ND	1.0
20210927121	9/27/21 17:14	ICB	8	Nitrite	ND	1.0

Qc Type: CCB Summary Prep Date: NA

Run Batch ID	Analysis Date/Time	Sample ID	Run#	Analyte	Conc	RL
20210914123	9/24/21 11:40	CCB	225	Chloride	ND	2.0
20210914123	9/24/21 18:05	CCB	238	Chloride	ND	2.0
20210914123	9/24/21 23:32	CCB	250	Chloride	ND	2.0
20210914123	9/24/21 11:40	CCB	225	Nitrate	ND	1.0
20210914123	9/24/21 18:05	CCB	238	Nitrate	ND	1.0
20210914123	9/24/21 23:32	CCB	250	Nitrate	ND	1.0
20210914123	9/24/21 11:40	CCB	225	Nitrite	ND	1.0
20210914123	9/24/21 18:05	CCB	238	Nitrite	ND	1.0
20210914123	9/24/21 23:32	CCB	250	Nitrite	ND	1.0
20210927121	9/29/21 09:49	CCB	40	Chloride	ND	2.0
20210927121	9/29/21 15:33	CCB	52	Chloride	ND	2.0
20210927121	9/29/21 20:59	CCB	64	Chloride	ND	2.0
20210927121	9/29/21 09:49	CCB	40	Nitrate	ND	1.0
20210927121	9/29/21 15:33	CCB	52	Nitrate	ND	1.0
20210927121	9/29/21 20:59	CCB	64	Nitrate	ND	1.0
20210927121	9/29/21 09:49	CCB	40	Nitrite	ND	1.0
20210927121	9/29/21 15:33	CCB	52	Nitrite	ND	1.0
20210927121	9/29/21 20:59	CCB	64	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.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Hampton Clarke-Veritech

Project # 1092411

COCID#7427

SGS Job Number: JD32269

Sampling Date: 09/24/21

Report to:

Hampton Clarke-Veritech
175 Route 46 West
Fairfield, NJ 07004
SubResults@HCVLab.com; MStone@HCVLab.com

ATTN: Maureen Stone

Total number of pages in report: 12

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.

Mike Earp
General Manager

Client Service contact: Shalini Williams 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 (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Summary of Hits **4**
Section 3: Sample Results **5**
3.1: JD32269-1: AD26227-001 SB 02 6
3.2: JD32269-2: AD26227-002 SB 09 7
Section 4: Misc. Forms **8**
4.1: Chain of Custody 9
4.2: Sample Tracking Chronicle 11
4.3: Internal Chain of Custody 12

SGS North America Inc.

Sample Summary

Hampton Clarke-Veritech

Job No: JD32269

Project # 1092411
Project No: COCID#7427

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JD32269-1	09/24/21	07:45		09/27/21	AQ	Water	AD26227-001 SB 02
JD32269-2	09/24/21	11:00		09/27/21	AQ	Water	AD26227-002 SB 09

2

Summary of Hits

Job Number: JD32269
Account: Hampton Clarke-Veritech
Project: Project # 1092411
Collected: 09/24/21

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JD32269-1	**AD26227-001 SB 02**					
Nitrogen, Total Kjeldahl		0.23	0.20		mg/l	EPA 351.2/LACHAT
JD32269-2	**AD26227-002 SB 09**					
Nitrogen, Total Kjeldahl		0.59	0.20		mg/l	EPA 351.2/LACHAT

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AD26227-001 SB 02		
Lab Sample ID:	JD32269-1	**Date Sampled:**	09/24/21
Matrix:	AQ - Water	**Date Received:**	09/27/21
		Percent Solids:	n/a
Project:	Project # 1092411		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Total Kjeldahl	0.23	0.20	mg/l	1	09/30/21 19:00	EB	EPA 351.2/LACHAT

RL = Reporting Limit

Report of Analysis

Client Sample ID:	AD26227-002 SB 09		
Lab Sample ID:	JD32269-2	**Date Sampled:**	09/24/21
Matrix:	AQ - Water	**Date Received:**	09/27/21
		Percent Solids:	n/a
Project:	Project # 1092411		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Total Kjeldahl	0.59	0.20	mg/l	1	09/30/21 19:00	EB	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

JD 32269

Pg 1 of 1

Hampton-Clarke, Inc
~~175 US Hwy 46 West~~
Fairfield, New Jersey, 07004
Ph 800-426-9992 Fax:973-439-1458

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 #: 1092411

CocID#: 7427

FINAL RESULTS TO: subresults@hcvlab.com
PRELIM/VERBAL RESULTS TO: subresults@hcvlab.com

TQ for CS 9/24/21

EDD: NEW JERSEY HAZRESULT OR EQUIS EZEDD REQUIRED FOR ALL DATA SUBMITTALS!

Turn Around Time: Standard **Preliminary Due Date:** 10/11/2021
Report Type: NYDOH-CatA (STAND **Hard Copy Due Date:** 10/19/2021

	Sample Number:	Client ID	Matrix:	Date Collected:	Time Collected:	Analysis Requested
1	AD26227-001	SB 02	Aqueous	9/24/2021	7:45:00 AM	TKN Method:EPA 351
2	AD26227-002	SB 09	Aqueous	9/24/2021	11:00:00 AM	TKN Method:EPA 351

631

Initial Assessment KG 3B
Label Verification_____

Relinquished By:	Accepted By:	Date:	Time:	Comments, Notes, Special Requirements, HAZARDS
John Burrell	[illegible]	9/27/21	12:00	

Cooler Temp: 2.9 CIP

HC Lab Use Only: **Subcontracted Lab Id and Contact:** ACCUTEST SGS, Sample Receiving, (732) 329-0200, LabID: H, Fresh Ponds Corporate Village, Bldg. B, 2235 Route 130, Dayt

SGS Sample Receipt Summary

Job Number: JD32269 **Client:** HAMPTON-CLARKE , INC. **Project:** 1092411

Date / Time Received: 9/27/2021 12:00:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.9);

Cooler Temps (Corrected) °C: Cooler 1: (2.0);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	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	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	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:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JD32269: Chain of Custody
Page 2 of 2

Internal Sample Tracking Chronicle

Hampton Clarke-Veritech

Job No: JD32269

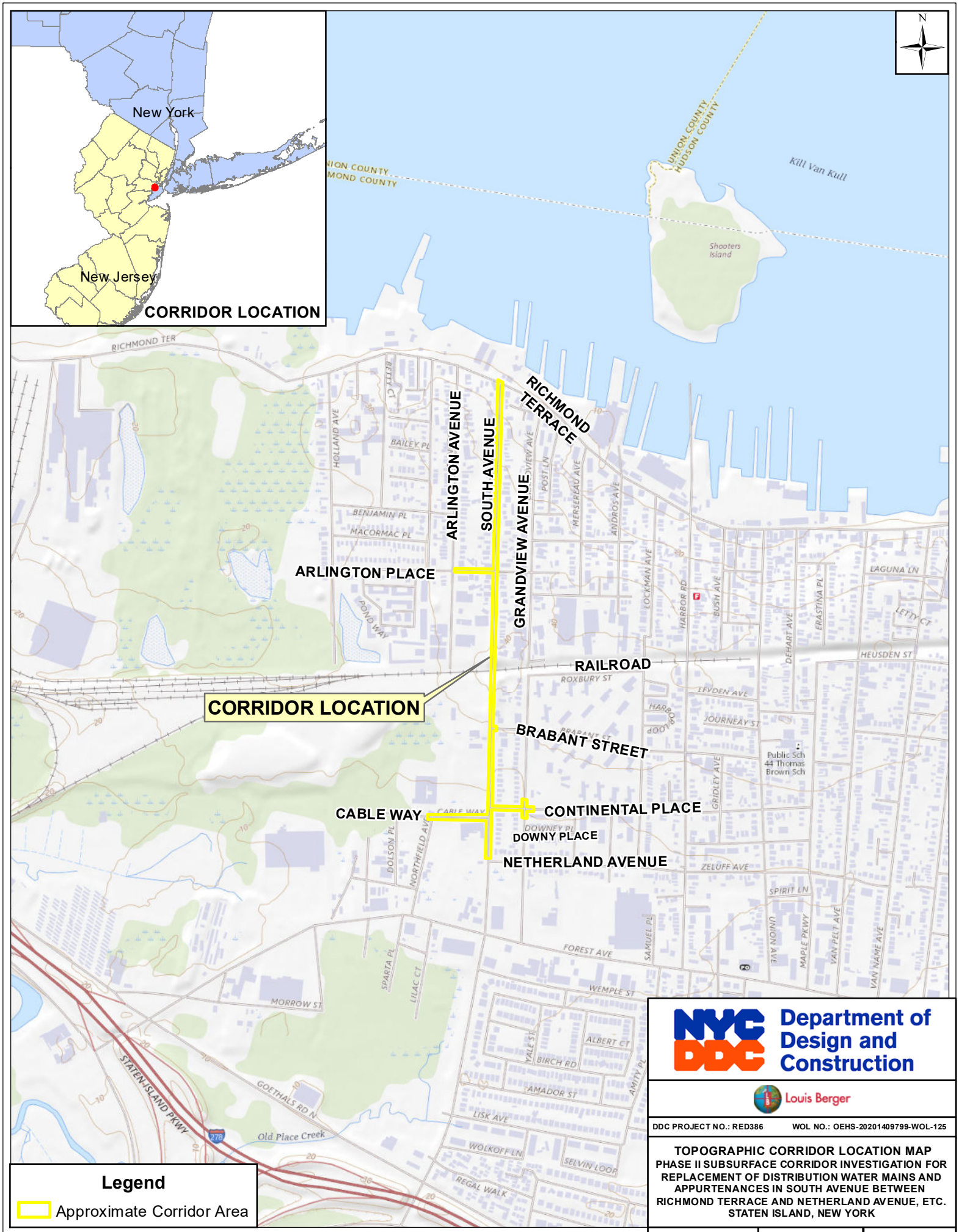
Project # 1092411
Project No: COCID#7427

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JD32269-1	Collected: 24-SEP-21 07:45 By: AD26227-001 SB 02		Received: 27-SEP-21 By: TS			
JD32269-1	EPA 351.2/LACHAT	30-SEP-21 19:00	EB	29-SEP-21	MP	TKN
JD32269-2	Collected: 24-SEP-21 11:00 By: AD26227-002 SB 09		Received: 27-SEP-21 By: TS			
JD32269-2	EPA 351.2/LACHAT	30-SEP-21 19:00	EB	29-SEP-21	MP	TKN

SGS Internal Chain of Custody

Job Number: JD32269
Account: HCVNJF Hampton Clarke-Veritech
Project: Project # 1092411
Received: 09/27/21

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JD32269-1.1	Tyler Strong	Secured Storage	09/27/21 17:23	Return to Storage
JD32269-1.1	Secured Storage	Todd Shoemaker	09/28/21 11:48	Retrieve from Storage
JD32269-1.1	Todd Shoemaker	Secured Staging Area	09/28/21 11:48	Return to Storage
JD32269-1.1	Secured Staging Area	Mahendra Patel	09/29/21 07:53	Retrieve from Storage
JD32269-1.1	Mahendra Patel	Secured Storage	09/29/21 18:26	Return to Storage
JD32269-2.1	Tyler Strong	Secured Storage	09/27/21 17:23	Return to Storage
JD32269-2.1	Secured Storage	Todd Shoemaker	09/28/21 11:48	Retrieve from Storage
JD32269-2.1	Todd Shoemaker	Secured Staging Area	09/28/21 11:48	Return to Storage
JD32269-2.1	Secured Staging Area	Mahendra Patel	09/29/21 07:53	Retrieve from Storage
JD32269-2.1	Mahendra Patel	Secured Storage	09/29/21 18:26	Return to Storage



Source: USGS Quadrangles Elizabeth, New Jersey and Arthur Kill, New York (2020)

Department of Design and Construction

Louis Berger

DDC PROJECT NO.: RED386 WOL NO.: OEHS-20201409799-WOL-125

TOPOGRAPHIC CORRIDOR LOCATION MAP

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 1000'	DATE: 11/04/2021	FIGURE: 1

Table 1. Summary of Environmental Boring Data
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

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	4.5 - 5.0	ND	-	No	5.0	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 5.0	-	7.043				
SB02/ TWP01	SB02	<1	2.0 - 2.5	0.036	-	No	2.5	3.5	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 2.5	-	9.02				
SB03	SB03	<1	5.5 - 6.0	0.014	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material (wood) was observed.
			0.0 - 6.0	-	0.38				
SB04	SB04	<1	5.5 - 6.0	0.0035	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 6.0	-	1.225				
SB05	SB05	<1	5.5 - 6.0	0.1093	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material (RCA) was observed.
			0.0 - 6.0	-	1.73				
SB06	SB06	<1	5.5 - 6.0	0.0024	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 6.0	-	1.478				
SB07	SB07	<1	5.5 - 6.0	0.0031	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material (glass) was observed.
			0.0 - 6.0	-	ND				
SB08	SB08	<1	5.5 - 6.0	0.0063	-	No	NE	6.0	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 6.0	-	0.34				
SB09/ TWP02	SB09	<1	2.5 - 3.0	0.0026	-	No	3.0	3.5	No visual or olfactory signs of contamination observed. Fill material was observed.
			0.0 - 3.0	-	ND				

Notes:
[1] - TCLP metal(s) exceeds Resource Conservation and Recovery Act (RCRA) Hazardous Waste
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 grade

Table 2. Summary of Target Compound List (TCL) Volatile Organic Compounds (VOCs) Detected in Soil
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

TCL VOCs	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth								
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09
		9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021
		4.5 - 5.0	2.0 - 2.5	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	5.5 - 6.0	3.0 - 3.5
2-Butanone	500	ND	ND	ND	ND	0.016	ND	ND	ND	ND
Acetone	500	ND	0.033	ND	ND	0.090	ND	ND	ND	ND
Methylene chloride	500	ND	0.0030	0.014	0.0035	0.0033	0.0024	0.0031	0.0063	0.0026

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 Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

PAHs	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth								
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09
		9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021
		0.0 - 5.0	0.0 - 3.5	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 3.5
Acenaphthylene	500	0.22	ND	ND	0.047	ND	ND	ND	ND	ND
Anthracene	500	0.093	0.23	ND	ND	0.038	ND	ND	ND	ND
Benzo[a]anthracene	5.6	0.76	0.87	0.12	0.11	0.16	0.13	ND	0.042	ND
Benzo[a]pyrene	1	0.69	0.84	0.14	0.13	0.16	0.13	ND	0.040	ND
Benzo[b]fluoranthene	5.6	0.95	1.3	0.19	0.21	0.34	0.22	ND	0.059	ND
Benzo[g,h,i]perylene	500	0.42	0.52	0.080	0.082	0.089	0.086	ND	ND	ND
Benzo[k]fluoranthene	56	0.35	0.32	0.070	0.054	0.081	0.077	ND	ND	ND
Chrysene	56	0.70	0.90	0.14	0.13	0.23	0.16	ND	0.047	ND
Dibenzo[a,h]anthracene	0.56	0.13	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	500	1.0	1.3	0.23	0.16	0.23	0.27	ND	0.082	ND
Fluorene	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	5.6	0.41	0.45	0.072	0.076	0.087	0.075	ND	ND	ND
Phenanthrene	500	0.33	0.89	0.11	0.046	0.055	0.10	ND	ND	ND
Pyrene	500	0.99	1.4	0.23	0.18	0.26	0.23	ND	0.070	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)
NA = Not Analyzed
NS = No Standard

Table 4. Summary of Polychlorinated Biphenyls (PCBs) Detected in Soil
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

PCBs	Commercial Use (Track 2) Soil Cleanup Objectives (SCOs)	Sample ID, Date Collected, and Depth								
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09
		9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021
		0.0 - 5.0	0.0 - 3.5	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 3.5
Aroclor-1260	1	ND	ND	ND	ND	ND	0.052	ND	ND	ND
Aroclor (Total)*	1	ND	ND	ND	ND	ND	0.052	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)
* Refers to the total concentration of PCBs in the sample
NA = Not Analyzed

Table 5. Summary of Waste Classification Results in Soil
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue
Staten Island, NY

Analyte	Resource Conservation and Recovery Act (RCRA) Hazardous Waste Levels	Sample ID, Date Collected, and Depth								
		SB01	SB02	SB03	SB04	SB05	SB06	SB07	SB08	SB09
		9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021	9/23/2021
		0.0 - 5.0	0.0 - 3.5	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 6.0	0.0 - 3.5
RCRA (Including TCLP Metals)										
pH	2 - 12.5*	7.3	7.6	7.8	8.1	7.5	7.8	6.2	7.7	6.9
Ignitability	>140 °F**	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
Paint Filter Test	NS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
Reactive Cyanide	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
Reactive Sulfide	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	100	0.28	1.4	ND	0.69	0.83	0.31	0.38	0.45	0.26
Cadmium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	5	0.058	0.40	ND	ND	0.17	0.13	ND	ND	ND
Mercury	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	NS	ND	0.17	ND	ND	ND	ND	ND	ND	ND
Selenium	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
TPH DRO/GRO (mg/kg)										
TPH - Diesel Range Organics	NS	ND	600	72	85	85	ND	ND	ND	ND
TPH - Gasoline Range Organics	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
All concentrations are in parts per million, milligrams per kilogram, or milligrams per liter (ppm, mg/kg, or mg/L), unless otherwise noted
TCLP = Toxicity Characteristic Leaching Procedure
NS = No Standard
NA = Not Applicable or Not Analyzed
*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 140 °F
°F = Degrees Fahrenheit
NEG = Negative (flash point was not detected below 140 °F) or Negative (free liquids were not detected during Paint Filter Test) or Negative (flame did not propagate down the 200 millimeter track)
ND = Compound not detected above method detection limit (see attached lab report for MDLs)

Table 6. Groundwater Quality Compared to New York City Department of Environmental Protection Limitations for Effluent to Sanitary or Combined Sewers
Phase II Subsurface Corridor Investigation for Replacement of Distribution Water Mains and Appurtenances in South Avenue, Staten Island, NY

Parameter[1]	NYC DEP Limitations to Sanitary or Combined Sewers	Sample ID and Date Collected	
		TWP01	TWP02
		9/24/2021	9/24/2021
Non-Polar Material[2]	50 mg/L	ND	ND
Flash Point - Liquid/Solid	>140 °F	>141°F	>141°F
pH	≥5 and ≤12	8.1	7.9
Cadmium (Instantaneous or Composite)	2 or 0.69 mg/L	0.0017 mg/L	0.0058 mg/L
Chromium Hexavalent (VI)	5 mg/L	ND	ND
Copper	5 mg/L	0.39 mg/L	0.54 mg/L
Lead	2 mg/L	0.76 mg/L	1.9 mg/L
Mercury	0.05 mg/L	0.0032 mg/L	0.0021 mg/L
Nickel	3 mg/L	0.061 mg/L	0.3 mg/L
Zinc	5 mg/L	1.4 mg/L	2.5 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	ND	ND
Total Suspended Solids[4]	350 mg/L	410 mg/L	3,100 mg/L
CBOD[5]	NS	ND	ND
Chloride[5]	NS	29 mg/L	470 mg/L
Total Kjeldahl Nitrogen	NS	0.23 mg/L	0.59 mg/L
Total Solids[5]	NS	780 mg/L	4,300 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 discharge ≥ 10,000 gpd.

Department of Design and Construction

Louis Berger

DDC PROJECT NO. RED386 WOL NO.: OEHS-20201409799-WOL-125

BORING LOCATION PLAN

PHASE II SUBSURFACE CORRIDOR INVESTIGATION FOR REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC. STATEN ISLAND, NEW YORK

SCALE: 1" = 300'	DATE: 11/04/2021	FIGURE: 2

NOTICE

TH□ PAG□S CONTAIN□D IN THIS □OINT □ID □□□-PAG□S□R□PR□S□NT ADDITIONAL CONTRACT R□□□IR□M□NTS APPLYING TO WORK P□RFORM□D IN TH□ PR□S□NC□ OF PRIVAT□LY OWN□D □TILITY FACILITI□S□

(NO TEXT ON THIS PAGE)

JB-PAGES TABLE OF CONTENTS

S□CTION A□ □OINT □ID CONTRACT R□□ □IR□M□NTS AND STANDARD SP□CIFICATIONS

S□CTION □□ NYC □TILITY PRIC□ LIST

S□CTION C□ □OINT □ID SP□CIAL SP□CIFICATIONS

S□CTION D□ PRIVAT□ □TILITI□S PARTICIPATING LIST

S□CTION □□ PRIVAT□ □TILITI□S SCOP□ OF WORK

S□CTION F□ PRIVAT□ □TILITI□S T□ST PITS AND SK□TCH□S

S□CTION G□ PRIVAT□ □TILITY DRAWING LIST

SECTION A – JOINT BID REQUIREMENTS AND STANDARD SPECIFICATIONS

SECTION A.1 - Requirements for Joint Bid Work

A□ Definitions□Additional terms are defined in Standard Construction Contract□

1□ “Business Days” will mean Monday through Friday, e□cluding holidays□

□□ “City Facility(ies)” will mean any facility owned □y the City, including, □ut not limited to, roadways, streets, highways, parkways and other thoroughfares, □ridges, sewers, culverts, catch □asins, chutes and water mains□

3□ “Joint Bid Project(s)” will mean a construction pro□ect that the City and □tilities agree will □e awarded in accordance with applica□le law and will include □oth City Facilities and □tility Facilities□

□□ ”Pre-engineer” or “Pre-engineering” will mean a process undertaken □y the □tilities on all □oint □id Pro□ects where□y the □tilities will determine and mark-out current □tility Facilities, and design the location and□or re-location of □tility Facilities in a manner that is to the e□tent practica□le, efficient and cost-effective for □oth the City and the □tilities to avoid or ameliorate distur□ances to the City Facilities and the □tilities Facilities, and in which the City and □tility participate in prior to the award of a □oint □id Pro□ect contract□

□□ “Public Work” will 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 □ridges and □□□ similarly for sewers, culverts, catch □asins, chutes and water mains□

□□ “Shared Items” will mean the bid items in the City’s construction contract in which the total cost will □e paid for □y the City and the □tilities in accordance with their share as mutually agreed upon□

□□ "Specialty Contractor” will mean a contractor provided and paid for □y the □tility, which may include the Utilities’ in-house field forces□

□□ “Specific Public Work Items” will mean a detailed set of specifications prepared □y the City based on the City’s engineering, design and plans that will represent the Public Work portion of the □oint □id Pro□ect and it is these unit price items and □uantities related to the Pu□lic Work that will □e □id upon and evaluated □y the City for the Pu□lic Work portion of the City’s construction contract.

□□ “Specific Shared Items” will mean a detailed set of specifications prepared □y the City based on the City’s engineering, design and plans that will represent the Shared Items portion of the □oint □id Pro□ect and it is these unit prices and □uantities related to Shared Items that will □e □id upon and evaluated □y the City for the Shared Items portion of the City’s construction contract□

10□“Specific Utility Work Items” will mean a detailed set of specifications prepared □y the Utilities based on the Utility’s Pre-engineering that will represent the □tility Work portion of the □oint □id Pro□ect□The Specific □tility Work Items are composed of the □oint □id Fi□ed Sum Items and □oint □id Specialty Items, as descri□ed in Section A□□ □elow□

11□ “Utility Facility(ies)” will mean the property owned □y the □tilities, including, □ut not limited to, pipes, poles, conduits, wires, lines and other facilities, structures or property of the □tilities that may □e □elow ground, at ground-level or a□ove ground, that could distur□ or interfere with the Pu□lic Work□

1□□“Utility” or “Utilities” will mean the utility entities participating in this □oint □id Pro□ect□

13□“Utility Work” will mean such work as is re□uired to □e performed □y the Contractor during the performance of Pu□lic Work, as defined herein, in order to maintain, protect, support, shift, alter, relocate, remove, construct, and□or replace □tility Facilities at the Utilities’ expense.

□□ The City is □idding □ointly this Contract□The City has com□ined its Pu□lic Work and □tility Work into one □id contract package□All prospective □idders should □e alerted to the fact that the City prepared all specifications, drawings, and all other necessary contract documents for the Pu□lic Work and □tility Work□

C□ The City has prepared contract documents which include specifications, drawings and all other necessary contract documents for the Pu□lic Work and □tility Work□ The □id items, specifications, and estimated □uantities have □een designed to fully compensate the Contractor for its costs to perform the Pu□lic Work and □tility Work□

D□ The Contractor agrees that its □id prices and the NYC □tility Price List prices for the Pu□lic Work and □tility Work will include all incremental costs and□or additional compensation for performing Pu□lic Work and □tility Work including□coordination of its work with the □tilities, loss of productivity and efficiency, idle time, delays □including any delays occasioned □y negotiation of a contract change□, change in operations, mo□ili□ation, demo□ili□ation, remo□ili□ation, added cost or e□pense, loss of profit, other damages or impact costs that may □e suffered □y the Contractor □ecause of direct or indirect o□structions due to the presence of □tility Facilities, such as conduits, ducts or duct □anks 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-ha□ardous encasement materials or utility structures located within the Pu□lic Work pro□ect area□

□□ In the □id solicitation documents, the City has provided estimated □uantities for □oth Specific Pu□lic Work Items, Specific □tility Work Items, and Specific Shared Items□ □idders are re□uired to □id a unit price on all Work in the □id Schedules□For the purposes of identifying the lowest responsive and responsible bidder, a bidder’s unit prices bid must □e calculated □ased on all Work, which includes the com□ined Specific Pu□lic Work Items, the Specific □tility Work Items, and the Specific Shared Items□

F□ If the □tility determines that the Contractor is not □ualified or □est suited to perform a specific scope of □tility Work, the □tility has the right to utili□e their Specialty Contractors□If the Contractor claims that delays were caused □y a □tility for failure to supply and□or provide Specialty Contractors in a timely manner, then the Contractor may □ring a claim against the □tility□To the e□tent the Contractor claims that a delay was caused □y a □tility, the Contractor will □e limited to □ringing such legal action in a court of law and may not seek ar□itration over any delay claims or delay-related claims□If the Contractor and □tility initiate a legal action against each other, this legal action will be outside the jurisdiction of the City’s Contract Dispute Resolution □oard process and the City will not □e a party in the litigation process□ Neither the Contractor nor the □tility may □ring a delay claim against the City through either a

court of law or the City's Contract Dispute Resolution Board process□Refer to the Standard Construction Contract for additional details□The Contractor must allow the □tility's Specialty Contractors to have reasona□le access to the work area with prior notice and may, with the e□ception of the □tilities' in-house field forces, condition such access on proof of insurance accepta□le to the □ngineer□

G□ The Lower Manhattan □oint □id Agreement, dated □une □, □00□, shall not apply to this pro□ect□ The Contractor agrees that the □tilities are third-party □eneficiaries of the contract for a □oint □id Pro□ect, and that the □tilities shall □e entitled to rely upon and enforce any and all terms and conditions of the Contract for a □oint □id Pro□ect as it pertains to the Contractor and the performance of the Pu□lic Work, Shared Items, and □tility Work□

SECTION A.2 – Price List Method

A□ This Contract has □een prepared using the Price List Method□The Price List Method consists of all of the following□

1□ The Contractor □ids on the items listed in the □id Schedule (“Bid Items”)

□□ The Contractor agrees that the prices listed for items in the Price List (“PL Items”) represent full and complete compensation for the Specific □tility Work Items listed in the NYC □tility Price List□The NYC □tility Price List prices are fi□ed for the duration of the Contract, regardless of any time e□tensions□

3□ The □id Schedule contains □oint □id Fi□ed Sum Items □“JB FS Items”) that will □e used for payment of □tility Work□These items may include□

Item No.	Description	Unit
□□-FS-AL	ALTIC□ □□ FI□□D S□M	F□S□
□□-FS-CC	CROWN CASTL□ □□ FI□□D S□M	F□S□
□□-FS-C□	CON □DISON □□ FI□□D S□M	F□S□
□□-FS-□□	□□TN□T □□ FI□□D S□M	F□S□
□□-FS-NG	NATIONAL GRID □□ FI□□D S□M	F□S□
□□-FS-LI	LIPA-PS□G □□ FI□□D S□M	F□S□
□□-FS-RC	RCN □□ FI□□D S□M	F□S□
□□-FS-SP	CHART□R-SP□CTR□M-TW □□ FI□□D S□M	F□S□
□□-FS-V□	□CS-V□RI□ON □□ FI□□D S□M	F□S□

□□ If this Contract contains Specialty □□ items that are not covered □y the NYC □tility Price List (“□□ Specialty Items”), the Contractor will □id on the □□ Special items listed in the separate □□ Specialty Item □id Schedule□For clarity, standard City items that are not used in the □id Schedule may □e used as □□ Specialty Items□

□□ Any costs that are to □e paid for □y the □tility will □e paid according to the □□ FS Items, whether the work is a □id Item, PL Item, or □□ Specialty Item□

C□ There is no restriction as to which items may □e used to pay for □tility Work – any □id Item, PL Item □regardless of the utility□, or □□ Specialty Item □regardless of the utility□may □e used□ □tility may use any applica□le item from the □id Items, the PL Items, or the □□ Specialty Items, whether for anticipated or unanticipated □tility work, regardless of whether the item is considered or defined as a City item, such Utility’s item, or another Utility’s item□ In consultation with the □tilities, the □ngineer is responsi□le for verifying the applica□ility of items proposed for use □y the □tilities in accordance with any agreement in effect □etween the City and the □tilities□The ar□itrator□s□under Section A□□ shall have the sole and e□clusive authority to determine which items are applica□le should there □e a dispute □etween any □tility and the Contractor on such issue□

D□ □uantities of work to □e paid for under the □□ FS Items must □e tracked separately from the □uantities of work paid for under the □id Items□The method and format of separate tracking must □e su□mitted to the □ngineer for review and processing□

□□ Overruns□

1□ □id Items□□uantities of □id Items paid for according to the □□ FS Items are not overruns for the purpose of Standard Construction Contract Article □□□1□However, if the City negotiates a new unit price for an item per Article □□□1, that new unit price will also □e used for payment under the □□ FS Items□

□□ □□ FS Items□The City will not pay the Contractor directly when there is an overrun of the □□ FS Items, except when the City's RE determines that such overruns are caused □y field conditions impacting planned City work, or scope of work changes□Overruns not paid □y City will □e paid directly to Contractor □y the □tility at the esta□lished unit rate for the □id Items, the PL Items, or the □□ Specialty Items and according to the same retainage re□uirements as applica□le □etween the City and the Contractor□In order to facilitate the shared cost reconciliation □etween the City and the □tilities, the Contractor must provide details of all payments from the □tilities□These details must include the items, □uantities, and amounts that are covered □y the payment□

In the event that funds are insufficient in the □tility □udget code to continue payments under the □□ FS Item, the □ngineer may determine that all future payments under the □□ FS Item are overruns, and will □e paid directly to the Contractor □y the □tility as specified in the paragraph a□ove□

F□ □□tra Work□

1□ If during construction the Contractor encounters utility facilities interferences or utility scope of work that it □elieves is not covered □y the Contract, then the Contractor must immediately notify the City and the □tility in writing, descri□ing the nature and location of the e□tra work in □uestion□The □tility then has five □□□□usiness days to investigate the conditions and then either□

i□ Advise the Contractor and the City in writing that no interference with its facilities e□ists at the location in □uestion, and hence that the Contractor may proceed with City work without providing for any impact from Company facilities□

ii□ Advise the Contractor and the City in writing that the Contract items provide for the scope of work encountered, specifying the e□act unit items that cover the work□

iii□ Advise the Contractor and the City in writing that it intends to perform the necessary utility work with □tility forces or with Specialty Contractors, □ut not limited to, relocating its facility out of the way of the proposed City work□In this case, the □tility must provide a written schedule for the performance of the utility work it proposes to perform, which shall □e su□□ect to approval □y the City based on its impact to the Contractor's currently approved progress schedule□□pon approval of the Utility's schedule □y the City, the Contractor must provide access to the worksite to the □tility and□or any Specialty Contractors hired □y it to perform this utility work□ If necessary, the City may grant a contract time e□tension for delays caused □y the performance of such utility work □y the □tility□

iv□ Reasona□ly specify in writing the scope of work to □e performed □y the Contractor on □ehalf of the Company that is not covered under the Contract, including, □ut not limited to, relocating, supporting, and□or protecting the Utility's facilities, and□or shifting the City facility if approved □y the □ngineer, and□or otherwise changing its operations to work in the presence of the Utility's facilities□Should the □tility elect this option, it must ade□uately define and provide an initial price offer for the work re□uired to □e performed□

□□ For items not included in the □id Items, PL Items, or □□ Specialty Items □"□tility □□tra Work"), the □tility and the Contractor will directly negotiate unit rates, lump sum amounts, or agree to payment on a Time and Material □asis□In this case, the

re□uirements a□ove for overruns apply for payment□The □tility may select whether the □□tra Work will □e paid under the appropriate □□ FS Item or paid directly from the □tility, unless such payment would cause an overrun of the □□ FS Item and the □□tra Work will □e paid directly from the □tility□In this case, the re□uirements a□ove for overruns apply for payment□If □□tra Work agreed to on a Time and Material □asis is not calculated in accordance with Article □□ of the Standard Construction Contract, this □□tra Work must □e paid directly to the Contractor □y the □tility□

In order to facilitate the shared cost reconciliation □etween the City and the □tilities, the Contractor must provide details of all payments from the □tilities□These details must include the items, □uantities, and amounts that are covered □y the payment□

G□ Overtime on □tility Work□

The Contractor will □e paid under this article for □tility Work deemed necessary □y the Commissioner □in consultation with the □tility□to accelerate Specific □tility Work Items during critical periods□Such accelerated □tility Work includes□

A□ 100□ of the premium portions of overtime pay for working during non-scheduled work hours which must □e defined as those hours of work outside the permissi□le hours stated in the original contract OCMC Traffic Stipulations□or,

□□ The premium portion of overtime pay for overtime actually worked □eyond the □0-hour work week □ut within the permissi□le hours of work stated in the original contract OCMC Traffic Stipulations□or,

C□ All other incidental e□penditures caused □y modifications of pro□ect site regulations or administrative re□uirements ordered □y the Commissioner □in consultation with the □tility□that result in additional costs to perform Contract Work as specified□

Such accelerated □tility Work must □e paid for under the appropriate □□ FS Item in accordance with the re□uirements of Articles □□and □□of the Standard Construction Contract□

Payment made under this article must cover the cost of all la□or, materials, plant, e□uipment, insurance, and incidentals necessary to accelerate the work as ordered □y the Commissioner □in consultation with the □tility□□

This article may only □e applied to □tility Work performed prior to Su□stantial Completion of the Pro□ect□

SECTION A.3 - Standard Specifications for Joint Bid Work

A□ The Contractor is □e responsi□le for performing work in accordance with the Private □tilities reference document called "JOINT-□IDDING SP□CIFICATIONS AND SK□TCH□S FOR LOWER MANHATTAN", dated August 1, 2005, as amended □elow and in Section C□

□□ Refer to the Private Utility reference document called "□OINT-□IDDING SP□CIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for □□ □□0, pages □□, □□, and □□□

Note□Items under □□ □□0 are task driven operation items and are not □ased on crew si□e□ These items are divided into three uni□ue 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 □e considered □y the facility operator, in consultation with the Resident □ngineer, when determining the applica□le □nit Item Type, which will □e only as per the task performed□"

C□ Refer to the Private Utility reference document called "JOINT-□IDDING SP□CIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 225, page 10, Article A□ Description□

Delete the last four lines of te□t in their entirety, □eginning with the words: "accordance with Specification under Addendum #1, . . .";

Su□stitute the following revised text: "accordance with Specification Section 7.18 – Controlled Low Strength Material □CLSM□, in the Standard Highway Specification□ All □ackfill within the ma□imum e□cavation limits shown in Sketch No□□□ □□□ will □e of controlled low strength material □CLSM□in compliance with re□uirements of Section □□1□, and its cost will □e deemed included in this item."

D□ Refer to the Private □tility reference document called "JOINT-□IDDING SP□CIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 225, page 10, Article □□ Materials□

Delete the first sentence in its entirety, □eginning with the words: "Furnish Controlled Low Strength Material fill or backfill . . .";Su□stitute the following revised sentence: "Furnish Controlled Low Strength Material fill or □ackfill as re□uired and specified in Section □□1□ – Controlled Low Strength Material (CLSM), of the Standard Highway Specification."

□□ Refer to the Private Utility reference document called "JOINT-□IDDING SP□CIFICATIONS AND SKETCHES FOR LOWER MANHATTAN", Specification for JB 226, page 1□, Article A□ Description□

Delete the last five lines of text in their entirety, beginning with the words: "accordance with Specification under Addendum #1, . . .";

Su□stitute the following revised text: "accordance with Specification Section 7.18 – Controlled Low Strength Material □CLSM□, in the Standard Highway Specification□ All □ackfill within the ma□imum e□cavation limits shown in Sketch No□□□ □□□ will □e of controlled low strength material □CLSM□ □ackfill in compliance with Section □□1□ in the Standard Highway Specifications, and its cost will be deemed included in this item."

F□ Refer to the Private □tility reference document called "JOINT-□IDDING SP□CIFICATIONS 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 . . .”;

Su□stitute the following revised sentence: “Furnish controlled low strength material fill or □ackfill as re□uired and specified in Section □□1□ – Controlled Low Strength Material □CLSM□, of the Standard Highway Specification.”

G□ Section □□ 3□0 is not applica□le and deemed deleted□ The Contractor will not □e paid separately to modify means and methods around overhead utilities□those costs must □e included in the prices □id for all work□

H□ Section □□ □00 is not applica□le and deemed deleted□

S□CTION A□□ – Resolution of Certain Disputes Arising □etween the Contractor and the □tilities (Appendix “JB-A”)

A□1□0 Applica□ility□In recognition of the usefulness of a process of alternative dispute resolution for its efficiency, speed and cost-effectiveness in managing conflict and settling disputes that may arise under, or □y virtue of, these special provisions of □oint □idding, the City and □tilities have agreed to the procedures set forth in this **Appendix “JB-A□”** Accordingly, this **Appendix “JB-A”** will apply to disputes □etween the Contractor and the □tilities that arise in relation to this Contract, e□cept for those disputes □etween the Contractor and the □tilities relating to delay claims, as descri□ed in Section A□1, Article F of these □□-Pages□

A□1□1 The Utilities’ Responsibilities□If the □tility identifies an issue in the payment re□uisition for the □tility Work, the □tility will immediately notify the City and the Contractor □y a written notice□ After sending such written notice, the □tility agrees to meet with the Contractor to resolve the issue□ If the issue cannot □e resolved, then the □tility or the Contractor will seek to resolve the issue through the ar□itration process as set forth herein□

A□1□□ No □□tra Or Disputed Work□If the □tility determines that the alleged e□tra □tility Work or the disputed Utility Work is part of the City’s Contract Documents and denies the Contractor’s claim or request for a change order, then after receiving the Utility’s written response, the Contractor will either accept the Utility’s determination or immediately seek to have the issue resolved through the ar□itration process as set forth herein□

A□1□3 □□tra Work□If the □tility determines that there is e□tra □tility Work, the e□tra □tility Work will □e paid for □ased on the contract rates as set forth in A□□ of these □□-Pages□If all or a portion of the agreed upon e□tra □tility Work items are not in the contract rates, then the □tility and the Contractor will negotiate the cost of the e□tra □tility Work with each other with the understanding that the performance of Pu□lic and □tility Work will continue during all negotiations and discussions□ If the parties reach an agreement on cost for the e□tra □tility Work, then the Contractor and the □tility will submit to the City’s RE a copy of the agreed upon prices together with supporting documentation□If the parties do not reach an agreement on cost for the e□tra □tility Work, then the parties will immediately ar□itrate the issue as set forth herein□

A□□□0 □oint □id Pro□ects□Disputes that arise under this Appendi□, as descri□ed a□ove in paragraph A□1□0, will □e resolved in accordance with the provisions of this **Appendix “JB-A”□Appendix “JB-A”** will NOT apply to any disputes □etween the City and the Contractor, or any disputes □etween the City and the □tilities□Since the ar□itration of □tility interference disputes, as descri□ed in Article A□1□0 a□ove, is a matter solely □etween the □tilities and the Contractor, and since the parties agree to reduce or eliminate any costs to the City relating to any ar□itration pursuant to this **Appendix “JB-A”**, the parties here□y agree that□

A□□□1 The City will not □e a party in the ar□itration process□

A□□□□ Neither the Contractor nor the □tilities will call as a witness in the ar□itration process any City employee, agent or consultant, including the City’s RE, his staff or City inspection personnel;

A□□□3 The City will not □e responsi□le for any costs, fees or monetary awards or price ad□ustments associated in any way with the ar□itration process descri□ed in this **Appendix “JB-A”□**and

A□□□□ Notwithstanding Articles A.2.1 and A.2.2, the City’s obligation to furnish information to the parties will □e limited to those re□uests as set forth under the New York State Freedom of Information Law, as amended□

A□3□0 Pre-Ar□itration Procedures□

A□3□1 Should a dispute arise □etween any □tility and the Contractor pursuant to Article A□1□0 of this Appendi□, the disputing party will notify the City and the other party in writing within two □□□ □usiness Days of the dispute that a dispute e□ists, and □riefly descri□e □i□ the nature of the dispute□and □ii□the proposed resolution and rationale supporting its proposal□

A□3□□ After notifying the City of the dispute, the disputing parties will have fifteen

□1□□□usiness Days to meet, discuss the issues, e□change documents and□or e□change offers with due diligence and in good faith in order to reach an agreement and resolve the dispute□

A□3□3□ If the disputing parties reach an agreement, they will immediately notify the City in writing that the dispute has □een resolved and descri□e the terms of the resolution□

A□3□□ If the disputing parties have not reached an agreement within fifteen □1□□□usiness Days of the date the City was first notified of the dispute, the Contractor will, within five □□□ □usiness Days thereafter, su□mit to the □tility a written Final Offer, which will consist of□i□ a description □e□g□, units and □uantities□of all reasona□le and necessary disputed work or e□tra work which the Contractor contends are not covered □y application of the contract rates; and (ii) a detailed breakdown of the Contractor's proposed prices (e.g., unit prices and □uantities□for such work□

A□3□□ Upon receipt of the Contractor's Final Offer, the □tility will, within five □□□□usiness Days, either accept the Contractor's Final Offer or submit to the Contractor a written Final Offer which will consist of□ i□a description □e□g□, units and □uantities□of all reasona□le and necessary disputed work or e□tra work, if any□and □ii□a detailed □reakdown of the Utility's proposed prices □e□g□, unit prices and □uantities□for such work, if applica□le□

A□3□□ Once Final Offers have □een e□changed □y the parties, they may not □e modified or withdrawn □y either party e□cept □y mutual agreement or final settlement of the dispute□

A□3□□ □pon e□change of Final Offers, the Contractor will have three □3□□usiness Days, to either accept or re□ect the Utility's Final Offer□If the Contractor rejects the Utility's Final Offer, then either the Contractor or the □tility will su□mit the dispute to the American Ar□itration Association ("AAA") to be resolved in accordance with the Construction Industry Arbitration Rules ("Rules") in effect on the date the arbitration is initiated, e□cept as such Rules are modified herein□

A□3□□ □ach of the steps descri□ed a□ove will □e a condition precedent to the o□ligations of the parties in succeeding steps□Since **Time is of the Essence**, should either party fail to comply with any of the pre-ar□itration procedures descri□ed a□ove, that party will □e deemed to □e in default□If, upon receipt of written notice of default □y the other party, the defaulting party has not cured the default within three □3□□usiness Days, the other party may proceed to ar□itration solely on the issue of whether the defaulting party was in default of these pre-ar□itration procedures□If, after hearing evidence, the ar□itrator□s□determine that the defaulting party was in default of these pre-ar□itration procedures, then the ar□itrator□s□will enter a final decision in favor of the other party in accordance with the Final Offer su□mitted □y the other party or, if no Final Offer has □een su□mitted prior to the default, according to the last written proposal su□mitted □y the other party□

A□□□0 <u>General Provisions</u>□

A□□□1 The □tility agrees to pay for any disputed or e□tra □tility Work while the ar□itration proceeding is pending based on the Utility's Final Offer.

A□□□□ All determinations □y the parties re□uired □y this **Appendix "JB-A"** will □e clearly stated, with a reasoned e□planation for the determination □ased on the information and evidence presented to the party making the determination□

A□□□3 The □tility agrees to copy the City on all communications involving the ar□itration process and to notify the City of the final determination□

A□□□□ The □tility agrees to pay the Contractor directly for any final settlement for e□tra □tility Work that may □e agreed to □y the □tilities and the Contractor or any final award for e□tra □tility Work issued □y the ar□itrator□s□, less credits for any payments previously made □y the □tility to the Contractor□

A□□□□ All of the contract defined terms will apply here, as if they were re-stated herein□

A□□□□ Since **Time Is Of The Essence** on all □oint □id Pro□ects, whenever there is a dispute pursuant to this **Appendix "JB-A"**, the terms of the City's Construction Contract will remain in full force and effect, and the Contractor will continue performing all of the Contract Work and the □tility Work as directed □y the City□

A□□□□ The timeframes set forth herein have □een esta□lished to ensure that the □oint □id Pro□ect does not stop for any disputes □etween the Contractor and the □tility□

A□□□□ All of the timeframes are measured in □usiness Days, which include Monday, Tuesday, Wednesday, Thursday and Friday, □ut e□clude holidays□

A□□□□ For all disputes that arise under **Appendix "JB-A"**, the City's role will □e limited to receiving copies of all written communications□

A□□□10 The Contractor and all su□contractors hired □y it agree to waive any rights they may have, if any, under law, e□uity, contract or otherwise to compel the City to assert any right the City may have, including the issuance of any directives or so-called "order outs" under the New York City Administrative Code, to re□uire any or all of the □tilities to maintain, repair, replace, protect, support, shift, alter, relocate, and□or remove □tility facilities in connection with work to □e performed under this contract□ However, nothing in this Agreement will preclude the City from e□ercising its rights under the law, including the right to issue such a directive to a □tility□

A□□□11 □ach □tility will □e named as an additional insured on all insurance policies re□uired to □e maintained □y the Contractor in connection with the □oint □id Pro□ect□ The actual incremental cost, if any, to the Contractor of providing such insurance coverage will □e □orne □y the Contractor□The Contractor will provide a written statement from its insurance provider documenting this added coverage to the □tility□□nder no circumstances will the cost of insurance coverage on □ehalf of the □tility □e □orne □y the City□Nothing in this paragraph will be interpreted to imply the City's acceptance of any additional responsi□ility or lia□ility for any matter related to the performance of □tility Work□In particular, with regard to any □tility Work performed in accordance with or through this **Appendix "JB-A"**, the □tility and the Contractor □ear □oint and full responsi□ility to ensure that any □tility Work performed □y the Contractor is in compliance with all applica□le government and □tility regulations□

A□□0 <u>The Ar□itration Procedures</u>□

A□□□1 Once the AAA has appointed an ar□itrator□s□, the ar□itration will □e scheduled as promptly as possible given the arbitrator(s) and the parties' schedules.

A□□□□ No later than fourteen □1□□calendar days prior to the first day of ar□itration, the □tility and Contractor will su□mit to the ar□itrator□s□, and to each other, a summary of each party's respective position, all documentary, photographic or physical evidence on which the party intends to rely, and such other information as is deemed appropriate, along with a copy of each party's "Final Offer" as described a□ove□

A□□□3 The ar□itration will □e conducted and concluded in two □□□days□

A□□□□ On the morning of the first □1st□ day of the ar□itration, Contractor and□or representatives will have 3□ hours to make a presentation of its claim to the ar□itrator□s□□During its presentation, Contractor will not □e permitted to produce any evidence that has not already □een provided to the □tility and the ar□itrator□s□ pursuant to Paragraph A□□□□, a□ove□Contractor will □e permitted to produce any analysis or description of its claim that has □een prepared for the purpose of its presentation□

A□□□□ After the Contractor's presentation, Utility and/or its representatives will have □ hours to ask the Contractor □uestions a□out its claim and its presentation□Thereafter, the ar□itrator□s□will have □ hours to ask the Contractor □uestions a□out its claim and its presentation□

A□□□□ On the morning of the second □□nd□ day of the ar□itration, □tility and□or its representatives will have 3□ hours to make a presentation of its claim to the ar□itrator□s□□During its presentation, the □tilities will not □e permitted to produce any evidence that has not already □een provided to the Contractor and the ar□itrator□s□ pursuant to Paragraph A□□□□, a□ove□The □tility will □e permitted to produce any analysis or description of its claim that has □een prepared for the purpose of its presentation□

A□□□□ After the Utility's presentation, the Contractor and/or its representatives will have □ hours to ask the □tility □uestions a□out its claim and its presentation□Thereafter, the ar□itrator□s□will have □ hours to ask the □tility □uestions a□out its claim and its presentation□

A□□□□ Su□□ect to the a□ove ma□imum time limitations set forth a□ove, the ar□itrator□s□may conduct the ar□itration in such manner as the ar□itrator□s□deems reasona□le□

A□□□□ The ar□itrator□s□will then have one (1) week to select in writing, as the arbitrators' award, that party's Final Offer that appears to be more reasonable, based on the presentations at the ar□itration hearings□

A□□□10 The ar□itrator□s□will have no discretion to grant an award other than one of the two □□□Final Offers su□mitted □y the parties□

A□□□11 The ar□itration award will □e final and □inding upon the parties to the ar□itration and □udgment upon the award may □e entered in a court having □urisdiction□

A□□□1□ Any award for work that has already □een performed will □e paid on the □th day after receipt of the arbitrator's decision, or on the 30th day after completion of the work, whichever is later□Payment for work not yet completed at the time of the arbitrator's decision will □e paid within thirty

□30□calendar days of completion of work□Interest will accrue from the date payment is due at the rate of nine □□□ □percent per annum□□ither party may cause □udgment to □e entered in accordance with the decision of the ar□itrator□s□in a court in the State of New York, County of New York□

A□□□13 The □tility and the Contractor initially will share the arbitrator's(s') fees and any other costs of the ar□itration e□ually□The non-prevailing party will then pay all arbitrator's(s') fees and costs of the ar□itration and will reim□urse the prevailing party for its share of such fees and costs theretofore paid□

A□□□1□ The parties may, at any time, settle any matter su□mitted to ar□itration□

A□□□1□ Since **Time is of the Essence**, should any party, at any time after the dispute has □een su□mitted for ar□itration, materially fail to comply with□i□the Rules, □ii□any of these ar□itration procedures, or □iii□any procedural decisions □y the ar□itrator□s□, then the ar□itrator□s□will enter an order directing the party to cure its non-compliance within five □□□□usiness Days□If the party fails to comply with the order of the ar□itrator□s□ order within the five □□□ □usiness Days, upon receipt of evidence that the non-complying party has failed to comply with the arbitrator's(s') order, the arbitrator(s) will enter a final decision in favor of the other party in accordance with the other party's Final Offer□

END OF JB-PAGES SECTION A

(NO FURTHER TEXT ON THIS PAGE)

SECTION B. NYCDDC INFRASTRUCTURE DIVISION JOINT BID UTILITY PRICE LIST

END OF JB-PAGES SECTION B

(NO FURTHER TEXT ON THIS PAGE)

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 100.1	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .1)	EACH	$ 528
JB 100.2	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .2)	EACH	$ 790
JB 100.3	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .3)	EACH	$ 1,036
JB 100.4	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .4)	EACH	$ 1,260
JB 100.5	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .5)	EACH	$ 1,734
JB 100.6	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .6)	EACH	$ 1,853
JB 100.7	UTILITIES CROSSING TRENCH FOR CATCH BASIN CHUTE CONNECTION (TYPE .7)	EACH	$ 2,009
JB 101.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .1)	EACH	$ 2,635
JB 101.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .2)	EACH	$ 3,024
JB 101.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .3)	EACH	$ 4,078
JB 101.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .4)	EACH	$ 4,315
JB 101.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .5)	EACH	$ 5,224
JB 101.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .6)	EACH	$ 5,716
JB 101.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 12" TO 24" DIAMETER (TYPE .7)	EACH	$ 5,786
JB 102.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .1)	EACH	$ 3,283
JB 102.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .2)	EACH	$ 3,689
JB 102.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .3)	EACH	$ 4,401
JB 102.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .4)	EACH	$ 5,033
JB 102.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .5)	EACH	$ 5,576
JB 102.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .6)	EACH	$ 5,905
JB 102.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 24" TO 36" DIAMETER (TYPE .7)	EACH	$ 6,930
JB 103.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .1)	EACH	$ 3,848
JB 103.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .2)	EACH	$ 4,521
JB 103.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMETER (TYPE .3)	EACH	$ 5,625
JB 103.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMATER (TYPE .4)	EACH	$ 6,614
JB 103.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMATER (TYPE .5)	EACH	$ 7,914

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 103.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMATER (TYPE .6)	EACH	$ 8,484
JB 103.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 36" TO 48" DIAMATER (TYPE .7)	EACH	$ 9,054
JB 104.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .1)	EACH	$ 4,236
JB 104.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .2)	EACH	$ 4,685
JB 104.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .3)	EACH	$ 5,590
JB 104.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .4)	EACH	$ 6,281
JB 104.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .5)	EACH	$ 7,314
JB 104.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .6)	EACH	$ 7,653
JB 104.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 48" TO 54" DIAMETER (TYPE .7)	EACH	$ 8,135
JB 105.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .1)	EACH	$ 4,543
JB 105.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .2)	EACH	$ 5,028
JB 105.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .3)	EACH	$ 6,210
JB 105.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .4)	EACH	$ 7,233
JB 105.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .5)	EACH	$ 8,680
JB 105.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .6)	EACH	$ 9,209
JB 105.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 54" TO 60" DIAMETER (TYPE .7)	EACH	$ 8,630
JB 106.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .1)	EACH	$ 4,748
JB 106.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .2)	EACH	$ 5,239
JB 106.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .3)	EACH	$ 6,458
JB 106.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .4)	EACH	$ 7,506
JB 106.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .5)	EACH	$ 8,894
JB 106.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .6)	EACH	$ 9,429
JB 106.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 60" TO 72" DIAMETER (TYPE .7)	EACH	$ 9,964
JB 107.1	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .1)	EACH	$ 5,011
JB 107.2	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .2)	EACH	$ 5,598
JB 107.3	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .3)	EACH	$ 6,816

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 107.4	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .4)	EACH	$ 7,911
JB 107.5	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .5)	EACH	$ 9,498
JB 107.6	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .6)	EACH	$ 9,861
JB 107.7	UTILITIES CROSSING TRENCH FOR SEWERS OVER 72" TO 84" DIAMETER (TYPE .7)	EACH	$ 10,225
JB 108.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	EACH	$ 804
JB 108.2	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .2)	EACH	$ 1,384
JB 108.3	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .3)	EACH	$ 1,970
JB 108.4	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .4)	EACH	$ 2,516
JB 108.5	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .5)	EACH	$ 2,934
JB 108.6	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .6)	EACH	$ 3,285
JB 108.7	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .7)	EACH	$ 4,026
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)	EACH	$ 1,165
JB 109.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)	EACH	$ 1,619
JB 109.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .3)	EACH	$ 2,190
JB 109.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .4)	EACH	$ 2,804
JB 109.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .5)	EACH	$ 3,250
JB 109.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .6)	EACH	$ 3,643
JB 109.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .7)	EACH	$ 3,775
JB 110.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .1)	EACH	$ 1,519
JB 110.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .2)	EACH	$ 1,958
JB 110.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .3)	EACH	$ 2,526
JB 110.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .4)	EACH	$ 3,191
JB 110.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .5)	EACH	$ 3,734
JB 110.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .6)	EACH	$ 4,294
JB 110.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 24" AND UP TO 36" DIAMETER (TYPE .7)	EACH	$ 5,021
JB 111.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .1)	EACH	$ 1,891

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 111.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .2)	EACH	$ 2,530
JB 111.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .3)	EACH	$ 3,366
JB 111.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .4)	EACH	$ 4,284
JB 111.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .5)	EACH	$ 5,056
JB 111.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .6)	EACH	$ 5,735
JB 111.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 36" AND UP TO 48" DIAMETER (TYPE .7)	EACH	$ 7,165
JB 112.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .1)	EACH	$ 1,888
JB 112.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .2)	EACH	$ 2,446
JB 112.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .3)	EACH	$ 3,395
JB 112.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .4)	EACH	$ 4,376
JB 112.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .5)	EACH	$ 5,133
JB 112.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .6)	EACH	$ 5,776
JB 112.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 48" AND UP TO 54" DIAMETER (TYPE .7)	EACH	$ 6,826
JB 113.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .1)	EACH	$ 2,174
JB 113.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .2)	EACH	$ 2,945
JB 113.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .3)	EACH	$ 3,913
JB 113.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .4)	EACH	$ 4,918
JB 113.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .5)	EACH	$ 5,649
JB 113.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .6)	EACH	$ 6,366
JB 113.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 54" AND UP TO 60" DIAMETER (TYPE .7)	EACH	$ 7,409
JB 114.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .1)	EACH	$ 2,295
JB 114.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .2)	EACH	$ 3,314
JB 114.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .3)	EACH	$ 4,974
JB 114.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .4)	EACH	$ 6,458
JB 114.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .5)	EACH	$ 7,644
JB 114.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .6)	EACH	$ 8,460

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 114.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 60" AND UP TO 72" DIAMETER (TYPE .7)	EACH	$ 8,724
JB 115.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .1)	EACH	$ 2,646
JB 115.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .2)	EACH	$ 3,790
JB 115.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .3)	EACH	$ 5,585
JB 115.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .4)	EACH	$ 7,361
JB 115.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .5)	EACH	$ 8,706
JB 115.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .6)	EACH	$ 9,558
JB 115.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 72" AND UP TO 84" DIAMETER (TYPE .7)	EACH	$ 9,891
JB 116.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .1)	EACH	$ 2,871
JB 116.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .2)	EACH	$ 4,125
JB 116.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .3)	EACH	$ 5,965
JB 116.4	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .4)	EACH	$ 7,945
JB 116.5	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .5)	EACH	$ 9,425
JB 116.6	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .6)	EACH	$ 10,371
JB 116.7	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 84" (TYPE .7)	EACH	$ 10,706
JB 200	EXTRA DEPTH EXCAVATION OF CATCH BASIN CHUTE CONNECTION PIPES	L.F.	$ 175
JB 225.1A	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EACH	$ 3,700
JB 225.1B	INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES AT AN ADDITIONAL DEPTH OF UP TO 3 FEET	EACH	$ 4,188
JB 225.2A	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES	EACH	$ 1,850
JB 225.2B	INSTALLATION OF CATCH BASINS WITH UTILITY INTERFERENCES AT AN ADDITIONAL DEPTH OF UP TO 3 FEET	EACH	$ 2,338
JB 225.3A	REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES	EACH	$ 1,699
JB 300A	SPECIAL CARE EXCAVATION AND BACKFILLING FOR TRANSMISSION MAINS (TRANSMISSION MAIN IS DESCRIBED AS ANY GAS MAIN WITH A MAOP GREATER THAN 124-PSIG)	C.Y.	$ 288
JB 300.1	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5' DEEP	C.Y.	$ 211

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 300.2	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH GREATER THAN 5' DEEP	C.Y.	$ 244
JB 301	SPECIAL CARE EXCAVATION AND BACKFILLING FOR OIL-O-STATIC PIPE	C.Y.	$ 291
JB 303	FURNISH, DELIVER AND INSTALL TYPE 3/8 CLEAN SAND BACKFILL	C.Y.	$ 48
JB 306	EXCAVATION REQUIRING SPECIAL CARE ON ACCOUNT OF PARALLELING UTILITY FACILITIES	C.Y.	$ 250
JB 330E	SUPPORT AND PROTECTION OF UTILITY FACILITIES DURING EXCAVATION	L.F.	$ 214
JB 330G	SUPPORTS FOR PARALLEL FULLY EXPOSED GAS MAINS IN TRENCH	EACH	$ 1,500
JB 330T1	SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED CITY TRENCH	L.F.	$ 145
JB 330T2.1	COMMUNICATIONS FACILITY OPERATOR(S) REQUESTS THE TRENCH BE WIDENED	L.F.	$ 294
JB 330T2.2	COMMUNICATION FACILITY OPERATOR(S) REQUESTS THE TRENCH / SHEETING BE MODIFIED	L.F.	$ 413
JB 351	INSTALL AND REMOVE "A" FRAME ON UTILITY POLES	EACH	$ 1,304
JB 400	TEST PITS FOR UTILITY FACILITIES	C.Y.	$ 223
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	C.Y.	$ 261
JB 401A	SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES CONNECTED TO THE BASE PAVEMENT	C.Y.	$ 321
JB 401AC	SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF CABLE TV FACILITIES CONNCETED TO THE BASE PAVEMENT	C.Y.	$ 89
JB 401AT	SPECIAL CARE PAVEMENT EXCAVATION FOR ADJUSTMENT OF TELECOMMUNICATION FACILITIES CONNECTED TO OR NEAR THE BASE PAVEMENT	C.Y.	$ 96
JB 402.1	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 59
JB 402.1A	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 68
JB 402.2	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 39

JB-B7

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 402.2A	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 48
JB 402T.1	EXISTING CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 59
JB 402T.1A	EXISTING CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 64
JB 402T.2	EXISTING NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 43
JB 402T.2A	EXISTING NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 55
JB 402T.3	ACM REMOVAL AND DISPOSAL OF VERIZON/ECS CONDUITS WITH ASBESTOS CONTAINING MATERIAL TRANSITE PIPES (ACM-TP) UP TO AND INCLUDING 4" DIAMETER	L.F.	$ 83
JB 402T.J1	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT - JOINTS BROKEN OUT AND CONDUITS REMAIN INTACT	L.F.	$ 59
JB 402T.J1A	EXISTING CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT - JOINTS BROKEN OUT AND CONDUITS REMAIN INTACT	L.F.	$ 66
JB 402T.J2	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT - JOINTS BROKEN OUT AND CONDUITS REMAIN INTACT	L.F.	$ 49
JB 402T.J2A	EXISTING NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT - JOINTS BROKEN OUT AND CONDUITS REMAIN INTACT	L.F.	$ 55
JB 402T.R1A	EXISTING CONCRETE ENCASED STEEL/IRON CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 61
JB 402T.R2A	EXISTING NON - CONCRETE ENCASED STEEL/IRON CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 49
JB 402T.V1	EXISTING VACANT CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 60
JB 402T.V1A	EXISTING VACANT CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 41

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 402T.V2	EXISTING VACANT NON-CONCRETE ENCASED CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 50
JB 402T.V2A	EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 56
JB 403	PLACING STEEL PROTECTION PLATES FOR UTILITY FACILITIES	S.F.	$ 4
JB 403T.1	FURNISH AND INSTALL STEEL PROTECTION PLATES FOR UTILITY FACILITIES (1/4" THICK)	S.F.	$ 15
JB 403T.2	FURNISH AND INSTALL STEEL PROTECTION PLATES FOR UTILITES FACILITES (3/8" THICK)	S.F.	$ 19
JB 404	PIER & PLATE METHOD OF PROTECTION FOR DUCTILE IRON WATER MAINS AND OTHER SHALLOW FACILITIES	S.F.	$ 611
JB 405.1	TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS LESS THAN FIVE FEET	C.Y.	$ 339
JB 405.2	TRENCH EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES WITH TOTAL DEPTHS EQUAL TO OR GREATER THAN FIVE FEET, REQUIRING SHEETING	C.Y.	$ 410
JB 406	EXCAVATION FOR UTILITY STRUCTURE	C.Y.	$ 283
JB 410.1	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES UP TO AND INCLUDING 20% (TYPE .1)	C.Y.	$ 338
JB 410.2	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 20% AND UP TO AND INCLUDING 40% (TYPE .2)	C.Y.	$ 403
JB 410.3	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 40% AND UP TO AND INCLUDING 60% (TYPE .3)	C.Y.	$ 470
JB 410.4	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 60% AND UP TO AND INCLUDING 80% (TYPE .4)	C.Y.	$ 580
JB 410.5	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES UP TO AND INCLUDING 20% WITH TRENCH DEPTH EQUAL TO OR GREATER THAN FIVE FEET (TYPE .5)	C.Y.	$ 656
JB 410.6	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 20% AND UP TO AND INCLUDING 40% WITH TRENCH DEPTH EQUAL TO OR GREATER THAN FIVE FEET (TYPE .6)	C.Y.	$ 688

JB-B9

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 410.7	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 40% AND UP TO AND INCLUDING 60% WITH TRENCH DEPTH EQUAL TO OR GREATER THAN FIVE FEET (TYPE .7)	C.Y.	$ 763
JB 410.8	MASS TRENCH EXCAVATION FOR UTILITY FACILITIES OVER 60% AND UP TO AND INCLUDING 80% WITH TRENCH DEPTH EQUAL TO OR GREATER THAN FIVE FEET (TYPE .8)	C.Y.	$ 838
JB 450.1	CONSTRUCTION FIELD SUPPORT - SURVEY CREW (TYPE .1)	CREW/HR	$ 325
JB 450.2	CONSTRUCTION FIELD SUPPORT - SMALL SIZE CREW (TYPE .2)	CREW/HR	$ 358
JB 450.3	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)	CREW/HR	$ 919
JB 450.4	CONSTRUCTION FIELD SUPPORT - LARGE SIZE CREW (TYPE .4)	CREW/HR	$ 1,255
JB 450.5	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .5) PIPE-RIPPING SUPPORT	CREW/HR	$ 769
JB 500	REMOVAL OF ABANDONED UTILITY CONDUITS (NON-CONCRETE ENCASED)	L.F.	$ 5
JB 501	REMOVAL OF ABANDONED MASONRY FOR UTILITY FACILITIES	C.Y.	$ 284
JB 603E.1	INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITHOUT CONCRETE ENCASEMENT	L.F.	$ 4
JB 603E.2	INSTALL UTILITY CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	$ 8
JB 603T.1	INSTALL 1 EACH 2", 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 6
JB 603T.2	INSTALL 2 EACH 2", 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 13
JB 603T.3	INSTALL 4 EACH 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 21
JB 603T.4	INSTALL 6 EACH 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 41
JB 603T.5	INSTALL 8 EACH 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 56
JB 603T.6	INSTALL 12 EACH 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 84
JB 603T.7	INSTALL 15 EACH 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 104
JB 603T.8	INSTALL 24 EACH 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 168
JB 603T.9	INSTALL 30 EACH 4" OR 1-1/4" QUAD CONDUITS (PVC OR STEEL) IN ANY COMBINATION	L.F.	$ 195
JB 636 EA	ADJUSTMENT OF UTILITY HARDWARE (UNDER 7" WIDTH)	EACH	$ 195
JB 636 EB	ADJUSTMENT OF UTILITY HARDWARE (7" TO UNDER 14" WIDTH)	EACH	$ 328
JB 636 EC	ADJUSTMENT OF UTILITY HARDWARE (14" TO UNDER 30" WIDTH)	EACH	$ 834
JB 636 ED	ADJUSTMENT OF UTILITY HARDWARE (30" TO UNDER 34" WIDTH)	EACH	$ 759

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 636 EE	ADJUSTMENT OF UTILITY HARDWARE (34" TO UNDER 41" WIDTH)	EACH	$ 794
JB 636 EG	ADJUSTMENT OF UTILITY HARDWARE (41" TO UNDER 75" WIDTH)	EACH	$ 1,031
JB 636 EH	ADJUSTMENT OF UTILITY HARDWARE (75" TO UNDER 125" WIDTH)	EACH	$ 1,263
JB 636 EI	ADJUSTMENT OF UTILITY HARDWARE (125" TO UNDER 170" WIDTH)	EACH	$ 1,393
JB 636 MA	ADJUSTMENT OF UTILITY HARDWARE 7" to 30" MILLING / RESURFACING	EACH	$ 119
JB 636 MB	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (7" TO UNDER 14" WIDTH)	EACH	$ 144
JB 636 MC	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (14" TO UNDER 30" WIDTH)	EACH	$ 156
JB 636 MD	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (30" TO UNDER 34" WIDTH)	EACH	$ 169
JB 636 ME	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (34" TO UNDER 41" WIDTH)	EACH	$ 190
JB 636 MG	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (41" TO UNDER 75" WIDTH)	EACH	$ 215
JB 636 MH	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (75" TO UNDER 125" WIDTH)	EACH	$ 244
JB 636 MI	MODIFICATION OF WORK METHODS TO ACCOMMODATE UTILITY HARDWARE (125" TO UNDER 170" WIDTH)	EACH	$ 275
JB 636 R	REPAIR TO UTILITY STRUCTURES	C.Y.	$ 246
JB 636 SA	CONCRETE COLLAR AROUND STEAM CASTINGS	S.F.	$ 14
JB 636 SB	ADJUSTMENT TO UTILITY STEAM CASTINGS (UNDER AND INCLUDING 8" WIDTH)	EACH	$ 224
JB 636 SC	ADJUSTMENT OF UTILITY STEAM CASTINGS (ABOVE 8" TO 34" WIDTH)	EACH	$ 661
JB 638 N	INSTALLATION OF FIELD CONSTRUCTED UTILITIES STRUCTURES.	C.Y.	$ 1,156
JB 638 NT	INSTALLATION OF FIELD CONSTRUCTED TELEPHONE/COMMUNICATIONS UTILITY STRUCTURE	C.Y.	$ 3,259
JB 638 R	BREAK OUT AND REMOVE UTILITY STRUCTURE	C.Y.	$ 631

JB-B11

NYCDDC Infrastructure Division - Joint Bid Utility Price List

Item No.	Item Description	Unit	Price
JB 638 RT	BREAK OUT AND REMOVE TELEPHONE/COMMUNICATIONSUTILITY STRUCTURE CONTAINING ACTIVE CABLES	C.Y.	$ 6,438
JB 700	SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER	C.Y.	$ 88
JB 710.1	REMOVAL OF ABANDONED UTILITY STEEL/CAST IRON/ PLASTIC PIPES, UP TO AND INCLUDING 12" DIAMETER PIPE	L.F.	$ 15
JB 710.2	REMOVAL OF ABANDONED UTILITY STEEL/CAST IRON/ PLASTIC PIPES, OVER 12" AND UP TO AND INCLUDING 20" DIAMETER PIPE	L.F.	$ 16
JB 710.3	REMOVAL OF ABANDONED UTILITY STEEL/CAST IRON PIPE, STRUCTURE OPENINGS GREATER THAN 20"	L.F.	$ 41
JB 711	USE SHEETING LINE AS FORM	L.F.	$ 6
JB 781	REMOVABLE CURB SIDEWALK PANEL FOR ACCESS TO UTILITY STRUCTURE OPENINGS	EACH	$ 1,481
JB 798	MODIFICATION OF NON-CONCRETE YOKE TROLLEY STRUCTURES REMOVAL WHEN CROSSING UTILITY FACILITIES	L.F.	$ 305
JB 799	MODIFICATION OF NON-CONCRETE YOKE TROLLEY STRUCTURES REMOVAL PARALLEL TO UTILITY FACILITIES	L.F.	$ 96
JB 800	MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURE REMOVAL WHEN CROSSING UTILITY FACILITIES	L.F.	$ 229
JB 801	MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURE REMOVAL PARALLEL TO UTILITY FACILITIES	L.F.	$ 116
JB 802A	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	S.F.	$ 5
JB 802B	SPECIAL CARE EXCAVATION AND RESOTRATION FOR CURB WORK	L.F.	$ 11
JB 803.1	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH RDWY REMOVAL (LINE CUT ASPHALT)	L.F.	$ 10
JB 803.2	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS (LINE CUT ANY COMBINATION OF ASPHALT AND CONCRETE ROADWAY)	L.F.	$ 20
JB 803.3	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ASPHALT, CONCRETE AND BELGIAN BLOCK ROADWAY REMOVAL OPERATIONS	L.F.	$ 29

END OF JB-PAGES SECTION B

(NO FURTHER TEXT ON THIS PAGE)

SECTION C. JOINT BID SPECIAL SPECIFICATIONS

conEdison

Guideline Document for Public Improvement

CONST- 029 Revision Number 4

Purpose:	To update the Public Improvement Contractor Guideline document for safe entry into Sub-Surface Structures and moving energized underground cables.		
Revision Date:	7-30-2020	Next Revision Due Date:	7-30-2022
Supersedes Date:	6-30-2018	Revision Cycle Period:	Once every 2 years

TYPE	NAME	DATE
EH&S	Glenn D. Newell	7/30/2020
Technical	Joseph Bedell, Joseph Bedell Jr. John Stefandl & Marlon Kalloo	7/30/2020
Legal	Inna Rozenberg	7/30/2020

Summary of Changes:

1. Updated Reference Section to Include OSHA 1926 Subpart V
2. Removed Section on Moving Energized U.G. Cables Located Inside Sub-Surface Structures. (Previously Section 4.0 in Revision 3)
3. Updated/Revised Sections 1.4, 2.1, 2.2.2, 3.4, 3.6, 3.8, 3.9, 4.5.5, 4.7 & 4.7.1
4. Added New Section 4.5.4 – HDPE Conduit
5. Added New Chapter 5.0 – Breaking Out a Point of Entry (POE)

Training Requirements

- N/A

DOJT/Course #, etc. Associated with this Operating Document:

None

Subject Matter Expert:	Marlon Kalloo	Approved Date:	7/30/2020 M. Kalloo
Approver Name:	Theresa Kong	Approved Date:	7/30/2020

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Consolidated Edison Company of New York, Inc.

Guideline

For

Safe Entry into Sub-Surface Structures (Electrical Enclosed Space),

Moving Energized Underground Cables

Removal of Conduit from Cables, and

Breaking Point of Entry (POE's) Into Sub-Surface Structures

Performed by

Municipal Contractors

TABLE OF CONTENTS:

1.0 – Definitions
1.1 - Competent Person
1.2 - Attendant
1.3 - Electrical Enclosed Space
1.4 - CET Specification
1.5 - JB Specification
1.6 - Public Improvement Representative
1.7 – Municipal Contractor
1.8 - Electrically Competent Qualified Municipal Contractor

2.0 - References
2.1 – OSHA Sections 1910.269 & 1926 Subpart V
2.2 - Training
2.2.1 – Electrically Competent Qualified Municipal Contractor
2.2.2- Municipal Contractor Employee

3.0 - Safe Entry into Sub-Surface Structures, (Electrical Enclosed Space)
3.1 - Purpose
3.2 - Application
3.3 - Guideline
3.4 - Inspection / Testing
3.5 - Job Briefing
3.6 - Attendants
3.7 - Hazardous Atmosphere
3.8 - Personal Protective Equipment
3.9 – Con Edison's Personal Protective Equipment Guideline
3.10 - Access

4.0 - Removal of Conduit from Cables and Moving Energized Underground Cables Located Outside of Subsurface Structures
4.1 – Purpose
4.2 – Application
4.3 – Guideline
4.4 – Job Briefing
4.5 - Removal of Conduit from Cables
4.5.1 - Pre-cast Concrete Conduit
4.5.2 - Concrete Encased Conduit
4.5.3 - Wooden Conduit
4.5.4 – HDPE Conduit
4.5.5 – Metal Conduit
4.6 - Visual Inspection
4.7 - Cable Moving Operations
4.7.1 - Personal Protective Equipment

5.0 - Breaking Out a Point of Entry (POE's) in an Electrical Enclose Space
5.1 – Activities Prior to creating POE's
5.2 – Creation of POE Operations

1.0 Definitions

1.1 Competent Person- As a general rule, a Competent Person is an individual who, by way of training and/or experience, is knowledgeable of OSHA and other applicable standards, is capable of identifying workplace hazards relating to the specific operation, and is designated by the employer with the authority to take all appropriate actions necessary to comply with all applicable standards and properly address hazards. Some OSHA standards add additional specific requirements that must be met by the Competent Person.

1.2 Attendant - An authorized individual who is stationed outside a sub-surface structure or an Electrical Enclosed Space to monitor the authorized entrants and to perform duties assigned including providing assistance to individual inside the sub-surface structure or Electrical Enclosed Space.

1.3 Electrical Enclosed Space – OSHA defines an Electrical Enclosed Space as a working space, such as a manhole, vault, tunnel, service box, or shaft, used for the operation and maintenance of electric power generation, transmission, and distribution lines and equipment. An Electrical Enclosed Space has a limited means of egress or entry, and is designed for periodic entry under normal operating conditions. Under normal conditions, an Electrical Enclosed Space does not contain a hazardous atmosphere, but may contain a hazardous atmosphere under abnormal conditions.

1.4 CET Specification – CET Specification defining private utility work within Municipal Construction Contracts.

1.5 JB Specification – Joint Bid specification defining private utility work within a NYC DDC Capital contract.

1.6 Public Improvement Representative - Con Edison employee, (Inspector, Construction Representative, Chief Construction Inspector, Project Specialist, or Manager) assigned to the Public Improvement section.

1.7 Municipal Contractor – Construction municipal contractor performing work for Municipal, State or other Public Agencies or Authorities.

1.8 Electrically Competent Qualified Municipal Contractor - is a Municipal Contractor employee designated and documented by the Municipal Contractor employer, in writing, as the electrically competent and qualified person who, by way of training and/or experience has the skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment, can identify non-insulated conductors from insulated conductors and/or cables and has the knowledge of the precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools that are required for working on or near exposed energized electrical equipment. The Electrically Competent Qualified Municipal Contractor employee is capable of identifying varying workplace electrical hazards relating to the specific operation and has the authority to take appropriate actions, as required. In order to meet the task specific qualifications of this guideline, the Electrically Competent Qualified Municipal Contractor employee must be familiar with this document and be able to demonstrate adherence.

2.0 References

2.1 **OSHA Section 1910.269 –** Electric Power Generation, Transmission & Distribution **& 1926 Subpart V –**Electric Power Transmission and Distribution

2.2 **Training-** The OSHA Office of Training and Education (OTE) develops, directs, oversees, manages and ensures implementation of OSHA's national training and education policies and programs in support of OSHA's strategic goals with the objective of reducing occupational hazards through direct intervention, promoting a safety and health culture through compliance assistance, cooperative programs and strong leadership and maximizing OSHA effectiveness and efficiency by strengthening capabilities and infrastructure.

All Municipal Contractor employees shall be trained in and familiar with the safety-related work practices, safety procedures, and other safety requirements in section 1910.269(a)(2) and 1926 Subpart V that pertains to the Municipal Contractor employees' respective job assignments. Municipal Contractor employees' shall also be trained in and familiar with any other safety practices, including emergency procedures, such as manhole rescue, that are not specifically addressed by this referenced section but that is related to their work and is necessary for their safety.

Con Edison manhole inspection and underground awareness training can be scheduled through the Con Edison TLC upon request of the municipal contractor. OSHA 10 certification cards and CPR / First Aid training are prerequisites.

2.2.1 Electrically Competent Qualified municipal contractors shall also be trained and competent in:

a- The skills and techniques necessary to distinguish exposed live parts from other parts of electrical equipment

b- The skills and techniques necessary to determine exposed live parts from other parts, (determination of non-insulated conductors from insulated conductors / cables).

c- The knowledge of the precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools that are required for working on or near exposed energized parts of electrical equipment. Generally, the Municipal Contractor will not be required to work on or near exposed/non-insulated energized parts of electrical equipment or cables. In the event special conditions exist requiring working near exposed/non insulated energized parts of electrical equipment or cables, the Municipal Contractor shall cease working and immediately contact the authorized Con Edison Inspector so that a further assessment of the condition can be evaluated, and appropriate guidance provided.

d- The Electrically Competent Qualified Municipal Contractor employee shall determine, through regular supervision and through inspections conducted on at least an annual basis that each Municipal Contractor employee is complying with the safety-related work practices outlined in this guidance document.

2.2.2 A Municipal Contractor employee shall receive additional training (or retraining) by the Electrically Competent Municipal Contractor under any of the following conditions:

a- If the Electrically Competent Qualified Municipal Contractor employee indicates that the Municipal Contractor employee is not complying with safety-related work practices

b- If new technology, new types of equipment, or changes in procedures necessitate the use of safety-related work practices that are different from those which the Municipal Contractor employee would normally use

c- If the Municipal Contractor employee must employ other safety-related work practices that are not normally used or that require modification from those stated in this guidance document

Note: OSHA requires retraining before commencing with a task that has not been performed within one year.

The required training shall be of the classroom and/or on-the-job type. The training shall establish Municipal Contractor proficiency in the work practices required and shall introduce the procedures necessary for compliance. The Electrically Competent Qualified Municipal Contractor shall certify that each Municipal Contractor employee has received the training required and retains records of this training to be supplied upon request by Con Edison.

3.0 Safe Entry into Sub-Surface Structures, (Electrical Enclosed Space)

3.1 **Purpose:** To establish a guideline that shall be employed for safe entry into Con Edison sub-surface structures by Municipal Contractors.

3.2 **Application:** Municipal Contractor personnel

3.3 **Guideline:** This guideline provides the requirements for practices that shall be employed for safe entry into Con Edison sub-surface structures. Municipal Contractor personnel requiring entry into Con Edison sub-surface structures shall adhere to this guideline.

3.4 Inspection/Testing

Prior to entry into a Con Edison sub-surface structure, properly trained and qualified Con Edison electrical personnel must conduct an inspection. The assessment will determine if the condition of the electrical facilities contained therein is sufficient to allow need based unrestricted access. Con Edison electrical personnel shall validate that the Con Edison sub-surface structure inspected is approved for need based unrestricted access. The Con Edison Inspector shall communicate and document to an Electrically Competent Municipal Contractor personnel any safety precautions to be taken and that the subsurface structure is safe for entry. Any condition deemed to be un-safe through this formal inspection process would preclude granting access.

An inspection must take place daily prior to Municipal Contractor entry. Once the cover is placed on the electric subsurface structure another inspection must occur prior to Municipal Contractor entry. Inspections include but are not limited to:

1) Testing for stray voltage by a qualified Con Edison employee or qualified Municipal Contractor employee.

2) Completion of atmospheric testing.

3) Determination that it is safe to enter the space.

4) A visual inspection for any abnormalities previously defined.

5) Communication of inspection results and hazards to the Con Edison inspectors and the municipal contractor supervisor.

3.5 Job Briefing

The Electrically Competent Qualified Municipal Contractor in charge shall conduct a job briefing with the municipal contractor's employees involved before they start the job. The briefing shall cover: the hazards associated with the job; work procedures involved; special precautions; and personal protective equipment requirements. The Electrically Competent Qualified Municipal Contractor shall instruct that all cables are to be treated as energized. Additional briefings shall be held if significant changes, which might affect the safety of the municipal contractor's employees, occur during the course of the work. The Electrically Competent Qualified Municipal Contractor shall document completion of the job briefing. A copy of the documented job briefing should be available upon request by Con Edison.

3.6 Attendants

While work is performed in a Con Edison sub-surface structure, a Municipal Contractor Attendant shall be available in the immediate vicinity to render emergency assistance. Sub-surface structure Attendants shall comply with applicable OSHA requirements.

3.7 Hazardous Atmosphere

Municipal Contractor personnel shall perform a hazardous atmosphere test before entry into any Con Edison sub-surface structure and perform continuous air monitoring in compliance with applicable OSHA requirements. Any atmospheric reading deemed to be un-safe would prohibit access to the structure. The Municipal Contractor shall immediately notify the authorized Con Edison Inspector.

3.8 Personal Protective Equipment

Municipal Contractor personnel requiring entry into Con Edison sub-surface structures shall refer to and comply with applicable OSHA requirements regarding the use of Personal Protective Equipment when performing this work. In addition, Con Edison is requiring that Municipal Contractor personnel assigned to work inside Con Edison sub-surface structures shall at all times wear Flame Resistant (FR) Clothing with a rating of 8 cal/cm^2 or HR2, a retrieval harness and that a retrieval device be on location. In addition, an atmospheric tester

must be in use continuously anytime a structure is occupied. See section 3.9 for Matrix on Con Edison's Personal Protective Equipment Guideline.

3.9 Con Edison Personal Protective Equipment Guideline

	Task	Class 0 Gloves	FR Clothing	FR Hood	Blast Goggles	Face Shield	Safety Glasses
1	Pavement breaking	N	N				Y
2	Breaking out concrete encased duct	Y	Y				Y
3	Moving energized primary cables that are located outside a structure while in proximity to joints	Y	Y	Y	Y		
4	Moving primary cables outside a structure (no joints involved)	Y	Y				Y
5	Moving energized secondary cables	Y	Y				Y
6	Hand excavate to locate precast ducts	N	N				Y
7	Hand excavate to locate direct buried cables	Y	Y				Y
8	Removing cable from conduit	Y	Y				Y
9	Breaking structure for POE from outside/inside	Y	Y			Y	Y
10	Breaking sub-structure walls	Y	Y				Y
11	Pulling rope within structure with energized cable	Y	Y				Y
12	Pulling rope in enclosed spaces	Y	Y				Y
13	Building a bench or platform within a subsurface structure to support or protect cables.	Y	Y				Y
14	Breaking out unknown precast electric duct	Y	Y				Y
15	Using digging bar over electric facility	Y	N				Y
16	Using digging bar over direct buried cables	Y	Y				Y
17	Using Pneumatic clay digger in vicinity of electric facility	Y	Y				Y
18	Installing forms for field-constructed sub-surface structures from inside the designed footprint when connected cables are present	Y	Y				Y
19	Installing forms for field-constructed subsurface structures from outside the designed footprint when connected cables are present	N	N				Y
20	Installing forms for field-constructed subsurface structure prior to first energization of new cables	N	N				Y
21	Saw cutting operation	Y	N				Y
22	Hand excavate to locate cable fault	Y	Y				Y
23	Hand excavating to find service dead leg	Y	Y				Y
24	Removing underground silo	Y	Y				Y
25	Regrade	Y	N				Y
26	Build/remove shunt box w/ energized cable inside	Y	Y				Y

3.10 Access

Municipal Contractor personnel shall not climb into or out of Con Edison sub-surface structures by stepping on cables or hangers.

4.0 Removal of Conduit from Cables and Moving Energized Underground Cables Located Outside of Subsurface Structures

4.1 Purpose: Establish a guideline that shall be employed by Electrically Competent Qualified Municipal Contractor personnel, meeting OSHA training requirements, when removing conduit from cables and moving Con Edison energized underground cables located outside structures.

4.2 Application: Municipal Contractor personnel

4.3 Guideline: This guideline details the requirements for practices that shall be employed when moving Con Edison energized underground cables located outside of Con Edison structures. Movement of energized cables on the Con Edison system shall be performed in accordance with the following directions. Only Electrically Competent Qualified Municipal Contractor personnel who been trained and meet necessary OSHA requirements for moving energized underground cables and in accordance with the following directions shall perform movement of energized cables on the Con Edison system.

4.4 Job Briefing

The Electrically Competent Qualified Municipal Contractor in charge shall conduct a job briefing with the Municipal Contractor's employees involved before they start the job. The briefing shall cover: the hazards associated with the job; work procedures involved; special precautions; and personal protective equipment requirements. The Electrically Competent Qualified Municipal Contractor shall instruct that all cables are to be treated as energized. Additional briefings shall be held if significant changes, which might affect the safety of the Municipal Contractor's employees, occur during the course of the work. The Electrically Competent Qualified Municipal Contractor shall document completion of the job briefing.

4.5 Removal of Conduit from Cables

All subsurface electric cable systems and related components shall be considered energized. Caution shall always be employed whenever conduits are opened to expose the interior cable.

4.5.1- Pre-cast Concrete Conduit

a- The conduit shall be fractured by striking the top end corner of the conduit with a 3 lb. hammer equipped with a non-conductive handle. When fracturing the conduit, all impact/chipping action shall be performed in such a manner so as to be directed across the top of the conduit away from any cable that may be inside of the conduit.

b- A small piece of the concrete conduit shall be chipped away so that a visual examination of the interior of the conduit can be made to verify the presence of cable. All impact/chipping actions shall be performed in such a manner so as to be directed across the top of the duct, away from the cable.

c- If cable is present, concrete-chipping operations shall continue until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾") or suitably reinforced plastic sheet material (min. thickness 0.060" – e.g. Norplex Micarta RT504 NEMA Grade G-3) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operations. The remainder of the conduit shall be fractured using the 3 lb. hammer equipped with a non-conductive handle. Care shall be taken so as to avoid any impact upon the cable, either by direct or indirect hammer blows.

d- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 5.7, below.

4.5.2 - Concrete Encased Conduit

a- The concrete encased conduit (including but not limited to pre-cast, fiber, tile, clay), shall be fractured by striking the top end corner of the conduit with a 3 lb. hammer equipped with a non-conductive handle. When fracturing the conduit, all impact/chipping action shall be performed in such a manner so as to be directed across the top of the conduit away from any cable that may be inside of the conduit.

b- For concrete encased conduit, it may be necessary to employ a handheld cold chisel (in conjunction with the 3 lb. hammer) to remove concrete encasement. If a chisel is utilized, all impact/chipping actions shall be performed in such a manner so as to be directed across the top of the duct, away from the cable.

c- If the concrete encasement is so dense as to render the use of a hammer and handheld chisel non-effective, an 8-pound sledgehammer may be employed. If neither of these devices proves effective, the use of a pneumatic chipping hammer will be permitted. The weight/size of the pneumatic chipping hammer shall not exceed 20 lbs. When utilizing a pneumatic chipping hammer, the device shall be securely positioned and be under close operator control at all times. The tool bit used for these operations shall be chisel shaped with a minimum width of two (2") inches. All impact/chipping actions shall be performed in such a manner so as to be directed across the top of the duct, away from the cable.

d- A small piece of the concrete conduit shall be chipped away so as to permit verification of the presence of cable inside the conduit.

e- If cable is present, concrete-chipping operations shall continue until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector

based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾”) or suitably reinforced plastic sheet material (min. thickness 0.060” – e.g. Norplex Micarta RT504 NEMA Grade G-3) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operation.

f- After installation of the shield material has been completed, continue removal of remaining conduit and encasement, using handheld and power tools.

g- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 5.7, below.

4.5.3 – Wood Conduit

a- Wooden conduit shall be split using a handheld cold chisel and a 3 lb. hammer equipped with a non-conductive handle. All impact/chipping action shall be performed in such a manner so as to be directed across the top of the conduit away from the cable.

b- The chisel shall use to create a small window in the conduit that will permit a visual inspection of the conduit interior for the presence of cable.

c- If cable is present, wood conduit material shall continue to be removed until enough material has been removed to permit insertion of a non-conductive protective shield barrier between the conduit and cable or as directed by the authorized Con Edison Inspector based on existing field conditions. Material such as exterior grade plywood or lumber (min. thickness ¾”) or suitably reinforced plastic sheet material (min. thickness 0.060” – e.g. Norplex Micarta RT504 NEMA Grade G-3) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operation.

d- After installation of the shield material has been completed, continue removal of remaining conduit

e- During and after conduit removal operations, cable/conduit shall be properly supported as indicated in Section 5.7, below.

4.5.4 – HDPE Conduit

a- HDPE conduit shall be split using hand tools or a handheld pneumatic rotary cutting tool. All splitting/cutting actions shall be performed in such a manner so as to be directed across the top of the duct, away from the cable.

b- Pneumatic Rotary Cutting Tool – A pneumatic rotary cutting tool shall be used to score an access area in the surface of the conduit., Prior to application of the cutting tool to the surface of the

conduit, the depth collar on the pneumatic rotary cutting tool shall be set so that the cutting bit will penetrate approximately ¾ of the wall thickness of the conduit. After the conduit has been cut to the maximum depth allowable (such that the bit does not fully penetrate the thickness of the conduit), a 3 lb hammer shall be used to knock out the access area (window) outlined by the cutting tool. This will permit visual inspection of the conduit interior for the presence of cable.

c- If inspection of the interior of the conduit reveals that cable is present, a non-conductive protective shield barrier shall be inserted into the conduit between the conduit and cable. This shield material shall provide protection for the cable during the remaining conduit removal operations. Material such as exterior grade plywood or lumber (min. thickness ¾”) or suitably reinforced plastic sheet material (min. thickness 0.060“ – e.g. Norplex Micarta RT504 NEMA Grade G-3) shall be used for this purpose. This shield material shall provide protection for the cable during the remaining conduit removal operations.

d- If inspection of the conduit interior does not reveal the presence of cable, the remaining conduit may be removed using the tool choices mentioned in 4.5.4.a.

4.5.5 - Metal Conduit

a. When removing metal conduit, the Municipal Contractor should first excavate and expose a collar connecting two sections of conduit. Once the collar is accessible, split and/or cut the collar off to inspect the conduit interior for the presence of cable. If a metal conduit collar is NOT easily accessible, or found within 20 to 40 feet of open excavation, proceed to section 4.5.5.b. Note: If the work to be performed is in response to a suspected natural gas leak or in the presence of natural gas, only the use of non-powered hand tools is allowed. Further guidance will be provided by Gas Engineering.

b. If a collar connecting two sections of conduit cannot be found, metal conduit will be split using hand tools and/or a handheld rotary cutting tool. All splitting actions will be directed across the top of the conduit, away from the cable. Note: If the work to be performed is in response to a suspected natural gas leak or in the presence of natural gas, only the use of non-powered hand tools is allowed. Further guidance will be provided by Gas Engineering.

c. Score the outline of an access area onto the surface of the conduit. Do not fully penetrate the conduit with the tool while making this outline.

d. Use this outline as a guide for further splitting and cutting operations that will eventually create a viewing window into the conduit.

e. If inspection of the conduit interior reveals the presence of cable, insert a non-conductive protective barrier between the cable and conduit wall. The barrier will provide physical protection for the cable during remaining conduit removal operations. Materials including, but not limited to, exterior grade plywood, lumber, and Norplex Micarta are acceptable. After the installation of the non-conductive protective barrier, the removal of the remaining conduit may proceed using the tool choices mentioned in section 5.5.4b.

f. If inspection of the conduit interior does not reveal the presence of cable, the remaining conduit may be removed using the tool choices mentioned in section 4.5.5b.

4.6 Visual Inspection

a- A visual inspection of cables located outside Con Edison structures that will be moved, shall be performed by Electrically Competent Qualified Municipal Contractor personnel or the authorized Con Edison Inspector.

b- After the conduits have been broken out (removed from the cables), the exposed cable(s) shall be inspected by the Electrically Competent Qualified Municipal Contractor personnel.

c- The cables shall be visually inspected by the Electrically Competent Qualified Municipal Contractor personnel, and determined to be free from any of the defects that would prevent relocation. Cable(s) shall be free of cracks, tears, and evidence of oil stains, swelling, or melting of the insulation. Cables shall not have any exposed conductor.

4.7 Cable Moving Operations – Outside Structures

a- Prior to moving any cables outside of a subsurface structure, the cables located within the associated connecting subsurface structures shall be inspected in accordance with the guideline requirements for moving cables within Con Edison sub-structures.

b- Municipal Contractor personnel experienced in moving Con Edison cables only shall move cables.

c- Cables shall not be moved until plastic “fair-leaders” are positioned at the duct edges to prevent chaffing damage.

d- Synthetic web slings having a minimum width of two (2) inches shall support cables that have been removed from conduit. Slings shall be used in a basket hitch configuration.

e- Conduits housing cables shall be supported using slings, cable, or rope. Conduits shall be supported in such manner as to maintain alignment with one another.

f- Maximum distance between support points shall be four (4) feet.

g- To prevent inadvertent over bending of the cables, the maximum vertical or horizontal offset between supports shall be one foot (1') for cable that is supported outside of conduit. For cable that is being moved while still installed in conduit, the conduit shall not be offset more than one foot per four-foot section of conduit.

h- Each set of cables (cables from one duct/conduit) shall be moved individually. Cables from multiple ducts/conduits shall not be moved as a bundle.

i- Relocation of cables shall be performed in a careful manner with the movement of cable under complete control at all times. There shall be no sudden movements of the cable or the conduit that contains cable.

j- An observer shall be positioned so as to determine proper slack in structures and to ensure that joints remain properly supported on rack arms and specified offsets are maintained. This observation shall be performed from outside of the structure while the cable is being moved.

k- Allowable horizontal and vertical offsets shall be determined based on applicable CET or JB item sketches and/or as directed by the authorized Con Edison Inspector.

l- Cables shall not be permitted to fall freely from temporary supports.

m- All cables supported by slings shall be visually inspected at the beginning and end of each work shift to ensure that no cracks, leaks, or other defects have developed.

n- Cables shall be repositioned with care when being moved into their final position for the installation of split conduit.

4.7.1 Personal Protective Equipment

Municipal Contractor personnel moving Con Edison energized cables shall refer to and comply with applicable OSHA requirements regarding the use of Personal Protective Equipment when performing this work. See Section 3.9 for Matrix on Con Edison's Personal Protective Equipment Guideline.

5.0 <u>Breaking Out a Point of Entry (POE's) in an Electrical Enclosed Space</u>

5.1 Activities Prior to creating POE's

5.1.1 Prior to creating POE's, the location of all conduit and cable passing through the section of the wall shall be visually identified and protected inside structure.

5.1.2 If any cables are required to be moved prior to creation of a POE, they shall be moved by properly trained and qualified Con Edison electrical personnel.

5.2 Creation of POE Operations

5.2.1 Using caution, expose the exterior section of the wall that you intend to create the POE (typically done in 2' – deep vertical sections) by carefully excavating on the outside of the structure.

5.2.2 When there is a potential for contact between the existing cables that have been visually identified and the tool being used to break out the POE, protect the cables using fire rated wood, phenolic board, cable shields or other acceptable non-conductive materials. Along with protecting the cable from coming in contact with the implement being used for breaking, cables on the walls in the POE area shall also be protected from falling debris using FR wood even if there is no potential for contact with said cables.

5.2.3 Once the following conditions have been satisfied:

5.2.3.1 Location of cables inside the structure and the associated conduit outside have been verified.
5.2.3.2 Protection of cable on both the inside and the outside of the structure walls
5.2.3.3 Structural integrity of the proposed POE area has been confirmed using hand tools

Then use the appropriate tool (up to and including a 90 lb. jackhammer) to create the POE on the section of structure wall that was previously prepared.

5.2.4 If a jackhammer is being used for the POE breakout operation, where feasible, support the tool from underneath to prevent slippage.

5.2.5 Where possible, the use of a 90 lb. jackhammer shall be avoided within 8" of a live conduit. If the competent person determines that the breakout can only be made using a jackhammer within 8" of live conduit, a physical barrier must be placed between the jackhammer and all facilities that could possibly come in contact with the jackhammer. The Municipal Contractor may then begin utilizing the 90 lb. jackhammer using a 3" bit or wider.

MODIFIED SPECIFICATIONS

The specifications listed below supersede the specifications found in the “JOINT-BIDDING SPECIFICATIONS AND SKETCHES FOR MANHATTAN (ISSUED: AUGUST 1st, 2005)”.

Specification	Superseded Specifications
JB 300	JB 300.1 & JB 300.2
JB 401	JB 401
JB 402T	JB 402T.1, JB 402T.1A, JB 402T.2, JB 402T.2A, JB 402T.J1, JB 402T.J1A, JB 402T.J2, JB 402T.J2A, JB 402T.R1A, JB 402T.R2A, JB 402T.V1, JB 402T.V1A, JB 402T.V2, & JB 402T.V2A
JB 403T	JB 403T.1 & JB 403T.2
JB 636 E	JB 636 EA, JB 636 EB, JB 636 EC, JB 636 ED, JB 636 EE, JB 636 EG, JB 636 EH, & JB 636 EI
JB 803	JB 803.1, JB 803.2, & JB 803.3
JB 225	JB 225.1A, JB 225.1B, JB 225.2A, JB 225.2B, & JB 225.3A
JB 351T	N/A
JB 402T.3	JB 402T.3
JB 405	JB 405.1 & JB 405.2
JB 450	JB 450.1, JB 450.2, JB 450.3, JB 450.4, & JB 450.5
JB 603T	JB 603T.1, JB 603T.2, JB 603T.3, JB 603T.4, JB 603T.5, JB 603T.6, JB 603T.7, JB 603T.8, & JB 603T.9
JB 636 M	JB 636 MA, JB 636 MB, JB 636 MC, JB 636 MD, JB 636 ME, JB 636 MG, JB 636 MH, & JB 636 MI
JB 638 NT	JB 638 NT
JB 638 RT	JB 638 RT
JB 798	JB 798
JB 799	JB 799
JB 800	JB 800
JB 801	JB 801
JB 802	JB 802A & JB 802B

JB 300 - SPECIAL CARE EXCAVATION AND BACKFILLING

A. Description

Under this section, the Contractor shall provide all incremental labor, materials, equipment, insurance and incidentals required for trench excavation when protecting and maintaining and accommodating the integrity of utility facilities, including but not limited to:

1. Conduits
2. Cables
3. Structures
4. Concrete encased conduit ductbanks
5. Steel pipes
6. Steam facilities
7. Non-cost sharing gas facilities

of various sizes and configurations, encroaching (partially exposed) or paralleling (not exposed) within 6 inches of the approved city trench lines for all phases of contract excavation as shown on contract drawings and/or as encountered during construction, except excavations to the ultimate depth for curbs, sidewalks and roadway/base/sub-base removal which are covered under other JB items. This item shall also apply to facilities that cross excavations for water service installation and extensions or excavations for water tap searches. The items specified under this section shall not be measured for payment in conjunction with any other types of utility items. All work shall be performed in accordance with contract plans, specifications, sketches JB 300A and JB 300B and at the direction of the facility operator(s).

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain and protect and accommodate the integrity of all utility facilities encroaching/paralleling within excavations as schematically shown on sketches JB 300A and JB 300B. 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 hand excavation methods (i.e. pick and shovel or hand held power tools) directly below the pavement base to expose the facilities and ascertain the spatial relationships and/or dimensions of these utilities with respect to the proposed excavation. Upon exposing the affected utilities sufficiently as determined solely by the facility operator(s), the Contractor shall be permitted to proceed with a combination of hand and machine excavation, as appropriate, within a zone of protection whose limit shall be defined as a perimeter located one foot from the outside face of each utility encroaching.

D. Method of Measurement

The unit price for this work item shall be based on the volume (C.Y.) of special care excavation calculated as follows:

- For paralleling facilities (not exposed) within six inches of city trench line: The area for payment shall be measured horizontally from the face of the excavation plus one foot towards the center

of trench and vertically from bottom of the roadway to the bottom of the trench, multiplied by the length of the paralleling utility facility as indicated in sketches JB 300A and JB 300B.

- For encroaching facilities: The area for payment shall be measured horizontally as the width of the encroaching facility plus one foot towards the center of the trench and vertically from the bottom of the roadway to the bottom of the trench, multiplied by the length of the encroaching utility facility as indicated in sketches JB 300A and JB 300B.
- For facilities crossing water service excavations: Depth as defined above multiplied by the width taken as the outside diameter width of structure plus one foot on either side, multiplied by the length of the exposed facility inside the trench.

The volume calculation shall in all cases include, the volume occupied by the utility proper within the payment area described above. Overlapping volume dimensions measured as described above may occur when multiple utilities are encroaching trench excavations. In such cases, all such utilities shall be counted as one utility limited by the maximum encroachment of pipes, conduit(s), and conduit banks faces. The volume shall then be calculated as described above and shown on sketches JB 100E, JB 300A and JB 300B. Utilities identified as abandoned by the facility operator prior to be beginning of excavation, are not included for payment under this item.

JB 300.1 – Special care excavation and backfilling for utility facilities in city trenches less than 5’ in depth

JB 300.2 – Special care excavation and backfilling for utility facilities in city trenches 5’ or greater in depth

E. Price to Cover

The price shall cover the cost of all labor, material, equipment, insurance and incidentals necessary to completely protect and maintain and accommodate the integrity of the facilities without disruption of service to the customers and in accordance with contract documents. The price shall also include the cost of modifications to typical work methods, including water tap search excavations and the use of such methods as hand excavation around existing single and multiple facilities; backfilling and compaction around, over and under the utilities including the use of special methods, installation and removal of sheeting from around the facilities, and traffic plates that may be required to temporarily close and/or complete the work.

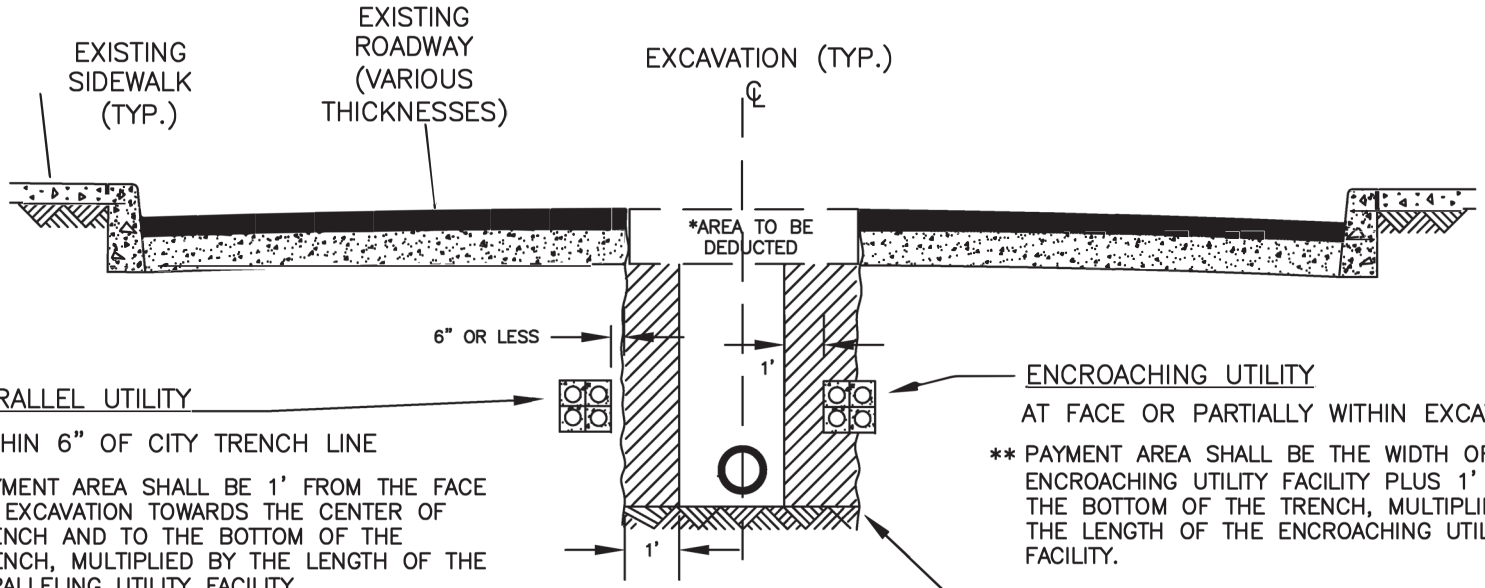
For item JB 300.1 – Depth shall be measured from the bottom of the existing roadway to the bottom of the trench up to a total trench depth of less than 5’ measured from top of roadway.

For item JB 300.2 – Depth shall be measured from the bottom of the existing roadway to the bottom of the trench.

If the lowest utility facility is located at a depth less than 5’ in a trench greater than 5’ deep, then only item 300.1 shall apply. Only one payment for either 300.1 or 300.2 shall apply per trench wall.

F. References

1. Sketches JB 100E, 300A, JB 300B
2. NYS Industrial Code Rule 753



PROFILE

N.T.S.

NOTES:

* VOLUME OF ROADWAY SHALL BE DEDUCTED FROM PAYMENT AREA

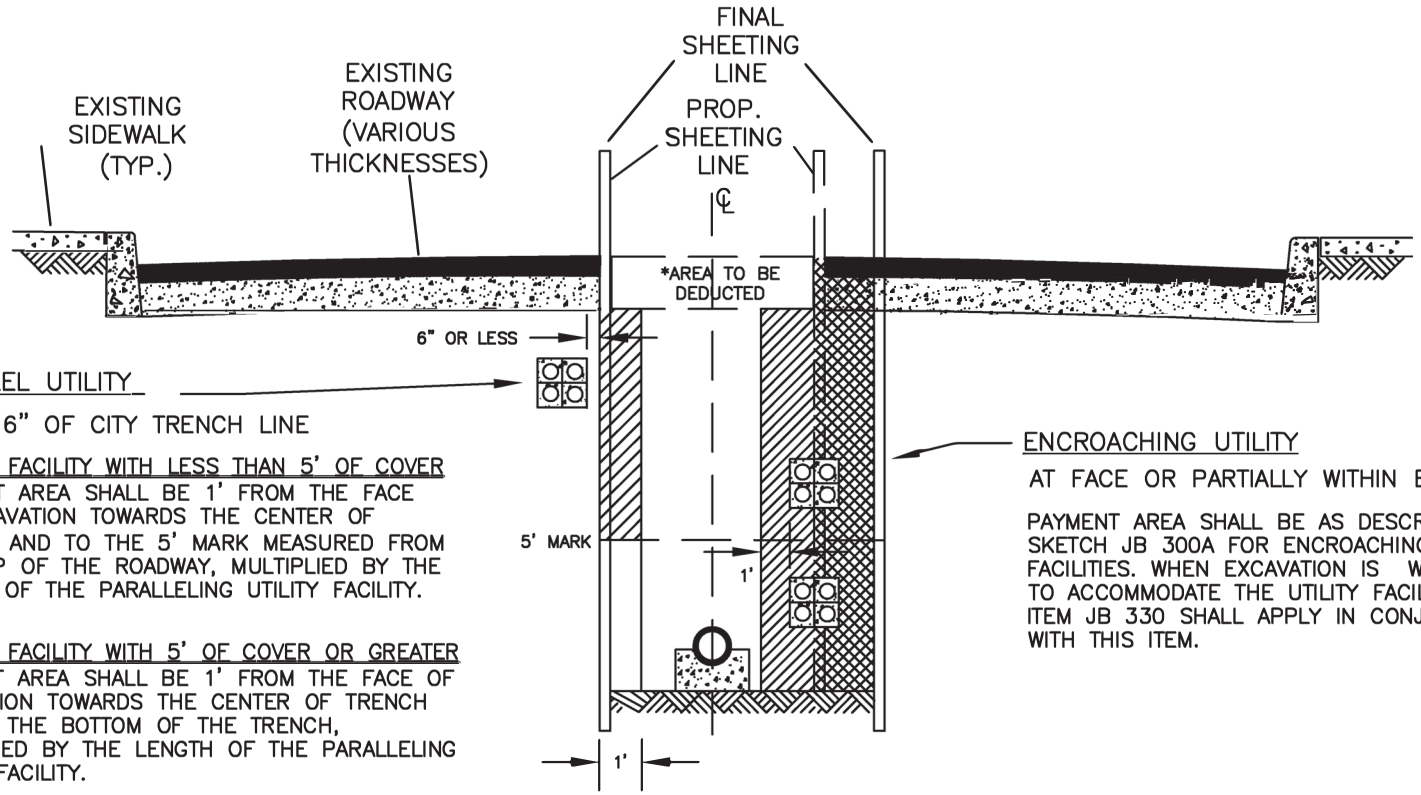
** ONLY ONE PAYMENT SHALL APPLY PER TRENCH WALL

PAYMENT AREA

UTILITY PARALLELING/ ENCROACHING IN CITY FACILITY TRENCH LESS THAN 5' IN DEPTH	
LAST REVISION 6/30/2015	SKETCH NO. JB 300 A

JB-C20

PROJECT ID: RED386



PARALLEL UTILITY

WITHIN 6" OF CITY TRENCH LINE

LOWEST FACILITY WITH LESS THAN 5' OF COVER

PAYMENT AREA SHALL BE 1' FROM THE FACE OF EXCAVATION TOWARDS THE CENTER OF TRENCH AND TO THE 5' MARK MEASURED FROM THE TOP OF THE ROADWAY, MULTIPLIED BY THE LENGTH OF THE PARALLELING UTILITY FACILITY.

LOWEST FACILITY WITH 5' OF COVER OR GREATER

PAYMENT AREA SHALL BE 1' FROM THE FACE OF EXCAVATION TOWARDS THE CENTER OF TRENCH AND TO THE BOTTOM OF THE TRENCH, MULTIPLIED BY THE LENGTH OF THE PARALLELING UTILITY FACILITY.

ENCROACHING UTILITY

AT FACE OR PARTIALLY WITHIN EXCAVATION

PAYMENT AREA SHALL BE AS DESCRIBED IN SKETCH JB 300A FOR ENCROACHING FACILITIES. WHEN EXCAVATION IS WIDENED TO ACCOMMODATE THE UTILITY FACILITY, ITEM JB 330 SHALL APPLY IN CONJUNCTION WITH THIS ITEM.

PROFILE

N.T.S.

ITEM 300 PAYMENT AREA

ITEM 330 PAYMENT AREA

NOTES:

* VOLUME OF ROADWAY SHALL BE DEDUCTED FROM PAYMENT AREA

** ONLY ONE PAYMENT SHALL APPLY PER TRENCH WALL

UTILITY PARALLELING/ ENCROACHING IN CITY FACILITY TRENCH 5' AND GREATER IN DEPTH	
LAST REVISION 10/05/2021	SKETCH NO. JB 300 B

JB 401 - TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals required to excavate by hand to locate and expose subsurface utilities encountered during construction in preparation for horizontal and vertical movement (covered by other Sections), and to support and maintain and protect the integrity of utility facilities including but not limited to:

1. Conduits;
2. Conductor(s) and/or cable(s);
3. Concrete Encased Conduit Bank(s);
4. Steel Pipe(s)

The trench to be excavated shall be determined by the size of the utility and the extent of adjustment required to avoid interferences as detailed on Sketch JB 402 A during all phases of contract work. The work shall be performed in accordance with the specifications, and at the directions of the facility operator in consultation with the Resident Engineer.

B. Materials

All materials used to support and maintain and protect shall be similar to those indicated on Sketches JB 100 A and 100 A-1 and shall be supplied by Contractor and be approved by the facility operator in consultation with the Resident Engineer.

C. Methods of Construction

The Contractor shall cut, break and remove various thickness of surface and base pavement, excavate by hand to expose, support and protect all utility facilities within the trench and then furnish and tamp backfill after work has been completed by the parties indicated under other Sections. 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 hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility. Upon exposing the affected utilities sufficiently to determine relationships and/or clearances at the sole discretion of the facility operator in consultation with the Resident Engineer, the Contractor shall be permitted to proceed with a combination of hand and machine excavation sufficiently to wingback all interferences of cable and conduit. The trench shall be adjusted so as to provide a nominal cover of 24" over the highest conduit. The width of the trench shall be as directed by the facility operator in consultation with the Resident Engineer. The bottom of the trench shall be graded smooth and tamped to minimize initial settlement and to avoid "point" support of conduits. All stones projecting into the trench bottom shall be removed, and the voids backfilled before conduits are placed. 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.

D. Method of Measurement

The Contractor shall be paid per cubic yard (C.Y.) of trench actually excavated to the limits directed as detailed in Sketch JB 402 A and to the satisfaction of the facility operator in consultation with the Resident Engineer. When two or more utility facilities requiring horizontal or vertical adjustment with different owners are in the same trench, the facility operators shall jointly determine the percentage of ownership of the trench.

E. Price to Cover

The price for excavation shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to completely expose, support and protect and maintain the integrity of the facilities without disruption of service to the customers and in accordance with the Contract Documents, associated maintenance of traffic, and traffic plates and sheeting that may be required, cut, break and remove various thickness of surface and base pavement, excavate by hand to expose existing structures, furnish, place and tamp backfill after required vertical and/or horizontal adjustments have been completed under other Sections. 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 paid under other items. The price shall also include the cost of locating and supporting and protecting all utilities encountered including slings and beams installed for utility support when required. The price shall include maintaining the sheeting for the duration of the relocation and work required by the facility operator including but not limited to pipe-ripping covered under JB 402T.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 100 A and A-1
3. Sketch JB 402 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 Adjust or Move Conductor(s) and/or cable(s) and support

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. Replacement, Encasement, Protection and Support

a. Replace vacant and loaded conduit(s) with solid and/or split conduit(s) and adapters.

1) Vacant Conduit - 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) Loaded Conduit - 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) Adapting - 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 under this section and not restored shall be paid at 60% of the appropriate item in this section.

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, conduits (except iron/steel), support of cables/conduits, 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 pipe-ripping crews and 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 JB-402T covers access to the work site at all times for work required under this item.

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.)

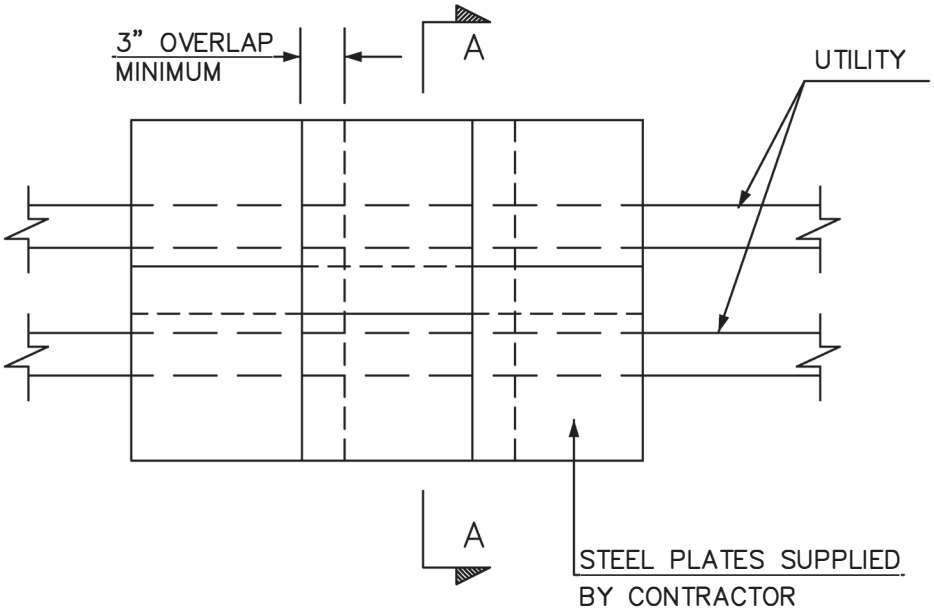
JB 403T.2 – Furnish and Install 3/8" thick steel plate (S.F.)

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

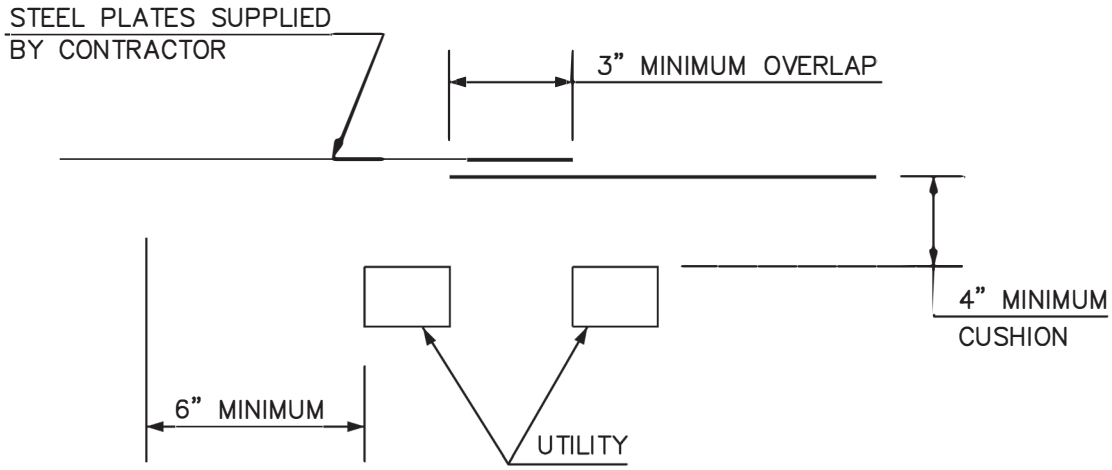
Sketch JB 403T



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 636E - ADJUSTMENT OF UTILITY HARDWARE

Under this section the Contractor shall adjust existing utility street hardware including vault grates, valve boxes, etc., to the proposed grade by either building up or lowering the installation and resetting the castings, as and where directed by the facility operator.

A. Description

Building up or lowering the installation and resetting the castings shall consist of removing the existing frame and cover, building up or decreasing the existing installation, replacing the frame and/or cover if damaged, as determined by the facility operator, with a new frame and/or cover furnished by the facility operator, and setting the frame and cover to the new elevation.

B. Materials

Materials used shall comply with the Standards and specifications of the facility operator having jurisdiction over the installations. Where high-early strength concrete is required by the Resident Engineer to be placed adjacent to utility installations then the requirement for mortar shall be quick setting mortar capable of obtaining a minimum compressive strength of 1,500 psi in two (2) hours, and the requirement for concrete shall be high-early strength complying with current N.Y. State Department of Transportation, Standard Specifications for Class F concrete.

When castings and/or covers are deemed inadequate at a location as determined by the facility operator, the facility operators shall furnish new castings and/or covers to the Contractor for installation. The Contractor is required to inform the utility operator in advance of the need for the castings. Materials supplied by the facility operator shall be delivered to the contractor’s designated storage area.

C. Methods of Construction

The Contractor shall breakout and dispose of sidewalk, curb, pavement and/or pavement base around existing casting, excavate as required to remove casting and install existing or replacement casting, remove casting, protect opening, reinstall existing casting or install new casting to the proposed grades, backfill, grade and compact fill around casting, install base concrete and or sidewalk pavement and curb, tack coat around frame, install and remove temporary pavement around casting where directed by the facility operator; and install and compact asphalt binder and wearing course or other permanent pavement around casting and perform all work in accordance with the contract plans and the specifications.

Setting or resetting the castings shall be done with bricks plus mortar and/or by raising or lowering adjustable castings according to the standards of the utility owner having jurisdiction over the installation. Work shall be done in a workmanlike manner. Any damage resulting from the Contractor's operations to the existing installation which is to remain shall be satisfactorily corrected at the Contractor's own expense, as directed by the facility operator. Castings, which are deemed unacceptable for resetting, shall become the property of the Contractor and shall be removed and disposed of by him away from the site.

No traffic shall be allowed on adjusted utility hardware until permitted by the facility operator.

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 utility hardware unit, measured in width, shall be defined as either, the diameter of the exposed edge of the casting, or the exposed edge of the longest side of rectangular frames as indicated in sketch JB 636.

JB 636 EA - Adjustment of Utility Hardware (Under 7" Width)

JB 636 EB - Adjustment of Utility Hardware (7" to under 14" Width)

JB 636 EC - Adjustment of Utility Hardware (14" to under 30" Width)

JB 636 ED - Adjustment of Utility Hardware (30" to under 34" Width)

JB 636 EE – Adjustment of Utility Hardware (34” to under 41” Width)

JB 636 EG - Adjustment of Utility Hardware (41" to under 75" Width)

JB 636 EH - Adjustment of Utility Hardware (75" to under 125" Width)

JB 636 EI - Adjustment of Utility Hardware (125" to under 170" Width)

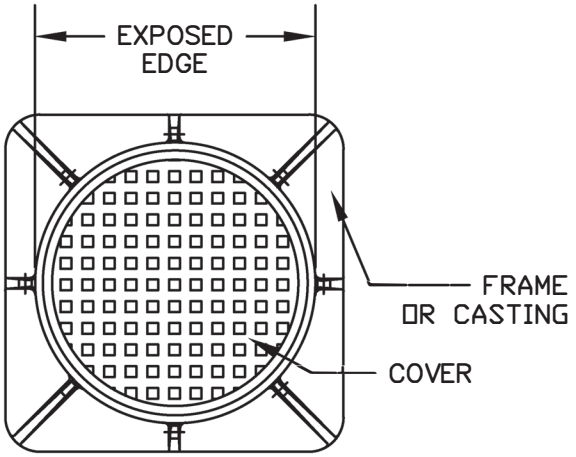
E. Price to Cover

The price for re-grading utility hardware shall be the unit price per each (EA.) and shall cover the cost of furnishing all labor, materials, plant, equipment, and incidentals required to remove existing frames and covers; build up the existing installations with brick and mortar, or lower the existing installations by removing bricks and mortar; replace damaged frames and/or covers with frames and/or covers furnished by others; break out pavement and/or pavement base; protect existing opening and installation; set the frames and covers to new elevations; grade and compact fill; install base concrete; tack coat frame; install, remove, and dispose temporary pavement; install and compact asphalt binder and wearing course or other permanent pavement; repair minor structural damage 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; and complete the work in accordance with the plans, the specifications, and the directions of the facility operator.

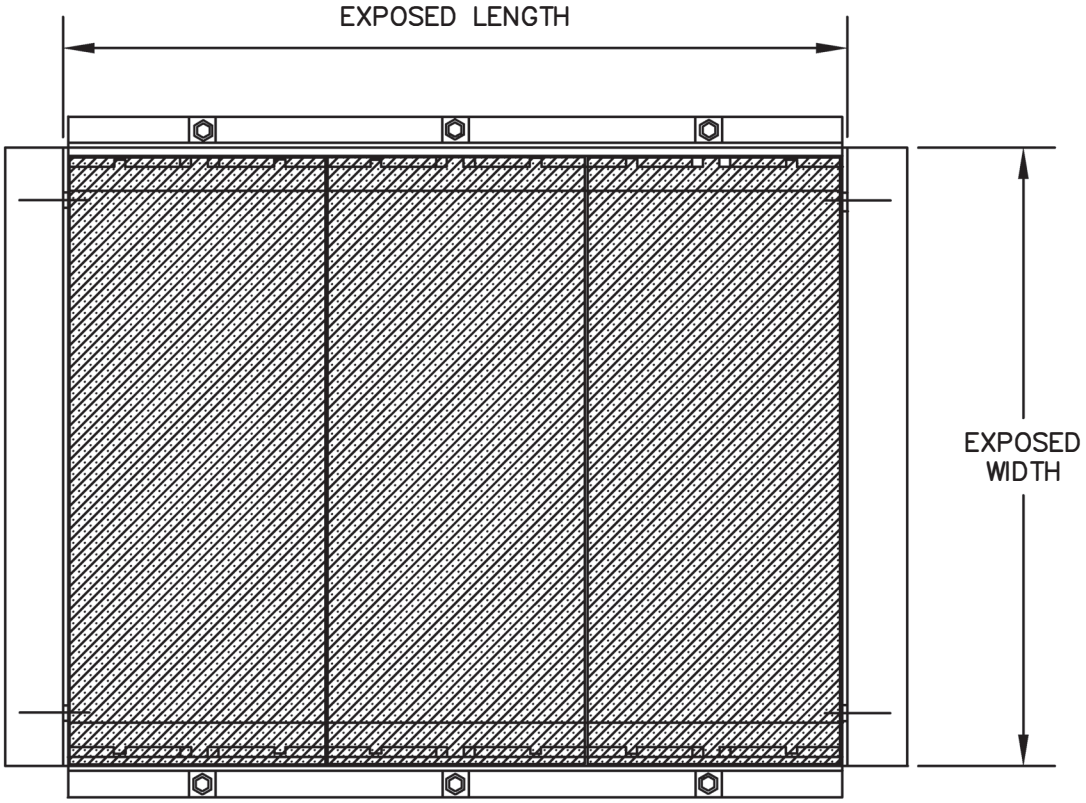
F. References

1. NYS DOT Standard Specs for Class F Concrete
2. Con Edison Specifications, latest revisions. EO-10321-B, latest revision – Chimneys, collars & grading blocks for manholes & vaults construction and installation
3. Sketch JB 636E

ROUND COVERS



RECTANGULAR COVERS/FRAMES



PLAN VIEW

N.T.S.

ADJUSTMENT OF
UTILITY HARDWARE

LAST REVISION	SKETCH NO.
6/30/2015	JB 636E

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

JB 225 – INSTALLATION AND REMOVAL OF CATCH BASINS WITH UTILITY INTERFERENCES

A. Description

Under this section, the Contractor shall provide all incremental labor, materials, equipment, insurance and incidentals required to support and/or protect the integrity of utility facilities required during the excavation, installation and removal of catch basins within maximum excavation limits shown on sketch JB 225. This shall include but not be limited to the following types of utility facilities:

1. Conduits
2. Cables
3. Concrete encased conduit duct banks
4. Steel pipes
5. Steam facilities
6. Oil-o-static facilities, and
7. Non-Cost sharing gas facilities

encroaching the catch basin excavation and sheeting lines as described further in this section and attached sketch JB 225.

B. Materials

Furnish slurry fill or backfill as required. All materials used to support and protect utility facilities shall be as indicated on standard Sketches JB 100A, JB 100B, JB 100C, JB 100C-1, JB 100D, JB 100E and JB 100F, contained elsewhere in these specifications, shall be supplied by the Contractor and approved by the facility operator(s).

C. Methods of Construction

The Contractor shall use sheeting methods that permit maintenance, support and protection of all utility facilities covered by this section. It is the intent of this item to support, maintain and protect any and all combinations and configurations of utility facilities located within limits indicated on sketch JB 225. For the construction of Type III catch basins, the spillway shall be constructed in a separate stage where the excavation limits may be waived after the basin structure has been installed and backfilled. Excavation for the spillway shall not exceed 3' beyond the exterior finished surface of the proposed spillway. Excavation method for spillway construction shall be done by hand. Utility facilities located within the catch basin footprint, are not covered by this section and shall be removed or adjusted by the Contractor under other JB items or by facility operator at their own expense. This section shall then cover the adjusted facilities.

Utility facilities located beyond the established maximum payment limits are not affected by work specified and shall not be disturbed during any type of catch basin installation and/or removal. Contractor shall be solely and totally responsible for support, maintain and protect, any disturbances and/or any damages to such facilities at his expense. 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 hand excavation methods (pick

and shovel and/or hand held power tools) directly below the pavement base to expose the facilities and to ascertain the spatial relationships and/or dimensions of these utilities with respect to the proposed excavation. Upon exposing the affected utilities as determined solely by the facility operator(s), the Contractor shall be permitted to proceed with a combination of hand and machine excavation, as appropriate, within a zone of protection whose limit shall be defined as a perimeter located one foot from the outside face of each utility interference.

D. Method of Measurement

The quantity to be measured for payment shall be each basin where utility facilities are located within the limits indicated on sketch JB 225. Utility facilities located within the catch basin footprint shall be removed or adjusted by the contractor under other JB items. This section shall then cover the adjusted facilities. Payment will be made only one time at locations where a new catch basin is to be installed at the same location as a preexisting catch basin as specified on contract drawings. For the purpose of this item, “same location” shall mean within 10ft of the preexisting basin location.

JB 225.1A – Installation and removal of catch basins with utility interferences (EA)

JB 225.1B – Installation and removal of catch basin with utility interference at an additional depth of up to 3 feet (EA)

JB 225.2A – Installation of catch basins with utility interferences (EA)

JB 225.2B – Installation of catch basins with utility interferences at an additional depth of up to 3 feet (EA)

JB 225.3A – Removal of catch basins with utility interferences. This item shall be applied only in situations where the catch basin is being removed and not replaced. This item requires complete removal of the catch basin including the floor. (EA)

E. Price to Cover

For JB items 225.1A & 225.2A – The price shall cover the cost of all labor, material, equipment, insurance and incidentals necessary to completely support and protect and maintain the integrity of the utilities without disruption of service to the customers and in accordance with other types of utility items. The price shall also include the cost of: supports, slings and beams installed for utility support; changes of sheeting method and configuration where necessary to accommodate the utility; a combination of hand and machine excavation within the payment limits specified; the disposal of excess backfill material; the placing of backfill material adjacent to catch basins within the maximum payment limits shown on sketch JB 225; backfilling and compacting around over, under and in between utility facilities; installation and removal of sheeting around facilities; support and protection of utility facilities encountered during construction of the spillway. The price shall also cover any additional excavations including hand and hand and machine excavations under and in between single and multiple facilities; and/or in between utility facilities and other existing structures. The unit price shall be deemed to cover all incremental cost for all labor, material, equipment, and incidentals necessary to excavate, install and/or remove specified catch basins while completely supporting, protecting, maintaining and/or adjusting the catch basin to accommodate the integrity of the encroaching utility facilities without disruption of service to the customers in accordance with the contract documents. All cost to support maintain, protect, and accommodate the integrity of utility facilities shall be deemed included in the price for this item. The price shall also cover all additional restricted excavating, sheeting, backfilling, and

compaction around, over, under, and between utility facilities and all other existing structures and/or newly installed and/or removed catch basin.

For JB items 225.1B and .2B – The price to cover shall include all work as described in price to cover for JB 225.1A and .2A plus installation of the catch basin at an additional depth of up to three feet. 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. Payment will be made only one time if the Contractor elects to install new basins next to existing basins to accommodate their operations. No payment will be made for the removal of the existing basins if performed at a later sequence.

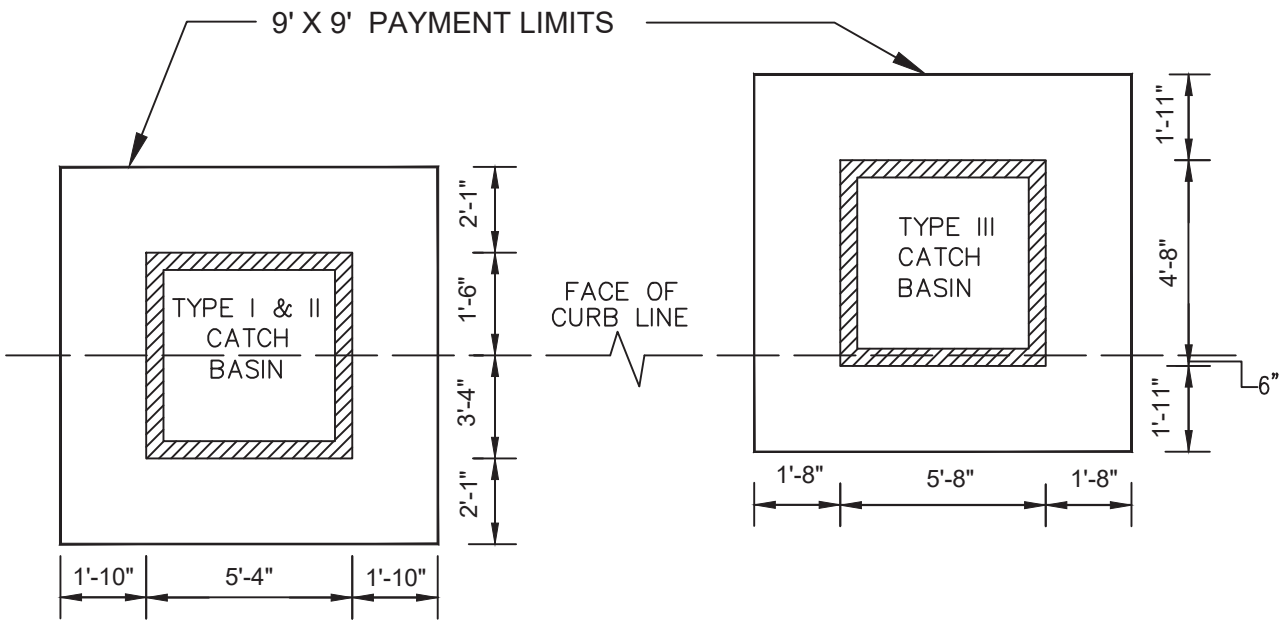
For JB items 225.1A, .1B, .2A, and .2B - if tight sheeting is not utilized for the installation of the catch basin this JB pay item shall be reduced by 60%.

For JB item 225.3A – The price to cover shall include all work as described in price to cover for JB 225.1A and .2A plus the modification of means and methods for the removal of catch basins using hand tools including but not limited to chipping guns and jack hammers when work is performed in the presence of utility facilities within the excavation limits as outlined in sketch JB 225.

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. Payment will be made only one time if the Contractor elects to install new basins next to existing basins to accommodate their operations. No payment will be made for the removal of the existing basins if performed at a later sequence.

F. References

1. Sketches JB 225, JB 100A, JB 100B, JB 100C, JB 100C-1, JB 100D, JB 100E and JB 100F
2. NYS Industrial Code Rule 753



CATCH BASIN ORIENTATION TO CURB LINE WITH PAYMENT LIMITS CONCENTRIC TO BASINS

N.T.S.

JB 225 PAY LIMITS

CATCH BASIN TYPE	DIMENSION TO UTILITY FACILITY PARALLEL FROM FACE OF CURB INTO STREET	DIMENSION TO UTILITY FACILITY PARALLEL FROM FACE OF CURB INTO SIDEWALK	DIMENSION TO UTILITY FACILITY PERPENDICULAR TO CURB FROM FACE OF CATCH BASIN
TYPE I & II TYPE III	3'–6" TO 5'–5" 0'–8" TO 2'–5"	1'–8" TO 3'–7" 4'–10" TO 6'–7"	0'–2" TO 1'–10" 0'–2" TO 1'–8"

NOTES:

FOR EXCAVATIONS GREATER THAN 9'X9', THE CONTRACTOR SHALL SUPPORT ALL UTILITIES AS SPECIFIED UNDER THE VARIOUS ITEMS WITH NO ADDITIONAL COMPENSATION FROM THE IMPACTED UTILITIES. PAYMENT UNDER THIS ITEM SHALL INCLUDE MODIFICATION OF SHEETING METHODS TO SUPPORT UTILITY FACILITIES PARTIALLY WITHIN THE PAYMENT LIMITS SPECIFIED.

ACCOMODATION OF UTILITY FACILITIES DURING CATCH BASIN INSTALLATIONS

LAST REVISION	SKETCH NO.
2/27/2016	JB 225

JB 351T - UTILITY POLE SUPPORTS

A. Description

This section describes the temporary supports for utility poles at locations directed by the facility operator(s) in consultation with the Resident Engineer, 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.

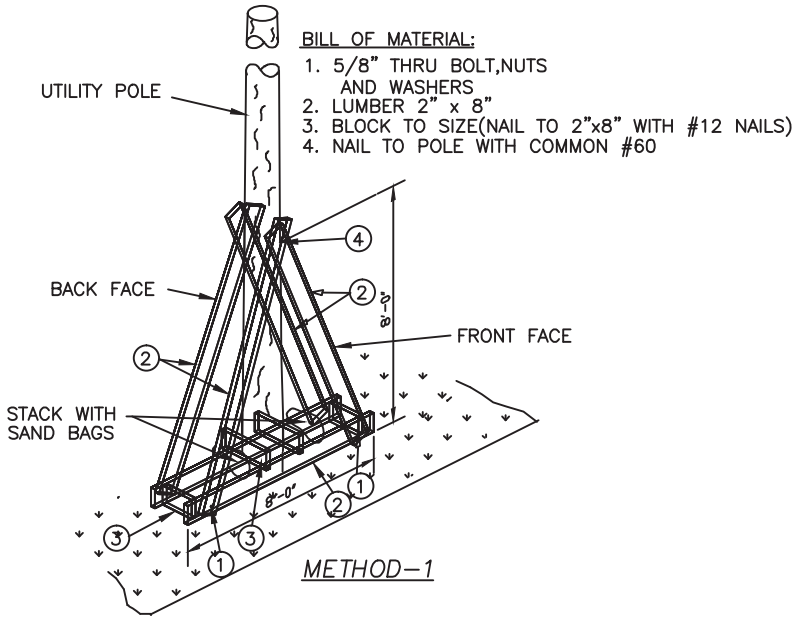
E. Price to Cover

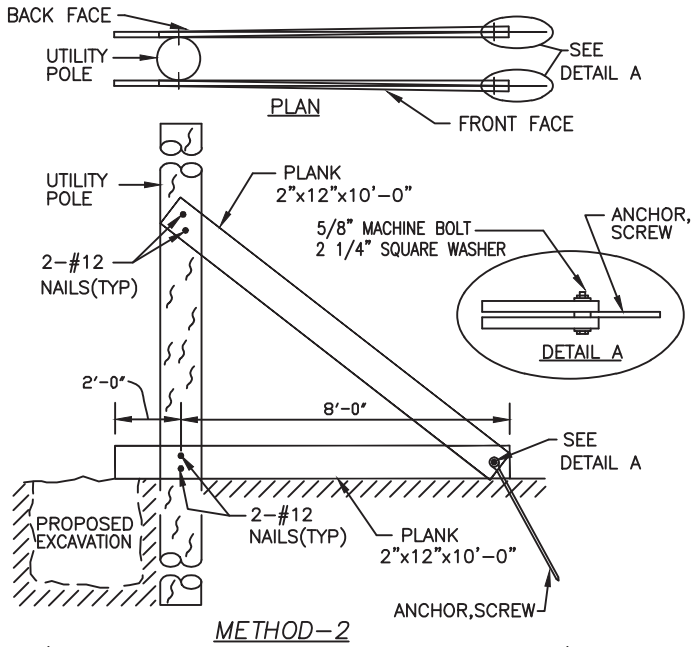
The price shall cover the cost of all labor, material, equipment, insurance, and incidentals necessary to furnish, install, maintain and remove utility pole supports to completely support, maintain, protect, and accommodate the integrity of utility poles without disruption of service to customers. The price bid shall also include all additional impact cost associated with working around utility pole supports, poles and appurtenances.

F. References

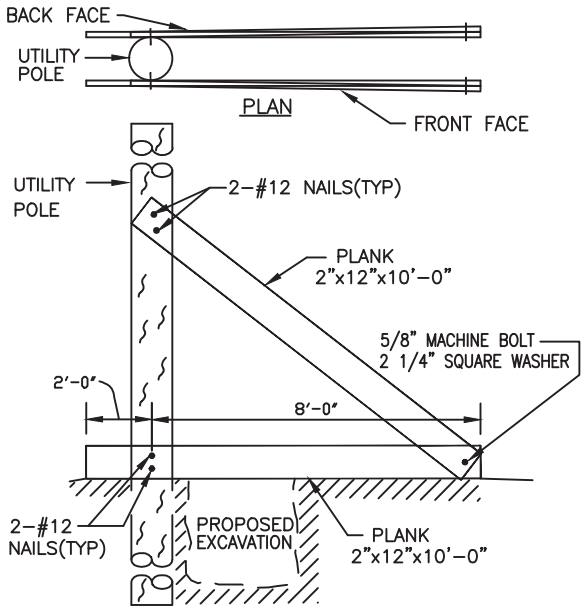
1. Sketch JB 351T

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.

SUGGESTED
METHODS OF SHORING
UTILITY POLES

LAST REVISION	SKETCH NO.
03/07/2018	JB 351T

JB 402T.3 - ACM REMOVAL AND DISPOSAL OF VERIZON/ECS CONDUITS WITH ASBESTOS CONTAINING MATERIAL TRANSITE PIPES (ACM-TP) UP TO AND INCLUDING 4" DIAMETER

A. Description

Under this item the contractor shall provide all labor, equipment, transportation, insurance and incidentals to remove and dispose of asbestos containing material - transite pipe (ACM-TP).

The contractor shall strictly adhere to all environmental requirements and work practices and notifications specified under construction details.

The transite conduits (ACM-TP) to be removed contain active cables and these cables will remain active during the transite conduits removal.

All removal and disposal of ACM-TP shall be done by pre-qualified contractors (or sub-contractors) as specified under method of construction.

B. Materials

The contractor shall supply separate dumpsters to be used exclusively for the removal and disposal of the ACM-TP and all other materials such as bagging, dumpster linings, respirators and filters, enclosures and all other incidental material required for the removal and disposal of the Verizon/ECS ACM-TP in accordance with laws, rules and regulations of Federal, State or local agencies.

C. Method of Construction

a. Work Scope

Removal of concrete encased conduits shall be accomplished by hand held chipping hammers. The removal should be in a pre-identified operation in order to minimize the potential release of airborne asbestos fibers from the ACM-TP.

b. Notification And Variance

Verizon/ECS is required by the New York City Department of Environmental Protection (NYCDEP) to obtain a site specific variance.

The contractor shall prepare the variance application letter and the NYCDEP Form ACP-9 and will submit them to the NYCDEP not sooner than four (4) weeks prior to the start of the ACM-TP removal.

The contractor is responsible for preparing the NYCDEP Form ACP-7 together with NYCDEP Form ACP-9 as the applicant and providing these forms to Verizon/ECS for review and signature prior to submittal to the NYCDEP seven

(7) weeks prior to the commencement of the project (Notice to begin construction).

The contractor shall prepare the New York State Department of Labor (NYSDOL) notification Form DOSH-483 prior to submittal to the NYSDOL at lease four (4) weeks prior to the commencement of the project.

The contractor shall prepare the United States Environmental Protection agency (USEPA) Notification of Demolition and Renovation form for submittal four (4) weeks prior to the commencement of the project.

c. Vendor Prequalification

All subcontracted environmental parties which shall include but not be limited to asbestos abatement contractor, project monitoring firm, air sampling and analytical contractor can be selected from Verizon's currently approved vendor lists. Should the contractor elect to use his own list, that information shall be provided to Verizon/ECS for review/ approval at least four (4) weeks prior to date the ACP-7 form is submitted to Verizon.

d. Waste Transport and Disposal

The ACM-TP that is removed will be disposed of as ACM waste at an asbestos landfill. This landfill site shall be selected from one of Verizon’s list of approved disposal sites. The contractor will identify and obtain approval from Verizon for the transporter. The contractor can select one of the Verizon’s currently approved transporters, or alternatively select a transporter of its own. Should the contractor elect to use latter, that information shall be provided to Verizon/ECS for review/approval at least 4 weeks prior to the date the ACP-7 is submitted to Verizon.

An original of the asbestos waste manifest is to be provided to the Verizon/ECS representative for all shipments that leave the work site. A signed copy (by the selected landfill) of the waste manifest is to be provided to Verizon/ECS not later than 10 days from the date the shipment leaves the site.

e. Exhibits

The forms are a component part of this item.

1-NYCDEP Form ACP-7
2-NYCDEP Form ACP-9R1
3-NYSDOL Form DOSH-483
4-USEPA - Notification Form

f. Work Plan

1. For this item the contractor must submit to Verizon/ECS for review and approval a detailed site specific work plan.

2. The contractor must submit to Verizon/ECS for review and approval any alternate proposals for variance requested from Regulatory Statutes (NYSDOL & NYCDEP).

3. The contractor shall provide all sampling and laboratory analysis required under the Industrial Code Rule 56 Subpart 17 and all applicable Blanket Variances. All sampling and analysis shall be performed by a firm independent from the Contractor. The price for the cost for compliance air monitoring sampling and analysis shall be included in the price bid for listed items.

4. Within five (5) calendar days of the receipt of the results of any part of the compliance air sampling and analysis, the Contractor shall forward a copy of those results (showing the name and address of the laboratory, the type of test performed, the method of measurement and all information normally relevant to sampling and analysis of asbestos remediation procedure) to Verizon/ECS on-site representative.

g. Project Folder

Upon completion of the abatement, the Contractor shall provide a complete job folder with the following documents, which shall include chain of custody records:

a. Copy of Supervisor/Handler certifications
b. Copy of the Subcontractor's Enclosure Entry Permit
c. Result of Analysis for All Bulk Samples, Air and Clearance Monitoring
d. Copy of all Notifications (City, State, Federal)
e. Copy of the Vendor's Certificate of Insurance
f. Copy of the Waste Transporter Permit
g. Signed Asbestos Waste

D. Method of Measurement

Payment under this item shall be paid for by the linear foot (L.F.) of each conduit removed. A linear foot of conduit shall be defined as one (1) single conduit up to and including 4" nominal diameter measured along its longitudinal axis that has been broken out and removed.

E. Price to Cover

The unit price per linear foot (L.F.) shall cover the actual costs of all supervision, labor, insurance, (including asbestos liability insurance), materials and equipment necessary to complete the work. The Contractor shall cover the cost of preparing variance application, all filing fees and will submit the application with associated fees to the NYCDEP for processing.

Any contractor's alternative proposals for variance requested from regulatory statutes (NYSDOL & NYCDEP) shall be also included in the actual cost.

Excavation and backfill shall be paid for under JB 401.

F. References

N/A

JB 405 - EXCAVATION FOR INSTALLATION OF UTILITY FACILITIES

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals necessary to excavate, maintain trenches and backfill for the installation of new utility facilities including but not limited to:

1. Conduits
2. Non-cost sharing gas facilities
3. Steam mains
4. Steel pipe(s)

The trench to be excavated shall be determined by the size of the utility facility to be installed. The work shall be performed in accordance with applicable specifications, at the direction of the facility operator.

B. Materials

All materials used to excavate and prepare trenches shall be supplied by the Contractor and be approved by the facility operator.

C. Methods of Construction

1. 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. 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 a nominal cover as defined in the specifications for the facility being installed over the new utility facilities or as required based on field conditions, applicable specifications, or as directed by the facility operator. The width of the trench shall be as directed by the facility operator or as shown on Sketch JB 603T (ECS only). The bottom of the trench shall be graded smooth with a minimum cushion of 3 inches of backfill material or in conformance with applicable specification and be compacted, to minimize initial settlement and to avoid "point" support of new utility facilities. All stones projecting into the trench bottom shall be removed, and the voids backfilled before the new utility 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. Trenches shall be excavated to a depth and size necessary to facilitate the installation of the new utility 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. 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.

Care shall be taken that no existing utility facilities or other structures are broken or damaged. Contractor shall excavate all material encountered necessary to facilitate the installation of the new utility 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.

2. 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, 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. 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 to facilitate the installation of the new utility facility. 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. Upon completion of installation of the new utility 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.

3. 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.

D. Method of Measurement

The quantity to be measured for payment shall be the number of cubic yards (C.Y.) of trench actually excavated and backfilled as directed by the facility operator or as shown on Sketch JB 603T for JB 603T Items. The volume occupied by existing pipes or other structures will not be deducted from the total volume measured.

JB 405.1 - Trench Excavations for installation of Utility Facilities with total depths less than five feet (C.Y.)

JB 405.2 - Trench Excavations for Utility Facilities with total depths equal to or greater than five feet (C.Y.)

E. Price to Cover

The unit price bid for the various trench excavation items shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to completely expose, protect and maintain the integrity of the facilities without disruption of service to the customers and in accordance with the contract documents. The price shall also include, installation of traffic plates as well as opening and closing of plates as may be required in order to provide access to trench; installation, removal and maintenance of tight sheeting as required; cutting, breaking and removing various thickness of surface and base pavement; excavation by hand to expose

existing structures; furnishing, placing and compacting clean backfill following installation of utility facility in compliance with DOT requirements. 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 paid under city items. The price shall also include the cost of locating and protecting all utilities encountered as required.

Clean backfill material in accordance with specifications shall be used around gas facilities and critical facilities shall be paid for under item JB 303.

F. <u>References</u>

1. Item JB 303
2. Sketch JB603T
3. Con Edison Specifications, latest revisions

CEHSP S13.00 – Excavation and Trenching

JB 450 – CONSTRUCTION FIELD SUPPORT

A. Description

Under this section, the Contractor shall provide all labor, materials, equipment, insurance and incidentals necessary to provide construction field support, while maintaining and protecting surface and subsurface facilities, at various locations approved solely by the facility operator. The Contractor shall encounter various surface and subsurface utility facilities while performing various construction field support operations, which may include but are not limited to working over, under, adjacent to, around, in between and in close proximity of:

1. Conduits
2. Conductors
3. Concrete encased conduit banks
4. Steel pipes
5. Gas mains
6. Steam mains
7. Oil-o-static facilities
8. Utility structures and covers

The actual construction field support operation to be performed by the Contractor shall be performed in accordance with the contract plans, specifications or as determined based on actual field conditions and at the sole discretion and direction of the facility operator. This item shall apply to various field support operation tasks for which there are no other applicable JB Items to cover the required work. This item will not apply and will not be paid when there are other applicable JB items available either partly or completely covering tasks described below as determined solely by the facility operator.

B. Materials

All materials used to provide construction field support shall be supplied by the Contractor and be approved by the facility operator in consultation with the Resident Engineer.

C. Methods of Construction

It is the intent of this item that the Contractor provides field support construction crews suffice to perform various item type tasks required as described. For the purpose of this item a crew consists of more than one non-management individual. The Contractor shall provide all labor and equipment necessary to perform the required task as described below under existing field conditions at various locations and at the sole discretion and direction of the facility operator in consultation with the Resident Engineer. The Contractor shall perform the necessary construction field support, while maintaining and protecting surface and subsurface facilities. The Contractor shall employ approved methods of operation, including the use of appropriate equipment and tools that will enable him to complete the field support operation work as described in the Item Type description below. Existing facilities that are encountered during the construction field support operation shall be supported and protected similar to those indicated on sketches JB 100A and 100B and in a manner suitable to the facility operator in consultation with the Resident Engineer and are deemed included in this item except as included under JB-402T. The Contractor shall properly dispose of all materials excavated away from site, which may require the use of hand held tools and equipment in order to ensure that the integrity of the underground utility facilities are not jeopardized. Care should be taken to avoid damage to existing utility facilities and

structures, and to adjacent curbs, sidewalks, pavements and their foundations, and to avoid caving or sliding banks within excavations.

D. Method of Measurement

1 – Quantity - The quantity to be measured for payment shall be the number of actual crew hours (CRHRS.) provided by the Contractor for performing the various types of construction field support operation as directed by the facility operator in consultation with the Resident Engineer.

2 – Type – The unit type to be measured for payment shall be based on the actual task performed by the contractor and covered by the applicable Item Type. The tasks described within the Bid Item Type below are provided as a guide only as to the general nature of the various functions included, but these examples in no way limit the use of the item to these functions only. The contractor should use this information in order to approximate the various required crew sizes necessary to perform the work covered by this item in a productive, safe and efficient manner. The actual construction crew size required to perform the field support operation shall be determined solely by the contractor in order to perform the required construction field support operation. It is the responsibility of the contractor to provide appropriate field support crews capable of performing required tasks in a productive, safe and efficient manner. The actual crew performing the operation will not be considered, by the facility operator in consultation with the Resident Engineer, when determining the applicable item type, which shall be only as per the task performed.

Note: Only one measurement type will be used for each defined construction field support area.

Type .1 = Construction Field Support requiring an average size survey crew that will perform typical field survey functions and provide quality data analysis reports.

Type .2 = Construction Field Support requiring an average small size crew capable of performing various tasks not requiring the use of a machine or operator, which may include but are not limited to: opening/closing subsurface structure cover(s), setting/resetting MPT setup(s), assisting Utility Facility/Specialty crew(s) not included in JB 402T or JB 450.5, performing conduit occupancy identification, clean-up storage work-site area, etc.

Type .3 = Construction Field Support requiring an average medium size crew capable of performing various tasks which include the use of a machine and operator, which may include but are not limited to: excavations due to cable failures, including emergency type excavations, construct manhole enclosures, installing support system for utility facilities, dewatering utility structures and excavations, opening/closing traffic and/or pedestrian plates, etc not included in JB 402T or JB 450.5.

Type .4 = Construction Field Support requiring an average large size crew capable of performing various tasks that requires the use of multiple machine(s) and operator(s), which may include but are not limited to: assistance during heat contingency, welding, repositioning and placing large diameter pipe, etc.

Type .5 = Construction Field Support requiring an average small size crew when requested by the facility operator to assist the facility operator or speciality contractor hired by the facility operator in shifting and supporting the conduits during pipe-ripping operations and all else necessary as required to complete the work including but not limited to constructing temporary work platform and temporary weather protection.

E. Price to Cover

The unit price bid for the various construction field support items shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to provide construction field support, which may include but is not limited to working over, under, adjacent to, around, in between and in close proximity of surface and subsurface utility facilities and exposing, supporting, protecting and maintaining the integrity of the facilities without disruption of service to the general public, utility customers and in accordance with the Contract Documents at various locations approved by the Facility Operator in consultation with the Resident Engineer. The unit price shall also include openings and closings of plates, and cones, barrels, arrow-boards, etc. and installing, shifting, moving and relocating cones, barrels, arrow-boards, etc. as may be required in order to provide access to excavations and during specialty work being performed by others excluding work operations covered under JB402T. The unit price shall also include excavating by hand to expose existing structures. Any required removing, trucking, storing, and disposing of material shall be deemed included in the unit price bid. The unit price shall also include the cost of supporting and protecting all utilities encountered during the construction field support operation, as required except work operations covered under JB 402T. The unit price bid shall also include alternate methods for construction field support, which may include changes in equipment and special operations, and sequencing and the use of only all hand-held tools due to existing field conditions, including potential delays and extended performance. Any and all Contractor method changes and operation modifications employed for construction field support are deemed to be included in the price bid for this item. Work under this item may be paid in combination with other City, utility or facility accommodation Items bid under other contract items except where expressedly excluded from that item.

F. References

1. Sketches JB 100A, JB 100B

JB 603T - FURNISH AND INSTALL TELECOMMUNICATIONS CONDUITS

A. Description

Under this Section, the Contractor shall provide all labor, materials, equipment, insurance, and incidentals required to procure and install conduit for the purpose of installing the facility operator's utilities. Conduit runs shall be as shown on the contract drawings or as specified by the facility operator in consultation with the Resident Engineer.

B. Materials

Conduit shall consist of:
PVC – 2” and 4” diameter or 1 ¼” Quad, Type “C” as supplied by American Pipe and Plastics or approved equal
Steel - 4” diameter, ASTM A53, Schedule 40 or approved equal
All conduit including sleeves, couplings, bends, pulling lines, etc. shall be supplied by the Contractor and approved by the facility operator in consultation with the resident Engineer.
The Contractor shall supply all material (Mortar, Brick, etc.) to make repairs to opening(s) as approved by the facility operator in consultation with the Resident Engineer.

C. Method of Construction

The Contractor shall install the specified conduit(s) then rod, mandrel and wire (install pulling line) the new conduits. When conduit pipes are to be connected to existing underground ducts, manholes, or boxes, the Contractor, using hand-held tools only, shall cut existing conduit, to pick-up existing underground conduits with new conduits, make openings into manholes or boxes, install/connect the conduit, and make repairs to seal the openings in the structure.

Steel pipe shall be used for shallow cover and crossing or paralleling steam mains as directed by the facility operator in consultation with the Resident Engineer.

When the facility operator required a combination of conduit types and materials the facility operator will define the configuration of the conduit system and the location of each type within the conduit bank. All conduit shall be spaced 1 ½” both vertically and horizontally from the adjacent conduit(s). All conduits shall be encased in lean concrete (f’c = 1200 to 1500 psi maximum) which shall extend 2” beyond each face of the conduit formation, above and each side of the conduit formation.

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 facility operator(s) and measured for payment under Item JB 403.

The work shall be performed in accordance with the contract plans, specifications, and at the directions of the facility operator in consultation with the Resident Engineer.

D. Methods of Measurement

The quantity to be measured for payment shall be the number of linear feet (LF) of conduit trench for which conduit was furnished and installed:

1. 603T.1 - Install 1 ea. 2", 4" or 1 ¼" Quad" Conduit (PVC or Steel) in any combination
2. 603T.2 - Install 2 ea. 2", 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
3. 603T.3 - Install 4 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
4. 603T.4 - Install 6 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
5. 603T.5 - Install 8 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
6. 603T.6 - Install 12 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
7. 603T.7 - Install 15 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
8. 603T.8 - Install 24 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination
9. 603T.9 - Install 30 ea. 4" or 1 ¼" Quad Conduits (PVC or Steel) in any combination

A Quad, consisting of four 1 ¼" conduits shall be supplied as one unit. For purposes of measurement and payment each quad unit of four 1 ¼" ducts shall be counted as one duct.

For any equivalent combination not fitting the above categories payment shall be based on the next higher category.

E. Price to Cover

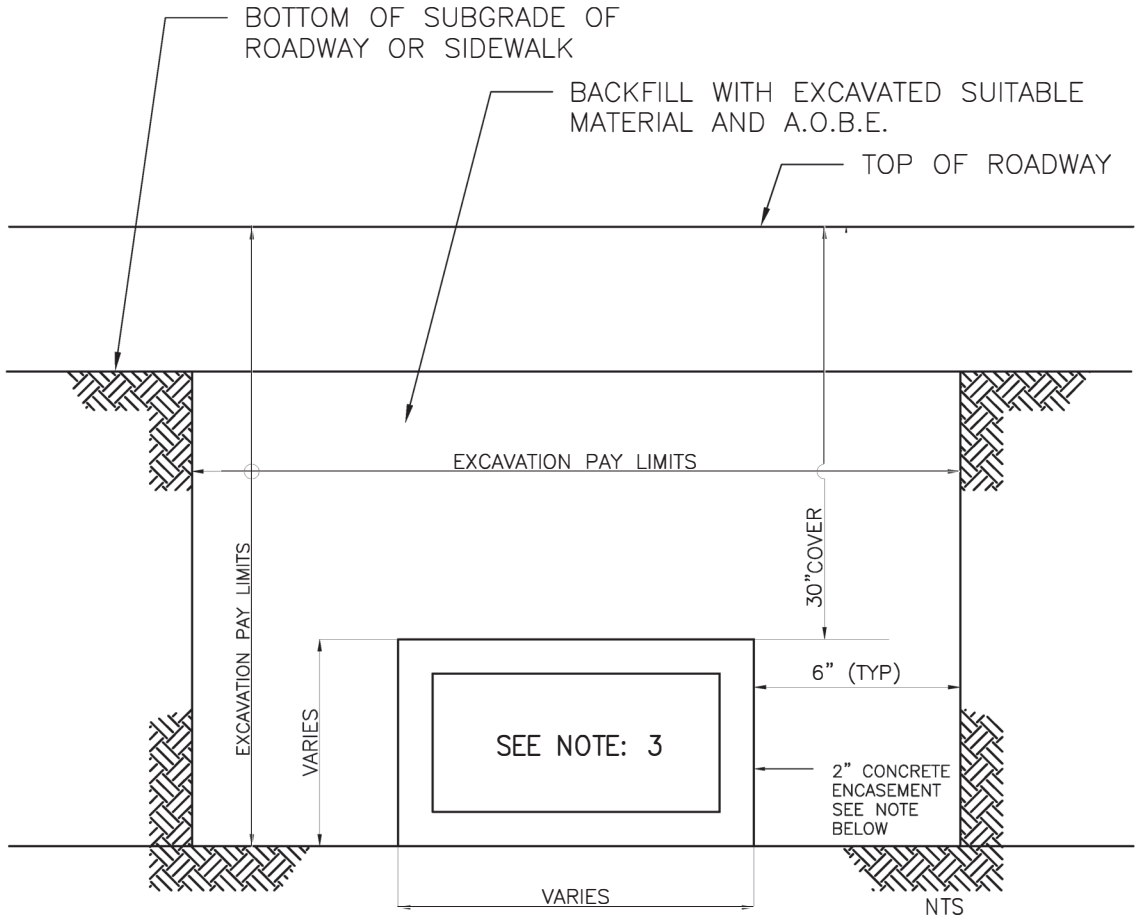
The unit price per linear foot of Conduit trench shall cover the cost of all labor, materials, equipment, insurance and incidentals necessary to furnish, install, rod, rope, and perform any other associated work required to install the conduit completely in place. Where conduits are to be connected to ducts, manholes or boxes, the cost of cutting and/or breaking into the ducts, manholes or boxes, installing and sealing the conduit, including duct plugs; and making repairs to the openings in the structure shall be considered as included in the unit price bid for the installation of the conduit. All acceptance testing, including passing a mandrill with a diameter of 1/8" less than the inside diameter of the duct through the entire length of the duct, as required by the facility operator shall be considered as included in the unit price.

Payment for trench excavation shall be paid under Item JB 405.

Steel protection plates shall be paid for under Item JB 403T

F. References

1. Sketch JB 603T
2. Item JB 405
3. American Pipe and Plastics, P.O. Box 577, Binghamton, N.Y. 13902



TYPICAL CONDUIT EXCAVATION AND BACKFILL

NOTES:

QUEENS, BROOKLYN & STATEN ISLAND

1– CONCRETE ENCASE REQUIRED IF TOP OF DUCTS IS 20" OR LESS FROM SURFACE AND ALL BENDS, SWEEPS AND CHANGE OF GRADE. FOR COVER LESS THAN 20", 3/8" STEEL (A36M) COVER PLATES IN ADDITION TO THE CONCRETE ENCASEMENT SHALL BE PROVIDED.

MANHATTAN & BRONX,

2– FOR COVER LESS THAN 20", 1/4" STEEL (A36M) COVER COVER PLATES IN ADDITION TO THE CONCRETE ENCASEMENT SHALL BE PROVIDED.

3– CONDUIT CONFIGURATION TO BE DETERMINED BY ECS/VERIZON REPRESENTATIVE.

J.B. SKETCH		
TRENCH EXCAVATION FOR CONDUIT		
09/13/2017	CONTRACT NO.	SKETCH NO. JB 603T

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.

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 the diameter of circular covers, the major axis of elliptical covers, or the larger length or width of rectangular covers.

1. Item 636 MA – Modification of Work Methods to Accommodate Utility Hardware (Under 7" Width)
2. Item 636 MB – Modification of Work Methods to Accommodate Utility Hardware (7" to under 14" Width)

3. Item 636 MC – Modification of Work Methods to Accommodate Utility Hardware (14" to under 30" Width)
4. Item 636 MD – Modification of Work Methods to Accommodate Utility Hardware (30" to under 34" Width)
5. Item 636 ME – Modification of Work Methods to Accommodate Utility Hardware (34” to under 41” Width)
6. Item 636 MG – Modification of Work Methods to Accommodate Utility Hardware (41" to under 75" Width)
7. Item 636 MH – Modification of Work Methods to Accommodate Utility Hardware (75" to under 125" Width)
8. Item 636 MI – Modification of Work Methods to Accommodate Utility Hardware (125" to under 170" Width)
9. Item 636 SMB – Modification of Work Methods to Accommodate Utility Steam Hardware (Under and including 8" Width)
10. 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

1. JB 636E

JB 638NT – FIELD CONSTRUCTED TELECOMMUNICATIONS MANHOLE STRUCTURES

Under this item the Contractor shall perform the complete installation of field constructed utility structures approved by the facility operator in consultation with the Resident Engineer. The utility structure shall be field constructed and installed in compliance with standard utility specifications and/or methods approved by the facility operator in consultation with the Resident Engineer.

A. Description

Installation of field constructed utility structure shall comply with utility standard specifications and/or as directed by the facility operator in consultation with the Resident Engineer and shall include:

- Service Boxes (various sizes)
- Manholes (various sizes)

Where approved by the facility operator, telephone structures may as an alternate be constructed of precast reinforced concrete.

B. Materials

The facility operator will furnish cable racks, pulling-in irons, sump castings, hardware, manhole steps/ladder supports and cast iron frames and covers. All other materials required for a complete manhole installation including concrete, reinforcing steel and structural steel shall be supplied by the Contractor and shall comply with the standards of the facility operator.

The Contractor shall notify the facility operator a minimum of 30 days prior to manhole construction for scheduling materials to be furnished by the utility company. The Contractor shall pick up said materials at the facility operator's yard.

All concrete shall have a minimum compressive strength of 4,000 psi at 28 days.

Reinforcing steel shall be deformed bars conforming to ASTM, Grade 60.

Structural steel shall conform to the requirements of ASTM A-36. Bolts shall conform with the requirements of ASTM A-325.

The Contractor shall supply all necessary materials (mortar, concrete, brick, etc.) for sealing duct entrance windows in manholes and for constructing chimneys and bricking up castings to grade.

C. Method of Construction

All work shall comply with the utility specifications, plans, and standards of the facility operator.

Refer to specification JB 406 for excavation and sheeting requirements associated with telephone manhole construction. Where replacement manholes are indicated on the plans, the demolition

and removal of the existing manhole structure and the protection of existing cables and splices will be paid separately under JB 638R.

The Contractor shall perform the necessary field construction of the floor, walls, and roof of the utility structure as shown on the Plans and as directed by the facility operator in consultation with the Resident Engineer. No traffic shall be allowed on the structure until permitted by the facility operator in consultation with the Resident Engineer.

Field conditions may require the contractor to modify the design of the manhole structure, as directed by the facility operator in consultation with the Resident Engineer.

Refer to specification JB 636E for guidelines relating to the installation of new frames and covers.

All structural steel roof beams shall be ground free of burrs and painted with one shop coat and two field coats of finish paint. The Contractor shall make provisions for and incorporate into the manhole all required materials as shown on the Plans, standard utility details or as directed by the facility operator in consultation with the Resident Engineer.

The Contractor shall provide duct entry windows in the new manhole as shown on the Plans and as directed by the facility operator. All windows shall be properly sealed around new ducts per utility company requirements.

All cable racks and wall brackets shall be supported on walls with ½” dia. X 2-½“ long galvanized steel machine bolts using ½” concrete inserts or expansion bolts. Vertical spacing of inserts shall not exceed 18” o.c. (typ).

The Contractor shall confirm placement of concrete inserts for cable rack supports, pulling-in irons, and other embedments shown on the Plans with the facility operator, in consultation with the Resident Engineer, prior to manhole construction.

All work shall be done in a workmanlike manner and any damage resulting from the Contractor's operations shall be satisfactorily corrected as directed by the facility operator in consultation with the Resident Engineer and at the Contractor's expense. The contractor shall perform the installation of the utility structure while maintaining, supporting, and protecting and accommodating the integrity of all utility facilities (without disruption of service) located within the areas of the excavation and the field constructed structure.

This item shall also apply when partially or totally rebuilding or modifying an existing utility structure.

The Contractor is advised that in lieu of poured-in-place structures the substitution of Precast Reinforced Concrete Structures that comply with Utility Specifications, will be permitted only when approved by the facility operator in consultation with the Resident Engineer, along with the following provisions:

1. Precast telephone manholes shall be constructed to the interior manhole dimensions and details shown on the Plans.

2. The Contractor shall submit shop drawings and design calculations for each precast manhole structure for review and approval by the facility operator and the Resident Engineer prior to fabrication. Shop drawings shall show the overall structure dimensions, roof openings, window sizes and locations, sump locations, reinforcing steel and details, construction joint types and locations including sealant material proposed. The inside face of all windows (4 sides) shall be beveled and provisions made for all inserts and hardware for a complete manhole installation, including cable pulling iron embedments and cable rack insert embedments in accordance with the standards and requirements of the facility operator.
3. Precast manhole design criteria shall be as follows:
    - Concrete Minimum Compressive Strength: 4,000 psi or greater at 28 days.
    - Steel Reinforcement: ASTM A-615, Grade 60.
    - Design Loading: AASHTO HS20-44
    - Shop drawings and calculations shall state design methodology used and all design assumptions including soil pressures and ground water levels used in the design.

4. A 9-inch thick compacted stone ballast leveling pad shall be provided as a foundation for all precast manholes.

D. Method of Measurement

The quantity to be measured for payment shall be the number of cubic yards (CY) of concrete, cast on site or pre-cast, as specified, concrete, brick, and mortar in place to the nearest hundredth of a cubic yard. No deductions will be made for the spaces occupied by steel reinforcement.

E. Price to Cover

The unit price under this item shall be a unit price per cubic yard (CY) of concrete, cast on site or pre-cast, as specified, concrete, brick, and mortar placed in the field constructed utility structure. The unit price shall cover the cost of all labor, materials, plant, equipment, insurance and incidentals required to field construct partially or totally, rebuild or modify, a utility structure. The unit price shall also include all formwork installation and removal, installation of concrete, bricks, mortar, steel reinforcement, structural steel beams, furnish and install pre-cast concrete, chimney, and installation of interior and exterior hardware, including frames and covers. The Contractor shall also install pipes, conduits, sumps, drains, sleeves, related steel or cast iron materials or equipment through the structures as shown on the drawings. Upon removal of forms, the Contractor shall remove debris and face off the entire interior of the structure. The unit price includes necessary realignment of existing ducts into the new structure up to five feet from the outside face of the new structure; any additional duct realignment required shall be paid under a separate JB item. The unit price shall further include the cost of maintaining, supporting, protecting and accommodating the integrity of all utility facilities (without disruption of service) during the work within the areas of excavation and the field constructed structure, and the furnishing of samples, as required. All work shall comply with the plans, specifications, standards, and directions of the facility operator in consultation with the Resident Engineer.

All pavement breaking, pavement removal and disposal, excavation, haul away, and disposal, furnish and install backfill, temporary pavement, sheeting, bracing, and all necessary incidentals shall be paid under item JB 406, only if required. All required break out and disposal of all types of conduits/duct banks in new structure area, including maintenance and support of cable shall be included in JB 638R. Where precast reinforced concrete manholes are used in lieu of poured in place manholes, the cost for furnishing, delivery and installation of the precast reinforced structures, additional excavation associated with the widening and deepening of trench due to increased width of precast structures and due to the placement of a stone ballast leveling pad; stone ballast; connections; and all work incidental thereto all in accordance with the Plans, Specification and Standards, shall be deemed included under this item. No additional or separate payments will be made for any work associated with the installation of precast reinforced structures.

The cost of providing an anti-freeze additive in concrete, when required, shall be paid for under Item 9.04 HW.

F. References

1. JB 406
2. JB 636E
3. JB 638R
4. Standard Utility Specifications and Drawings

JB 638RT – BREAK OUT AND REMOVE TELEPHONE/COMMUNICATIONS UTILITY STRUCTURE CONTAINING ACTIVE FACILITIES

A. Description

Under this section the Contractor shall provide all labor, materials, equipment, insurance and incidentals necessary to partially or totally break out and remove existing utility structures using methods approved by the facility operator. Breaking out and removing existing utility structures shall be performed while maintaining and protecting all subsurface facilities, at locations approved by the Facility Operator. The Contractor will encounter various underground facilities, located both inside and outside the utility structure, while partially or totally breaking out and removing existing utility structures and will be required to excavate and perform work over, under, adjacent to, around, in between and in close proximity of various congested configurations of multiple facilities, conduits, pipes and cables.

All work required to partially or totally break out and remove existing utility structures shall comply with standard utility specifications and/or as directed by the facility operator and shall include but not be limited to:

- Service Boxes (various sizes)
- Manholes (various sizes)
- Vaults (various sizes)
- Valve Boxes (various sizes)
- Concrete encased conduits containing cables

B. Materials

All materials used shall be supplied by the Contractor and comply with the standards of the facility operator.

C. Method of Construction

The Contractor shall perform the necessary breaking out and removal of the existing utility structure while maintaining and protecting all subsurface facilities. The Contractor will encounter various underground facilities located both inside and outside the utility structure, while partially or totally breaking out and removing existing utility structures and will be required to excavate and perform work over, under, adjacent to, around, in between and in close proximity of various congested configurations of multiple facilities, conduits, pipes and cables, as directed by the facility operator. All work shall be done in a workmanlike manner and any damage resulting from the Contractor's operations shall be satisfactorily corrected as directed by the facility operator and at the Contractor's expense.

This item shall also apply when partially or totally breaking out and removing an existing utility structure.

The rebuilding of the utility structure is covered under JB 638NT.

D. Method of Measurement

The quantity to be measured for payment shall be the number of cubic yards (CY) of concrete, reinforced concrete, brick, and mortar of the existing utility structure broken out, removed and disposed to the nearest hundredth of a cubic yard. No deductions will be made for the spaces occupied by steel reinforcement.

E. Price to Cover

The unit price bid under this item shall be a unit price per cubic yard (CY) of concrete, reinforced concrete, brick, and mortar of the existing utility structure broken out, removed and disposed. The unit price shall also cover the cost of all labor, materials, plant, equipment, insurance, and incidentals required to partially or totally break out, remove and dispose of existing utility structure. The unit price shall also include demolition of the existing utility structure, haul away and disposal of demolished materials, formwork, concrete, bricks, mortar, steel reinforcement, structural steel beams, interior hardware, exterior hardware, including frames and covers. The unit price shall further include the cost of maintaining, supporting, protecting and accommodating the integrity of all utility facilities (without disruption of service) during the work within the areas of excavation and the existing structure. All work shall comply with the plans, specifications and standards, provided by and at the directions of the facility operator.

The unit price shall include providing access to the facility operator tenants to verify and test cables before, during and after breaking out and removal of the utility 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 638RT as JB 638RT covers access to the work site at all times.

All pavement breaking, pavement removal and disposal, excavation, haul away, and disposal, furnish and install backfill, temporary pavement, sheeting, bracing, and all necessary incidentals shall be paid under item JB 406, only if required.

F. References

1. JB 406
2. Standard Utility Specifications and Drawings

JB 798 - MODIFICATION OF NON CONCRETE YOKE TROLLEY STRUCTURES REMOVAL WHEN CROSSING UTILITY FACILITES

A. Description

This JB item shall only be applied to trolley structure systems that do not contain concrete yoke foundations. This JB item shall only be used for trolley systems that have rails and wood ties only.

Under this section, the Contractor shall provide all incremental labor, equipment, insurance and incidentals required to maintain and protect and accommodate the integrity of utility facilities that include but are not limited to:

1. Conduits;
2. Conductors;
3. Concrete encased Conduit banks;
4. Steel Pipes; Steam Facilities;
5. Oil-o-static Facilities;
6. Non-cost Sharing Gas Facilities;
7. Steam Facilities;

of various sizes and configurations crossing trolley structures at various angles located within a zone of protection, as indicated on Sketch JB 798, during the removal of trolley structures and subsequent backfilling operations. Utility facilities that run parallel to trolley structures are not included within this item and will be paid for under the appropriate JB item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and directed by the facility operator.

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect, and accommodate the integrity of all utility facilities of various sizes and configurations crossing trolley structures within a zone of protection as indicated in Sketch JB 798, during removal of trolley structures and subsequent backfilling and compaction operations under other contract item(s). The facility operator 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 hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility and ascertain the numerical relationships and/or dimensions of these utilities with respect to the proposed excavation. Contractor shall perform test pits at locations determined by the facility operator to expose utility as specified in JB 400. Upon exposing the affected utilities sufficiently, and at the sole discretion of the facility operator to determine relationships and/or dimensions, the Contractor shall be permitted to proceed with care to remove existing trolley structure within the zone of protection whose limit shall be defined as a distance of 24 inches from the outside face of each utility crossing.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of modified trolley structure removal within the zone of protection as indicated on JB Sketch 798, measured along the centerline of trench. The trench is defined as one track set containing two rails. The zone of protection shall be defined, for the purpose of this agreement, as the boundary/area designated on the plans or a boundary/area 24 inches to either side of each of the designated facilities, based upon available records and/or information obtained from prior or new test pits, or any combination thereof. Where overlapping of the zones occurs due to multiple facilities, the boundary/area shall be modified to one zone measured from the outside limits. 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.

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 and protect and accommodate the integrity of utility facilities during the removal of trolley structures (including rails, timber ties, trolley conduits and main conduit), and backfilling and compacting within a zoned area designated for protection of utilities by the facility operator.

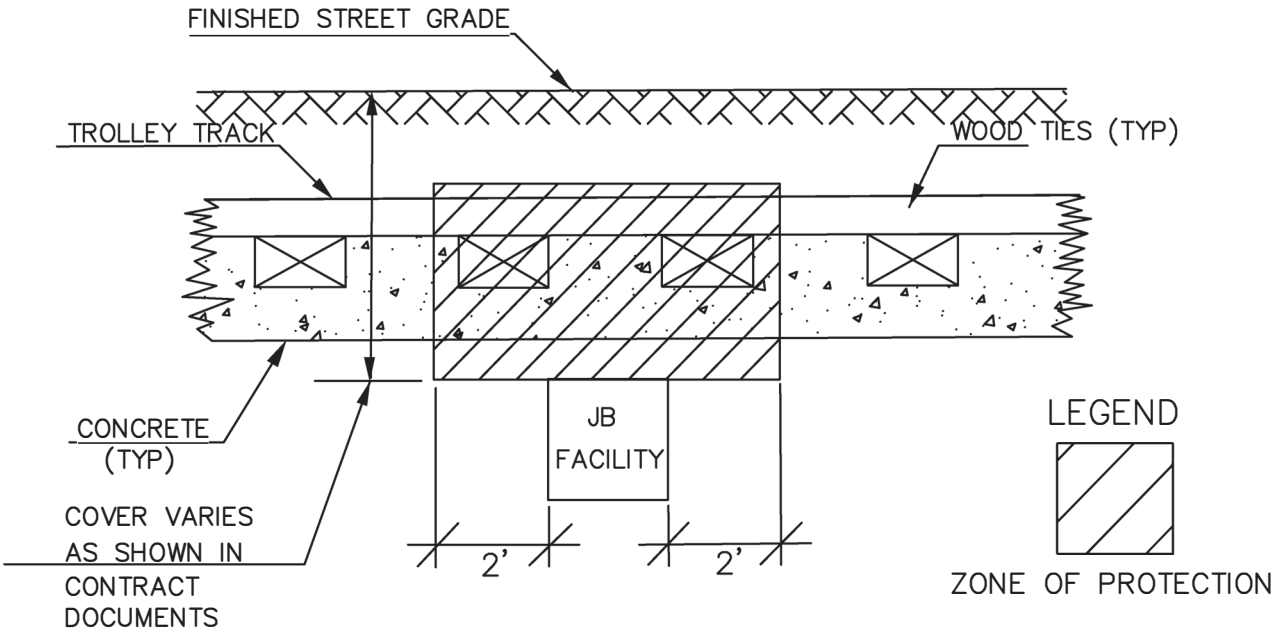
The price shall include any additional cutting, removing and disposing of roadway materials; hand or machine excavation; trucking and disposing of excavated materials, installation and removal of sheeting; and furnishing, installing and compacting backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The price shall also include means to ascertain the numerical relationship between utility and the trolley structure and 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 trolley demolition operations that are not performed in accordance with the specifications.

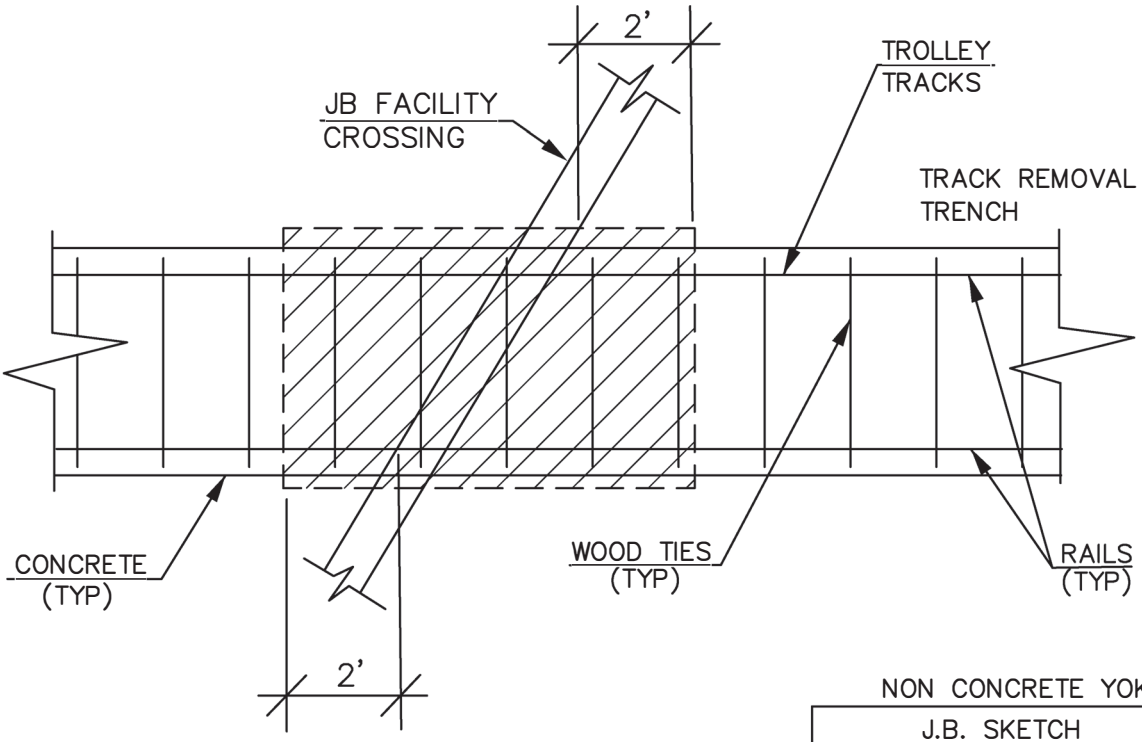
When this work is performed within a mass excavation area, a credit will be taken for the removed trolley structure.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 798



SECTION OF JB FACILITIES CROSSING TROLLEY TRACKS



PLAN OF JB FACILITIES CROSSING TROLLEY TRACKS

NON CONCRETE YOKE

J.B. SKETCH

ACCOMODATION FACILITIES CROSSING TROLLEY RAILROAD STRUCTURES

REVISIONS	CONTRACT NO.	SKETCH NO.
11/28/2018		JB 798

JB 799 - MODIFICATION OF NON CONCRETE TROLLEY STRUCTURES REMOVAL PARALLEL TO UTILITY FACILITIES

A. Description

This JB item shall only be applied to trolley structure systems that do not contain concrete yoke foundations. This JB item shall only be used for trolley systems that have rails and wood ties only.

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:

1. Conduits;
2. Conductors;
3. Concrete encased Conduit banks;
4. Steel Pipes; Steam Facilities;
5. Oil-o-static Facilities; and
6. Non-cost Sharing Gas Facilities;
7. Steam Facilities.

of various sizes and configurations paralleling or encroaching trolley structures located within a zone of protection, as indicated on the Plans or as directed by the field representative, during all trolley structure removal operations and subsequent backfilling operations. Utility facilities which cross over, under and between the trolley structures are not included within this item and will be paid for under the appropriate JB item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and directed 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 encroaching trolley structures within a zone of protection as indicated on the Plans or as directed by the field representative, during removal of trolley structures and subsequent backfilling and compaction operations under other contract item(s). 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 hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility and ascertain the numerical relationships and/or dimensions of these utilities with respect to the proposed excavation. Contractor shall perform test pits at locations determined by the facility operator to expose utility as specified in JB 400. Upon exposing the affected utilities sufficiently, and at the sole discretion of the facility operator(s) to determine relationships and/or dimensions, the Contractor shall be permitted to proceed with care to remove existing trolley structure within the zone of protection whose limit shall be defined as a distance of 24 inches from the outside face of each utility to the edge of the trolley structure.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of modified trolley structure removal within the zone of protection as indicated on the plans, measured along the centerline of trench. The trench is defined as one track set containing two rails. 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.

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 encroaching trolley structures during the removal of trolley structures (including rails, timber ties, trolley conduits, and main conduits), and backfilling and compacting within a zoned area designated for protection of utilities by the facility operator(s).

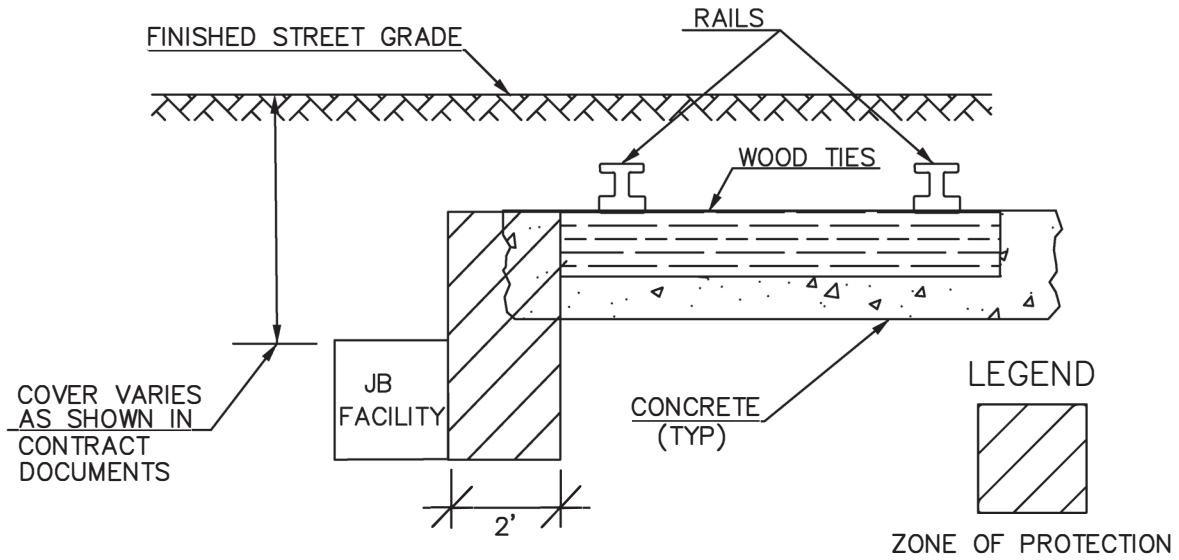
The unit price shall also include any additional cutting, removing and disposing of roadway materials; hand or machine excavation; trucking and disposing of excavated materials, installation and removal of sheeting; and furnishing, installing and compacting backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The price shall also include means to ascertain the numerical relationship between utility and the trolley structure, and 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 trolley demolition operations that are not performed in accordance with the specifications.

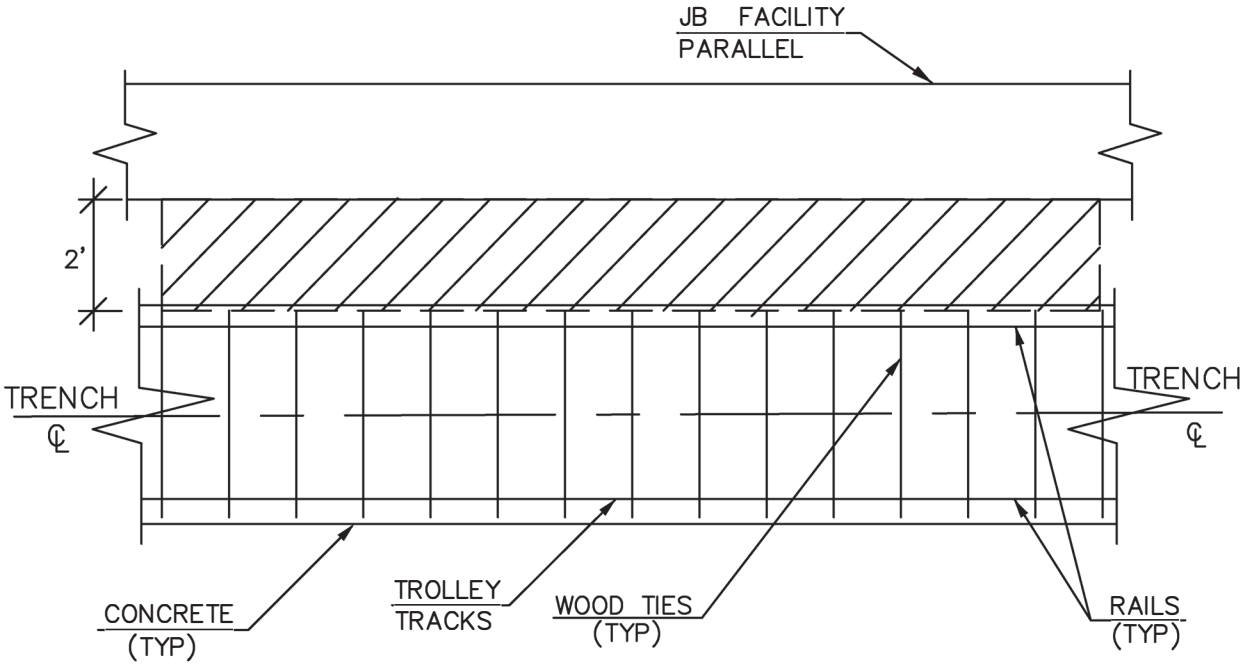
When this work is performed within a mass excavation area, a credit will be taken for the removed trolley structure.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 799



SECTION OF JB FACILITIES PARALLELING TROLLEY TRACKS



PLAN OF JB FACILITIES PARALLELING TROLLEY TRACKS

NON CONCRETE YOKE

J.B. SKETCH

ACCOMODATION FACILITIES PARALLEL TROLLEY RAILROAD STRUCTURES

REVISIONS	CONTRACT NO.	SKETCH NO.
11/28/2018		JB 799

JB 800 - MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURES REMOVAL WHEN CROSSING UTILITY FACILITES

A. Description

This JB item shall only be applied to trolley structure systems that contain concrete yoke foundations. This JB item shall not be used for trolley systems that have rails and wood ties only.

Under this section, the Contractor shall provide all incremental labor, equipment, insurance and incidentals required to maintain and protect and accommodate the integrity of utility facilities that include but are not limited to:

1. Conduits
2. Conductors
3. Concrete encased conduit banks
4. Steel pipes
5. Oil-o-static facilities
6. Non-cost Sharing Gas Facilities and
7. Steam Facilities

of various sizes and configurations crossing trolley structures at various angles located within a zone of protection, as indicated on Sketch JB 800, during the removal of trolley structures and subsequent backfilling operations. Utility facilities that run parallel to trolley structures are not included within this item and will be paid for under the appropriate JB item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and directed by the facility operator.

B. Materials – N/A

C. Method of Construction

The Contractor shall maintain, protect, and accommodate the integrity of all utility facilities of various sizes and configurations crossing trolley structures within a zone of protection as indicated in Sketch JB 800, during removal of trolley structures and subsequent backfilling and compaction operations under other contract item(s). The facility operator 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 hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility and ascertain the numerical relationships and/or dimensions of these utilities with respect to the proposed excavation. Contractor shall perform test pits to expose the utilities as specified under JB 400. Upon exposing the affected utilities sufficiently, and at the sole discretion of the facility operator to determine relationships and/or dimensions, the Contractor shall be permitted to proceed with hand held power tools to remove existing trolley structure within the zone of protection whose limit shall be defined as a perimeter located 24 inches from the outside face of each utility crossing.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of modified trolley structure removal within the zone of protection as indicated on JB Sketch 800, measured along the centerline of trench. The trench is defined as one track set containing two rails. The zone of protection shall be defined, for the purpose of this agreement, as the boundary/area designated on the plans or a boundary/area 3 feet to either side of each of the designated facilities, based upon available records and/or information obtained from prior or new test pits, or any combination thereof. Where overlapping of the zones occurs due to multiple facilities, the boundary/area shall be modified to one zone measured from the outside limits. 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.

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 and protect and accommodate the integrity of utility facilities during the removal of trolley structures (including rails, timber ties, yokes, trolley conduits, main conduit, rail and yoke foundations), and backfilling and compacting within a zoned area designated for protection of utilities by the facility operator.

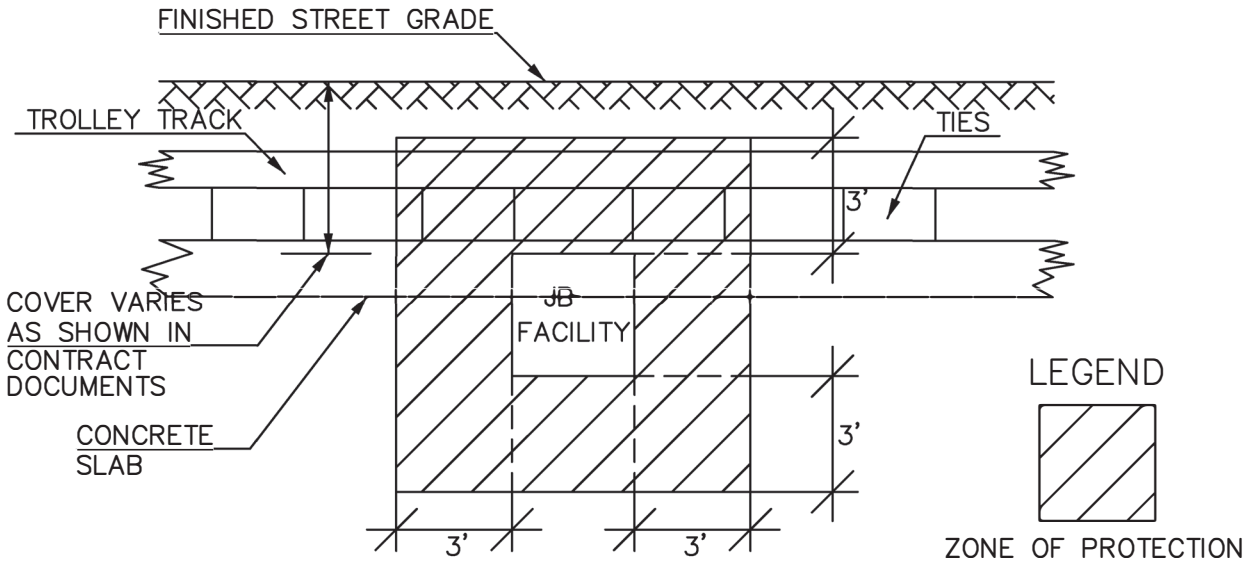
The unit price shall also include any additional cutting, removing and disposing of roadway materials; hand or machine excavation; trucking and disposing of excavated materials, installation and removal of sheeting; and furnishing, installing and compacting backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The unit 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 trolley demolition operations that are not performed in accordance with the specifications.

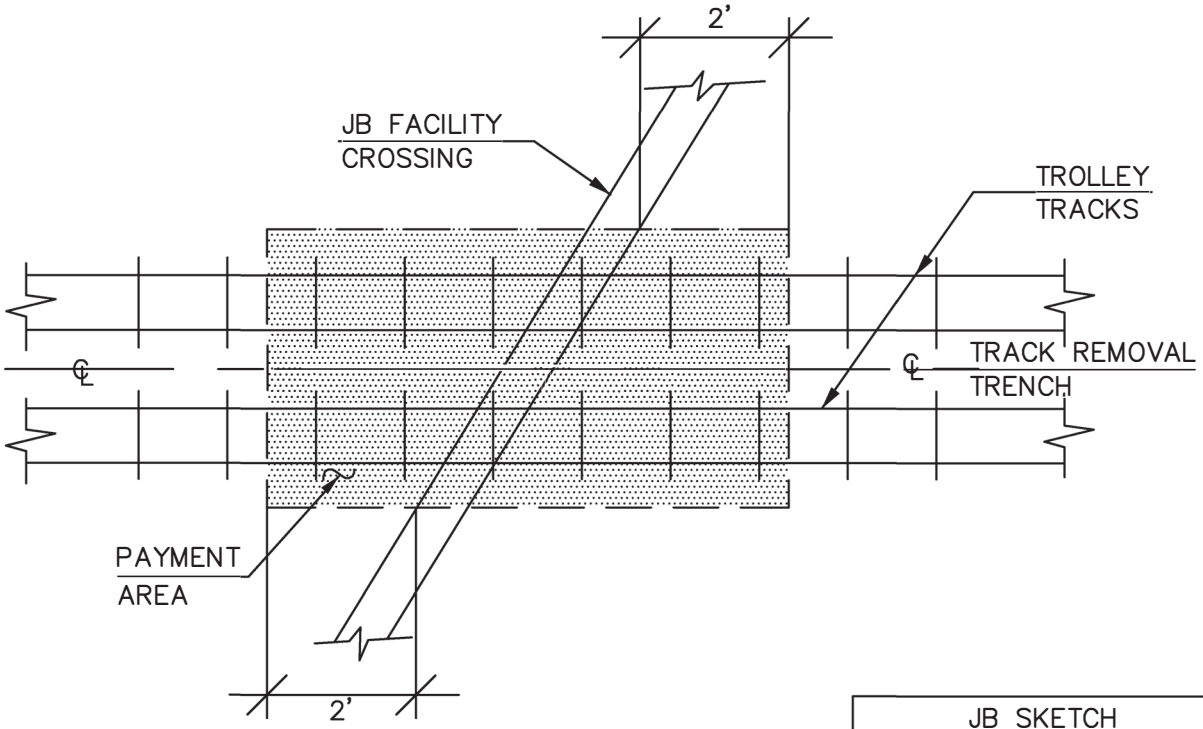
When this work is performed within a mass excavation area, a credit will be taken for the removed trolley structure.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 800



SECTION OF JB FACILITIES CROSSING TROLLEY TRACKS



PLAN OF JB FACILITIES CROSSING TROLLEY TRACKS

JB SKETCH	
ACCOMODATION FACILITIES AT TROLLEY RAILROAD STRUCTURES	
CONTRACT NO.	SKETCH NO. JB 800

REVISIONS
11/28/2018

JB 801 - MODIFICATION OF CONCRETE YOKE TROLLEY STRUCTURES REMOVAL PARALLEL TO UTILITY FACILITIES

A. Description

This JB item shall only be applied to trolley structure systems that contain concrete yoke foundations. This JB item shall not be used for trolley systems that have rails and wood ties only.

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:

1. Conduits
2. Conductors
3. Concrete encased conduit banks
4. Steel pipes
5. Oil-o-static facilities
6. Non-cost sharing gas facilities and
7. Steam facilities

of various sizes and configurations paralleling or encroaching trolley structures located within a zone of protection, as indicated in sketch JB 801 or as directed by the field representative, during all trolley structure removal operations and subsequent backfilling operations. Utility facilities which cross over, under and between the trolley structures are not included within this item and will be paid for under the appropriate JB item. The work shall be performed in accordance with the contract plans, the specifications, and as encountered during construction and directed 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 encroaching trolley structures within a zone of protection as indicated in sketch 801 or as directed by the field representative, during removal of trolley structures and subsequent backfilling and compaction operations under other contract item(s). 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 hand excavation methods (pick and shovel or hand held power tools) directly below the pavement base to expose the utility and ascertain the numerical relationships and/or dimensions of these utilities with respect to the proposed excavation. Contractor shall perform test pits to expose the utilities as specified under JB 400. Upon exposing the affected utilities sufficiently, and at the sole discretion of the facility operator(s) to determine relationships and/or dimensions, the Contractor shall be permitted to proceed with hand held power tools to remove existing trolley structure within the zone of protection whose limit shall be defined as a perimeter located 24 inches from the outside face of each utility.

D. Method of Measurement

The quantity to be measured for payment shall be the number of linear feet of modified trolley structure removal within the zone of protection as indicated on the plans, measured along the centerline of trench. The trench is defined as one track set containing two rails. 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.

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 encroaching trolley structures during the removal of trolley structures (including rails, timber ties, yokes, trolley conduits, main conduit, rail and yoke foundations), and backfilling and compacting within a zoned area designated for protection of utilities by the facility operator(s).

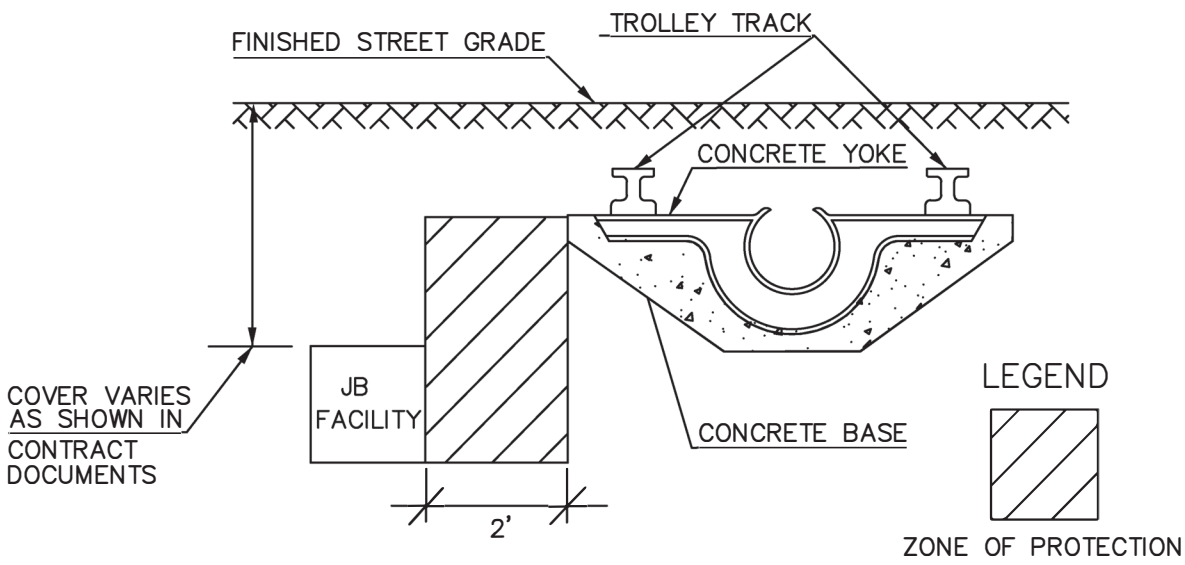
The unit price shall also include any additional cutting, removing and disposing of roadway materials; hand or machine excavation; trucking and disposing of excavated materials, installation and removal of sheeting; and furnishing, installing and compacting backfill that may be required to support, protect, maintain and accommodate the integrity of utility facilities. The unit 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 trolley demolition operations that are not performed in accordance with the specifications.

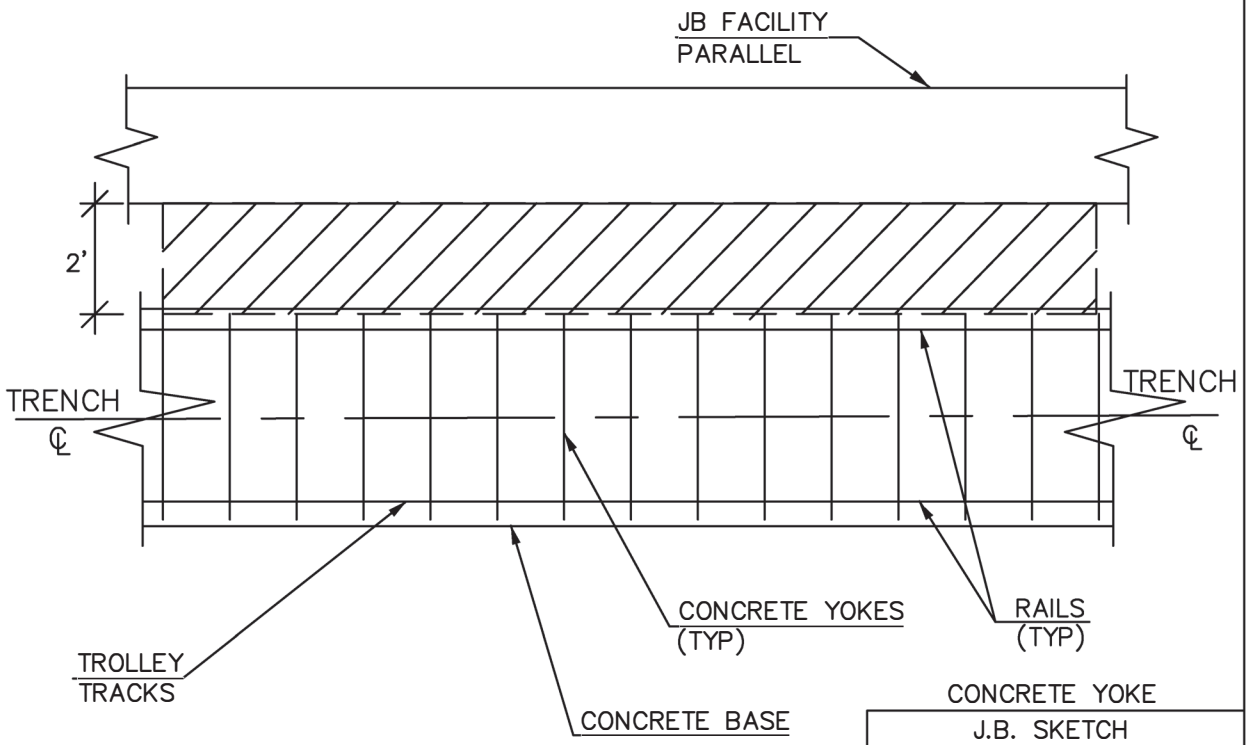
When this work is performed within a mass excavation area, a credit will be taken for the removed trolley structure.

F. References

1. NYS Industrial Code Rule 753
2. Sketch JB 801



SECTION OF JB FACILITIES PARALLELING TROLLEY TRACKS



PLAN OF JB FACILITIES PARALLELING TROLLEY TRACKS

CONCRETE YOKE

J.B. SKETCH

ACCOMODATION FACILITIES PARALLEL TROLLEY RAILROAD STRUCTURES

REVISIONS		
11/28/2018	CONTRACT NO.	SKETCH NO. JB 801

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. Method of Measurement

1. ITEM 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 (SF) 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. ITEM 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 (LF) 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. ITEM 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. ITEM 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. 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

END OF JB-PAGES SECTION C

(NO FURTHER TEXT ON THIS PAGE)

SECTION D. PRIVATE UTILITIES PARTICIPATING LIST

LISTING OF COMPANIES NAMED FOR THIS CONTRACT

RED386
REPLACEMENT OF DISTRIBUTION WATER MAINS AND APPURTENANCES
BOROUGH OF STATEN ISLAND

COMPANY NAME	CONTACT NAME	CONTACT	E-MAIL
CON- EDISON	DENNIS BRADY	(917) 608-3435	BRADYD@CONED.COM
VERIZON	AUBREY MAKHANLALL	(516) 758-3705	AUBREY.N.MAKHANLALL@VERIZON.COM
CHARTER SPECTRUM	JOHN PIAZZA	(718) 888-4261	JOHN.PIAZZA@CHARTER.COM

END OF JB-PAGES SECTION D

(NO FURTHER TEXT ON THIS PAGE)

SECTION E. PRIVATE UTILITIES SCOPE OF WORK

JOINT BID WORKSHEET

ENGINEER'S ESTIMATE OF QUANTITY AND TYPES OF INTERFERENCE
FOR CONSOLIDATED EDISON COMPANY OF NEW YORK

RED-386

REPLACEMENT OF DISTRIBUTION OF WATER MAINS AND APPURTENANCES
BOROUGH OF STATEN ISLAND

JOINT BID ITEM NUMBER	DESCRIPTION	UNITS	ESTIMATED QUANTITY
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)	EA	3
JB 109.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)	EA	1
JB 300.1	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5'DEEP	CY	25
JB 300.2	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH GREATER THAN 5'DEEP	CY	25
JB 400	TEST PITS FOR UTILITY FACILITIES	CY	20
JB 450.1	CONSTRUCTION FIELD SUPPORT - SURVEY CREW (TYPE .1)	CRHRS	4
JB 450.2	CONSTRUCTION FIELD SUPPORT - SMALL SIZE CREW (TYPE .2)	CRHRS	4
JB 450.3	CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)	CRHRS	4

CON EDISON JOINT BIDDING SCOPE OF WORK
SUPPORT AND PROTECTION
RED-386
REPLACEMENT OF DISTRIBUTION OF WATER MAINS AND APPURTENANCES
BOROUGH OF STATEN ISLAND

JB 109.1 **UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)** **EA**

At the following locations:

Opp. #281 South Ave. (N of Brabant St.)
Opp. #227 South Ave.
Opp. #219 South Ave.

Total Quantity for JB 109.1 = 3

JB 109.2 **UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)** **EA**

At the following locations:

Opp. #281 South Ave. (N of Brabant St.)

Total Quantity for JB 109.2 = 1

JB 300.1 **SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5'DEEP** **CY**

At the following locations:

Various

Total Quantity for JB 300.1 = 25

JB 300.2 **SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH GREATER THAN 5'DEEP** **CY**

At the following locations:

Various

Total Quantity for JB 300.2 = 25

JB 400 **TEST PITS FOR UTILITY FACILITIES** **CY**

At the following locations:

Various

Total Quantity for JB 400 = 20

CON EDISON JOINT BIDDING SCOPE OF WORK
SUPPORT AND PROTECTION
RED-386
REPLACEMENT OF DISTRIBUTION OF WATER MAINS AND APPURTENANCES
BOROUGH OF STATEN ISLAND

JB 450.1 **CONSTRUCTION FIELD SUPPORT - SURVEY CREW (TYPE .1)** **CRHRS**

At the following locations:

Various

Total Quantity for JB 450.1 = 4

JB 450.2 **CONSTRUCTION FIELD SUPPORT - SMALL SIZE CREW (TYPE .2)** **CRHRS**

At the following locations:

Various

Total Quantity for JB 450.2 = 4

JB 450.3 **CONSTRUCTION FIELD SUPPORT - MEDIUM SIZE CREW (TYPE .3)** **CRHRS**

At the following locations:

Various

Total Quantity for JB 450.3 = 4

CON EDISON CONTRACT INCLUSION ANALYSIS

CITY BID ITEMS ESTIMATED QUANTITIES

RED-386

REPLACEMENT OF DISTRIBUTION WATERMAINS AND APPURTENANCES
BOROUGH OF STATEN ISLAND

JOINT BID ITEM NUMBER	DESCRIPTION	UNITS	ESTIMATED QUANTITY
60.11R520	FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	LF	50
60.11R612	FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	LF	50
60.12D12	LAYING 12" DUCTILE IRON PIPE AND FITTINGS	LF	50
60.12D20	LAYING 20" DUCTILE IRON PIPE AND FITTINGS	LF	50

CON EDISON JOINT BIDDING SCOPE OF WORK
CITY BID ITEMS FOR INCLUSION IN
RED-386
REPLACEMENT OF DISTRIBUTION WATERMAINS AND APPURTENANCES
BOROUGH OF STATEN ISLAND

60.11R520 **FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)** **LF**

At the following locations:

Various

Total Quantity for 60.11R520 = 50

60.11R612 **FURNISHING AND DELIVERING 12-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)** **LF**

At the following locations:

Various

Total Quantity for 60.11R612 = 50

60.12D12 **LAYING 12"DUCTILE IRON PIPE AND FITTINGS** **LF**

At the following locations:

Various

Total Quantity for 60.12D12 = 50

60.12D20 **LAYING 20" DUCTILE IRON PIPE AND FITTINGS** **LF**

At the following locations:

Various

Total Quantity for 60.12D20 = 50

Verizon **October 2021**

RED386

REPLACEMENT OF DIST. WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.

Borough of Staten Island

Schedule JB: Scope of Work for Joint Bid Items

JB ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
JB 108.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)	EACH	5
JB 108.2	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .2)	EACH	13
JB 108.3	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .3)	EACH	2
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)	EACH	5
JB 109.2	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)	EACH	3
JB 109.3	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .3)	EACH	1
JB 300.1	SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5' DEEP	C.Y.	39
JB 330T1	SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED CITY TRENCH	L.F.	365
JB 330T2.2	COMMUNICATION FACILITY OPERATOR(S) REQUESTS THE TRENCH / SHEETING BE MODIFIED	L.F.	340
JB 400	TEST PITS FOR UTILITY FACILITIES	C.Y.	20
JB 401	TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES	C.Y.	221
JB 402T.2A	EXISTING NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	2,720
JB 402T.V2A	EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT	L.F.	1,020
JB 403T.2	FURNISH AND INSTALL STEEL PROTECTION PLATES FOR UTILITES FACILITES (3/8" THICK)	S.F.	130
JB 636 EE	ADJUSTMENT OF UTILITY HARDWARE (34" TO UNDER 41" WIDTH)	EACH	3
JB 700	SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER	C.Y.	50
JB 803.2	LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS (LINE CUT ANY COMBINATION OF ASPHALT AND CONCRETE ROADWAY)	L.F.	100

Verizon **October 2021**

RED386
REPLACEMENT OF DIST. WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
Borough of Staten Island
Schedule JB: Scope of Work for Joint Bid Items

JB 108.1

UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
NWC INT OF SOUTH AVENUE & CABLE WAY	2
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 108.1 **TOTAL**	**5**

JB 108.2

UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .2)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
NWC INT OF SOUTH AVENUE & CABLE WAY	1
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET	3
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE	5
WEST SIDE INT OF SOUTH AVENUE & ARLINGTON PLACE	1
NORTH SIDE ARLINGTON PLACE BTWN ARLINGTON AVENUE & SOUTH AVENUE	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 108.2 **TOTAL**	**13**

JB 108.3

UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCLUDING 12" DIAMETER (TYPE .3)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 108.3 **TOTAL**	**2**

JB 109.1

UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
SEC INT OF SOUTH AVENUE & CONTINENTAL PLACE	1
NWC INT OF SOUTH AVENUE & BRABANT STREET	1
WEST SIDE SOUTH AVENUE BTWN ARLINGTON PLACE & RICHMOND TERRACE	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 109.1 **TOTAL**	**5**

Verizon **October 2021**

RED386
REPLACEMENT OF DIST. WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
Borough of Staten Island
Schedule JB: Scope of Work for Joint Bid Items

JB 109.2

UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .2)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
JB 109.2 TOTAL	**3**

JB 109.3

UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .3)

@ THE FOLLOWING LOCATIONS

	QTY(EACH)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	1
JB 109.3 TOTAL	**1**

JB 300.1

SPECIAL CARE EXCAVATION AND BACKFILLING IN TRENCH LESS THAN 5' DEEP

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT ST.	18
NORTH SIDE ARLINGTON PLACE BTWN ARLINGTON AVENUE & SOUTH AVENUE	11
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	10
JB 300.1 TOTAL	**39**

JB 330T1

SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED CITY TRENCH

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE	265
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	100
JB 330T1 TOTAL	**365**

JB 330T2.2

COMMUNICATION FACILITY OPERATOR(S) REQUESTS THE TRENCH / SHEETING BE MODIFIED

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT ST.	85
WEST SIDE OF INTERSECTION OF SOUTH AVENUE & BRABANT ST.	40
NORTH SIDE ARLINGTON PLACE BTWN ARLINGTON AVENUE & SOUTH AVENUE	115
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	100
JB 330T2.2 TOTAL	**340**

Verizon **October 2021**

RED386
REPLACEMENT OF DIST. WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
Borough of Staten Island
Schedule JB: Scope of Work for Joint Bid Items

JB 400

TEST PITS FOR UTILITY FACILITIES

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	20
JB 400 TOTAL	**20**

JB 401

TRENCH EXCAVATION FOR ADJUSTMENT OF UTILITY FACILITIES

@ THE FOLLOWING LOCATIONS

	QTY(C.Y.)
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR NETHERLAND AVE	34
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR CABLE WAY	25
NWC INT OF SOUTH AVENUE & CABLE WAY	27
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR CONTINENTAL	15
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR BRABANT	15
SWC INT OF SOUTH AVENUE & BRABANT STREET	17
NWC INT OF SOUTH AVENUE & BRABANT STREET	27
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR BRABANT	16
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR ARLINGTON	15
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	30
JB 401 TOTAL	**221**

JB 402T.2A

EXISTING NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR NETHERLAND AVE	300
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR CABLE WAY	300
NWC INT OF SOUTH AVENUE & CABLE WAY	320
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR CONTINENTAL	240
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR BRABANT	240
SWC INT OF SOUTH AVENUE & BRABANT STREET	240
NWC OF INTERSECTION OF SOUTH AVENUE & BRABANT STREET	400
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR BRABANT	240
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR ARLINGTON	240
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	200
JB 402T.2A TOTAL	**2,720**

JB 402T.V2A

EXISTING VACANT NON-CONCRETE ENCASED TELECOMMUNICATION CONDUITS PLACED IN FINAL POSITION WITH CONCRETE ENCASEMENT

@ THE FOLLOWING LOCATIONS

	QTY(L.F.)
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR NETHERLAND AVE	100
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR CABLE WAY	100

Verizon **October 2021**

RED386
REPLACEMENT OF DIST. WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
Borough of Staten Island
Schedule JB: Scope of Work for Joint Bid Items

NWC INT OF SOUTH AVENUE & CABLE WAY		160
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR CONTINENTAL		80
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR BRABANT		80
SWC INT OF SOUTH AVENUE & BRABANT STREET		80
NWC INT OF SOUTH AVENUE & BRABANT STREET		160
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR BRABANT		80
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR ARLINGTON		80
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		100
JB 402T.V2A	**TOTAL**	**1,020**

JB 403T.2

FURNISH AND INSTALL STEEL PROTECTION PLATES FOR UTILITES FACILITES (3/8" THICK)

@ THE FOLLOWING LOCATIONS

		QTY(S.F.)
NORTH SIDE OF ARLINGTON PLACE BTWN SOUTH AVENUE & ARLINGTON AVENUE		80
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		50
JB 403T.2	**TOTAL**	**130**

JB 636 EE

ADJUSTMENT OF UTILITY HARDWARE (34" TO UNDER 41" WIDTH)

@ THE FOLLOWING LOCATIONS

		QTY(EACH)
NWC INT OF SOUTH AVENUE & BRABANT STREET		1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		2
JB 636 EE	**TOTAL**	**3**

JB 700

SPECIAL MODIFICATION OF WORK METHODS TO ACCOMMODATE/PROTECT UNDERGROUND FACILITIES WITH LIMITED COVER

@ THE FOLLOWING LOCATIONS

		QTY(C.Y.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		50
JB 700	**TOTAL**	**50**

JB 803.2

LINE CUT BY PNEUMATIC TOOLS IN LIEU OF SAW CUT ASSOCIATED WITH ROADWAY REMOVAL OPERATIONS (LINE CUT ANY COMBINATION OF ASPHALT AND CONCRETE ROADWAY)

@ THE FOLLOWING LOCATIONS

		QTY(L.F.)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		100
JB 803.2	**TOTAL**	**100**

Verizon **November 2021**

RED386
REPLACEMENT OF DIST. WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
Borough of Staten Island
Bid Item Accomodation Estimate

ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
4.02 AB-R	ASPHALTIC CONCRETE WEARING COURSE, 2" THICK	QTY(SY)	38
4.02 CA	BINDER MIXTURE	QTY(TON)	18
6.02 AAN	UNCLASSIFIED EXCAVATION	QTY(CY)	13
60.11R520	FURNISHING AND DELIVERING ADDL 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	QTY(LF)	28
60.12D20	LAYING ADDL 20-INCH DUCTILE IRON PIPE AND FITTINGS	QTY(LF)	45
60.13M0A24	FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24- INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	QTY(TON)	2
65.21PS	FURNISHING AND PLACING POLYETHYLENE SLEEVE	QTY(LF)	23
65.31FF	FURNISHING, DELIVERING AND PLACING FILTER FABRIC	QTY(SF)	730
65.71SG	FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	QTY(CY)	11
70.81CB	CLEAN BACKFILL	QTY(CY)	25
70.91SW20	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	QTY(SF)	600
73.31AE0	ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS)	QTY(CY)	2

Verizon **November 2021**

RED386
REPLACEMENT OF DIST. WATER MAINS AND APPURTENANCES IN SOUTH AVENUE BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE, ETC.
Borough of Staten Island
Bid Item Accommodation Scope

4.02 AB-R
ASPHALTIC CONCRETE WEARING COURSE, 1.5" THICK
@ THE FOLLOWING LOCATIONS

	QTY(SY)
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR NETHERLAND AVE	6
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR CABLE WAY	4
NWC INT OF SOUTH AVENUE & CABLE WAY	3
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR CONTINENTAL	3
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR BRABANT	3
SWC INT OF SOUTH AVENUE & BRABANT STREET	3
NWC INT OF SOUTH AVENUE & BRABANT STREET	5
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR BRABANT	3
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR ARLINGTON	3
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	5
4.02 AB-R **TOTAL**	**38**

4.02 CA
BINDER MIXTURE
@ THE FOLLOWING LOCATIONS

	QTY(TON)
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR NETHERLAND AVE	2
WEST SIDE OF SOUTH AVENUE BTWN NETHERLAND AVE & CABLE WAY, NEAR CABLE WAY	1
NWC INT OF SOUTH AVENUE & CABLE WAY	1
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR CONTINENTAL	1
WEST SIDE SOUTH AVENUE BTWN CONTINENTAL PLACE & BRABANT STREET NEAR BRABANT	1
SWC INT OF SOUTH AVENUE & BRABANT STREET	1
NWC INT OF SOUTH AVENUE & BRABANT STREET	3
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR BRABANT	1
WEST SIDE SOUTH AVENUE BTWN BRABANT STREET & ARLINGTON PLACE NEAR ARLINGTON	1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	6
4.02 CA **TOTAL**	**18**

6.02 AAN
UNCLASSIFIED EXCAVATION
@ THE FOLLOWING LOCATIONS

	QTY(CY)
NWC INT OF SOUTH AVENUE & BRABANT STREET	11
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	2
6.02 AAN **TOTAL**	**13**

60.11R520
FURNISHING AND DELIVERING ADDL 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)
@ THE FOLLOWING LOCATIONS

	QTY(LF)
NWC INT OF SOUTH AVENUE & BRABANT STREET	22
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE	6
60.11R520 **TOTAL**	**28**

60.12D20
LAYING ADDL 20-INCH DUCTILE IRON PIPE AND FITTINGS
@ THE FOLLOWING LOCATIONS

		QTY(LF)
NWC INT OF SOUTH AVENUE & BRABANT STREET		35
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		10
60.12D20	**TOTAL**	**45**

60.13M0A24
FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24- INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS
@ THE FOLLOWING LOCATIONS

		QTY(TON)
NWC INT OF SOUTH AVENUE & BRABANT STREET		1
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		1
60.13M0A24	**TOTAL**	**2**

65.21PS
FURNISHING AND PLACING POLYETHYLENE SLEEVE
@ THE FOLLOWING LOCATIONS

		QTY(LF)
NWC INT OF SOUTH AVENUE & BRABANT STREET		15
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		8
65.21PS	**TOTAL**	**23**

65.31FF
FURNISHING, DELIVERING AND PLACING FILTER FABRIC
@ THE FOLLOWING LOCATIONS

		QTY(SF)
NWC INT OF SOUTH AVENUE & BRABANT STREET		600
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		130
65.31FF	**TOTAL**	**730**

65.71SG
FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING
@ THE FOLLOWING LOCATIONS

		QTY(CY)
NWC INT OF SOUTH AVENUE & BRABANT STREET		9
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		2
65.71SG	**TOTAL**	**11**

70.81CB
CLEAN BACKFILL
@ THE FOLLOWING LOCATIONS

		QTY(CY)
NWC INT OF SOUTH AVENUE & BRABANT STREET		20
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		5
70.81CB	**TOTAL**	**25**

70.91SW20

FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER

@ THE FOLLOWING LOCATIONS

		QTY(SF)
NWC INT OF SOUTH AVENUE & BRABANT STREET		500
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		100
70.91SW20	**TOTAL**	**600**

73.31AE0

ADDITIONAL EARTH EXCAVATION INCLUDING TEST PITS (ALL DEPTHS)

@ THE FOLLOWING LOCATIONS

		QTY(CY)
AS ENCOUNTERED & DIRECTED BY THE VERIZON FIELD REPRESENTATIVE		2
73.31AE0	**TOTAL**	**2**

ENGINEER'S ESTIMATE OF QUANTITIES AND TYPES OF INTERFERENCE
CHARTER/ SPECTRUM
RED386
Replacement of Distribution Water Mains
South Ave. from Netherland Ave. to Richmond Ter.
Borough of Staten Island

ITEM	DESCRIPTION	UNITS	ESTIMATED QUANTITY
JB 108.1	UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)	EA	5
JB 109.1	UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)	EA	1
JB 330T1	SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED CITY TRENCH	LF	48

CHARTER/SPECTRUM
SUPPORT & PROTECTION
RED386
Replacement of Distribution Water Mains
South Ave. from Netherland Ave. to Richmond Ter.
Borough of Staten Island

JB 108.1	**UTILITIES CROSSING TRENCH FOR WATER MAIN UP TO AND INCL. 12" DIAMETER (TYPE .1)**	**EA**
	At the following locations:	
	INT of South Ave & Cable Way	**1**
	INT of South Ave & Continental Pl	**1**
	South of South Ave & Cable Way	**1**
	INT of Grandview Ave & Continental Pl	**2**
	Total quantity for JB 108.1	**5**
JB 109.1	**UTILITIES CROSSING TRENCH FOR WATER MAIN OVER 12" AND UP TO 24" DIAMETER (TYPE .1)**	**EA**
	At the following locations:	
	NWC of South Ave & Continental Pl	**1**
	Total quantity for JB 109.1	**1**
JB 330T1	**SUPPORT AND PROTECTION OF COMMUNICATION UTILITY FACILITIES DURING EXCAVATION OF CITY TRENCH WHEN PARALLELING COMMUNICATION FACILITIES LIE COMPLETELY IN THE PROPOSED CITY TRENCH**	**LF**
	At the following locations:	
	INT of South Ave & Cable Way	**48**
	Total quantity for JB 330T1	**48**

END OF JB-PAGES SECTION E

(NO FURTHER TEXT ON THIS PAGE)

SECTION F. PRIVATE UTILITIES TEST PITS AND SKETCHES

SHEET NO. 1 OF 1

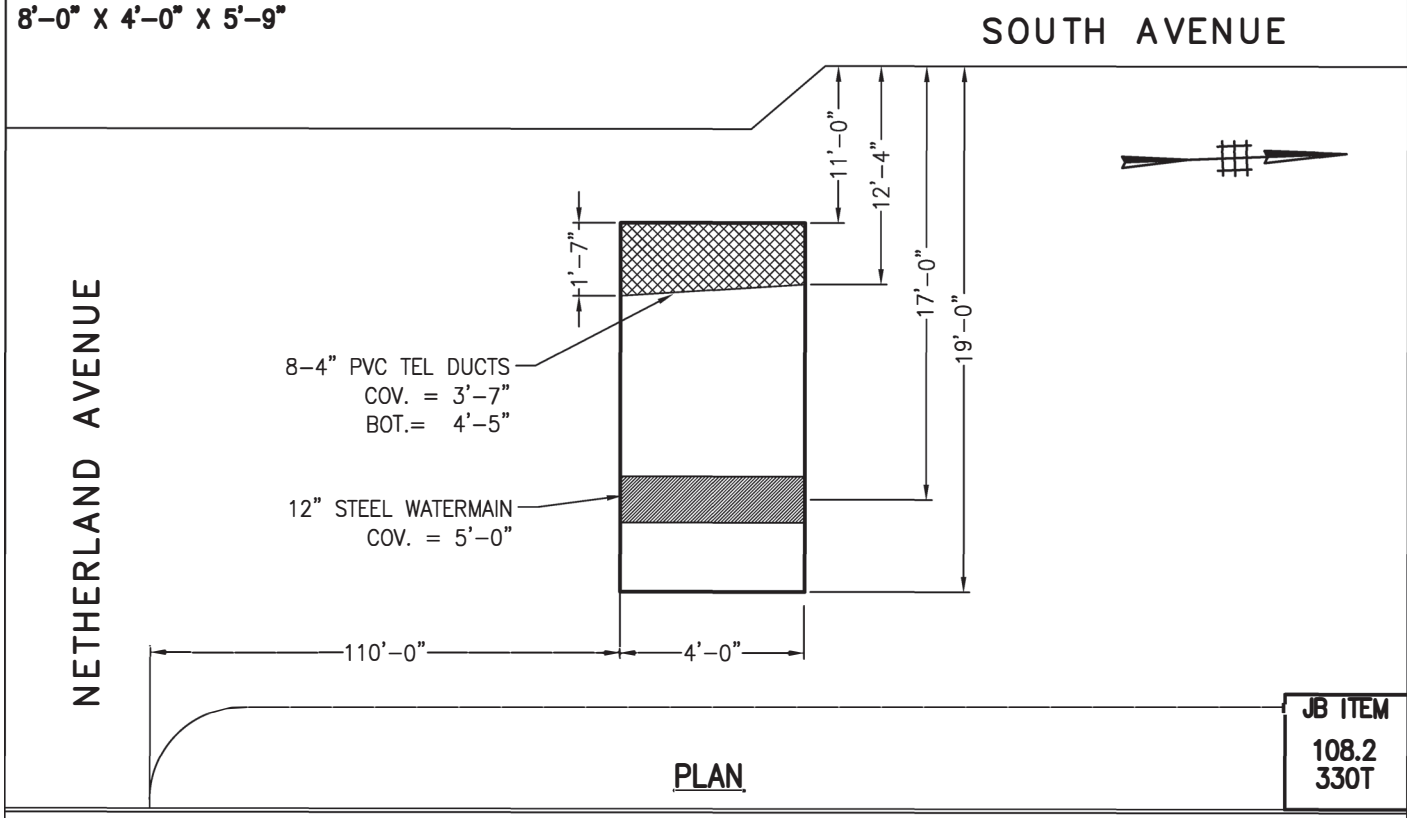
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/13/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/13/20

TEST PIT # 1 LOCATION: WEST SIDE OF SOUTH AVENUE BTWN. NETHERLAND AVENUE & CABLE WAY, STATEN ISLAND, NY

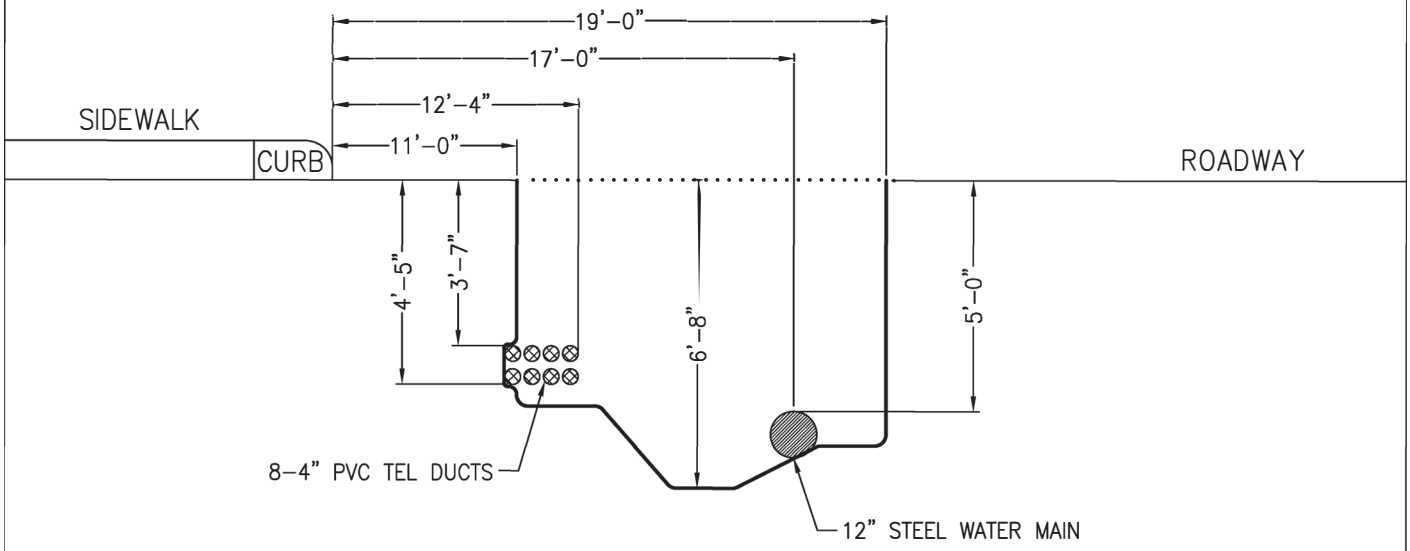
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
8'–0" X 4'–0" X 5'–9"



PLAN

JB ITEM
108.2
330T



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

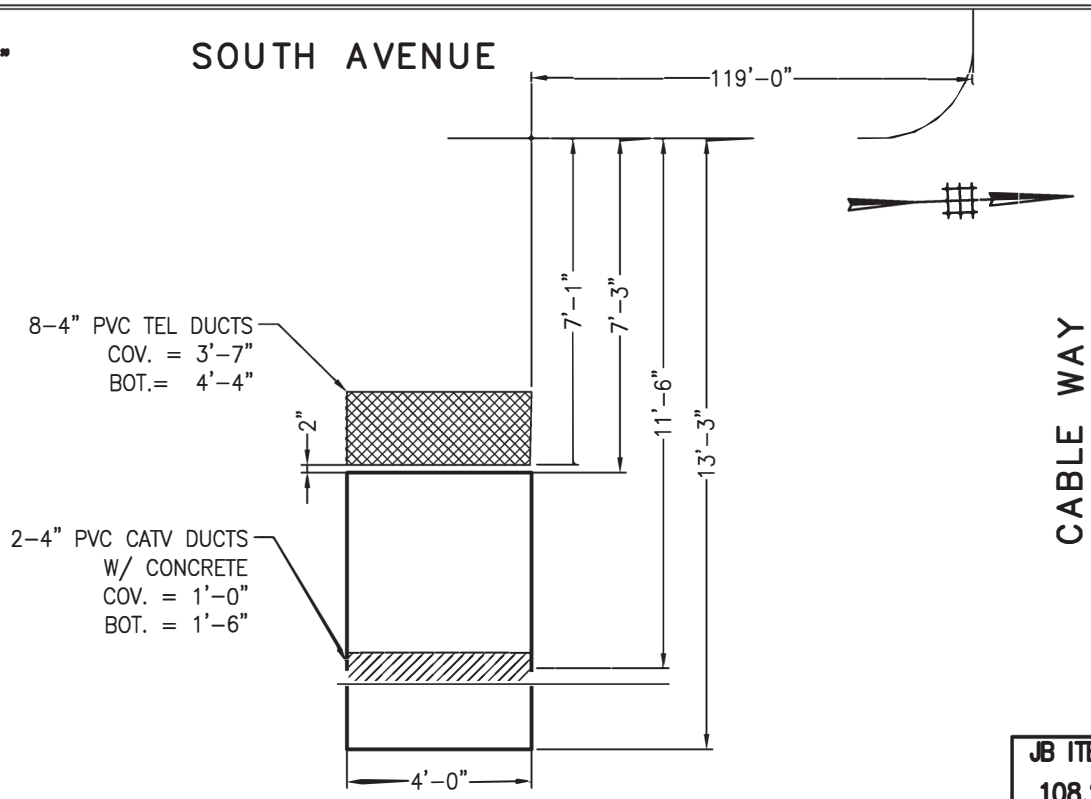
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/13/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/13/20

TEST PIT # 2 LOCATION: WEST SIDE OF SOUTH AVENUE BTWN. NETHERLAND AVENUE & CABLE WAY, STATEN ISLAND, NY

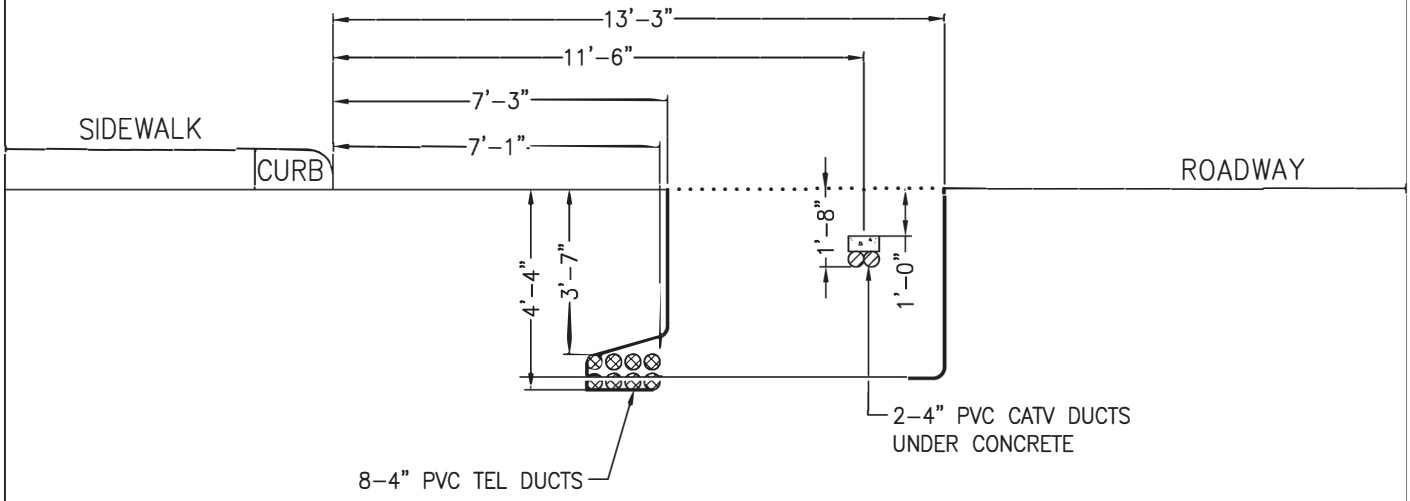
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'–0" X 4'–0" X 4'–1"



PLAN

JB ITEM
108.2
330T



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

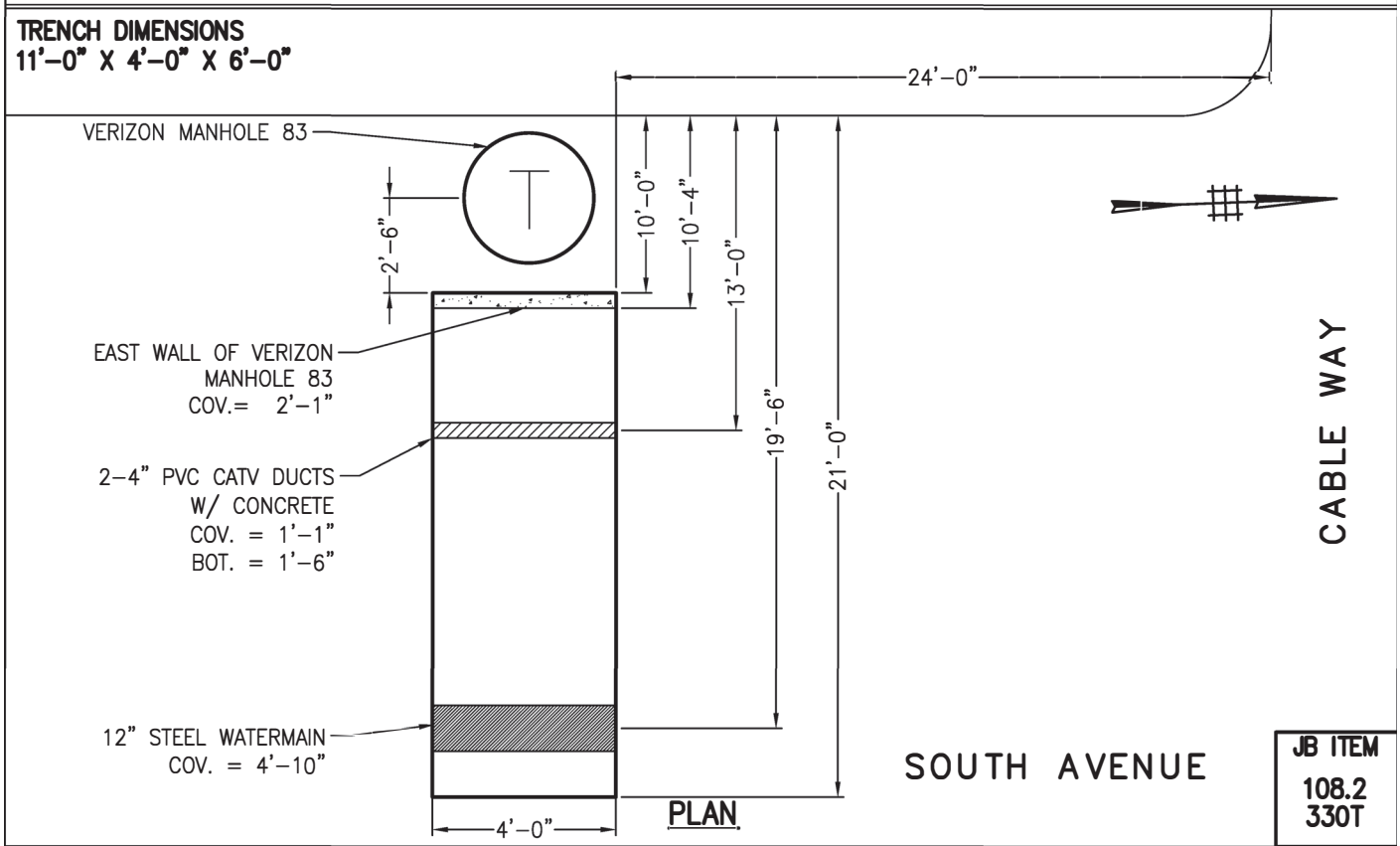
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/13/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/13/20

TEST PIT # 3 LOCATION: WEST SIDE OF SOUTH AVENUE BTWN. NETHERLAND AVENUE & CABLE WAY, STATEN ISLAND, NY

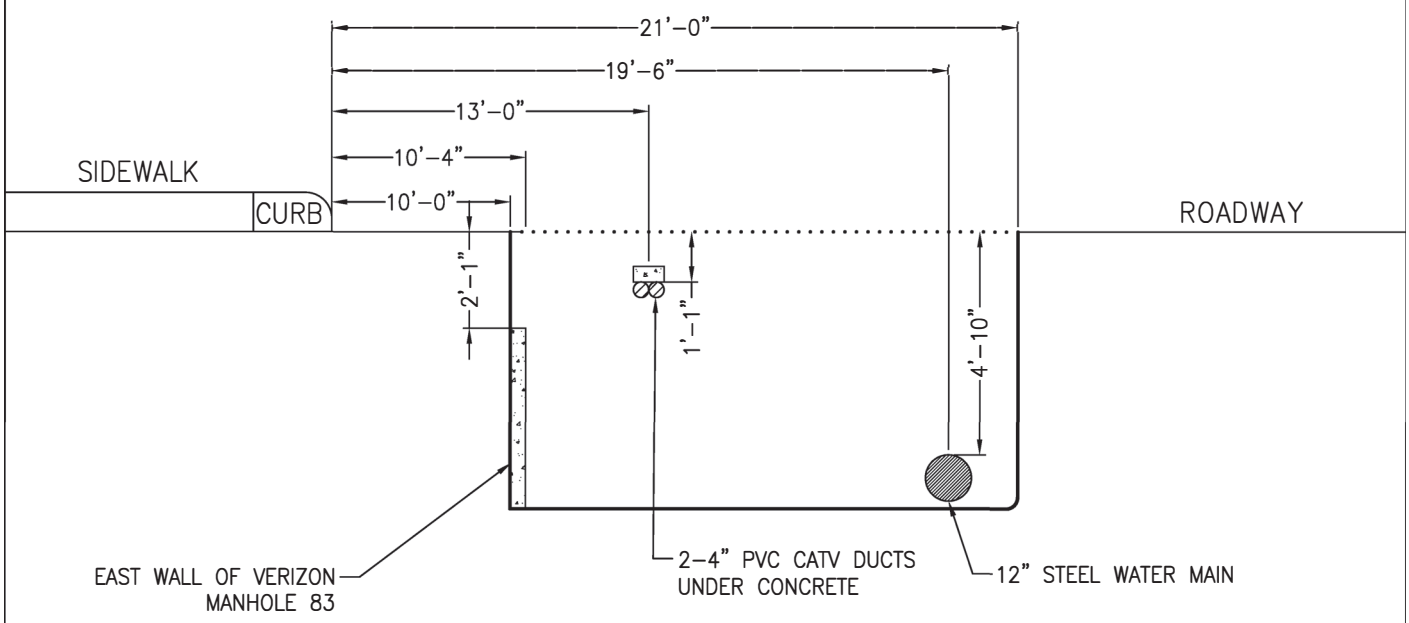
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
11'–0" X 4'–0" X 6'–0"



PLAN

JB ITEM
108.2
330T



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

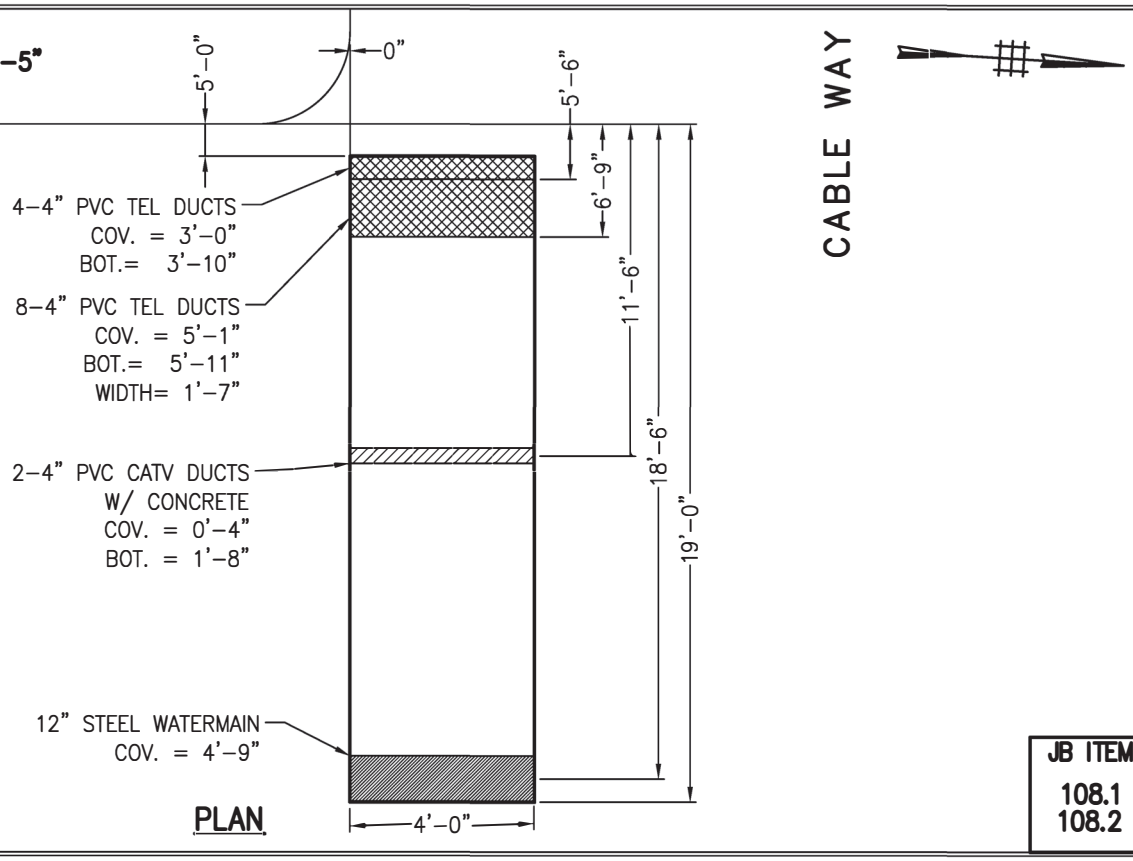
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/12/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/12/20

TEST PIT # 4 LOCATION: INTERSECTION OF SOUTH AVENUE AND CABLE WAY, STATEN ISLAND, NY

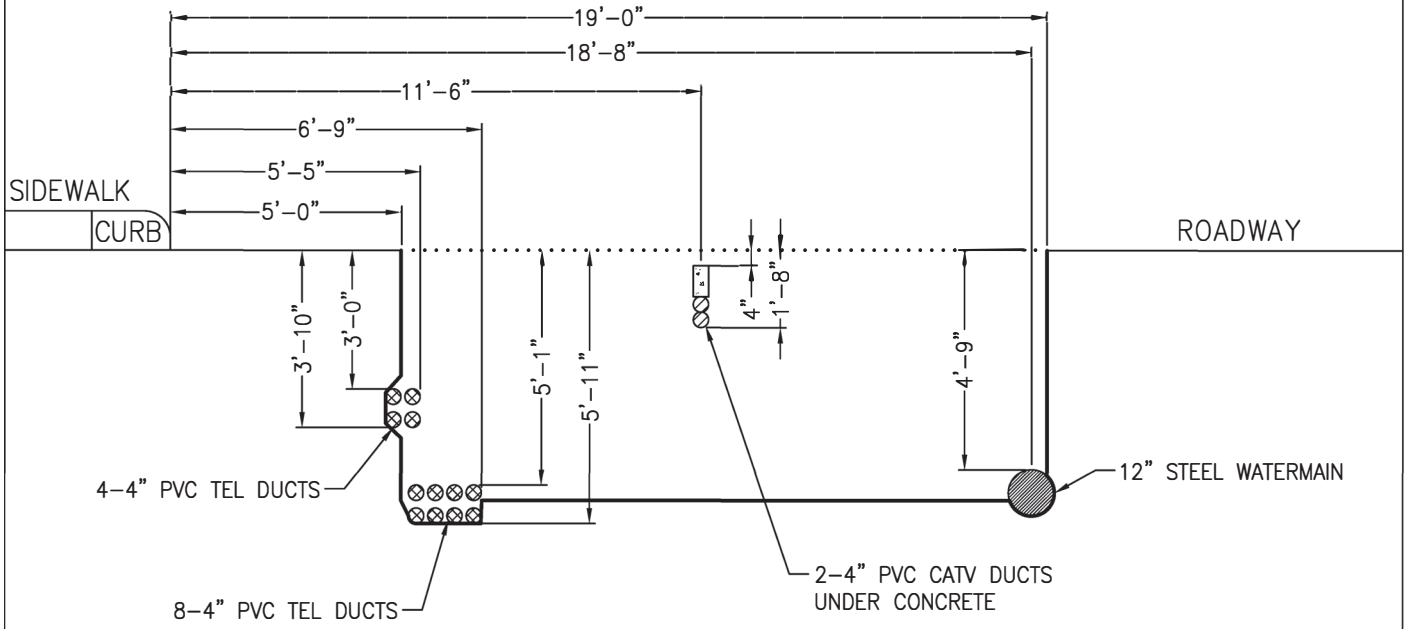
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
14'–0" X 4'–0" X 5'–5"



PLAN

JB ITEM
108.1
108.2



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

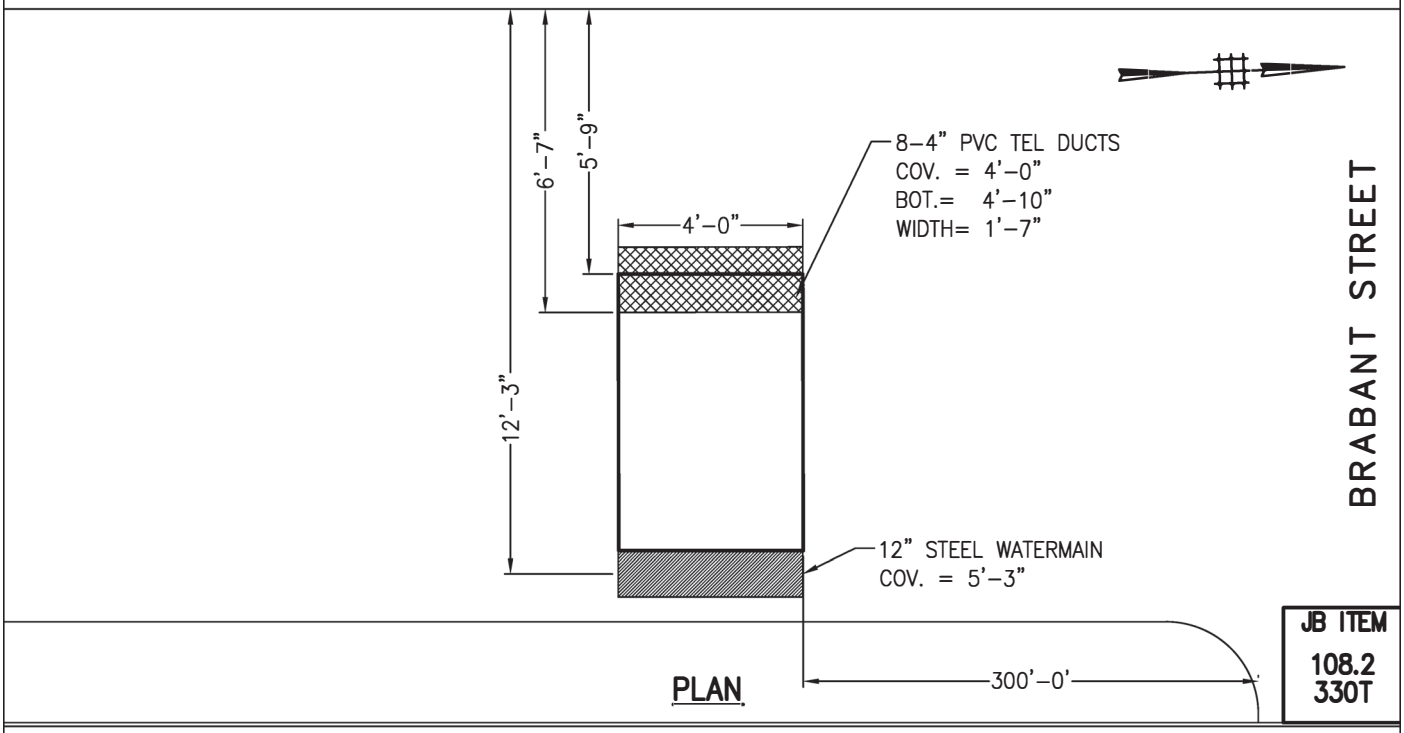
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/12/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/12/20

TEST PIT # 5 LOCATION: WEST SIDE OF SOUTH AVENUE BETWEEN BRABANT STREET & CABLE WAY, STATEN ISLAND, NY

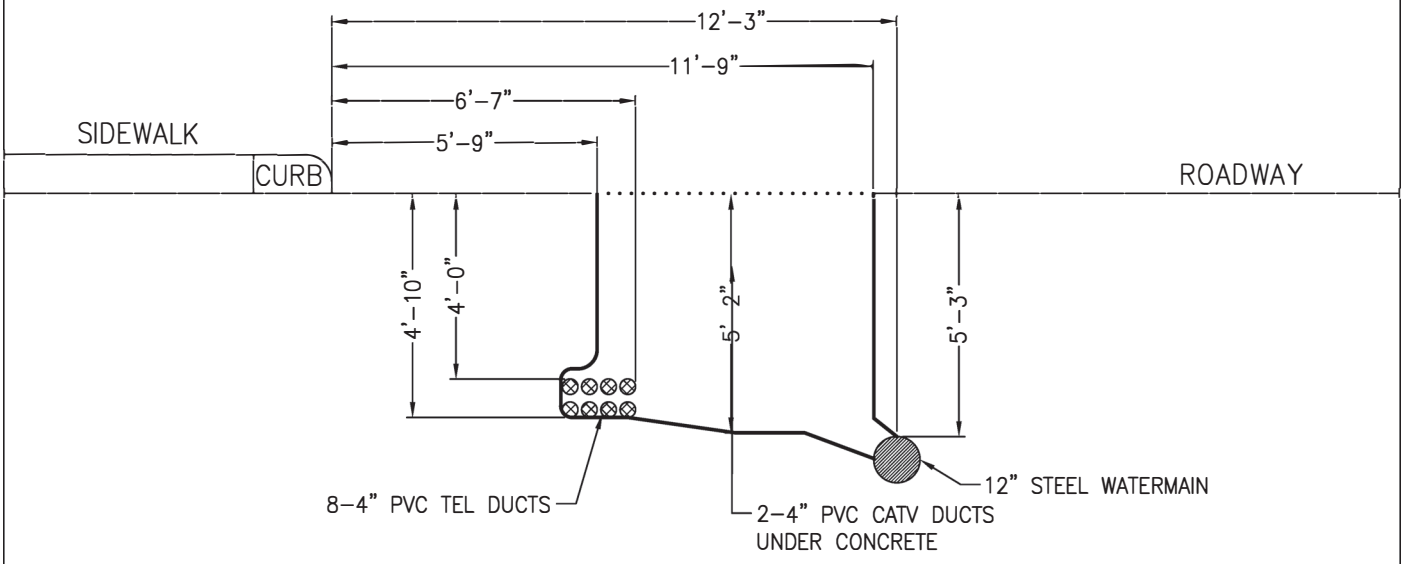
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'-0" X 4'-0" X 5'-2"



PLAN

JB ITEM
108.2
330T



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

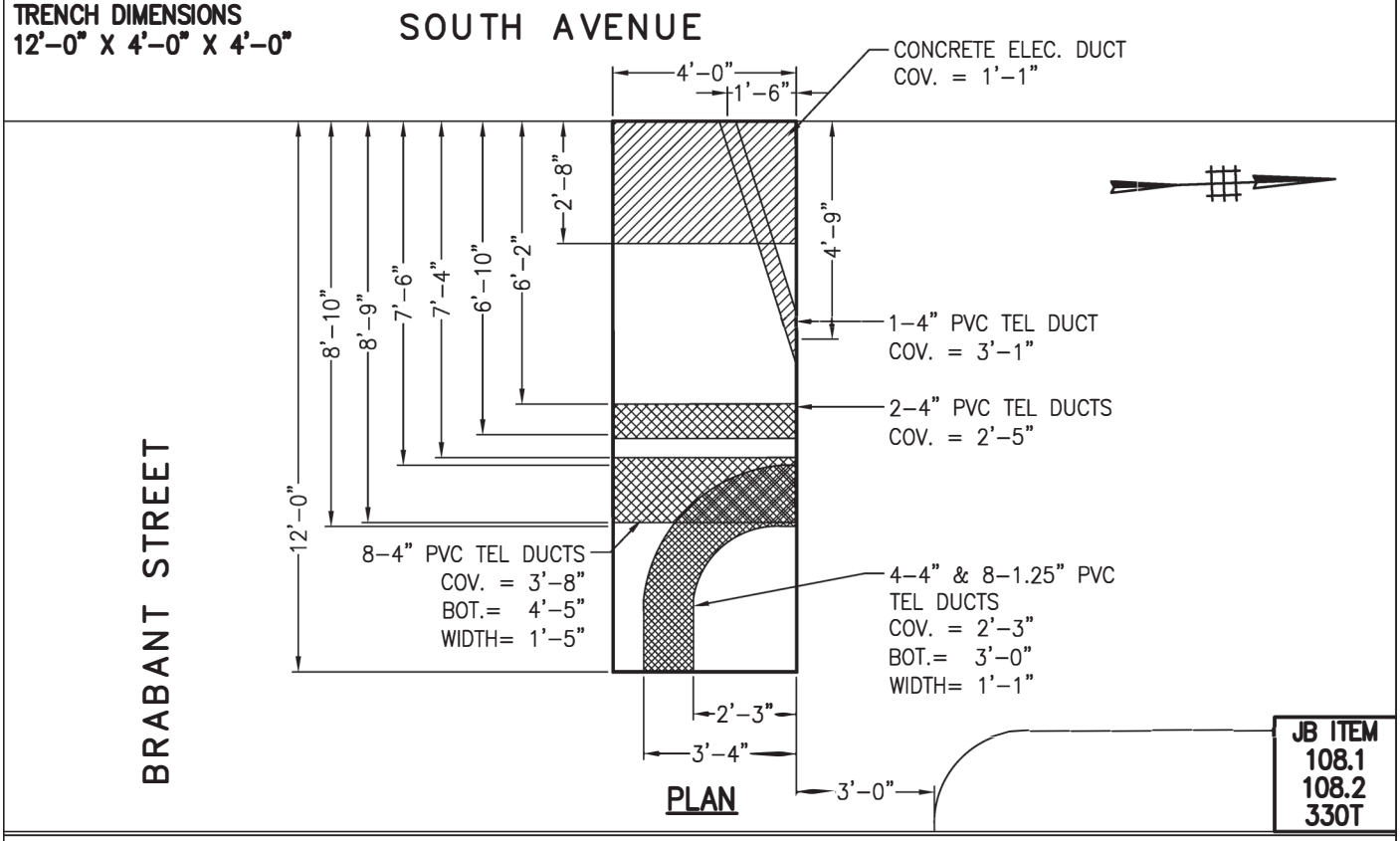
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/12/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/12/20

TEST PIT # 6 LOCATION: INTERSECTION OF SOUTH AVENUE AND BRABANT STREET, STATEN ISLAND, NY

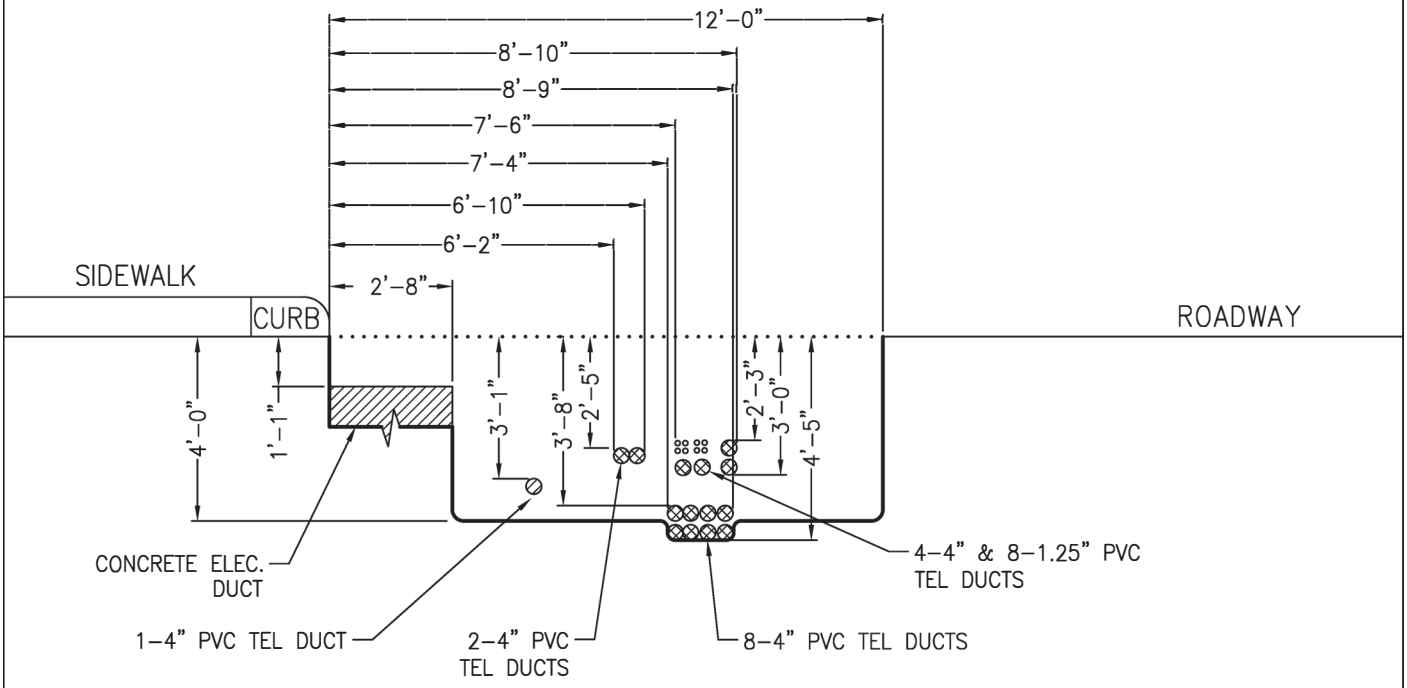
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
12'-0" X 4'-0" X 4'-0"



PLAN

JB ITEM
108.1
108.2
330T



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

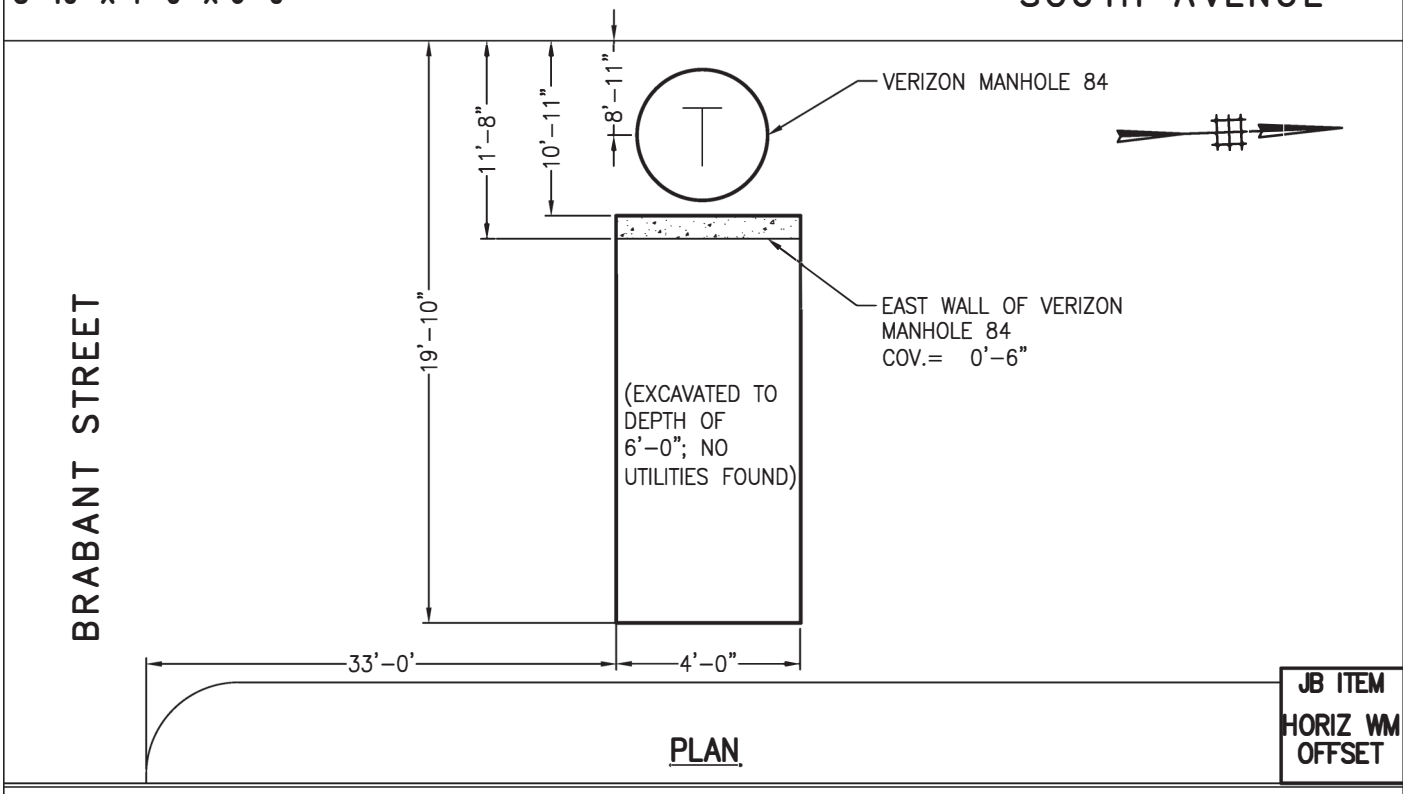
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/12/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/12/20

TEST PIT # 7 LOCATION: WEST SIDE OF SOUTH AVENUE BETWEEN BRABANT STREET & ARLINGTON PLACE, STATEN ISLAND, NY

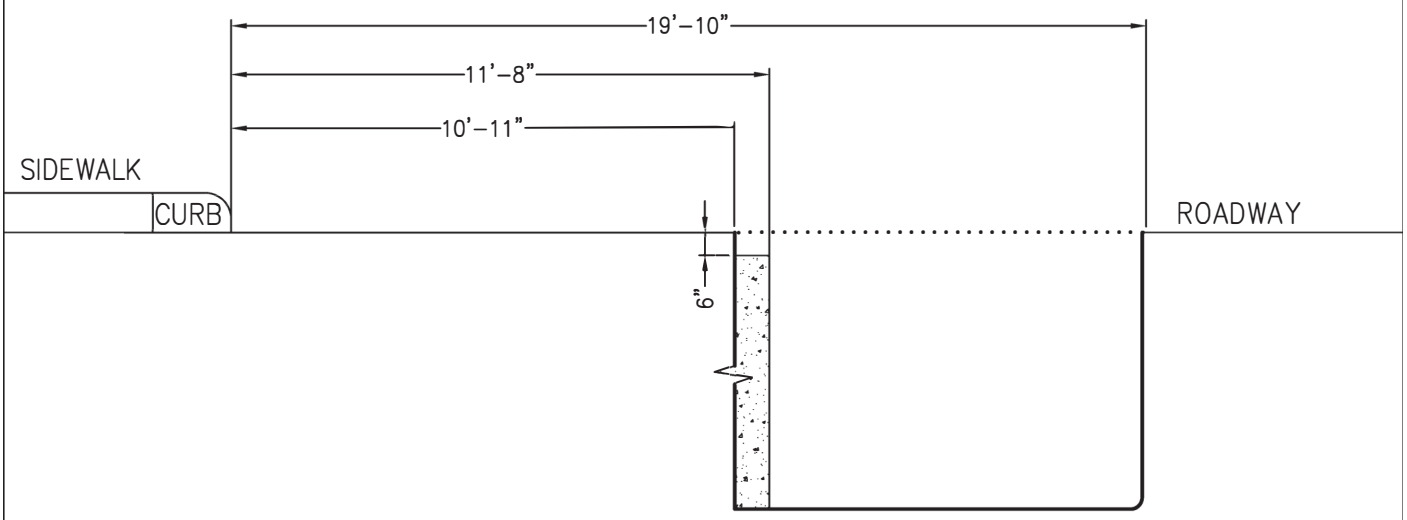
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
8'-10" X 4'-0" X 6'-0"



PLAN

JB ITEM
HORIZ WM OFFSET



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

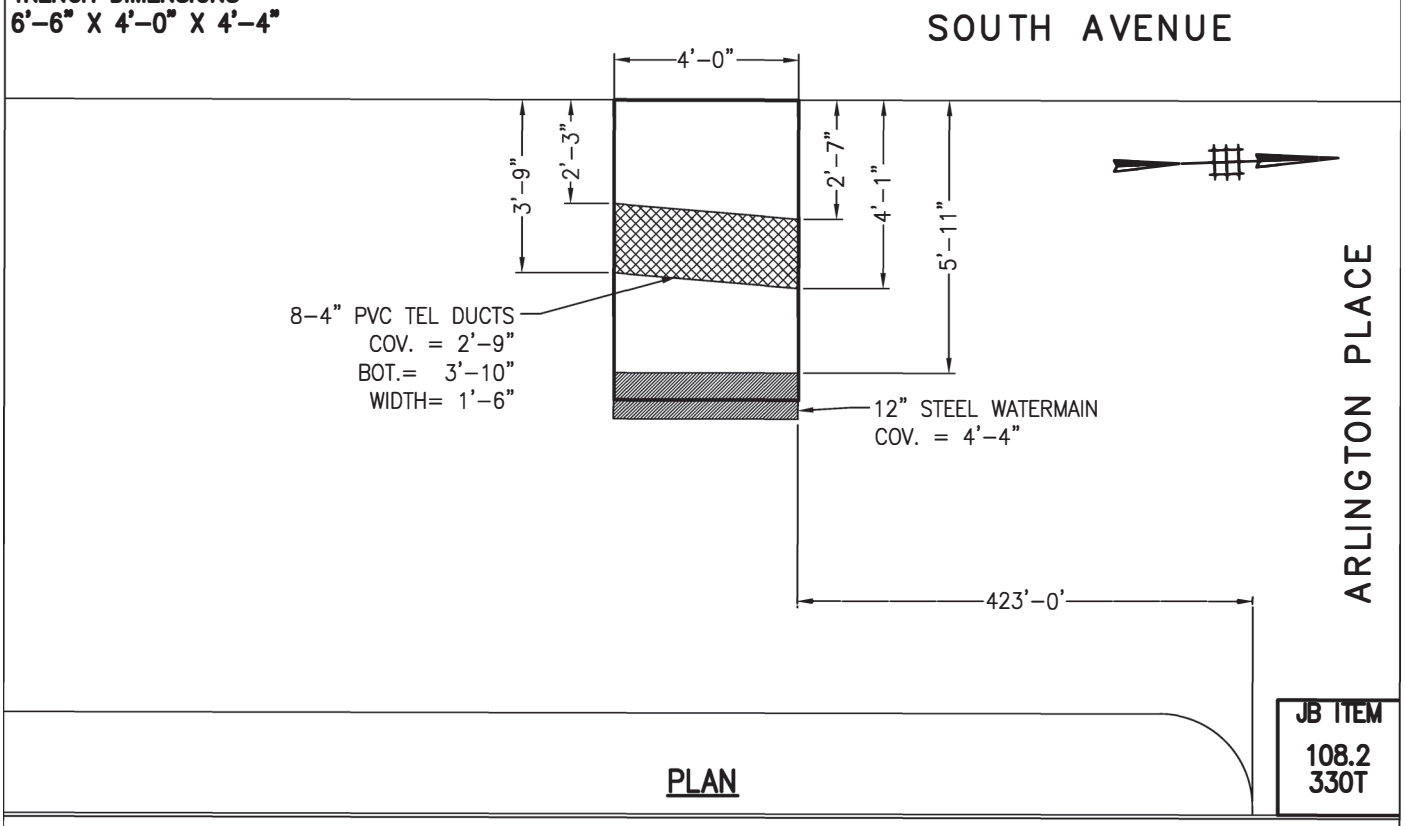
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/12/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/12/20

TEST PIT # 8 LOCATION: WEST SIDE OF SOUTH AVENUE BETWEEN BRABANT STREET & ARLINGTON PLACE, STATEN ISLAND, NY

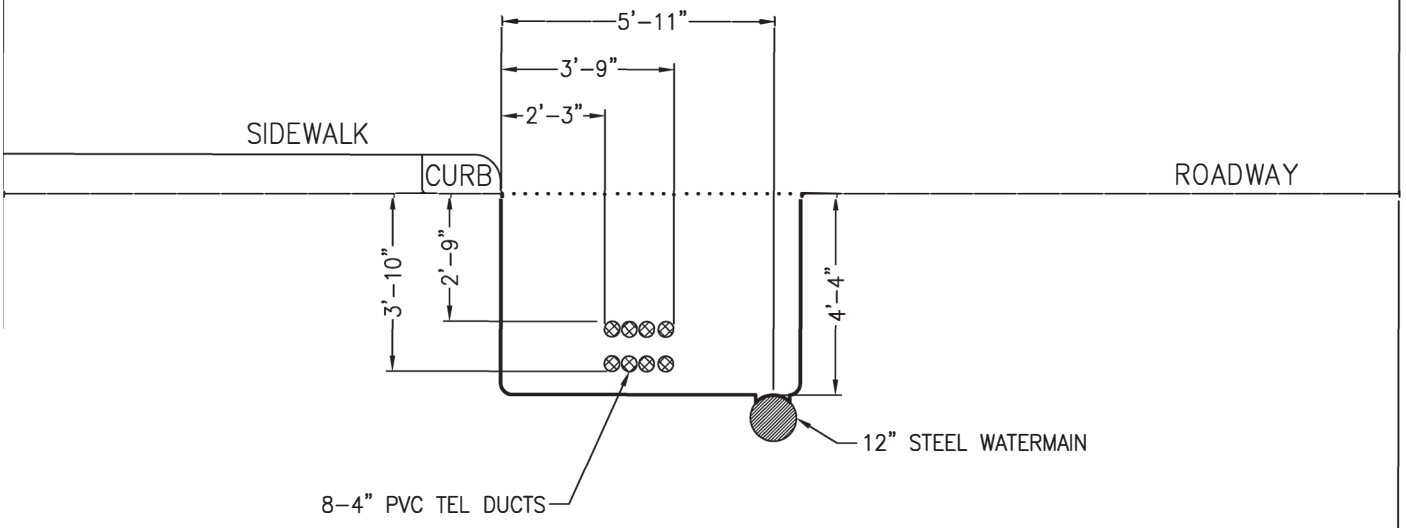
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'-6" X 4'-0" X 4'-4"



JB ITEM
108.2
330T

PLAN



SECTION LOOKING NORTH

SHEET NO. 1 OF 1

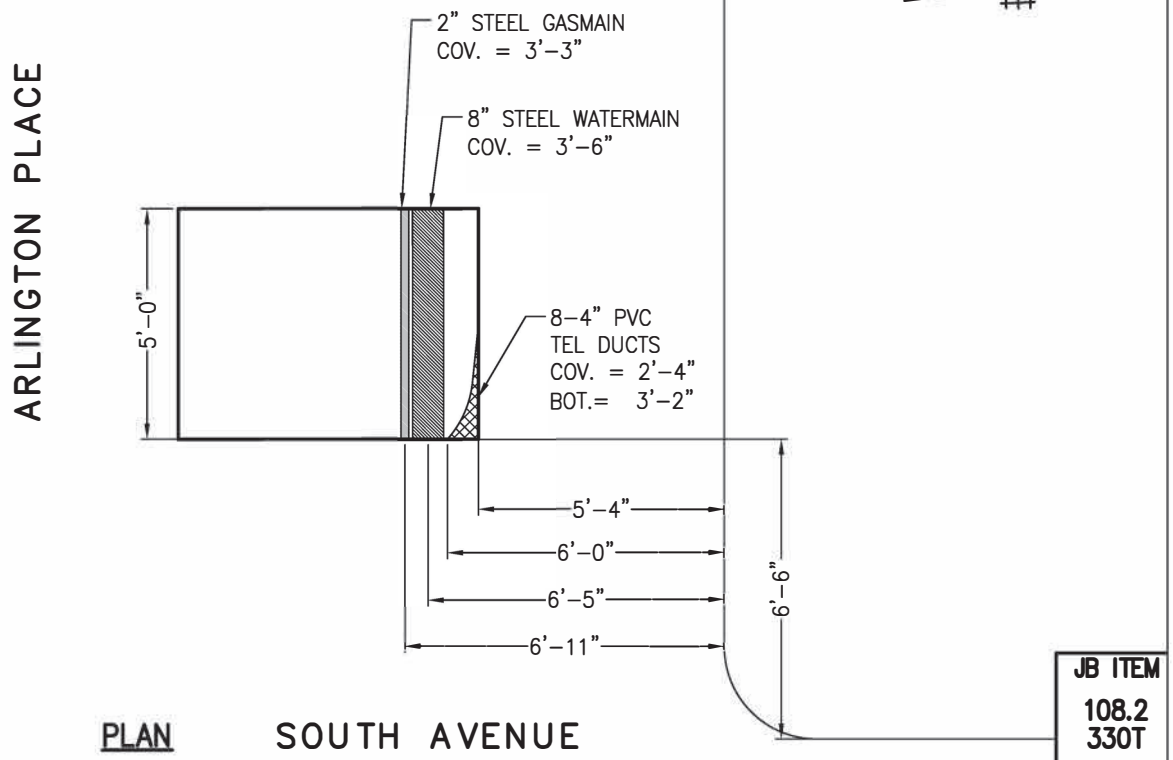
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/14/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/14/20

TEST PIT # 9 LOCATION: NORTH SIDE OF ARLINGTON PLACE BETWEEN SOUTH AVENUE & ARLINGTON AVENUE, STATEN ISLAND, NY

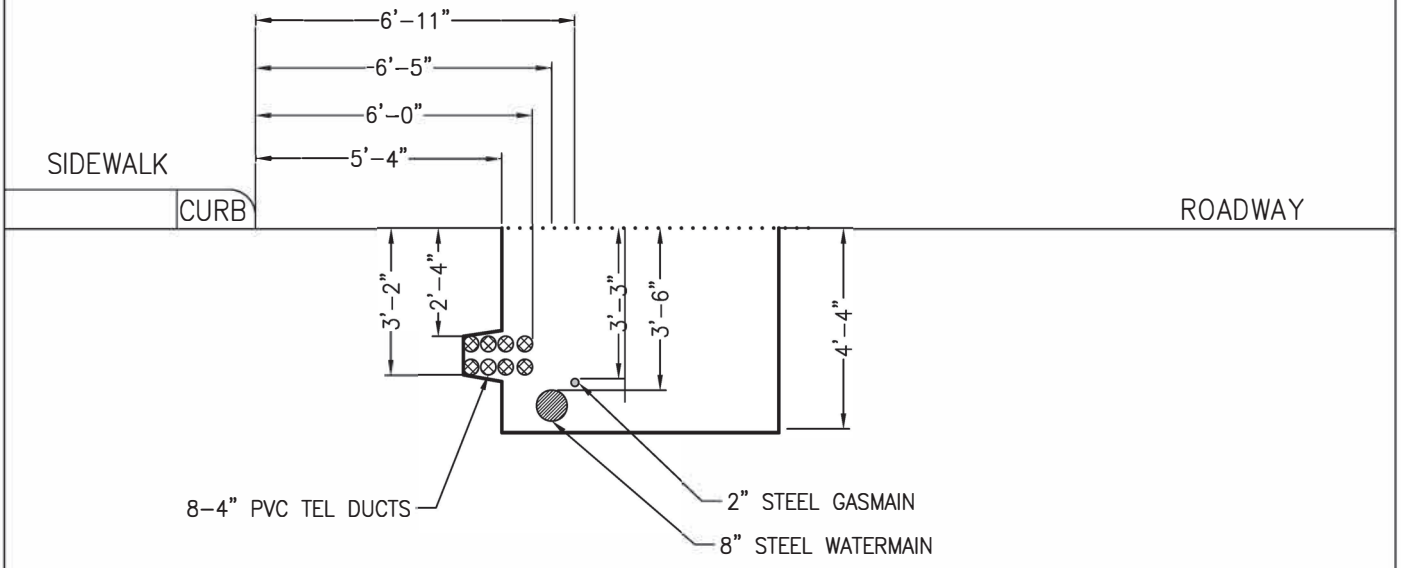
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'-0" X 5'-0" X 4'-5"



PLAN

JB ITEM
108.2
330T



SECTION LOOKING EAST

SHEET NO. 1 OF 1

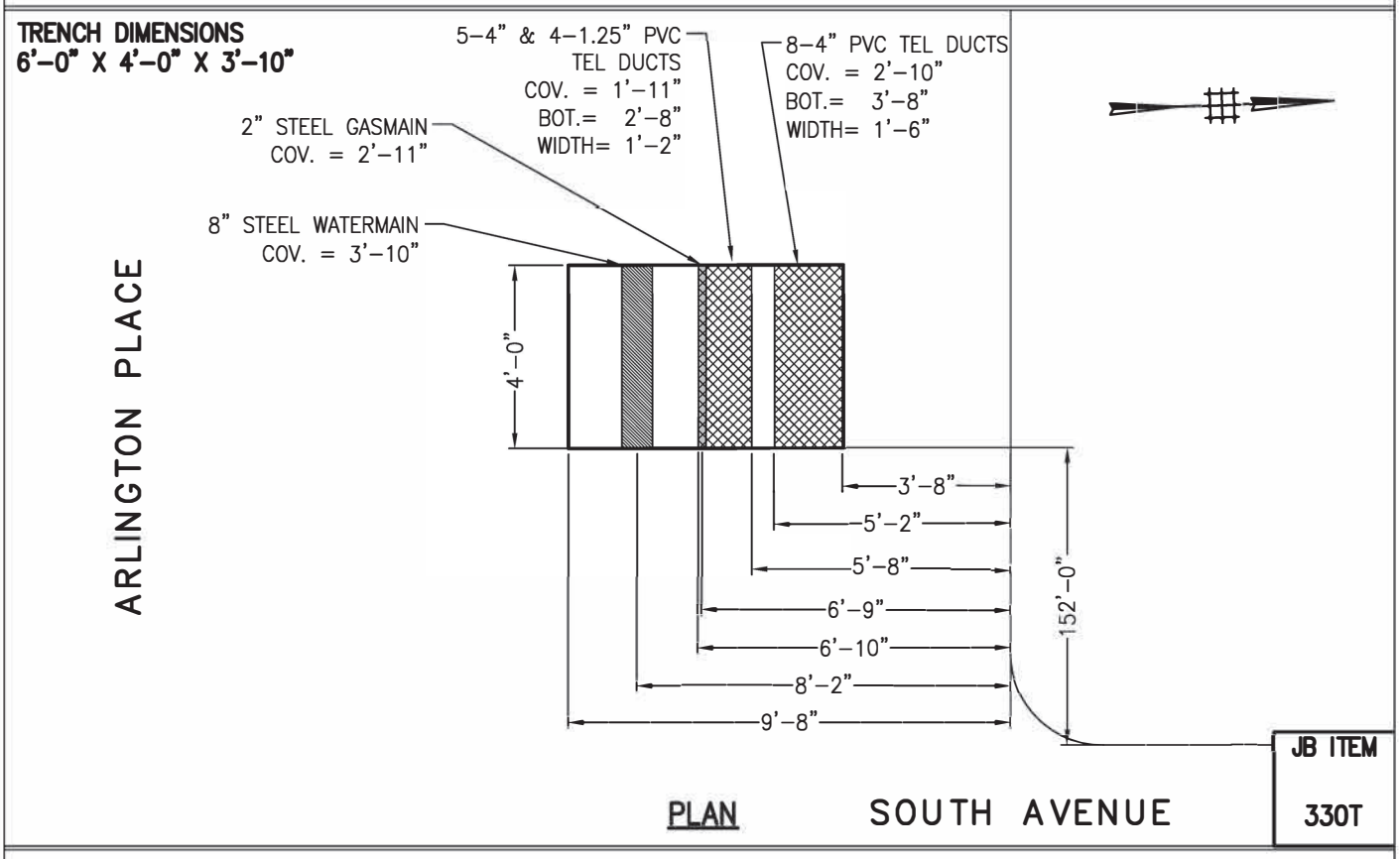
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/14/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/14/20

TEST PIT # 10 LOCATION: NORTH SIDE OF ARLINGTON PLACE BETWEEN SOUTH AVENUE & ARLINGTON AVENUE, STATEN ISLAND, NY

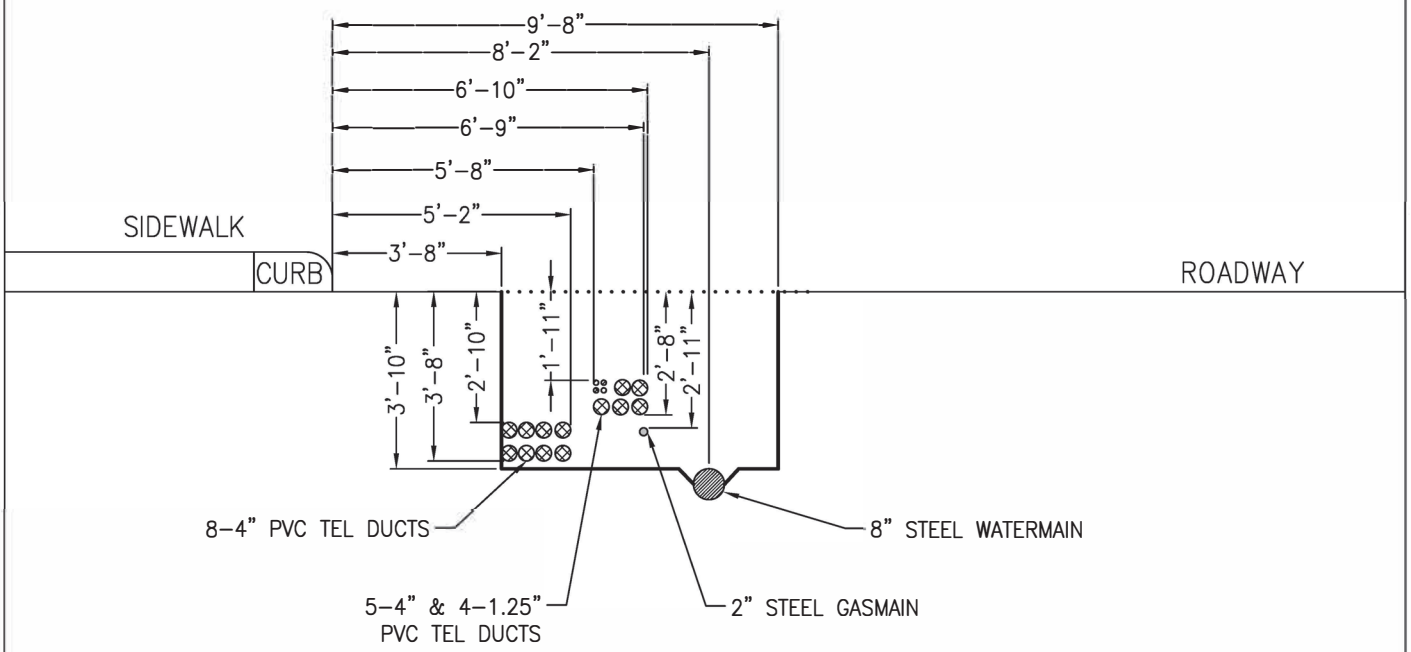
PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'-0" X 4'-0" X 3'-10"



PLAN

JB ITEM
330T



SECTION LOOKING EAST

SHEET NO. 1 OF 1

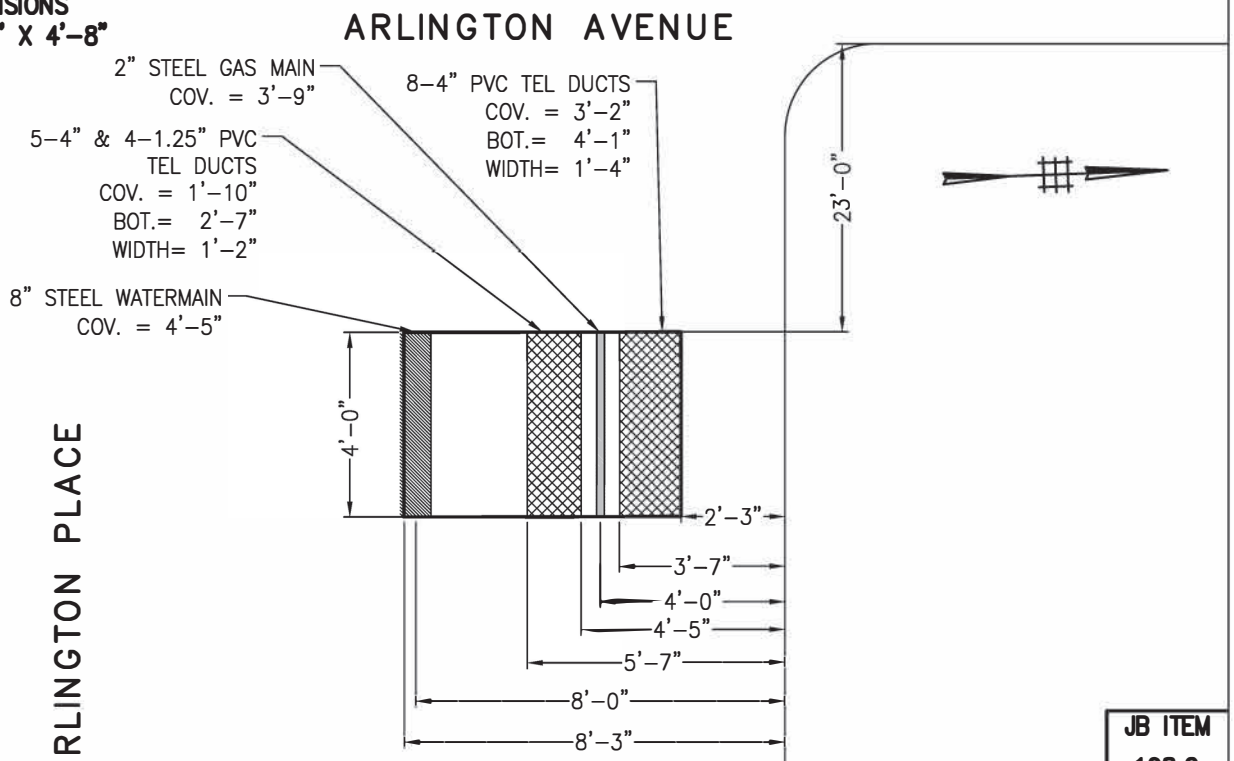
JOB: DISTRIBUTION WATERMAINS PREPARED BY: DYLAN KIRWAN DATE: 08/14/20

JOB NO: RED386 CHECKED BY: ANDREW MATARAZZO DATE: 08/14/20

TEST PIT # 11 LOCATION: NORTH SIDE OF ARLINGTON PLACE BETWEEN SOUTH AVENUE & ARLINGTON AVENUE, STATEN ISLAND, NY

PURPOSE: LOCATE UTILITIES

TRENCH DIMENSIONS
6'-0" X 4'-0" X 4'-8"



PLAN

JB ITEM
108.2
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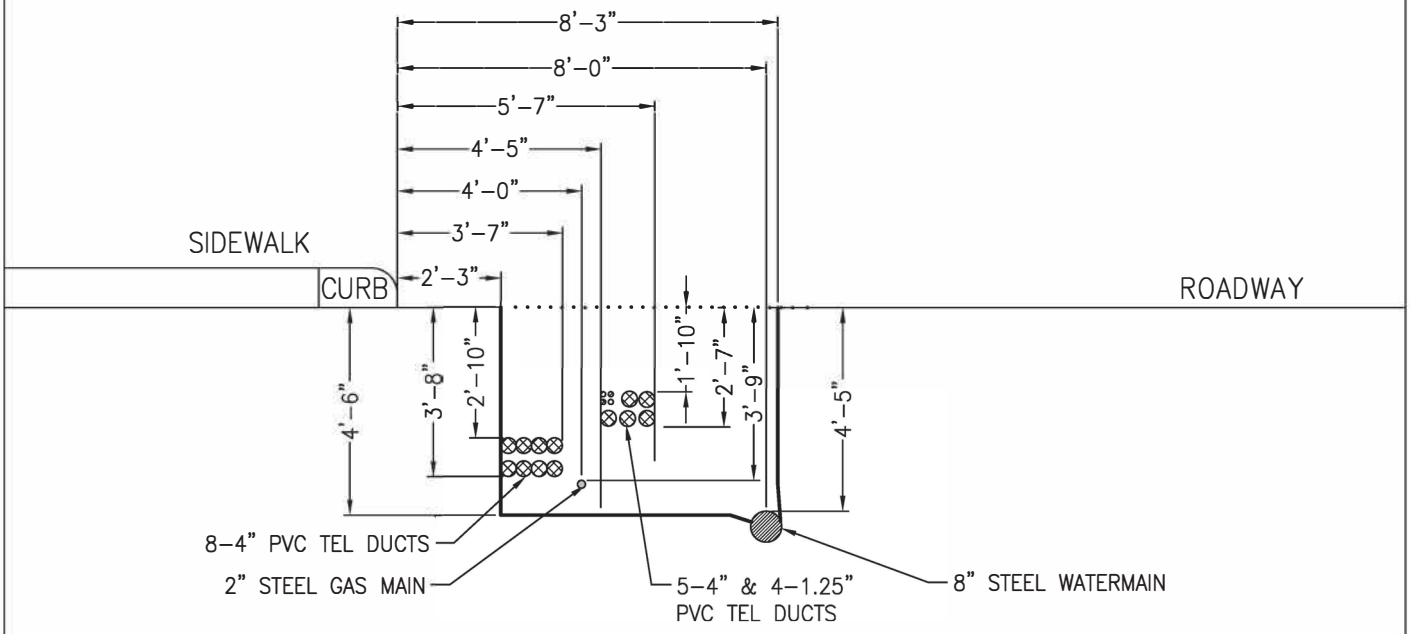

SECTION LOOKING EAST

END OF JB-PAGES SECTION F

(NO FURTHER TEXT ON THIS PAGE)

SECTION G. PRIVATE UTILITY DRAWING LIST

UTILITY DRAWING LIST

CON EDISON:

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS
GENERAL NOTES AND CONDITIONS FOR UTILITY WORK	JB-G1	1
GUIDELINES FOR WORKING NEAR ENERGIZED OVERHEAD ELECTRICAL DISTRIBUTION SYSTEMS	JB-G2	1
OVERHEAD ELECTRICAL CONDITIONS REPORT	JB-G3 TO JB-G6	4
CONDUIT AND DUCT OCCUPANCY PLATE	JB-G7 TO JB-G9	3
LOW TENSION MAINS AND SERVICE PLATE	JB-G10 TO JB-G12	3

VERIZON:

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS
OVERHEAD MAINLINE PLAN	JB-G13 TO JB-G16	4
VERIZON CONDUIT UTILITY PLATE	JB-G17 TO JB-G22	6

CHARTER SPECTRUM:

DRAWING TITLE	DRAWING NO.	NO. OF SHEETS
INTERFERENCE DRAWINGS	JB-G23 TO JB-G24	2

TOTAL NUMBER OF DRAWINGS ATTACHED ARE (24)

END OF JB-PAGES SECTION G

(NO FURTHER TEXT ON THIS PAGE)

Department of Design and Construction

DIVISION OF INFRASTRUCTURE
BUREAU OF DESIGN

VOLUME 3 OF 3

PROJECT ID: RED386

REPLACEMENT OF DISTRIBUTION WATER MAINS
AND APPURTENANCES IN SOUTH AVENUE
BETWEEN RICHMOND TERRACE AND NETHERLAND AVENUE,
ARLINGTON PLACE BETWEEN SOUTH AVENUE AND ARLINGTON PLACE, ETC.

TOGETHER WITH ALL WORK INCIDENTAL THERETO
BOROUGH OF STATEN ISLAND
CITY OF NEW YORK

_____
Contractor

Dated_____, 20_____